



# IPA211217A

## 2110-2170 MHz 17W Power Amplifier

REV B  
October 2015

### Key Features

- 50 Ohm Impedance
- 2110-2170 MHz
- 45% Power Added Efficiency
- 41.5 dB Gain
- 42.5 dBm  $P_{sat}$
- 54.0 dBm Output  $IP_3$
- 1.22:1 VSWR
- 2.0dB Noise Figure
- Unconditional Stable
- Infinite Load VSWR Protection
- Single Power Supply
- RoHS Compliant



### Applications

- CDMA
- Mobile Infrastructures
- Fixed Wireless Communication



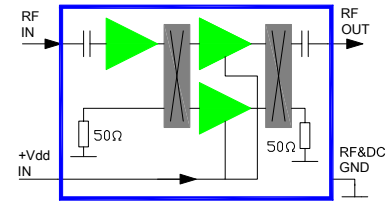
Additional heat sink is required for continuous operation!

### Absolute Maximum Ratings

Parameters	Units	Rating
DC Power Supply Voltage	V	30
Drain Current, CW	A	2.0
Total Power Dissipation	W	56
RF Input Power, CW	dBm	17
Storage Temperature	°C	-40 ~ +85
Operating Temperature	°C	-20 ~ +85
Thermal Resistance	°C/W	1.3

Operation of this device above any one of these parameters may cause permanent damage.

### Functional Block Diagram



### Ordering Information

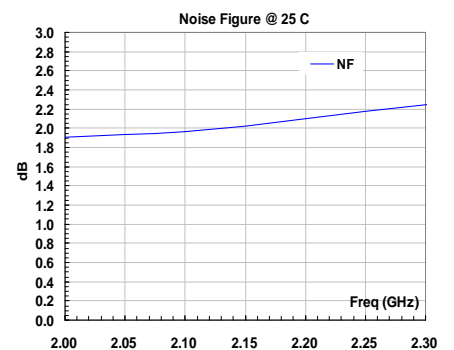
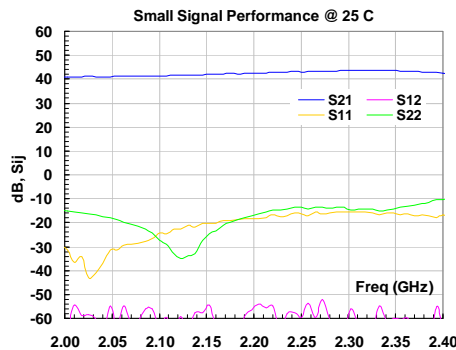
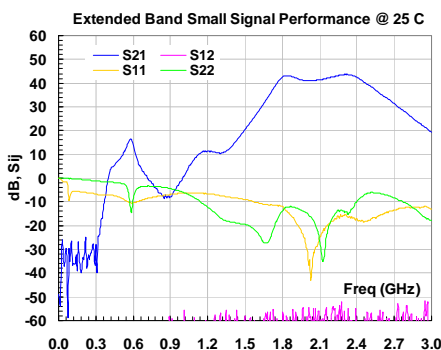
Model Number	IPA211217A
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### Specifications

Summary of the electrical specifications IPA211217A at room temperature

Index	Testing Item	Symbol	Test Constraints	Min	Normal	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	2110		2170	MHz
2	Small Signal Gain	$S_{21}$	2110 – 2170 MHz	40.0	41.5	43.0	dB
3	Gain Variation	$\Delta G$	2110 – 2170 MHz		+/-0.5	+/- 1.0	dB
4	Output Saturated Power	$P_{sat}$	2110 – 2170 MHz	41.5	42.5		dBm
5	Input Return Loss	$S_{11}$	2110 – 2170 MHz	15	20		dB
6	Output Return Loss	$S_{22}$	2110 – 2170 MHz	15	20		dB
7	Reverse Isolation	$S_{12}$	2110 – 2170 MHz		60		dB
8	Noise Figure	NF	2110 – 2170 MHz		2.0		dB
9	Output-Third-Order Interception point	$IP_3$	Two-Tone, $P_{out} = 32$ dBm each, 1 MHz separation	52	54		dBm
10	DC Power Added Efficiency	$\eta$	$P_o=16W$	40	45		%
11	Current Consumption	$I_{dd}$	$V_{dd}=+28$ V, 0.315 A quiescent DC bias			2.0	A
12	Power Supply Voltage	$V_{dd}$		26	28	30	V
13	Operating Temperature	$T_o$		-20		+70	°C
14	Thermal Resistance	$R_{th,c}$				1.3	°C/W
15	Maximum Average RF Input Power	$P_{IN,MAX}$	DC – 6 GHz			17	dBm

