

Product Features

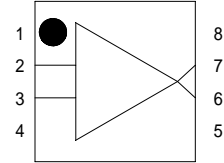
- 0.1 to 6GHz Frequency Range
- +31 dBm P-1dB at 2GHz
- +51 dBm OIP3 at 2GHz
- 17 dB Gain at 2GHz
- 7 dB Noise Figure

Product Description

The GSP7430-30 is an unmatched General Purpose Medium Power Amplifier that covers the 100MHz to 6GHz frequency range with 17 dB nominal matched gain at 2GHz. It also has superior Third Order Intermodulation Distortion characteristics.

The GSP7430-30 is an amplifier fabricated with high reliability InGaP/GaAs Heterojunction Bipolar Transistor (HBT) process. It requires external, bandwidth optimized matching for operation. The amplifier is ideal for wireless Base Station predriver and wide dynamic range power amplifier final stages in WLAN and WiMAX transceivers. It is in a unique 3mm square DFN plastic package.

This amplifier can be used for current and next generation equipment wireless applications to 6GHz



Pin	Function
1,2,4,5	N/C
2,3	Input
6,7	Output
Paddle	Ground

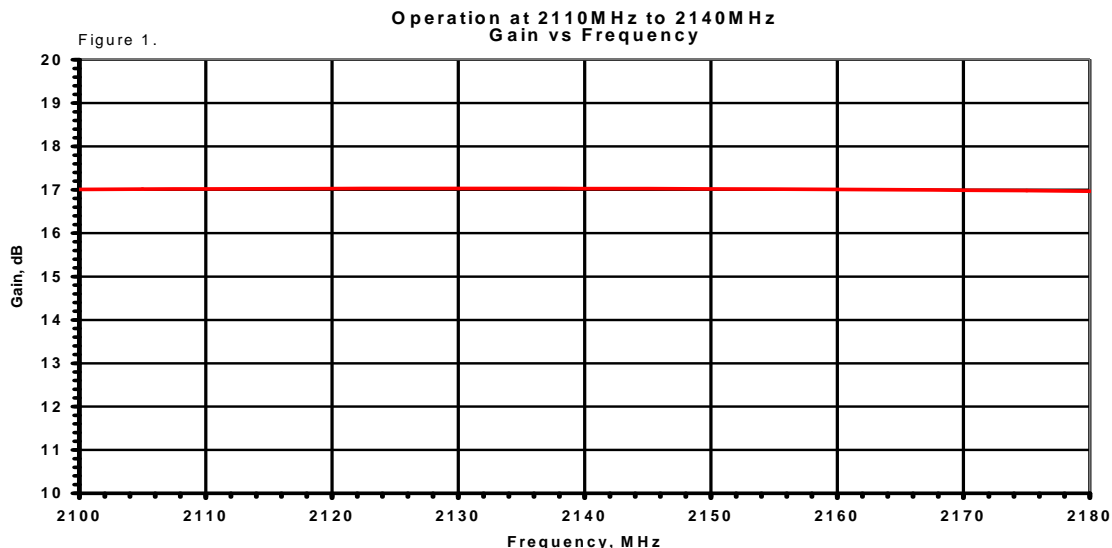
Applications

- Mobile infrastructure
- ISM
- WLAN
- RFID
- WiMAX/WiBRO

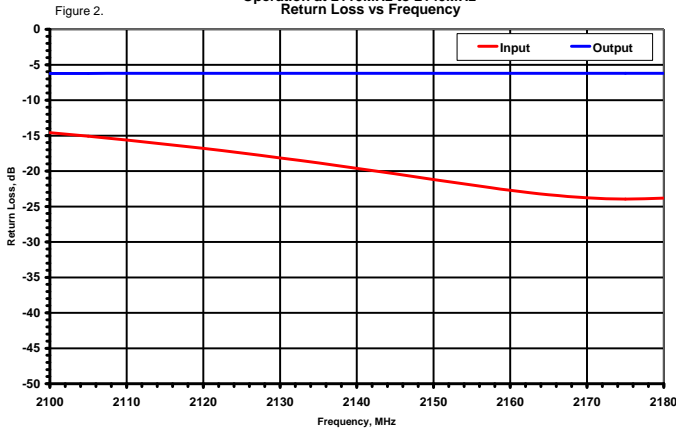
Specifications (1)

