



## DATA ITEM DESCRIPTION

**Title:** TEMPEST Control Plan

**Number:** DI-EMCS-81687

**Approval Date:** 14 Aug 2006

**AMSC Number:** 7602

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Use/relationship:** The TEMPEST Control Plan documents the TEMPEST control design techniques proposed for a development program of an equipment or system, in order to minimize potential TEMPEST vulnerabilities.

- a. This DID contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.
- b. This DID is applicable to contracts that reference:  
NACSEM 5112, "NONSTOP Evaluation Techniques" (entire document),  
Paragraphs 5.1.5.1, 6.1.1.6.1 and Appendix F of KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment,"  
or equivalent and require preparation of a TEMPEST Control Plan.

### Requirements:

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and the dates of any applicable amendments, notices, and revisions, shall be as stated herein. NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; and KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition, are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md 20755-6706.
2. Format. The TEMPEST Control Plan may be in the contractor's format.
3. Content. The TEMPEST Control Plan shall be in accordance with paragraph 5.1 (Control Plan) of NACSEM 5112, or paragraphs 5.1.5.1, 6.1.1.6.1 (Control Plan) and Appendix F (Control Plan) of KAG-30A/TSEC, or as identified in the contract. A Control Plan shall include, as a minimum, the following information:
  - a. Title Page. The title page shall include:
    - Name of the equipment or system.
    - Name of the organization or firm preparing the TEMPEST Control Plan.
    - Name of the Contracting Agency.
    - Contract Number.
  - b. Management Control. This section shall include specific responsibilities, lines of

DI-EMCS-81687

- authority, and control. An implementation plan for TEMPEST control, with milestones, shall be included.
- c. General Description of Equipment
  - d. Statement of TEMPEST Requirements
  - e. Mechanical Design. This section shall include the following:
    - (1). Construction Techniques
      - Housing material
      - Compartmentation (RED/BLACK)
      - Penetrations (windows, air vents, access plates)
      - Drawings, including an exploded view
      - RF Gasketing
    - (2). Interface Techniques
      - Signal filtering
      - Power filtering
      - Location and mounting of filters
      - Connectors/Junction Boxes
    - (3). Other Mechanical Design Features which may have an impact on the TEMPEST characteristic of the unit
  - f. RED/BLACK Design which shall include the following:
    - (1). RED/BLACK signals
      - RED/BLACK signal flow description and block flow diagram
      - RED/BLACK power distribution description and block flow diagram
      - RED/BLACK Logic (type, amplitude, and transition times)
      - RED/BLACK Interfaces (signal amplitude, transition times, design considerations)
    - (2). Other RED/BLACK Design Features
      - Physical RED/BLACK circuit layout (multi-layer boards, partitioning of circuits)
      - Type of cables
      - Grounds
      - Clocks
  - g. NONSTOP (if required)
    - (1). Transmitter Characteristics
      - Antenna bandwidth
      - RF output bandwidth
      - IF bandwidth
      - Baseband Bandwidth
      - Type of modulation
      - Signaling rate
      - RF frequency band
      - RF carrier power
      - Sideband power

DI-EMCS-81687

(2). List and description of circuits susceptible to RED signal coupling

4. END OF DI-EMCS-81687.

## DATA ITEM DESCRIPTION

**Title:** TEMPEST Test Setup Ambient Signal Control Certification Report

**Number:** DI-EMCS-81686

**Approval Date:** 14 Aug 2006

**AMSC Number:** 7601

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Use/relationship:** The TEMPEST Test Setup Ambient Signal Control Certification Report provides descriptions and ambient signal measurements of the contractor's exercise equipment and TEMPEST test setup of the equipment under test (EUT) to show that the test setup meets the ambient signals requirements for laboratory TEMPEST testing.

