



GaN X BUCs

50W / 100W / 200W

New Generation of GaN based BUCs for military satellite communications

High Efficiency and Reliability

Based on GaN technology are intended for outdoor operation. Highest performance in a compact packaging. Built-in lineariser, power amplifier with receive reject waveguide filtering, output isolator and switchable local oscillator included. Signal up conversion from a Modem's L band output into X band frequency in order to perform a terrestrial or satellite communication link.

Optimized Consumption

In addition to the superior efficiency achieved at maximum load, these products provide the capability to adapt the BUC configuration to the required output power, optimizing the consumption while keeping the same electrical specifications, in particular the linearity.

Monitoring and Control

Full M&C capability provided via RS-232/RS-485 (ASCII commands) and optionally via Ethernet port (Telnet, HTTP with embedded web page or SNMP). Discrete lines for mute and turn on/off functionalities and summary alarm (Form C relay and discrete) are used for a quick operation.



Key Features

- High linearity
- Low size and weight
- Low power consumption
- Easy to maintain
- Redundant systems available
- Weatherproof

TECHNICAL SPECIFICATIONS

ELECTRICAL

OPTIONS:

- Internal 10MHz Reference
- Remove Lineariser
- Ethernet interface
- Extended temperature range (from -40°C to +60°C)
- Handheld
- Redundant systems
- Remote M&C panel
- Automatic Control Mode (AGC, ALC)
- Forward and reverse output power monitoring

Input frequency range	950 - 1450 MHz
Output frequency range	7.9 - 8.4 GHz, LO 6.95 GHz
Saturated Output Power (P_{SAT})	47 dBm / 50 dBm / 53 dBm
50W / 100W / 200W	
Linear Output Power (P_{LINEAR}) *	45 dBm / 48 dBm / 51 dBm
50W / 100W / 200W	
Gain	> 68 dB
Gain flatness	3 dB p-p max over full band; 1dB p-p max over any 40MHz
Gain variation over temperature	± 1.5 dB over full operating range
Attenuation Adjustment Range	20dB in 0.25dB step
Input VSWR	≤1.5:1
Output VSWR	≤1.3:1
Phase noise	-65 dBc/Hz at 100 Hz, -85 dBc/Hz at 1 kHz, -90 dBc/Hz at 10 kHz, -95 dBc/Hz at 100 kHz
External reference frequency and phase noise	10 MHz, 0 dBm ±5 dB (TX IF port multiplexed) -130 dBc/Hz at 100 Hz, -140 dBc/Hz at 1 kHz, -150 dBc/Hz at 10 kHz, -155 dBc/Hz at 100 kHz
Third order IMD (two tones)	-25 dBc two signal 5 MHz apart @ P_{LINEAR}
Spectral regrowth	-30 dBc @ P_{LINEAR}
Noise power density	Transmit band: -80 dBm/Hz Receive band: -110 dBm/Hz (7.25 – 7.75 GHz)
Spurious	-60 dBc max @ P_{LINEAR}

* Linear Output Power, defined as per MIL-STD-188-164B, is the power at which the IMD = -25 dBc for two CW signals 5 MHz apart and the spectral regrowth is < -30 dBc @ 1.0 x symbol rate for a single QPSK/OQPSK/8PSK signal.

POWER SUPPLY

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ P_{SAT}	275W / 425W / 950W
50W / 100W / 200W	
Power consumption @ P_{LINEAR}	230W / 330W / 750W
50W / 100W / 200W	

INTERFACES & PHYSICAL

Dimensions (L x W x H)	275 x 200 x 160 mm / 275 x 200 x 160 mm / 400 x 230 x 200 mm
50W / 100W / 200W	(10.8" x 7.8" x 6.3") (10.8" x 7.8" x 6.3") (15.7" x 9" x 7.8")
Weight	< 7.5 kg (16.5 lbs) / < 7.5 kg (16.5 lbs) / < 12.5 kg (27.5 lbs)
50W / 100W / 200W	
Interfaces	RF Input (L-Band + Ref Signal): N-type (f) RF Output: CPR112 Grooved RF Sample: N-type (f) (Only 100 - 200W versions) M&C: 19-pin Military Circular (MS3112E14-19S) AC Line: 3-pin Military Circular (MS3102R10SL-3P)

ENVIRONMENTAL

Operating temperature	-30°C to +55 °C
Storage temperature	-40°C to +85°C
Humidity	100% Condensing

Information contained in this document is subject to change without notice. For more detailed information, please contact comercial@ttinorte.es

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