

Amplifiers

Model 30S1G6

Features:

- 30 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

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ISO 9001:2015 Certified

ISO 17025 :2017 Accredited



The Model 30S1G6 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 30 W across its operating bandwidth of 0.7 - 6.0 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 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.

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- 30 W
- 0.7 – 6 GHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (0.7 - 6 GHz)	PSAT	30	40	>50	W
Input for Rated Output	Pin			1	mW
				0	dBm
Power Output @ 1 dB Compression	P1dB	22	30	>50	W
Power Output @ 3 dB Compression	P3dB	26	35	>40	W
Operating Frequency	BW	0.7		6.0	GHz
Gain (Small Signal)		49	51	53	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
			2.0:1	2.5:1	VSWR
3 rd Order Intercept	IP3		50		dBm
Noise Figure	NF		10		dB
Harmonic Distortion @ 30 W	H2, H3			-20	dBc
Spurious			-73		dBc
Power Consumption	PD			300	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			+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	100		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			



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Mechanical Specifications		
Parameters	Typical	Unit
Dimensions (With Cabinet) (W x H x D)	50.3 x 15.5 x 37.6	cm
	19.8 x 6.1 x 14.8	in
Dimensions (No Cabinet) – 3U for 19" Rack	48.3 x 12.7 x 37.6	cm
	19.0 x 5.0 x 14.8	in
Weight (With Cabinet)	18.2	kg
	40	lb
Weight (No Cabinet)	12.5	kg
	27.5	lb
Cooling	Forced air (self-contained fans)	
Acoustical Noise (Measured @ 1 meter from the front)	59 (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
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

Ordering Options

30S1G6 - - 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

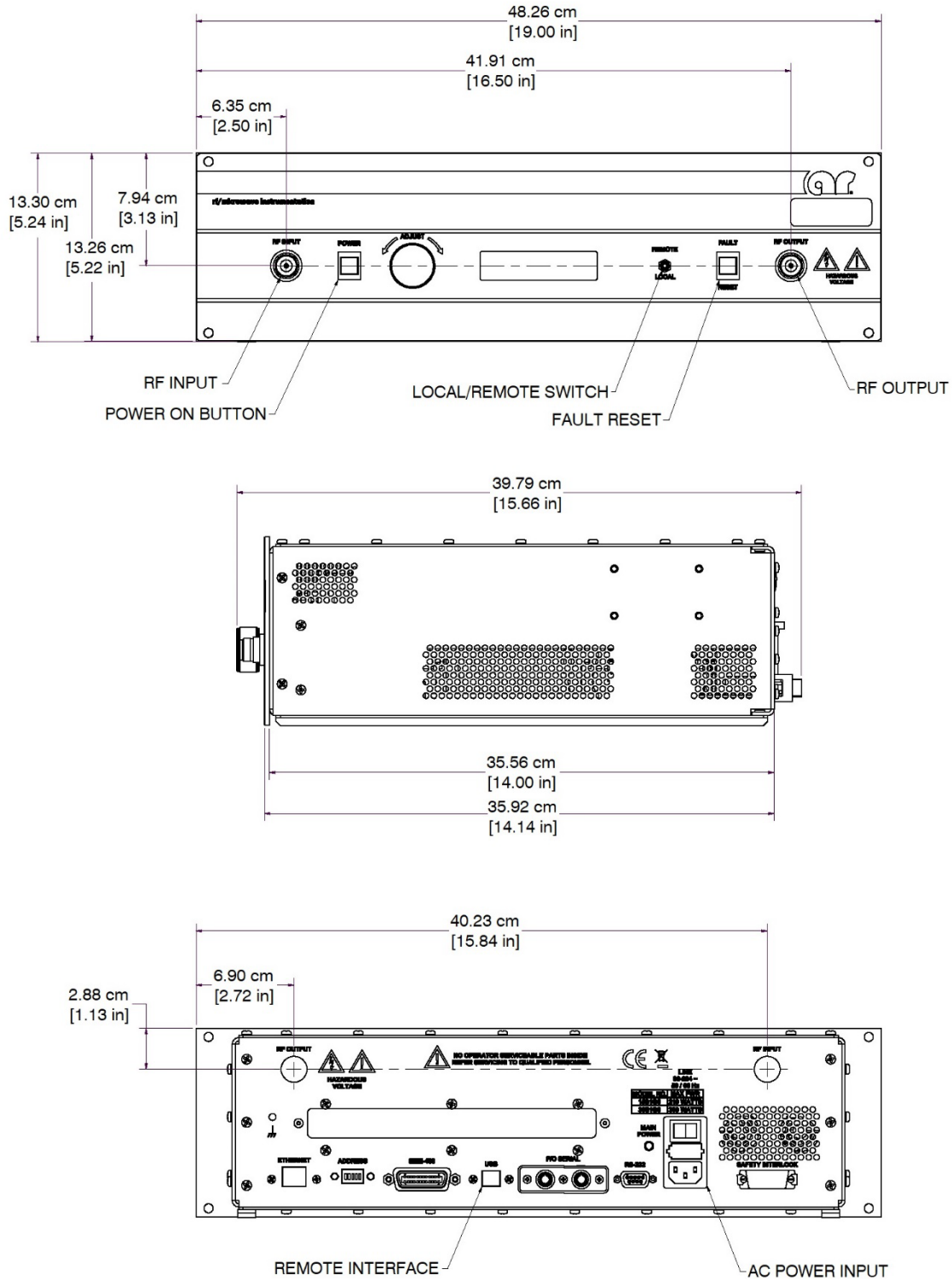
Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.