- a. This DID contain the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.
- b. This DID is applicable to contracts that reference:
  - Paragraph 6.6 of NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics;"
  - CNSSAM 01-02, "NONSTOP Evaluation Standard" (entire document);
  - Paragraph 5.3.3 of NACSEM 5112, "NONSTOP Evaluation Techniques;"
  - Paragraphs 5.1.5.3, 6.1.1.6.3 and Appendix H of KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment;" and
  - Paragraph 6.5 of AMMSG-720B, SECAN, "Compromising Emanations Laboratory Test Standard,"or their equivalent and require preparation of a TEMPEST Test Setup Ambient Signal Control Certification Report.

### Requirements:

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as stated herein. The following documents are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md. 20755-6706: NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics," with Annex C, E, and Changes, current edition; CNSSAM 01-02, "NONSTOP Evaluation Standard," current edition; NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition; and AMMSG-720B SECAN, "Compromising Emanations Laboratory Test Standard," current edition.
2. Format. The TEMPEST Test Setup Ambient Signal Control Certification Report may be in the contractor's format.

DI-EMCS-81686

3. Content. The TEMPEST Test Setup Ambient Signal Control Certification Report shall be in accordance with the following, as identified in the contract:
  - a. NSTISSAM TEMPEST/1-92— paragraph 6.6 (Test Setup Ambient Certification).
  - b. NACSEM 5112—Paragraph 5.3.3 (Test Setup Ambient Noise Control Certification Report).
  - c. KAG-30A/TSEC— Paragraphs 5.1.5.3, 6.1.1.6.3 and Appendix H
  - d. AMSG-720B— Paragraph 6.5 (Test Setup Ambient Certification).
4. END OF DI-EMCS-81686.

## DATA ITEM DESCRIPTION

**Title:** TEMPEST TEST PLAN

**Number:** DI-EMCS-81683

**AMSC Number:** 7598

**DTIC Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Approval Date:** 14 AUG 2006

**Limitation:** N/A

**GIDEP Applicable:** No

**Use/relationship:** The TEMPEST Test Plan identifies in detail, the means of implementing and applying the procedures to be performed to demonstrate compliance/noncompliance with the applicable TEMPEST requirements.

- a. This DID contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.
- b. This DID is applicable to contracts that reference:  
Paragraph 6.2 and Appendix L, of NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics;"  
Paragraph 6.2 of CNSSAM 01-02, "NONSTOP Evaluation Standard;"  
Paragraph 5.2 of NACSEM 5112, "NONSTOP Evaluation Techniques;"  
Paragraphs 5.1.5.2, 6.1.1.6.2 and Appendix G, of KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment;" and  
Paragraph 6.1 and Appendix J of AMMSG-720B SECAN, "Compromising Emanations Laboratory Test Standard,"  
or their equivalents and require preparation of a TEMPEST Test Plan.

### **Requirements:**

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as stated herein. The following documents are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md. 20755-6706: NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics," with Annex C, E, and Changes, current edition; CNSSAM 01-02, "NONSTOP Evaluation Standard," current edition; NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition; and AMMSG-720B SECAN, "Compromising Emanations Laboratory Test Standard," current edition.
2. Format. The TEMPEST Test Plan may be in the contractor's format.
3. Content. The TEMPEST Test Plan shall be in accordance with the following, as Identified in the contract.

DI-EMCS-81683

- a. NSTISSAM TEMPEST/1-92—6.2 (Test Plan Requirements/Contents) and Appendix L (Test Plan Outline)
  - b. CNSSAM TEMPEST 01-02—6.2 (Test Plan Requirements/Contents)
  - c. NACSEM 5112—5.2 (Test Plan)
  - d. KAG-30A/TSEC—5.1.5.2, 6.1.1.6.2 (Test Plan) and Appendix G (Test Plan Outline)
  - e. AMSG-720B—6.1 (Test Plan Requirements/Contents) and Appendix J (Test Plan Outline)
4. END OF DI-EMCS-81683.

