

Amplifiers

Model 2000W1000E

Features:

- 2000 W CW, 80 - 1000 MHz
- Class A design
- 100% mismatch tolerant
- Sample ports
- Built-in fault monitoring, logging and protection
- Touch screen display
- Forward and reverse power monitoring
- VSWR monitor with user settable limit
- User settable ALC
- Remote control: Ethernet, USB, GPIB, fiber-optic serial, RS-232
- Modular design for easy maintenance and service
- Built-in AC power cord storage compartment

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 2000W1000E 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 2000 W across the 80 - 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.



- 2000 W CW, 80 - 1000 MHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output	PSAT	2000	2400	>2800	W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 3 dB Compression	P3dB	1900	2200	>2500	W
Power Output @ 1 dB Compression	P1dB	1700	2000	>2200	W
Operating Frequency	BW	80		1000	MHz
Gain (Small Signal)		66	69	72	dB
Gain Reduction Adjustment (when below gain compression)		20	22	25	dB
Flatness @ small signal (-20 dBm input)	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
3rd Order Intercept	IP3		+70		dBm
Noise Figure	NF		6	8	dB
Harmonic Distortion @ 2000 W	H2, H3		-30	-20	dBc
Spurious			-73		dBc
Power Consumption	P _D			7.0	kW
Modulation Capability	AM, FM or Pulse				

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. However, mismatch above 6:1 may limit output to 1000 watts reflected power.			50	%	
AC Power (3-phase) Low voltage option	200		240	VAC	
AC Power (3-phase) High voltage option	380		415	VAC	
AC Power	47		63	Hz	
Ambient Temperature	+5	+25	+35	°C	
Storage Temperature	-20		+50	°C	
Altitude			1000	m	
Shock/Vibration	Normal Truck Transport				



- 2000 W CW, 80 - 1000 MHz

Mechanical Specifications		
Parameters	Typical	Unit
Dimensions (26U Rack) (W x H x D)	57.3 x 136.0 x 95.5	cm
	22.6 x 53.5 x 37.6	in
Weight	273	kg
	600	lb
Cooling	Forced air (self-contained fans) Side inlets / rear outlet $\Delta t = +10^{\circ}\text{C}$ (typical)	
Acoustical Noise (Measured @ 1 meter from the front)	68 (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	1-5/8 EIA (50 Ω), rear
RF sample	N female (50 Ω), (64dB 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	5-meter harmonized power cord supplied with amplifier. The power cord is left open ended to allow for facility power connection of user's choice.



Model 2000W1000E
 • 2000 W CW, 80 - 1000 MHz

Ordering Options

2000W1000E - - **N** - **R** - **158** -
 Model RF IN Conn RF OUT Conn Primary RF Sample
 Location, Type Location, Type Power Ports

