[redacted]

Report 11657
March 2000

AEROJET

[redacted]

Integrated Advanced Microwave Sounding Unit-A (AMSU-A)

Performance Verification Report

Initial Comprehensive Performance Test Report

P/N 1331200-2-IT, S/N 108/A2

Contract No. NAS 5-32314
CDRL 208

Submitted to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

Submitted by:

Aerojet
1100 West Hollyvale Street
Azusa, California 91702

Aerojet

Report 11657
March 2000

Integrated Advanced Microwave Sounding Unit-A (AMSU-A)

Performance Verification Report

Initial Comprehensive Performance Test Report

P/N 1331200-2-IT, S/N 108/A2

Contract No. NAS 5-32314
CDRL 208

Submitted to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

Submitted by:

Aerojet
1100 West Hollyvale Street
Azusa, California 91702

Electronic Systems Plant
P.O. Box 296
Azusa, California 91702-0296
CAGE/Facility Ident: 70143

GENCORP
AEROJET

AE-26156/4E
2 Apr 1999

Superseding AE-26156/4D
20 Jan 99

PROCESS SPECIFICATION

METSAT/KLM/AMSU-A2, SYSTEM COMPREHENSIVE AND LIMITED PERFORMANCE TESTS TEST PROCEDURE

Contract No.: NAS5-32314

Prepared for:

NASA/Goddard Space Flight Center
Greenbelt Road
Greenbelt, MD 20771

TABLE OF CONTENTS

FIGURES

TABLES

TEST DATA SHEETS

TEST DATA SHEETS (CONT)

This page intentionally left blank.

1. SCOPE

1.1 ***Scope.*** This specification establishes the requirements for the Comprehensive Performance Test (CPT) and Limited Performance Test (LPT) of the Advanced Microwave Sounding Unit-A2 (AMSU-A2), referred to herein as the unit. The unit is defined on Drawing 1331200.

1.2 ***Test procedure sequence.*** The sequence in which the several phases of this test procedure shall take place is shown in Figure 1, but the sequence can be in any order.

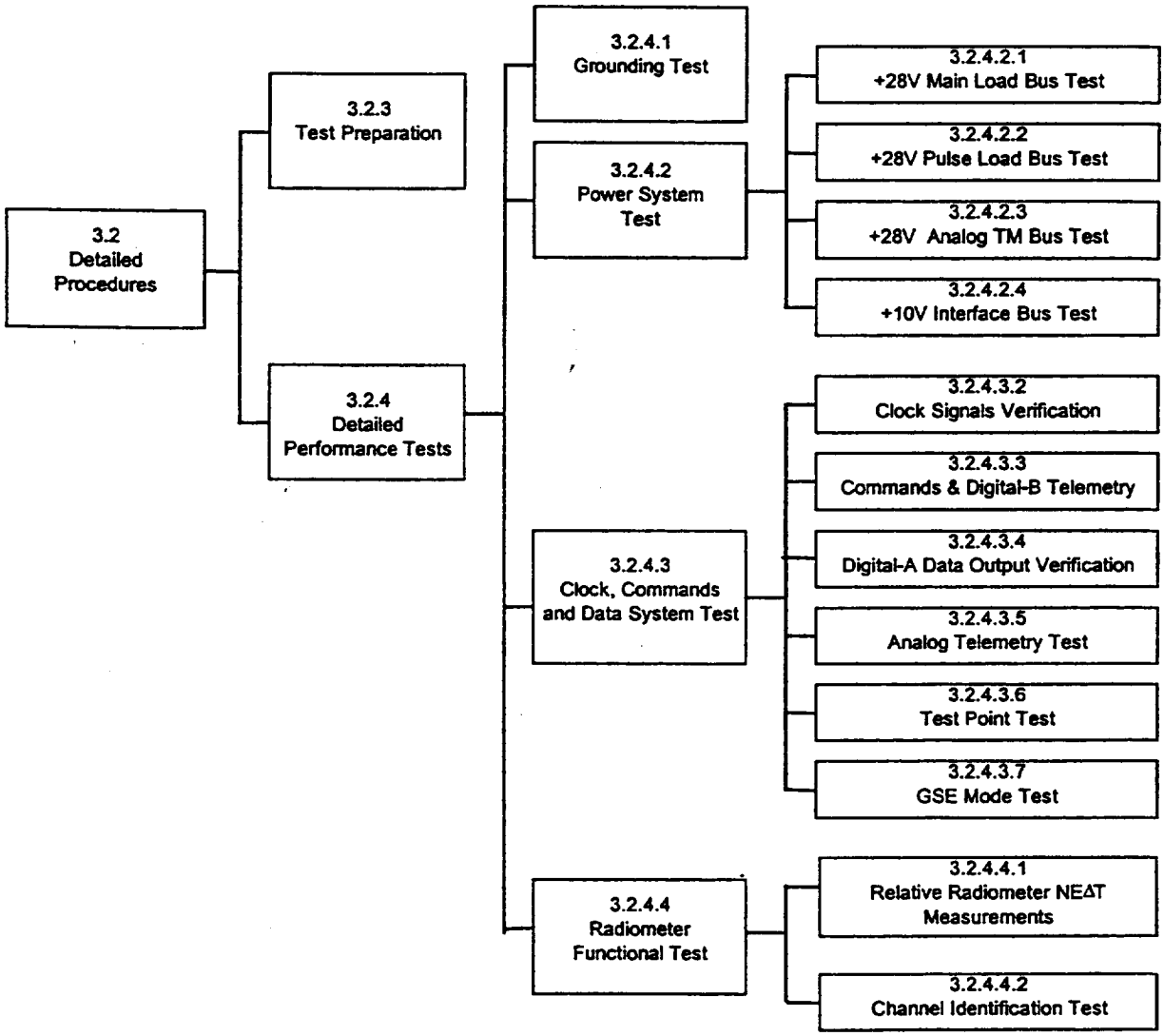


Figure 1. Test Procedure Sequence

This page intentionally left blank.

2. APPLICABLE DOCUMENTS

2.1 ***Government documents.*** The following documents form a part of this specification to the extent specified. Unless otherwise specified, the issue shown shall apply.

STANDARDS

Military

MIL-STD-45662	Calibration Systems Requirements

OTHER DOCUMENTS

S-480-79	Performance Assurance Requirements for the EOS/METSAT Integrated Programs Advanced Microwave Sounding Unit-A (AMSU-A) (PAR)
S-480-80	Performance and Operation Specification for the EOS/METSAT Integrated Programs Advanced Microwave Sounding Unit-A (AMSU-A) (POS)
GIIS-3267415	ATN-KLM General Instrument Interface Specification
UIIS-2624483	AMSU-A2 Unique Instrument Interface Specification

(Copies of government documents should be obtained as indicated in the Department of Defense Index of Specification and Standards.)

2.2 ***Non-Government documents.*** The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issue in effect on the date of testing shall apply.

2.2.1 ***Aerojet documents***

SPECIFICATION

AE-26002/2	Test Procedure, Subsystem, Antenna Drive for AMSU-A2
AE-26151/5	Test Procedure, EMI/EMR & EMC for the METSAT/METOP Advanced Microwave Sounding Unit-A (AMSU-A)
AE-26157	Special Test Equipment (STE), Operation and Maintenance Manual
AE-26357	Transportation Handling Procedure for the AMSU-A System Integrated Program

STANDARD

STD-2454	Requirements for Electrostatic Discharge Control

REPORT

10353	Contamination Control Plan for the Advanced Microwave Sounding Unit-A (AMSU-A)

DRAWING

1331200	Advanced Microwave Sounding Unit A2 (AMSU-A2)
1335695	Special Test Equipment
1356655	Console Assembly, METSAT and EOS STE

(Copies of Aerojet documents may be obtained from GenCorp Aerojet, CAGE 70143, P.O. Box 296, Azusa, California, 91702-0296).

3. REQUIREMENTS

3.1 *General test requirements*

3.1.1 ***Equipment and test facilities.*** The tests described herein shall be performed at Aerojet under laboratory conditions in an EMI shielded chamber for the first and final CPT. Other tests need not be accomplished in the EMI shielded chamber. The test equipment listed in Table I shall be used when performing the tests. If the specified equipment is not available, the equipment substituted shall provide a measurement accuracy equal to or greater than that of the specified equipment. The AMSU-A Special Test Equipment (STE) shall be used for activation and control of the unit and monitoring of its performance.

Table I. Equipment List

Item	Quantity	Item Description	Mfg.	Model
01	1	Dynamic signal analyzer	Hewlett-Packard	3562A
02	1	Signal generator	Hewlett-Packard	3314A
03	1	Oscilloscope	Tektronix	2225A
04	1	9-pin breakout box	Aerojet	2536-3743/SK1358702-1
05	1	15-pin breakout box	Aerojet	2536-3744/SK1358703-1
06	2	25-pin breakout box	Aerojet	2336-3746/SK1358704-1
07	1	37-pin breakout box	Aerojet	2536-3745/SK1358705-1
08	1	Lab. general purpose power supply	Hewlett-Packard	6114
09	1	LN_2 container	Cole	N03726-20
10	1	Spectrum analyzer	Hewlett-Packard	8590L
11	1	STE computer	Aerojet	1336695/SK1356655
12	1	STE interface cable J1	Aerojet	1335758-1
13	1	STE interface cable J2	Aerojet	1335752-1
14	1	STE interface cable J3	Aerojet	1335756-1
15	1	STE interface cable J4	Aerojet	1335755-1
16	1	STE interface cable J5	Aerojet	1335753-1
17	1	STE interface cable J6	Aerojet	1335754-1
18	1	STE interface cable J7	Aerojet	1335757-1
19	1	Current probe amp	Hewlett-Packard	AM503
20	1	Universal counter	Hewlett-Packard	5316A
21	1	Oscilloscope camera	N/A	N/A
22	1	Power supply	Power Designs	3650-S
23	1	Multimeter	Fluke	77
24	1	Plotter	Hewlett-Packard	7475A
25	1	Signal generator	Hewlett-Packard	83620B
26	1	MM-wave source module	Hewlett-Packard	83557A
27	1	Couple/detector	Hewlett-Packard	83557-60001
28	1	Spectrum analyzer	Hewlett-Packard	8563E

* For limited performance test only; item numbers 04, 06, 09, 11 through 18, and 23 are required.

3.1.2 ***Required procedures and operations.*** The unit shall be subjected to the examinations and tests specified in 3.2.4 and Table II.

3.1.2.1 ***Limited performance test (LPT).*** The Limited Performance Test shall consist of the test procedures specified in the LPT column of Table II.

3.1.2.2 ***Comprehensive performance test (CPT).*** Three versions of the Comprehensive Performance Test are identified in Table II. These are applicable for different test stages. The test procedures to be performed for each version are specified in the 1st CPT, Sub CPT, and Final CPT columns of Table II.

Table II. AMSU-A2 Performance Tests

Paragraph	Test Description	1st CPT	LPT	Sub CPT	Final CPT
3.2.4.1	Grounding Test	X	X	X	X
3.2.4.2.1.1	+28 Main Load Bus (MLB) Turn-On Transient	X			X
3.2.4.2.1.2	+28 MLB Operating Power	X	Note 1	Note 2	X
3.2.4.2.1.3	Transient Susceptibility and Power Quality Tests	X			
3.2.4.2.1.4	Instrument Feedback Test	Note 7			
3.2.4.2.2	+28 Pulse Load Bus (PLB) Test	X		Note 3	X
3.2.4.2.2.8	Instrument Feedback Test	Note 7			
3.2.4.2.2.9	Transient Susceptibility and Power Quality Tests	X			
3.2.4.2.3	+28 Analog Telemetry Bus (ATB) Test	X		X	X
3.2.4.2.3.2	Instrument Feedback Test	Note 7			
3.2.4.2.3.3	Transient Susceptibility and Power Quality Tests	X			
3.2.4.2.4	+10 V Interface Bus Test	X		X	X
3.2.4.2.4.2	Instrument Feedback Test	Note 7			
3.2.4.3.2	Clock Signals Test	X			X
3.2.4.3.3	Commands and Digital-B Telemetry Test	X	X	X	X
3.2.4.3.4	Digital-A Data Output Test	X	Note 4	Note 4	X
3.2.4.3.5	Analog Telemetry Test	X	Note 5	Note 5	X
3.2.4.3.6	Test Point Test	X		X	X
3.2.4.3.7	GSE Mode Test	X Note 6			
3.2.4.4	Radiometer Functional Test	X	X	X	X
3.2.4.4.2	Channel Identification Test	X			

Notes:
1. 3.2.4.2.5 (Power input test for LPT).
2. At 28V only.
3. 3.2.4.2.2 except 3.2.4.2.2.5 through 3.2.4.2.2.7.
4. Only full scan.
5. STE only (3.2.4.3.5.2).
6. GSE mode test/verification is not required and is for engineering use only.
7. Instrument feedback test will be performed in EMI/RFI Chamber using EMI/RFI test procedure AE-26151/5.

3.1.3 ***Inspection instructions.*** The following shall apply to all inspections performed under this specification.

a. **Personnel familiarization**: All personnel directly concerned with the conduct of the inspection shall become familiar with the entire content of this document before beginning the tests. Each step, including all notes, warnings, and cautions, shall be understood thoroughly before starting.

b. **Referenced documents**: Performance of the tests specified herein may require reference to the documents listed in Section 2. It is recommended that the applicable issues of these documents be available at the time and place of testing.

3.1.4 ***Test conditions.*** The following paragraphs shall apply to all testing described in this document.

3.1.4.1 ***Standard ambient conditions.*** Unless otherwise specified in a detailed method paragraph, all handling shall be performed under the following laboratory ambient conditions:

a. Handling in accordance with AE-26357

b. Contamination control in accordance with Report 10353

c. Temperature: +23 ± 10°C

d. Pressure: 610 to 810 torr

e. Humidity: 50 ± 20% (no condensation)

f. The instrument shall be placed in its protective bag (1338427) when not in use.

3.1.4.2 ***Test tolerances.*** The tolerances allowed on test conditions are intended only to provide for accuracy of such items as instrumentation and controls. Conditions shall be as close as possible to the nominal or center values specified, and in no instance shall they exceed the tolerances specified. Unless otherwise specified, the tolerances shall be within ± 10%.

3.1.4.3 ***Read-out accuracy.*** Parameters are specified either as limits or as nominal values with plus-or-minus tolerances. These limits and tolerances shall be regarded as absolute, and the inaccuracies of measuring equipment shall not be interpreted as part of measured values in such a way that out-of-limit measurements may appear in-limit.

3.2 ***Detailed procedures***

3.2.1 ***Responsibility for inspection.*** All tests specified herein shall be performed under the cognizance of Aerojet Quality Assurance.

3.2.2 ***Monitoring procedures for equipment.*** Test equipment calibration schedules and procedures shall comply with the requirements of MIL-STD-45662. Before performing examinations and tests in accordance with this procedure, all test equipment to be used shall be verified as being within their current calibration periods. Calibration or alignment, necessary for operation of the equipment within the requirements of this document, shall be performed when required.

3.2.3 ***Test preparation.*** Perform the following preparations.

3.2.3.1 ***STE connection.*** The power sources, signal sources, and loads are provided to the unit under test by the AMSU-A Special Test Equipment (STE) (Drawing 1335695 or 1356655), in accordance with paragraph 5.2 of S-480-80. The STE is automated test equipment controlled by a MicroVax computer. The unit shall be connected to the STE in accordance with AE-26157 and the detailed test procedures in 3.2.4.

3.2.3.2 ***Signal sources.*** Signal sources required during the performance test but not provided by the STE are as follows:

a. Cold background at LN_2 temperature at room ambient.

b. +28 Vdc ± 1 Vdc, 3 Amps.

3.2.3.3 ***Signal outputs.*** Signal outputs, except for the test signals at J7, shall be monitored by the STE. The signal outputs at J7 are shown in Figure 2.

3.2.3.4 ***Test software.*** AMSU-A2 bonded software shall be used to operate the STE. During initialization of the STE, as specified in AE-26157, the A2 software shall be selected. The bonded software is being selected by the STE computer automatically during initialization of the STE.

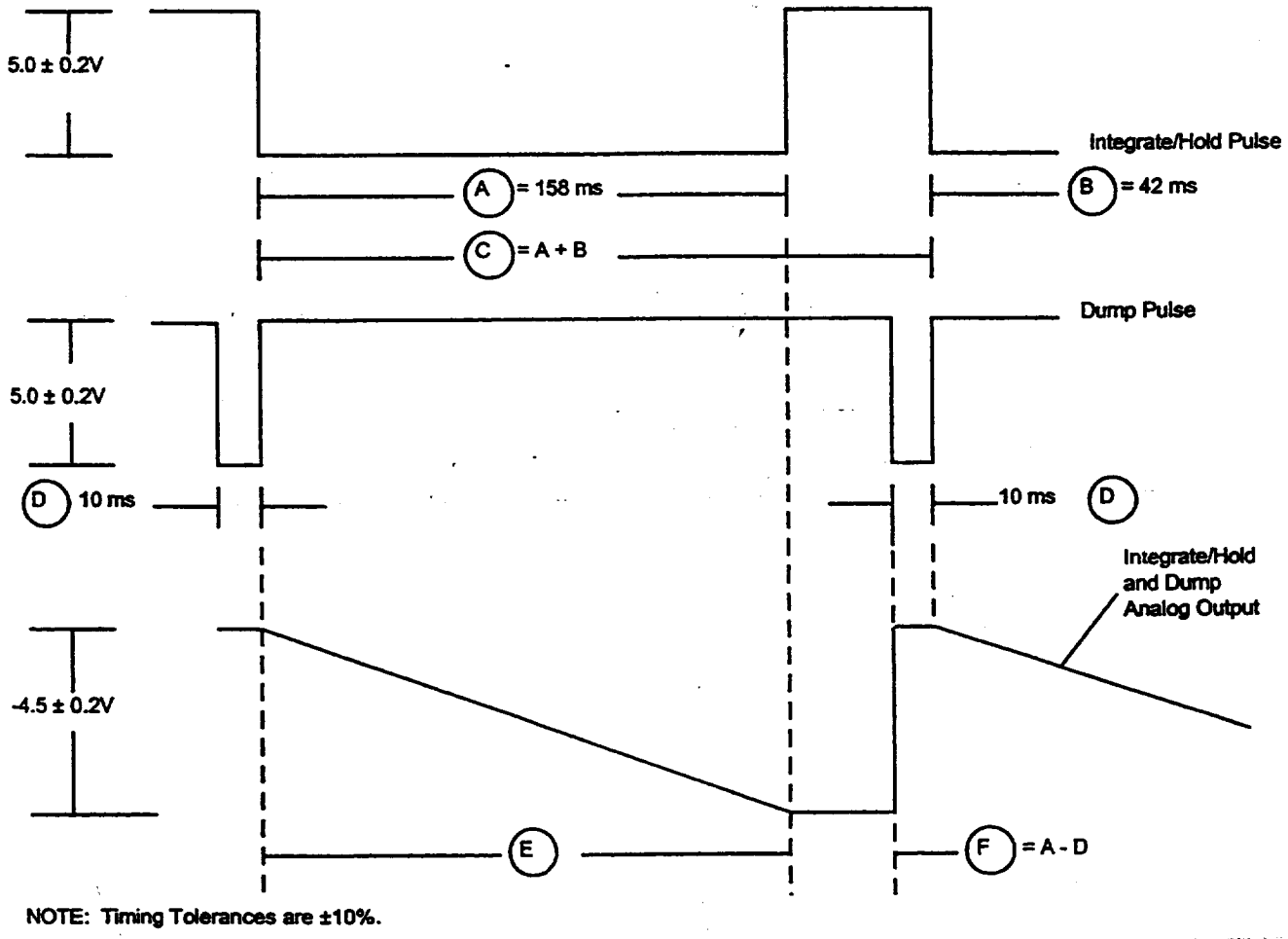


Figure 2. Signal Output at J7

3.2.3.5 ***Initial turn-on.*** When called for in the individual test procedures, turn on the unit as follows:

1. Turn on power to STE, initialize STE (per AE-26157 instructions), and turn on AMSU-A2 STE power switches. Adjust +28 V power supply by using DVM to +28.0 V ± 0.5V at STE J1 connector pin No. 1 (+) and pin No. 3 (RTN). Use breakout box at J1 to connect the DVM.

2. Enter the serial number (decimal equivalent of the identification number provided in the UIIS) for the unit under test using AE-26157, if necessary. Verify that the Main Menu is displayed on the STE CRT terminal display. Turn off the AMSU-A2 STE power switches.

3. Connect J1 through J7 to AMSU-A2 unit.

4. Verify that the PWR and SW/TM switches on the STE power distribution unit are ON.

5. On the Main Menu, press the [2] MONITOR ONLY (type the number). The Monitor Only Menu will be displayed, with Block Monitor Data Select options shown in the middle (window) area of the screen.

6. On the Monitor Only Menu, press [14] COMMANDS. The Commands Menu will be displayed in the window area.

7. On the Commands Menu, press [9] MODULE POWER. Wait at least 18 seconds for command execution. This applies power to the unit.

8. Execute commands as necessary to obtain the following configuration:

```
 [9]  MODULE POWER =                CONNECT      ANTENNA IN COLD CAL POS =          NO   [15]
[10]  SURVIVAL HTR PWR =            OFF          ANTENNA IN NADIR POS=              NO   [16]
[11]  MODULE TOTALLY OFF =          ON           ANTENNA FULL SCAN MODE =           YES  [17]
[12]  SCANNER A2 POWER =            ON           COLD CAL POSITION MSB =            ZERO [18]
[13]  COMPENSATOR MOTOR POWER =     ON           COLD CAL POSITION LSB =            ZERO [19]
[14]  ANTENNA WARM CAL POS =        NO
POWER [4] ON
```

9. Wait at least 18 seconds and observe the commands are acknowledged by STE.

10. Verify that the STE power supply is adjusted to its normal +28.0 Vdc ±0.5 Vdc operating voltage by using a DVM across J1-1 and J1-3. Use 25-pin breakout box at J1 to connect the DVM.

11. Verify that all breakout box switches are in the closed position.

12. After initial turn-on, execute commands and connect the unit as necessary according to the individual test procedures.

3.2.3.6 ***Turn-off methods.*** The unit can be turned off immediately by pressing [9] MODULE POWER = DISCONNECT on the Commands Menu. For a phased shutdown, press [11] MODULE TOTALLY OFF = OFF on the Command Menu or press POWER [4] OFF on any display. When connecting breakout boxes to the unit or STE connectors, verify that the unit power is off and the STE +28V power supply is manually turned off.

3.2.4 ***Detailed performance tests.*** The comprehensive performance tests for the AMSU-A2 system are to be carried out on the fully assembled and operational unit. The tests to be performed are as follows:

a. Grounding system test.

b. Power system test.

c. Clock, commands and data system test.

d. Radiometer functional test.

e. Transient susceptibility and power quality test.

f. Instrument feedback tests.

3.2.4.1 *Grounding test.* This test provides the verification of the unit grounding requirements of GIIS-3267415 Paragraph 3.1.1 and UIIS-2624483 paragraph 3.11.

1. Connect breakout boxes to each of the spacecraft interface connectors J1 through J7 as shown in Figure 3. Verify that all connectors are protected with connector savers. Verify STE is not connected to instrument.

2. Measure and record continuity or isolation between the points shown on Test Data Sheet (TDS) 1 (Appendix B, TDS B-1 for LPT).

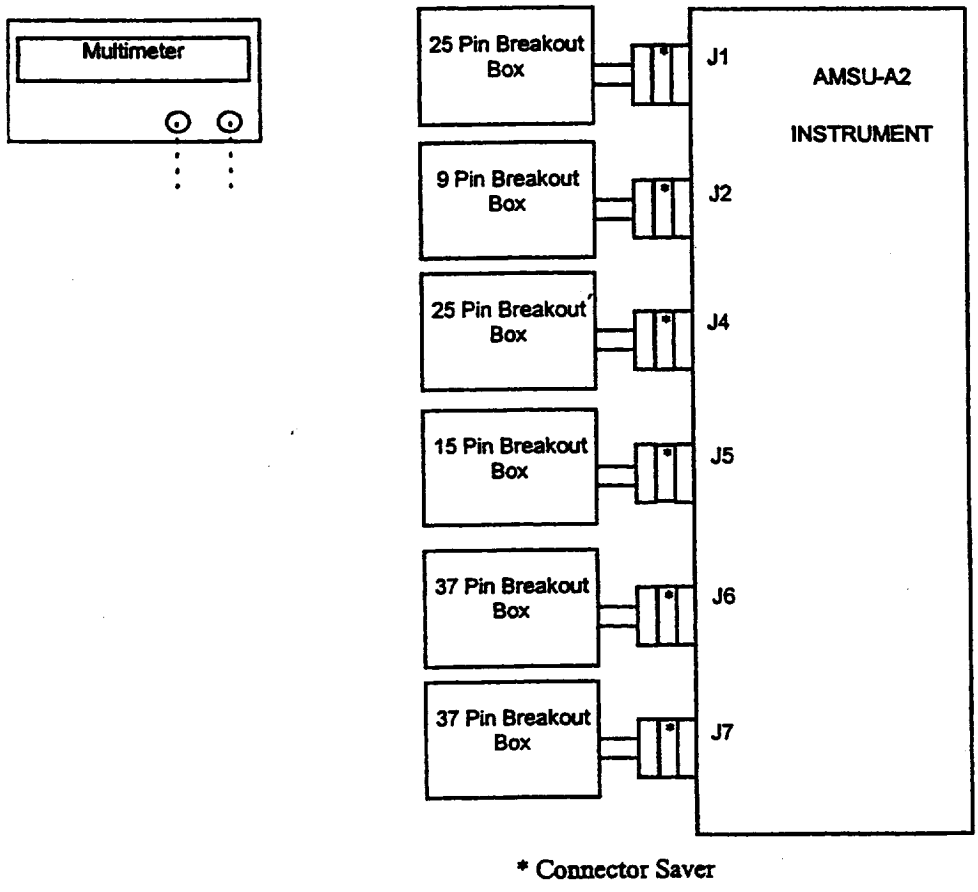


Figure 3. Grounding Test Setup

3.2.4.2 ***Power system, transient susceptibility, power quality, and instrument feedback tests.*** The purpose of these tests is to verify power system compliance in regard to:

a. Turn on transients

b. Operating power

c. Transient susceptibility

d. Current ripple

The following DC voltage lines will be tested for the above parameters:

e. +28V Main Load Bus (parameters a, b, c, d)

f. +28V Pulse Load Bus (parameters a, b, c, d)

g. +28V Analog Telemetry Bus (parameters b, c, d)

h. +10V Interface Bus (parameters b, d)

3.2.4.2.1 ***+28V main load bus test***

3.2.4.2.1.1 ***+28V MLB during turn on transient.*** The +28V MLB turn on transient shall be verified as follows:

1. Configure the unit and test equipment as shown in Figure 4. Verify that switches 1, 2, 14 and 15 of the breakout box are in the OPEN position. Disconnect +28 Vdc external power supply output and adjust the power supply to read 28.56 Vdc ± 0.05 Vdc on voltmeter No. 1. Connect the power supply output as shown in Figure 4.

2. Configure the Dynamic Signal Analyzer (DSA) as follows:

Select **MEAS MODE**
Select *Time Capture*
Select *Capture Select*
Select *Capture Length*; Enter *300.0*; Select *msec*
Select **FREQ**
Select E SMPL *Off*
Select *Freq Span*; Enter 25; Select *kHz*
Select **SELECT MEAS**
Select *Power Spec*
Select *CH1 Active*
Select **WINDOW**
Select *Hann*
Select **SOURCE**
Select Source *Off*
Select **AVG**
Select Avg *Off*
Select Tim Av *Off*
Select ***RANGE***
Select *Chan 1 Range;* Enter *1;* Select *V*

Select **INPUT COUPLE**
Select CH1 *DC*
Select CH1 *Ground*
Select **INPUT TRIG**
Select *Trig Level;* Enter *100;* Select *mv*
Select Arm *AU*
Select *Ext;* Select *(-) Slope*
Select **TRIG DELAY**
Enter *0;* Select *µSec*
Select **COORD**
Select *Real*
Select **VIEW INPUT**
Select *Time Buff*
Select **SCALE**
Select *X Fixd Scale:* Enter *0.0, 300;*
Select *msec*
Select *Y Fixd Scale*; Enter *0.0, 80;*
Select *mV*
Select **UNITS**
Select *Hz (sec)*

NOTE

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Select 1.0 A/ 10 mV per div. on the current amplifier.

b) Remove the current probe from the circuit and close the probe. Place the probe in a magnetically benign location.

c) Adjust the "y" axis voltage range to ±4 mV.

d) Place the DSA in "Free Run" Trigger and depress "Start Capture" on the DSA.

e) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

f) Position the current probe to its original location in accordance with Figure 4, and return the DSA to "Ext" trigger.

3. Turn the unit ON by selecting [9] MODULE POWER; setup the operating modes as defined in paragraph 3.2.3.5 (reference the command screen parameters below). If necessary, re-adjust the external power supply for 28 Vdc.

		COMMANDS			
[9]	MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POS =	NO	[15]
[10]	SURVIVAL HTR PWR =	OFF	ANTENNA IN NADIR POS=	NO	[16]
[11]	MODULE TOTALLY OFF =	ON	ANTENNA FULL SCAN MODE =	YES	[17]
[12]	SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13]	COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14]	ANTENNA WARM CAL POS =	NO			
POWER [4] ON					

4. Turn the unit OFF by executing command [9] MODULE POWER. Confirm the command has been executed on the STE display.

5. Start the DSA signal capture by depressing "Start Capture"; wait for the DSA message "waiting for trigger" before proceeding.

6. On the STE computer, select [9] MODULE POWER and obtain a record of the +28 MLB Turn-On current waveform. On the STE computer, select [9] MODULE POWER to turn the instrument's power OFF. Adjust the display time base and voltage sensitivity to allow for adequate current and pulse duration measurements (refer to Figure 5 for an example of per division values). Plot the obtained waveform and attach a hard copy of the scan to TDS 2.

7. Measure the Turn-On time to reach steady state current; record this value on TDS 2.

8. Compute the peak current as follows:
Multiply the maximum Y value by the current/div as selected on the current amplifier. As an example, if the current amplifier is set up to display 1.0 A/ 10 mV per division, and the maximum Y value = 46.8 mV:

46.8 mV x (1.0 mA/10 mV) = 4.68 amps

Record this value on TDS 2.

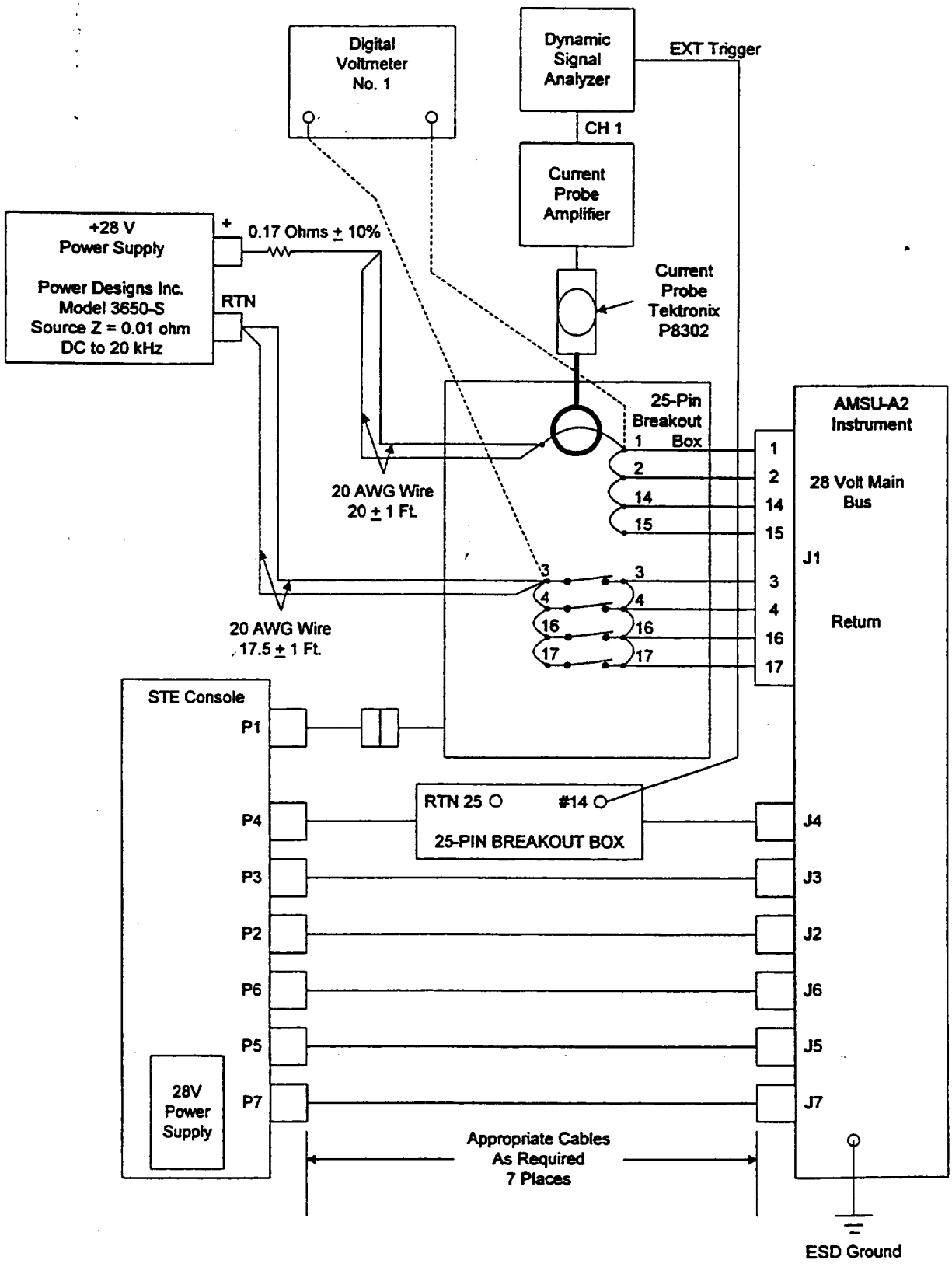
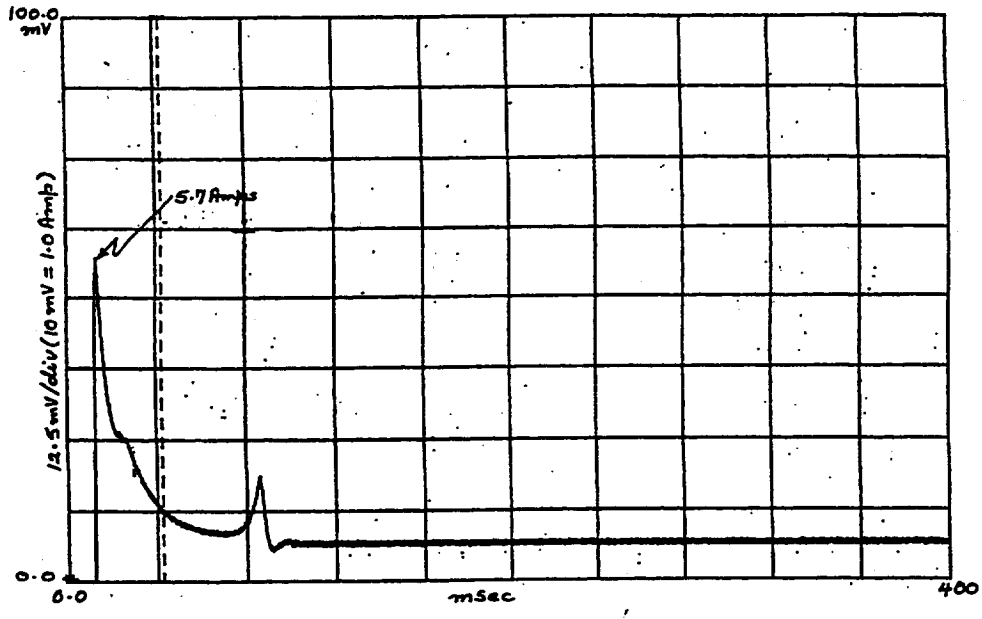
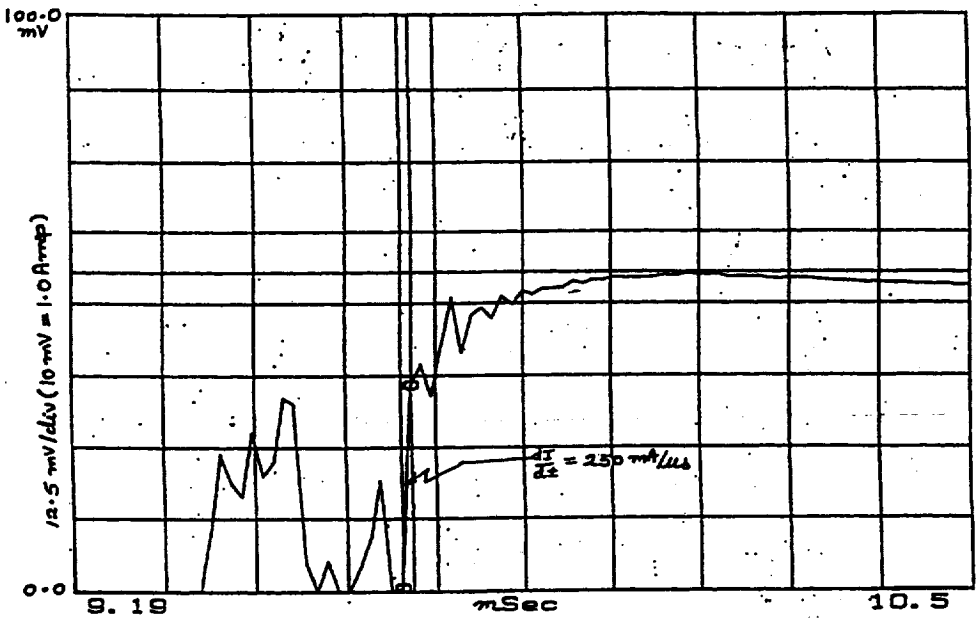


Figure 4. +28V Main Load Bus Verification Setup

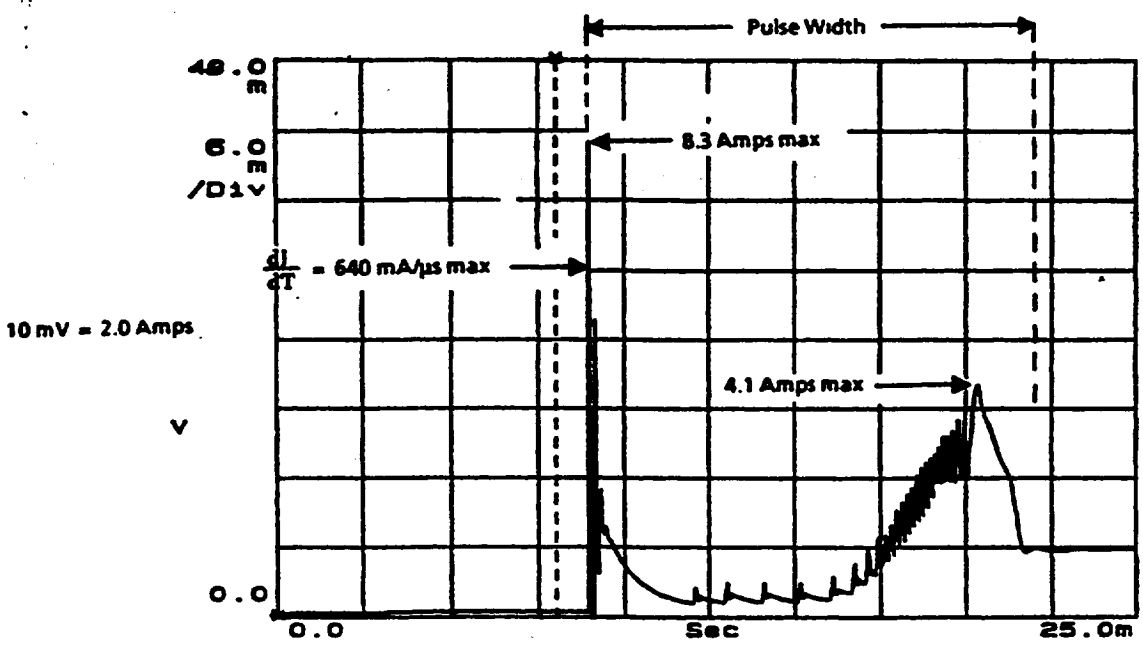


+28 Volt Main Bus Peak Power Worst Case Profile (For S/N 105 through 109)



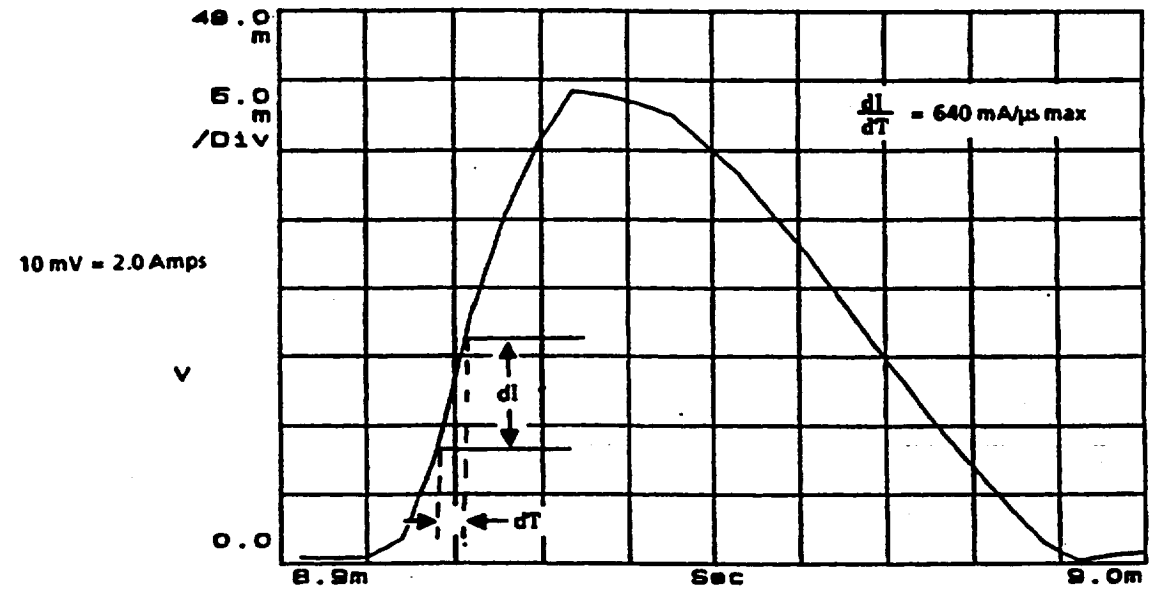
+28 Volt Main Bus Peak Power Worst Case Profile (For S/N 105 through 109)

Figure 5. +28V Main Bus Load Peak Power



1 div = 2.5 ms

AMSU-A2 (S/N 102, 103, and 104) Main Load Bus Worst Case Turn-on Transient at 28.56 Vdc.



1 div = 0.01 ms

AMSU-A2 (S/N 102, 103, and 104) Main Load Bus $\frac{dI}{dT}$ at Worst Case Turn-on Transient at 28.56 Vdc.

Figure 5. +28V Main Bus Load Peak Power

9. The 1st derivative of the current waveform must be calculated. Compute the dI/dT as follows:
   The most probable location of the greatest current demand is during the first positive transition after voltage application. If this is the case, expand the segment of the display and measure the greatest voltage transition in the smallest time transition. The change in voltage times the current/div as selected on the current amplifier produces the change in current. Next divide this change in current by the change in time (in microseconds). This value is dI/dT. Example:

   Change in voltage ..... 35.29 mV
   Change in time (microseconds) ..... 31.25 µs
   Current/div on current amplifier ..... 1000 mA/ 10 mV

   35.29 mV x (1000 mA/ 10 mV)/31.25 µs = 112.9 mA/ µs

10. Record the computed value on TDS 2.

11. With the multimeter, adjust the external power supply to 27.44 ±0.05 Vdc as measured between J1-1 (high) and J1-3 (low).

12. Repeat steps 3 through 10.

13. With the multimeter, adjust the external power supply to 28.00 ±0.05 Vdc as measured between J1-1 (high) and J1-3 (low).

14. Repeat steps 3 through 10.

3.2.4.2.1.2 ***+28V MLB operating power.*** Measure the steady state current, voltage, and power as follows:

1. Turn off the unit.

2. Insert current meter in positive lead of external power supply.

3. Turn the unit on as indicated in 3.2.3.5.

4. While monitoring voltmeter No. 1, adjust the power supply to 27.0 ± 0.1 volts (see Figure 4). Record the voltage displayed on voltmeter no. 1 on TDS 3 (MLB voltage at 27 V).

5. Record the operating current on TDS 3 using digital multimeter.

6. Compute the operating power (watts) as explained in TDS 3.

7. Adjust the power supply to 28.0 ± 0.1 volts and record voltage on TDS 3.

8. Record the operating current on TDS 3.

9. Compute the operating power (watts) as explained in TDS 3.

10. Adjust the power supply to 29.0 ± 0.1 volts and record voltage on TDS 3.

11. Record the operating current on TDS 3.

12. Compute the operating power (watts) as explained in TDS 3.

13. Adjust the power supply to 28.0 ± 0.5 Vdc.

3.2.4.2.1.3 ***Transient susceptibility and power quality tests.*** The power tests that follow will demonstrate the AMSU-A2 instrument will operate within specified parameters when the transients (low and high frequency) are applied directly to the power lines.

3.2.4.2.1.3.1 ***Equipment setup.*** Set up the test equipment and connect to the instrument as shown in Figure 6.

3.2.4.2.1.3.2 ***Low frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the power line at the amplitude and duration specified in Figure 7. Perform Low Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.

2. Place the signal generator in ARB 0 mode. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator to attain the signal characteristics as shown in Figure 7.

3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.

4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.

6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.

7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.

8. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.1.3.3 ***High frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the power line. The interfering frequencies are simulated by using the triangular wave output of the signal generator. There are three signals to be sequentially injected; the frequencies and amplitudes as produced by the signal generator and measured by the oscilloscope are:

Frequency (Hz)	Amplitude
1.43	200 mVpp
2.86	1.00 Vpp
6.67	1.50 Vpp

Perform High Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.

2. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator output as follows:

amplitude ..... 200 mVpp
offset ..... 0.000 V
frequency ..... 1.430 Hz

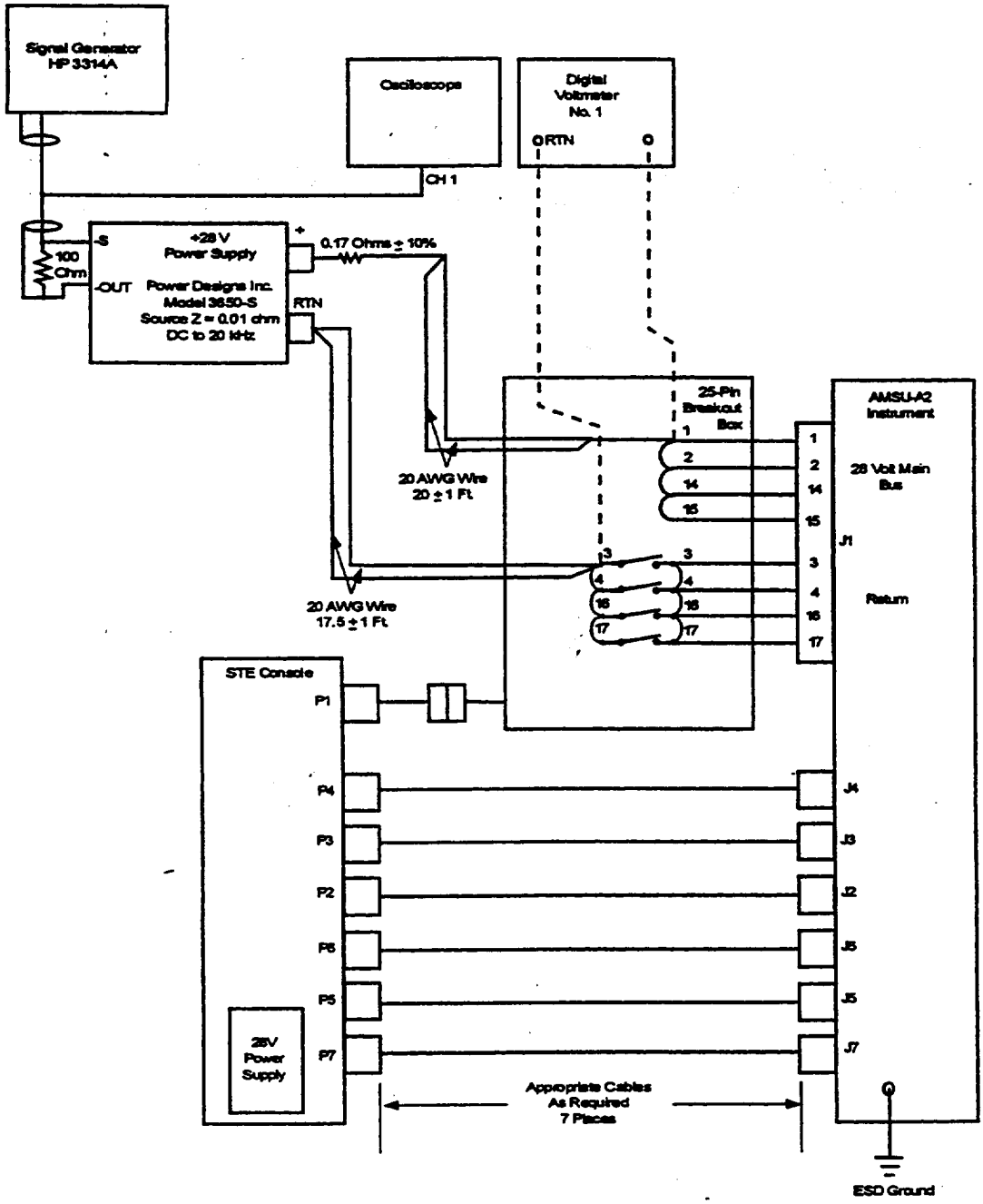


Figure 6. +28 V MLB Transient Susceptibility and Power Quality Tests Setup

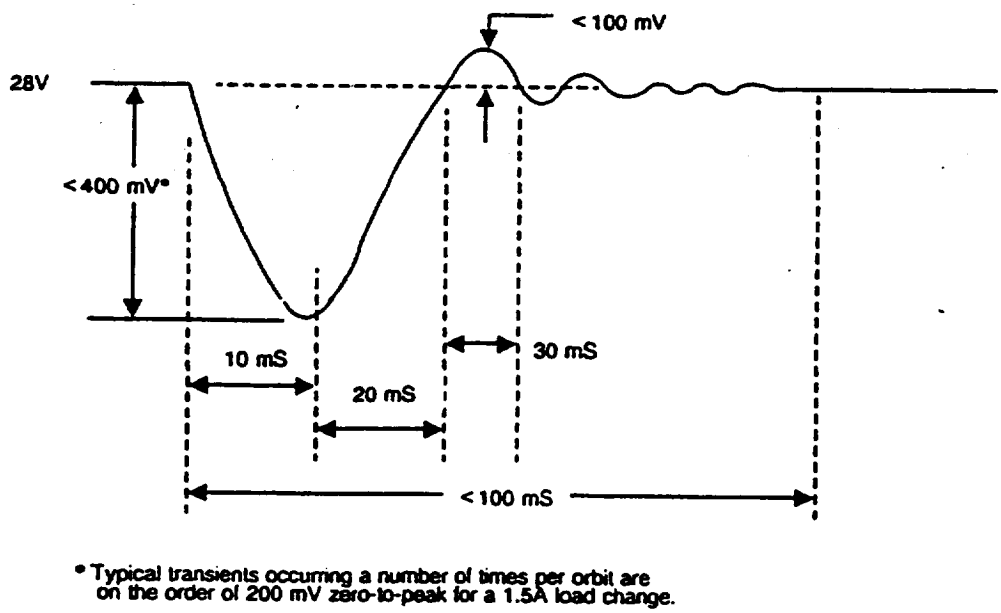


Figure 7. Load Induced Transient (Main Bus)

3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.

4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.

7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

8. Repeat steps 2 through 4, and 6 through 7 for 2.86 Hz and 1.0 Vpp.

9. Repeat steps 2 through 4, and 6 through 7 for 6.67 Hz and 1.5 Vpp.

10. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.1.4 ***Instrument feedback test.*** The instrument feedback test is performed in accordance with AE-26151/5. (See Table II.)

3.2.4.2.2 ***+28V pulse load bus test.*** The PLB shall be verified during the following intervals:

a. First two seconds (3.2.4.2.2.1)

b. From 2 to 4 seconds (3.2.4.2.2.2)

c. From 4 to 6 seconds (3.2.4.2.2.3)

d. From 6 to 8 seconds (3.2.4.2.2.4)

e. 8 second PLB integration (current) (3.2.4.2.2.5)

f. PLB turn-on transient (3.2.4.2.2.7).

g. PLB current in warm cal, cold cal, and nadir modes (3.2.4.2.2.6)

h. Instrument feedback (3.2.4.2.2.8)

i. Transient susceptibility (3.2.4.2.2.9).

3.2.4.2.2.1 ***PLB during the first two seconds.*** The PLB operation, during the first two seconds, shall be verified as follows:

1. Configure the unit and test equipment as indicated in Figure 8. Verify that switches 5, 6, 18 and 19 of the breakout box are in the OPEN position. Disconnect +28 Vdc external power supply output and adjust the power supply to read 28.00 Vdc ± 0.05 Vdc by using a digital voltmeter. Connect the power supply output as shown in Figure 8.

2. Configure the Dynamic Signal Analyzer (DSA) as follows:

Select **MEAS MODE**
Select *Time Capture*
Select *Capture Select*
Select *Capture Length*; Enter *1*; Select *Record*
Select **FREQ**
Select *Freq Span;* Enter *100.0*; Select *Hz*
Select E SMPL *Off*
Select *Time Length*; Enter *8.0*; Select *Sec*
Select **SELECT MEAS**
Select *Power Spec*
Select CH1 *Active*
Select **WINDOW**
Select *Hann*
Select **SOURCE**
Select Source *Off*
Select **AVG**
Select Avg *Off*
Select Tim Av *Off*
Select ***RANGE***
Select *Aut 1 Rng up*

Select **INPUT COUPLE**
Select CH1 *DC*
Select CH1 *Ground*
Select **INPUT TRIG**
Select *Trig Level;* Enter *1.5;* Select *V*
Select *Arm AU*
Select *Ext*
Select *Slope -*
Select **TRIG DELAY**
Enter 0.0; Select *Sec*
Select **COORD**
Select *Real*
Select **VIEW INPUT**
Select *Time Buff*
Select **SCALE**
Select *X Fixd Scale:* Enter *0.0, 8.0;* Select *Sec*
Select *Y Fixd Scale*; Enter *-10.0, 70.0;* Select *mv*
Select **UNITS**
Select *Hz (sec)*

NOTE

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Select 200 mA/ 10mV per div. on the current amplifier.

b) Remove the current probe from the circuit and close the probe. Place the probe in a magnetically benign location.

c) Adjust the "y" axis voltage range to ±4 mV

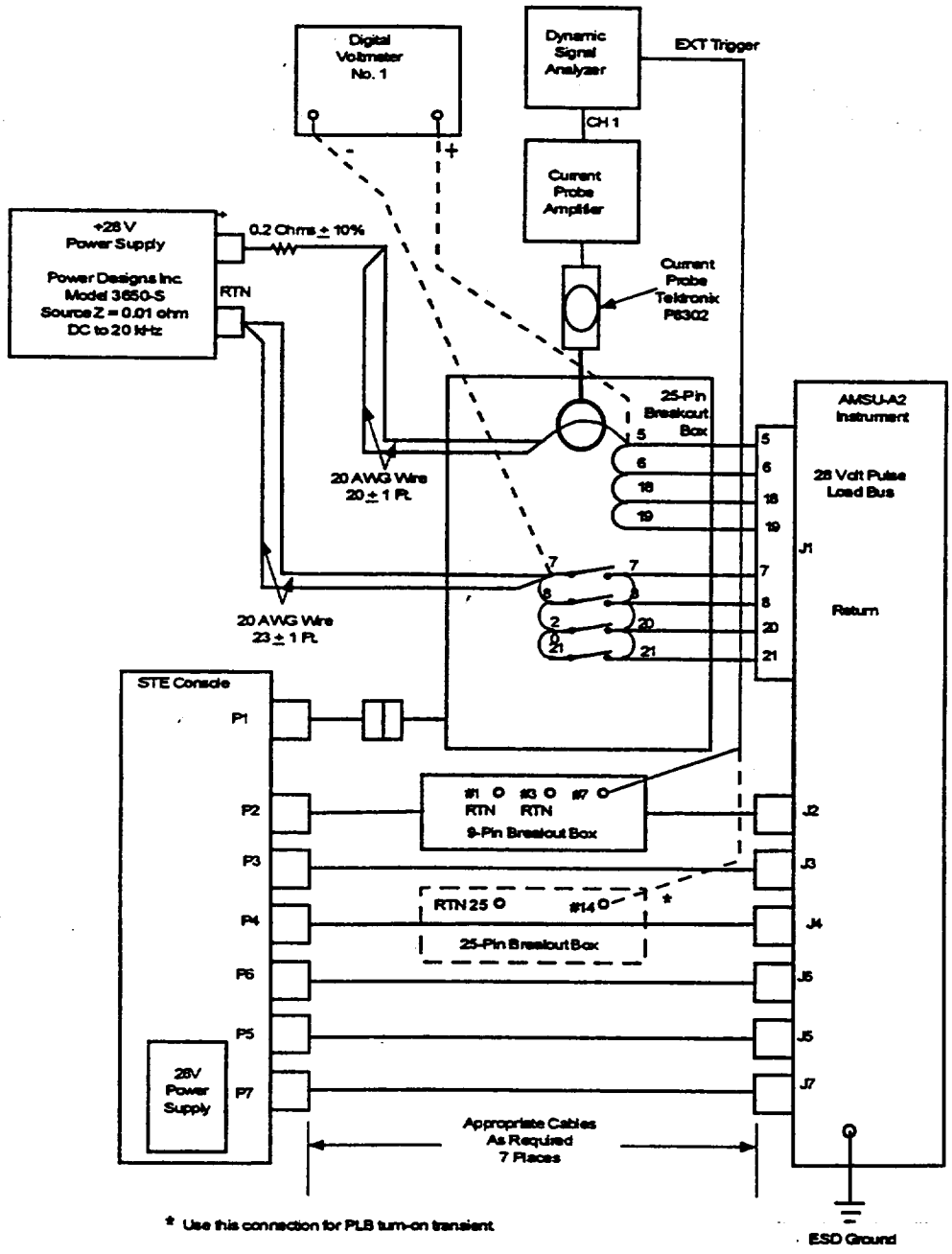


Figure 8. +28V Pulse Load Verification Setup

d) Place the DSA in "Free Run" Trigger and depress "Start Capture" on the DSA.

e) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

f) Position the current probe to its original location in accordance with Figure 8, and return the DSA to "Ext" trigger.

The instrument is now ready to capture and plot 8 seconds of data.

3. Turn the unit ON by selecting [9] MODULE POWER, set up the operating modes as defined in paragraph 3.2.3.5 (reference the command screen parameters below). If necessary, re-adjust the external power supply for 28 Vdc.

[9]	MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POS =	NO	[15]
[10]	SURVIVAL HTR PWR =	OFF	ANTENNA IN NADIR POS=	NO	[16]
[11]	MODULE TOTALLY OFF =	ON	ANTENNA FULL SCAN MODE =	YES	[17]
[12]	SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13]	COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14]	ANTENNA WARM CAL POS =	NO			
POWER [4] ON					

4. Start the DSA signal capture by depressing "Start Capture".

5. Obtain the first 2-second PLB current waveform by selecting zero to 2 seconds time span. Refer to Figure 9 for a typical waveform. Turn OFF the "X" cursor if it is ON. Turn the "X" cursor ON. The cursor will appear at the highest peak. Ensure this value is less than or equal to 2.2 amps. Record value on TDS 4.

6. Compute the peak current as follows:
Multiply the maximum Y value by the current/div as selected on the current amplifier. As an example, if the current amplifier is set up to display 200 mA/ 10 mV per division, and the maximum Y value = 276 mV:

100 mV x (200 mA/ 10 mV) = 2000 mA = 2.00 amps

3.2.4.2.2.2 ***PLB measured from 2 to 4 seconds.*** The PLB operation, from 2 to 4 seconds, shall be verified as follows:

1. Change the PRE-TRIGGER DELAY setting of the dynamic signal analyzer to 1.9 seconds.

2. Obtain a hard copy of the signal displayed on the dynamic signal analyzer (refer to Figure 9 for typical waveform) and record the peak current and bus current during the integrate/hold, dump (I/H,D) time period (refer to Figure 9) data on TDS 4.

3.2.4.2.2.3 ***PLB measured from 4 to 6 seconds.*** The PLB operation, from 4 to 6 seconds, shall be verified as follows:

1. Change the PRE-TRIGGER DELAY setting of the dynamic signal analyzer to 3.9 seconds.

2. Obtain a hard copy of the signal displayed on the dynamic signal analyzer (refer to Figure 9 for typical waveform) and record the peak current and bus current during the integrate/hold, dump (I/H,D) time period (refer to Figure 9) data on TDS 4.

3.2.4.2.2.4 ***PLB measured from 6 to 8 seconds.*** The PLB operation, from 6 to 8 seconds, shall be verified as follows:

1. Change the PRE-TRIGGER DELAY setting of the dynamic signal analyzer to 5.9 seconds.

2. Obtain a hard copy of the signal displayed on the dynamic signal analyzer (refer to Figure 9 for typical waveform) and record the peak current and bus current during the integrate/hold, dump (I/H,D) time period (refer to Figure 9) data on TDS 4.

3.2.4.2.2.5 ***Eight second integrated current measurement.*** To observe the PLB integrated (8 sec.) current waveform on the dynamic signal analyzer, configure the dynamic signal analyzer as follows:

1. Select **SCALE**
   Select X Fixd Scale; Enter 0.0, 8; Select Sec
   Select Y Fxd Scale; Enter –10, 70.0; Select mV
2. Select **VIEW INPUT**
   Select Time Record: Note – the display heading changes to read "Cap Tim Rec"
3. Select **MATH**
   Select Next
4. Select **Intgrt**:
   Note – the display changes to present an integrated value of the current waveform.
5. Select **X (cursor)**
   Move the X marker to the maximum right of the display. The Y value is indicative of the integrated current value over the entire 8 second period.

6. Multiply the maximum Y value by the current/div as selected on the current amplifier, then divide by 8 seconds to acquire an average current value. As an example: if the current amplifier is set up to display 200 mA/ 10 mV per division, and the maximum Y value = 32.4 mV-sec:

   [32.4 mV-sec x (200 mA/ 10 mV)]/8 sec = 81 mA

   Enter the calculated integrated value on TDS 4.

3.2.4.2.2.6 ***PLB current in warm cal, cold cal, and nadir modes.*** PLB current shall be tested as follows:

1. Place the unit in warm cal mode.

2 Measure and record PLB steady state current on TDS 4 with a multimeter in the current mode.

3. Place the unit in cold cal mode and repeat step 2.

4. Place the unit in nadir mode and repeat step 2.

3.2.4.2.2.7 ***PLB turn-on transient***

1. Configure the unit and test equipment as shown in Figure 8. Verify that switches 5, 6, 18 and 19 of the breakout box are in the OPEN position. Connect the DSA External trigger to the identified pins on the 25-pin breakout box.

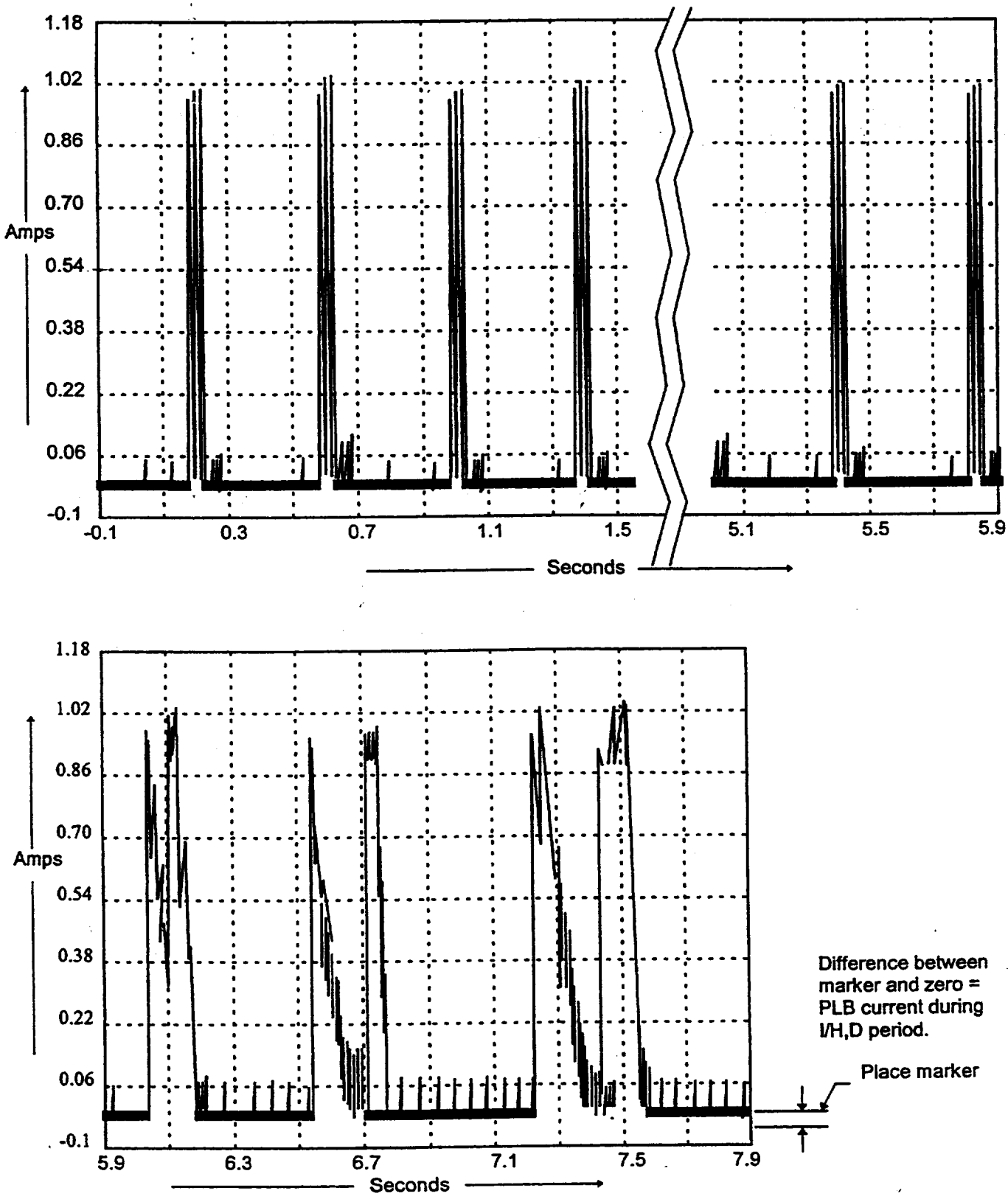


Figure 9. Typical Load Current Waveforms from the +28V Pulse Load Bus

2. Configure the Dynamic Signal Analyzer (DSA) as follows:

Select **MEAS MODE**
- Select *Time Capture*
- Select *Capture Select*
- Select *Capture Length*; Enter *500.0*;
- Select *msec*

Select **FREQ**
- Select *Freq Span*; Enter *20.0*; Select kHz
- Select E SMPL *Off*
- Select *Time Length*; Enter 32.*0*;
- Select *msec*

Select **SELECT MEAS**
- Select *Power Spec*
- Select *CH1 Active*

Select **WINDOW**
- Select *Hann*

Select **SOURCE**
- Select *Source Off*

Select **AVG**
- Select *Avg Off*
- Select *Tim Av Off*

Select ***RANGE***
- Select *Chan 1 Range;* Enter *1*
- Select *V*

Select **INPUT COUPLE**
- Select *CH1 DC*
- Select *CH1 Ground*

Select **INPUT TRIG**
- Select *Trig Level;* Enter *1*
- Select *V*
- Select *Arm AU*
- Select *Ext;* Select *Slope(-)*

Select **TRIG DELAY**
- Enter 0; Select *µSec*

Select **COORD**
- Select *Real*

Select **VIEW INPUT**
- Select *Time Buff*

Select **SCALE**
- Select *X Fixd Scale:* Enter *0.0, 25*
- Select *msec*
- Select *Y Fixd Scale*; Enter *–10, 470*
- Select *mv*

Select **UNITS**
- Select *Hz (sec)*

NOTE

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Select 200 mA/ 10 mV per div. on the current amplifier.

b) Remove the current probe from the circuit and close the probe. Place the probe in a magnetically benign location.

c) Adjust the "y" axis voltage range to ±4 mV.

d) Place the DSA in "Free Run" Trigger and depress "Start Capture" on the DSA.

e) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

f) Position the current probe to its original location in accordance with Figure 7, and return the DSA to "Ext" trigger.

3. Adjust external power supply for +28 Vdc. Turn the unit ON by selecting [9] MODULE POWER; setup the operating modes as defined in paragraph 3.2.3.5 (reference the command screen parameters below). If necessary, re-adjust the external power supply for 28 Vdc.

```
                                    COMMANDS
 [9]  MODULE POWER =              CONNECT     ANTENNA IN COLD CAL POS =      NO   [15]
[10]  SURVIVAL HTR PWR =          OFF         ANTENNA IN NADIR POS=          NO   [16]
[11]  MODULE TOTALLY OFF =        ON          ANTENNA FULL SCAN MODE =       YES  [17]
[12]  SCANNER A2 POWER =          ON          COLD CAL POSITION MSB =        ZERO [18]
[13]  COMPENSATOR MOTOR POWER =   ON          COLD CAL POSITION LSB =        ZERO [19]
[14]  ANTENNA WARM CAL POS =      NO
POWER [4] ON
```

4. Turn the unit OFF by executing command [9] MODULE POWER. Confirm the command has been executed on the STE display.

5. Start the DSA signal capture by depressing "Start Capture"; wait for the DSA message "waiting for trigger" before proceeding.

6. On the STE computer, select [9] MODULE POWER and obtain a record of the +28 PLB Turn on current waveform. On the STE computer, select [9] MODULE POWER to turn the instrument's power OFF. Adjust the display time base and voltage sensitivity to allow for adequate current and pulse duration measurements. Plot the obtained waveform and attach a hard copy of the scan to TDS 4. Refer to Figure 10 for an example of the expected waveform.

7. Measure the Turn-On pulse width; record this value on TDS 4.

8. Compute the peak current as follows:

   Measure the maximum Y value by the current/div as selected on the current amplifier. As an example, if the current amplifier is set up to display 200 mA/ 10 mV per division, and the maximum Y value = 276 mV:

   276 mV x (200 mA/ 10 mV) = 5520 mA = 5.52 amps

   Record this value on TDS 4.

