

Amplifiers

Model 800W1000

Features:

- 800 W CW, 80 - 650 MHz
- 750 W CW, 650 – 1000 MHz
- 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
- Low acoustical noise

Applications:

- EMC (military, aviation, automotive, commercial)
- Radiated and conducted EMC testing
- General purpose, antenna, and component testing

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 800W1000 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 800 W across the 80 - 650MHz frequency range and a minimum of 750 W across the 650 – 1000 MHz frequency range. 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 EAR99. 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.

Model 800W1000

- 800 W, 80 - 1000 MHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (80 – 650 MHz)	PSAT	800	850	>1000	W
Rated Power Output (650 – 1000 MHz)	PSAT	750	800	>900	W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 3dB Compression	P3dB	725	800	>950	W
Power Output @ 1dB Compression	P1dB	650	700	>800	W
Operating Frequency	BW	80		1000	MHz
Gain (Small Signal)		62	64	66	dB
Gain Reduction Adjustment (when below gain compression)		20	22	55	dB
Flatness @ small signal	ΔG		± 1.5	± 2.0	dB
Input Impedance	Z in		50		Ohm
			1.3:1	1.5:1	VSWR
Output Impedance	Z out		50		Ohm
3 rd Order Intercept	IP3		+66		dBm
Noise Figure	NF		6	8	dB
Harmonic Distortion @ 800 W	H2, H3		-40	-20	dBc
Spurious			-73		dBc
Power Consumption	Pd			2500	W

Absolute Maximum Rating				
Exceeding any of the limits listed here may result in permanent damage to the device.				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive		0	+13	dBm
RF Load		1:1	∞	VSWR
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry.			100	%
AC Power (single phase)	200		240	VAC
AC Power	47		63	Hz
Ambient Temperature	+5	+25	+40	°C
Storage Temperature	-20		+50	°C
Altitude			2000	m
Shock/Vibration	Normal Truck Transport			



Model 800W1000

- 800 W, 80 - 1000 MHz

Mechanical Specifications		
Parameters		Unit
Dimensions (With Cabinet) (W x H x D)	50.3 x 47 x 65.3	cm
	19.8 x 18.5 x 25.7	in
Dimensions (No Cabinet) – 10U for 19" Rack	48.3 x 44.5 x 65.3	cm
	19.0 x 17.5 x 25.7	in
Weight (With Cabinet)	58.5	kg
	129	lb
Weight (No Cabinet)	44.9	kg
	99	lb
Cooling	Forced air (self-contained fans) Side inlets/rear outlet $\Delta t = +7^{\circ}\text{C}$ (typical)	
Acoustical Noise (Measured @ 1 meter from the front)	61 (typical)	dBa

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	EAR99

Connector interfaces	
Function	Type
RF input	N female (50 Ω)
RF output	7-16 DIN female (50 Ω)
RF sample	N female (50 Ω) (60dB typical)
IEEE-488	24-pin
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
AC Input	C20



