

Amplifiers

Model 250S1G6

Features:

- 250 W CW, 0.7 – 6 GHz
- Class A design
- 100% mismatch tolerant
- Built-in fault monitoring and protection
- Remote control: Ethernet, USB, GPIB, fiber-optic serial, RS-232
- Modular design for easy maintenance and service

Applications:

- Wireless, communication components, subsystems
- CDMA, W-CDMA, TDMA, GSM
- EMC Test applications

To view our full amplifier portfolio visit:

www.arworld.us/amplifiers

AR RF/Microwave Instrumentation
160 Schoolhouse Rd
Souderton, PA 18964
215.723.8181
info@arworld.us
www.arworld.us
ISO 9001:2015 Certified
ISO 17025 :2017 Accredited



The Model 250S1G6 is a solid-state, Class A design, self-contained, air-cooled, broadband power amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. It will provide a minimum of 250 W across its operating bandwidth. Protection from input overdrive beyond 0 dBm is provided as well as protection from various failure conditions including over-temperature and power supply faults.

A front panel display indicates the operational status and fault conditions. All amplifier control functions, and status indications are available remotely using GPIB/IEEE-488, RS-232, fiber-optic serial, USB, or Ethernet. Interface connectors are located on the back panel. Local and remote operation is managed by a switch on the front panel.

This is a multiple purpose amplifier. The low level of spurious signals and linearity make it ideal for use as a driver in testing wireless and communication components and subsystems. By covering such a wide bandwidth, it is suitable for 5G testing applications. Due to the Class A design it is also suitable for EMC Test applications where continued operation into high VSWR loads including open and short circuits is required.

The export classification for this equipment is 3A001. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.



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- 250 W
- 0.7 – 6 GHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (0.7 - 6 GHz)	PSAT	250			W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 1 dB Compression	P1dB	200	220		W
Power Output @ 3 dB Compression	P3dB	225	250		W
Operating Frequency	BW	0.7		6.0	GHz
Gain (Small Signal)		54			dB
Gain Reduction Adjustment (when below compression)		0		10	dB
Flatness	ΔG		± 1.5	± 2.5	dB
Input Impedance	Z in		50		Ohm
			1.5:1	2.0:1	VSWR
Output Impedance	Z out		50		Ohm
3 rd Order Intercept	IP3		60		dBm
Noise Figure	NF		10		dB
Harmonic Distortion @ 250 W (0.75-6.0 GHz)	H2, H3			-20	dBc
Harmonic Distortion @ 250 W (0.7-0.75 GHz)	H2,H3		-18		dBc
Spurious			-73		dBc
Power Consumption	PD			2500	W

Mechanical Specifications		
Parameters	Typical	Unit
Dimensions (With Cabinet) (W x H x D)	50.5 x 48.3 x 63.0	cm
	19.9 x 19.0 x 24.8	in
Dimensions (No Cabinet) – 10U for 19" Rack	48.3 x 44.5 x 58.5	cm
	19.0 x 17.5 x 23	in
Weight (With Cabinet)	64	kg
	140	lb
Weight (No Cabinet)	50	kg
	110	lb
Cooling	Forced air (self-contained fans)	
Acoustical Noise (Measured @ 1 meter from the front)	67 (typical)	dBA



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Recommended Operating Conditions				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive Level - Peak		0	3	dBm
RF Load		1:1	∞	VSWR
Ambient Temperature	+5	+25	+40	°C
AC Power	200		250	VAC
AC Power	50		60	Hz

Absolute Maximum Rating				
Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their normal value. Exceeding any of the limits listed here may result in permanent damage to the device.				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive			+13	dBm
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry.			100	%
Storage Temperature	-20		+50	°C
Altitude			2000	M
Shock/Vibration	Normal Truck Transport			

Regulatory Compliance	
Type	Standard
EMC	EN 61326-1
Safety	UL 61010-1
	CAN/CSA C22.2 #61010-1
	CENELEC EN 61010-1
RoHS	Directive 2011/65/EU
Export	3A001

Connector Interfaces	
Function	Type
RF input	N female
RF output	N female
IEEE-488	24-pin female
RS-232	9-pin subminiature D female
RS-232 (fiber optic)	ST
USB 2.0	Type B
Ethernet	RJ-45
Interlock	15-pin subminiature D female



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Ordering Options

250S1G6	-	N	-	N	-	
Model		RF IN Conn		RF OUT Conn		Enclosure
		Location, Type		Location, Type		No Enclosure