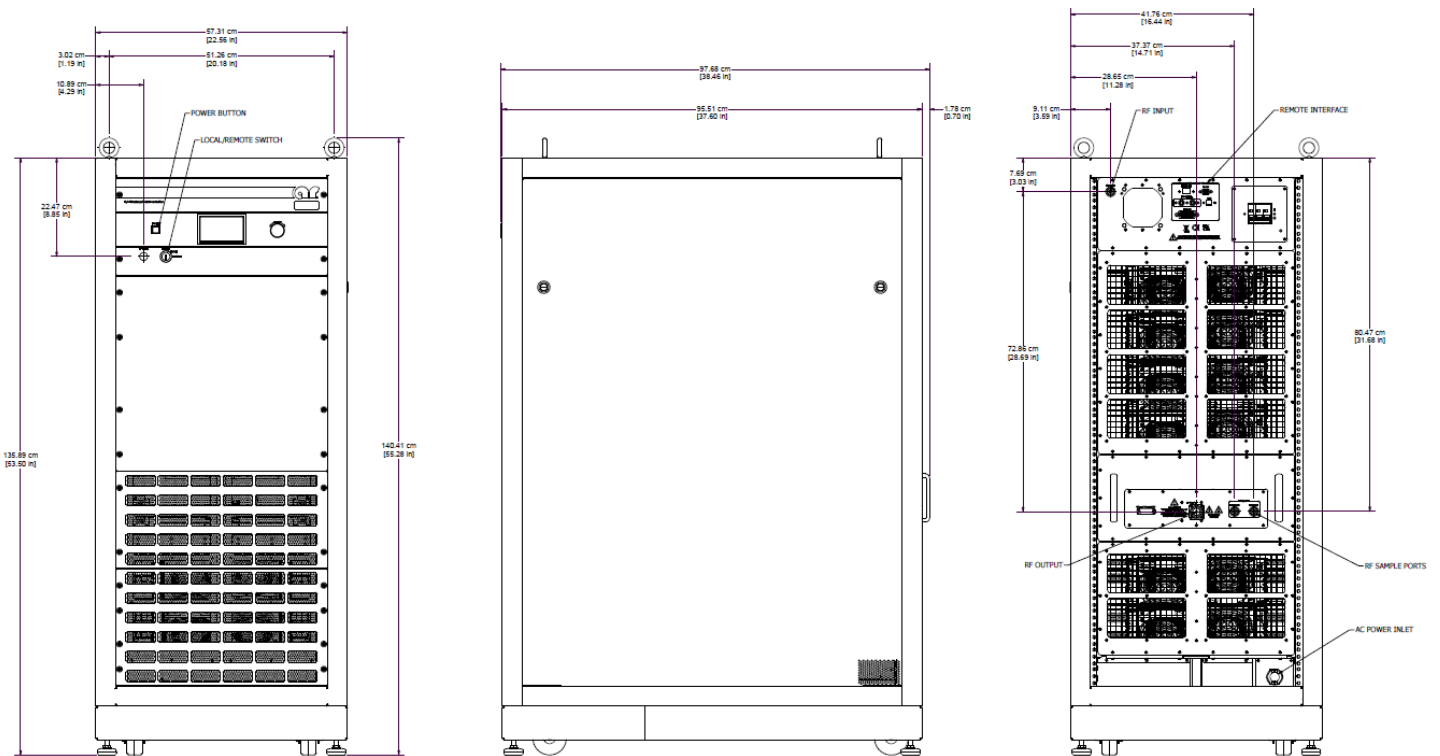
CONNECTOR LOCATION	
Front	F
Rear	R

PRIMARY POWER	
200-240 VAC	LV
380-415 VAC	HV

RF SAMPLE PORTS	
Front	SPF