Parameter	Units	Min	Typ	Max
Frequency Range	MHz	100		6000
Test Frequency (2)	MHz		2140	
Gain (2)	dB	15	17	
Pout @ -1dB GCP	dBm	29	30	
Input Return Loss (2)	dB		15	
Output Return Loss (2)	dB		7	
OIP3 (2)	dBm	47	51	
Noise Figure (2)	dB		7	
Operating Current	mA		360	

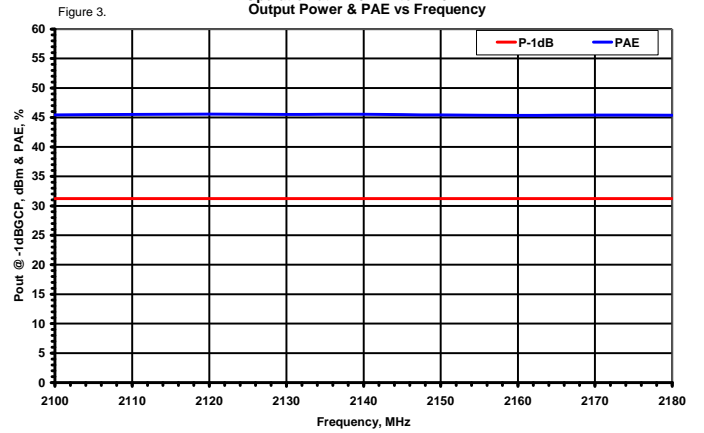
1. Test conditions unless otherwise specified: 25°C, Supply Voltage = +7.00V
2. Measured in evaluation circuit tuned for 2110MHz – 2170MHz



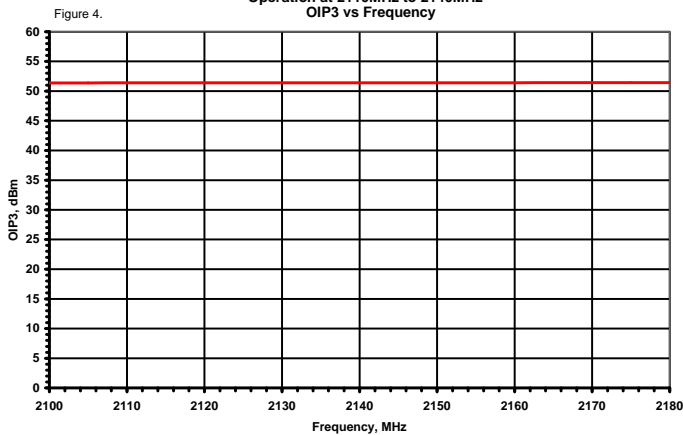
Operation at 2110MHz to 2140MHz
Return Loss vs Frequency



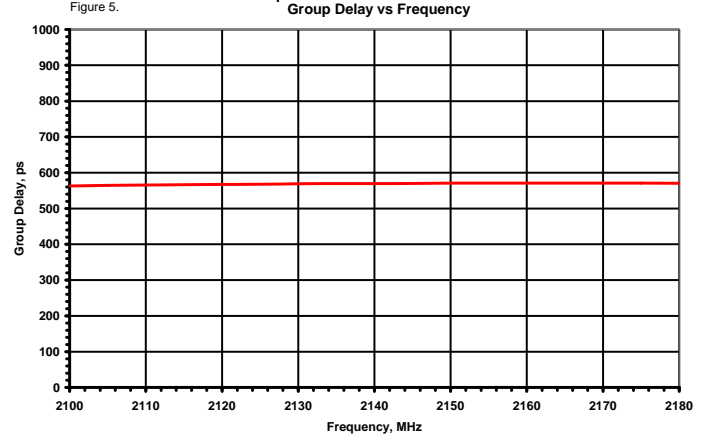
Operation at 2110MHz to 2140MHz
Output Power & PAE vs Frequency



