

## **Communications & Power Industries Solid State GaN Power Amplifiers** High efficiency and reliability

L-BAND SOLID-STATE POWER AMPLIFIERS

S-BAND SOLID-STATE POWER AMPLIFIERS

**C-BAND SOLID-STATE** POWER AMPLIFIERS

**X-BAND SOLID-STATE** POWER AMPLIFIERS

## CPI S-Band Solid State Power Amplifiers

- Frequency range: 2.7 to 2.9 GHz
- BIT and controls via EIA-422 remote connection
- 1.3 kW pulsed modules
- Built-in VSWR protection
- Compliant to NTIA regulatory requirements
- Provide high gain, excellent pulse fidelity
- Excellent pulse fidelity with low AM/PM, phase-noise and spectral regrowth performance
- Easy to maintain

## Used in Air Traffic Control radar systems

### S-Band GaN 12kW High Power Transmitters

- Transmitter cabinet with 12 kW minimum peak output power
- Soft fail by virtue of power combining
- Full redundancy
- >160 dB of power attenuation available
- Designed for ATC shelter applications

#### S-Band GaN 1.3 kW High Power SSPA

- 1.3 kW pulsed modules that can be power combined for higher peak power output
- Internal processor with BITE monitoring
- Self protecting

## Used in Precision Approach Radar Transmitters

### S-Band GaN 10 kW High Power Transmitters

- Transmitter with 10 kW minimum peak power output
- Soft fail by virtue of power combining
- Excellent noise performance due to operation off of stored energy during the RF pulse
- Designed for small mobile applications

## S-Band GaN 1.3 kW High Power SSPA

- 1.3 kW pulsed modules that can be power combined for higher peak power output
- Internal BIT circuitry via EIA-422 remote connection
- Self protecting







Ruggedized for use in pulsed airborne, naval and ground radar



## Excellent Stability & Phase Noise Performance

## X-Band Solid-State Power Amplifiers

## X-Band GaN 1.5 kW High-Power SSPA

- Frequency range: 9.0 10.0 GHz
- BIT and controls
- Pulsed modules at 10% duty
- 1.5 kW peak power
- Easily combined to create high-power X-band radar transmitters

## X-Band GaN 1.0 kW High-Power SSPAs

- Frequency range: 8.5 10.0 GHz
- BIT and controls
- 1.0 kW peak power
- Output power: Option 1: Typical 1000 W Option 2: Typical: 400 W (300 W min)
- Duty cycle: Option 1: 10% Max. Option 2: 15% max.
- VSWR: 2:1 max
- Easily combined to create high-power X-band radar transmitters

## S-Band Solid-State Power Amplifiers

## S-Band GaN 1.3 kW High-Power SSPA

- Frequency range: 2.7 2.9 GHz
- 1.3 kW pulsed module
- BIT and controls via EIA-422 remote connection
- Easily combined for any power level
- Hermetically sealed for extreme environments

## S-Band GaN 12.0 kW High-Power Transmitter

- Frequency range: 2.7 2.9 GHz
- 1.3 kW pulsed
- BIT and controls via EIA-422 remote connection
- Soft fail combining
- Fully redundant



# Solid State Power Amplifiers

- Compact, reliable, and easy to maintain
- High efficiency amd excellent pulse fidelity
- Individual amplifiers and complete transmitters

Frequency	Peak Power	Duty Cycle	Interface	ТХ Туре	Base	Cooling
1.0 to 2.0	2	5	IEEE	PIA	GaN	Air
1.0 to 2.0	4	5	IEEE	PIA	GaN	Air
1.0 to 2.0	8	5	IEEE	PIA	GaN	Air
2.9 to 3.7	1.3	10	EIA-422	Module	GaN	Air
3.1 to 3.5	1.5	10	EIA-422	Module	GaN	Air
3.1 to 3.5	2.1	10	EIA-422	ТХ	GaN	Air
3.1 to 3.7	13	10	EIA-422	ТХ	GaN	Air
5.2 to 5.9	1	10	EIA-422	Module	GaN	Air
5.4 to 5.9	4	10	EIA-422	ТХ	GaN	Air
5.4 to 5.9	16	10	EIA-422	ТХ	GaN	Liquid
5.4 to 5.9	50	10	EIA-422	ТХ	GaN	Liquid
9.0 to 10.0	1	10	EIA-422	Module	GaN	Air
9.0 to 10.0	2	10	EIA-422	Module	GaN	Air
	1.0 to 2.0   1.0 to 2.0   1.0 to 2.0   2.9 to 3.7   3.1 to 3.5   3.1 to 3.5   3.1 to 3.5   3.1 to 3.7   5.2 to 5.9   5.4 to 5.9   5.4 to 5.9   9.0 to 10.0	Frequency   Power     1.0 to 2.0   2     1.0 to 2.0   4     1.0 to 2.0   8     2.9 to 3.7   1.3     3.1 to 3.5   1.5     3.1 to 3.5   2.1     3.1 to 3.7   13     5.2 to 5.9   1     5.4 to 5.9   4     5.4 to 5.9   50     9.0 to 10.0   1	FrequencyPowerCycle1.0 to 2.0251.0 to 2.0451.0 to 2.0852.9 to 3.71.3103.1 to 3.52.1103.1 to 3.713105.2 to 5.91105.4 to 5.94105.4 to 5.950109.0 to 10.0110	FrequencyPowerCycleInterface1.0 to 2.025IEEE1.0 to 2.045IEEE1.0 to 2.085IEEE2.9 to 3.71.310EIA-4223.1 to 3.51.510EIA-4223.1 to 3.52.110EIA-4223.1 to 3.71310EIA-4225.2 to 5.9110EIA-4225.4 to 5.9410EIA-4225.4 to 5.95010EIA-4229.0 to 10.0110EIA-422	FrequencyPowerCycleInterfaceTX Type1.0 to 2.025IEEEPIA1.0 to 2.045IEEEPIA1.0 to 2.085IEEEPIA1.0 to 2.085IEEEPIA2.9 to 3.71.310EIA-422Module3.1 to 3.51.510EIA-422TX3.1 to 3.52.110EIA-422TX3.1 to 3.71310EIA-422TX5.2 to 5.9110EIA-422TX5.4 to 5.91610EIA-422TX5.4 to 5.95010EIA-422TX9.0 to 10.0110EIA-422Module	Frequency   Power   Cycle   Interface   TX Type   Base     1.0 to 2.0   2   5   IEEE   PIA   GaN     1.0 to 2.0   4   5   IEEE   PIA   GaN     1.0 to 2.0   4   5   IEEE   PIA   GaN     1.0 to 2.0   8   5   IEEE   PIA   GaN     1.0 to 2.0   8   5   IEEE   PIA   GaN     2.9 to 3.7   1.3   10   EIA-422   Module   GaN     3.1 to 3.5   1.5   10   EIA-422   Module   GaN     3.1 to 3.7   13   10   EIA-422   TX   GaN     5.2 to 5.9   1   10   EIA-422   TX   GaN     5.4 to 5.9   4   10   EIA-422   TX   GaN     5.4 to 5.9   16   10   EIA-422   TX   GaN     5.4 to 5.9   50   10   EIA-422   TX   GaN     9.0 to 10.0   1

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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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