Amplifiers

Model 250S6G18C

Features:

- 250 W CW, 6.0 - 12.0 GHz
- 200 W CW 12.0 - 18.0 GHz
- 100% mismatch tolerant
- Built-in fault monitoring, logging and protection
- Touch screen display
- RF Sample Ports
- 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
- Low acoustical noise

Applications:

- EMC (military, aviation, automotive, commercial)
- Radiated and conducted EMC testing
- General purpose, antenna, and component testing
- CDMA, W-CDMA, TDMA, GSM, UWB, WiMAX etc.

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ISO 9001:2015 Certified
ISO 17025 :2017 Accredited

The Model 250S6G18C 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 of 6.0 - 12.0 GHz and 200 W from 12.0 - 18.0 GHz. 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 a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM, UWB, WiMAX etc.

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.

Electrical Specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (6.0 - 12.0 GHz)	PSAT	250	300	>350	W
Rated Power Output (12.0 - 18.0 GHz)	PSAT	200	250	>350	W
Input for Rated Output	Pin			1.0	mW
				0	dBm
Power Output @ 3 dB Compression (6.0 - 12.0 GHz)	P3dB	250	300	>350	W
Power Output @ 3 dB Compression (12.0 - 18.0 GHz)	P3dB	200	250	>350	W
Power Output @ 1 dB Compression (6.0 - 12.0 GHz)	P1dB	200	250	>350	W
Power Output @ 1 dB Compression (12.0 - 18.0 GHz)	P1dB	150	200	>300	W
Operating Frequency	BW	6.0		18.0	GHz
Gain (Small Signal)		55	59	63	dB
Gain Reduction Adjustment (when below compression)		10	15	20	dB
Flatness	ΔG		±2.5	±3.5	dB
Input Impedance	Z in		50		Ohm
			2.0:1	2.5:1	VSWR
Output Impedance	Z out		50		Ohm
3rd Order Intercept	IP3		+59		dBm
Harmonic Distortion @ 250 W, 6.0 - 12.0 GHz, @ 200 W, 12.0 - 18.0 GHz	H2, H3		-25	-20	dBc
Power Consumption	PD			4500	W
Modulation Capability	AM, FM or Pulse				

Absolute Maximum Rating

Exceeding any of the limits 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 125 watts reflected power.			50	%
AC Power - Voltage (single phase)	200		240	VAC
AC Power - Frequency	47		63	Hz
Ambient Temperature	+5	+25	+40	°C
Storage Temperature	-20		+50	°C
Altitude			2000	m
Shock/Vibration	Normal Truck Transport			

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Mechanical Specifications		
Parameters		**Unit**
Dimensions (With Rack) (16U Rack) (W x H x D)	57.4 x 97.9 x 95.5	cm
	22.6 x 38.5 x 37.6	in
Dimensions (No Rack) – 12U for 19" Rack	48.3 x 53.3 x 95.5	cm
	19.0 x 21.0 x 37.6	in
Weight (With Cabinet)	117	kg
	258	lb
Weight (No Cabinet)	88	kg
	194	lb
Cooling	Forced air (self-contained fans) Side inlets / rear outlet Δt = +7°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	3A001

Connector interfaces	
Function	**Type**
RF input	N female (50 Ω)
RF output	WRD650 (50 Ω), rear
RF Sample	N female (50 Ω), 60 dB typical
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

Ordering Options

250S6G18C	-		-	N	-	R	-	WRD650	-		-	
Model		**RF IN Conn Location, Type**				**RF OUT Conn Location, Type**				**Enclosure No Enclosure**		**RF Sample Ports**