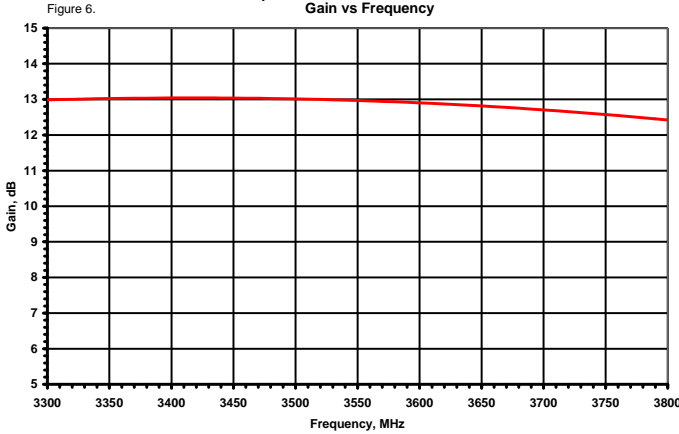
Operation at 2110MHz to 2140MHz
OIP3 vs Frequency



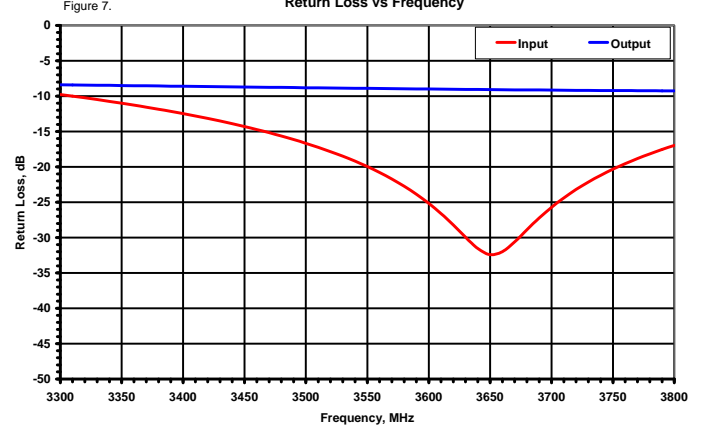
Operation at 2110MHz to 2140MHz
Group Delay vs Frequency



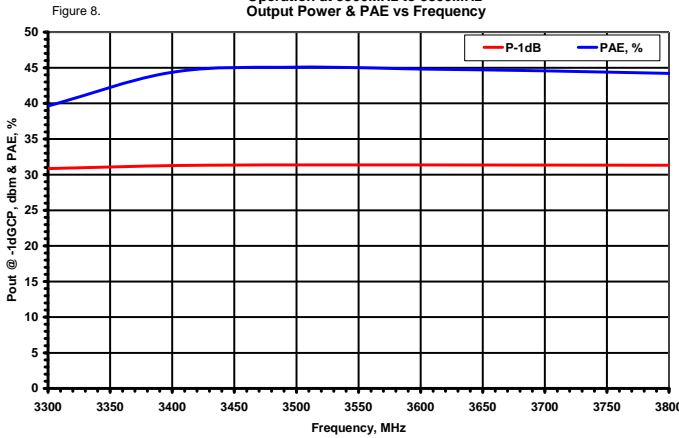
Operation at 3300MHz to 3800MHz
Gain vs Frequency



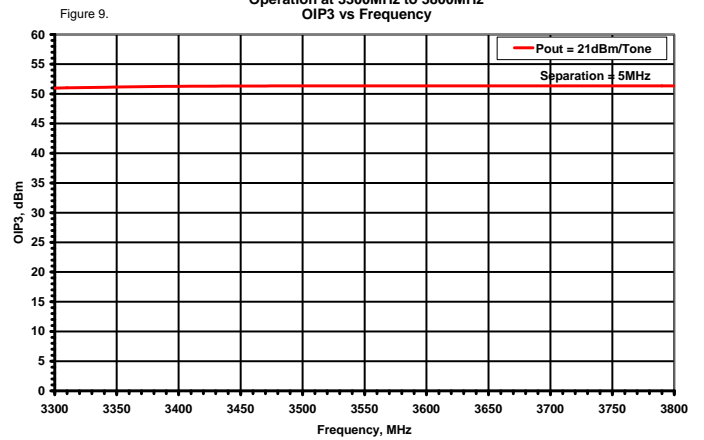
Operation at 3300MHz to 3800MHz
Return Loss vs Frequency



