

**Key Features**

- 1.93 ~ 1.99 GHz, 50 Ohm Impedance
- 42.5 dBm P<sub>sat</sub>
- 43.0 dB Gain
- 1.27:1 VSWR
- 2.0 dB Noise Figure
- 56.0 dBm Output IP<sub>3</sub>
- 45% Power Added Efficiency
- Unconditional Stable
- Infinite Load VSWR Protection
- Single DC Power Supply
- Precision Machined Housing
- RoHS Compliant

**Applications**

- CDMA
- Mobile Infrastructures
- Fixed Wireless Communication

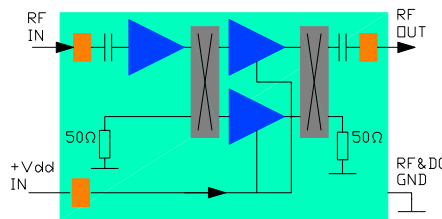
Additional heat sink is required for continuous operation!



**Absolute Maximum Ratings**

DC Power Supply Voltage	30 V
Drain Current, CW	2 A
Total Power Dissipation	56 W
RF Input Power, CW	17 dBm
Operating Temperature	-20 ~ +85 °C
Storage Temperature	-40 ~ +85 °C

**Functional Block Diagram**



**Ordering Information**

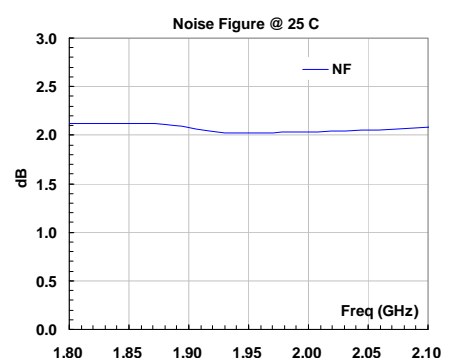
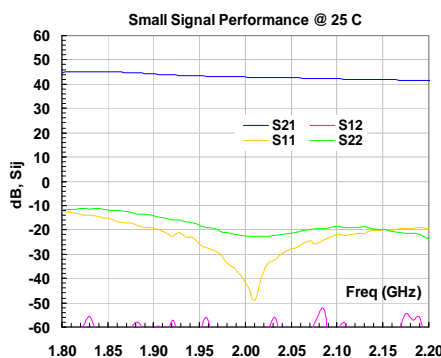
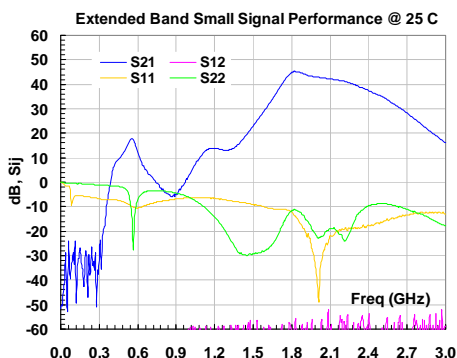
Model	Connectors
WPA19-43A	SMA Female

