



## AMP6020P SOLID STATE PULSE HIGH POWER AMPLIFIER



### FEATURES

- Small form factor rack-mounted system
- High power GaN pulse devices
- Instantaneous bandwidth
- Suitable for X-Band high power linear pulse applications
- Built-in protection circuits
- High reliability and ruggedness

### ELECTRICAL SPECIFICATIONS

Parameter	Specification		Notes
Model Number	-	AMP6020P-400    AMP6020P-800	
Operating Frequency Range	9.6 - 9.9 GHz		
Peak Output Power (Min)	-	400 Watt    800 Watt	20% Duty Cycle
Output Power Flatness	0 to +2 dB		Over operating & Temp Range
Input Power	0 - 5 dBm		Pulsed
Saturated Gain (Min)	-	56 dB    59 dB	
Output Power Control	6 dB, 1 dB steps		
Pulse Width	0.35 $\mu$ Sec - 50 $\mu$ Sec		Measured @ 50% pt.
Duty Cycle	20 % Max		
Pulse Repetition Frequency (PRF)	5 KHz Max, $\pm$ 5% staggering		
Rise / Fall Time	75 nSec		
Droop	<0.8 dB Max		50 $\mu$ Sec PW, 20% duty
Input / Output VSWR	1.5 : 1		Relative to 50 Ohm
Harmonics	-60 dBc Max		Internal Harmonics Filter
Phase drift within pulse	7.5° Max (Linear)		
Out of Band Spurious levels	-65 dBc Max		
Over Temp. Alarm	ON: TTL Low >75°C OFF: TTL High <70°C		
Load VSWR	2.5 : 1		Without damage
Gate Control Inputs	PA OFF: TTL High PA ON: TTL Low		TTL pulse precedes RF by 2 $\mu$ Sec
AC Input Voltage	230 VAC, $\pm$ 10%, 50 Hz $\pm$ 3 Hz		
AC Power Consumption	-	<1.0 kVA    2.2 kVA	
Noise Figure	<12 dB		Input VVA increases NF for the system
Detected RF Output	Pout = 0: VDET = 0 - 5 VDC Pout = Max: VDET = 4 - 4.5 VDC		Continuous DC Voltage
Phase Noise	-70 dBc/Hz @ 100 Hz from carrier		

### ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Ambient Temperature	-20 to +55°C	MIL-STD 810F, 502.4/501.4
Storage Temperature	-30 to +70°C	MIL-STD 810F, 502.4/501.4
Relative Humidity	95% @ 40°C	MIL-STD 810F, Method 507.4
Shock (Bump)	25 g for 6 mSec, 2-3 Bumps/Sec. 400 Bumps	MIL-STD 810F, Method 516.5
Vibrations	2m/S <sup>2</sup> from 20 -500 Hz	MIL-STD 810F, Method 514.5
Altitude	5160 m	MIL-STD 810F, Method 500.4
EMI/EMC	Conducted Susceptibility, Radiated Emissions	MIL STD 461E, Method CS101 MIL STD 461E, Method RE102

### MECHANICAL SPECIFICATIONS

Parameter	Specification			Notes
Dimensions W x H x D	-	R3U	R6U	Rack mounted chassis
Weight	-	20 Kg.	TBD	
RF Input Connector - Rear	Type N (F)			
RF Output Connector - Rear	WR 90 UG 136B/U (Choke Flange)			Aluminum w threaded holes
RF Sample Port - Front	SMA (F) Jack			0 - 6 dBm
Detected RF Power - Front	BNC (F)			Pulsed DC
AC Power - Rear	Amphenol, 97 - 3102A-2209 P (3 pin)			or equivalent
Transmit Gating Signal - Rear	SMA (F) Jack			Gating control input signal
Monitor & Control - Rear	Ethernet RJ-45 circular connector TCP/IP RS232 D-sub 9S port for redundancy			
Cooling	Built in Fan Cooling			