Model 800W1000

- 800 W, 80 - 1000 MHz

Ordering Options

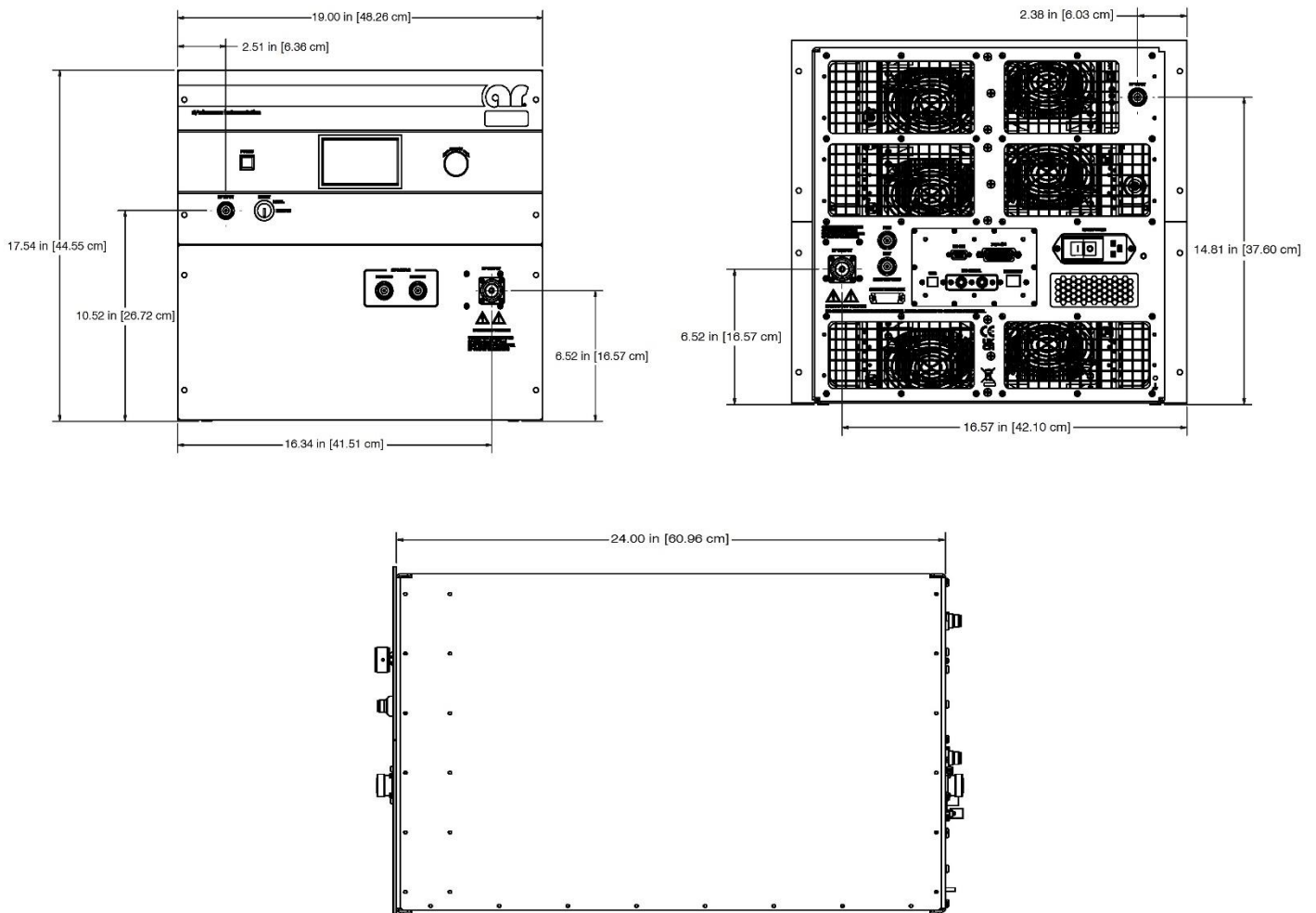
800W1000 - - N - - 716 - - Enclosure - - RF Sample
 Model RF IN Conn RF OUT Conn No Enclosure Ports
 Location, Type Location, Type

