

Coded Note Number: **Q4120**
Revision: **C011**
Date: **December 13, 2018**
Title: **EMI Test Report IAW MIL-STD-461**

1. General

The purchase order (PO) item shall be qualified by a NAVSEA approved Electromagnetic Interference Test Report (EMITR).

The PO item's EMITR qualification shall be satisfied by one of the following:

1.1 Use of a Listed EMITR

When a NAVSEA approved EMITR number and revision is listed in the PO item's specification data and the Supplier's name is listed under the EMITR, no submittal is required for this coded note.

When no submittal is required, the Supplier is authorized to perform work.

1.2 Use of an Unlisted EMITR

When NNS has previously approved an EMITR and the EMITR number and revision is not listed in the PO item's specification data, the Supplier shall submit notification to Newport News Shipbuilding (NNS).

The notification to NNS for the previously approved EMITR shall be in accordance with Section 5.3 of this coded note.

The Supplier shall not resubmit an EMITR that has been previously approved.

1.3 Use of an EMITR Pending Approval

When an EMITR from a previous PO has been submitted and is pending approval and the EMITR number and revision is not listed in the PO item's specification data, the Supplier shall submit notification to NNS.

The notification to NNS for the existing EMITR pending approval shall be in accordance with Section 5.2 of this coded note.

The Supplier shall not resubmit an EMITR that has already been submitted and is pending approval.

1.4 Approval of a Newly Developed EMITR

When the PO item's specification data does not identify an EMITR number and revision and the Supplier's name for the EMITR, the EMI Test Facility used by the Supplier shall develop a new EMITR.

The newly developed EMITR shall be written and submitted in accordance with Section 2 "Format" through Section 5 "Approval" of this coded note.

The Supplier shall submit a request for approval with the EMITR in accordance with Section 5.1 of this coded note.

2. Format

Contractor format is acceptable.

3. Content

The EMITR shall contain the following:

1. Administrative data. The EMITR 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.
 - c. Disposition of the Equipment Under Test (EUT).
 - d. Description of the EUT, including its function, characteristics, intended installation, actual cable types (characteristics and construction details - see 4.3.8.6 of MIL-STD-461), and electrical current usage on each power input line.
 - e. List of tests performed with pass/fail indications.
 - f. Any approved deviations from contractual test procedures or limits previously authorized.
 - g. Identification of Non-Developmental Items (NDI) and Government Furnished Equipment (GFE) that may be part of the EUT.
 - h. Traceability of test equipment calibration.
 - i. A reference to the approved EMI test procedure (EMITP).
2. Detailed results. A separate appendix shall be prepared for each test. If deviations from an approved test procedure occurred during the test program, an additional appendix shall be provided with the "as run" procedures showing all red-lines and procuring activity concurrence. A separate appendix shall be provided for log sheets. Each test appendix shall contain the following factual data:
 - a. Test equipment nomenclature, serial numbers, version of software

- used (if any), and calibration due date.
 - b. Photographs or diagrams of the actual test set up and EUT, with identification.
 - c. Transfer impedance of current probes.
 - d. Antenna factors.
 - e. Impedance values of Line Impedance Stabilization Networks (LISN).
 - f. Identification of any suppression devices used to meet the contractual requirements, including schematics, performance data, and drawings.
 - g. Sample calculations, such as conversions of measured levels for comparison against the applicable limit.
 - h. The ambient radiated and conducted electromagnetic emission profile of the test facility, when necessary.
 - i. Data, and data presentation, as specified in the “data presentation” sections of the individual test procedures of MIL-STD-461. Emissions data cannot be provided on one single sheet (plot). Provide a minimum frequency resolution of 1% or twice the measurement receiver bandwidth, whichever is less stringent, and a minimum amplitude resolution of 1 dB for each plot.
 - j. Scan speeds.
 - k. Measurement receiver bandwidths.
 - l. Antenna polarization.
 - m. Power line voltages, frequencies, and power factor.
 - n. Low-noise amplifiers (LNA) compression points.
 - o. Test susceptibilities and deviations from normal performance are not acceptable. However, when susceptibility indications or deviations from normal performance are noted in the EUT operation, a threshold level shall be determined where the susceptible condition or deviation is no longer present. These thresholds need to be documented for further assessment.
- 3. Conclusions and recommendations.** Conclusions and recommendations shall be provided, including results of the tests in brief narrative form, a discussion of any remedial actions already initiated, and proposed corrective measures required (if necessary) to assure compliance of the equipment or subsystem with the contractual EMI requirements.

4. Delivery

Shipbuilding Partners and Suppliers (SPARS) enabled suppliers shall submit one (1) electronic copy through: <https://spars.huntingtoningalls.com/ngcspars/Auth>.

All suppliers that are not SPARS enabled shall mail seven (7) hard copies to:

Newport News Shipbuilding
4101 Washington Ave.
Newport News, VA 23607
Attn: O52 Software Coordinator
Bldg. 902-2

5. Approval

5.1 Newly Developed EMITR

The request for approval for the newly developed EMITR shall include:

- a. PO number,
- b. PO item number(s),
- c. NNS material number(s),
- d. coded note number Q4120, and
- e. the EMITR number and revision.

The Supplier should expect NAVSEA approval of the newly developed EMITR to take approximately six (6) months.

5.2 Pending Approval of Existing EMITR

The notification to NNS for the existing EMITR pending approval shall include:

- f. PO number,
- g. PO item number(s),
- h. NNS material number(s),
- i. coded note number Q4120,
- j. the EMITR number and revision,
- k. PO number of previous submittal, and
- l. PO item number(s) of previous submittal.

5.3 Previously Approved EMITR

The notification to NNS for the previously approved EMITR shall include:

- m. PO number,
- n. PO item number(s),
- o. NNS material number(s),
- p. coded note number Q4120,
- q. the EMITR number and revision,
- r. PO number of previous submittal,
- s. PO item number(s) of previous submittal, and
- t. letter number of previous approval.

Revision History Table		
Rev	Description	Revision Date
C010	Removed-mail address submittal option.	07/7/16
C011	Complete rewrite of PPN and Appendix S.	12/13/18

This revision history is provided for convenience and does not alleviate the supplier's responsibility with understanding and complying with the full coded note.
