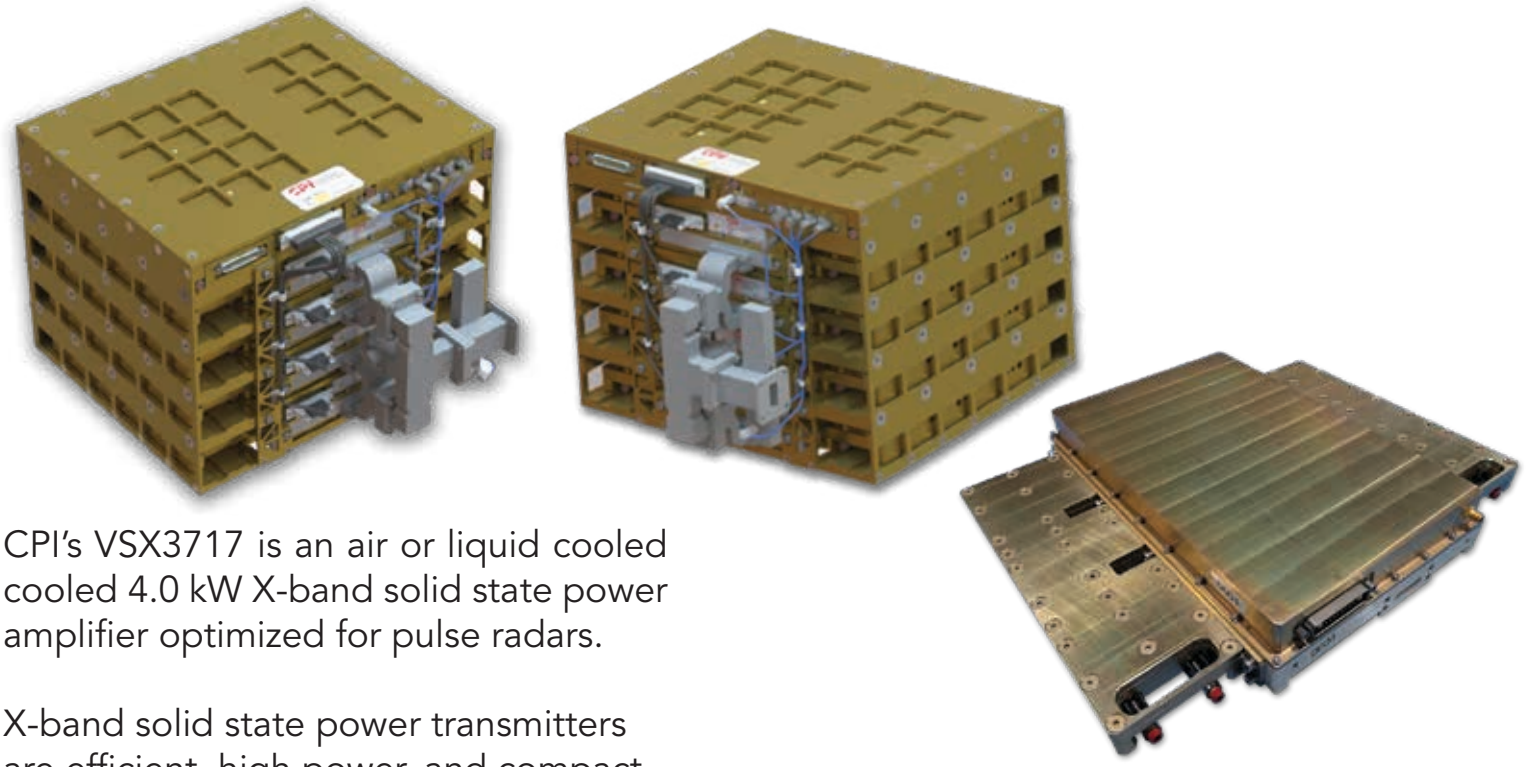
X-Band 4.0 kW RF Power Transmitter

VSX3717

Communications & Power Industries RF Power Transmitter



CPI's VSX3717 is an air or liquid cooled cooled 4.0 kW X-band solid state power amplifier optimized for pulse radars.

