



**Model xx/xxS1G11**  
**20-80/5-20 Watts CW**  
**0.7GHz-10.6GHz**

The Model Series xx/xxS1G11 are portable, self-contained, air-cooled, dual-band, broadband, completely solid-state amplifiers designed for applications where instantaneous bandwidth, high gain and linearity are required.

The models are equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The digital display on the front panel indicates control status and reports of internal amplifier status. All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS-232 hardwire and fiber optic, USB, and Ethernet.

These models are designed to have low spurious signals, linearity and are extremely load tolerant which enables them to be used in many RF applications such as: RF susceptibility testing, antenna/component testing, and communication technology testing. They can be used as test instruments covering multiple frequency bands and are suitable for a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM, UWB, WiMAX etc.

These models have the ability to be upgraded at a later date to the highest power levels listed in the model configurations.

**Available Model Configurations**

	<b>20 watts, 0.7-4.2GHz</b>	<b>40 watts, 0.7-4.2GHz</b>	<b>60 watts, 0.7-4.2GHz</b>	<b>80 watts, 0.7-4.2GHz</b>
<b>5 watts, 4.0-10.6GHz</b>	20/5S1G11	40/5S1G11	60/5S1G11	80/5S1G11
<b>10 watts, 4.0-10.6GHz</b>	20/10S1G11	40/10S1G11	60/10S1G11	80/10S1G11
<b>20 watts, 4.0-10.6GHz</b>	20/20S1G11	40/20S1G11	60/20S1G11	80/20S1G11

## SPECIFICATIONS COMMON TO ALL MODELS IN THE SERIES

INPUT FOR RATED OUTPUT .....	1.0 milliwatt maximum, 0 dBm
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. *See Application Note #27.
MODULATION CAPABILITY.....	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal
SPURIOUS .....	Minus 73 dBc typical
<b>CONNECTORS</b>	
RF INPUT .....	TYPE N (front panel)
RF OUTPUT .....	TYPE N (front panel)
M1 version (2) RF OUTPUT (1 for each band) .....	TYPE N (front panel)
<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)
SIZE (WxHxD).....	50.3x34.3x61 cm (19.8x13.5x24in) Cabinet 48.3x31.1x61 cm (19x12.25x24in)