N-Connector	
Front	F
Rear	R

Enclosure	
Enclosure	E
No Enclosure	NE

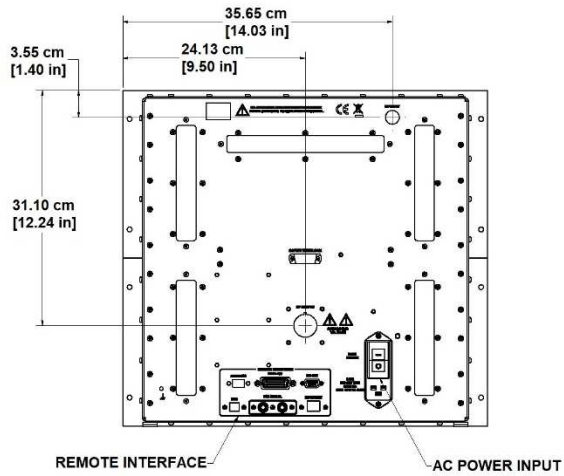
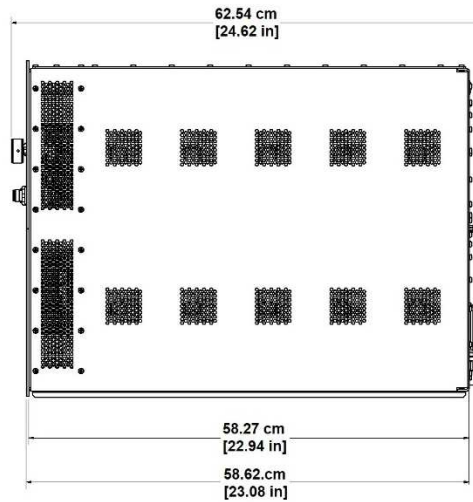
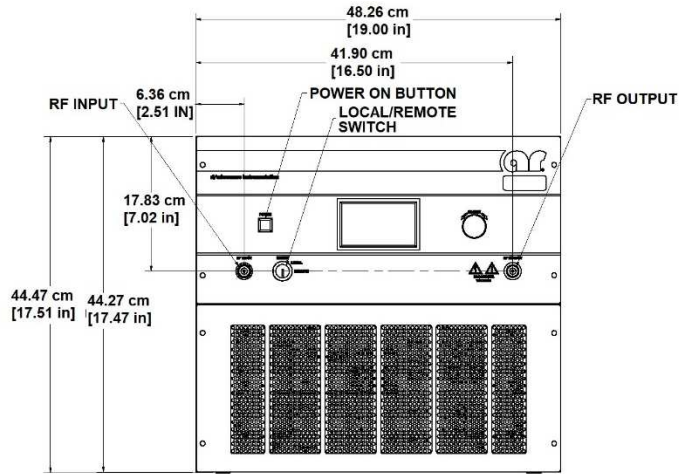
Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.



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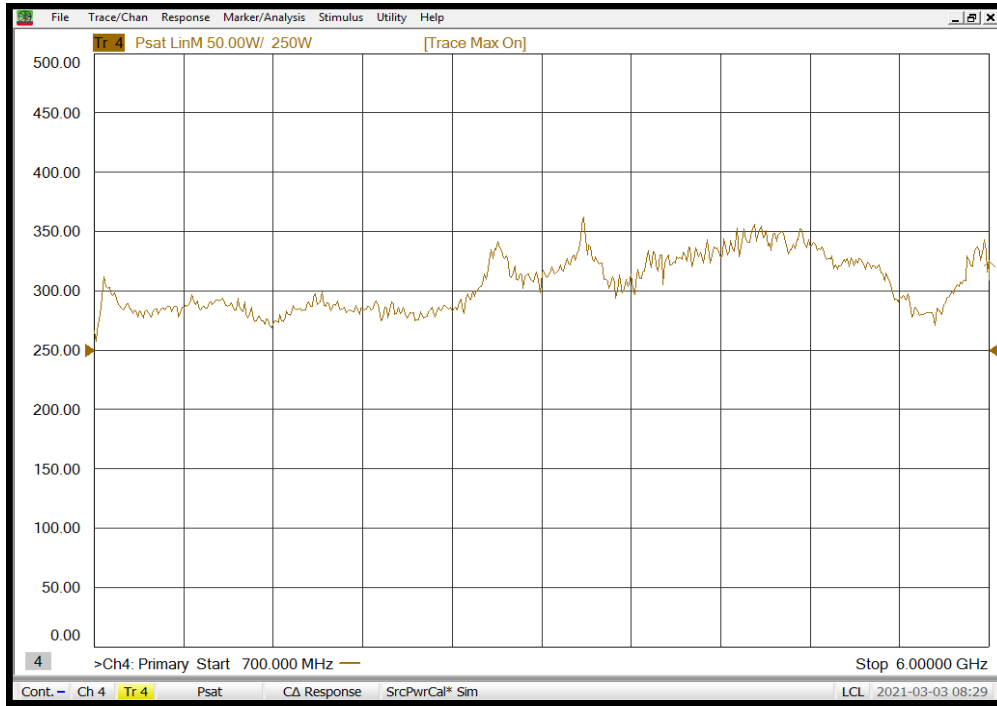
Envelope Drawing



