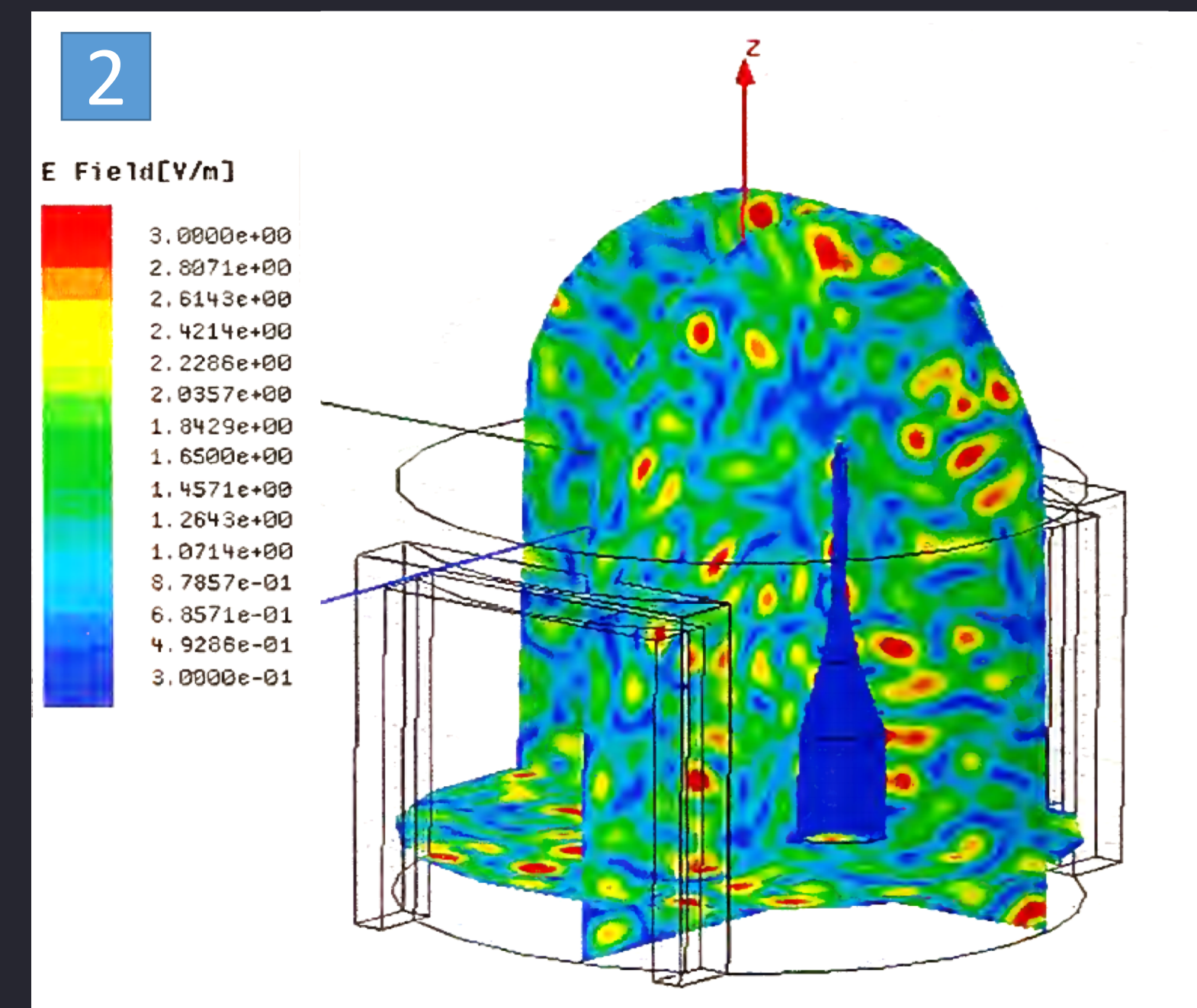


Electromagnetic Environment Effects (E3) EMI/EMC Capabilities

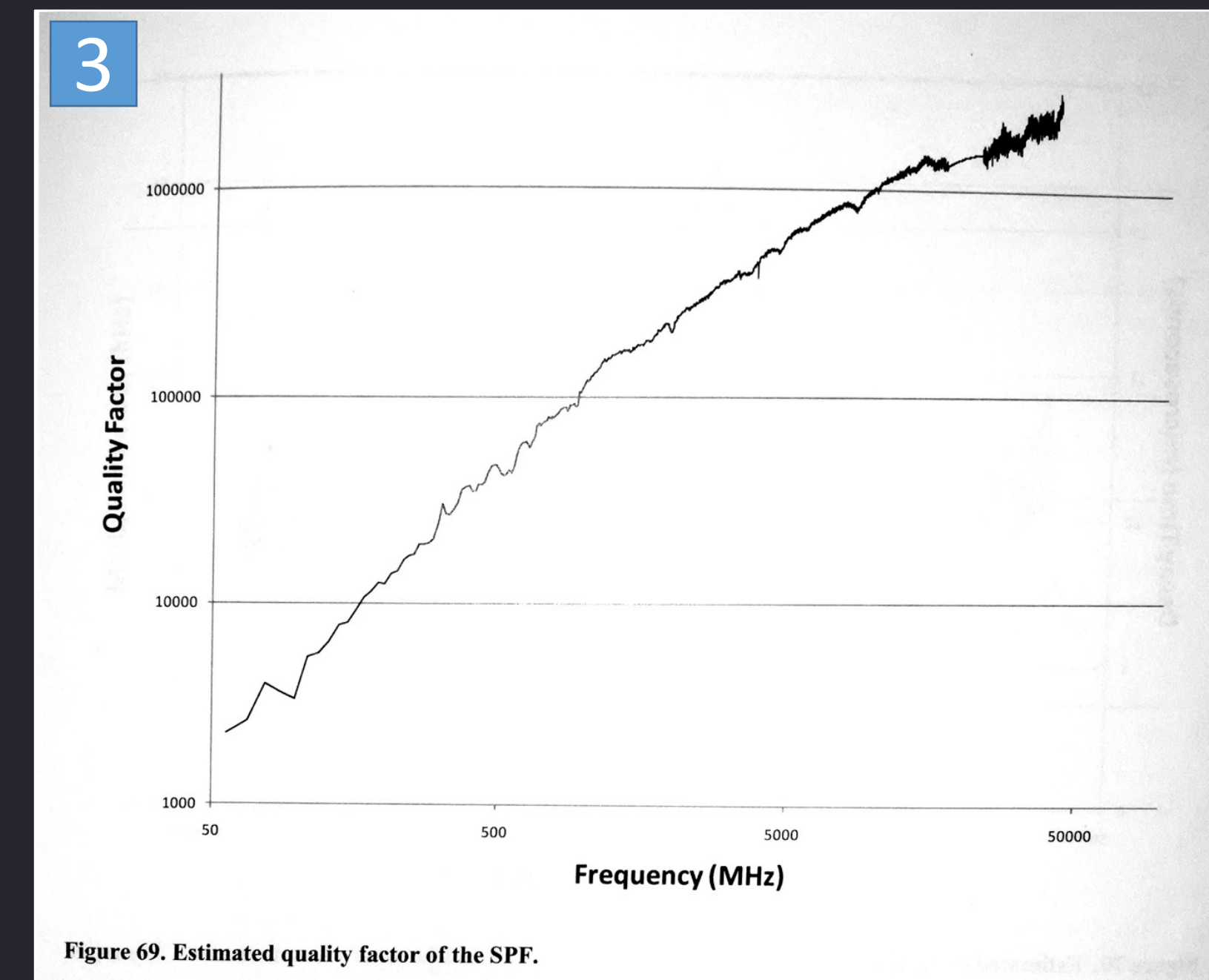
In 2009 the SEC Thermal Vacuum Chamber was characterized by NIST as the world's **largest** and best **electromagnetic reverberant chamber** [1]



SEC is an **electrically large** (120' x 100') and **electrically complex** RF cavity



