

THREE-LINK SOFTWARE-DEFINED RADIO (SDR) CHASSIS

19-inch standard rack mount Line Replaceable Unit (LRU) supports up to three separate Line-of-Sight (LOS) or SATCOM datalink Compact Multiband Data Link 2 (CMDL™ 2) modems.

This single rack unit enclosure supports up to three separate data links using L, S, C, or Ku bands for LOS Radio Frequency (RF) equipment interface and L-band for SATCOM earth station interfaces. The Bandwidth-Efficient Common Data Link (BE-CDL) waveform on each hosted modem supports both LOS communications and communications over commercial geostationary satellites such as SES and Intelsat.

PRODUCT DESCRIPTION

The three-link SDR chassis enclosure supports CMDL 2 modems for both LOS and SATCOM use. Earth terminals such as the 6.3-meter Permanent Ground SATCOM Terminal (PGST) use the L-band interface. Several earth terminals at a teleport location each use one modem per datalink. The chassis modem drawer supports up to three CMDL 2 modems which are individually line-replaceable without impacting the other installed modems or the drawer. The drawer hosts CMDL 2i modems with AES-256 encryption as well as CMDL 2c modems for coalition partners and CMDL 2e modems

for Five Eyes (FVEY) customers with high assurance encryption. The drawer features separate external interfaces for Link 1, Link 2, and Link 3, including link-specific on/off power switches and DS-101 cryptographic key interfaces for CMDL 2e or CMDL 2c. The drawer features shared external interfaces to “hold” all cryptographic keys on power down, a “zeroize” button for all cryptographic keys, and a software-enabled cryptographic bypass for all links. The drawer includes internal interfaces for two replaceable C batteries which provide hold-up power for cryptographic keys and modem clocks when the modem is not powered.



Front view



Supports Three
LOS/SATCOM-Capable
CMDL 2 Modems¹

KEY FEATURES

Enclosure provides:

- > Compact modem packaging suitable for earth terminal equipment shelters
- > Standard 1U rack-mount enables installation near other rack-mount equipment such as Ethernet routers and RF Switch Matrix
- > Convenient external interfaces for up to three datalinks
- > Self-cooling fans suitable for conditioned equipment shelter environment
- > Modems and batteries are line-replaceable
- > View windows for visual verification of installed modems

CMDL 2 modems provide:

- > Proven datalink performance
- > Support full-motion video, metadata and other sensor data
- > Wide choice of waveforms and data rates
- > Ethernet user interface
- > Transmit output power of +8.5 dBm

