



**Model 20S4G18,  
M1 through M5  
20 Watts CW  
4GHz–18GHz**

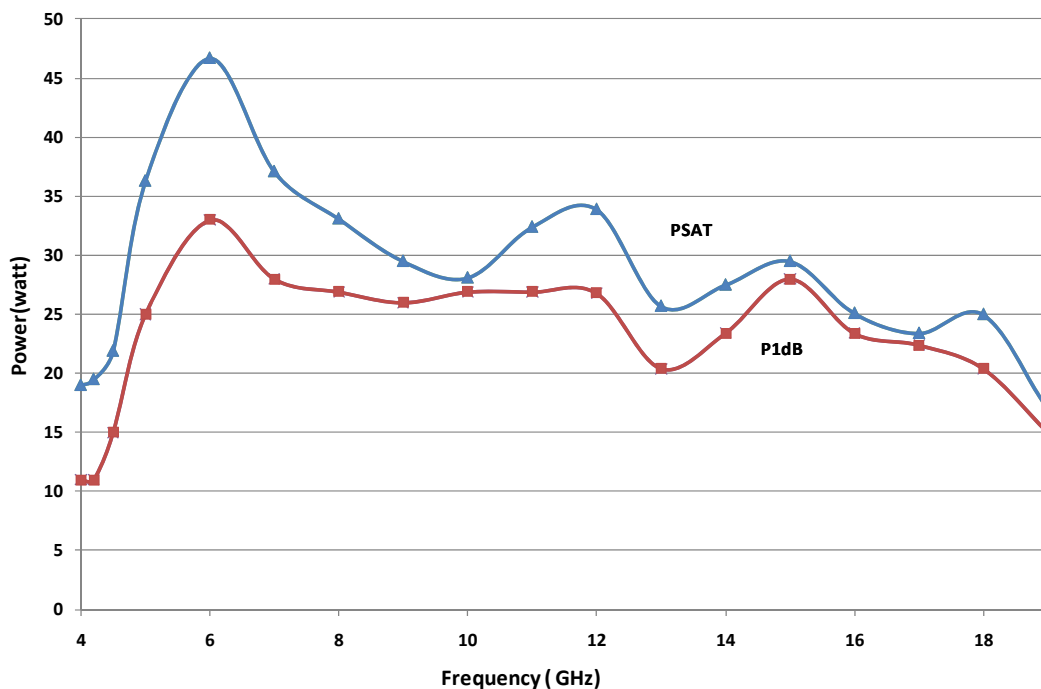
The Model 20S4G18 is a portable, self-contained, air-cooled, broadband, completely solid-state amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. The Model 20S4G18, when used with a sweep generator, will provide a minimum of 20 watts from 5 to 18 GHz and 12 watts of RF power instantaneously from 4-5 GHz. The 20 watt model can be expanded to 40 watts inside the same cabinet.

The Model 20S4G18 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a graphic Liquid Crystal Display, menu assigned softkeys, a single rotary knob, and a dedicated power on/off switch to offer extensive control and status reporting capability. The display provides gain setting and reports of internal amplifier status. Special features include a gain control and input overdrive protection.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS-232 hardware and fiber optic, USB, and Ethernet. The buss interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

The Model 20S4G18 is designed to have low spurious signals, linearity and is extremely load tolerant which enables it to be used in many RF applications such as: RF susceptibility testing, antenna/component testing, and communication technology testing. 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, UWB, WiMAX etc.

TYPICAL OUTPUT POWER 20S4G18



## SPECIFICATIONS, 20S4G18

RATED POWER OUTPUT .....	20 watts minimum (5-18 GHz) 12 watts minimum (4-5 GHz)
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	25 watts
Minimum .....	20 watts (5-18 GHz), 12 watts (4-5 GHz)
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	22 watts
Minimum .....	18 watts (5-18 GHz), 10 watts (4-5 GHz)
<b>FLATNESS</b>	
@1dB compression .....	±3.0 dB typical, ±4.0 dB maximum
@RFIn= -20dBm .....	±4.0 dB typical, ±5.0 dB maximum
FREQUENCY RESPONSE .....	4–18 GHz instantaneously
INPUT FOR RATED OUTPUT .....	1.0 milliwatt maximum, 0 dBm
GAIN (at maximum setting) .....	44 dB minimum (5-18) GHz, 42 dB min (4-5 GHz)
GAIN ADJUSTMENT (Continuous Range) .....	10 dB minimum
INPUT IMPEDANCE .....	50 ohms, VSWR 2.5:1 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.
MODULATION CAPABILITY .....	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
HARMONIC DISTORTION .....	Minus 20 dBc max at 20 watts (5-18 GHz) and 12 watts (4-5 GHz)
THIRD ORDER INTERCEPT POINT .....	49 dBm typical
PRIMARY POWER (selected automatically) .....	90-132, 180-264 VAC 50/60 Hz, single phase <600 watts maximum
<b>CONNECTORS</b>	
RF INPUT & OUTPUT .....	See Model Configurations
<b>REMOTE INTERFACES</b>	
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)

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
20S4G18	Precision N female, rear	Precision N female, rear	36 kg (79 lbs)	50.3 x 24.9 x 54.6 cm 19.8 x 9.8 x 21.5 in
20S4G18M2	Precision N female, front	Precision N female, rear	36 kg (79 lbs)	50.3 x 24.9 x 54.6 cm 19.8 x 9.8 x 21.5 in
20S4G18M3	Precision N female, front	Waveguide*, rear	36 kg (79 lbs)	50.3 x 24.9 x 54.6 cm 19.8 x 9.8 x 21.5 in
20S4G18M5	Same as 20S4G18 with enclosure removed for rack mounting		26 kg (57 lbs)	48.3 x 22.2 x 54.6 cm 19 x 8.75 x 21.5 in

\* Limited to 8–18 GHz