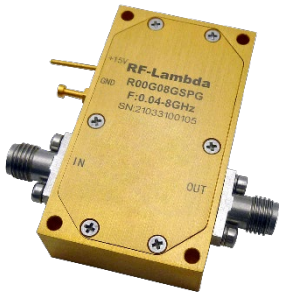
Wide Band Solid State Power Amplifier
0.04GHz~8GHz



Features

- Gain: 14dB Typical
- P1dB Output Power: +30dBm Typical
- Supply Voltage: +15V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +15V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.04		6	6		8	GHz
Gain	10.5	12.5		10.5	12.0		dB
Gain Flatness		±0.5			±0.5		dB
Gain Variation Over Temperature (-40°C~+85°C)		±0.8			±0.8		dB
Input VSWR		1.6	1.8		1.6	1.8	: 1
Output VSWR		1.6			1.6		: 1
Output 1dB Compression Point (P1dB)	27	29		25.5	26.5		dBm
Saturated Output Power (Psat)		31			28		dBm
IM3		20			20		dBc
Isolation S12		-50			-45		dB
Supply Current (Vcc=+15V)		450	600		450	600	mA
Weight	3.5 Max.						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Aluminum						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+16V
RF Input Power	+23dBm

Biasing Up Procedure

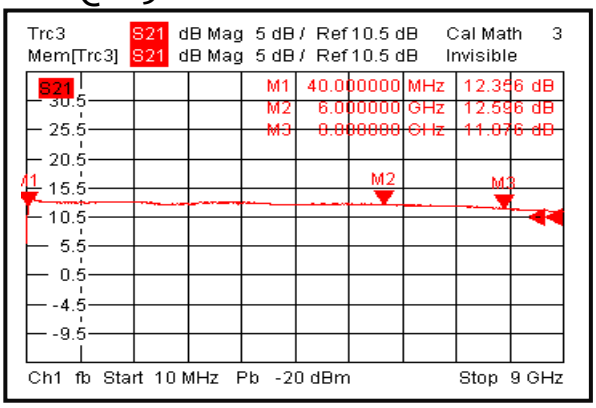
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +15V biasing
Power OFF Procedure	
Step 1	Turn off +15V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

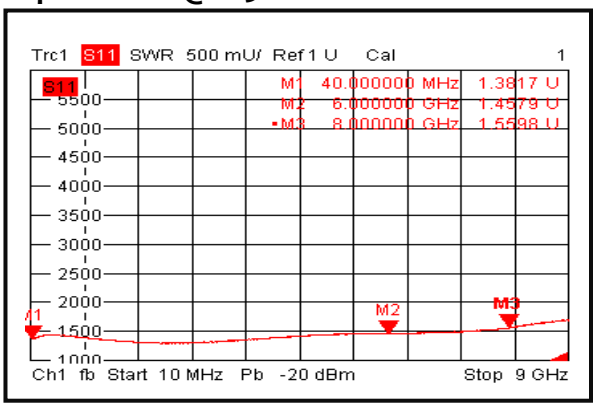
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)

