

New Generation of GaN based SSPAs/BUCs for lunar communication



USING CUTTING-EDGE GaN TECHNOLOGY, THE NEW K SSPA 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 500 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.

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, N:1)
- * OPEX savings
- * Weatherproof
- * Compact design
- * Simple operation & maintenance



OTHER FEATURES

* Automatic Control Mode:
AGC, ALC

* Pressure window

* Output RF calibrated
sample port

* Ethernet port

* Harmonic filter

OPTIONS

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

* Receive reject filter
(external)

* SNMP

RF performance

Operating frequency range	22.55-23.15 GHz
Output power ($P_{SAT (typical)}$)	57 dBm
Linear output power ($P_{LINEAR*}$)	54 dBm
Gain	> 70 dB
Gain flatness	4 dB p-p max over full band; 1dB p-p max over any 40 MHz
Gain variation over temperature	± 1.5 dB over full operating range
Attenuation adjustment range	20 dB in 0.1 dB step
Input VSWR	$\leq 1.5:1$
Output VSWR	$\leq 1.3:1$
Spectral regrowth	-30 dBc @ $P_{LINEAR*}$
IM3	-25 dBc @ $P_{LINEAR*}$
Spurious	-60 dBc max @ $P_{LINEAR*}$

** According to MIL-STD-188-164C: 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. For two equal amplitude CW carriers (5MHz apart), when any individual intermodulation product power is -25 dB relative to the combined power of the two CW carriers.*

Power Supply

Input voltage	90-264 VAC, 50-60 Hz
Power consumption @ Psat	<3500 W

Interfaces & Physical

Dimensions (L x W x H)	744 x 438 x 178 mm
Weight	54 Kg
Interfaces	RF input: 3.5 mm (f) RF output: WR42 grooved RF sample: 3.5 mm (f) AC line: 3-pin MIL circular M&C: 19-pin MIL circular / Ethernet port Water cooling interface: quick connect coupling connectors
Coolant (liquid)	Fluid: water glycol mixture Inlet temperature: 20 °C to 30 °C Inlet pressure: < 5 bar Flow rate: 14 l/min

Monitor & Control

Remote control	RS-485 / USB / Ethernet
Monitor parameters	Forward & Reverse output power / Input power / Temperature / Summary alarms
Internal self protection	Temperature / Reflected power / High output power

Environmental

Operating temperature	-30 °C to +50 °C
Storage temperature	-40 °C to +85 °C
Humidity	100 % condensing