Model 75S1G6C

Features:

- 75 Watts CW, 1.0 - 6.0 GHz
- Class A design
- 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

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www.arworld.us/amplifiers

The Model 75S1G6C 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 75 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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ISO 9001:2015 Certified
ISO 17025 :2017 Accredited

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- 75 W
- 1.0 - 6.0 GHz

Electrical Specifications					
Parameter	**Symbol**	**Minimum**	**Typical**	**Maximum**	**Unit**
Rated Power Output	PSAT	75	85	>125	W
Input for Rated Output	Pin			1.0	mW
				0	dBm
Power Output @ 1 dB Compression	P1dB	50	70	>100	W
Power Output @ 3 dB Compression	P3dB	65	85	>120	W
Operating Frequency	BW	1.0		6.0	GHz
Gain (Small Signal)		51	54	56	dB
Gain Reduction Adjustment (when below compression)		10	12	15	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
3rd Order Intercept	IP3		+56		dBm
Noise Figure	NF		10		dB
Harmonic Distortion @ 75 W for entire band except 2 - 3 GHz	H2, H3		-30	-20	dBc
Harmonic Distortion @ 75 W for 2 – 3 GHz	H2, H3		-22	-18	dBc
Spurious			-73		dBc
Power Consumption	PD			450	W

Mechanical Specifications		
Parameters	**Nominal**	**Unit**
Dimensions (With Cabinet) (W x H x D)	51.0 x 17.0 x 65.3	cm
	20.1 x 6.7 x 25.7	in
Dimensions (No Cabinet) – 3U for 19" Rack	48.3 x 13.4 x 65.3	cm
	19.0 x 5.3 x 25.7	in
Weight (With Cabinet)	26.5	kg
	58.5	lb
Weight (No Cabinet)	15.8	kg
	34.75	lb
Cooling	Forced air (self-contained fans) Side inlets / rear outlet Δt = +7°C (typical)	
Acoustical Noise (Measured @ 1 meter from the front)	56 (typical)	dBA

Absolute Maximum Rating

Exposure to maximum rating conditions for extended periods may reduce device reliability. 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	6:1	VSWR
AC Power (single phase)	100		240	VAC
AC Power	50		60	Hz
Ambient Temperature	+5	+25	+40	°C
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 (50 Ω)
RF output	N female (50 Ω)
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

75S1G6C	-		-	N	-		-	N	-	
Model		RF IN Conn Location, Type				RF OUT Conn Location, Type				Enclosure No Enclosure

