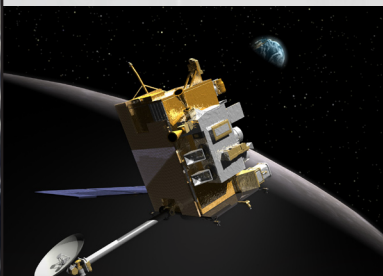
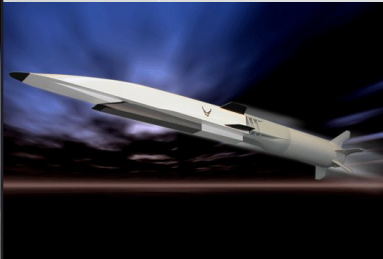
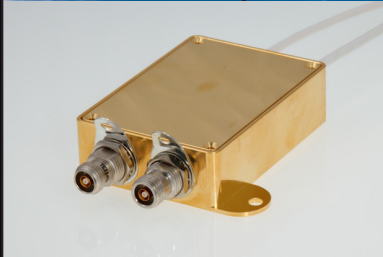
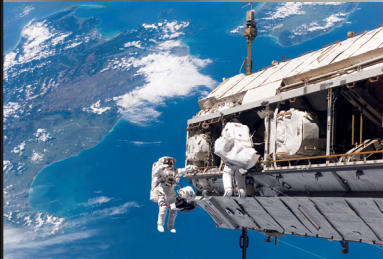




PHOENIX LOGISTICS INC.



Space Level Screening Services

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Phoenix Logistics, Inc.

RF

Test Plan Suite

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PHYSICAL CHARACTERISTICS

RF CABLE ASSEMBLY

- 1.0 PURPOSE:** To verify the assembly meets design requirements utilizing manufacturing documentation and inspection to ensure the highest quality attainable with sound engineering and design practices. When measured per the below procedure, each assembly shall meet all requirements as specified by the RF Cable Assembly Specification.
- 2.0 TEST SPECIFICATIONS:**
 - 2.1** RF Cable Assembly Specification for the assembly under test
- 3.0 TEST EQUIPMENT:**
 - 3.1** Microscope
 - 3.2** Mechanical measuring equipment; as required for type of measurement
- 4.0 PROCEDURE:**
 - 4.1 DIMENSIONS:**
 - 4.1.1** Measure all dimensions on 100% of each lot to verify they are as specified by the RF cable assembly specification and document results.
 - 4.2 WEIGHT:**
 - 4.2.1** Weigh each assembly and document to verify weight is as specified by the RF cable assembly specification.
 - 4.3 WORKMANSHIP:**
 - 4.3.1** Inspect soldering on 100% of each lot at a minimum of 5X magnification and document to verify soldering process was performed in accordance with IPC/WHMA-A-620 and ANSI/J-STD-001 requirements.
 - 4.3.2** Inspect crimping on 100% of each lot at a minimum of 5X magnification and document to verify process was performed in accordance with IPC/WHMA-A-620 requirements.
 - 4.4 MARKING:**
 - 4.4.1** Examine marking on 100% of each lot to verify marking is as specified by the RF cable assembly specification.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

CONTACT STRENGTH

RF CONNECTOR – PIN CONTACTS

1.0 PURPOSE: To determine contact strength of a pin type contact, size 20 or smaller, when subjected to a defined bending stress. Following application of load, the permanent set shall not exceed 0.005 inches.

2.0 TEST SPECIFICATIONS:

2.1 ANSI EIA-364-15

3.0 TEST EQUIPMENT:

3.1 Contact holding fixture as indicated in Figure 1

3.2 Displacement meter with an accuracy of 5% maximum of reading

4.0 PROCEDURE:

4.1 Secure contact in the holding fixture.

4.2 As a baseline, measure and record from the top edge of the pin, at 0.8 L minimum, down to a fixed surface; see “Permanent set” in Figure 1.

4.3 Apply a load (downward force) dependent on pin size, as detailed in Table 1, at a point on the contact as detailed in Figure 1, with a maximum rate of travel of one inch per minute.