X-band solid state power transmitters are efficient, high power, and compact with proven GaN transistor technology.

CPI's VSX3717 solid state power amplifier is rugged, reliable, and easy to maintain. The VSX3617 solid state transmitter is designed for use in radar applications and covers the 9.0 – 10.0 GHz frequency band.

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.

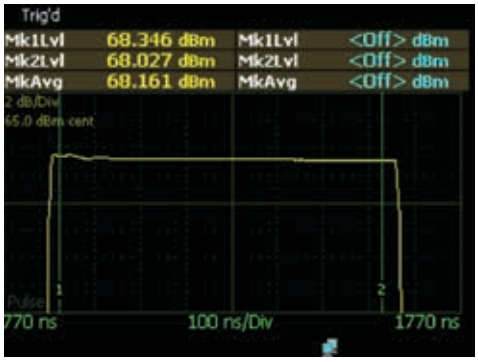
FEATURES:
- Frequency band: 9.0 – 10.0 GHz
- High efficiency GaN transistors
- BIT and controls
- 4000 W pulsed module @ 10% duty

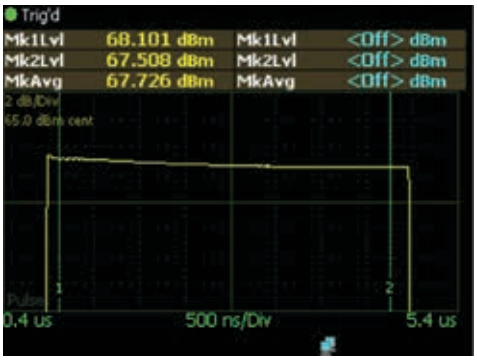
BENEFITS:
- Can be power combined
- Long life
- High efficiency
- Excellent pulse fidelity
- Low AM/PM
- Low phase noise

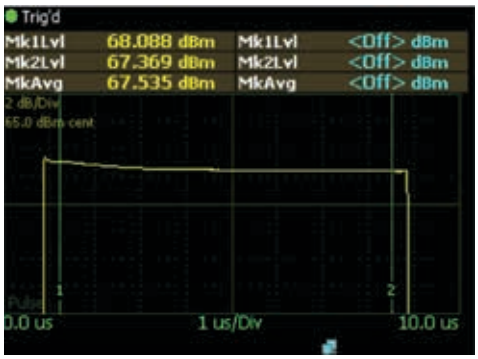
APPLICATIONS:
- Pulsed radars
- Airborne radars
- TWTA replacements

CPI Communications & Power Industries

www.cpii.com/bmd


Trig'd
Mk1Lvl 68.346 dBm Mk1Lvl <Off> dBm
Mk2Lvl 68.027 dBm Mk2Lvl <Off> dBm
MkAvg 68.161 dBm MkAvg <Off> dBm
770 ns
100 ns/Div
1770 ns


Trig'd
Mk1Lvl 68.101 dBm Mk1Lvl <Off> dBm
Mk2Lvl 67.508 dBm Mk2Lvl <Off> dBm
MkAvg 67.726 dBm MkAvg <Off> dBm
0.4 us
500 ns/Div
5.4 us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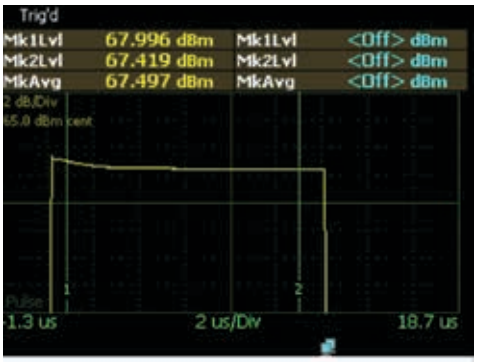
Mk2Lvl 67.369 dBm Mk2Lvl <Off> dBm
MkAvg 67.535 dBm MkAvg <Off> dBm
0.0 us
1 us/Div
10.0 us


