

### Product Features

- 0.1 to 6GHz Frequency Range
- +26 dBm P-1dB at 2GHz
- +45 dBm OIP3 at 2GHz
- 16 dB Gain at 2GHz
- 4.5 dB Noise Figure

### Product Description

The GSP7427-00 is an unmatched General Purpose Medium Power Amplifier that covers the 100MHz to 6GHz frequency range with 16 dB nominal matched gain at 2GHz. It also has superior Third Order Intermodulation Distortion characteristics.

The GSP7427-00 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 LNA 2<sup>nd</sup> and 3<sup>rd</sup> stages. It is in bare die format.

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

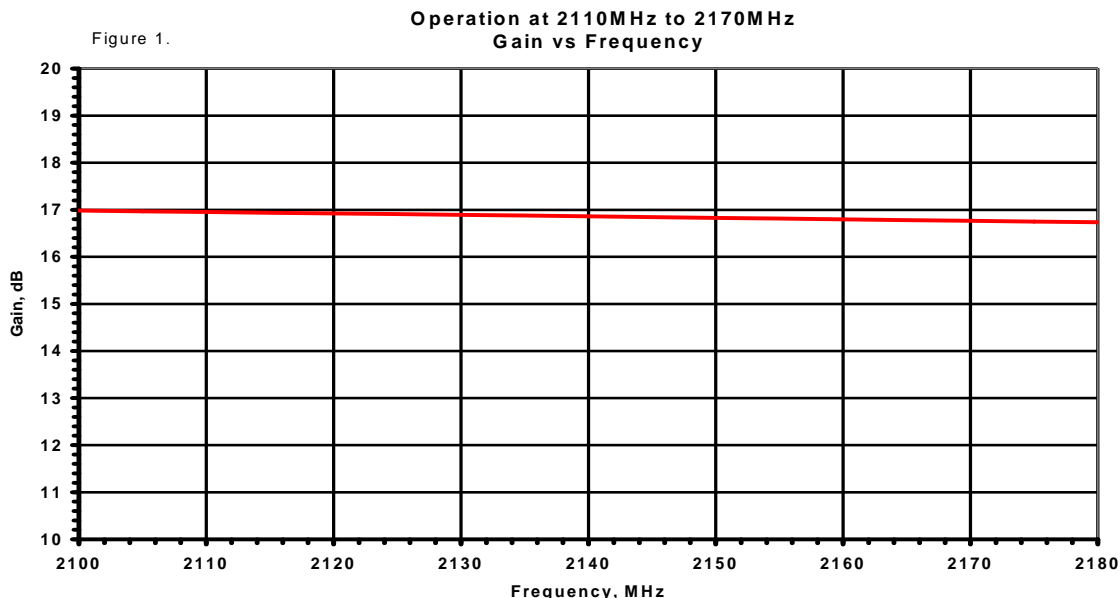
### Applications

- Mobile infrastructure
- ISM
- WLAN
- RFID
- WIMAX/WIBRO

### Specifications (1)

Parameter	Units	Min	Typ	Max
Bandwidth	MHz	100		6000
Test Frequency (2)	MHz		2140	
Gain (2)	dB	15	16	
Pout @ -1dB GCP	dBm	+25	+26	
Input Return Loss (2)	dB		15	
Output Return Loss (2)	dB		7	
OIP3 (2)	dBm	+40	45	
Noise Figure (2)	dB		4.5	
Operating Current	mA		130	