4.4 Maintain for one minute, - 0 / +15 seconds.

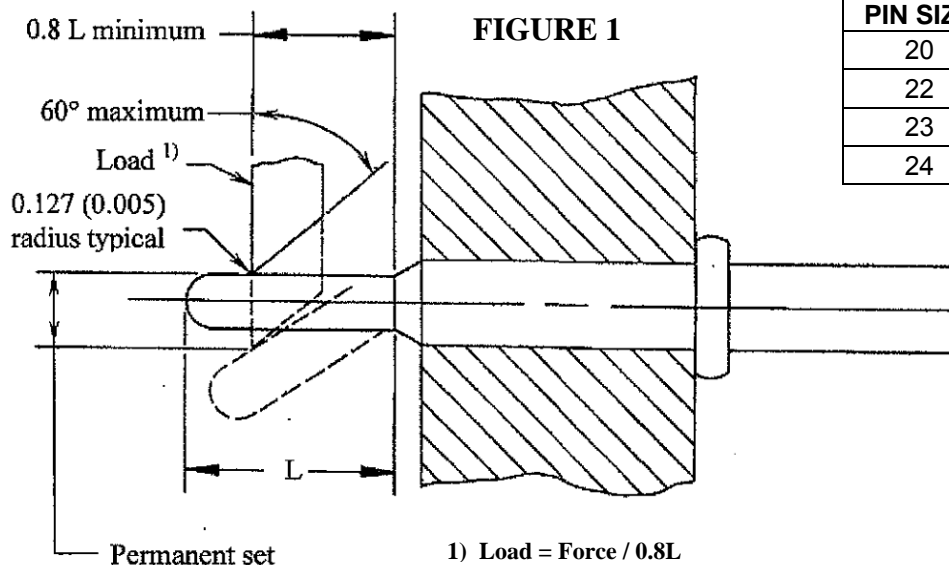
4.5 Post load, measure and record a second time from the top edge of the pin, at 0.8 L minimum, down to a fixed surface; see “Permanent set” in Figure 1.

4.6 Calculate the permanent set: Baseline measurement – Post load measurement = Permanent set.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

TABLE 1

PIN SIZE	FORCE
20	0.53 In/Lb
22	0.22 In/Lb
23	0.16 In/Lb
24	0.13 In/Lb



VACUUM OUTGAS BAKE-OUT

ALL NONMETAL MATERIALS

- 1.0 PURPOSE:** To control outgassing of all nonmetal materials utilized in a finished part assembly or finish part component. This test is required at the component level per NASA EEE-INST-002. Bake-out is also performed to ensure that any chemicals used as part of the manufacturing process of the assembly (flux, ink, epoxy, etc.) are also vacuum baked out. Bake-out twice on the same component (as a component and again after assembly) should be avoided. After vacuum outgas bake-out, materials shall not exceed 1% (TML) or 0.1% (CVCM).
- 2.0 TEST SPECIFICATIONS:**
- 2.1 NASA EEE-INST-002
 - 2.2 NASA Reference Publication 1124, <http://outgassing.nasa.gov>
- 3.0 TEST EQUIPMENT:**
- 3.1 Vacuum evacuation oven chamber
 - 3.2 Torr Indicator Gauge
- 4.0 PROCEDURE:**
- 4.1 Perform vacuum outgas bake-out on all finished part assemblies and finished part components that utilize any nonmetal material, following completion of all manufacturing processes and prior to final test for shipment.
 - 4.1.1 Expose test specimens to 125 ° C at 10 to the -6 Torr vacuum for 24 hours.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

CONTACT ENGAGEMENT & SEPARATION FORCE

RF CONNECTOR

1.0 PURPOSE – To measure the force required to fully engage and separate standard test pins or mating components with individual contacts. Engage and Separation forces shall be as prescribed in the connector or contact specification of the contact under test.

2.0 TEST SPECIFICATIONS

- 2.1 ANSI/EIA-364-37, Method A
- 2.2 Connector or Contact specification for the contact under test

3.0 TEST EQUIPMENT:

- 3.1 Force Gage with uncertainty of 5% maximum of reading
- 3.2 Contact holding fixture
- 3.3 Test Pins (gauges) conforming to the applicable size and configuration as specified in the connector or contact specification of the contact under test
- 3.4 Push/Pull Fixture

4.0 PROCEDURE:

- 4.1 Clean test pins prior to use and again every 10 cycles.
- 4.2 Place the socket member into a holding fixture and align axially with the test pin connected to the force gage.
- 4.3 Condition the contact prior to test by inserting and removing the maximum test pin to the specified depth for the specified amount of times as prescribed in the connector or contact specification of the contact under test.
- 4.4 Engage (insert) the insertion test pin to the specified depth, for the specified amount of times as prescribed in the connector or contact specification of the contact under test, while measuring the insertion force required, and then remove.
 - 4.4.1 Apply insertion force gradually at a rate of 2" per minute, maximum.
- 4.5 Engage (insert) the withdrawal (separation) test pin to the specified depth and then separate at the specified rate while measuring the withdrawal force required, repeat for the specified amount of times.
 - 4.5.1 Apply withdrawal force gradually at a rate of 2" per minute, maximum.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