N-Connector	
Front	F
Rear	R

Enclosure	
Enclosure	E
No Enclosure	NE

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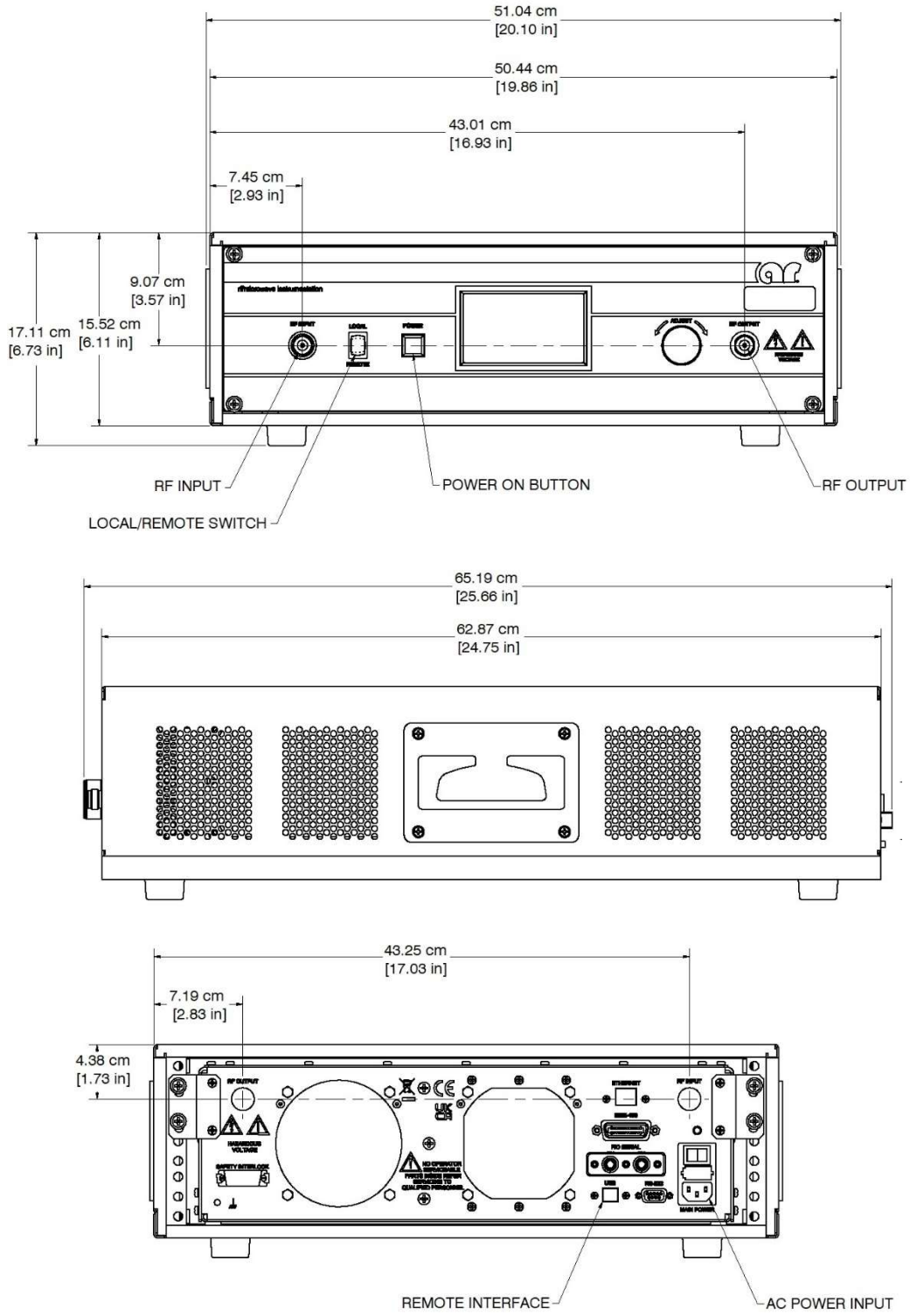
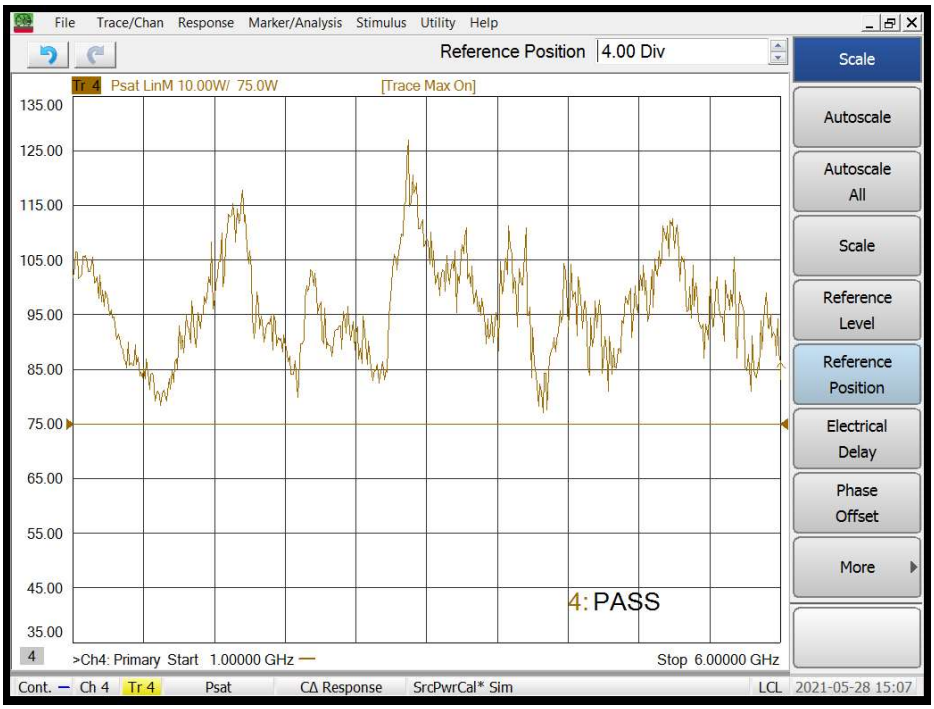
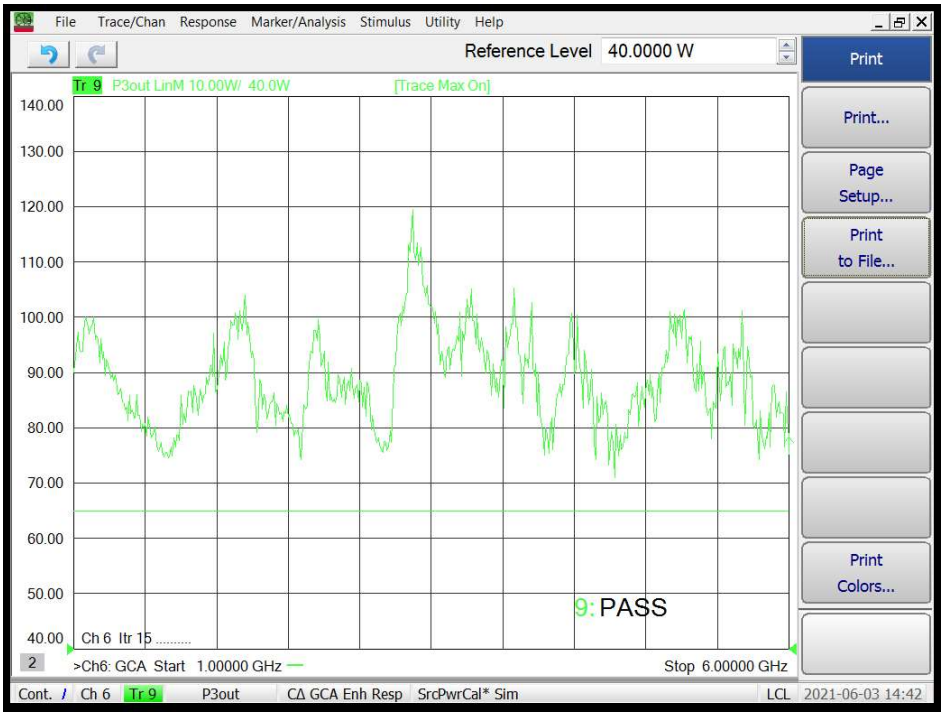
Envelope Drawing



