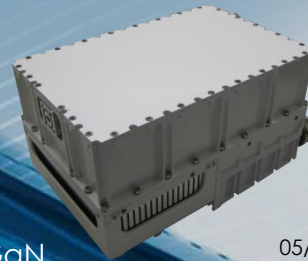


# DUAL Ka-BAND BLOCK UP CONVERTER (BUC)

ACTXD-Ka20W-E31-V4

Dual Band Medium Power GaN



Ed.03

05/10/16

**ACTX-Ka series is designed for Ka-band satellite communication systems. These transmitters are integrated with power supply, phase locked oscillator, power amplifier and frequency converter. Temperature alarm and power supply shutdown at high temperature conditions are integrated to protect them from permanent damages. Each BUC is tested over specified temperature range, assuring very good gain stability and high reliability. Additionally, output power detection is available through M&C communication protocol.**

## TRANSMITTER SPECIFICATIONS

|                                 |                               |
|---------------------------------|-------------------------------|
| Input frequency .....           | 950 to 2000 MHz (See options) |
| Input L-band VSWR (50 Ω) .....  | < 1.5:1                       |
| Output frequency.....           | 29.0 to 31.0 GHz              |
| Output Ka-band VSWR (50 Ω)..... | < 1.3:1                       |
| Spectrum inversion .....        | None                          |

| Transmitter Characteristics @ 25°C | Psat (typ) | Plin (min) | Gain @ Plin | Consumption  | Size (LxWxH)                                 | Weight            |
|------------------------------------|------------|------------|-------------|--------------|--|-------------------|
| ACTXD-Ka20W-E31-V4                 | 43.0 dBm   | 40.0 dBm   | 65 dB min   | 150 W @ Plin | 200 x 130 x 100 mm<br>7.9 x 5.1 x 3.9 inches | 3.5 kg<br>7.7 lbs |

|  |   |
|--|---|
| Gain flatness over the whole bandwidth .....           | ± 2.0 dB  |
| Gain flatness over 40 MHz .....                        | ± 0.5 dB  |
| Gain stability over 24 hours .....                     | ± 0.25 dB @ constant temperature  |
| Gain variation over temperature.....                   | ± 1.5 dB over the whole range   |
| Attenuation adjustment range .....                     | 30 dB with 0.25 dB steps  |
| Mute.....  | > 60 dB   |
| Output noise power density.....                        | < -85 dBm/Hz (TX Band 29.0-31.0 GHz)<br>< -150 dBm/Hz (RX Band 19.2-21.2 GHz) |
| Output power detection accuracy .....                  | ± 1.0 dB (range from Psat to Psat – 20 dB)                                    |
| Spurious @ Plin .....                                  | < -60 dBc   |
| Spectral regrowth @ Plin .....                         | < -30 dBc (QPSK modulation at 1.0 x rate offset from carrier)                 |
| Third order intermodulation products @ Plin .....      | < -25 dBc (Δf = 5 MHz relative to combined power of 2 carriers)               |
| Output phase noise (IESS-308/309 – 5 dB)               |   |
| 100 Hz .....   | -65 dBc/Hz  |
| 1 kHz.....   | -75 dBc/Hz  |
| 10 kHz .....   | -85 dBc/Hz  |
| 100 kHz.....   | -95 dBc/Hz  |
| External reference (multiplexed on L-band input) ..... | 10 MHz / 0 dBm ± 5 dB   |
| DC input voltage (AC supply as option) .....           | 48 V <sub>DC</sub>  |
| Storage temperature .....                              | -40 to +85°C  |
| Operating temperature.....                             | -20 to +60°C  |
| Relative humidity .....                                | up to 100%  |
| Operating altitude.....                                | up to 4500 m  |
| Interfaces   |   |
| TX input (L-Band + External Reference) .....           | Type N(F) 50 Ω  |
| TX output (Ka-Band) .....                              | WR28 grooved (PBR 320)  |
| M&C .....  | D38999/20FC35SN (mating connector provided)                                   |
| Power supply .....                                     | D38999/20FB98PN (mating connector provided)                                   |
| Finish.....  | RAL 9003 (White)  |

| Ka-band output                       | L-band input     | LO frequency             | Standard frequency option |
|--------------------------------------|------------------|--------------------------|---------------------------|
| 29.0 to 30.0 GHz<br>30.0 to 31.0 GHz | 950 to 1950 MHz  | 28.050 GHz<br>29.050 GHz | ACTXD-Ka20W-E31-V4-0A     |
| 29.0 to 30.0 GHz<br>30.0 to 31.0 GHz | 1000 to 2000 MHz | 28.000 GHz<br>29.000 GHz | ACTXD-Ka20W-E31-V4-0B     |

|            |  |
|------------|--|
| MP1: ..... | AC power supply 85-265 V <sub>AC</sub> (47-63 Hz) (200 x 130 x 110 mm) |
| MP2: ..... | Internal reference (Automatic external selection on presence)          |
| MP3: ..... | Operating temperature -40 to +60°C (Gain variation ± 2.0 dB)           |
| MP4: ..... | Ethernet interface (TCP/IP)  |
| MP5: ..... | SNMP Agent   |

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