



Model Number: 200 Series Dual Broadband

RF Engineering
and Custom Build

StingRay RF Over Fibre

Ultra compact, high isolation, hot-swap with Local & Remote Control



SRY-C200-1U



SRY-C201-2U

Connectors: A comprehensive range of RF connectors and impedances are available, making the StingRay series easy to fit into new or existing systems. Optical connectors are FC/APC and SC/APC.

Other options in the StingRay series: The StingRay range is also available with additional features such as RF monitoring ports, high linearity, redundancy systems, 10 MHz injection, outdoor enclosures and BUC powering.

Typical applications:

- Ku-band and Ka-band ready for HTS applications
- Distribution of comms traffic across site with minimal loss
- General satcoms– teleports, video head-ends, TVRO
- Compact solution for small quantity links such as tactical HQ
- A resilient solution for satellite teleports with transition distances up to 10km

The StingRay 200 Series of broadband RF over fibre chassis are designed to give compact fibre links of up to 10 km (Link budget 4 dB). The transmit modules benefit from a high and wide dynamic range with automatic link optimisation ensuring high quality broadband transmission. Resilience is provided by a full hot-swap, modular design.

Benefits & features:

- Compact 1U & 2U chassis options: up to 4 dual Tx, dual Rx or Tx/Rx modules (up to 8 links) in a 1U and up to 16 modules (32 links) in a 2U chassis
- Dual modules providing dual channel and TR options
- Tx modules can provide 13/18V LNB powering & 22KHz tone if required
- High isolation between modules
- Low IMD3 ensuring maximum efficiency in spectrum usage
- High resilience from hot swap components including fibre modules, power supplies and built in fan tray.
- Can be part populated for smaller applications
- Chassis can be populated with dual Tx, Rx or TR modules for uplink and downlink applications
- Full local control front panel & Ethernet remote monitoring & control





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PRELIMINARY

Technical specifications and operating parameters

- Module Specifications -

RF Parameters (TX and RX)		
Frequency Range	50 to 2450 MHz (Broadband)	
Flatness	50-2450MHz	± 2.8 dB
	850-2150MHz	± 1.5 dB
	850-2450MHz	± 2.0 dB
	Any 36MHz i/p > -50dBm	± 0.25 dB
	Any 36MHz i/p < -50dBm	± 0.5 dB
Return Loss	50 ohm SMA	18 dB typical, 12 dB minimum
	50 ohm BNC	
	75 ohm BNC	16 dB typical, 12 dB minimum
	75 ohm F-Type	
Isolation	Better than -37 dB	Between 2 links in dual RX & TX modules
OIP3	18 dBm typical 14 dBm minimum	Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz
CNR (in any 36 MHz)	-38 dB typical -35 dB minimum	Test condition: 1m fibre, -10 dBm RF i/p power, -10 dBm RF o/p total power
Group Delay Variation	2 ns over full band, 1 ns over any 36 MHz	
SFDR	105 dB/Hz ^{2/3} typical 100 dB/Hz ^{2/3} minimum	Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz
IMD3	-65 dBc typical -60 dBc minimum	

Transmit Module (Dual TX)		
Model Number	SRY-TX-B2-207-xxxx	
Optical Wavelength	1310 ± 10 nm	
Optical Power output	4.5 ± 2.5 dBm	
Laser Type	DFB (Optical isolator for improved performance)	
RF Input Signal Range	-60 dBm to -10 dBm (total power)	
Noise Figure	10 dB typical 12 dB maximum	Test condition: 1m fibre, -50 dBm RF i/p power, -10 dBm o/p power
Max RF Input	16 dBm total power (NB. Damage level)	
Power Consumption	28W	
LNB Power	18/13V ± 5%, 500mA max (Short circuit current 750mA max)	
AGC	Factory Set	Once AGC level set, gain can be fixed

Receive Module (Dual RX)		
Model Number	SRY-RX-B2-208-xxxx	
Optical Wavelength	1100 to 1650 nm (Optimised for 1310 nm and 1550 nm)	
Optical Power in	0 to 4.5 dBm (Max 10 dBm)	
Output AGC Flatness	± 2.8 dB over full band (Input -10 to -40 dBm)	
RF Output Signal Range	-30 dBm to -10 dBm (total power)	
Noise Figure	10 dB typical 12 dB maximum	Test condition: 0 dB optical link loss, -50 dBm RF i/p power, -10 dBm o/p power
Gain Control: AGC	-30 dBm to -10 dBm	
Power Consumption	6W	
AGC/ MSG	Settable output power level (Once AGC level set, gain can be fixed)	

- Chassis Specifications -

System Controls (Chassis)		
Model Numbers	SRY-C200-1U	SRY-C201-2U
Capacity	Up to 4 2xx series modules of SMA, BNC or F-Type	Up to 16 2xx series modules of SMA, BNC or F-Type
Dimensions	1U high x 450 mm deep x 19" wide	2U high x 450 mm deep x 19" wide
Local Control & Monitoring	LCD and keypad	
Remote Control & Monitoring	Ethernet via RJ45, 10baseT/100BaseTx, ETL protocol over TCP/IP, SNMP, built in web server	
Module features monitored	Includes: Temperature, RF Power, Optical Power, PSU status & Individual fan	
LNB Power	Up to 0.5A per module, 3.2A total	Up to 0.5A per module, 5.6A total power
PSU Power	85-264 Vac 50/60Hz (Fused 2A, Single IEC)	
PSU Redundancy	Dual Hot-Swap Modules, Diode OR	
AC Power Consumption	< 150W all channels (Total AC)	
Weight	TBD kg	18 kg
Front Panel Colour	White 00-E-55 semi-gloss	

Connector Options (Chassis)	
RF Connectors	BNC 50 Ω - B5 / BNC 75 Ω - B7 / F-type 75 Ω - F7 / SMA 50 Ω - S5
Optical Connectors	FA - FC/APC or SA - SC/APC

Please add the relevant suffix to the model number to indicate your required RF & Optical connectors. E.g. B5FA

Environmental (Chassis)	
Operating temperature	0 to 50°C
Location	Indoor use only
Storage temperature	-20°C to +75°C
Humidity	20 to 90% non-condensing
Altitude	10 000 ft/3 000 m above mean sea level

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