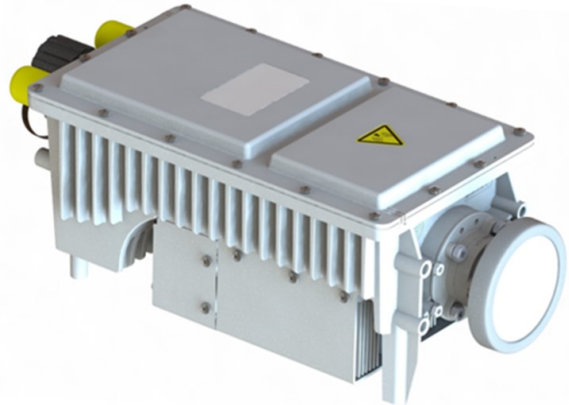


## XRJ30F44ZD

# 5/10/20/25W Ka-Band VSAT Transceivers

### Overview

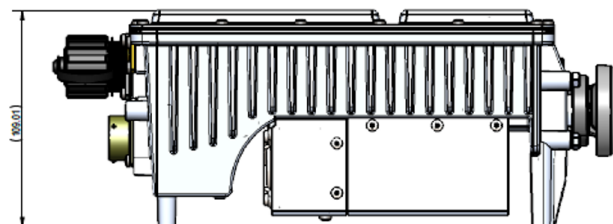
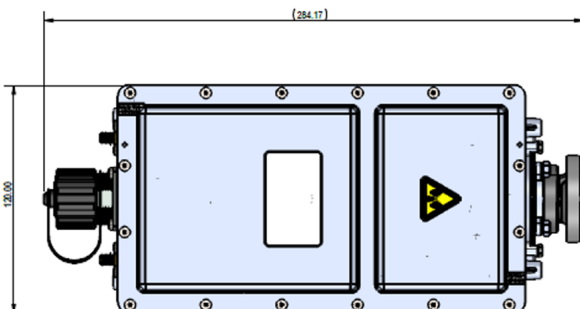
The Global Skyware Limited XRJ transceiver is a breakthrough in cutting edge Ka-Band VSAT engineering techniques and application. A Transceiver suitable for GEO MEO/LEO constellations and design ready for newer and wider Ka band satellite frequencies. The ruggedised IP-67 sealed enclosure integrates a BUC, LNB, and TRF guaranteeing consistent communications performance. The Transceiver is designed to work in all markets from fixed stations to marine and mobility markets. Supporting the latest S-Band modem IF technologies with 10 MHz reference compatibility, the XRJ is optimised for high throughput for global consumer enterprise deployments. Production units are 100% tested with a rigorous process to ensure reliable maintenance-free operation for >10 years. Available in power options of 5,10,20 and 25W.



### Product Features

- BUC, LNB, OMT and TRF integrated into compact economical package
- Integrated polarizer allowing Manual Polarity Switching of TX & RX circular polarisation
- Full Ka-band coverage 27.5 – 30GHz transmit / 17.7 – 20.2GHz receive (17.3 CY25)
- Compatible with all Global Skyware antennas
- PLL LNB with external or internal (4ppm) REF
- S-Band (1400-2400MHz TX) IF Modem interface with 10 MHz reference
- Durable IP-67 rated enclosure
- High reliability, field replaceable fans
- Monitoring & control via Open BMIP / SNMP protocols
- Includes RF gain control and output power detection

### Mechanical Drawings



# Specifications

## FEED AND POLARISER

PARAMETER	MIN	TYPICAL	MAX	UNIT	NOTE
FEED AND POLARISER SUBSYSTEM		Integrated			Matched to Global Skyware antennas
POLARISATION		RHCP/LHCP			Field configurable, RX/TX orthogonal
XPD	TX	22		dB	27.5-28.0GHz
	TX	25		dB	28.0-30.0GHz
	RX	20		dB	17.7-18.2GHz
	RX	25		dB	18.2-19.2GHz
	RX	23		dB	19.2-20.2GHz

## TX SUBSYSTEM (BUC)

PARAMETER	MIN	TYPICAL	MAX	UNIT	NOTE
IF INPUT FREQUENCY RANGE	1400		2400	MHz	
RF OUTPUT FREQUENCY RANGE	27.5		30.0	GHz	4 sub-bands
LOCAL OSCILLATOR FREQUENCY	26.1		27.6	GHz	4 LO's, controlled via M&C interface
LOCAL OSCILLATOR PHASE NOISE			2	deg	DSB rms, 100 Hz - 1MHz
LOCAL OSCILLATOR REFERENCE FREQUENCY		10		MHz	
IF INPUT DRIVE POWER		-32		dBm	Nominal
IF INPUT IMPEDANCE		50		Ohm	N-Type
CONVERSION GAIN	5W/10W	68/71		dB	10 Watt version
(ATTENUATOR AT ODB)	10W/20W	74/75		dB	20 Watt version
RF OUTPUT SPURIOUS LEVEL		According to ETSI EN301 459/360 and FCC 47 CFR 15/25 AB			
TX OUTPUT POWER P <sub>lin</sub> *	5W/10W	36/39	37/40	dBm	10 Watt version
MINIMUM	20W/25W	42/43	43/44	dBm	20 Watt version

\* P<sub>lin</sub> is defined as the power at which an ACPR of 25 dBc is achieved with a 1Msym/s QPSK modulated carrier with  $\alpha = 0.2$

## RX SUBSYSTEM (BUC)

PARAMETER	MIN	TYPICAL	MAX	UNIT	NOTE
RF INPUT FREQUENCY	17.7		20.2	GHz	Multiple sub-bands with >500MHz overlap
IF OUTPUT FREQUENCY RANGE	950		2150	MHz	
LOCAL OSCILLATOR FREQUENCY	16.75		21.15	GHz	Controllable via M&C interface
LOCAL OSCILLATOR FREQUENCY TOLERANCE			± 4	ppm	Overall (in case of internal REF)
LOCAL OSCILLATOR INTEGRATED PHASE NOISE			2.5	deg	DSB rms, 100Hz - 1 MHz
TOTAL TRANSCEIVER NOISE FIGURE @ 25°C		1.5	1.7	dB	at the Feed Port (including TRF/OMT)
CONVERSION GAIN	50	56	60	dB	
IMAGE BAND REJECTION	45			dB	
IF OUTPUT P <sub>1dB</sub>	+5			dBm	
IF OUTPUT IMPEDANCE		50		Ohm	N-Type

## GENERAL

PARAMETER	MIN	TYPICAL	MAX	UNIT	NOTE
OPERATING TEMPERATURE	-40		+60	0°C	
MOISTURE/ HUMIDITY PROTECTION					IP67
WEIGHT		3		kg	XCVR + Feed
SUPPLY VOLTAGE	36	48	60	V	Positive or negative polarity
SUPPLY CURRENT REF ON,	5W/10W		1.5/2.2	A	At 48V
TX @ P <sub>lin</sub> *, VSUPPLY = 48V	20W/25W		3.5/4.0	A	At 48V