Trig'd
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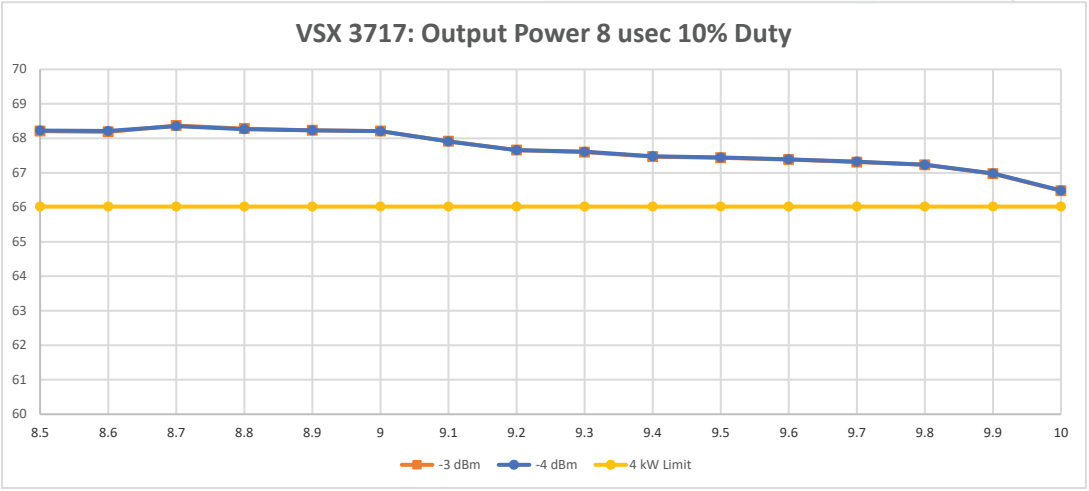
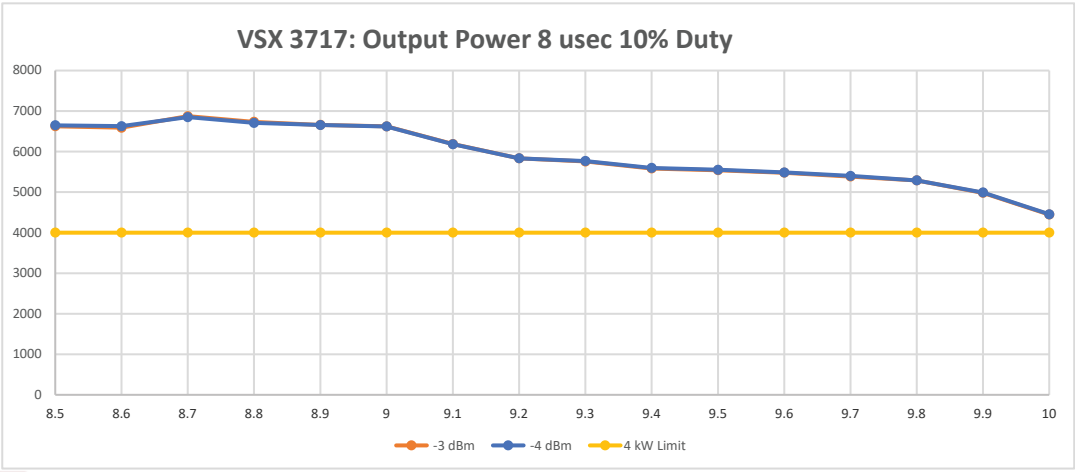
Mk2Lvl 67.419 dBm Mk2Lvl <Off> dBm
MkAvg 67.497 dBm MkAvg <Off> dBm
1.3 us
2 us/Div
18.7 us


VSX 3717: Output Power 8 usec 10% Duty
70
69
68
67
66
65
64
63
62
61
60
8.5
8.6
8.7
8.8
8.9
9
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
-3 dBm
-4 dBm
4 kW Limit