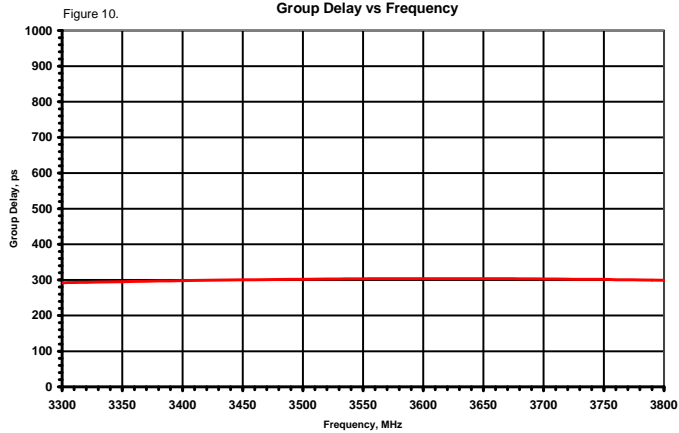
Operation at 3300MHz to 3800MHz
Output Power & PAE vs Frequency



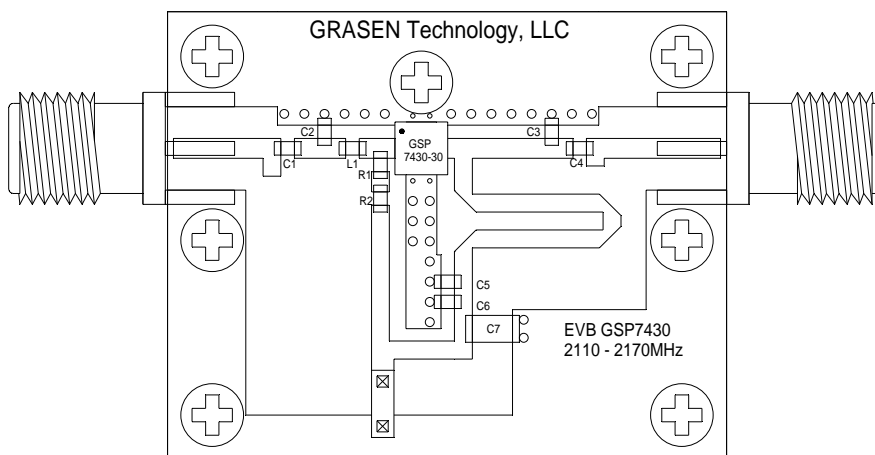
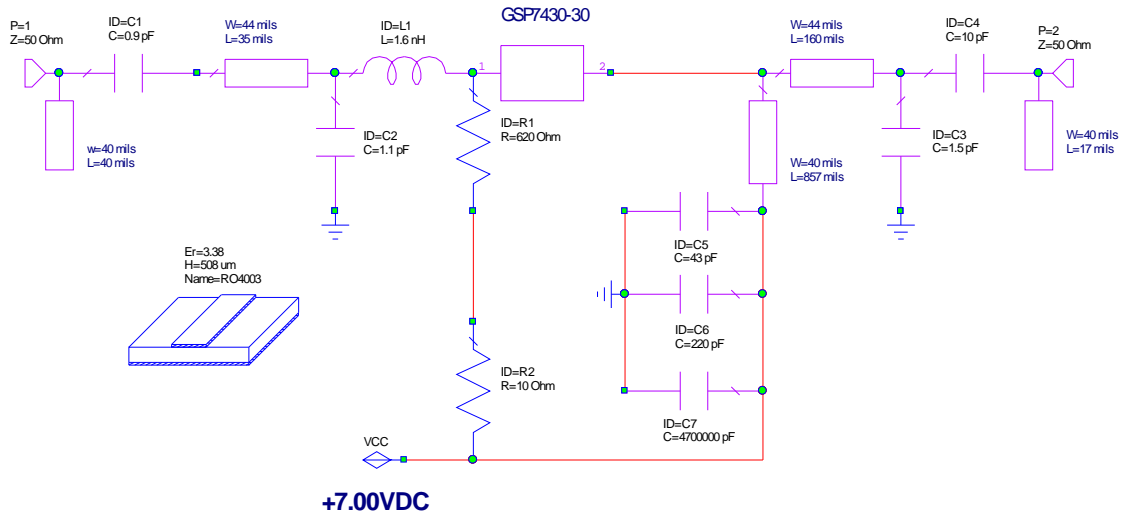
Operation at 3300MHz to 3800MHz
OIP3 vs Frequency



