EMI/EMC Test Requirements

IMAGE FUV System

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1. GENERAL

1.1 Scope

This document is intended to specify requirements for EMI/EMC testing of the integrated IMAGE FUV instrument. Testing will be done to the requirements of Mil-Std-461C but performing only those tests specified in section 2 below. Testing will be done with the test article and the specified antennas and couplers in one shielded room with the GSE and EMC test equipment outside.

1.2 Test Article

Testing shall be performed on an assembly consisting of flight units or flight-like ETU units of the Spectrographic Imager, the Wideband Imaging Camera, the Geocoronal Sensor, and the FUV Main Electronics Package. These items will be bolted onto the 8276-A2 mock payload deck and electrically integrated with the ETU or flight unit 8312-W7 wiring harness. The WIC EMI shield will also be included in the system and will be bolted to the 8276-A2 deck plate in a flight-like configuration. No attempt will be made to simulate the other instruments or other mechanical details of the IMAGE spacecraft. Electrical connection to the system during testing will be made using connectors 17P121 and 17P122 which will be connected to the MEP GSE which will simulate the role of the CIDP.

1.3 Ground Support Equipment

During EMC testing the FUV instrument will be operated using the MEP GSE to supply power, commanding, and the receipt and display of instrument data.

2. TESTS PERFORMED

The tests defined in the following portions of Mil-Std-461C will comprise the EMC/EMI test:

1 Paragraph 2.2 Conducted Emissions, Method CE01

2 Paragraph 3.2 Conducted Emissions, Method CE03

3 Paragraph 6.2 Conducted Susceptibility, Method CS01

4 Paragraph 7.2 Conducted Susceptibility, Method CS02

5 Paragraph 14.2 Radiated Emissions, Method RE02

6 Paragraph 17.2 Radiated Susceptibility, Method RS03

3. TEST REPORT

A test report shall be generated which meets the requirements specified in Mil-Std-461C. As a minimum it shall include:

1 A description of the test set up.

2 A listing of equipment used along with calibration status.

3 A description of each test performed with plots of measured test levels.

4 Plots showing the results for each test.

5 A summary of all test failures.

6 A certificate of compliance signed by the responsible test engineer.