VSX 3717: Output Power 8 usec 10% Duty
8000
7000
6000
5000
4000
3000
2000
1000
0
8.5
8.6
8.7
8.8
8.9
9
9.1
9.2
9.3
9.4
9.5
9.6
9.7
9.8
9.9
10
-3 dBm
-4 dBm
4 kW Limit

CPI X-Band RF Transmitter: VSX3717

Specifications

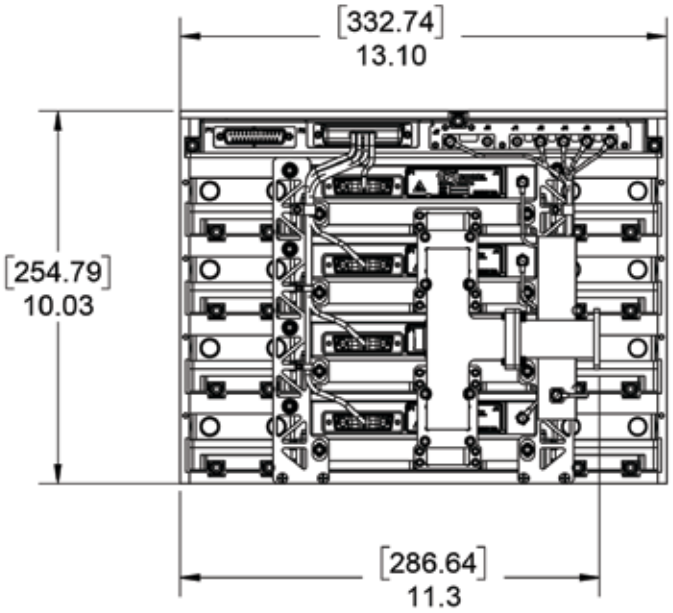
Frequency Range	9.0 to 10.0 GHz
Saturated Peak RF Output	4.0 kW nominal
Typical Pulse Width	1 to 100 µsec
Maximum Pulse Droop	1 dB
Maximum Duty Cycle	10%
Output Power Flatness	Dependent on operating bandwidth
Nominal Input Power	0 dB
Maximum Input VSWR	1.5:1
Maximum Output VSWR	2.0:1
Maximum Harmonic Output	-35 dBc
NTIA Compliance	With appropriately shaped input pulse

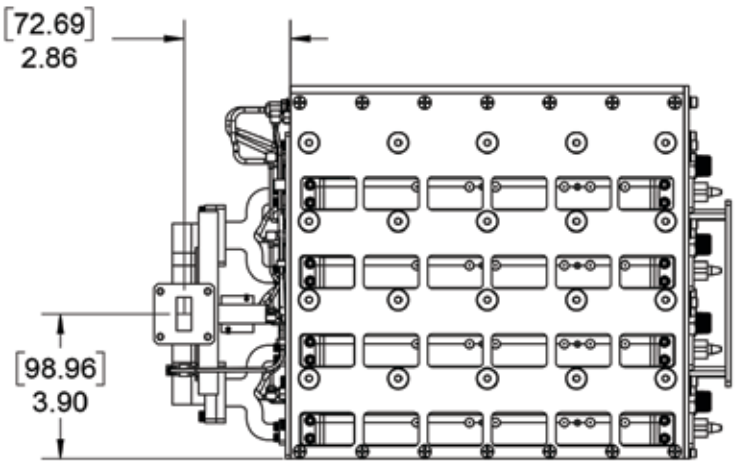
Specifications

Prime Power	50.5 VDC @ 65 A nominal 70 A max
Ambient Temperature	-30°C to +50°C operating
Relative Humidity	90% non-condensing
Shock and Vibration	Ruggedized for harsh environments
Cooling	Air or liquid cooled
RF Input Connection	SMA female
RF Output Connection	WR 90

Mechanical

See outline drawing





Communications & Power Industries

Beverly Microwave Division
150 Sohier Road
Beverly, Massachusetts
USA 01915

tel +1 978-922-6000
email BMDMarketing@cpii.com
fax +1 978-922-8914
web www.cpii.com

For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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