

MODEL NUMBER:  
**SS1G-1250**

## SOLID STATE HIGH POWER AMPLIFIER



### FEATURES

- Designed for EMI/RFI, lab, CW/Pulse and all communication applications
- Small form factor, rack mounted system
- Class A/AB Linear design
- High Power Advanced technology devices
- Instantaneous ultra-wide bandwidth
- Built-in protection circuits, with extensive monitoring
- Local LCD & remote flexible interfaces
- High efficiency, with unprecedented reliability and ruggedness

### ELECTRICAL SPECIFICATIONS: 25°C, 50Ω

PARAMETER	SPECIFICATION	NOTES
Operating Frequency Range	80 - 1000 MHz	CW or Pulse
Power Output @ Psat	1300 Watt Min	CW or Pulse
Power Output @P1dB GCP	700 Watt Min	1000 Watt Typ CW
Power Gain	61 dB Min	0dBm or less for rated Pout
Power Gain Flatness	4.0 dB p-p Max	Constant input power
Gain Adjustment Range	20 dB Min	Local or remote
Input Return Loss	-10 dB Max	
2-Tone Intermodulation (IMD)	-20 dBc Typ	51dBm/Tone, Δ = 1MHz
Harmonics	<-20 dBc Typ	At rated output
Spurious	-60 dBc Max	Non-harmonic
Operating Voltage	208 VAC / 3-phase	50/60 Hz
Power Consumption	8 KW Max	At rated output
Input Power Protection	+3 dBm Max1	
Load VSWR Protection	4 : 1: Max2	Foldback @ preset limit
Sample Port Coupling (optional)	-60 dB	N-Female

1. Units with optional digital monitor and control, for basic units <10 Sec without damage
2. Units with optional digital monitor and control, for basic units <1 minute at rated Pout

### ENVIRONMENTAL CHARACTERISTICS

PARAMETER	SPECIFICATION	NOTES
Operating Ambient Temperature	0 to +50 °C	
Storage Temperature	-40 to +85 °C	
Relative Humidity	up to 95 %	Non-condensing
Altitude	3000 meters	
Shock & Vibration	Normal transport <sup>3</sup>	

3 MIL Spec available for quotation

## MECHANICAL SPECIFICATIONS

PARAMETER	SPECIFICATION	NOTES
Dimensions W x H x D	480 x 800 x 354 mm	8U - Excluding handles (5U+3U)
Weight	60 Kg. Max	
RF Connectors In/Out/Sample (optional)	Type-N Female / 7/16 Female / N Female	Front or rear panel
Interface Connector	9-Pin D-Sub	Rear panel
AC Power	MS3102E 22-22P	Or equivalent
Cooling: Built in Quiet-Cool	Close circuit Air-liquid cooling	
<b>OPTIONAL:</b> Digital Monitor & Control (DMC) FWD, REV, VSWR, GAIN, ALC, V & I, TEMP, Optional Safety Interlock (INT)	Ethernet RJ-45 TCP/IP, RS422/485, USB Optional GPIB Interface Open=STBY/Short=RFON	IEEE rear panel BNC-F rear panel

