

L Band Fiber Optic Interfacility Link

- **Superior linearity and low noise performance**
- **High spurious free dynamic range (SFDR)**
- **Transmission distances of >50km**
- **LNB/BUC power and on-module LNB switching options**
- **50Ω and 75Ω impedance options**
- **SNMP interface for remote monitoring, system programming and control**
- **Suitable for multiple carrier up or down links**
- **26 channels per chassis using dual transmitter, receiver or transceiver cards**
- **High power and dual isolated versions for high-end applications**

Advanced Satcom Technology

The **ViaLiteHD** range of fiber optic links connect antennas with control rooms, network operation centres or broadcast head ends.

ViaLiteHD links offer more than an alternative to coaxial cabling in teleport earth stations. They have been designed to provide very low carrier-to-noise ratio and extremely linear performance. This means a cost effective, technically superior installation for the Satcom user. **ViaLiteHD** systems have been engineered to give industry leading performance when compared with any other fiber optic link. **ViaLiteHD** links have ultra wide dynamic range and manual, soft or automatic gain control settings to cope with changing signal intensity caused by meteorological conditions. The transmitter features a high performance DFB laser as standard, while dual isolated and high power versions are available for high-end applications.



Specifications include:-

- Connectors: 50Ω SMA, MCX, (BNC) and 75Ω BNC, MCX (F-Type)
- Optical connectors: SC/APC (LC, FC & E2000 options)
- 1310/1550nm and ITU CWDM wavelengths (16 channels available)
- Test ports on L Band Tx and Rx modules
- LNB powering through RF connection
- OEM and Edge OEM small format modules available (seen on left).

Options include:-

- Blind-mate optical and RF connectivity (SC/APC and SMA/BNC only)
- LNB control circuit with 13/18VDC & 22kHz tone
- Serial digital channel to 20kb/s on same optical path.

The **ViaLiteHD** system comprises up to 13 rack mounted signal cards, an SNMP or summary alarm card, and dual power supply modules, in a 19" 3U chassis. A 19" 1U chassis is available that accepts 3 signal cards or 2 signal cards with an SNMP card. Accessory cards include; 10MHz reference, redundancy & protection switch, splitter, amplifier, diplexer and local frequency oscillator (5, 10, 13 & 20MHz).

RF Performance Characteristics

	Common Parameters	Transmitter (S) DFB Laser	Transmitter (H) Dual Isolated DFB Laser*	Transmitter (P) High Power DFB Laser**	Receiver
Frequency Range	950 - 2150 MHz				
Flatness (50Ω)		± 1.2 dB (max) ^a ± 0.50 dB (typical) ^a ± 0.20 dB in any 36 MHz ^{at}	± 1.2 dB (max) ^a ± 0.50 dB (typical) ^a ± 0.20 dB in any 36 MHz ^{at}	± 1.25 dB (max) ± 0.60 dB (typical) ± 0.25 dB in any 36 MHz ^{at}	± 1.2 dB (max) ^a ± 0.50 dB (typical) ^a ± 0.20 dB in any 36 MHz ^{at}
Gain Stability	0.25 dB over 24 hrs.				
VSWR	1:1.5 ¹	1:1.5 ¹	1:1.5 ¹	1:1.5 ¹	1:1.5 ¹
IMD 50Ω (75Ω)		-60 dBc ^{1c} (-50 dBc ^{1c})	-60 dBc ^{1c} (-50 dBc ^{1c})	-77 dBc ^{1c} (-67 dBc ^{1c})	-60 dBc ^{1c} (-50 dBc ^{1c})
CNR 50Ω (75Ω)		57 dB ^{1b} (56 dB ^{1b})	57 dB ^{1b} (56 dB ^{1b})	58 dB ^{1b} (56.5 dB ^{1b})	57 dB ^{1b} (56 dB ^{1b})
Tx RF Input Signal Range (Ideal) Rx Output signal range		-70dBm to -5dBm (-10dBm)	-70dBm to -5dBm (-10dBm)	-70dBm to 0 dBm (-10dBm)	(-60 to 10dBm)
Operating Voltage (Power consumption)	12VDC +/- 3VDC	(1.9W)	(1.9W)	(2.4W)	(1.3W)
RF Gain (Adjustment range - typical)	RF Link gain = 9 dB ^a (3 dB ^a for 75Ω)	-11 dB ^a (+7.5 to -8.0)	-11 dB ^a (+7.5 to -8.0)	-11 dB ^a (+7.5 to -8.0)	20 dB ^a (14 dB ^a for 75Ω) (+7.5 to -8.0)
AGC Range (Signal hold)		15.5dB	15.5dB	15.5dB	15.5dB
Input IP3		11 dBm ^{1c}	11 dBm ^{1c}	13.5 dBm ^{1c}	
Input P1dB		-1 dBm	-1 dBm	1.5 dBm	
Noise Figure (@ max gain)		20 dB ^{1a} (13 dB ^{1a})	20 dB ^{1a} (13 dB ^{1a})	19 dB ^{1a} (13 dB ^{1a})	
SFDR		110 dB Hz 2/3 ^{1b}	110 dB Hz 2/3 ^{1b}	112 dB Hz 2/3 ^{1b}	

^a nominal input power @ 0 dB optical loss. ^b nominal input power @ 1 dB optical loss. ^c nominal output power @ 5 dB optical loss. ^d 0dB variable gain offset. ¹ typical. Test I/O power = -20dBm *Use dual isolated laser when flat polished (PC) connectors feature in the optical path **High power laser for long haul/high performance applications (Ultra spec in Q4 11)

Optical Performance Characteristics

	Transmitter (S) DFB Laser	Transmitter (H) Dual Isolated DFB Laser*	Transmitter (P) High Power DFB Laser**	Receiver
Laser Type	DFB	Dual Isolated DFB	High Power Dual Isolated DFB	N/A
Optical Wavelength	1310 nm ± 20 nm (1550nm/CWDM options)	1310 nm ± 20 nm (1550nm/CWDM options)	1310 nm ± 20 nm	Wavelength independent
Optical Power Output (Rx – Input Power Range)	4.5 dBm (nominal)	4.5 dBm (nominal)	9dBm (nominal)	(7dBm Max)
Optical Link Budget	10dB	10dB	16dB	

Part Numbers and Options