Connector	
Front	F
Rear	R

Enclosure	
Enclosure	E
No Enclosure	NE

RF Sample Ports	
Front	SPF
Rear	SPR

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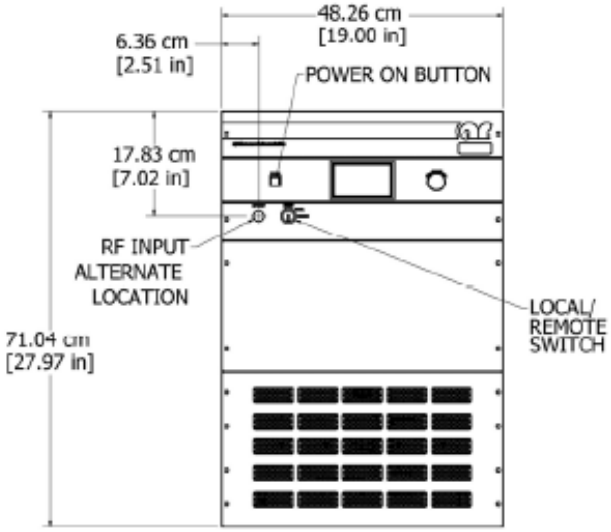
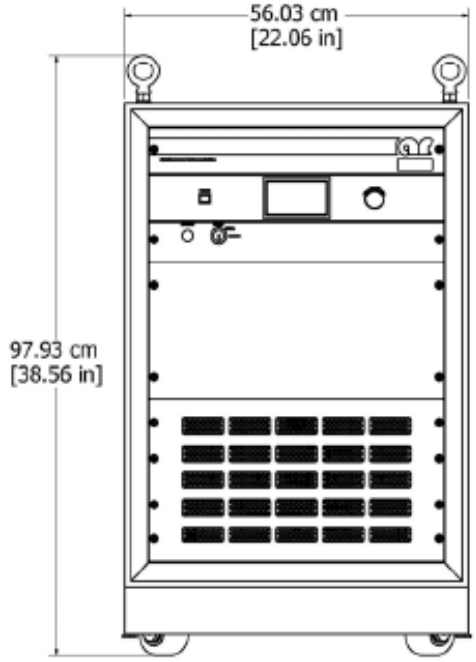
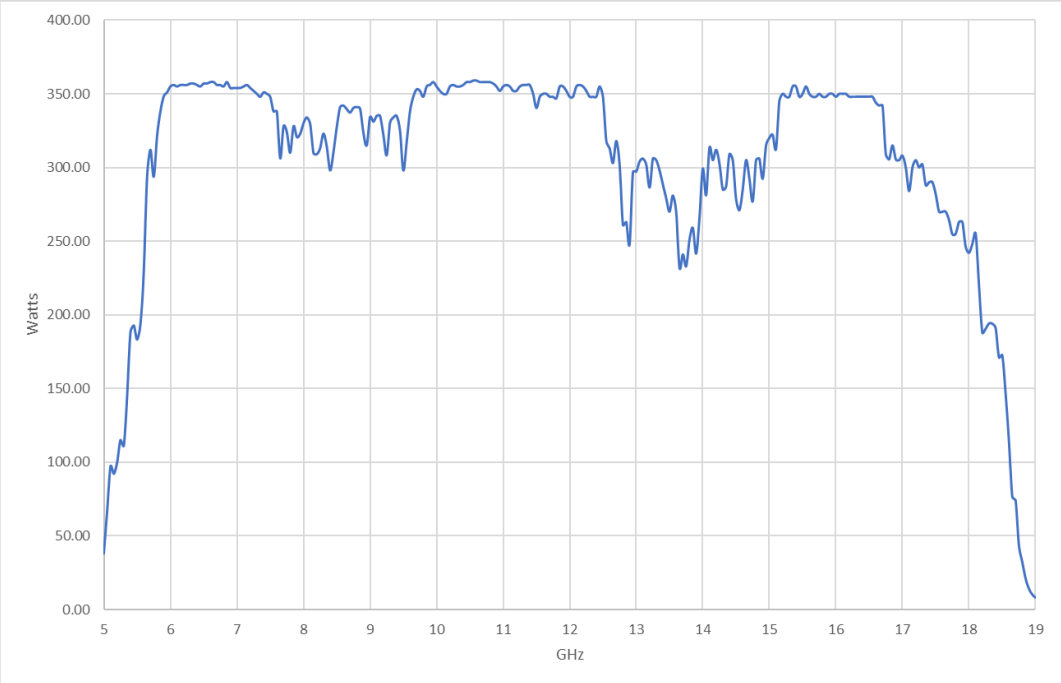
Envelope Drawing