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TYPICAL OUTPUT POWER (P_{sat} @ 0 dBm input)



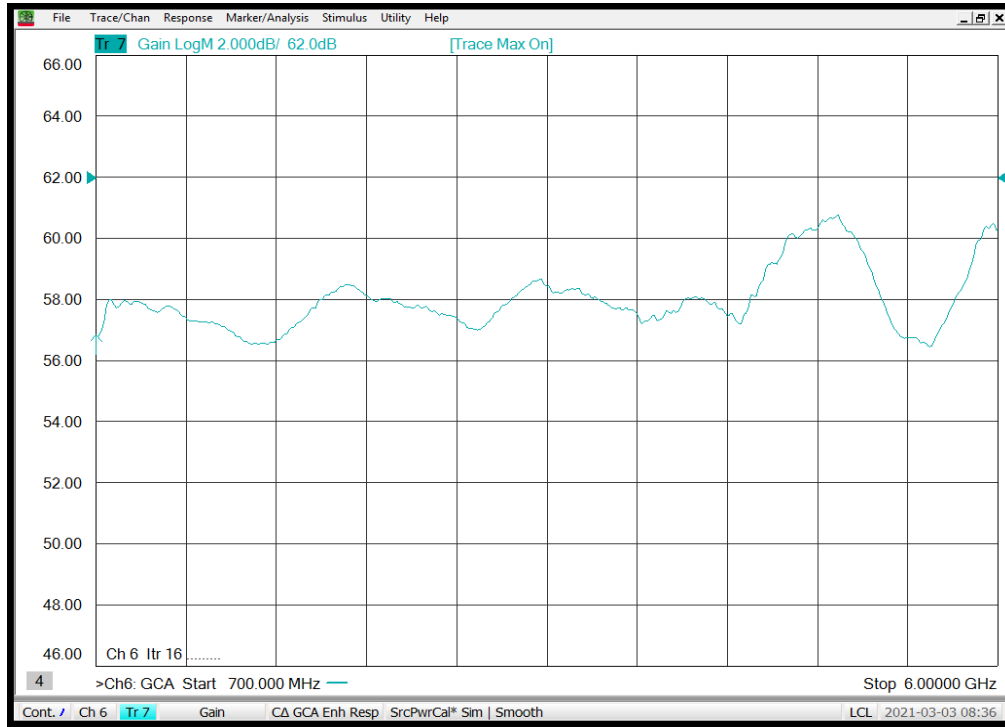
TYPICAL OUTPUT POWER (P₁ dB, P₃ dB compression)



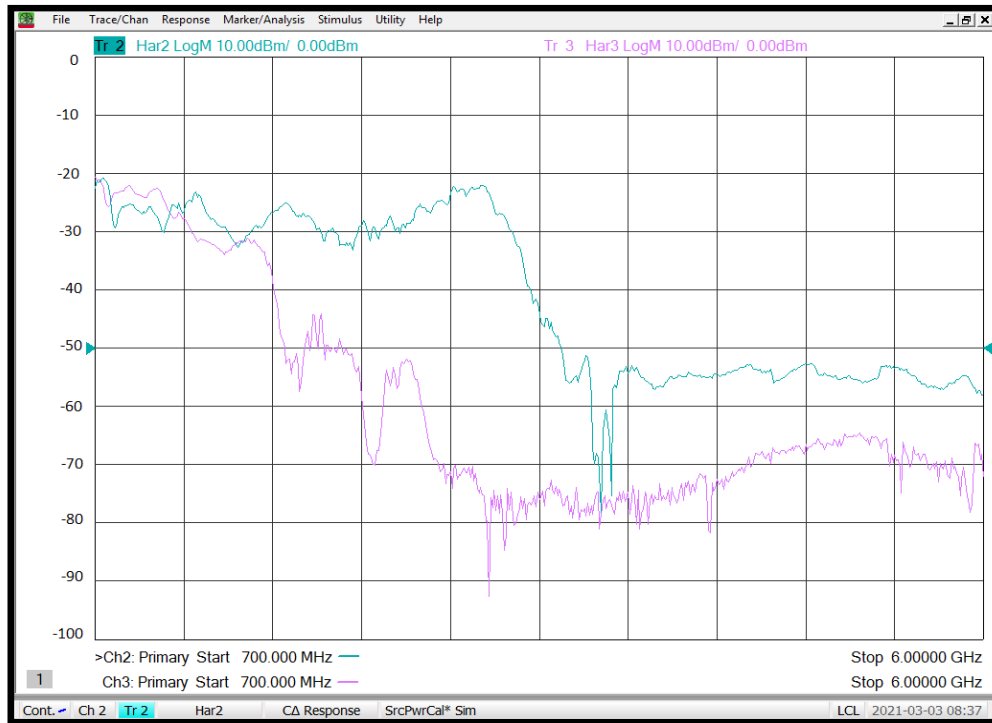
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TYPICAL SMALL SIGNAL GAIN @ -20 dBm Input