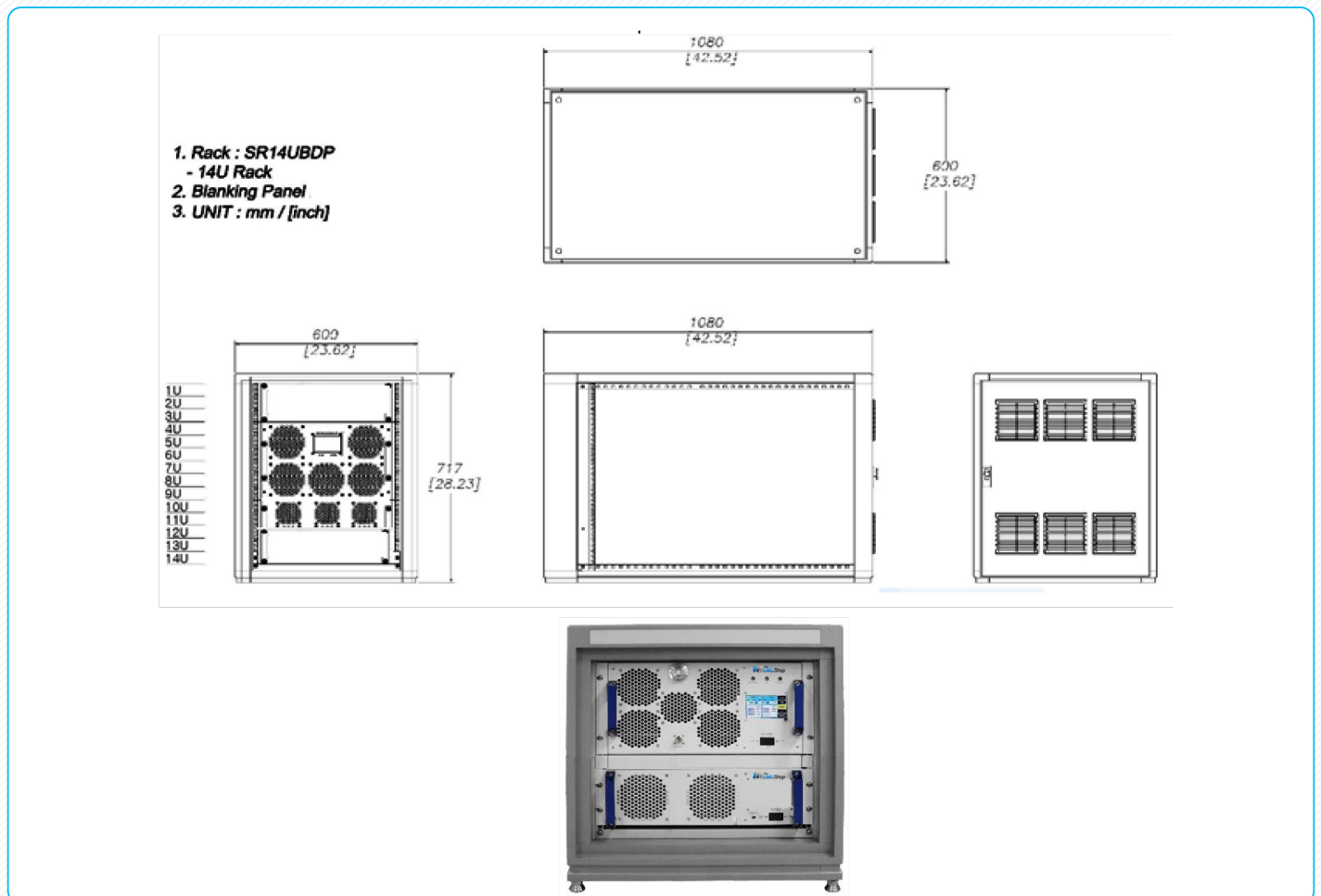
## AVAILABLE SPECIAL OPTIONS

PARAMETER	SPECIFICATION	NOTES
Option RCI: Rack Cabinet Integration	14U height standard	Special height quoted separately
Option FRS: Forward RF Sample	-60dB, Type N-Female	Front or rear panel
Option RRS: Reflected RF Sample	-40dB, Type N-Female	Front or rear panel
Option GPIB: GPIB remote control	GPIB IEEE-488 Remote capability	
<b>Included CPM:</b> Calibrated Power Monitoring (with purchase of Option DMC)	Offset correction entry for +/- 0.2dB accuracy	6-points standard <sup>4</sup>

