Overview

Northrop Grumman’s Cosite Mitigation Device for Ground Platforms (CMD-G) is a Line Replaceable Unit (LRU) that is an accessory for Joint Tactical Radio System (JTRS) Cluster 1 Joint Tactical Radio (JTR).

The CMD-G mitigates the interference between three VHF radios and combines the three radio inputs into a single transmit antenna and a single receive antenna.

The CMD-G contains two major sections, the Transmit Section and the Receive Section. The RF Channel Ports are split into separate transmit and receive signal paths. The transmit path is routed to one of the tunable band pass filters. The signal routing is controlled by the Controller, which sends signals to the PIN Diode Driver switches. Up to three transmit signals are routed to the common transmit antenna port.

A sample of the transmit signal is routed to an interference canceller in the receive section. This signal is then summed with the desired receive signal, removing the transmitted interference. Up to two transmitting signals are handled in a similar manner. The Receive Section also contains a low noise amplifier and a receive distribution splitter. An internal power supply converts the incoming DC voltage to the required regulated supply voltages. Built-in-test signals are generated and monitored in each stage supplying constant status information during operation and off-line testing and fault isolation.

Key Features

- Developed on JTRS GMR program
- Antenna reduction
  - Enables three JTRS radios to operate with one dual port antenna using low loss reactive combining
  - Enables three JTRS radios to operate with two standard antennas
- Extends range
  - Cosite mitigation provided by high power transmit filters and interference cancellers for the receivers
- Small size and weight
Cosite Mitigation Device – Ground

**Specifications and features subject to change without notice.**

### Electrical
- **Frequency Range**: 30,000 - 87.975 MHz
- **Number of Channel**: 3
- **Power Handling (Max per input)**: +50 dBm + 1 dB
- **Ch to Ch isolation @ 5%**: 20 dB
- **Transmit Insertion Loss**: 3 dB + 0.5/-2.0 dB
- **Receive Noise Figure**: <9 dB
- **Receive Gain**: 8 dB + 2 dB
- **Receive Max. Input Level Operational**: +19 dBm
- **Receive Max. Input Level No Damage**: +34.5 dBm
- **Transmit to Receive Isolation**: >70 dB
- **Receive Cancellation**: >35 dB
- **Transceiver Connector (3)**: TNC Jack
- **Transmit Antenna Port Connector**: TNC Jack
- **Receive Antenna Port Connector**: TNC Jack
- **Radio Control Connector (3)**: MIL-C-38999
- **Power Connector**: MIL-C-38999

### Environmental
- **Temperature (Operational)**: -40 C to +55 C
- **Power, 28 VDC**: MIL-STD-1275

### Physical
- **Size**: 8.00" H x 10.5" W x 13.75" L
- **Weight**: <50 lbs
- **Power**: 125 Watts

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