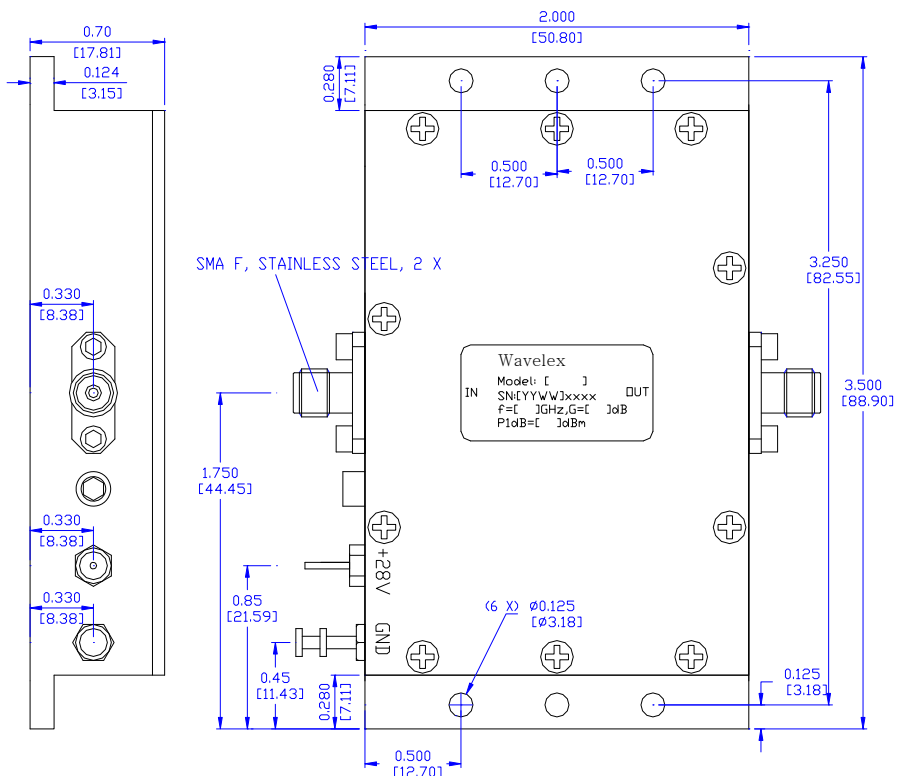
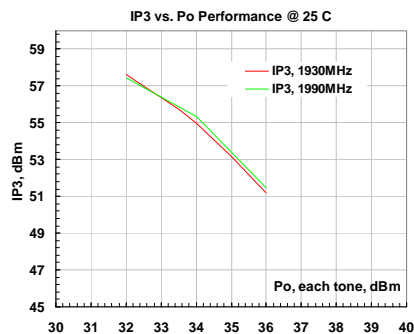
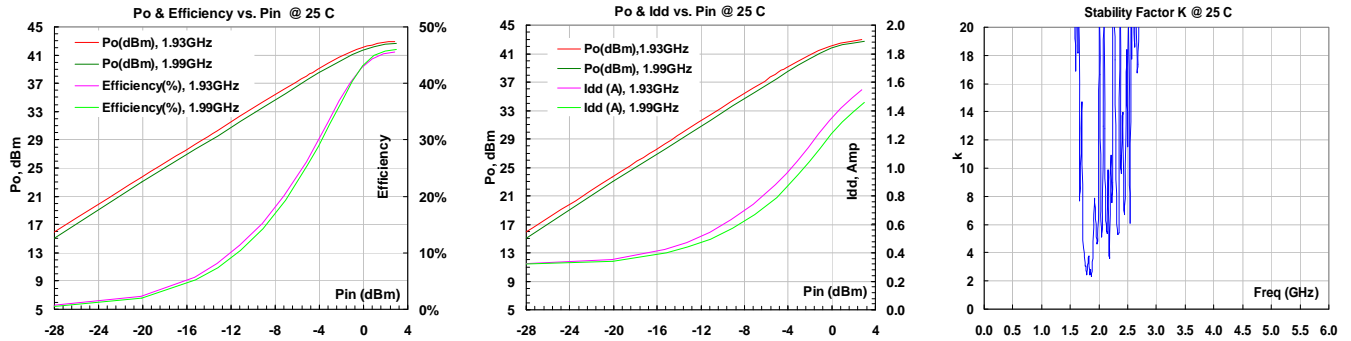
**Marking:** WPA19-43A

**Specifications** (Tested at +25°C)

Item	Symbol	Test Constraints	Min	Nom	Max	Unit
Frequency Range	BW	50 Ohm Impedance	1930		1990	MHz
Small Signal Gain	S <sub>21</sub>	1930 – 1990 MHz	41.0	43.0	45.0	dB
Input VSWR	SWR <sub>1</sub>	1930 – 1990 MHz		1.22:1	1.5:1	Ratio
Output VSWR	SWR <sub>2</sub>	1930 – 1990 MHz		1.27:1	1.5:1	Ratio
Gain Flatness	ΔG	1930 – 1990 MHz		+/- 0.4	+/- 1.0	dB
Reverse Isolation	S <sub>12</sub>	1930 – 1990 MHz		60		dB
Noise Figure	NF	1930 – 1990 MHz		2.0		dB
Output Saturated Power	P <sub>sat</sub>	1930 – 1990 MHz	41.5	42.5		dBm
Output-Third-Order Interception point	IP <sub>3</sub>	Two-Tone, P <sub>out</sub> = 32 dBm each, 1 MHz separation	54	56		dBm
DC Power Added Efficiency	η	P <sub>o</sub> = 16W	40	45		%
Current Consumption	I <sub>dd</sub>	V <sub>dd</sub> = +28 V, 0.315 A quiescent DC bias			2.0	A
Power Supply Operating Voltage	V <sub>dd</sub>		+26		+30	V
Operating Temperature	T <sub>o</sub>	Base plate	-20		+70	°C
Thermal Resistance	R <sub>th,c</sub>	Junction to case			1.3	°C/W
Maximum CW RF Input Power	P <sub>IN, MAX</sub>	DC – 6 GHz			17	dBm

**Typical Performance**





**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. Proper heat sink is required for continuous operation.