9. The 1st derivative of the current waveform must be calculated. Compute the dI/dT as follows:

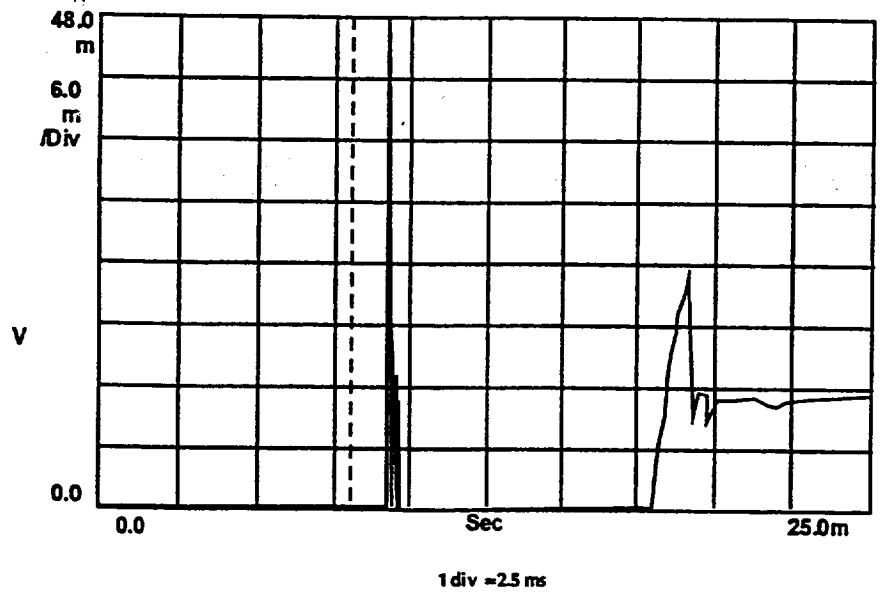
   The most probable location of the greatest current demand is during the first positive transition after voltage application. If this is the case, expand the segment of the display and measure the greatest voltage transition in the smallest time transition. The change in voltage times the current/div as selected on the current amplifier produces the change in current. Next divide this change in current by the change in time (in microseconds). This value is dI/dT. Example:

   Change in voltage ..... 144 mV
   Change in time (microseconds) ..... 19.5 µs
   Current/div on current amplifier ..... 200 mA/ 10 mV

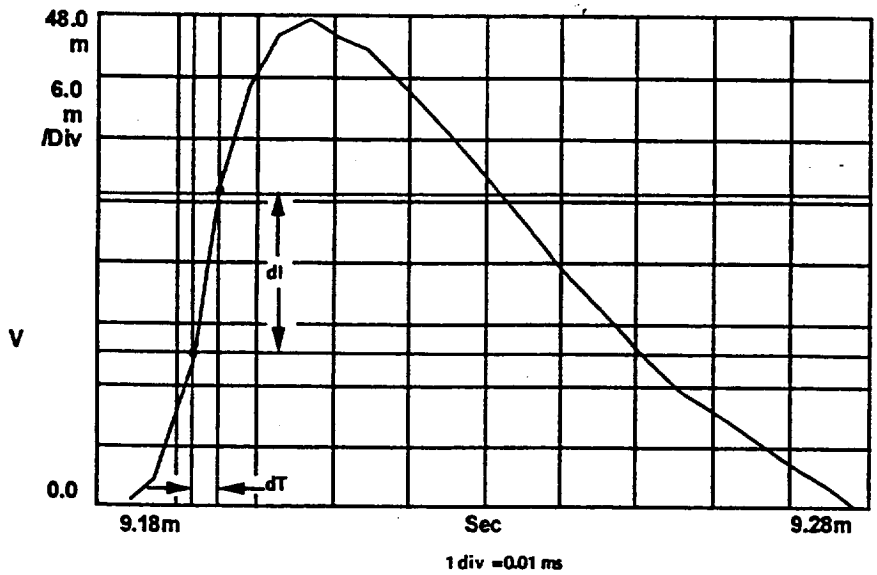
   144 mV x (200 mA/ 10 mV)/19.5 µs = 147.7 mA/ µs

10. Record the computed value on TDS 4.

3.2.4.2.2.8 ***Instrument feedback test.*** The instrument feedback test is performed in accordance with AE-26151/5. (See Table II.)



AMSU-A2 Pulse Load Bus Turn-on Transient



AMSU-A2 Pulse Load Bus $\frac{dI}{dT}$

Figure 10. Example of +28V Pulse Load Bus Turn-on Transient

3.2.4.2.2.9 ***Transient susceptibility and power quality tests.*** The tests that follow will demonstrate the AMSU-A2 instrument will operate within specified parameters when the transients (low and high frequency) are applied directly to the power lines.

3.2.4.2.2.9.1 ***Equipment setup.*** Set up the test equipment and connect to the instrument as shown in Figure 11.

3.2.4.2.2.9.2 ***Low frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the Pulse Load Bus power line at the amplitude and duration specified in Figure 12. Perform the Low Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.

2. Place the signal generator in ARB 1 mode. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator to attain the signal characteristics as shown in Figure 12.

3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.

4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.

6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.

7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.

8. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.2.9.3 ***High frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the power line. The interfering frequencies are simulated by using the triangular wave output of the signal generator. There are three signals to be sequentially injected; the frequencies and amplitudes as produced by the signal generator and measured by the oscilloscope are:

Frequency (Hz)	Amplitude
1.43	200 mVpp
2.86	1.00 Vpp
6.67	1.50 Vpp

Perform the High Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.

2. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator output as follows:

amplitude	200 mVpp
offset	0.000 V
frequency	1.430 Hz

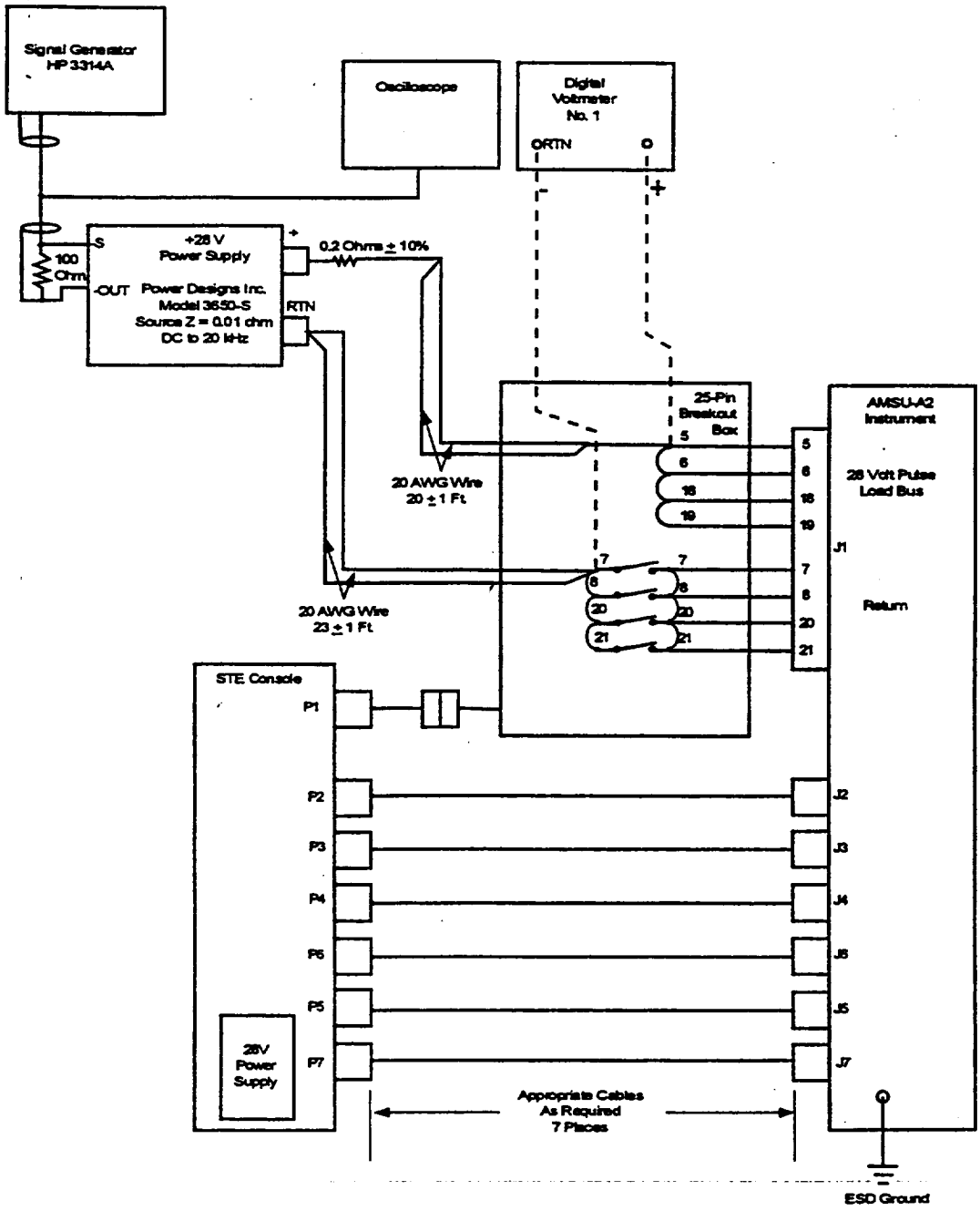


Figure 11. +28V PLB Transient Susceptibility and Power Quality Tests Setup

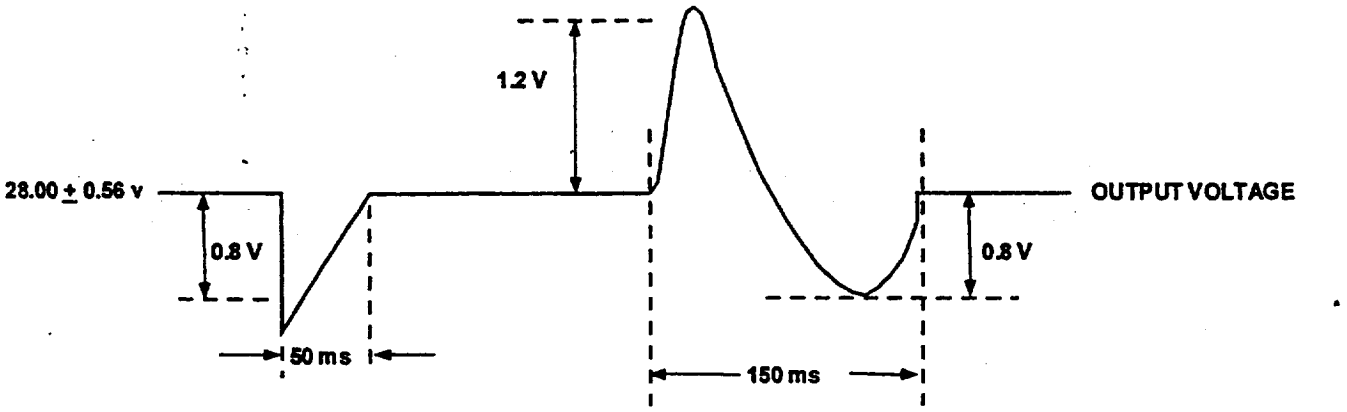


Figure 12. Load Induced Transient (Pulse Load)

3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.

4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.

7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

8. Repeat steps 2 through 4, and 6 through 7 for 2.86 Hz and 1.0 Vpp.

9. Repeat steps 2 through 4, and 6 through 7 for 6.67 Hz and 1.5 Vpp.

10. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.3 ***Analog telemetry bus***

3.2.4.2.3.1 ***Operating power measurements*** The purpose of this test is to calculate the operating power of the Analog Telemetry Bus from measurements taken of the bus voltage and current.

1. Configure the instrument as shown in Figure 13.

2. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

3. Measure the bus current and record on TDS 5.

4. From the measurements recorded on TDS 5, calculate the operating power for the telemetry bus and record on TDS 5.

3.2.4.2.3.2 ***Instrument feedback test*** The instrument feedback test is performed in accordance with AE-26151/5. (See Table II.)

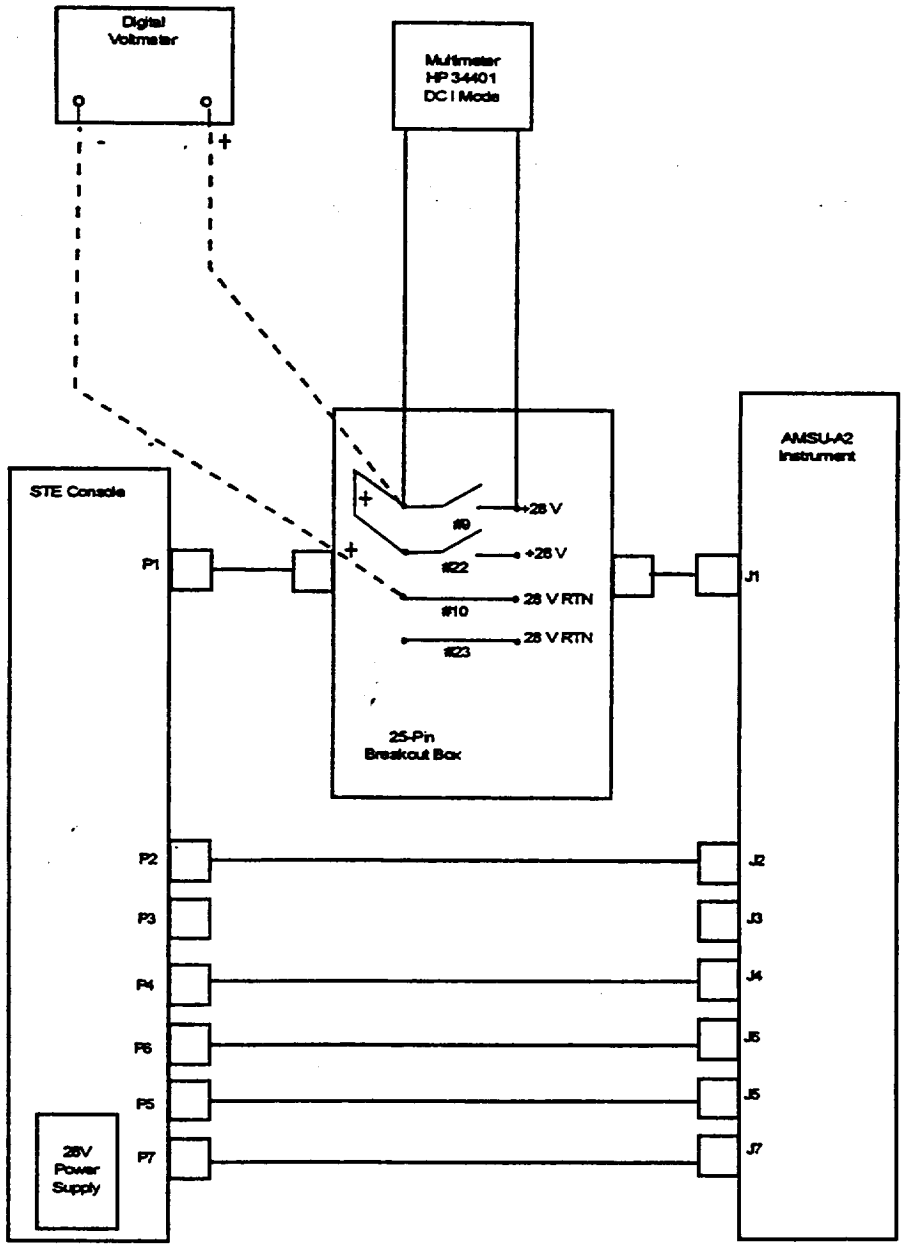


Figure 13. +28V Analog Telemetry Bus Test Setup

3.2.4.2.3.3 ***Transient susceptibility and power quality tests.*** The tests that follow will demonstrate the AMSU-A2 instrument will operate within specified parameters when the transients (low and high frequency) are applied directly to the power lines.

3.2.4.2.3.3.1 ***Equipment setup.*** Set up the test equipment and connect to the instrument as shown in Figure 14 (exceptions: remove the current probe and amplifier; connect the oscilloscope to monitor output of the signal generator).

3.2.4.2.3.3.2 ***Low frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the power line at the amplitude and duration specified in Figure 15. Perform the Low Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.
2. Place the signal generator in ARB 0 mode. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator to attain the signal characteristics as shown in Figure 15.
3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.
4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.
5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.
6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.
7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21. Attach printouts to TDS 41.
8. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.3.3.3 ***High frequency load induced transients.*** The AMSU instrument shall be capable of normal operation before and after the injection of positive and negative transients into the power line. The interfering frequencies are simulated by using the triangular wave output of the signal generator. There are three signals to be sequentially injected; the frequencies and amplitudes as produced by the signal generator and measured by the oscilloscope are:

Frequency (Hz)	Amplitude
1.43	200 mVpp
2.86	1.00 Vpp
6.67	1.50 Vpp

Perform the High Frequency Load Induced Transients as follows:

1. With the exception of the external power supply, turn ON all the test equipment.
2. With the external power supply OFF, while monitoring the oscilloscope, adjust the amplitude and frequency output of the signal generator output as follows:

amplitude ..... 200 mVpp
offset ..... 0.000 V
frequency ..... 1.430 Hz

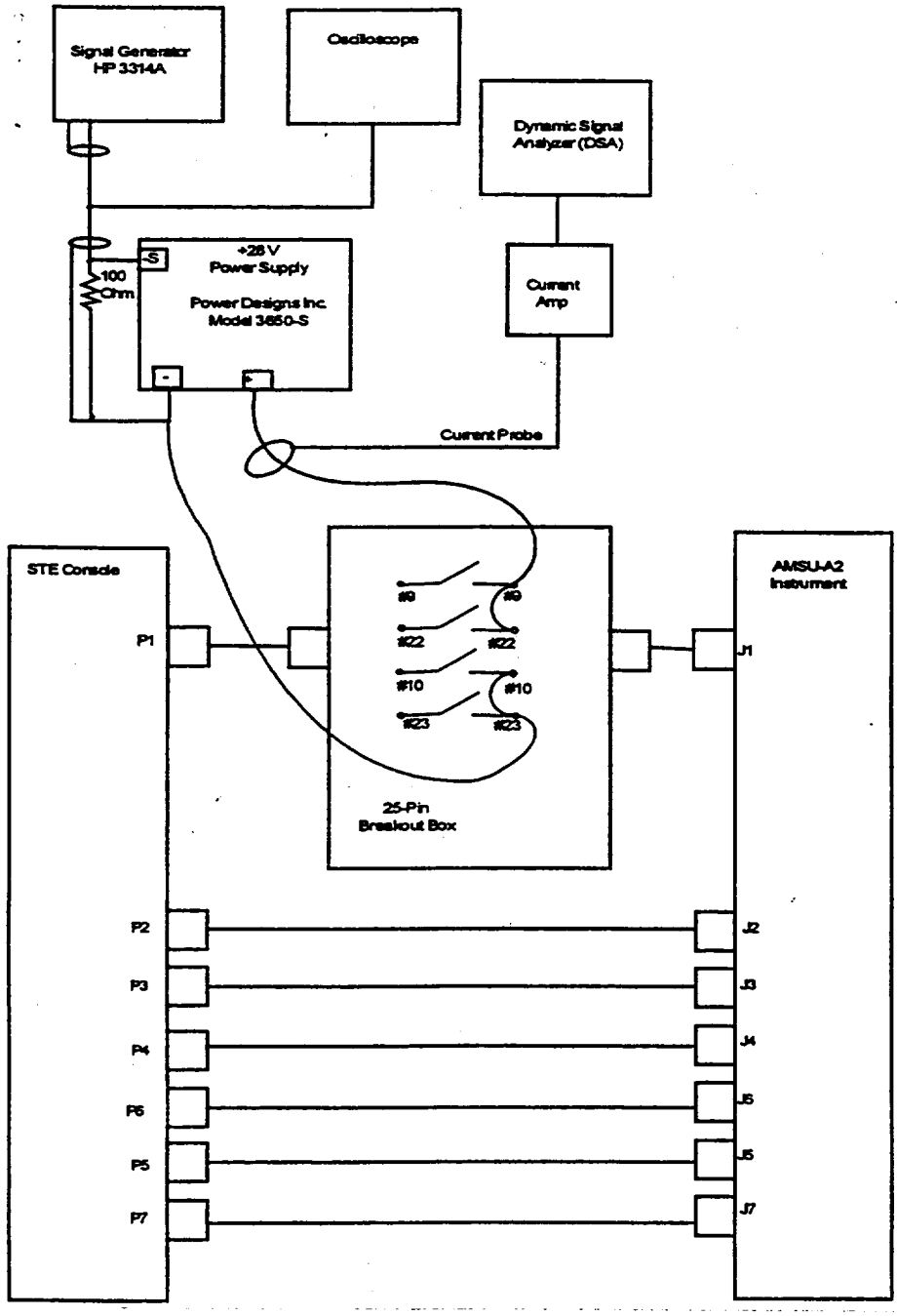
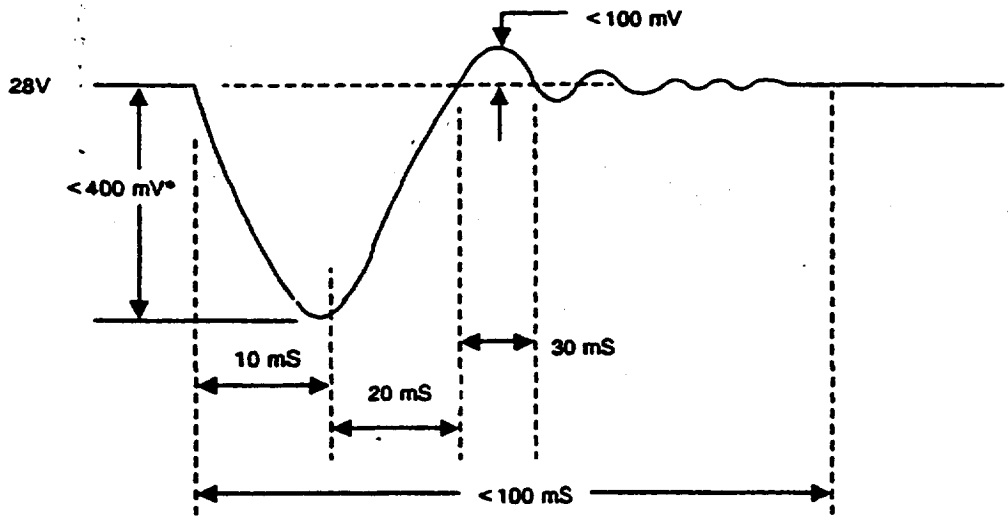


Figure 14. +28 Vdc Analog Telemetry Bus Ripple Current and Transient Susceptibility Test Setup



* Typical transients occurring a number of times per orbit are on the order of 200 mV zero-to-peak for a 1.5A load change.

Figure 15. Load Induced Transient (Main Bus)

3. Remove the signal generator output connection from the power supply. While monitoring the external power supply dc voltage with the meter, turn the external power supply ON.

4. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

5. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

6. Connect the signal generator to the external power supply. Wait for the instrument to complete three scans. Remove the signal generator output to the power supply.

7. Acquire one Full Scan Mode printout; verify the printout meets the requirements of TDS 18 thru 21.

8. Repeat steps 2 through 4, and 6 through 7 for 2.86 Hz and 1.0 Vpp.

9. Repeat steps 2 through 4, and 6 through 7 for 6.67 Hz and 1.5 Vpp.

10. Record any deviations in the functional performance of the AMSU instrument on TDS 41.

3.2.4.2.4 +10 Vdc interface bus test

3.2.4.2.4.1 ***Operating power measurements*** The purpose of this test is to calculate the operating power of the +10 Vdc Interface Bus from measurements taken of the bus voltage and current.

1. Configure the instrument as shown in Figure 16.

2. Turn the instrument ON and place the instrument in the modes congruent with paragraph 3.2.3.5.

3. Measure the bus current and record on TDS 6.

4. From the measurements recorded on TDS 6, calculate the operating power for the telemetry bus and record on TDS 6.

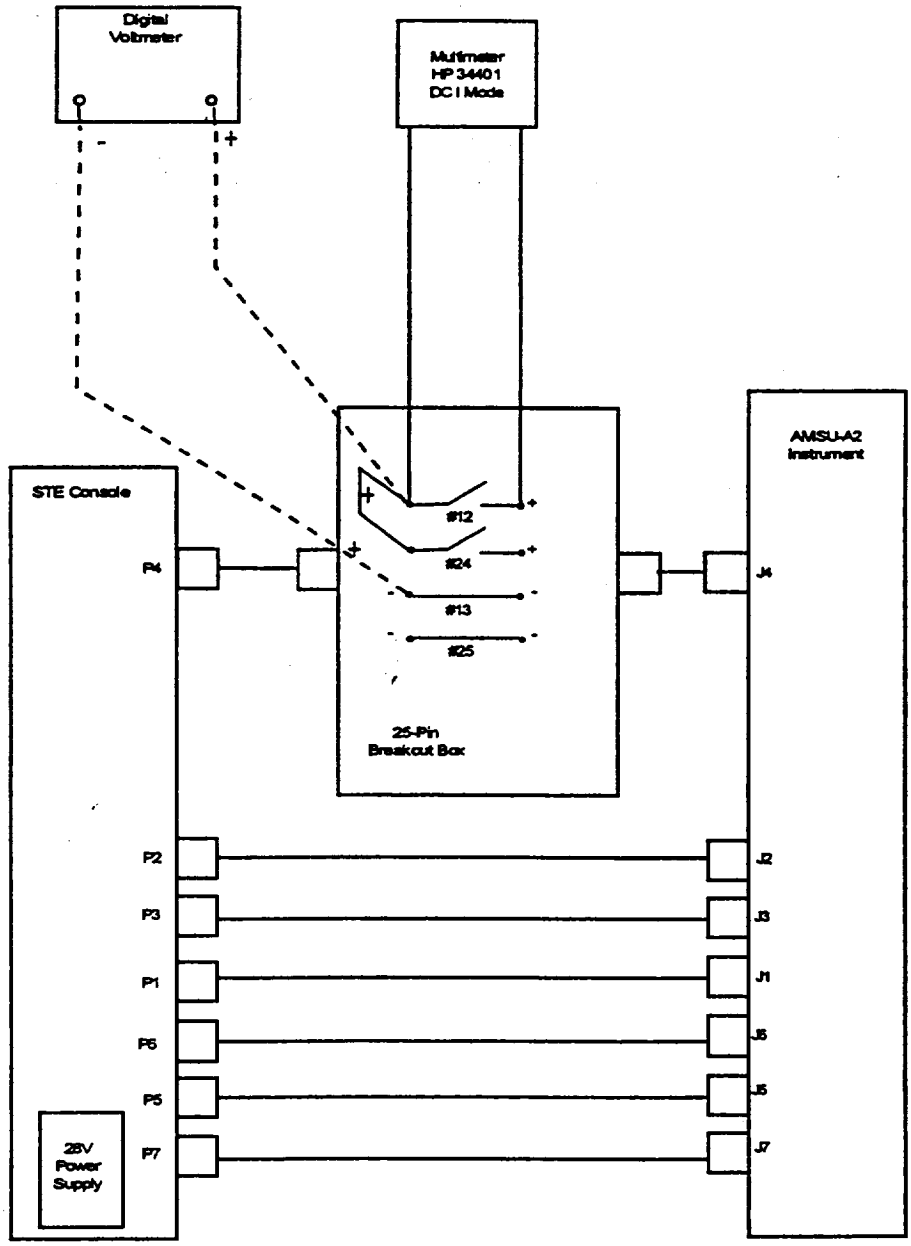


Figure 16. +10V Interface Bus Test Setup

3.2.4.2.4.2 *Instrument feedback test* The instrument feedback test is performed in accordance with AE-26151/5. (See Table II.)

3.2.4.2.5 *Power input test for LPT.* For LPT, test the power input as follows:

1. Configure the unit and test equipment as indicated in Figure 17.
2. Turn the unit ON as described in 3.2.3.5.

NOTE

Do not proceed without successful completion of step 2.

3. Adjust the STE power supply such that the voltmeter across J1-1 and J1-3 reads +28.0 ± 0.5 V. Record the voltage across the pin J1-1 and J1-3 and record the current at STE power supply on TDS B-1, Appendix B (LPT).
4. Turn off power by referring to 3.2.3.6.

3.2.4.3 *Clock, commands, and data system test.* This procedure verifies the clock signal, the commands, and the data requirements specified in S-480-80, GIIS IS-3267415, and UIIS IS-2624483.

3.2.4.3.1 *Test sequence.* The test sequence shall be as follows:

a. Clock signals verification
b. Commands and Digital-B telemetry verification
c. Data output verification
   - Digital-A
   - Analog telemetry
   - Test points
d. GSE modes.

3.2.4.3.2 *Clock signals test.* The following items shall be tested to verify the clock signals. Refer to Figures 18 and 19 for graphical representation of these pulses.

a. 1.248 MHz clock
b. 8 seconds frame pulse
c. A1 select pulse
d. C1 shift pulse

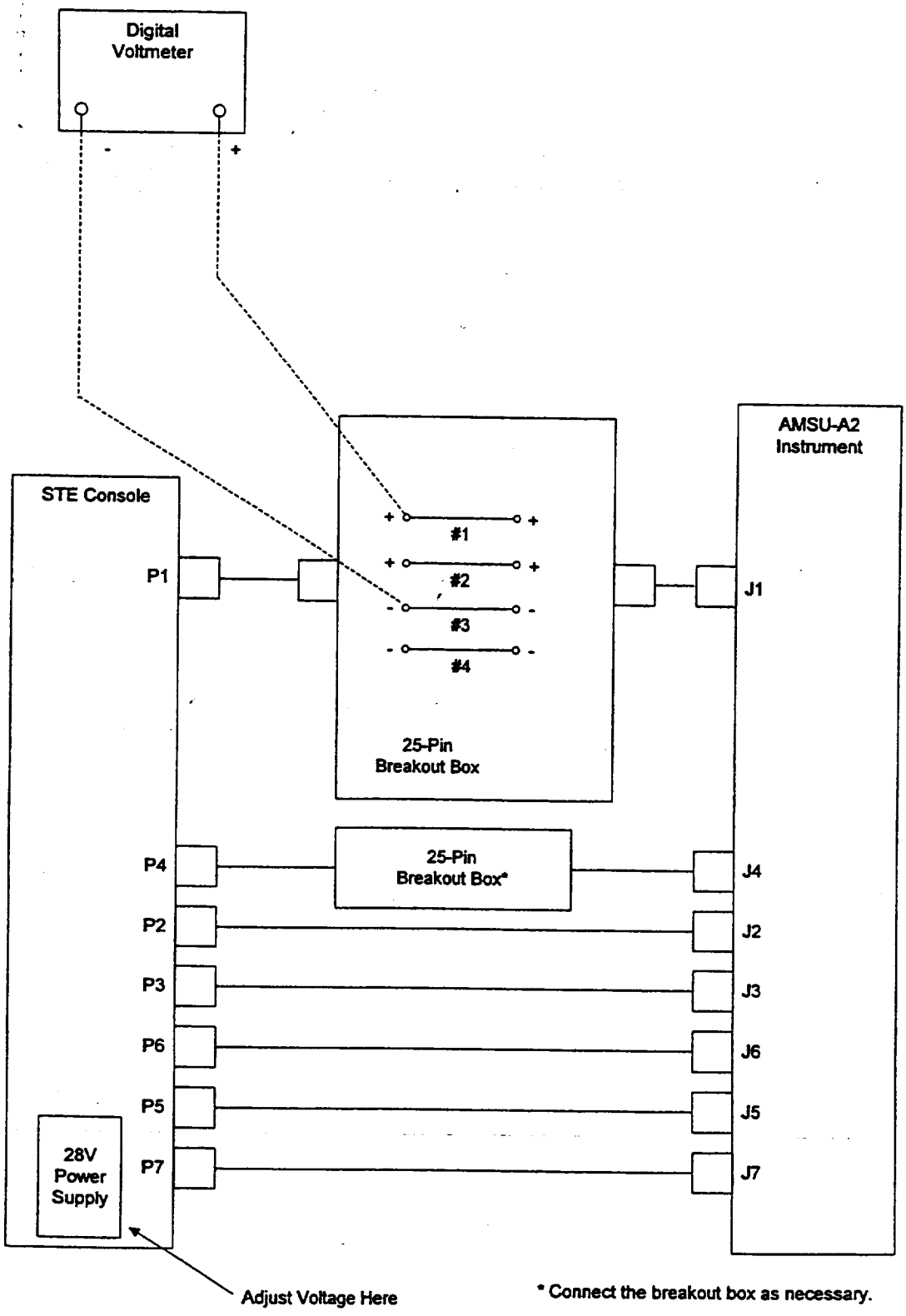


Figure 17. +28 V Main Load Bus Test Setup (For LPT Only)

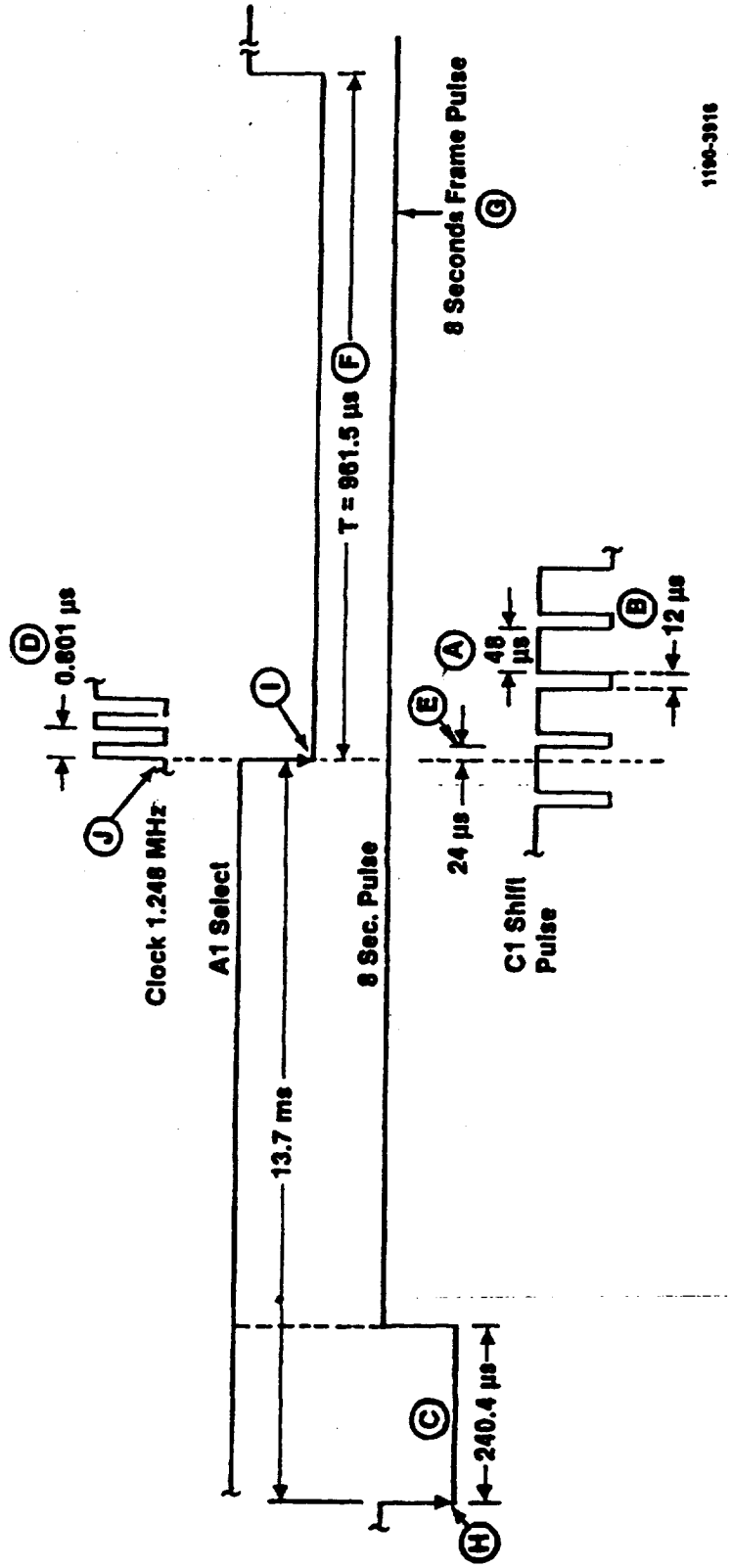


Figure 18. Clock Pulses Timing and Synchronization

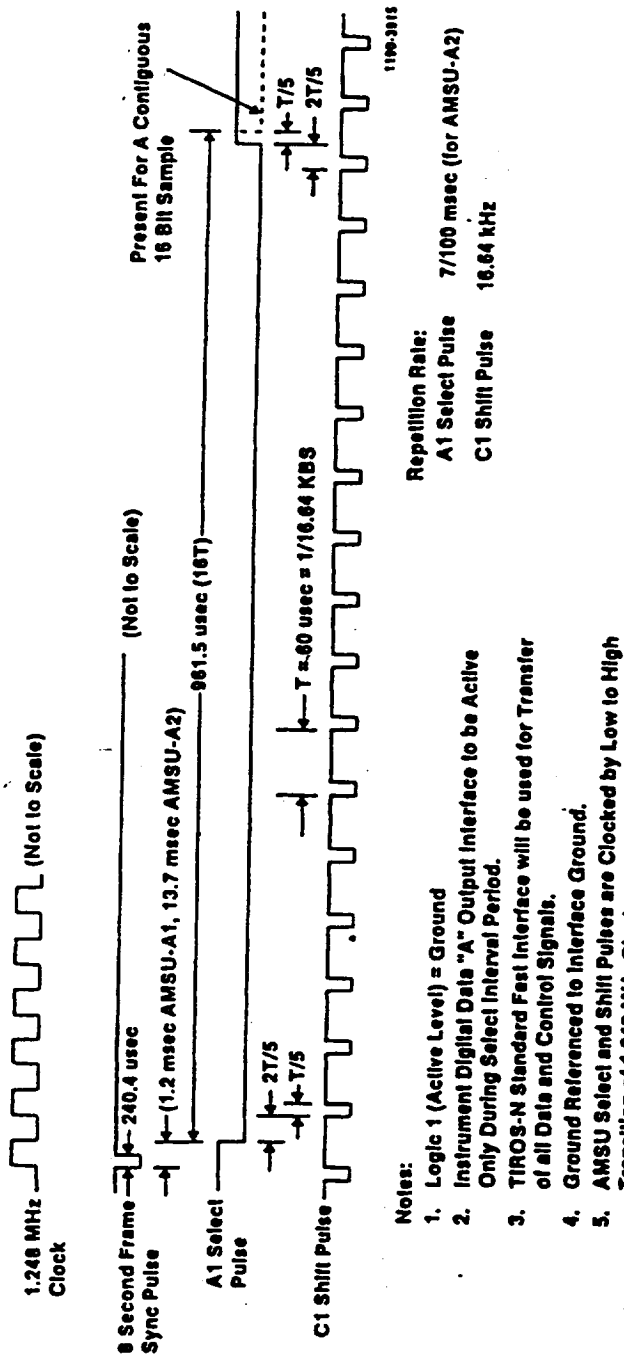


Figure 19. Synchronization Interface Signals

3.2.4.3.2.1 *1.248 MHz synchronization clock.* Perform the following procedures.

1. Configure the unit and the test equipment as indicated in Figure 20.
2. Connect CHANNEL-1 of the oscilloscope to the 1.248 MHz clock signal of the STE output (instrument input) as shown in Figure 20.
3. Turn the unit ON as described in 3.2.3.5.

NOTE

Do not proceed without successful completion of step 3.

4. Using the oscilloscope, measure the 1.248 MHz clock signal. Record the data and attach the photograph or plot on TDS 7.

3.2.4.3.2.2 *C1 shift pulse verification.* Connect CHANNEL-2 of the oscilloscope to Pin 2 of the 9-pin breakout box (P2-J2). Photograph or plot the oscilloscope display and record the information indicated on TDS 8.

3.2.4.3.2.3 *A1 select pulse verification.* Connect CHANNEL-2 of the oscilloscope to Pin 6 of the 9-pin breakout box (P2-J2). Photograph or plot the oscilloscope display and record the information indicated on TDS 9.

3.2.4.3.2.4 *8-seconds frame sync pulse verification.* Perform the following procedures.

1. Connect CHANNEL-2 of the oscilloscope to Pin 7 of the 9-pin breakout box (P2-J2). Photograph or plot the oscilloscope display and record the information indicated on TDS 10. Measure pulse repetition timing by using HP5316A Universal counter and record on TDS 10.
2. Turn the unit OFF by executing the softkey command [11] MODULE TOTALLY OFF. Leave both breakout boxes in place.
3. Turn off power by referring to 3.2.3.6.

3.2.4.3.2.5 *Synchronization signal relationship.* The following synchronization signal relationship shall be verified.

a. A1 select pulse and the 8-second frame sync pulse
b. A1 select pulse and C1 shift pulse
c. A1 select pulse and 1.248 MHz clock.

Relationship of A1 select pulse and the 8-second frame sync pulse:

1. With the unit off, configure the unit and the test equipment as indicated in Figure 21.
2. Connect CHANNEL-1 of the oscilloscope to the breakout box, Pin 7 (8 second frame pulse).
3. Turn the unit ON as described in 3.2.3.5.

NOTE

Do not proceed without successful completion of step 3.

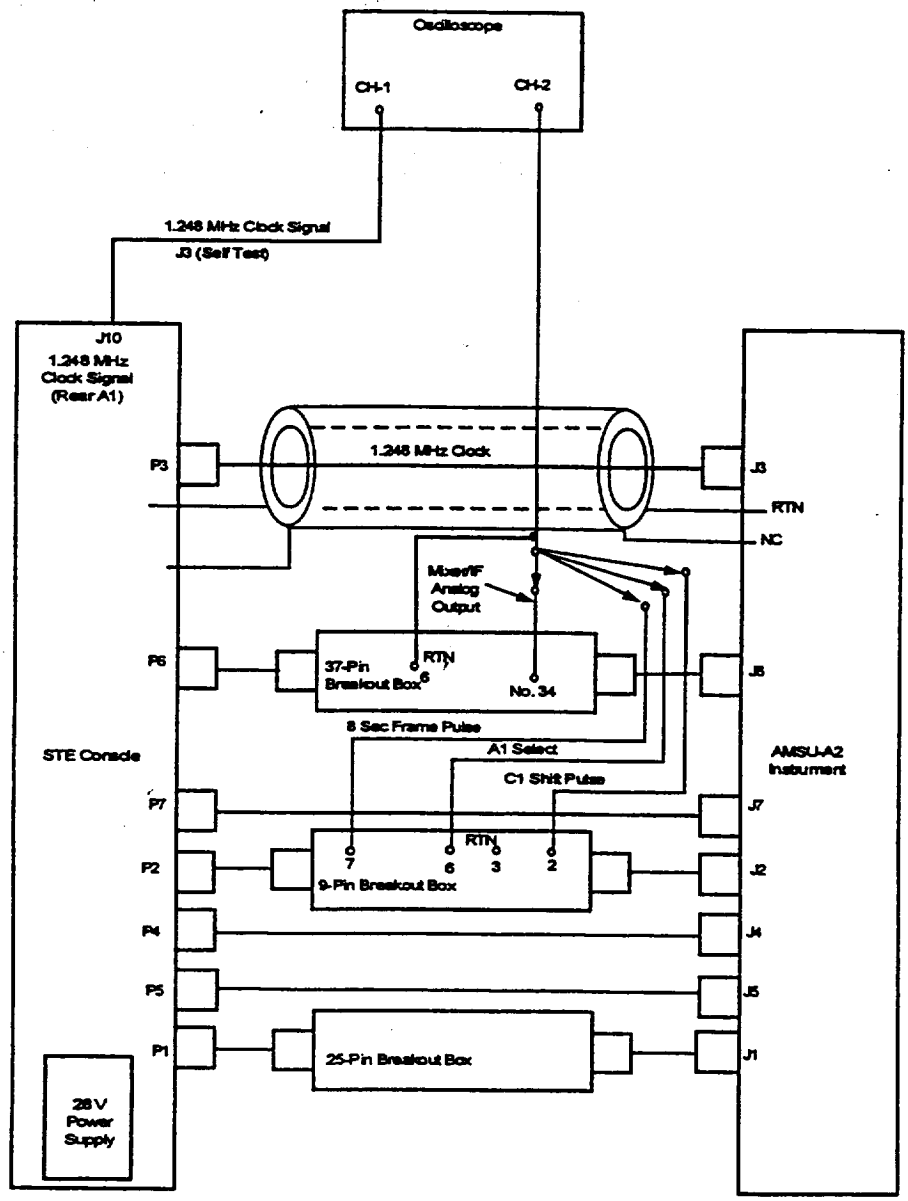


Figure 20. Clock Signal and DC/DC Converter Synchronization Test Setup

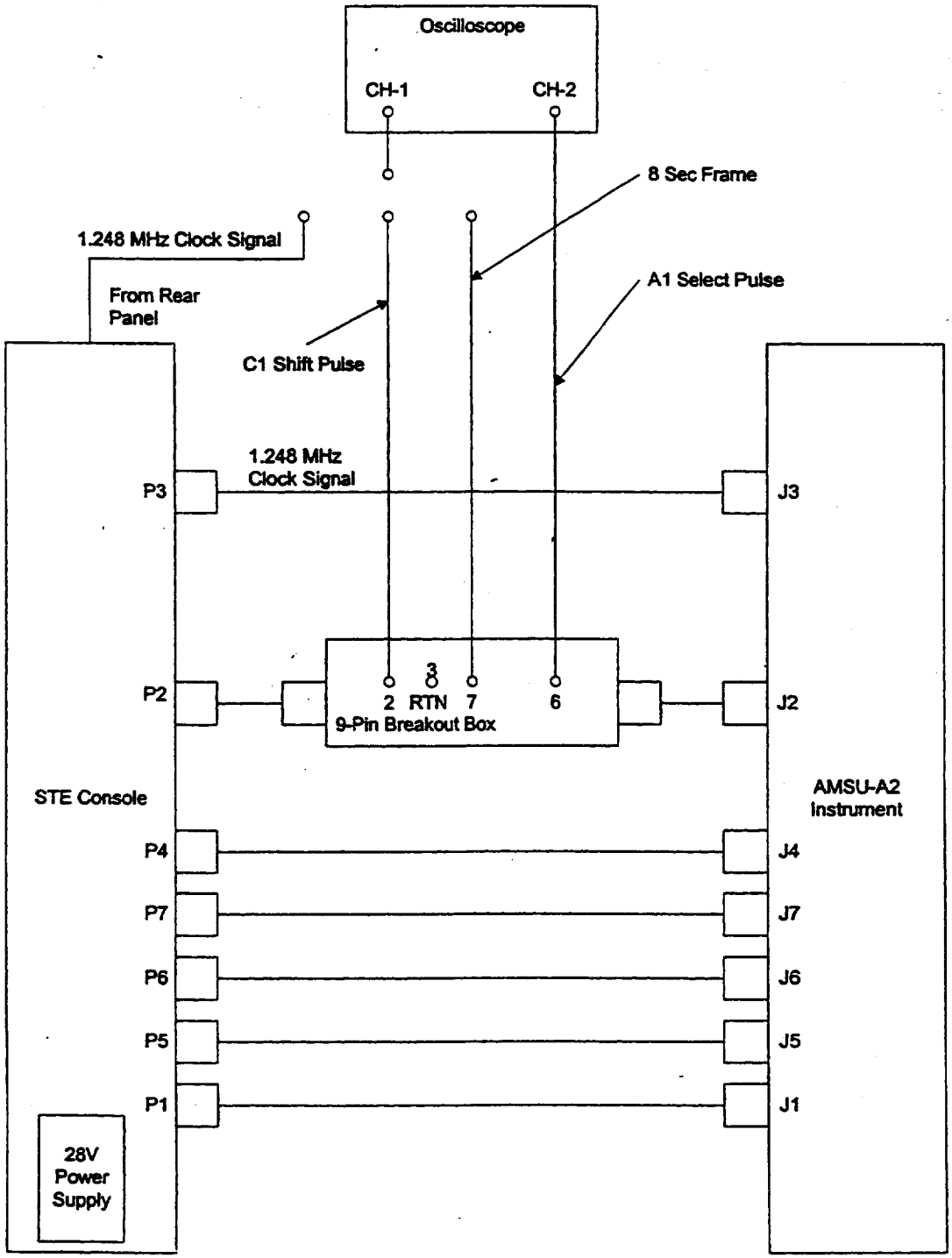


Figure 21. Synchronization Signal Relationships Test Setup

4. Adjust the amplitude and the trigger level of the oscilloscope for best picture.

5. Photograph or plot the oscilloscope display and attach the photograph or plot in the space provided on TDS 11, sheet 1.

6. From the photograph or plot, verify the synchronization as described in TDS 11, sheet 1. Record pass or fail.

Relationship of A1 select pulse and C1 shift pulse:

7. Connect CHANNEL-1 of the oscilloscope to the breakout box Pin 2 (C1 shift pulse).

8. Adjust the amplitude and the trigger level of the oscilloscope for best picture.

9. Photograph or plot the oscilloscope display and attach the photograph or plot in the space provided on TDS 11, sheet 2.

10. From the photograph or plot, verify the synchronization as described in TDS 11, sheet 2. Record pass or fail.

Relationship of A1 select pulse and the 1.248 clock pulse:

11. Connect CHANNEL-1 of the oscilloscope to the clock connector located at the rear of the STE (J10 of SELF TEST).

12. Adjust the amplitude and the trigger level of the oscilloscope for best picture.

13. Photograph or plot the oscilloscope display and attach the photograph or plot in the space provided on TDS 12.

14. From the photograph or plot, verify the synchronization as described in TDS 12. Record pass or fail.

15. Turn off the instrument by executing command [11] MODULE TOTALLY OFF.

16. Turn off the +28 V STE power supply.

17. Connect unit to STE as shown in Figure 20 without breakout boxes and test equipment.

3.2.4.3.3 ***Commands and digital-B telemetry test.*** Commands and digital-B telemetry shall be verified in accordance with the following paragraphs.

3.2.4.3.3.1 ***Module totally off.*** Commands and digital-B telemetry, with the module totally off, shall be tested as follows:

1. Turn the unit ON as described in 3.2.3.5.

NOTE

Do not proceed without successful completion of step 1.

2. From the Commands Menu, execute command [11] MODULE TOTALLY OFF to OFF mode.

3. Wait at least 18 seconds, then verify that the following events are in effect:

a. [11] MODULE TOTALLY OFF = OFF

b. [12] SCANNER A2 POWER = OFF

c. [10] SURVIVAL HTR POWER = OFF

d. Antenna reflector pointing toward the warm load.

4. Record the above observations on TDS 13 (Appendix B, TDS B-2 for LPT).

3.2.4.3.3.2 ***Survival heater power ON/OFF command.*** The survival heater power ON/OFF command shall be tested as follows:

1. Execute command [10] SURVIVAL HEATER POWER to ON mode.

2. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 13 (Appendix B, TDS B-2 for LPT).

3. Execute command [10] SURVIVAL HEATER to OFF mode.

4. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 13 (Appendix B, TDS B-2 for LPT).

3.2.4.3.3.3 ***Module power connect command.*** The module power connect command shall be tested as follows:

1. Execute command [9] MODULE POWER to CONNECT mode.

2. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 13 (Appendix B, TDS B-2 for LPT).

3. Verify that the current at the STE power supply is 0.5 to 3.2 Amperes. Record this information on TDS 13 (Appendix B, TDS B-2 for LPT).

3.2.4.3.3.4 ***Scanner commands verification.*** The scanner commands shall be tested as follows:

1. Execute commands as necessary to obtain the following configuration:

[9]	MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POS =	NO	[15]
[10]	SURVIAL HTR PWR =	OFF	ANTENNA IN NADIR POS=	NO	[16]
[11]	MODULE TOTALLY OFF =	ON	ANTENNA FULL SCAN MODE =	YES	[17]
[12]	SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13]	COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14]	ANTENNA WARM CAL POS =	NO			
POWER [4] ON					

Wait at least 18 seconds. Verify that the commands are in effect. Record observations on TDS 14 (Appendix B, TDS B-3 for LPT).

2. Execute. [12] SCANNER A2 POWER = OFF
[13] COMPENSATOR MOTOR POWER = OFF

Wait at least 18 seconds. Verify that the commands are in effect. Record observations on TDS 15 (Appendix B, TDS B-4 for LPT).

3. Execute. [12] SCANNER A2 POWER = ON
[13] COMPENSATOR MOTOR POWER = ON

Wait at least 18 seconds. Verify that the commands are in effect. Record observations on TDS 16 (Appendix B, TDS B-5 for LPT).

3.2.4.3.3.5 ***Scanner position commands verification.*** Verify scanner position command operation as follows:

1. Execute command [14] ANTENNA WARM CAL POS to YES mode.

2. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

3. Execute commands [15] ANTENNA IN COLD CAL POS to YES mode, [18] COLD CAL POSITION MSB to 0, and [19] COLD CAL POSITION LSB to 1.

4. Wait at least 18 seconds. Verify that the commands are in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

5. Execute commands [18] COLD CAL POSITION MSB to 1 and [19] COLD CAL POSITION LSB to 0.

6. Wait at least 18 seconds. Verify that the commands are in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

7. Execute commands [18] COLD CAL POSITION MSB to 1 and [19] COLD CAL POSITION LSB to 1.

8. Wait at least 18 seconds. Verify that the commands are in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

9. Execute commands [18] COLD CAL POSITION MSB to 0 and [19] COLD CAL POSITION LSB to 0.

10. Wait at least 18 seconds. Verify that the commands are in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

11. Execute command [16] ANTENNA IN NADIR POSITION to YES mode.

12. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

13. Execute command [14] ANTENNA WARM CAL POS to YES mode.

14. Wait at least 18 seconds. Verify that the command is in effect. Record observation on TDS 17 (Appendix B, TDS B-6 for LPT).

3.2.4.3.4 ***Digital-A data output test.*** The following items shall be tested to verify the digital-A data output:

a. Full scan (3.2.4.3.4.1)

b. Warm load (3.2.4.3.4.2)

c. Cold cal (3.2.4.3.4.3)

d. Nadir (3.2.4.3.4.4).

For each of the above scan modes, the following parameters will be subject to pass/fail criterion:

[I] Sync. sequence

[II] Unit I.D. and serial number

[III] Digital B serial data verification

[IV] Reflector positions

[V] Radiometric data (scene data)

[VI] Temperature sensors.

For the cold cal mode, reflector position [IV] shall be tested for the following conditions.

(a) Cold cal position with MSB=1 and LSB=0

(b) Cold cal position with MSB=0 and LSB=1

(c) Cold cal position with MSB=1 and LSB=1.

3.2.4.3.4.1 ***Full scan mode.*** The digital-A data output in full-scan mode shall be tested as follows:

1. Execute commands as necessary to obtain the following configuration:

```
 [9] MODULE POWER =              CONNECT     ANTENNA IN COLD CAL POS =      NO  [15]
[10] SURVIAL HTR PWR =           OFF         ANTENNA IN NADIR POS=          NO  [16]
[11] MODULE TOTALLY OFF =        ON          ANTENNA FULL SCAN MODE =       YES [17]
[12] SCANNER A2 POWER =          ON          COLD CAL POSITION MSB =        ZERO [18]
[13] COMPENSATOR MOTOR POWER =   ON          COLD CAL POSITION LSB =        ZERO [19]
[14] ANTENNA WARM CAL POS =      NO
POWER [4] ON
```

2. Obtain a full printout of all the parameters ([I] through [VI]) described above, by typing PRINT [3] FULL.

3. Attach the printout to TDS 18 (Appendix B, TDS B-7 for LPT).

[I], [II], and [III] Sync, Unit ID, and Digital-B Data:

4. Using Page 1 of the printout, verify that elements 0001 through 0008 are within the required values specified in TDS 18 (Appendix B, TDS B-7 for LPT). Record pass or fail.

[IV] Reflector position:

5. Using STE procedure AE-26157; select reflector position screen, execute PRINT [2] SCREEN ONLY, and attach the data to TDS 19 (Appendix B, TDS B-8 for LPT). Verify that there is no "E" error on computer printout. Record pass or fail on TDS 19 (Appendix B, TDS B-8 for LPT).

[V] Radiometric data:

6. Using STE procedure AE-26157, select Radiometric data for CH-1 and CH-2. PRINT SINGLE [2] PAGES for each channel. From the data obtained, verify that the data are within the values specified on TDS 20. Attach the data for each channel to TDS 20 (Appendix B, TDS B-9 for LPT). Record pass or fail.

[VI] Temperature sensors:

7. Using STE procedure AE-26157, select DIG-A temperature sensor screen and PRINT SINGLE [2] PAGE. From the data obtained, verify that the values are within the specified limits on TDS 21 (Appendix B, TDS B-10 for LPT). Attach the data to TDS 21 (Appendix B, TDS B-10 for LPT). Record pass or fail.

3.2.4.3.4.2 ***Warm cal mode.*** The digital-A data output, in warm-cal mode shall be tested as follows:

1. Execute command [14] ANTENNA WARM CAL POS and verify command display is as follows:

```
 [9] MODULE POWER =              CONNECT     ANTENNA IN COLD CAL POS =      NO  [15]
[10] SURVIAL HTR PWR =           OFF         ANTENNA IN NADIR POS=          NO  [16]
[11] MODULE TOTALLY OFF =        ON          ANTENNA FULL SCAN MODE =       NO  [17]
[12] SCANNER A2 POWER =          ON          COLD CAL POSITION MSB =        ZERO [18]
[13] COMPENSATOR MOTOR POWER =   ON          COLD CAL POSITION LSB =        ZERO [19]
[14] ANTENNA WARM CAL POS =      YES
POWER [4] ON
```

2. Obtain a full printout of all the parameters ([I] through [VI]) described above, by touching the PRINT [3] FULL touch area.

3. Attach the printout to TDS 22.

[I], [II], and [III] Sync, Unit ID, and Digital-B Data:

4. Using Page 1 of the printout, verify that elements 0001 through 0008 are within the required values specified in TDS 22. Record pass or fail.

[IV] Reflector position:

5. Using STE procedure AE-26157; select reflector position screen, execute PRINT [2] SCREEN ONLY, and attach the data to TDS 23. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 23.

[V] Radiometric data:

6. Using STE procedure AE-26157, select Radiometric data for channel 1 and channel 2. PRINT [2] SINGLE PAGES for each channel. From the data obtained, verify that the data are within the values specified on TDS 24. Attach the data for each channel to TDS 24. Record pass or fail.

[VI] Temperature sensors:

7. Using STE procedure AE-26157, select DIG-A temperature sensor screen and PRINT SINGLE [2] PAGE. From the data obtained, verify that the values are within the specified limits on TDS 25. Attach the data to TDS 25. Record pass or fail.

3.2.4.3.4.3 *Cold cal mode.* The digital-A data output, in cold-cal mode, shall be tested as follows:

1. Execute command [15] ANTENNA IN COLD CAL POS and verify command display is as follows:

[9]	MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POS =	YES	[15]
[10]	SURVIAL HTR PWR =	OFF	ANTENNA IN NADIR POS=	NO	[16]
[11]	MODULE TOTALLY OFF =	ON	ANTENNA FULL SCAN MODE =	NO	[17]
[12]	SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13]	COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14]	ANTENNA WARM CAL POS =	NO			
POWER [4] ON					

2. Obtain a full printout of all the parameters ([I] through [VI]) described above, by touching the PRINT [3] FULL touch area.

3. Attach the printout to TDS 26.

[I], [II], and [III] Sync, Unit ID, and Digital-B Data:

4. Using Page 1 of the printout, verify that elements 0001 through 0008 are within the required values specified in TDS 26. Record pass or fail.

[IV] Reflector position:

5. To test the cold cal reflector position, perform the following substeps:

0,0 (a) Using STE procedure AE-26157; select reflector position screen, execute PRINT [2] SCREEN ONLY, and attach the data to TDS 23. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 23.

0,1 (b) Execute commands [18] COLD CAL POSITION MSB to 0 and [19] COLD CAL POSITION LSB to 1. Repeat substep a. then proceed to substep c.

1,0 (c) Execute commands [18] COLD CAL POSITION MSB to 1 and [19] COLD CAL POSITION LSB to 0. Repeat substep a., then proceed to substep d.

1,1 (d) Execute commands [18] COLD CAL POSITION MSB to 1 and [19] COLD CAL POSITION LSB to 1. Repeat substep a., then proceed to substep e.

0,0 (e) Execute commands [18] COLD CAL POSITION MSB to 0 and [19] COLD CAL POSITION LSB to 0.

[V] Radiometric data:

6. Using STE procedure AE-26157, select Radiometric data for channel 1 and channel 2. PRINT [2] SINGLE PAGES for each channel. From the data obtained, verify that the data are within the values specified on TDS 27. Attach the data for each channel to TDS 27. Record pass or fail.

[VI] Temperature sensors:

7. Using STE procedure AE-26157, select DIG-A temperature sensor screen and PRINT SINGLE [2] PAGE. From the data obtained, verify that the values are within the specified limits on TDS 28. Attach the data to

TDS 28. Record pass or fail.

3.2.4.3.4.4 ***Nadir cal mode.*** The digital-A data output, in nadir-cal mode, shall be tested as follows:

1. Execute command [16] ANTENNA IN NADIR POS and verify command display is as follows:

```
 [9]  MODULE POWER =              CONNECT     ANTENNA IN COLD CAL POS =      NO  [15]
[10]  SURVIAL HTR PWR =           OFF         ANTENNA IN NADIR POS=          YES [16]
[11]  MODULE TOTALLY OFF =        ON          ANTENNA FULL SCAN MODE =       NO  [17]
[12]  SCANNER A2 POWER =          ON          COLD CAL POSITION MSB =        ZERO [18]
[13]  COMPENSATOR MOTOR POWER =   ON          COLD CAL POSITION LSB =        ZERO [19]
[14]  ANTENNA WARM CAL POS =      NO
POWER [4] ON
```

2. Obtain a full printout of all the parameters ([I] through [VI]) described above, by touching the PRINT [3] FULL touch area.

3. Attach the printout to TDS 29.

[I], [II], and [III] Sync, Unit ID, and Digital-B Data:

4. Using Page 1 of the printout, verify that elements 0001 through 0008 are within the required values specified in TDS 29. Record pass or fail.

[IV] Reflector position:

5. Using STE procedure AE-26157; select reflector position screen, execute "PRINT [2] SCREEN ONLY", and attach the data to TDS 23. Verify that there is no "E" error on the computer printout. Record pass or fail on TDS 23.

[V] Radiometric data:

6. Using STE procedure AE-26157, select Radiometric data for channel 1 and channel 2. "PRINT [2] SINGLE PAGES" for each channel. From the data obtained, verify that the data are within the values specified on TDS 30. Attach the data for each channel to TDS 30. Record pass or fail.

[VI] Temperature sensors:

7. Using STE procedure AE-26157, select DIG-A temperature sensor screen and "PRINT SINGLE [2] PAGE". From the data obtained, verify that the values are within the specified limits on TDS 31. Attach the data to TDS 31. Record pass or fail.

3.2.4.3.5 ***Analog telemetry test.*** The purpose of this test is to verify that the 26 analog telemetry signals are within requirements. The purpose of the analog telemetry signals is to provide information about the functionality of the subsystems during normal operation of the unit. The analog telemetry signals shall be verified in two ways: (1) by measuring the analog telemetry signals directly at the interfacing connector and (2) by use of the STE.

3.2.4.3.5.1 ***Analog TLM signals measurements connector J6.*** Measure analog TLM signals at connector J6 as follows:

1. Configure the unit and the STE as indicated in Figure 22. Verify that unit power is off prior to the installation of the breakout boxes. To turn the unit off, select the Commands Menu and execute command

"[11] MODULE TOTALLY OFF". Manually turn off the STE 28V power supply located inside the STE console.

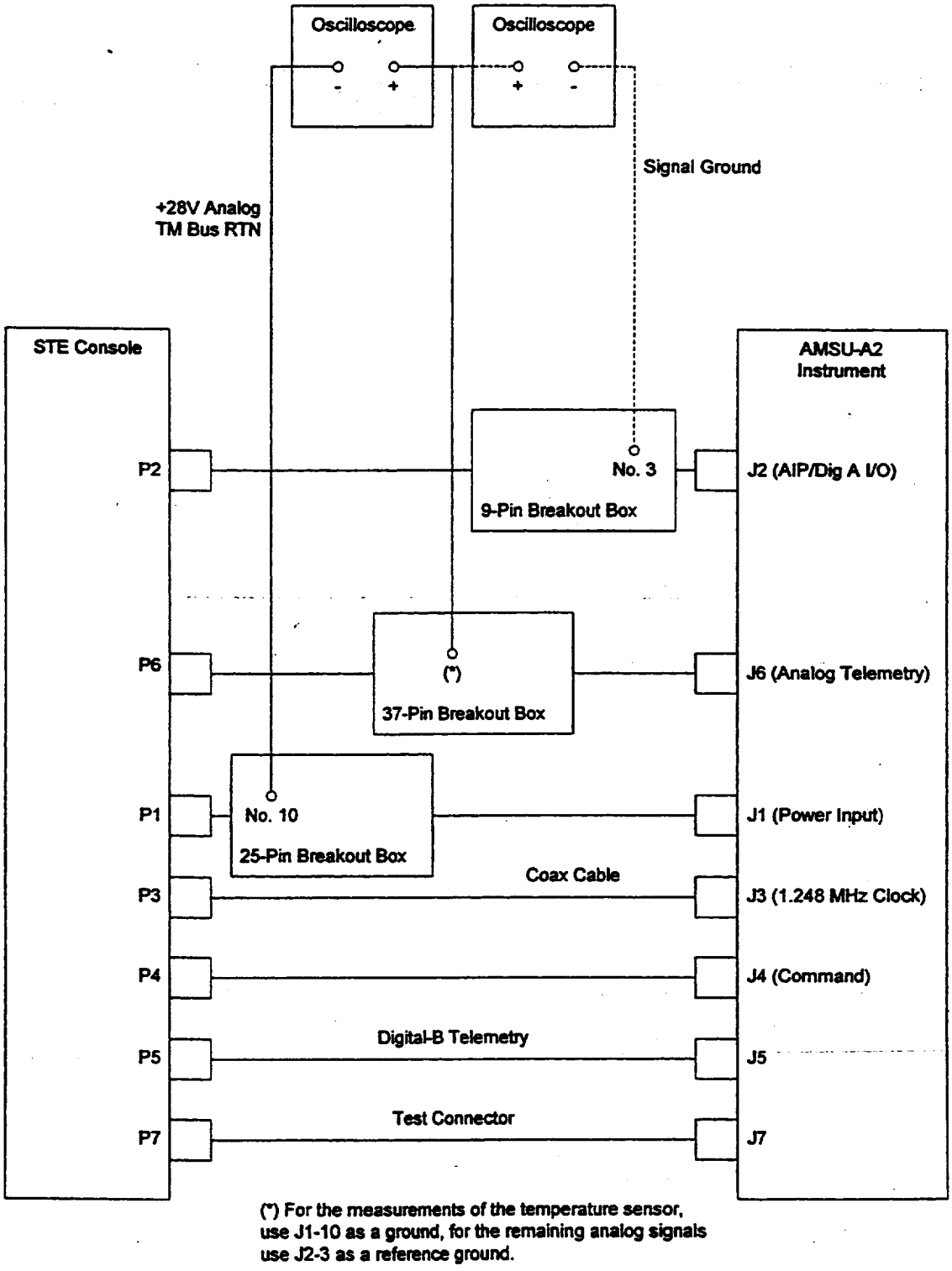


Figure 22. Analog Telemetry Signal Verification Test Setup

2. Turn the unit on as follows:

   (a) Turn on the STE 28V power supply.

   (b) Execute commands as necessary to achieve the following configuration:

```
 [9]  MODULE POWER =                CONNECT     ANTENNA IN COLD CAL POS =      NO   [15]
[10]  SURVIAL HTR PWR =             OFF         ANTENNA IN NADIR POS=          NO   [16]
[11]  MODULE TOTALLY OFF =          ON          ANTENNA FULL SCAN MODE =       YES  [17]
[12]  SCANNER A2 POWER =            ON          COLD CAL POSITION MSB =        ZERO [18]
[13]  COMPENSATOR MOTOR POWER =     ON          COLD CAL POSITION LSB =        ZERO [19]
[14]  ANTENNA WARM CAL POS =        NO
POWER [4] ON
```

3. Using the "28V Analog Telemetry Bus Return" (J1-10) as a reference ground, measure and record the four temperature sensor voltages in the order specified on TDS 32.

4. Using the "Signal Ground" (J2-03) as a reference ground, measure and record the remaining analog telemetry voltage levels in the order specified on TDS 32.

5. Leave the unit on in preparation for the next test.

3.2.4.3.5.2 ***Analog TLM signal measurements using the STE.*** Analog TLM signal measurements using the STE shall be taken as follows:

1. Using STE procedure AE-26157, select Analog TLM screen and execute command "PRINT [2] SCREEN ONLY". Obtain printout and verify that the data matches the values specified on TDS 33 (Appendix B, TDS B-11 for LPT). Record pass or fail.

2. Attach computer printout to TDS 33 (Appendix B, TDS B-11 for LPT).

3. Power off unit by referring to 3.2.3.6.

3.2.4.3.6 ***Test point test.*** The purpose of this test is to verify the performance of the integrator and its associated clock pulses. Figure 2 shows the integration waveform and the clock signals. Test point verification consists of the following parameters:

a. Integration/Hold and Dump Clock Signals. (3.2.4.3.6.1)
(Time and amplitude)

b. Integration Time (Analog Output). (3.2.4.3.6.2)
(Time and amplitude)

3.2.4.3.6.1 ***Integration/hold and dump clock signals.*** The integration/hold and dump clock signals shall be tested as follows:

1. Referring to Figure 23, configure the oscilloscope as follows:

   (a) Channel-1 to J7-23 integration/hold clock signal (J7-26 RTN).

   (b) Channel-2 to J7-6 dump signal clock (J7-26 RTN).

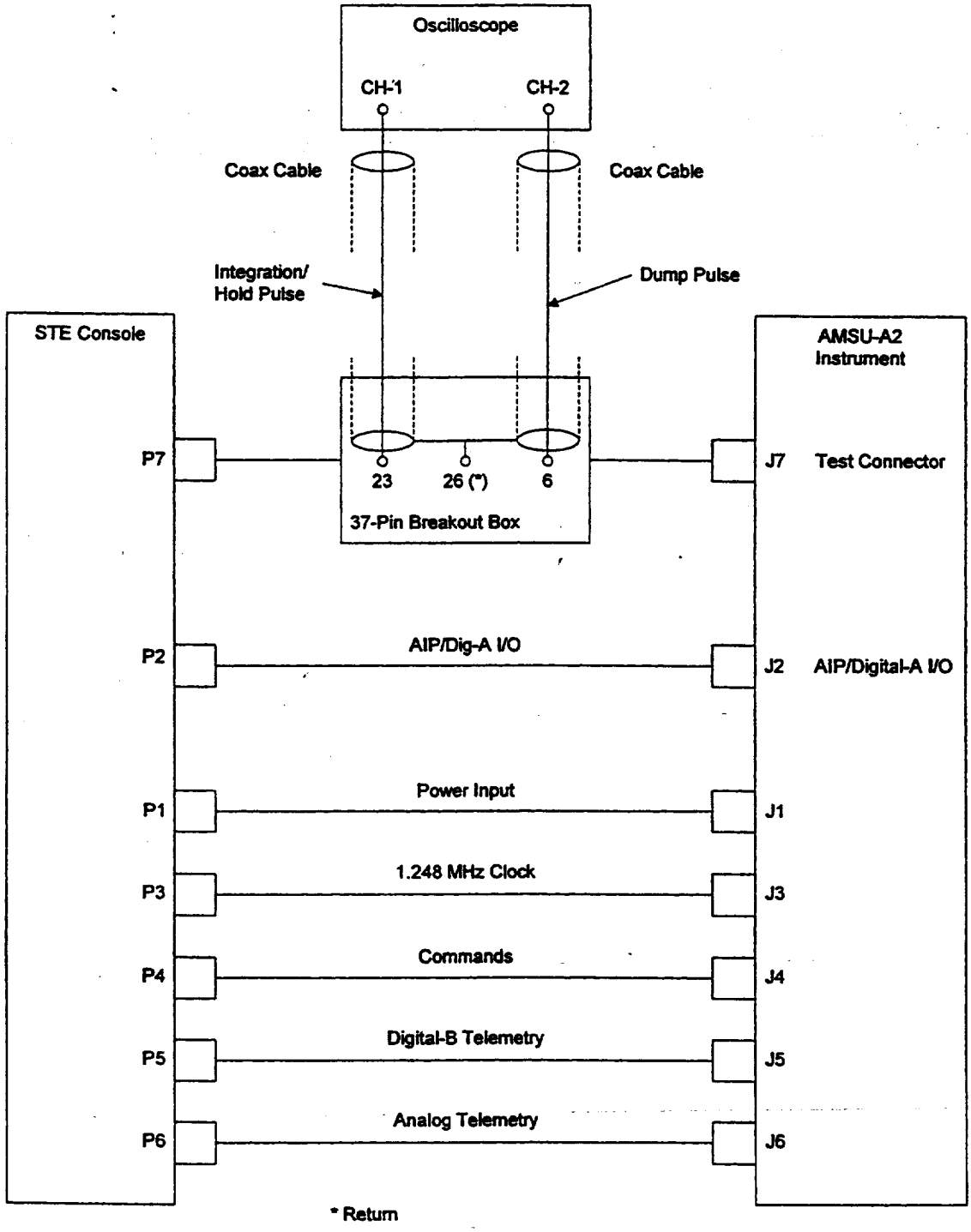


Figure 23. Integration/Hold and Dump Signals Verification Test Setup

(c) Internal trigger mode to channel-1.

(d) Amplitude and Time optimized for best resolution.

2. Power on unit by referring to 3.2.3.5.

3. Photograph or plot the oscilloscope display and attach the photograph or plot to TDS 34.

4. From the photograph or plot, measure time and amplitude for the integrate/hold and dump clock signals. Verify that the data obtained are within the requirements specified on TDS 34 and Figure 2.

5. Leave the equipment in place and the unit turned on in preparation for the next test.

3.2.4.3.6.2 ***Integration time (analog outputs).*** The analog outputs integration time shall be tested as follows:

1. Reconfigure the test equipment as indicated in Figure 24.

2. Connect the oscilloscope, channel-2 positive line to J7-8 of the 37-pin breakout box. Keep channel-1 of the oscilloscope connected to J7-23 and J7-26 (RTN).

3. Adjust the oscilloscope for best amplitude and time resolution. The displayed signals should look like Figure 2.

4. Photograph or plot the display and attach it to TDS 35.

5. From the photograph or plot, measure the integration time and the amplitude. Verify that the data obtained is within the requirements specified in TDS 35.

