GaN Ku BUC/SSPA
80W/150W

New Generation of GaN based BUCs/SSPAs for broadcast and satellite communications

High Efficiency and Reliability

Based on GaN technology are intended for outdoor operation. Highest performance in a compact packaging. Built-in lineariser, output isolator and switchable local oscillator included. Signal up conversion from a Modem's L band output into Ku band frequency (BUC version) 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/SSPA 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

- Super high linear power
- High MTBF
- Compact size
- Detachable power supply module
- Redundant configurations (1:1, 2:1, N:1)
- Weatherproof

TECHNICAL SPECIFICATIONS

OPTIONS:

- High stability internal reference
- Ethernet port
- Extended temperature range: T1(-40ºC, +55ºC), T2(-40ºC, +60ºC)
- Redundant systems (1:1, 2:1, N:1)
- SSPA:
  - Extended frequency (12.75-14.5 GHz)
- Receive Reject Filter (external)

ADDITIONAL FEATURES:

- Automatic Control Mode (AGC, ALC)
- Pressure window
- Output RF calibrated sample port

ELECTRICAL

Input frequency range	950 - 1700 MHz (BUC)
Output frequency range	13.75 - 14.50 GHz, LO 12.80 GHz
Output Power ($P_{SAT(typical)}$)	49 dBm (BUC 80W) / 51.8 dBm (BUC 150W)
Linear Output Power (P_{LINEAR})	48 dBm (BUC 80W) / 50.8 dBm (BUC 150W)
Gain	>65 dB (SSPA) / >70 dB (BUC)
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 impedance and VSWR	50Ω, ≤1.5:1
Output VSWR	≤1.3:1
Phase noise (BUC)	-65 dBc/Hz at 100 Hz, -85 dBc/Hz at 1 kHz, -90 dBc/Hz at 10 kHz, -95 dBc/Hz at 100 kHz
Noise Power Density	-70 dBm/Hz in Tx band -145 dBm/Hz in Rx band @10.7-12.75 GHz *(including option of External Rx Reject Filter)*
External reference frequency and phase noise	10 MHz, 0 dBm ±5 dB (TX IF port multiplexed) -135 dBc/Hz at 100 Hz, -155 dBc/Hz at 1 kHz, -160 dBc/Hz at 10 kHz
Spectral regrowth	-26 dBc @ P_{LINEAR}*
Spurious	-60 dBc max @ P_{LINEAR}

** For single carrier with modulation DVB-S, 4MBaud, Roll-off: 0.25, ModCod QPSK-3/4, Occupied Bandwidth 5MHz, Measured @1.0x symbol rate*

POWER SUPPLY

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ P_{SAT}	380W (BUC 80W) / 680W (BUC 150W)

MECHANICAL & INTERFACES

Dimensions (L x W x H)	400 x 248 x 268 mm
Weight	< 28 kg
Interfaces	RF Input (L-Band + Ref Signal): N-type (f) / SMA (f) (SSPA) RF Output: WR75 Grooved AC Line: 3-pin Military Circular (MS3102R10SL-3P) M&C: 19-pin Military Circular (MS3112E14-19S) Remote control: RS-485

MONITOR & CONTROL PARAMETERS

Remote control	RS-485
Monitor parameters	Forward & Reverse output power, Input power, Temperature, Summary alarms
Internal self protection	Temperature (>85ºC), Reflected power

ENVIRONMENTAL

Operating Temperature	-30ºC to +55 ºC
Storage Temperature	-40ºC to +85ºC
Humidity	100% condensing

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