Connector Location	
Front	F
Rear	R

RF Sample Ports	
Front	SPF
Rear	SPR

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

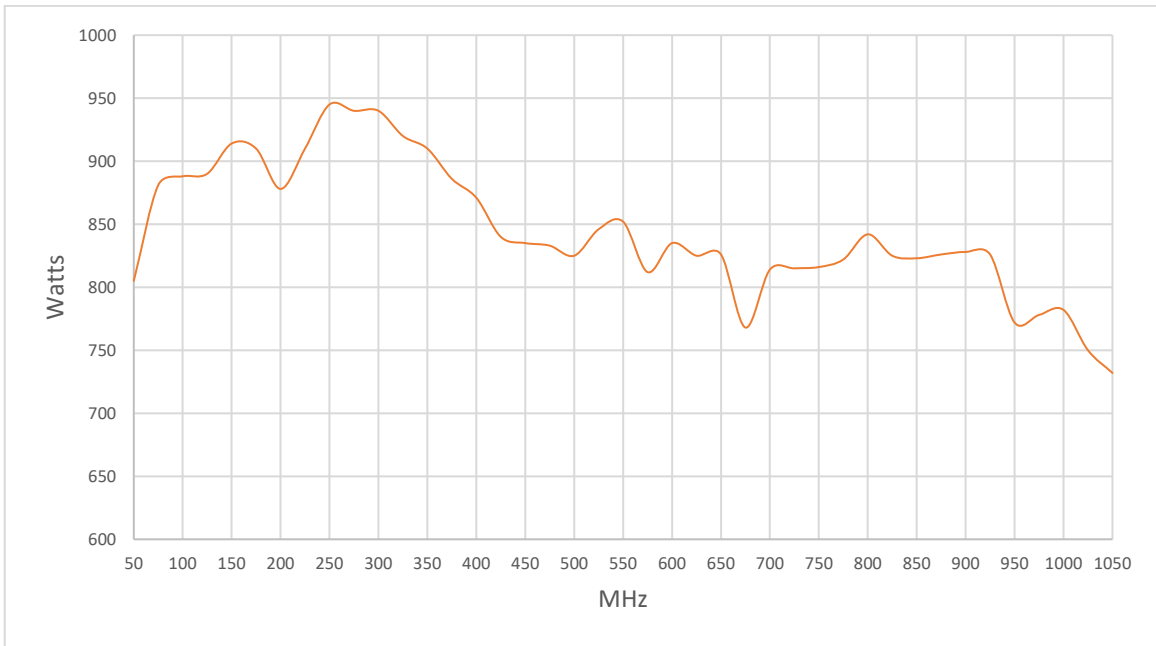
Envelope Drawing



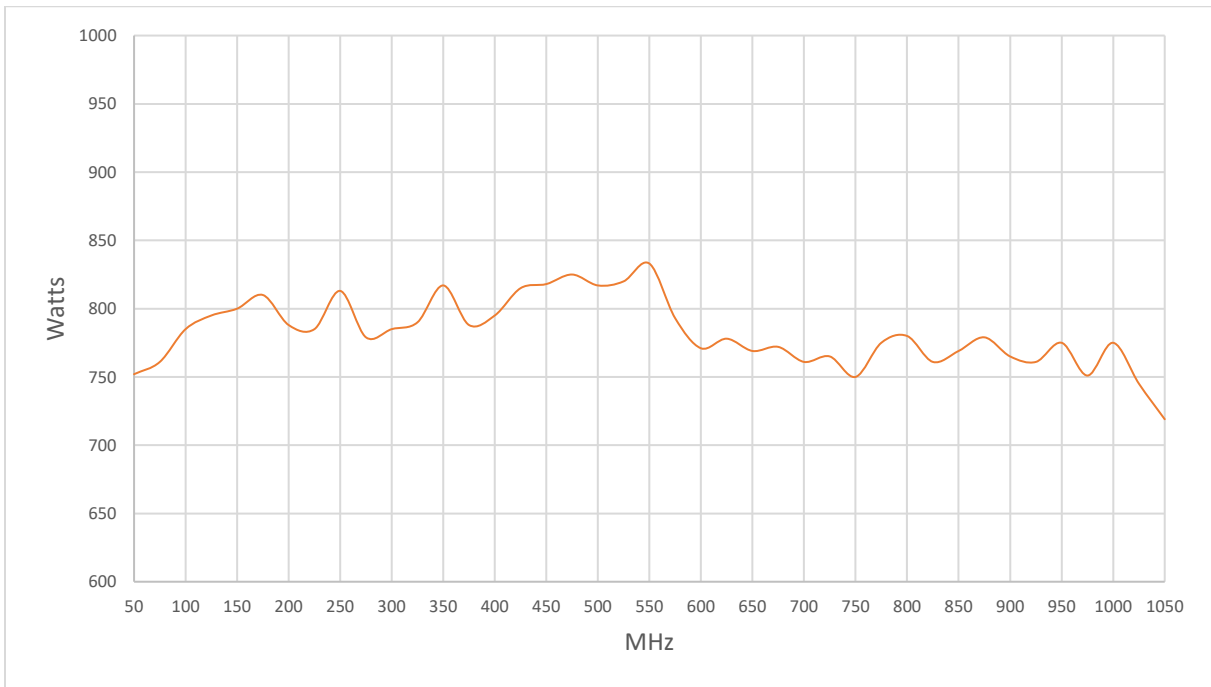
Model 800W1000

- 800 W, 80 - 1000 MHz

