Cellular Broadband Power Amplifier

High Output Power

Model PHPA900-500

500W Output Power

Phantom Technologies LTD
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www.phantomrf.com

General Description

The PHPA900-500 was design for signal amplifying in in cellular band, covering 699-960MHz. The unit controlled by a microprocessor for maximum protection against damage.

The development of the PHPA900-500 based on GaN power transistors for maximum efficiency, performance and reliability. Due to its robust design and utilization of most advance components, the PHPA900-500 provides high efficiency and reliability.

The PHPA900-500's relatively small dimensions make it suitable for many applications.

System Feature

- Design for High Output Power
- GaN Based
- Broadband – 699-960 MHz
- Plug & Play

Circuit Protections

- Thermal Overload
- Over Current
- Over Voltage

Circuit Control

- Standby (amplifier disable)
- VSWR protection Reset

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Technical Specifications

699-960 MHz band Transmitter specifications

Power Amplifier Characteristics

Parameter	Min.	Typ.	Max.	Units
Output Power		57		dBm
Flatness		1		+/- dB
Load VSWR		2:1	5:1	
Operating Mode	Open/Close Loop			
Input Signal	-3	-4	-5	dBm
Gain	60	61	62	dB
Output Flatness	-1		+1	dB@ 2:1 load
Output Power Stability (Over temp & Output power level)	-1		+1	dB@ 2:1 load
Harmonics		-40		dBc
Spurious		-70		dBc
IMD		-34		dBc
ACLR (Measured with 10MHz wideband signal, 6dB back-off; Measured over 70usec, Max 3% EVM of a QPSK signal)	-45	-46		dBc
Rise/fall time (after Tx On/Off command via TTL or LAN)		< 500		ms
BB Noise during TX Off		-85		dBm /MHz
Reverse power handling		500		W
Forward reported power accuracy Over Temp. Range	-1		+1	dB
Reverse reported power accuracy Over Temp. Range	-1		+1	dB

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Self-protections, Controls and Indications

Parameter	Description
Fault self-protection scenario	Reduce power level with increase in temperature above specifications Fully Shutdown at 85C
Fault self-recovery	Resume power level
LAN control	Status and On/Off commands
TX On/Off	(HW) TTL balanced input; (SW) command via LAN – either one active
Indications via LAN	• PA status • Communication link status • High Forward power (value + indication – good/bad) • High Reverse power (value + indication – good/bad) • VSWR status (value + indication – good/bad) • Temperature of PA • Current
Commands via LAN	TX - On/Off Read Status

Physical Data

Parameter	Description
Connectors	N-Type (F) – Input connector N-Type (F) – Output connector
Dimensions	19" x 4U
Weight	28 Kg

Electrical Data

Parameter	Min.	Typ.	Max.	Units
Power Supply		28		VDC
Current consumption		45	50	ADC
Control ON	3	5	28	VDC
Control OFF	0		3	VDC
Automatic Shut Down @ Low Voltage Supply	21	22	23	VDC

* Specifications are subject to change without prior notice

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