Rear	SPR

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

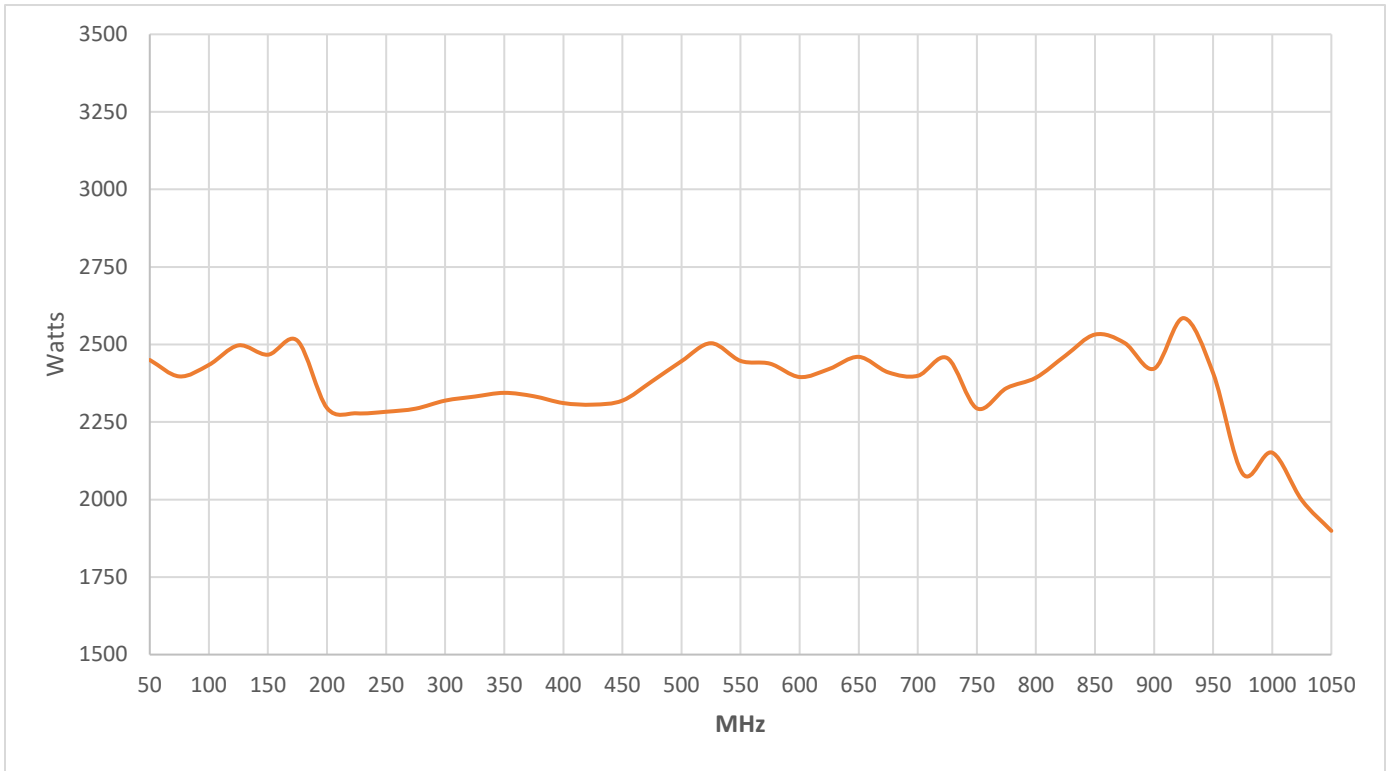
Envelope Drawing