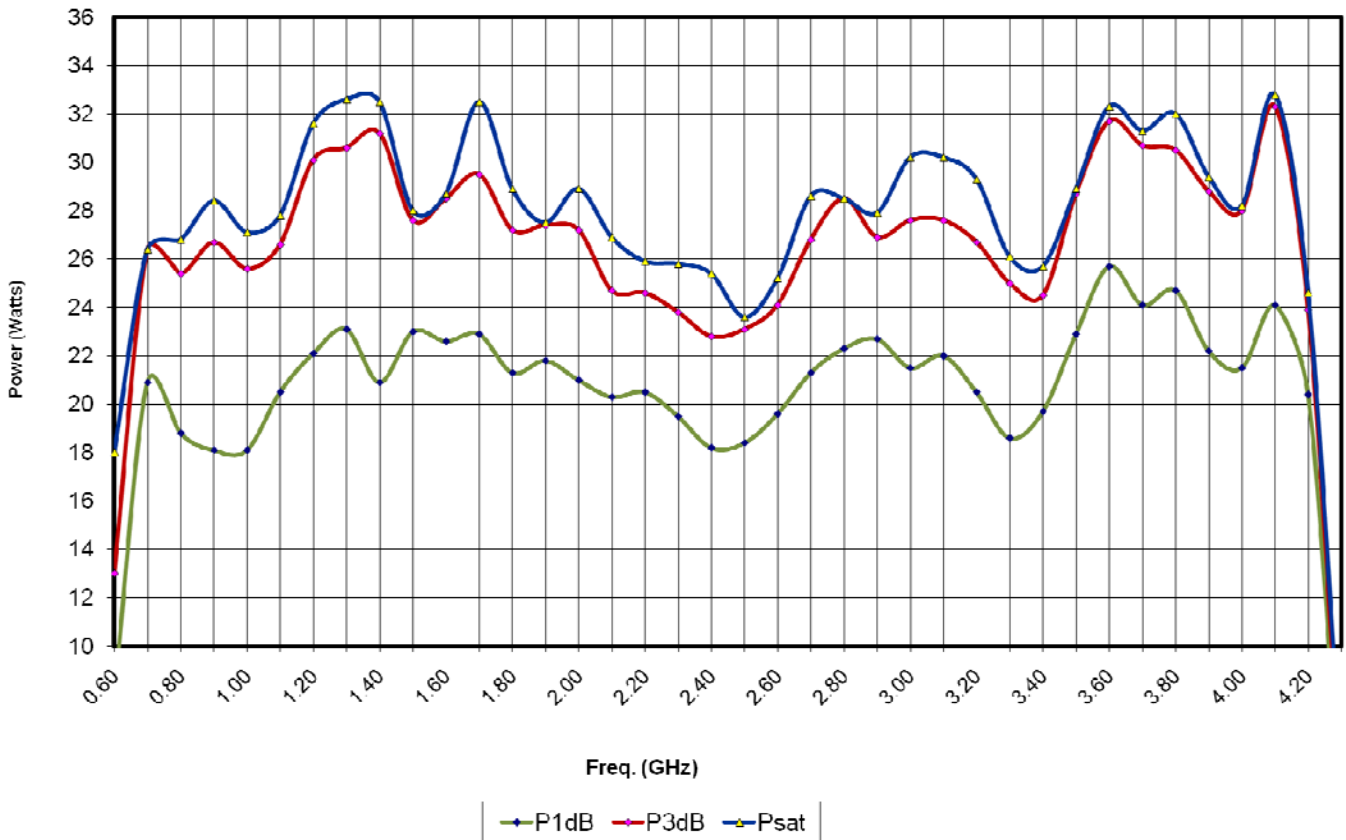
### MODEL CONFIGURATIONS

Model	# of RF Outputs		RF Input & Output Connector Location		Cabinet
	1	2	Front	Rear	
Std	x		x		Yes
M1		x	x		Yes
M2	x			x	Yes
M3		x		x	Yes
M4	x		x		No
M5	x			x	No
M6		x	x		No
M7		x		x	No

**SPECIFICATIONS, MODEL 20/xxS1G11, 0.7–4.2 GHz BAND**

RATED POWER OUTPUT .....	20 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	25 watts
Minimum .....	20 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	22 watts
Minimum .....	18 watts
FLATNESS.....	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE .....	0.7 - 4.2GHz instantaneously
GAIN (at maximum setting) .....	43 dB minimum
HARMONIC DISTORTION.....	Minus 20 dBc maximum at 20 watts
THIRD ORDER INTERCEPT POINT .....	52 dBm typical
NOISE FIGURE .....	10 dB typical
PRIMARY POWER (selected automatically).....	90-264 VAC 50/60 Hz, single phase 150 watts maximum