<sup>4</sup> Consult with factory if additional points would be required

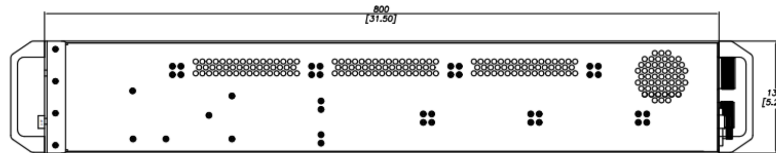
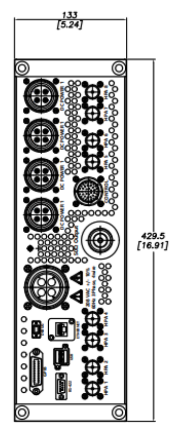
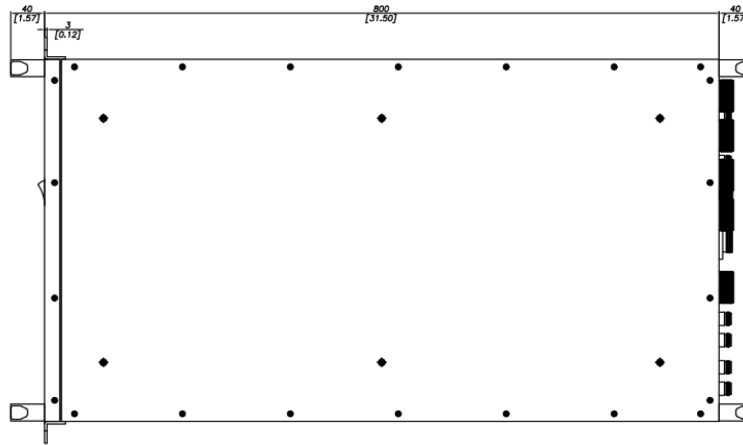
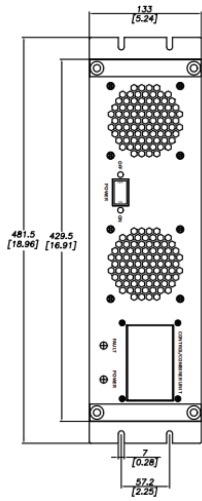
## OUTLINE DRAWING

Shown with optional Rack Cabinet



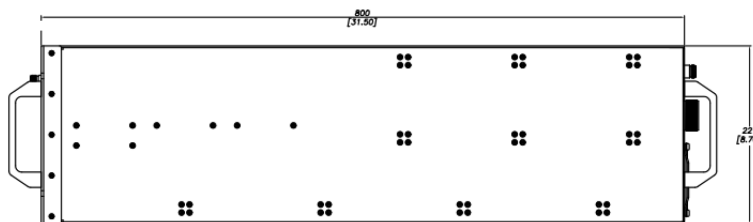
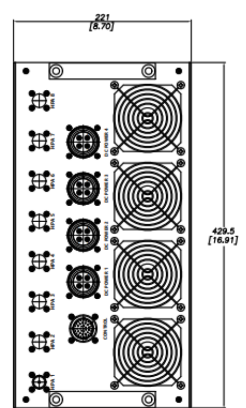
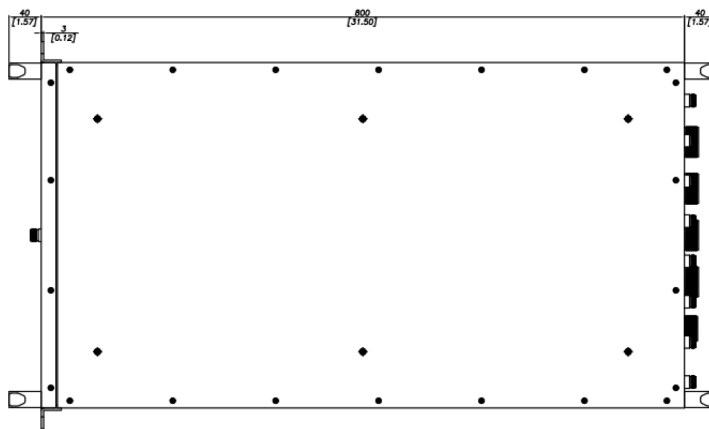
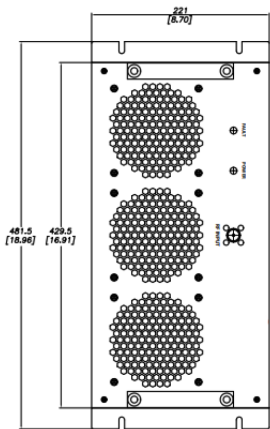
# OUTLINE DRAWING

## CONTROL & COMBINER UNIT SHOWN WITH DIGITAL CONTROLLER



- 1. Units : mm / [inch]
- 2. 3U + 5U
- 3. 80-1000MHz

## HPA RF Drawer



- 1. Units : mm / [inch]
- 2. 3U + 5U
- 3. 80-1000MHz 1000W

# ACCEPTANCE TEST RESULTS

Date	Job No.	Model	Serial No.	Frequency	Output Power	Gain
2019-08-19	1810158-1	SS1G-1250	10002	80 - 1000MHz	1300W	61dB

