

Ka-BAND BLOCK UP CONVERTER (BUC)

ACTX-Ka20W-Ex-V4

Medium Power GaN Series



Ed.14

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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.....	27.5 to 31.0 GHz (See options)
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
ACTX-Ka20W-Ex-V4	43.0 dBm	40.0 dBm	65 dB min	150 W @ Plin	200 x 130 x 100 mm 7.9 x 5.1 x 3.9 inches	3.5 kg 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 27.5-31.0 GHz) < -150 dBm/Hz (RX Band 17.7-21.2 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 _{DC}
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
29.5 to 30.0 GHz	950 to 1450 MHz	28.550 GHz	ACTX-Ka20W-E2-V4
30.0 to 31.0 GHz	950 to 1950 MHz	29.050 GHz	ACTX-Ka20W-E6-V4
30.0 to 31.0 GHz	1000 to 2000 MHz	29.000 GHz	ACTX-Ka20W-E66-V4

MP1:	AC power supply 85-265 V _{AC} (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.