CONNECTOR DURABILITY

RF CONNECTOR

- 1.0 PURPOSE:** To verify the connector can withstand multiple engage and disengage cycles without experiencing mechanical damage and will remain functional. When tested per the below procedure the connector shall show no evidence of severe mechanical damage and the coupling device shall remain functional.
- 2.0 TEST SPECIFICATIONS:**
 - 2.1 MIL-PRF-39012, paragraph 3.15
- 3.0 TEST EQUIPMENT:**
 - 3.1 Mating connector
 - 3.2 Microscope
- 4.0 PROCEDURE:**
 - 4.1 Mate the connector under test with its specified mating connector and subject it to the number of cycles of mating and un-mating prescribed in the MIL-PRF-39012 Specification Sheet for the connector type of the connector under test.
 - 4.1.1 Fully engage and then disengage the connector under test and its mate in each cycle.
 - 4.1.2 Do not use lubrication in threads.
 - 4.1.3 At intervals greater than 50 cycles only; it is permissible to shake or blow debris from threads.
 - 4.1.4 Do not use solvents or tools for cleaning.
 - 4.2 After cycling, inspect connectors at a minimum of 3 - 5X magnification for mechanical damage.
 - 4.3 After cycling, perform Force to Engage/Disengage and Mating Characteristics testing per the respective Test Plans, record data and attach.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

CENTER CONTACT RESISTANCE

RF CONNECTORS

- 1.0 PURPOSE:** To determine the resistance of the mated connector contacts attached to lengths of wire by measuring the millivolt drop across the contacts while they are carrying a specified current. Contact resistance shall be as specified in the connector specification of the connector under test.
- 2.0 TEST SPECIFICATIONS:**
- 2.1 ANSI/EIA-364-06
 - 2.2 Connector specification for the connector under test
- 3.0 TEST EQUIPMENT:**
- 3.1 DC Voltage Generator
 - 3.2 High Impedance Voltmeter, accuracy +/- 2%
 - 3.3 Ammeter, accuracy +/- 2%
- 4.0 PROCEDURE:**
- 4.1 Prepare mating contacts by assembling them as they would be for normal application, onto a 3-foot length of wire to dissipate heat.
 - 4.1.1 Clean solder type contacts to remove solder fluxes, but no additional cleaning.
 - 4.1.2 Do not use any additional lubricants or other coatings.
 - 4.2 When environmental conditions are applied during this test, permanently attach the voltmeter probes by soldering, spot welding or crimping.
 - 4.2.1 When attached by crimping, attach probes on the conductors 6 +/- 0.12 inches from each other with the mated contacts centered between them, unless otherwise specified.
 - 4.3 With current off, connect the test specimen into the test circuit.
 - 4.4 Apply voltage and increase until the current is to the required test level as prescribed in the connector specification for the connector under test, allow the current to stabilize.
 - 4.4.1 Do not allow applied voltage to exceed the rated working voltage of the contact.
 - 4.5 Connect voltmeter leads to the specimen; verify that the applied test current has remained at the correct level, then measure the voltage drop and record.
 - 4.5.1 If voltage drop measurements are \neq 1millivolt; reverse the current, measure the reverse voltage drop and calculate the average of the forward and reverse contact voltage drops to cancel the effects of thermal potentials.
 - 4.5.1.1 If necessary, adjust the applied voltage to ensure that the reverse test current has remained at the correct level.
 - 4.5.1.2 Measure the reverse voltage drop and record.
 - 4.5.1.3 Calculate the contact voltage drop by adding the forward voltage drop and the reverse voltage drop, then dividing the sum by 2, and record.
 - 4.6 Calculate the center contact resistance by dividing the contact voltage drop by the test current value.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

CONTACT RESISTANCE

RF CONNECTORS

1.0 PURPOSE: The contact resistance test is performed to measure the resistance of the mated connector contacts by measuring the voltage drop across the contacts while they are carrying a specified current. The contact resistance of each connector point measured shall be as specified in the MIL-PRF-39012 Specification Sheet for connector type of the connector under test.

