



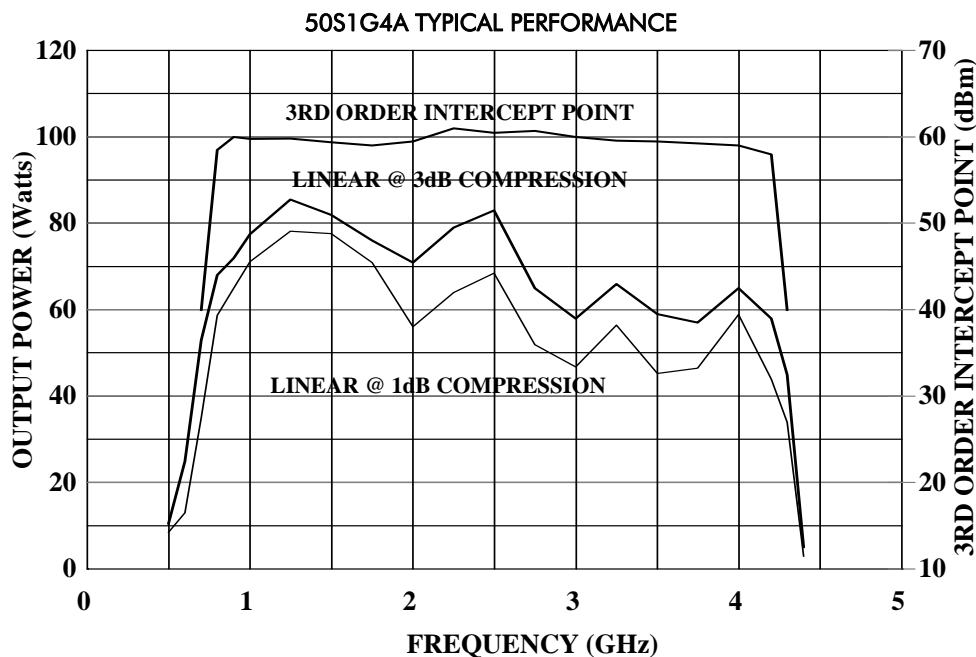
rf/microwave instrumentation

**Model 50S1G4A,
M1 through M4
50 Watts CW
0.8–4.2GHz**

The Model 50S1G4A is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Housed in a stylish contemporary cabinet, the unit is designed for benchtop use, but can be removed from the cabinet for immediate equipment rack mounting.

The 50S1G4A, when used with a sweep generator, will provide a minimum of 50 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 50S1G4A is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level is increased above 0 dBm. The RF amplifier stages are protected from over-temperature by removing the DC voltage to them if an over-temperature condition occurs due to cooling blockage or fan failure. There is a digital display on the front panel to indicate the operate status and fault conditions if an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 50S1G4A digital panel provides control of all amplifier functions both locally and remotely via IEEE-488 (GPIB) or RS-232 interfaces.

The low level of spurious signals and linearity of the Model 50S1G4A make it ideal for use as a driver amplifier in testing wireless and communication components and subsystems. It can be used as a test instrument covering multiple frequency bands and is suitable for a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM etc. It is also suitable for EMC Test applications where undistorted modulation envelopes are desired.



SPECIFICATIONS, MODEL 50S1G4A

RATED POWER OUTPUT.....	50 watts minimum
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
POWER OUTPUT @ 3dB COMPRESSSION	
Nominal	70 watts
Minimum	50 watts
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	60 watts
Minimum	40 watts
FLATNESS	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE	0.8–4.2 GHz instantaneously
GAIN (at maximum setting)	47 dB minimum
GAIN ADJUSTMENT	
(Continuous Range).....	10 dB minimum
(4096 steps remote)	
INPUT IMPEDANCE.....	50 ohms, VSWR 2.0:1 maximum
OUTPUT IMPEDANCE	50 ohms, nominal
MISMATCH TOLERANCE*.....	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27.
MODULATION CAPABILITY	Will faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
THIRD ORDER INTERCEPT	See chart. The third order intercept points for this chart have been determined using two tones spaced 1 MHz apart. This is typical for W-CDMA systems. Closer tone spacing such as 60 kHz generally provides about a 1db to 3db improvement in the IP.
HARMONIC DISTORTION	Minus 20 dbc max at 50 watts
SPURIOUS	Minus 73 dbc Typ.
PHASE LINEARITY	±1.0 deg/100 MHz, Typ
PRIMARY POWER (Selected Automatically)	90-132, 180-264 VAC 50/60 Hz, single phase 600 watts maximum
CONNECTORS	
RF.....	Type N female
REMOTE INTERFACES	
IEEE-488.....	24 pin
RS-232	9 pin Subminiature D
SAFETY INTERLOCK	15 pin Subminiature D
COOLING	Forced air (self contained fans)

MODEL CONFIGURATIONS

MODEL	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
50S1G4A	Type N female, front panel	Type N female, front panel	45 kg (100 lbs)	50.3 x 24.9 x 54.6 cm 19.8 x 9.8 x 21.5 in
50S1G4AM1	Type N female, rear panel	Type N female, rear panel	45 kg (100 lbs)	50.3 x 24.9 x 54.6 cm 19.8 x 9.8 x 21.5 in
50S1G4AM2	Same as 50S1G4A with enclosure removed for rack mounting		32 kg (71 lbs)	48.3 x 22.2 x 54.6 cm 19.0 x 8.75 x 21.5 in
50S1G4AM3	Same as 50S1G4AM1 with enclosure removed for rack mounting		32 kg (71 lbs)	48.3 x 22.2 x 54.6 cm 19.0 x 8.75 x 21.5 in
50S1G4AM4	Obsolete			