6. Connect the oscilloscope to the analog signal for channel-2 (J7-9) and repeat steps 2 through 5.

7. Leave the unit turned on and the test equipment in place in preparation for the next test.

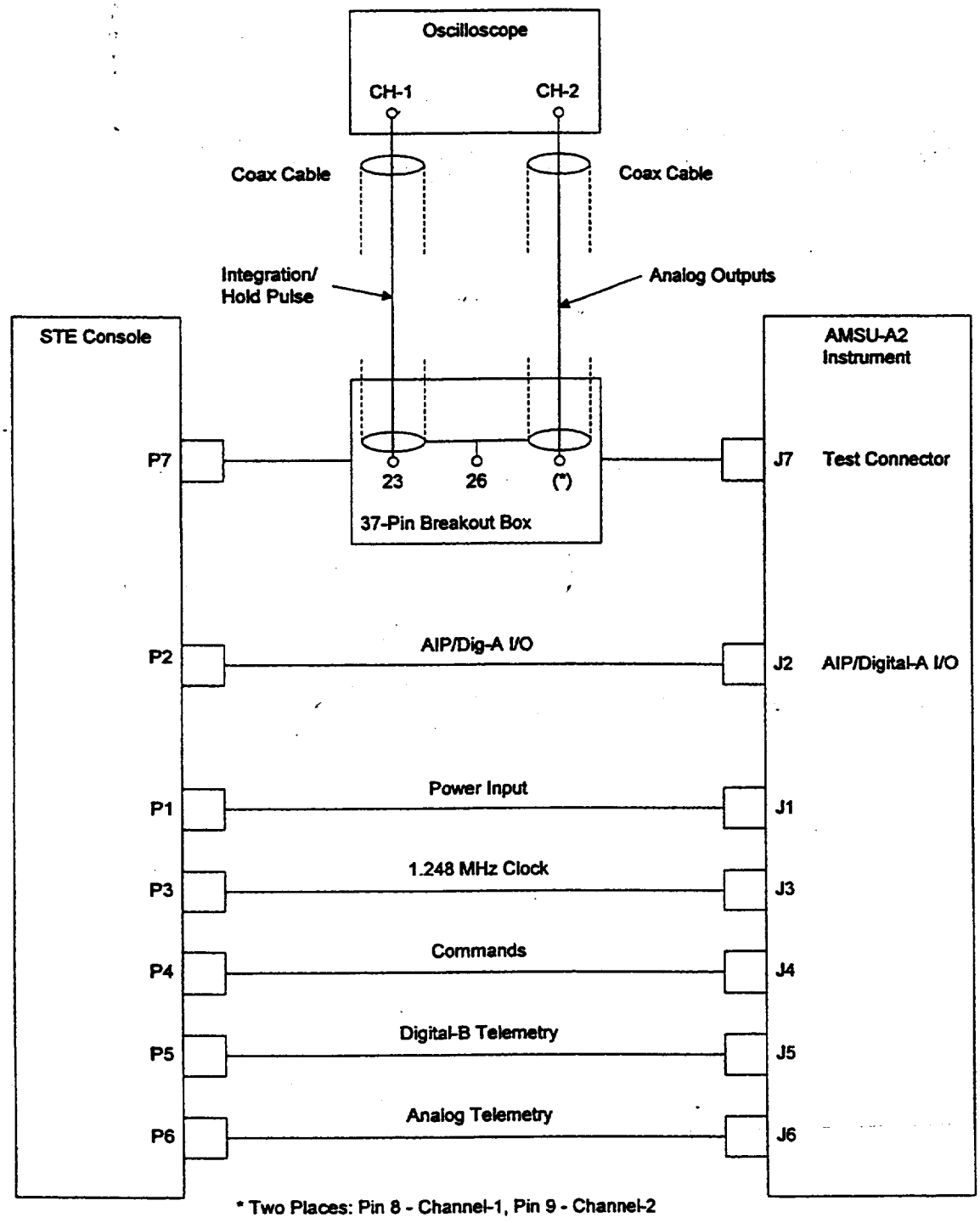


Figure 24. Integration Time (Analog Output) Verification Setup

3.2.4.3.7 *GSE mode test.* The purpose of this test is to verify the data obtained from the Ground Support Equipment (GSE).

NOTE

The GSE mode test is not required and is for engineering use only.

The following modes shall be evaluated.

GSE-1 (Position: 10, 10, 10)

GSE-2 (Position: 1, 30 readings)

GSE-3 (Position: current, 30 readings)

GSE-4 (Position: 30, 30 readings)

GSE-5 (Position: 6, 30 readings)

GSE-7 (Position: required, 30 readings)

For GSE mode-1, the following parameters are subject to pass or fail criterion:

[I] Sync. sequence

[II] Unit ID and serial number

[III] Digital B serial data verification

[IV] Reflector positions

[V] Radiometric data (Scene data for channel-1 only)

[VI] Temperature sensors.

For GSE 2 through 7, only the following parameters are subject to pass or fail criterion:

[IV] Reflector position.

3.2.4.3.7.1 *Equipment preparation.* To place instrument in GSE mode, proceed as follows:

1. On Commands Menu, press: RETURN [1].
2. On Main Menu, select: [10] SELF TEST.
3. On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)
4. Enter corresponding GSE mode under test.

3.2.4.3.7.2 *GSE Mode-1.* The GSE mode-1 shall be tested as follows:

[I], [II], and [III] Sync, Unit ID, and Digital B:

1. Place instrument in GSE mode-1 and obtain full printout. Using the printout, verify that elements 1 through 8 are within the values specified on TDS 36. Record pass or fail.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 37. Attach printout to TDS 37.

[V] Radiometric Data:

3. Using STE procedure AE-26157, select radiometric data screen for channel-1 and channel-2. Obtain a single page printout for each channel. Verify that the radiometric data is within the required values specified on TDS 38. Attach printout to TDS 38.

[VI] Temperature Sensors:

4. Using STE procedure AE-26157, select DIG-A temp. sensor data screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of the page. Verify that the temperature data are within the required values specified on TDS 39. Record pass or fail on TDS 39. Attach printout to TDS 39.

3.2.4.3.7.3 *GSE Mode-2*. The GSE Mode-2 shall be tested as follows:

1. Place unit in GSE Mode-2 as follows:

   (a) On Commands Menu, press: RETURN [1].

   (b) On Main Menu, select: [10] SELF TEST.

   (c) On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)

   (d) Enter GSE MODE [2] at the prompt.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that the reflector positions are within the required values specified on document AE-26002/2. Record pass or fail on TDS 37. Attach printout to TDS 37.

3.2.4.3.7.4 *GSE Mode-3*. The GSE Mode-3 shall be tested as follows:

1. Place unit in GSE Mode-3 as follows:

   (a) On Commands Menu, press: RETURN [1].

   (b) On Main Menu, select: [10] SELF TEST.

   (c) On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)

   (d) Enter GSE MODE [3] at the prompt.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 37. Attach printout to TDS 37.

3.2.4.3.7.5 *GSE Mode-4.* The GSE Mode-4 shall be tested as follows:

1. Place unit in GSE Mode-4 as follows:

   (a) On Commands Menu, press: RETURN [1].

   (b) On Main Menu, select: [10] SELF TEST.

   (c) On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)

   (d) Enter GSE MODE [4] at the prompt.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 37. Attach printout to TDS 37.

3.2.4.3.7.6 *GSE Mode-5.* The GSE Mode-5 shall be tested as follows:

1. Place unit in GSE Mode-5 as follows:

   (a) On Commands Menu, press: RETURN [1].

   (b) On Main Menu, select: [10] SELF TEST.

   (c) On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)

   (d) Enter GSE MODE [5] at the prompt.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 37. Attach printout to TDS 37.

3.2.4.3.7.7 *GSE Mode-7.* The GSE Mode-7 shall be tested as follows:

1. Place unit in GSE Mode-7 as follows:

   (a) On Commands Menu, press: RETURN [1].

   (b) On Main Menu, select: [10] SELF TEST.

   (c) On Self Test Menu, select: [7] RUN GSE MODE.
   (The computer will prompt: "ENTER GSE MODE (0 to 15)".)

(d) Enter GSE MODE [7] at the prompt.

(e) Press PRINT [3] FULL. The computer will start printing 4 pages of data.

[IV] Reflector Positions:

2. Using STE procedure AE-26157, select reflector position screen and execute "PRINT [2] SCREEN ONLY" to obtain a printout of data. Verify that there is no "E" error on computer printout. Record pass or fail on TDS 37. Attach printout to TDS 37.

3. Set the STE to GSE MODE-0. Failure to do so will cause the STE to produce faulty data when in normal mode. To enter GSE Mode-0 into the computer, proceed as follows:

(a) Return to the Main Menu by pressing: RETURN [1].

(b) On Main Menu, select: [10] SELF TEST.

(c) On Self Test Menu, select: [7] RUN GSE MODE.
(The computer will prompt: "ENTER GSE MODE (0 to 15)".)

(d) Select GSE MODE [0].

3.2.4.4 ***Radiometer functional test.*** The purpose of this procedure is to verify the performance of the AMSU-A2 radiometer at the system level. This test shall consist of relative NEΔT measurements.

3.2.4.4.1 ***Relative radiometer NEΔT measurements.*** The purpose of this test is to perform a preliminary evaluation of the radiometer NEΔT at a system level. Since the STE is not in the thermal-vacuum configuration, no temperature readings from the cold load are available. To compute the NEΔT for this test, the temperature used for the cold load shall be 80 K.

The data obtained from this test are considered as "relative NEΔT" and are to be used as a diagnostic tool to verify proper operation of the A/D converters and the spacecraft interface.

The equation to determine "relative NEΔT" is as follows:

$$GAIN = \frac{Th - Tc}{M - N}$$

$$NE\Delta T = SD \times GAIN$$

where:
SD = Standard deviation of 120 samples at hot temperature
Th = Standard room temperature = deg. K
Tc = Standard LN_2 temperature = 80 K
M = Average of hot counts (120 samples)
N = Average of cold counts (30 samples)

The sequence of testing shall be as follow:

a. Equipment preparation and setup configuration (3.2.4.4.1.1)

b. Relative NEΔT data collection (3.2.4.4.1.2)

3.2.4.4.1.1 ***Equipment preparation and setup configuration.*** The equipment shall be setup as follows:

WARNING

The use of liquid nitrogen in a confined poorly ventilated area can cause rapid asphyxiation and death due to a lack of oxygen (oxygen concentration below 20 percent). Accidental contact with liquid nitrogen will cause severe frostbite to the eyes or skin. When handling liquid nitrogen, personnel shall observe the following safety precautions:

a. Ensure that the work area is well ventilated to prevent excessive gas buildup.

b. To protect your eyes, always wear a face shield or safety goggles (safety glasses without side shields do not provide adequate protection).

c. To protect exposed skin, always wear a lab coat, gloves made for cryogenic work, cuffless trousers (worn outside the boots or shoes), and safety shoes.

1. Configure the test equipment and the unit as indicated in Figure 25. Connect the instrument to STE as shown in Figure 26 without breakout boxes.

2. Execute commands as necessary to obtain the following configuration:

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POS =	NO	[15]
[10] SURVIAL HTR PWR =	OFF	ANTENNA IN NADIR POS=	NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA FULL SCAN MODE =	NO	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14] ANTENNA WARM CAL POS =	YES			
POWER [4] ON				

3. Allow 30 minutes for the unit to stabilize.

3.2.4.4.1.2 ***Relative NEΔT data collection.*** Perform the following procedures.

1. Return to the Main Menu by pressing [1] RETURN.

2. On the Main Menu, select [13] FUNCTIONAL TEST. (The STE will automatically command the unit to position the antenna reflector to the warm and cold loads as it is taking data.)

3. Wait approximately one minute to verify that the NEΔT results are displayed on the screen. Obtain a printout. Repeat step 2 four times and obtain four additional printouts. Average NEΔT from these five data points. Enter the values on TDS 40. Attach the printouts to TDS 40 (Appendix B, TDS B-12 for LPT).

4. Remove the cryogenic loads and associated hardware.

5. Turn off the unit by using command "[11] MODULE TOTALLY OFF". Turn off +28 V power supply at the STE console.

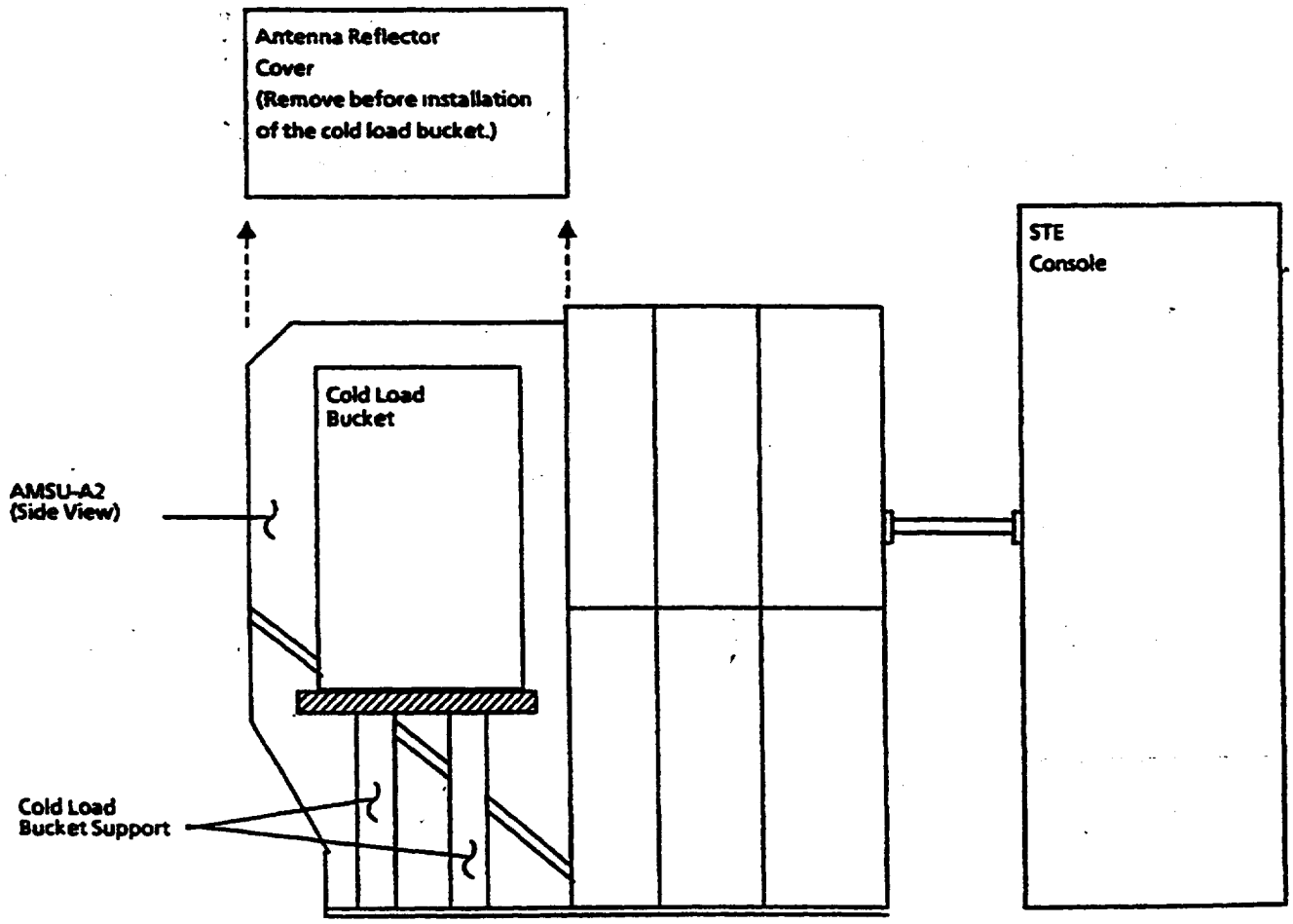


Figure 25. NEΔT Setup Configuration

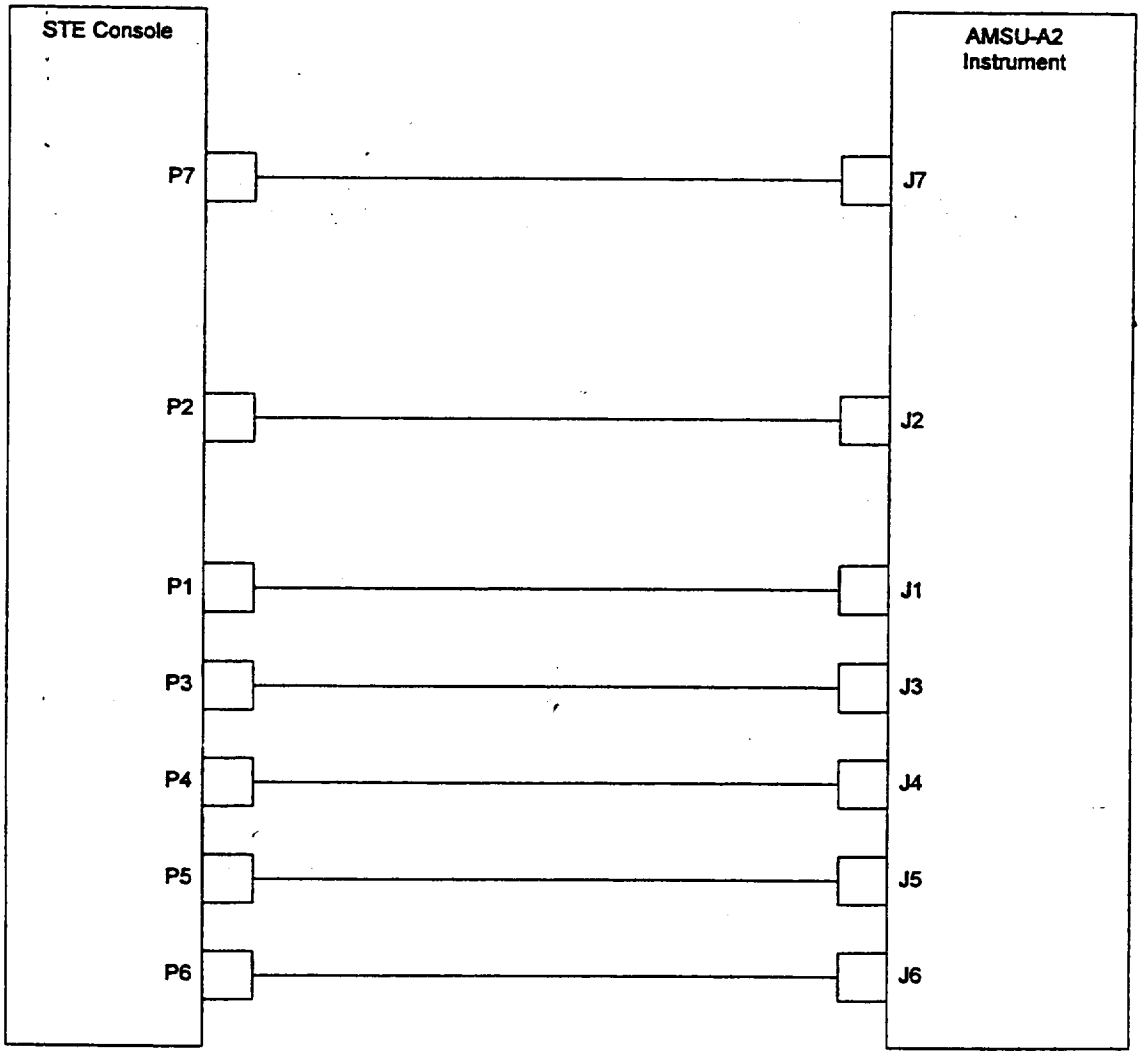


Figure 26. Relative NEΔT Measurement Test Setup

3.2.4.4.2 ***Channel identification test.*** The purpose of the channel identification test is to verify the proper final configuration/assembly of each radiometer channel from antenna input to the spacecraft interface.

1. Configure the unit and test equipment as shown in Figure 27.

2. Turn the STE main power switch ON. From the A2 directory, and at the "$" prompt, enter the command to the STE "RUN A2".

3. Turn the STE power supply panel main power switch ON.

4. Turn the STE power supply panel Q/Main switch ON.

5. Turn the power supply N/Pulse switch ON.

6. From the STE main screen, enter the STE command "[2] MONITOR ONLY". Enter the STE command "[14] COMMANDS".

7. Enter the STE command "SCANNER POWER". Wait 18 seconds before issuing the next command.

8. Enter the STE command "ANTENNA COLD CAL". Wait 18 seconds before issuing the next command. The reflector should scan to the cold calibration beam position.

9. Enter the STE command "[1] RETURN" to return to the monitor only screen.

10. Enter the STE command "[10]-SCIENCE DATA". The STE should now display the science data screen. From this screen enter the STE command "[9] BEAM POSITION NN-ALL CHANNELS".

11. The STE prompts "ENTER BEAM POSITION NO (1 TO 30)". Enter "30" to show the radiometric counts data for channels 1 and 2. The STE now displays the radiometric data screen shown in Figure 28 except with a different set of count data.

12. Allow the instrument to stabilize for approximately 20 minutes. Enter the STE command "[2]" to obtain a screen only printout.

13. Configure the unit and test equipment as shown in Figure 27. Turn ON the sweeper and allow to warm up approximately 10 minutes. Make sure that the RF power is OFF during sweeper warm up.

CAUTION

Extreme care must be used when turning on RF power. When RF power is first applied the gain horn should be approximately three to four feet from the unit. The RF power setting should be no greater than -20 dBm.

14. Set the sweeper frequency to 23.80 ± 0.01 GHz and set the RF power level to -20 dBm. Position the gain horn three to four feet from the instrument so that the antenna and gain horn are approximately aligned. Rotate the gain horn, if needed, to the vertical polarization position.

15. Turn ON the RF power making sure the power level is set to -20 dBm. Allow the multiplier to warm up approximately five minutes.

16. At the STE screen, compare the radiometric data counts of channel 1 to the counts printed out at step 12. Enter the STE command "[2]" to obtain a screen only printout.

17. From the printouts obtained in steps 12 and 16 verify that the radiometric data counts for channel 1 have increased significantly, approximately 1000 or more, and that the other channels data counts have remained relatively unchanged, less than 300 counts.

18. Record the count differences on TDS 40A of channel 1 from the printouts obtained in steps 12 and 16 and attach printouts to TDS 40A.

19. Turn OFF the RF power. Return the reflector to the warm cal position.

20. Turn the STE Q/Main and N/Pulse switches to OFF.

21. Turn the STE power supply panel main power switch OFF.

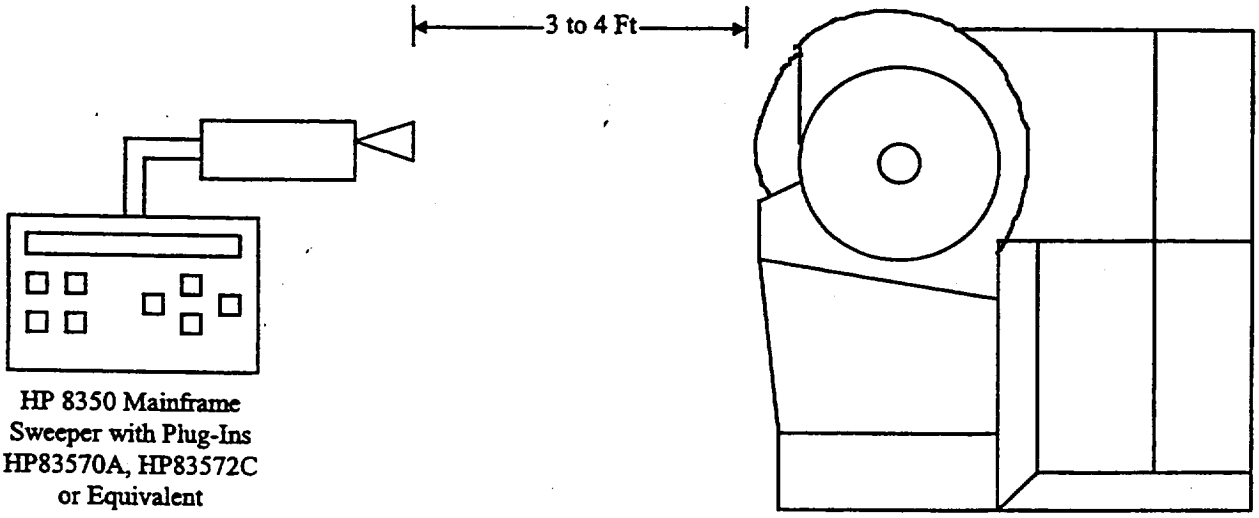


Figure 27. Channel Identification Setup

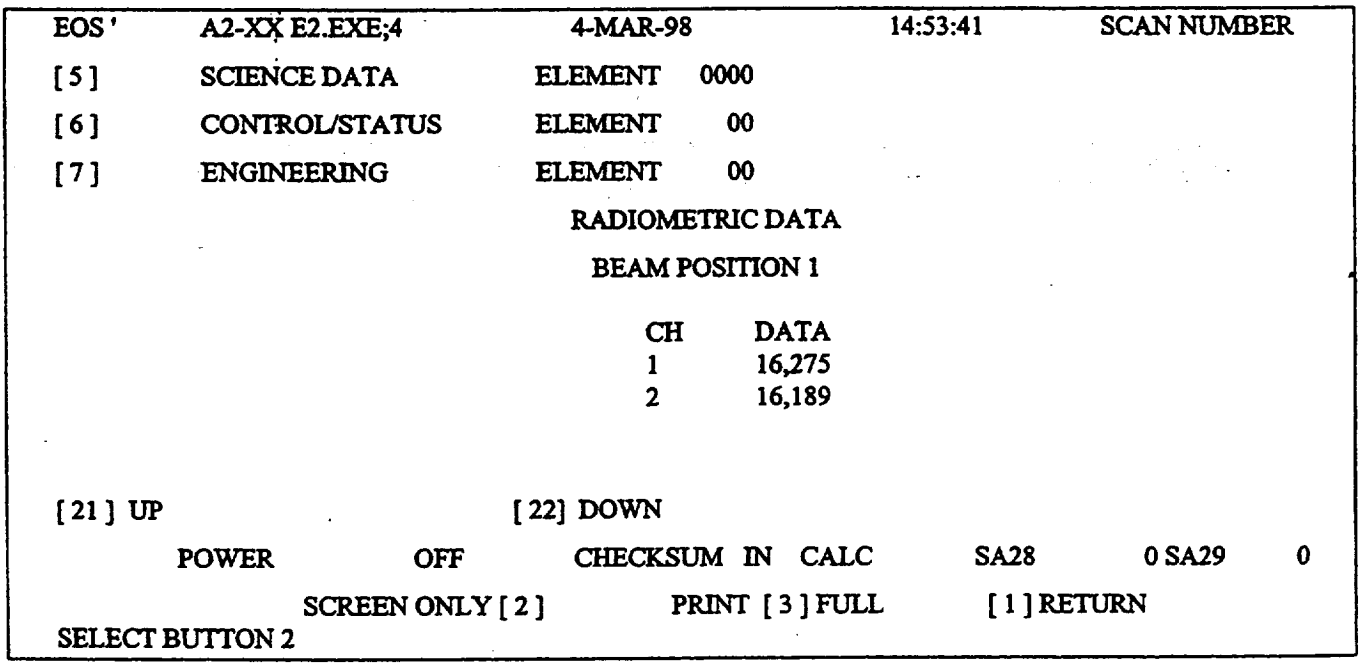


Figure 28. Radiometric Data Screen

4. QUALITY ASSURANCE PROVISIONS

4.1 ***Responsibility for inspection.*** Aerojet Quality Assurance shall inspect in accordance with the requirements of this test procedure and S-480-79 and S-480-80. Quality Control shall verify all test set-ups prior to start of test. Bonded software shall be used for all tests and shall be obtained from Quality Control. Quality Control shall review all test data for conformance to success criteria. The test data shall include test limits. For tests that satisfy requirements from S-480-80 on protoflight and flight units, customer representatives shall be invited to witness tests and shall be invited to review the data and show approval on the test data sheets.

4.1.1 ***Test facilities.*** Unless otherwise specified, the examinations and tests described herein shall be conducted at GenCorp Aerojet, Azusa, CA.

4.1.2 ***Electrostatic Device (ESD) handling.*** All electronic hardware shall be handled in accordance with Aerojet Standard STD-2454.

4.2 ***Monitoring procedures.*** All tests in this procedure shall be witnessed by quality control.

4.2.1 ***Test equipment.*** Test equipment calibration procedures shall comply with the requirements of MIL-STD-45662.

4.2.2 ***Software.*** Bonded software shall be used at all times.

4.3 ***Monitoring procedures for materials.*** Not applicable.

4.4 ***Certification.*** Certification for handling ESD-sensitive equipment is required for all personnel working on the assembly and test of the AMSU-A instrument.

4.5 ***Test methods***

4.5.1 ***Accept-reject criteria.*** The accept-reject criteria for each examination or test shall be as specified in the data sheets included in each phase of the applicable test procedure. The test results shall be recorded on the data sheets to demonstrate compliance with the applicable specification requirements. Methods of analysis shall be appropriate for the parameters being inspected. It shall be the responsibility of Aerojet to review the test data and determine conformance of the unit under test to the performance requirements contained in S-480-80 and this specification.

In the event of a failure during any phase of this test procedure, the test activity shall record the required information on the Test Anomaly Record (TAR) and alert the design assurance and quality engineers. Except for failures which only represent a limited out-of-tolerance condition for a particular parameter and are not expected to interfere with the balance of the testing and which are non-destructive, the testing must be stopped until a complete description of the observed anomaly failure is documented and a Failure Analysis Strategy (FAS) is formulated, documented, and implemented to preclude loss of information or evidence that may facilitate determining the failure cause. The full set of data from the referenced tests is required in order to formulate a plan of action. The cognizant reliability engineer, quality assurance engineer, and the system or responsible test engineer shall jointly develop the FAS which must be approved by Design Assurance and Quality Assurance. Analysis and reporting shall be performed per Aerojet procedures.

This page intentionally left blank.

5. PREPARATION FOR DELIVERY

This section is not applicable to this specification.

6. NOTES

6.1 *Acronyms and abbreviations*

AMSU	Advanced Microwave Sounding Unit
ATB	Analog telemetry bus
AWG	American Wire Gage
BP	Beam Position
CAL	Calibrate
CPT	Comprehensive performance test
d	delta
DC	Direct current
DVM	Digital volt meter
EMI	Electromagnetic interference
ESD	Electrostatic Sensitive Device
EXT	External
FAS	Failure analysis strategy
GHz	Gigahertz
GIIS	General Instrument Interface Specification
GND	Ground
GSE	Ground Support Equipment
HTR	Heater
kHz	Kilohertz
LPT	Limited performance test
LSB	Least significant bit
MA	Milliamp
METSAT	Meteorological Satellite
MLB	Main load bus
MFG	Manufacturer
MMW	Millimeter wave
MS, MSEC	Millisecond
MSB	Most significant bit
MV	Millivolt
NEΔT	Noise equivalent delta temperature
PFM	Protoflight Model
PLB	Pulse load bus
PLL	Phase lock loop

PLLO	Phase lock loop oscillator
POS	Position
PWR	Power
RTN	Return
STE	Special Test Equipment
SW	
TAR	Test Anomaly Record
TDS	Test Data Sheet
TLM	Telemetry
TM	Instrument Temperature
UIIS	Unique Instrument Interface Specification
Vdc	Volts, direct current
µs	Microsecond

6.2 ***Changes.*** The outside margins of this document have been marked to indicate where modifications, deletions, or additions have been made since the previous issue. This is done solely as a convenience to users, who are cautioned to evaluate the requirements of this change and the parent standard based on the entire content as written, regardless of the marginal notations and relationship to the previous issue.

APPENDIX A

TEST DATA SHEETS

10. APPENDIX A

10.1 ***Scope.*** This appendix contains the test data sheets for all tests and inspections listed in section 3.

TEST DATA SHEET 1 (SHEET 1 OF 9)
Grounding Test (Paragraph 3.2.4.1)

J1 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	+28V MLB	> 100k		
J1-2	+28V MLB	> 100k		
J1-3	+28V MLB RTN	> 100k		
J1-4	+28V MLB RTN	> 100k		
J1-5	+28V PLB	> 100k		
J1-6	+28V PLB	> 100k		
J1-7	+28V PLB RTN	> 100k		
J1-8	+28V PLB RTN	> 100k		
J1-9	+28V TMB	> 100k		
J1-10	28V TMB RTN	> 100k		
J1-11	NO CONNECTION	> 100k		
J1-12	NO CONNECTION	> 100k		
J1-13	CHASSIS GROUND (E1)	< 1		
J1-14	+28V MLB	> 100k		
J1-15	+28V MLB	> 100k		
J1-16	+28V MLB RTN	> 100k		
J1-17	+28V MLB RTN	> 100k		
J1-18	+28V PLB	> 100k		
J1-19	+28V PLB	> 100k		
J1-20	+28V PLB RTN	> 100k		
J1-21	+28V PLB RTN	> 100k		
J1-22	+28V TMB	> 100k		
J1-23	28V TMB RTN	> 100k		
J1-24	SAFETY HTR PWR	> 100k		
J1-25	SAFETY HTR RTN	> 100k		

TEST DATA SHEET 1 (Sheet 2 of 9)
Grounding Test (Paragraph 3.2.4.1)

J2 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-1	Chassis Ground (E2)	< 1		
J2-2	DATA CLOCK (C1)	> 100k		
J2-3	Signal Return	> 100k		
J2-4	No Connection	> 100k		
J2-5	DIGITAL A DATA OUT	> 100k		
J2-6	DATA ENABLE (A1)	> 100k		
J2-7	8 SEC SYNC PULSE	> 100k		
J2-8	No Connection	> 100k		
J2-9	No Connection	> 100k		

J3 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J3-1	1.248 MHz CLK	> 100k		
J3-2	1.248 MHz CLK RTN	> 100k		
J3-3	Chassis GND (E3)	< 1		

J5 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J5-1	Chassis Ground (E5)	< 1		
J5-2	MODULE PWR IND	> 100k		
J5-3	COLD CAL POS MSB (OUT)	> 100k		
J5-4	No Connection	> 100k		
J5-5	COMP MTR IND	> 100k		
J5-6	ANT IN COLD CAL POS	> 100k		
J5-7	No Connection	> 100k		
J5-8	No Connection	> 100k		
J5-9	SURV HTR ON/OFF	> 100k		
J5-10	No Connection	> 100k		
J5-11	COLD CAL POS LSB (OUT)	> 100k		
J5-12	SCANNER ON PWR IND	> 100k		
J5-13	ANT IN WARM CAL POS	> 100k		
J5-14	ANT AT NADIR POS	> 100k		
J5-15	FULL SCAN MODE	> 100k		

TEST DATA SHEET 1 (Sheet 3 of 9)
Grounding Test (Paragraph 3.2.4.1)

J4 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J4-1	Chassis Ground (E4)	< 1		
J4-2	MODULE PWR DISCONN	> 100k		
J4-3	SURVIVAL HTR ON	> 100k		
J4-4	MODULE TOTALLY OFF	> 100k		
J4-5	COMP MTR ON/OFF	> 100k		
J4-6	ANT AT COLD CAL POS	> 100k		
J4-7	No Connection	> 100k		
J4-8	ANT AT NADIR POS	> 100k		
J4-9	COLD CAL POS MSB (IN)	> 100k		
J4-10	No Connection	> 100k		
J4-11	No Connection	> 100k		
J4-12	+10V INTERFACE BUS	> 100k		
J4-13	10V INTERFACE BUS RTN	> 100k		
J4-14	MODULE PWR CONN	> 100k		
J4-15	SURVIVAL HTR OFF	> 100k		
J4-16	SCANNER PWR ON/OFF	> 100k		
J4-17	ANT AT WARM CAL POS	> 100k		
J4-18	FULL SCAN	> 100k		
J4-19	COLD CAL POS LSB (IN)	> 100k		
J4-20	No Connection	> 100k		
J4-21	No Connection	> 100k		
J4-22	No Connection	> 100k		
J4-23	No Connection	> 100k		
J4-24	+10V INTERFACE BUS	> 100k		
J4-25	10V INTERFACE BUS RTN	> 100k		

TEST DATA SHEET 1 (Sheet 4 of 9)
Grounding Test (Paragraph 3.2.4.1)

J6 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-1	Chassis GND (E6)	< 1		
J6-2	RF SHELF TEMP	> 100k		
J6-3	COMP. MTR. TEMP	> 100k		
J6-4	WARM LOAD TEMP	> 100k		
J6-5	No Connection	> 100k		
J6-6	No Connection	> 100k		
J6-7	No Connection	> 100k		
J6-8	SCAN MTR CURR	> 100k		
J6-9	+15V ANT DR MON	> 100k		
J6-10	+15V ANT DR MON	> 100k		
J6-11	+15V SIG PROC MON	> 100k		
J6-12	+15V SIG PROC MON	> 100k		
J6-13	L.O. #1 MON	> 100k		
J6-14	No Connection	> 100k		
J6-15	No Connection	> 100k		
J6-16	No Connection	> 100k		
J6-17	No Connection	> 100k		
J6-18	No Connection	> 100k		
J6-19	No Connection	> 100k		
J6-20	28V TMB RTN	> 100k		
J6-21	No Connection	> 100k		
J6-22	SCAN MTR TEMP	> 100k		
J6-23	No Connection	> 100k		
J6-24	No Connection	> 100k		
J6-25	No Connection	> 100k		
J6-26	No Connection	> 100k		
J6-27	COMP MTR CURR	> 100k		
J6-28	-15V ANT DR MON	> 100k		
J6-29	-15V SIG PROC MON	> 100k		
J6-30	L.O. #2 MON	> 100k		
J6-31	No Connection	> 100k		
J6-32	No Connection	> 100k		
J6-33	No Connection	> 100k		
J6-34	MIXER/AMP MON	> 100k		
J6-35	No Connection	> 100k		
J6-36	No Connection	> 100k		
J6-37	No Connection	> 100k		

TEST DATA SHEET 1 (Sheet 5 of 9)
Grounding Test (Paragraph 3.2.4.1)

J7 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J7-1	Chassis GND (E7)	< 1		
J7-2	No Connection	> 100k		
J7-3	No Connection	> 100k		
J7-4	No Connection	> 100k		
J7-5	15V RTN (2/3)	> 100k		
J7-6	DUMP TP	> 100k		
J7-7	No Connection	> 100k		
J7-8	CH1 ANALOG OUT TP	> 100k		
J7-9	CH2 ANALOG OUT TP	> 100k		
J7-10	No Connection	> 100k		
J7-11	No Connection	> 100k		
J7-12	No Connection	> 100k		
J7-13	No Connection	> 100k		
J7-14	No Connection	> 100k		
J7-15	No Connection	> 100k		
J7-16	No Connection	> 100k		
J7-17	GSE CMD LSB	> 100k		
J7-18	GSE CMD MSB-1	> 100k		
J7-19	+5VDC GSE INTERLOCK A	> 100k		
J7-20	No Connection	> 100k		
J7-21	No Connection	> 100k		
J7-22	No Connection	> 100k		
J7-23	I/H TP	> 100k		
J7-24	No Connection	> 100k		
J7-25	No Connection	> 100k		
J7-26	15V RTN (2/3)	> 100k		
J7-27	No Connection	> 100k		
J7-28	No Connection	> 100k		
J7-29	No Connection	> 100k		
J7-30	No Connection	> 100k		
J7-31	No Connection	> 100k		
J7-32	No Connection	> 100k		
J7-33	No Connection	> 100k		
J7-34	No Connection	> 100k		
J7-35	GSE CMD MSB	> 100k		
J7-36	5V RTN (1)	> 100k		
J7-37	+5VDC GSE INTERLOCK B	> 100k		

TEST DATA SHEET 1 (Sheet 6 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	J1-2	+28V MLB	< 1		
J1-1	J1-14	+28V MLB	< 1		
J1-1	J1-15	+28V MLB	< 1		
J1-3	J1-4	28V MLB RTN	< 1		
J1-3	J1-16	28V MLB RTN	< 1		
J1-3	J1-17	28V MLB RTN	< 1		
J1-5	J1-6	+28V PLB	< 1		
J1-5	J1-18	+28V PLB	< 1		
J1-5	J1-19	+28V PLB	< 1		
J1-7	J1-8	28V PLB RTN	< 1		
J1-7	J1-20	28V PLB RTN	< 1		
J1-7	J1-21	28V PLB RTN	< 1		
J1-9	J1-22	+28V TMB	< 1		
J1-10	J1-23	28V TMB RTN	< 1		
J1-10	J6-20	28V TMB RTN	< 1		
J4-12	J4-24	+10V INTERFACE BUS	< 1		
J4-13	J4-25	10V INTERFACE BUS RTN	< 1		
J1-1	J1-3	+28V MLB	> 100k		
J1-1	J1-5	+28V MLB	> 100k		
J1-1	J1-7	+28V MLB	> 100k		
J1-1	J1-9	+28V MLB	> 100k		
J1-1	J1-10	+28V MLB	> 100k		
J1-1	J1-24	+28V MLB	> 100k		
J1-1	J1-25	+28V MLB	> 100k		
J1-1	J2-3	+28V MLB	> 100k		
J1-1	J4-12	+28V MLB	> 100k		
J1-1	J4-13	+28V MLB	> 100k		
J1-3	J1-5	28V MLB RTN	> 100k		
J1-3	J1-7	28V MLB RTN	> 100k		
J1-3	J1-9	28V MLB RTN	> 100k		
J1-3	J1-10	28V MLB RTN	> 100k		
J1-3	J1-24	28V MLB RTN	> 100k		
J1-3	J1-25	28V MLB RTN	> 100k		
J1-3	J2-3	28V MLB RTN	> 100k		
J1-3	J4-12	28V MLB RTN	> 100k		
J1-3	J4-13	28V MLB RTN	> 100k		

TEST DATA SHEET 1 (Sheet 7 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-5	J1-7	+28V PLB	> 100k		
J1-5	J1-9	+28V PLB	> 100k		
J1-5	J1-10	+28V PLB	> 100k		
J1-5	J1-24	+28V PLB	> 100k		
J1-5	J1-25	+28V PLB	> 100k		
J1-5	J2-3	+28V PLB	> 100k		
J1-5	J4-12	+28V PLB	> 100k		
J1-5	J4-13	+28V PLB	> 100k		
J1-7	J1-9	28V PLB RTN	> 100k		
J1-7	J1-10	28V PLB RTN	> 100k		
J1-7	J1-24	28V PLB RTN	> 100k		
J1-7	J1-25	28V PLB RTN	> 100k		
J1-7	J2-3	28V PLB RTN	> 100k		
J1-7	J4-12	28V PLB RTN	> 100k		
J1-7	J4-13	28V PLB RTN	> 100k		
J1-9	J1-10	+28V TMB	> 100k		
J1-9	J1-24	+28V TMB	> 100k		
J1-9	J1-25	+28V TMB	> 100k		
J1-9	J2-3	+28V TMB	> 100k		
J1-9	J4-12	+28V TMB	> 100k		
J1-9	J4-13	+28V TMB	> 100k		
J1-10	J1-24	28V TMB RTN	> 100k		
J1-10	J1-25	28V TMB RTN	> 100k		
J1-10	J2-3	28V TMB RTN	> 100k		
J1-10	J4-12	28V TMB RTN	> 100k		
J1-10	J4-13	28V TMB RTN	> 100k		
J1-24	J1-25	SAFETY HTR PWR	> 100k		
J1-24	J2-3	SAFETY HTR PWR	> 100k		
J1-24	J4-12	SAFETY HTR PWR	> 100k		
J1-24	J4-13	SAFETY HTR PWR	> 100k		
J1-25	J2-3	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-12	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-13	SAFETY HTR PWR RTN	> 100k		
J2-3	J4-12	SIGNAL RTN	> 100k		
J2-3	J4-13	SIGNAL RTN	> 100k		
J4-12	J4-13	+10V INTERFACE BUS	> 100k		

TEST DATA SHEET 1 (Sheet 8 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-2	J4-13	DATA CLOCK (C1)	> 2k		
J2-5	J4-13	DIGITAL A DATA OUT	> 2k		
J2-6	J4-13	DATA ENABLE (A1)	> 2k		
J2-7	J4-13	8 SEC SYNC PULSE	> 2k		
J3-1	J4-13	1.248 MHZ CLK	> 2k		
J3-2	J4-13	1.248 MHZ CLK RTN	> 2k		
J4-2	J4-13	MODULE PWR DISCONN	> 2k		
J4-3	J4-13	SURVIVAL HTR ON	> 2k		
J4-4	J4-13	MODULE TOTALLY OFF	> 2k		
J4-5	J4-13	COMP MTR ON/OFF	> 2k		
J4-6	J4-13	ANT AT COLD CAL POS	> 2k		
J4-8	J4-13	ANT AT NADIR POS	> 2k		
J4-9	J4-13	COLD CAL POS MSB (IN)	> 2k		
J4-14	J4-13	MODULE PWR CONN	> 2k		
J4-15	J4-13	SURVIVAL HTR OFF	> 2k		
J4-16	J4-13	SCANNER PWR ON/OFF	> 2k		
J4-17	J4-13	ANT AT WARM CAL POS	> 2k		
J4-18	J4-13	FULL SCAN	> 2k		
J4-19	J4-13	COLD CAL POS LSB (IN)	> 2k		
J5-2	J4-13	MODULE PWR IND	> 2k		
J5-3	J4-13	COLD CAL POS MSB	> 2k		
J5-5	J4-13	COMP MTR IND	> 2k		
J5-6	J4-13	ANT IN COLD CAL POS	> 2k		
J5-9	J4-13	SURV HTR ON/OFF	> 2k		
J5-11	J4-13	COLD CAL POS LSB	> 2k		
J5-12	J4-13	SCANNER ON PWR IND	> 2k		
J5-13	J4-13	ANT IN WARM CAL POS	> 2k		
J5-14	J4-13	ANT IN NADIR POS	> 2k		
J5-15	J4-13	FULL SCAN MODE	> 2k		

TEST DATA SHEET 1 (Sheet 9 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-8	J4-13	SCAN MTR CURR	> 2k		
J6-9	J4-13	+15V ANT DR MON	> 2k		
J6-10	J4-13	+5V ANT DR MON	> 2k		
J6-11	J4-13	+15V SIG PROC MON	> 2k		
J6-12	J4-13	+5V SIG PROC MON	> 2k		
J6-13	J4-13	L.O. #1 MON	> 2k		
J6-20	J4-13	28V TMB RTN	> 2k		
J6-22	J4-13	SCAN MTR TEMP	> 2k		
J6-27	J4-13	COMP MTR CURR	> 2k		
J6-28	J4-13	-15V ANT DR MON	> 2k		
J6-29	J4-13	-15V SIG PROC MON	> 2k		
J6-30	J4-13	L.O. #2 MON	> 2k		
J6-34	J4-13	MIXER/AMP MON	> 2k		
J6-2	J1-10	RF SHELF TEMP	> 2k		
J6-3	J1-10	COMP MTR TEMP	> 2k		
J6-4	J1-10	WARM LOAD TEMP	> 2k		

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____ LPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET 2
+28 MLB Turn-on Transient (Paragraph 3.2.4.2.1.1)

At 28.56 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	_____Amps	<8.3 Amps	<5.7 Amps	
7	Pulse Width	_____ms	<100 ms	<120 ms	
7	Rate of Change (Slope): dI/dT	_____mA/µs	<640 mA/µs	<250 mA/µs	

At 27.44 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	_____Amps	<8.3 Amps	<5.7 Amps	
7	Pulse Width	_____ms	<100 ms	<120 ms	
7	Rate of Change (Slope): dI/dT	_____mA/µs	<640 mA/µs	<250 mA/µs	

At 28.00 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	_____Amps	<8.3 Amps	<5.7 Amps	
7	Pulse Width	_____ms	<100 ms	<120 ms	
7	Rate of Change (Slope): dI/dT	_____mA/µs	<640 mA/µs	<250 mA/µs	

* For S/N 101 through 104
** For S/N 105 through 109.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 3

+28 MLB Operating Power (Paragraph 3.2.4.2.1.2)

Step	+28V MLB at 27 Volts	Measured	Units	Required	Pass/Fail
4	+28V MLB voltage at 27V (V_b) (Measured)		Volts	27.0 ± 0.1	
5	Average Current (I_V)		Amps	N/A	N/A
6	+28V MLB bus power = I_V x V_b		Watts	25W max	
	+28V MLB at 28 Volts				
7	+28V MLB Bus Voltage at 28V (V_b) (Measured)		Volts	28.0 ± 0.1	
8	Average Current (I_V)		Amps	N/A	N/A
9	+28V MLB Operating Power = I_V X V_b		Watts	25W max	
	+28V MLB at 29 Volts				
10	+28V MLB voltage at 29V (V_b) (Measured)		Volts	29.0 ± 0.1	
11	Average Current (I_V)		Amps	N/A	N/A
12	+28V MLB operating power = I_V x V_b		Watts	25W max	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 4

+28 Pulse Load Bus (Paragraph 3.2.4.2.2.1-3.2.4.2.2.7)

Peak current

Paragraph	Parameter	Measured or Calculated	Required	Pass/ Fail
3.2.4.2.2.1	From -0.1 to two seconds			
	Peak Current = I_p	___Amps	2.2 amps max	
3.2.4.2.2.2	From 2 to 4 seconds			
	Peak Current = I_p	___Amps	2.2 amps max	
3.2.4.2.2.3	From 4 to 6 seconds			
	Peak Current = I_p	___Amps	2.2 amps max	
3.2.4.2.2.4	From 6 to 8 seconds			
	Peak Current = I_p	___Amps	2.2 amps max	
3.2.4.2.2.5	Eight Sec. Integrated Current Measurement			
	Current	___mA	none	
3.2.4.2.2.7	Turn-on Transient:			
	Turn-on pulse width Peak Current = I_p dI/dT	____ms ___Amps ___mA/μs	 ≤9.6 Amps 846 mA/μs *	

* Refer to Figure 10.

Bus current during the I/H,D period

Paragraph	Parameter	Measured or Calculated	Pass/ Fail
3.2.4.2.2.1	From -0.1 to 2 seconds	___mA	N/A
3.2.4.2.2.2	From 2 to 4 seconds	___mA	N/A
3.2.4.2.2.3	From 4 to 6 seconds	___mA	N/A
3.2.4.2.2.4	From 6 to 8 seconds	___mA	N/A

Bus current during warm cal, cold cal, and nadir

Paragraph	Parameter	Measured	Pass/ Fail
3.2.4.2.2.6 (2)	Warm cal	___mA	N/A
3.2.4.2.2.6 (3)	Cold cal	___mA	N/A
3.2.4.2.2.6 (4)	Nadir	___mA	N/A

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 5

+28V Analog Telemetry Bus (Paragraph 3.2.4.2.3)

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
3	+28V ATB Bus Voltage (V_{at}) (Measured)	____Volts	28.0 ±.5	
3	Av. Current (I_a)	____mA	7 mA max	
4	+28V ATB Bus Power = I_a X V_{at}	____mW	200 mW max	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____ _____
Customer Representative Date Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 6
+10V Interface Bus Voltage (Paragraph 3.2.4.2.4.1)

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
3	Av. Current (I_a)	____mA	10 ma max	
3	+10V Interface Bus (V_{ib}) (Measured)	____Volts	9.0 ±1.0 V	
4	+10 Interface Bus Power = I_a X V_{ib}	____mW	100 mW max	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 7
1.248 MHz Clock Signal Verification (Paragraph 3.2.4.3.2.1)

1.248 CLOCK SIGNAL
ATTACH PHOTOGRAPH OR PLOT HERE

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
5	Clock Frequency	____MHz	1.248 ±10%	
	Clock Amplitude	____Volts	9.0 ±1.0V	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 8
"C1" Shift Pulse Verification (Paragraph 3.2.4.3.2.2)

"C1" SHIFT PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured/ Calculated	Required	Pass/ Fail
Pulse Timing (A) *	____µs	48 µs ± 10%	
Pluse Timing (B) *	____µs	12 µs ± 10%	
Pulse Amplitude	____Volts	9.0 ± 1.0V	

* Refer to Figure 18 for location of the pulse timing A and B.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 9
"A1" Select Pulse Verification (Paragraph 3.2.4.3.2.3)

"A1" SELECT PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured/ Calculated	Required	Pass/ Fail
Select Pulse Timing (F) *	____ µs	961.5 µs± 10%	
Select Pulse Amplitude	___ Volts	9.0 ±1.0V	

* Refer to Figure 18 for location of the pulse timing F

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____ _____
Customer Representative Date Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 10
"8 Seconds" Frame Sync Pulse (Paragraph 3.2.4.3.2.4)

"8 SECONDS" FRAME SYNC PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
1*	Frame Sync Pulse Timing	___ Sec	8 Sec ±10%	
	Frame Sync Pulse Timing (C)**	___ µs	240.4 µs ±10%	
	Frame Sync Pulse Amplitude	___ Volts	9.0 ±1.0V	

* Measure timing of 8-sec FSP by using HP 5316A Universal Counter.
** Refer to Figure 18 for location of the timing pulses for C.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 11 (Sheet 1 of 2)
Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the 8 seconds Frame sync pulse.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between H and I is as shown in Figure 18.

TIME MEASURED: _____

TIME REQUIRED: 13.7 ms ±10%

PASS/FAIL _____

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 11 (Sheet 2 of 2)
Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the C1 Shift pulse.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between I and E is as shown in Figure 18.

TIME MEASURED: _____

TIME REQUIRED: 24 µs ±10%

PASS/FAIL _____

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 12

Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the 1.248 MHz clock.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between I and J is as shown in Figure 18.

PASS/FAIL _____

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 13

Commands and Digital-B Telemetry Verification (Paragraphs 3.2.4.3.3.1, 3.2.4.3.3.2, and 3.2.4.3.3.3)

Test	Digital-B Commands Verification Via STE			Visual Inspection		Pass/Fail
	Command	Observed	Required	Observed	Required	
3.2.4.3.3.1 Module Totally Off	Scanner A2 Module Power Survival Htr. Power.		OFF Disconnect OFF	N/A	Antenna pointing to warm load. N/A 28V supply current=0	
3.2.4.3.3.2 Survival Heater Power	Survival Heater ON Survival Heater OFF		ON OFF	N/A N/A	N/A N/A	
3.2.4.3.3.3 Module Power Connect	Module Power		Connect		+28V DC current is between 0.5 and 3.2 amps.	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 14

Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 1)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 15

Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 2)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		OFF	
	4 Compensator Motor Power		OFF	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 16

Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 3)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 17

Scanner Positions Commands (Paragraph 3.2.4.3.3.5)

Test	Digital "B" Verification				Pass/Fail
	Step/Description		Observed	Required	
Scanner Position Commands	1-Warm Cal.			YES	
	3-Cold Cal. Pos.	MSB		0	
		LSB		1	
	5-Cold Cal. Pos.	MSB		1	
		LSB		0	
	7-Cold Cal. Pos.	MSB		1	
		LSB		1	
	9-Cold Cal. Pos.	MSB		0	
		LSB		0	
	11-NADIR			YES	
	13-Warm Cal			YES	

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 18
Digital-A Data Output Full Scan Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.1)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		2	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 19

Reflector Positions Section [IV] (Paragraph 3.2.4.3.4.1)

BP	A2 Reflector		
	Position*	Required**	Pass/Fail
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CC			
WC			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required position data from TDS 6 of AE-26002/2 ±5 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Customer Representative Date

Date

(Flight Hardware Only)

_____

Quality Control

TEST DATA SHEET 20

Digital-A Data Output Radiometer Data Section [V] (Paragraph 3.2.4.3.4.1)

BP	Channel-1 (23.8 GHz)			Channel-2 (31.4 GHz)		
	Measured*	Required**	Pass/Fail	Measured*	Required**	Pass/Fail
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
CC						
WC						

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 21

Full Scan Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.1)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Customer Representative Date

Date

(Flight Hardware Only)

_____

Quality Control

TEST DATA SHEET 22
Digital-A Data Output Warm Cal Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.2)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		4	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____ _____
Customer Representative Date Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 23

Reflector Position Warm Cal Mode Section [IV], Reflector Position Cold Cal Mode Section [IV], Reflector Position Nadir Mode Section [IV] (Paragraphs 3.2.4.3.4.2, 3.2.4.3.4.3, 3.2.4.3.4.4)

BP	Reflector			
	Para No.	Position*	Required**	Pass/Fail
WC	3.2.4.3.4.2, Step 5			
CC	3.2.4.3.4.3, Step 5			
	a.			
	b.			
	c.			
	d.			
15	3.2.4.3.4.4, Step 5			

WC = Warm Load
CC = Cold Load
15 = Nadir Position

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position data from TDS 6 of AE-26002/2 ±5 counts.

3.2.4.3.4.3, Step 5 Substep	MSB	LSB
a.	0	0
b.	0	1
c.	1	0
d.	1	1

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 24

Digital-A Data Output Warm Cal Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.2)

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014				0016			
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0		0312		0	

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Customer Representative Date

Date

(Flight Hardware Only)

_____

Quality Control

TEST DATA SHEET 25

Warm Cal Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.2)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Customer Representative Date

(Flight Hardware Only)

_____

Quality Control

TEST DATA SHEET 26
Digital-A Data Output Cold Cal Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.3)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		8	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 27

Digital-A Data Output Cold Cal Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.3)
Condition: Cold Cal Position MSB=0 and Cold Cal Position LSB=0

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014				0016			
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0		0312		0	

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 28

Cold Cal Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.3)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Customer Representative Date

Date

(Flight Hardware Only)

_____

Quality Control

TEST DATA SHEET 29
Digital-A Data Output Nadir Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.4)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		16	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 30

Digital-A Data Output Nadir Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.4)

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014				0016			
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0		0312		0	

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____ _____

Customer Representative Date Quality Control

Date

(Flight Hardware Only)

TEST DATA SHEET 31

Nadir Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.4)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.
** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 32

Analog Telemetry Verification by Way of Connector J6 (Paragraph 3.2.4.3.5.1)

From	Description	To	Measured (volts)	Required (volts)	Pass/Fail
J6-02	RF Shelf A2 Temp.	J1-10	_____	3.5V ± 2V	_____
J6-03	Comp. Motor Temp.	J1-10	_____	3.5V ± 2V	_____
J6-04	Warm Load A2 Temp.	J1-10	_____	3.5V ± 2V	_____
J6-22	A2 Scan Motor Temp.	J1-10	_____	3.5V ± 2V	_____
J6-08	Scan Motor Curr.	J2-03	_____	2.0V ± 1.0V	_____
J6-09	+15V Antenna Drive	J2-03	_____	3.5V ± 0.5V	_____
J6-10	+5V Antenna Drive	J2-03	_____	3.0V ± 0.5V	_____
J6-11	+15V Signal Processing	J2-03	_____	3.5V ± 0.25V	_____
J6-12	+5V Signal Processing	J2-03	_____	3.0V ± 0.25V	_____
J6-13	L.O. Voltage Channel 1	J2-03	_____	3.5V ± 0.5V	_____
J6-27	Comp Motor Current	J2-03	_____	2.0V ± 1.0V	_____
J6-28	-15V Antenna Drive	J2-03	_____	3.0V ± 0.5V	_____
J6-29	-15V Signal Processing	J2-03	_____	3.0V ± 0.25V	_____
J6-30	L.O. Voltage Channel 2	J2-03	_____	3.5V ± 0.5V	_____
J6-34	Mixer/IF Voltage	J2-03	_____	3.5V ± 0.5V	_____

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 33

Analog Telemetry Signals by Way of the STE (Paragraph 3.2.4.3.5.2)

Description	*	Measured (Deg. C)	Required (Deg. C)	Pass/Fail
A2 Scanner Motor	Temp	_____	25 ± 15	_____
A2 RF Shelf A2 Temp.	Temp	_____	25 ± 15	_____
A2 Warm Load	Temp	_____	25 ± 15	_____
A2 Compensator Motor	Temp	_____	25 ± 15	_____
		(mAmps)	(mAmps)	
Ant A2 Drv Motor Current		_____	150 mA max	_____
Ant A2 Comp. Motor Current		_____	150 mA max	_____
		(Volts)	(Volts)	
Signal Processor	+15V	_____	15.0V ± 0.75V	_____
Antenna Drive	+15V	_____	15.0V ± 1.5V	_____
Signal Processor	-15V	_____	-15.0V ± 0.75V	_____
Antenna Drive	-15V	_____	-15.0V ± 1.5V	_____
Mixer/IF	***	_____	***____ ± 0.5V	_____
Signal Processor	+5V	_____	5.0V ± 0.5V	_____
Antenna Drive	+5V	_____	5.0V ± 0.6V	_____
L.O. #1	**	_____	**____ ± 0.5V	_____
L.O. #2	**	_____	**____ ± 0.5V	_____

* Data from the printout sheet Page 8. Rewriting data on this space is optional.
** L.O. voltages from manufacturer data sheet for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.
*** Mixer/IF voltage: +8V for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 34

Integrate/Hold and Dump Signal Verification (Paragraph 3.2.4.3.6.1)

ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured	Required	Pass/ Fail
Scope Channel-1: Integration/Hold			
Time (A)*	ms	158 ms ± 10%	
Time (B)*	ms	42 ms ± 10%	
Amplitude	V	5.0 V ± 0.2V	
Scope Channel-2: Dump Signal			
Time (D)*	ms	9 ms to 15 ms	
Amplitude	V	5.0 V ± 0.2V	

* Refer to Figure 2 for waveform configuration.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 35

Integration Time (Analog Output) Verification (Paragraph 3.2.4.3.6.2)

ATTACH PHOTOGRAPH OR PLOT HERE

J7 - pin 8 signal
Frequency: 23.8 GHz

INTEGRATION (X) *
Measured _____ ms
Required 158 ms ± 10%
Pass/Fail _____

HOLD (B-D) **
Measured _____ ms
Required 32 ms ± 10%
Pass/Fail _____

DUMP (D) *
Measured _____ ms
Required 9 ms to 15 ms
Pass/Fail _____

ATTACH PHOTOGRAPH OR PLOT HERE

J7 - pin 9 signal
Frequency: 31.4 GHz

INTEGRATION (X) *
Measured _____ ms
Required 158 ms ± 10%
Pass/Fail _____

HOLD (B-D) **
Measured _____ ms
Required 32 ms ± 10%
Pass/Fail _____

DUMP (D) *
Measured _____ ms
Required 9 ms to 15 ms
Pass/Fail _____

* Refer to Figure 2 for waveform configuration.
** Refer to Data Sheet 34 and Figure 2.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 36
Digital-A/GSE Mode-1 Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.7.2)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		0	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Quality Control Date

TEST DATA SHEET 37 (Sheet 1 of 2)
Digital A/GSE Modes-1-4 Reflector Position Section [IV] (Paragraphs 3.2.4.3.7.2 - 3.2.4.3.7.5)

3.2.4.3.7.2 Digital A/GSE Mode-1 Reflector Position Section [IV]

BP	Reflector			
	Note	Position*	Required**	Pass/Fail
06	1st 10 data			
WC	2nd 10 data			
CC	3rd 10 data			

3.2.4.3.7.3 Digital A/GSE Mode-2 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
01			

3.2.4.3.7.4 Digital A/GSE Mode-3 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
***			

3.2.4.3.7.5 Digital A/GSE Mode-4 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
30			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.
*** Current Position

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 37 (Sheet 2 of 2)
Digital A/GSE Modes-1-4 Reflector Position Section [IV] (Paragraphs 3.2.4.3.7.2 - 3.2.4.3.7.5)

3.2.4.3.7.6 Digital A/GSE Mode-5 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
06			

3.2.4.3.7.7 Digital A/GSE Mode-7 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
06			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____ _____
Customer Representative Date Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 38

Digital A/GSE Mode-1 Radiometer Data Section [V] (Paragraph 3.2.4.3.7.2)

BP	Channel-1 (23.8 GHz)		
	Measured*	Required**	Pass/Fail
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CC		0	
WC		0	

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Quality Control Date

TEST DATA SHEET 39

Digital A/GSE Mode-1 Temperature Sensors Section [VI] (Paragraph 3.2.4.3.7.2)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____

Test Systems Engineer Date

_____

Quality Control Date

TEST DATA SHEET 40

Radiometer Relative NEΔT Verification (Paragraph 3.2.4.4.1.2)

Channel	Channel 1	Channel 2
NEΔT (Average of 5 data)		
NEΔT (specified)*	0.30 K	0.30 K
Pass/Fail**		

* For reference only.
** Use first CPT or first LPT data along with specified value for pass fail criteria.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET NO. 40A
Channel Identification Test (Paragraph 3.2.4.4.2)

Channel Number	Sweeper Frequency Setting (GHz)	Polarization (H/V)	Radiometric Data (Δ Counts)	Channel Verified (Yes/No)
1	23.8	V		

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 41

Transient Susceptibility Test (Paragraphs 3.2.4.2.1.3, 3.2.4.2.2.9, 3.2.4.2.3.3)

Test Setup Verified: _____
Signature

3.2.4.2.1.3 +28V Main Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.1.3.2	8	Low frequency in accordance with Figure 7		
3.2.4.2.1.3.3	14	High frequency in accordance with Steps 7, 9, 11, and 13		

3.2.4.2.2.9 +28V Pulse Load Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.2.9.2	8	Low frequency in accordance with Figure 12		
3.2.4.2.2.9.3	14	High frequency in accordance with Steps 7, 9, 11, and 13		

3.2.4.2.3.3 +28V Analog Telemetry Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.3.3.2	8	Low frequency in accordance with Figure 7		
3.2.4.2.3.3.3	14	High frequency in accordance with Steps 7, 9, 11, and 13		

NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

This page intentionally left blank.

APPENDIX B

TEST DATA SHEETS FOR AMSU-A2 SYSTEM LPT

This appendix contains the test data sheets for the LPT tests and inspections listed in section 3.

