400W S-Band Solid State Pulse Amplifier
MODEL APRA-S4000A

Features

- Modular architecture
- Fast pulse rise/fall times (<75ns)
- Duty cycle up to 20%
- Minimal pulse droop (<1% @ 50 µs)
- 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-S400A, S-Band solid-state pulse amplifier operates over the band of 2.9 – 3.1 GHz. The peak power at the output connector is 400W.

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.

400W S-Band Solid State Pulse Amplifier

Technical Specifications			
Operating Frequency Range	2.9 – 3.1 GHz		
Peak Output Power	400W min (+56 dBm) @ 20% duty over the full band and operating temperature range		
Output Power Control	High Power mode +56 dBm / Low Power Mode +50 dBm		
Input Drive Level	0 dBm min.		
Gain Variation	2dB p-p over frequency range		
Duty Cycle	20% max		
Pulse Width	0.1 – 100 µs		
Pulse Repetition Frequency	5 kHz max, ± 5% staggering		
Pulse droop	<0.8dB max at 100 µs		
T-rise/T-fall	<75 ns		
Harmonics	-60 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 frequency	2 dB p-p		
Gating Signal	TTL to precede RF pulse by 2 µs active Low		
Decay Interval	Amplifier output will cease 2µs after loss of gating signal		
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)	600W @ 20% duty cycle		
Mechanical Characteristics			
Panel Height/Width/Depth	3 RU / 19" rackmount chassis / 26" deep		
Weight	25 kg		
Cooling	Forced air . front intake		
Interfaces			
RF input N-type (f) or TBD	RF output N-type (f)		
RF Output sample port SMA(f)	Detected RF Power BNC (f) pulsed DC		
Monitor & Control	Ethernet RJ-45	RS422/485 DB9 (f)	
AC Line IEC 120 or TBD			
Monitor & 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 Conditions			
Operating temperature	0°C to +50°C	Storage temperature	-55OC to +85OC
Humidity	5% to 95%, non-condensing		
Altitude	10,000' AMSL, derated 2°C/1000' from AMSL		

Ref.: PB-APRA-S4000A-18243

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com