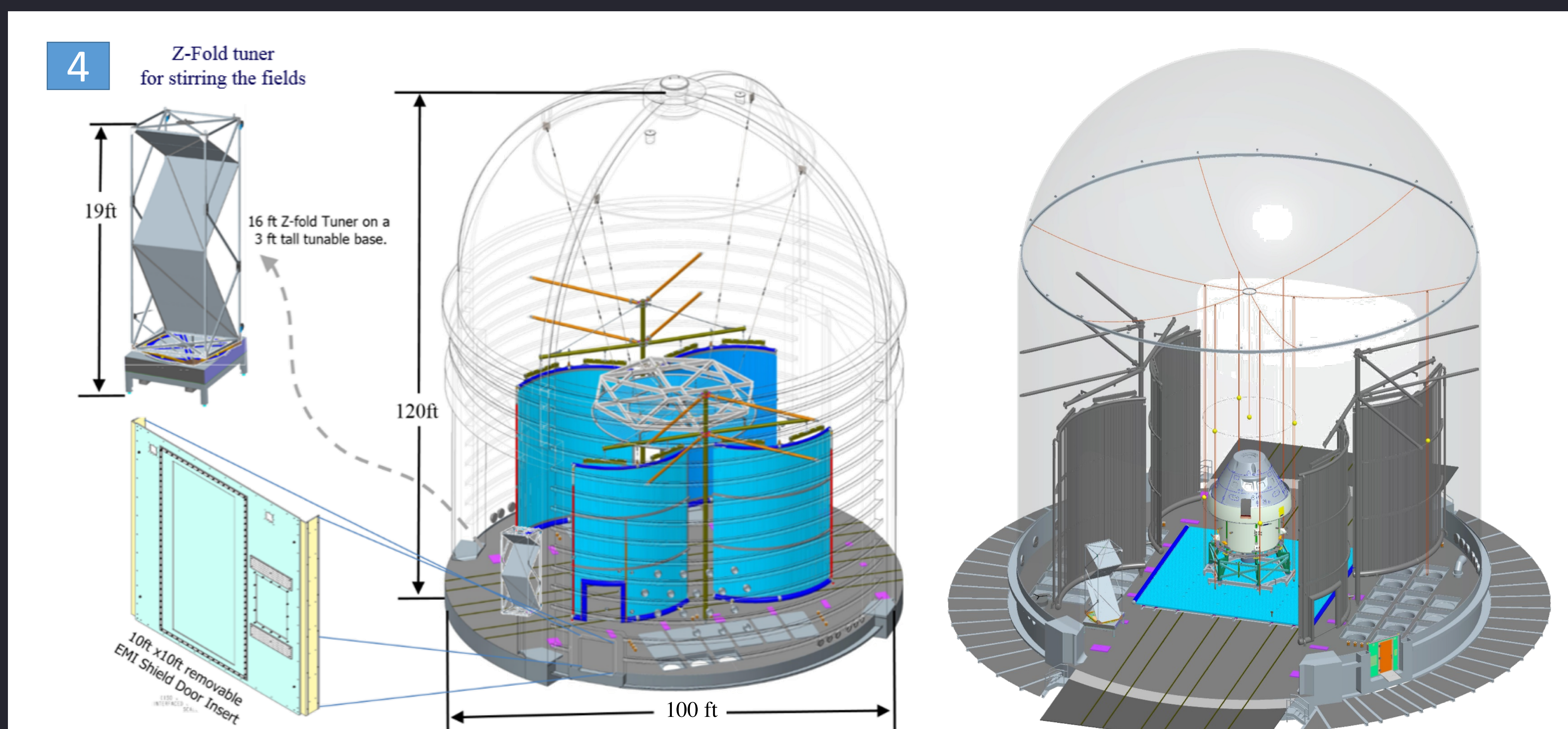
Due to its **size**, SEC has good mode density **as low as 65 MHz**



Due to SEC's **aluminum construction** it has extremely high "**Q**" ($\sim 1 \times 10^6$) [2]

