

Key Features

- 820 ~ 960 MHz, 50 Ohm Impedance
- 43 dBm P_{1dB}
- 53.0 dB Gain
- 1.2:1 Input VSWR
- 1.0 dB Noise Figure
- 50% Power Added Efficiency
- Unconditional Stable
- Infinite Load VSWR Protection
- Single DC Power Supply
- Precision Machined Housing
- RoHS Compliant

Applications

- GSM
- Mobile Infrastructures
- Fix Wireless Communication

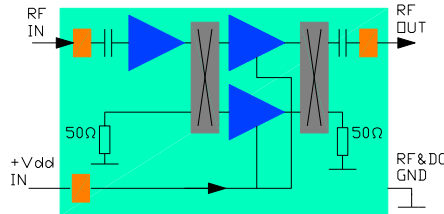
Additional heat sink is required for continuous operation!



Absolute Maximum Ratings

DC Power Supply Voltage	30 V
Drain Current, CW	2.5 A
Total Power Dissipation	70 W
RF Input Power, CW	30 dBm
Operating Temperature	-20 ~ +85 °C
Storage Temperature	-40 ~ +85 °C

Functional Block Diagram



Ordering Information

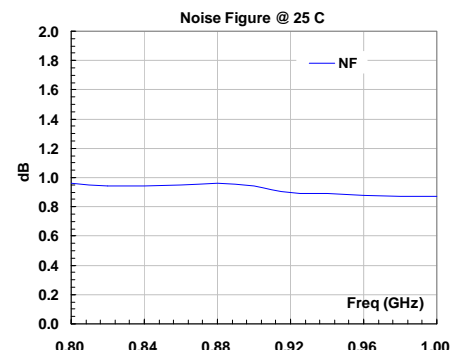
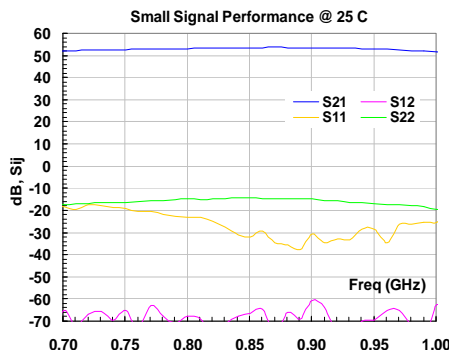
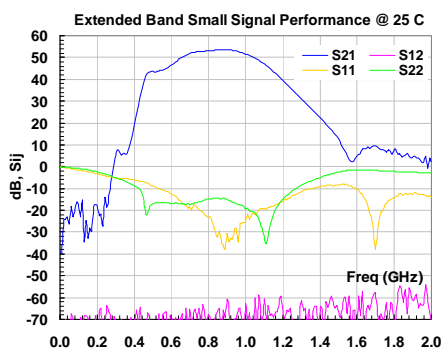
Model	Connectors
WPA0810A	SMA Female

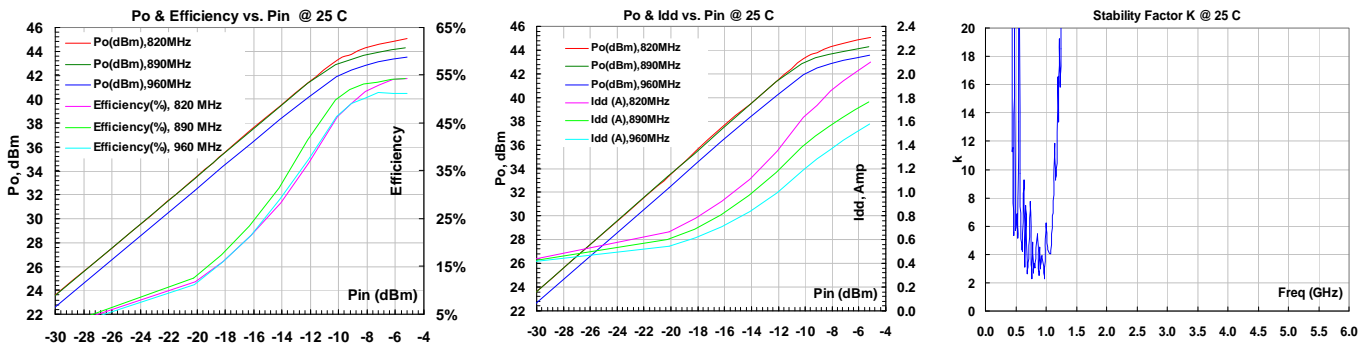
Marking: WPA0810A

Specifications (Tested at +21°C)

