



RF Over Fiber Systems

L-Band HTS RF over Fiber Link

50 Ohm CWDM L-Band HTS

- Up to 50km
- L-Band HTS (700-2450MHz)
- Up to 16 channels in a single fiber
- 65dB dynamic range for 500MHz traffic
- 13/18V and 22KHz tone LNB option
- Blind mate option
- Standard 5-year warranty



ViaLiteHD L-Band HTS CWDM fiber optic links use coarse wavelength division multiplexer (CWDM) lasers and have been designed for the satellite industry to transport RF signals between antennas and control rooms, where reducing fiber count is key.

Due to the very wide dynamic range, the same link can be used in both the transmit and receive paths, over the same fiber. This dynamic range allows High Throughput Satellite (HTS) transponder bandwidths of 500MHz, 800MHz or even 1500MHz to be transported, as well as multiple standard 36MHz transponders.

The chassis cards are available with the ViaLiteHD blind mate option, which allows all cables to be connected at the rear of the chassis when installed. It also allows any configuration changes to be completed without disturbing the connections and very fast changeover of cards; enabling five 9s reliability.

OPTIONS INCLUDE

- 50Ω electrical connectors: BNC, F-Type and MCX
- Optical connectors: SC/APC, LC/APC, FC/APC and E2000/APC
- Test ports on Tx and Rx modules
- Built-in BiasT for LNB powering through RF connection
- LNB control circuit with 13/18VDC and 22kHz tone
- Blind mate connectivity (SC/APC and SMA)
- Serial digital channel to 20kb/s on same optical path

APPLICATIONS

- Fiber count reduction
- Fixed satcom earth stations and teleports
- Broadcast facilities
- Mobile SNG, military and flyaways
- VSAT hubs (IP gateways)
- Marine antennas
- Telemetry, Tracking and Command (TT&C)
- Oil and gas platforms
- Television Receive-Only (TVRO)

FORMATS

- 3U Chassis
- 1U Chassis
- Blue OEM
- Yellow OEM
- Outdoor enclosures

RELATED PRODUCTS

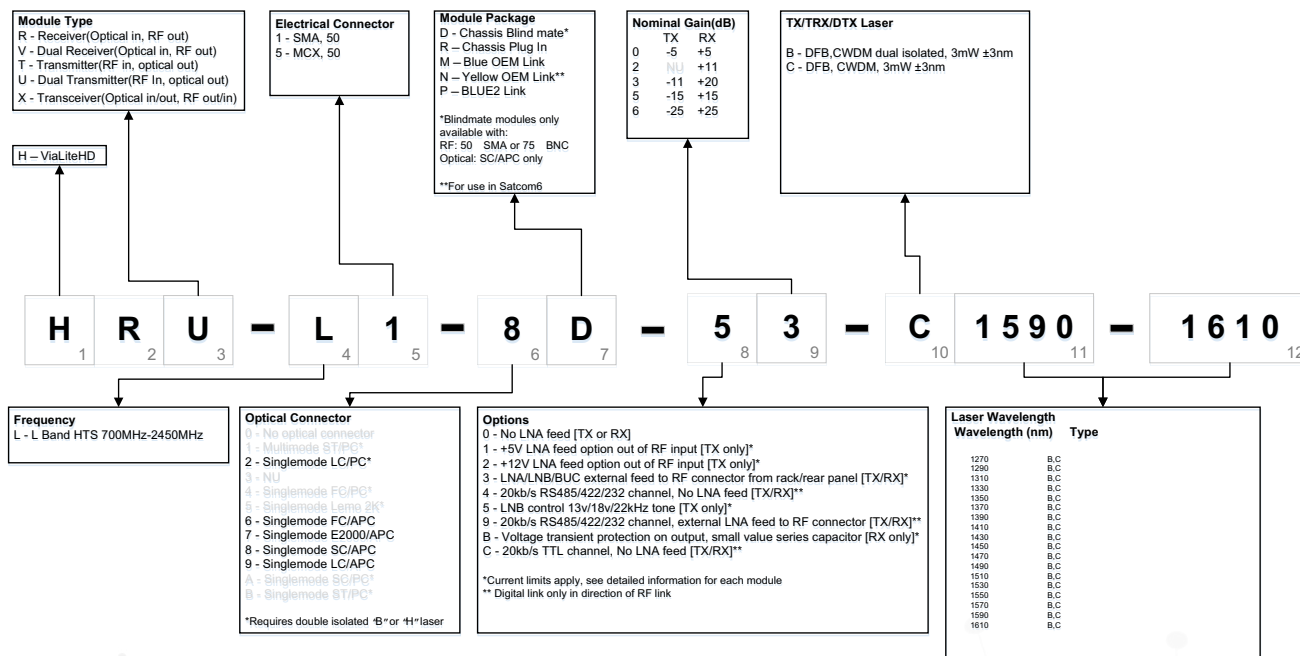
- 50km L-Band HTS
- 75 Ohm CWDM L-Band HTS
- HTS 100km+ systems
- DWDM links





