

GaN Solid State Transmitter

High Power SSPAs

S-band Solid State Power Amplifiers – Efficient, High Power, and Compact with proven GaN transistor technology

Features

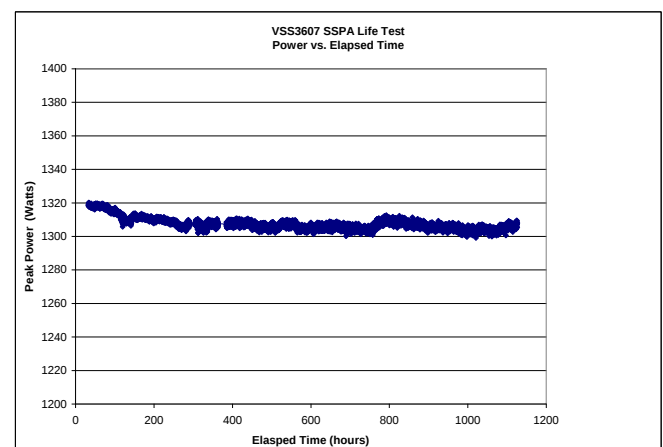
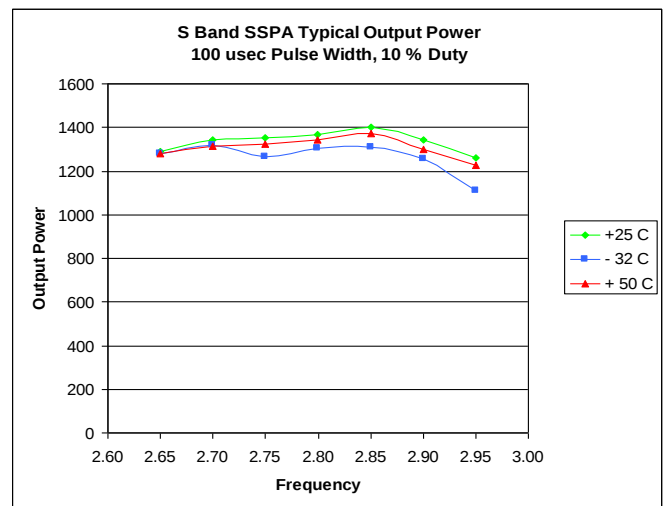
- High efficiency GaN transistors
- BIT and controls via EIA-422 remote connection
- 1.3 kW pulsed modules
- 2 kW to 20 kW power combined

CPI-Built RF Bricks

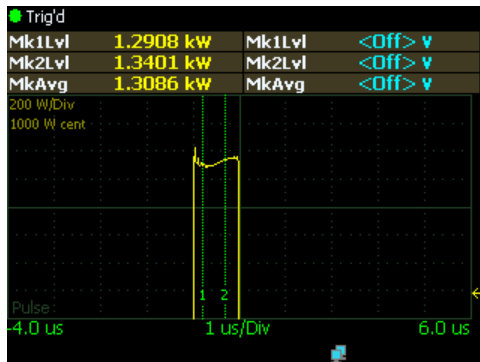
CPI's VSS3607 Solid State Power Amplifiers are rock-solid, highly-efficient and easy to maintain. The VSS3607 Solid State Power Amplifiers are designed for use in radar applications and cover the 2.7 – 2.9 GHz frequency band. Gallium Nitride transistors are combined into 1.3 kW bricks which are air cooled. The 1.3 kW bricks can be power-combined using radial combiners and waveguide combiners.

Optimized for Pulsed Radars

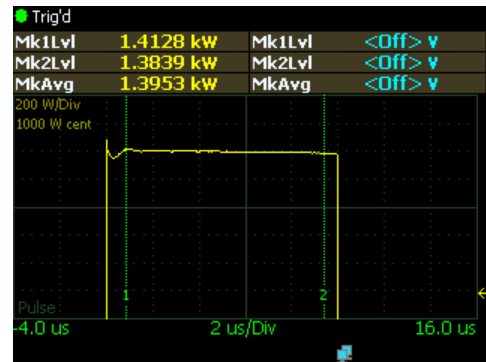
This amplifier utilizes GaN transistors to provide high gain, high efficiency and excellent pulse fidelity. The result is excellent AM/PM, phase-noise and spectral regrowth performance. This amplifier is compliant to NTIA regulatory requirements for this frequency.