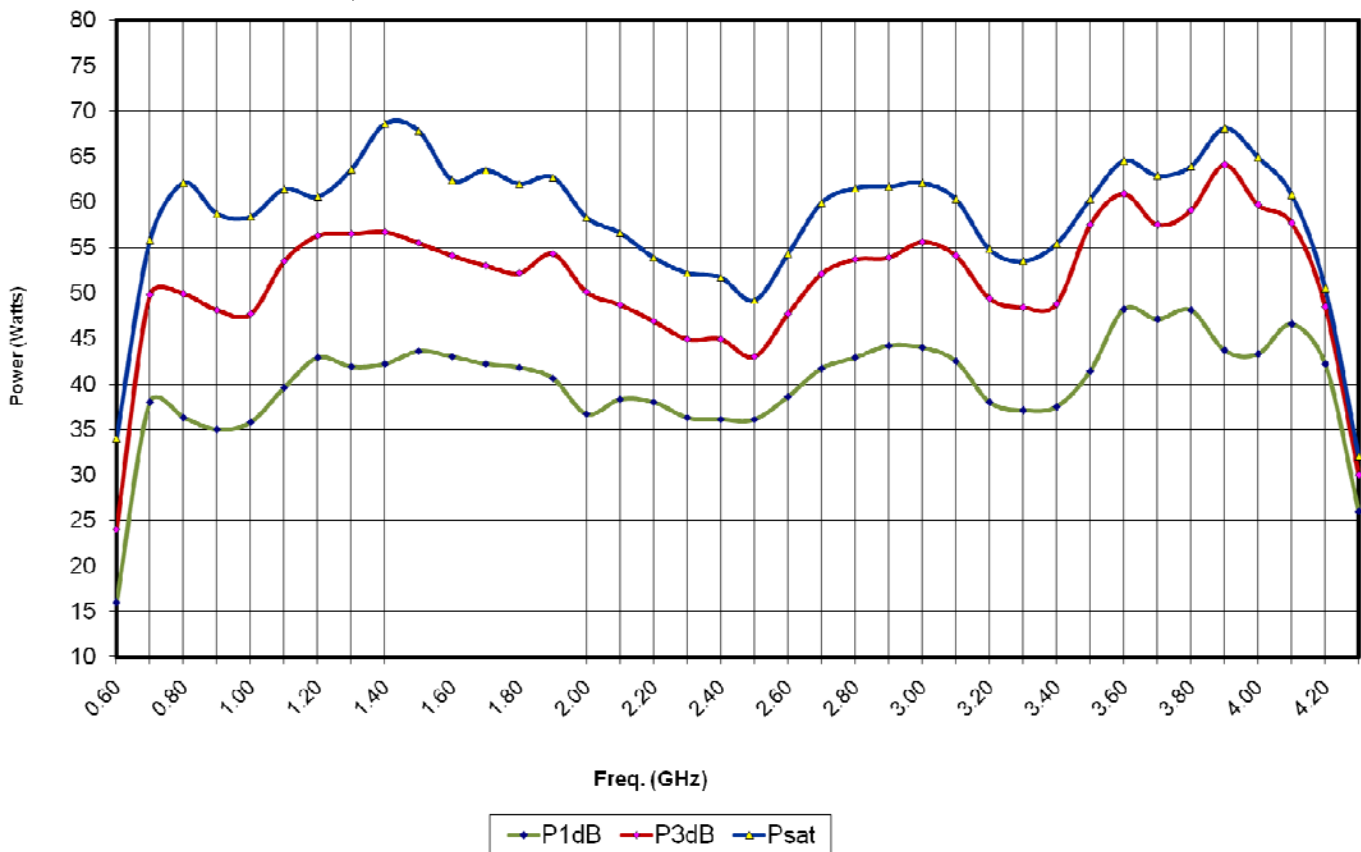
**20/xxS1G11 TYPICAL POWER OUTPUT WITH 0.7-4.2GHz BAND SELECTED**



**SPECIFICATIONS, MODEL 40/xxS1G11, 0.7–4.2 GHz BAND SELECTED**

RATED POWER OUTPUT .....	40 watts minimum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal .....	50 watts
Minimum .....	40 watts
POWER OUTPUT @ 1dB COMPRESSION	
Nominal .....	44 watts
Minimum .....	35 watts
FLATNESS.....	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE .....	0.7–4.2 GHz instantaneously
GAIN (at maximum setting) .....	46 dB minimum
THIRD ORDER INTERCEPT .....	55 dBm typical
NOISE FIGURE .....	10 dB typical
HARMONIC DISTORTION.....	Minus 20 dbc, max at 40 watts
PRIMARY POWER .....	(Selected Automatically) 90-264 VAC 50/60 Hz, single phase 280 watts maximum

