

## C-Band GaN 1.0 kW Pulsed Solid State RF Power Amplifier Module

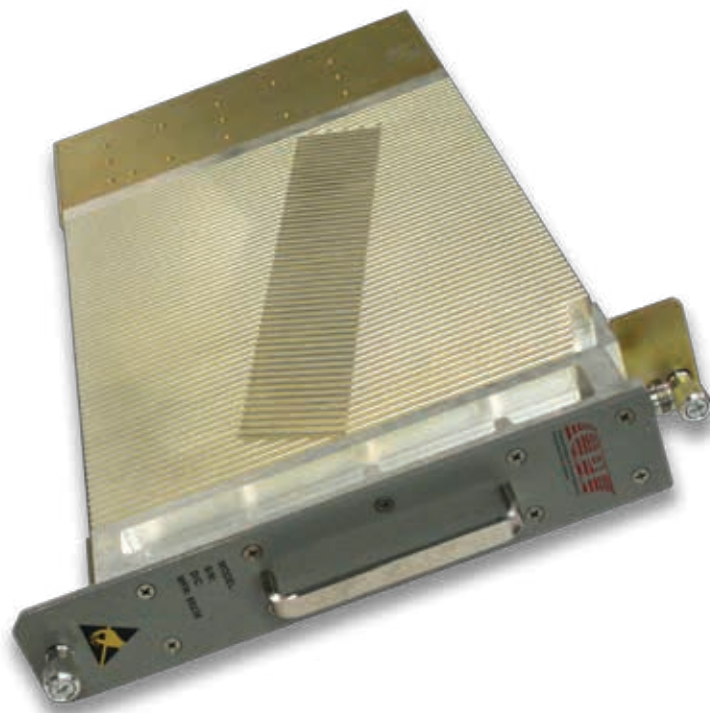
### VSC3644

#### Features:

- Building block for C-band radar systems
- 1.0 kW pulsed modules
- High efficiency GaN transistors
- BIT & controls via EIA-422 remote connection
- Blind mate DC and control connectors
- 6dB output power reduction mode

#### Benefits:

- Easy to maintain
- High gain
- Excellent pulse fidelity
- Outstanding spectral performance



### C-Band RF Power Modules

High efficiency, high power and compact with proven GaN technology. Can be easily combined to create high power C-band radar transmitters.

CPI BMD's solid state power amplifiers are reliable, highly-efficient and easy to maintain. The VSC3644 solid state power amplifiers are designed for use in maritime surveillance and weather radar transmitters and cover the 5.2 – 5.9 GHz frequency band. GaN transistors are combined into a 1.0 kW output and are air cooled. These 1.0 kW bricks can be power-combined using waveguide combiners to achieve the power levels required for various radars.

#### Applications:

- Maritime and defense radars
- High resolution weather radars



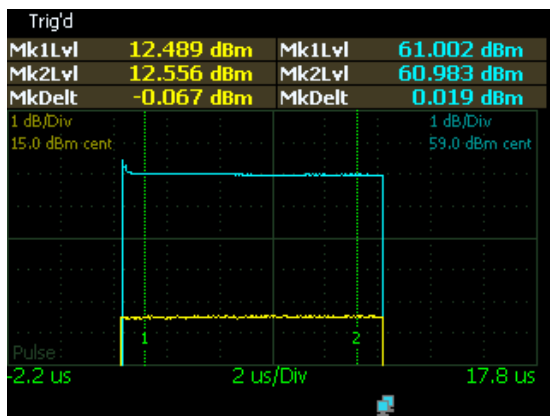
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### Specifications

Frequency range	5.2 to 5.9 GHz
Typical saturated peak RF output with input 12 dBm	1.0 kW
Typical pulse width	1 to 100 $\mu$ sec
Maximum pulse droop	0.5 dB
Maximum duty cycle	10%
Output power flatness across frequency range	$\pm 1$ dB
Nominal small signal gain	46 dB
Pulse to pulse stability	62 dB
Maximum output VSWR	1.5:1
Maximum harmonic output	-35 dBc
Maximum Interpulse noise at 30 $\mu$ s	-165 dBm/Hz
Pulse repetition rate	To 1.2 KHz
NTIA Compliance	Compliant for a radar of this frequency – with customer pulse shaping as required.

### Mechanical and Environmental Specifications

Prime power	52 VDC @ 9.4 Amps
Operating ambient Temperature	+5° to +50° C
Non-condensing relative humidity	95%
Operating altitude	15,000 ft. (4.57 km)
Shock and vibration	Rack mounted – ground benign
Cooling	Forced convection to RT 100 cfm
Operational with reduced performance	+50°C
RF Input connection	SMA Jack
RF Output connection	N Jack
RF Output and VSWR monitor	Control connector
Dimensions (width)	1.97 in.(5.0 cm)
Dimensions (height)	9.3 in.(23.6 cm)
Dimensions (depth)	18 in.(45.7 cm) Excluding connectors
Maximum weight	20 lbs.(9.0 kg)



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.

For information on this and other CPI products visit our webpage at [www.cpii.com/BMD](http://www.cpii.com/BMD), or contact:  
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