TYPICAL PSAT POWER @ 0 dBm INPUT



TYPICAL POWER @ P3 dB COMPRESSION



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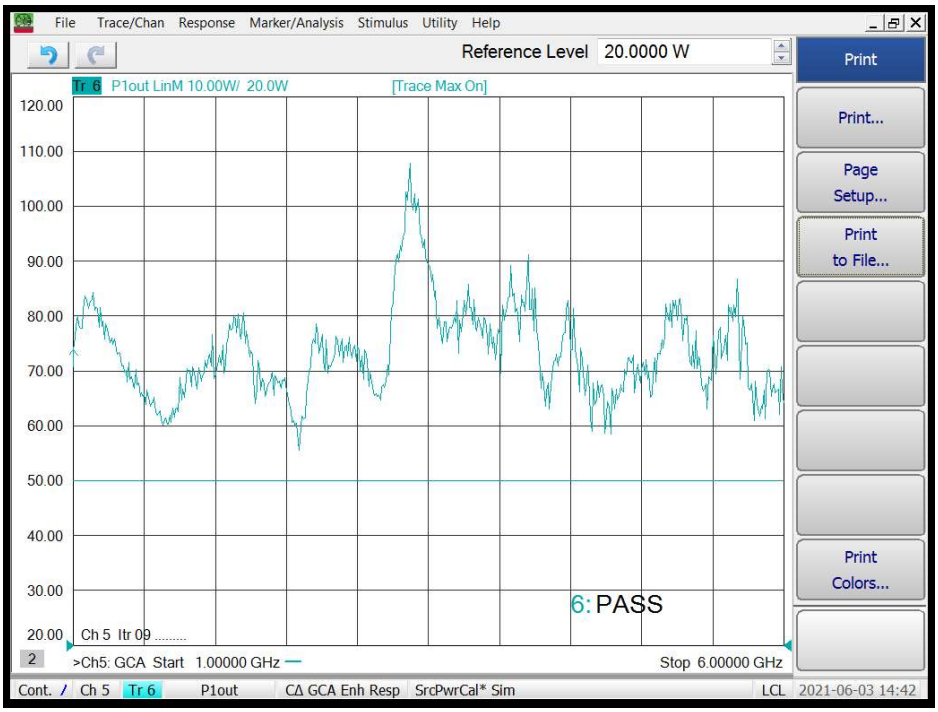
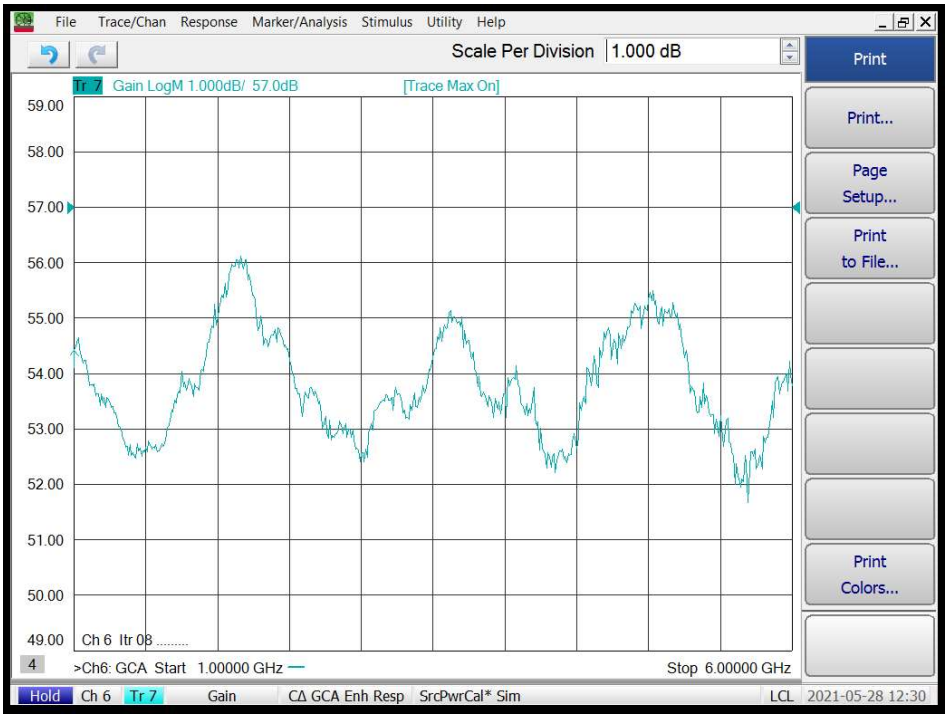
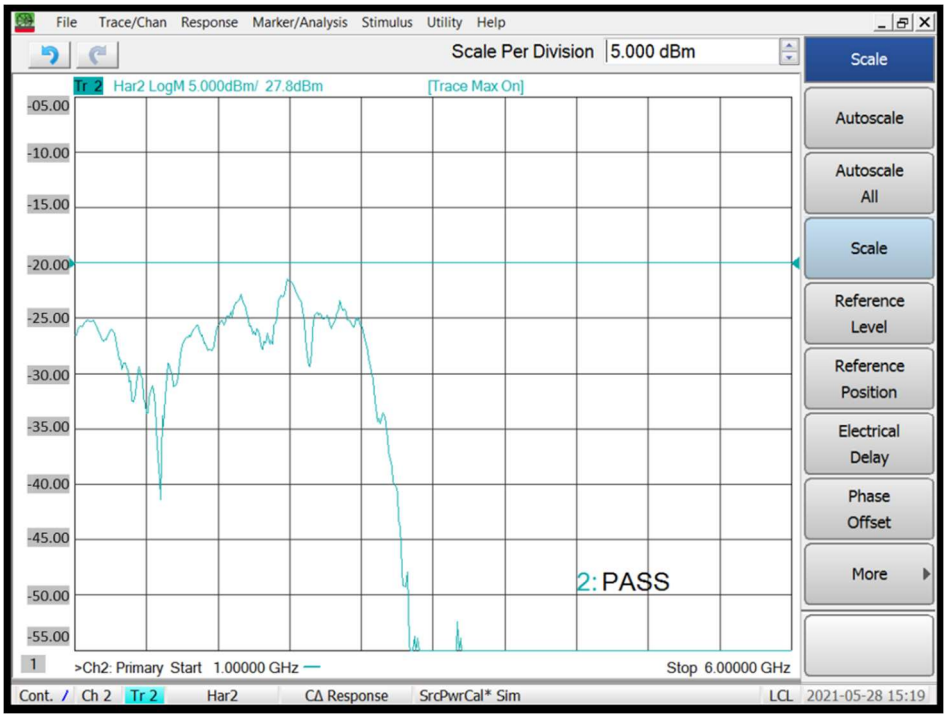
TYPICAL POWER @ P1dB COMPRESSION



