

Statement of Work (SOW)

- 1.0 Project Title:
RF Foam Absorber Reline of JSC Primary EMI Measurement Chamber
- 2.0 Background
 - 2.1 The Primary EMI Measurement chamber at NASA Johnson Space Center was installed in 1995, and was lined with RF foam absorber cones and ferrite tile in circa 1999. The RF foam absorber cones have deteriorated over time, and are now beyond the end of service life.
- 3.0 Project Scope
 - 3.1 The scope of this task is to remove and replace the RF foam absorber cones in the JSC Primary EMI measurement chamber.
- 4.0 Task Overview:
 - 4.1 Removal of existing RF foam absorber cones.
 - 4.2 Disposal of removed RF foam absorber cones.
 - 4.3 Inspection of underlying ferrite tiles.
 - 4.4 Repair or replacement of damaged ferrite tiles as necessary.
 - 4.5 Correction of identified installation defects of ferrite tiles as necessary.
 - 4.6 Installation of new RF foam absorber cones.
- 5.0 Period of Performance (Estimated):
August 19, 2013 – August 31, 2013
- 6.0 Performance Objectives/ Deliverables:
 - 6.1 The contractor shall remove the existing RF foam absorber cones from the underlying ferrite tiles on the walls and ceiling of the JSC Primary EMI measurement chamber.
 - 6.2 The contractor shall clean the measurement chamber and surrounding area of any detritus resulting from the RF foam absorber cone removal process.
 - 6.3 Prior to installation of the replacement RF foam absorber cones, the contractor shall inspect the underlying ferrite tiles for damage or installation defects.
 - 6.4 The contractor shall repair or replace any broken tiles, including tiles that break during the removal of the existing foam absorber.
 - 6.5 The contractor shall correct identified installation defects in workmanlike fashion.
 - 6.6 The contractor shall prepare the ferrite tile surfaces for installation of the replacement RF foam absorber cones.
 - 6.7 The contractor shall install the replacement RF foam absorber cones onto the prepared ferrite tile surfaces.
 - 6.8 Replacement RF foam absorber cones installed on the chamber entrance door shall be coated with a rubberized latex paint finish to resist breakage, provide for cleanliness, and extend the lifetime of the material.
 - 6.9 The replacement RF foam absorber cones shall exhibit the minimum RF absorption performance as specified in Table I.
 - 6.10 The replacement RF foam absorber cones shall have a minimum expected installed performance lifetime of 10 years.
 - 6.11 The replacement RF foam absorber cones shall be tolerant to degradation resulting from frequent physical contact.

- 6.12 The replacement RF foam absorber cones shall be capable of withstanding extended periods of high humidity.
- 6.13 The replacement RF foam absorber cones shall be matched to the existing installed ferrite tiles.
- 6.14 The replacement RF foam absorber cones shall be colored white, or installed with white end caps to maximize operational visibility.

Table I
RF Foam Absorber Cone Absorption at Normal Incidence

Frequency	Minimum Absorption
80 MHz – 250 MHz	6 dB
Above 250 MHz	10 dB

Information concerning the JSC Primary EMI Measurement Chamber

- The measurement chamber dimensions are 18' x 23' x 10'
- The present configuration of RF foam absorber and ferrite tile is in accordance with RF absorber requirements as contained in Mil-Std-462D, Mil-Std-461E, and subs..

Estimate for minimal amount of absorber material

- The front and the back wall are completely covered and measure 23' x 10'.
- For the other two sides, and ceiling, the covered area extends out halfway (about 9'). This covered area extends over the ceiling.
- The covered area of the ceiling is 9' x 23'; the covered area of the corresponding side walls (including 1 of the two entry doors) is 9' x 10'.

Adding these gives:

$$\begin{array}{r}
 2 \times 23' \times 10' = 460 \text{ ft}^2 \quad (\text{front and back walls}) \\
 + \quad 9' \times 23' = 207 \text{ ft}^2 \quad (\text{ceiling}) \\
 + \quad 2 \times 9' \times 10' = 180 \text{ ft}^2 \quad (\text{side walls}) \\
 \hline
 \text{Total:} \quad \quad \quad 847 \text{ ft}^2
 \end{array}$$

- Note: The measurement of the chamber entry door taken from the outside is 50"x111"

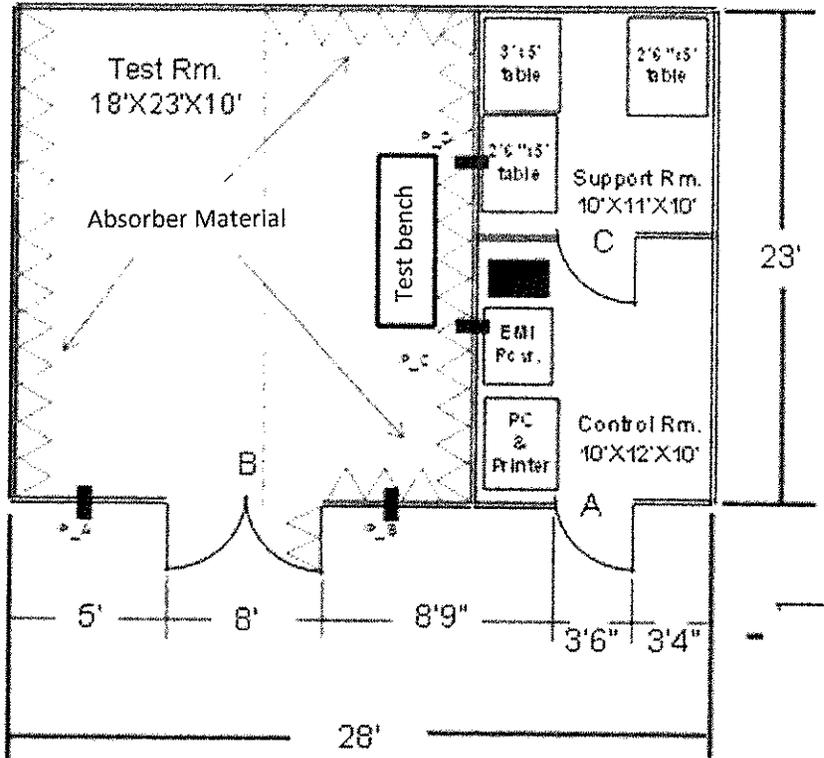


Fig. 1. JSC Primary EMI Measurement Chamber Dimensions