



## HIGH POWER GaN DBS SSPA

1kW/2kW/3.5kW

Outdoor/Indoor

### NEW GENERATION OF GaN BASED SSPAs/BUCs FOR BROADCAST SATCOM

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

#### MULTICARRIER OPERATION

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

#### MODULARITY

A combination in phase of SSPAs 550 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.

**Advanced packaging** and cooling techniques enable the equipment to be operated in the toughest environments.

#### 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

- \* Ultra high output power
- \* Highly efficient
- \* Super high linear power
- \* Multicarrier operation
- \* Superior lifetime based on GaN-tech
- \* High MTBF
- \* Soft-fail redundancy
- \* Hot-swappable amplification modules
- \* OPEX savings
- \* Weatherproof (outdoor)
- \* Compact design
- \* Simple operation & maintenance



### OTHER FEATURES

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

### OPTIONS

- \* Extended temperature range: -40 °C, +55 °C
- \* Receive reject filter (external)
- \* Harmonic filter (external)
- \* L to DBS band up-converters in 1:1 redundancy configuration (external)
- \* SNMP
- \* AC breaker box

### ELECTRICAL

Operating frequency range	17.30 - 18.40 GHz
Output power ( $P_{SAT (typical)}$ )	1 kW / 2 kW / 3.5 kW    60 dBm / 63 dBm / 65.4 dBm
Linear output power ( $P_{LINEAR}$ )	1 kW / 2 kW / 3.5 kW    59 dBm / 62 dBm / 64.4 dBm
Gain	>70 dB
Gain flatness	<4d B p-p over full band; <1 dB p-p over any 40 MHz
Gain variation over temperature	<± 1.5 dB over full operating range
Attenuation adjustment range	30 dB in 0.25 dB step
Input VSWR	≤1.5:1
Output VSWR	≤1.3:1
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

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ $P_{SAT}$	1 kW / 2 kW / 3.5 kW    <5 kW / <10 kW / <20 kW

### INTERFACES & PHYSICAL

Dimensions (L x W x H)	
Outdoor	1370 x 1070 x 1000 mm (1 kW / 2 kW) / 1370 x 2000 x 1000 mm (3.5 kW)
Indoor	19" Rack cabinet 44 U (H), 1 m (D) Qty x1 (1 kW / 2 kW) Qty x2 (3.5 kW)
Interfaces	RF Input: N (f) RF Output: WR62 grooved / RF sample: SMA M&C: Ethernet or 19-pin MIL circular (outdoor) Ethernet or 15-pin D-Sub (indoor)

### MONITOR & CONTROL

Remote control	RS-485 / Ethernet / Dry-Contacts / Web user interfaces
Monitor parameters	Forward & Reverse output power / Input power / Individual SSPAs output power / Temperature / Summary alarms
Internal self protection	Temperature (>85 °C) / Reflected power / High input-output power

### ENVIRONMENTAL

Operating temperature	-30 °C to +55 °C (outdoor) / 0 °C to +50 °C (indoor)
Storage temperature	-40 °C to +85 °C
Humidity	100 % condensing (outdoor)

### TTI CONTACT

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### NOTICE

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

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