2.0 TEST SPECIFICATIONS:

2.1 MIL-PRF-39012, paragraph 3.16 and connector type specification sheet

3.0 TEST EQUIPMENT:

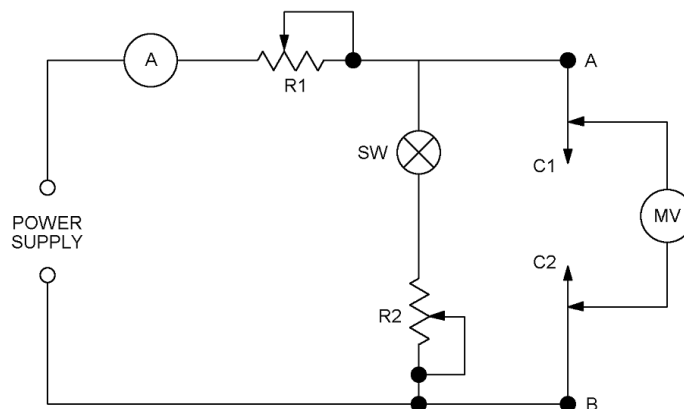
- 3.1 AC Power Supply
- 3.2 Millivolt Meter
- 3.3 Amp Meter
- 3.4 Electrical Switch
- 3.5 Two adjustable resistors

4.0 PROCEDURE:

- 4.1 See figure 1 for test set-up.
- 4.2 Measure resistance between the following points (at C1 & C2) using the steps below:
 - 4.2.1 Cable shield (or outer conductor) and the connector at the point of contact
 - 4.2.2 Mated outer conductor contacts (the coupling nut must be removed for this)
 - 4.2.3 Mated inner conductor contacts
- 4.3 Prior to connecting at C1 & C2, close switch SW and adjust R2 for a millivolt reading of 50 millivolts.
- 4.4 Connect contacts to be measured at C1 & C2 and mate them.
- 4.5 Verify that millivolt reading drops significantly prior to opening switch.
- 4.6 Open switch SW and adjust R1 for a circuit current of 1 Amp.
- 4.7 Measure the millivolt drop across the contacts and call this "e".
- 4.8 Compute the contact resistance using the following formula: $e \text{ (millivolts)} \div 1 \text{ (amp)}$.
- 4.9 Repeat test on the other two points listed.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

FIGURE 1



IMPEDANCE, VSWR, AND RETURN LOSS

RF CABLE ASSEMBLY

1.0 PURPOSE: To analyze the electrical characteristics of an RF cable assembly or RF connector.

2.0 TEST SPECIFICATIONS:

- 2.1 ANSI EIA-364-108
- 2.2 15025; Phoenix Logistics RF Acceptance Test Procedures
- 2.3 15028; Phoenix Logistics Network Analyzer Calibration Procedures
- 2.4 HP8510B Network Analyzer Operating and Programming Manual

3.0 TEST EQUIPMENT:

- 3.1 HP8510B Network Analyzer, or equivalent
- 3.2 HP8515 S-Parameter Tester Set, or equivalent
- 3.3 HP8340 B Synthesized Sweeper, or equivalent
- 3.4 HP7470A Plotter, or equivalent
- 3.5 AVNA-8510B Computerized Graphing Program, or equivalent
- 3.6 Various precision test adapters, as required

4.0 PROCEDURE:

- 4.1 Perform testing as prescribed in ANSI/EIA-364-108, utilizing the HP8510B Network Analyzer in accordance with internal RF Acceptance Test Procedure 15025 and the HP8510B Operating and Programming Manual.
 - 4.1.1 Each prescribed test included in the RF Acceptance Test Procedure 15025 details the following:
 - 4.1.1.1 Calibration procedure in accordance with HP8510B Operating and Programming Manual to characterize the test fixture so that when the test fixture plus the test specimen measurement is made, the characteristics of the test specimen alone can be accurately determined.
 - 4.1.1.2 Connector interface preparation and torque requirements for the test adapter and the test specimen connectors to ensure there is no introduction of false dynamics during the measurement.
 - 4.1.1.3 Specific test procedures detailing the test fixture programming, connections necessary, and analysis of measurement results for each type of test.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

INSULATION RESISTANCE

RF CABLE ASSEMBLY

1.0 PURPOSE: To measure the resistance offered by the insulating members throughout the assembly using DC voltage. The resistance shall be greater than 1000 M Ohms @ 500 VDC.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-202, Method 302, Test Condition B

3.0 TEST EQUIPMENT: Megohm-meter; Beckman L-8 or equivalent

**WARNING: HIGH VOLTAGE EXISTS DURING PROCEDURE THAT CAN CAUSE SHOCK.
DO NOT COME INTO CONTACT WITH SHIELD OR CONDUCTORS DURING TEST.**

4.0 PROCEDURE:

4.1 Connect one lead of the Megohm-meter to one connector body of the assembly and the other lead to the center contact. Set meter to 500 VDC.