### Typical Performance



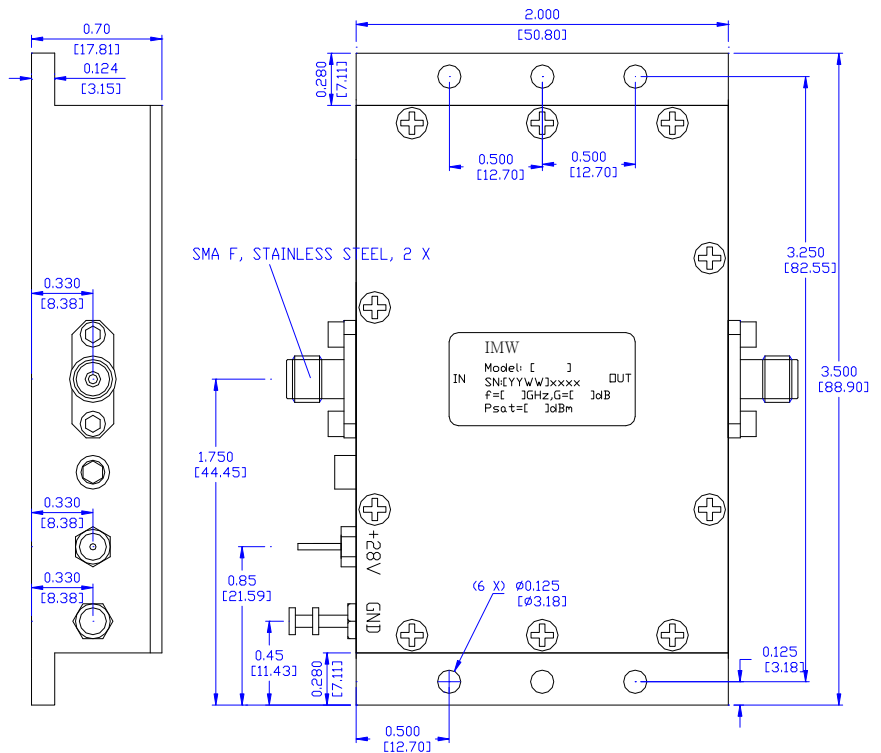
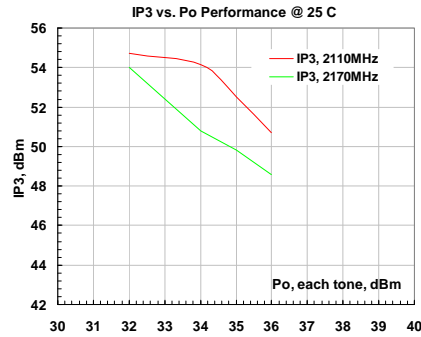
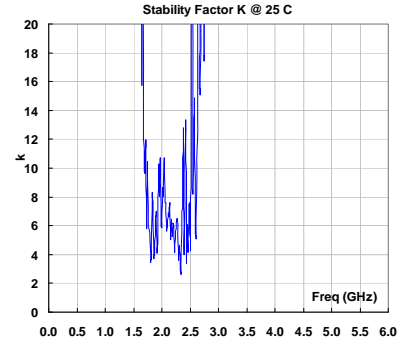
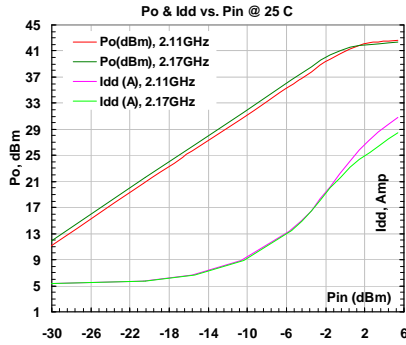
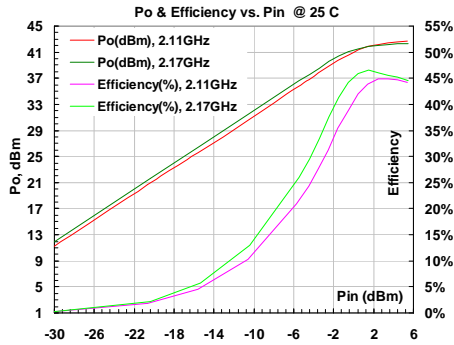
Specifications and information are subject to change without notice.



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### 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.

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