Typical Performance Plots

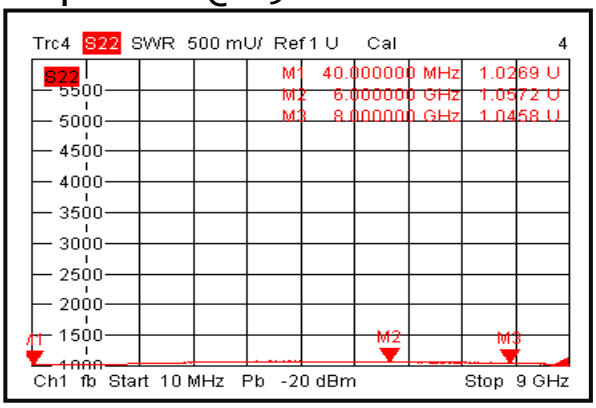
Gain @+25℃



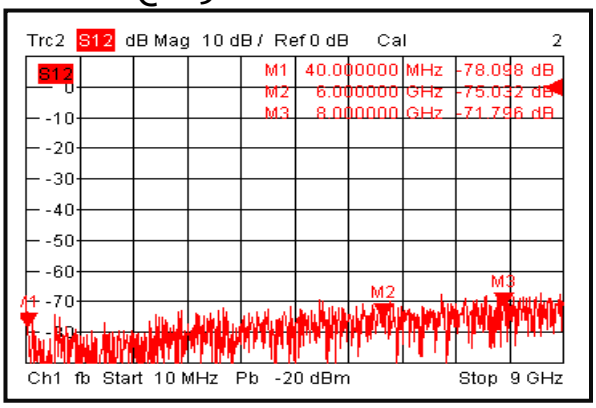
Input VSWR @+25℃



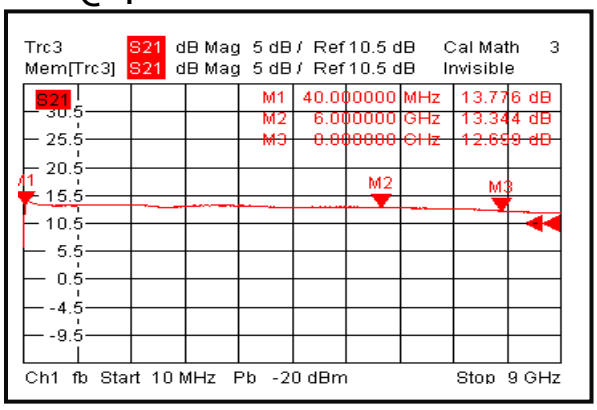
Output VSWR @+25℃



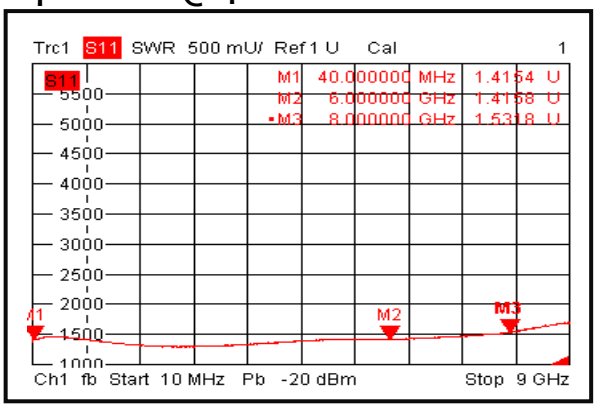
Isolation @+25℃



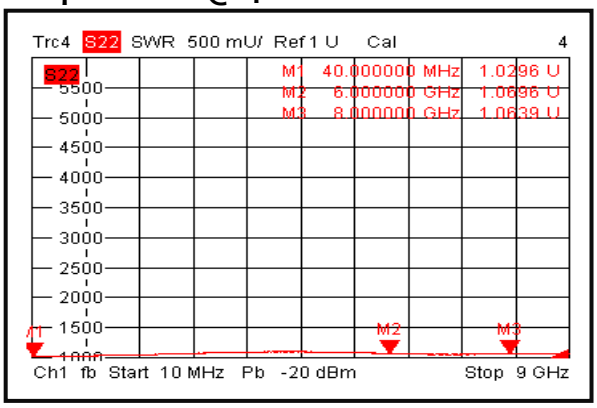
