



# StingRay RF Over Fibre

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

The StingRay 200 Series of IF-Band 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 IF-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 - 200 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-F2-307-xxxx (Transmit)	SRY-RX-F2-308-xxxx (Receive)
Frequency Range	50 to 200 MHz (IF-Band)	
Flatness	50-200 MHz $\pm 0.5$ dB (Test condition: Full TX &RX link with 10km fibre link , Fixed gain mode )	
Output AGC Flatness	50 to 200 MHz $\pm 0.5$ dB (Input -10 to -40 dBm)	
Return Loss	50 ohm SMA / BNC	21 dB typical, 18 dB minimum
	75 ohm BNC / F-type	19 dB typical, 16 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 90 and 92 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	$\pm 2$ ns	
SFDR	105 dB/Hz <sup>2/3</sup> typical, 100 dB/Hz <sup>2/3</sup> worst case (Test condition: 1m fibre, 10 dB gain, -22 dBm tones at 90 and 92 MHz)	
Optical Wavelength	1310 $\pm$ 10 nm	1100 to 1650 nm (Optimised for 1310 nm and 1550 nm)
Optical Power	Out: 4.5 $\pm$ 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: AGC : -60 dBm to -10 dBm (total power) Fix Gain: down to -80dBm	Output: AGC-30dBm to -10dBm Fix Gain down to -80dBm (total power)
LNB Power	18/13V $\pm$ 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	>120,000 hours	>150,000 hours
Spec Version	0.1	0.1

Please see separate datasheet for 200 series chassis options.