Power amplifier final test	Test	Verify	QA	Approve
	NK	JR	HS	EB

ELECTRICAL SPECIFICATIONS: -20C , 25C , 75C

	PARAMETER	SPECIFICATIONS	TEST RESULTS (MHz)					NOTES	P/F
			80	145	510	880	1000		
1	Operating Frequency - Plot 3dB BW	80 - 1000MHz	x	x	x	x	x	Plot 1	P
2	Output Power @ Rated Input	1300W Min	1753.9	1879.3	2000+	1445.4	1386.8	Plot 2 Record	P
3	Output Power @ 1dB G.C.P.	700W Min	1949.8	1832.3	1741.8	912.0	776.2	Plot 1 Record	P
4	Power Gain	60dB Min	x	x	x	x	x	Plot 2	P
5	Small Signal Gain Flatness	Ref. Only(dB)	x	x	x	x	x	Plot 1, 2	P
6	Input Power Flatness at Rated Pout	Ref. Only(dBm)	-2.7	-3.8	-10.1	-7.2	-8.7	Record	P
7	Power Gain Flatness @ rated input power	4dB p-p Max	62.44	62.74	63.00+	61.60	61.42	Plot 2	P
8	Input Return Loss	S11: 10dB Min	x	x	x	x	x	Plot 1, 2	P
9	Inter-modulation Distortion (3rd Order Intercept) 2-tones @ 50dBm/Tone, Δ = 1MHz	IMD: -20dBc Typ	-20.11	-18.81	-19.74	-20.14	-17.45	Record	P
		IP3: +65dBmTyp	60.06	59.41	59.87	60.07	58.73	Calculated	P
10	Harmonics @ rated output power	2 <sup>nd</sup> : -30dBc Typ	-40.92	-30.91	-37.50	<-70	-48.96	Record	P
11		3 <sup>rd</sup> : -20dBc Typ	-28.03	-35.87	-29.24	-56.20	<-70		P
12	Spurious Signals (Non-harmonics)	-60dBc Max	<-60	<-60	<-60	<-60	<-60	Record	P
13	Noise Figure	Ref. Only(dB)	11.41	10.49	10.37	10.59	10.26	Record	P
14	Operating Voltage	208 VAC ±10%, 60Hz, 3 Phase, 4Wire	Verified					Verify	P
15	Power Consumption @ Rated Power	8000Watts Max	5517.6	5786.0	6063.2	7290.8	6866.2	Record	P
16	Idle Power Consumption	Ref. Only(W)	2644.4					Record	P
17	Power Consumption @ Shutdown	Ref. Only(W)	1861.2					Record	P
18	Gain Adjustment Range	30dB	x	x	X	x	x	Plot 3	P
19	Input Overdrive @ +8dBm Max	Pout W	x	x	X	x	x	Record	N/A
20		Pd W	x	x	X	x	x		
21	Over Temperature Alarm	70 - 75°C	Verified					Verify	P
22	Module Operating mode Test	Built-In	Verified					Verify	P
23	Protection Against excess Output VSWR	Built-In	Verified					Verify	P
24	Protection Against RF input over drive	Built-In	Verified					Verify	P
25	Protection Against Over Temperature	Built-In	Verified					Verify	P
26	Protection Against Over and under Voltage	Built-In	Verified					Verify	P
27	Protection Against Over Current	Built-In	Verified					Verify	P
28	Remote control via Serial, USB, LAN and GPIB	Built-In	Verified					Verify	P
29	Fans Operation Test	Built-In	Verified					Verify	P

