

1000W X-Band Solid State Pulse Amplifier MODEL APRA-X5000A



Features

- Modular architecture
- Fast pulse rise/fall times (<50ns)
- Duty cycle up to 10%
- Minimal pulse droop (<0.5 dB @ 100 μ s)
- High stability (phase and amplitude)
- Gain compensation over temperature
- Remote monitor and control capability via RS485 and Ethernet
- Input and output sample monitor ports
- Power factor correction
- No rear access required for operation or maintenance)

Overview

The Advantech Wireless Model APRA-X5000A, X-Band solid-state pulse amplifier operates over the band of 8.9 – 9.5 GHz.

The peak power at the output connector is 1000W. The design of the product is based on Advantech's tradition of high power and high efficiency line of amplifiers.

Built-in features such as duty cycle monitor and pulse width monitor ensure trouble free operation.

1000W X-Band Solid State Pulse Amplifier MODEL APRA-X5000A

Technical Specifications

Operating Frequency Range	8.9 – 9.5 GHz
Output Power	1000W min (+60 dBm) @ 15% duty cycle over the full band and operating temperature range
Input Drive Level	0 dBm
Gain Flatness	1dB p-p over full frequency range
Duty Cycle	10% max
Pulse Width	1 – 100 μ s
Pulse Repetition Frequency	15 kHz max
Pulse droop	<0.5dB max at 100 μ s
T-rise/T-fall	<50ns
Harmonics	-40 dBc max
Phase drift (within the pulse)	<10° max @ peak output
Non-Harmonic Spur	-65 dBc
Input / Output Impedance	50 Ohms
Input VSWR	1.5:1
Output VSWR	1.3:1
Gating Signal	TTL to precede RF pulse by 5 μ s High = Transmit. Low = off
Monitor Output (optional)	Calibrated output sample loop with 50dB attenuation. SMA connector

Power Requirements

AC Input voltage	180 – 264 VAC (47 – 63 Hz)
Power Consumption (nominal)	800W @ 10% duty cycle

Mechanical Characteristics

Panel Height/Width/Depth	3 RU / 19" rackmount chassis / 26" deep
Weight	25kg
Cooling	Forced air, front intake

Interfaces

RF input SMA(f), 50 Ohm	RF output	WR90
RF Output sample port SMA(f)	Detected RF PowerBNC (f) pulsed DC	
Monitor & Control	Ethernet RJ-45	RS422/485 DB9 (f)
AC Line	IEC 120 or TBD	

Monitor and Control

Operating Modes	Remote & Local with manual over-ride of remote operation (via toggle switch)
Output Power Control	High Power Mode / Low Power Mode

Parameters on display locally or remotely via Ethernet or Serial port:

- | | | |
|------------------------------|----------------|--|
| a- Forward & Reflected power | b- Duty Cycle | c- Elapsed time of transmitter operation |
| d- Operating temperature | e- Output VSWR | f- Operating voltage & current |

Protection against damage:

- | | | |
|------------------------|-------------------------|------------------------------------|
| a- Over Temperature | b- Over current | c- Excess duty cycle |
| d- RF input over drive | e- High Reflected power | f- over & under voltage conditions |

Environmental

Operating temperature	0°C to +60°C
Storage temperature	-55°C to +85°C
Humidity	5% to 95%, non-condensing
Altitude	10,000' AMSL, derated 2oC/1000' from AMSL

Ref.: PB-APRA-X5000A-19115

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com