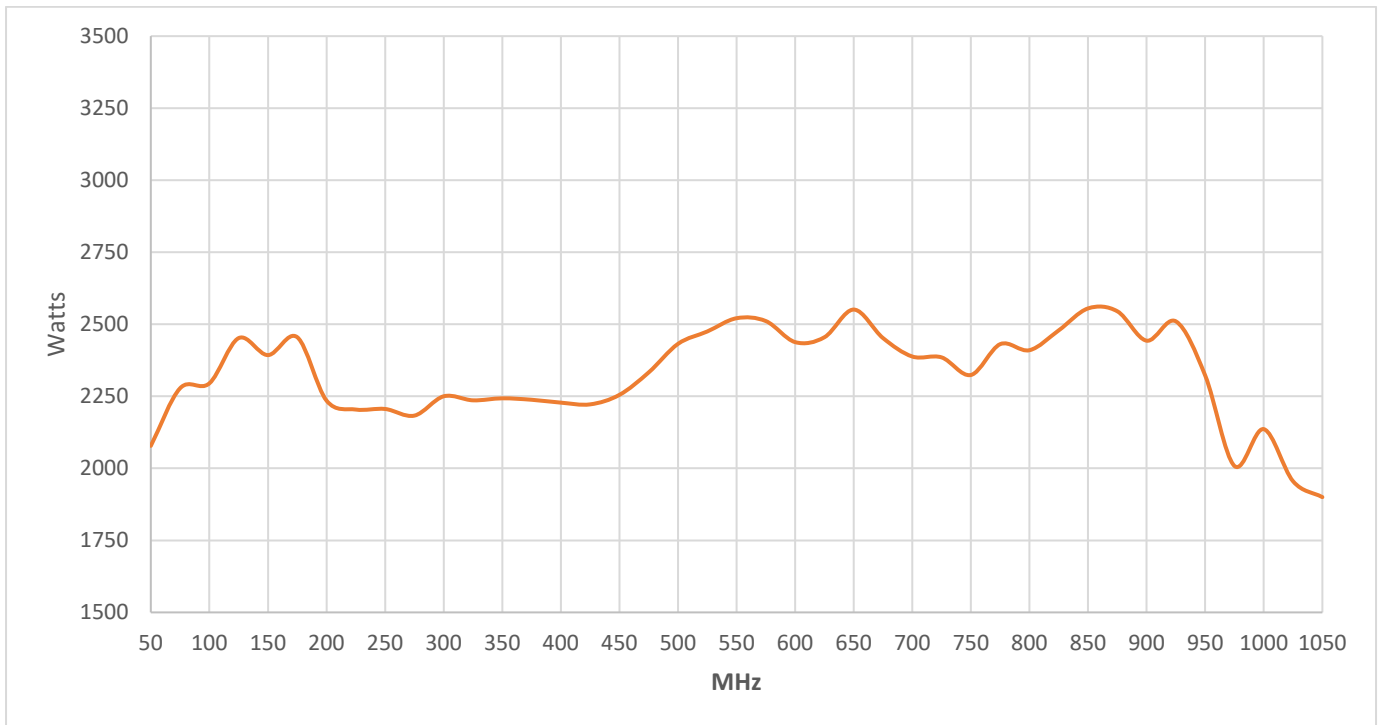
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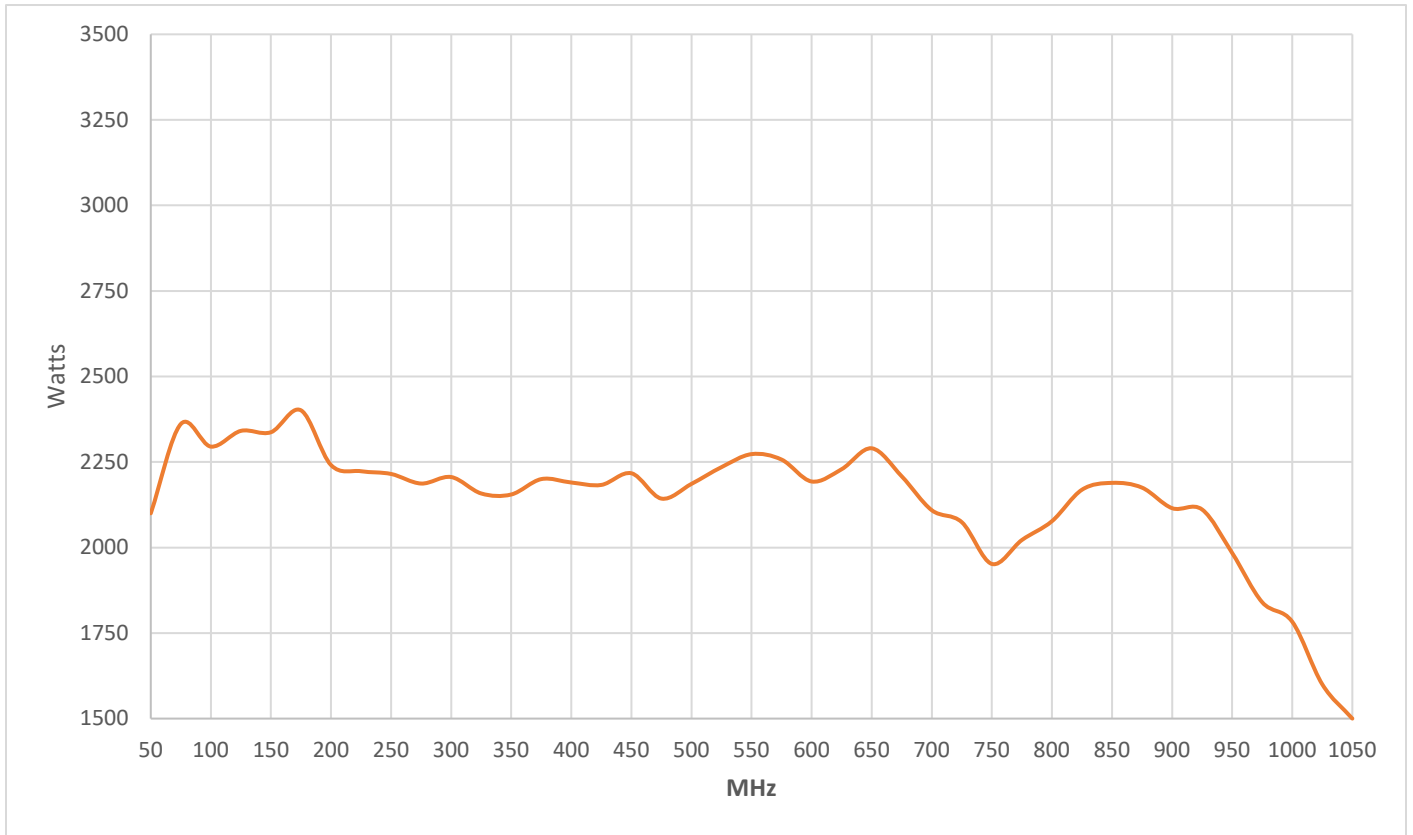
TYPICAL PSAT POWER @ 0 dBm



