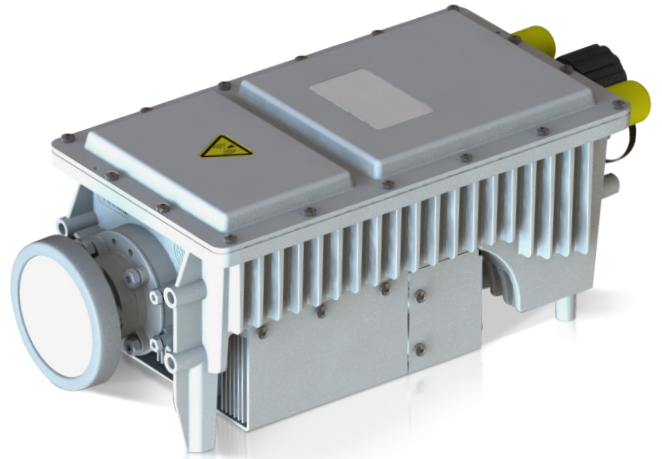


## XRJ30F44ZD

# 10/20W Ka-Band VSAT Transceivers

### Overview

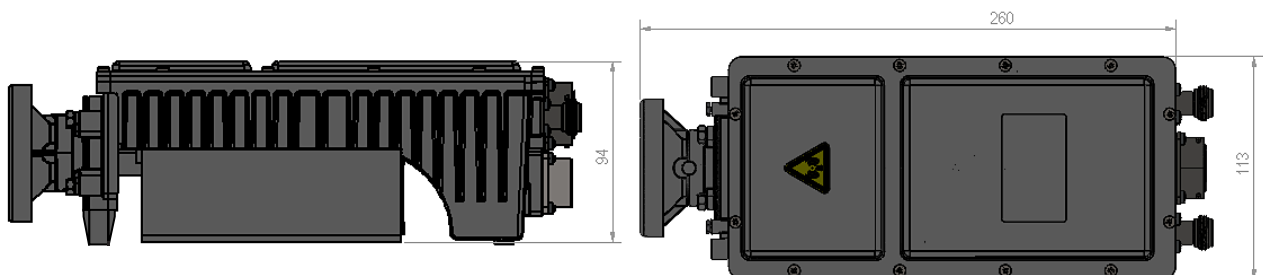
The Global Skyware Limited XRJ transceiver is a breakthrough in cutting edge Ka-Band VSAT engineering techniques and application. A Transceiver suitable for GEO/MEO/LEO constellations and design ready for newer and wider Ka band satellite frequencies. The ruggedised IP-67 sealed enclosure integrates 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 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 10 and 20W.



### 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
- Compatible with all Global Skyware antennas
- PLL LNB with external or internal (4ppm) REF
- S-Band IF Modem interface with 10 MHz reference
- Durable IP-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	
CONVERSION GAIN		71		dB	10 Watt version
(ATTENUATOR AT ODB)		74		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> *		40		dBm	10 Watt version
MINIMUM		43		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	

## 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,			2.2	A	At 48V
TX @ P <sub>lin</sub> *, VSUPPLY = 48V			3.75	A	At 48V