# Model xx/xxS1G8
# 20-80/15-35 Watts CW
# 0.7GHz-8.0GHz

The Model Series xx/xxS1G8 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

| | 20 watts, 0.7-4.2GHz | 40 watts, 0.7-4.2GHz | 60 watts, 0.7-4.2GHz | 80 watts, 0.7-4.2GHz |
|---|---|---|---|---|
| 15 watts, 4.0-8.0GHz | 20/15S1G8 | 40/15S1G8 | 60/15S1G8 | 80/15S1G8 |
| 35 watts, 4.0-8.0GHz | 20/35S1G8 | 40/35S1G8 | 60/35S1G8 | 80/35S1G8 |

## 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

CONNECTORS
- RF INPUT ..... Type N (front panel)
- RF OUTPUT ..... Type N (front panel)

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)

SIZE (WxHxD) ..... 50.3x34.3x61cm (19.8x13.5x24in) Cabinet
48.3x31.1x61cm (19x12.25x24in) without Cabinet

## 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/XXS1G8, 0.7–4.2 GHz BAND

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

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

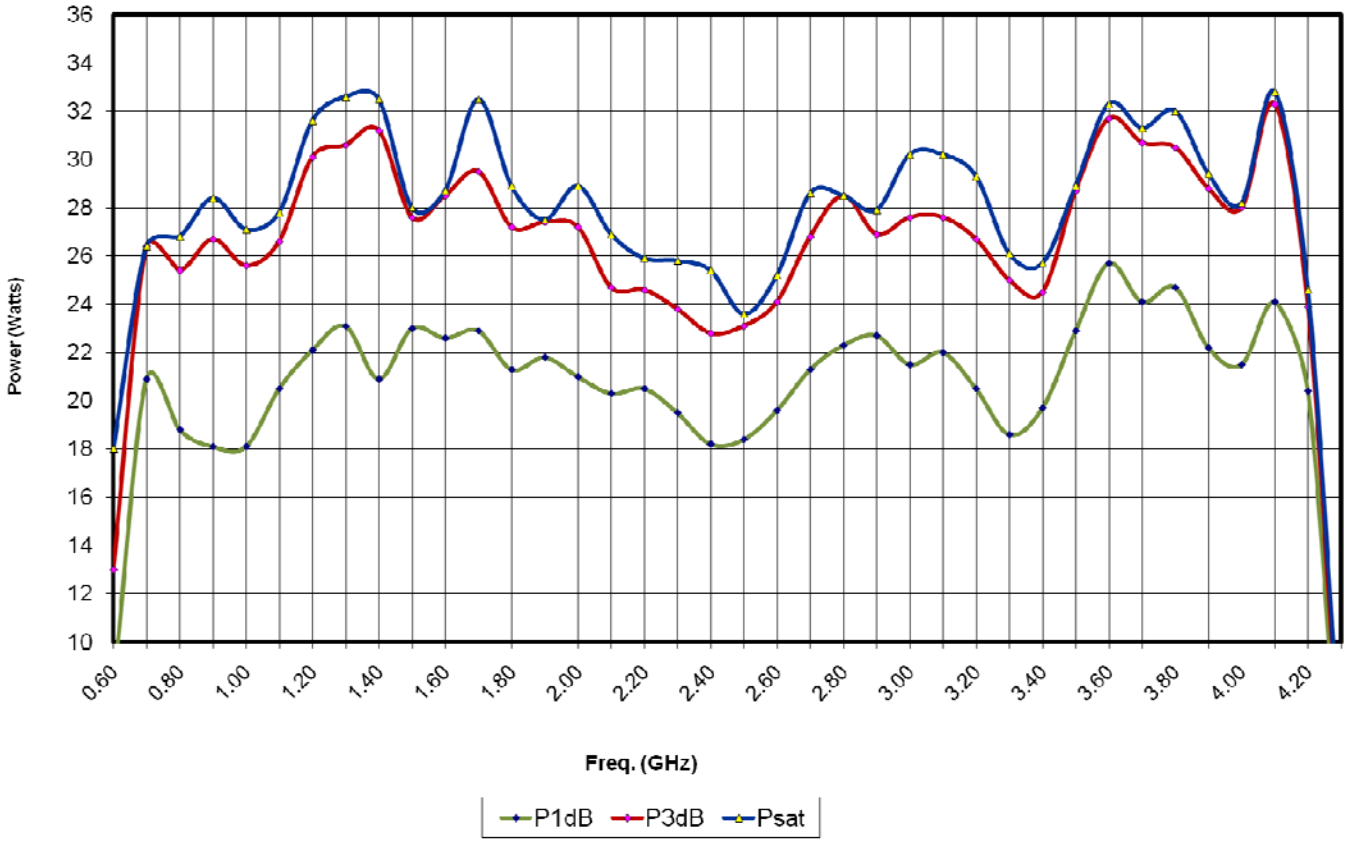
HARMONIC DISTORTION.....Minus 20 dBc maximum at 20 watts

