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ViaLiteHD® – L-Band HTS RF over Fiber Link

75 Ohm L-Band HTS

- **Standard 0-10 km link**
- **65 dB dynamic range for 500 MHz traffic**
- **L-Band HTS (700-2450 MHz)**
- **13/18 V and 22 KHz tone LNB option**
- **Blind mate option**
- **Standard 5-year warranty**

ViaLiteHD L-Band HTS fiber optic links have been designed to transport RF signals between antennas and control rooms. Due to the very wide dynamic range, the same link can be used for both the transmit and receive paths. This dynamic range allows High Throughput Satellite (HTS) transponder bandwidths of 500, 800 or even 1500 MHz to be transported, as well as multiple standard 36 MHz transponders.

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

Options include:

- 75 Ω 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 13/18 VDC and 22 kHz tone
- Blind mate connectivity (SC/APC and BNC)
- Serial digital channel to 20 kb/s on same optical path

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

Formats
3U Chassis
1U Chassis
Blue OEM and Blue2 Link
Yellow OEM
Outdoor enclosures

Technical specification

	Units	Notes	L-Band HTS 75 ohms
Transmitter			HRT-L3-8D-38-S1310 (example)
Receiver			HRR-L3-8D-08 (example)
Frequency range	MHz		700-2450
Impedance, RF connector			75Ω BNC, blind mate
VSWR	(typ)		1:1.5
Link gain (Tx gain / Rx gain), default	dB (nom)	a	+3 (-11 /+14)
Tx gain adjustment range	dB (typ)		15.5
Tx gain adjustment from default gain	dB (typ)		-7.5 to +8.0
Rx gain adjustment range	dB (typ)		15.5
Rx gain adjustment from default gain	dB (typ)		-7.5 to +8.0
Gain adjustment step size Rx and Tx	dB (typ)		0.5
Flatness, fullband	dB (max)	a h	±1.4
Flatness, fullband	dB (typ)	a h	±0.6
Flatness, 36MHz	dB (typ)	a	±0.2
Gain stability over temperature range	dB (max)	a	±3
Gain stability	dB (typ)		0.25 @ 24 hrs
Nominal input signal / output signal	dBm		-20 / -20
IMD @ nominal output power	dB (typ)	c	-50
CNR @ nominal input power, 36MHz	dB (typ)	b	56
P1dB input	dBm (typ)	a k	0
P1dB input, at minimum Tx gain	dBm (typ)	a k	5
IP3input, at default gain	dBm (typ)	a k	12
Noise figure, at default gain	dB (typ)	a k	21
Noise figure, at maximum Tx gain	dB (typ)	a k	18
Noise figure, 5dB optical loss	dB (typ)	c k	27
SFDR	dB/Hz⅔ (typ)	a	110
Test port gain, transmitter	dB (typ)	l	-26
Test port gain, receiver	dB (typ)	l	-14
Test port flatness	dB (typ)	l	±1
Maximum input power without damage	dBm (min)		15
LNB power			External 0-28V @ 350mA from chassis power connector
Power consumption Tx	W (typ)		1.9
Power consumption Rx	W (typ)		1.3
Optical connector			SC/APC, blind mate
Optical wavelength	nm		1310 ± 20
Laser type			DFB (Distributed feedback) laser
Optical power output	dBm (typ)		4.5
Summary alarm output			Open drain alarm: OPEN: Alarm, CURRENT SINK: okay
Operating temperature range		e	-10 °C to +50 °C
Storage temperature range			-40 °C to +70 °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 output power @ 5 dB optical loss
h Default gain setting
k Measured @ 1.2 GHz
l Relative to rear port @1.2 GHz
All tests @ 25 °C after 15 minutes warm up

e Datasheet parameters based on temperature range -10°C to +50°C, refer to user manual for performance parameters @ -20 °C and +60 °C