## Transmitter Gate Waveform

- TTL pulse precedes RF by 2  $\mu$ Sec

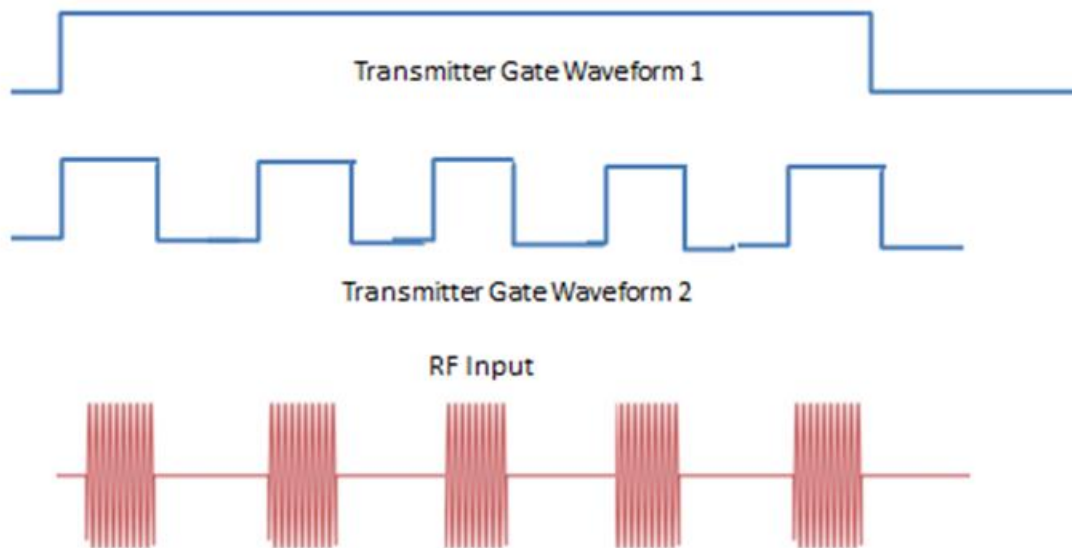
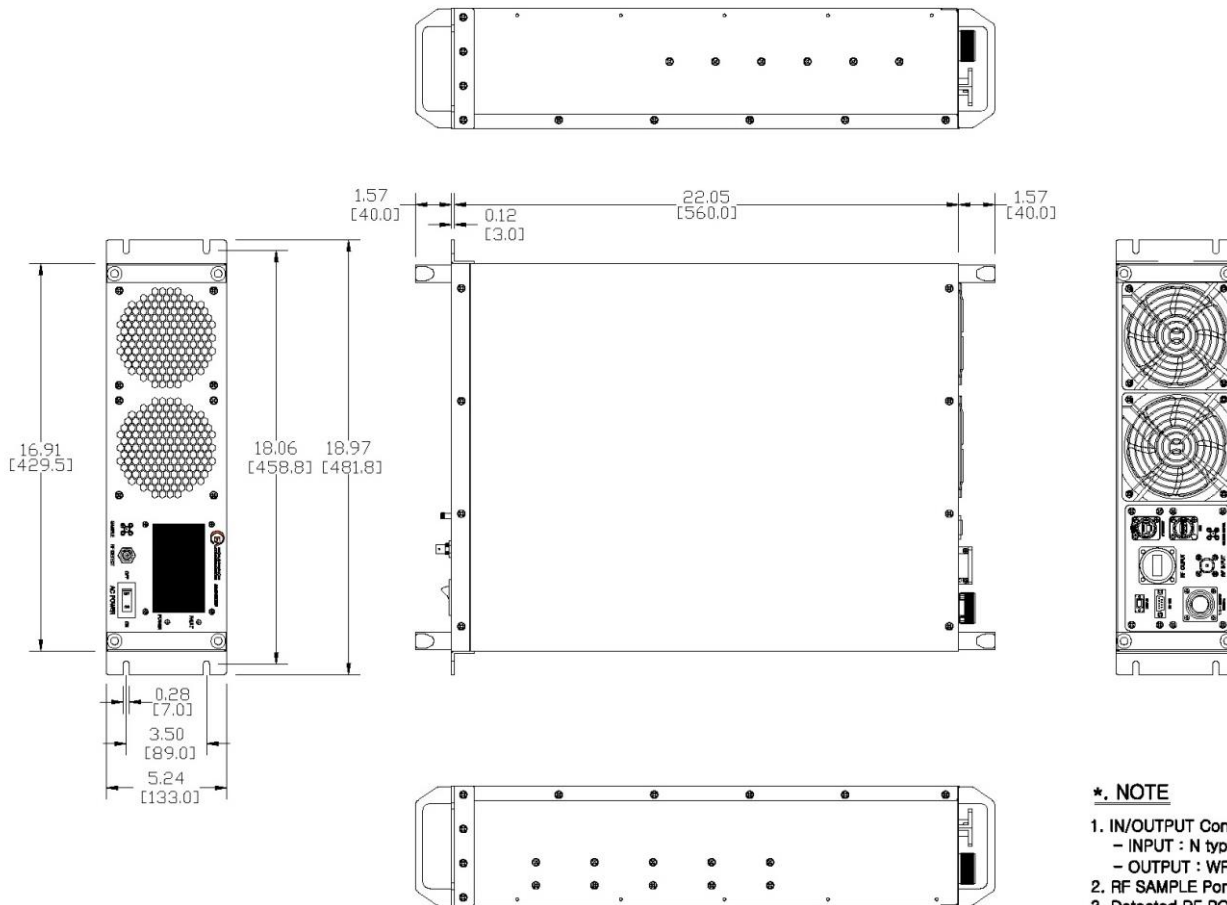


