

20-40 W Airborne Ka-band GaN KRFU

Compact and Lightweight

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

High Efficiency

State-of-the-art Gallium Nitride (GaN) HEMT technology in 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.

Multi-Platform Compatibility

- Airframe OEM
- Global Xpress

Worldwide Support

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



Model SB46KAA

Ka-band GaN BUC for
IFEC satellite uplink applications

OPTIONS

- Dual and Tri-Band LO
- Ethernet interface (incl. SNMP v2c, Telnet, web)
- WR28 output interface



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20-40 W Ka-band GaN BUC

Specification	Model SB46KAA	
Frequency	Up to 1 GHz within the 27.5 to 30 GHz band	30 to 31 GHz
	27.5-31 GHz optional 1, 2, or 3 band switchable (specifications available upon request)	
L-Band Input	950 to 1950 MHz	
Linear Output Power (min.) at 25°C within -15°C to +55°C	High Power: 30 W; Low Power: 25 W High Power: 27 W; Low Power: 20 W	High Power: 24 W; Low Power: 20 W High Power: 20 W; Low Power: 15 W
Gain	60 dB min.	
Gain Stability vs Temperature	1.7 dB over any 30°C range within -15°C to +55°C	
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	-25 dBc max, QPSK 1.5X SR offset, Plin, up to 20 MB/s; -25 dBc max, OQPSK 1.0X SR offset, Plin, up to 20 MB/s	-30 dBc max, QPSK 1.5X SR offset, Plin, up to 20 MB/s; -30 dBc max, OQPSK 1.0X SR offset, Plin, up to 20 MB/s
Reference Frequency	10 or 50 MHz, autosensing	
Reference Frequency Power Level	-3 to +5 dBm	
Reference Quality	-115 dBc/Hz max. at 10 Hz; -142 dBc/Hz max. at 100 Hz; -155 dBc/Hz max. at 1 kHz; -162 dBc/Hz max. at 10 kHz; -162 dBc/Hz max. at 100 kHz; -162 dBc/Hz max. at 1 MHz; -162 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; -60 dBc rated 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	115 VAC, 360 to 800 Hz	
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)	457 x 74.9 x 230 mm (18" x 9.06" x 3.25") not including connectors, isolator or top screws, contact CPI for outline drawing if needed	
Weight	13.6 kg (30 lbs)	