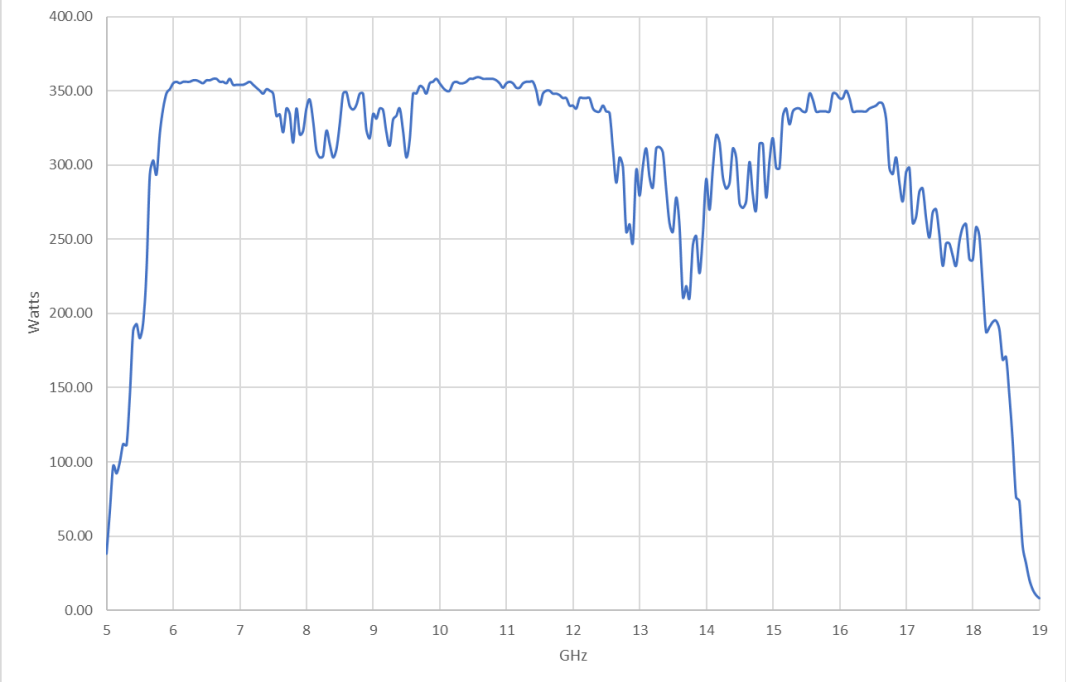




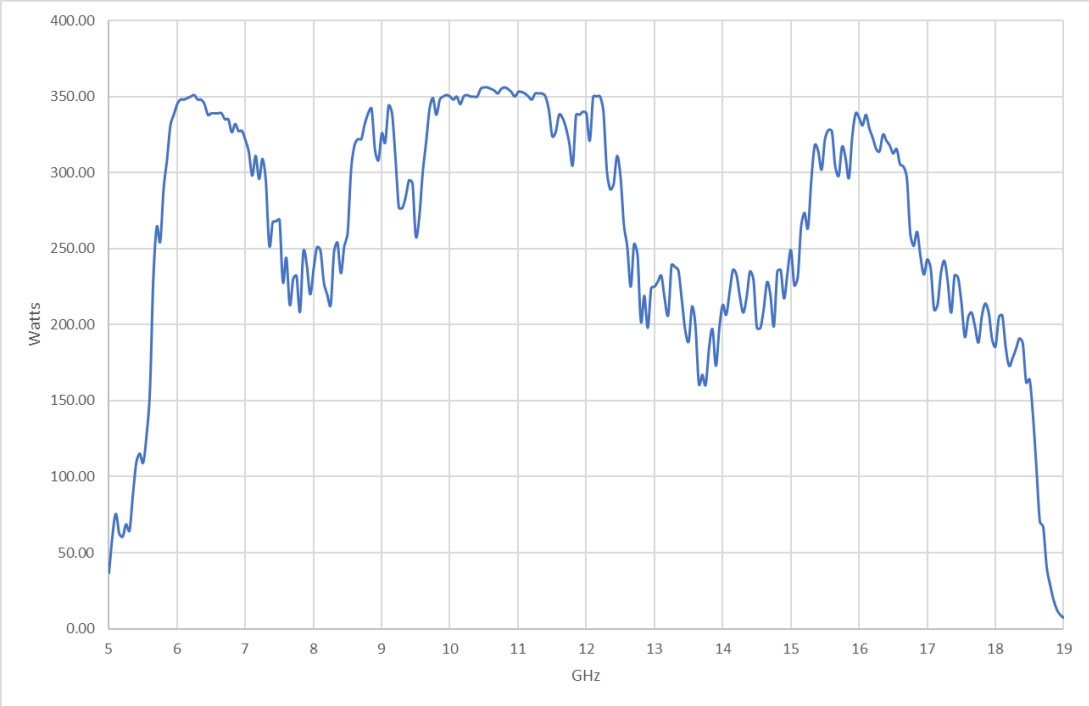
TYPICAL PSAT POWER @ 0dBm INPUT