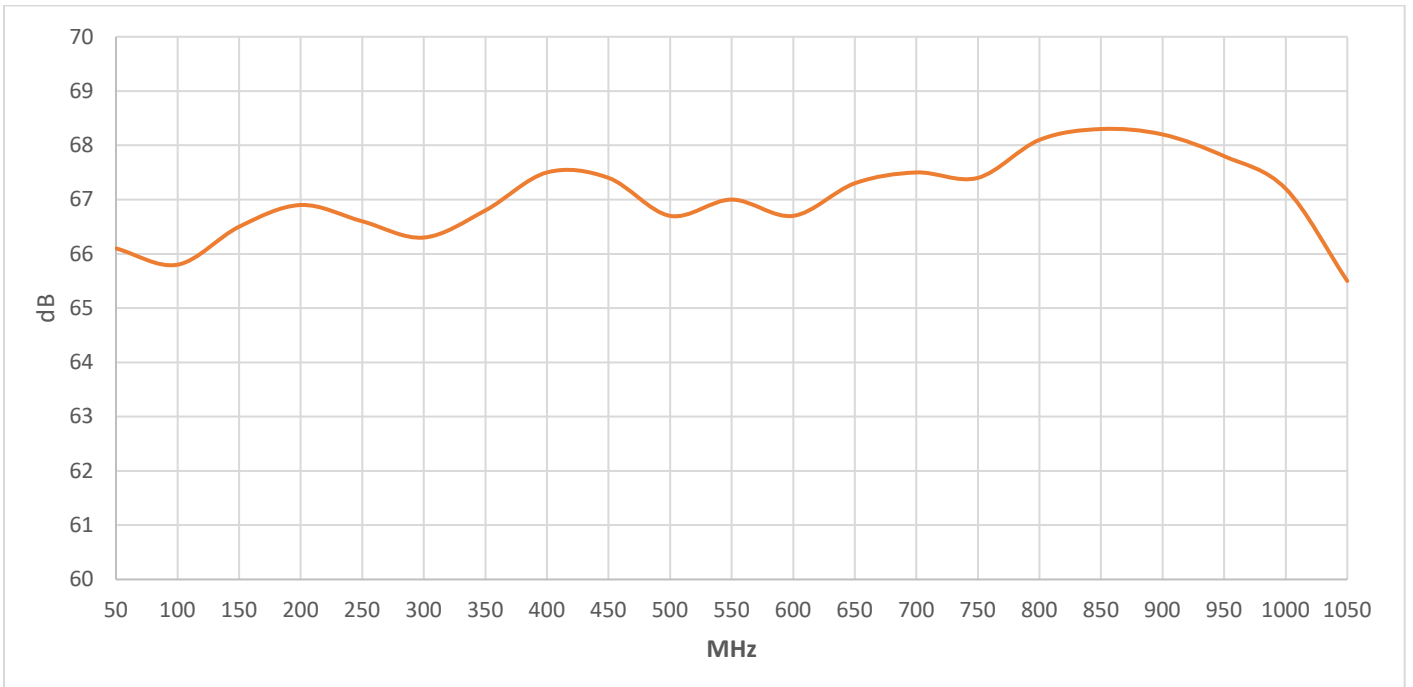
TYPICAL POWER @ P3 dB COMPRESSION



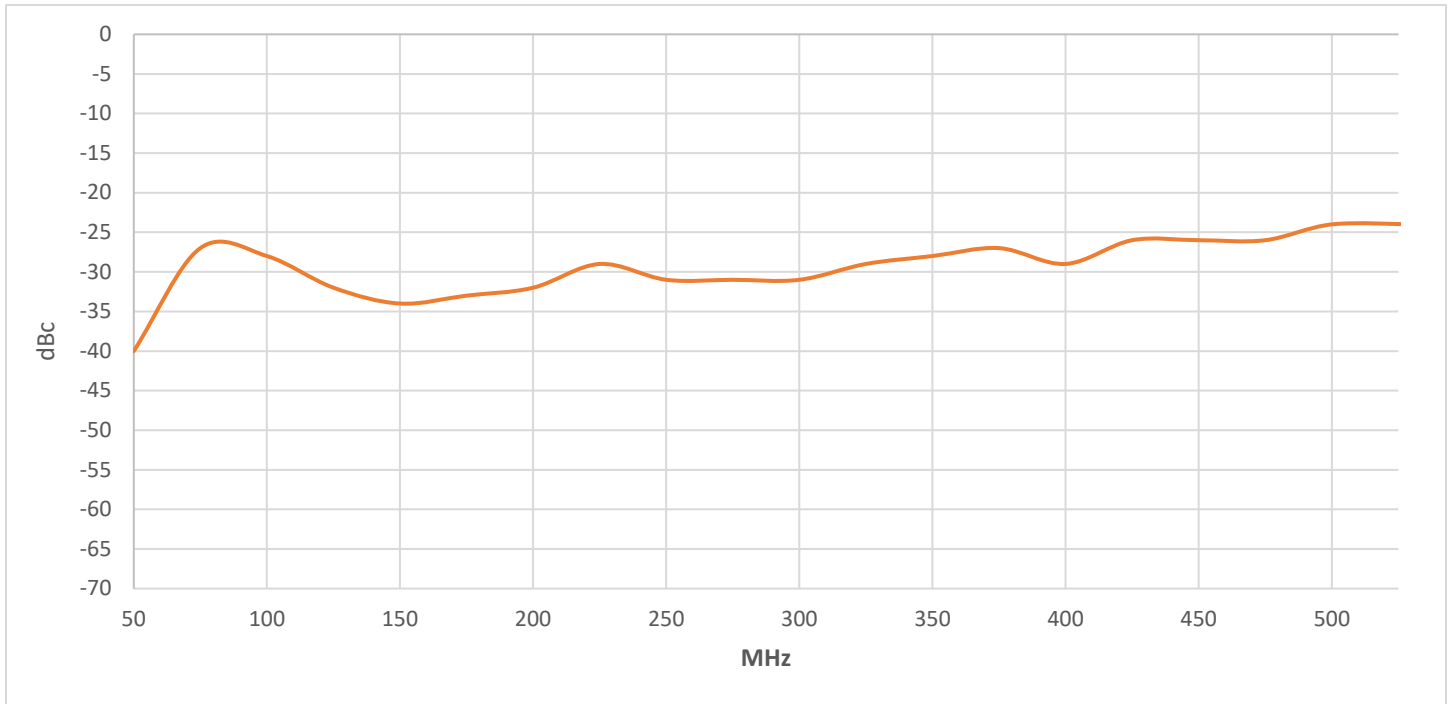