Gain @-40℃



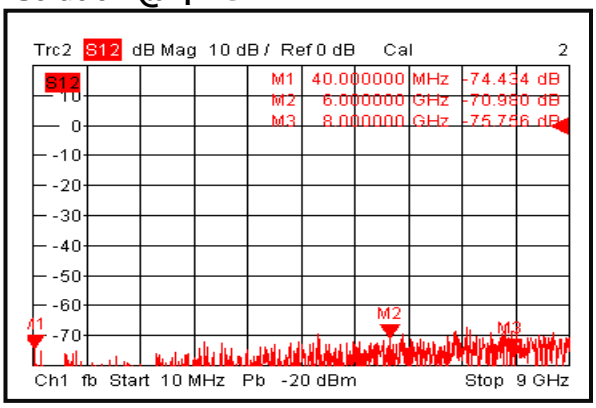
Input VSWR @-40℃



Output VSWR @-40℃



Isolation @-40℃



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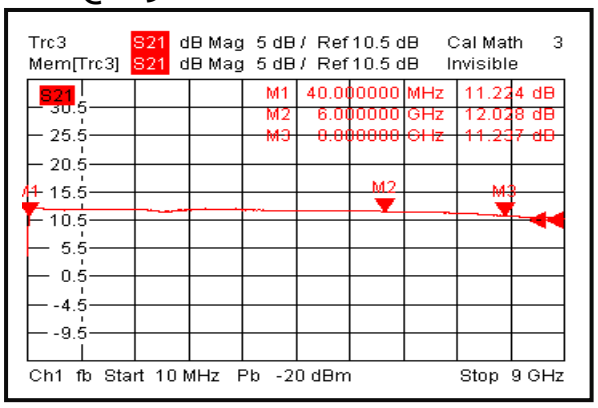
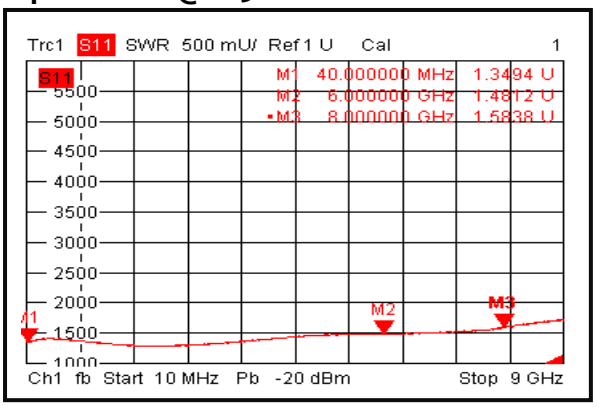
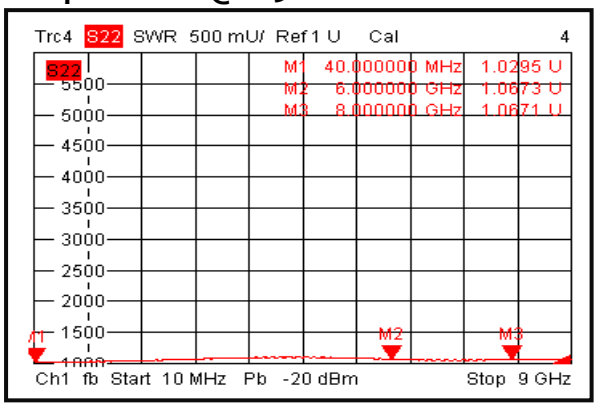
Gain @+85℃