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PRODUCT CONFIGURATOR



POPULAR PRODUCTS

HRT-L1-6R-53-C1610

L-Band HTS (700-2450MHz) chassis plug-in transmitter with built-in LNB power, 50 ohm BNC and SC/APC connectors

HUR-L1-8D-33-C1530-1550

L-Band HTS (700-2450MHz) dual chassis plug-in transmitter with built-in BiasT, 50 ohm BNC and SC/APC blind mate connectors

HRR-L1-8D-03

L-Band HTS (700-2450MHz) chassis plug-in receiver with 50 ohm BNC and SC/APC connectors

HRV-L1-8D-03

L-Band HTS (700-2450MHz) dual chassis plug-in receiver with 50 ohm F-Type and SC/APC blind mate connectors

HRX-L1-6R-33-C1510

L-Band HTS (700-2450MHz) Blue2 Link transceiver with 50 ohm SMA and FC/APC connectors

HRR-L1-8N-03

L-Band HTS (700-2450MHz) Yellow OEM receiver with 50 ohm SMA and SC/APC connectors

RF PARAMETERS FOR POPULAR LINK GAINS

Links	TX Gain	Rx Gain	Link Noise Figure (Default Tx Gain)	Link Noise Figure (Max Tx Gain)	Link P1dB (Default Tx Gain)	Link P1dB (Max Tx Gain)
HRT-L1-xx-x3-C1610 & HRR-L1-xx-x3 (9dB Gain Link)	-11dB (+7.5/-8dB)	+20dB (+7.5/-8dB)	20dB	12.5dB	-1dBm	-8.5dBm
HRT-L1-xx-x5-C1510 & HRR-L1-xx-x5 (Unity Gain Link)	-15dB (+11.5/-4dB)	+15dB (+7.5/-8dB)	24dB	12.5dB	+3dBm	-8.5dBm
HRT-L1-xx-x6-C1530 & HRR-L1-xx-x6 (High P1dB Unity Gain Link)	-25dB (+5/-10.5dB)	+25dB (+7.5/-8dB)	34dB	29dB	+13dBm	+9dBm





