CELESTIA | TTi

Dual GaN Ka SSPA/BUC
40W
Outdoor

NEW GENERATION OF GaN BASED SSPAs/BUCs FOR COMMERCIAL, GOVERNMENT & DEFENCE SATCOM

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

INNOVATIVE TECHNOLOGY

State-of-the-art technology offering outstanding performance in a compact packaging. **High reliability** solutions for harsh environmental and operational conditions.

Options to increase the number of power stages and achieve **higher output powers.**

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) and 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, N:1)
* Weatherproof
* Compact design
* Simple operation & maintenance

TECHNICAL SPECIFICATIONS

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ELECTRICAL

Input frequency range	1-2 GHz
Operating frequency range	29-30 GHz / 30-31 GHz (electronically switchable)
Output power ($P_{SAT\ (typical)}$)	46 dBm @ 29-30 GHz / 45 dBm @ 30-31 GHz
Linear output power ($P_{LINEAR*}$)	43 dBm @ 29-30 GHz / 42 dBm @ 30-31 GHz
Gain	>70 dB
Gain flatness	4 dB p-p max over full band, 1 dB p-p max over any 40 MHz
Gain stability over 24 hours	±0.25 dB @constant temperature
Gain variation over temperature	±1.5 dB over full operating range
Attenuation adjustment range	20 dB in 0.1 dB step
Input VSWR	≤1.5:1
Output VSWR	≤1.3:1
Phase noise (BUC)	-63 dBc/Hz at 100 Hz (BUC), -73 dBc/Hz at 1 kHz, -83 dBc/Hz at 10 kHz (BUC), -93 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	-30 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 5 MHz, Measured @1.0x symbol rate*

POWER SUPPLY

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ P_{SAT}	350 W

INTERFACES & PHYSICAL

Dimensions (L x W x H)	340 x 210 x 170 mm
Weight	<15 kg
Interfaces	RF Input (L-Band + Ref Signal): N-type (f) RF Output: WR28 AC Line: 3-pin MIL Circular (MS3102R10SL-3P) M&C: RS-485: 19-pin (MS3112E14-19S) Ethernet (17-150214) USB (17-200781)

MONITOR & CONTROL

Remote control	RS-485 / USB / Ethernet
Monitor parameters	Forward & Reverse output power / Reflected power / Input power / Temperature / Summary alarms
Internal self protection	Temperature (>75 ºC) / Input level / Reflected power

ENVIRONMENTAL

Operating temperature	-30 ºC to +55 ºC
Storage temperature	-40 ºC to +85 ºC

OTHER FEATURES

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

OPTIONS

* High stability internal reference
* Extended temperature range: -40 ºC to +60 ºC
* Redundant systems
* Remote M&C Panel
* SNMP

ACCESSORIES & SPARES

* Set of fans

TTI CONTACT

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Rev. 3 01/24