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Envelope Drawing



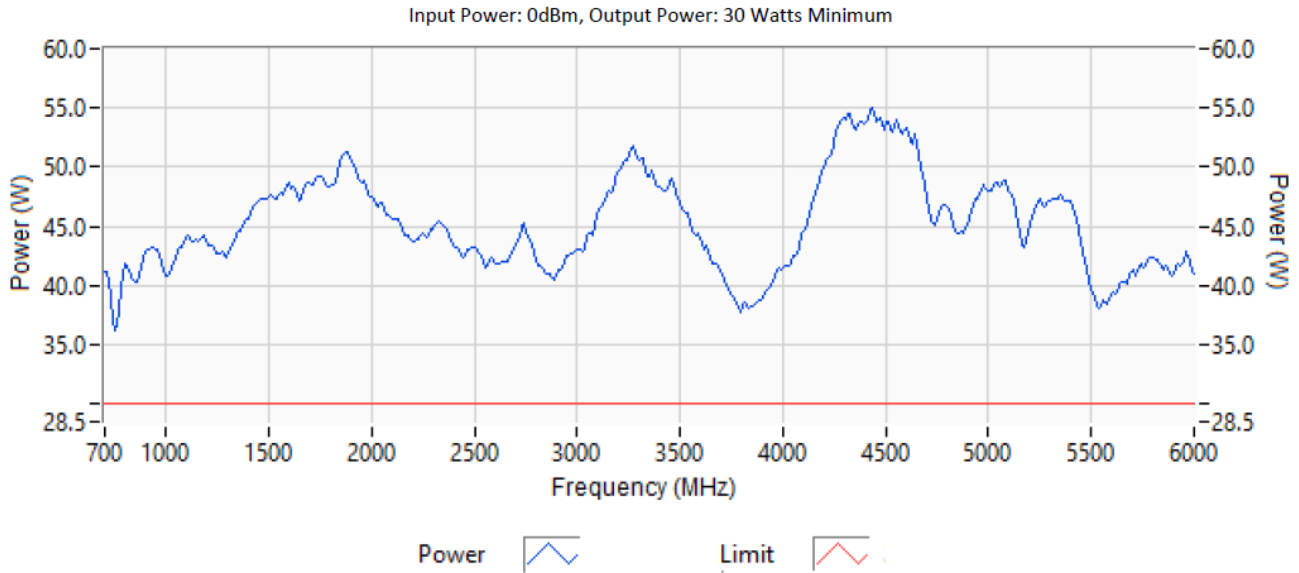
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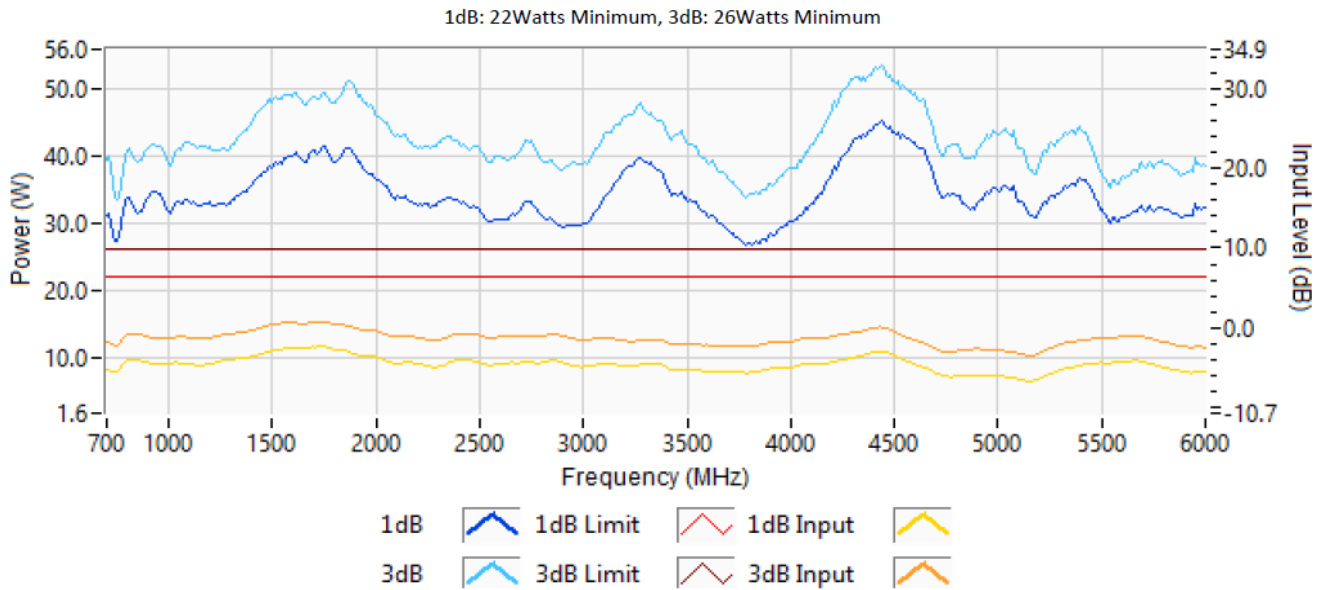
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TYPICAL OUTPUT POWER (P_{sat} @ 0 dBm input)