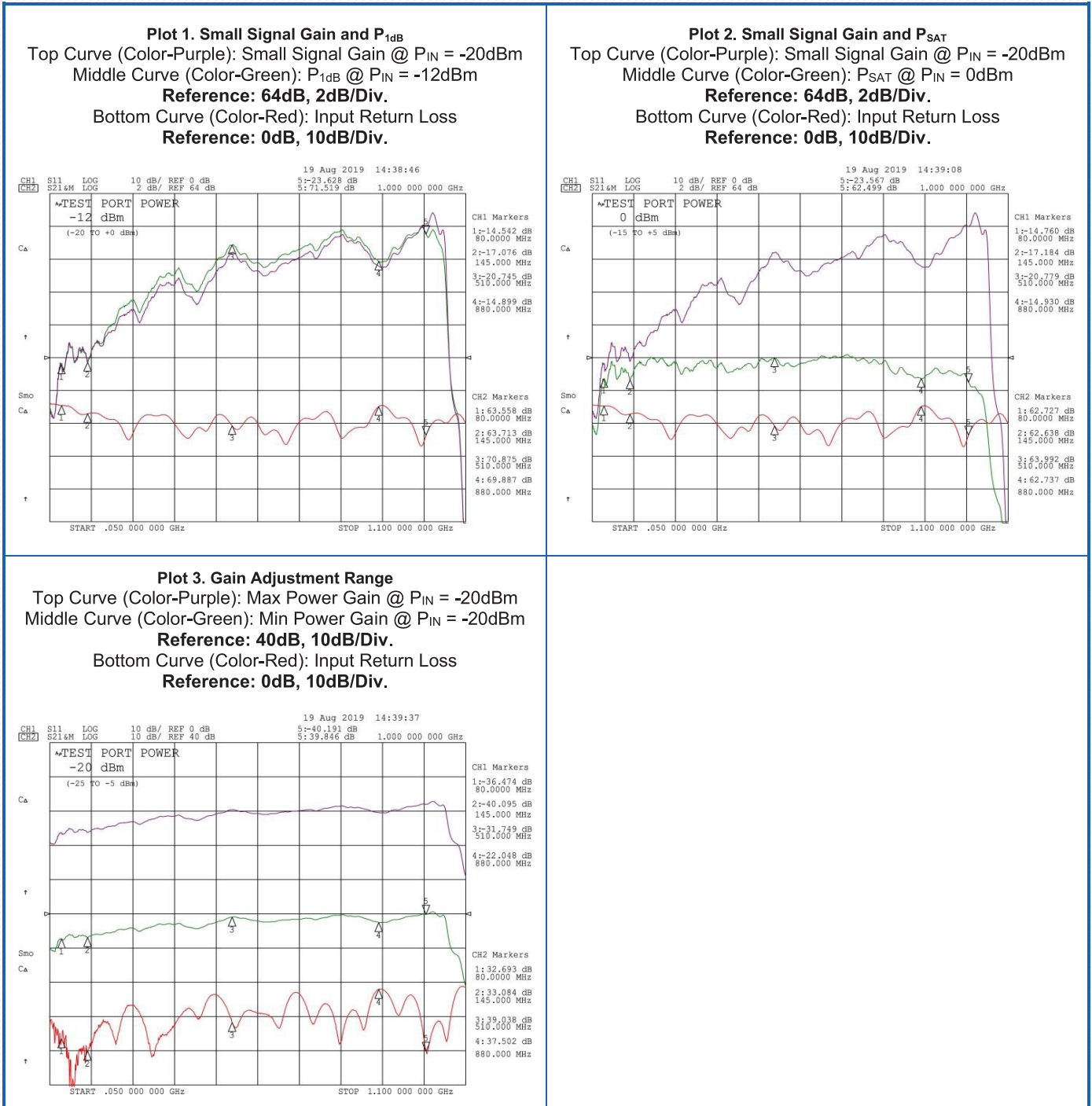


Date	Job No.	Model	Serial No.	Frequency	Output Power	Gain
2019-08-19	1810158-1	SS1G-1250	10002	80 - 1000MHz	1300W	61dB

**TABLE OF POWER VALUE DISPLAYED IN THE MONITORING PROGRAM @ 60.00dBm OUTPUT POWER**

Freq(MHz)	80	100	150	200	250	300	350	400	450	500	550	600
Displayed Value	60.65	60.56	60.59	60.83	60.71	60.25	60.10	60.10	60.28	60.25	60.46	60.10
Freq(MHz)	650	700	750	800	850	900	950	1000				
Displayed Value	60.25	60.19	60.16	60.10	59.95	59.89	59.73	59.64				

**DATA PLOTS**



Date	Job No.	Model	Serial No.	Frequency	Output Power	Gain
2019-08-19	1810158-1	SS1G-1250	10002	80 - 1000MHz	1300W	61dB

#### TEST EQUIPMENTS

No.	EQUIPMENT	MODEL	NOTES
1	Network Analyzer	8720ES	
2	Signal Source	E8257D	
3	NFA Series Figure Analyzer	N8975A	
4	Spectrum Analyzer	E4407B	
5	Power Meter	E4418B	