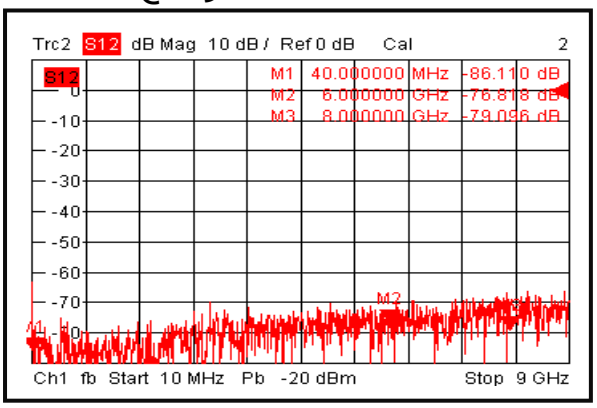
Input VSWR @+85℃



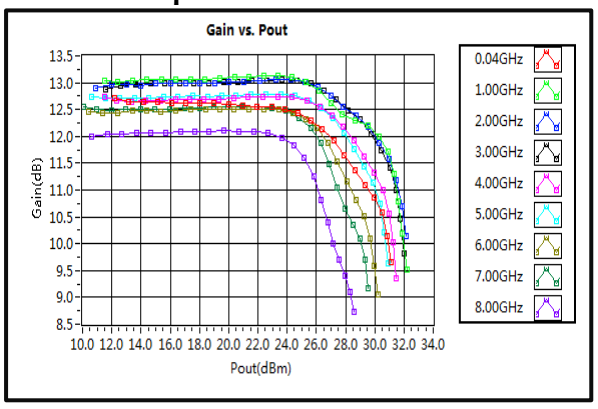
Output VSWR @+85℃



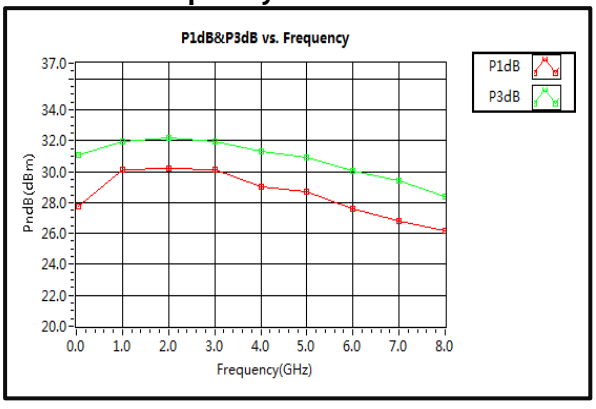
Isolation @+85℃



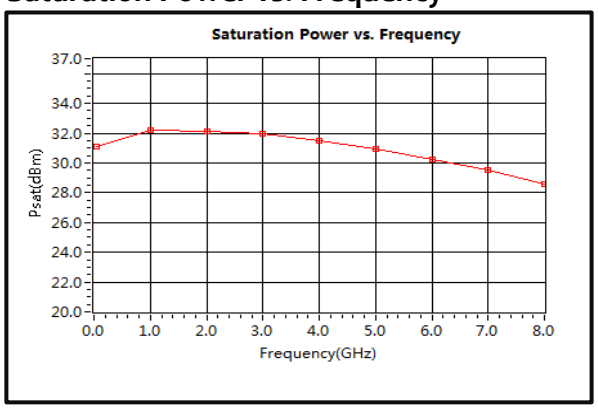
Gain vs. Output Power



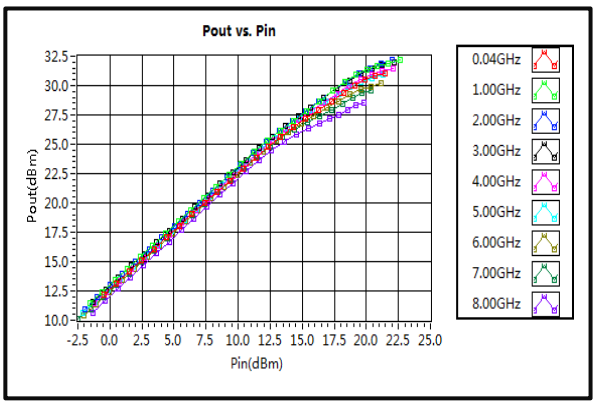