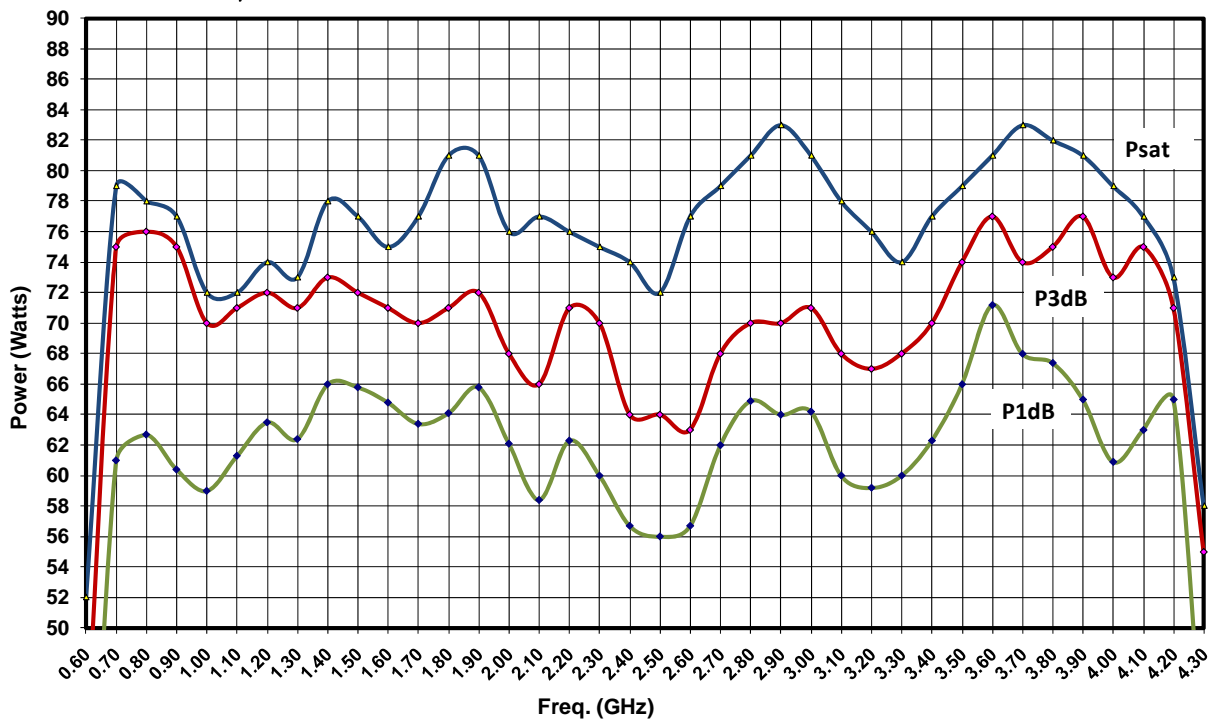
**40/xxS1G11 TYPICAL POWER OUTPUT WITH 0.7-4.2GHz BAND SELECTED**



**SPECIFICATIONS, MODEL 60/xxS1G11, 0.7–4.2 GHz BAND SELECTED**

RATED POWER OUTPUT .....	60 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	70 watts
Minimum .....	60 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	65 watts
Minimum .....	50 watts
FLATNESS.....	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE .....	0.7–4.2 GHz instantaneously
GAIN (at maximum setting) .....	47.8 dB minimum
THIRD ORDER INTERCEPT .....	57 dBm typical
NOISE FIGURE .....	10 dB typical
HARMONIC DISTORTION.....	Minus 20 dBc max at 60 watts
PRIMARY POWER (Selected Automatically) .....	90-264 VAC 50/60 Hz, single phase 415 watts maximum

