CELESTIA | TTi

GaN Ku SSPA/BUC
150W
Outdoor

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 outdoor operations

MULTICARRIER OPERATION

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

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
* Redundant configurations (1:1, 2:1)
* OPEX savings
* Weatherproof
* Compact design
* Simple operation & maintenance

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TECHNICAL SPECIFICATIONS

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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 ($P_{SAT\ (typical)}$)	51.8 dBm
Linear output power ($P_{LINEAR*}$)	50.8 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	± 1.5 dB over full operating range
Attenuation adjustment range	25 dB in 0.25 dB step (BUC) 25 dB in 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

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ P_{SAT}	680 W

INTERFACES & PHYSICAL

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 MIL Circular (MS3102R10SL-3P)
	M&C: 19-pin MIL Circular (MS3112E14-19S)

MONITOR & CONTROL

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

ENVIRONMENTAL

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

OTHER FEATURES

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

OPTIONS

* Ethernet port
* Extended temperature range: -40 ºC, +55 ºC
* 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

TTI CONTACT

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