TEST DATA SHEET B-1 (SHEET 1 OF 9)
Grounding Test (Paragraph 3.2.4.1)

J1 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	+28V MLB	> 100k		
J1-2	+28V MLB	> 100k		
J1-3	+28V MLB RTN	> 100k		
J1-4	+28V MLB RTN	> 100k		
J1-5	+28V PLB	> 100k		
J1-6	+28V PLB	> 100k		
J1-7	+28V PLB RTN	> 100k		
J1-8	+28V PLB RTN	> 100k		
J1-9	+28V TMB	> 100k		
J1-10	28V TMB RTN	> 100k		
J1-11	NO CONNECTION	> 100k		
J1-12	NO CONNECTION	> 100k		
J1-13	CHASSIS GROUND (E1)	< 1		
J1-14	+28V MLB	> 100k		
J1-15	+28V MLB	> 100k		
J1-16	+28V MLB RTN	> 100k		
J1-17	+28V MLB RTN	> 100k		
J1-18	+28V PLB	> 100k		
J1-19	+28V PLB	> 100k		
J1-20	+28V PLB RTN	> 100k		
J1-21	+28V PLB RTN	> 100k		
J1-22	+28V TMB	> 100k		
J1-23	28V TMB RTN	> 100k		
J1-24	SAFETY HTR PWR	> 100k		
J1-25	SAFETY HTR RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 2 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J2 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-1	Chassis Ground (E2)	< 1		
J2-2	DATA CLOCK (C1)	> 100k		
J2-3	Signal Return	> 100k		
J2-4	No Connection	> 100k		
J2-5	DIGITAL A DATA OUT	> 100k		
J2-6	DATA ENABLE (A1)	> 100k		
J2-7	8 SEC SYNC PULSE	> 100k		
J2-8	No Connection	> 100k		
J2-9	No Connection	> 100k		

J3 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J3-1	1.248 MHz CLK	> 100k		
J3-2	1.248 MHz CLK RTN	> 100k		
J3-3	Chassis GND (E3)	< 1		

J5 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J5-1	Chassis Ground (E5)	< 1		
J5-2	MODULE PWR IND	> 100k		
J5-3	COLD CAL POS MSB (OUT)	> 100k		
J5-4	No Connection	> 100k		
J5-5	COMP MTR IND	> 100k		
J5-6	ANT IN COLD CAL POS	> 100k		
J5-7	No Connection	> 100k		
J5-8	No Connection	> 100k		
J5-9	SURV HTR ON/OFF	> 100k		
J5-10	No Connection	> 100k		
J5-11	COLD CAL POS LSB (OUT)	> 100k		
J5-12	SCANNER ON PWR IND	> 100k		
J5-13	ANT IN WARM CAL POS	> 100k		
J5-14	ANT AT NADIR POS	> 100k		
J5-15	FULL SCAN MODE	> 100k		

TEST DATA SHEET B-1 (Sheet 3 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J4 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J4-1	Chassis Ground (E4)	< 1		
J4-2	MODULE PWR DISCONN	> 100k		
J4-3	SURVIVAL HTR ON	> 100k		
J4-4	MODULE TOTALLY OFF	> 100k		
J4-5	COMP MTR ON/OFF	> 100k		
J4-6	ANT AT COLD CAL POS	> 100k		
J4-7	No Connection	> 100k		
J4-8	ANT AT NADIR POS	> 100k		
J4-9	COLD CAL POS MSB (IN)	> 100k		
J4-10	No Connection	> 100k		
J4-11	No Connection	> 100k		
J4-12	+10V INTERFACE BUS	> 100k		
J4-13	10V INTERFACE BUS RTN	> 100k		
J4-14	MODULE PWR CONN	> 100k		
J4-15	SURVIVAL HTR OFF	> 100k		
J4-16	SCANNER PWR ON/OFF	> 100k		
J4-17	ANT AT WARM CAL POS	> 100k		
J4-18	FULL SCAN	> 100k		
J4-19	COLD CAL POS LSB (IN)	> 100k		
J4-20	No Connection	> 100k		
J4-21	No Connection	> 100k		
J4-22	No Connection	> 100k		
J4-23	No Connection	> 100k		
J4-24	+10V INTERFACE BUS	> 100k		
J4-25	10V INTERFACE BUS RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 4 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J6 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-1	Chassis GND (E6)	< 1		
J6-2	RF SHELF TEMP	> 100k		
J6-3	COMP. MTR. TEMP	> 100k		
J6-4	WARM LOAD TEMP	> 100k		
J6-5	No Connection	> 100k		
J6-6	No Connection	> 100k		
J6-7	No Connection	> 100k		
J6-8	SCAN MTR CURR	> 100k		
J6-9	+15V ANT DR MON	> 100k		
J6-10	+15V ANT DR MON	> 100k		
J6-11	+15V SIG PROC MON	> 100k		
J6-12	+15V SIG PROC MON	> 100k		
J6-13	L.O. #1 MON	> 100k		
J6-14	No Connection	> 100k		
J6-15	No Connection	> 100k		
J6-16	No Connection	> 100k		
J6-17	No Connection	> 100k		
J6-18	No Connection	> 100k		
J6-19	No Connection	> 100k		
J6-20	28V TMB RTN	> 100k		
J6-21	No Connection	> 100k		
J6-22	SCAN MTR TEMP	> 100k		
J6-23	No Connection	> 100k		
J6-24	No Connection	> 100k		
J6-25	No Connection	> 100k		
J6-26	No Connection	> 100k		
J6-27	COMP MTR CURR	> 100k		
J6-28	-15V ANT DR MON	> 100k		
J6-29	-15V SIG PROC MON	> 100k		
J6-30	L.O. #2 MON	> 100k		
J6-31	No Connection	> 100k		
J6-32	No Connection	> 100k		
J6-33	No Connection	> 100k		
J6-34	MIXER/AMP MON	> 100k		
J6-35	No Connection	> 100k		
J6-36	No Connection	> 100k		
J6-37	No Connection	> 100k		

TEST DATA SHEET B-1 (Sheet 5 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J7 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J7-1	Chassis GND (E7)	< 1		
J7-2	No Connection	> 100k		
J7-3	No Connection	> 100k		
J7-4	No Connection	> 100k		
J7-5	15V RTN (2/3)	> 100k		
J7-6	DUMP TP	> 100k		
J7-7	No Connection	> 100k		
J7-8	CH1 ANALOG OUT TP	> 100k		
J7-9	CH2 ANALOG OUT TP	> 100k		
J7-10	No Connection	> 100k		
J7-11	No Connection	> 100k		
J7-12	No Connection	> 100k		
J7-13	No Connection	> 100k		
J7-14	No Connection	> 100k		
J7-15	No Connection	> 100k		
J7-16	No Connection	> 100k		
J7-17	GSE CMD LSB	> 100k		
J7-18	GSE CMD MSB-1	> 100k		
J7-19	+5VDC GSE INTERLOCK A	> 100k		
J7-20	No Connection	> 100k		
J7-21	No Connection	> 100k		
J7-22	No Connection	> 100k		
J7-23	I/H TP	> 100k		
J7-24	No Connection	> 100k		
J7-25	No Connection	> 100k		
J7-26	15V RTN (2/3)	> 100k		
J7-27	No Connection	> 100k		
J7-28	No Connection	> 100k		
J7-29	No Connection	> 100k		
J7-30	No Connection	> 100k		
J7-31	No Connection	> 100k		
J7-32	No Connection	> 100k		
J7-33	No Connection	> 100k		
J7-34	No Connection	> 100k		
J7-35	GSE CMD MSB	> 100k		
J7-36	5V RTN (1)	> 100k		
J7-37	+5VDC GSE INTERLOCK B	> 100k		

TEST DATA SHEET B-1 (Sheet 6 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	J1-2	+28V MLB	< 1		
J1-1	J1-14	+28V MLB	< 1		
J1-1	J1-15	+28V MLB	< 1		
J1-3	J1-4	28V MLB RTN	< 1		
J1-3	J1-16	28V MLB RTN	< 1		
J1-3	J1-17	28V MLB RTN	< 1		
J1-5	J1-6	+28V PLB	< 1		
J1-5	J1-18	+28V PLB	< 1		
J1-5	J1-19	+28V PLB	< 1		
J1-7	J1-8	28V PLB RTN	< 1		
J1-7	J1-20	28V PLB RTN	< 1		
J1-7	J1-21	28V PLB RTN	< 1		
J1-9	J1-22	+28V TMB	< 1		
J1-10	J1-23	28V TMB RTN	< 1		
J1-10	J6-20	28V TMB RTN	< 1		
J4-12	J4-24	+10V INTERFACE BUS	< 1		
J4-13	J4-25	10V INTERFACE BUS RTN	< 1		
J1-1	J1-3	+28V MLB	> 100k		
J1-1	J1-5	+28V MLB	> 100k		
J1-1	J1-7	+28V MLB	> 100k		
J1-1	J1-9	+28V MLB	> 100k		
J1-1	J1-10	+28V MLB	> 100k		
J1-1	J1-24	+28V MLB	> 100k		
J1-1	J1-25	+28V MLB	> 100k		
J1-1	J2-3	+28V MLB	> 100k		
J1-1	J4-12	+28V MLB	> 100k		
J1-1	J4-13	+28V MLB	> 100k		
J1-3	J1-5	28V MLB RTN	> 100k		
J1-3	J1-7	28V MLB RTN	> 100k		
J1-3	J1-9	28V MLB RTN	> 100k		
J1-3	J1-10	28V MLB RTN	> 100k		
J1-3	J1-24	28V MLB RTN	> 100k		
J1-3	J1-25	28V MLB RTN	> 100k		
J1-3	J2-3	28V MLB RTN	> 100k		
J1-3	J4-12	28V MLB RTN	> 100k		
J1-3	J4-13	28V MLB RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 7 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-5	J1-7	+28V PLB	> 100k		
J1-5	J1-9	+28V PLB	> 100k		
J1-5	J1-10	+28V PLB	> 100k		
J1-5	J1-24	+28V PLB	> 100k		
J1-5	J1-25	+28V PLB	> 100k		
J1-5	J2-3	+28V PLB	> 100k		
J1-5	J4-12	+28V PLB	> 100k		
J1-5	J4-13	+28V PLB	> 100k		
J1-7	J1-9	28V PLB RTN	> 100k		
J1-7	J1-10	28V PLB RTN	> 100k		
J1-7	J1-24	28V PLB RTN	> 100k		
J1-7	J1-25	28V PLB RTN	> 100k		
J1-7	J2-3	28V PLB RTN	> 100k		
J1-7	J4-12	28V PLB RTN	> 100k		
J1-7	J4-13	28V PLB RTN	> 100k		
J1-9	J1-10	+28V TMB	> 100k		
J1-9	J1-24	+28V TMB	> 100k		
J1-9	J1-25	+28V TMB	> 100k		
J1-9	J2-3	+28V TMB	> 100k		
J1-9	J4-12	+28V TMB	> 100k		
J1-9	J4-13	+28V TMB	> 100k		
J1-10	J1-24	28V TMB RTN	> 100k		
J1-10	J1-25	28V TMB RTN	> 100k		
J1-10	J2-3	28V TMB RTN	> 100k		
J1-10	J4-12	28V TMB RTN	> 100k		
J1-10	J4-13	28V TMB RTN	> 100k		
J1-24	J1-25	SAFETY HTR PWR	> 100k		
J1-24	J2-3	SAFETY HTR PWR	> 100k		
J1-24	J4-12	SAFETY HTR PWR	> 100k		
J1-24	J4-13	SAFETY HTR PWR	> 100k		
J1-25	J2-3	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-12	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-13	SAFETY HTR PWR RTN	> 100k		
J2-3	J4-12	SIGNAL RTN	> 100k		
J2-3	J4-13	SIGNAL RTN	> 100k		
J4-12	J4-13	+10V INTERFACE BUS	> 100k		

TEST DATA SHEET B-1 (Sheet 8 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-2	J4-13	DATA CLOCK (C1)	> 2k		
J2-5	J4-13	DIGITAL A DATA OUT	> 2k		
J2-6	J4-13	DATA ENABLE (A1)	> 2k		
J2-7	J4-13	8 SEC SYNC PULSE	> 2k		
J3-1	J4-13	1.248 MHZ CLK	> 2k		
J3-2	J4-13	1.248 MHZ CLK RTN	> 2k		
J4-2	J4-13	MODULE PWR DISCONN	> 2k		
J4-3	J4-13	SURVIVAL HTR ON	> 2k		
J4-4	J4-13	MODULE TOTALLY OFF	> 2k		
J4-5	J4-13	COMP MTR ON/OFF	> 2k		
J4-6	J4-13	ANT AT COLD CAL POS	> 2k		
J4-8	J4-13	ANT AT NADIR POS	> 2k		
J4-9	J4-13	COLD CAL POS MSB (IN)	> 2k		
J4-14	J4-13	MODULE PWR CONN	> 2k		
J4-15	J4-13	SURVIVAL HTR OFF	> 2k		
J4-16	J4-13	SCANNER PWR ON/OFF	> 2k		
J4-17	J4-13	ANT AT WARM CAL POS	> 2k		
J4-18	J4-13	FULL SCAN	> 2k		
J4-19	J4-13	COLD CAL POS LSB (IN)	> 2k		
J5-2	J4-13	MODULE PWR IND	> 2k		
J5-3	J4-13	COLD CAL POS MSB	> 2k		
J5-5	J4-13	COMP MTR IND	> 2k		
J5-6	J4-13	ANT IN COLD CAL POS	> 2k		
J5-9	J4-13	SURV HTR ON/OFF	> 2k		
J5-11	J4-13	COLD CAL POS LSB	> 2k		
J5-12	J4-13	SCANNER ON PWR IND	> 2k		
J5-13	J4-13	ANT IN WARM CAL POS	> 2k		
J5-14	J4-13	ANT IN NADIR POS	> 2k		
J5-15	J4-13	FULL SCAN MODE	> 2k		

TEST DATA SHEET B-1 (Sheet 9 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-8	J4-13	SCAN MTR CVR	> 2k		
J6-9	J4-13	+15V ANT DR MON	> 2k		
J6-10	J4-13	+5V ANT DR MON	> 2k		
J6-11	J4-13	+15V SIG PROC MON	> 2k		
J6-12	J4-13	+5V SIG PROC MON	> 2k		
J6-13	J4-13	L.O. #1 MON	> 2k		
J6-20	J4-13	28V TMB RTN	> 2k		
J6-22	J4-13	SCAN MTR TEMP	> 2k		
J6-27	J4-13	COMP MTR CURR	> 2k		
J6-28	J4-13	-15V ANT DR MON	> 2k		
J6-29	J4-13	-15V SIG PROC MON	> 2k		
J6-30	J4-13	L.O. #2 MON	> 2k		
J6-34	J4-13	MIXER/AMP MON	> 2k		
J6-2	J1-10	RF SHELF TEMP	> 2k		
J6-3	J1-10	COMP MTR TEMP	> 2k		
J6-4	J1-10	WARM LOAD TEMP	> 2k		

Power Input Test (Paragraph 3.2.4.2.5)

Step	Parameter	Measured	Units	Required	Pass/ Fail
3	+28 V MLB Voltage (Vb) (Measured at connector J1)		Volts	28.0 ±0.5	
3	MLB Current (STE Meter)		Amps	Between 0.5 and 4.3 Amps	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

TEST DATA SHEET B-2 (See Appendix A, Test Data Sheet 13 for CPT)
Commands and Digital-B Telemetry Verification (Paragraphs 3.2.4.3.3.1, 3.2.4.3.3.2, and 3.2.4.3.3.3)

Test	Digital-B Commands Verification Via STE			Visual Inspection		Pass/Fail
	Command	Observed	Required	Observed	Required	
3.2.4.3.3.1 Module Totally Off	Scanner A2 Module Power Survival Htr. Power.		OFF Disconnect OFF	N/A	Antenna pointing to warm load. N/A 28V supply current=0	
3.2.4.3.3.2 Survival Heater Power	Survival Heater ON Survival Heater OFF		ON OFF	N/A N/A	N/A N/A	
3.2.4.3.3.3 Module Power Connect	Module Power		Connect		+28V DC current is between 0.5 and 3.2 amps.	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-3 (See Appendix A, Test Data Sheet 14 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 1)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-4 (See Appendix A, Test Data Sheet 15 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 2)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		OFF	
	4 Compensator Motor Power		OFF	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

TEST DATA SHEET B-5 (See Appendix A, Test Data Sheet 16 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 3)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-6 (See Appendix A, Test Data Sheet 17 for CPT)
Scanner Positions Commands (Paragraph 3.2.4.3.3.5)

Test	Digital "B" Verification				Pass/Fail
	Step/Description		Observed	Required	
Scanner Position Commands	1-Warm Cal.			YES	
	3-Cold Cal. Pos.	MSB		0	
		LSB		1	
	5-Cold Cal. Pos.	MSB		1	
		LSB		0	
	7-Cold Cal. Pos.	MSB		1	
		LSB		1	
	9-Cold Cal. Pos.	MSB		0	
		LSB		0	
	11-NADIR			YES	
	13-Warm Cal			YES	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-7 (See Appendix A, Test Data Sheet 18 for CPT)
Digital-A Data Output Full Scan Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.1)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		2	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-8 (See Appendix A, Test Data Sheet 19 for CPT)
Reflector Positions Section [IV] (Paragraph 3.2.4.3.4.1)

BP	A2 Reflector		
	Position*	Required**	Pass/Fail
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CL			
WL			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-9 (See Appendix A, Test Data Sheet 20 for CPT)
Digital-A Data Output Radiometer Data Section [V] (Paragraph 3.2.4.3.4.1)

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014				0016			
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258				0260			
WL	0310				0312			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-10 (See Appendix A, Test Data Sheet 21 for CPT)
Full Scan Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.1)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Warm Load 1		25 ± 15	
0264	Warm Load 2		25 ± 15	
0266	Warm Load 3		25 ± 15	
0268	Warm Load 4		25 ± 15	
0270	Warm Load 5		25 ± 15	
0272	Warm Load 6		25 ± 15	
0274	Warm Load Center		25 ± 15	
0276	Scan Motor		25 ± 15	
0278	Compensation Motor		25 ± 15	
0280	Feedhorn		25 ± 15	
0282	RF Mux		25 ± 15	
0284	Mixer I.F. Amp. Channel 1		25 ± 15	
0286	Mixer I.F. Amp. Channel 2		25 ± 15	
0288	Subreflector		25 ± 15	
0290	DC/DC Converter		25 ± 15	
0292	RF Shelf		25 ± 15	
0294	Detector/Preamp Assembly		25 ± 15	
0296	Local Oscillator Channel 1		25 ± 15	
0298	Local Oscillator Channel 2		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.
** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-11 (See Appendix A, Test Data Sheet 33 for CPT)
Analog Telemetry Signals by Way of the STE (Paragraph 3.2.4.3.5.2)

	Description	*	Measured (Deg. C)	Required (Deg. C)	Pass/Fail
02	A2 Scanner Motor	Temp	_____	25 ± 15	_____
04	A2 RF Shelf A2 Temp.	Temp	_____	25 ± 15	_____
05	A2 Warm Load	Temp	_____	25 ± 15	_____
			(mAmps)	(mAmps)	
08	Ant A2 Drv Motor Current		_____	150 mA max	_____
			(Volts)	(Volts)	
09	Signal Processor	+15V	_____	15.0V ± 0.75V	_____
10	Antenna Drive	+15V	_____	15.0V ± 1.5V	_____
11	Signal Processor	-15V	_____	-15.0V ± 0.75V	_____
12	Antenna Drive	-15V	_____	-15.0V ± 1.5V	_____
13	Mixer/IF	***	_____	***____ ± 0.5V	_____
14	Signal Processor	+5V	_____	5.0V ± 0.5V	_____
15	Antenna Drive	+5V	_____	5.0V ± 0.6V	_____
19	L.O. #1	**	_____	**____ ± 0.5V	_____
20	L.O. #2	**	_____	**____ ± 0.5V	_____

* Data from the printout sheet Page 8. Rewriting data on this space is optional.
** L.O. voltages from manufacturer data sheet for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.
*** Mixer/IF voltage: +8V for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-12 (See Appendix A, Test Data Sheet 40 for CPT)
Radiometer Relative NEΔT Verification (Paragraph 3.2.4.4.1)

Channel	Channel 1	Channel 2
NEΔT (Average of 5 data)		
NEΔT (specified)*	0.30 K	0.30 K
Pass/Fail**		

* For reference only.
** Use first CPT or first LPT data along with specified value for pass fail criteria.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

This page intentionally left blank.

GENCORP
AEROJET

DOCUMENT APPROVAL SHEET

TITLE	DOCUMENT NO.
Process Specification METSAT/KLM/AMSU-A2, System Comprehensive and Limited Performance Tests Test Procedure	AE-26156/4E 2 April 1999

INPUT FROM: DATE	CDRL:	SPECIFICATION ENGINEER: DATE
		99-04-03

CHECKED BY: DATE	JOB NUMBER: DATE
4/5/99	

APPROVED SIGNATURES	DEPT. NO.	DATE
System Safety (W. Neighbors)	8331	4/6/99
Product Team Leader (A. Nieto)	8341	4/6/99
Systems Engineer (R. Platt) P. K. Patel	8311	4/6/99
Design Assurance (E. Lorenz) DWan (for E. Lorenz)	8331	4/5/99
Quality Assurance (R. Taylor) (for R. Taylor)	7831	4/6/99
Technical Director/PMO (P. Patel) P. K. Patel	8341	4/6/99
Released: Configuration Management (J. Cavanaugh)	8361	4/6/99

Approved as Final per customer's letter dated 6 April 1999
(ECN's CAMSU-2087 and CAMSU-2099)

By my signature, I certify the above document has been reviewed by me and concurs with the technical requirements related to my area of responsibility.

(Data Center) FINAL 4-7-99

APPENDIX A

TEST DATA SHEETS

10. APPENDIX A

10.1 ***Scope.*** This appendix contains the test data sheets for all tests and inspections listed in section 3.

TEST DATA SHEET 1 (SHEET 1 OF 9)
Grounding Test (Paragraph 3.2.4.1)

J1 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	+28V MLB	> 100k	OVLD	P
J1-2	+28V MLB	> 100k	OVLD	
J1-3	+28V MLB RTN	> 100k	5.8M	
J1-4	+28V MLB RTN	> 100k	20.5M	
J1-5	+28V PLB	> 100k	24M	
J1-6	+28V PLB	> 100k	30M	
J1-7	+28V PLB RTN	> 100k	7.8M	
J1-8	+28V PLB RTN	> 100k	8.5M	
J1-9	+28V TMB	> 100k	OVLD	
J1-10	28V TMB RTN	> 100k	OVLD	
J1-11	NO CONNECTION	> 100k	OVLD	
J1-12	NO CONNECTION	> 100k	OVLD	
J1-13	CHASSIS GROUND (E1)	< 1	0.15Ω	
J1-14	+28V MLB	> 100k	OVLD	
J1-15	+28V MLB	> 100k	OVLD	
J1-16	+28V MLB RTN	> 100k	20M	
J1-17	+28V MLB RTN	> 100k	20M	
J1-18	+28V PLB	> 100k	22M	
J1-19	+28V PLB	> 100k	27M	
J1-20	+28V PLB RTN	> 100k	26M	
J1-21	+28V PLB RTN	> 100k	29M	
J1-22	+28V TMB	> 100k	OVLD	
J1-23	28V TMB RTN	> 100k	OVLD	
J1-24	SAFETY HTR PWR	> 100k	OVLD	
J1-25	SAFETY HTR RTN	> 100k	OVLD	P

OVLD = open (>100M)

TEST DATA SHEET 1 (Sheet 2 of 9)
Grounding Test (Paragraph 3.2.4.1)

J2 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-1	Chassis Ground (E2)	< 1	0.133	P
J2-2	DATA CLOCK (C1)	> 100k	27M	
J2-3	Signal Return	> 100k	22M	
J2-4	No Connection	> 100k	OVLD	
J2-5	DIGITAL A DATA OUT	> 100k	49M	
J2-6	DATA ENABLE (A1)	> 100k	35M	
J2-7	8 SEC SYNC PULSE	> 100k	38M	
J2-8	No Connection	> 100k	OVLD	
J2-9	No Connection	> 100k	OVLD	P

J3 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J3-1	1.248 MHz CLK	> 100k	35M	P
J3-2	1.248 MHz CLK RTN	> 100k	OVLD	P
J3-3	Chassis GND (E3)	< 1	0.069	P

J5 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J5-1	Chassis Ground (E5)	< 1	0.144	P
J5-2	MODULE PWR IND	> 100k	48M	
J5-3	COLD CAL POS MSB (OUT)	> 100k	51M	
J5-4	No Connection	> 100k	OVLD	
J5-5	COMP MTR IND	> 100k	60M	
J5-6	ANT IN COLD CAL POS	> 100k	65M	
J5-7	No Connection	> 100k	OVLD	
J5-8	No Connection	> 100k	OVLD	
J5-9	SURV HTR ON/OFF	> 100k	70M	
J5-10	No Connection	> 100k	OVLD	
J5-11	COLD CAL POS LSB (OUT)	> 100k	76M	
J5-12	SCANNER ON PWR IND	> 100k	81M	
J5-13	ANT IN WARM CAL POS	> 100k	86M	
J5-14	ANT AT NADIR POS	> 100k	89M	
J5-15	FULL SCAN MODE	> 100k	93M	P

OVLD = open (>100M)

TEST DATA SHEET 1 (Sheet 3 of 9)
Grounding Test (Paragraph 3.2.4.1)

J4 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J4-1	Chassis Ground (E4)	< 1	0.204	P
J4-2	MODULE PWR DISCONN	> 100k	39M	
J4-3	SURVIVAL HTR ON	> 100k	43M	
J4-4	MODULE TOTALLY OFF	> 100k	48M	
J4-5	COMP MTR ON/OFF	> 100k	52M	
J4-6	ANT AT COLD CAL POS	> 100k	57M	
J4-7	No Connection	> 100k	OVLD	
J4-8	ANT AT NADIR POS	> 100k	62M	
J4-9	COLD CAL POS MSB (IN)	> 100k	67M	
J4-10	No Connection	> 100k	OVLD	
J4-11	No Connection	> 100k	OVLD	
J4-12	+10V INTERFACE BUS	> 100k	70M	
J4-13	10V INTERFACE BUS RTN	> 100k	40M	
J4-14	MODULE PWR CONN	> 100k	83M	
J4-15	SURVIVAL HTR OFF	> 100k	88M	
J4-16	SCANNER PWR ON/OFF	> 100k	88M	
J4-17	ANT AT WARM CAL POS	> 100k	91M	
J4-18	FULL SCAN	> 100k	92M	
J4-19	COLD CAL POS LSB (IN)	> 100k	98M	
J4-20	No Connection	> 100k	OVLD	
J4-21	No Connection	> 100k	OVLD	
J4-22	No Connection	> 100k	OVLD	
J4-23	No Connection	> 100k	OVLD	
J4-24	+10V INTERFACE BUS	> 100k	92M	
J4-25	10V INTERFACE BUS RTN	> 100k	44M	P

OVLD = open (>100M)

TEST DATA SHEET 1 (Sheet 4 of 9)
Grounding Test (Paragraph 3.2.4.1)

J6 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-1	Chassis GND (E6)	<1	0.141	P
J6-2	RF SHELF TEMP	> 100k	OVLD	
J6-3	COMP. MTR. TEMP	> 100k	OVLD	
J6-4	WARM LOAD TEMP	> 100k	OVLD	
J6-5	No Connection	> 100k	OVLD	
J6-6	No Connection	> 100k	OVLD	
J6-7	No Connection	> 100k	OVLD	
J6-8	SCAN MTR CURR	> 100k	30M	
J6-9	+15V ANT DR MON	> 100k	31M	
J6-10	+15V ANT DR MON	> 100k	33M	
J6-11	+15V SIG PROC MON	> 100k	35M	
J6-12	+15V SIG PROC MON	> 100k	37M	
J6-13	L.O. #1 MON	> 100k	40M	
J6-14	No Connection	> 100k	OVLD	
J6-15	No Connection	> 100k	OVLD	
J6-16	No Connection	> 100k	OVLD	
J6-17	No Connection	> 100k	OVLD	
J6-18	No Connection	> 100k	OVLD	
J6-19	No Connection	> 100k	OVLD	
J6-20	28V TMB RTN	> 100k	OVLD	
J6-21	No Connection	> 100k	OVLD	
J6-22	SCAN MTR TEMP	> 100k	OVLD	
J6-23	No Connection	> 100k	OVLD	
J6-24	No Connection	> 100k	OVLD	
J6-25	No Connection	> 100k	OVLD	
J6-26	No Connection	> 100k	OVLD	
J6-27	COMP MTR CURR	> 100k	36M	
J6-28	-15V ANT DR MON	> 100k	35M	
J6-29	-15V SIG PROC MON	> 100k	37M	
J6-30	L.O. #2 MON	> 100k	39M	
J6-31	No Connection	> 100k	OVLD	
J6-32	No Connection	> 100k	OVLD	
J6-33	No Connection	> 100k	OVLD	
J6-34	MIXER/AMP MON	> 100k	39M	
J6-35	No Connection	> 100k	OVLD	
J6-36	No Connection	> 100k	OVLD	
J6-37	No Connection	> 100k	OVLD	P

OVLD = Open (>100M)

TEST DATA SHEET 1 (Sheet 5 of 9)
Grounding Test (Paragraph 3.2.4.1)

J7 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J7-1	Chassis GND (E7)	< 1	0.133	P
J7-2	No Connection	> 100k	OVLD	
J7-3	No Connection	> 100k	OVLD	
J7-4	No Connection	> 100k	OVLD	
J7-5	15V RTN (2/3)	> 100k	29M	
J7-6	DUMP TP	> 100k	49M	
J7-7	No Connection	> 100k	OVLD	
J7-8	CH1 ANALOG OUT TP	> 100k	55M	
J7-9	CH2 ANALOG OUT TP	> 100k	57M	
J7-10	No Connection	> 100k	OVLD	
J7-11	No Connection	> 100k	OVLD	
J7-12	No Connection	> 100k	OVLD	
J7-13	No Connection	> 100k	OVLD	
J7-14	No Connection	> 100k	OVLD	
J7-15	No Connection	> 100k	OVLD	
J7-16	No Connection	> 100k	OVLD	
J7-17	GSE CMD LSB	> 100k	47M	
J7-18	GSE CMD MSB-1	> 100k	44M	
J7-19	+5VDC GSE INTERLOCK A	> 100k	46M	
J7-20	No Connection	> 100k	OVLD	
J7-21	No Connection	> 100k	OVLD	
J7-22	No Connection	> 100k	OVLD	
J7-23	I/H TP	> 100k	58M	
J7-24	No Connection	> 100k	OVLD	
J7-25	No Connection	> 100k	OVLD	
J7-26	15V RTN (2/3)	> 100k	38M	
J7-27	No Connection	> 100k	OVLD	
J7-28	No Connection	> 100k	OVLD	
J7-29	No Connection	> 100k	OVLD	
J7-30	No Connection	> 100k	OVLD	
J7-31	No Connection	> 100k	OVLD	
J7-32	No Connection	> 100k	OVLD	
J7-33	No Connection	> 100k	OVLD	
J7-34	No Connection	> 100k	OVLD	
J7-35	GSE CMD MSB	> 100k	42M	
J7-36	5V RTN (1)	> 100k	36M	
J7-37	+5VDC GSE INTERLOCK B	> 100k	39M	P

OLVD = Open (>100M)

TEST DATA SHEET 1 (Sheet 6 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	J1-2	+28V MLB	< 1	0.217	P
J1-1	J1-14	+28V MLB	< 1	0.245	
J1-1	J1-15	+28V MLB	< 1	0.239	
J1-3	J1-4	28V MLB RTN	< 1	0.210	
J1-3	J1-16	28V MLB RTN	< 1	0.225	
J1-3	J1-17	28V MLB RTN	< 1	0.230	
J1-5	J1-6	+28V PLB	< 1	0.203	
J1-5	J1-18	+28V PLB	< 1	0.232	
J1-5	J1-19	+28V PLB	< 1	0.226	
J1-7	J1-8	28V PLB RTN	< 1	0.199	
J1-7	J1-20	28V PLB RTN	< 1	0.209	
J1-7	J1-21	28V PLB RTN	< 1	0.213	
J1-9	J1-22	+28V TMB	< 1	0.196	
J1-10	J1-23	28V TMB RTN	< 1	0.196	
J1-10	J6-20	28V TMB RTN	< 1	0.400	
J4-12	J4-24	+10V INTERFACE BUS	< 1	0.468	
J4-13	J4-25	10V INTERFACE BUS RTN	< 1	0.444	
J1-1	J1-3	+28V MLB	> 100k	OVLD	
J1-1	J1-5	+28V MLB	> 100k	OVLD	
J1-1	J1-7	+28V MLB	> 100k	OVLD	
J1-1	J1-9	+28V MLB	> 100k	OVLD	
J1-1	J1-10	+28V MLB	> 100k	OVLD	
J1-1	J1-24	+28V MLB	> 100k	OVLD	
J1-1	J1-25	+28V MLB	> 100k	OVLD	
J1-1	J2-3	+28V MLB	> 100k	115 M	
J1-1	J4-12	+28V MLB	> 100k	5 M	
J1-1	J4-13	+28V MLB	> 100k	38 M	
J1-3	J1-5	28V MLB RTN	> 100k	11 M	
J1-3	J1-7	28V MLB RTN	> 100k	320 K	
J1-3	J1-9	28V MLB RTN	> 100k	10 M	
J1-3	J1-10	28V MLB RTN	> 100k	OVLD	
J1-3	J1-24	28V MLB RTN	> 100k	OVLD	
J1-3	J1-25	28V MLB RTN	> 100k	OVLD	
J1-3	J2-3	28V MLB RTN	> 100k	160K	
J1-3	J4-12	28V MLB RTN	> 100k	2.9 M	
J1-3	J4-13	28V MLB RTN	> 100k	160K	P

OVLD = Open (>100 M)

TEST DATA SHEET 1 (Sheet 7 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-5	J1-7	+28V PLB	> 100k	3M	P
J1-5	J1-9	+28V PLB	> 100k	OVLD	
J1-5	J1-10	+28V PLB	> 100k	OVLD	
J1-5	J1-24	+28V PLB	> 100k	OVLD	
J1-5	J1-25	+28V PLB	> 100k	OVLD	
J1-5	J2-3	+28V PLB	> 100k	11M	
J1-5	J4-12	+28V PLB	> 100k	6M	
J1-5	J4-13	+28V PLB	> 100k	17M	
J1-7	J1-9	28V PLB RTN	> 100k	OVLD	
J1-7	J1-10	28V PLB RTN	> 100k	OVLD	
J1-7	J1-24	28V PLB RTN	> 100k	OVLD	
J1-7	J1-25	28V PLB RTN	> 100k	OVLD	
J1-7	J2-3	28V PLB RTN	> 100k	160K	
J1-7	J4-12	28V PLB RTN	> 100k	161K	
J1-7	J4-13	28V PLB RTN	> 100k	320K	
J1-9	J1-10	+28V TMB	> 100k	1.6M	
J1-9	J1-24	+28V TMB	> 100k	OVLD	
J1-9	J1-25	+28V TMB	> 100k	OVLD	
J1-9	J2-3	+28V TMB	> 100k	OVLD	
J1-9	J4-12	+28V TMB	> 100k	OVLD	
J1-9	J4-13	+28V TMB	> 100k	OVLD	
J1-10	J1-24	28V TMB RTN	> 100k	OVLD	
J1-10	J1-25	28V TMB RTN	> 100k	OVLD	
J1-10	J2-3	28V TMB RTN	> 100k	OVLD	
J1-10	J4-12	28V TMB RTN	> 100k	OVLD	
J1-10	J4-13	28V TMB RTN	> 100k	OVLD	
J1-24	J1-25	SAFETY HTR PWR	> 100k	OVLD	
J1-24	J2-3	SAFETY HTR PWR	> 100k	OVLD	
J1-24	J4-12	SAFETY HTR PWR	> 100k	OVLD	
J1-24	J4-13	SAFETY HTR PWR	> 100k	OVLD	
J1-25	J2-3	SAFETY HTR PWR RTN	> 100k	OVLD	
J1-25	J4-12	SAFETY HTR PWR RTN	> 100k	OVLD	
J1-25	J4-13	SAFETY HTR PWR RTN	> 100k	OVLD	
J2-3	J4-12	SIGNAL RTN	> 100k	370K	
J2-3	J4-13	SIGNAL RTN	> 100k	165K	
J4-12	J4-13	+10V INTERFACE BUS	> 100k	2.5M	P

OVLD = Open (>100M)

TEST DATA SHEET 1 (Sheet 8 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-2	J4-13	DATA CLOCK (C1)	> 2k	2.5M	P
J2-5	J4-13	DIGITAL A DATA OUT	> 2k	395K	
J2-6	J4-13	DATA ENABLE (A1)	> 2k	3.5M	
J2-7	J4-13	8 SEC SYNC PULSE	> 2k	3.6M	
J3-1	J4-13	1.248 MHZ CLK	> 2k	3.4M	
J3-2	J4-13	1.248 MHZ CLK RTN	> 2k	OVLD	
J4-2	J4-13	MODULE PWR DISCONN	> 2k	2M	
J4-3	J4-13	SURVIVAL HTR ON	> 2k	2.6M	
J4-4	J4-13	MODULE TOTALLY OFF	> 2k	3M	
J4-5	J4-13	COMP MTR ON/OFF	> 2k	3.5M	
J4-6	J4-13	ANT AT COLD CAL POS	> 2k	3.6M	
J4-8	J4-13	ANT AT NADIR POS	> 2k	3.7M	
J4-9	J4-13	COLD CAL POS MSB (IN)	> 2k	3.7M	
J4-14	J4-13	MODULE PWR CONN	> 2k	3.5M	
J4-15	J4-13	SURVIVAL HTR OFF	> 2k	3.6M	
J4-16	J4-13	SCANNER PWR ON/OFF	> 2k	3.5M	
J4-17	J4-13	ANT AT WARM CAL POS	> 2k	3.5M	
J4-18	J4-13	FULL SCAN	> 2k	3.5M	
J4-19	J4-13	COLD CAL POS LSB (IN)	> 2k	3.5M	
J5-2	J4-13	MODULE PWR IND	> 2k	3.2M	
J5-3	J4-13	COLD CAL POS MSB	> 2k	3.6M	
J5-5	J4-13	COMP MTR IND	> 2k	3.6M	
J5-6	J4-13	ANT IN COLD CAL POS	> 2k	3.5M	
J5-9	J4-13	SURV HTR ON/OFF	> 2k	3.5M	
J5-11	J4-13	COLD CAL POS LSB	> 2k	3.4M	
J5-12	J4-13	SCANNER ON PWR IND	> 2k	3.4M	
J5-13	J4-13	ANT IN WARM CAL POS	> 2k	3.4M	
J5-14	J4-13	ANT IN NADIR POS	> 2k	3.4M	
J5-15	J4-13	FULL SCAN MODE	> 2k	3.4M	P

OVLD = Open (>100M)

TEST DATA SHEET 1 (Sheet 9 of 9)
Grounding Test (Paragraph 3.2.4.1)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-8	J4-13	SCAN MTR CURR	> 2k	360K	P
J6-9	J4-13	+15V ANT DR MON	> 2k	290K	
J6-10	J4-13	+5V ANT DR MON	> 2k	315K	
J6-11	J4-13	+15V SIG PROC MON	> 2k	165K	
J6-12	J4-13	+5V SIG PROC MON	> 2k	175K	
J6-13	J4-13	L.O. #1 MON	> 2k	180K	
J6-20	J4-13	28V TMB RTN	> 2k	OVLD	
J6-22	J4-13	SCAN MTR TEMP	> 2k	OVLD	
J6-27	J4-13	COMP MTR CURR	> 2k	1.7M	
J6-28	J4-13	-15V ANT DR MON	> 2k	350K	
J6-29	J4-13	-15V SIG PROC MON	> 2k	195K	
J6-30	J4-13	L.O. #2 MON	> 2k	190K	
J6-34	J4-13	MIXER/AMP MON	> 2k	190K	
J6-2	J1-10	RF SHELF TEMP	> 2k	14.7K	
J6-3	J1-10	COMP MTR TEMP	> 2k	14.7K	
J6-4	J1-10	WARM LOAD TEMP	> 2k	14.7K	P

OVLD = Open (>100M)

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____ LPT _____

Test Systems Engineer 11/17/99
Date

Customer Representative 11-20-99
Date

Quality Control
NOV 18 '99

TEST DATA SHEET 2
+28 MLB Turn-on Transient (Paragraph 3.2.4.2.1.1)

At 28.56 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	5.35 Amps	<8.3 Amps	<5.7 Amps	P
7	Pulse Width	61.72 ms	<100 ms	<120 ms	P
7	Rate of Change (Slope): dI/dT	209.8 mA/µs	<640 mA/µs	<250 mA/µs	P

At 27.44 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	4.53 Amps	<8.3 Amps	<5.7 Amps	P
7	Pulse Width	64.17 ms	<100 ms	<120 ms	P
7	Rate of Change (Slope): dI/dT	186.8 mA/µs	<640 mA/µs	<250 mA/µs	P

At 28.00 Vdc:

Step	Parameter	Measured/ Calculated	Required *	Required **	Pass/ Fail
7	Peak Current	4.60 Amps	<8.3 Amps	<5.7 Amps	P
7	Pulse Width	67.41 ms	<100 ms	<120 ms	P
7	Rate of Change (Slope): dI/dT	194.0 mA/µs	<640 mA/µs	<250 mA/µs	P

* For S/N 101 through 104
** For S/N 105 through 109.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

139/7 11/17/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

268 NOV 18 '99
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 3
+28 MLB Operating Power (Paragraph 3.2.4.2.1.2)

Step	+28V MLB at 27 Volts	Measured	Units	Required	Pass/Fail
4	+28V MLB voltage at 27V (V_b) (Measured)	27.001	Volts	27.0 ± 0.1	P
5	Average Current (I_V)	0.656	Amps	N/A	N/A
6	+28V MLB bus power = I_V x V_b	17.71	Watts	25W max	P
	+28V MLB at 28 Volts				
7	+28V MLB Bus Voltage at 28V (V_b) (Measured)	28.051	Volts	28.0 ± 0.1	P
8	Average Current (I_V)	0.638	Amps	N/A	N/A
9	+28V MLB Operating Power = I_V X V_b	17.90	Watts	25W max	P
	+28V MLB at 29 Volts				
10	+28V MLB voltage at 29V (V_b) (Measured)	29.003	Volts	29.0 ± 0.1	P
11	Average Current (I_V)	0.624	Amps	N/A	N/A
12	+28V MLB operating power = I_V x V_b	18.10	Watts	25W max	P

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT ________

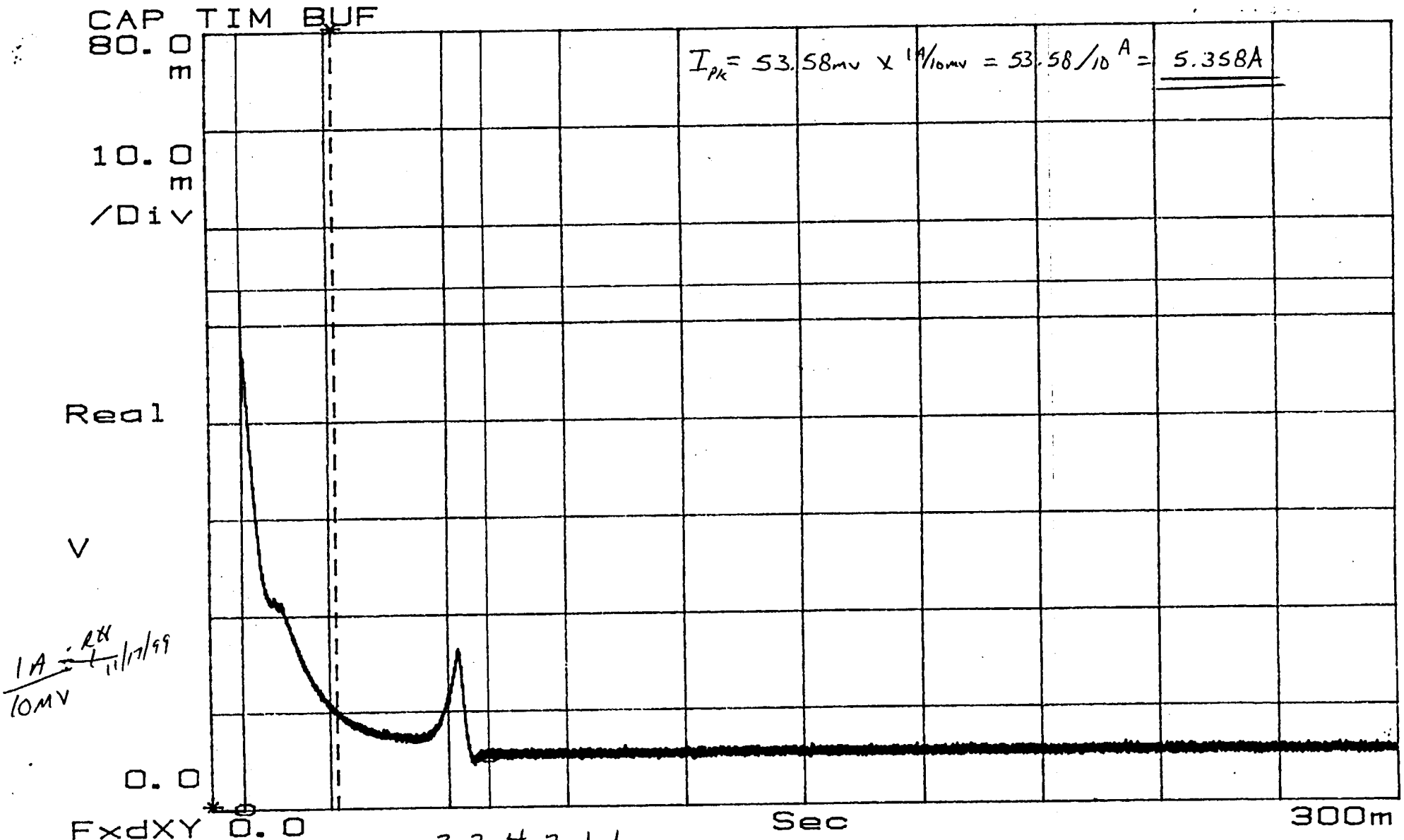
[signature] 11/17/99
Test Systems Engineer Date

[signature] 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

268 11-20-99
Quality Control

X=8.109mS ΔX=61.72mS Y=0.0 ΔY=53.58mV

Ya=-820.59μ ΔYa=6.103mV



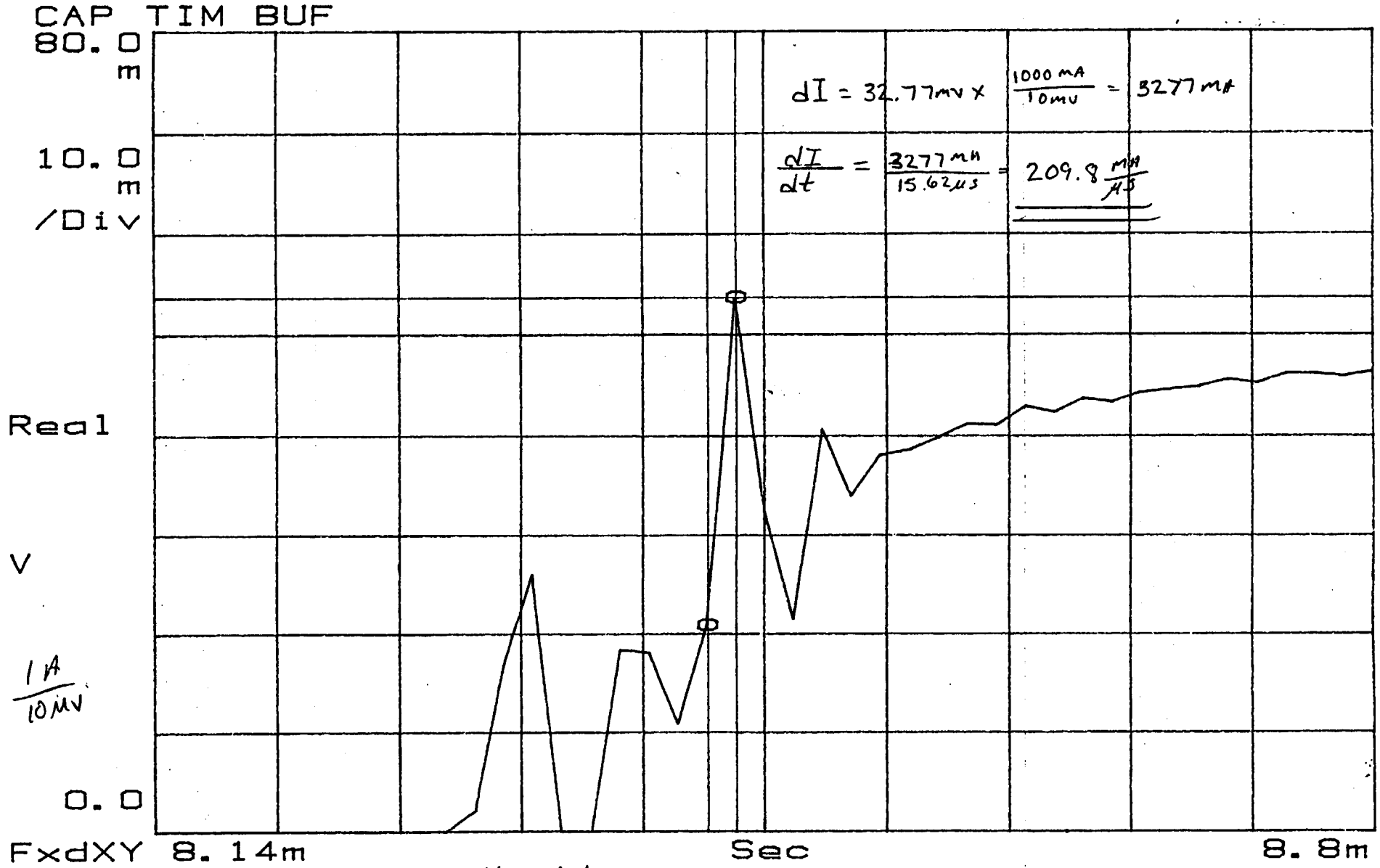
3.2.4.2.1.1

+28V MLB TURN ON TRANSIENT @ 28.56V

PN: 1331200-2-IT SN: 108

TEST ENG. (139/T) DATE: 11/17/99

X=8.453mS ΔX=15.62μS Y=0.0 ΔY=53.58mV
Ya=53.5946m ΔYa=32.77mV

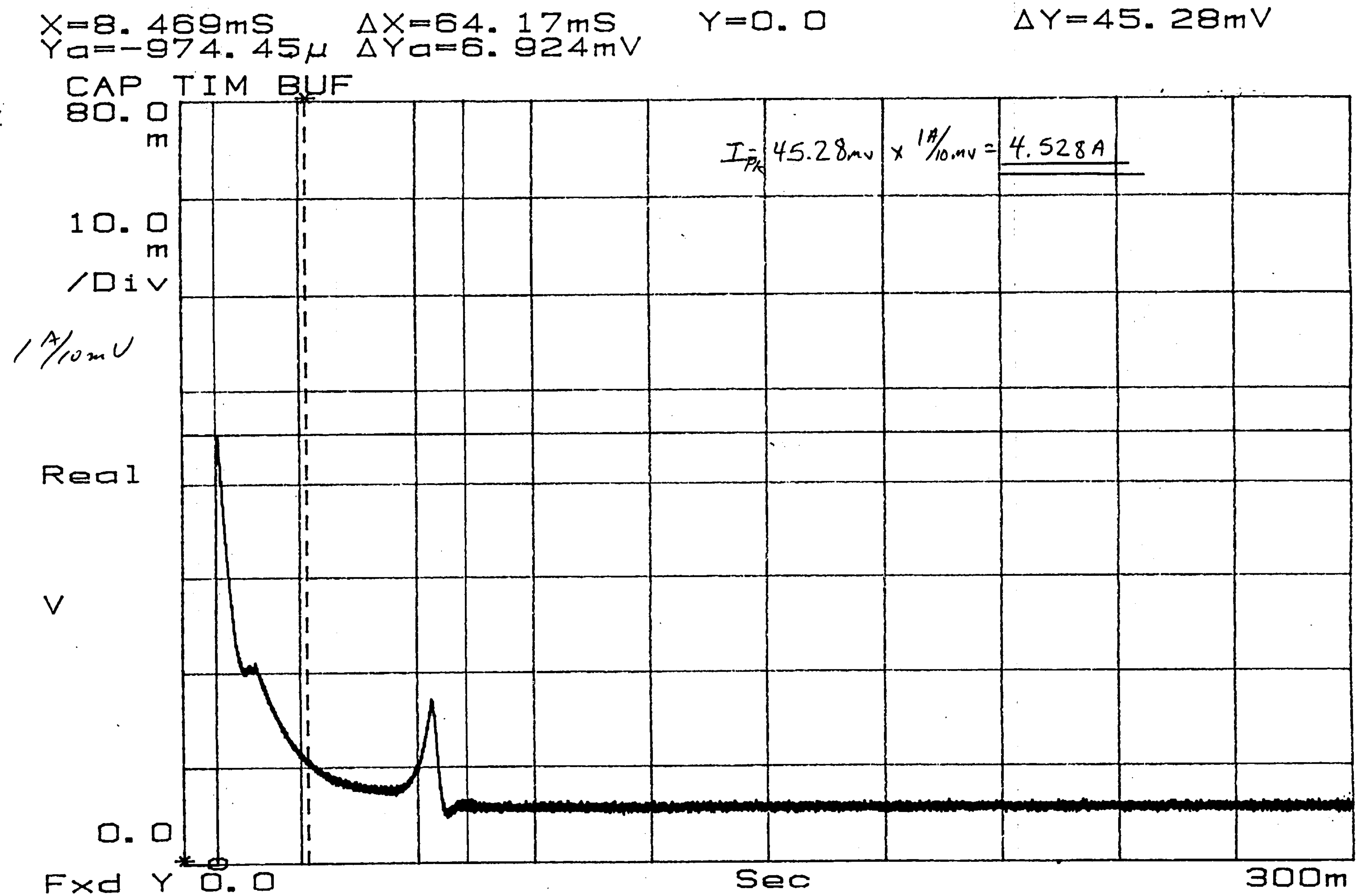


3.2.4.2.1.1

+28V MLB TURN ON TRANSIENT

PN: 1331200-?IT SN: 108 TEST ENG. DATE: 11/17/99

MLB 27.44V

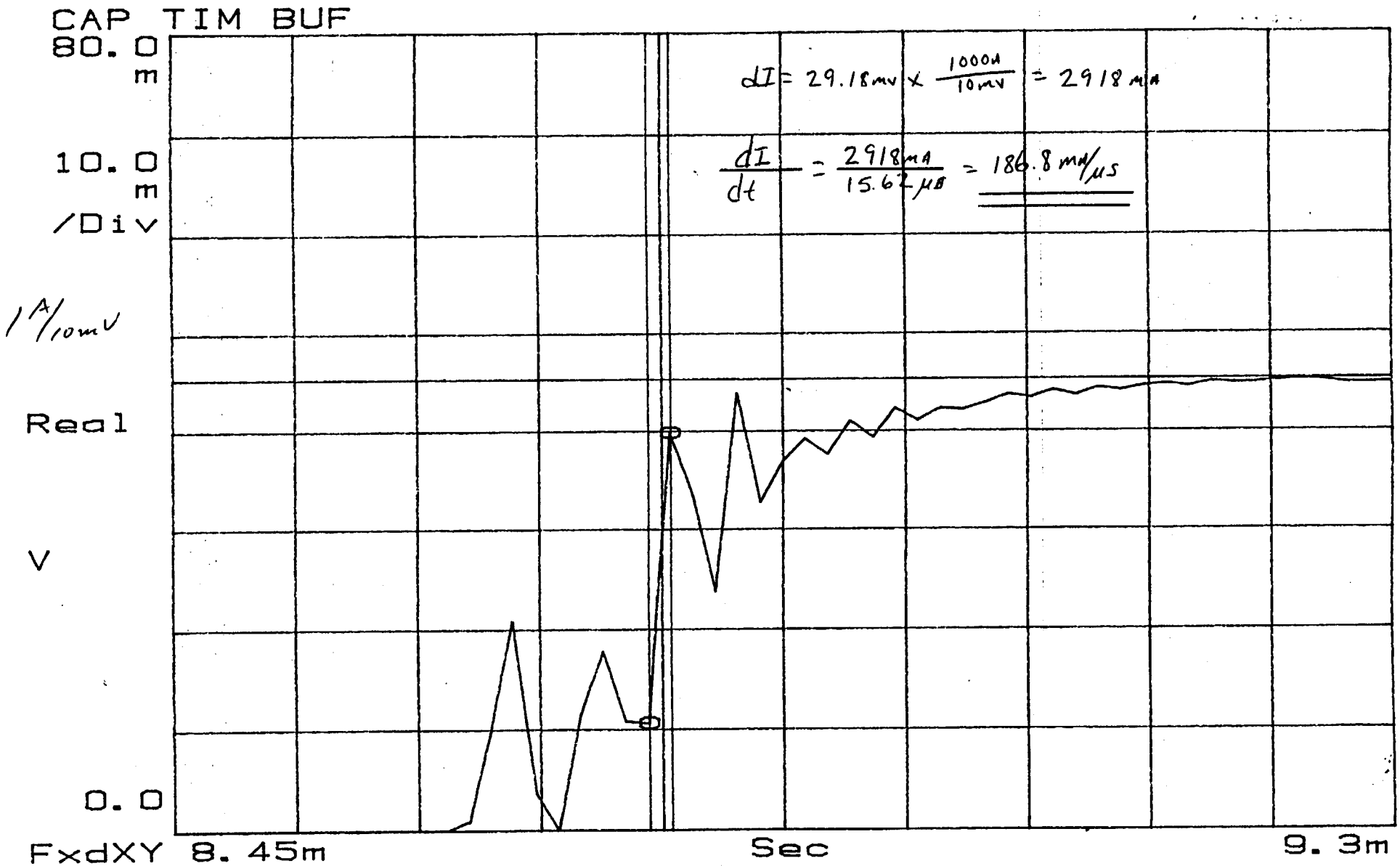


3.2.4.2.1.1
+28V MLB TURN ON TRANSIENT
@ 27.44V

PN: 1331200-2-IT SN: 108 (139/T) TEST ENG.______ DATE: 11-17-99

MLB 21.44

X=8.781mS ΔX=15.62µS Y=0.0 ΔY=45.28mV
Ya=10.6164m ΔYa=29.18mV



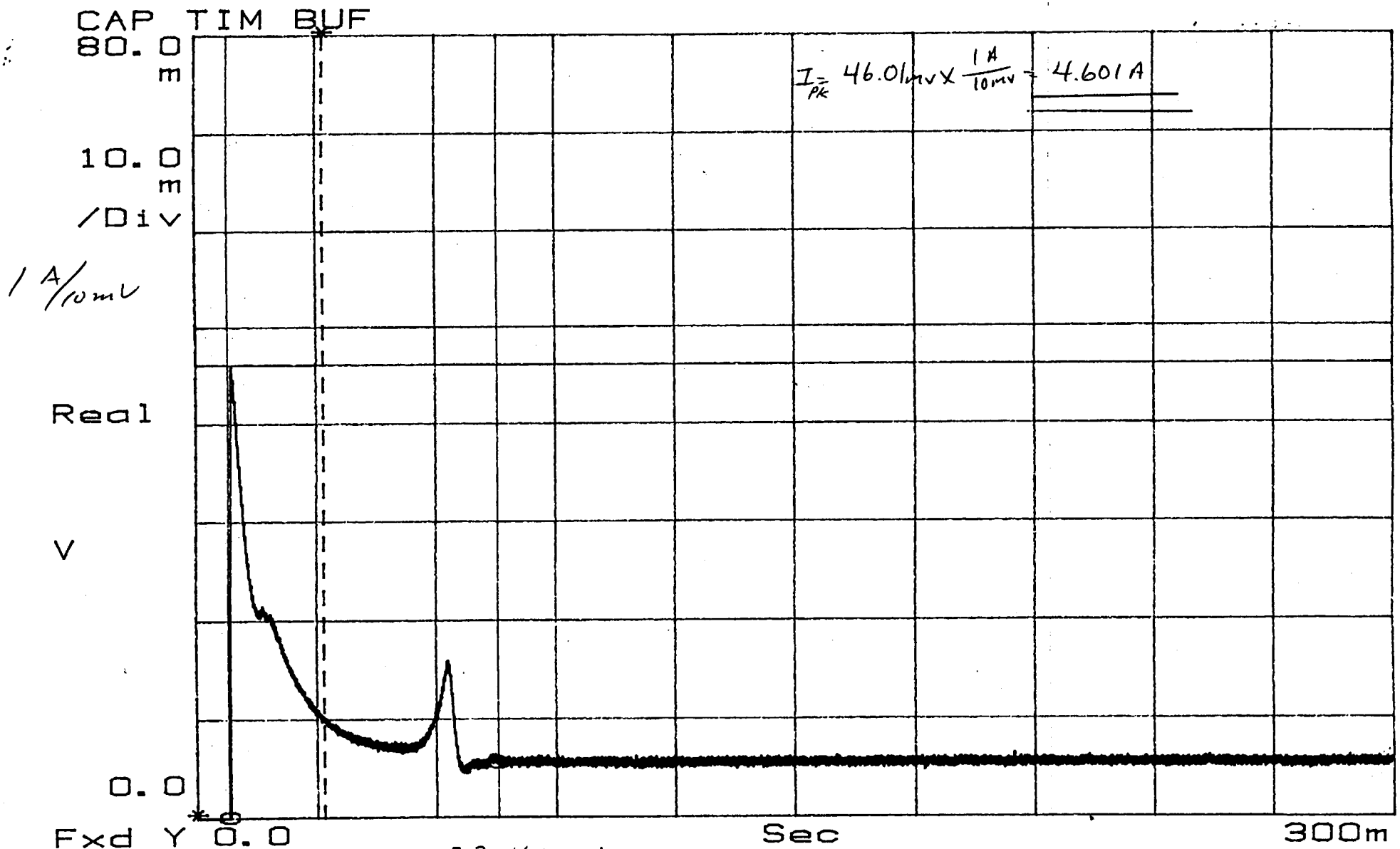
3.2.4.2.1.1

+28V MLB TURN ON TRANSIENT

PN: 133120 IT SN: 108

TEST ENG. 139/T DATE: 11/17/99

X=7.875mS ΔX=67.41mS Y=0.0 ΔY=46.01mV
Ya=-871.87μ ΔYa=6.411mV



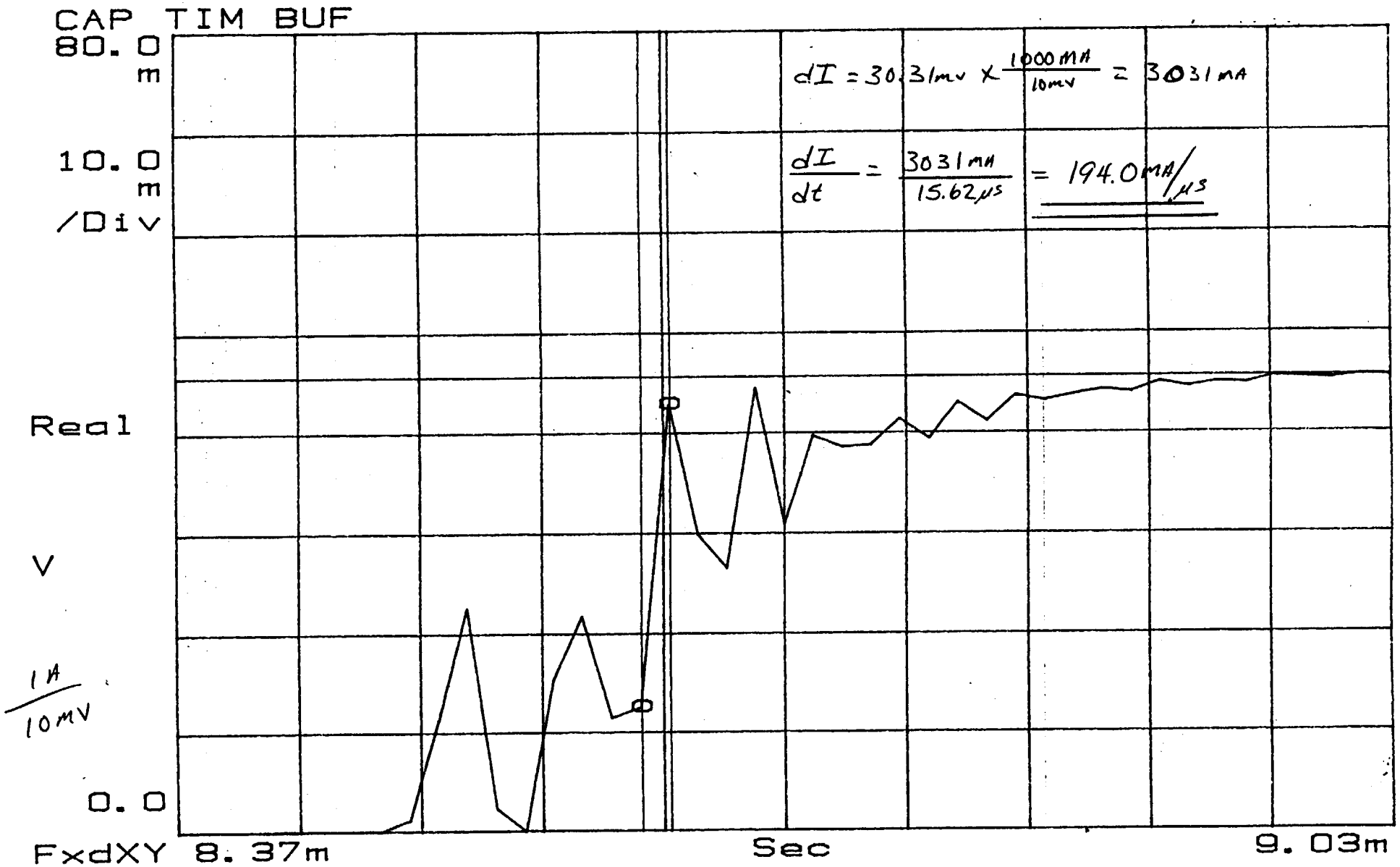
3.2.4.2.1.1
+28V MLB TURN ON TRANSIENT
@ 28.0V

PN: 1331200-2-IT SN: 108

TEST ENG. 139/T

DATE: 11/17/99

X=8.641mS ΔX=15.62μS Y=0.0 ΔY=45.58mV
Ya=42.8757m ΔYa=30.31mV



3.2.4.2.1.1

+28V MLB TURN ON TRANSIENT

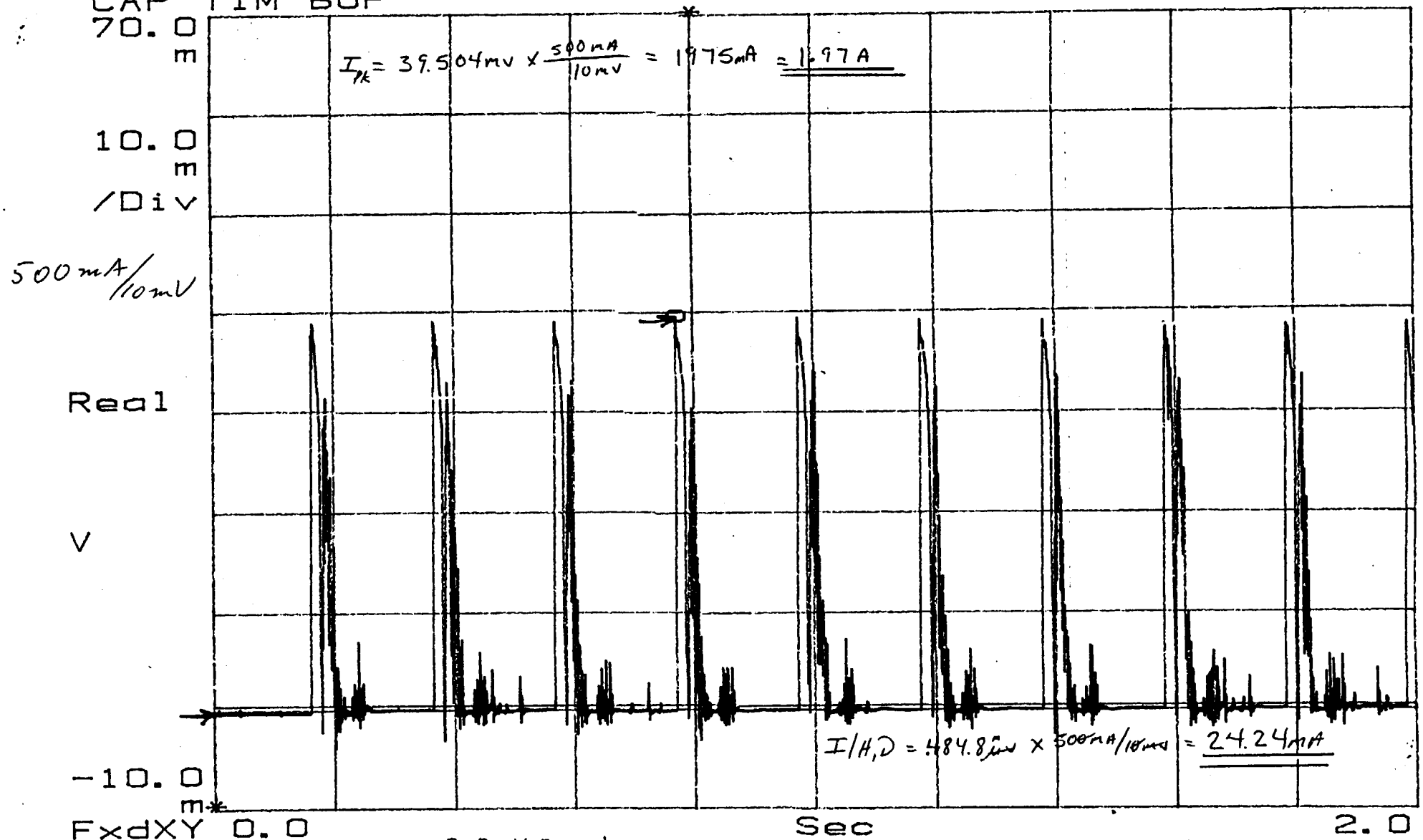
PN: 13312 IT SN: 108

TEST ENG 139/T

DATE: 11/17/99

X=771.87mSec
Ya=39.504mV

Y=-12.122μ ΔY=484.8μV



3.2.4.2.2.1

PLD during first two seconds

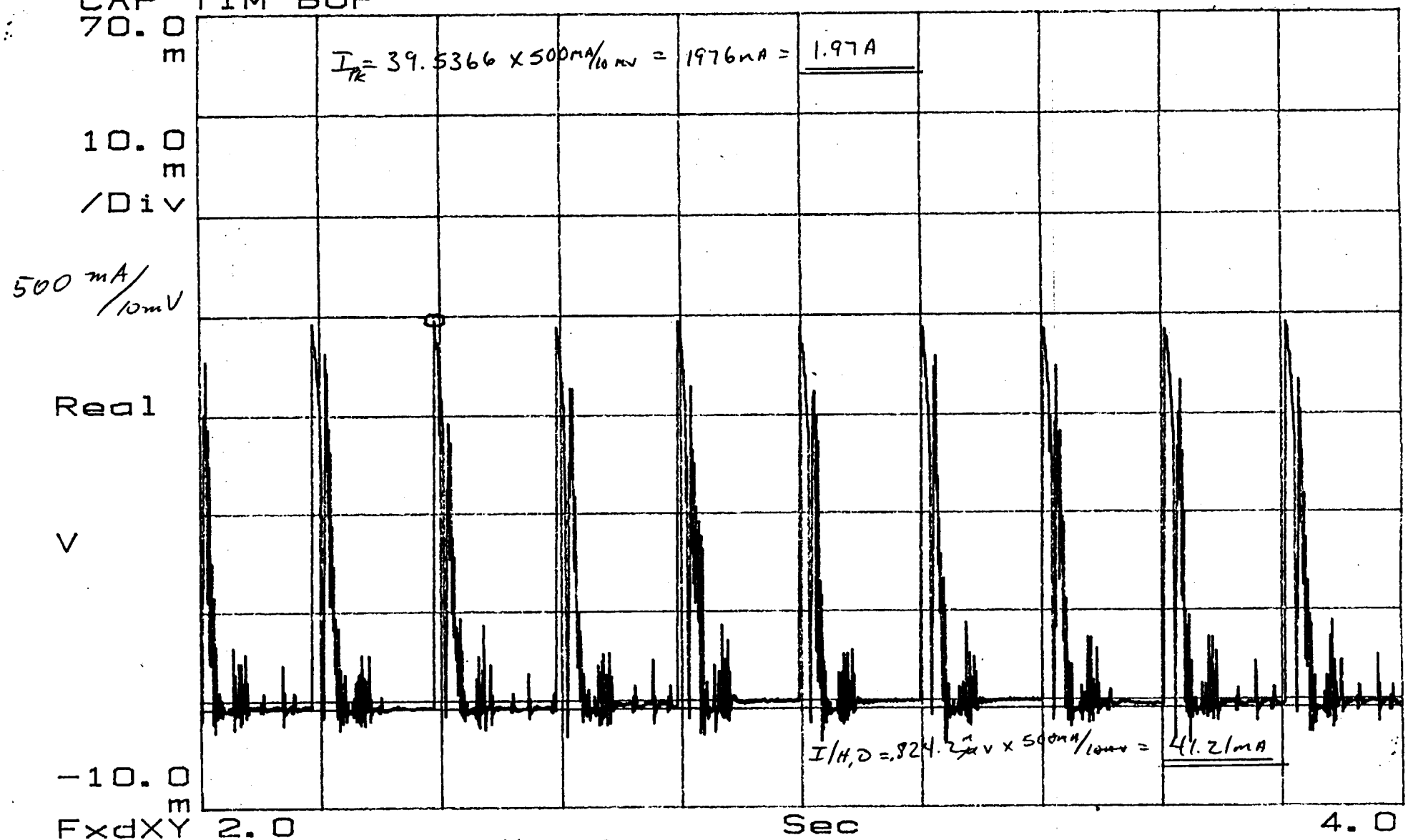
TDS 4

PN: 1331200-2-IT SN: 108

TEST ENG. 139/T DATE: 11/17/99

X=2.3918 Sec
Ya=39.5366mV

Y=-12.122μ ΔY=824.2μV



3.2.4.2.2.2

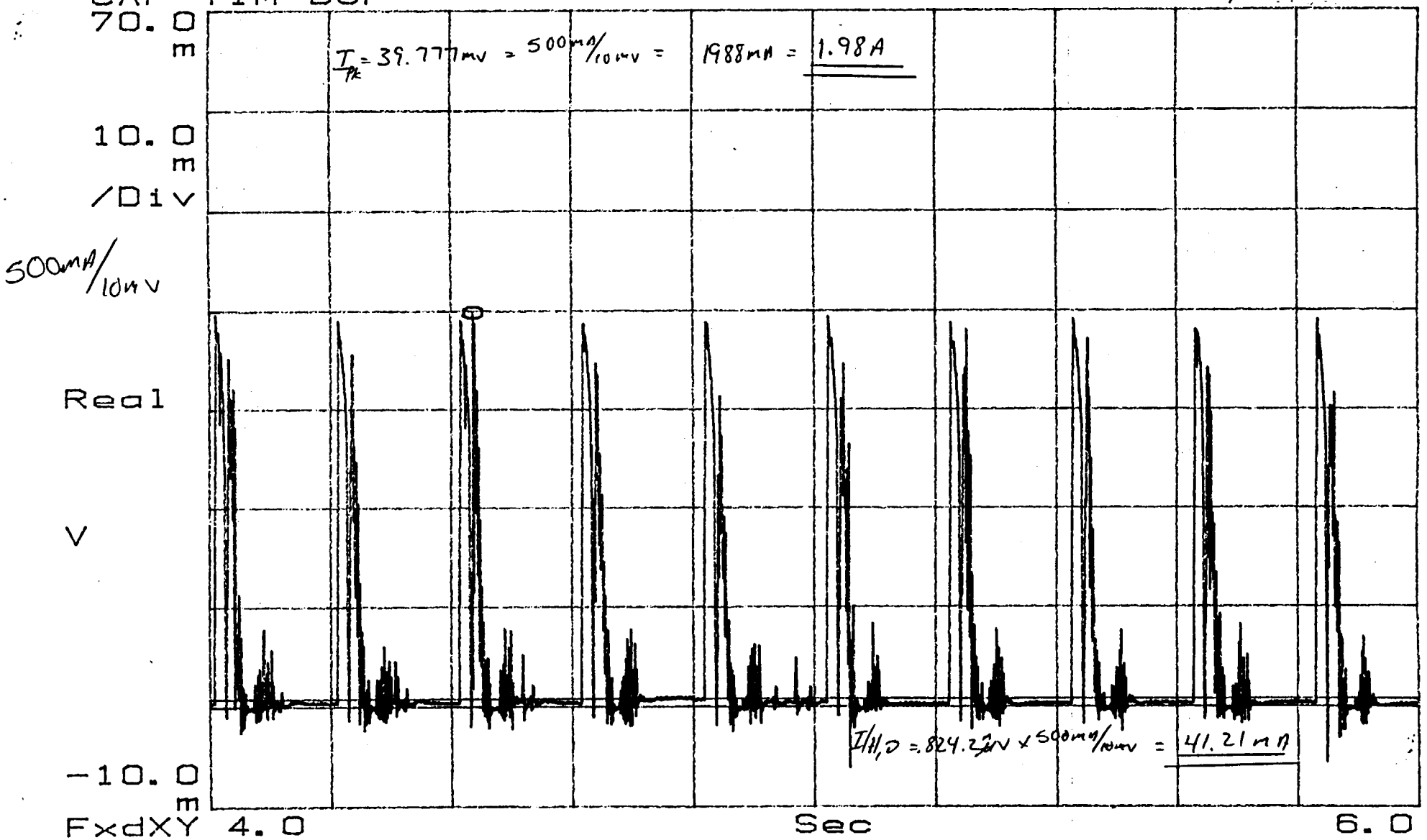
PLB measured from 2 to 4 seconds

PN: 1331200-1T SN: 108 TEST ENG: (139/T) DATE: 11/17/99

X=4.4375 Sec
Ya=39.777mV

Y=-12.122μ ΔY=824.2μV

CAP TIM BUF



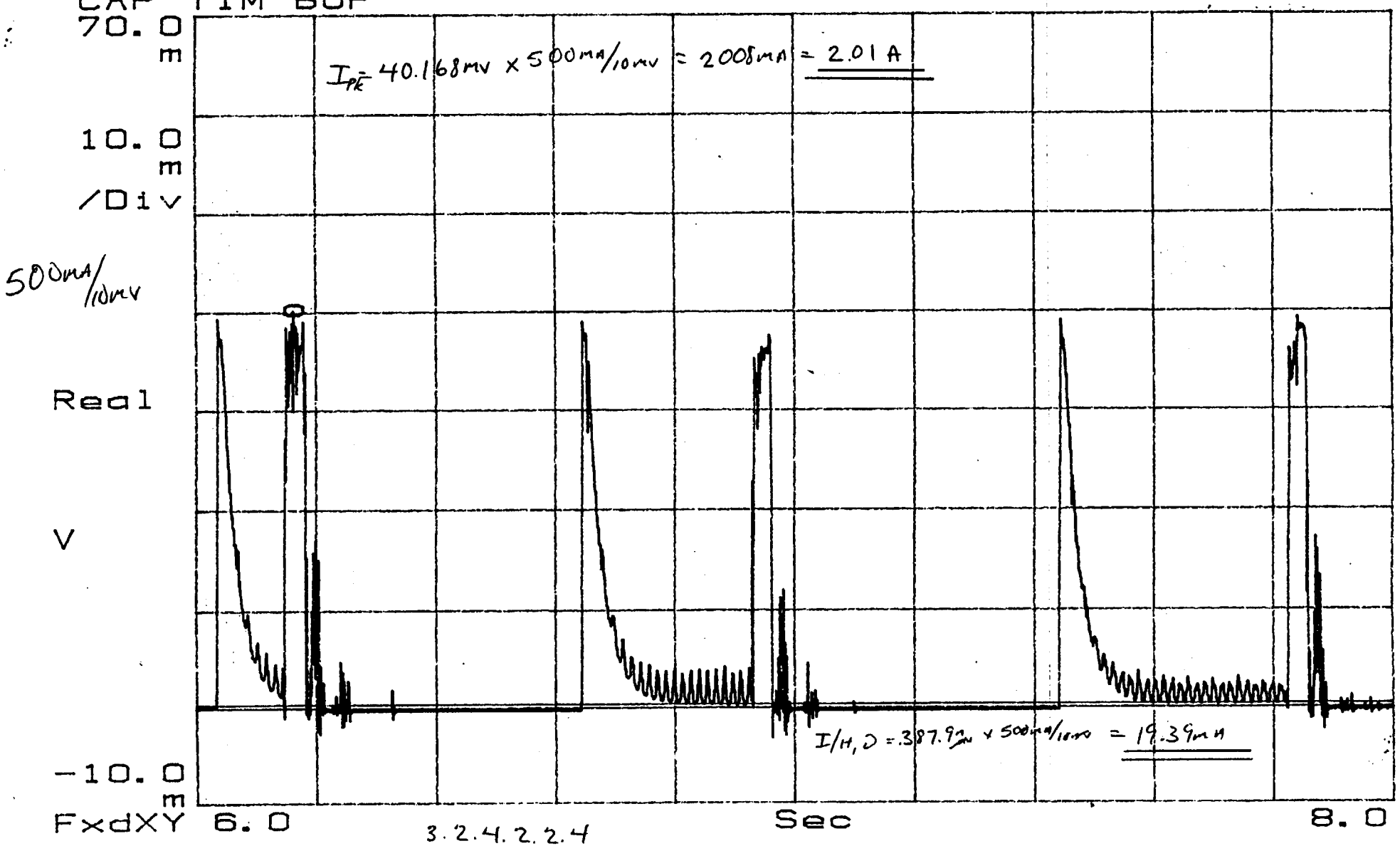
3.2.4.2.2.3

PLB measured from 4 to 6 seconds

PN: 1331200-2-IT SN: 108 TEST ENG. (139/T) DATE: 11/17/99

X=6.1648 Sec
Ya=40.168mV

Y=-12.122μ ΔY=387.9μV

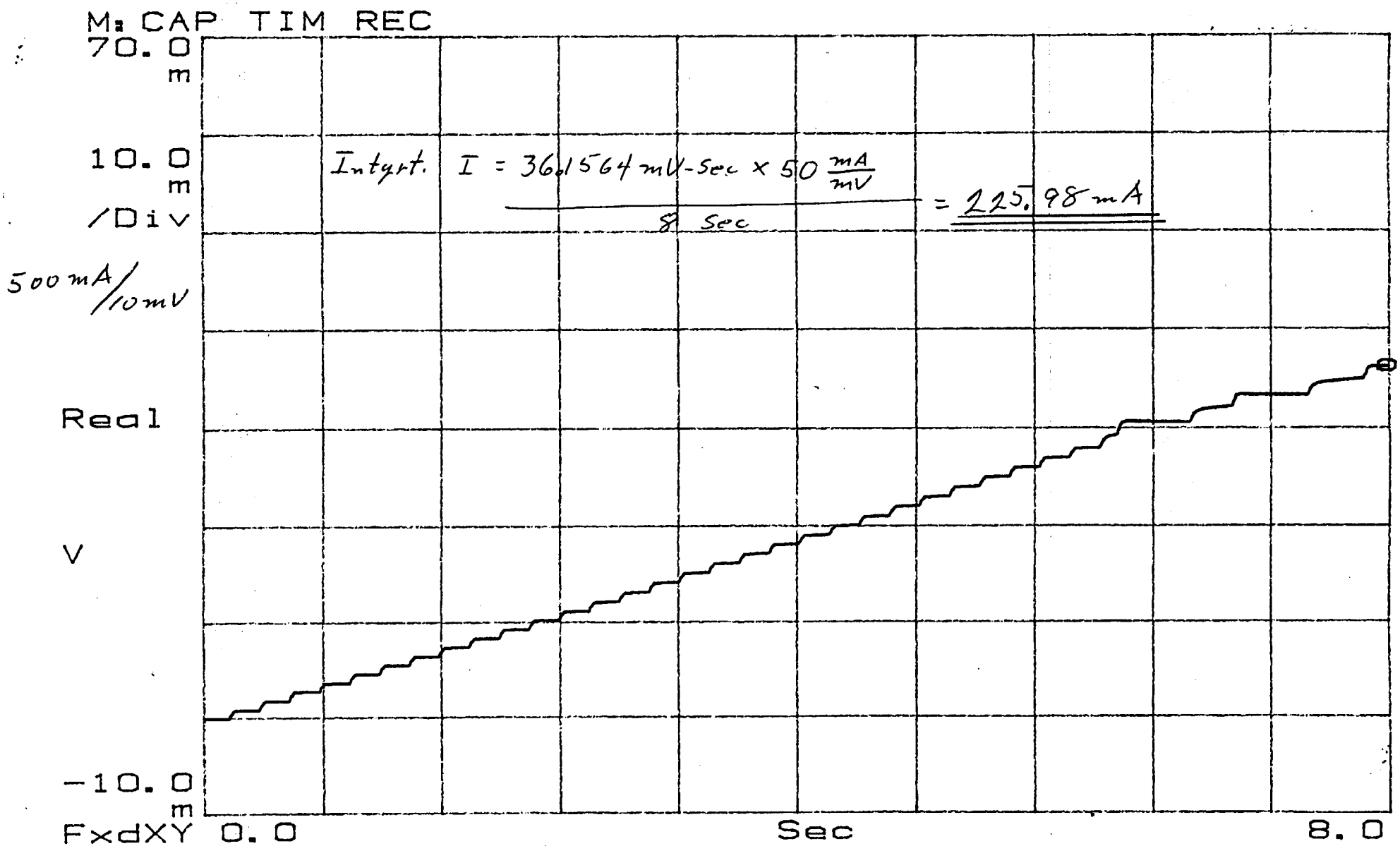


PLB measured from 6 to 8 seconds

PN: 1331200-[illegible]T SN: 108

TEST ENG. (24) (139/T) DATE: 11/17/99

X=7.9961 Sec
Ya=36.1564mV



3.2.4.2.2.5

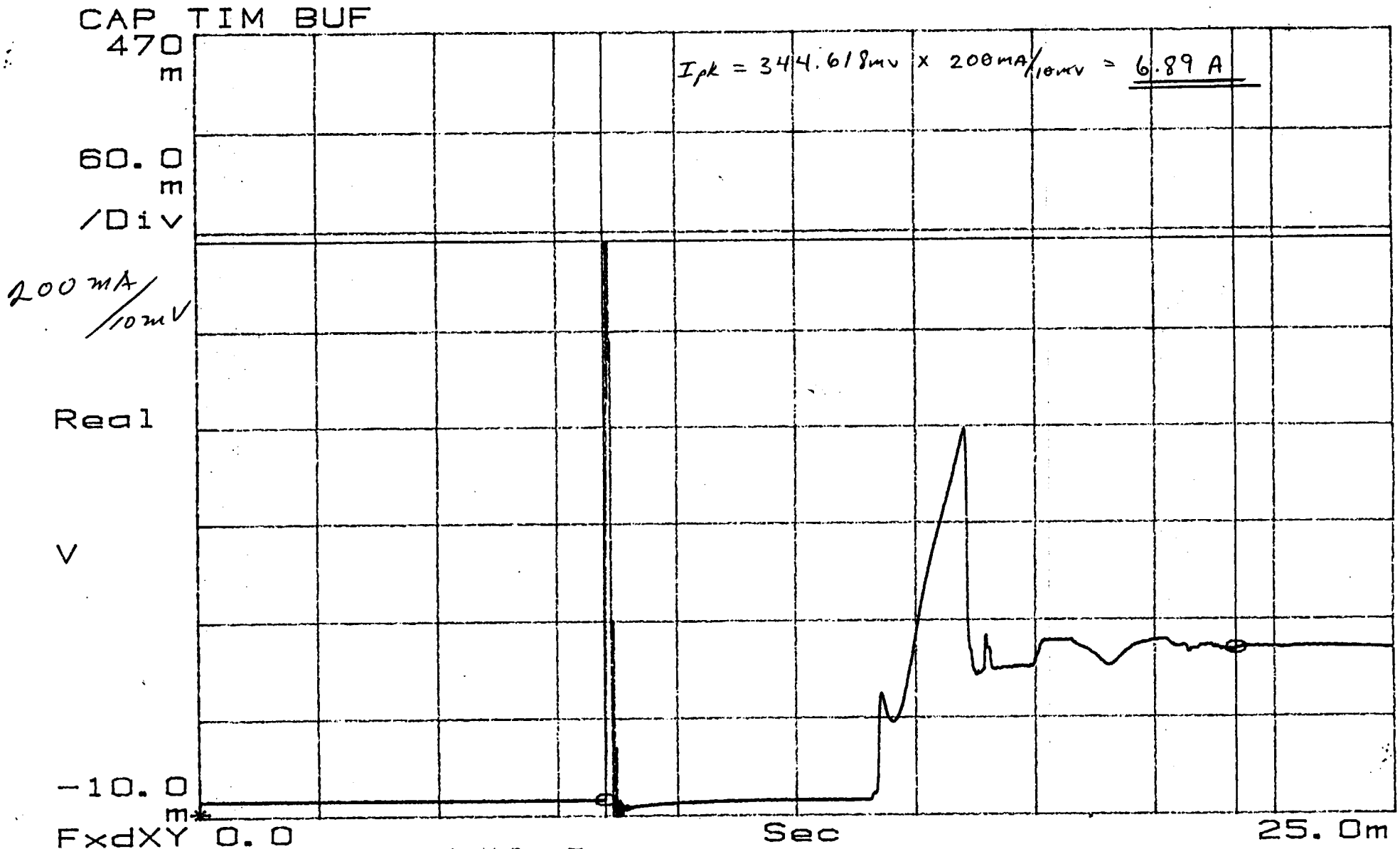
PLO 8 sec. Integrated Current Measurement