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/xxS1G8 TYPICAL POWER OUTPUT WITH 0.7-4.2 GHz BAND SELECTED



## SPECIFICATIONS, MODEL 40/xxS1G8, 0.7 – 4.2 GHZ BAND SELECTED

RATED POWER OUTPUT ..... 40 watts minimum

POWER OUTPUT @ 3dB COMPRESSSION
- 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

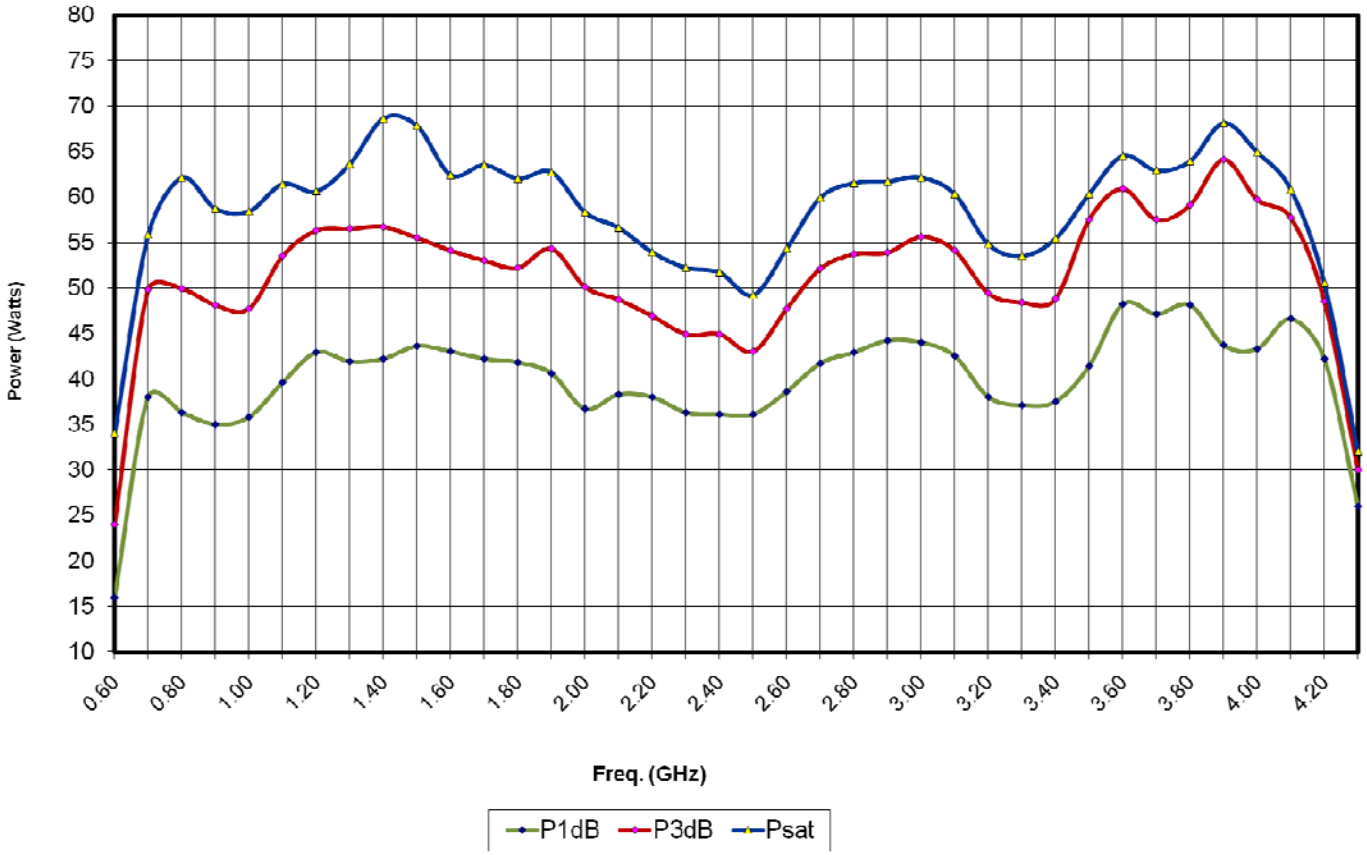
THIRD ORDER INTERCEPT ..... 55 dBm typical