PXdB vs. Frequency



Saturation Power vs. Frequency



Pout vs. Pin



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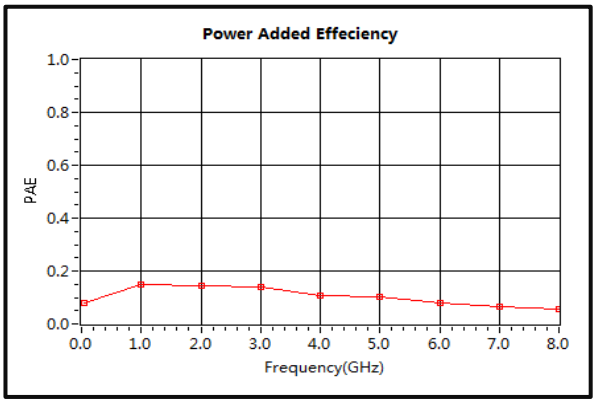
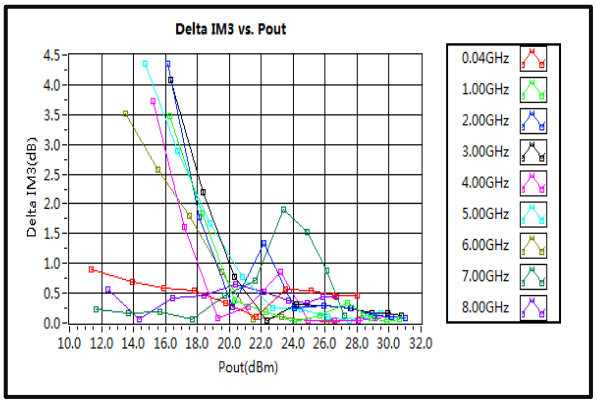
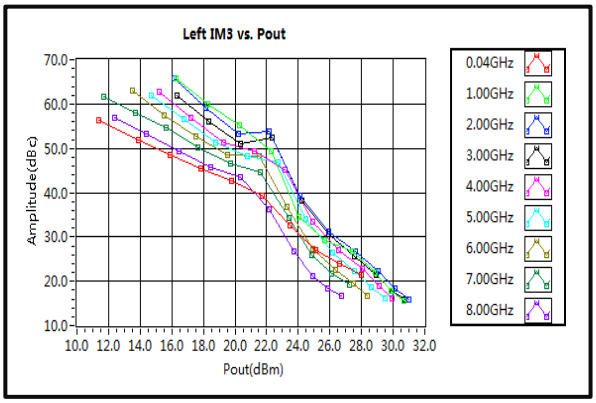
Power Added Efficiency



