ANDREW®

PRODUCT SPECIFICATIONS

3 Watt (P1dB) Ku-band Transceiver

Model XR1316 and XR1326 for External 10MHz Reference Signal Applications

This three watt output power transceiver is cost efficient, installs easily and is the most technologically advanced electronic component in the satellite industry.

RoHS

Andrew Corporation has developed the three watt Ku-band transceiver to meet the two way satellite communication needs of our customers. This unique and innovative design combines the BUC, LNB, OMT and TRF units into one sealed housing.

This three watt output power transceiver is cost efficient, installs easily and is the most technologically advanced electronic component in the satellite industry. Each transceiver is interoperable with most commercially available modems. An integrated light weight design offers compatibility with our lower cost class I antennas and enables a fast and reliable installation.

The three watt transceiver includes a BUC that works on an external 10 MHz reference providing a reliable MMIC design, high gain stability and low spurious output.

The receiver/LNB is engineered with a dual band LNB with band switching capabilities. This unit also includes integrated transmit-reject filtering, a low noise figure, positive gain slope and several available LO frequencies.

- All materials comply with EU directive No. 2002/95/EC (RoHS).
- Light weight fully integrated housing, combines the BUC, LNB, OMT and TRF
- Compatible with most major antennas including low cost class I
- Fast, easy and error free installation
- Interoperable with most commercially available modems
- Dual band LNB with band switching
- Transmitter with high gain stability
- Low spurious output

SPECIFICATIONS

XR1316 and XR1326 3 Watt Ku-band Transceivers

Polarization Diplexer (OMT)

Parameter		Minimum	Typical	Maximum	Unit	Note
XPD on Common Port	Tx Rx	35 30			dB	
Common Port Connector			C120			18.5 mm Circular-WG Flange (Not Grooved)

Rx Sub-System (LNB)

Parameter			Minimum	Typical	Maximum	Unit	Note
RF Input Frequency Range	XR1316	Low Band High Band	10.70 11.70		11.70 12.75	GHz GHz	
	XR1326	Low Band High Band	10.95 12.25		11.70 12.75	GHz GHz	
IF Output Frequency Range	XR1316	Low Band High Band	950 1100		1950 2150	MHz MHz	
	XR1326	Low Band High Band	950 950		1700 1450	MHz MHz	
Local Oscillator Frequency	XR1316	Low Band High Band		9.75 10.60		GHz GHz	
Low Oscillator Frequency	XR1326	Low Band High Band		10.0 11.3		GHz GHz	
Local Oscillator Frequency Stability					±3	MHz	Operational Conditions and Ageing
Local Oscillator Phase Noise (SSB)		@ 1 kHz @ 10 kHz @ 100 kHz			-60 -80 -100	dBc/Hz dBc/Hz dBc/Hz	
Noise Figure @ 25°C Equivalent Noise Temperature				0.9 69	1.3 104	dB K	Tx On (IF Drive Off) Tx On (IF Drive Off)
Conversion Gain			48	55	62	dB	
IF Output IP3			+10			dBm	
IF Output Return Loss			8			dB	
IF Output Connector							F-type Connector
Supply Voltage/22 kHz		Low Band Selected	9.0		14.0	V	
Tone Band Switch Control		High Band Selected Low Band Selected High Band Selected 22 kHz Load Impedance	16.0 0 400 70		20.0 100 600	V mV mV Ohm	 18-26 kHz; 5-15 µs slope; 40-60% 18-26 kHz; 5-15 µs slope; 40-60%
Supply Current				90	120	mA	

Tx Sub-System (BUC with External Ref.)

Parameter			Minimum	Typical	Maximum	Unit	Note
IF Input Frequency Range			950		1450	MHz	
RF Output Frequency Range			14.00		14.50	GHz	
Local Oscillator Frequency (Nominal)				13.05		GHz	
Deviation within Operational Conditions and Lifetime						ppm	Dependant on External Reference
Local Oscillator External Reference Input		Frequency (Nominal) Input Level Return Loss	 -5 10	10 0	 5	MHz dBm dB	Sine Wave Capture Range ±25 ppm
RF Output Power	Linear Service -1 dB Gain P1dB Including Variation Over Frequency, Temp. and Lifetime		33.5	34.5		dBm	on OMT Common Port
RF Output Return Loss			8			dB	on OMT/Linear Operation
IF Input Drive Power	Nominal Operation No Damage Level		 -5		-17	dBm dBm	
IF input Impedance (Nominal)				75		Ohm	
IF Input Return Loss			10			dB	
IF Input Connector							F-type Receptacle
Conversion Gain, Linear Operation In-Band-Segment Variation (any 2 MHz Segment)			53	56	59 0.5	dB dB	 Maximum-Minimum
Supply Current				1.00	1.30	A	24 V, After Inrush, Carrier On

General Specifications

Parameter	Minimum	Typical	Maximum	Unit	Note
Weight			1600	g	Radio Module without Feed
Operating Temperature	-25		50	°C	
Moisture/Humidity Protection					IP67

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