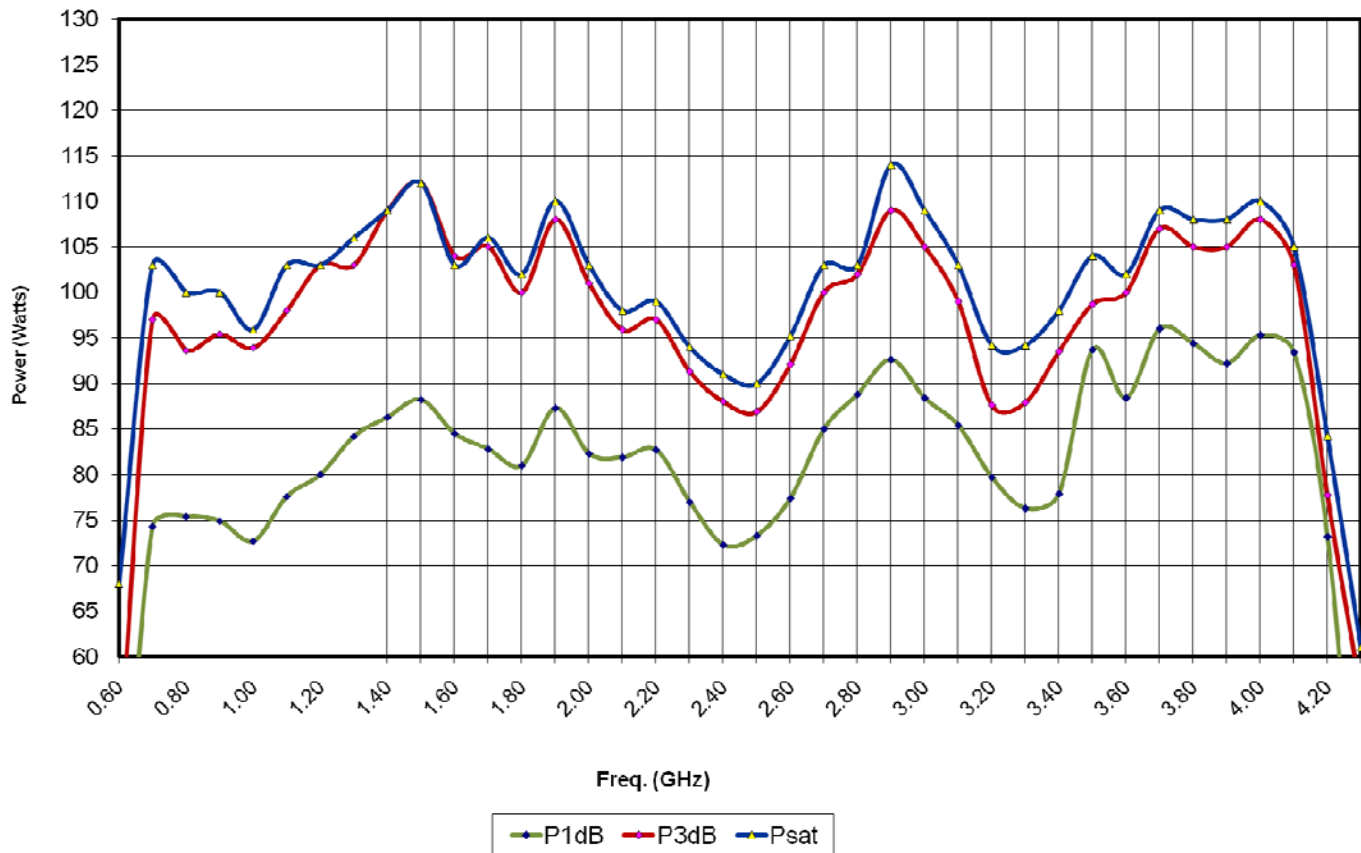
**60/xxS1G11 TYPICAL POWER OUTPUT WITH 0.7-4.2GHz BAND SELECTED**



**SPECIFICATIONS, MODEL 80/xxS1G11, 0.7–4.2 GHz BAND SELECTED**

RATED POWER OUTPUT .....	80 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	95 watts
Minimum .....	80 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	85 watts
Minimum .....	70 watts
FLATNESS.....	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE .....	0.7–4.2 GHz instantaneously
GAIN (at maximum setting) .....	49 dB minimum
THIRD ORDER INTERCEPT .....	58 dBm typical
NOISE FIGURE .....	10 dB typical
HARMONIC DISTORTION.....	Minus 20 dBc max at 80 watts
PRIMARY POWER (Selected Automatically) .....	90-264 VAC 50/60 Hz, single phase 450 watts maximum