Operation at 3300MHz to 3800MHz
Group Delay vs Frequency

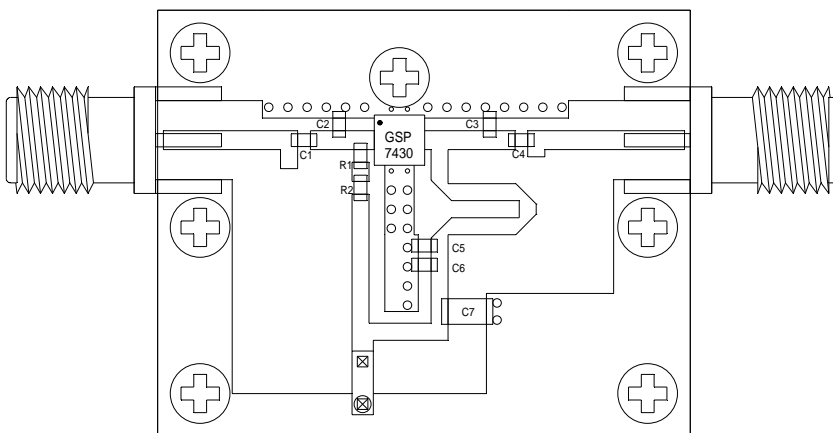
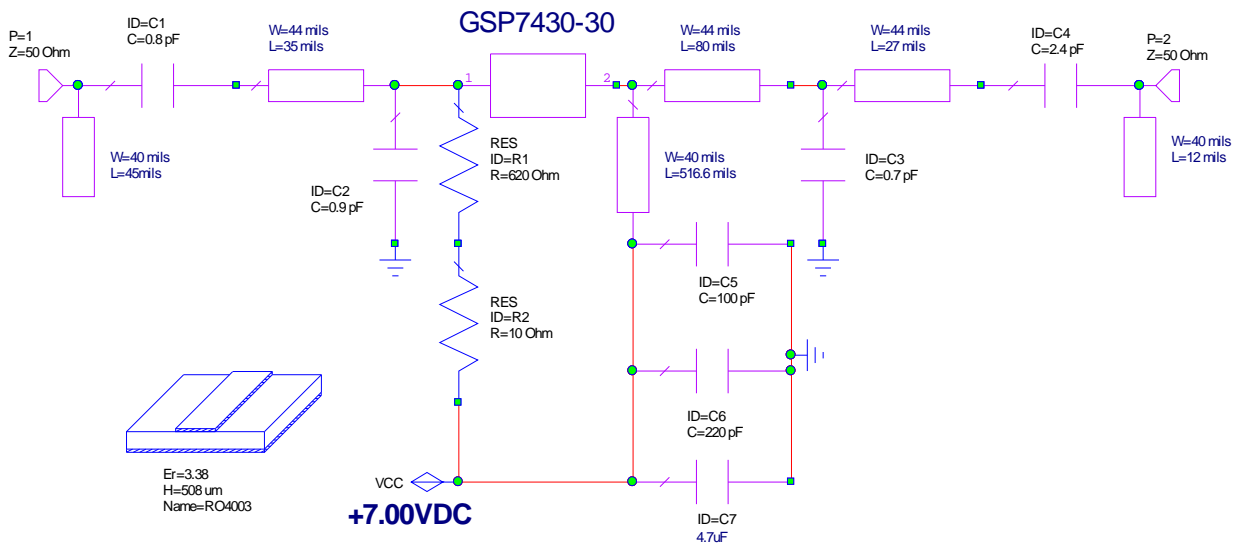