1. Sold separately

SPECIFICATIONS

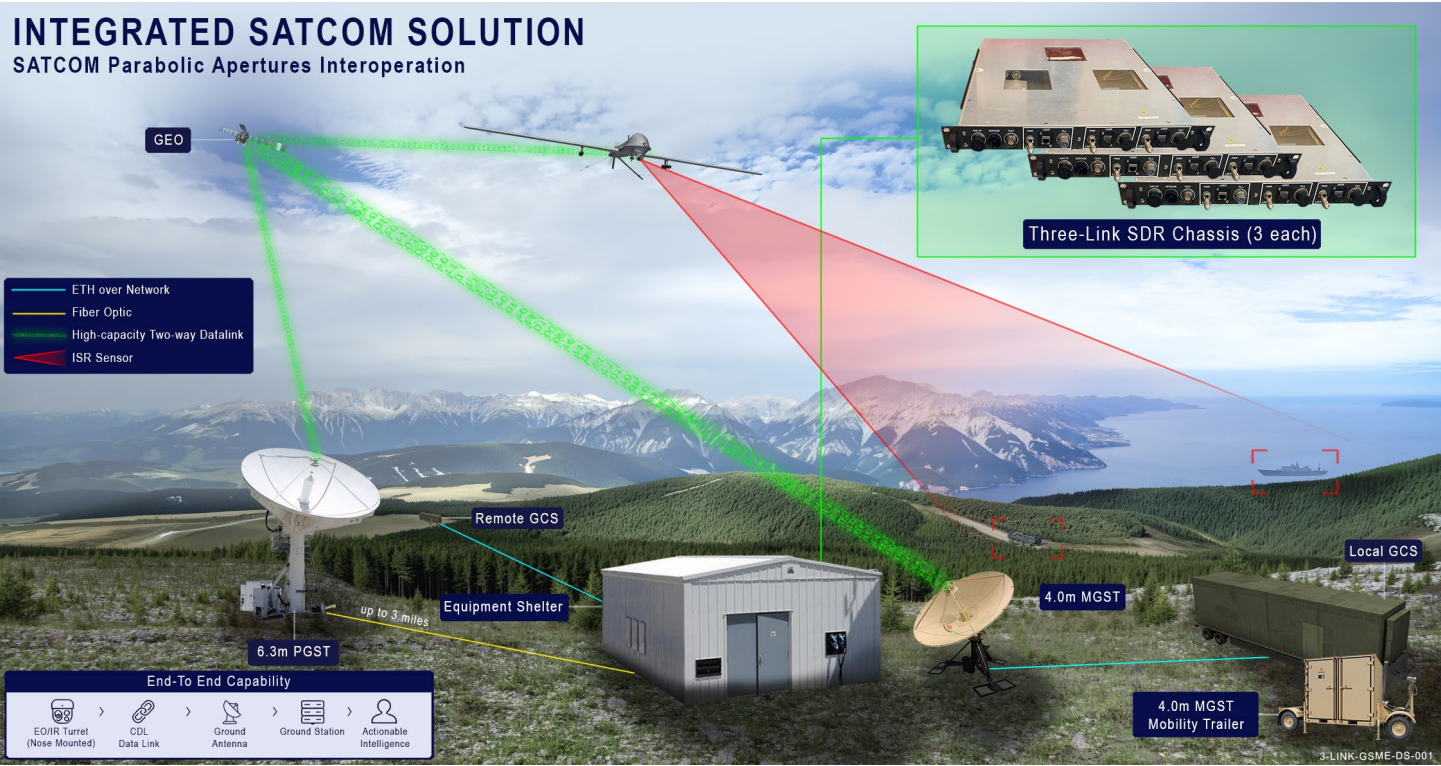
PHYSICAL CHARACTERISTICS	
Enclosure SWaP	
Size	1.75" (H) x 19" (W) x 18" (D) 4.4 cm (H) x 48 cm (W) x 46 cm (D)
Weight	9 lb. (4 kg)
Power	22 to 29 VDC

MODEM ENVIRONMENTAL CAPABILITIES (MODEMS SOLD SEPARATELY)	
Environmental	
Operational Altitude	MSL up to 50,000 ft.
Shock/Vibration	MIL-STD-810
Temperature	-40°C to 71°C, operating
EMI	MIL-STD-461

INTERFACES	
Control Interfaces	> KLV > Web-based GUI
External Interfaces	> Gigabit user Ethernet (3) > Crypto key fill (3) > Power on-off (3) > L-band Tx/Rx (3) > Zeroize button > Power input

MODEM SECURITY (MODEMS SOLD SEPARATELY)	
Encryption	> High assurance > AES encryption

MODEM PERFORMANCE CHARACTERISTICS (MODEMS SOLD SEPARATELY)	
Waveforms	
Std-CDL/STANAG-7085	Up to 44.73 Mbps (LOS)
BE-CDL	Modes 1-15, 101-105 up to 45 Mbps (LOS/SATCOM)
Tactical	1.6, 3.2, 6.4 (LOS/SATCOM)
466ER	LOS
Analog FM	Transmit only (LOS)
IW	0.75, 1.5, 3, 6, 12, 24, 42 Mbps (LOS)
DDL	Receive only (LOS)
VNW	Up to 5 Mbps (LOS)



GCS - Ground Control Station
GEO - Geostationary Satellite
MGST - Mobile Ground SATCOM Terminal
PGST - Permanent Ground SATCOM Terminal

Three-link Software-Defined Radio Chassis

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