TYPICAL PSAT POWER @ 0 dBm INPUT



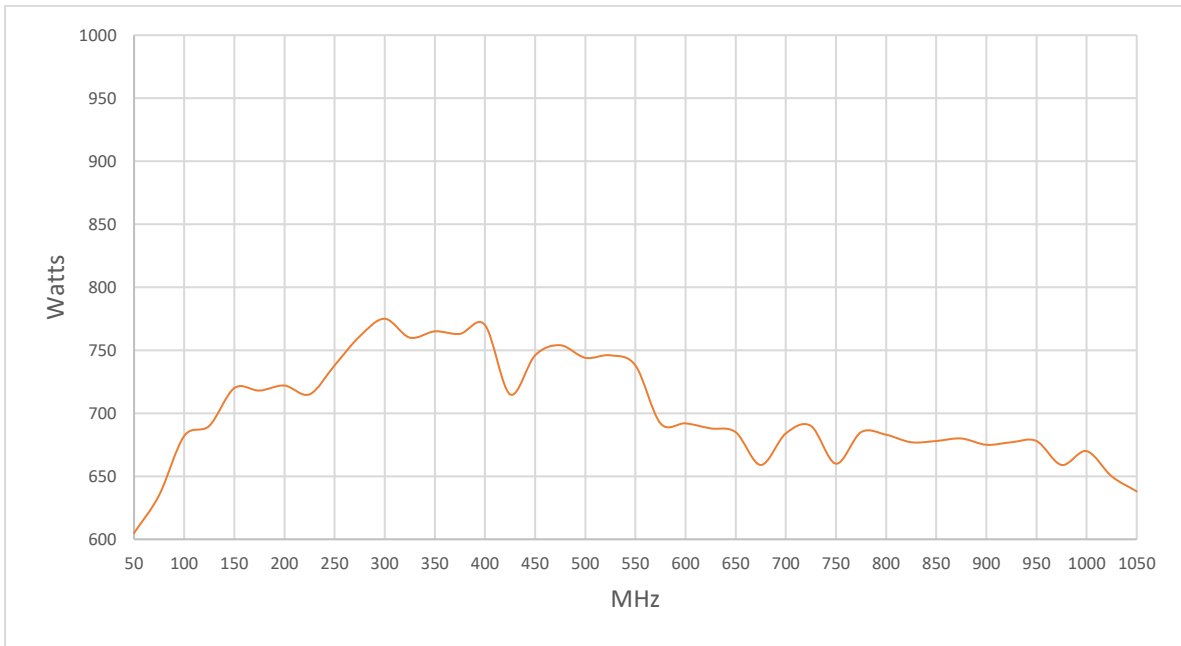
TYPICAL POWER @ P3 dB COMPRESSION



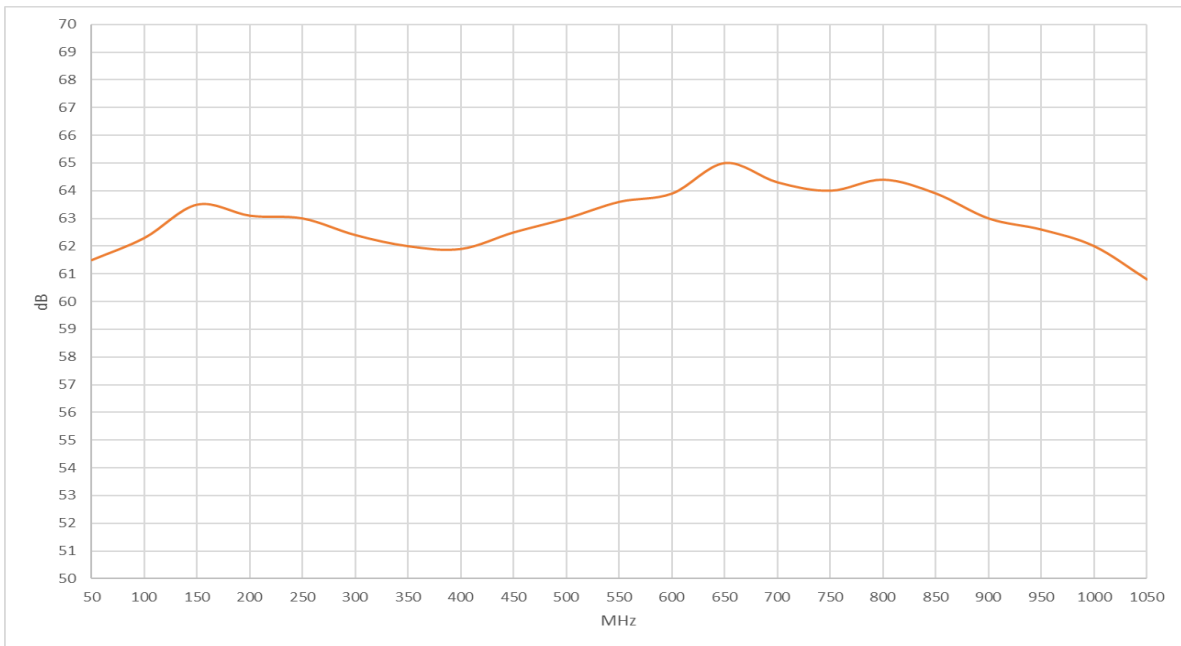
Model 800W1000

- 800 W, 80 - 1000 MHz

TYPICAL POWER @ P1dB COMPRESSION



TYPICAL SMALL SIGNAL GAIN @ -20 dBm INPUT