4.2 Depress the meter "TEST" button. The Megohm-meter will indicate an initial low reading; then go up and indicate a steady reading.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

DIELECTRIC WITHSTANDING VOLTAGE

RF CABLE ASSEMBLY

1.0 PURPOSE: To ensure the assembly can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and other similar phenomena. During voltage application there shall be no arcing or breakdown between terminal points and leakage current shall not exceed 2.0 mA.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-202, Method 301, Test Condition B

3.0 TEST EQUIPMENT: Biddle AC Hypot Tester, Model #230315 or equivalent

WARNING: HIGH VOLTAGE EXISTS DURING PROCEDURE THAT CAN CAUSE SHOCK.
DO NOT COME INTO CONTACT WITH SHIELD OR CONDUCTORS DURING TEST.

4.0 PROCEDURE:

4.1 Connect one lead of Hypot to one connector body of the assembly and the other lead to the center contact.

4.2 Rotate "Voltage Control" clockwise to 500 VAC, 60 Hz signal slowly and at a uniform rate and maintain for 60 seconds; then return to zero.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

SURFACE TRANSFER IMPEDANCE

RF CABLE ASSEMBLY

- 1.0 PURPOSE:** To ensure the shielding effectiveness of an RF cable assembly. The surface transfer impedance shall conform to the specification of the RF cable assembly under test.
- 2.0 TEST SPECIFICATIONS:**
 - 2.1 15028; Phoenix Logistics Network Analyzer Calibration Procedures
 - 2.2 HP8510B Network Analyzer Operating and Programming Manual
- 3.0 TEST EQUIPMENT:**
 - 3.1 HP8510B Network Analyzer, or equivalent
 - 3.2 HP8515 S-Parameter Tester Set, or equivalent
 - 3.3 HP8340 B Synthesized Sweeper, or equivalent
 - 3.4 HP7470A Plotter, or equivalent
 - 3.5 AVNA-8510B Computerized Graphing Program, or equivalent
 - 3.6 Various precision test adapters, as required
 - 3.7 Transfer Impedance Test Fixture Chamber; see FIGURE 1
- 4.0 PROCEDURE:**
 - 4.1 Assemble an RF cable assembly test specimen measuring three feet.
 - 4.2 Referring to Figures 1, 2, and 3; install the test specimen into the test fixture chamber.
 - 4.3 Calibrate the HP8150 in accordance with procedure 15028 using S_{21} response through calibration 800 points, ramp.
 - 4.4 Attach test port one (1) to end A of the test specimen.
 - 4.5 Attach test port two (2) to end B of the test specimen.
 - 4.6 Press reference value -100 x 1 on the HP8510.
 - 4.7 Press response menu, averaging on/restart, 256, x1.
 - 4.8 When trace settles, press marker, more, max for reading; to be used in the below formula as "A"; typical reading should be -100dB.
 - 4.9 Calculate Surface Transfer Impedance using the following formula:

$$Z_{21} = 50 \left(\frac{1}{\text{LOG}_{10} \left(\frac{A}{20} \right)} \right) \div 2$$

Where:

Z_{21} = Surface Transfer Impedance in Milliohms per foot (For milliohms per meter, multiply Z_{21} by 3.1)

