CPI-Built RF Power Modules

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

CPI’s Solid State Power Amplifiers are reliable, highly-efficient and easy to maintain. The VSS3634 Solid State Power Amplifiers are designed for use in air traffic control radar transmitters and cover the 2.6 – 3.0 GHz frequency band. GaN transistors are combined into 1.3 kW (VSS3634) bricks which are air cooled. These 1.3 kW bricks can be power-combined using radial combiners and waveguide combiners to achieve the power levels required for Air Traffic Control radars.

FEATURES:
- Designed for Air Traffic Control radars
- 1.3 kW pulsed modules
- High efficiency GaN transistors
- BIT and controls via EIA-422 remote connection
- Compact and light weight
- Blind mated power and control connectors
- Internal processor with health monitoring
- Controllable 6dB output attenuation

BENEFITS:
- Easy to maintain
- Provides high gain
- Excellent pulse fidelity
- Exceptional AM/PM, phase-noise and spectral regrowth performance

APPLICATIONS:
- Air Traffic Control Radar
### Specifications

**Prime Power**
- 31 VDC @ 14 Amps

**Ambient Temperature**
- -32°C to +70°C operating
- 100% non-condensing

**Altitude**
- Operating: 30,000 feet (9.14km)
- Non-operating: 70,000 feet (21.34km)

**Shock and Vibration**
- Air & Truck Transportation

**Cooling**
- Forced air

**RF Input Connection**
- BMA male

**RF Output Connection**
- Type N female

**RF Output Detector**
- Control connector

**RF Input Monitor**
- SMA female

**Forward / Reverse Power Monitor**
- SMA female

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#### Frequency range
2.6 – 3.0 GHz

#### Minimum saturated peak
1.3 kW

#### RF Output
100 μs PW

#### PRF
1kHz

#### Typical pulse width
1 to 100 μsec

#### Maximum Pulse Droop
0.5 dB

#### Duty cycle
10%

#### Output power flatness across frequency range
1 dB

#### Nominal small signal gain
50 dB

#### Maximum input VSWR
1.5:1

#### Maximum output VSWR
1.5:1

#### Harmonic output
-65 dBC

#### Maximum interpulse thermal noise
-160 dBm/Hz

#### Noise power density
-100 dBC into a 1 MHz bandwidth

#### MTBF
>140,000 hours

#### NTIA Compliance
Compliant with customer pulse shaping as required

#### Internal Output Isolator
Provided for VSWR protection.

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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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