TYPICAL POWER @ P1 dB COMPRESSION



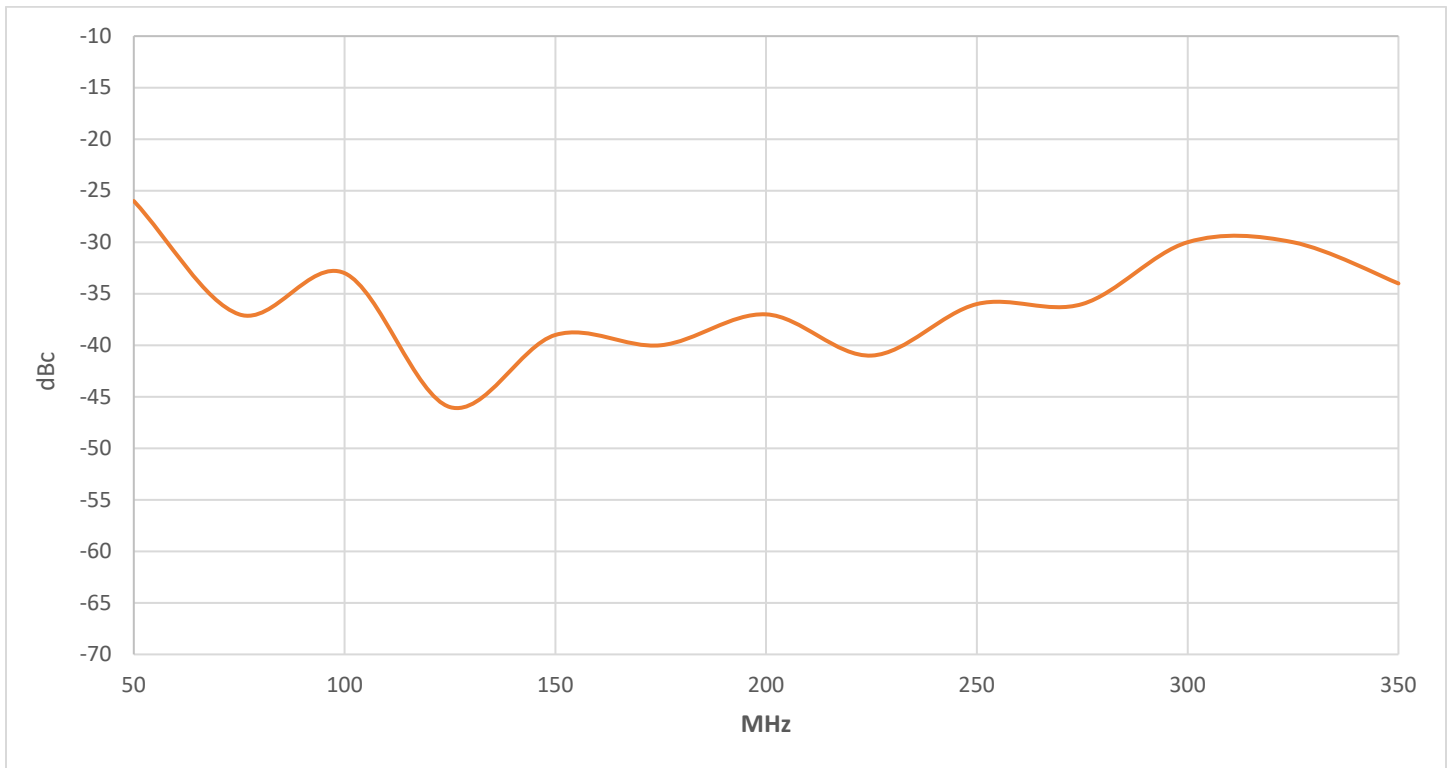
TYPICAL SMALL SIGNAL GAIN @ -20 dBm INPUT



