



GaN Ku SSPA/BUC

150W/325W/600W

Indoor

NEW GENERATION OF GAN BASED SSPAS/BUCS FOR BROADCAST SATCOM

Using cutting-edge **GaN technology**, the new Ku SSPA/BUC family offers outstanding performance in indoor operations

MULTICARRIER OPERATION

No memory effects and limited back off guaranteeing **unlimited carriers**.

MODULARITY

A combination in phase of SSPAs 600 W delivers **output powers up to a few kW**s on a built-in redundancy and hot swappable amplification modules.

EFFICIENCY & RELIABILITY

Super linearity for maximum useable output power to provide customised linearisation independent of the modulation method used.

Robust performance guaranteed through individual unit testing over temperature at factory. Built-in output isolator for protection against reflected power.

Built-in up converter plus **high stability internal reference** for BUC.

MONITORING & CONTROL

Full M&C capability through RS-485/USB (ASCII commands) or with the option of an Ethernet port (Telnet, HTTP with embedded user-friendly web page or SNMP).

Discrete lines for mute and turn on/off functions and a summary alarm (Form C relay and discrete) for speedy operation.



KEY FEATURES

- * Highly efficient
- * Super high linear power
- * Multicarrier operation
- * Superior lifetime based on GaN-tech
- * High MTBF
- * External AC/DC power supply: 1RU 19" subrack
- * Redundant AC/DC converters (hot swappable)
- * Redundant configurations (1:1, 2:1, N:1)
- * OPEX savings
- * Rack mounting (6RU)
- * Simple operation & maintenance



OTHER FEATURES

- * Automatic Control Mode: AGC, ALC
- * Pressure window
- * Output RF calibrated sample port

OPTIONS

- * Ethernet port
- * Redundant systems 1:1, 2:1, N:1
- * Indoor controller
- * Receive reject filter (external)
- * Harmonic filter (external)
- * SNMP
- * High stability internal reference
- * Air exhaust MEC interface
- * Breaker panel

ACCESSORIES & SPARES

- * Set of fans
- * Power supply module

TTI CONTACT

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NOTICE

Information contained in this document is subject to change without notice.

Unless otherwise specified, tests have been done at 23 °C.

ELECTRICAL

Input frequency range	BUC (1) 950-1700 MHz (2) 950-1450 MHz
Operating frequency range	(1) 13.75-14.50 GHz, LO 12.80 GHz (2) 12.75-13.25 GHz, LO 11.80 GHz
Output power (P_{SAT} (typical))	150 W / 325 W / 600 W 51.8 dBm / 55 dBm / 57.8 dBm
Linear output power (P_{LINEAR})	150 W / 325 W / 600 W 50.8 dBm / 54 dBm / 56.8 dBm
Gain	>65 dB (SSPA); >70 dB (BUC)
Gain flatness	3 dB p-p max over full band; 1 dB p-p max over any 40 MHz
Gain variation over temperature	± 1 dB over full operating range
Attenuation adjustment range	25 dB 0.25 dB step (BUC) 25 dB 0.10 dB step (SSPA)
Input VSWR	≤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
External ref. freq. & phase noise (BUC)	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	-25 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

Power supply module	1RU 19" subrack: AC/DC converters (Qty. 1 for 150 W / Qty. 2 for 325 W/600 W) hot-swappable working in redundancy
Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ P_{SAT}	150 W / 325 W / 600 W 680 W / 1400 W / 2600 W

INTERFACES & PHYSICAL

Dimensions (W x H x D)	483 x 266 x 601 mm (including handles) - RF unit 6RU panel height 483 x 266 x 561 mm (without handles) - RF unit 6RU panel height Power supply 1RU panel height
Weight	45 Kg
Interfaces	RF Input: N-type (f) (BUC) / SMA (f) (SSPA) RF Output: WR75 grooved RF Sample: SMA AC Line: IEC320 M&C: DB15 (m) Inhibit switch signal: DB9 (f)

MONITOR & CONTROL

Remote control	RS-485 / USB
Monitor parameters	Forward & Reverse output power / Input power / Temperature / Summary alarms
Internal self protection	Temperature (>85 °C) / Reflected power / High input-output power

ENVIRONMENTAL

Operating temperature	0 °C to +50 °C
Storage temperature	-40 °C to +85 °C