Item	Symbol	Test Constraints	Min	Nom	Max	Unit
Frequency Range	BW	50 Ohm Impedance	820		960	MHz
Small Signal Gain	S ₂₁	820 – 960 MHz	51.0	53.0	55.0	dB
Input VSWR	SWR ₁	820 – 960 MHz		1.20:1	1.50:1	Ratio
Output VSWR	SWR ₂	820 – 960 MHz		1.45:1	1.65:1	Ratio
Gain Flatness	ΔG	820 – 960 MHz		+/- 0.5	+/- 1.0	dB
Reverse Isolation	S ₁₂	820 – 960 MHz		70		dB
Noise Figure	NF	820 – 960 MHz		0.95		dB
Output Power 1dB Compression Point	P _{1dB}	820 – 960 MHz	42.0	43.3		dBm
DC Power Added Efficiency	η	P _o = 20W	45	50		%
Current Consumption	I _{dd}	V _{dd} = +28 V, 0.404 A quiescent DC bias			2.5	A
Power Supply Operating Voltage	V _{dd}		+26		+30	V
Operating Temperature	T _o	Base plate	-20		+70	°C
Thermal Resistance	R _{th,c}	Junction to case			1.3	°C/W
Maximum CW RF Input Power	P _{IN, MAX}	DC – 6 GHz			30	dBm

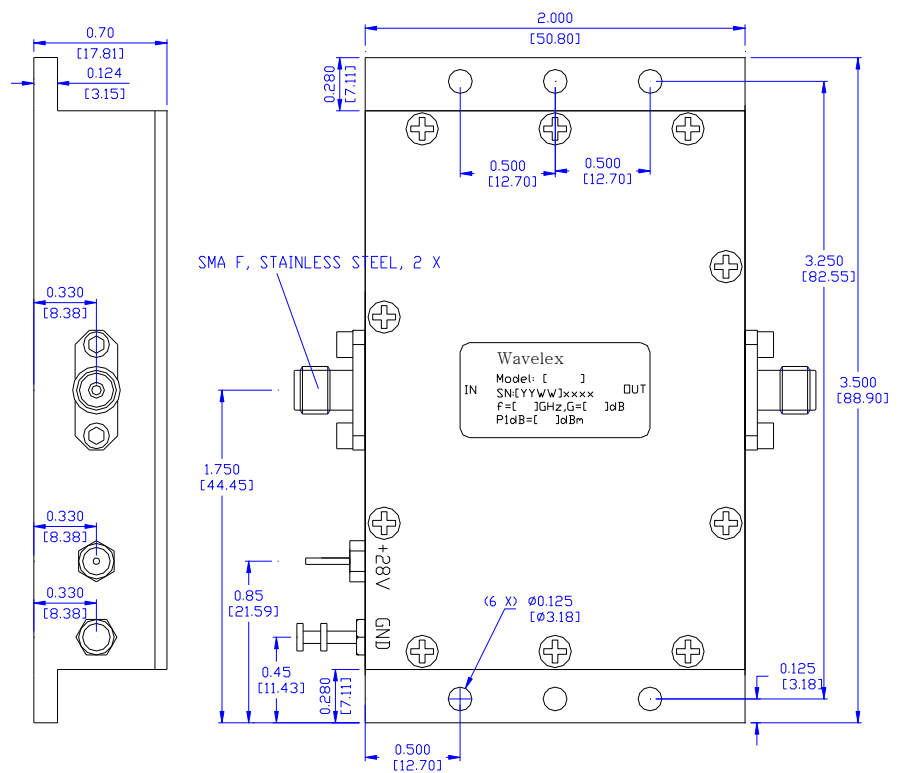
Typical Performance





Outline, WP-1M Housing

Units: INCH [mm]
 Body: Aluminum Alloy
 Finish: Clear Plating
 RF Connector: SMA Stainless
 +28V DC I/O: Feedthru



Application Notes:

A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

B. Mounting the Amplifier

Use six pieces of #4-40 with longer than 3/8" screws for mounting the amplifier on a metal-based chase. Flat and spring washers are needed to prevent the screw loosening during the shock and vibration. Always use the appropriate torque setting of the power screwdriver to mount them.