A = Reading from the 8510

- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

FIGURE 1

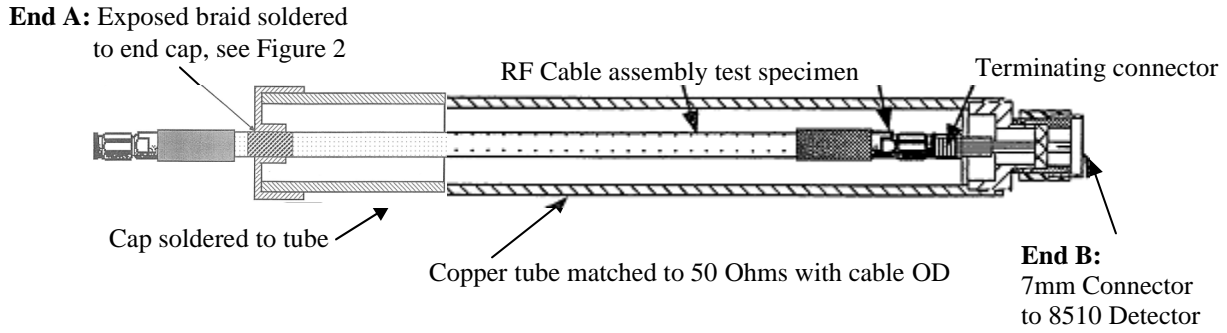


FIGURE 2

End A Detail

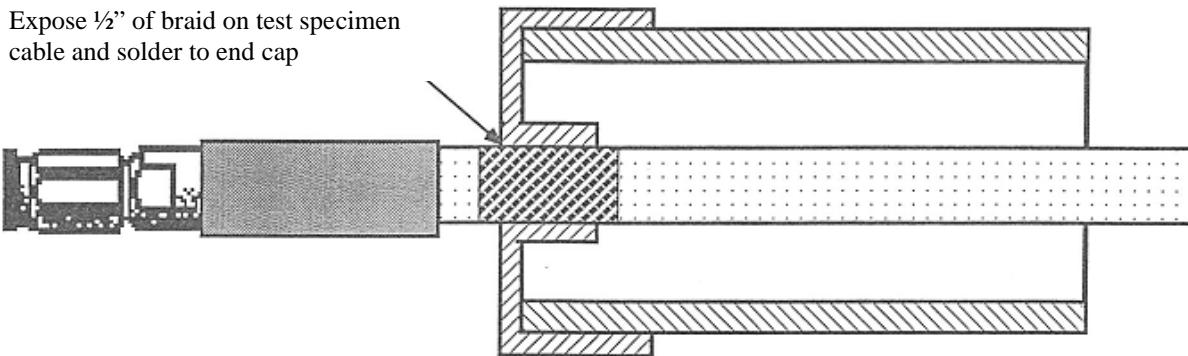
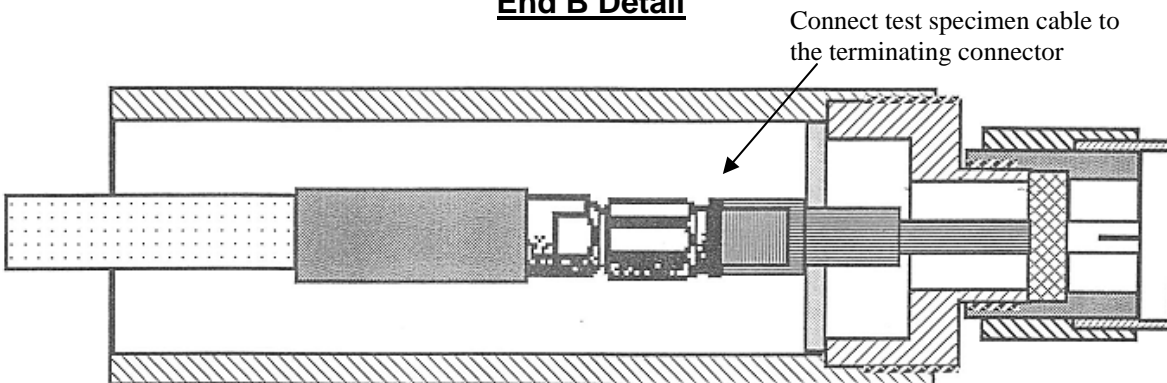


FIGURE 3

End B Detail



RF LEAKAGE

RF CABLE ASSEMBLY

- 1.0 PURPOSE:** To ensure the RF energy leaked by the RF cable assembly is within limits. The total RF leakage shall conform to the specification of the RF cable assembly under test.
- 2.0 TEST SPECIFICATIONS:**
 - 2.1 15028; Phoenix Logistics Network Analyzer Calibration Procedures
 - 2.2 HP8510B Network Analyzer Operating and Programming Manual
 - 2.3 15025; Phoenix Logistics RF Acceptance Test Procedures
- 3.0 TEST EQUIPMENT:**
 - 3.1 HP8510B Network Analyzer, or equivalent
 - 3.2 HP8515 S-Parameter Tester Set, or equivalent
 - 3.3 HP8340 B Synthesized Sweeper, or equivalent
 - 3.4 HP7470A Plotter, or equivalent
 - 3.5 AVNA-8510B Computerized Graphing Program, or equivalent
 - 3.6 Various precision test adapters, as required
 - 3.7 Dipole Probe
- 4.0 PROCEDURE:**
 - 4.1 Calibrate the HP8150 in accordance with 15028 for S_{21} Insertion Loss Measurement.
 - 4.2 Remove calibration connector from test port two (2) and replace it with the Dipole Probe.
 - 4.3 Press Ref. Value, 0, x1.
 - 4.4 Press Ref. Position, 0, x1.
 - 4.5 Press Scale, 10, x1.
 - 4.6 Attach test port one (1) to the test specimen.
 - 4.7 While watching the trace on the 8510, position the Dipole in close parallel proximity to the test specimen until the least negative dB reading is obtained.
 - 4.8 Press response menu, average after restart, 256, x1.
 - 4.9 Press smoothing, 5, x1.
 - 4.10 Plot trace and attach it to the following data sheet.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