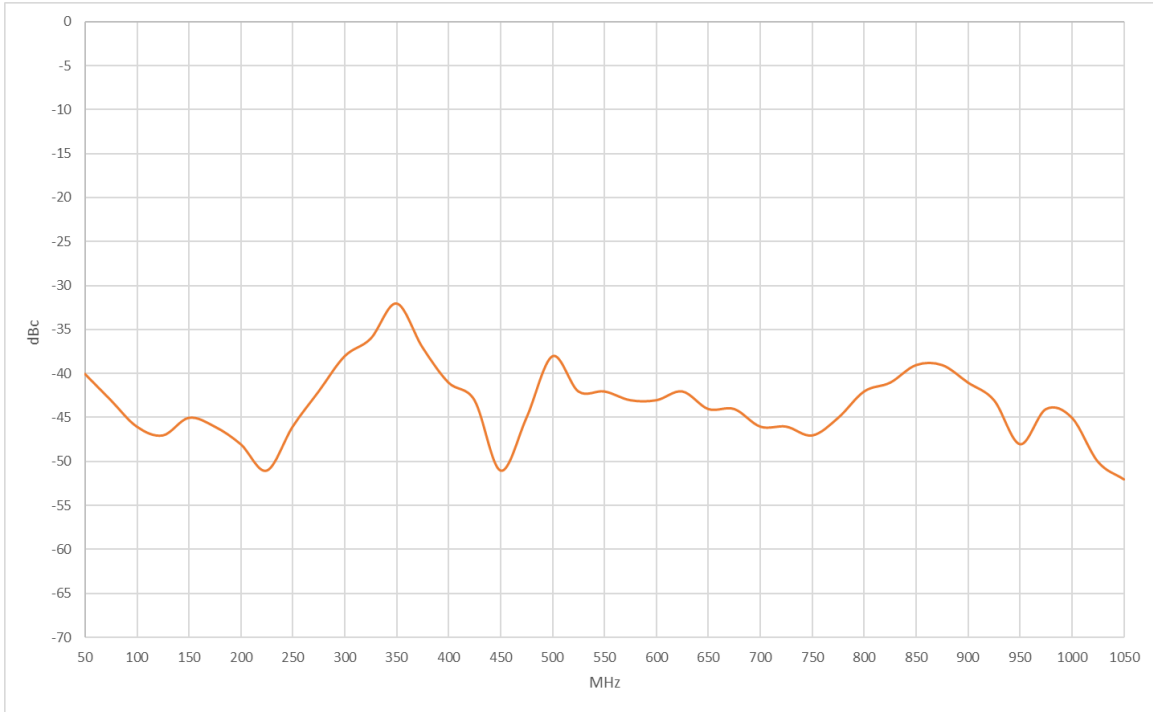
TYPICAL 2nd HARMONICS @ 800 W

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

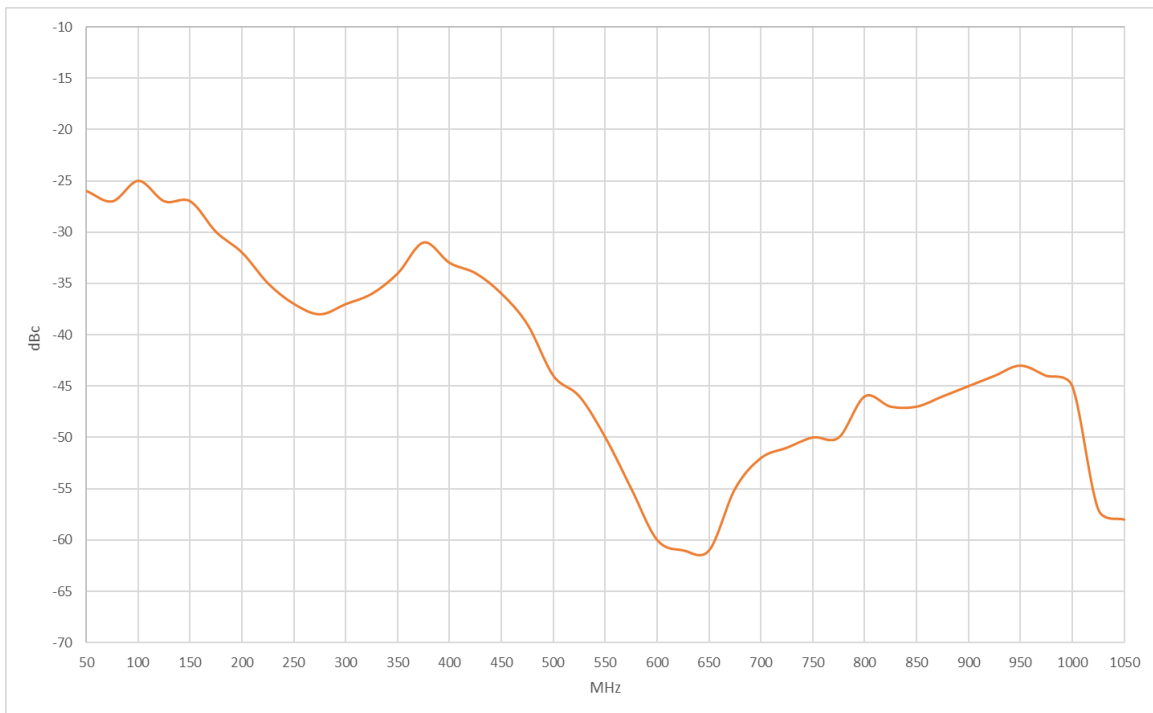


Model 800W1000

- 800 W, 80 - 1000 MHz



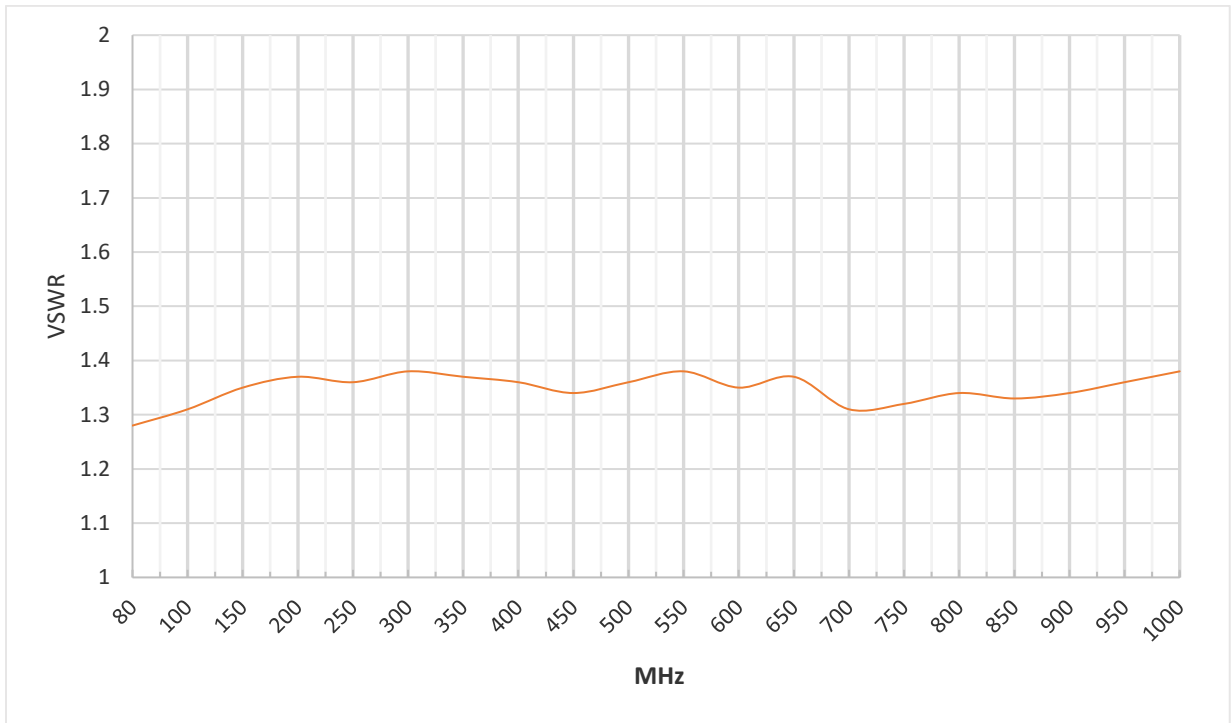
TYPICAL 3rd HARMONICS @ 800 W



