

Key Features

- 1805 ~ 1880 MHz, 50 Ohm Impedance
- 42.5 dBm P_{sat}
- 45.0 dB Gain
- 1.27:1 VSWR
- 2.1 dB Noise Figure
- 44% 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

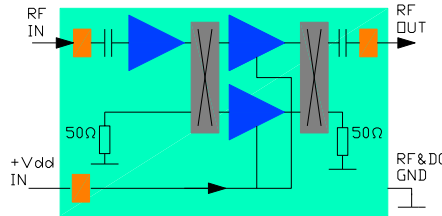
Additional heat sink is required for continuous operation!



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

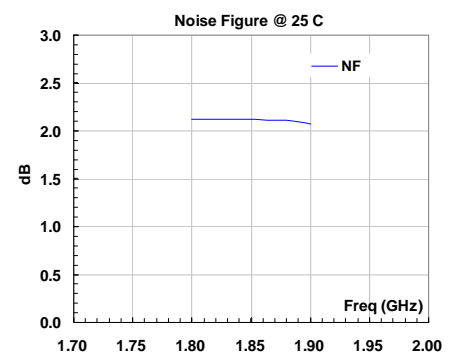
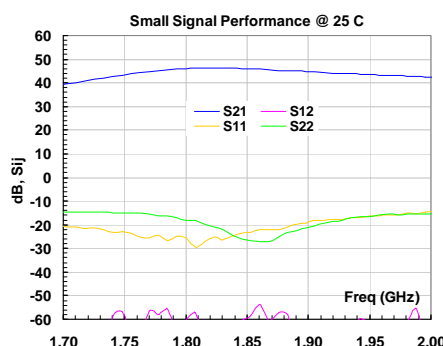
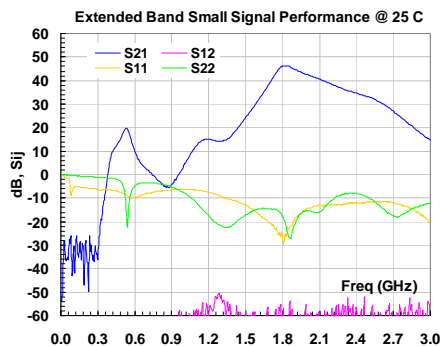
Model	Connectors
WPA18-45A	SMA Female