PN: 1331200-2-IT SN: 108

TEST ENG. (139/T) (SA)

DATE: 11/17/99

X=8.484mS ΔX=13.23mS Y=344.618mV
Ya=-51.287μ ΔYa=92.37mV



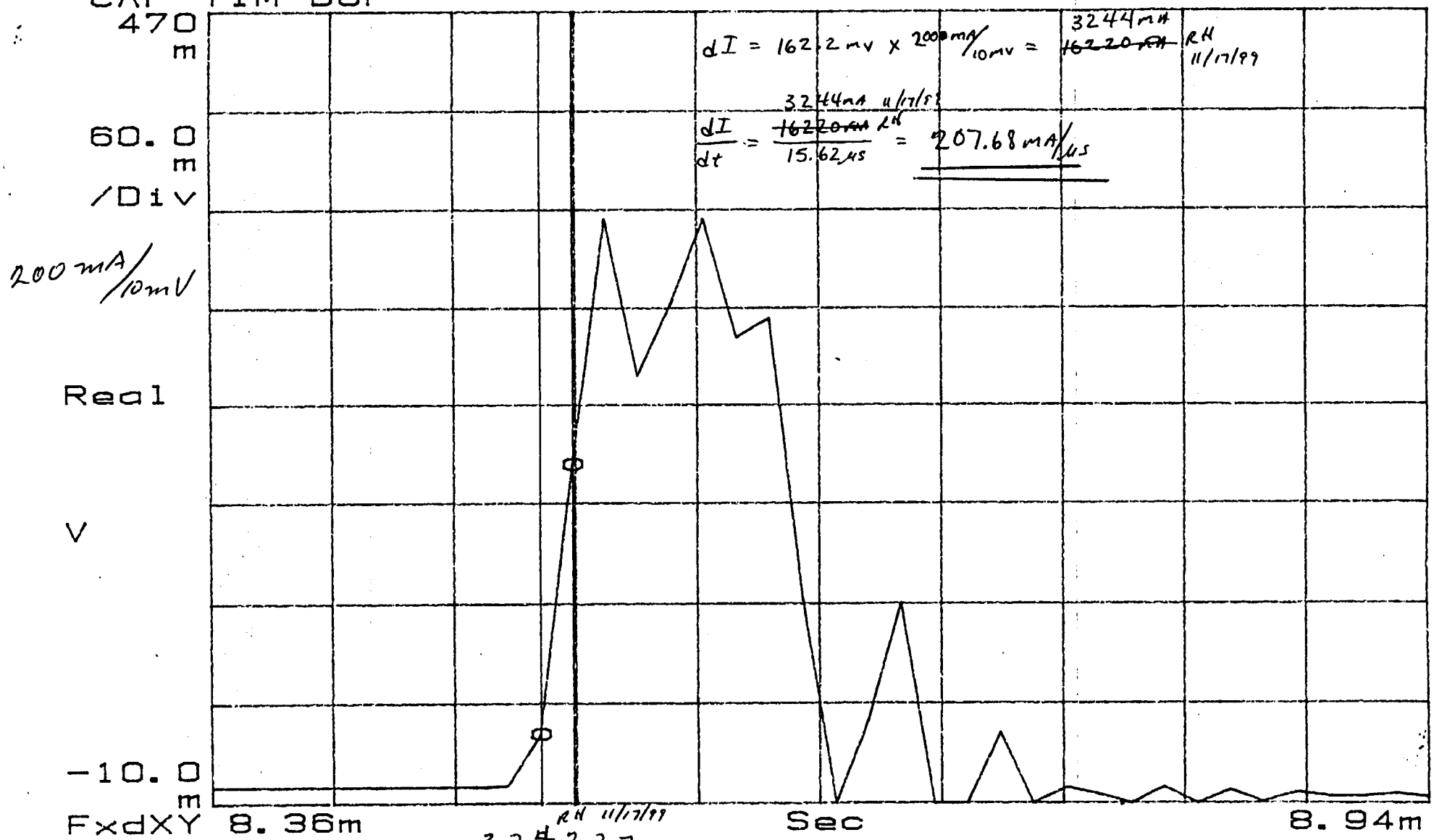
3.2.4.2.2.7

PLB TURN ON TRANSIENT

PN: 1331200-2 IT SN: 108

TEST ENG. 139/T DATE: 11/17/99

X=8.516mS ΔX=15.62µS
Ya=31.3362m ΔYa=162.2mV



RH 11/17/99

3.2.4.2.2.7

PLB TURN ON TRANSIENT

PN: 1331200-2-IT SN: 108

TEST ENG. 139/1

DATE: 11/17/99

TEST DATA SHEET 4
+28 Pulse Load Bus (Paragraph 3.2.4.2.2.1-3.2.4.2.2.7)

Peak current

Paragraph	Parameter	Measured or Calculated	Required	Pass/ Fail
3.2.4.2.2.1	From -0.1 to two seconds			
	Peak Current = I_p	1.97 Amps	2.2 amps max	P
3.2.4.2.2.2	From 2 to 4 seconds			
	Peak Current = I_p	1.97 Amps	2.2 amps max	P
3.2.4.2.2.3	From 4 to 6 seconds			
	Peak Current = I_p	1.98 Amps	2.2 amps max	P
3.2.4.2.2.4	From 6 to 8 seconds			
	Peak Current = I_p	2.01 Amps	2.2 amps max	P
3.2.4.2.2.5	Eight Sec. Integrated Current Measurement			
	Current	225.98 mA	none	P
3.2.4.2.2.7	Turn-on Transient:			
	Turn-on pulse width Peak Current = I_p dI/dT	13.23 ms 6.89 Amps 207 mA/µs	 ≤9.6 Amps 846 mA/µs *	P

* Refer to Figure 10.

Bus current during the I/H,D period

Paragraph	Parameter	Measured or Calculated	Pass/ Fail
3.2.4.2.2.1	From -0.1 to 2 seconds	24.24 mA	N/A
3.2.4.2.2.2	From 2 to 4 seconds	41.21 mA	N/A
3.2.4.2.2.3	From 4 to 6 seconds	41.21 mA	N/A
3.2.4.2.2.4	From 6 to 8 seconds	19.39 mA	N/A

Bus current during warm cal, cold cal, and nadir

Paragraph	Parameter	Measured	Pass/ Fail
3.2.4.2.2.6 (2)	Warm cal	11.17 mA	N/A
3.2.4.2.2.6 (3)	Cold cal	11.17 mA	N/A
3.2.4.2.2.6 (4)	Nadir	54.44 mA	N/A

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT

(139/T) 11/18/99
Test Systems Engineer Date

11-20-98
Customer Representative Date

(268) NOV 19 '99
Quality Control Date

(Flight Hardware Only)

TEST DATA SHEET 5

+28V Analog Telemetry Bus (Paragraph 3.2.4.2.3)

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
3	+28V ATB Bus Voltage (V_{at}) (Measured)	28.14 Volts	28.0 ±.5	P
3	Av. Current (I_a)	1.19 mA	7 mA max	P
4	+28V ATB Bus Power = I_a X V_{at}	33.61 mW	200 mW max	P

METSAT/~~AMSU-A2~~ System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: (1st CPT) Final CPT Sub CPT _____

R. [illegible] 11.20.99
Customer Representative Date
Date
(Flight Hardware Only)

D. Lugh 11/18/99
Test Systems Engineer Date

Quality Control

TEST DATA SHEET 6
+10V Interface Bus Voltage (Paragraph 3.2.4.2.4.1)

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
3	Av. Current (I_a)	8.57 mA	10 ma max	P
3	+10V Interface Bus (V_{ib}) (Measured)	9.46 Volts	9.0 ±1.0 V	P.
4	+10 Interface Bus Power = I_a X V_{ib}	81.07 mW	100 mW max	P

METSAT/~~AMSU-A2~~ System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

D Lind 11/18/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

IA 268 11-20-99
Quality Control

TEST DATA SHEET 7
1.248 MHz Clock Signal Verification (Paragraph 3.2.4.3.2.1)

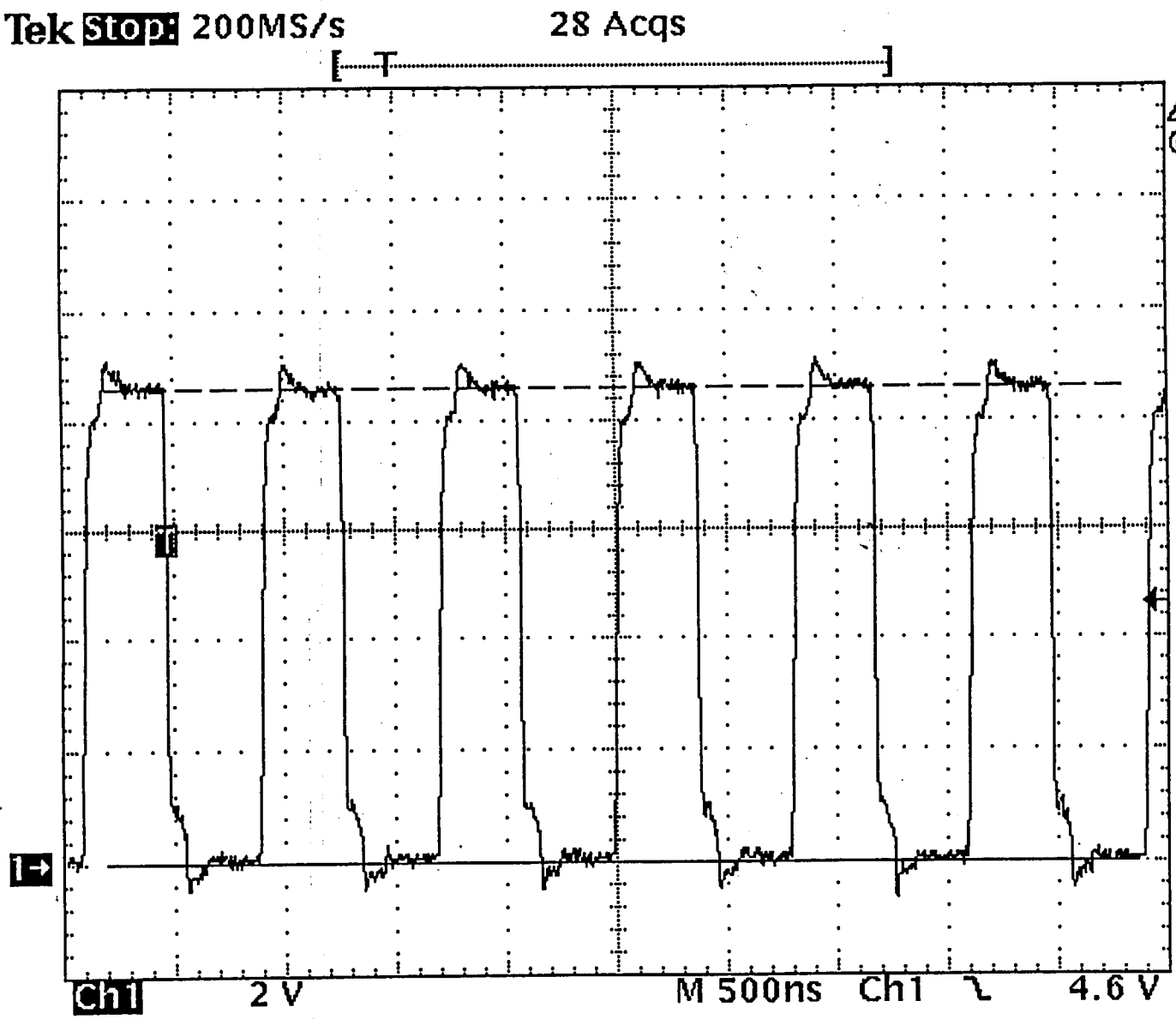
1.248 CLOCK SIGNAL
ATTACH PHOTOGRAPH OR PLOT HERE

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
5	Clock Frequency	1.248 MHz	1.248 ±10%	P
	Clock Amplitude	8.64 Volts	9.0 ±1.0V	P

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT ________

[signature] 11/19/99
Test Systems Engineer Date
[stamp] 11-18-99
Quality Control

[signature] 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)



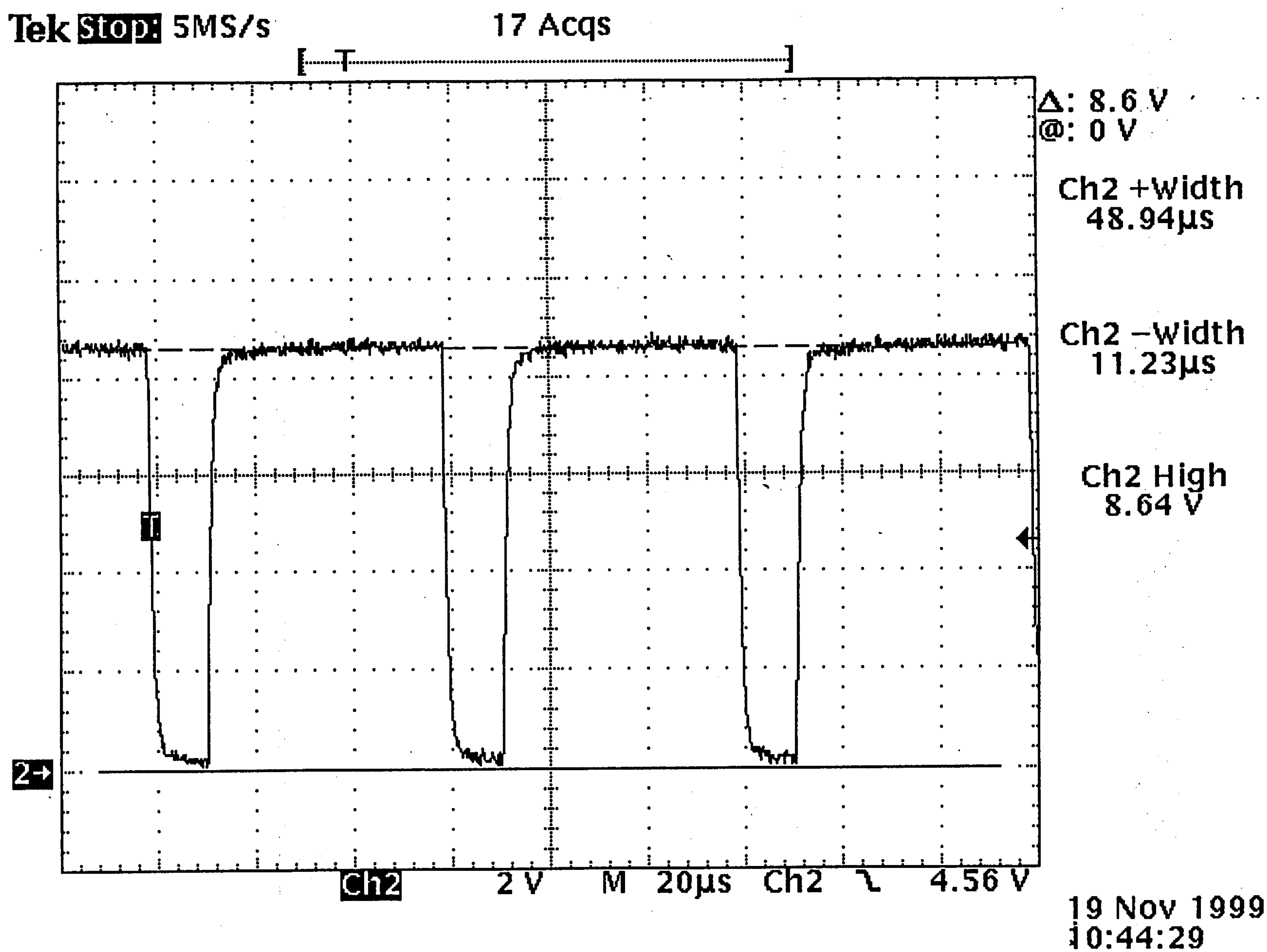
PN: 1331200-2-IT SN: 108

SO: 335168 (OP. 0750, 1ST CPT)

1.248 MHz Clock

TEST ENG. D Ford DATE: 11/19/99

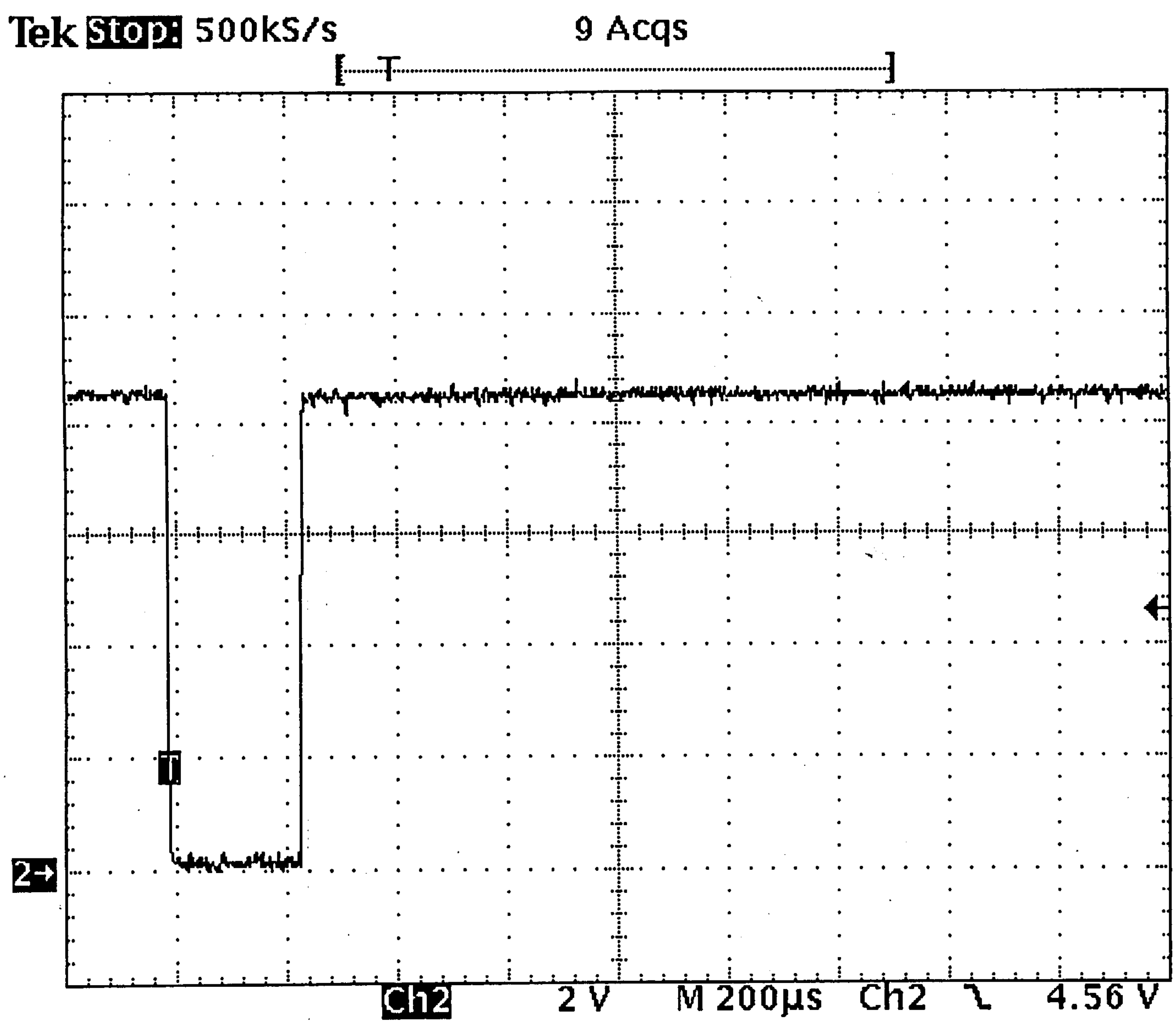
Quality: 892



PN: 1331200-2-IT SN: 108

C1 shift Pulse

TEST ENG [signature] DATE: 11/19/99



19 Nov 1999
12:46:54

PN: 1331200-2-IT SN: 108

8 Sec Frame Sync. Pulse

TEST ENG. D. Lud DATE: 11/19/99

TEST DATA SHEET 8
"C1" Shift Pulse Verification (Paragraph 3.2.4.3.2.2)

"C1" SHIFT PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured/ Calculated	Required	Pass/ Fail
Pulse Timing (A) *	48.94 µs	48 µs ± 10%	P
Pluse Timing (B) *	11.23 µs	12 µs ± 10%	P
Pulse Amplitude	8.64 Volts	9.0 ± 1.0V	P

* Refer to Figure 18 for location of the pulse timing A and B.

METSAT/AMSU ~~A2~~ System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

D. Lund 11/19/99
Test Systems Engineer Date

R. [illegible] 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

268 11.20.99
Quality Control

TEST DATA SHEET 9
"A1" Select Pulse Verification (Paragraph 3.2.4.3.2.3)

"A1" SELECT PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured/ Calculated	Required	Pass/ Fail
Select Pulse Timing (F) *	965 µs	961.5 µs± 10%	P
Select Pulse Amplitude	8.56 Volts	9.0 ±1.0V	P

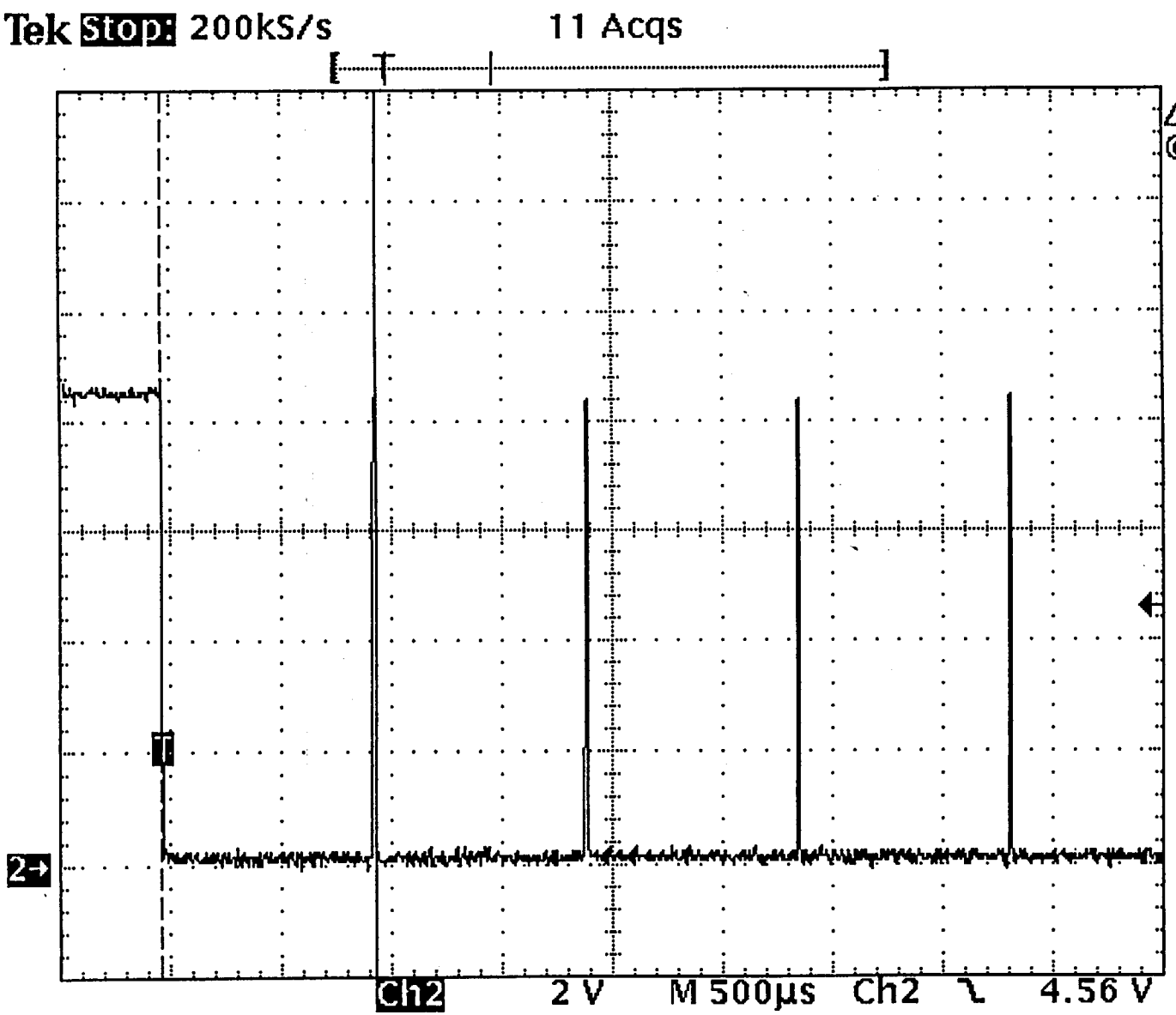
* Refer to Figure 18 for location of the pulse timing F

METSAT/AMSU ~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lud 11/19/99
Test Systems Engineer Date

R. Thomas 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

N/A 11-20-99
Quality Control



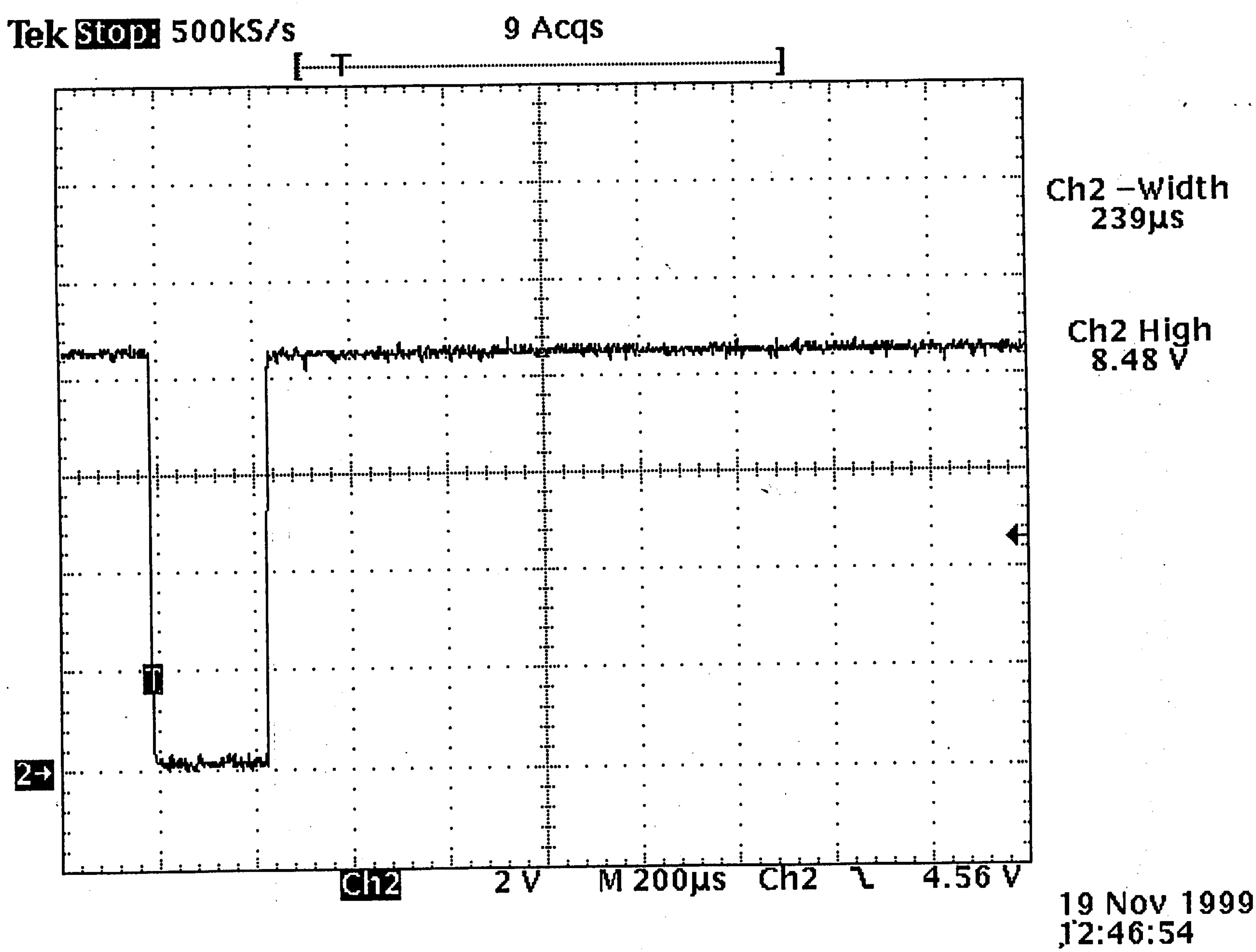
A1 Select Pulse

P 314313 TDS 9

PN: 1331200-2-IT SN: 108

TEST ENG. D Lund DATE: 11/19/99

Quality: (7A)



PN: 1331200-2-IT SN: 108

8 Sec Frame Sync. Pulse

TEST ENG. D. Lund DATE: 11/19/99

TEST DATA SHEET 10
"8 Seconds" Frame Sync Pulse (Paragraph 3.2.4.3.2.4)

"8 SECONDS" FRAME SYNC PULSE
ATTACH PHOTOGRAPH OR PLOT HERE

Step	Parameter	Measured/ Calculated	Required	Pass/ Fail
1*	Frame Sync Pulse Timing	8.000 Sec	8 Sec ±10%	P
	Frame Sync Pulse Timing (C)**	239 µs	240.4 µs ±10%	P
	Frame Sync Pulse Amplitude	8.48 Volts	9.0 ±1.0V	P

* Measure timing of 8-sec FSP by using HP 5316A Universal Counter.
** Refer to Figure 18 for location of the timing pulses for C.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lund 11/19/99
Test System Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

268
11-20-99
Quality Control

TEST DATA SHEET 11 (Sheet 1 of 2)
Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the 8 seconds Frame sync pulse.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between H and I is as shown in Figure 18.

TIME MEASURED: 13.74 mS

TIME REQUIRED: 13.7 ms ±10%

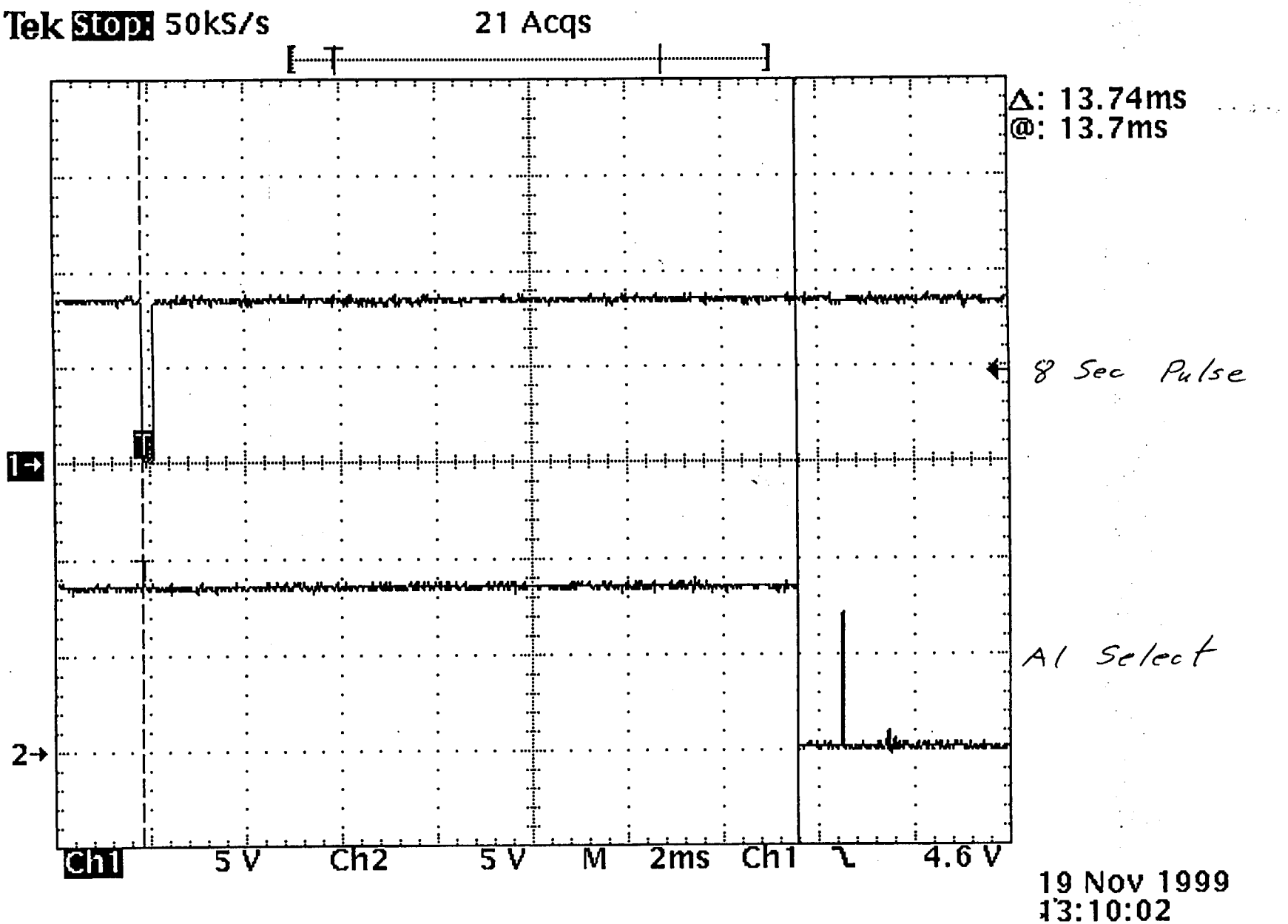
PASS/FAIL P

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335768 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

D Lund 11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

11-20-99
Quality Control
Date
(Flight Hardware Only)



A1 Select & 8 Sec Frame Sync.

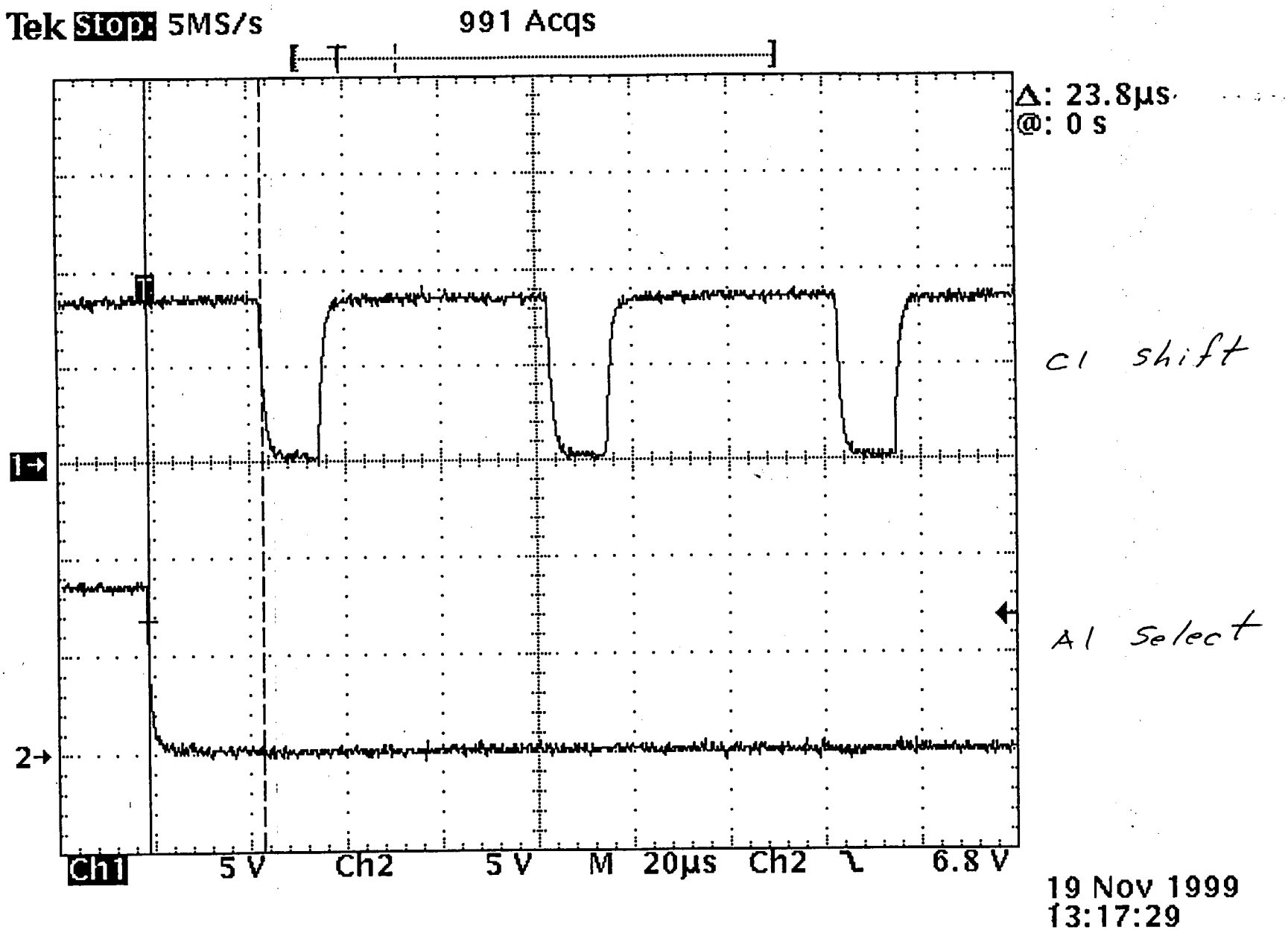
PN: 1331200-2-IT SN: 108

SO: 335168 (OP. 0750, 1ST CPT)

TP 3.2.4.3.2.5 TDS 11

TEST ENG. [signature] DATE: 11/19/99

Quality: [signature] (QA 269)



PN: 1331200-2-IT SN: 108

SO: 335168 (OP. 0750, 1ST CPT)

A1 Select & C1 Shift

IP 3.2.4.3.2.5 TDS 11

TEST ENG [signature] DATE: 11/19/99

Quality: [signature]

TEST DATA SHEET 11 (Sheet 2 of 2)
Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the C1 Shift pulse.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between I and E is as shown in Figure 18.

TIME MEASURED: 23.8 µS

TIME REQUIRED: 24 µs ±10%

PASS/FAIL P

METSAT/AMSU ~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

D Lund 11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

BSS VL 11-20-99
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 12

Synchronization Signals Relationship (Paragraph 3.2.4.3.2.5)

A1 Select pulse and the 1.248 MHz clock.

ATTACH PHOTOGRAPH OR PLOT HERE

Verify that the timing between I and J is as shown in Figure 18.

PASS/FAIL P

METSAT/AMSU ~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

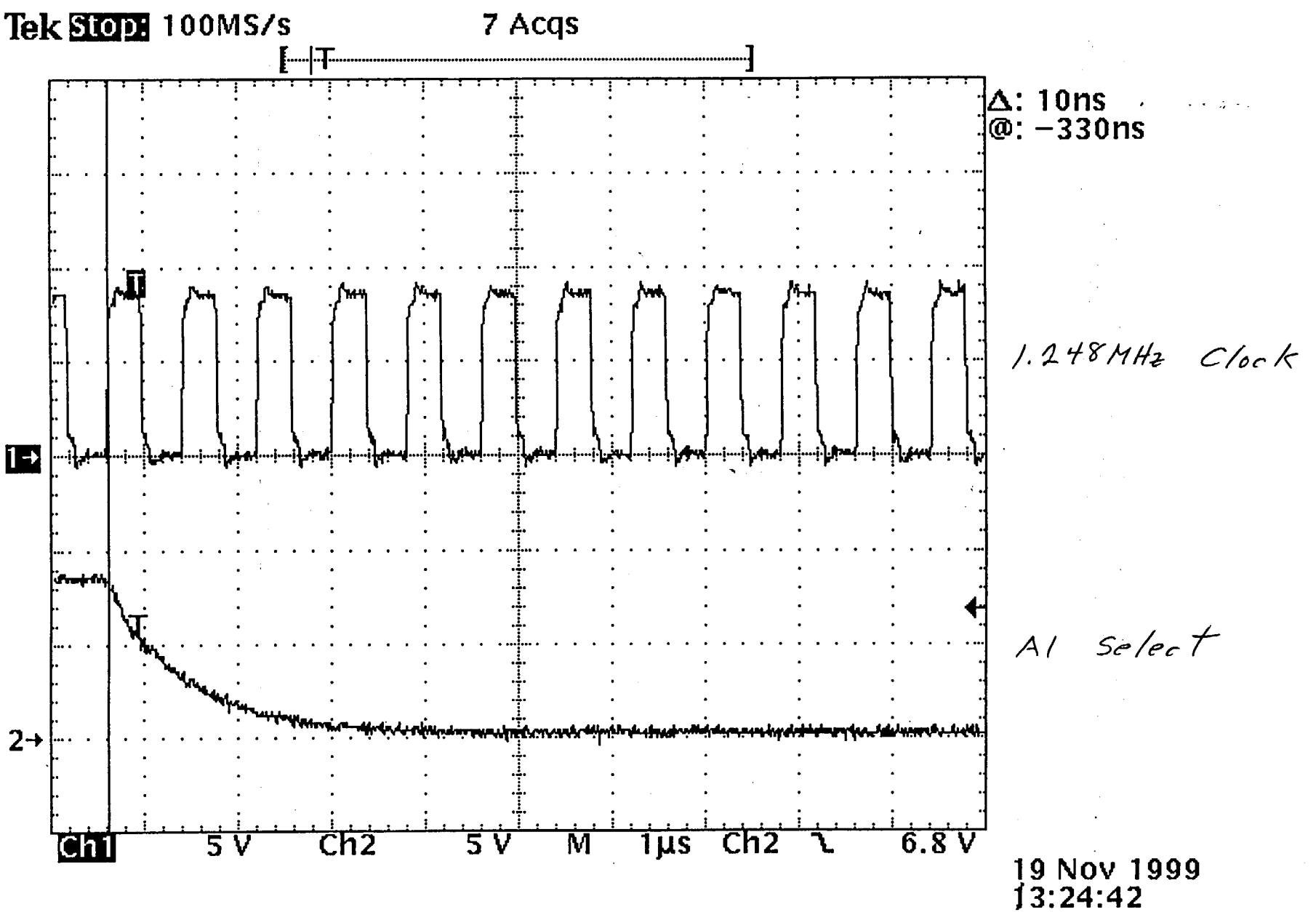
Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lund 11/19/99
Test System Engineer Date

11/20/99
Customer Representative Date

11-20-99
Quality Control

Date
(Flight Hardware Only)



PN: 1331200-2-IT SN: 108 A1 Select & 1.248 MHz Clock TEST ENG. D Lund DATE: 11/19/99

TEST DATA SHEET 13

Commands and Digital-B Telemetry Verification (Paragraphs 3.2.4.3.3.1, 3.2.4.3.3.2, and 3.2.4.3.3.3)

Test	Digital-B Commands Verification Via STE			Visual Inspection		Pass/Fail
	Command	Observed	Required	Observed	Required	
3.2.4.3.3.1 Module Totally Off	Scanner A2	OFF	OFF	To warm Load	Antenna pointing to warm load.	P
	Module Power	Disconnect	Disconnect	N/A	N/A	P
	Survival Htr. Power.	OFF	OFF	0	28V supply current=0	P
3.2.4.3.3.2 Survival Heater Power	Survival Heater ON	ON	ON	N/A	N/A	P
	Survival Heater OFF	OFF	OFF	N/A	N/A	P
3.2.4.3.3.3 Module Power Connect	Module Power	Connect	Connect	0.9 A	+28V DC current is between 0.5 and 3.2 amps.	P

METSAT/AMSU ~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lund 11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

11-22-99
Quality Control

TEST DATA SHEET 14
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 1)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power	Connect	CONNECT	P
	2 Survival Heater	OFF	OFF	P
	3 Scanner A2 Power	ON	ON	P
	4 Compensator Motor Power	ON	ON	P
	5 Antenna Warm Cal Pos.	NO	NO	P
	6 Antenna Cold Cal Pos.	NO	NO	P
	7 Antenna NADIR Position	NO	NO	P
	8 Antenna Full Scan	YES	YES	P
	9 Cold MSB	0	0	P
	10 Cold LSB	0	0	P

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT ________

Test Systems Engineer: [signature] Date: 11/19/99

Customer Representative: [signature] Date: 11-20-99
Date
(Flight Hardware Only)

Quality Control: [stamp QA 268] 11-20-99

TEST DATA SHEET 15

Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 2)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power	Connect	CONNECT	P
	2 Survival Heater	OFF	OFF	P
	3 Scanner A2 Power	OFF	OFF	P
	4 Compensator Motor Power	OFF	OFF	P
	5 Antenna Warm Cal Pos.	NO	NO	P
	6 Antenna Cold Cal Pos.	NO	NO	P
	7 Antenna NADIR Position	NO	NO	P
	8 Antenna Full Scan	Yes	YES	P
	9 Cold MSB	0	0	P
	10 Cold LSB	0	0	P

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

11-20-99
Quality Control

Date
(Flight Hardware Only)

TEST DATA SHEET 16

Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 3)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power	Connect	CONNECT	P
	2 Survival Heater	OFF	OFF	P
	3 Scanner A2 Power	ON	ON	P
	4 Compensator Motor Power	ON	ON	P
	5 Antenna Warm Cal Pos.	NO	NO	P
	6 Antenna Cold Cal Pos.	NO	NO	P
	7 Antenna NADIR Position	NO	NO	P
	8 Antenna Full Scan	Yes	YES	P
	9 Cold MSB	0	0	P
	10 Cold LSB	0	0	P

METSAT/AMSU-A2 ~~System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

11-20-99
Quality Control

TEST DATA SHEET 17
Scanner Positions Commands (Paragraph 3.2.4.3.3.5)

Test	Digital "B" Verification				Pass/Fail
	Step/Description		Observed	Required	
Scanner Position Commands	1-Warm Cal.		Yes	YES	P
	3-Cold Cal. Pos.	MSB	0	0	P
		LSB	1	1	P
	5-Cold Cal. Pos.	MSB	1	1	P
		LSB	0	0	P
	7-Cold Cal. Pos.	MSB	1	1	P
		LSB	1	1	P
	9-Cold Cal. Pos.	MSB	0	0	P
		LSB	0	0	P
	11-NADIR		Yes	YES	P
	13-Warm Cal		Yes	YES	P

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

11/19/99
Test Systems Engineer Date

11-20-99
Quality Control

TEST DATA SHEET 18

Digital-A Data Output Full Scan Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.1)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1	255	255	P
	0002	Sync Sequence Byte 2	255	255	P
	0003	Sync Sequence Byte 3	255	255	P
[II]	0004	Unit I.D. and Serial N	30	*	P
[III]	0005	Digital B Data Byte 1	2	2	P
	0006	Digital B Data Byte 2	6	6	P
	0007	Digital B Data Byte 3	0	0	P
	0008	Digital B Data Byte 4	0	0	P

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

1A 268
11-20-99
Quality Control Date

(Flight Hardware Only)

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      19-NOV-99  13:58:52  SCAN NUMBER  1972
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

[ 10 ] SURVIVAL HEATER POWER =     OFF    ANTENNA IN NADIR POSITION = NO   [ 16 ]

[ 11 ] MODULE TOTALLY OFF =         ON    ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

[ 12 ] SCANNER A2 POWER =           ON    COLD CAL POSITION MSB =    ZERO  [ 18 ]

[ 13 ] COMPENSATOR MOTOR POWER =    ON    COLD CAL POSITION LSB =    ZERO  [ 19 ]

[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

Digital A Data - Full Scan
Full Scan Mode
IP 3.2.4.3.4.1 TDS 18

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. D Lord DATE: 11/19/99
Quality: 898

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3531
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17 CH	1	16243
4	UNIT ID AND SERIAL NO		00011110	144	CH	2	16531
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18 CH	1	16245
8	DIGITAL B DATA BYTE 4		00000000	152	CH	2	16525
10	REFLECTOR POSITION 1		5967	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5967	156	REFL POS 19 2ND LOOK		3235
14	SCENE DATA BP 1 CH	1	16242	158	SCENE DATA BP 19 CH	1	16239
16	CH	2	16530	160	CH	2	16528
18	REFLECTOR POSITION 2		5809	162	REFLECTOR POSITION 20		3077
20	REFL POS 2 2ND LOOK		5813	164	REFL POS 20 2ND LOOK		3083
22	SCENE DATA BP 2 CH	1	16240	166	SCENE DATA BP 20 CH	1	16244
24	CH	2	16522	168	CH	2	16524
26	REFLECTOR POSITION 3		5656	170	REFLECTOR POSITION 21		2926
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3 CH	1	16244	174	SCENE DATA BP 21 CH	1	16247
32	CH	2	16525	176	CH	2	16531
34	REFLECTOR POSITION 4		5507	178	REFLECTOR POSITION 22		2773
36	REFL POS 4 2ND LOOK		5511	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4 CH	1	16251	182	SCENE DATA BP 22 CH	1	16242
40	CH	2	16529	184	CH	2	16523
42	REFLECTOR POSITION 5		5355	186	REFLECTOR POSITION 23		2622
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5 CH	1	16241	190	SCENE DATA BP 23 CH	1	16244
48	CH	2	16525	192	CH	2	16523
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6 CH	1	16246	198	SCENE DATA BP 24 CH	1	16242
56	CH	2	16523	200	CH	2	16522
58	REFLECTOR POSITION 7		5052	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5055	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7 CH	1	16240	206	SCENE DATA BP 25 CH	1	16243
64	CH	2	16526	208	CH	2	16524
66	REFLECTOR POSITION 8		4898	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4903	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8 CH	1	16245	214	SCENE DATA BP 26 CH	1	16238
72	CH	2	16527	216	CH	2	16528
74	REFLECTOR POSITION 9		4747	218	REFLECTOR POSITION 27		2015
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9 CH	1	16244	222	SCENE DATA BP 27 CH	1	16248
80	CH	2	16528	224	CH	2	16527
82	REFLECTOR POSITION 10		4595	226	REFLECTOR POSITION 28		1864
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10 CH	1	16243	230	SCENE DATA BP 28 CH	1	16243
88	CH	2	16527	232	CH	2	16531
90	REFLECTOR POSITION 11		4444	234	REFLECTOR POSITION 29		1713
92	REFL POS 11 2ND LOOK		4449	236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16247
96		CH	2	16524
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16244
104		CH	2	16531
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16243
112		CH	2	16526
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16246
120		CH	2	16527
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16245
128		CH	2	16534
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16247
136		CH	2	16542

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16243
240		CH	2	16530
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16241
248		CH	2	16523
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16244
256		CH	2	16533
258	COLD CAL DATA 2	CH	1	16251
260		CH	2	16539
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16228
308		CH	2	16517
310	WARM CAL DATA 2	CH	1	16225
312		CH	2	16518

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	17869	22.49
264	FEED HORN	17886	22.81
266	RF MUX	17971	24.03
268	MIXER/IF AMPLIFIER CHANNEL 1	19023	24.74
270	MIXER/IF AMPLIFIER CHANNEL 2	19053	24.89
272	LOCAL OSCILLATOR CHANNEL 1	18664	24.44
274	LOCAL OSCILLATOR CHANNEL 2	19096	25.68
276	COMPENSATION MOTOR	17616	23.32
278	SUB REFLECTOR	17913	22.87
280	DC/DC CONVERTER	20040	26.90
282	RF SHELF	18499	23.73
284	DETECTOR/PREAMP ASSEMBLY	18421	23.94
286	WARM LOAD CENTER	22844	22.71
288	WARM LOAD 1	22862	22.72
290	WARM LOAD 2	22831	22.74
292	WARM LOAD 3	22926	22.78
294	WARM LOAD 4	23025	22.77
296	WARM LOAD 5	23085	22.82
298	WARM LOAD 6	22804	22.73
300	TEMP SENSOR REFERENCE VOLTAGE	25116	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	OFF	OFF	OFF
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	103	96.00	106	98.79	104	96.93
COMPENSATOR MOTOR CURRENT (AVERAGE)	105	97.86	108	100.66	106	98.79
SIGNAL PROCESSING +15 VDC	168	14.50	168	14.50	168	14.50
ANTENNA DRIVE +15 VDC	176	15.19	178	15.36	176	15.19
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	146	-15.25
ANTENNA DRIVE -15 VDC	152	-14.95	154	-14.85	153	-14.90
RECEIVER +10 VDC	169	9.76	169	9.76	169	9.76
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	144	4.80	144	4.80	144	4.80
ANTENNA DRIVE +5 VDC	150	5.00	152	5.07	151	5.03
GUNN DIODE OSC #1 (CHANNEL 1) VDC	171	9.78	171	9.78	171	9.78
GUNN DIODE OSC #2 (CHANNEL 2) VDC	170	9.73	170	9.73	170	9.73

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

TEST DATA SHEET 19

Reflector Positions Section [IV] (Paragraph 3.2.4.3.4.1)

BP	A2 Reflector		
	Position*	Required**	Pass/Fail
01	Refer to Print out	Refer to Beam Pointing Position Sheet	P
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CC			
WC			P

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required position data from TDS 6 of AE-26002/2 ±5 counts.

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: (1st CPT) Final CPT Sub CPT ________

[signature] 11/19/99
Test Systems Engineer Date

[signature] 11-20-99
Customer Representative Date
(Flight Hardware Only)

QA 268 11-22-99
Quality Control

TEST DATA SHEET 20

Digital-A Data Output Radiometer Data Section [V] (Paragraph 3.2.4.3.4.1)

BP	Channel-1 (23.8 GHz)			Channel-2 (31.4 GHz)		
	Measured*	Required**	Pass/Fail	Measured*	Required**	Pass/Fail
01			P			P
02						
03						
04						
05						
06						
07						
08						
09						
10	Out			Out		
11						
12						
13						
14	Print			Print		
15						
16						
17						
18						
19						
20	to	below		to	See	
21						
22						
23						
24	Refer	See		Refer		
25						
26						
27						
28						
29						
30						
CC						
WC			P			P

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

11-20-99
Customer Representative Date

Date
(Flight Hardware Only)

11/19/99
Test Systems Engineer Date

11-20-99
Quality Control

AMSU A2-30 a2.EXE FULL SCAN MODE 19-NOV-99 14:30:52 SCAN NUMBER 2004
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	5967	5967	9	4746	4752	17	3533	3538	25	2320	2325
2	5810	5814	10	4596	4601	18	3380	3387	26	2168	2174
3	5657	5662	11	4443	4449	19	3229	3235	27	2016	2022
4	5507	5511	12	4292	4297	20	3077	3083	28	1865	1870
5	5354	5359	13	4141	4146	21	2926	2932	29	1713	1719
6	5202	5207	14	3988	3993	22	2774	2779	30	1561	1567
7	5052	5056	15	3835	3841	23	2623	2628	CC	16358	16358
8	4899	4904	16	3685	3690	24	2469	2476	WC	11961	11960

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - Full Scan Mode
Reflector Positions

PN: 1331200-2-IT SN: 108

TEST ENG. D Lud DATE: 11/19/99

AMSU-A2 108 MOTOR - BEAM POINTING POSITIONS

Position	Relative Differential Position	Beam Position Correction	Relative Position	Binary Weights												4X	HEX Values	Decimal Printout
NADIR	0		3763	0	0	1	1	1	0	1	0	1	1	0	0	1 1	0 0	3ACC	3763
30	2200	0	1563	0	0	0	1	1	0	0	0	0	1	1	0	1 1	0 0	186C	1563
29	2048	0	1715	0	0	0	1	1	0	1	0	1	1	0	0	1 1	0 0	1ACC	1715
28	1896	0	1867	0	0	0	1	1	1	0	1	0	0	1	0	1 1	0 0	1D2C	1867
27	1745	0	2018	0	0	0	1	1	1	1	1	1	0	0	0	1 0	0 0	1F88	2018
26	1593	0	2170	0	0	1	0	0	0	0	1	1	1	1	0	1 0	0 0	21E8	2170
25	1441	0	2322	0	0	1	0	0	1	0	0	0	1	0	0	1 0	0 0	2448	2322
24	1290	0	2473	0	0	1	0	0	1	1	0	1	0	1	0	0 1	0 0	26A4	2473
23	1138	0	2625	0	0	1	0	1	0	0	1	0	0	0	0	0 1	0 0	2904	2625
22	986	0	2777	0	0	1	0	1	0	1	1	0	1	1	0	0 1	0 0	2B64	2777
21	835	0	2928	0	0	1	0	1	1	0	1	1	1	0	0	0 0	0 0	2DC0	2928
20	683	0	3080	0	0	1	1	0	0	0	0	0	0	1	0	0 0	0 0	3020	3080
19	531	0	3232	0	0	1	1	0	0	1	0	1	0	0	0	0 0	0 0	3280	3232
18	380	0	3383	0	0	1	1	0	1	0	0	1	1	0	1	1 1	0 0	34DC	3383
17	228	0	3535	0	0	1	1	0	1	1	1	0	0	1	1	1 1	0 0	373C	3535
16	76	0	3687	0	0	1	1	1	0	0	1	1	0	0	1	1 1	0 0	399C	3687
15	-75	0	3838	0	0	1	1	1	0	1	1	1	1	1	1	1 0	0 0	3BF8	3838
14	-227	0	3990	0	0	1	1	1	1	1	0	0	1	0	1	1 0	0 0	3E58	3990
13	-379	0	4142	0	1	0	0	0	0	0	0	1	0	1	1	1 0	0 0	40B8	4142
12	-530	0	4293	0	1	0	0	0	0	1	1	0	0	0	1	0 1	0 0	4314	4293
11	-682	0	4445	0	1	0	0	0	1	0	1	0	1	1	1	0 1	0 0	4574	4445
10	-834	0	4597	0	1	0	0	0	1	1	1	1	1	0	1	0 1	0 0	47D4	4597
9	-985	0	4748	0	1	0	0	1	0	1	0	0	0	1	1	0 0	0 0	4A30	4748
8	-1137	0	4900	0	1	0	0	1	1	0	0	1	0	0	1	0 0	0 0	4C90	4900
7	-1289	0	5052	0	1	0	0	1	1	1	0	1	1	1	1	0 0	0 0	4EF0	5052
6	-1440	0	5203	0	1	0	1	0	0	0	1	0	1	0	0	1 1	0 0	514C	5203
5	-1592	0	5355	0	1	0	1	0	0	1	1	1	0	1	0	1 1	0 0	53AC	5355
4	-1744	0	5507	0	1	0	1	0	1	1	0	0	0	0	0	1 1	0 0	560C	5507
3	-1895	0	5658	0	1	0	1	1	0	0	0	0	1	1	0	1 0	0 0	5868	5658
2	-2047	0	5810	0	1	0	1	1	0	1	0	1	1	0	0	1 0	0 0	5AC8	5810
1	-2199	0	5962	0	1	0	1	1	1	0	1	0	0	1	0	1 0	0 0	5D28	5962
CC 4	3490	0	273	0	0	0	0	0	1	0	0	0	1	0	0	0 1	0 0	0444	273
CC 3	3641	0	122	0	0	0	0	0	0	0	1	1	1	1	0	1 0	0 0	01E8	122
CC 2	3717	0	46	0	0	0	0	0	0	0	0	1	0	1	1	1 0	0 0	00B8	46
CC 1	3793	0	-30	1	1	1	1	1	1	1	1	1	0	0	0	1 0	0 0	FF88	16354
WC	8192	0	11955	1	0	1	1	1	0	1	0	1	1	0	0	1 1	0 0	BACC	11955

10-14-99

PROM 1: 030FEB

PROM 2: 0117

MSU A2-30 A2.EXE FULL SCAN MODE 19-NOV-99 14:39:01 SCAN NUMBER 2065

[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 1

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16276	9	16278	17	16278	25	16278
2	16271	10	16279	18	16272	26	16278
3	16275	11	16276	19	16273	27	16278
4	16281	12	16276	20	16278	28	16279
5	16272	13	16278	21	16278	29	16279
6	16279	14	16276	22	16277	30	16278
7	16276	15	16272	23	16274	CC	16278
8	16274	16	16276	24	16278	WC	16259

[21] UP [22] DOWN

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - Full Scan Mode
Radiometric Data

PN: 1331200-2-IT SN: 108 TEST ENG. *[signature]* DATE: *11/19/99*

SO: 335168 (OP 0750 1ST CPT) Quality: [stamp]

```
ISU  A2-30 A2.EXE     FULL SCAN MODE      19-NOV-99  14:39:1x  SCAN NUMBER  2067
 5 ] DIGITAL A DATA   ELEMENT 0000

 6 ] DIGITAL B DATA   ELEMENT   00

 7 ] ANALOG DATA      ELEMENT   00
```

RADIOMETRIC DATA
CHANNEL 2

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16554	9	16557	17	16552	25	16554
2	16553	10	16555	18	16552	26	16557
3	16552	11	16551	19	16549	27	16553
4	16555	12	16556	20	16546	28	16555
5	16551	13	16554	21	16557	29	16551
6	16554	14	16551	22	16557	30	16551
7	16552	15	16564	23	16560	CC	16558
8	16552	16	16568	24	16558	WC	16549

```
21 ] UP                [ 22 ] DOWN

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 2
```

AMSU A2-30 A2.EXE FULL SCAN MODE 19-NOV-99 14:48:5[illegible] SCAN NUMBER 2140

[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

DIGITAL A TEMPERATURES

NO		DATA	TEMP C	NO		DATA	TEMP C
1	SCAN MOTOR	17815	22.38	11	RF SHELF	18269	23.30
2	FEED HORN	17774	22.60	12	DET/PREAMP	18152	23.43
3	RF MUX	17741	23.59	13	WARM LOAD CNTR	22873	22.77
4	MIXER IF CH 1	18747	24.21	14	WARM LOAD 1	22907	22.81
5	MIXER IF CH 2	18804	24.41	15	WARM LOAD 2	22860	22.80
6	LO CHANNEL 1	18393	23.92	16	WARM LOAD 3	22934	22.80
7	LO CHANNEL 2	18784	25.08	17	WARM LOAD 4	23019	22.76
8	COMP MOTOR	17603	23.29	18	WARM LOAD 5	23062	22.78
9	SUBREFLECTOR	17801	22.66	19	WARM LOAD 6	22774	22.67
10	DC/DC CONVERTER	19572	26.01		THERMAL REFERENCE	25114	

POWER [4] ON SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - Full Scan Mode
Temperature Sensors
P 3 1 4 3 4 1 TDS 1 1

PN: 1331200-2-IT SN: 108

TEST ENG. D. [illegible] DATE: 11/19/99

Quality: [illegible]

TEST DATA SHEET 21
Full Scan Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.1)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor	Refer to Print Out	25 ± 15	P
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	P

* Value is from the STE printout sheets. Copying data to this sheet is optional.
** Count of 24,552 +1765, -1308.