TYPICAL OUTPUT POWER (P1 dB, P3 dB compression)

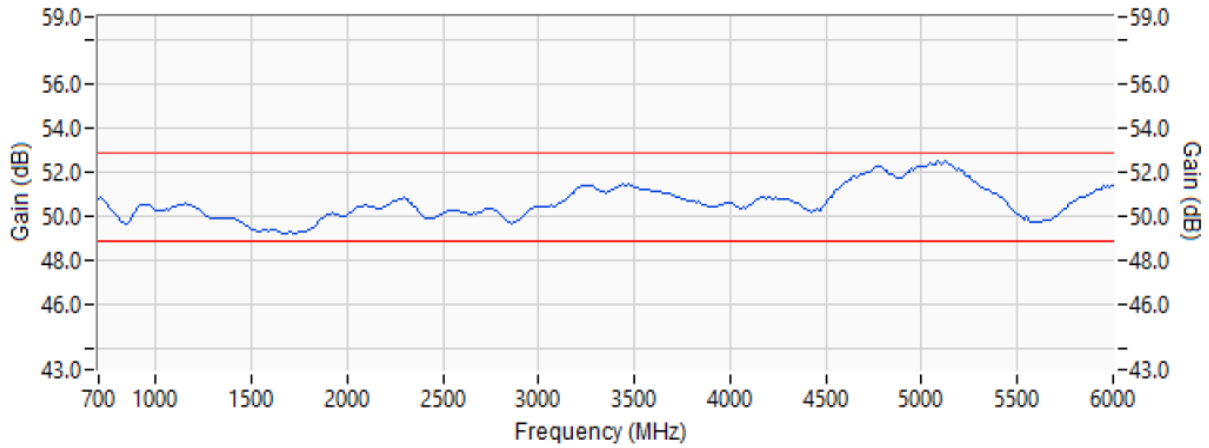


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TYPICAL SMALL SIGNAL GAIN @ -20 dBm Input

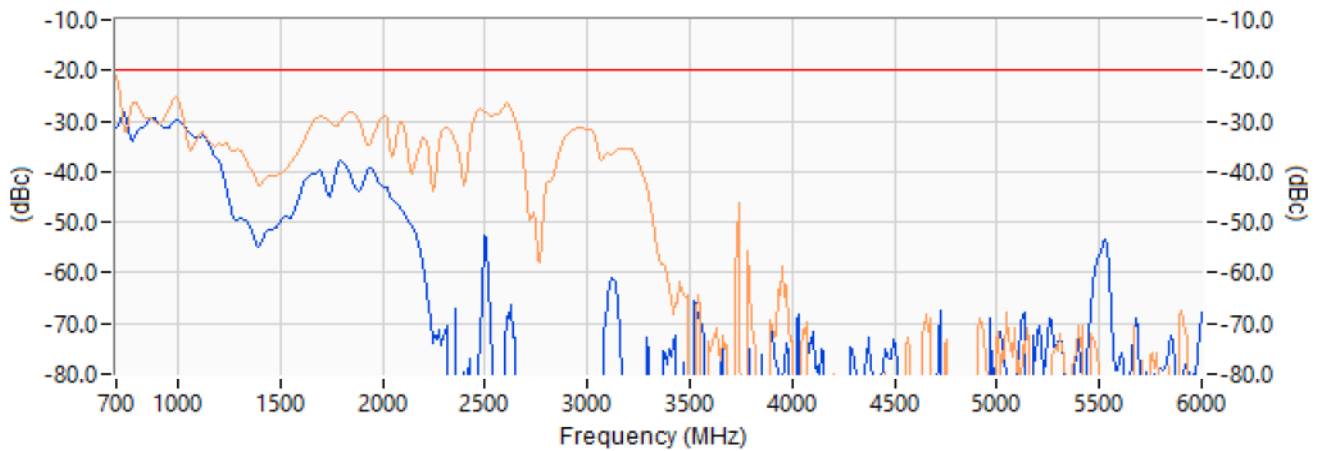
Specification +/- 2.00dB Measured +/- 1.65dB



Gain Limit

TYPICAL HARMONICS @ 30 WATTS

-20dBc Max @ 30W (700 - 6000MHz)



Limit 2nd 3rd

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