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/xxS1G8 TYPICAL POWER OUTPUT WITH 0.7-4.2 GHz BAND SELECTED



## SPECIFICATIONS, MODEL 60/xxS1G8, 0.7–4.2 GHZ BAND SELECTED

RATED POWER OUTPUT .....60 watts minimum

POWER OUTPUT @ 3dB COMPRESSSION
- Nominal .....70 watts
- Minimum .....60 watts

POWER OUTPUT @ 1dB COMPRESSION
- 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

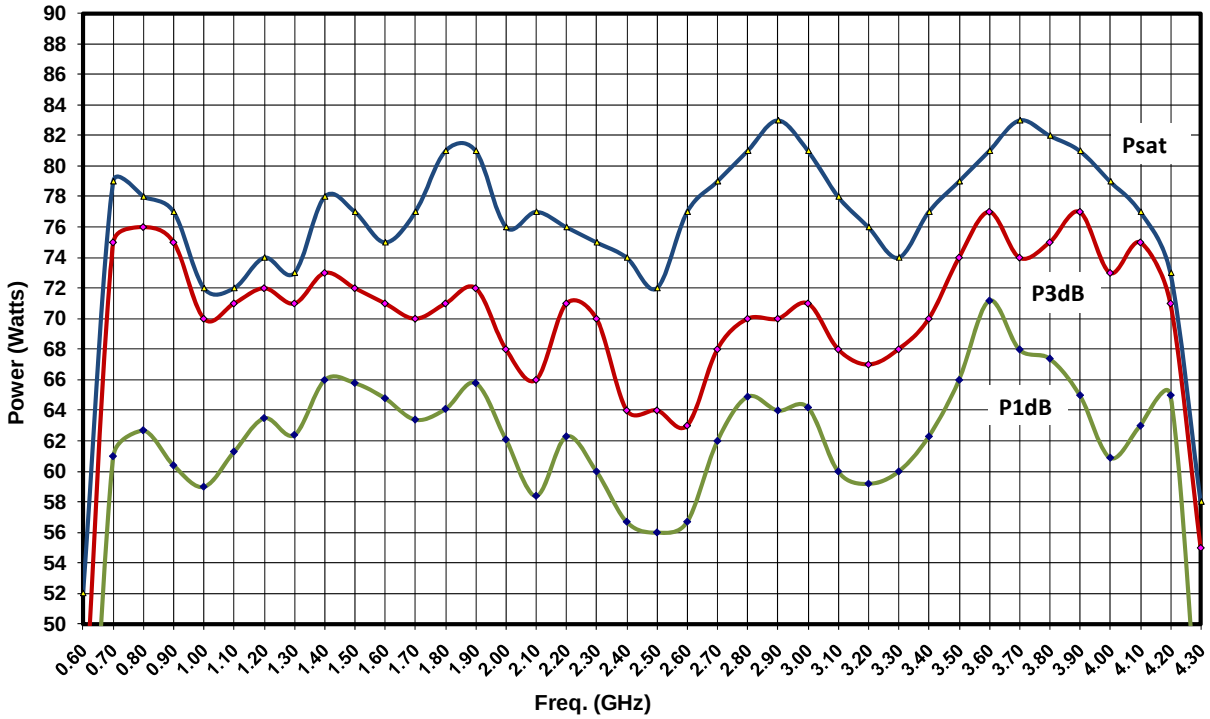
THIRD ORDER INTERCEPT .....57 dBm typical

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/xxS1G8 TYPICAL POWER OUTPUT WITH 0.7–4.2GHz BAND SELECTED



## SPECIFICATIONS, MODEL 80/xxS1G8, 0.7–4.2 GHZ BAND SELECTED

RATED POWER OUTPUT ..... 80 watts minimum

POWER OUTPUT @ 3dB COMPRESSSION
- Nominal ..... 95 watts
- Minimum ..... 80 watts

POWER OUTPUT @ 1dB COMPRESSION
- 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