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



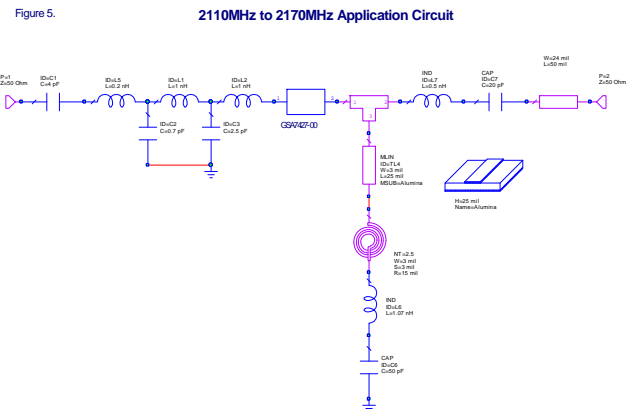
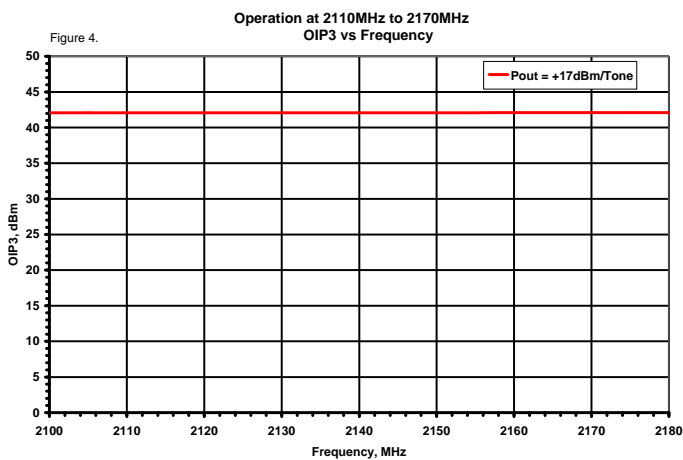
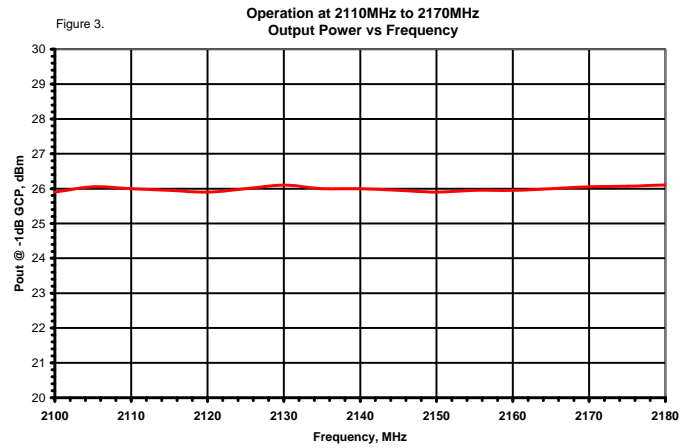
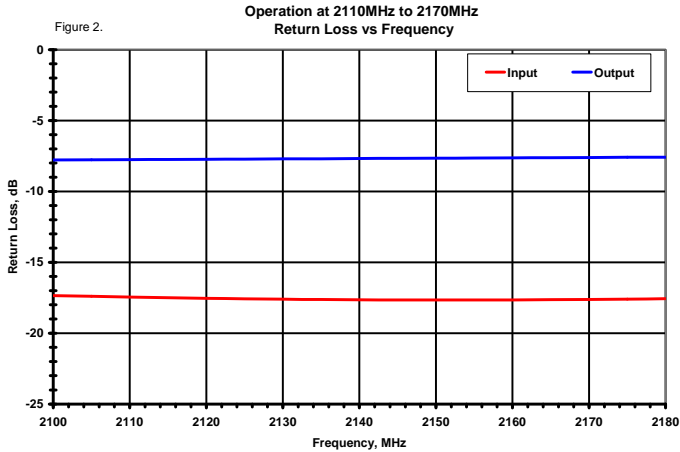
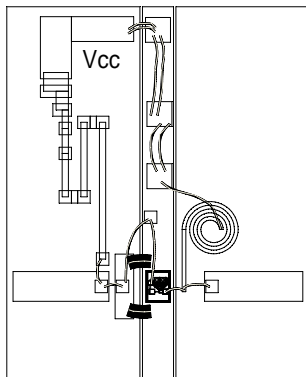


Figure 6. Application Board

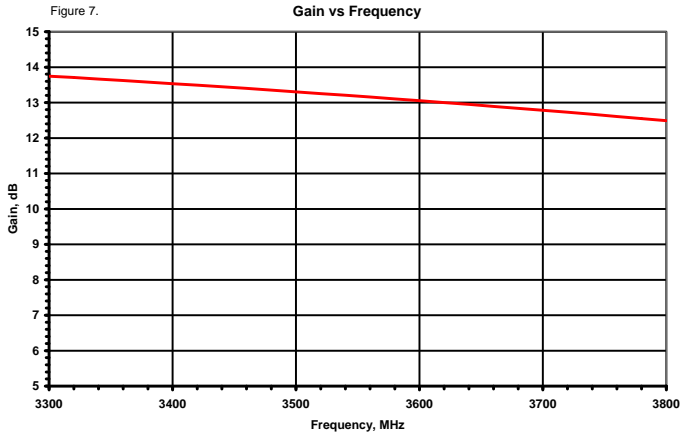


### Absolute Maximum Ratings

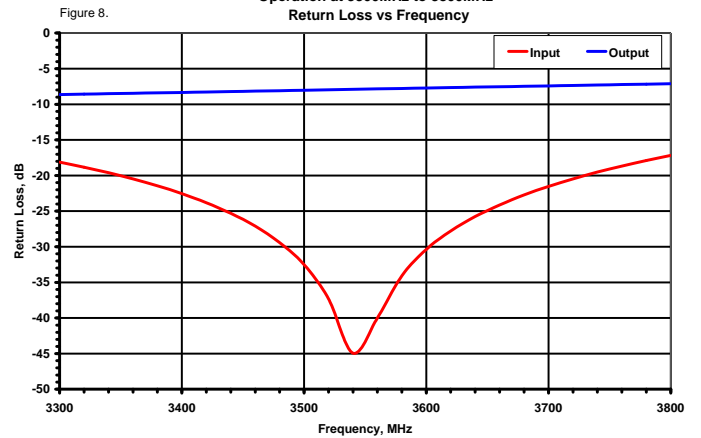
Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Device Current	150mA
RF Input Power, continuous	+20 dBm
Junction Temperature	250 °C

