

# New generation of GaN based SSPAs/BUCs for broadcast satcom



USING CUTTING-EDGE GAN TECHNOLOGY, THE NEW DBS SSPA/BUC FAMILY OFFERS OUTSTANDING PERFORMANCE IN OUTDOOR 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 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.

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
- \* Detachable power supply module
- \* Redundant configurations (1:1, 2:1, N:1)
- \* OPEX savings
- \* Weatherproof
- \* Compact design
- \* Simple operation & maintenance



**OTHER FEATURES**

\* Automatic Control Mode: AGC, ALC

\* Pressure window

\* Output RF calibrated sample port

**OPTIONS**

\* Ethernet port

\* Extended temperature range: -40 °C, +55 °C

\* Redundant systems 1:1, 2:1, N:1

\* Indoor controller

\* Receive reject filter (external)

\* Harmonic filter (external)

\* SNMP

\* High stability internal reference

**ACCESSORIES & SPARES**

\* Set of fans

\* Detachable power supply

**RF performance**

Input frequency range	950-2050 MHz (BUC)
Operating frequency range	17.3-18.4 GHz
Output power (P <sub>SAT (typical)</sub> )	300 W / 550 W 54.8 dBm / 57.4 dBm
Linear output power (P <sub>LINEAR</sub> )	300 W / 550 W 53.8 dBm / 56.4 dBm
Gain	>75 dB
Gain flatness	4 dB p-p max over full band; 1 dB p-p max over any 40 MHz
Gain variation over temperature	±1.5 dB over full operating range
Attenuation adjustment range	20 dB in 0.25 dB step (BUC) / 15 dB in 0.50 dB step (SSPA)
Input VSWR	≤1.5:1
Output VSWR	≤1.3:1
Phase noise (BUC)	-65 dBc/Hz at 100Hz, -75 dBc/Hz at 1k Hz, -85 dBc at 10 kHz, -95 dBc at 100 kHz
External ref. freq. & phase noise (BUC)	10 MHz, -135 dBc/Hz at 100Hz, -155 dBc/Hz at 1 kHz, -160 dBc/Hz at 10 kHz, 0 dBm ±3 dB supplied via input L-band cable
Spectral regrowth	-25 dBc @ P <sub>LINEAR</sub> *
Spurious	-60 dBc max @ P <sub>LINEAR</sub> *

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

**Power Supply**

Input voltage	90 - 264 VAC, 50 - 60 Hz
Power consumption @ Psat	300 W / 550 W <1700 W / 2700 W

**Interfaces & Physical**

Dimensions (L x W x H)	300 W / 550 W 550 x 450 x 278 mm
Weight	300 W / 550 W 45 Kg / 60 Kg
Interfaces	RF input (L-Band + Ref. signal): N-type (f) (BUC) / SMA (f) (SSPA) RF output: WR62 grooved RF sample: SMA AC line: 3-pin MIL circular (MS3102E20-19P) M&C: 19-pin MIL circular (MS3112E14-19S)

**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	-30 °C to +55 °C
Storage temperature	-40 °C to +85 °C
Humidity	100 % condensing