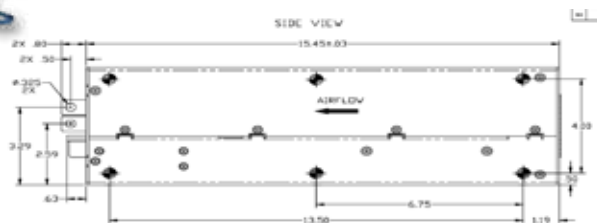
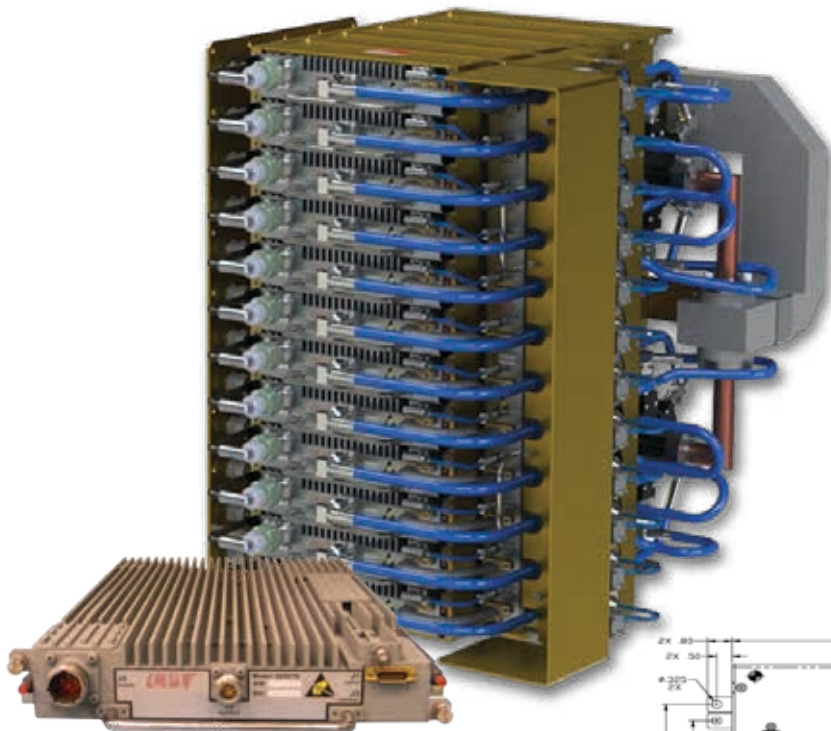


## Communications & Power Industries Beverly Microwave Division GaN SSPA for Meteorological Radar



Notes: Power supply is a separate assembly that is inclusive in the VSS3705 transmitter.

### CPI-Built RF Power Modules

High efficiency, high power, and compact with proven GaN transistor technology.

CPI's VSS3705 Solid State Power Transmitter is reliable, highly-efficient and easy to maintain. The VSS3705 Solid State Power Transmitter is designed for use in weather radar transmitters and covers the 2.7 – 2.9 GHz frequency band. GaN transistors are combined into 1.3 kW bricks which are air cooled. The 1.3 kW bricks are power-combined using radial combiners and waveguide combiners.

### Optimized for Weather Radars

This amplifier utilizes GaN transistors to provide high gain, high efficiency and excellent pulse fidelity. This results in exceptional AM/PM, phase-noise and spectral regrowth performance

#### FEATURES:

- 12 kW power combined (minimum)
- BITE and controls
- Fully redundant
- Soft fail power combining

#### BENEFITS:

- High efficiency
- Excellent pulse fidelity
- Excellent AM/PM, phase noise, and spectral regrowth performance