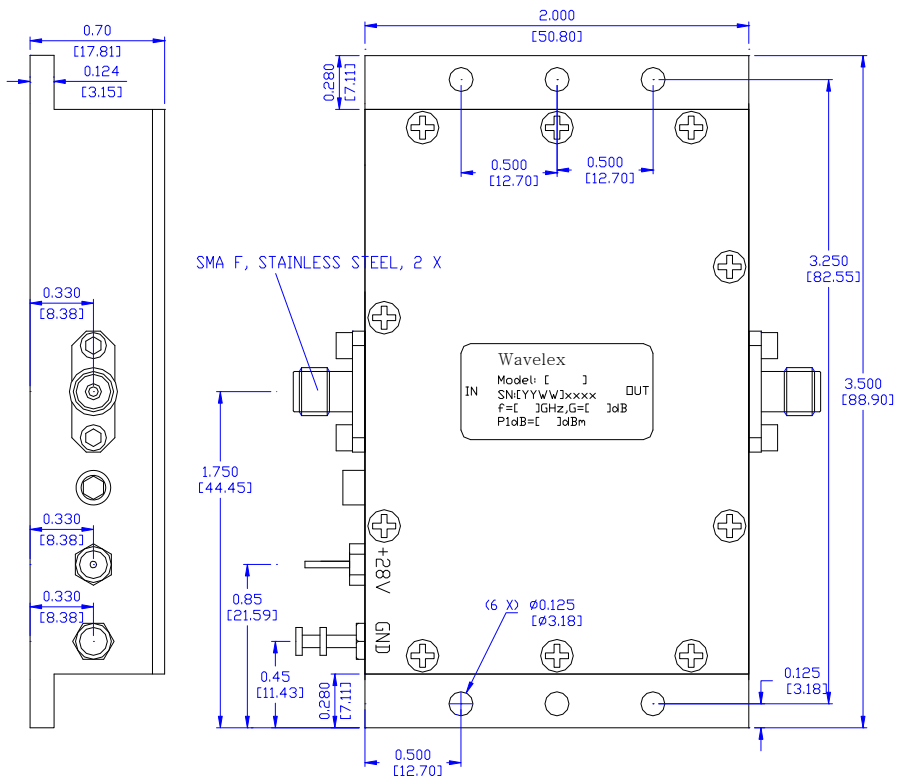
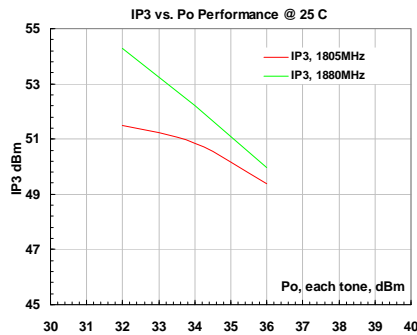
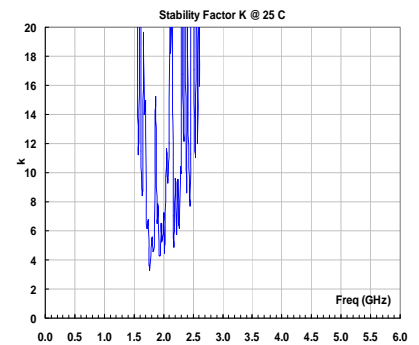
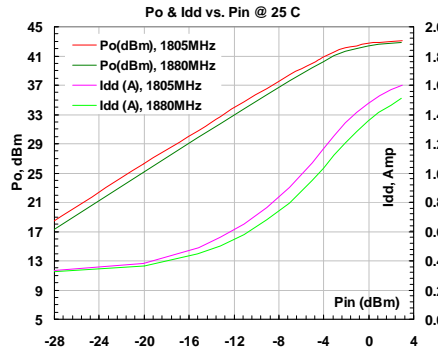
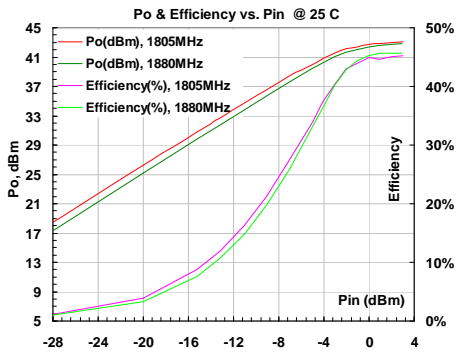
Marking: WPA18-45A

Specifications (Tested at +25°C)

Item	Symbol	Test Constraints	Min	Nom	Max	Unit
Frequency Range	BW	50 Ohm Impedance	1805		1880	MHz
Small Signal Gain	S ₂₁	1805 – 1880 MHz	43.0	45.0	47.0	dB
Input VSWR	SWR ₁	1805 – 1880 MHz		1.22:1	1.5:1	Ratio
Output VSWR	SWR ₂	1805 – 1880 MHz		1.27:1	1.5:1	Ratio
Gain Flatness	ΔG	1805 – 1880 MHz		+/- 0.5	+/- 1.0	dB
Reverse Isolation	S ₁₂	1805 – 1880 MHz		60		dB
Noise Figure	NF	1805 – 1880 MHz		2.1		dB
Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} = 32 dBm each, 1 MHz separation		53		dBm
Output Saturated Power	P _{sat}	1805 – 1880 MHz	41.5	42.5		dBm
DC Power Added Efficiency	η	P _o = 16W	40	44		%
Current Consumption	I _{dd}	V _{dd} = +28 V, 0.315 A quiescent DC bias			2.0	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			17	dBm

Typical Performance





Outline, WP-1M Housing

- Units: INCH [mm]
- Body: Aluminum Alloy
- Finish: Clear Plating
- RF Connector: SMA F 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. Proper heat sink is required for continuous operation.