ACORDE Space & Defence RF EXPERTS

ACTR-X200W-E1-V1

X-band TRX 200 W JANO Series high linearity & gateways

The ACTR-X family of transceivers is designed for the most challenging X-band professional & military satellite communication systems (ground, SOTP, SOTM, maritime, etc.).

Latest technology is applied to obtain the best power efficiency, phase noise, gain stability and linear power according to MIL-STD-188-164C. The ACTR-X family is a high reliability solution designed for harsh environmental conditions, with every single production unit fully tested in an environmental chamber and delivered with a complete factory acceptance test report.

- AC supply operation
- External and internal reference capabilities
- Extended temperature range available
- Standard M&C with serial port (RS-232/485) with optional Ethernet and SNMPv2
- High linearity performance and spurs rejection
- Low power consumption

JANO

God of gates, beginnings and endings and is usually represented by two faces. Two directions, emission and reception in the same entity, like the ACORDE Transceivers that provide efficient two-way communication, covering many functionalities in very compact and efficient solutions.

Transmitter

Input frequency	950 to 1450 MHz
Input L-band VSWR (50 Ω)	< 1.5:1
Output frequency	7.9 to 8.4 GHz
Output X-band VSWR (50 Ω)	< 1.3:1
Spectrum inversion	None
Max. input level without damage	+10 dBm
P1dB (typ)	53.0 dBm
Gain	> 75 dB
Gain flatness	±1.5 dB over whole BW ±0.75 dB over 40 MHz
Gain stability (24 hours)	±0.25 dB @ constant T
Gain variation over temperature	±1.5 dB ±2.0 dB @ option T
Attenuation adjustment range	20 dB with 0.5 dB steps
Mute	> 50 dB
Noise figure @ max gain	< 15 dB
Output noise power density	< -155 dBm/Hz (7.25-7.75 GHz)
Power detection accuracy	±1.0 dB (Psat to Psat – 20 dB)
Spurious @ P1dB	< -60 dBc
Harmonics @ P1dB	< -50 dBc
TOI @ P1dB – 3 dB (2 tones Δf=5 MHz)	< -25 dBc
Sample port	-40 dBc ± 2 dB

Local Oscillator

Output phase noise (IESS-308/309 – 8 dB)	
100 Hz	-70 dBc/Hz
1 kHz	-78 dBc/Hz
10 kHz	-88 dBc/Hz
100 kHz	-110 dBc/Hz
External reference	10 MHz
External reference level	0 dBm ± 3 dB

Receiver

Input frequency	7.25 to 7.75 GHz
Input X-Band VSWR (50 Ω)	< 1.5:1
Output frequency	950 to 1450 MHz
Output L-band VSWR (50 Ω)	< 1.5:1
P1dB	> +5 dBm
Gain	40 ± 1 dB
Gain flatness	±1.5 dB over whole BW ±0.75 dB over 40 MHz
Gain stability (24 hours)	±0.25 dB @ constant T
Gain variation over temperature	±1.5 dB ±2.0 dB @ option T
Attenuation adjustment range	20 dB with 0.5 dB steps
Noise figure @ max gain	< 15 dB
Dependent spurious @ P_{OUT} = 0 dBm	< -60 dBc
Independent spurious	< -60 dBm
LNA power supply	+15 V_{DC} (500 mA max)
LNA alarm	Current sensing

Enviromental

Storage temperature	-40 °C to +85 °C
Operating temperature	-20 °C to +60 °C
Relative humidity	up to 95%
Operating altitude	up to 3000 m

Mechanical

Size (LxWxH)	495 x 265 x 255 mm 19.5 x 10.4 x 10.0 in
Weight	25.0 kg 55.0 lbs
Finish	RAL 9003 (White)

Interfaces

All mating connectors provided

TX input (L-band + Ext. Ref.)	Type N(F) 50 Ω
TX output (X-band)	WR112 CPRG flange
TX output sample (X-band)	Type N(F) 50 Ω
RX input (X-band)	Type N(F) 50 Ω
RX output (L-band)	Type N(F) 50 Ω
M&C (RS-232/485)	62IN12E12-14S-4-622
M&C (Ethernet/SNMPv2) as option	62IN12E12-8S-4-622
Power supply	62IN12E12-3P-4-622
LNA power supply	62IN12E8-4S-4-622

Power Supply

AC input voltage	85-265 V_{AC} (47-63 Hz)
Consumption @ P1dB	1500 W

Order information

Part-number	Input	Output	LO frequency
ACTR-X200W-E1-V1	950 - 1450 MHz 7.25 - 7.75 GHz	7.9 - 8.4 GHz 950 - 1450 MHz	6.950 GHz 6.300 GHz

Options

Option R	Internal reference (Auto external on presence)
Option T	Operating temperature -40 °C to +60 °C
Option E	Ethernet interface (TCP/IP)
Option S	SNMPv2 agent

Any other frequency band or custom specification available under request.
Please, contact factory. Specifications are subject to change without notice.

C/ El Castro 22N, 39011, Santander, Spain

+34 942 766 44 00 | www.acorde.com | sales@acorde.com