



StingRay RF Over Fibre

200 Series Broadband Dual Modules with 13/18V LNB Powering & 22kHz tone (on TX module)

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 L-band transmission. Resilience is provided by a full hot-swap, modular design.

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

Fibre Modules



50 - 2450 MHz operating frequency range



LNB Powering 13/18V on TX modules only



TX & RX module options to transmit and receive signals up to 10 km



High isolation between modules for signal quality

Chassis Options



Compact indoor & outdoor chassis options, which can be part populated



Resilience from dual redundant hot-swap power supplies, hot-swap fibre modules & fans



Remote control & monitoring via RJ45 Ethernet port with SNMP & web browser interface



10MHz Inject from an external source chassis option



Local control & monitoring via front panel push buttons & display



Indoor chassis showing hot-swap power supply modules, fibre modules and fans



Outdoor Unit (ODU)



RF Parameters (TX and RX)		
Model Number	SRY-TX-B2-207-xxxx (Transmit)	SRY-RX-B2-208-xxxx (Receive)
Frequency Range	50 to 2450 MHz (Broadband)	
Flatness	850-2450MHz	± 2.9 dB
	50-2450MHz	± 2.0 dB
	Any 36MHz i/p > -50dBm	± 0.25 dB
	Any 36MHz i/p < -50dBm	± 0.5 dB
Output AGC Flatness	50 to 200 MHz	± 2.8 dB
	850 to 2450 MHz	± 2.8 dB (Input -10 to -40 dBm)
Return Loss	50 ohm SMA / BNC	18 dB typical, 12 dB minimum
	75 ohm BNC / F-type	16 dB typical, 12 dB minimum
Isolation	Typical -40dB, -35 worst case (Between 2 links in dual RX & TX modules)	
Noise Figure	10 dB typical, 12 dB worst case (Test condition: 1m fibre, -50 dBm RF i/p power, -10 dBm o/p power)	
OIP3	18 dBm typical, 14 dBm worst case (Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)	
CNR (in any 36 MHz)	-50 dB typical, -45 dB worst case (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 (Bands 50 to 200 MHz and 850 to 2450 MHz)	
	±0.5ns any 36 MHz 850 to 2450 MHz (Any 36 MHz applies only 850 to 2450 MHz)	
SFDR	105 dB/Hz ^{2/3} typical, 100 dB/Hz ^{2/3} worst case (Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)	
IMD3	-65 dBc typical, -60 dBc minimum (Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 2150 and 2152 MHz)	
Optical Wavelength	1310 ± 10 nm	1100 to 1650 nm (Optimised for 1310 nm and 1550 nm)
Optical Power	Out: 4.5 ± 2.5 dBm (3.8 dBm typical)	In: 0 to 4.5 dBm (Max 10 dBm)
Laser Type	DFB (Optical isolator for improved performance)	
AGC / MSG	Factory Set Once AGC level set, gain can be fixed	Settable output power level, gain can be fixed
RF Signal Range	Input: -60 dBm to -10 dBm (total power)	Output: -30 dBm to -10 dBm (total power) o/p range available under all i/p conditions
LNB Power	18/13V ± 5%, 500mA max (Short circuit current 750mA max)	-
Maximum RF Input Power	16 dBm total power (NB. Damage level)	
Power Consumption	28W (with 2x 18V 500 mA LNB power)	7W typical
MTBF	TBD hours	>150,000 hours

Chassis Options - Technical Specifications							
Model Numbers	SRY-C200-1U	SRY-C207-1U	SRY-C201-2U	SRY-C206-2U	SRY-C205-2U	SRY-C204-2U	SRY-ODU201
Capacity	Up to 4 2xx series modules		Up to 16 2xx series modules			Up to 10 2xx series modules	
Redundancy options	1+1 redundancy configuration available with modules SRY-L1-DIV213 & SRY-L1-SW214					4+1 redundancy	1+1 redundancy
Dimensions	1U high x 450 mm deep x 19" wide		2U high x 450 mm deep x 19" wide			407 high x 356 deep x 254" wide	
Local Control & Monitoring	Front panel LCD and keypad						Optional
Remote Control & Monitoring	Ethernet via RJ45, 10baseT/100BaseTx, ETL protocol over TCP/IP, SNMP, built in web server. Serial port. Dry contact alarm summary.						
Module Features Monitored	Includes: Temperature, RF Power, Optical Power, PSU status & Individual fans						
LNB Power	Up to 0.5A per channel, not exceeding 2.8A total		Up to 500mA per channel, 8A total			Yes Module must support LNB power	
10MHz Injection	-	+9 dBm, input level (27 dBm max. level)	-	-	+15 dBm input level (27 dBm max. level)	-	With SRY-OPT16-10M
PSU Power	100-240 VAC 50/60Hz (Fused 2A, Dual IEC)		100-240 VAC 50/60Hz (Fused 4A T, Dual IEC)			100-240 VAC 50/60Hz (Dual IEC)	0-240VAC, 50/60Hz
PSU Redundancy	Dual Hot-Swap Modules, Diode OR Front Mounted						
AC Power Consumption	< 150 W all channels		<405 W all channels			<312 W all channels	< 260 W all channels
Heat Load	< 65 W, 222 BTU/hr		< 220 W, 495 BTU/hr			< 200 W, 450 BTU/hr	<145 W, 495 BTU/hr
Operating/Storage Temperature	Operating: 0 to 50°C / Storage: -20°C to +75°C						See SRY-ODU-201 datasheet for details
Humidity	20 to 90% non-condensing						
Weight	TBD kg		12 kg			21 kg	
Front Panel Colour	RAL9003 White semi-matte						