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Product Overview:

Data (Jun. 2012)	**RFCT – Radio Frequency Cable Test**

The RFCT is a portable test station whose mission is to determine whether the RF transmission lines under test meet the established pass/fail criteria for Voltage Standing Wave Ratio VSWR, Insertion Loss (IL), Insertion Loss Matching (ILM) and phase matching.

Fully qualified MIL-STD-810F and MIL-STD-461E the RFCT is suitable for applications who need to check the RF cable on local also in hard environment (Avionic Environment).

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Product Description:

RFCT – Radio Frequency Cable Test

Description:

RFCT System is a rugged advanced tester for parameters measurement on radio frequency cables present on aircrafts, it is composed by the following assemblies: AC/DC; BATTERY PACK, CONTROL PANEL; DISPLAY; PRECISION KIT; CPU-LVPS and VNA.

The AC/DC assembly is the main power supply provider of RFCT system, the converter topology is founded on a PWM, Current Mode Flyback that manages the required output power and provides isolation between the AC source and the Load. The mains input voltage is 100 to 242 Vrms, 47 to 63 Hz (without range switch), Pout up to 100W and Vout range from 24 to 28Vdc.

Battery pack provides power supply if AC line is disconnected, it is designed to be used in military application and to be rechargeable, in compliance to MIL-PRF-8565, DOD-B-24541, MILPRF-49450, DOD-STD-1578, W-B-133, or SAE J537.

Battery pack cell chemistry is Lithium Iron Phosphate, it is designed in accordance with NAVSEA S9310-AQ-SAF-010. Battery pack nominal voltage is 3,2Vdc is protected against overvoltage, undervoltage, overcurrent and overtemperature. One pushbutton on the front panel allows to check the good functionality and three LEDs show state of charge, one Led shows Fail, and the last one the Charge Mode.

The Control Panel is an assembly designed to interface RFCT to operator, it is composed by pushbutton to turn-ON / turn-OFF the device, USB to connect external media device (pendrive) or other and leds for a general and immediately vision of the basic status of system, like the report of each assembly fail, line presence, over temperature and battery pack status.

Display assembly is equipped with the VarTech's 10.4" LCD equipped with touch screen. It's an All-Weather, All-Terrain, Harsh-Duty LCD Display and is waterproof (fully submersible) and engineered to withstand the harshest environments and most demanding real world applications.

The Precision Kit contains a precision reference circuit required to calibrate the Anritsu Vector Network Analyzer System for a 12-term error-corrected measurement.

The CPU-LVPS Assembly is the point of coordination of RFCT system, composed by one CPU Coremodule745 and a SSD IFD is powered by the DC/DC sections using the 28Vdc from AC/DC or the 18Vdc from battery pack section. CPU-LVPS assembly manages also the charge /discharge cycle of battery pack.

The VNA assembly is a flight line cable tester with a full frequency range (10 MHz ÷ 26.5GHz). This equipment is made by the ANRITSU instruments and its enclosure has designed to meet the avionic specifications requests by this application.

Key Specifications:

- Rugged military grade tester for RF aircrafts cables
- Extended range power input 100÷242V 47÷63Hz
- Equipped with Battery pack to work even if the AC line is disconnected, in compliance with MIL-PRF-8565, DOD-B-24541, MILPRF-49450, DOD-STD-1578, W-B-133, or SAE J537
- Vectorial Network Analyzer tester with a full frequency range (10MHz ÷ 26.5GHz) by ANRITSU enclosured to meet the avionic specifications
- Touch screen All-Weather, All-Terrain, Harsh-Duty LCD 10.4" display waterproof (fully submersible)
- Operating temperature [-40 ÷ +120]°F storage [-60 ÷ +160]°F
- Operating Altitudine 10.000ft, Non operating 40.000ft
- IP Grade 65 sand/dust and water isolation
- Fully qualified MIL-STD-810G and MIL-STD-461F
- CE Directive 94/9/EC (ATEX) - Group II/Gas/Zone 2
- Dimensions (h x l x d) 12x19x19 (in)
- Weight 48 (lb)

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INPUT POWER
100÷242Vrms 47÷63Hz
100VA max

EMI
Compliant to
MIL-STD-461F:
CE102, RE102, RE103
CS101, CS114, CS115, CS116,
RS103
MIL-STD-1686
ESD tests for RTCA/DO-160D

TEMPERATURE
[-40 ÷ +120] °F operating
[-60 ÷ +160] °F non operating

COOLING
Free air

ENVIRONMENT PROTECTION
Full ruggedizing
Conformal coating

SHOCK & VIBRATION
MIL-STD-810G:
Half sine 30g 6ms over three axis
0÷2kHz transport levels

HUMIDITY
MIL-STD-810G:
5÷95% (120°F) operating
100% [60÷160]°F non operating

SALT FOG
MIL-STD-810G method 509.4

MTBF
6.755 MIL-217F
Naval Unsheltered at 30°C

INDICATORS
Power presence
System status
Battery Charge Status
Sub-module Fail

CONNECTOR
D38999
USB

DIMENSIONS (h x l x d)
12 x 19 x 19 (in)

WEIGHT
48 lb

COMPLIANCE
CE Directive 94/9/EC (ATEX) -
Group II/Gas/Zone 2