## DATA ITEM DESCRIPTION

**Title:** TEMPEST Test Evaluation Report

**Number:** DI-EMCS-81684

**Approval Date:** 14 AUG 2006

**AMSC Number:** 7599

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Use/relationship:** The TEMPEST Test Report documents the implementation of the approved TEMPEST Test Plan. The TEMPEST Test Report documents the TEMPEST Profile of the Equipment or System Under Test (EUT or SUT) and to specifically document the TEMPEST deficiencies, their cause, and TEMPEST countermeasures required to eliminate or reduce such deficiencies to acceptable levels.

a. This DID contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

b. This DID is applicable to contracts that reference:

Paragraph 6.7 and Appendix M of NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics;"

Paragraph 6.5 of CNSSAM 01-02, "NONSTOP Evaluation Standard;"

Paragraph 5.4 of NACSEM 5112, "NONSTOP Evaluation Techniques;"

Paragraphs 5.1.5.4, 6.1.1.6.4 and Appendix J of KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment;" and

Paragraph 6.6 of AMSEG-720B, SECAN, "Compromising Emanations Laboratory Test Standard," or their equivalent and require preparation of a TEMPEST Test Report.

### Requirements:

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as stated herein. The following documents are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md. 20755-6706: NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics," with Annex C, E, and Changes, current edition; CNSSAM 01-02, "NONSTOP Evaluation Standard," current edition; NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition; and AMSEG-720B SECAN, "Compromising Emanations Laboratory Test Standard," current edition.

2. Format. The TEMPEST Test Report may be in the contractor's format.

DI-EMCS-81684



3. Content. The TEMPEST Test Report shall be in accordance with the following, as identified in the contract:

- a. NSTISSAM TEMPEST/1-92—6.7 (Test Report) and Appendix M (TEMPEST Profile)
- b. CNSSAM 01-02—6.5 (Test Report)
- c. NACSEM 5112—5.4 (Test Report)
- d. KAG-30A/TSEC—5.1.5.4, 6.1.1.6.4 (EUT Evaluation Report) and Appendix J (EUT Evaluation Reports)
- e. AMMSG-720B—6.6 (Test Report)

4. END OF DI-EMCS-81684.

# DATA ITEM DESCRIPTION

**Title:** TEMPEST Test Facility Certification Report

**Number:** DI-EMCS-81685

**Approval Date:** 14 AUG 2006

**AMSC Number:** 7600

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Use/relationship:** The TEMPEST Test Facility Certification Report provides descriptions and ambient measurements of the contractor's TEMPEST test facilities to show that the test facility meets the requirements for laboratory TEMPEST testing.

- a. This DID contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.
- b. This DID is applicable to contracts that reference:  
Paragraph 6.5 of NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics;"  
CNSSAM 01-02, "NONSTOP Evaluations Standard" (entire document);  
Paragraph 5.3.2 of NACSEM 5112, "NONSTOP Evaluation Techniques;"  
Paragraphs 5.1.5.3, 6.1.1.6.3 and Appendix H of KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment;" and Paragraph 6.4 of AMMSG-720B, SECAN, "Compromising Emanations Laboratory Test Standard," or their equivalent and require preparation of a TEMPEST Test Facility Certification Report.

## **Requirements:**

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as stated herein. The following documents are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md. 20755-6706: NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics," with Annex C, E, and Changes, current edition; CNSSAM 01-02, "NONSTOP Evaluation Standard," current edition; NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition; and AMMSG-720B SECAN, "Compromising Emanations Laboratory Test Standard," current edition.
2. Format. The TEMPEST Test Facility Certification Report may be in the contractor's format.
3. Content. The TEMPEST Test Facility Certification Report shall be in accordance with the following, as identified in the contract:

DI-EMCS-81685

- a. NSTISSAM TEMPEST/1-92— paragraph 6.5 (Facility Certification Requirements)
  - b. NACSEM 5112— paragraph 5.3.2 (Test Facility and Field Test Environment Certification Report)
  - c. KAG-30A/TSEC— paragraphs 5.1.5.3, 6.1.1.6.3 and Appendix H
  - d. AMSG-720B— paragraph 6.4 (Facility Certification Requirements)
4. END OF DI-EMCS-81685.