Fig.1

# AMP6020P SOLID STATE PULSE HIGH POWER AMPLIFIER

## OUTLINE DRAWING - R3U

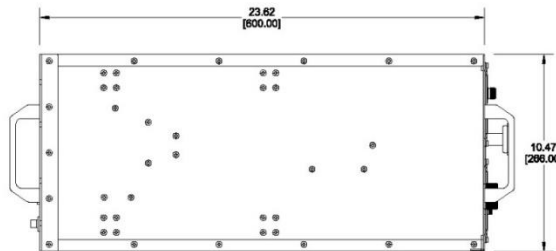
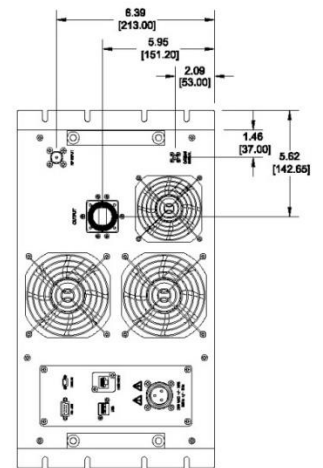
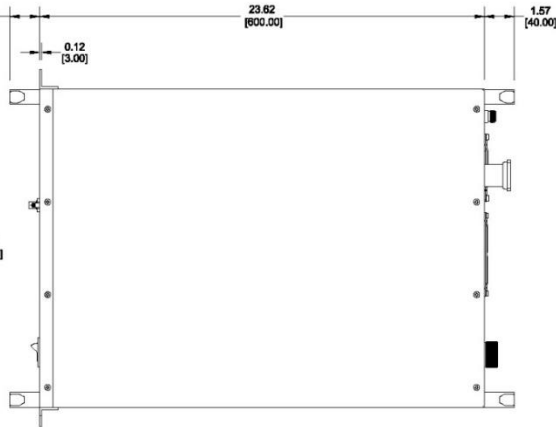
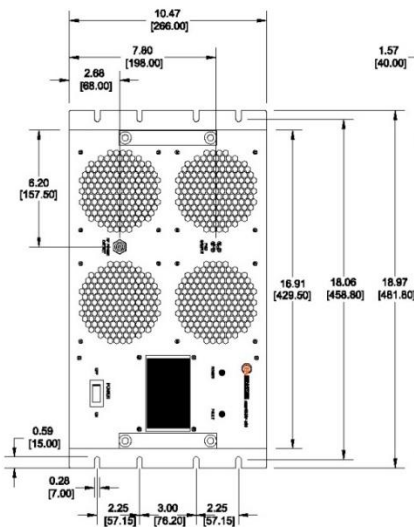
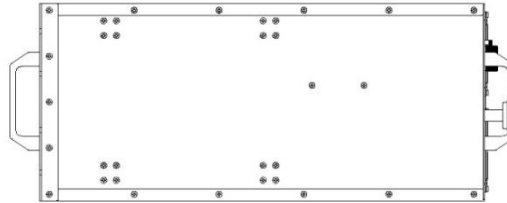


### \*. NOTE

1. IN/OUTPUT Connector
  - INPUT : N type Female
  - OUTPUT : WR90 (UG-136B/U)
2. RF SAMPLE Port : SMA Female
3. Detected RF POWER : BNC Female
4. Transmit Gaing Signal : SMA Female
5. AC POWER : 3102A-2209P

# AMP6020P SOLID STATE PULSE HIGH POWER AMPLIFIER

OUTLINE DRAWING - R6U



# AMP6020P SOLID STATE PULSE HIGH POWER AMPLIFIER

## 3D OUTLINE DRAWING

### AMP6020P-500

