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ViaLiteHD® – RF Splitter/Combiner

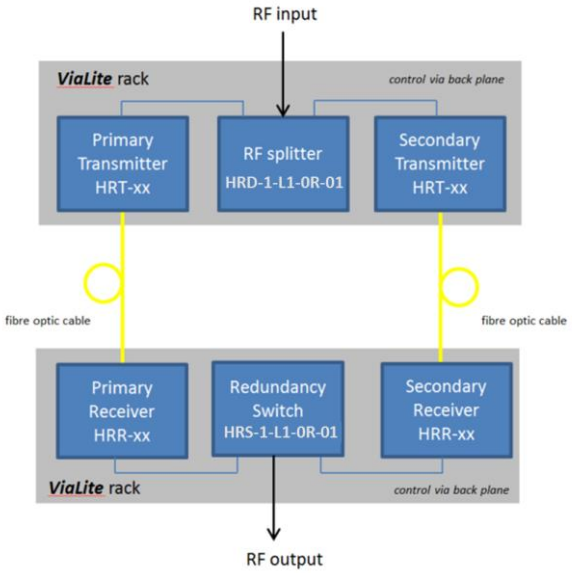
RF Splitter Card

- **L-Band, GPS or wide band**
- **Low insertion loss**
- **DC Switching and pass-through**
- **50 ohm**

The ***ViaLiteHD*** RF splitter/combiner module is a passive, low-loss, broadband, 1:2 power divider/combiner covering L-Band, GPS or a wide bandwidth of 10 MHz to 3GHz. It can be used with the ***ViaLiteHD*** redundancy switch to provide a 1:1 redundant link in L-Band, GPS and wideband systems. Together with dual redundant power supplies, these modules provide the highest possible availability for a ***ViaLiteHD*** RF over fiber system. The system can be mounted in a ***ViaLiteHD*** rack or outdoor enclosure which allows system control via the backplane.

In a typical configuration, an RF signal is split and fed to two transmit modules. These modules are connected via separate optical fibers to two corresponding receiver modules, thus forming primary and secondary paths. The RF outputs of the receivers are connected to the redundancy switch. The RF output on the common port is fed to the user equipment. The equipment backplane connects the switch to adjacent modules and ensures that the switch selects the secondary path in the event of a failure in the primary path. When used with an SNMP controller it is possible to reconfigure the switch and directly control its functions.

Two matching RF cables are required for each splitter module (sold separately) – see table on page 2.



Typical 1:1 redundancy configuration

The splitter allows DC and a 22 kHz tone to be switched from the primary to the secondary path, ensuring continuity of power to the LNB without power level conflicts. The DC and tone switching pass-through allows the LNB to be set and controlled in either high or low band as well as allowing changes in polarization.

Technical specification

	L-Band (50 Ω)	L-Band + DC (50 Ω)	Wideband (50 Ω)	Wideband + DC (50 Ω)
Module	HRD-1-L1-0R-01	HRD-2-L1-0R-41	HRD-1-S1-0R-01	HRD-2-S1-0R-41
Frequency Range	700-2450 MHz	700-2450 MHz	10-3000 MHz	10-3000 MHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR (typ)*	1:1.5	1:1.5	1:1.8	1:1.8
Insertion loss path S1 (typ)	4.2 dB	4.8 dB	10-1000 MHz – 3.9 dB 1000-2500 MHz – 4.4 dB 2500-3000 MHz – 5.3 dB	10-1000 MHz – 4.8 dB 1000-2500 MHz – 5.5 dB 2500-3000 MHz – 6.0 dB
Insertion loss path S2 (typ)	4.2 dB	4.8 dB	10-1000 MHz – 3.9 dB 1000-2500 MHz – 4.3 dB 2500-3000 MHz – 5.2 dB	10-1000 MHz – 4.8 dB 1000-2500 MHz – 5.5 dB 2500-3000 MHz – 5.5 dB
Isolation (typ)	20 dB	20 dB	10-1000 MHz – 20 dB 1000-2500 MHz – 20 dB 2500-3000 MHz – 18 dB	10-1000 MHz – 20 dB 1000-2500 MHz – 20 dB 2500-3000 MHz – 18 dB
Flatness full band (typ)	±0.4 dB	±0.4 dB	±0.9 dB	±0.9 dB
Max input signal	+24 dBm	+24 dBm	+24 dBm	+24 dBm
DC pass-through max current	No DC path	0.8A (fused)	No DC path	0.8A (fused)
Operating temperature	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C	-10°C to +50°C
Storage temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C

** Tested at 1.2 GHz*

RF Cable Options

Two matching cables are required for each RF splitter module (these are to be ordered as separate line items), spares and replacements may also be ordered; contact ***ViaLite Communications*** for more details.

The standard parts available are detailed below.

RF Cable Part Number	Description	Application
73739	SMA to SMA, 50 ohm RG405 cable, 0.1m length	50 ohm SMA, use for connecting to adjacent slots in same chassis
73740	SMA to SMA, 50 ohm RG405 cable, 0.3m length	50 ohm SMA, use for connecting to non-adjacent slots in same chassis
73741	SMA to SMA, 50 ohm RG405 cable, 0.5m length	50 ohm SMA, use for connecting to between adjacent chassis
73747	BNC to BNC, 50 ohm RG405 cable, 0.1m length	50 ohm BNC, use for connecting to adjacent slots in same chassis
73748	BNC to BNC, 50 ohm RG405 cable, 0.3m length	50 ohm BNC, use for connecting to non-adjacent slots in same chassis
73749	BNC to BNC, 50 ohm RG405 cable, 0.5m length	50 ohm BNC, use for connecting to between adjacent chassis