Application Schematic, 2110MHz to 2170MHz

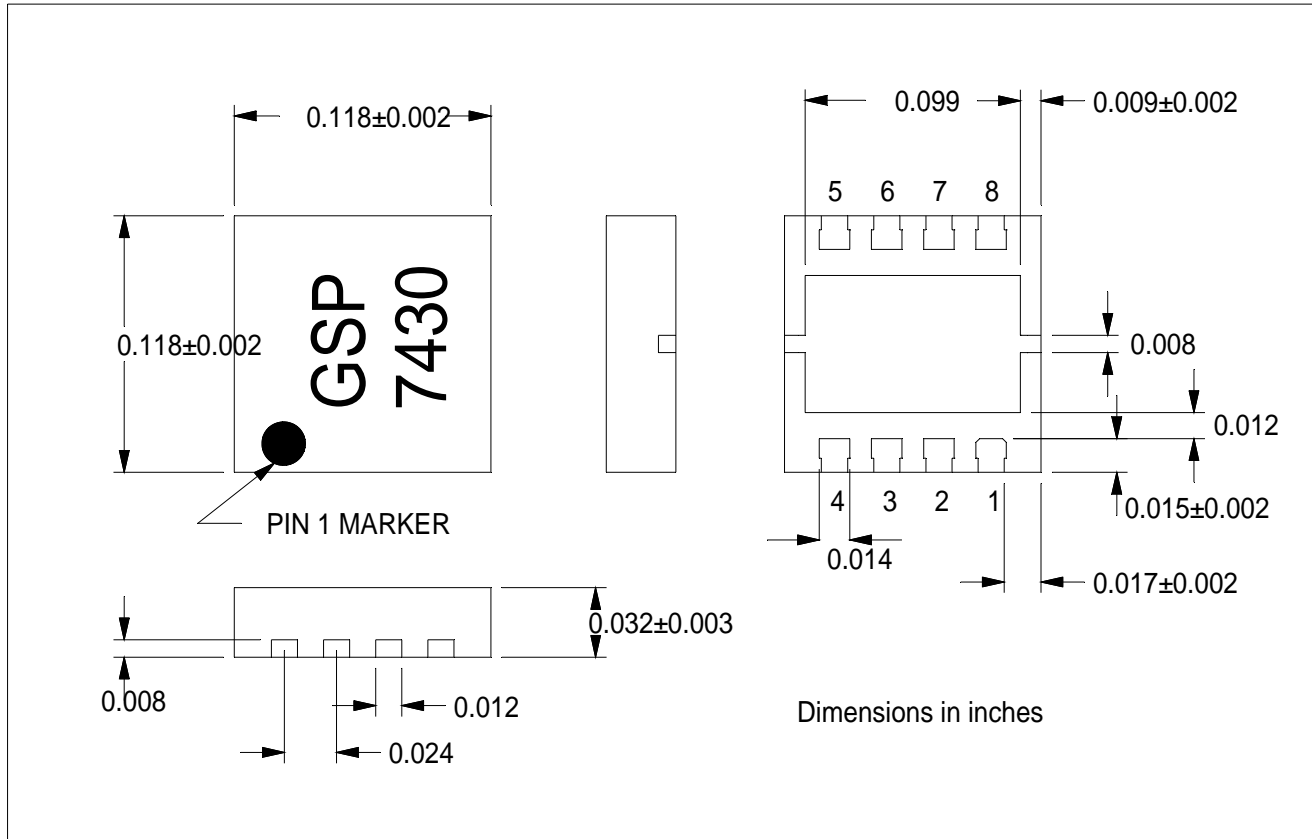


ID	Value	PN
C1	0.9pF	ATC600S
C2	1.1pF	ATC600S
C3	1.5pF	ATC600S
C4	10pF	ATC600S
C5	43pF	ATC600S
C6	220pF	0603 size
C7	4.7uF	1206 size
L1	1.6nH	0603CS Coilcraft
R1	620 Ω	0603 size
R2	10 Ω	0603 size

Application Board Schematic, 3300 - 3800MHz



ID	Value	PN
C1	0.8pF	ATC 600S
C2	0.9pF	ATC 600S
C3	0.7pF	ATC 600S
C4	2.4pF	ATC 600S
C5	100pF	ATC 600S
C6	220pF	0603 size
C7	4.7uF	1206 size
R1	620 Ω	0603 size
R2	10 Ω	0603 size



-30 Package Outline

Absolute Maximum Ratings

Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Device Current	150mA
RF Input Power, continuous	+20 dBm
Junction Temperature	250 °C

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

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