X-RAY FLUORESCENCE

PLATED COMPONENTS

- 1.0 **PURPOSE:** To verify the composition and thickness of the component's finish meet the component specification requirements.
- 2.0 **TEST SPECIFICATIONS:**
 - 2.1 Component specification
- 3.0 **TEST EQUIPMENT:**
 - 3.1 X-Ray Fluorescence Spectrometer System
- 4.0 **PROCEDURE:**
 - 4.1 Subject a sample of (2) per lot, or as specified, to X-Ray Fluorescence Spectroscopy.
 - 4.2 Compare the XRF readings to the component's specification to verify the plating metal type is as specified by the component specification.
 - 4.3 Compare the XRF readings to the component's specification to verify the plating thickness is as specified by the component specification.
- 5.0 **RECORD DATA:** Document test results on the following data sheet or within an attached test report.

THERMAL SHOCK

RF CABLE ASSEMBLY

1.0 PURPOSE: To determine the effects on a component of sudden changes in temperature of the surrounding atmosphere. These effects may include cracking or rupture of materials due to sudden dimensional changes caused by expansion or contraction. There shall be no short circuits or electrical discontinuities greater than 1 microsecond during cycling and upon completion of cycling there shall be no evidence of functional damage.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-810, Method 503.5, Procedure I-C (Previously Method 503.1)

3.0 TEST EQUIPMENT:

3.1 Environmental Chamber of sufficient thermal capacity to meet temperature and test condition requirements

3.2 Oscilloscope, or equivalent

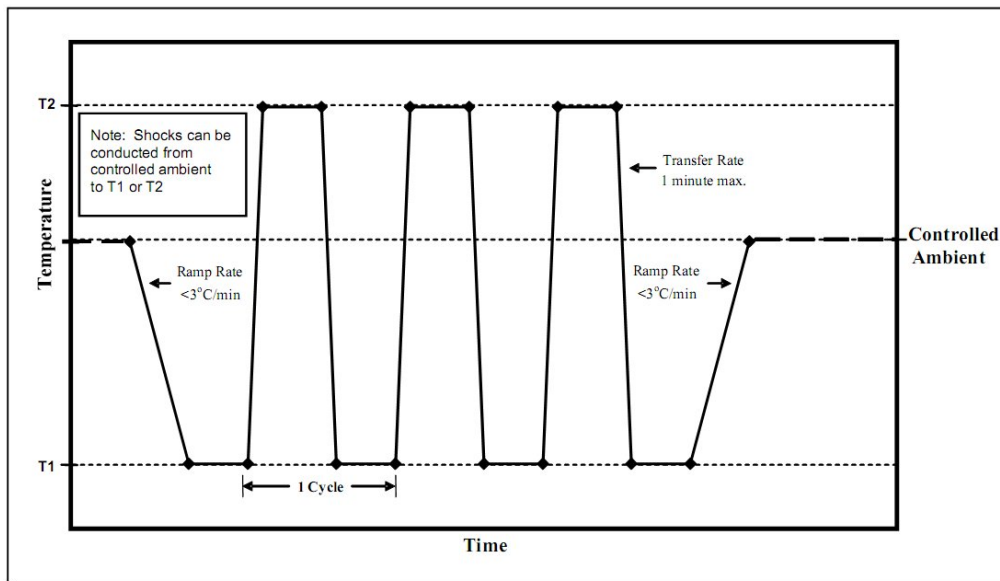
4.0 PROCEDURE:

4.1 Perform testing in accordance with MIL-STD-810, Method 503.5, Procedure I-C except the following:

4.1.1 Cycle test specimens five times between the temperature extremes of -94°C (-137°F) and $+135^{\circ}\text{C}$ ($+275^{\circ}\text{F}$), with a stabilization period at temperature of four hours minimum.

4.1.2 Monitor test specimens throughout test for short circuits or electrical discontinuities.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.



