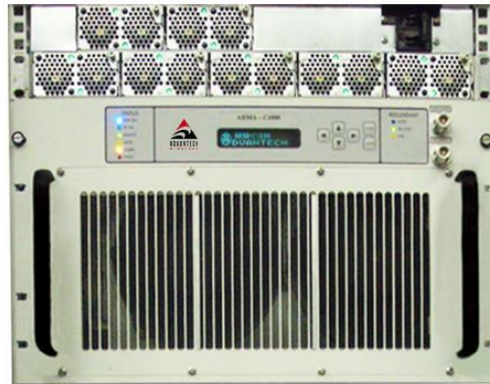


# 2500W S-Band Solid State Pulse Amplifier MODEL APRA-S2500A

GaN based



## Features

- Fast pulse rise/fall times (<50ns)
- Duty cycle up to 15%
- Minimal pulse droop (<1% @ 100  $\mu$ 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

## Overview

The Advantech Wireless Model APRA-S2500A, S-Band GaN based Solid-State Pulse Amplifier operates over the band of 2.7 – 2.9 GHz.

The peak power at the output connector is 2500W. 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.

## 2500W S-Band Solid State Pulse Amplifier MODEL APRA-S2500A

### Technical Specifications

Operating Frequency Range	2.7 – 2.9 GHz
Peak Output Power	2500W min (+64 dBm) @ 10% duty over the full band and operating temperature range
Input Drive Level	0 dBm min.
Gain Variation	2dB p-p over frequency range
Duty Cycle	10% max
Pulse Width	0.1 – 100 $\mu$ s
Pulse Repetition Rate	500 -1150 pulses/s
Pulse droop	<2% max at 100 $\mu$ s
T-rise/T-fall	<100 ns
Harmonics	-45 dBc max
Phase drift (within the pulse)	<10° max @ peak output
Non-Harmonic Spur	-65 dBc
Input / Output Impedance	50 Ohms
Input / Output VSWR	1.5:1 Load VSWR up-to 2.5:1 with no damage
Gain variation over Temperature	3 dB p-p
Gating Signal	TTL to precede RF pulse by 5 $\mu$ s
Decay Interval	Amplifier output will cease 150 $\mu$ s after loss of gating signal
Monitor Output (optional)	Calibrated output sample loop with 50dB attenuation. N- connector

### Power Requirements

AC Input voltage	90 – 264 VAC (47 – 63 Hz)
Power Consumption (nominal)	2000W @ 10% duty cycle

### Mechanical Characteristics

Panel Height/Width/Depth	3 RU / 19" rackmount chassis / 26" deep + 1RU PS Shelf
Weight	30 kg
Cooling	Forced air, front intake

### Interfaces

RF input	N-type (f) or TBD	RF output	7/16-type
RF Output sample port	N(f)	Gating Signal (TTL)	BNC (f)
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	20dB range in 0.1dB steps	
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 +50°C
Storage temperature	-55°C to +85°C
Humidity	5% to 95%, non-condensing
Altitude	10,000' AMSL, derated 2°C/1000' from AMSL

Ref.: QB-APRA-S2500A-18243

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