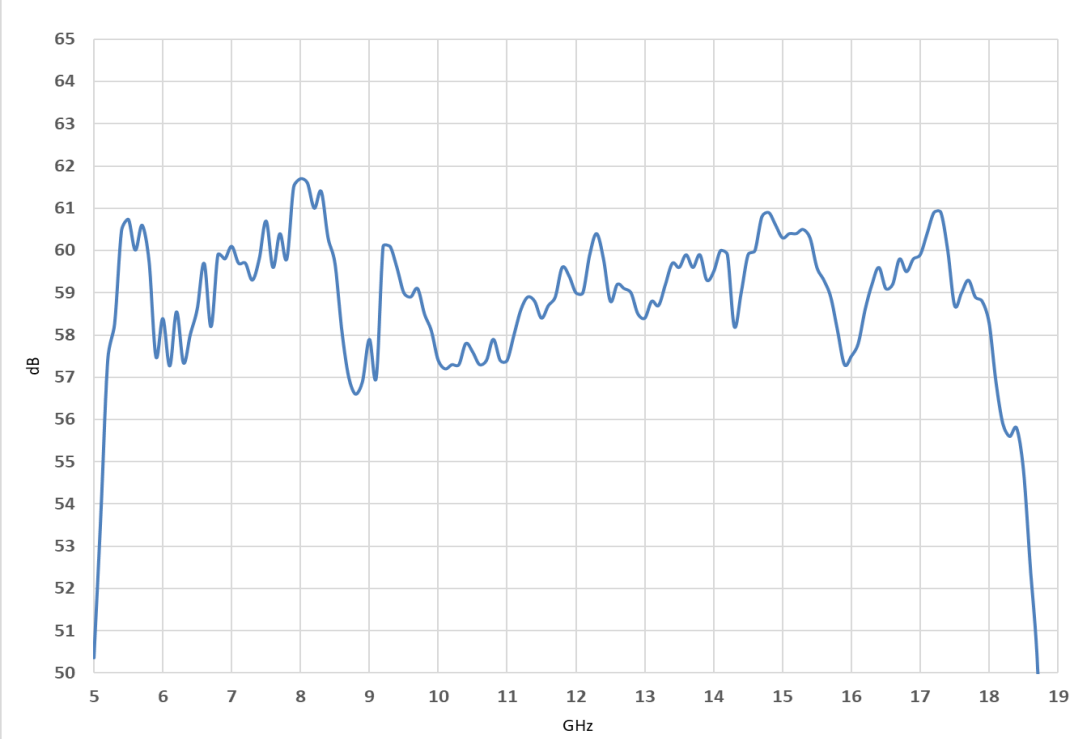
TYPICAL POWER @ P3dB COMPRESSION



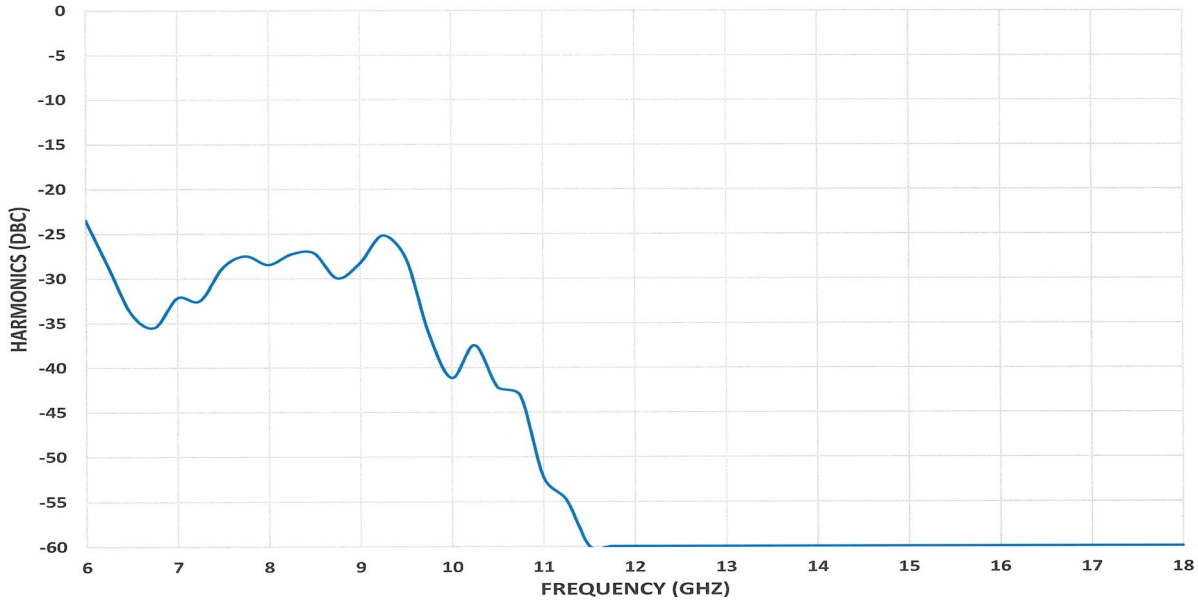
