GENCORP AEROJET

Integrated AMSU-A
Earth Observing System (EOS)
Advanced Microwave Sounding Unit-A (AMSU-A)
Trend Analysis

Contract No: NAS 5-32314

CDRL: 111

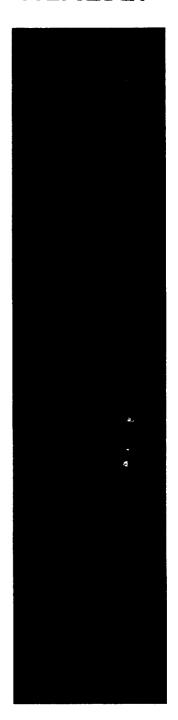
Submitted to:

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

Submitted by:

Aerojet 1100 West Hollyvale Street Azusa, California 91702

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TREND ANALYSIS

The AMSU-A parameters listed below have been selected as the measurable parameters which relate to the performance stability of the instrument and its components. These parameters shall be monitored for trends starting at initiation of Acceptance Testing and shall continue during the system integration and test phases of the instrument. The parameters shall be monitored within the normal test framework (i.e., during functional tests, environmental tests, etc.).

- 1. Power Input
 - +28 Vdc Mainbus for METSAT, +28 Vdc Quiet Bus for EOS +28 Vdc Pulse load bus for METSAT, +28 Vdc Noisy Bus for EOS
- Antenna Position Data
 All 30 positions plus Warmload and Cold Cal
- 3. Radiometric Output for In-flight mode Warmload/Count vs Temperature
- 4. Frequency (DRO and PLO) vs Temperature
- 5. Calibration Data (this data will be recorded only once or twice as required within the normal framework of testing).
- 6. A1-1, A1-2, A2 Motor average and A2 Compensator (METSAT only)
 Motor average current through analog telemetry, which is monitored by the STE (Special Test Equipment).

The sequence of testing is shown on the Manufacturing Fabrication and Assembly Flow Plan. Tables I and II summarize which parameters are to be monitored during testing of the A1 and A2 instruments, respectively. Data will be reviewed as it is taken to determine if it is within limits, considering the operating voltage and temperatures.

TABLE I
TREND ANALSIS DATA COLLECTION
FOR AMSU -A1

Test Description	Specification		<u>Parameters</u>
	METSAT	EOS	
Comprehensive Performance Test (CPT)	AE26156/3	AE26156/9	1,2,3,4,6
Limited Performance Test (LPT)	AE26156/3	AE26156/9	1,2,3,6
Thermal Cycling	AE26151/6	N/A	1,2,6
Thermal Vacuum Calibration and Cycle	AE26156/5	AE26156/11	1,2,5,6

TABLE II

TREND ANALSIS DATA COLLECTION
FOR AMSU -A2

Test Description	Specification		<u>Parameters</u>
	METSAT	EOS	
Comprehensive Performance Test (CPT)	AE26156/4	AE26156/10	1,2,3,4,6
Limited Performance Test (LPT)	AE26156/4	AE26156/10	1,2,3,6
Thermal Cycling	AE26151/6	N/A	1,2,6
Thermal Vacuum Calibration and Cycle	AE26156/6	AE26156/12	1,2,5,6

Form Approved OMB No. 0704-0188 REPORT DOCUMENTATION PAGE Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. 1. AGENCY USE ONLY (Leave blank) 2. REPORT DATE 3. REPORT TYPE AND DATES COVERED **April** 1996 Contractor Report 4. TITLE AND SUBTITLE 5. FUNDING NUMBERS Integrated AMSU-A Earth Observing System (EOS) Advanced Microwave Sounding Unit-A (AMSU-A) Trend Analysis Code 481 6. AUTHOR(S) Contract: NAS5-32314 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 8. PERFORMING ORGANIZATION REPORT NUMBER Aerojet **CDRL** 111 1100 W. Hollyvale Azusa, CA 91702 10789 **April 1996** 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 10. SPONSORING/MONITORING **AGENCY REPORT NUMBER** NASA Aeronautics and Space Administration Washington, D.C. 20546-0001 CR-203665 11. SUPPLEMENTARY NOTES Technical Monitor: S. Krimchansky, Code 481 12b. DISTRIBUTION CODE 12a. DISTRIBUTION/AVAILABILITY STATEMENT Unclassified-Unlimited Subject Category: 61 Report available from the NASA Center for AeroSpace Information, 800 Elkridge Landing Road, Linthicum Heights, MD 21090; (301) 621-0390. 13. ABSTRACT (Maximum 200 words) This is the Trend Analysis for the EOS/Advanced Microwave Sounding Unit-A (AMSU-A).

14. SUBJECT TERMS			
EOS, Microwave System, AMSU-A			
Bod, Microware System, Micro 11			
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