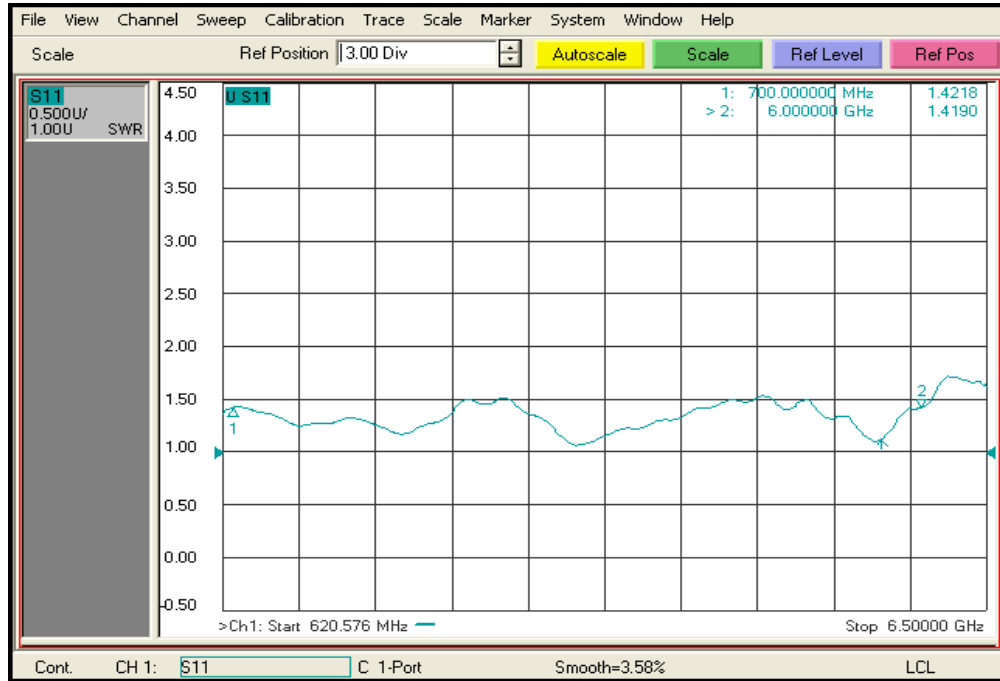
TYPICAL HARMONICS @ 250 WATTS



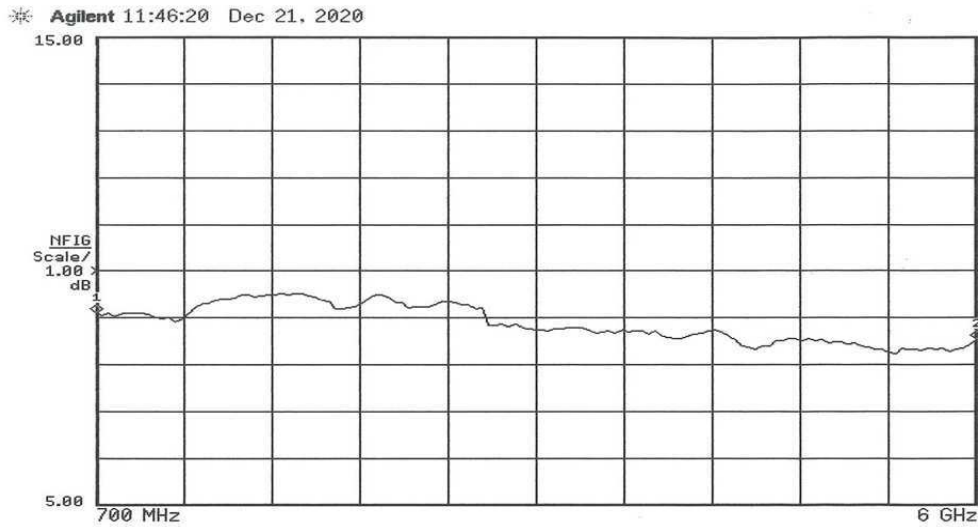
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TYPICAL INPUT VSWR



TYPICAL NOISE FIGURE



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 For Faxing Orders: 866.859.0582 (Orders Only Please) info@arworld.us
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