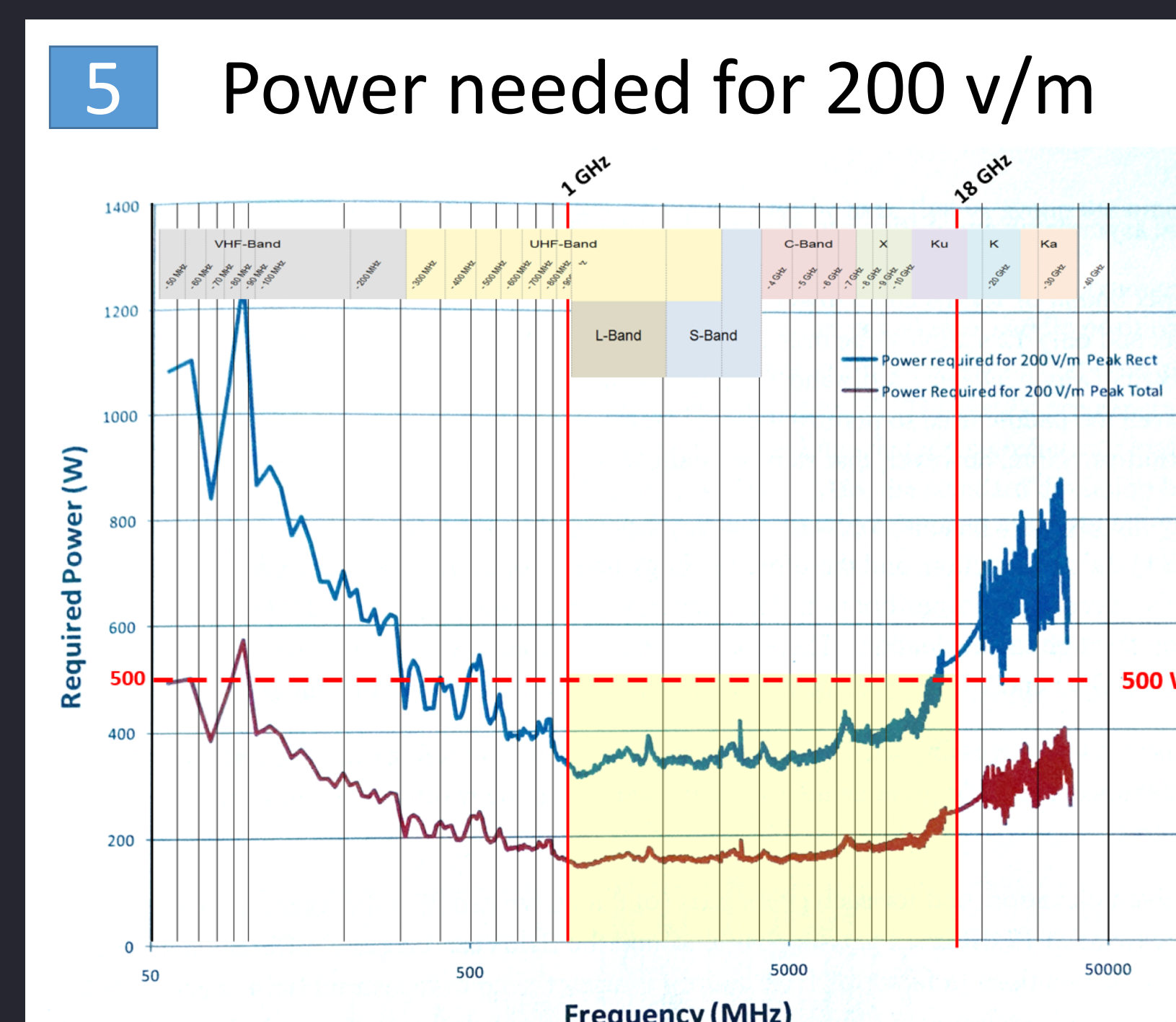


Probes and Tuner inside the chamber during Testing

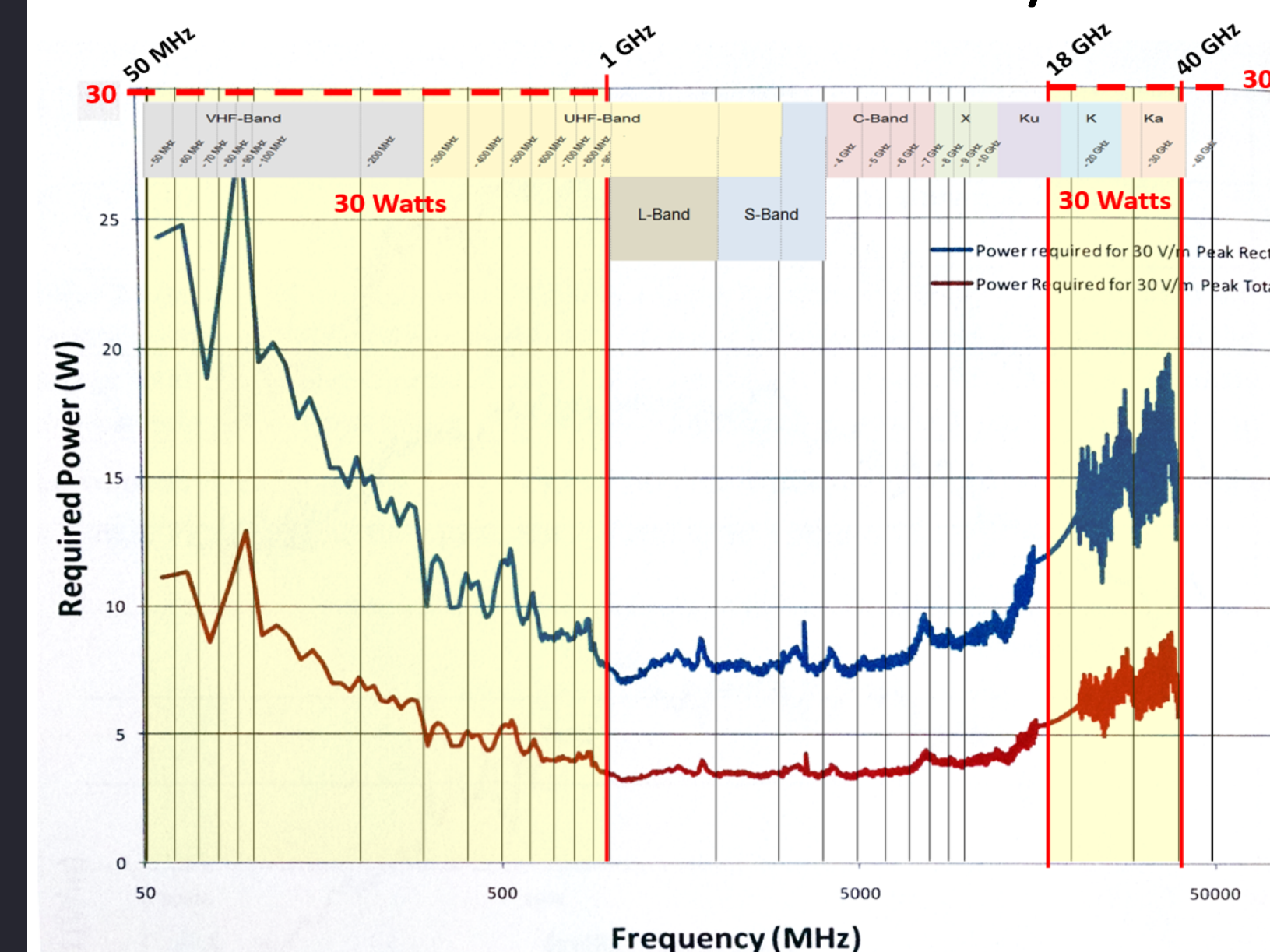


Chamber with EMI Modifications

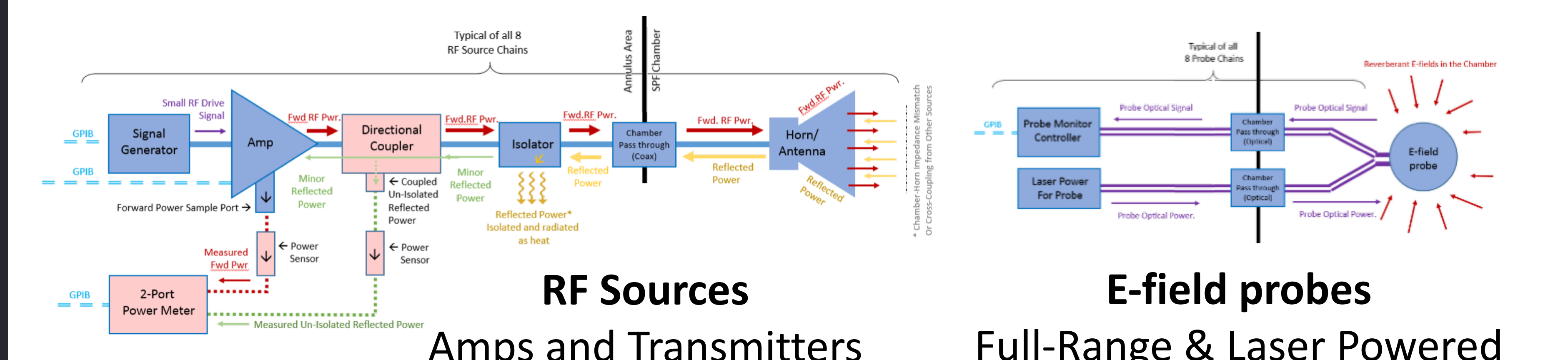
Suspended E-field probes



Power needed for 30 v/m



High-Power amplifiers just outside the chamber



RF Sources

Amps and Transmitters

E-field probes

Full-Range & Laser Powered

By adding a **19 ft. rotating "Z-Fold" mode-stirrer** and a **custom Shield-Door Insert** to facilitate the use of RF test and measurement equipment, the chamber has been converted to a fully functional and **calibrated** [3] EMI/EMC Reverb chamber with excellent: **Uniformity, Isotropy, and Random Polarization.**

These and other unique properties, combined with additional modifications to the chamber, enable the SEC chamber to provide **electric fields levels** sufficient for **radiated susceptibility and immunity testing** on **full-scale vehicles** using readily available RF amplifiers



High-Power antennas and horns just inside the chamber