

10-20 W Ka-band GaN KRFU

Compact and Lightweight

ARINC 791 Compatible. DO 160G FAA Compliant. Designed and built for in-flight entertainment and connectivity applications.

Highly Efficient

CPI has incorporated state-of-the-art Gallium Nitride (GaN) HEMT technology into its compact packaging. 30% to 50% more efficient than comparable GaAs-based products.

Comprehensive M&C Functionality

Accessible anytime, anywhere via Internet or mobile phone. Integrate with SNMP to NMS. Enables effective operational management and minimizes network outage. Allows change of IP address without serial cable. Serial interface, with options for Ethernet and dual LO.

Internal Self-Resetting Protection

Protects against high temperatures, open/short/overdrive RF output conditions, INT/EXT reference 10 MHz conditions, prime power fluctuations. RF output overdrive protection prevents damage from higher than rated input power.

Global Applications

Meets Electromagnetic Compatibility Directive 2014/30/EU to satisfy worldwide requirements and is CE-marked.

Worldwide Support

Backed by more than 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.



Ka-band GaN BUC for
IFEC satellite uplink applications

OPTIONS

- AC or +48V DC power supply
- Dual LO
- Ethernet interface (incl. SNMP v2c, Telnet, web)
- WR28 output interface
- Internal reference option (Contact CPI)



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10-20 W Ka-band GaN BUC

Specification	Model 83xx	
Frequency	29 to 30 GHz (Band 1)	30 to 31 GHz (Band 2)
L-Band Input	1000 to 2000 MHz	
Linear Output Power (min.)	25 W at 25°C, 0 to -10 dB attenuation; 20 W over operating temp. range, 0 to -10 dB attenuation	20 W at 25°C, 0 to -10 dB attenuation; 15 W over operating temp. range, 0 to -10 dB attenuation
Gain	59 dB min, 63 dB max.	
Gain Stability vs Temperature	3 dB from -15°C to +55°C, any frequency	
Gain Flatness at Linear Output Power	±0.4 dB max. over 10 MHz; ±1.1 dB max. over 120 MHz; ±1.7 dB max. over 1 GHz	
Spectral Regrowth	-26 dBc max, QPSK, Band 1, 1.5X SR offset, Plin, up to 20 MB/s; -26 dBc max, OQPSK, Band 1, 1.0X SR offset, Plin, up to 20 MB/s	-30 dBc max, QPSK, Band 2, 1.5X SR offset, Plin, up to 20 MB/s; -30 dBc max, OQPSK, Band 1, 1.0X SR offset, Plin, up to 20 MB/s
Reference Frequency	10 or 50 MHz, autosensing	
Reference Freq. Power Level	-3 to +5 dBm	
Reference Quality	-90 dBc/Hz max. at 10 Hz; -125 dBc/Hz max. at 100 Hz; -150 dBc/Hz max. at 1 kHz; -160 dBc/Hz max. at 10 kHz; -160 dBc/Hz max. at 100 kHz; -165 dBc/Hz max. at 1 MHz; -170 dBc/Hz max. at 10 MHz	
Noise Figure	20 dB	
Output Phase Noise	per MIL-STD-188-164B	
Transmit Attenuator	0 to 25 dB in 0.25 dB steps, max.	
AM/PM Conversion	2.0°/dB max. at rated linear output power or lower	
Spurious	-70 dBm max, Rx band; -50 dBc (two tone) at rated linear output power, excluding 2 MHz around carrier; -30 dBc, line frequency and harmonics; -40 dBc, excluding line frequency and harmonics	
Group Delay Variation vs. Frequency	500 ps over any 250 MHz bandwidth	
Prime Power	DC: 48V (36 to 60V, turn-on @ 40V min) AC (WF); 115 VAC, 360 to 800 Hz Note: can be powered from standard 110-240 VAC AC mains	
Power Consumption	500 W max.	
Heat Dissipation	350 W max.	
Ambient Temperature	-15 to +55 operating, -40°C to +70°C short term (de-rated) operation	
Relative Humidity	95% RH at 65°C	
Weatherproofing	RTCA/DO-160G, Category Y	
Altitude (operating)	5000 m (15,000 ft)	
Shock (survival) / Vibration	58.9 m/s ² , 6 g non-operating, 11 ms, category B / Section in DO160G S, 8.5.2, Aircraft zone 2, Curve B, Category S	
RF Output Connection	WR28, Gasketed, #4-40 UNC-2B Threaded	
M&C Interface	LAN (Ethernet standard, incl SNMP v2c protocol and others); Serial RS-232 or RS422/485	
Connectors	AC Inlet Connector: AC POWER, MIL-STD-38999, Series III, 13-4 Insert Arrangement Connector Input J5: Transmit IF, Type TNC, Female, (Color-Keyed Blue) Connector Input J9: 10 or 50 MHz Reference, Type TNC, Female, (Color-Keyed Yellow) I/O Connector: MIL-STD-38999, Series III, 13-35 Insert Arrangement	
Dimensions, L x W x H (not including connectors, isolator or top screws, contact CPI for outline drawing if needed)	457 x 74.9 x 230 mm (18" x 9.06" x 2.95")	
Weight	13.6 kg (30 lbs)	