TYPICAL POWER @ P1dB COMPRESSION



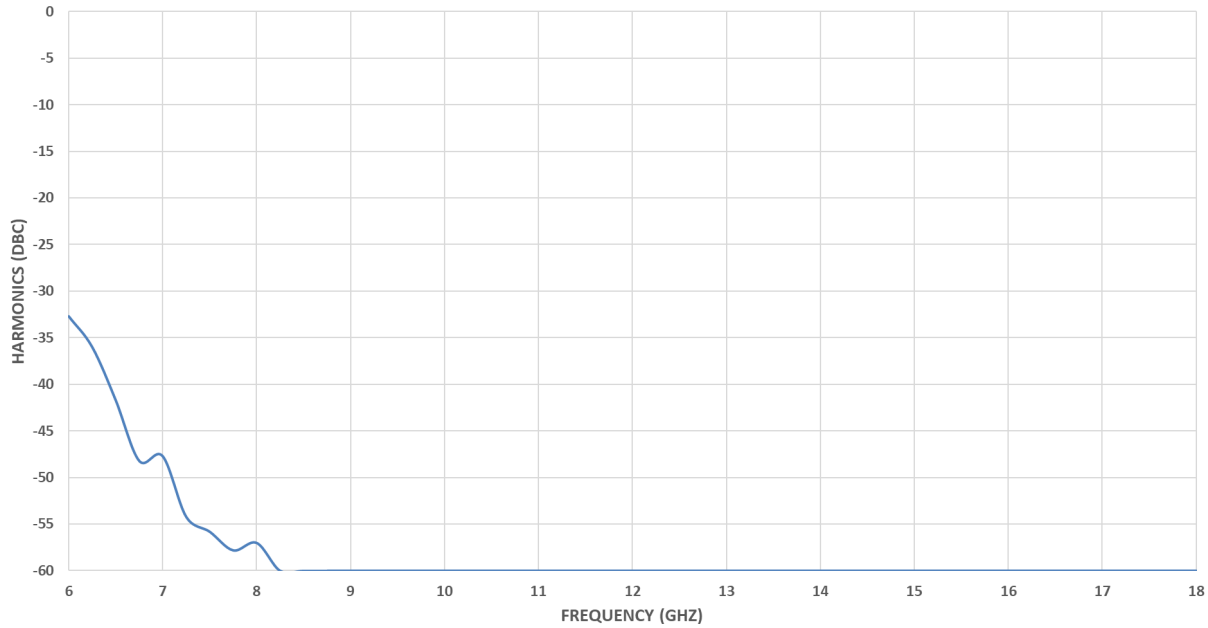
TYPICAL SMALL SIGNAL GAIN @ -20dBm INPUT