METSAT/AMSU ~~A2~~ System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT ________

[signature] 11/19/99
Test Systems Engineer Date

[signature] 11-20-99
Customer Representative Date
(Flight Hardware Only)

(QC 268) 11-20-99
Quality Control

TEST DATA SHEET 22

Digital-A Data Output Warm Cal Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.2)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1	255	255	P
	0002	Sync Sequence Byte 2	255	255	
	0003	Sync Sequence Byte 3	255	255	
[II]	0004	Unit I.D. and Serial N	30	*	
[III]	0005	Digital B Data Byte 1	4	4	
	0006	Digital B Data Byte 2	6	6	
	0007	Digital B Data Byte 3	0	0	
	0008	Digital B Data Byte 4	0	0	P

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

[signature] 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

[signature] 11/19/99
Test Systems Engineer Date

[signature] 11-22-99
268
Quality Control

```
AMSU  A2-30 A2.EXE    WARM CAL MODE       19-NOV-99  14:54:56  SCAN NUMBER  2184
[ 5 ] DIGITAL A DATA  ELEMENT 0000

[ 6 ] DIGITAL B DATA  ELEMENT   00

[ 7 ] ANALOG DATA     ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =           CONNECT  ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

[ 10 ] SURVIVAL HEATER POWER =     OFF   ANTENNA IN NADIR POSITION = NO   [ 16 ]

[ 11 ] MODULE TOTALLY OFF =        ON    ANTENNA IN FULL SCAN MODE = NO   [ 17 ]

[ 12 ] SCANNER A2 POWER =          ON    COLD CAL POSITION MSB =    ZERO  [ 18 ]

[ 13 ] COMPENSATOR MOTOR POWER =   ON    COLD CAL POSITION LSB =    ZERO  [ 19 ]

[ 14 ] ANTENNA IN WARM CAL POSIT = YES

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

Digital A Data - Warm Cal. Mode

PN: 1331200-2-IT   SN: 108   P 3.2.4.3.4.2   TDS 22   TEST ENG [signature]   DATE: 11/19/99

Quality: [stamp]

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	11960
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	11960
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16237
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16534
5	DIGITAL B DATA BYTE 1	00000100	146	REFLECTOR POSITION 18	11960
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	11960
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16242
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16529
10	REFLECTOR POSITION 1	11960	154	REFLECTOR POSITION 19	11960
12	REFL POS 1 2ND LOOK	11960	156	REFL POS 19 2ND LOOK	11960
14	SCENE DATA BP 1 CH 1	16241	158	SCENE DATA BP 19 CH 1	16240
16	CH 2	16537	160	CH 2	16529
18	REFLECTOR POSITION 2	11960	162	REFLECTOR POSITION 20	11960
20	REFL POS 2 2ND LOOK	11960	164	REFL POS 20 2ND LOOK	11960
22	SCENE DATA BP 2 CH 1	16235	166	SCENE DATA BP 20 CH 1	16238
24	CH 2	16529	168	CH 2	16531
26	REFLECTOR POSITION 3	11960	170	REFLECTOR POSITION 21	11960
28	REFL POS 3 2ND LOOK	11960	172	REFL POS 21 2ND LOOK	11960
30	SCENE DATA BP 3 CH 1	16234	174	SCENE DATA BP 21 CH 1	16235
32	CH 2	16531	176	CH 2	16532
34	REFLECTOR POSITION 4	11960	178	REFLECTOR POSITION 22	11960
36	REFL POS 4 2ND LOOK	11960	180	REFL POS 22 2ND LOOK	11960
38	SCENE DATA BP 4 CH 1	16238	182	SCENE DATA BP 22 CH 1	16243
40	CH 2	16531	184	CH 2	16531
42	REFLECTOR POSITION 5	11960	186	REFLECTOR POSITION 23	11960
44	REFL POS 5 2ND LOOK	11960	188	REFL POS 23 2ND LOOK	11960
46	SCENE DATA BP 5 CH 1	16233	190	SCENE DATA BP 23 CH 1	16236
48	CH 2	16532	192	CH 2	16532
50	REFLECTOR POSITION 6	11960	194	REFLECTOR POSITION 24	11960
52	REFL POS 6 2ND LOOK	11960	196	REFL POS 24 2ND LOOK	11960
54	SCENE DATA BP 6 CH 1	16237	198	SCENE DATA BP 24 CH 1	16236
56	CH 2	16536	200	CH 2	16524
58	REFLECTOR POSITION 7	11960	202	REFLECTOR POSITION 25	11960
60	REFL POS 7 2ND LOOK	11960	204	REFL POS 25 2ND LOOK	11960
62	SCENE DATA BP 7 CH 1	16235	206	SCENE DATA BP 25 CH 1	16238
64	CH 2	16525	208	CH 2	16528
66	REFLECTOR POSITION 8	11960	210	REFLECTOR POSITION 26	11960
68	REFL POS 8 2ND LOOK	11960	212	REFL POS 26 2ND LOOK	11960
70	SCENE DATA BP 8 CH 1	16237	214	SCENE DATA BP 26 CH 1	16235
72	CH 2	16535	216	CH 2	16529
74	REFLECTOR POSITION 9	11960	218	REFLECTOR POSITION 27	11960
76	REFL POS 9 2ND LOOK	11960	220	REFL POS 27 2ND LOOK	11960
78	SCENE DATA BP 9 CH 1	16236	222	SCENE DATA BP 27 CH 1	16235
80	CH 2	16529	224	CH 2	16530
82	REFLECTOR POSITION 10	11960	226	REFLECTOR POSITION 28	11960
84	REFL POS 10 2ND LOOK	11960	228	REFL POS 28 2ND LOOK	11960
86	SCENE DATA BP 10 CH 1	16237	230	SCENE DATA BP 28 CH 1	16237
88	CH 2	16532	232	CH 2	16531
90	REFLECTOR POSITION 11	11960	234	REFLECTOR POSITION 29	11960
92	REFL POS 11 2ND LOOK	11960	236	REFL POS 29 2ND LOOK	11960

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16235
96		CH	2	16534
98	REFLECTOR POSITION 12			11960
100	REFL POS 12 2ND LOOK			11960
102	SCENE DATA BP 12	CH	1	16239
104		CH	2	16530
106	REFLECTOR POSITION 13			11960
108	REFL POS 13 2ND LOOK			11960
110	SCENE DATA BP 13	CH	1	16240
112		CH	2	16530
114	REFLECTOR POSITION 14			11960
116	REFL POS 14 2ND LOOK			11960
118	SCENE DATA BP 14	CH	1	16238
120		CH	2	16530
122	REFLECTOR POSITION 15			11960
124	REFL POS 15 2ND LOOK			11960
126	SCENE DATA BP 15	CH	1	16236
128		CH	2	16532
130	REFLECTOR POSITION 16			11960
132	REFL POS 16 2ND LOOK			11960
134	SCENE DATA BP 16	CH	1	16242
136		CH	2	16534

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16241
240		CH	2	16524
242	REFLECTOR POSITION 30			11960
244	REFL POS 30 2ND LOOK			11960
246	SCENE DATA BP 30	CH	1	16239
248		CH	2	16528
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	17821	22.39
264	FEED HORN	17814	22.67
266	RF MUX	17809	23.72
268	MIXER/IF AMPLIFIER CHANNEL 1	18824	24.36
270	MIXER/IF AMPLIFIER CHANNEL 2	18887	24.57
272	LOCAL OSCILLATOR CHANNEL 1	18468	24.06
274	LOCAL OSCILLATOR CHANNEL 2	18883	25.27
276	COMPENSATION MOTOR	17647	23.38
278	SUB REFLECTOR	17821	22.69
280	DC/DC CONVERTER	19753	26.35
282	RF SHELF	18332	23.42
284	DETECTOR/PREAMP ASSEMBLY	18227	23.58
286	WARM LOAD CENTER	22822	22.66
288	WARM LOAD 1	22867	22.73
290	WARM LOAD 2	22826	22.73
292	WARM LOAD 3	22908	22.75
294	WARM LOAD 4	23003	22.73
296	WARM LOAD 5	23053	22.76
298	WARM LOAD 6	22771	22.66
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	YES	YES	YES
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	NO	NO	NO
SURVIVAL HEATER POWER	OFF	OFF	OFF
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	19	17.71	16	14.91	14	13.05
COMPENSATOR MOTOR CURRENT (AVERAGE)	19	17.71	17	15.84	15	13.98
SIGNAL PROCESSING +15 VDC	168	14.50	168	14.50	168	14.50
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	146	-15.25	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	169	9.76	169	9.76	169	9.76
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	144	4.80	144	4.80	144	4.80
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	171	9.78	170	9.73	170	9.73
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

AMSU A2-30 A2.EXE WARM CAL MODE 19-NOV-99 14:56:0[illegible] SCAN NUMBER 2192
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	11960	11960	9	11960	11960	17	11960	11960	25	11960	11960
2	11960	11960	10	11960	11960	18	11960	11960	26	11960	11960
3	11960	11960	11	11960	11960	19	11960	11960	27	11960	11960
4	11960	11960	12	11960	11960	20	11960	11960	28	11960	11960
5	11960	11960	13	11960	11960	21	11960	11960	29	11960	11960
6	11960	11960	14	11960	11960	22	11960	11960	30	11960	11960
7	11960	11960	15	11960	11960	23	11960	11960	CC	0	0
8	11960	11960	16	11960	11960	24	11960	11960	WC	0	0

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data – Warm Cal Mode
P 3.2.4.3.4.2 TDS 23

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. [signature] DATE: 11/19/99
Quality: 268

AMSU A2-30 A2.EXE COLD CAL MODE 20-NOV-99 09:16:25 SCAN NUMBER 2436
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	16359	16359	9	16359	16359	17	16359	16359	25	16359	16359
2	16359	16359	10	16359	16359	18	16359	16359	26	16359	16359
3	16359	16359	11	16359	16359	19	16359	16359	27	16359	16359
4	16359	16359	12	16359	16359	20	16359	16359	28	16359	16359
5	16359	16359	13	16359	16359	21	16359	16359	29	16359	16359
6	16359	16359	14	16359	16359	22	16359	16359	30	16359	16359
7	16359	16359	15	16359	16359	23	16359	16359	CC	0	0
8	16359	16359	16	16359	16359	24	16359	16359	WC	0	0

0, 0

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

MSB = 0
LSB = 0

Digital A Data - Cold Cal Mode

PN: 1331200-2-IT SN: 108 IT 3.2.4.3.4.3 TDS 23 TEST ENG: [signature] DATE: 11/19/99

SO: 335168 (OP. 0750, 1ST CPT) Quality: [signature]

AMSU A2-30 A2.EXE COLD CAL MODE 20-NOV-99 09:08:44 SCAN NUMBER 2379
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	50	50	9	50	50	17	50	50	25	50	50
2	50	50	10	50	50	18	50	50	26	50	50
3	50	50	11	50	50	19	50	50	27	50	50
4	50	50	12	50	50	20	50	50	28	50	50
5	50	50	13	50	50	21	50	50	29	50	50
6	50	50	14	50	50	22	50	50	30	50	50
7	50	50	15	50	50	23	50	50	CC	0	0
8	50	50	16	50	50	24	50	50	WC	0	0

0,1

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

MSB = 0
LSB = 1

Digital A Data - Cold Cal Mode

PN: 1331200-2-IT SN: 108 TP 3.2.4.3.4.3 TDS 23 TEST ENG. D. Lind DATE: 11/19/99

SO: 225168 (OP 0750 1ST CRT) Quality

MSU A2-30 A2.EXE COLD CAL MODE 19-NOV-99 15:16:20 SCAN NUMBER 2264

5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

P	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	124	124	9	124	124	17	124	124	25	124	124
2	124	124	10	124	124	18	124	124	26	124	124
3	124	124	11	124	124	19	124	124	27	124	124
4	124	124	12	124	124	20	124	124	28	124	124
5	124	124	13	124	124	21	124	124	29	124	124
6	124	124	14	124	124	22	124	124	30	124	124
7	124	124	15	124	124	23	124	124	CC	0	0
8	124	124	16	124	124	24	124	124	WC	0	0

POWER [4] ON SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT_TOUCHSCREEN_BUTTON 2

1, 0

MSB = 1
LSB = 0

Digital A Data - Cold Cal Mode

P 3.2.4.3.4.3 TDS 23

PN: 1331200-2-IT SN: 108

SO: 335168 (OP 0750 1ST CPT)

TEST ENG. D Lud DATE: 11/19/99

Quality: (stamp)

SU A2-30 A2.EXE COLD CAL MODE 19-NOV-99 15:17:45 SCAN NUMBER 2274
5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
275	275	9	275	275	17	275	275	25	275	275
275	275	10	275	275	18	275	275	26	275	275
275	275	11	275	275	19	275	275	27	275	275
275	275	12	275	275	20	275	275	28	275	275
275	275	13	275	275	21	275	275	29	275	275
275	275	14	275	275	22	275	275	30	275	275
275	275	15	275	275	23	275	275	CC	0	0
275	275	16	275	275	24	275	275	WC	0	0

1, 1

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

MSB = 1
LSB = 1

Digital A Data - Cold Cal Mode

PN: 1331200-2-IT SN: 108 P 3.2.4.3.4.3 TDS 23

TEST ENG. [signature] DATE: 11/19/99

Quality: [signature]

AMSU A2-3[illegible] A2.EXE NADIR MODE 19-NOV-99 15:25.[illegible] SCAN NUMBER 2334
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	3841	3841	9	3841	3841	17	3841	3841	25	3841	3841
2	3841	3841	10	3841	3841	18	3841	3841	26	3841	3841
3	3841	3841	11	3841	3841	19	3841	3841	27	3841	3841
4	3841	3841	12	3841	3841	20	3841	3841	28	3841	3841
5	3841	3841	13	3841	3841	21	3841	3841	29	3841	3841
6	3841	3841	14	3841	3841	22	3841	3841	30	3841	3841
7	3841	3841	15	3841	3841	23	3841	3841	CC	0	0
8	3841	3841	16	3841	3841	24	3841	3841	WC	0	0

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - NADIR Mode

PN: 1331200-2-IT SN: 108 TP 3.2.4.3.4.4 TDS 23 TEST ENG. DLed DATE: 11/19/99

TEST DATA SHEET 23

Reflector Position Warm Cal Mode Section [IV], Reflector Position Cold Cal Mode Section [IV], Reflector Position Nadir Mode Section [IV] (Paragraphs 3.2.4.3.4.2, 3.2.4.3.4.3, 3.2.4.3.4.4)

BP	Reflector			
	Para No.	Position*	Required**	Pass/Fail
WC	3.2.4.3.4.2, Step 5	11960	11955	P
CC	3.2.4.3.4.3, Step 5	~~No "E" 16359~~ 19260	~~No "E" 16354~~	P *
	a.	~~16359~~ 50 11/20/99	~~16354~~ 46	P
	b.	50	46	P
	c.	124	122	P
	d.	275	273	P
15	3.2.4.3.4.4, Step 5	3841	3838	P

WC = Warm Load
CC = Cold Load
15 = Nadir Position

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position data from TDS 6 of AE-26002/2 ±5 counts.

3.2.4.3.4.3, Step 5 Substep	MSB	LSB
a.	0	0
b.	0	1
c.	1	0
d.	1	1

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

D Lund 11/19/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

ZA 268 11.20.99
Quality Control

TEST DATA SHEET 24

Digital-A Data Output Warm Cal Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.2)

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014			P	0016			P
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094	Print Out			0096	Print out		
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166	to	be low		0168	to	be low	
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198	Refer	Refer		0200	Refer	Refer	
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0	P	0312		0	P

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

D Lind 11/19/99
Test System Engineer Date

R. Rivera 11-20-99
Customer Representative Date

11-20-99
Quality Control

Date
(Flight Hardware Only)

AMSU A2-30 A2.EXE WARM CAL MODE 19-NOV-99 14:56:41 SCAN NUMBER 2197

[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 1

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16236	9	16242	17	16241	25	16235
2	16239	10	16236	18	16235	26	16236
3	16238	11	16234	19	16234	27	16234
4	16241	12	16236	20	16236	28	16231
5	16239	13	16236	21	16236	29	16233
6	16237	14	16242	22	16236	30	16236
7	16236	15	16233	23	16239	CC	0
8	16235	16	16238	24	16238	WC	0

[21] UP [22] DOWN

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT TOUCHSCREEN BUTTON 2

Digital A Data - Warm Cal Mode
P 3 0 4 3 4 0 TDS 14

PN: 1331200-2-IT SN: 108 TEST ENG. D Lead DATE: 11/19/99

AMSU A2-30 A2.EXE WARM CAL MODE 19-NOV-99 14:56:57 SCAN NUMBER 2199
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 2

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16527	9	16525	17	16527	25	16529
2	16526	10	16526	18	16526	26	16525
3	16524	11	16529	19	16532	27	16527
4	16525	12	16522	20	16529	28	16525
5	16524	13	16524	21	16526	29	16524
6	16525	14	16528	22	16525	30	16526
7	16524	15	16524	23	16532	CC	0
8	16525	16	16524	24	16533	WC	0

[21] UP [22] DOWN

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 2

SU A2-30 A2.EXE WARM CAL MODE 19-NOV-99 14:57:2[illegible] SCAN NUMBER 2203
5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

DIGITAL A TEMPERATURES

NO		DATA	TEMP C	NO		DATA	TEMP C
1	SCAN MOTOR	17825	22.40	11	RF SHELF	18359	23.47
2	FEED HORN	17826	22.70	12	DET/PREAMP	18256	23.63
3	RF MUX	17833	23.76	13	WARM LOAD CNTR	22857	22.73
4	MIXER IF CH 1	18854	24.42	14	WARM LOAD 1	22898	22.79
5	MIXER IF CH 2	18912	24.62	15	WARM LOAD 2	22858	22.79
6	LO CHANNEL 1	18497	24.12	16	WARM LOAD 3	22947	22.82
7	LO CHANNEL 2	18918	25.34	17	WARM LOAD 4	23030	22.78
8	COMP MOTOR	17651	23.38	18	WARM LOAD 5	23085	22.82
9	SUBREFLECTOR	17849	22.75	19	WARM LOAD 6	22818	22.75
0	DC/DC CONVERTER	19810	26.46		THERMAL REFERENCE	25115	

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - Warm Cal Mode

SN: 108

TEST ENG. D Lind (7A)

DATE: 11/19/99

TEST DATA SHEET 25

Warm Cal Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.2)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	P
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	P

* Value is from the STE printout sheets. Copying data to this sheet is optional.
** Count of 24,552 +1765, -1308.

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

11/19/99
Test System Engineer Date

11/20/99
Customer Representative Date

11.20.99
Quality Control Date

(Flight Hardware Only)

TEST DATA SHEET 26
Digital-A Data Output Cold Cal Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.3)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1	255	255	P
	0002	Sync Sequence Byte 2	255	255	
	0003	Sync Sequence Byte 3	255	255	
[II]	0004	Unit I.D. and Serial N	30	*	
[III]	0005	Digital B Data Byte 1	8	8	
	0006	Digital B Data Byte 2	6	6	
	0007	Digital B Data Byte 3	0	0	
	0008	Digital B Data Byte 4	0	0	P

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lind 11/19/99
Test Systems Engineer Date

11-20 99
Customer Representative Date
Date
(Flight Hardware Only)

Quality Control

TEST DATA SHEET 27

Digital-A Data Output Cold Cal Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.3)
Condition: Cold Cal Position MSB=0 and Cold Cal Position LSB=0

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014			P	0016			P
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064	Out		
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102	Out			0104			
13	0110				0112	Print		
14	0118				0120			
15	0126				0128		Below	
16	0134				0136			
17	0142	Print			0144			
18	0150		Below		0152			
19	0158				0160	to		
20	0166				0168			
21	0174	to			0176			
22	0182				0184			
23	0190				0192	Refer		
24	0198		Refer		0200		Refer	
25	0206	Refer			0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0	P	0312		0	P

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required = 16,500 ± 4000 counts.

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

11/19/99
Test Systems Engineer Date

IA 268
11-20-99
Quality Control

TEST DATA SHEET 28

Cold Cal Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.3)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	P
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	P

Out of Printout to Refer

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

D Lund 11/19/99

Test Systems Engineer Date

11-20-99

Customer Representative Date

Date

(Flight Hardware Only)

11-20-99

Quality Control

```
AMSU  A2-30 A2.EXE     COLD CAL MODE        19-NOV-99  15:00:31  SCAN NUMBER  2226
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = YES [ 15 ]

[ 10 ] SURVIVAL HEATER POWER =     OFF     ANTENNA IN NADIR POSITION = NO  [ 16 ]

[ 11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = NO  [ 17 ]

[ 12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO [ 18 ]

[ 13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO [ 19 ]

[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

Digital A Data - Cold Cal Mode

PN: 1331200-2-IT SN: 108 P 3.2.4.3.4.3 TDS 26 TEST ENG. D Ford DATE: 11/19/99

SO: 225168 (OP 0750 1ST CPT) Quality:

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	16359
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	16359
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16258
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16547
5	DIGITAL B DATA BYTE 1	00001000	146	REFLECTOR POSITION 18	16359
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	16359
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16255
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16547
10	REFLECTOR POSITION 1	16359	154	REFLECTOR POSITION 19	16359
12	REFL POS 1 2ND LOOK	16359	156	REFL POS 19 2ND LOOK	16359
14	SCENE DATA BP 1 CH 1	16257	158	SCENE DATA BP 19 CH 1	16257
16	CH 2	16541	160	CH 2	16538
18	REFLECTOR POSITION 2	16359	162	REFLECTOR POSITION 20	16359
20	REFL POS 2 2ND LOOK	16359	164	REFL POS 20 2ND LOOK	16359
22	SCENE DATA BP 2 CH 1	16256	166	SCENE DATA BP 20 CH 1	16255
24	CH 2	16534	168	CH 2	16542
26	REFLECTOR POSITION 3	16359	170	REFLECTOR POSITION 21	16359
28	REFL POS 3 2ND LOOK	16359	172	REFL POS 21 2ND LOOK	16359
30	SCENE DATA BP 3 CH 1	16256	174	SCENE DATA BP 21 CH 1	16252
32	CH 2	16534	176	CH 2	16536
34	REFLECTOR POSITION 4	16359	178	REFLECTOR POSITION 22	16359
36	REFL POS 4 2ND LOOK	16359	180	REFL POS 22 2ND LOOK	16359
38	SCENE DATA BP 4 CH 1	16254	182	SCENE DATA BP 22 CH 1	16256
40	CH 2	16538	184	CH 2	16542
42	REFLECTOR POSITION 5	16359	186	REFLECTOR POSITION 23	16359
44	REFL POS 5 2ND LOOK	16359	188	REFL POS 23 2ND LOOK	16359
46	SCENE DATA BP 5 CH 1	16254	190	SCENE DATA BP 23 CH 1	16255
48	CH 2	16548	192	CH 2	16538
50	REFLECTOR POSITION 6	16359	194	REFLECTOR POSITION 24	16359
52	REFL POS 6 2ND LOOK	16359	196	REFL POS 24 2ND LOOK	16359
54	SCENE DATA BP 6 CH 1	16255	198	SCENE DATA BP 24 CH 1	16254
56	CH 2	16541	200	CH 2	16538
58	REFLECTOR POSITION 7	16359	202	REFLECTOR POSITION 25	16359
60	REFL POS 7 2ND LOOK	16359	204	REFL POS 25 2ND LOOK	16359
62	SCENE DATA BP 7 CH 1	16254	206	SCENE DATA BP 25 CH 1	16252
64	CH 2	16548	208	CH 2	16540
66	REFLECTOR POSITION 8	16359	210	REFLECTOR POSITION 26	16359
68	REFL POS 8 2ND LOOK	16359	212	REFL POS 26 2ND LOOK	16359
70	SCENE DATA BP 8 CH 1	16254	214	SCENE DATA BP 26 CH 1	16250
72	CH 2	16541	216	CH 2	16543
74	REFLECTOR POSITION 9	16359	218	REFLECTOR POSITION 27	16359
76	REFL POS 9 2ND LOOK	16359	220	REFL POS 27 2ND LOOK	16359
78	SCENE DATA BP 9 CH 1	16259	222	SCENE DATA BP 27 CH 1	16258
80	CH 2	16550	224	CH 2	16539
82	REFLECTOR POSITION 10	16359	226	REFLECTOR POSITION 28	16359
84	REFL POS 10 2ND LOOK	16359	228	REFL POS 28 2ND LOOK	16359
86	SCENE DATA BP 10 CH 1	16255	230	SCENE DATA BP 28 CH 1	16252
88	CH 2	16541	232	CH 2	16537
90	REFLECTOR POSITION 11	16359	234	REFLECTOR POSITION 29	16359
92	REFL POS 11 2ND LOOK	16359	236	REFL POS 29 2ND LOOK	16359

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16256
96		CH	2	16539
98	REFLECTOR POSITION 12			16359
100	REFL POS 12 2ND LOOK			16359
102	SCENE DATA BP 12	CH	1	16256
104		CH	2	16545
106	REFLECTOR POSITION 13			16359
108	REFL POS 13 2ND LOOK			16359
110	SCENE DATA BP 13	CH	1	16258
112		CH	2	16540
114	REFLECTOR POSITION 14			16359
116	REFL POS 14 2ND LOOK			16359
118	SCENE DATA BP 14	CH	1	16256
120		CH	2	16541
122	REFLECTOR POSITION 15			16359
124	REFL POS 15 2ND LOOK			16359
126	SCENE DATA BP 15	CH	1	16254
128		CH	2	16547
130	REFLECTOR POSITION 16			16359
132	REFL POS 16 2ND LOOK			16359
134	SCENE DATA BP 16	CH	1	16256
136		CH	2	16544

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16253
240		CH	2	16533
242	REFLECTOR POSITION 30			16359
244	REFL POS 30 2ND LOOK			16359
246	SCENE DATA BP 30	CH	1	16253
248		CH	2	16539
250	REFLECTOR COLD CAL POS			0E —
252	REFL COLD CAL 2ND LOOK			0E —
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E —
304	REFL WARM CAL 2ND LOOK			0E —
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	17824	22.40
264	FEED HORN	17830	22.71
266	RF MUX	17861	23.82
268	MIXER/IF AMPLIFIER CHANNEL 1	18886	24.48
270	MIXER/IF AMPLIFIER CHANNEL 2	18938	24.67
272	LOCAL OSCILLATOR CHANNEL 1	18527	24.17
274	LOCAL OSCILLATOR CHANNEL 2	18958	25.42
276	COMPENSATION MOTOR	17627	23.34
278	SUB REFLECTOR	17859	22.77
280	DC/DC CONVERTER	19870	26.58
282	RF SHELF	18385	23.52
284	DETECTOR/PREAMP ASSEMBLY	18288	23.69
286	WARM LOAD CENTER	22887	22.79
288	WARM LOAD 1	22924	22.84
290	WARM LOAD 2	22887	22.85
292	WARM LOAD 3	22990	22.91
294	WARM LOAD 4	23068	22.85
296	WARM LOAD 5	23109	22.87
298	WARM LOAD 6	22814	22.75
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	YES	YES	YES
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	NO	NO	NO
SURVIVAL HEATER POWER	OFF	OFF	OFF
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	215	19.4
WARM LOAD TEMPERATURE	214	18.0	213	16.6	213	16.6

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	4	3.73	4	3.73	4	3.73
COMPENSATOR MOTOR CURRENT (AVERAGE)	4	3.73	4	3.73	4	3.73
SIGNAL PROCESSING +15 VDC	168	14.50	168	14.50	168	14.50
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	169	9.76	169	9.76	169	9.76
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	144	4.80	144	4.80	144	4.80
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	171	9.78	171	9.78	171	9.78
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
ARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
IXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
ASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

. THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
IXED TARGET SHROUD	532	32.00	533	33.00
ARIABLE TARGET SHROUD	515	7.00	516	8.00
IXED TARGET N2	502	30.00	503	31.00
ARIABLE TARGET N2	507	5.00	508	6.00
EATER N2	505	1.00	506	2.00
IXED TARGET FLOW METER	504	34.00		
ARIABLE TARGET FLOW METER	509	9.00		
ASEPLATE HEATER N2	510	3.00	511	4.00
ASEPLATE N2	512	36.00	513	37.00
ASEPLATE FLOW METER	514	35.00		
DJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

1SU A2-30 A2.EXE COLD CAL MODE 19-NOV-99 15:21:04 SCAN NUMBER 2299
5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 1

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16275	9	16270	17	16273	25	16270
2	16270	10	16268	18	16270	26	16270
3	16272	11	16277	19	16273	27	16272
4	16271	12	16269	20	16270	28	16268
5	16270	13	16271	21	16270	29	16271
6	16271	14	16271	22	16269	30	16272
7	16270	15	16270	23	16275	CC	0
8	16272	16	16271	24	16273	WC	0

21] UP [22] DOWN

POWER [4] ON [1] RETURN
SCREEN ONLY [2] PRINT [3] FULL
SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data- Cold Cal Mode
IP 3.2.4.3.4.3 TDS 27

PN: 1331200-2-IT SN: 108

TEST ENG: [signature] DATE: 11/19/99
Quality: (268)

ISU A2-30 A2.EXE COLD CAL MODE 19-NOV-99 15:21:37 SCAN NUMBER 2303
5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 2

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16562	9	16560	17	16558	25	16560
2	16560	10	16559	18	16563	26	16562
3	16554	11	16557	19	16561	27	16558
4	16555	12	16560	20	16562	28	16554
5	16564	13	16563	21	16560	29	16556
6	16558	14	16562	22	16562	30	16558
7	16557	15	16558	23	16566	CC	0
8	16563	16	16560	24	16556	WC	0

21] UP [22] DOWN

POWER [4] ON [1] RETURN
SCREEN ONLY [2] PRINT [3] FULL

SELECT TOUCHSCREEN BUTTON 2

```
MSU  A2-30 A2.EXE     COLD CAL MODE        19-NOV-99  15:22:40  SCAN NUMBER  2311
 5 ] DIGITAL A DATA   ELEMENT 0000

 6 ] DIGITAL B DATA   ELEMENT   00

 7 ] ANALOG DATA      ELEMENT   00
```

DIGITAL A TEMPERATURES

NO		DATA	TEMP C	NO		DATA	TEMP C
1	SCAN MOTOR	17806	22.37	11	RF SHELF	18290	23.34
2	FEED HORN	17746	22.55	12	DET/PREAMP	18183	23.49
3	RF MUX	17739	23.59	13	WARM LOAD CNTR	22883	22.78
4	MIXER IF CH 1	18755	24.23	14	WARM LOAD 1	22920	22.83
5	MIXER IF CH 2	18753	24.32	15	WARM LOAD 2	22872	22.82
6	LO CHANNEL 1	18416	23.96	16	WARM LOAD 3	22967	22.86
7	LO CHANNEL 2	18714	24.95	17	WARM LOAD 4	23056	22.83
8	COMP MOTOR	17490	23.08	18	WARM LOAD 5	23116	22.88
9	SUBREFLECTOR	17837	22.72	19	WARM LOAD 6	22831	22.78
0	DC/DC CONVERTER	19436	25.75		THERMAL REFERENCE	25114	

```
          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT_TOUCHSCREEN_BUTTON 2
```

Digital A Data - Cold cal Mode

PN: 1331200-2-IT SN: 108 TEST ENG. D Lind DATE: 11/19/99

(892)

TEST DATA SHEET 29
Digital-A Data Output Nadir Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.4)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1	255	255	P
	0002	Sync Sequence Byte 2	255	255	
	0003	Sync Sequence Byte 3	255	255	
[II]	0004	Unit I.D. and Serial N	30	*	
[III]	0005	Digital B Data Byte 1	16	16	
	0006	Digital B Data Byte 2	6	6	
	0007	Digital B Data Byte 3	0	0	
	0008	Digital B Data Byte 4	0	0	P

*	AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
	AMSU-A2 S/N 101	00000010	2
	AMSU-A2 S/N 102	00000110	6
	AMSU-A2 S/N 103	00001010	10
	AMSU-A2 S/N 104	00001110	14
	AMSU-A2 S/N 105	00010010	18
	AMSU-A2 S/N 106	00010110	22
	AMSU-A2 S/N 107	00011010	26
	AMSU-A2 S/N 108	00011110	30
	AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

11/19/99
Test Systems Engineer Date

11-20-99
268
Quality Control

TEST DATA SHEET 30
Digital-A Data Output Nadir Mode Radiometer Data Section [V] (Paragraph 3.2.4.3.4.4)

BP	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014			P	0016			P
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088	Refer to Print Out		
11	0094	Refer to Print Out			0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126		Refer below		0128		Refer below	
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258		0		0260		0	
WC	0310		0	P	0312		0	P

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required = 16,500 ± 4000 counts.

METSAT/AMSU-A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT ________

Test Systems Engineer (signature, stamp 268) Date 11/19/99

Customer Representative (signature) Date 11-20-99
(Flight Hardware Only)

Quality Control 11-20-99

```
SU  A2-30 A2.EXE     NADIR MODE          19-NOV-99  15:24:1o  SCAN NUMBER  2323
5 ] DIGITAL A DATA   ELEMENT 0000

6 ] DIGITAL B DATA   ELEMENT   00

7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
9 ]  MODULE POWER =            CONNECT     ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
10 ] SURVIVAL HEATER POWER =       OFF     ANTENNA IN NADIR POSITION = YES  [ 16 ]
11 ] MODULE TOTALLY OFF =          ON      ANTENNA IN FULL SCAN MODE = NO   [ 17 ]
12 ] SCANNER A2 POWER =            ON      COLD CAL POSITION MSB =     ZERO [ 18 ]
13 ] COMPENSATOR MOTOR POWER =     ON      COLD CAL POSITION LSB =     ZERO [ 19 ]
14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

Digital A Data – NADIR Mode

PN: 1331200-2-IT SN: 108 TP 3.2.4.3.4.4 TDS 29 TEST ENG. D Lee DATE: 11/19/99

Quality (7A)

LEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3841
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3841
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16257
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16555
5	DIGITAL B DATA BYTE 1	00010000	146	REFLECTOR POSITION 18	3841
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3841
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16258
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16550
10	REFLECTOR POSITION 1	3841	154	REFLECTOR POSITION 19	3841
12	REFL POS 1 2ND LOOK	3841	156	REFL POS 19 2ND LOOK	3841
14	SCENE DATA BP 1 CH 1	16261	158	SCENE DATA BP 19 CH 1	16255
16	CH 2	16558	160	CH 2	16556
18	REFLECTOR POSITION 2	3841	162	REFLECTOR POSITION 20	3841
20	REFL POS 2 2ND LOOK	3841	164	REFL POS 20 2ND LOOK	3841
22	SCENE DATA BP 2 CH 1	16261	166	SCENE DATA BP 20 CH 1	16260
24	CH 2	16548	168	CH 2	16552
26	REFLECTOR POSITION 3	3841	170	REFLECTOR POSITION 21	3841
28	REFL POS 3 2ND LOOK	3841	172	REFL POS 21 2ND LOOK	3841
30	SCENE DATA BP 3 CH 1	16255	174	SCENE DATA BP 21 CH 1	16264
32	CH 2	16555	176	CH 2	16552
34	REFLECTOR POSITION 4	3841	178	REFLECTOR POSITION 22	3841
36	REFL POS 4 2ND LOOK	3841	180	REFL POS 22 2ND LOOK	3841
38	SCENE DATA BP 4 CH 1	16255	182	SCENE DATA BP 22 CH 1	16256
40	CH 2	16555	184	CH 2	16559
42	REFLECTOR POSITION 5	3841	186	REFLECTOR POSITION 23	3841
44	REFL POS 5 2ND LOOK	3841	188	REFL POS 23 2ND LOOK	3841
46	SCENE DATA BP 5 CH 1	16257	190	SCENE DATA BP 23 CH 1	16257
48	CH 2	16550	192	CH 2	16554
50	REFLECTOR POSITION 6	3841	194	REFLECTOR POSITION 24	3841
52	REFL POS 6 2ND LOOK	3841	196	REFL POS 24 2ND LOOK	3841
54	SCENE DATA BP 6 CH 1	16257	198	SCENE DATA BP 24 CH 1	16258
56	CH 2	16557	200	CH 2	16553
58	REFLECTOR POSITION 7	3841	202	REFLECTOR POSITION 25	3841
60	REFL POS 7 2ND LOOK	3841	204	REFL POS 25 2ND LOOK	3841
62	SCENE DATA BP 7 CH 1	16259	206	SCENE DATA BP 25 CH 1	16259
64	CH 2	16554	208	CH 2	16553
66	REFLECTOR POSITION 8	3841	210	REFLECTOR POSITION 26	3841
68	REFL POS 8 2ND LOOK	3841	212	REFL POS 26 2ND LOOK	3841
70	SCENE DATA BP 8 CH 1	16260	214	SCENE DATA BP 26 CH 1	16262
72	CH 2	16558	216	CH 2	16551
74	REFLECTOR POSITION 9	3841	218	REFLECTOR POSITION 27	3841
76	REFL POS 9 2ND LOOK	3841	220	REFL POS 27 2ND LOOK	3841
78	SCENE DATA BP 9 CH 1	16256	222	SCENE DATA BP 27 CH 1	16261
80	CH 2	16552	224	CH 2	16555
82	REFLECTOR POSITION 10	3841	226	REFLECTOR POSITION 28	3841
84	REFL POS 10 2ND LOOK	3841	228	REFL POS 28 2ND LOOK	3841
86	SCENE DATA BP 10 CH 1	16251	230	SCENE DATA BP 28 CH 1	16261
88	CH 2	16556	232	CH 2	16558
90	REFLECTOR POSITION 11	3841	234	REFLECTOR POSITION 29	3841
92	REFL POS 11 2ND LOOK	3841	236	REFL POS 29 2ND LOOK	3841

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16257
96		CH	2	16552
98	REFLECTOR POSITION 12			3841
100	REFL POS 12 2ND LOOK			3841
102	SCENE DATA BP 12	CH	1	16255
104		CH	2	16554
106	REFLECTOR POSITION 13			3841
108	REFL POS 13 2ND LOOK			3841
110	SCENE DATA BP 13	CH	1	16259
112		CH	2	16555
114	REFLECTOR POSITION 14			3841
116	REFL POS 14 2ND LOOK			3841
118	SCENE DATA BP 14	CH	1	16260
120		CH	2	16556
122	REFLECTOR POSITION 15			3841
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16261
128		CH	2	16555
130	REFLECTOR POSITION 16			3841
132	REFL POS 16 2ND LOOK			3841
134	SCENE DATA BP 16	CH	1	16260
136		CH	2	16555

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16258
240		CH	2	16552
242	REFLECTOR POSITION 30			3841
244	REFL POS 30 2ND LOOK			3841
246	SCENE DATA BP 30	CH	1	16258
248		CH	2	16553
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	17801	22.36
264	FEED HORN	17747	22.55
266	RF MUX	17753	23.61
268	MIXER/IF AMPLIFIER CHANNEL 1	18780	24.28
270	MIXER/IF AMPLIFIER CHANNEL 2	18781	24.37
272	LOCAL OSCILLATOR CHANNEL 1	18435	24.00
274	LOCAL OSCILLATOR CHANNEL 2	18757	25.03
276	COMPENSATION MOTOR	17496	23.09
278	SUB REFLECTOR	17838	22.73
280	DC/DC CONVERTER	19504	25.88
282	RF SHELF	18301	23.36
284	DETECTOR/PREAMP ASSEMBLY	18197	23.52
286	WARM LOAD CENTER	22905	22.83
288	WARM LOAD 1	22932	22.86
290	WARM LOAD 2	22878	22.83
292	WARM LOAD 3	22969	22.87
294	WARM LOAD 4	23059	22.84
296	WARM LOAD 5	23112	22.87
298	WARM LOAD 6	22821	22.76
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
CANNER POWER	ON	ON	ON
OMPENSATOR MOTOR POWER	ON	ON	ON
NTENNA IN WARM CAL POSITION MODE	NO	NO	NO
NTENNA IN COLD CAL POSITION MODE	NO	NO	NO
NTENNA IN NADIR POSITION MODE	YES	YES	YES
NTENNA IN FULL SCAN MODE	NO	NO	NO
URVIVAL HEATER POWER	OFF	OFF	OFF
ODULE POWER	ON	ON	ON
OLD CAL POSITION MSB	ZERO	ZERO	ZERO
OLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
F SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
OMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
CANNER MOTOR TEMPERATURE	214	18.0	215	19.4	214	18.0
ARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
NTENNA DRIVE MOTOR CURRENT (AVERAGE)	4	3.73	4	3.73	4	3.73
OMPENSATOR MOTOR CURRENT (AVERAGE)	4	3.73	4	3.73	4	3.73
IGNAL PROCESSING +15 VDC	167	14.41	167	14.41	167	14.41
NTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
IGNAL PROCESSING -15 VDC	146	-15.25	146	-15.25	146	-15.25
NTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
ECEIVER +10 VDC	169	9.76	169	9.76	169	9.76
ADIOMETER, RECEIVER, PROCESSOR +5 VDC	144	4.80	144	4.80	144	4.80
NTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
UNN DIODE OSC #1 (CHANNEL 1) VDC	171	9.78	171	9.78	171	9.78
UNN DIODE OSC #2 (CHANNEL 2) VDC	170	9.73	170	9.73	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
ARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
IXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
ASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
'IXED TARGET SHROUD	532	32.00	533	33.00
'ARIABLE TARGET SHROUD	515	7.00	516	8.00
'IXED TARGET N2	502	30.00	503	31.00
'ARIABLE TARGET N2	507	5.00	508	6.00
[EATER N2	505	1.00	506	2.00
'IXED TARGET FLOW METER	504	34.00		
'ARIABLE TARGET FLOW METER	509	9.00		
ASEPLATE HEATER N2	510	3.00	511	4.00
ASEPLATE N2	512	36.00	513	37.00
ASEPLATE FLOW METER	514	35.00		
DJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MSU A2-30 A2.EXE NADIR MODE 19-NOV-99 15:26:17 SCAN NUMBER 2338

5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA
CHANNEL 1

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16255	9	16256	17	16255	25	16256
2	16258	10	16253	18	16253	26	16261
3	16257	11	16253	19	16252	27	16258
4	16253	12	16252	20	16257	28	16253
5	16254	13	16255	21	16255	29	16254
6	16257	14	16255	22	16257	30	16256
7	16255	15	16256	23	16256	CC	0
8	16253	16	16256	24	16257	WC	0

21] UP [22] DOWN

POWER [4] ON

SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - NADIR Mode

PN: 1331200-2-IT SN: 108 IP 3.2.4.3.4.4 TDS 30 TEST ENG. D Lund DATE: 11/19/99

Quality: (268)

```
MSU  A2-30 A2.EXE    NADIR MODE          19-NOV-99  15:26:35  SCAN NUMBER  2340
 5 ] DIGITAL A DATA  ELEMENT 0000

 6 ] DIGITAL B DATA  ELEMENT   00

 7 ] ANALOG DATA     ELEMENT   00
```

RADIOMETRIC DATA
CHANNEL 2

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	16552	9	16555	17	16555	25	16548
2	16549	10	16555	18	16551	26	16552
3	16547	11	16554	19	16553	27	16558
4	16555	12	16550	20	16549	28	16553
5	16552	13	16549	21	16553	29	16551
6	16558	14	16550	22	16548	30	16553
7	16548	15	16556	23	16555	CC	0
8	16551	16	16549	24	16550	WC	0

```
21 ] UP                  [ 22 ] DOWN

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 2
```

U A2-30 A2.EXE NADIR MODE 19-NOV-99 15:27:01 SCAN NUMBER 2344
] DIGITAL A DATA ELEMENT 0000

] DIGITAL B DATA ELEMENT 00

] ANALOG DATA ELEMENT 00

DIGITAL A TEMPERATURES

	DATA	TEMP C	NO		DATA	TEMP C
SCAN MOTOR	17806	22.37	11	RF SHELF	18321	23.40
FEED HORN	17751	22.56	12	DET/PREAMP	18222	23.57
RF MUX	17779	23.66	13	WARM LOAD CNTR	22877	22.77
MIXER IF CH 1	18813	24.34	14	WARM LOAD 1	22929	22.85
MIXER IF CH 2	18824	24.45	15	WARM LOAD 2	22889	22.85
LO CHANNEL 1	18465	24.06	16	WARM LOAD 3	22991	22.91
LO CHANNEL 2	18821	25.15	17	WARM LOAD 4	23086	22.89
COMP MOTOR	17498	23.10	18	WARM LOAD 5	23137	22.92
SUBREFLECTOR	17843	22.74	19	WARM LOAD 6	22859	22.84
DC/DC CONVERTER	19621	26.10	THERMAL REFERENCE		25115	

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
ELECT_TOUCHSCREEN_BUTTON 2

Digital A Data - NADIR Mode

PN: 1331200-2-IT SN: 108 TP 214344 TDS 31 TEST ENG. [signature] DATE: 11/19/99

TEST DATA SHEET 31

Nadir Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.4)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	P
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	P

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

R. [signature] 11-20-98
Customer Representative Date

Date
(Flight Hardware Only)

D. Lee 11/19/99
Test Systems Engineer Date

11.29.99
Quality Control

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      20-NOV-99  09:58:5_  SCAN NUMBER  2754
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00
```

ANALOG DATA

1	RF SHELF	214	18.01 DEG C	9	SIGNAL PROCESSING	-15VDC	-15.20
2	COMPENSATOR MOTOR	213	16.65 DEG C	10	ANTENNA DRIVE	-15VDC	-15.00
3	SCANNER MOTOR	214	18.01 DEG C	11	RECEIVER	+10VDC	9.82
4	WARM LOAD	214	18.01 DEG C	12	RAD/RECEIVER/SIG PROC	+5 VDC	4.83
5	ANTENNA DRIVE MOTOR CURRENT		93.20	13	ANTENNA DRIVE	+5 VDC	4.93
6	COMPENSATOR MOTOR CURRENT		96.00	14	GUNN DIODE OSC #1 CH 1	VDC	9.84
7	SIGNAL PROCESSING	+15VDC	14.58	15	GUNN DIODE OSC #2 CH 2	VDC	9.84
8	ANTENNA DRIVE	+15VDC	15.02				

```
        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT_TOUCHSCREEN_BUTTON 2
```

Analog TLM Measurements

TP 3.2.4.3.5.2 TPS 33

PN: 1331[illegible]2-IT SN: 108

TEST ENG. [signature] DATE: 11/20/99

(7A)

TEST DATA SHEET 33

Analog Telemetry Signals by Way of the STE (Paragraph 3.2.4.3.5.2)

Description	*	Measured (Deg. C)	Required (Deg. C)	Pass/Fail
A2 Scanner Motor	Temp	18.01	25 ± 15	P
A2 RF Shelf A2 Temp.	Temp	18.01	25 ± 15	
A2 Warm Load	Temp	18.01	25 ± 15	
A2 Compensator Motor	Temp	16.65	25 ± 15	P
		(mAmps)	(mAmps)	
Ant A2 Drv Motor Current		93.20	150 mA max	P
Ant A2 Comp. Motor Current		96.00	150 mA max	P
		(Volts)	(Volts)	
Signal Processor	+15V	14.58	15.0V ± 0.75V	P
Antenna Drive	+15V	15.02	15.0V ± 1.5V	
Signal Processor	-15V	-15.20	-15.0V ± 0.75V	
Antenna Drive	-15V	-15.00	-15.0V ± 1.5V	
Mixer/IF	***	9.823	***10 ± 0.5V	
Signal Processor	+5V	4.85 10 Ld 11/20/99	5.0V ± 0.5V	
Antenna Drive	+5V	4.93	5.0V ± 0.6V	
L.O. #1	**	9.84	**10 ± 0.5V	
L.O. #2	**	9.84	**10 ± 0.5V	P

* Data from the printout sheet Page 8. Rewriting data on this space is optional.
** L.O. voltages from manufacturer data sheet for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.
*** Mixer/IF voltage: +8V for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.

METSAT/AMSU ~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

10 Ld 11/20/99
Test Systems Engineer Date

11-20-99
Customer Representative Date

11-20-99
Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET 34
Integrate/Hold and Dump Signal Verification (Paragraph 3.2.4.3.6.1)

ATTACH PHOTOGRAPH OR PLOT HERE

Parameter	Measured	Required	Pass/ Fail
Scope Channel-1: Integration/Hold			
Time (A)*	157.9 ms	158 ms ± 10%	P
Time (B)*	44.54 ms	42 ms ± 10%	P
Amplitude	5 V	5.0 V ± 0.2V	P
Scope Channel-2: Dump Signal			
Time (D)*	12.44 ms	9 ms to 15 ms	P
Amplitude	5.04 V	5.0 V ± 0.2V	P

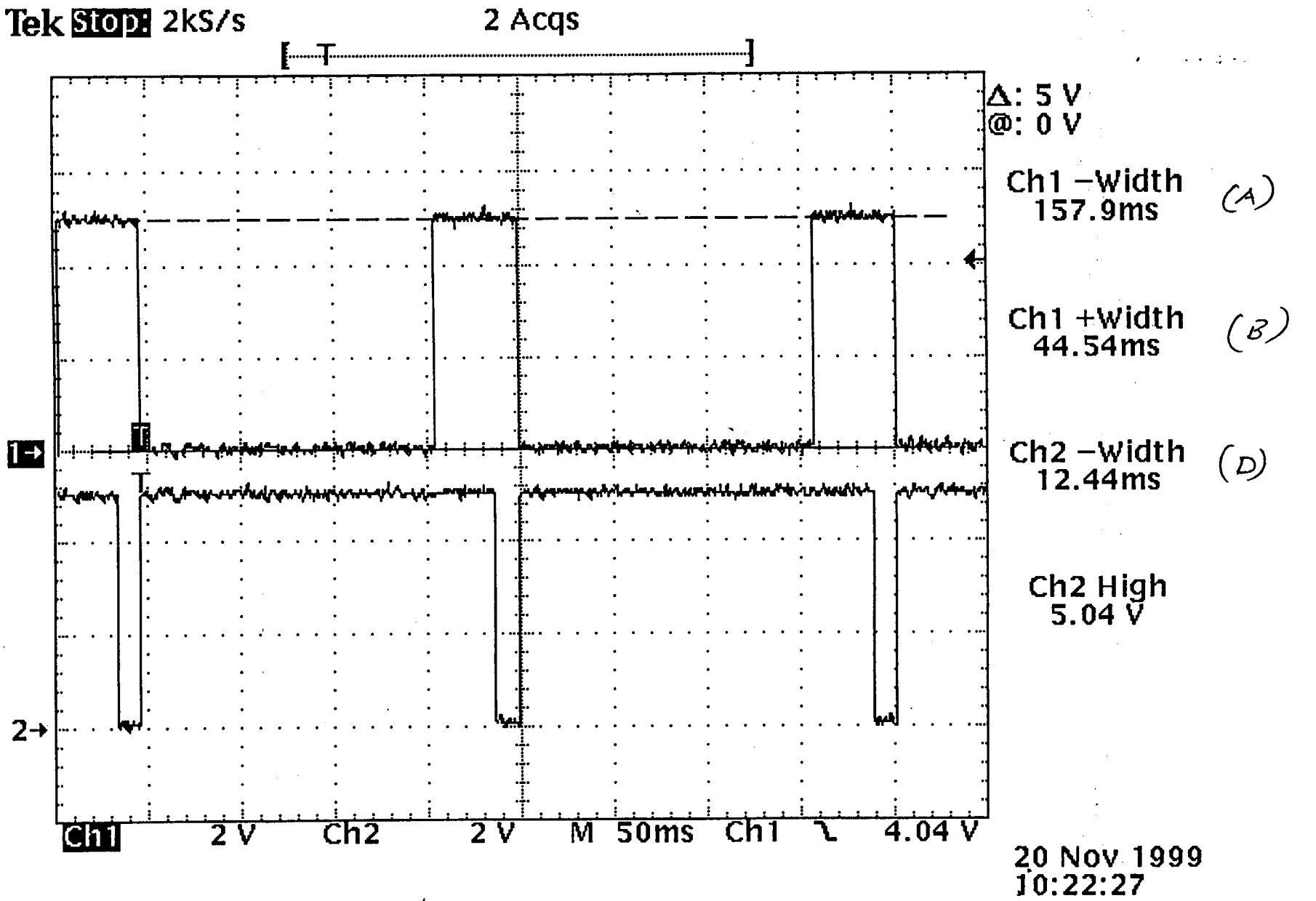
* Refer to Figure 2 for waveform configuration.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

D Lind 11/20/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

QA 268 11.20.99
Quality Control



Integrate/Hold & Dump Clocks

PN: 1331200-2-IT SN: 108 P 32.4.36.1 TDS 34 TEST ENG. [signature] DATE: 11/20/99

TEST DATA SHEET 35
Integration Time (Analog Output) Verification (Paragraph 3.2.4.3.6.2)

ATTACH PHOTOGRAPH OR PLOT HERE

J7 - pin 8 signal
Frequency: 23.8 GHz

INTEGRATION (X) *
Measured 157.9 ms
Required 158 ms ± 10%
Pass/Fail P

HOLD (B-D) **
Measured 32.06 ms
Required 32 ms ± 10%
Pass/Fail P

DUMP (D) *
Measured 12.5 ms
Required 9 ms to 15 ms
Pass/Fail P

ATTACH PHOTOGRAPH OR PLOT HERE

J7 - pin 9 signal
Frequency: 31.4 GHz

INTEGRATION (X) *
Measured 157.9 ms
Required 158 ms ± 10%
Pass/Fail P

HOLD (B-D) **
Measured 32.06 ms
Required 32 ms ± 10%
Pass/Fail P

DUMP (D) *
Measured 12.5 ms
Required 9 ms to 15 ms
Pass/Fail P

* Refer to Figure 2 for waveform configuration.
** Refer to Data Sheet 34 and Figure 2.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

R. [signature] 11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

D Lord 11/20/99
Test Systems Engineer Date

268 11-20-99
Quality Control

TEST DATA SHEET 36

Digital-A/GSE Mode-1 Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.7.2)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		0	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

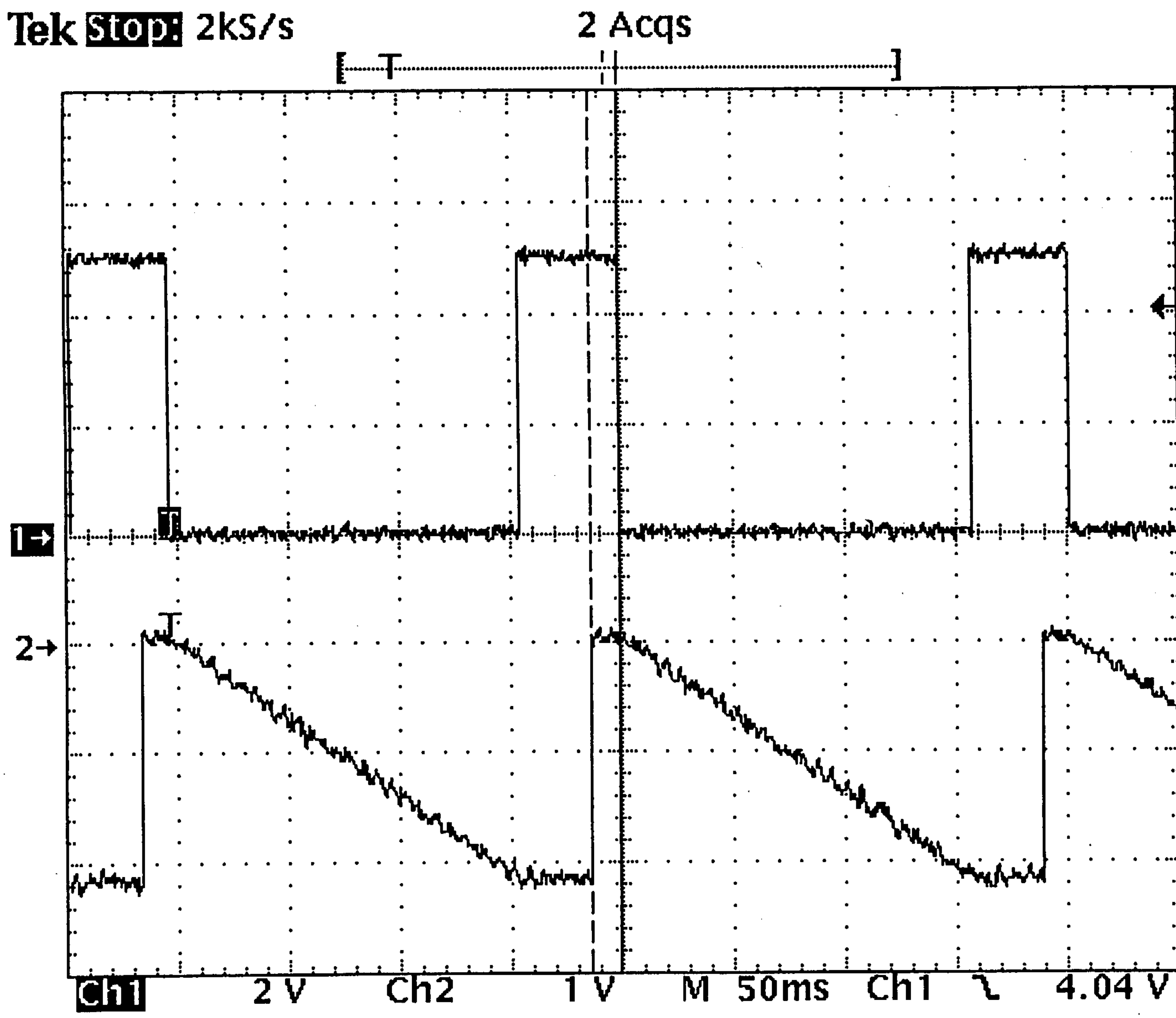
N/A
11/20/99

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Quality Control Date

CH 1



Δ: 12.5ms Dump (D)
@: 201.5ms

Ch1 −Width Integration
157.9ms

Ch1 +Width (B)
44.56ms

Hold = (44.56 − 12.5) mS
= 32.06 mS

20 Nov 1999
10:35:44

CH 1

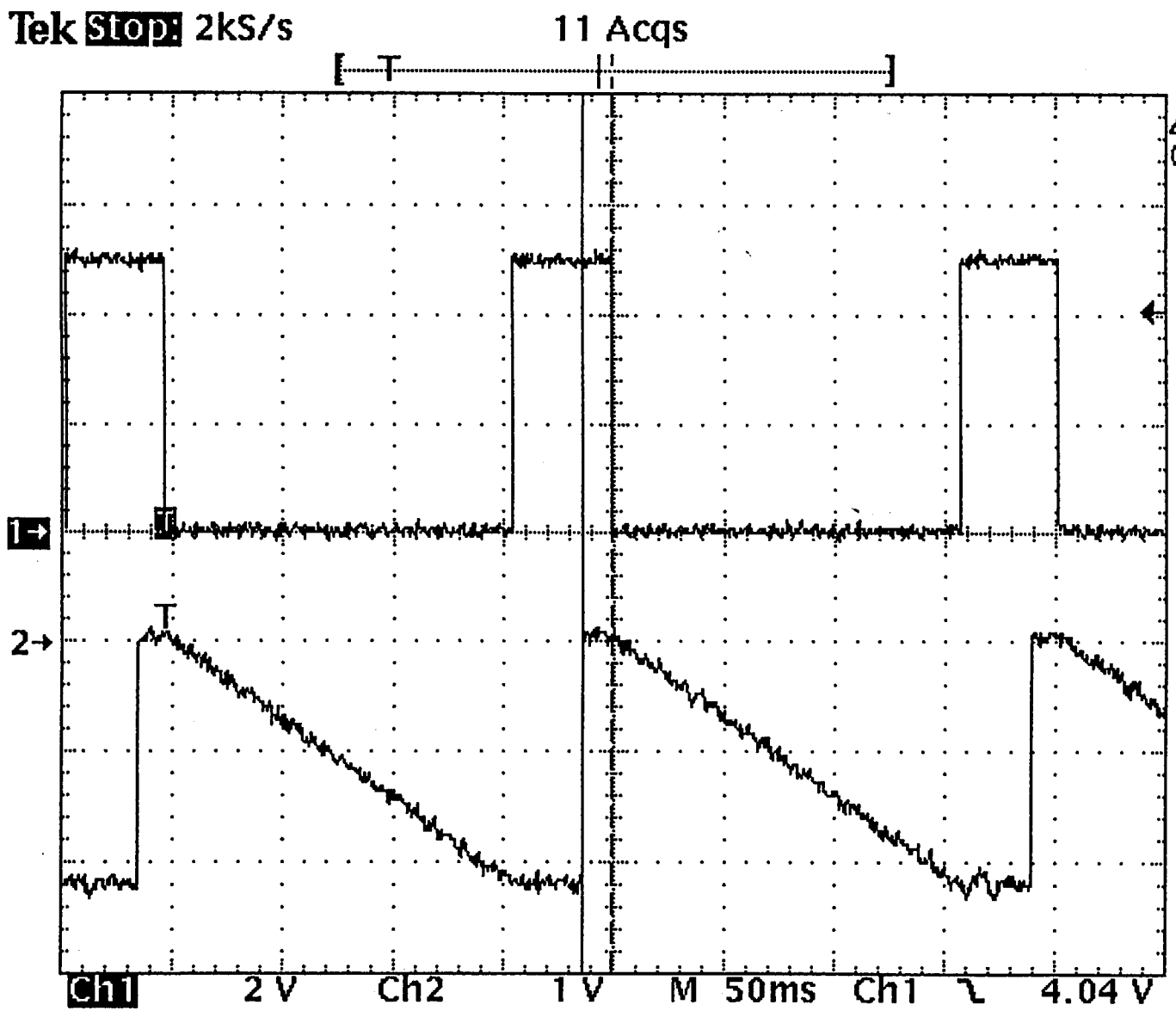
PN: 1331200-2-IT SN: 108 Integration Time

SO: 335168 (OP. 0750. 1ST CPT)

TEST ENG: D Lord DATE: 11/20/99

Quality: 17A 268

CH 2



Dump (D)

Integration

(B)

Hold = (44.56 − 12.5) mS

= 32.06 mS

20 Nov 1999
10:38:10

CH 2

TEST DATA SHEET 37 (Sheet 1 of 2)
Digital A/GSE Modes-1-4 Reflector Position Section [IV] (Paragraphs 3.2.4.3.7.2 - 3.2.4.3.7.5)

3.2.4.3.7.2 Digital A/GSE Mode-1 Reflector Position Section [IV]

BP	Reflector			
	Note	Position*	Required**	Pass/Fail
06	1st 10 data			
WC	2nd 10 data			
CC	3rd 10 data			

3.2.4.3.7.3 Digital A/GSE Mode-2 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
01			

3.2.4.3.7.4 Digital A/GSE Mode-3 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
***			

3.2.4.3.7.5 Digital A/GSE Mode-4 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
30			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.
*** Current Position

N/A D Ford 11/20/99

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 37 (Sheet 2 of 2)
Digital A/GSE Modes-1-4 Reflector Position Section [IV] (Paragraphs 3.2.4.3.7.2 - 3.2.4.3.7.5)

3.2.4.3.7.6 Digital A/GSE Mode-5 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
06			

3.2.4.3.7.7 Digital A/GSE Mode-7 Reflector Position Section [IV]

BP	Reflector		
	Position*	Required**	Pass/Fail
06			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.

N/A
11/20/99

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____
Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET 38

Digital A/GSE Mode-1 Radiometer Data Section [V] (Paragraph 3.2.4.3.7.2)

BP	Channel-1 (23.8 GHz)		
	Measured*	Required**	Pass/Fail
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CC		0	
WC		0	

N/A
D Ford 11/20/99

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.

** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Quality Control Date

TEST DATA SHEET 39

Digital A/GSE Mode-1 Temperature Sensors Section [VI] (Paragraph 3.2.4.3.7.2)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Scan Motor		25 ± 15	
0264	Feedhorn		25 ± 15	
0266	RF Mux		25 ± 15	
0268	Mixer I.F. Amp. Channel 1		25 ± 15	
0270	Mixer I.F. Amp. Channel 2		25 ± 15	
0272	Local Oscillator Channel 1		25 ± 15	
0274	Local Oscillator Channel 2		25 ± 15	
0276	Compensation Motor		25 ± 15	
0278	Subreflector		25 ± 15	
0280	DC/DC Converter		25 ± 15	
0282	RF Shelf		25 ± 15	
0284	Detector/Preamp Assembly		25 ± 15	
0286	Warm Load Center		25 ± 15	
0288	Warm Load 1		25 ± 15	
0290	Warm Load 2		25 ± 15	
0292	Warm Load 3		25 ± 15	
0294	Warm Load 4		25 ± 15	
0296	Warm Load 5		25 ± 15	
0298	Warm Load 6		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.

** Count of 24,552 +1765, -1308.

N/A 11/20/99

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

_____
Test Systems Engineer Date

_____
Quality Control Date

A2 FUNCTIONAL TEST RESULTS

A2.EXE 18-NOV-99 09:13:54

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.67	16229.0	13390.0	0.076	0.183
2	295.67	16524.0	13574.0	0.073	0.219

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT_TOUCHSCREEN_BUTTON 2

NEΔT

3.2.4.4.1.2

PN: 1331200-2-IT SN: 108

TEST ENG. D Lad DATE: 11/18/99

A2 FUNCTIONAL TEST RESULTS
A2.EXE 18-NOV-99 09:15:14

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.71	16228.0	13392.0	0.076	0.157
2	295.71	16523.0	13578.0	0.073	0.214

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT_TOUCHSCREEN_BUTTON 2

A2 FUNCTIONAL TEST RESULTS
A2.EXE 18-NOV-99 09:16:26

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.71	16227.0	13398.0	0.076	0.169
2	295.71	16522.0	13585.0	0.073	0.233

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT_TOUCHSCREEN_BUTTON 2

A2 FUNCTIONAL TEST RESULTS 09:17:38
.2.EXE 18-NOV-99

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.70	16227.0	13407.0	0.076	0.187
2	295.70	16521.0	13598.0	0.074	0.209

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

RETURN [1]

[5] PRINT DISTRIBUTION GRAPH

SELECT_TOUCHSCREEN_BUTTON 2

A2 FUNCTIONAL TEST RESULTS
A2.EXE 18-NOV-99 09:18:42

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.75	16226.0	13414.0	0.077	0.175
2	295.75	16521.0	13610.0	0.074	0.232

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT_TOUCHSCREEN_BUTTON 2

TEST DATA SHEET 40

Radiometer Relative NEΔT Verification (Paragraph 3.2.4.4.1.2)

Channel	Channel 1	Channel 2
NEΔT (Average of 5 data)	0.174	0.221
NEΔT (specified)*	0.30 K	0.30 K
Pass/Fail**	P	P

* For reference only.
** Use first CPT or first LPT data along with specified value for pass fail criteria.

METSAT/AMSU-~~A2 System~~ CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: 1st CPT Final CPT Sub CPT _____

Customer Representative Date 11-20-99
Date
(Flight Hardware Only)

Test Systems Engineer Date 11/18/99
268

Quality Control 11-20-99

TEST DATA SHEET NO. 40A

Channel Identification Test (Paragraph 3.2.4.4.2)

Channel Number	Sweeper Frequency Setting (GHz)	Polarization (H/V)	Radiometric Data (Δ Counts)	Channel Verified (Yes/No)
1	23.8	V	16570	Yes

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108

Circle Test: 1st CPT Final CPT Sub CPT _____

D Lund 11/20/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
(Flight Hardware Only)

11-20-99
Quality Control

AMSU A2-30 A2.EXE COLD CAL MODE 20-NOV-99 11:19:3- SCAN NUMBER 3321
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA

BEAM POSITION 30

CH	DATA
1	16197
2	16489

[21] UP [22] DOWN

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT_TOUCHSCREEN_BUTTON 2

R.F. Power OFF

Channel Identification
IP 3.2.4.4.2 TDS 40A

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. D Lud DATE: 11/20/99
Quality: 7A 268

ISU A2-30 A2.EXE COLD CAL MODE 20-NOV-99 11:21:1[illegible] SCAN NUMBER 3333
5] DIGITAL A DATA ELEMENT 0000

6] DIGITAL B DATA ELEMENT 00

7] ANALOG DATA ELEMENT 00

RADIOMETRIC DATA

BEAM POSITION 30

CH	DATA
1	32767
2	16498

21] UP [22] DOWN

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 2

CH 1 (Δ Counts)

32767 - 16197 = 16570

RF Power ON

MLB L.I. Pre-inject

```
3U  A2-30 A2.EXE    FULL SCAN MODE      18-NOV-99  12:40:42  SCAN NUMBER   170
5 ] DIGITAL A DATA  ELEMENT 0000

5 ] DIGITAL B DATA  ELEMENT   00

7 ] ANALOG DATA     ELEMENT   00

                              COMMANDS
9 ]  MODULE POWER =          CONNECT   ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

10 ] SURVIVAL HEATER POWER =    ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]

11 ] MODULE TOTALLY OFF =       ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

12 ] SCANNER A2 POWER =         ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]

13 ] COMPENSATOR MOTOR POWER =  ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]

14 ] ANTENNA IN WARM CAL POSIT = NO

       POWER [ 4 ]  ON
                    SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
SELECT_TOUCHSCREEN_BUTTON 3
```

MLB Transient Susceptibility
TP 3.2.4.2.1.3.2 Low Freq.

