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**GaN C SSPA/BUC**
800W
Indoor

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

USING CUTTING-EDGE **GAN TECHNOLOGY**, THE NEW C 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 800 W delivers output powers up to a few kWs 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 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

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## Technical specifications

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### OTHER FEATURES

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

### OPTIONS

* 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

## RF performance

| | |
|---|---|
| Input frequency range | BUC (1) 950-1525 MHz (2) 950-1825 MHz |
| Operating frequency range | (1) 5.85 - 6.425 GHz, LO 4.9 GHz<br>(2) 5.85 - 6.725 GHz, LO 4.9 GHz |
| Output power ($P_{SAT\ (typical)}$) | 59 dBm |
| Linear output power ($P_{LINEAR*}$) | 58 dBm |
| Gain | >70 dB |
| Gain flatness | 3 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 0.1 dB step |
| Input VSWR | ≤1.5:1 |
| Output VSWR | ≤1.3:1 |
| Phase noise (BUC) | -75 dBc/Hz at 100Hz, -90 dBc/Hz at 1 kHz,<br>-100 dBc/Hz at 10Hz, -100 dBc/Hz at 100 kHz |
| External ref. freq. & phase noise (BUC) | 10 MHz, 0 dBm ±5 dB (TX IF port multiplexed),<br>-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 2) hot-swappable working in redundancy |
| Input voltage | 90-264 VAC, 50-60 Hz |
| Power consumption @ $P_{SAT}$ | <3000 W (1) 5.85-6.425 GHz<br><3600 W (2) 5.85-6.725 GHz |

## Interfaces & Physical

| | |
|---|---|
| Dimensions (W x H x D) | 483 x 266 x 443 mm (without connectors) - RF unit 6RU panel height<br>Power Supply 1RU panel height |
| Weight | 35 Kg |
| Interfaces | RF input: N-type (f)<br>RF output: CPR-137-G Grooved<br>RF samples: N-type (f)<br>AC line: IEC320<br>M&C: DB15 (f) / DB9 (f) for inhibit switch signal |

## Monitor & Control

| | |
|---|---|
| Remote control | RS-485 / USB / Ethernet |
| Monitor parameters | Forward & Reverse output power / Input power / Temperature / Summary alarms |
| Internal self protection | Temperature (>75 °C) / Reflected power / High input-output power |

## Environmental

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

celestia-tti.com
sales@celestia-tti.com



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