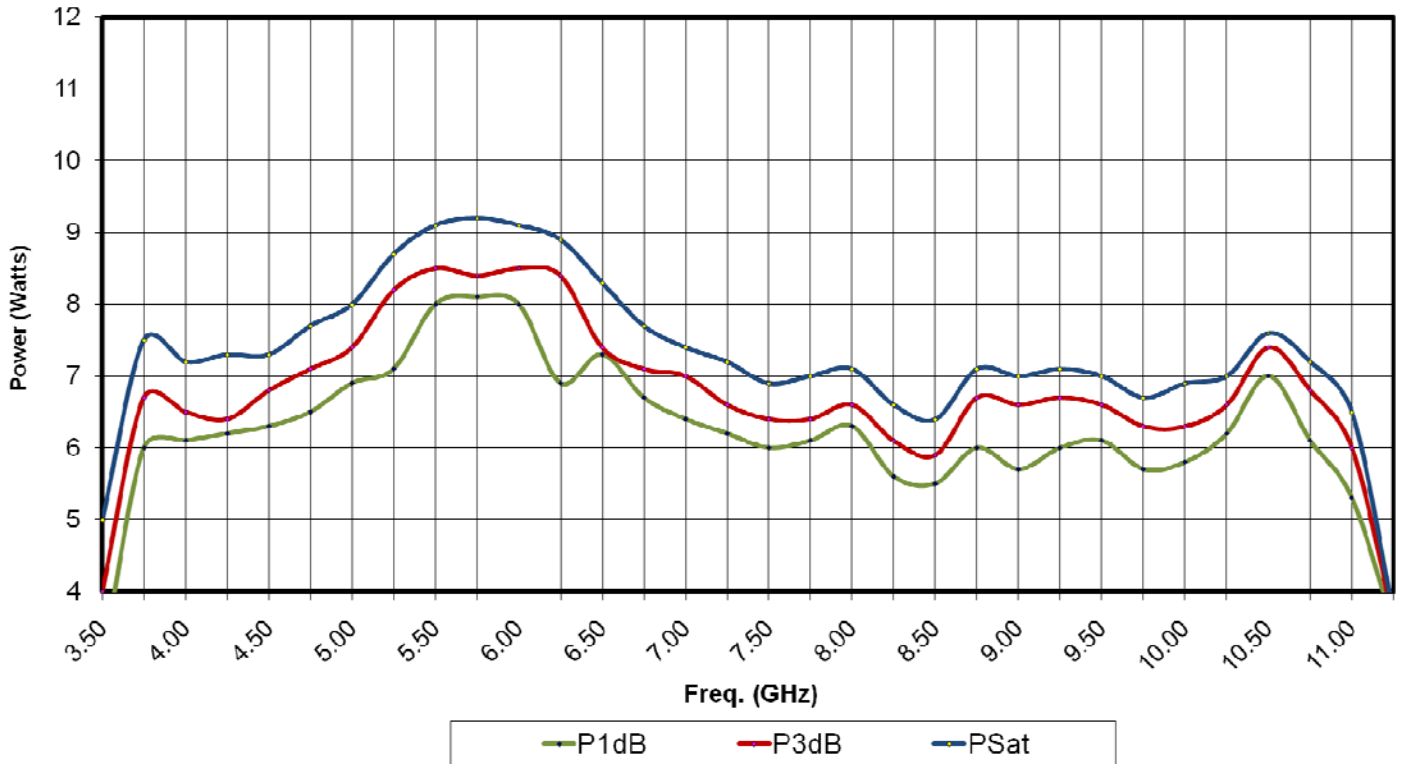
**80/xxS1G11 TYPICAL POWER OUTPUT WITH 0.7-4.2GHz BAND SELECTED**



**SPECIFICATIONS, MODEL XX/5S1G11, 4.0–10.6 GHz BAND**

RATED POWER OUTPUT .....	5 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	7 watts
Minimum .....	5.5 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	6 watts
Minimum .....	4.5 watts
FLATNESS.....	±2.0 dB typical ±3.0 dB maximum
FREQUENCY RESPONSE .....	4.0–10.6 GHz instantaneously
GAIN (at maximum setting) .....	37 dB minimum
HARMONIC DISTORTION.....	Minus 20 dBc maximum at 5 watts
THIRD ORDER INTERCEPT POINT .....	47 dBm typical
PRIMARY POWER (selected automatically).....	90-264 VAC 50/60 Hz, single phase 175 watts maximum