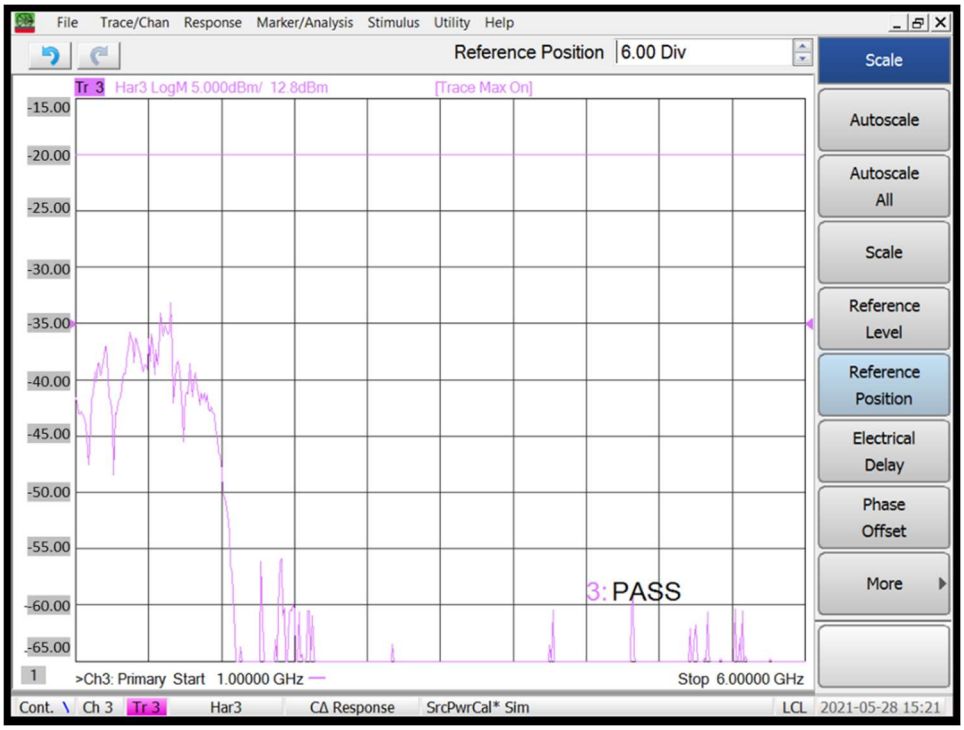
TYPICAL SMALL SIGNAL GAIN @ -20 dBm INPUT



TYPICAL 2ND HARMONIC @ 75 W OUTPUT



TYPICAL 3RD HARMONIC @ 75 W OUTPUT



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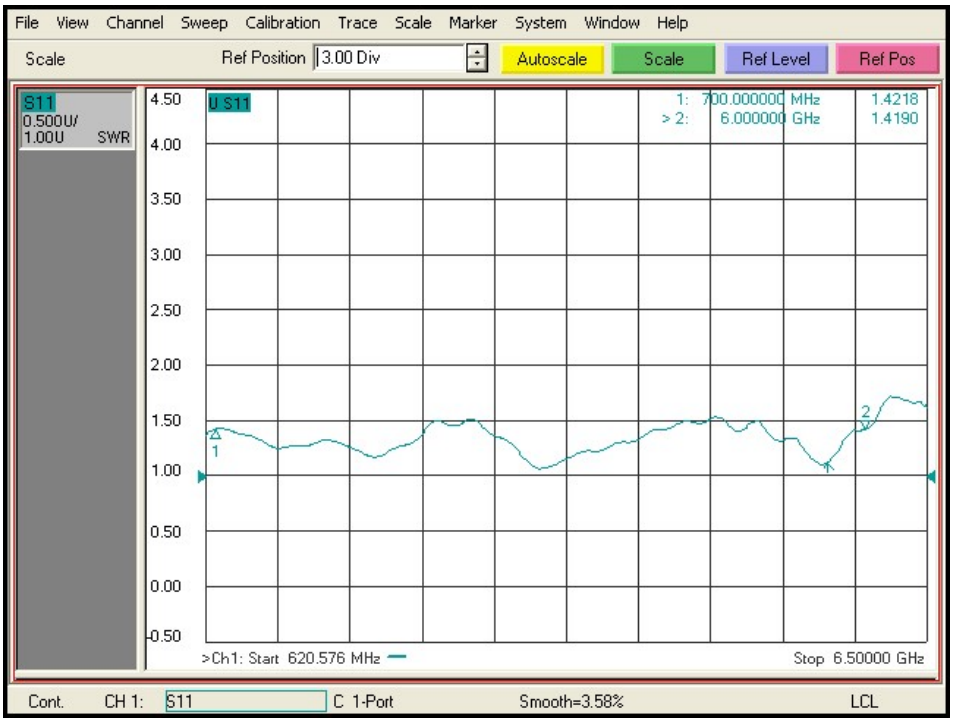
TYPICAL INPUT VSWR



TYPICAL NOISE FIGURE