

## Communications & Power Industries Beverly Microwave Division Solid State Power Module



Example of a 4.0 kW combined amplifier

### 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 VSC3699 solid state power amplifiers are designed for use in maritime surveillance and weather radar transmitters and cover the 5.4 – 5.9 GHz frequency band. GaN transistors are combined into a 1.1 kW output and are air cooled. These 2.0 kW modules as a baseline can be power-combined to achieve the power levels required for various radars

#### FEATURES:

- Building block for C-band radar systems
- 2.0 kW pulsed modules
- High efficiency GaN transistors
- BIT & controls via EIA-422 remote connection
- Blind mate DC and control connectors
- Liquid cooled (air cooled available)

#### BENEFITS:

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

#### APPLICATIONS:

- Maritime and defense radars
- High resolution weather radars
- RF drivers

# C-Band GaN Pulsed Solid State RF Power Module: VSC3699

## Specifications

Frequency range	5.4 to 5.9 GHz
Maximum saturated peak RF output	1.1 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	58 dB
Stability	60 dB
Maximum output VSWR	1.5:1
Maximum harmonic output	-35 dBc
Maximum Interpulse Thermal Noise	-105 dBm/Hz
Noise power density	-160 dBc in a 100 MHz Bandwidth
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	55 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 – shipboard/ground
Cooling	Liquid (propylene glycol) to +50C
RF Input connection	BMA Male
RF Output connection	N-type Female (one per side)
RF Output and VSWR monitor	DC Power and Monitor
Dimensions	Nominally 12.3 in.(312.4 mm) Nominally 3.12 in.(79.2 mm) Nominally 21.1 in.(535.9 mm)
Maximum weight	34.5 lbs.(15.6 kg)