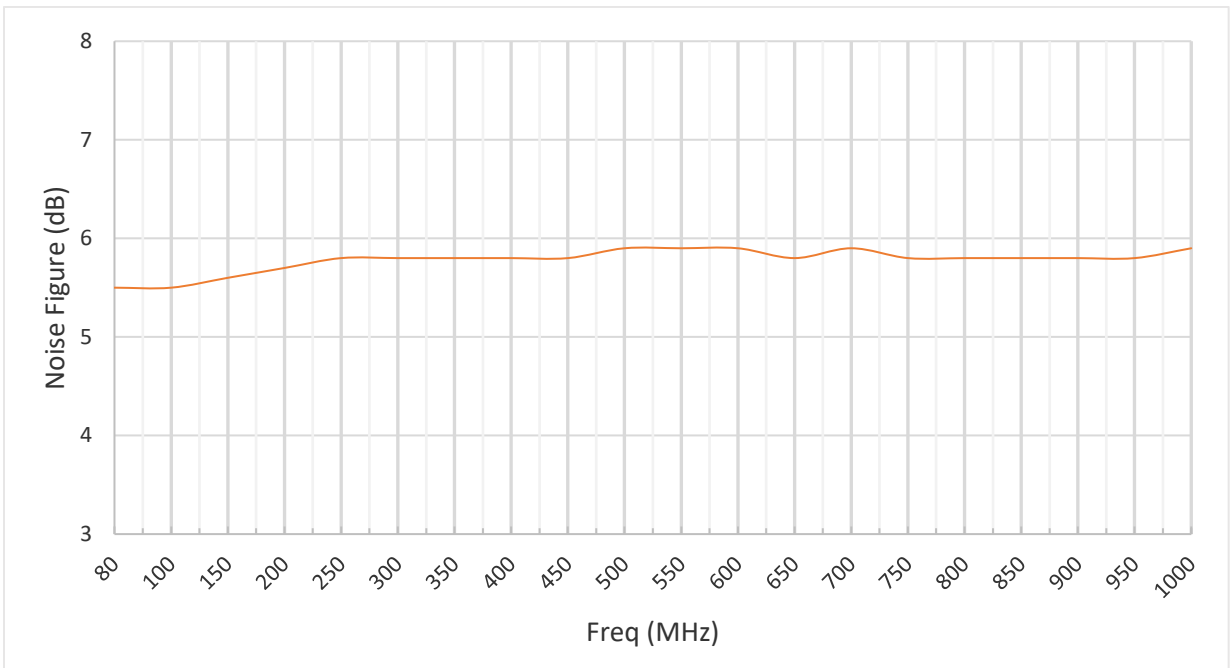
Model 800W1000

- 800 W, 80 - 1000 MHz

TYPICAL INPUT VSWR



TYPICAL NOISE FIGURE



AR RF/Microwave Instrumentation • 160 Schoolhouse Rd, Souderton, PA 18964

To order AR Products, call: 215.723.8181. For an applications engineer call: 800.933.8181. Direct to Service call: 215.723.0275 or email: service@arworld.us

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

Approved for public release by AR RF/Microwave Instrumentation ISO 9001:2015 Certified • ISO 17025:2017 accredited

Revision 01282