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

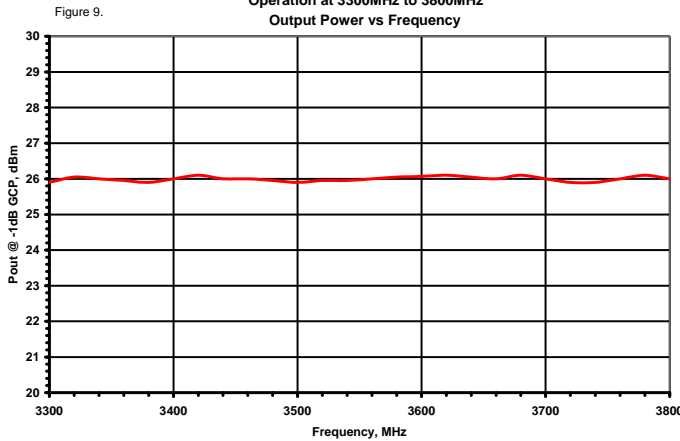
Operation at 3300MHz to 3800MHz  
Gain vs Frequency



Operation at 3300MHz to 3800MHz  
Return Loss vs Frequency



Operation at 3300MHz to 3800MHz  
Output Power vs Frequency



Operation at 3300MHz to 3800MHz  
OIP3 vs Frequency

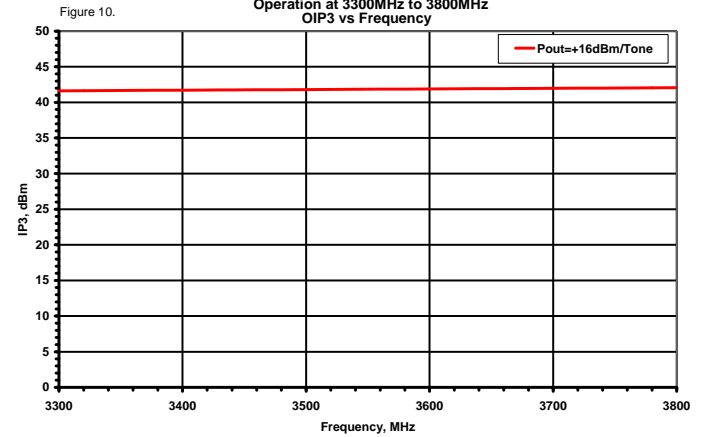


Figure 11.