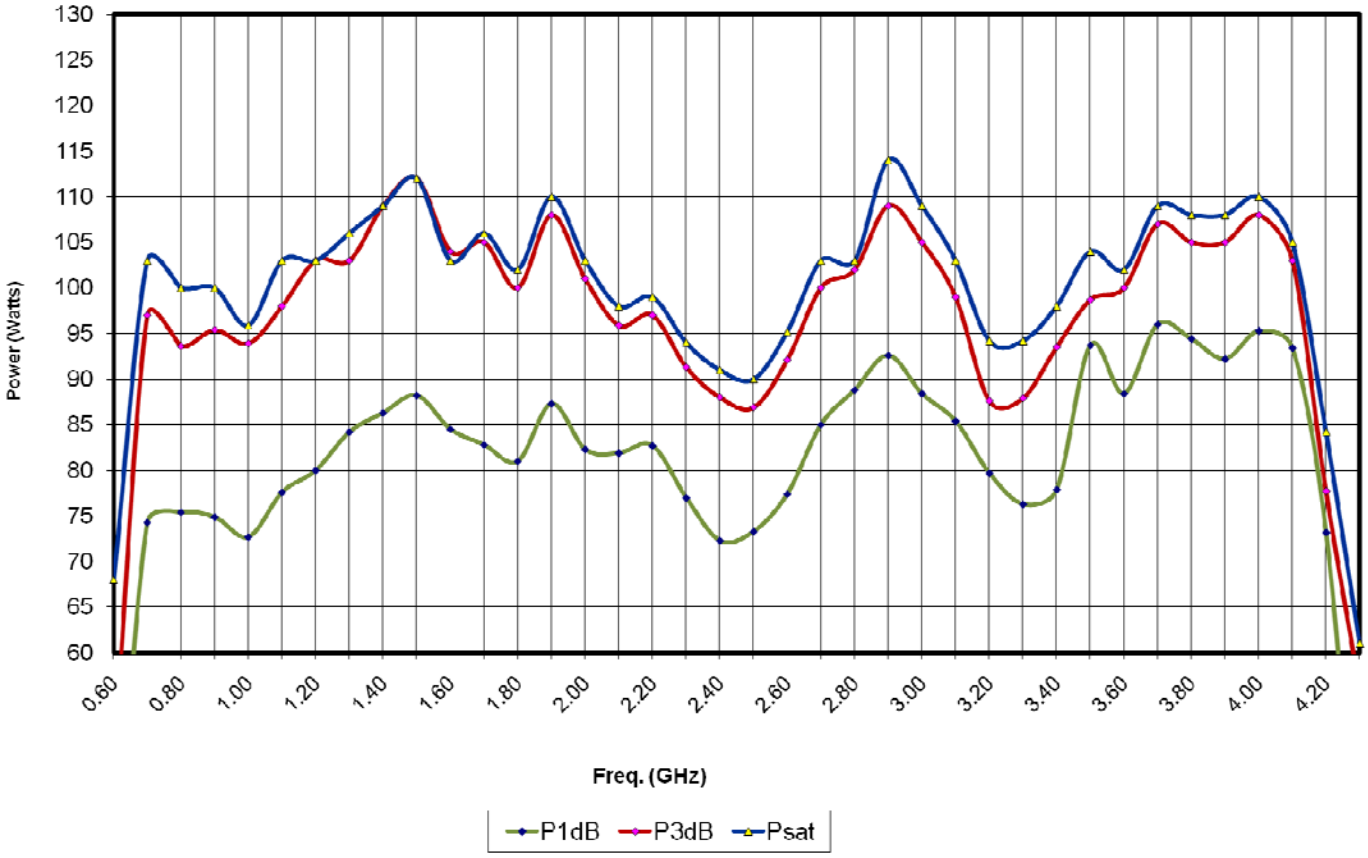
THIRD ORDER INTERCEPT ..... 58 dBm typical

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/xxS1G8 TYPICAL POWER OUTPUT WITH 0.7–4.2GHz BAND SELECTED



## SPECIFICATIONS, MODEL xx/15S1G8, 4.0–8.0 GHZ BAND

RATED POWER OUTPUT ..... 15 watts minimum

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ..... 19 watts
- Minimum ..... 16 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ..... 16 watts
- Minimum ..... 14 watts