TEST ENG. [signature] DATE: 11/18/99

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16297
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16583
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16303
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16581
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5966	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16301	158	SCENE DATA BP 19 CH 1	16304
16	CH 2	16580	160	CH 2	16582
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3076
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16302	166	SCENE DATA BP 20 CH 1	16304
24	CH 2	16586	168	CH 2	16588
26	REFLECTOR POSITION 3	5657	170	REFLECTOR POSITION 21	2926
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16307	174	SCENE DATA BP 21 CH 1	16304
32	CH 2	16585	176	CH 2	16581
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2774
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16306	182	SCENE DATA BP 22 CH 1	16307
40	CH 2	16590	184	CH 2	16585
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16301	190	SCENE DATA BP 23 CH 1	16299
48	CH 2	16584	192	CH 2	16582
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16303	198	SCENE DATA BP 24 CH 1	16300
56	CH 2	16590	200	CH 2	16577
58	REFLECTOR POSITION 7	5051	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5056	204	REFL POS 25 2ND LOOK	2325
62	SCENE DATA BP 7 CH 1	16310	206	SCENE DATA BP 25 CH 1	16302
64	CH 2	16583	208	CH 2	16578
66	REFLECTOR POSITION 8	4899	210	REFLECTOR POSITION 26	2169
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16306	214	SCENE DATA BP 26 CH 1	16299
72	CH 2	16586	216	CH 2	16579
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2015
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16308	222	SCENE DATA BP 27 CH 1	16306
80	CH 2	16591	224	CH 2	16578
82	REFLECTOR POSITION 10	4596	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16305	230	SCENE DATA BP 28 CH 1	16300
88	CH 2	16587	232	CH 2	16585
90	REFLECTOR POSITION 11	4444	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4449	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16305
96		CH	2	16585
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16304
104		CH	2	16584
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16304
112		CH	2	16584
114	REFLECTOR POSITION 14			3988
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16302
120		CH	2	16579
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16295
128		CH	2	16589
130	REFLECTOR POSITION 16			3684
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16295
136		CH	2	16588

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16303
240		CH	2	16578
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16302
248		CH	2	16578
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16358
254	COLD CAL DATA 1	CH	1	16307
256		CH	2	16581
258	COLD CAL DATA 2	CH	1	16302
260		CH	2	16585
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16288
308		CH	2	16578
310	WARM CAL DATA 2	CH	1	16284
312		CH	2	16575

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18009	22.75
264	FEED HORN	17693	22.45
266	RF MUX	17399	22.95
268	MIXER/IF AMPLIFIER CHANNEL 1	18301	23.36
270	MIXER/IF AMPLIFIER CHANNEL 2	18289	23.43
272	LOCAL OSCILLATOR CHANNEL 1	17999	23.17
274	LOCAL OSCILLATOR CHANNEL 2	18081	23.74
276	COMPENSATION MOTOR	17348	22.81
278	SUB REFLECTOR	17954	22.95
280	DC/DC CONVERTER	18455	23.88
282	RF SHELF	18002	22.80
284	DETECTOR/PREAMP ASSEMBLY	17791	22.75
286	WARM LOAD CENTER	22892	22.80
288	WARM LOAD 1	22926	22.84
290	WARM LOAD 2	22922	22.92
292	WARM LOAD 3	23012	22.95
294	WARM LOAD 4	23099	22.91
296	WARM LOAD 5	23150	22.95
298	WARM LOAD 6	22853	22.82
300	TEMP SENSOR REFERENCE VOLTAGE	25112	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	214	18.0	214	18.0	214	18.0
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	100	93.20
COMPENSATOR MOTOR CURRENT (AVERAGE)	101	94.13	100	93.20	101	94.13
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	171	14.76	171	14.76	172	14.84
SIGNAL PROCESSING -15 VDC	148	-15.15	148	-15.15	148	-15.15
ANTENNA DRIVE -15 VDC	148	-15.15	148	-15.15	149	-15.10
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	146	4.87	146	4.87	146	4.87
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB L.T. Post-Typed

```
3U  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  12:45:34  SCAN NUMBER   206
5 ] DIGITAL A DATA   ELEMENT 0000

6 ] DIGITAL B DATA   ELEMENT   00

7 ] ANALOG DATA      ELEMENT   00


                                  COMMANDS
9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

10 ] SURVIVAL HEATER POWER =      ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]

11 ] MODULE TOTALLY OFF =         ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

12 ] SCANNER A2 POWER =           ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]

13 ] COMPENSATOR MOTOR POWER =    ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]

14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

MLB Transient Susceptibility
TP 3.2.4.2.1, 3.2 Low Freq.

TEST ENG. [signature] DATE: 11/18/99

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3531
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17	CH 1	16280
4	UNIT ID AND SERIAL NO		00011110	144		CH 2	16556
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18	CH 1	16284
8	DIGITAL B DATA BYTE 4		00000000	152		CH 2	16562
10	REFLECTOR POSITION 1		5967	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5966	156	REFL POS 19 2ND LOOK		3235
14	SCENE DATA BP 1	CH 1	16279	158	SCENE DATA BP 19	CH 1	16278
16		CH 2	16558	160		CH 2	16559
18	REFLECTOR POSITION 2		5810	162	REFLECTOR POSITION 20		3077
20	REFL POS 2 2ND LOOK		5814	164	REFL POS 20 2ND LOOK		3082
22	SCENE DATA BP 2	CH 1	16281	166	SCENE DATA BP 20	CH 1	16285
24		CH 2	16561	168		CH 2	16564
26	REFLECTOR POSITION 3		5657	170	REFLECTOR POSITION 21		2926
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3	CH 1	16283	174	SCENE DATA BP 21	CH 1	16286
32		CH 2	16559	176		CH 2	16557
34	REFLECTOR POSITION 4		5507	178	REFLECTOR POSITION 22		2775
36	REFL POS 4 2ND LOOK		5511	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4	CH 1	16281	182	SCENE DATA BP 22	CH 1	16283
40		CH 2	16566	184		CH 2	16560
42	REFLECTOR POSITION 5		5355	186	REFLECTOR POSITION 23		2622
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5	CH 1	16279	190	SCENE DATA BP 23	CH 1	16282
48		CH 2	16562	192		CH 2	16557
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6	CH 1	16284	198	SCENE DATA BP 24	CH 1	16283
56		CH 2	16567	200		CH 2	16560
58	REFLECTOR POSITION 7		5052	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5056	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7	CH 1	16283	206	SCENE DATA BP 25	CH 1	16284
64		CH 2	16558	208		CH 2	16556
66	REFLECTOR POSITION 8		4899	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4904	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8	CH 1	16282	214	SCENE DATA BP 26	CH 1	16280
72		CH 2	16556	216		CH 2	16557
74	REFLECTOR POSITION 9		4746	218	REFLECTOR POSITION 27		2016
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9	CH 1	16281	222	SCENE DATA BP 27	CH 1	16280
80		CH 2	16559	224		CH 2	16556
82	REFLECTOR POSITION 10		4595	226	REFLECTOR POSITION 28		1865
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10	CH 1	16283	230	SCENE DATA BP 28	CH 1	16279
88		CH 2	16561	232		CH 2	16557
90	REFLECTOR POSITION 11		4444	234	REFLECTOR POSITION 29		1713
92	REFL POS 11 2ND LOOK		4448	236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16281
96		CH	2	16560
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16279
104		CH	2	16559
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16280
112		CH	2	16557
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16283
120		CH	2	16558
122	REFLECTOR POSITION 15			3835
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16282
128		CH	2	16564
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16277
136		CH	2	16569

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16286
240		CH	2	16559
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16282
248		CH	2	16557
250	REFLECTOR COLD CAL POS			16356
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16285
256		CH	2	16562
258	COLD CAL DATA 2	CH	1	16285
260		CH	2	16566
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16266
308		CH	2	16546
310	WARM CAL DATA 2	CH	1	16262
312		CH	2	16554

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18035	22.80
264	FEED HORN	17752	22.56
266	RF MUX	17523	23.18
268	MIXER/IF AMPLIFIER CHANNEL 1	18465	23.67
270	MIXER/IF AMPLIFIER CHANNEL 2	18488	23.81
272	LOCAL OSCILLATOR CHANNEL 1	18142	23.44
274	LOCAL OSCILLATOR CHANNEL 2	18359	24.27
276	COMPENSATION MOTOR	17422	22.95
278	SUB REFLECTOR	17959	22.96
280	DC/DC CONVERTER	18912	24.75
282	RF SHELF	18092	22.97
284	DETECTOR/PREAMP ASSEMBLY	17898	22.95
286	WARM LOAD CENTER	22847	22.71
288	WARM LOAD 1	22912	22.82
290	WARM LOAD 2	22832	22.74
292	WARM LOAD 3	22992	22.91
294	WARM LOAD 4	23047	22.81
296	WARM LOAD 5	23139	22.93
298	WARM LOAD 6	22845	22.81
300	TEMP SENSOR REFERENCE VOLTAGE	25112	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	214	18.0	214	18.0	214	18.0
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	99	92.27	100	93.20
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	148	-15.15	148	-15.15	148	-15.15
ANTENNA DRIVE -15 VDC	148	-15.15	147	-15.20	147	-15.20
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 1.43Hz Pre-I

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  13:22:07  SCAN NUMBER   424
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

MLB Transient Susceptibility
TP 3.2.4.2.1.3.3 Hi Freq.
1.43 Hz Pre-Injection

PN: 1331200-2-IT SN: 108 TEST ENG [signature] DATE: 11/18/99

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16276
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16564
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16272
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16564
10	REFLECTOR POSITION 1	5966	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5966	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16267	158	SCENE DATA BP 19 CH 1	16271
16	CH 2	16553	160	CH 2	16559
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3083
22	SCENE DATA BP 2 CH 1	16268	166	SCENE DATA BP 20 CH 1	16273
24	CH 2	16563	168	CH 2	16553
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2926
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16274	174	SCENE DATA BP 21 CH 1	16272
32	CH 2	16558	176	CH 2	16563
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2774
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16276	182	SCENE DATA BP 22 CH 1	16272
40	CH 2	16566	184	CH 2	16556
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16268	190	SCENE DATA BP 23 CH 1	16272
48	CH 2	16559	192	CH 2	16559
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16274	198	SCENE DATA BP 24 CH 1	16275
56	CH 2	16564	200	CH 2	16559
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5056	204	REFL POS 25 2ND LOOK	2325
62	SCENE DATA BP 7 CH 1	16269	206	SCENE DATA BP 25 CH 1	16274
64	CH 2	16559	208	CH 2	16557
66	REFLECTOR POSITION 8	4899	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16270	214	SCENE DATA BP 26 CH 1	16270
72	CH 2	16564	216	CH 2	16561
74	REFLECTOR POSITION 9	4747	218	REFLECTOR POSITION 27	2016
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16269	222	SCENE DATA BP 27 CH 1	16271
80	CH 2	16556	224	CH 2	16557
82	REFLECTOR POSITION 10	4596	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16273	230	SCENE DATA BP 28 CH 1	16272
88	CH 2	16559	232	CH 2	16556
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4449	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16268
96		CH	2	16562
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16274
104		CH	2	16560
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16272
112		CH	2	16560
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16274
120		CH	2	16564
122	REFLECTOR POSITION 15			3835
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16272
128		CH	2	16566
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16273
136		CH	2	16573

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16271
240		CH	2	16554
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1566
246	SCENE DATA BP 30	CH	1	16272
248		CH	2	16557
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16274
256		CH	2	16563
258	COLD CAL DATA 2	CH	1	16271
260		CH	2	16569
302	REFLECTOR WARM CAL POS			11960
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16258
308		CH	2	16556
310	WARM CAL DATA 2	CH	1	16253
312		CH	2	16548

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18266	23.24
264	FEED HORN	18087	23.19
266	RF MUX	17972	24.03
268	MIXER/IF AMPLIFIER CHANNEL 1	18879	24.46
270	MIXER/IF AMPLIFIER CHANNEL 2	18887	24.57
272	LOCAL OSCILLATOR CHANNEL 1	18565	24.25
274	LOCAL OSCILLATOR CHANNEL 2	18764	25.05
276	COMPENSATION MOTOR	17728	23.53
278	SUB REFLECTOR	18142	23.30
280	DC/DC CONVERTER	19510	25.89
282	RF SHELF	18571	23.87
284	DETECTOR/PREAMP ASSEMBLY	18417	23.93
286	WARM LOAD CENTER	23044	23.10
288	WARM LOAD 1	23085	23.16
290	WARM LOAD 2	23038	23.15
292	WARM LOAD 3	23120	23.16
294	WARM LOAD 4	23206	23.12
296	WARM LOAD 5	23253	23.15
298	WARM LOAD 6	22953	23.02
300	TEMP SENSOR REFERENCE VOLTAGE	25113	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	100	93.20	99	92.27
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	148	-15.15	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 1.43Hz Post-It

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  13:25:25  SCAN NUMBER   449
[ 5 ] DIGITAL A DATA   ELEMENT 0000
[ 6 ] DIGITAL B DATA   ELEMENT   00
[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

MLB Transient Susceptibility
TP 3.2.4.2.1.3.3 Hi Freq.
1.43Hz Post-Injection

PN: 1331200-2-IT SN: 108 TEST ENG. (892) DATE: 11/18/99

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5966
12	REFL POS 1 2ND LOOK		5966
14	SCENE DATA BP 1	CH 1	16256
16		CH 2	16541
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2	CH 1	16252
24		CH 2	16539
26	REFLECTOR POSITION 3		5656
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3	CH 1	16255
32		CH 2	16539
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5511
38	SCENE DATA BP 4	CH 1	16255
40		CH 2	16543
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5	CH 1	16251
48		CH 2	16535
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6	CH 1	16257
56		CH 2	16540
58	REFLECTOR POSITION 7		5051
60	REFL POS 7 2ND LOOK		5055
62	SCENE DATA BP 7	CH 1	16259
64		CH 2	16539
66	REFLECTOR POSITION 8		4898
68	REFL POS 8 2ND LOOK		4903
70	SCENE DATA BP 8	CH 1	16257
72		CH 2	16537
74	REFLECTOR POSITION 9		4745
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9	CH 1	16254
80		CH 2	16542
82	REFLECTOR POSITION 10		4595
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10	CH 1	16255
88		CH 2	16541
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4448
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17	CH 1	16257
144		CH 2	16537
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18	CH 1	16254
152		CH 2	16539
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19	CH 1	16251
160		CH 2	16546
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3082
166	SCENE DATA BP 20	CH 1	16258
168		CH 2	16539
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21	CH 1	16255
176		CH 2	16539
178	REFLECTOR POSITION 22		2773
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22	CH 1	16257
184		CH 2	16536
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23	CH 1	16254
192		CH 2	16546
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24	CH 1	16252
200		CH 2	16544
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2324
206	SCENE DATA BP 25	CH 1	16258
208		CH 2	16540
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26	CH 1	16253
216		CH 2	16540
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27	CH 1	16257
224		CH 2	16547
226	REFLECTOR POSITION 28		1864
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28	CH 1	16256
232		CH 2	16541
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION		VALUE
94	SCENE DATA BP 11	CH 1	16257
96		CH 2	16539
98	REFLECTOR POSITION 12		4291
100	REFL POS 12 2ND LOOK		4297
102	SCENE DATA BP 12	CH 1	16256
104		CH 2	16538
106	REFLECTOR POSITION 13		4141
108	REFL POS 13 2ND LOOK		4146
110	SCENE DATA BP 13	CH 1	16252
112		CH 2	16538
114	REFLECTOR POSITION 14		3988
116	REFL POS 14 2ND LOOK		3993
118	SCENE DATA BP 14	CH 1	16259
120		CH 2	16544
122	REFLECTOR POSITION 15		3834
124	REFL POS 15 2ND LOOK		3841
126	SCENE DATA BP 15	CH 1	16254
128		CH 2	16548
130	REFLECTOR POSITION 16		3685
132	REFL POS 16 2ND LOOK		3690
134	SCENE DATA BP 16	CH 1	16252
136		CH 2	16557

ELEMENT	DESCRIPTION		VALUE
238	SCENE DATA BP 29	CH 1	16257
240		CH 2	16541
242	REFLECTOR POSITION 30		1560
244	REFL POS 30 2ND LOOK		1567
246	SCENE DATA BP 30	CH 1	16255
248		CH 2	16537
250	REFLECTOR COLD CAL POS		16357
252	REFL COLD CAL 2ND LOOK		16357
254	COLD CAL DATA 1	CH 1	16260
256		CH 2	16550
258	COLD CAL DATA 2	CH 1	16261
260		CH 2	16548
302	REFLECTOR WARM CAL POS		11961
304	REFL WARM CAL 2ND LOOK		11960
306	WARM CAL DATA 1	CH 1	16240
308		CH 2	16534
310	WARM CAL DATA 2	CH 1	16236
312		CH 2	16534

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18263	23.23
264	FEED HORN	18097	23.21
266	RF MUX	18013	24.11
268	MIXER/IF AMPLIFIER CHANNEL 1	18985	24.67
270	MIXER/IF AMPLIFIER CHANNEL 2	19000	24.79
272	LOCAL OSCILLATOR CHANNEL 1	18654	24.42
274	LOCAL OSCILLATOR CHANNEL 2	18931	25.36
276	COMPENSATION MOTOR	17762	23.59
278	SUB REFLECTOR	18150	23.32
280	DC/DC CONVERTER	19711	26.27
282	RF SHELF	18590	23.91
284	DETECTOR/PREAMP ASSEMBLY	18445	23.99
286	WARM LOAD CENTER	23023	23.06
288	WARM LOAD 1	23056	23.10
290	WARM LOAD 2	23021	23.11
292	WARM LOAD 3	23103	23.13
294	WARM LOAD 4	23184	23.08
296	WARM LOAD 5	23232	23.11
298	WARM LOAD 6	22942	23.00
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	101	94.13	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	171	14.76	171	14.76	171	14.76
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	148	-15.15	148	-15.15	148	-15.15
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 2.86Hz Pre-

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  13:33:47  SCAN NUMBER   484
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT     ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

MLB Transient Susceptibility
P 3.2.4.2.1.3.3 Hi Freq.
2.86Hz Pre-Injection

PN: 1331200-2-IT SN: 108 TEST ENG. D Lind DATE: 11/18/99

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5967
14	SCENE DATA BP 1 CH	1	16258
16	CH	2	16554
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2 CH	1	16261
24	CH	2	16555
26	REFLECTOR POSITION 3		5657
28	REFL POS 3 2ND LOOK		5661
30	SCENE DATA BP 3 CH	1	16268
32	CH	2	16558
34	REFLECTOR POSITION 4		5507
36	REFL POS 4 2ND LOOK		5511
38	SCENE DATA BP 4 CH	1	16269
40	CH	2	16554
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5 CH	1	16264
48	CH	2	16553
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6 CH	1	16269
56	CH	2	16555
58	REFLECTOR POSITION 7		5052
60	REFL POS 7 2ND LOOK		5056
62	SCENE DATA BP 7 CH	1	16264
64	CH	2	16554
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4904
70	SCENE DATA BP 8 CH	1	16269
72	CH	2	16554
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9 CH	1	16261
80	CH	2	16549
82	REFLECTOR POSITION 10		4595
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10 CH	1	16265
88	CH	2	16558
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4449
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17 CH	1	16261
144	CH	2	16555
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18 CH	1	16264
152	CH	2	16555
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19 CH	1	16265
160	CH	2	16556
162	REFLECTOR POSITION 20		3076
164	REFL POS 20 2ND LOOK		3083
166	SCENE DATA BP 20 CH	1	16266
168	CH	2	16552
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21 CH	1	16266
176	CH	2	16552
178	REFLECTOR POSITION 22		2775
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22 CH	1	16265
184	CH	2	16552
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23 CH	1	16261
192	CH	2	16555
194	REFLECTOR POSITION 24		2470
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24 CH	1	16263
200	CH	2	16551
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2325
206	SCENE DATA BP 25 CH	1	16263
208	CH	2	16549
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26 CH	1	16258
216	CH	2	16552
218	REFLECTOR POSITION 27		2016
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27 CH	1	16261
224	CH	2	16557
226	REFLECTOR POSITION 28		1865
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28 CH	1	16267
232	CH	2	16549
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16263
96		CH	2	16552
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16268
104		CH	2	16557
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16267
112		CH	2	16557
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16267
120		CH	2	16554
122	REFLECTOR POSITION 15			3835
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16264
128		CH	2	16562
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16263
136		CH	2	16570

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16262
240		CH	2	16548
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1566
246	SCENE DATA BP 30	CH	1	16259
248		CH	2	16550
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16264
256		CH	2	16557
258	COLD CAL DATA 2	CH	1	16259
260		CH	2	16557
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16250
308		CH	2	16550
310	WARM CAL DATA 2	CH	1	16246
312		CH	2	16543

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18239	23.18
264	FEED HORN	18122	23.26
266	RF MUX	18040	24.16
268	MIXER/IF AMPLIFIER CHANNEL 1	18964	24.63
270	MIXER/IF AMPLIFIER CHANNEL 2	18976	24.74
272	LOCAL OSCILLATOR CHANNEL 1	18643	24.40
274	LOCAL OSCILLATOR CHANNEL 2	18879	25.27
276	COMPENSATION MOTOR	17792	23.65
278	SUB REFLECTOR	18180	23.37
280	DC/DC CONVERTER	19605	26.07
282	RF SHELF	18610	23.94
284	DETECTOR/PREAMP ASSEMBLY	18477	24.05
286	WARM LOAD CENTER	23068	23.15
288	WARM LOAD 1	23114	23.21
290	WARM LOAD 2	23068	23.21
292	WARM LOAD 3	23159	23.24
294	WARM LOAD 4	23246	23.20
296	WARM LOAD 5	23262	23.17
298	WARM LOAD 6	22974	23.06
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	102	95.06	101	94.13	103	96.00
COMPENSATOR MOTOR CURRENT (AVERAGE)	103	96.00	103	96.00	105	97.86
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	174	15.02	173	14.93	175	15.10
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	151	-15.00	150	-15.05	152	-14.95
RECEIVER +10 VDC	170	9.82	170	9.82	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	149	4.97	148	4.93	150	5.00
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	171	9.78	171	9.78
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 2.86 Hz Post-(

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 13:37:02 SCAN NUMBER 509
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT = NO	[15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION = NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE = YES	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB = ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB = ZERO	[19]
[14] ANTENNA IN WARM CAL POSIT = NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

MLB Transient Susceptibility
TP 3.2.4.2.1.3.3 Hi Freq
2.86 Hz Post Injection

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. D Lud DATE: 11/18/99
Quality: ZA

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5966
14	SCENE DATA BP 1 CH	1	16247
16	CH	2	16532
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2 CH	1	16243
24	CH	2	16535
26	REFLECTOR POSITION 3		5657
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3 CH	1	16251
32	CH	2	16531
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5510
38	SCENE DATA BP 4 CH	1	16253
40	CH	2	16539
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5 CH	1	16243
48	CH	2	16527
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6 CH	1	16248
56	CH	2	16534
58	REFLECTOR POSITION 7		5051
60	REFL POS 7 2ND LOOK		5055
62	SCENE DATA BP 7 CH	1	16250
64	CH	2	16533
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4903
70	SCENE DATA BP 8 CH	1	16248
72	CH	2	16534
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9 CH	1	16248
80	CH	2	16536
82	REFLECTOR POSITION 10		4595
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10 CH	1	16244
88	CH	2	16535
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4448
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17 CH	1	16246
144	CH	2	16534
146	REFLECTOR POSITION 18		3381
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18 CH	1	16245
152	CH	2	16535
154	REFLECTOR POSITION 19		3230
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19 CH	1	16243
160	CH	2	16529
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3083
166	SCENE DATA BP 20 CH	1	16247
168	CH	2	16529
170	REFLECTOR POSITION 21		2925
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21 CH	1	16245
176	CH	2	16532
178	REFLECTOR POSITION 22		2775
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22 CH	1	16245
184	CH	2	16534
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23 CH	1	16247
192	CH	2	16531
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24 CH	1	16247
200	CH	2	16534
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2324
206	SCENE DATA BP 25 CH	1	16244
208	CH	2	16530
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26 CH	1	16242
216	CH	2	16533
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27 CH	1	16248
224	CH	2	16537
226	REFLECTOR POSITION 28		1864
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28 CH	1	16243
232	CH	2	16527
234	REFLECTOR POSITION 29		1714
236	REFL POS 29 2ND LOOK		1719

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	101	94.13	103	96.00	102	95.06
COMPENSATOR MOTOR CURRENT (AVERAGE)	103	96.00	105	97.86	104	96.93
SIGNAL PROCESSING +15 VDC	170	14.67	169	14.58	170	14.67
ANTENNA DRIVE +15 VDC	173	14.93	175	15.10	174	15.02
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	150	-15.05	152	-14.95	151	-15.00
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	148	4.93	149	4.97	149	4.97
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 6.67 Hz Pre-Inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 13:42:5? SCAN NUMBER 541
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT =	NO [15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION =	NO [16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE =	YES [17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO [18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO [19]
[14] ANTENNA IN WARM CAL POSIT =	NO		

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

MLB Transient Susceptibility
TP 3.2.4.2.1.3.3 Hi Freq
6.67 Hz Pre-Injection
TDS 41

PN: 1331200-2-IT SN: 108
SO: 335168 (OP 0750 1ST CPT)

TEST ENG. D Lund DATE: 11/18/99
Quality: 7A 268

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16256
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16547
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16252
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16545
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5967	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16252	158	SCENE DATA BP 19 CH 1	16256
16	CH 2	16545	160	CH 2	16545
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3083
22	SCENE DATA BP 2 CH 1	16256	166	SCENE DATA BP 20 CH 1	16257
24	CH 2	16546	168	CH 2	16539
26	REFLECTOR POSITION 3	5657	170	REFLECTOR POSITION 21	2926
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16258	174	SCENE DATA BP 21 CH 1	16256
32	CH 2	16545	176	CH 2	16541
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2775
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16258	182	SCENE DATA BP 22 CH 1	16257
40	CH 2	16548	184	CH 2	16539
42	REFLECTOR POSITION 5	5356	186	REFLECTOR POSITION 23	2623
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16252	190	SCENE DATA BP 23 CH 1	16256
48	CH 2	16539	192	CH 2	16544
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16256	198	SCENE DATA BP 24 CH 1	16257
56	CH 2	16545	200	CH 2	16546
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5056	204	REFL POS 25 2ND LOOK	2325
62	SCENE DATA BP 7 CH 1	16254	206	SCENE DATA BP 25 CH 1	16255
64	CH 2	16538	208	CH 2	16538
66	REFLECTOR POSITION 8	4899	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16255	214	SCENE DATA BP 26 CH 1	16251
72	CH 2	16543	216	CH 2	16544
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2016
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16252	222	SCENE DATA BP 27 CH 1	16259
80	CH 2	16541	224	CH 2	16545
82	REFLECTOR POSITION 10	4596	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16254	230	SCENE DATA BP 28 CH 1	16253
88	CH 2	16542	232	CH 2	16545
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4449	236	REFL POS 29 2ND LOOK	1719

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	215	19.4	215	19.4	215	19.4

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	171	14.76	171	14.76
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

MLB 6.67Hz Post-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  13:45:25  SCAN NUMBER   559
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

MLB Transient Susceptibility
TP 3.2.4.2.1.3.3 Hi Freq.
6.67Hz Post-Injection

PN: 1331200-2-IT SN: 108
SO: 225168 (OP 0750 1ST CPT)

TEST ENG. D Lad DATE: 11/18/99
Quality: (QA)

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5966
14	SCENE DATA BP 1	CH 1	16246
16		CH 2	16528
18	REFLECTOR POSITION 2		5809
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2	CH 1	16249
24		CH 2	16531
26	REFLECTOR POSITION 3		5656
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3	CH 1	16250
32		CH 2	16527
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5510
38	SCENE DATA BP 4	CH 1	16252
40		CH 2	16532
42	REFLECTOR POSITION 5		5356
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5	CH 1	16244
48		CH 2	16526
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6	CH 1	16249
56		CH 2	16535
58	REFLECTOR POSITION 7		5052
60	REFL POS 7 2ND LOOK		5055
62	SCENE DATA BP 7	CH 1	16244
64		CH 2	16534
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4903
70	SCENE DATA BP 8	CH 1	16247
72		CH 2	16534
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9	CH 1	16252
80		CH 2	16531
82	REFLECTOR POSITION 10		4596
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10	CH 1	16248
88		CH 2	16530
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4448
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17	CH 1	16245
144		CH 2	16534
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18	CH 1	16245
152		CH 2	16534
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19	CH 1	16250
160		CH 2	16529
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3082
166	SCENE DATA BP 20	CH 1	16249
168		CH 2	16533
170	REFLECTOR POSITION 21		2927
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21	CH 1	16245
176		CH 2	16529
178	REFLECTOR POSITION 22		2774
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22	CH 1	16247
184		CH 2	16534
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23	CH 1	16245
192		CH 2	16528
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24	CH 1	16248
200		CH 2	16532
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2324
206	SCENE DATA BP 25	CH 1	16248
208		CH 2	16533
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26	CH 1	16245
216		CH 2	16526
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27	CH 1	16251
224		CH 2	16530
226	REFLECTOR POSITION 28		1864
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28	CH 1	16243
232		CH 2	16539
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16244
96		CH	2	16530
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16247
104		CH	2	16534
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16249
112		CH	2	16532
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16246
120		CH	2	16535
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16247
128		CH	2	16540
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16247
136		CH	2	16543

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16246
240		CH	2	16530
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16240
248		CH	2	16530
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16243
256		CH	2	16533
258	COLD CAL DATA 2	CH	1	16250
260		CH	2	16539
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16232
308		CH	2	16526
310	WARM CAL DATA 2	CH	1	16226
312		CH	2	16522

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18214	23.14
264	FEED HORN	18101	23.22
266	RF MUX	18093	24.26
268	MIXER/IF AMPLIFIER CHANNEL 1	19094	24.88
270	MIXER/IF AMPLIFIER CHANNEL 2	19121	25.02
272	LOCAL OSCILLATOR CHANNEL 1	18752	24.60
274	LOCAL OSCILLATOR CHANNEL 2	19094	25.68
276	COMPENSATION MOTOR	17853	23.77
278	SUB REFLECTOR	18167	23.35
280	DC/DC CONVERTER	19887	26.61
282	RF SHELF	18636	23.99
284	DETECTOR/PREAMP ASSEMBLY	18526	24.14
286	WARM LOAD CENTER	23047	23.11
288	WARM LOAD 1	23097	23.18
290	WARM LOAD 2	23055	23.18
292	WARM LOAD 3	23146	23.21
294	WARM LOAD 4	23246	23.20
296	WARM LOAD 5	23296	23.24
298	WARM LOAD 6	23007	23.13
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	215	19.4	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	171	14.76	171	14.76	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB L.F. Pre-Inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 14:04:5, SCAN NUMBER 625
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT = NO	[15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION = NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE = YES	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB = ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB = ZERO	[19]
[14] ANTENNA IN WARM CAL POSIT = NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

PLB Transient Susceptibility
P 3.2.4.2.2.9.2 Low Freq.
Pre-Injection TDS 41

PN: 1331200-2-IT SN: 108
SO: 335168 (OP 0750 1ST CPT)

TEST ENG: D Lund DATE: 11/18/99
Quality: 892

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3531
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16261
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16551
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16259
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16554
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5967	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16258	158	SCENE DATA BP 19 CH 1	16265
16	CH 2	16548	160	CH 2	16551
18	REFLECTOR POSITION 2	5810	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3083
22	SCENE DATA BP 2 CH 1	16259	166	SCENE DATA BP 20 CH 1	16262
24	CH 2	16553	168	CH 2	16547
26	REFLECTOR POSITION 3	5657	170	REFLECTOR POSITION 21	2927
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16268	174	SCENE DATA BP 21 CH 1	16258
32	CH 2	16548	176	CH 2	16549
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2774
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16264	182	SCENE DATA BP 22 CH 1	16266
40	CH 2	16554	184	CH 2	16548
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16261	190	SCENE DATA BP 23 CH 1	16258
48	CH 2	16548	192	CH 2	16549
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16265	198	SCENE DATA BP 24 CH 1	16264
56	CH 2	16556	200	CH 2	16547
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5055	204	REFL POS 25 2ND LOOK	2325
62	SCENE DATA BP 7 CH 1	16262	206	SCENE DATA BP 25 CH 1	16261
64	CH 2	16546	208	CH 2	16550
66	REFLECTOR POSITION 8	4898	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16260	214	SCENE DATA BP 26 CH 1	16263
72	CH 2	16551	216	CH 2	16547
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2016
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16265	222	SCENE DATA BP 27 CH 1	16266
80	CH 2	16553	224	CH 2	16555
82	REFLECTOR POSITION 10	4596	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16260	230	SCENE DATA BP 28 CH 1	16263
88	CH 2	16546	232	CH 2	16548
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4449	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16262
96		CH	2	16549
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16261
104		CH	2	16557
106	REFLECTOR POSITION 13			4142
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16262
112		CH	2	16549
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16267
120		CH	2	16555
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16257
128		CH	2	16559
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16263
136		CH	2	16564

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16263
240		CH	2	16554
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16260
248		CH	2	16544
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16264
256		CH	2	16559
258	COLD CAL DATA 2	CH	1	16265
260		CH	2	16561
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16252
308		CH	2	16549
310	WARM CAL DATA 2	CH	1	16249
312		CH	2	16546

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18132	22.98
264	FEED HORN	17975	22.98
266	RF MUX	17921	23.93
268	MIXER/IF AMPLIFIER CHANNEL 1	18906	24.52
270	MIXER/IF AMPLIFIER CHANNEL 2	18901	24.60
272	LOCAL OSCILLATOR CHANNEL 1	18583	24.28
274	LOCAL OSCILLATOR CHANNEL 2	18794	25.10
276	COMPENSATION MOTOR	17799	23.66
278	SUB REFLECTOR	18103	23.23
280	DC/DC CONVERTER	19397	25.67
282	RF SHELF	18494	23.72
284	DETECTOR/PREAMP ASSEMBLY	18373	23.85
286	WARM LOAD CENTER	23125	23.26
288	WARM LOAD 1	23166	23.32
290	WARM LOAD 2	23120	23.31
292	WARM LOAD 3	23190	23.30
294	WARM LOAD 4	23286	23.28
296	WARM LOAD 5	23336	23.31
298	WARM LOAD 6	23056	23.22
300	TEMP SENSOR REFERENCE VOLTAGE	25113	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	215	19.4	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	98	91.34	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB L.F. Post-inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 14:07:31 SCAN NUMBER 644
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT = NO	[15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION = NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE = YES	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB = ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB = ZERO	[19]
[14] ANTENNA IN WARM CAL POSIT = NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

PLB Transient Susceptibility
IP 3.2.4.2.2.9.2 Low Freq.
Post-Injection TDS 41

PN: 1331200-2-IT SN: 108

TEST ENG: D. Lund DATE: 11/18/99

Quality: (26A)

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5967
14	SCENE DATA BP 1 CH	1	16250
16	CH	2	16539
18	REFLECTOR POSITION 2		5809
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2 CH	1	16250
24	CH	2	16546
26	REFLECTOR POSITION 3		5656
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3 CH	1	16255
32	CH	2	16541
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5510
38	SCENE DATA BP 4 CH	1	16257
40	CH	2	16541
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5 CH	1	16251
48	CH	2	16541
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6 CH	1	16256
56	CH	2	16540
58	REFLECTOR POSITION 7		5052
60	REFL POS 7 2ND LOOK		5055
62	SCENE DATA BP 7 CH	1	16255
64	CH	2	16540
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4904
70	SCENE DATA BP 8 CH	1	16251
72	CH	2	16542
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9 CH	1	16254
80	CH	2	16539
82	REFLECTOR POSITION 10		4595
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10 CH	1	16250
88	CH	2	16540
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4448
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17 CH	1	16254
144	CH	2	16540
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18 CH	1	16252
152	CH	2	16541
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19 CH	1	16253
160	CH	2	16539
162	REFLECTOR POSITION 20		3076
164	REFL POS 20 2ND LOOK		3082
166	SCENE DATA BP 20 CH	1	16255
168	CH	2	16545
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21 CH	1	16252
176	CH	2	16539
178	REFLECTOR POSITION 22		2774
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22 CH	1	16255
184	CH	2	16540
186	REFLECTOR POSITION 23		2623
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23 CH	1	16255
192	CH	2	16536
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24 CH	1	16253
200	CH	2	16543
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2324
206	SCENE DATA BP 25 CH	1	16255
208	CH	2	16539
210	REFLECTOR POSITION 26		2169
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26 CH	1	16249
216	CH	2	16536
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27 CH	1	16251
224	CH	2	16542
226	REFLECTOR POSITION 28		1863
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28 CH	1	16250
232	CH	2	16537
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16256
96		CH	2	16539
98	REFLECTOR POSITION 12			4290
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16251
104		CH	2	16545
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16253
112		CH	2	16540
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16257
120		CH	2	16542
122	REFLECTOR POSITION 15			3835
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16249
128		CH	2	16553
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16251
136		CH	2	16553

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16256
240		CH	2	16534
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16253
248		CH	2	16534
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16358
254	COLD CAL DATA 1	CH	1	16258
256		CH	2	16547
258	COLD CAL DATA 2	CH	1	16256
260		CH	2	16550
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16246
308		CH	2	16537
310	WARM CAL DATA 2	CH	1	16239
312		CH	2	16535

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18133	22.98
264	FEED HORN	17987	23.00
266	RF MUX	17950	23.99
268	MIXER/IF AMPLIFIER CHANNEL 1	18954	24.61
270	MIXER/IF AMPLIFIER CHANNEL 2	18964	24.72
272	LOCAL OSCILLATOR CHANNEL 1	18622	24.36
274	LOCAL OSCILLATOR CHANNEL 2	18892	25.29
276	COMPENSATION MOTOR	17826	23.72
278	SUB REFLECTOR	18095	23.21
280	DC/DC CONVERTER	19547	25.96
282	RF SHELF	18507	23.75
284	DETECTOR/PREAMP ASSEMBLY	18389	23.88
286	WARM LOAD CENTER	23111	23.23
288	WARM LOAD 1	23156	23.30
290	WARM LOAD 2	23111	23.29
292	WARM LOAD 3	23203	23.33
294	WARM LOAD 4	23297	23.30
296	WARM LOAD 5	23375	23.39
298	WARM LOAD 6	23082	23.28
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	97	90.40	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	146	-15.25	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	144	4.80	144	4.80	144	4.80
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB 1.43Hz Pre-inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 14:14:23 SCAN NUMBER 677
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT = NO	[15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION = NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE = YES	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB = ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB = ZERO	[19]
[14] ANTENNA IN WARM CAL POSIT = NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

PLB Transient Susceptibility
TP 3.2.4.2.2.9.3 Hi Freq
1.43 Hz Pre-Injection

PN: 1331200-2-IT SN: 108 TEST ENG D Lind (QA) DATE: 11/18/99

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5967
14	SCENE DATA BP 1	CH 1	16260
16		CH 2	16546
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2	CH 1	16265
24		CH 2	16544
26	REFLECTOR POSITION 3		5657
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3	CH 1	16270
32		CH 2	16549
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5511
38	SCENE DATA BP 4	CH 1	16270
40		CH 2	16554
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5	CH 1	16263
48		CH 2	16550
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6	CH 1	16264
56		CH 2	16556
58	REFLECTOR POSITION 7		5051
60	REFL POS 7 2ND LOOK		5056
62	SCENE DATA BP 7	CH 1	16267
64		CH 2	16543
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4904
70	SCENE DATA BP 8	CH 1	16263
72		CH 2	16544
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9	CH 1	16264
80		CH 2	16550
82	REFLECTOR POSITION 10		4595
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10	CH 1	16263
88		CH 2	16556
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4449
138	REFLECTOR POSITION 17		3532
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17	CH 1	16264
144		CH 2	16556
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18	CH 1	16263
152		CH 2	16547
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19	CH 1	16262
160		CH 2	16548
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3083
166	SCENE DATA BP 20	CH 1	16267
168		CH 2	16545
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21	CH 1	16265
176		CH 2	16545
178	REFLECTOR POSITION 22		2774
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22	CH 1	16267
184		CH 2	16547
186	REFLECTOR POSITION 23		2623
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23	CH 1	16264
192		CH 2	16548
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24	CH 1	16261
200		CH 2	16548
202	REFLECTOR POSITION 25		2319
204	REFL POS 25 2ND LOOK		2325
206	SCENE DATA BP 25	CH 1	16263
208		CH 2	16545
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26	CH 1	16260
216		CH 2	16545
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27	CH 1	16263
224		CH 2	16549
226	REFLECTOR POSITION 28		1865
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28	CH 1	16263
232		CH 2	16552
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION		VALUE
94	SCENE DATA BP 11	CH 1	16262
96		CH 2	16551
98	REFLECTOR POSITION 12		4290
100	REFL POS 12 2ND LOOK		4297
102	SCENE DATA BP 12	CH 1	16265
104		CH 2	16549
106	REFLECTOR POSITION 13		4141
108	REFL POS 13 2ND LOOK		4146
110	SCENE DATA BP 13	CH 1	16267
112		CH 2	16554
114	REFLECTOR POSITION 14		3987
116	REFL POS 14 2ND LOOK		3993
118	SCENE DATA BP 14	CH 1	16265
120		CH 2	16551
122	REFLECTOR POSITION 15		3835
124	REFL POS 15 2ND LOOK		3841
126	SCENE DATA BP 15	CH 1	16260
128		CH 2	16562
130	REFLECTOR POSITION 16		3685
132	REFL POS 16 2ND LOOK		3690
134	SCENE DATA BP 16	CH 1	16261
136		CH 2	16566

ELEMENT	DESCRIPTION		VALUE
238	SCENE DATA BP 29	CH 1	16263
240		CH 2	16548
242	REFLECTOR POSITION 30		1561
244	REFL POS 30 2ND LOOK		1566
246	SCENE DATA BP 30	CH 1	16264
248		CH 2	16551
250	REFLECTOR COLD CAL POS		16357
252	REFL COLD CAL 2ND LOOK		16357
254	COLD CAL DATA 1	CH 1	16267
256		CH 2	16555
258	COLD CAL DATA 2	CH 1	16267
260		CH 2	16557
302	REFLECTOR WARM CAL POS		11961
304	REFL WARM CAL 2ND LOOK		11960
306	WARM CAL DATA 1	CH 1	16255
308		CH 2	16546
310	WARM CAL DATA 2	CH 1	16254
312		CH 2	16549

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18097	22.92
264	FEED HORN	17994	23.02
266	RF MUX	17966	24.02
268	MIXER/IF AMPLIFIER CHANNEL 1	18915	24.53
270	MIXER/IF AMPLIFIER CHANNEL 2	18935	24.67
272	LOCAL OSCILLATOR CHANNEL 1	18586	24.29
274	LOCAL OSCILLATOR CHANNEL 2	18848	25.21
276	COMPENSATION MOTOR	17823	23.71
278	SUB REFLECTOR	18070	23.16
280	DC/DC CONVERTER	19535	25.94
282	RF SHELF	18512	23.76
284	DETECTOR/PREAMP ASSEMBLY	18406	23.91
286	WARM LOAD CENTER	23082	23.18
288	WARM LOAD 1	23129	23.24
290	WARM LOAD 2	23089	23.25
292	WARM LOAD 3	23186	23.29
294	WARM LOAD 4	23276	23.26
296	WARM LOAD 5	23303	23.25
298	WARM LOAD 6	23031	23.18
300	TEMP SENSOR REFERENCE VOLTAGE	25113	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	215	19.4	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	171	9.88	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	171	9.78
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PL B 1.43Hz Post- inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 14:17:1o SCAN NUMBER 698
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9] MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT = NO	[15]
[10] SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION = NO	[16]
[11] MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE = YES	[17]
[12] SCANNER A2 POWER =	ON	COLD CAL POSITION MSB = ZERO	[18]
[13] COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB = ZERO	[19]
[14] ANTENNA IN WARM CAL POSIT = NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

PLB Transient Susceptibility
P 3.2.4.2.2.9.3 Hi Freq
1.43Hz Post-Injection

PN: 1331200-2-IT SN: 108
SO: 335168 (OP 0750 1ST CPT)

TEST ENG. D Lund DATE: 11/18/99
Quality: (TA)

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5966
14	SCENE DATA BP 1	CH 1	16247
16		CH 2	16535
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2	CH 1	16250
24		CH 2	16539
26	REFLECTOR POSITION 3		5656
28	REFL POS 3 2ND LOOK		5662
30	SCENE DATA BP 3	CH 1	16252
32		CH 2	16537
34	REFLECTOR POSITION 4		5506
36	REFL POS 4 2ND LOOK		5510
38	SCENE DATA BP 4	CH 1	16256
40		CH 2	16539
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5359
46	SCENE DATA BP 5	CH 1	16247
48		CH 2	16539
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6	CH 1	16254
56		CH 2	16540
58	REFLECTOR POSITION 7		5052
60	REFL POS 7 2ND LOOK		5056
62	SCENE DATA BP 7	CH 1	16255
64		CH 2	16536
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4903
70	SCENE DATA BP 8	CH 1	16249
72		CH 2	16536
74	REFLECTOR POSITION 9		4745
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9	CH 1	16252
80		CH 2	16541
82	REFLECTOR POSITION 10		4596
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10	CH 1	16251
88		CH 2	16536
90	REFLECTOR POSITION 11		4443
92	REFL POS 11 2ND LOOK		4448
138	REFLECTOR POSITION 17		3531
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17	CH 1	16250
144		CH 2	16534
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18	CH 1	16252
152		CH 2	16534
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19	CH 1	16253
160		CH 2	16537
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3082
166	SCENE DATA BP 20	CH 1	16256
168		CH 2	16533
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21	CH 1	16251
176		CH 2	16533
178	REFLECTOR POSITION 22		2774
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22	CH 1	16246
184		CH 2	16531
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23	CH 1	16252
192		CH 2	16536
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24	CH 1	16252
200		CH 2	16537
202	REFLECTOR POSITION 25		2320
204	REFL POS 25 2ND LOOK		2325
206	SCENE DATA BP 25	CH 1	16258
208		CH 2	16535
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26	CH 1	16251
216		CH 2	16534
218	REFLECTOR POSITION 27		2015
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27	CH 1	16255
224		CH 2	16534
226	REFLECTOR POSITION 28		1864
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28	CH 1	16255
232		CH 2	16538
234	REFLECTOR POSITION 29		1714
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16254
96		CH	2	16537
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16253
104		CH	2	16541
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16249
112		CH	2	16538
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16252
120		CH	2	16537
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16251
128		CH	2	16543
130	REFLECTOR POSITION 16			3684
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16252
136		CH	2	16551

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16255
240		CH	2	16539
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16249
248		CH	2	16533
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16358
254	COLD CAL DATA 1	CH	1	16256
256		CH	2	16542
258	COLD CAL DATA 2	CH	1	16256
260		CH	2	16548
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16243
308		CH	2	16534
310	WARM CAL DATA 2	CH	1	16241
312		CH	2	16533

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18109	22.94
264	FEED HORN	18001	23.03
266	RF MUX	17982	24.05
268	MIXER/IF AMPLIFIER CHANNEL 1	18980	24.66
270	MIXER/IF AMPLIFIER CHANNEL 2	19007	24.80
272	LOCAL OSCILLATOR CHANNEL 1	18638	24.39
274	LOCAL OSCILLATOR CHANNEL 2	18958	25.42
276	COMPENSATION MOTOR	17841	23.74
278	SUB REFLECTOR	18066	23.16
280	DC/DC CONVERTER	19695	26.24
282	RF SHELF	18529	23.79
284	DETECTOR/PREAMP ASSEMBLY	18418	23.94
286	WARM LOAD CENTER	23113	23.24
288	WARM LOAD 1	23152	23.29
290	WARM LOAD 2	23109	23.29
292	WARM LOAD 3	23199	23.32
294	WARM LOAD 4	23254	23.22
296	WARM LOAD 5	23308	23.26
298	WARM LOAD 6	23024	23.16
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	169	14.58
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	144	4.80	144	4.80	144	4.80
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB 2.86 Hz Pre-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  14:23:15  SCAN NUMBER   729
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

PLB Transient Susceptibility
TP 3.2.4.2.2.7.3 Hi Freq.
2.86 Hz Pre-Injection

PN: 1331200-2-IT SN: 108

SO: 225168 (OP 0750 1ST CPT)

TEST ENG: D Lund DATE: 11/18/99

Quality: (QA)

ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111
2	SYNC SEQUENCE BYTE 2		11111111
3	SYNC SEQUENCE BYTE 3		11111111
4	UNIT ID AND SERIAL NO		00011110
5	DIGITAL B DATA BYTE 1		00000010
6	DIGITAL B DATA BYTE 2		00000110
7	DIGITAL B DATA BYTE 3		00000000
8	DIGITAL B DATA BYTE 4		00000000
10	REFLECTOR POSITION 1		5967
12	REFL POS 1 2ND LOOK		5967
14	SCENE DATA BP 1	CH 1	16254
16		CH 2	16547
18	REFLECTOR POSITION 2		5810
20	REFL POS 2 2ND LOOK		5814
22	SCENE DATA BP 2	CH 1	16259
24		CH 2	16557
26	REFLECTOR POSITION 3		5656
28	REFL POS 3 2ND LOOK		5661
30	SCENE DATA BP 3	CH 1	16265
32		CH 2	16554
34	REFLECTOR POSITION 4		5507
36	REFL POS 4 2ND LOOK		5511
38	SCENE DATA BP 4	CH 1	16268
40		CH 2	16556
42	REFLECTOR POSITION 5		5355
44	REFL POS 5 2ND LOOK		5358
46	SCENE DATA BP 5	CH 1	16259
48		CH 2	16546
50	REFLECTOR POSITION 6		5201
52	REFL POS 6 2ND LOOK		5207
54	SCENE DATA BP 6	CH 1	16264
56		CH 2	16553
58	REFLECTOR POSITION 7		5052
60	REFL POS 7 2ND LOOK		5056
62	SCENE DATA BP 7	CH 1	16259
64		CH 2	16551
66	REFLECTOR POSITION 8		4899
68	REFL POS 8 2ND LOOK		4904
70	SCENE DATA BP 8	CH 1	16257
72		CH 2	16550
74	REFLECTOR POSITION 9		4746
76	REFL POS 9 2ND LOOK		4752
78	SCENE DATA BP 9	CH 1	16261
80		CH 2	16550
82	REFLECTOR POSITION 10		4596
84	REFL POS 10 2ND LOOK		4600
86	SCENE DATA BP 10	CH 1	16259
88		CH 2	16551
90	REFLECTOR POSITION 11		4444
92	REFL POS 11 2ND LOOK		4449
138	REFLECTOR POSITION 17		3533
140	REFL POS 17 2ND LOOK		3538
142	SCENE DATA BP 17	CH 1	16263
144		CH 2	16556
146	REFLECTOR POSITION 18		3380
148	REFL POS 18 2ND LOOK		3387
150	SCENE DATA BP 18	CH 1	16260
152		CH 2	16553
154	REFLECTOR POSITION 19		3229
156	REFL POS 19 2ND LOOK		3235
158	SCENE DATA BP 19	CH 1	16259
160		CH 2	16551
162	REFLECTOR POSITION 20		3077
164	REFL POS 20 2ND LOOK		3083
166	SCENE DATA BP 20	CH 1	16259
168		CH 2	16552
170	REFLECTOR POSITION 21		2926
172	REFL POS 21 2ND LOOK		2932
174	SCENE DATA BP 21	CH 1	16260
176		CH 2	16553
178	REFLECTOR POSITION 22		2774
180	REFL POS 22 2ND LOOK		2779
182	SCENE DATA BP 22	CH 1	16261
184		CH 2	16553
186	REFLECTOR POSITION 23		2622
188	REFL POS 23 2ND LOOK		2627
190	SCENE DATA BP 23	CH 1	16258
192		CH 2	16552
194	REFLECTOR POSITION 24		2469
196	REFL POS 24 2ND LOOK		2476
198	SCENE DATA BP 24	CH 1	16265
200		CH 2	16549
202	REFLECTOR POSITION 25		2320
204	REFL POS 25 2ND LOOK		2325
206	SCENE DATA BP 25	CH 1	16257
208		CH 2	16552
210	REFLECTOR POSITION 26		2168
212	REFL POS 26 2ND LOOK		2174
214	SCENE DATA BP 26	CH 1	16258
216		CH 2	16547
218	REFLECTOR POSITION 27		2016
220	REFL POS 27 2ND LOOK		2022
222	SCENE DATA BP 27	CH 1	16259
224		CH 2	16554
226	REFLECTOR POSITION 28		1864
228	REFL POS 28 2ND LOOK		1869
230	SCENE DATA BP 28	CH 1	16259
232		CH 2	16550
234	REFLECTOR POSITION 29		1713
236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16260
96		CH	2	16554
98	REFLECTOR POSITION 12			4290
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16260
104		CH	2	16545
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16262
112		CH	2	16553
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16261
120		CH	2	16555
122	REFLECTOR POSITION 15			3835
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16261
128		CH	2	16561
130	REFLECTOR POSITION 16			3686
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16261
136		CH	2	16563

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16261
240		CH	2	16546
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16257
248		CH	2	16549
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16267
256		CH	2	16564
258	COLD CAL DATA 2	CH	1	16266
260		CH	2	16555
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16250
308		CH	2	16550
310	WARM CAL DATA 2	CH	1	16248
312		CH	2	16551

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18098	22.92
264	FEED HORN	18024	23.07
266	RF MUX	18009	24.10
268	MIXER/IF AMPLIFIER CHANNEL 1	18952	24.60
270	MIXER/IF AMPLIFIER CHANNEL 2	18986	24.76
272	LOCAL OSCILLATOR CHANNEL 1	18623	24.36
274	LOCAL OSCILLATOR CHANNEL 2	18917	25.34
276	COMPENSATION MOTOR	17871	23.80
278	SUB REFLECTOR	18076	23.18
280	DC/DC CONVERTER	19677	26.21
282	RF SHELF	18543	23.82
284	DETECTOR/PREAMP ASSEMBLY	18444	23.99
286	WARM LOAD CENTER	23110	23.23
288	WARM LOAD 1	23143	23.27
290	WARM LOAD 2	23103	23.27
292	WARM LOAD 3	23204	23.33
294	WARM LOAD 4	23296	23.30
296	WARM LOAD 5	23354	23.35
298	WARM LOAD 6	23065	23.24
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	215	19.4	215	19.4
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	100	93.20	99	92.27
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	170	14.67
ANTENNA DRIVE +15 VDC	169	14.58	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	148	-15.15	148	-15.15
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB 2.86 Hz Post-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  14:26:14  SCAN NUMBER   751
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =    ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =       ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =         ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =  ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

PLB Transient Susceptibility
IP 3.2.4.2.2.7.3 Hi Freq
2.86 Hz Post Injection

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. D Lind DATE: 11/18/99
Quality (7A 268)

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16250
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16529
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16242
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16527
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5967	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16243	158	SCENE DATA BP 19 CH 1	16247
16	CH 2	16531	160	CH 2	16530
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16244	166	SCENE DATA BP 20 CH 1	16247
24	CH 2	16534	168	CH 2	16528
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2925
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16254	174	SCENE DATA BP 21 CH 1	16250
32	CH 2	16529	176	CH 2	16530
34	REFLECTOR POSITION 4	5508	178	REFLECTOR POSITION 22	2775
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16252	182	SCENE DATA BP 22 CH 1	16251
40	CH 2	16536	184	CH 2	16534
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16243	190	SCENE DATA BP 23 CH 1	16246
48	CH 2	16532	192	CH 2	16535
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16250	198	SCENE DATA BP 24 CH 1	16247
56	CH 2	16538	200	CH 2	16533
58	REFLECTOR POSITION 7	5051	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5055	204	REFL POS 25 2ND LOOK	2325
62	SCENE DATA BP 7 CH 1	16246	206	SCENE DATA BP 25 CH 1	16257
64	CH 2	16531	208	CH 2	16533
66	REFLECTOR POSITION 8	4898	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4903	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16245	214	SCENE DATA BP 26 CH 1	16250
72	CH 2	16536	216	CH 2	16532
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2016
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16247	222	SCENE DATA BP 27 CH 1	16249
80	CH 2	16528	224	CH 2	16531
82	REFLECTOR POSITION 10	4595	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16246	230	SCENE DATA BP 28 CH 1	16248
88	CH 2	16535	232	CH 2	16533
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4448	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16247
96		CH	2	16534
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16246
104		CH	2	16528
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16247
112		CH	2	16530
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16249
120		CH	2	16531
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16248
128		CH	2	16539
130	REFLECTOR POSITION 16			3684
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16245
136		CH	2	16549

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16247
240		CH	2	16533
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1566
246	SCENE DATA BP 30	CH	1	16250
248		CH	2	16530
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16358
254	COLD CAL DATA 1	CH	1	16253
256		CH	2	16542
258	COLD CAL DATA 2	CH	1	16252
260		CH	2	16542
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16236
308		CH	2	16528
310	WARM CAL DATA 2	CH	1	16233
312		CH	2	16528

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18095	22.91
264	FEED HORN	18019	23.06
266	RF MUX	18018	24.12
268	MIXER/IF AMPLIFIER CHANNEL 1	19020	24.73
270	MIXER/IF AMPLIFIER CHANNEL 2	19055	24.90
272	LOCAL OSCILLATOR CHANNEL 1	18677	24.46
274	LOCAL OSCILLATOR CHANNEL 2	19022	25.54
276	COMPENSATION MOTOR	17890	23.84
278	SUB REFLECTOR	18076	23.18
280	DC/DC CONVERTER	19820	26.48
282	RF SHELF	18546	23.82
284	DETECTOR/PREAMP ASSEMBLY	18453	24.00
286	WARM LOAD CENTER	23142	23.30
288	WARM LOAD 1	23174	23.33
290	WARM LOAD 2	23139	23.35
292	WARM LOAD 3	23230	23.38
294	WARM LOAD 4	23324	23.36
296	WARM LOAD 5	23376	23.39
298	WARM LOAD 6	23087	23.29
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	214	18.0	214	18.0
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	215	19.4
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	100	93.20	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	101	94.13	101	94.13	101	94.13
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	148	-15.15	148	-15.15	148	-15.15
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

```
MSU  A2-3       EXE     FULL SCAN MODE      18-NOV-99  14:32      SCAN NUMBER   787
 5 ] DIGI        DATA   ELEMENT 0000
 6 ] DIGITAL B DATA     ELEMENT   00
 7 ] ANALOG DATA        ELEMENT   00

                                  COMMANDS
 9 ]  MODULE POWER =            CONNECT     ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
 10 ] SURVIVAL HEATER POWER =       ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
 11 ] MODULE TOTALLY OFF =          ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
 12 ] SCANNER A2 POWER =            ON      COLD CAL POSITION MSB =     ZERO [ 18 ]
 13 ] COMPENSATOR MOTOR POWER =     ON      COLD CAL POSITION LSB =     ZERO [ 19 ]
 14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]   PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

PLB Transient Susceptibility
TP 3.2.4.2.2.9.3 Hi Freq
6.67 Hz Pre-Injection
TDS 41

PN: 1331200-2-IT SN: 108
SO: 335168 (OP. 0750, 1ST CPT)

TEST ENG. D Lind DATE: 11/18/99
Quality: IA 266

ELEMENT	DESCRIPTION		VALUE
94	SCENE DATA BP 11	CH 1	16255
96		CH 2	16531
98	REFLECTOR POSITION 12		4292
100	REFL POS 12 2ND LOOK		4297
102	SCENE DATA BP 12	CH 1	16251
104		CH 2	16533
106	REFLECTOR POSITION 13		4141
108	REFL POS 13 2ND LOOK		4146
110	SCENE DATA BP 13	CH 1	16253
112		CH 2	16540
114	REFLECTOR POSITION 14		3988
116	REFL POS 14 2ND LOOK		3993
118	SCENE DATA BP 14	CH 1	16253
120		CH 2	16536
122	REFLECTOR POSITION 15		3834
124	REFL POS 15 2ND LOOK		3841
126	SCENE DATA BP 15	CH 1	16250
128		CH 2	16546
130	REFLECTOR POSITION 16		3685
132	REFL POS 16 2ND LOOK		3690
134	SCENE DATA BP 16	CH 1	16251
136		CH 2	16549

ELEMENT	DESCRIPTION		VALUE
238	SCENE DATA BP 29	CH 1	16250
240		CH 2	16540
242	REFLECTOR POSITION 30		1560
244	REFL POS 30 2ND LOOK		1566
246	SCENE DATA BP 30	CH 1	16248
248		CH 2	16535
250	REFLECTOR COLD CAL POS		16357
252	REFL COLD CAL 2ND LOOK		16357
254	COLD CAL DATA 1	CH 1	16258
256		CH 2	16547
258	COLD CAL DATA 2	CH 1	16258
260		CH 2	16547
302	REFLECTOR WARM CAL POS		11961
304	REFL WARM CAL 2ND LOOK		11960
306	WARM CAL DATA 1	CH 1	16238
308		CH 2	16536
310	WARM CAL DATA 2	CH 1	16240
312		CH 2	16541

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18082	22.89
264	FEED HORN	18024	23.07
266	RF MUX	18034	24.15
268	MIXER/IF AMPLIFIER CHANNEL 1	19013	24.72
270	MIXER/IF AMPLIFIER CHANNEL 2	19049	24.88
272	LOCAL OSCILLATOR CHANNEL 1	18675	24.46
274	LOCAL OSCILLATOR CHANNEL 2	19006	25.51
276	COMPENSATION MOTOR	17896	23.85
278	SUB REFLECTOR	18059	23.14
280	DC/DC CONVERTER	19820	26.48
282	RF SHELF	18561	23.85
284	DETECTOR/PREAMP ASSEMBLY	18471	24.04
286	WARM LOAD CENTER	23131	23.27
288	WARM LOAD 1	23160	23.31
290	WARM LOAD 2	23121	23.31
292	WARM LOAD 3	23219	23.36
294	WARM LOAD 4	23307	23.32
296	WARM LOAD 5	23359	23.36
298	WARM LOAD 6	23103	23.32
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	215	19.4	215	19.4	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	98	91.34	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	148	-15.15	148	-15.15	148	-15.15
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

PLB 6.67Hz Post-inj

```
AMSU  A2-30 A2.EXE    FULL SCAN MODE      18-NOV-99  14:35:07  SCAN NUMBER   807
[ 5 ] DIGITAL A DATA  ELEMENT 0000

[ 6 ] DIGITAL B DATA  ELEMENT   00

[ 7 ] ANALOG DATA     ELEMENT   00

                                      COMMANDS
[ 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =      ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =         ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =           ON     COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =    ON     COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

         POWER [ 4 ]  ON
                      SCREEN ONLY [ 2 ]   PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

PLB Transient Susceptibility
TP 3.2.4.2.2.9.3 Hi Freq
6.67 Hz Post Injection

PN: 1331200-2-IT SN: 108

TEST ENG [signature] DATE: 11/18/99

Quality: 7A

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3532
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17 CH	1	16248
4	UNIT ID AND SERIAL NO		00011110	144	CH	2	16524
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18 CH	1	16241
8	DIGITAL B DATA BYTE 4		00000000	152	CH	2	16522
10	REFLECTOR POSITION 1		5966	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5966	156	REFL POS 19 2ND LOOK		3235
14	SCENE DATA BP 1 CH	1	16243	158	SCENE DATA BP 19 CH	1	16244
16	CH	2	16524	160	CH	2	16524
18	REFLECTOR POSITION 2		5809	162	REFLECTOR POSITION 20		3077
20	REFL POS 2 2ND LOOK		5813	164	REFL POS 20 2ND LOOK		3082
22	SCENE DATA BP 2 CH	1	16244	166	SCENE DATA BP 20 CH	1	16242
24	CH	2	16529	168	CH	2	16534
26	REFLECTOR POSITION 3		5656	170	REFLECTOR POSITION 21		2926
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3 CH	1	16250	174	SCENE DATA BP 21 CH	1	16244
32	CH	2	16533	176	CH	2	16525
34	REFLECTOR POSITION 4		5506	178	REFLECTOR POSITION 22		2773
36	REFL POS 4 2ND LOOK		5510	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4 CH	1	16249	182	SCENE DATA BP 22 CH	1	16247
40	CH	2	16530	184	CH	2	16533
42	REFLECTOR POSITION 5		5356	186	REFLECTOR POSITION 23		2622
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5 CH	1	16239	190	SCENE DATA BP 23 CH	1	16242
48	CH	2	16526	192	CH	2	16525
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6 CH	1	16250	198	SCENE DATA BP 24 CH	1	16243
56	CH	2	16524	200	CH	2	16529
58	REFLECTOR POSITION 7		5052	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5055	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7 CH	1	16243	206	SCENE DATA BP 25 CH	1	16247
64	CH	2	16523	208	CH	2	16524
66	REFLECTOR POSITION 8		4898	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4903	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8 CH	1	16246	214	SCENE DATA BP 26 CH	1	16241
72	CH	2	16526	216	CH	2	16526
74	REFLECTOR POSITION 9		4746	218	REFLECTOR POSITION 27		2015
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9 CH	1	16244	222	SCENE DATA BP 27 CH	1	16248
80	CH	2	16527	224	CH	2	16525
82	REFLECTOR POSITION 10		4595	226	REFLECTOR POSITION 28		1864
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10 CH	1	16241	230	SCENE DATA BP 28 CH	1	16244
88	CH	2	16527	232	CH	2	16528
90	REFLECTOR POSITION 11		4444	234	REFLECTOR POSITION 29		1713
92	REFL POS 11 2ND LOOK		4448	236	REFL POS 29 2ND LOOK		1719

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	168	14.50
ANTENNA DRIVE +15 VDC	168	14.50	169	14.58	169	14.58
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	144	4.80	144	4.80	144	4.80
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB L.F Pre-inj

```
MSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  14:55:17  SCAN NUMBER   852
 5 ] DIGITAL A DATA   ELEMENT 0000
 6 ] DIGITAL B DATA   ELEMENT   00
 7 ] ANALOG DATA      ELEMENT   00

                                COMMANDS
 9 ]  MODULE POWER =          CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
10 ] SURVIVAL HEATER POWER =     ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]
13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]
14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
TP 3.2.4.2.3.3.2 Low Freq.
Pre-Injection TDS 41

PN: 1331200-2-IT SN: 108

TEST ENG D Lund DATE: 11/18/99

Quality (7A)

ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111
2	SYNC SEQUENCE BYTE 2	11111111
3	SYNC SEQUENCE BYTE 3	11111111
4	UNIT ID AND SERIAL NO	00011110
5	DIGITAL B DATA BYTE 1	00000010
6	DIGITAL B DATA BYTE 2	00000110
7	DIGITAL B DATA BYTE 3	00000000
8	DIGITAL B DATA BYTE 4	00000000
10	REFLECTOR POSITION 1	5967
12	REFL POS 1 2ND LOOK	5967
14	SCENE DATA BP 1 CH 1	16278
16	CH 2	16583
18	REFLECTOR POSITION 2	5810
20	REFL POS 2 2ND LOOK	5814
22	SCENE DATA BP 2 CH 1	16282
24	CH 2	16574
26	REFLECTOR POSITION 3	5657
28	REFL POS 3 2ND LOOK	5662
30	SCENE DATA BP 3 CH 1	16286
32	CH 2	16580
34	REFLECTOR POSITION 4	5507
36	REFL POS 4 2ND LOOK	5511
38	SCENE DATA BP 4 CH 1	16289
40	CH 2	16577
42	REFLECTOR POSITION 5	5355
44	REFL POS 5 2ND LOOK	5359
46	SCENE DATA BP 5 CH 1	16279
48	CH 2	16573
50	REFLECTOR POSITION 6	5201
52	REFL POS 6 2ND LOOK	5207
54	SCENE DATA BP 6 CH 1	16283
56	CH 2	16580
58	REFLECTOR POSITION 7	5052
60	REFL POS 7 2ND LOOK	5056
62	SCENE DATA BP 7 CH 1	16281
64	CH 2	16576
66	REFLECTOR POSITION 8	4899
68	REFL POS 8 2ND LOOK	4904
70	SCENE DATA BP 8 CH 1	16285
72	CH 2	16574
74	REFLECTOR POSITION 9	4746
76	REFL POS 9 2ND LOOK	4752
78	SCENE DATA BP 9 CH 1	16283
80	CH 2	16575
82	REFLECTOR POSITION 10	4596
84	REFL POS 10 2ND LOOK	4601
86	SCENE DATA BP 10 CH 1	16284
88	CH 2	16576
90	REFLECTOR POSITION 11	4444
92	REFL POS 11 2ND LOOK	4449
138	REFLECTOR POSITION 17	3532
140	REFL POS 17 2ND LOOK	3538
142	SCENE DATA BP 17 CH 1	16286
144	CH 2	16573
146	REFLECTOR POSITION 18	3380
148	REFL POS 18 2ND LOOK	3387
150	SCENE DATA BP 18 CH 1	16283
152	CH 2	16573
154	REFLECTOR POSITION 19	3229
156	REFL POS 19 2ND LOOK	3235
158	SCENE DATA BP 19 CH 1	16283
160	CH 2	16575
162	REFLECTOR POSITION 20	3077
164	REFL POS 20 2ND LOOK	3083
166	SCENE DATA BP 20 CH 1	16283
168	CH 2	16574
170	REFLECTOR POSITION 21	2927
172	REFL POS 21 2ND LOOK	2932
174	SCENE DATA BP 21 CH 1	16285
176	CH 2	16575
178	REFLECTOR POSITION 22	2774
180	REFL POS 22 2ND LOOK	2779
182	SCENE DATA BP 22 CH 1	16285
184	CH 2	16574
186	REFLECTOR POSITION 23	2622
188	REFL POS 23 2ND LOOK	2628
190	SCENE DATA BP 23 CH 1	16279
192	CH 2	16576
194	REFLECTOR POSITION 24	2469
196	REFL POS 24 2ND LOOK	2476
198	SCENE DATA BP 24 CH 1	16286
200	CH 2	16574
202	REFLECTOR POSITION 25	2320
204	REFL POS 25 2ND LOOK	2325
206	SCENE DATA BP 25 CH 1	16284
208	CH 2	16573
210	REFLECTOR POSITION 26	2169
212	REFL POS 26 2ND LOOK	2174
214	SCENE DATA BP 26 CH 1	16284
216	CH 2	16571
218	REFLECTOR POSITION 27	2016
220	REFL POS 27 2ND LOOK	2022
222	SCENE DATA BP 27 CH 1	16285
224	CH 2	16574
226	REFLECTOR POSITION 28	1864
228	REFL POS 28 2ND LOOK	1869
230	SCENE DATA BP 28 CH 1	16282
232	CH 2	16577
234	REFLECTOR POSITION 29	1714
236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16284
96		CH	2	16574
98	REFLECTOR POSITION 12			4292
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16287
104		CH	2	16579
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16284
112		CH	2	16575
114	REFLECTOR POSITION 14			3988
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16285
120		CH	2	16579
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16281
128		CH	2	16584
130	REFLECTOR POSITION 16			3684
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16283
136		CH	2	16589

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16282
240		CH	2	16574
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16284
248		CH	2	16576
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16358
254	COLD CAL DATA 1	CH	1	16288
256		CH	2	16581
258	COLD CAL DATA 2	CH	1	16289
260		CH	2	16584
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16270
308		CH	2	16571
310	WARM CAL DATA 2	CH	1	16269
312		CH	2	16573

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18071	22.87
264	FEED HORN	17954	22.94
266	RF MUX	17839	23.78
268	MIXER/IF AMPLIFIER CHANNEL 1	18740	24.20
270	MIXER/IF AMPLIFIER CHANNEL 2	18722	24.26
272	LOCAL OSCILLATOR CHANNEL 1	18439	24.01
274	LOCAL OSCILLATOR CHANNEL 2	18535	24.61
276	COMPENSATION MOTOR	17787	23.64
278	SUB REFLECTOR	18071	23.17
280	DC/DC CONVERTER	19058	25.03
282	RF SHELF	18435	23.61
284	DETECTOR/PREAMP ASSEMBLY	18298	23.71
286	WARM LOAD CENTER	23115	23.24
288	WARM LOAD 1	23152	23.29
290	WARM LOAD 2	23103	23.27
292	WARM LOAD 3	23204	23.33
294	WARM LOAD 4	23290	23.29
296	WARM LOAD 5	23338	23.32
298	WARM LOAD 6	23052	23.22
300	TEMP SENSOR REFERENCE VOLTAGE	25113	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	214	18.0	214	18.0
WARM LOAD TEMPERATURE	215	19.4	215	19.4	215	19.4

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	103	96.00	105	97.86	104	96.93
COMPENSATOR MOTOR CURRENT (AVERAGE)	106	98.79	107	99.72	106	98.79
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	170	14.67
ANTENNA DRIVE +15 VDC	176	15.19	177	15.28	176	15.19
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	154	-14.85	155	-14.80	153	-14.90
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	151	5.03	152	5.07	151	5.03
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	171	9.78	171	9.78	171	9.78

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB L.F. Post-Inj

AMSU A2-30 A2.EXE FULL SCAN MODE 18-NOV-99 15:01:56 SCAN NUMBER 900
[5] DIGITAL A DATA ELEMENT 0000

[6] DIGITAL B DATA ELEMENT 00

[7] ANALOG DATA ELEMENT 00

COMMANDS

[9]	MODULE POWER =	CONNECT	ANTENNA IN COLD CAL POSIT =	NO	[15]
[10]	SURVIVAL HEATER POWER =	ON	ANTENNA IN NADIR POSITION =	NO	[16]
[11]	MODULE TOTALLY OFF =	ON	ANTENNA IN FULL SCAN MODE =	YES	[17]
[12]	SCANNER A2 POWER =	ON	COLD CAL POSITION MSB =	ZERO	[18]
[13]	COMPENSATOR MOTOR POWER =	ON	COLD CAL POSITION LSB =	ZERO	[19]
[14]	ANTENNA IN WARM CAL POSIT =	NO			

POWER [4] ON
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT TOUCHSCREEN BUTTON 3

ATB Transient Susceptibility
TP 3.2.4.2.3.3.2 Low Freq.
Post-Injection TDS 41

PN: 1331200-2-IT SN: 108
SO: 235168 (OP 0750 1ST CPT)

TEST ENG. D. Lund DATE: 11/18/99
Quality (ZA)

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3532
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17 CH	1	16248
4	UNIT ID AND SERIAL NO		00011110	144	CH	2	16533
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18 CH	1	16253
8	DIGITAL B DATA BYTE 4		00000000	152	CH	2	16540
10	REFLECTOR POSITION 1		5967	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5966	156	REFL POS 19 2ND LOOK		3235
14	SCENE DATA BP 1 CH	1	16254	158	SCENE DATA BP 19 CH	1	16257
16	CH	2	16541	160	CH	2	16540
18	REFLECTOR POSITION 2		5809	162	REFLECTOR POSITION 20		3077
20	REFL POS 2 2ND LOOK		5814	164	REFL POS 20 2ND LOOK		3082
22	SCENE DATA BP 2 CH	1	16250	166	SCENE DATA BP 20 CH	1	16255
24	CH	2	16534	168	CH	2	16534
26	REFLECTOR POSITION 3		5657	170	REFLECTOR POSITION 21		2927
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3 CH	1	16255	174	SCENE DATA BP 21 CH	1	16257
32	CH	2	16536	176	CH	2	16536
34	REFLECTOR POSITION 4		5506	178	REFLECTOR POSITION 22		2774
36	REFL POS 4 2ND LOOK		5511	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4 CH	1	16258	182	SCENE DATA BP 22 CH	1	16253
40	CH	2	16536	184	CH	2	16544
42	REFLECTOR POSITION 5		5355	186	REFLECTOR POSITION 23		2622
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5 CH	1	16251	190	SCENE DATA BP 23 CH	1	16255
48	CH	2	16535	192	CH	2	16541
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6 CH	1	16260	198	SCENE DATA BP 24 CH	1	16255
56	CH	2	16539	200	CH	2	16537
58	REFLECTOR POSITION 7		5053	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5056	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7 CH	1	16256	206	SCENE DATA BP 25 CH	1	16259
64	CH	2	16535	208	CH	2	16533
66	REFLECTOR POSITION 8		4898	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4903	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8 CH	1	16256	214	SCENE DATA BP 26 CH	1	16251
72	CH	2	16543	216	CH	2	16534
74	REFLECTOR POSITION 9		4746	218	REFLECTOR POSITION 27		2015
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9 CH	1	16253	222	SCENE DATA BP 27 CH	1	16250
80	CH	2	16542	224	CH	2	16542
82	REFLECTOR POSITION 10		4596	226	REFLECTOR POSITION 28		1864
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10 CH	1	16254	230	SCENE DATA BP 28 CH	1	16255
88	CH	2	16536	232	CH	2	16540
90	REFLECTOR POSITION 11		4443	234	REFLECTOR POSITION 29		1714
92	REFL POS 11 2ND LOOK		4448	236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION		VALUE
94	SCENE DATA BP 11	CH 1	16252
96		CH 2	16536
98	REFLECTOR POSITION 12		4291
100	REFL POS 12 2ND LOOK		4297
102	SCENE DATA BP 12	CH 1	16254
104		CH 2	16540
106	REFLECTOR POSITION 13		4141
108	REFL POS 13 2ND LOOK		4146
110	SCENE DATA BP 13	CH 1	16252
112		CH 2	16535
114	REFLECTOR POSITION 14		3987
116	REFL POS 14 2ND LOOK		3993
118	SCENE DATA BP 14	CH 1	16254
120		CH 2	16544
122	REFLECTOR POSITION 15		3834
124	REFL POS 15 2ND LOOK		3841
126	SCENE DATA BP 15	CH 1	16249
128		CH 2	16546
130	REFLECTOR POSITION 16		3685
132	REFL POS 16 2ND LOOK		3690
134	SCENE DATA BP 16	CH 1	16249
136		CH 2	16554

ELEMENT	DESCRIPTION		VALUE
238	SCENE DATA BP 29	CH 1	16250
240		CH 2	16536
242	REFLECTOR POSITION 30		1561
244	REFL POS 30 2ND LOOK		1566
246	SCENE DATA BP 30	CH 1	16253
248		CH 2	16540
250	REFLECTOR COLD CAL POS		16357
252	REFL COLD CAL 2ND LOOK		16357
254	COLD CAL DATA 1	CH 1	16258
256		CH 2	16545
258	COLD CAL DATA 2	CH 1	16261
260		CH 2	16545
302	REFLECTOR WARM CAL POS		11961
304	REFL WARM CAL 2ND LOOK		11960
306	WARM CAL DATA 1	CH 1	16247
308		CH 2	16545
310	WARM CAL DATA 2	CH 1	16241
312		CH 2	16541

