



# GaN Ku BUCs

## 25W / 50W

## New Generation of GaN based BUCs for broadcast 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 Ku 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:

- MiniBUC version (without isolator, DC Power Supply)
- 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 - 1700 MHz   |
| Output frequency range (electronically switchable LO) | 13.75 - 14.50 GHz, LO 12.80 GHz<br>14.00 - 14.50 GHz, LO 13.05 GHz   |
| Saturated Output Power ( $P_{SAT}$ )                  | 25W / 50W<br>44 dBm / 47 dBm   |
| Linear Output Power ( $P_{LINEAR}$ ) *                | 25W / 50W<br>42 dBm / 45 dBm   |
| Gain  | > 65 dB  |
| Gain flatness   | 3 dB p-p max over full band; 1dB p-p max over any 40MHz  |
| Gain variation over temperature                       | $\pm 1.5$ dB over full operating range   |
| Attenuation Adjustment Range                          | 20dB in 0.25dB step  |
| Input impedance and VSWR                              | 50 $\Omega$ , $\leq 1.5:1$   |
| Output VSWR   | $\leq 1.3:1$   |
| Phase noise   | -65 dBc/Hz at 100 Hz, -85 dBc/Hz at 1 kHz,<br>-90 dBc/Hz at 10 kHz, -95 dBc/Hz at 100 kHz  |
| External reference frequency and phase noise          | 10 MHz, 0 dBm $\pm 5$ dB (TX IF port multiplexed)<br>-130 dBc/Hz at 100 Hz, -140 dBc/Hz at 1 kHz,<br>-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<br>Receive band: -150 dBm/Hz (10.70 – 12.75 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 @ $P_{SAT}$ *    | 25W / 50W<br>175W / 325W |
| Power consumption @ $P_{LINEAR}$ * | 25W / 50W<br>125W / 250W |

\* MiniBUC 25W/50W: 140W / 290W @  $P_{SAT}$   
110W / 225W @  $P_{LINEAR}$

### INTERFACES & PHYSICAL

|                        |   |
|------------------------|---|
| Dimensions (L x W x H) | 225 x 175 x 160 mm (8.8" x 6.8" x 6.3")*  |
| Weight                 | < 7 kg (< 15.4 lbs)*  |
| Interfaces             | RF Input (L-Band + Ref Signal): N-type (f)<br>RF Output: WR75 Grooved<br>AC Line: 3-pin Military Circular (MS3102R10SL-3P)<br>M&C: 19-pin Military Circular (MS3112E14-19S) |

\* MiniBUC: 225 x 175 x 105 mm (8.8" x 6.8" x 4.1")  
< 4 kg (< 8.8 lbs)

### 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](mailto:comercial@ttinorte.es)

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