

ViaLiteHD[®] – IF 70/140 MHz Link

IF 70/140 MHz RF over Fiber Link

- Low noise performance
- Wide dynamic range
- Transmits all video, data and audio modulation formats
- Transmission distances up to 50 km
- SNMP interface for remote monitoring, system programming and control
- Multiple carrier transmissions
- LNB powering option
- Supports CWDM applications



The **ViaLiteHD** range of fiber optic links connect antennas with control rooms, network operation centres or broadcast headends. With down conversion of satcom frequencies to the IF frequency band, signal transportation across this lower frequency bandwidth are maintained to a high quality.

ViaLiteHD links offer more than an alternative to coaxial cabling in teleport earth stations. They have been designed to provide a technically superior installation at a cost effective price.

The IF 70/140 MHz links are finely tuned to provide a superior dynamic range and a flatness of 0.2dB across the full band. Rack Chassis links have gain change ability to provide higher performance and overcome more optical loss in the fiber link. This is achieved using the SNMP module to make adjustments using either manual gain control, software gain control or automatic gain control.

Development kits are available for adjustments of OEM gain settings on modules which are built into a satcom system.

Features/Options

- Very high carrier-to-noise ratio
- Extremely linear performance
- Wide dynamic range
- 9dB of additional gain compared to a 0dB gain link
- Electrical connectors: 50 Ω SMA / MCX, 75 Ω BNC / MCX
- Optical connectors: SC/APC, LC/APC, FC/APC and E2000/APC

Applications

- Satcom
- Broadcast Satcom
- Maritime

Formats

- 1U Rack Chassis
- 3U Rack Chassis
- Blue OEM and Blue2 Link
- Yellow OEM

Technical Specification

	Units	Note	IF Band 50 Ω	IF Band 75 Ω
Transmitter (Tx)			HRT-B1-8R-33-S1310	HRT-B3-8R-33-S1310
Receiver (Rx)			HRR-B1-8R-03	HRR-B3-8R-08
Frequency range	MHz		10-200	
Impedance, RF connector			50 Ω SMA	75 Ω BNC
VSWR	(Typ)		1.5:1	
Ling gain (Tx / Rx gain), default	dB (Nom)	a	-9 (-11 / +20)	+3 (-11 / +14)
Tx gain adjustment range	dB (Typ)		15.5	
Tx gain adjustment range from default gain	dB (Typ)		-5.5 to +10.0	-11.5 to +4.0
Rx gain adjustment range	dB (Typ)		15.5	
Rx gain adjustment range from default gain	dB (Typ)		-8.0 to +7.5	-7.5 to +8.0
Gain adjustment step size Rx and Tx	dB (Typ)		0.5	
Flatness, fullband	dB (Max)	a h	± 0.5	± 0.75
Flatness, fullband	dB (Typ)	a h	± 0.2	± 0.3
Gain stability over temperature, Link	dB (Max)	a	± 3	
Gain stability	dB (Typ)		0.25 @ 24hrs	
Nominal input signal / output signal	dBm		-20 / -20	
IMD @ nominal output power	dB (Typ)	c	-60	
P1dB _{input}	dBm (Typ)	a k	-1	
P1dB _{input} at minimum Tx gain	dBm (Typ)	a k	0	4.5
IP3 _{input} , at default gain	dBm (Typ)	a k	11	
Noise figure, at default gain	dB (Typ)	a k	19	
Noise figure, at maximum TX gain	dB (Typ)	a k	12	16
Noise figure, 5dB optical loss	dB (Typ)	c k	24	
SFDR	dB / Hz ² / ₃ (Typ)	a	110	
Test port gain, Transmitter	dB (Typ)	l	No test port	
Test port gain, Receiver	dB (Typ)	l	No test port	
Maximum RF input power without damage	dBm		15	
LNA power			External 0-28 V @ 350 mA, from chassis power connector	
Power Tx	W (Typ)		1.9	1.9
Power Rx	W (Typ)		1.3	1.3
Optical connector			SC/APC	
Optical wavelength	Nm		1310 $\pm$ 20	
Laser type			DFB (Distributed feedback) laser	
Optical power output	dBm (Typ)		4.5	
Summary alarm output			Open drain alarm: OPEN: Alarm, CURRENT SINK: OK	
Operating temperature range			-10 $^{\circ}$ C to +50 $^{\circ}$ C	
Storage temperature range			-40 $^{\circ}$ C to +70 $^{\circ}$ C	
Humidity	RH		95% non-condensing humidity	



- a Nominal input power @ 0 dB optical loss
 - b Nominal input power @ 1 dB optical loss
 - c Nominal input power @ 5 dB optical loss
 - h Default gain setting
 - k Measured @ 100 MHz
 - l Relative to rear port @ 100 MHz
- All tests @ 25 $^{\circ}$ C after 15 minutes warm up