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18087	22.90
264	FEED HORN	17975	22.98
266	RF MUX	17915	23.92
268	MIXER/IF AMPLIFIER CHANNEL 1	18914	24.53
270	MIXER/IF AMPLIFIER CHANNEL 2	18935	24.67
272	LOCAL OSCILLATOR CHANNEL 1	18578	24.27
274	LOCAL OSCILLATOR CHANNEL 2	18859	25.23
276	COMPENSATION MOTOR	17855	23.77
278	SUB REFLECTOR	18074	23.17
280	DC/DC CONVERTER	19536	25.94
282	RF SHELF	18463	23.67
284	DETECTOR/PREAMP ASSEMBLY	18343	23.79
286	WARM LOAD CENTER	23111	23.23
288	WARM LOAD 1	23181	23.35
290	WARM LOAD 2	23137	23.34
292	WARM LOAD 3	23227	23.37
294	WARM LOAD 4	23320	23.35
296	WARM LOAD 5	23368	23.38
298	WARM LOAD 6	23073	23.26
300	TEMP SENSOR REFERENCE VOLTAGE	25114	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	214	18.0	214	18.0	215	19.4
COMPENSATOR MOTOR TEMPERATURE	213	16.6	213	16.6	213	16.6
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
WARM LOAD TEMPERATURE	213	16.6	213	16.6	213	16.6

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	104	96.93	105	97.86	105	97.86
COMPENSATOR MOTOR CURRENT (AVERAGE)	106	98.79	107	99.72	107	99.72
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	177	15.28	178	15.36	177	15.28
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	153	-14.90	154	-14.85	153	-14.90
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	151	5.03	152	5.07	151	5.03
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
'ARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
'IXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
ASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
'IXED TARGET SHROUD	532	32.00	533	33.00
'ARIABLE TARGET SHROUD	515	7.00	516	8.00
'IXED TARGET N2	502	30.00	503	31.00
'ARIABLE TARGET N2	507	5.00	508	6.00
IEATER N2	505	1.00	506	2.00
'IXED TARGET FLOW METER	504	34.00		
'ARIABLE TARGET FLOW METER	509	9.00		
ASEPLATE HEATER N2	510	3.00	511	4.00
ASEPLATE N2	512	36.00	513	37.00
ASEPLATE FLOW METER	514	35.00		
DJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

```
MSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:10:07  SCAN NUMBER   962
 5 ] DIGITAL A DATA   ELEMENT 0000

 6 ] DIGITAL B DATA   ELEMENT   00

 7 ] ANALOG DATA      ELEMENT   00


                                  COMMANDS
 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
 10 ] SURVIVAL HEATER POWER =      ON     ANTENNA IN NADIR POSITION = NO   [ 16 ]
 11 ] MODULE TOTALLY OFF =         ON     ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
 12 ] SCANNER A2 POWER =           ON     COLD CAL POSITION MSB =     ZERO [ 18 ]
 13 ] COMPENSATOR MOTOR POWER =    ON     COLD CAL POSITION LSB =     ZERO [ 19 ]
 14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
TP 3.2.4.2.3.3.3 Hi Freq.
1.43 Hz Pre-Injection

PN: 1331200-2-IT SN: 108
SO: 335168 (OP 0750, 1ST CPT)

TEST ENG. [signature] DATE: 11/18/99
Quality: (QA 260)

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16238
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16528
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16244
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16526
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5967	156	REFL POS 19 2ND LOOK	3234
14	SCENE DATA BP 1 CH 1	16242	158	SCENE DATA BP 19 CH 1	16238
16	CH 2	16529	160	CH 2	16526
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16237	166	SCENE DATA BP 20 CH 1	16241
24	CH 2	16529	168	CH 2	16525
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2925
28	REFL POS 3 2ND LOOK	5661	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16248	174	SCENE DATA BP 21 CH 1	16246
32	CH 2	16530	176	CH 2	16527
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2774
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16243	182	SCENE DATA BP 22 CH 1	16241
40	CH 2	16529	184	CH 2	16527
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16238	190	SCENE DATA BP 23 CH 1	16238
48	CH 2	16525	192	CH 2	16531
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16241	198	SCENE DATA BP 24 CH 1	16242
56	CH 2	16532	200	CH 2	16524
58	REFLECTOR POSITION 7	5051	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5055	204	REFL POS 25 2ND LOOK	2324
62	SCENE DATA BP 7 CH 1	16241	206	SCENE DATA BP 25 CH 1	16243
64	CH 2	16524	208	CH 2	16522
66	REFLECTOR POSITION 8	4899	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16241	214	SCENE DATA BP 26 CH 1	16239
72	CH 2	16528	216	CH 2	16524
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2015
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16239	222	SCENE DATA BP 27 CH 1	16240
80	CH 2	16526	224	CH 2	16527
82	REFLECTOR POSITION 10	4595	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16242	230	SCENE DATA BP 28 CH 1	16236
88	CH 2	16526	232	CH 2	16525
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4448	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION		VALUE
94	SCENE DATA BP 11	CH 1	16243
96		CH 2	16524
98	REFLECTOR POSITION 12		4291
100	REFL POS 12 2ND LOOK		4297
102	SCENE DATA BP 12	CH 1	16242
104		CH 2	16530
106	REFLECTOR POSITION 13		4141
108	REFL POS 13 2ND LOOK		4146
110	SCENE DATA BP 13	CH 1	16243
112		CH 2	16528
114	REFLECTOR POSITION 14		3987
116	REFL POS 14 2ND LOOK		3992
118	SCENE DATA BP 14	CH 1	16241
120		CH 2	16528
122	REFLECTOR POSITION 15		3834
124	REFL POS 15 2ND LOOK		3841
126	SCENE DATA BP 15	CH 1	16238
128		CH 2	16535
130	REFLECTOR POSITION 16		3685
132	REFL POS 16 2ND LOOK		3690
134	SCENE DATA BP 16	CH 1	16243
136		CH 2	16541

ELEMENT	DESCRIPTION		VALUE
238	SCENE DATA BP 29	CH 1	16239
240		CH 2	16524
242	REFLECTOR POSITION 30		1560
244	REFL POS 30 2ND LOOK		1567
246	SCENE DATA BP 30	CH 1	16234
248		CH 2	16526
250	REFLECTOR COLD CAL POS		16357
252	REFL COLD CAL 2ND LOOK		16357
254	COLD CAL DATA 1	CH 1	16247
256		CH 2	16535
258	COLD CAL DATA 2	CH 1	16244
260		CH 2	16541
302	REFLECTOR WARM CAL POS		11961
304	REFL WARM CAL 2ND LOOK		11960
306	WARM CAL DATA 1	CH 1	16229
308		CH 2	16526
310	WARM CAL DATA 2	CH 1	16230
312		CH 2	16523

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18090	22.90
264	FEED HORN	18011	23.05
266	RF MUX	18008	24.10
268	MIXER/IF AMPLIFIER CHANNEL 1	19026	24.75
270	MIXER/IF AMPLIFIER CHANNEL 2	19078	24.94
272	LOCAL OSCILLATOR CHANNEL 1	18675	24.46
274	LOCAL OSCILLATOR CHANNEL 2	19063	25.62
276	COMPENSATION MOTOR	17911	23.88
278	SUB REFLECTOR	18057	23.14
280	DC/DC CONVERTER	19888	26.61
282	RF SHELF	18528	23.79
284	DETECTOR/PREAMP ASSEMBLY	18429	23.96
286	WARM LOAD CENTER	23141	23.29
288	WARM LOAD 1	23184	23.35
290	WARM LOAD 2	23140	23.35
292	WARM LOAD 3	23228	23.38
294	WARM LOAD 4	23345	23.40
296	WARM LOAD 5	23387	23.42
298	WARM LOAD 6	23091	23.29
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	215	19.4	214	18.0
SCANNER MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
WARM LOAD TEMPERATURE	214	18.0	214	18.0	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	102	95.06	105	97.86	103	96.00
COMPENSATOR MOTOR CURRENT (AVERAGE)	105	97.86	107	99.72	105	97.86
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	175	15.10	177	15.28	175	15.10
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	152	-14.95	154	-14.85	153	-14.90
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	150	5.00	151	5.03	150	5.00
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB 1.43 Hz Post-inj

```
MSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:12:25  SCAN NUMBER   979
 5 ] DIGITAL A DATA   ELEMENT 0000

 6 ] DIGITAL B DATA   ELEMENT   00

 7 ] ANALOG DATA      ELEMENT   00

                                     COMMANDS
 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

10 ] SURVIVAL HEATER POWER =      ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]

11 ] MODULE TOTALLY OFF =         ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

12 ] SCANNER A2 POWER =           ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]

13 ] COMPENSATOR MOTOR POWER =    ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]

14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]   ON
                      SCREEN ONLY [ 2 ]   PRINT   [ 3 ] FULL       [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
TP 3.2.4.2.3.3.3 Hi Freq.
1.43 Hz Post-Injection

PN: 1331200-2-IT SN: 108
SO: 335168 (OP 0750, 1ST CPT)

TEST ENG. D. Lund DATE: 11/18/99
Quality: (7A 269)

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3531
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16240
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16522
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3379
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16242
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16523
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5967	156	REFL POS 19 2ND LOOK	3234
14	SCENE DATA BP 1 CH 1	16233	158	SCENE DATA BP 19 CH 1	16235
16	CH 2	16523	160	CH 2	16526
18	REFLECTOR POSITION 2	5810	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16237	166	SCENE DATA BP 20 CH 1	16237
24	CH 2	16526	168	CH 2	16523
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2925
28	REFL POS 3 2ND LOOK	5662	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16243	174	SCENE DATA BP 21 CH 1	16237
32	CH 2	16522	176	CH 2	16525
34	REFLECTOR POSITION 4	5505	178	REFLECTOR POSITION 22	2775
36	REFL POS 4 2ND LOOK	5510	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16244	182	SCENE DATA BP 22 CH 1	16240
40	CH 2	16525	184	CH 2	16523
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16234	190	SCENE DATA BP 23 CH 1	16237
48	CH 2	16523	192	CH 2	16524
50	REFLECTOR POSITION 6	5201	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16243	198	SCENE DATA BP 24 CH 1	16240
56	CH 2	16524	200	CH 2	16520
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5056	204	REFL POS 25 2ND LOOK	2324
62	SCENE DATA BP 7 CH 1	16239	206	SCENE DATA BP 25 CH 1	16239
64	CH 2	16521	208	CH 2	16520
66	REFLECTOR POSITION 8	4898	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16237	214	SCENE DATA BP 26 CH 1	16236
72	CH 2	16524	216	CH 2	16518
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2016
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16240	222	SCENE DATA BP 27 CH 1	16240
80	CH 2	16523	224	CH 2	16523
82	REFLECTOR POSITION 10	4595	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16238	230	SCENE DATA BP 28 CH 1	16237
88	CH 2	16520	232	CH 2	16525
90	REFLECTOR POSITION 11	4444	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4448	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16239
96		CH	2	16521
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16239
104		CH	2	16528
106	REFLECTOR POSITION 13			4142
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16240
112		CH	2	16524
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16236
120		CH	2	16518
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16240
128		CH	2	16540
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16234
136		CH	2	16545

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16243
240		CH	2	16518
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16237
248		CH	2	16520
250	REFLECTOR COLD CAL POS			16356
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16243
256		CH	2	16531
258	COLD CAL DATA 2	CH	1	16244
260		CH	2	16531
302	REFLECTOR WARM CAL POS			11960
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16230
308		CH	2	16519
310	WARM CAL DATA 2	CH	1	16227
312		CH	2	16519

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18098	22.92
264	FEED HORN	18028	23.08
266	RF MUX	18033	24.14
268	MIXER/IF AMPLIFIER CHANNEL 1	19052	24.80
270	MIXER/IF AMPLIFIER CHANNEL 2	19105	24.99
272	LOCAL OSCILLATOR CHANNEL 1	18700	24.50
274	LOCAL OSCILLATOR CHANNEL 2	19104	25.70
276	COMPENSATION MOTOR	17926	23.90
278	SUB REFLECTOR	18067	23.16
280	DC/DC CONVERTER	19958	26.75
282	RF SHELF	18557	23.84
284	DETECTOR/PREAMP ASSEMBLY	18451	24.00
286	WARM LOAD CENTER	23143	23.30
288	WARM LOAD 1	23179	23.34
290	WARM LOAD 2	23138	23.34
292	WARM LOAD 3	23232	23.38
294	WARM LOAD 4	23316	23.34
296	WARM LOAD 5	23375	23.39
298	WARM LOAD 6	23063	23.24
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	214	18.0	214	18.0	214	18.0
COMPENSATOR MOTOR TEMPERATURE	213	16.6	213	16.6	213	16.6
SCANNER MOTOR TEMPERATURE	213	16.6	214	18.0	214	18.0
WARM LOAD TEMPERATURE	213	16.6	213	16.6	214	18.0

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	106	98.79	105	97.86	104	96.93
COMPENSATOR MOTOR CURRENT (AVERAGE)	108	100.66	107	99.72	106	98.79
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	170	14.67
ANTENNA DRIVE +15 VDC	178	15.36	177	15.28	176	15.19
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	155	-14.80	154	-14.85	153	-14.90
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	144	4.80	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	153	5.10	152	5.07	151	5.03
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB 2.86 Hz Pre-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:19:04  SCAN NUMBER  1028
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

[ 10 ] SURVIVAL HEATER POWER =     ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]

[ 11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

[ 12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]

[ 13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]

[ 14 ] ANTENNA IN WARM CAL POSIT = NO

         POWER [ 4 ]  ON
                      SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
P 3.2.4.2.3.3.3 Hi Freq
2.86 Hz Pre-Injection

PN: 1331200-2-IT SN: 108

TEST ENG. D Lund (2A)

DATE: 11/18/99

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3532
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17	CH 1	16234
4	UNIT ID AND SERIAL NO		00011110	144		CH 2	16522
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18	CH 1	16229
8	DIGITAL B DATA BYTE 4		00000000	152		CH 2	16520
10	REFLECTOR POSITION 1		5967	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5966	156	REFL POS 19 2ND LOOK		3234
14	SCENE DATA BP 1	CH 1	16230	158	SCENE DATA BP 19	CH 1	16233
16		CH 2	16520	160		CH 2	16517
18	REFLECTOR POSITION 2		5810	162	REFLECTOR POSITION 20		3076
20	REFL POS 2 2ND LOOK		5814	164	REFL POS 20 2ND LOOK		3082
22	SCENE DATA BP 2	CH 1	16230	166	SCENE DATA BP 20	CH 1	16239
24		CH 2	16522	168		CH 2	16520
26	REFLECTOR POSITION 3		5657	170	REFLECTOR POSITION 21		2926
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3	CH 1	16240	174	SCENE DATA BP 21	CH 1	16232
32		CH 2	16529	176		CH 2	16517
34	REFLECTOR POSITION 4		5507	178	REFLECTOR POSITION 22		2774
36	REFL POS 4 2ND LOOK		5511	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4	CH 1	16239	182	SCENE DATA BP 22	CH 1	16233
40		CH 2	16525	184		CH 2	16519
42	REFLECTOR POSITION 5		5354	186	REFLECTOR POSITION 23		2621
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5	CH 1	16230	190	SCENE DATA BP 23	CH 1	16229
48		CH 2	16518	192		CH 2	16519
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6	CH 1	16232	198	SCENE DATA BP 24	CH 1	16233
56		CH 2	16521	200		CH 2	16512
58	REFLECTOR POSITION 7		5052	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5055	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7	CH 1	16236	206	SCENE DATA BP 25	CH 1	16233
64		CH 2	16512	208		CH 2	16516
66	REFLECTOR POSITION 8		4899	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4903	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8	CH 1	16237	214	SCENE DATA BP 26	CH 1	16228
72		CH 2	16526	216		CH 2	16517
74	REFLECTOR POSITION 9		4746	218	REFLECTOR POSITION 27		2015
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9	CH 1	16232	222	SCENE DATA BP 27	CH 1	16234
80		CH 2	16519	224		CH 2	16519
82	REFLECTOR POSITION 10		4595	226	REFLECTOR POSITION 28		1864
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10	CH 1	16232	230	SCENE DATA BP 28	CH 1	16234
88		CH 2	16521	232		CH 2	16519
90	REFLECTOR POSITION 11		4443	234	REFLECTOR POSITION 29		1713
92	REFL POS 11 2ND LOOK		4448	236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16230
96		CH	2	16514
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16233
104		CH	2	16518
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16238
112		CH	2	16517
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16237
120		CH	2	16519
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16235
128		CH	2	16529
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16238
136		CH	2	16538

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16238
240		CH	2	16515
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16232
248		CH	2	16517
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16234
256		CH	2	16527
258	COLD CAL DATA 2	CH	1	16237
260		CH	2	16533
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16222
308		CH	2	16516
310	WARM CAL DATA 2	CH	1	16221
312		CH	2	16516

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18136	22.99
264	FEED HORN	18085	23.19
266	RF MUX	18102	24.28
268	MIXER/IF AMPLIFIER CHANNEL 1	19121	24.93
270	MIXER/IF AMPLIFIER CHANNEL 2	19182	25.14
272	LOCAL OSCILLATOR CHANNEL 1	18766	24.63
274	LOCAL OSCILLATOR CHANNEL 2	19199	25.88
276	COMPENSATION MOTOR	17963	23.97
278	SUB REFLECTOR	18074	23.17
280	DC/DC CONVERTER	20127	27.07
282	RF SHELF	18624	23.97
284	DETECTOR/PREAMP ASSEMBLY	18522	24.14
286	WARM LOAD CENTER	23122	23.26
288	WARM LOAD 1	23158	23.30
290	WARM LOAD 2	23113	23.29
292	WARM LOAD 3	23218	23.36
294	WARM LOAD 4	23312	23.33
296	WARM LOAD 5	23359	23.36
298	WARM LOAD 6	23074	23.26
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	216	20.7
COMPENSATOR MOTOR TEMPERATURE	214	18.0	214	18.0	214	18.0
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	214	18.0
WARM LOAD TEMPERATURE	215	19.4	214	18.0	215	19.4

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	169	14.58	169	14.58	169	14.58
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB 2.86 Hz Post-Inj

```
MSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:23:04  SCAN NUMBER  1058
 5 ] DIGITAL A DATA   ELEMENT 0000

 6 ] DIGITAL B DATA   ELEMENT   00

 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
 9 ]  MODULE POWER =           CONNECT     ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
 10 ] SURVIVAL HEATER POWER =      ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
 11 ] MODULE TOTALLY OFF =         ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
 12 ] SCANNER A2 POWER =           ON      COLD CAL POSITION MSB =     ZERO [ 18 ]
 13 ] COMPENSATOR MOTOR POWER =    ON      COLD CAL POSITION LSB =     ZERO [ 19 ]
 14 ] ANTENNA IN WARM CAL POSIT = NO

        POWER [ 4 ]  ON
                     SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
P 3.2.4.2.3.3.3 Hi Freq.
2.86 Hz Post-Injection

PN: 1331200-2-IT SN: 108

SO: 225168 (OP 0750 1ST CRT)

TEST ENG [signature] DATE: 11/18/99

Quality: (QA 269)

ELEMENT	DESCRIPTION		VALUE	ELEMENT	DESCRIPTION		VALUE
1	SYNC SEQUENCE BYTE 1		11111111	138	REFLECTOR POSITION 17		3532
2	SYNC SEQUENCE BYTE 2		11111111	140	REFL POS 17 2ND LOOK		3538
3	SYNC SEQUENCE BYTE 3		11111111	142	SCENE DATA BP 17	CH 1	16231
4	UNIT ID AND SERIAL NO		00011110	144		CH 2	16518
5	DIGITAL B DATA BYTE 1		00000010	146	REFLECTOR POSITION 18		3380
6	DIGITAL B DATA BYTE 2		00000110	148	REFL POS 18 2ND LOOK		3387
7	DIGITAL B DATA BYTE 3		00000000	150	SCENE DATA BP 18	CH 1	16230
8	DIGITAL B DATA BYTE 4		00000000	152		CH 2	16516
10	REFLECTOR POSITION 1		5966	154	REFLECTOR POSITION 19		3229
12	REFL POS 1 2ND LOOK		5966	156	REFL POS 19 2ND LOOK		3235
14	SCENE DATA BP 1	CH 1	16229	158	SCENE DATA BP 19	CH 1	16231
16		CH 2	16519	160		CH 2	16522
18	REFLECTOR POSITION 2		5809	162	REFLECTOR POSITION 20		3077
20	REFL POS 2 2ND LOOK		5814	164	REFL POS 20 2ND LOOK		3082
22	SCENE DATA BP 2	CH 1	16229	166	SCENE DATA BP 20	CH 1	16230
24		CH 2	16521	168		CH 2	16516
26	REFLECTOR POSITION 3		5657	170	REFLECTOR POSITION 21		2927
28	REFL POS 3 2ND LOOK		5662	172	REFL POS 21 2ND LOOK		2932
30	SCENE DATA BP 3	CH 1	16238	174	SCENE DATA BP 21	CH 1	16229
32		CH 2	16522	176		CH 2	16518
34	REFLECTOR POSITION 4		5506	178	REFLECTOR POSITION 22		2774
36	REFL POS 4 2ND LOOK		5511	180	REFL POS 22 2ND LOOK		2779
38	SCENE DATA BP 4	CH 1	16237	182	SCENE DATA BP 22	CH 1	16232
40		CH 2	16520	184		CH 2	16512
42	REFLECTOR POSITION 5		5355	186	REFLECTOR POSITION 23		2622
44	REFL POS 5 2ND LOOK		5359	188	REFL POS 23 2ND LOOK		2627
46	SCENE DATA BP 5	CH 1	16226	190	SCENE DATA BP 23	CH 1	16231
48		CH 2	16519	192		CH 2	16514
50	REFLECTOR POSITION 6		5201	194	REFLECTOR POSITION 24		2469
52	REFL POS 6 2ND LOOK		5207	196	REFL POS 24 2ND LOOK		2476
54	SCENE DATA BP 6	CH 1	16230	198	SCENE DATA BP 24	CH 1	16234
56		CH 2	16521	200		CH 2	16519
58	REFLECTOR POSITION 7		5052	202	REFLECTOR POSITION 25		2319
60	REFL POS 7 2ND LOOK		5055	204	REFL POS 25 2ND LOOK		2324
62	SCENE DATA BP 7	CH 1	16232	206	SCENE DATA BP 25	CH 1	16232
64		CH 2	16516	208		CH 2	16515
66	REFLECTOR POSITION 8		4898	210	REFLECTOR POSITION 26		2168
68	REFL POS 8 2ND LOOK		4903	212	REFL POS 26 2ND LOOK		2174
70	SCENE DATA BP 8	CH 1	16231	214	SCENE DATA BP 26	CH 1	16231
72		CH 2	16512	216		CH 2	16512
74	REFLECTOR POSITION 9		4746	218	REFLECTOR POSITION 27		2015
76	REFL POS 9 2ND LOOK		4752	220	REFL POS 27 2ND LOOK		2022
78	SCENE DATA BP 9	CH 1	16230	222	SCENE DATA BP 27	CH 1	16235
80		CH 2	16516	224		CH 2	16514
82	REFLECTOR POSITION 10		4595	226	REFLECTOR POSITION 28		1864
84	REFL POS 10 2ND LOOK		4600	228	REFL POS 28 2ND LOOK		1869
86	SCENE DATA BP 10	CH 1	16234	230	SCENE DATA BP 28	CH 1	16230
88		CH 2	16514	232		CH 2	16520
90	REFLECTOR POSITION 11		4442	234	REFLECTOR POSITION 29		1714
92	REFL POS 11 2ND LOOK		4448	236	REFL POS 29 2ND LOOK		1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16229
96		CH	2	16517
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16227
104		CH	2	16515
106	REFLECTOR POSITION 13			4140
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16230
112		CH	2	16513
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16237
120		CH	2	16518
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16231
128		CH	2	16525
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16236
136		CH	2	16529

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16230
240		CH	2	16514
242	REFLECTOR POSITION 30			1561
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16231
248		CH	2	16515
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16237
256		CH	2	16525
258	COLD CAL DATA 2	CH	1	16237
260		CH	2	16529
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16218
308		CH	2	16514
310	WARM CAL DATA 2	CH	1	16218
312		CH	2	16508

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18119	22.96
264	FEED HORN	18091	23.20
266	RF MUX	18129	24.33
268	MIXER/IF AMPLIFIER CHANNEL 1	19157	25.00
270	MIXER/IF AMPLIFIER CHANNEL 2	19218	25.21
272	LOCAL OSCILLATOR CHANNEL 1	18799	24.69
274	LOCAL OSCILLATOR CHANNEL 2	19240	25.96
276	COMPENSATION MOTOR	17999	24.04
278	SUB REFLECTOR	18095	23.21
280	DC/DC CONVERTER	20198	27.20
282	RF SHELF	18638	24.00
284	DETECTOR/PREAMP ASSEMBLY	18555	24.20
286	WARM LOAD CENTER	23125	23.26
288	WARM LOAD 1	23161	23.31
290	WARM LOAD 2	23125	23.32
292	WARM LOAD 3	23223	23.37
294	WARM LOAD 4	23317	23.34
296	WARM LOAD 5	23358	23.36
298	WARM LOAD 6	23076	23.26
300	TEMP SENSOR REFERENCE VOLTAGE	25116	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	214	18.0	215	19.4	215	19.4
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	214	18.0	214	18.0	215	19.4

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	99	92.27	99	92.27	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	170	14.67	170	14.67	170	14.67
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	147	-15.20
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB 6.67Hz Pre-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:31:30  SCAN NUMBER  1122
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]

[ 10 ] SURVIVAL HEATER POWER =     ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]

[ 11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]

[ 12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]

[ 13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]

[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
IT 3.2.4.2.3.3.3 Hi Freq
6.67Hz Pre-Injection

PN: 1331200-2-IT SN: 108 TEST ENG. [signature] DATE: 11/18/99

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16224
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16528
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16229
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16524
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5966	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16224	158	SCENE DATA BP 19 CH 1	16223
16	CH 2	16517	160	CH 2	16522
18	REFLECTOR POSITION 2	5809	162	REFLECTOR POSITION 20	3077
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16229	166	SCENE DATA BP 20 CH 1	16226
24	CH 2	16523	168	CH 2	16517
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2927
28	REFL POS 3 2ND LOOK	5662	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16234	174	SCENE DATA BP 21 CH 1	16227
32	CH 2	16529	176	CH 2	16523
34	REFLECTOR POSITION 4	5507	178	REFLECTOR POSITION 22	2774
36	REFL POS 4 2ND LOOK	5511	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16231	182	SCENE DATA BP 22 CH 1	16226
40	CH 2	16525	184	CH 2	16521
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2621
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16223	190	SCENE DATA BP 23 CH 1	16225
48	CH 2	16521	192	CH 2	16520
50	REFLECTOR POSITION 6	5202	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16226	198	SCENE DATA BP 24 CH 1	16227
56	CH 2	16531	200	CH 2	16512
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5056	204	REFL POS 25 2ND LOOK	2324
62	SCENE DATA BP 7 CH 1	16224	206	SCENE DATA BP 25 CH 1	16229
64	CH 2	16522	208	CH 2	16510
66	REFLECTOR POSITION 8	4898	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4903	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16226	214	SCENE DATA BP 26 CH 1	16219
72	CH 2	16523	216	CH 2	16517
74	REFLECTOR POSITION 9	4746	218	REFLECTOR POSITION 27	2015
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16228	222	SCENE DATA BP 27 CH 1	16230
80	CH 2	16522	224	CH 2	16522
82	REFLECTOR POSITION 10	4595	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16225	230	SCENE DATA BP 28 CH 1	16227
88	CH 2	16522	232	CH 2	16517
90	REFLECTOR POSITION 11	4444	234	REFLECTOR POSITION 29	1714
92	REFL POS 11 2ND LOOK	4448	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16224
96		CH	2	16528
98	REFLECTOR POSITION 12			4290
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16227
104		CH	2	16522
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16231
112		CH	2	16524
114	REFLECTOR POSITION 14			3988
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16230
120		CH	2	16523
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16223
128		CH	2	16533
130	REFLECTOR POSITION 16			3685
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16230
136		CH	2	16533

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16225
240		CH	2	16514
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16220
248		CH	2	16510
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16233
256		CH	2	16524
258	COLD CAL DATA 2	CH	1	16231
260		CH	2	16522
302	REFLECTOR WARM CAL POS			11961
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16216
308		CH	2	16515
310	WARM CAL DATA 2	CH	1	16212
312		CH	2	16513

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18140	23.00
264	FEED HORN	18127	23.27
266	RF MUX	18186	24.44
268	MIXER/IF AMPLIFIER CHANNEL 1	19222	25.12
270	MIXER/IF AMPLIFIER CHANNEL 2	19283	25.33
272	LOCAL OSCILLATOR CHANNEL 1	18864	24.82
274	LOCAL OSCILLATOR CHANNEL 2	19315	26.10
276	COMPENSATION MOTOR	18049	24.14
278	SUB REFLECTOR	18120	23.26
280	DC/DC CONVERTER	20311	27.42
282	RF SHELF	18698	24.11
284	DETECTOR/PREAMP ASSEMBLY	18617	24.32
286	WARM LOAD CENTER	23164	23.34
288	WARM LOAD 1	23206	23.40
290	WARM LOAD 2	23174	23.41
292	WARM LOAD 3	23266	23.45
294	WARM LOAD 4	23359	23.43
296	WARM LOAD 5	23404	23.45
298	WARM LOAD 6	23138	23.39
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	215	19.4	215	19.4	215	19.4
COMPENSATOR MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
SCANNER MOTOR TEMPERATURE	215	19.4	215	19.4	215	19.4
WARM LOAD TEMPERATURE	215	19.4	215	19.4	215	19.4

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	98	91.34
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	171	14.76	170	14.67	171	14.76
SIGNAL PROCESSING -15 VDC	147	-15.20	147	-15.20	147	-15.20
ANTENNA DRIVE -15 VDC	147	-15.20	147	-15.20	148	-15.15
RECEIVER +10 VDC	171	9.88	171	9.88	171	9.88
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

ATB 6.67Hz Post-Inj

```
AMSU  A2-30 A2.EXE     FULL SCAN MODE      18-NOV-99  15:33:57  SCAN NUMBER  1140
[ 5 ] DIGITAL A DATA   ELEMENT 0000

[ 6 ] DIGITAL B DATA   ELEMENT   00

[ 7 ] ANALOG DATA      ELEMENT   00

                                  COMMANDS
[ 9 ]  MODULE POWER =           CONNECT    ANTENNA IN COLD CAL POSIT = NO   [ 15 ]
[ 10 ] SURVIVAL HEATER POWER =     ON      ANTENNA IN NADIR POSITION = NO   [ 16 ]
[ 11 ] MODULE TOTALLY OFF =        ON      ANTENNA IN FULL SCAN MODE = YES  [ 17 ]
[ 12 ] SCANNER A2 POWER =          ON      COLD CAL POSITION MSB =    ZERO  [ 18 ]
[ 13 ] COMPENSATOR MOTOR POWER =   ON      COLD CAL POSITION LSB =    ZERO  [ 19 ]
[ 14 ] ANTENNA IN WARM CAL POSIT = NO

          POWER [ 4 ]  ON
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL        [ 1 ] RETURN
 SELECT TOUCHSCREEN BUTTON 3
```

ATB Transient Susceptibility
P 3.2.4.2.3.3.3 Hi Freq
6.67 Hz Post-Injection

PN: 1331200-2-IT SN: 108 TEST ENG. D Land (TA) DATE: 11/18/99

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	SYNC SEQUENCE BYTE 1	11111111	138	REFLECTOR POSITION 17	3532
2	SYNC SEQUENCE BYTE 2	11111111	140	REFL POS 17 2ND LOOK	3538
3	SYNC SEQUENCE BYTE 3	11111111	142	SCENE DATA BP 17 CH 1	16226
4	UNIT ID AND SERIAL NO	00011110	144	CH 2	16517
5	DIGITAL B DATA BYTE 1	00000010	146	REFLECTOR POSITION 18	3380
6	DIGITAL B DATA BYTE 2	00000110	148	REFL POS 18 2ND LOOK	3387
7	DIGITAL B DATA BYTE 3	00000000	150	SCENE DATA BP 18 CH 1	16229
8	DIGITAL B DATA BYTE 4	00000000	152	CH 2	16514
10	REFLECTOR POSITION 1	5967	154	REFLECTOR POSITION 19	3229
12	REFL POS 1 2ND LOOK	5966	156	REFL POS 19 2ND LOOK	3235
14	SCENE DATA BP 1 CH 1	16224	158	SCENE DATA BP 19 CH 1	16224
16	CH 2	16517	160	CH 2	16518
18	REFLECTOR POSITION 2	5810	162	REFLECTOR POSITION 20	3076
20	REFL POS 2 2ND LOOK	5814	164	REFL POS 20 2ND LOOK	3082
22	SCENE DATA BP 2 CH 1	16222	166	SCENE DATA BP 20 CH 1	16227
24	CH 2	16519	168	CH 2	16515
26	REFLECTOR POSITION 3	5656	170	REFLECTOR POSITION 21	2925
28	REFL POS 3 2ND LOOK	5662	172	REFL POS 21 2ND LOOK	2932
30	SCENE DATA BP 3 CH 1	16230	174	SCENE DATA BP 21 CH 1	16221
32	CH 2	16520	176	CH 2	16518
34	REFLECTOR POSITION 4	5506	178	REFLECTOR POSITION 22	2773
36	REFL POS 4 2ND LOOK	5510	180	REFL POS 22 2ND LOOK	2779
38	SCENE DATA BP 4 CH 1	16231	182	SCENE DATA BP 22 CH 1	16224
40	CH 2	16515	184	CH 2	16516
42	REFLECTOR POSITION 5	5355	186	REFLECTOR POSITION 23	2622
44	REFL POS 5 2ND LOOK	5359	188	REFL POS 23 2ND LOOK	2627
46	SCENE DATA BP 5 CH 1	16220	190	SCENE DATA BP 23 CH 1	16226
48	CH 2	16516	192	CH 2	16514
50	REFLECTOR POSITION 6	5200	194	REFLECTOR POSITION 24	2469
52	REFL POS 6 2ND LOOK	5207	196	REFL POS 24 2ND LOOK	2476
54	SCENE DATA BP 6 CH 1	16229	198	SCENE DATA BP 24 CH 1	16222
56	CH 2	16521	200	CH 2	16511
58	REFLECTOR POSITION 7	5052	202	REFLECTOR POSITION 25	2319
60	REFL POS 7 2ND LOOK	5055	204	REFL POS 25 2ND LOOK	2324
62	SCENE DATA BP 7 CH 1	16225	206	SCENE DATA BP 25 CH 1	16228
64	CH 2	16521	208	CH 2	16516
66	REFLECTOR POSITION 8	4899	210	REFLECTOR POSITION 26	2168
68	REFL POS 8 2ND LOOK	4904	212	REFL POS 26 2ND LOOK	2174
70	SCENE DATA BP 8 CH 1	16225	214	SCENE DATA BP 26 CH 1	16222
72	CH 2	16520	216	CH 2	16514
74	REFLECTOR POSITION 9	4747	218	REFLECTOR POSITION 27	2015
76	REFL POS 9 2ND LOOK	4752	220	REFL POS 27 2ND LOOK	2022
78	SCENE DATA BP 9 CH 1	16223	222	SCENE DATA BP 27 CH 1	16224
80	CH 2	16519	224	CH 2	16521
82	REFLECTOR POSITION 10	4596	226	REFLECTOR POSITION 28	1864
84	REFL POS 10 2ND LOOK	4600	228	REFL POS 28 2ND LOOK	1869
86	SCENE DATA BP 10 CH 1	16227	230	SCENE DATA BP 28 CH 1	16224
88	CH 2	16519	232	CH 2	16525
90	REFLECTOR POSITION 11	4443	234	REFLECTOR POSITION 29	1713
92	REFL POS 11 2ND LOOK	4448	236	REFL POS 29 2ND LOOK	1719

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	16224
96		CH	2	16516
98	REFLECTOR POSITION 12			4291
100	REFL POS 12 2ND LOOK			4297
102	SCENE DATA BP 12	CH	1	16225
104		CH	2	16513
106	REFLECTOR POSITION 13			4141
108	REFL POS 13 2ND LOOK			4146
110	SCENE DATA BP 13	CH	1	16223
112		CH	2	16520
114	REFLECTOR POSITION 14			3987
116	REFL POS 14 2ND LOOK			3993
118	SCENE DATA BP 14	CH	1	16227
120		CH	2	16520
122	REFLECTOR POSITION 15			3834
124	REFL POS 15 2ND LOOK			3841
126	SCENE DATA BP 15	CH	1	16224
128		CH	2	16528
130	REFLECTOR POSITION 16			3684
132	REFL POS 16 2ND LOOK			3690
134	SCENE DATA BP 16	CH	1	16225
136		CH	2	16536

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	16221
240		CH	2	16519
242	REFLECTOR POSITION 30			1560
244	REFL POS 30 2ND LOOK			1567
246	SCENE DATA BP 30	CH	1	16219
248		CH	2	16520
250	REFLECTOR COLD CAL POS			16357
252	REFL COLD CAL 2ND LOOK			16357
254	COLD CAL DATA 1	CH	1	16226
256		CH	2	16532
258	COLD CAL DATA 2	CH	1	16227
260		CH	2	16525
302	REFLECTOR WARM CAL POS			11960
304	REFL WARM CAL 2ND LOOK			11960
306	WARM CAL DATA 1	CH	1	16215
308		CH	2	16507
310	WARM CAL DATA 2	CH	1	16215
312		CH	2	16513

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18128	22.97
264	FEED HORN	18135	23.28
266	RF MUX	18201	24.46
268	MIXER/IF AMPLIFIER CHANNEL 1	19237	25.15
270	MIXER/IF AMPLIFIER CHANNEL 2	19301	25.37
272	LOCAL OSCILLATOR CHANNEL 1	18878	24.84
274	LOCAL OSCILLATOR CHANNEL 2	19334	26.14
276	COMPENSATION MOTOR	18045	24.13
278	SUB REFLECTOR	18113	23.25
280	DC/DC CONVERTER	20335	27.47
282	RF SHELF	18710	24.13
284	DETECTOR/PREAMP ASSEMBLY	18631	24.34
286	WARM LOAD CENTER	23152	23.31
288	WARM LOAD 1	23181	23.35
290	WARM LOAD 2	23147	23.36
292	WARM LOAD 3	23226	23.37
294	WARM LOAD 4	23314	23.34
296	WARM LOAD 5	23363	23.37
298	WARM LOAD 6	23074	23.26
300	TEMP SENSOR REFERENCE VOLTAGE	25115	

DESCRIPTION	STATUS	STATUS	STATUS
SCANNER POWER	ON	ON	ON
COMPENSATOR MOTOR POWER	ON	ON	ON
ANTENNA IN WARM CAL POSITION MODE	NO	NO	NO
ANTENNA IN COLD CAL POSITION MODE	NO	NO	NO
ANTENNA IN NADIR POSITION MODE	NO	NO	NO
ANTENNA IN FULL SCAN MODE	YES	YES	YES
SURVIVAL HEATER POWER	ON	ON	ON
MODULE POWER	ON	ON	ON
COLD CAL POSITION MSB	ZERO	ZERO	ZERO
COLD CAL POSITION LSB	ZERO	ZERO	ZERO

ANALOG DATA

DESCRIPTION	VALUE	DEG C	VALUE	DEG C	VALUE	DEG C
RF SHELF TEMPERATURE	214	18.0	214	18.0	214	18.0
COMPENSATOR MOTOR TEMPERATURE	213	16.6	213	16.6	214	18.0
SCANNER MOTOR TEMPERATURE	213	16.6	213	16.6	214	18.0
WARM LOAD TEMPERATURE	212	15.3	213	16.6	213	16.6

DESCRIPTION	VALUE	MA / VOLTS	VALUE	MA / VOLTS	VALUE	MA / VOLTS
ANTENNA DRIVE MOTOR CURRENT (AVERAGE)	98	91.34	98	91.34	99	92.27
COMPENSATOR MOTOR CURRENT (AVERAGE)	100	93.20	100	93.20	100	93.20
SIGNAL PROCESSING +15 VDC	170	14.67	170	14.67	170	14.67
ANTENNA DRIVE +15 VDC	171	14.76	171	14.76	171	14.76
SIGNAL PROCESSING -15 VDC	148	-15.15	148	-15.15	148	-15.15
ANTENNA DRIVE -15 VDC	148	-15.15	148	-15.15	148	-15.15
RECEIVER +10 VDC	170	9.82	170	9.82	170	9.82
RADIOMETER, RECEIVER, PROCESSOR +5 VDC	145	4.83	145	4.83	145	4.83
ANTENNA DRIVE +5 VDC	145	4.83	145	4.83	145	4.83
GUNN DIODE OSC #1 (CHANNEL 1) VDC	172	9.84	172	9.84	172	9.84
GUNN DIODE OSC #2 (CHANNEL 2) VDC	172	9.84	172	9.84	172	9.84

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

TEST DATA SHEET 41

Transient Susceptibility Test (Paragraphs 3.2.4.2.1.3, 3.2.4.2.2.9, 3.2.4.2.3.3)

Test Setup Verified: D. Lund
Signature

3.2.4.2.1.3 +28V Main Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.1.3.2	8	Low frequency in accordance with Figure 7	Performance Normal – No Deviations	None
3.2.4.2.1.3.3	14	High frequency in accordance with Steps 7, 9, 11, and 13	Performance Normal – No Deviations	None

3.2.4.2.2.9 +28V Pulse Load Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.2.9.2	8	Low frequency in accordance with Figure 12	Performance Normal – No Deviations	None
3.2.4.2.2.9.3	14	High frequency in accordance with Steps 7, 9, 11, and 13	Performance Normal – No Deviations	None

3.2.4.2.3.3 +28V Analog Telemetry Bus Load-Induced Transient Test

Subpara	Step	Load Induced Transient	Functional Performance Results/Deviations	Comments/ Observations
3.2.4.2.3.3.2	8	Low frequency in accordance with Figure 7	Performance Normal – No Deviations	None
3.2.4.2.3.3.3	14	High frequency in accordance with Steps 7, 9, 11, and 13	Performance Normal – No Deviations	None

NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

METSAT/AMSU A2 System CPT P/N IS-1331200 Shop Order: 335168 S/N: 108
Circle Test: (1st CPT) Final CPT Sub CPT _____

D Lund 11/18/99
Test Systems Engineer Date

11-20-99
Customer Representative Date
Date
(Flight Hardware Only)

268 NOV 19 '99
Quality Control

APPENDIX B

TEST DATA SHEETS FOR AMSU-A2 SYSTEM LPT

This appendix contains the test data sheets for the LPT tests and inspections listed in section 3.

TEST DATA SHEET B-1 (SHEET 1 OF 9)
Grounding Test (Paragraph 3.2.4.1)

J1 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	+28V MLB	> 100k		
J1-2	+28V MLB	> 100k		
J1-3	+28V MLB RTN	> 100k		
J1-4	+28V MLB RTN	> 100k		
J1-5	+28V PLB	> 100k		
J1-6	+28V PLB	> 100k		
J1-7	+28V PLB RTN	> 100k		
J1-8	+28V PLB RTN	> 100k		
J1-9	+28V TMB	> 100k		
J1-10	28V TMB RTN	> 100k		
J1-11	NO CONNECTION	> 100k		
J1-12	NO CONNECTION	> 100k		
J1-13	CHASSIS GROUND (E1)	< 1		
J1-14	+28V MLB	> 100k		
J1-15	+28V MLB	> 100k		
J1-16	+28V MLB RTN	> 100k		
J1-17	+28V MLB RTN	> 100k		
J1-18	+28V PLB	> 100k		
J1-19	+28V PLB	> 100k		
J1-20	+28V PLB RTN	> 100k		
J1-21	+28V PLB RTN	> 100k		
J1-22	+28V TMB	> 100k		
J1-23	28V TMB RTN	> 100k		
J1-24	SAFETY HTR PWR	> 100k		
J1-25	SAFETY HTR RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 2 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J2 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-1	Chassis Ground (E2)	< 1		
J2-2	DATA CLOCK (C1)	> 100k		
J2-3	Signal Return	> 100k		
J2-4	No Connection	> 100k		
J2-5	DIGITAL A DATA OUT	> 100k		
J2-6	DATA ENABLE (A1)	> 100k		
J2-7	8 SEC SYNC PULSE	> 100k		
J2-8	No Connection	> 100k		
J2-9	No Connection	> 100k		

J3 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J3-1	1.248 MHz CLK	> 100k		
J3-2	1.248 MHz CLK RTN	> 100k		
J3-3	Chassis GND (E3)	< 1		

J5 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J5-1	Chassis Ground (E5)	< 1		
J5-2	MODULE PWR IND	> 100k		
J5-3	COLD CAL POS MSB (OUT)	> 100k		
J5-4	No Connection	> 100k		
J5-5	COMP MTR IND	> 100k		
J5-6	ANT IN COLD CAL POS	> 100k		
J5-7	No Connection	> 100k		
J5-8	No Connection	> 100k		
J5-9	SURV HTR ON/OFF	> 100k		
J5-10	No Connection	> 100k		
J5-11	COLD CAL POS LSB (OUT)	> 100k		
J5-12	SCANNER ON PWR IND	> 100k		
J5-13	ANT IN WARM CAL POS	> 100k		
J5-14	ANT AT NADIR POS	> 100k		
J5-15	FULL SCAN MODE	> 100k		

TEST DATA SHEET B-1 (Sheet 3 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J4 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J4-1	Chassis Ground (E4)	< 1		
J4-2	MODULE PWR DISCONN	> 100k		
J4-3	SURVIVAL HTR ON	> 100k		
J4-4	MODULE TOTALLY OFF	> 100k		
J4-5	COMP MTR ON/OFF	> 100k		
J4-6	ANT AT COLD CAL POS	> 100k		
J4-7	No Connection	> 100k		
J4-8	ANT AT NADIR POS	> 100k		
J4-9	COLD CAL POS MSB (IN)	> 100k		
J4-10	No Connection	> 100k		
J4-11	No Connection	> 100k		
J4-12	+10V INTERFACE BUS	> 100k		
J4-13	10V INTERFACE BUS RTN	> 100k		
J4-14	MODULE PWR CONN	> 100k		
J4-15	SURVIVAL HTR OFF	> 100k		
J4-16	SCANNER PWR ON/OFF	> 100k		
J4-17	ANT AT WARM CAL POS	> 100k		
J4-18	FULL SCAN	> 100k		
J4-19	COLD CAL POS LSB (IN)	> 100k		
J4-20	No Connection	> 100k		
J4-21	No Connection	> 100k		
J4-22	No Connection	> 100k		
J4-23	No Connection	> 100k		
J4-24	+10V INTERFACE BUS	> 100k		
J4-25	10V INTERFACE BUS RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 4 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J6 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-1	Chassis GND (E6)	< 1		
J6-2	RF SHELF TEMP	> 100k		
J6-3	COMP. MTR. TEMP	> 100k		
J6-4	WARM LOAD TEMP	> 100k		
J6-5	No Connection	> 100k		
J6-6	No Connection	> 100k		
J6-7	No Connection	> 100k		
J6-8	SCAN MTR CURR	> 100k		
J6-9	+15V ANT DR MON	> 100k		
J6-10	+15V ANT DR MON	> 100k		
J6-11	+15V SIG PROC MON	> 100k		
J6-12	+15V SIG PROC MON	> 100k		
J6-13	L.O. #1 MON	> 100k		
J6-14	No Connection	> 100k		
J6-15	No Connection	> 100k		
J6-16	No Connection	> 100k		
J6-17	No Connection	> 100k		
J6-18	No Connection	> 100k		
J6-19	No Connection	> 100k		
J6-20	28V TMB RTN	> 100k		
J6-21	No Connection	> 100k		
J6-22	SCAN MTR TEMP	> 100k		
J6-23	No Connection	> 100k		
J6-24	No Connection	> 100k		
J6-25	No Connection	> 100k		
J6-26	No Connection	> 100k		
J6-27	COMP MTR CURR	> 100k		
J6-28	-15V ANT DR MON	> 100k		
J6-29	-15V SIG PROC MON	> 100k		
J6-30	L.O. #2 MON	> 100k		
J6-31	No Connection	> 100k		
J6-32	No Connection	> 100k		
J6-33	No Connection	> 100k		
J6-34	MIXER/AMP MON	> 100k		
J6-35	No Connection	> 100k		
J6-36	No Connection	> 100k		
J6-37	No Connection	> 100k		

TEST DATA SHEET B-1 (Sheet 5 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

J7 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J7-1	Chassis GND (E7)	< 1		
J7-2	No Connection	> 100k		
J7-3	No Connection	> 100k		
J7-4	No Connection	> 100k		
J7-5	15V RTN (2/3)	> 100k		
J7-6	DUMP TP	> 100k		
J7-7	No Connection	> 100k		
J7-8	CH1 ANALOG OUT TP	> 100k		
J7-9	CH2 ANALOG OUT TP	> 100k		
J7-10	No Connection	> 100k		
J7-11	No Connection	> 100k		
J7-12	No Connection	> 100k		
J7-13	No Connection	> 100k		
J7-14	No Connection	> 100k		
J7-15	No Connection	> 100k		
J7-16	No Connection	> 100k		
J7-17	GSE CMD LSB	> 100k		
J7-18	GSE CMD MSB-1	> 100k		
J7-19	+5VDC GSE INTERLOCK A	> 100k		
J7-20	No Connection	> 100k		
J7-21	No Connection	> 100k		
J7-22	No Connection	> 100k		
J7-23	I/H TP	> 100k		
J7-24	No Connection	> 100k		
J7-25	No Connection	> 100k		
J7-26	15V RTN (2/3)	> 100k		
J7-27	No Connection	> 100k		
J7-28	No Connection	> 100k		
J7-29	No Connection	> 100k		
J7-30	No Connection	> 100k		
J7-31	No Connection	> 100k		
J7-32	No Connection	> 100k		
J7-33	No Connection	> 100k		
J7-34	No Connection	> 100k		
J7-35	GSE CMD MSB	> 100k		
J7-36	5V RTN (1)	> 100k		
J7-37	+5VDC GSE INTERLOCK B	> 100k		

TEST DATA SHEET B-1 (Sheet 6 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	J1-2	+28V MLB	< 1		
J1-1	J1-14	+28V MLB	< 1		
J1-1	J1-15	+28V MLB	< 1		
J1-3	J1-4	28V MLB RTN	< 1		
J1-3	J1-16	28V MLB RTN	< 1		
J1-3	J1-17	28V MLB RTN	< 1		
J1-5	J1-6	+28V PLB	< 1		
J1-5	J1-18	+28V PLB	< 1		
J1-5	J1-19	+28V PLB	< 1		
J1-7	J1-8	28V PLB RTN	< 1		
J1-7	J1-20	28V PLB RTN	< 1		
J1-7	J1-21	28V PLB RTN	< 1		
J1-9	J1-22	+28V TMB	< 1		
J1-10	J1-23	28V TMB RTN	< 1		
J1-10	J6-20	28V TMB RTN	< 1		
J4-12	J4-24	+10V INTERFACE BUS	< 1		
J4-13	J4-25	10V INTERFACE BUS RTN	< 1		
J1-1	J1-3	+28V MLB	> 100k		
J1-1	J1-5	+28V MLB	> 100k		
J1-1	J1-7	+28V MLB	> 100k		
J1-1	J1-9	+28V MLB	> 100k		
J1-1	J1-10	+28V MLB	> 100k		
J1-1	J1-24	+28V MLB	> 100k		
J1-1	J1-25	+28V MLB	> 100k		
J1-1	J2-3	+28V MLB	> 100k		
J1-1	J4-12	+28V MLB	> 100k		
J1-1	J4-13	+28V MLB	> 100k		
J1-3	J1-5	28V MLB RTN	> 100k		
J1-3	J1-7	28V MLB RTN	> 100k		
J1-3	J1-9	28V MLB RTN	> 100k		
J1-3	J1-10	28V MLB RTN	> 100k		
J1-3	J1-24	28V MLB RTN	> 100k		
J1-3	J1-25	28V MLB RTN	> 100k		
J1-3	J2-3	28V MLB RTN	> 100k		
J1-3	J4-12	28V MLB RTN	> 100k		
J1-3	J4-13	28V MLB RTN	> 100k		

TEST DATA SHEET B-1 (Sheet 7 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-5	J1-7	+28V PLB	> 100k		
J1-5	J1-9	+28V PLB	> 100k		
J1-5	J1-10	+28V PLB	> 100k		
J1-5	J1-24	+28V PLB	> 100k		
J1-5	J1-25	+28V PLB	> 100k		
J1-5	J2-3	+28V PLB	> 100k		
J1-5	J4-12	+28V PLB	> 100k		
J1-5	J4-13	+28V PLB	> 100k		
J1-7	J1-9	28V PLB RTN	> 100k		
J1-7	J1-10	28V PLB RTN	> 100k		
J1-7	J1-24	28V PLB RTN	> 100k		
J1-7	J1-25	28V PLB RTN	> 100k		
J1-7	J2-3	28V PLB RTN	> 100k		
J1-7	J4-12	28V PLB RTN	> 100k		
J1-7	J4-13	28V PLB RTN	> 100k		
J1-9	J1-10	+28V TMB	> 100k		
J1-9	J1-24	+28V TMB	> 100k		
J1-9	J1-25	+28V TMB	> 100k		
J1-9	J2-3	+28V TMB	> 100k		
J1-9	J4-12	+28V TMB	> 100k		
J1-9	J4-13	+28V TMB	> 100k		
J1-10	J1-24	28V TMB RTN	> 100k		
J1-10	J1-25	28V TMB RTN	> 100k		
J1-10	J2-3	28V TMB RTN	> 100k		
J1-10	J4-12	28V TMB RTN	> 100k		
J1-10	J4-13	28V TMB RTN	> 100k		
J1-24	J1-25	SAFETY HTR PWR	> 100k		
J1-24	J2-3	SAFETY HTR PWR	> 100k		
J1-24	J4-12	SAFETY HTR PWR	> 100k		
J1-24	J4-13	SAFETY HTR PWR	> 100k		
J1-25	J2-3	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-12	SAFETY HTR PWR RTN	> 100k		
J1-25	J4-13	SAFETY HTR PWR RTN	> 100k		
J2-3	J4-12	SIGNAL RTN	> 100k		
J2-3	J4-13	SIGNAL RTN	> 100k		
J4-12	J4-13	+10V INTERFACE BUS	> 100k		

TEST DATA SHEET B-1 (Sheet 8 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-2	J4-13	DATA CLOCK (C1)	> 2k		
J2-5	J4-13	DIGITAL A DATA OUT	> 2k		
J2-6	J4-13	DATA ENABLE (A1)	> 2k		
J2-7	J4-13	8 SEC SYNC PULSE	> 2k		
J3-1	J4-13	1.248 MHZ CLK	> 2k		
J3-2	J4-13	1.248 MHZ CLK RTN	> 2k		
J4-2	J4-13	MODULE PWR DISCONN	> 2k		
J4-3	J4-13	SURVIVAL HTR ON	> 2k		
J4-4	J4-13	MODULE TOTALLY OFF	> 2k		
J4-5	J4-13	COMP MTR ON/OFF	> 2k		
J4-6	J4-13	ANT AT COLD CAL POS	> 2k		
J4-8	J4-13	ANT AT NADIR POS	> 2k		
J4-9	J4-13	COLD CAL POS MSB (IN)	> 2k		
J4-14	J4-13	MODULE PWR CONN	> 2k		
J4-15	J4-13	SURVIVAL HTR OFF	> 2k		
J4-16	J4-13	SCANNER PWR ON/OFF	> 2k		
J4-17	J4-13	ANT AT WARM CAL POS	> 2k		
J4-18	J4-13	FULL SCAN	> 2k		
J4-19	J4-13	COLD CAL POS LSB (IN)	> 2k		
J5-2	J4-13	MODULE PWR IND	> 2k		
J5-3	J4-13	COLD CAL POS MSB	> 2k		
J5-5	J4-13	COMP MTR IND	> 2k		
J5-6	J4-13	ANT IN COLD CAL POS	> 2k		
J5-9	J4-13	SURV HTR ON/OFF	> 2k		
J5-11	J4-13	COLD CAL POS LSB	> 2k		
J5-12	J4-13	SCANNER ON PWR IND	> 2k		
J5-13	J4-13	ANT IN WARM CAL POS	> 2k		
J5-14	J4-13	ANT IN NADIR POS	> 2k		
J5-15	J4-13	FULL SCAN MODE	> 2k		

TEST DATA SHEET B-1 (Sheet 9 of 9)
Grounding Test (Paragraph 3.2.4.1, Step 2)

Source Pin	Destination Pin	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J6-8	J4-13	SCAN MTR CVR	> 2k		
J6-9	J4-13	+15V ANT DR MON	> 2k		
J6-10	J4-13	+5V ANT DR MON	> 2k		
J6-11	J4-13	+15V SIG PROC MON	> 2k		
J6-12	J4-13	+5V SIG PROC MON	> 2k		
J6-13	J4-13	L.O. #1 MON	> 2k		
J6-20	J4-13	28V TMB RTN	> 2k		
J6-22	J4-13	SCAN MTR TEMP	> 2k		
J6-27	J4-13	COMP MTR CURR	> 2k		
J6-28	J4-13	-15V ANT DR MON	> 2k		
J6-29	J4-13	-15V SIG PROC MON	> 2k		
J6-30	J4-13	L.O. #2 MON	> 2k		
J6-34	J4-13	MIXER/AMP MON	> 2k		
J6-2	J1-10	RF SHELF TEMP	> 2k		
J6-3	J1-10	COMP MTR TEMP	> 2k		
J6-4	J1-10	WARM LOAD TEMP	> 2k		

Power Input Test (Paragraph 3.2.4.2.5)

Step	Parameter	Measured	Units	Required	Pass/ Fail
3	+28 V MLB Voltage (Vb) (Measured at connector J1)		Volts	28.0 ±0.5	
3	MLB Current (STE Meter)		Amps	Between 0.5 and 4.3 Amps	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

TEST DATA SHEET B-2 (See Appendix A, Test Data Sheet 13 for CPT)
Commands and Digital-B Telemetry Verification (Paragraphs 3.2.4.3.3.1, 3.2.4.3.3.2, and 3.2.4.3.3.3)

Test	Digital-B Commands Verification Via STE			Visual Inspection		Pass/Fail
	Command	Observed	Required	Observed	Required	
3.2.4.3.3.1 Module Totally Off	Scanner A2		OFF		Antenna pointing to warm load.	
	Module Power		Disconnect	N/A	N/A	
	Survival Htr. Power.		OFF		28V supply current=0	
3.2.4.3.3.2 Survival Heater Power	Survival Heater ON		ON	N/A	N/A	
	Survival Heater OFF		OFF	N/A	N/A	
3.2.4.3.3.3 Module Power Connect	Module Power		Connect		+28V DC current is between 0.5 and 3.2 amps.	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

TEST DATA SHEET B-3 (See Appendix A, Test Data Sheet 14 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 1)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-4 (See Appendix A, Test Data Sheet 15 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 2)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		OFF	
	4 Compensator Motor Power		OFF	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control

TEST DATA SHEET B-5 (See Appendix A, Test Data Sheet 16 for CPT)
Scanner Commands Verification (Paragraph 3.2.4.3.3.4, Step 3)

Test	Digital "B" Verification			Pass/Fail
	Command	Observed	Required	
Full Scan	1 Module Power		CONNECT	
	2 Survival Heater		OFF	
	3 Scanner A2 Power		ON	
	4 Compensator Motor Power		ON	
	5 Antenna Warm Cal Pos.		NO	
	6 Antenna Cold Cal Pos.		NO	
	7 Antenna NADIR Position		NO	
	8 Antenna Full Scan		YES	
	9 Cold MSB		0	
	10 Cold LSB		0	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-6 (See Appendix A, Test Data Sheet 17 for CPT)
Scanner Positions Commands (Paragraph 3.2.4.3.3.5)

Test	Digital "B" Verification				Pass/Fail
	Step/Description		Observed	Required	
Scanner Position Commands	1-Warm Cal.			YES	
	3-Cold Cal. Pos.	MSB		0	
		LSB		1	
	5-Cold Cal. Pos.	MSB		1	
		LSB		0	
	7-Cold Cal. Pos.	MSB		1	
		LSB		1	
	9-Cold Cal. Pos.	MSB		0	
		LSB		0	
	11-NADIR			YES	
	13-Warm Cal			YES	

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

TEST DATA SHEET B-7 (See Appendix A, Test Data Sheet 18 for CPT)
Digital-A Data Output Full Scan Mode Synch Sequence,
Unit I.D./Serial Number and Digital-B Serial Data Verification
Sections [I], [II], and [III] (Paragraph 3.2.4.3.4.1)

Step	Element (For Ref)	Description	Recorded Value	Required Value	Pass/Fail
[I]	0001	Sync Sequence Byte 1		255	
	0002	Sync Sequence Byte 2		255	
	0003	Sync Sequence Byte 3		255	
[II]	0004	Unit I.D. and Serial N		*	
[III]	0005	Digital B Data Byte 1		2	
	0006	Digital B Data Byte 2		6	
	0007	Digital B Data Byte 3		0	
	0008	Digital B Data Byte 4		0	

* AMSU A2 Identification Words (data entered in decimal system)	Binary	Decimal
AMSU-A2 S/N 101	00000010	2
AMSU-A2 S/N 102	00000110	6
AMSU-A2 S/N 103	00001010	10
AMSU-A2 S/N 104	00001110	14
AMSU-A2 S/N 105	00010010	18
AMSU-A2 S/N 106	00010110	22
AMSU-A2 S/N 107	00011010	26
AMSU-A2 S/N 108	00011110	30
AMSU-A2 S/N 109	00100010	34

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-8 (See Appendix A, Test Data Sheet 19 for CPT)
Reflector Positions Section [IV] (Paragraph 3.2.4.3.4.1)

BP	A2 Reflector		
	Position*	Required**	Pass/Fail
01			
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
CL			
WL			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required position from TDS 6 of AE-26002/2 ±5 counts.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-9 (See Appendix A, Test Data Sheet 20 for CPT)
Digital-A Data Output Radiometer Data Section [V] (Paragraph 3.2.4.3.4.1)

BP.	Channel-1 (23.8 GHz)				Channel-2 (31.4 GHz)			
	Element (For Ref)	Measured*	Required**	Pass/Fail	Element (For Ref)	Measured*	Required**	Pass/Fail
01	0014				0016			
02	0022				0024			
03	0030				0032			
04	0038				0040			
05	0046				0048			
06	0054				0056			
07	0062				0064			
08	0070				0072			
09	0078				0080			
10	0086				0088			
11	0094				0096			
12	0102				0104			
13	0110				0112			
14	0118				0120			
15	0126				0128			
16	0134				0136			
17	0142				0144			
18	0150				0152			
19	0158				0160			
20	0166				0168			
21	0174				0176			
22	0182				0184			
23	0190				0192			
24	0198				0200			
25	0206				0208			
26	0214				0216			
27	0222				0224			
28	0230				0232			
29	0238				0240			
30	0246				0248			
CC	0258				0260			
WL	0310				0312			

* Actual counts from computer printout. Rewriting counts on this data sheet is optional.
** Required = 16,500 ± 4000 counts.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date
(Flight Hardware Only)

TEST DATA SHEET B-10 (See Appendix A, Test Data Sheet 21 for CPT)
Full Scan Mode Temperature Sensors Section [VI] (Paragraph 3.2.4.3.4.1)

Thermistor Sensors		Recorded Value* (deg. C)	Required Value (deg. C)	Pass/ Fail
Element	Description			
0262	Warm Load 1		25 ± 15	
0264	Warm Load 2		25 ± 15	
0266	Warm Load 3		25 ± 15	
0268	Warm Load 4		25 ± 15	
0270	Warm Load 5		25 ± 15	
0272	Warm Load 6		25 ± 15	
0274	Warm Load Center		25 ± 15	
0276	Scan Motor		25 ± 15	
0278	Compensation Motor		25 ± 15	
0280	Feedhorn		25 ± 15	
0282	RF Mux		25 ± 15	
0284	Mixer I.F. Amp. Channel 1		25 ± 15	
0286	Mixer I.F. Amp. Channel 2		25 ± 15	
0288	Subreflector		25 ± 15	
0290	DC/DC Converter		25 ± 15	
0292	RF Shelf		25 ± 15	
0294	Detector/Preamp Assembly		25 ± 15	
0296	Local Oscillator Channel 1		25 ± 15	
0298	Local Oscillator Channel 2		25 ± 15	
0300	Temp Sensor V. Reference		**	

* Value is from the STE printout sheets. Copying data to this sheet is optional.
** Count of 24,552 +1765, -1308.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-11 (See Appendix A, Test Data Sheet 33 for CPT)
Analog Telemetry Signals by Way of the STE (Paragraph 3.2.4.3.5.2)

	Description	*	Measured (Deg. C)	Required (Deg. C)	Pass/Fail
02	A2 Scanner Motor	Temp	_____	25 ± 15	_____
04	A2 RF Shelf A2 Temp.	Temp	_____	25 ± 15	_____
05	A2 Warm Load	Temp	_____	25 ± 15	_____
			(mAmps)	(mAmps)	
08	Ant A2 Drv Motor Current		_____	150 mA max	_____
			(Volts)	(Volts)	
09	Signal Processor	+15V	_____	15.0V ± 0.75V	_____
10	Antenna Drive	+15V	_____	15.0V ± 1.5V	_____
11	Signal Processor	-15V	_____	-15.0V ± 0.75V	_____
12	Antenna Drive	-15V	_____	-15.0V ± 1.5V	_____
13	Mixer/IF	***	_____	***____ ± 0.5V	_____
14	Signal Processor	+5V	_____	5.0V ± 0.5V	_____
15	Antenna Drive	+5V	_____	5.0V ± 0.6V	_____
19	L.O. #1	**	_____	**____ ± 0.5V	_____
20	L.O. #2	**	_____	**____ ± 0.5V	_____

* Data from the printout sheet Page 8. Rewriting data on this space is optional.
** L.O. voltages from manufacturer data sheet for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.
*** Mixer/IF voltage: +8V for S/N 101 - S/N 104, +10V for S/N 105 - S/N 109.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date
Date
(Flight Hardware Only)

_____
Quality Control

TEST DATA SHEET B-12 (See Appendix A, Test Data Sheet 40 for CPT)
Radiometer Relative NEΔT Verification (Paragraph 3.2.4.4.1)

Channel	Channel 1	Channel 2
NEΔT (Average of 5 data)		
NEΔT (specified)*	0.30 K	0.30 K
Pass/Fail**		

* For reference only.
** Use first CPT or first LPT data along with specified value for pass fail criteria.

METSAT/AMSU A2 System LPT P/N IS-1331200 Shop Order: _____ S/N: _____

_____
Test Systems Engineer Date

_____
Customer Representative Date

_____
Quality Control
Date

This page intentionally left blank.

DOCUMENT APPROVAL SHEET

GENCORP AEROJET

TITLE	DOCUMENT NO.
Process Specification METSAT/KLM/AMSU-A2, System Comprehensive and Limited Performance Tests Test Procedure	AE-26156/4E 2 April 1999

INPUT FROM: DATE	CDRL:	SPECIFICATION ENGINEER: DATE
		J M Wh 99-04-03
CHECKED BY: DATE		JOB NUMBER: DATE
B Thapalia 4/5/99		

APPROVED SIGNATURES	DEPT. NO.	DATE
System Safety (W. Neighbors) W. A. Neighbors	8331	4/6/99
Product Team Leader (A. Nieto)	8341	4/6/99
ystems Engineer (R. Platt) P. K. Patel	8311	4/6/99
Design Assurance (E. Lorenz) DWan (for E. Lorenz)	8331	4/5/99
Quality Assurance (R. Taylor) (for R. Taylor)	7831	4/6/99
Technical Director/PMO (P. Patel) P. K. Patel	8341	4/6/99
Released: Configuration Management (J. Cavanaugh) J Cavanaugh	8361	4/6/99

Approved as Final per customer's letter dated 6 April 1999
(ECN's CAMSU-2087 and CAMSU-2099)

By my signature, I certify the above document has been reviewed by me and concurs with the technical requirements related to my area of responsibility.

(Data Center) FINAL Laura Vargas 4-7-99

NASA
National Aeronautics and Space Administration

Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
---	---	---

4. Title and Subtitle
Integrated Advanced Microwave Sounding Unit-A (AMSU-A), Performance Verification Report

5. Report Date
March 2000

6. Performing Organization Code
---

7. Author(s)
J. Linn

8. Performing Organization Report No.
11657

10. Work Unit No.
---

9. Performing Organization Name and Address
Aerojet
1100 W. Hollyvale
Azusa, CA 91702

11. Contract or Grant No.
NAS 5-32314

12. Sponsoring Agency Name and Address
NASA
Goddard Space Flight Center
Greenbelt, Maryland 20771

13. Type of Report and Period Covered
Final

14. Sponsoring Agency Code
---

15. Supplementary Notes
---

16. ABSTRACT (*Maximum 200 words*)

This is the Performance Verification Report, Initial Comprehensive Performance Test Report, P/N 1331200-2-IT, S/N 108/A2, for the Integrated Advanced Microwave Sounding Unit-A
(AMSU-A).

17. Key Words (Suggested by Author(s))	18. Distribution Statement
EOS Microwave System	Unclassified --- Unlimited

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of pages	22. Price
Unclassified	Unclassified		---

NASA FORM 1626 OCT 86

PREPARATION OF THE REPORT DOCUMENTATION PAGE

The last page of a report facing the third cover is the Report Documentation Page, RDP. Information presented on this page is used in announcing and cataloging reports as well as preparing the cover and title page. Thus, it is important that the information be correct. Instructions for filing in each block of the form are as follows:

Block 1. Report No. NASA report series number, if preassigned.

Block 2. Government Accession No. Leave blank.

Block 3. Recipient's Catalog No.. Reserved for use by each report recipient.

Block 4. Title and Subtitle. Typed in caps and lower case with dash or period separating subtitle from title.

Block 5. Report Date. Approximate month and year the report will be published.

Block 6. Performing Organization Code . Leave blank.

Block 7. Authors. Provide full names exactly as they are to appear on the title page. If applicable, the word editor should follow a name.

Block 8. Performing Organization Report No. NASA installation report control number and, if desired, the non-NASA performing organization report control number.

Block 9. Performing Organization Name and Address. Provide affiliation (NASA program office, NASA installation, or contractor name) of authors.

Block 10. Work Unit No. Provide Research and Technology Objectives and Plants (RTOP) number.

Block 11. Contract or Grant No. Provide when applicable.

Block 12. Sponsoring Agency Name and Address. National Aeronautics and Space Administration, Washington, D.C. 20546-0001. If contractor report, add NASA installation or HQ program office.

Block 13. Type of Report and Period Covered. NASA formal report series; for Contractor Report also list type (interim, final) and period covered when applicable.

Block 14. Sponsoring Agency Code. Leave blank.

Block 15. Supplementary Notes. Information not included elsewhere: affiliation of authors if additional space is required for Block 9, notice of work sponsored by another agency, monitor of contract, information about supplements (file, data tapes, etc.) meeting site and date for presented papers, journal to which an article has been submitted, note of a report made from a thesis, appendix by author other than shown in Block 7.

Block 16. Abstract. The abstract should be informative rather than descriptive and should state the objectives of the investigation, the methods employed (e.g., simulation, experiment, or remote sensing), the results obtained, and the conclusions reached.

Block 17. Key Words. Identifying words or phrases to be used in cataloging the report.

Block 18. Distribution Statement. Indicate whether report is available to public or not. If not to be controlled, use "Unclassified-Unlimited." If controlled availability is required, list the category approved on the Document Availability Authorization Form (see NHB 2200.2, Form FF427). Also specify subject category (see "Table of Contents" in a current issue of STAR) in which report is to be distributed.

Block 19. Security Classification (of the report). Self-explanatory.

Block 20. Security Classification (of this page). Self-explanatory.

Block 21. No. of Pages. Count front matter pages beginning with iii, text pages including internal blank pages, and the RDP, but not the title page or the back of the title page.

Block 22. Price Code. If Block 18 shows "Unclassified-Unlimited," provide the NTIS price code (see "NTIS Price Schedules" in a current issue of STAR) and at the bottom of the form add either "For sale by the National Technical Information Service, Springfield, VA 22161-2171" or "For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-0001," whichever is appropriate.

AEROJET

DOCUMENT APPROVAL SHEET

TITLE	DOCUMENT NO.
Performance Verification Report Initial Comprehensive Performance Test Report, P/N 1331200-2-IT, S/N 108/A2	Report 11657 March 2000

INPUT FROM:	CDRL:	SPECIFICATION ENGINEER:	DATE
J. Linn	208	N/A	

CHECKED BY:	DATE	JOB NUMBER:	DATE
N/A		N/A	

APPROVED SIGNATURES	DEPT. NO.	DATE
Product Team Leader (A. Nieto)	8410	3/3/00
Systems Engineer (R. Platt)	8410	3/6/00
Design Assurance (E. Lorenz)	8410	3/7/00
Quality Assurance (R. Taylor)	7831	3-7-00
PMO/Technical (P. Patel)	8410	3-7-00
Released: Configuration Management (J. Cavanaugh)	8410	3-23-00

By my signature, I certify the above document has been reviewed by me and concurs with the technical requirements related to my area of responsibility.

(Data Center) FINAL