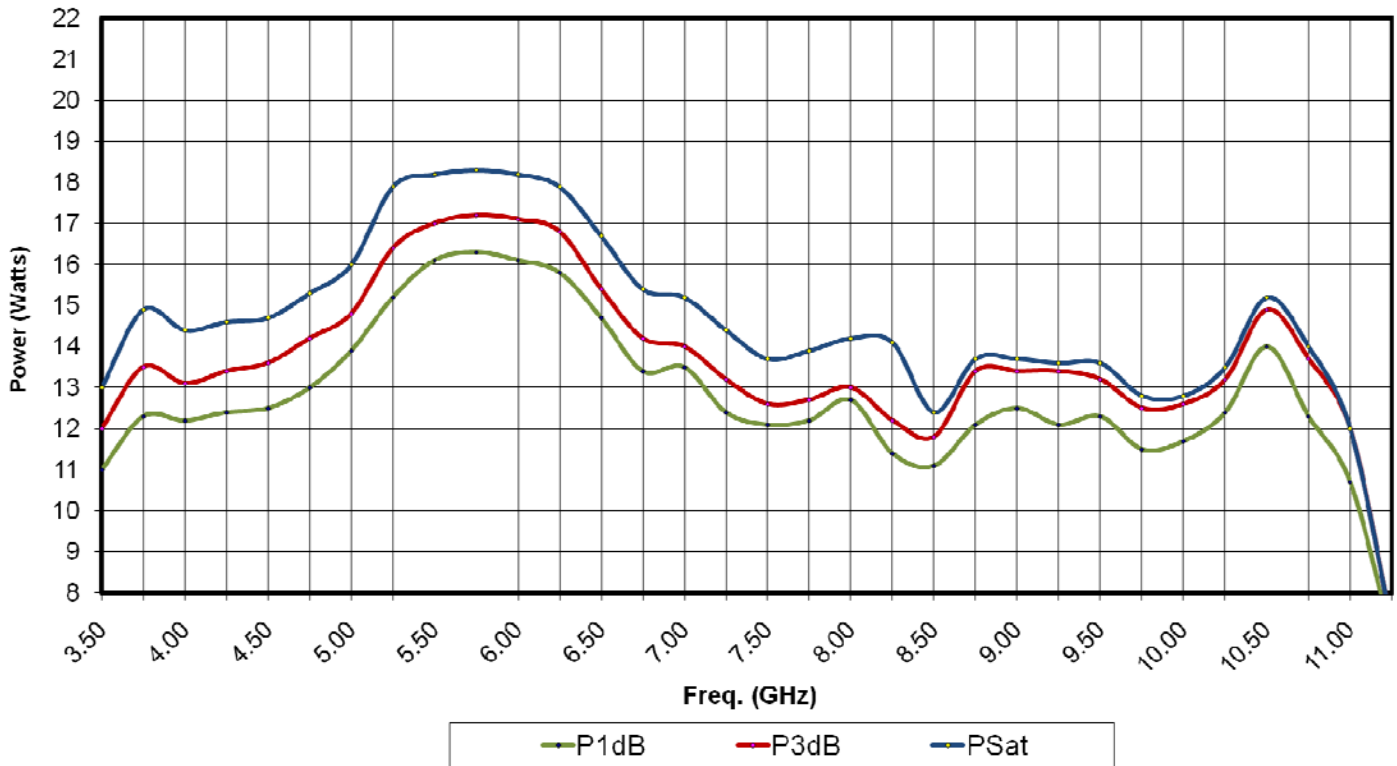
**xx/5S1G11 TYPICAL POWER OUTPUT WITH 4.0-10.6GHz BAND SELECTED**



**SPECIFICATIONS, MODEL XX/10S1G11, 4.0–10.6 GHz BAND**

RATED POWER OUTPUT .....	10 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	13 watts
Minimum .....	10 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	11 watts
Minimum .....	9 watts
FLATNESS.....	±2.0 dB typical ±3.0 dB maximum
FREQUENCY RESPONSE .....	4.0–10.6 GHz instantaneously
GAIN (at maximum setting) .....	40 dB minimum
HARMONIC DISTORTION.....	Minus 20 dBc maximum at 10 watts
THIRD ORDER INTERCEPT POINT .....	50 dBm typical
PRIMARY POWER (selected automatically).....	90-264 VAC 50/60 Hz, single phase 300 watts maximum

**xx/10S1G11 TYPICAL POWER OUTPUT WITH 4.0–10.6GHz BAND SELECTED**





**SPECIFICATIONS, MODEL xx/20S1G11, 4.0-10.6 GHz BAND**

RATED POWER OUTPUT .....	20 watts minimum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	25 watts
Minimum .....	20 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	22 watts
Minimum .....	18 watts
FLATNESS.....	±2.0 dB typical ±3.0 dB maximum
FREQUENCY RESPONSE .....	4.0 – 10.6 GHz instantaneously
GAIN (at maximum setting) .....	43 dB minimum
HARMONIC DISTORTION.....	Minus 20 dBc maximum at 20 watts
THIRD ORDER INTERCEPT POINT .....	52 dBm typical
PRIMARY POWER (selected automatically).....	90-264 VAC 50/60 Hz, single phase 550 watts maximum

**xx/20S1G11 TYPICAL POWER OUTPUT WITH 4.0-10.6GHz BAND SELECTED**

