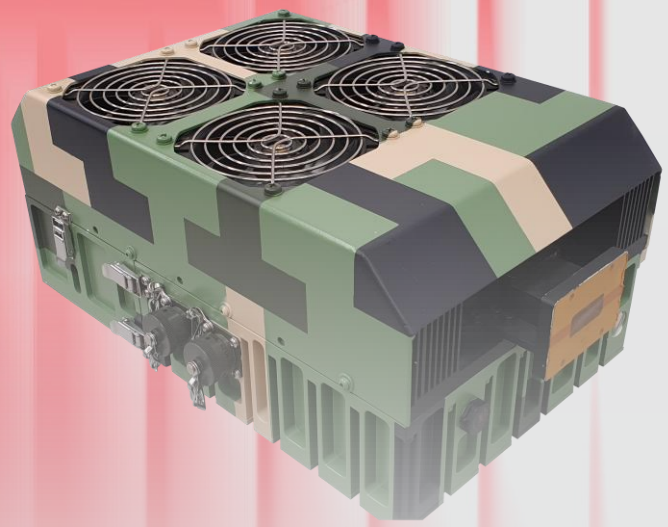
ACORDE Space & Defence RF EXPERTS

# ACMTR-X100W-E1-V2

## X-band TRX 100 W JANO Series with detachable PS



The ACMTR-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 ACMTR-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 | 0 dBm |
| P1dB | > 50.0 dBm |
| Gain | > 74 dB |
| Gain flatness | ±1.5 dB over whole BW<br>±0.5 dB over 40 MHz |
| Gain stability (24 hours) | ±0.25 dB @ constant T |
| Gain variation over temperature | ±1.5 dB<br>±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 | < -80 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 dB |
| Gain flatness | ±1.5 dB over whole BW<br>±0.5 dB over 40 MHz |
| Gain stability (24 hours) | ±0.25 dB @ constant T |
| Gain variation over temperature | ±1.5 dB<br>±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) | 320 x 207 x 145 mm<br>12.6 x 8.1 x 5.7 in |
| Weight | 10.5 kg<br>23.1 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 | 650 W |

## Order information

| Part-number | Input | Output | LO frequency |
|---|---|---|---|
| ACMTR-X100W-E1-V2 | 950 - 1450 MHz<br>7.25 - 7.75 GHz | 7.9 - 8.4 GHz<br>950 - 1450 MHz | 6.950 GHz<br>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.

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