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TECHNICAL SPECIFICATION

Transmitter	HRT-L1-8D-33-C1610 (example)
Receiver	HRR-L1-8D-03 (example)
Frequency range	700-2450 MHz
Impedance, RF connector	50Ω SMA, blind mate
VSWR	1:1.5 (typ)
Link gain (Tx gain / Rx gain), default	+9 (-11 / +20) dB (nom) ^a
Tx gain adjustment range	15.5 dB (typ)
Tx gain adjustment from default gain	-8.0 to +7.5 dB (typ)
Rx gain adjustment range	15.5 dB (typ)
Rx gain adjustment from default gain	-8.0 to +7.5 dB (typ)
Gain adjustment step size Rx and Tx	0.5 dB (typ)
Flatness, fullband	±1.2 dB (max) ^{a,h} ±0.5 dB (typ) ^{a,h}
Flatness, 36MHz	±0.2 dB (typ) ^a
Gain stability over temperature range	±3 dB (max) ^a
Gain stability	0.25 @ 24 hrs dB (typ)
Nominal input signal / output signal	-20 / -20 dBm
IMD @ nominal output power	-61 dB (typ) ^c
CNR @ nominal input power, 36MHz	57 dB (typ) ^b
P1dBinput	-1 dB (typ) ^{a,k}
P1dBinput, at minimum Tx gain	0.5 dB (typ) ^{a,k}
IP3input, at default gain	11 dB (typ) ^{a,k}
Noise figure, at default gain	20 dB (typ) ^{a,k}
Noise figure, at maximum Tx gain	13 dB (typ) ^{a,k}
Noise figure, 5dB optical loss	26 dB (typ) ^{c,k}
SFDR	110 dB/Hz ^{2/3} (typ) ^a
Test port gain, transmitter	-20 dB (typ) ^l
Test port gain, receiver	-20 dB (typ) ^l
Test port flatness	±1 dB (typ) ^l
Maximum input power (without damage)	15
LNB power	External 0-28V @ 350mA from chassis power connector
Power consumption Tx	1.9 W (typ)
Power consumption Rx	1.3 W (typ)
Optical connector	SC/APC, blind mate
Optical wavelength	1270-1610 ± 3 nm
Laser type	DFB (Distributed feedback) laser
Optical power output	4.5 dBm (typ)
Summary alarm output	Open drain alarm: OPEN: Alarm, CURRENT SINK: okay
Operating temperature range	-10°C to +50°C
Storage temperature range	-40°C to +70°C
Humidity	95% non-condensing humidity RH



- ^a Nominal input power @ 0dB optical loss
 - ^b Nominal input power @ 1dB optical loss
 - ^c Nominal output power @ 5dB optical Loss
 - ^h Default gain setting
 - ^k Measured @ 1.2GHz
 - ^l Relative to rear port @1.2GHz
- All tests @ 25°C after 15 minutes warm up





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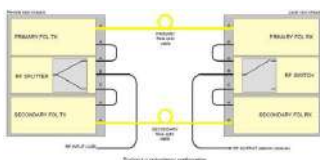
ACCESSORIES

SNMP/Web Browser Card



- Easy to use graphical user interface (GUI)
- Real time monitoring of card performance
- Alarm monitoring and event logging
- Control of gain adjustment
- Compatible with all ViaLiteHD rack chassis and cards
- Easy integration with network management systems (NMS) using management information base (MIB) tables
- Actively manage redundancy switching
- New RF cards can be automatically reprogrammed with the previous card parameters
- Remote SNMP to local SNMP connection via optical fiber
- Provides remote LAN 10/100 Ethernet link

Dual Redundancy



- 1:1 redundancy for L-Band
- Maximises link up-time
- Can be used to backup copper coax
- Manual and automatic control via SNMP
- Flexible configuration options
- Other redundancy options available

Rack Chassis



- 3U accepts up to 13 RF or Support cards, plus an SNMP card and dual power supplies
- A 1U chassis accepts up to 3 RF or Support cards or 2 cards and an SNMP card (with dual power supplies)
- Up to 26 channels per 3U chassis (using dual RF cards) - reducing the amount of rack space required
- Blind mate option
- All modules hot-swappable and auto-reconfigure with SNMP option
- On-card LNB and BUC power options
- Power fed through rear chassis connector to card Bias Tees
- System can be monitored and controlled remotely via SNMP using a web browser

Outdoor Enclosures



- CE approved and EMC compatible
- IP rated and NEMA approved
- Plug and play format
- Suitable for harsh environments
- All modules hot swappable
- Dual redundant power options
- Interface for monitor and control (M&C) systems