#### APPLICATIONS:

- Weather radar

# S-Band 12 kW Solid State Power Amplifier: VSS3705

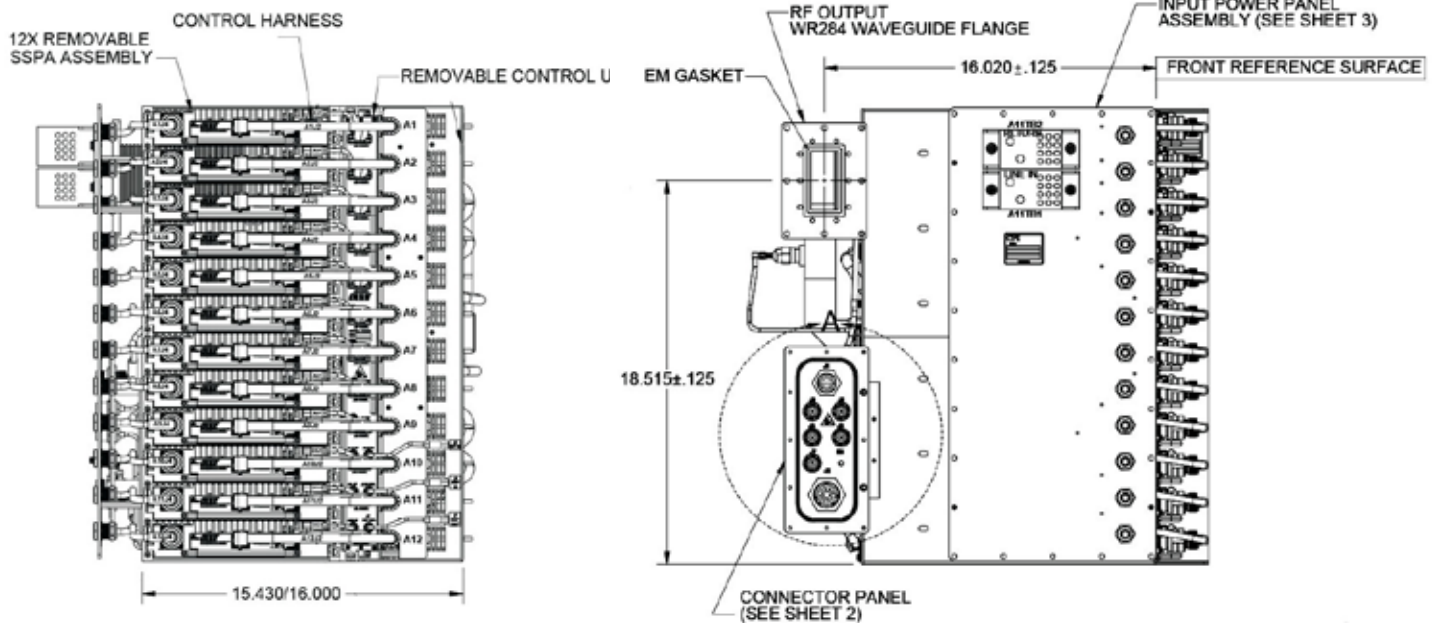
## Specifications

Frequency range	2.7 – 2.9 GHz
Minimum saturated peak RF Output	12 kW
Typical pulse width	1 to 100 $\mu$ sec
Maximum Pulse Droop	0.5 dB
Duty cycle	10%
Output power flatness across frequency range	1 dB
Nominal small signal gain	50 dB
Nominal input power	+5 +/-2 dBm
Maximum output VSWR	1.5:1
Harmonic output	-50 dBc
Maximum interpulse thermal noise	-165 dBm/Hz
Noise power density	-90 dBc into a 1 MHz bandwidth
MTBF	>140,000 hours
NTIA Compliance	Compliant with customer pulse shaping as required

## Specifications

Prime Power	208 VAC, 3 Phase, 50-60Hz External to the SSPA
Ambient Temperature	0C to +50C operating
Relative Humidity	100% non-condensing SSPA only
Altitude	Operating 30,000 feet (9.14km) Non-operating 70,000 feet (21.34km)
Shock and Vibration	Air & truck transportation
Cooling	Forced air, External blower required
RF Input Connection	N type female
RF Output Connection	WR 284
RF Output Monitor	Control connector
Dimensions (width)	18 in (45.72 mm)
Dimensions (height)	22 in (55.88 cm)
Dimensions (depth)	22 in (55.88 cm)
Weight	<600 lbs. max. (272.15 kg)

NOTE: Transmitter needs to be mounted in an enclosure for structural and cooling requirements,



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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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