



## 100km L-band fiber optic link

- **Up to 100km link distance**
- **Optional DWDM – up to 80 links per fiber**
- **Superior linearity and low noise**
- **Ultra-wide dynamic range**
- **LNB/BUC power and on-module LNB switching options**

## Long Distance Satcom Technology

The **ViaLiteHD** long distance L-Band link is designed to connect antennas directly to control rooms up to 100km away. Using amplification stages and dispersion compensation, a total distance of 270km is possible.

- very low noise design
- extremely linear performance
- ultra-wide dynamic range
- manual, soft or automatic gain control



### Options:

- 50Ω electrical connectors: SMA, MCX or BNC
- 75Ω electrical connectors: BNC, MCX or F-type
- Optical connectors: SC/APC or FC/APC
- Test ports on Tx and Rx modules
- LNB powering through RF connection
- Rack card or Edge OEM module
- Optional blind-mate connectivity
- LNB control circuit with 13/18VDC & 22kHz tone

**ViaLiteHD** fiber optic links are available as chassis mounted cards, small form factor modules and Edge OEM modules.

A fully populated 19" 3U **ViaLiteHD** chassis supports up to 26 links and accepts 13 RF and accessory cards plus an SNMP card and dual power supply modules. A 1U chassis accepts three RF cards or two RF cards plus an SNMP card. m-Link modules offer a compact, single link solution and Edge OEM modules allow system integrators and equipment manufacturers to build RF/optical interfaces into their own design.

A range of support modules and accessories including indoor chassis equipment and weatherproof outdoor enclosures are also available in the **ViaLite** range.



## RF Performance Characteristics

	L-band link (50Ω)	L-band link (75Ω)
Transmitter	HRT-L1-8R-59-ECxx	HRT-L3-8R-59-ECxx
Receiver	HRR-L1-8R-33	HRR-L3-8R-35
Frequency range	950-2150MHz	
Impedance, RF connector	50Ω SMA, blind-mate	75Ω BNC, blind-mate
VSWR	1:1.5(typ)	
Link gain (TX gain / RX gain / Fiber)	-24 (0 / +20 / -44) <sup>a h</sup>	-29 (0 / +14 / -44) <sup>a h</sup>
Flatness (36MHz, 100km, no DCF)	±0.3dB (typ) <sup>a h</sup>	
Gain stability	0.25 @ 24hrs dB (typ)	
P1dB <sub>input</sub>	+1dBm (typ) <sup>a k</sup>	+2dBm (typ) <sup>a k</sup>
IP3 <sub>input</sub>	+13dBm (typ) <sup>a k h</sup>	+14dBm (typ) <sup>a k h</sup>
Noise figure (with 100km of fiber)	49.5dB (typ) <sup>a k</sup>	
SFDR (with 100km of fiber)	92dB/Hz <sup>2/3</sup> (typ) <sup>a</sup>	
Max RF input power without damage	5dBm	
<sup>a</sup> nominal input power @ 0dB optical loss <sup>h</sup> default gain setting <sup>k</sup> measured @ 1.2GHz		

## Optical Performance Characteristics

	L-band link
Laser type	High power distributed feedback (DFB) laser
Optical wavelength	1559nm. Full ITU range of wavelengths are available
Optical power output	10.8dBm (typ)

## Temperature Characteristics

	L-band link
Operating temperature	-20degC to +70degC
Storage temperature	-40degC to +85degC

## Part Numbering

**H R T - L 1 - 8 R - 5 9 - E x x x**

**Module Type**  
R: Receiver  
T: Transmitter

**ITU-T G.694.1  
Channel Number**  
e.g. C33

### Electrical Connector

- 50Ω SMA (standard)
  - 75Ω F-type
  - 75Ω BNC
  - 50Ω BNC
  - 50Ω MCX<sup>1</sup>
  - 75Ω MCX<sup>1</sup>
- <sup>1</sup> Edge modules only

### Optical Connector

- FC/APC
- SC/APC (standard)

### Module Package

- rack card
  - rack card blind mate<sup>2</sup>
  - Edge OEM module
- <sup>2</sup> 50Ω SMA or 75Ω BNC (electrical) and SC/APC (optical) connectors only

### LNA Feed Options

- (transmitter only, receiver=0)
- No LNA feed
  - LNA feed (standard)
  - LNB control 13/18v/22kHz tone<sup>3</sup>
- <sup>3</sup> Tx rack cards only

### Gain Options

- Rx=+20dB (standard Rx)
- Rx=+14dB
- Tx = 0dB (standard Tx)

## Mechanical Dimensions

