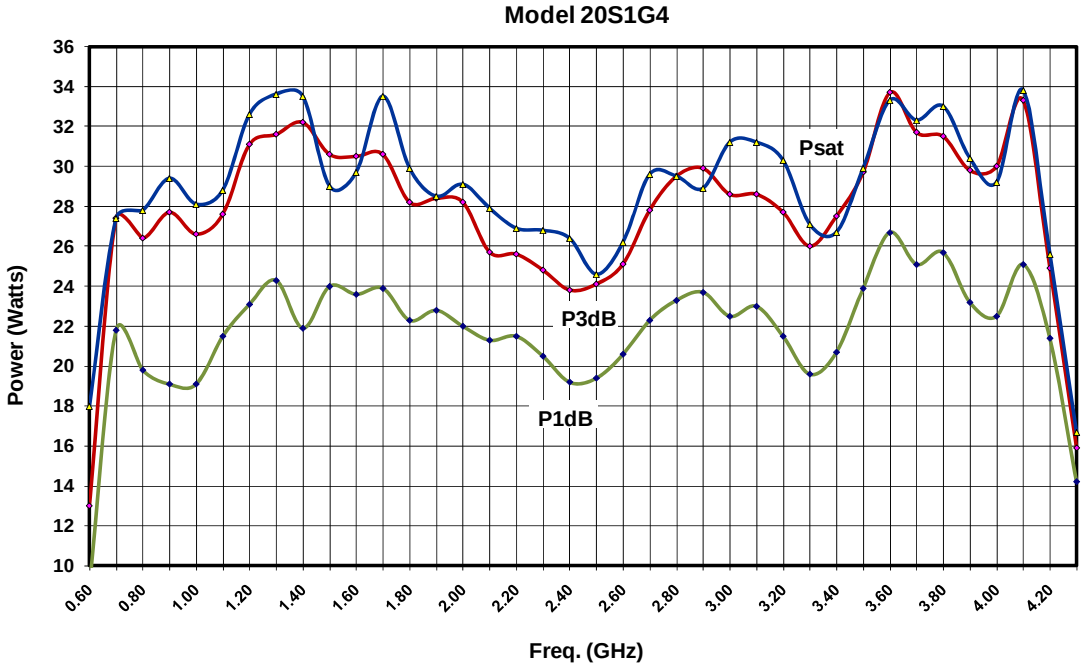
Model 20S1G4
M1 through M4
20 Watts CW
0.7GHz–4.2GHz

The Model 20S1G4 is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth and high gain 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 20S1G4, when used with a sweep generator, will provide a minimum of 20 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 20S1G4 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 when an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 20S1G4 includes digital control for both local and remote control of the amplifier. All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS-232 hardwire and fiber optic, USB, and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a Local/Remote switch on the front panel of the amplifier.



Export Commodity Classification Number (ECCN), EAR99 items, do not require export control.

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SPECIFICATIONS, MODEL 20S1G4

RATED POWER OUTPUT ..... 20 watts minimum

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ..... 25 watts
- Minimum ..... 20 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ..... 22 watts
- Minimum ..... 18 watts

FLATNESS ..... ±1.5 dB typical
±2.0 dB maximum

FREQUENCY RESPONSE ..... 0.7–4.2GHz instantaneously

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

GAIN (at maximum setting) ..... 43 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

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 20 watts

SPURIOUS ..... Minus 73 dBc typical

THIRD ORDER INTERCEPT POINT ..... 52 dBm typical

NOISE FIGURE ..... 10 dB typical

PRIMARY POWER (selected automatically) ..... 90-132, 180-264 VAC
50/60 Hz, single phase
210 watts maximum

CONNECTORS
- RF ..... Type N female
- REMOTE INTERFACES
  - IEEE-488 ..... 24 pin female
  - RS-232 ..... 9 pin Subminiature D (female)
  - RS-232 (fiber optic) ..... Type ST
  - USB 2.0 ..... Type B
  - Ethernet RJ-45

SAFETY INTERLOCK ..... 15 Pin Subminiature D

COOLING ..... Forced air (self contained fans)

OPTIONAL CONFIGURATIONS

MODEL	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
20S1G4	Type N female on front panel	Type N female on front panel	16.8 kg (37 lbs)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
20S1G4M1	Type N female on rear panel	Type N female on rear panel	16.8 kg (37 lbs)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
20S1G4M2	Same as 20S1G4 with enclosure removed for rack mounting		11.1 kg (24.5 lbs)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
20S1G4M3	Same as 20S1G4M1 with enclosure removed for rack mounting		11.1 kg (24.5 lbs)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
20S1G4M4	Obsolete July 2011; features incorporated into standard design		16.8 kg (37 lbs)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in