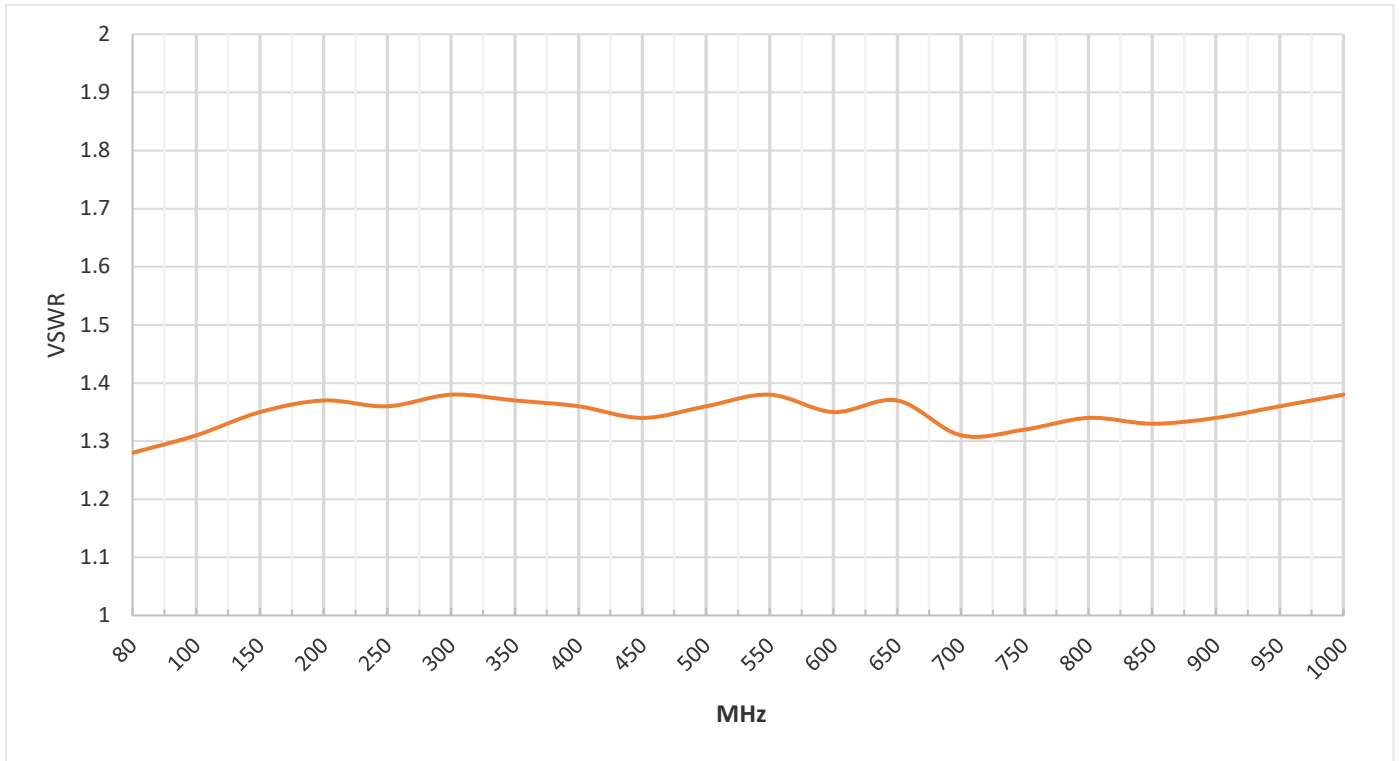
TYPICAL 2ND HARMONIC @ 2000 W



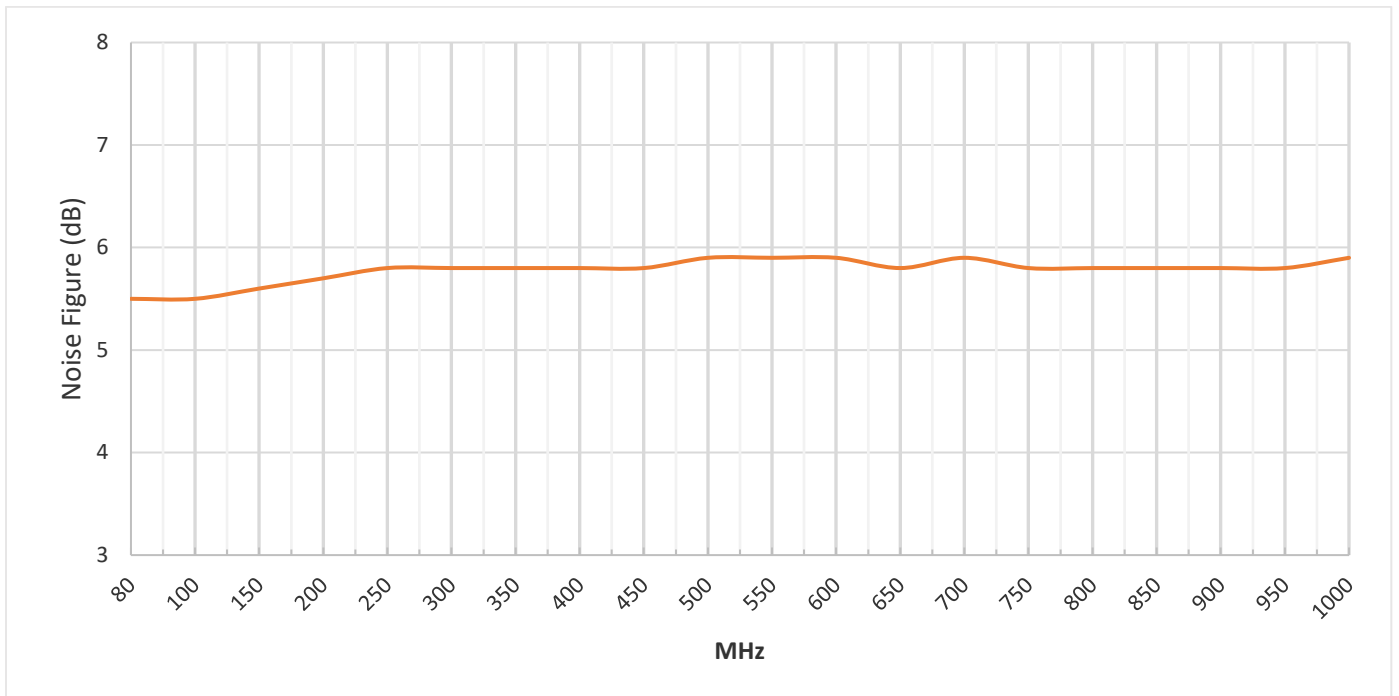
TYPICAL 3RD HARMONIC @ 2000 W



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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