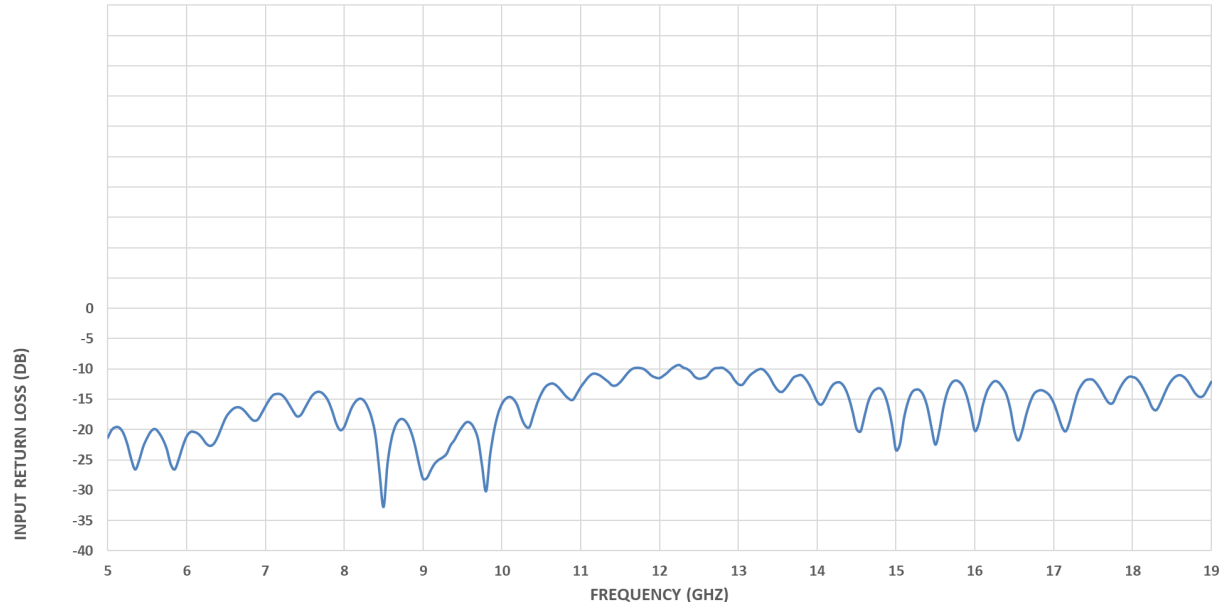
TYPICAL 2nd HARMONIC @ RATED POWER OUTPUT



TYPICAL 3rd HARMONIC @ RATED POWER OUTPUT



TYPICAL INPUT VSWR



TYPICAL NOISE FIGURE