RANDOM VIBRATION

RF CABLE ASSEMBLY

- 1.0 PURPOSE:** To determine the ability of the assembly to withstand the dynamic stress exerted by random vibration applied between upper and lower frequency limits to simulate operating environments. Throughout the test there shall be no electrical short circuits or electrical discontinuities greater than 1 microsecond.
- 2.0 TEST SPECIFICATIONS:**
 - 2.1 MIL-STD-202, Method 204
- 3.0 TEST EQUIPMENT:**
 - 3.1 Vibration System
 - 3.2 Oscilloscope, or equivalent
- 4.0 PROCEDURE:**
 - 4.1 Mount assemblies to the vibration shaker in each of the three perpendicular axes.
 - 4.2 Subject assemblies to random vibration spectrum of + 6 dB per octave from 20 Hz to 100 Hz and 1.0 g²/Hz from 100 Hz to 2000 Hz in each of the three perpendicular axes for a duration of 7 minutes per axes.
 - 4.3 Monitor assemblies throughout the test for electrical shorts and discontinuities.
- 5.0 RECORD DATA:** Document test results on the following data sheet or within an attached test report.

MECHANICAL SHOCK

RF CABLE ASSEMBLY

1.0 PURPOSE: To determine the ability of the assembly to withstand applied mechanical shocks to simulate field environments. During testing there shall be no electrical short circuits or electrical discontinuities greater than 1 microsecond and following the test there shall be no evidence of functional damage.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-202, Method 213

3.0 TEST EQUIPMENT:

3.1 Shock Machine

3.2 Transducers; one for each assembly

3.3 Oscilloscope, or equivalent

4.0 PROCEDURE:

4.1 Perform testing in accordance with MIL-STD-202, Method 213, paragraph 3.1 Half Sine Shock Pulse per Figure 213.1 and test condition B of Table 213-1 except the following:

4.1.1 Subject assemblies to three half sine wave mechanical shocks of 75 G's. 11 + 1 millisecond half sine in each direction in three mutually perpendicular axes

4.2 Monitor assemblies throughout the test for electrical shorts and discontinuities.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

SALT ATMOSPHERE (CORROSION)

RF CABLE ASSEMBLY

1.0 PURPOSE: To determine the relative service life and behavior of metals or of protective coating-base metal combinations utilized within an assembly in marine and exposed seacoast environments.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-202, Method 101, Test condition B

3.0 TEST EQUIPMENT:

3.1 Salt chamber and chamber-heating means and controls

3.2 Salt solution delivery system

3.3 Means for humidifying the heated air within the chamber

3.4 Microscope

4.0 PROCEDURE:

4.1 Perform testing in accordance with MIL-STD-202, Method 101, Test Condition B with the following details:

4.1.1 Immediately following the test, wash the test specimens under running water as detailed in MIL-STD-202.

4.1.2 Following the washing, dry the test specimens in a circulating air oven at 38 +/- 3° C for a period of 12 hours

4.1.3 Following the drying, inspect the test specimens at 4X magnification minimum to ensure there is no exposed base metal or corrosion, discoloration is acceptable and a cause for failure.

4.1.4 Perform Electrical Performance testing per the Test Plan, record data and attach.

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report.

RADIOGRAPHIC INSPECTION

RF CABLE ASSEMBLY

1.0 PURPOSE: To detect internal physical defects which are not otherwise visible. These defects include but are not limited to improper positioning of elements, damaged or broken elements, poor workmanship, voids in potting compounds and presence of foreign or extraneous materials.

2.0 TEST SPECIFICATIONS:

2.1 MIL-STD-202, Method 209

3.0 TEST EQUIPMENT:

3.1 Radiographic Equipment

4.0 PROCEDURE:

4.1 Record radiographic images in each of the three axes; X, Y and Z.

4.2 Identify radiographic image records with the part number, lot number and serial number of specimen.

4.3 Examine the final image with suitable viewing equipment, which may include magnification, for any defects that may be present; such as but not limited to:

4.3.1 Improper positioning of elements that may allow inadequate internal electrical and mechanical clearances

4.3.2 Damaged or broken elements

4.3.3 Foreign or extraneous materials that can cause damage to insulation or electrical short circuit between elements

4.3.4 Poor workmanship such as incomplete solder or crimp connections, excess lengths of unsupported wires or raveled, frayed or broken wires or terminals

5.0 RECORD DATA: Document test results on the following data sheet or within an attached test report, attach radiographic records.