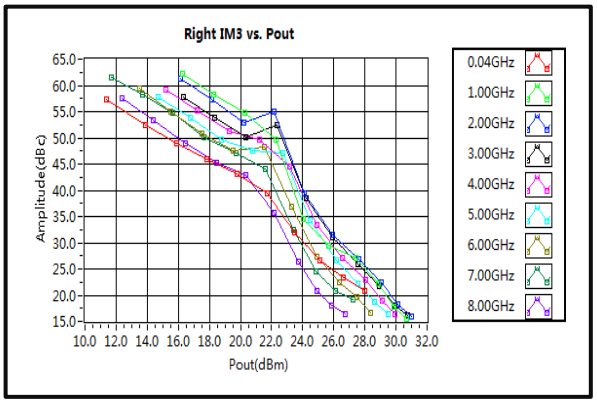
Delta IM3 vs. Pout



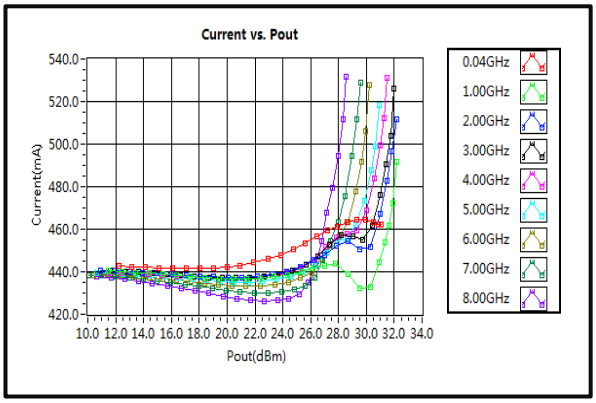
Left IM3 vs. Pout



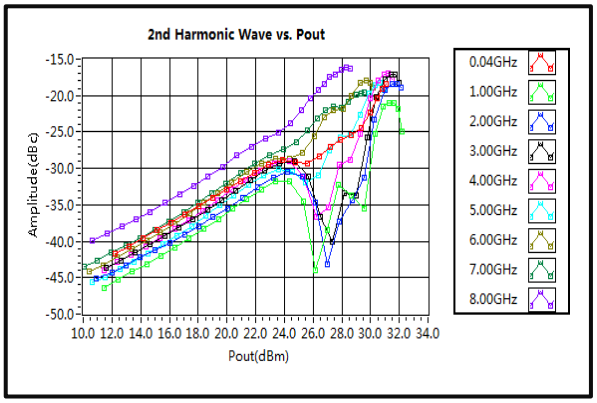
Right IM3 vs. Pout



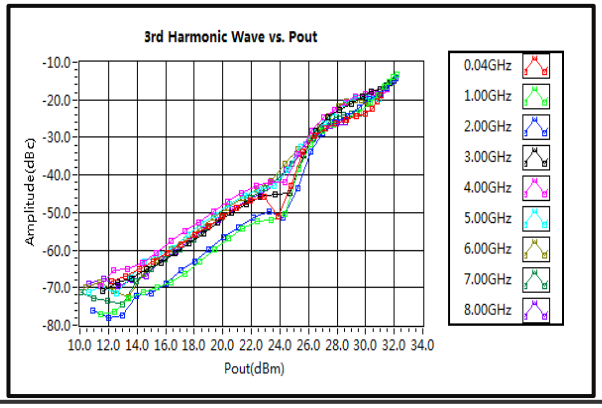
Current



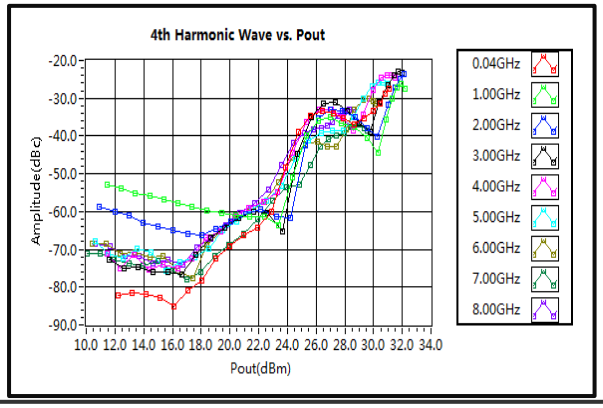
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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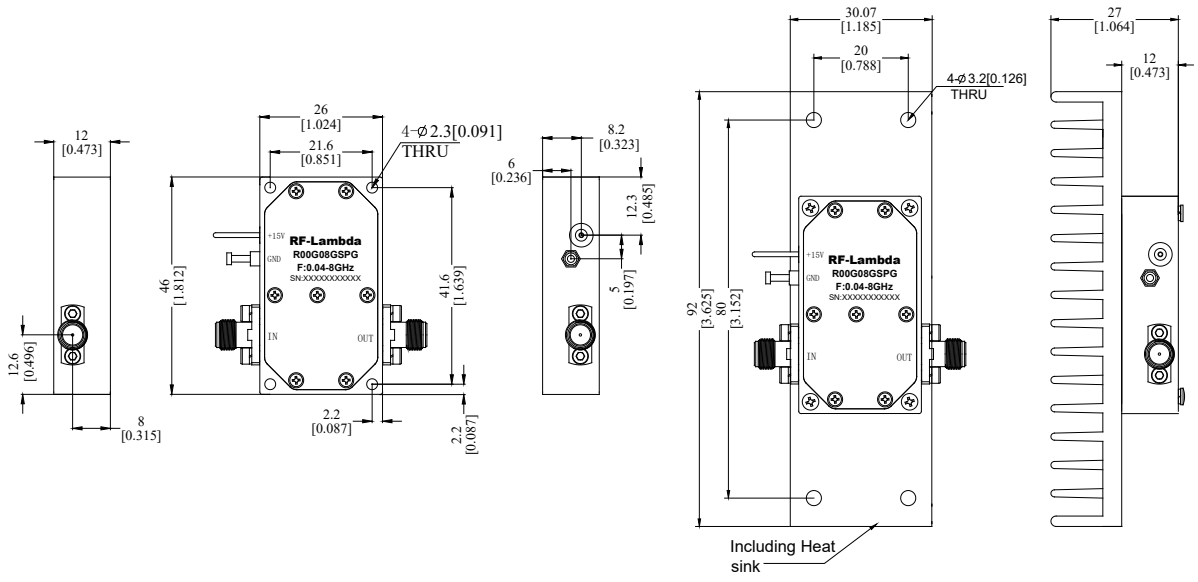
Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ± 0.1[0.004]



Notes:

. Heat Sink required during operation (Sold Separately)
. Standard torque wrench must be used to secure RF connectors.

Ordering Information

Part No.	Description
R00G08GSPG	0.04-8GHz Wide Band Power Amplifier

Important Notice

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