

100-1000W GaN C-BAND BUC

DATASHEET

SATELLITE COMMUNICATIONS



The new generation of ALGA high powered C-Band BUC GaN

An ideal solution for both mobile and fixed Satellite Communication terminals. It is designed for high efficiency resulting in an optimal compact form factor with high performance and reliability. With the advanced customer interface and HTTP embedded web page, the operator is able to monitor and control the BUC and the System Redundancy

WEB INTERFACE

BLOCK UP CONVERTERS AND REDUNDANT SYSTEMS

HOME CONFIG LOG HELP

Uplink	Downlink	BUC A	BUC B

BUC A Status	
Output power (dBm)	44.2
Temperature (°C)	52.0
Input voltage (Vdc)	N/A
Gain (dB)	77.0
IF Freq (MHz)	1200
Mute	Unmuted
Summary alarm	OK

Controls	
Mute	☐ Mute ☐ Unmute Set
Gain	Fixed dB N/A
IF Freq	MHz Set

Alarm Details	
Out of lock	OK
RF over power	OK
Temperature	OK
Input voltage	N/A

KEY FEATURES

- Extremely compact size
- 1:1 and 1:2 switching logic built into the BUC eliminating expensive external controller
- Built-in Telemetry facilities for critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- WEB interface and SNMP monitoring
- RS 485, RS232, Ethernet and dry-contacts M&C Interface
- Remote control unit optional
- Extended frequency range optional

COST EFFECTIVE SOLUTIONS FOR THE FUTURE

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ALGA
microwave

HIGH POWER C-BAND GaN BUC Specifications

ELECTRICAL CHARACTERISTICS

	Standard Band				
Output Frequency Range	5.85 - 6.425 GHz (other bands available)				
Input Frequency Range	950 – 1525 MHz				
Local Oscillator Frequency	4.9 GHz				
Gain Stability Over Temperature	± 1.5 dB nominal				
Gain Variation at fixed temperature	± 0.5 dB over max over 36 MHz; ± 2.0 dB over full band				
Linear Gain	70 dB min.				
User Adjustable Gain	20 dB in 0.5 dB steps				
Intermodulation	-25 dBc, with 2 equal carriers at PLinear				
10MHz Reference	0dBm ± 5.0 dB - External via IF / (Internal 10MHz reference optional)				
	@ 100 Hz	@ 1 KHz	@ 10 KHz	@ 100 KHz	@ 1 MHz
Ref Phase Noise Requirement		-140 dBc/Hz max	-143 dBc/Hz max	143 dBc/Hz max	
Local Oscillator Phase Noise	-62 dBc/Hz max	-72 dBc/Hz max	-82 dBc/Hz max	-92 dBc/Hz max	-102 dBc/Hz max
Output Spurious	-55dBc max @PLinear				
Harmonics	-40 dBc max @PLinear				
VSWR	Input (1:50:1) Output (1:30:1)				

INTERFACE

Connectors	Power	M&C (RS232/485/Ethernet)	RF Sample	Redundancy
	MS Connector	MS Connector	N-Type Female (optional)	MS Connector
Output Interface	Waveguide, CPR 137G (Grooved)			
Input Interface	N-Type Female, 50 Ohms			

ENVIRONMENTAL

Temperature Range (ambient)	Humidity	Altitude
-40°C to + 55°C (operating); -40°C to + 75°C (storage)	0 to 100% (condensing)	10,000 ft ASL

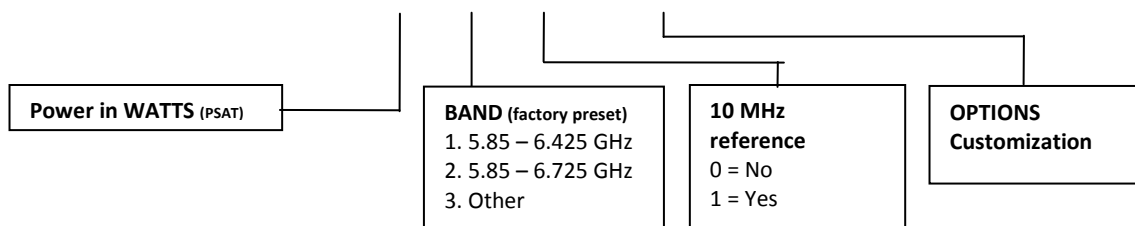
SPECIFICATION BY BUC POWER

BUC POWER PSAT (TYPICAL) /dBm (WATTS/dBm)	OUTPUT POWER @PLinear(PSAT-4dB) (WATTS/dBm)	POWER REQUIREMENT	POWER CONSUMPTION (Watts)	DIMENSIONS (in)	WEIGHT (LBS/KG)
100W / 50	40W / 46	110-220VAC (*1)	900	9.5 x 6 x 6	14.7 / 6.7
125W / 51	50W / 47	110-220VAC (*1)	975	9.5 x 6 x 6	14.7 / 6.7
200W / 53	80W / 49	220VAC (*1)	1900	13 x 8.2 x 6.3	27.8 / 12.5
250W / 53.5	100W / 50	220VAC (*1)	2100	13 x 8.2 x 6.3	27.8 / 12.5
400W / 56	150W / 52	220VAC	2500	15.4 x 16 x 6	48 / 21.8
500W / 56.5	200W / 53	220VAC	2700	15.4 x 16 x 6	48 / 21.8
800W / 59	300W / 55	220VAC	5300	18 x 24 x 9.6	99 / 45
1000W / 59.4	400W / 56	220VAC	5500	18 x 24 x 9.6	99 / 45

(*1) 48 VDC isolated optional on 100W – 250W units

ORDERING INFORMATION To place an order, build your specific C-BAND BUC by specifying the following in your ordering number:

Ordering Number: **ALT**X - **G** - **C** - ____ - ____ - ____ - **OPTIONS**



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