



AEROSPACE INFORMATION REPORT

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Superseded by ARP60493, ARP5583,
ARP5415, MIL-STD-464

Electromagnetic Compatibility (EMC) System Design Checklist

RATIONALE

This technical report has been superseded by information provided in ARP60493, ARP5583, ARP5415, and MIL-STD-464.

CANCELLATION NOTICE

This technical report has been declared "CANCELLED" as of September 2023 and has been superseded by ARP60493, ARP5583, ARP5415, and MIL-STD-464. By this action, this document will remain listed in the respective index, if applicable. Cancelled technical reports are available from SAE.

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Documents

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1. SCOPE:

- 1.1 This checklist is to be used by project personnel to assure that factors required for adequate system electromagnetic compatibility are considered and incorporated into a program. It provides a ready reference of EMC management and documentation requirements for a particular program from preproposal thru acquisition. When considered with individual equipments comprising the system and the electromagnetic operational environment in which the system will operate, the checklist will aid in the preparation of an EMC analysis. The analysis will facilitate the development of system-dependent EMC criteria and detailed system, subsystem, and equipment design requirements ensuring electromagnetic compatibility.
- 1.2 It should be noted that all subjects are not covered and that all items listed may not be required on a given program.

2. MANAGEMENT CONTROL REQUIREMENTS FOR THE PROGRAM:

Examples of specific requirements to be considered include:

- a. Work Statement, System Specification, and other procurement documentation
- b. EMC Board (charter, members, etc.)
- c. Vendor Monitoring
- d. Periodic Design Review
- e. Milestones/Schedules

3. DOCUMENTATION AND INFORMATION REQUIREMENTS FOR THE PROGRAM:

Examples of such a list are:

- a. EMC Plan, Including System-Dependent EMC Requirements
- b. System Test Plan
- c. EMI Threat Estimates Analysis (e.g., Vulnerability to Jamming)
- d. Frequency Assignment/Allocation
- e. Test Methods and Procedures

3. (Continued):

- f. Subcontractor Requirements
- g. Subcontractor EMC Plan, Test Plan, Test Reports
- h. System Test Report
- i. Operational Environmental Criteria
 - 1. Electromagnetic (friendly and hostile)
 - 2. Physical/Dynamic
- j. Electrical Power Requirements
- k. Methods for Maintaining Configuration Control on System
- l. Packaging and Installation Criteria
- m. Cable EMC design Requirements (routing, bundling, shielding, etc.)
- n. Antenna Isolation Requirements
- o. Signal Flow Diagrams
- p. Grounding Diagrams

4. EMC VERIFICATION/CERTIFICATION REQUIREMENTS:

List the requirements for system, subsystem, and equipment EMC verification and certification.
Examples are:

- a. System Compatibility - (Inter and Intra)
 - 1. EMC margin
 - 2. Degradation criteria
 - 3. Operational environment susceptibility
 - 4. Operational demonstration
- b. Subsystem/Equipment Criteria
 - 1. Emission
 - 2. Susceptibility
- c. System Safety
 - 1. Personnel
 - 2. Ordnance
 - 3. Fuel/propellants