Application Circuit, 3300MHz - 3800MHz

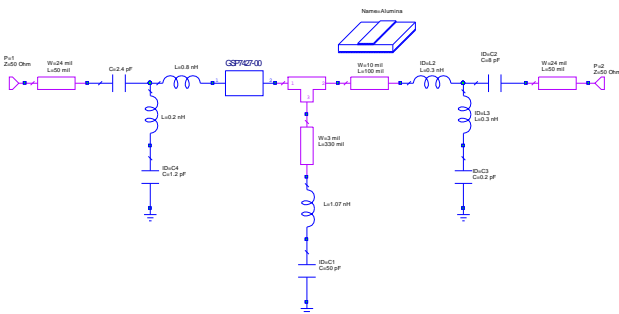
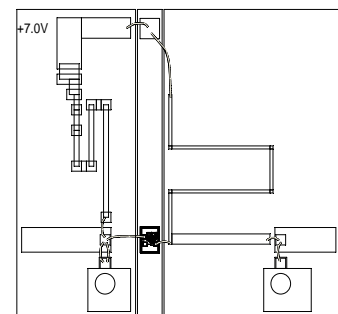
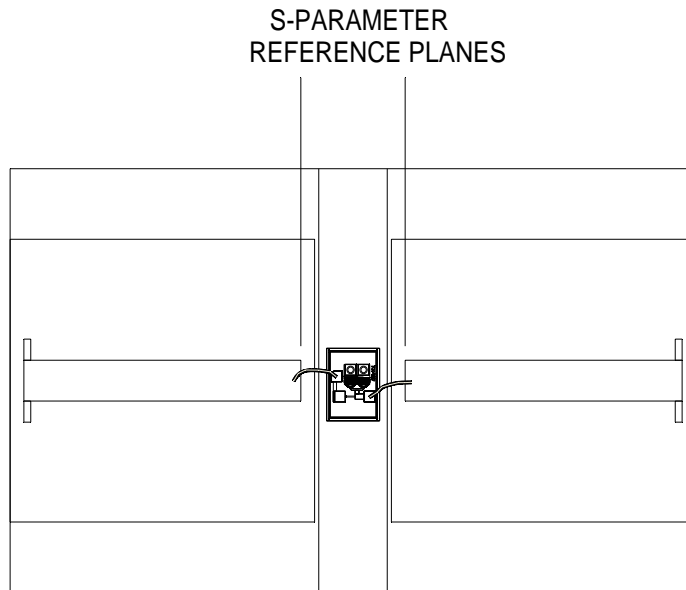
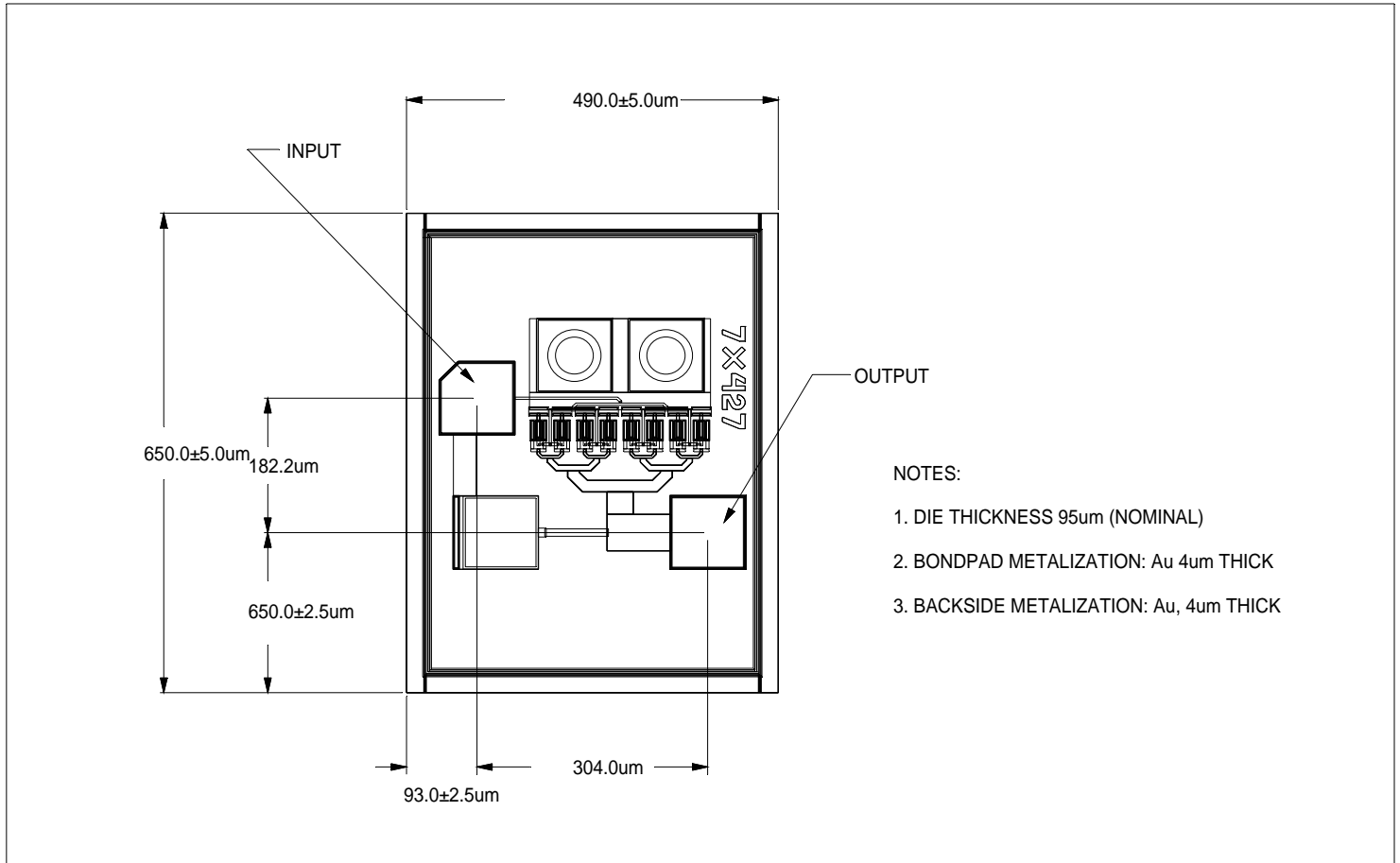


Figure 12 Test Board, 3300MHz to 3800MHz





S-Parameter Test Circuit



Die Outline

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