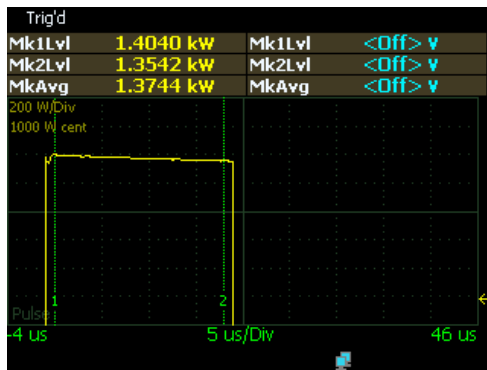
The values listed above represent specified limits for the product and are subject to change. The data should be used for basic information only. Formal, controlled specifications may be obtained from CPI for use in equipment design.



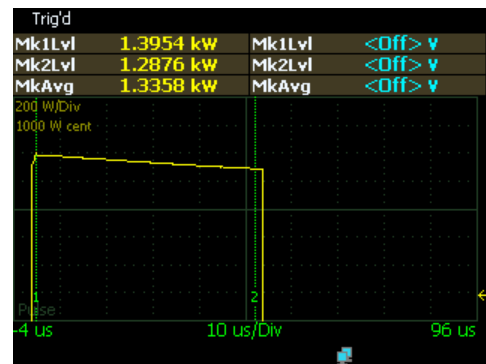
1 µs PW, 1 kHz PRF



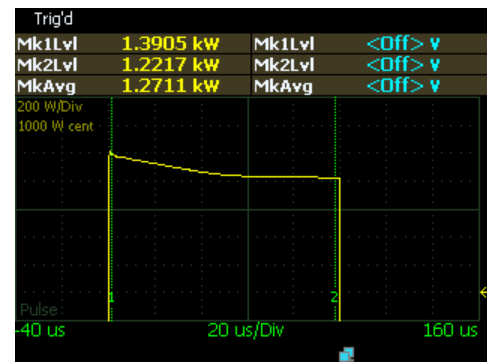
10 µs PW, 1 kHz PRF



20 µs PW, 1 kHz PRF



50 µs PW, 1 kHz PRF



100 µs PW, 1 kHz PRF

Output power for various pulse widths (PW) at 1 kHz pulse repetition frequency (PRF)

DC Power 30.5 VDC @ 12.9 A

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Electrical Specifications

Frequency Range	2.700 to 2.900 GHz
Peak RF Output	1.3 kW saturated, minimum
Pulse Width	1 to 100 usec (typical)
Pulse Droop	0.5 dB maximum
Duty Cycle	10% maximum
Output Power Flatness	1 dB across Frequency Range
Small Signal Gain	72 dB nominal
Input VSWR	1.5:1 maximum
Output VSWR	1.5:1 maximum
Harmonic Output	-35dBc maximum
Interpulse Thermal Noise	-110 dBc / MHz maximum
Noise Power Density	-100 dBc into a 1 MHz bandwidth
NTIA Compliance	Compliant for a radar of this frequency

Electrical, Mechanical and Environmental Specifications

Prime Power	30.5 VDC @ 13 Amps
Ambient Temperature	-30C to +70C operating
Relative Humidity	100% non-condensing
Altitude	30,000 feet operating, 70,000 feet non-operating
Shock and Vibration	Ruggedized for Harsh Environments.
Cooling	Forced air
RF Input Connection	SMA female
RF Output Connection	Type N female
RF Output Monitor	Control Connector
Dimensions (width)	9.5 "
Dimensions (height)	1.75"
Dimensions (depth)	15.5"
Weight	11 lbs max.

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Certificate Number: 11607

For information on this and other CPI products visit our webpage at www.cpii.com, or contact CPI Beverly Microwave Division, 150 Sohier Road, Beverly, MA 01915
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