

DATA ITEM DESCRIPTION

Title: TEST REPORT FOR PRODUCTION-LEVEL MCS (MISSION CRITICAL SUBSYSTEM) IMMUNITY TEST (PMIT)

Number: DI-EMCS-81849

Approval Date: 20111128

AMSC Number: 9229

Limitation: N/A

DTIC Applicable: Yes

GIDEP Applicable: N/A

Defense Technical Information Center

Attn: DTIC-OMI

8725 John J. Kingman Road, Ste 0944

Fort Belvoir VA 22060-6218

Office of Primary Responsibility: DS

Applicable Forms: None

Use/relationship: The Test Report for MIL-STD-3023 Immunity Production MCS (Mission Critical Subsystem) Test (PMIT) will be used to obtain essential information from contractors after they perform the MIL-STD-3023 required PMIT described in detail in Appendix C of MIL-STD-3023.

a. Information to be acquired through the PMIT will include the detailed test procedures and equipment, test results (data), analysis, and other related data.

b. This DID contains the format, content, and intended use information for the data product resulting from the work task described by Appendix C of MIL-STD-3023, and is applicable to the acquisition of military systems, equipment, and facilities.

Requirements:

1. Reference documents. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as cited in the ASSIST Online (<https://assist.daps.dla.mil/online/start/>) at the time of the solicitation or, for non-ASSIST listed documents, as stated herein. Classification of the Test Report for MIL-STD-3023 PMIT shall be determined using DNA-EMP-1, Electromagnetic Pulse (EMP) Security Classification Guide (U) available by mail request to ATTN: RD-NTSA/ Rooney M. Defense Threat Reduction 8725 John J. Kingman Road, MSC 6201 Fort Belvoir, Virginia 22060-6201 and any relevant system specific classification guides.

2. Format. The Test Report for MIL-STD -3023 PMIT shall be in contractor's format.

3. Content. The Test Report for MIL-STD-3023 PMIT shall be presented in the format of the Test report which is recommended in Appendix C and paragraph C.5.6 of MIL-STD-3023 and is specified in the contract. In addition to the written Test report, the data obtained from the testing shall be presented in electronic contractor's format and contain all data described in Appendix C of MIL-STD-3023. The electronic data format will be described in the written report. Appropriate use of appendices for large amounts of information with a short summary of key facts in the main text is encouraged.

DI-EMCS-81849

3.1 Administrative data. The Test Report for MIL-STD-3023 PMIT shall contain an administrative section covering the following:

- a. Contract number.
- b. Authentication and certification of performance of the tests by a qualified representative of the procuring activity.

3.2 Test data

3.2.1 Introduction Section. This section shall contain a brief overview of the PMIT.

3.2.2 Test Object Description Section. This section shall contain at a minimum:

- a. The Mission Critical Subsystem (MCS) tested including serial number.
- b. A reference to the applicable test plan (and included as Appendix A of this Test Report). (See DI-EMCS-81848 for format of test plan.)
- c. A physical and functional description of the MCS.
- d. A table summarizing the MCS and its MIL-STD-461 CS116 (or equivalent) immunity.
- e. An identification of the location of the MCS in the aircraft.

3.2.3 PMIT Procedure Section. This section shall contain a detailed discussion of the test procedures and equipment used, and at a minimum shall include the following information:

- a. A discussion of any deviations from the test plan and requirements of MIL-STD-3023 Appendix C.
- b. Identification of the test equipment, including the pulse current injection (PCI) pulser and the PCI coupler, with key performance parameters.
- c. Test chronology including the sequence of events.
- d. A description of the MCS condition (e.g., power-on and other equipment connected to the MCS) and the test points used for the PMIT. These test points should be consistent with MIL-STD-461 CS116 (or equivalent) immunity test points (see DI-EMCS-81853 for a description of that test). That is, every port on the MCS and its associated cabling is to be tested.

3.2.4 Summary of the Test Data. This section shall contain a summary of the information and data obtained from the PMIT. At a minimum this section shall include the following:

- a. A table showing the results for the three 10-A pulses which constitute the PMIT for each test point.
- b. A statement describing that the MCS was not damaged by the PMIT (i.e. operated normally when powered on after the PMIT and the criteria for determining normal operation). (A full operational test of the MCS is not required.)
- c. If damage occurred, a statement describing that the MCS was damaged by the PMIT (i.e.

DI-EMCS-81849

did not operate normally when powered on after the PMIT) and the criteria for determining abnormal operation). Note damage is a critical characteristic when applying the results of this PMIT test procedure to MIL-STD-1916.

- d. A plot of the calibration pulse (10-A) for the PMIT pulser into a 100-ohm load.
- e. A discussion of the uncertainties involved in the PMIT measurements.

3.2.5 Conclusion Section. This section shall state if the MCS satisfactorily passed the PMIT (no damage). Note damage is a critical parameter when applying the results of this PMIT test procedure to MIL-STD-1916.

3.2.6 Appendix A. Appendix A shall contain a copy of the PMIT test plan.

3.2.7 At the contractor's discretion, they may combine the DID reports for multiple serial numbers of an MCS. In this case the test data summary in 3.2.4 will include the serial number of the MCS in the Table described in subsection a, and subsection b shall have a table with MCS serial number and a statement of pass. The latter table will be repeated in 3.2.5 and shall include for each serial number the name of the qualified representative of the procuring activity providing authentication and certification of performance of the PMIT for the specific MCS serial number.

4. End of DI-EMCS-81849.