POWER FLATNESS ..... ±1.0 dB typical
±2.0 dB maximum

FREQUENCY RESPONSE ..... 4.0–8.0 GHz instantaneously

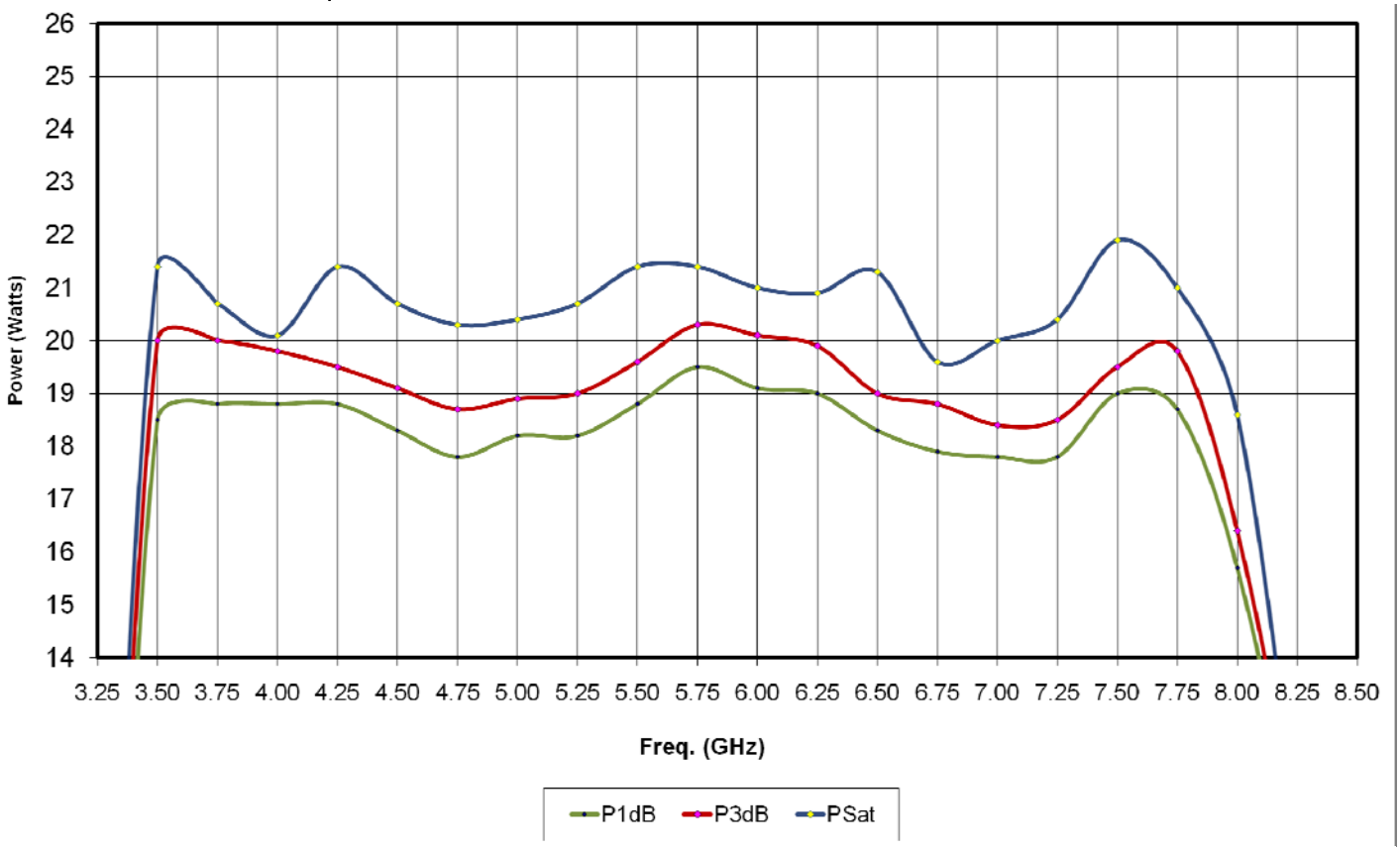
GAIN (at maximum setting) ..... 42 dB minimum

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 15 watts

THIRD ORDER INTERCEPT POINT ..... 51 dBm typical

PRIMARY POWER (selected automatically) ..... 90–264 VAC
50/60 Hz, single phase
300 watts maximum

### xx/15S1G8 TYPICAL POWER OUTPUT WITH 4.0-8.0GHz BAND SELECTED



## SPECIFICATIONS, MODEL xx/35S1G8, 4.0–8.0 GHz BAND

RATED POWER OUTPUT .....35 watts minimum

POWER OUTPUT @ 3dB COMPRESSION
- Nominal .....38 watts
- Minimum .....32 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal .....32 watts
- Minimum .....28 watts

POWER FLATNESS .....±1.0 dB typical
±2.0 dB maximum

FREQUENCY RESPONSE .....4.0–8.0 GHz instantaneously

GAIN (at maximum setting) .....45.5 dB minimum

HARMONIC DISTORTION.....Minus 20 dBc maximum at 35 watts

THIRD ORDER INTERCEPT POINT .....54 dBm typical

PRIMARY POWER (selected automatically).....90–264 VAC
50/60 Hz, single phase
550 watts maximum

### xx35S1G8 TYPICAL POWER OUTPUT WITH 4.0-8.0GHz BAND SELECTED