## DATA ITEM DESCRIPTION

**Title:** TEMPEST Test Instrumentation Certification Report

**Number:** DI-EMCS-81702

**Approval Date:** 08 NOV 2006

**AMSC Number:** 7632

**Limitation:** N/A

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** NS/I3213

**Applicable Forms:** N/A

**Use/relationship:** The TEMPEST Test Instrumentation Certification Report provides descriptions and sensitivities measurements of the contractor's TEMPEST test instrumentation (i.e., detection system) to show that the test instrumentation meets the sensitivity requirements for laboratory TEMPEST testing.

- a. This DID contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.
- b. This DID is applicable to contracts that reference:
  - Paragraph 6.4 of NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics;"
  - CNSSAM 01-02, "NONSTOP Evaluation Standard" (entire document);
  - Paragraph 5.3.1 of NACSEM 5112, "NONSTOP Evaluation Techniques;"
  - Paragraphs 5.1.5.3, 6.1.1.6.3 and Appendix H of KAG-30A/TSEC, "Compromising Emanations Standard Cryptographic Equipment;" and
  - Paragraph 6.3 of AMMSG-720B, "Compromising Emanations Laboratory Test Standard," or their equivalents and require preparation of a TEMPEST Test Instrumentation Certification Report.

### Requirements:

1. Reference Documents. The applicable issue of documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as stated herein. The following documents are available at the Director, National Security Agency, Attention: I3213, 9800 Savage Rd, Suite 6706, Fort Meade, Md. 20755-6706: NSTISSAM TEMPEST/1-92, "Compromising Emanations Laboratory Test Requirements, Electromagnetics," with Annex C, E, and Changes, current edition; CNSSAM 01-02, "NONSTOP Evaluation Standard," current edition; NACSEM 5112, "NONSTOP Evaluation Techniques," current edition; KAG-30A/TSEC, "Compromising Emanations Standards Cryptographic Equipment," current edition; and AMMSG-720B SECAN, "Compromising Emanations Laboratory Test Standard," current edition.
2. Format. The TEMPEST Test Instrumentation Certification Report may be in the contractor's format.

DI-EMCS-81702

3. Content. The TEMPEST Test Instrumentation Certification Report shall be in accordance with the following, as identified in the contract:

- a. NSTISSAM TEMPEST/1-92—6.4 (Test Instrumentation Certification Report)
- b. NACSEM 5112—5.3.1 (Detection System Certification Report)
- c. KAG-30A/TSEC—5.1.5.3, 6.1.1.6.3 and Appendix H
- d. AMSG-720B—6.3 (Test Instrumentation Certification Report)

4. END DI-EMCS-81702.

**NOTICE OF  
VALIDATION**

DI-MGMT-81026  
NOTICE 1  
04 October 2011

**DATA ITEM DESCRIPTION**

**Tempest Control Plan**

DI-MGMT-81026, dated 29 August 1990, has been reviewed and determined to be valid for use in acquisition.

**Preparing Activity:**

Army - CR

**NOTE:** The activities above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil>.

**DATA ITEM DESCRIPTION**

Form Approved  
OMB No. 0704-0188

**TITLE**  
Tempest Control Plan

**2 IDENTIFICATION NUMBER**  
DI-MGMT-81026

**3. DESCRIPTION / PURPOSE**

3.1 The Tempest Control Plan describes the management and spectrum control proposed for a development program for an equipment or group of equipments.  
3.2 The Tempest Control Plan is used to control and minimize potential Tempest problems.

**4. APPROVAL DATE (YYMMDD)**

900829

**5 OFFICE OF PRIMARY RESPONSIBILITY (OPR)**

A/AMSEL-RD-C3-TC-3

**6a DTIC APPLICABLE**

**6b GIDEP APPLICABLE**

**7. APPLICATION / INTERRELATIONSHIP**

7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.  
7.2 This DID is applicable to all contracts requiring an Electromagnetic Compatibility Control Plan.  
7.3 This DID supersedes DI-S-1828A.

**8. APPROVAL LIMITATION**

**9a APPLICABLE FORMS**

**9b. AMSC NUMBER**

A4982

**10 PREPARATION INSTRUCTIONS**

10.1 Format. The Tempest Control Plan format shall be contractor selected. Unless effective presentation would be degraded, the initially used format arrangement shall be used for all subsequent submissions.  
10.2 Content. The Tempest Control Plan shall contain the following:  
10.2.1 Management control. This section shall identify the specific organization responsibilities, lines of authority, and control, and the contractor's plan (including milestones) for implementing control. The resumes of the responsible Tempest design engineering personnel shall be contained in this section.  
10.2.2 Spectrum control. This section shall contain a description of how all operationally intended signals from equipment(s) shall be limited to bandwidth and amplitude minimum levels consistent with the design requirements, interface considerations, and good engineering design practices. Specific items to be included, along with an explanation for each, are as follows:

(Continued on Page 2)

**11. DISTRIBUTION STATEMENT**

**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

## Block 10, Preparation Instructions (Continued)

- 10.2.2.1 Functional designator, purpose, and location of signal lines external to the equipment(s).
- 10.2.2.2 Signal amplitude.
- 10.2.2.3 Spectral content of signals.
- 10.2.2.4 Design constraints on external signals.
- 10.2.2.5 Proposed constraints on external signals.

10.2.3 Mechanical design. This section shall contain a description of how materials and construction methods selected for design shall provide inherent attenuation to compromising electromagnetic (and acoustic, if applicable) emanations which shall enable the equipment(s) to meet the requirements of the Tempest specification cited in the contract without conflicting with other mechanical requirements. Specific items to be included, along with an explanation for each, are as follows:

- 10.2.3.1 Type and thickness of metal to be employed in the construction.
- 10.2.3.2 Construction technique(s).
- 10.2.3.3 Compartmentalization (RED and BLACK).
- 10.2.3.4 Filters and isolation amplifiers and buffers including mounting technique and type (mechanical design).
- 10.2.3.5 RED/BLACK consideration at equipment interface.
- 10.2.3.6 Access, window, and ventilation ports.
- 10.2.3.7 Radio Frequency (R.F.) gasketing.
- 10.2.3.8 Grounding concepts.
- 10.2.3.9 Mechanical design of any other factors which may affect the Tempest characteristics of the equipment(s).

10.2.4 Electrical/electronic wiring design. This section shall contain a description of the methods used in designing wiring layouts, both internal and external to the equipment(s), such that undesirable radiation and coupling effects are reduced to meet the Tempest requirements. Specific items to be included, along with an explanation for each, are as follows:

- 10.2.4.1 Functional designator, purposes, and location of critical internal and external signal lines
- 10.2.4.2 Line designator and location of external connectors.
- 10.2.4.3 Determination of line type (RED or BLACK).
- 10.2.4.4 Physical separation (RED or BLACK).
- 10.2.4.5 Type of cabling.
- 10.2.4.6 Grounding concepts.
- 10.2.4.7 RED/BLACK power distribution considerations.
- 10.2.4.8 Design of any other wiring factors which may affect the Tempest characteristics of the equipment(s).



**10. PREPARATION INSTRUCTIONS (Continued)**

**10.2.5 Electrical/electronic circuit design.** This section shall contain descriptions of the Tempest emanation suppression techniques that shall be applied to all circuits that are capable of generating undesirable signal emanations. Specific items to be included, along with an explanation for each, are as follows:

- 10.2.5.1 Logic type, signal amplitude, and signal rise and fall times.
- 10.2.5.2 RED interface circuitry (input/output area) including signal amplitude, signal rise and fall times, and design considerations.
- 10.2.5.3 Description and isolation characteristics of filters (including input/output impedances), isolation amplifiers and buffers.
- 10.2.5.4 Shielding and separation, proposed in the design and layout of multilayer printed circuit boards.
- 10.2.5.5 Power supply design (RED/BLACK isolation).
- 10.2.5.6 Placement, grouping, separation, partitioning of circuits.
- 10.2.5.7 Grounding concepts.
- 10.2.5.8 Any other circuit design technique which may affect the Tempest characteristics of the equipment(s).

**10.2.6 Research and development testing.** This section shall contain a description of tests designed to verify the effectiveness of proposed control measures, if the tests are required by the contract.