



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFLUPA0830GK

30W Broadband High Power Amplifier Module 800 - 3000MHz



Features

- Broadband High Power
- High Efficiency
- Great Linearity
- Small Size & Light Weight
- Low Distortion

Electrical Specifications, $T_A = +25^{\circ}\text{C}$, $V_{DD} = +28\text{V}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	800		3000	MHz
RF Output Power		30		Watt
Power Gain		45		dB
Power Gain Flatness		± 2		dB
Input Return Loss			-10	dB
Harmonics @20W		-15		dBc
Spurious Signals		-60		dBc
Impedance		50		Ω
Operating Voltage	24	28	32	Volt
DC Current @30W		6		Amp
Switch On/Off@10-90% Time		2	5	us

Mechanical Specifications

Dimensions	150x90x22mm
Weight	1.5 Kg
RF Connectors Input	SMA - Female
RF Connectors Output	SMA - Female
DC Interface Connector	D-Sub 9-Pin, Male
Cooling	External Heatsink Required (Not Supplied)

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Absolute Maximum Ratings

Input RF drive level without damage	+10dBm(Max)
Load VSWR @ POUT =20W	∞ @ all load phase & amplitude for duration of 1 minutes; 3:1 @ all load phase & amplitude continuous
Over Temperature	85°C @ heatsink(restored @ 60°C)

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+60°C (Case Temperature)
Storage Temperature		-40°C~+65°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C 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)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)



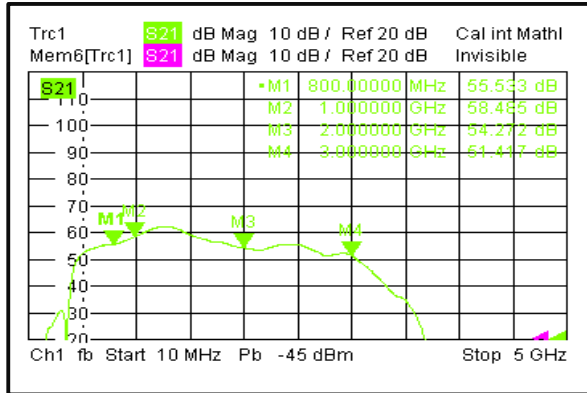
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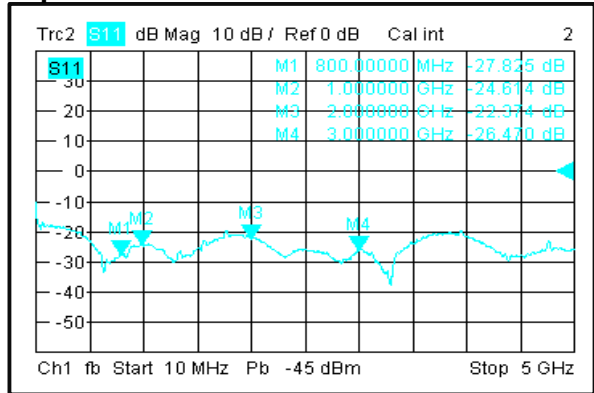
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Typical Performance Plots

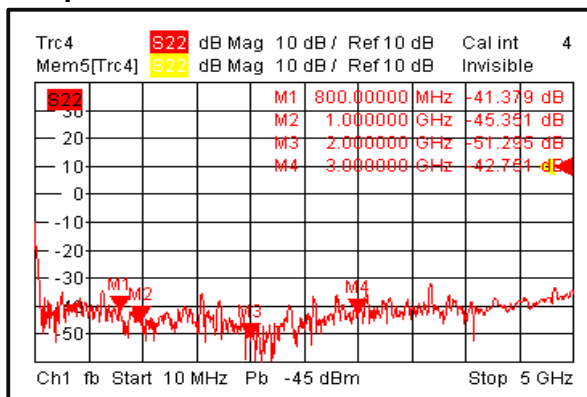
Gain



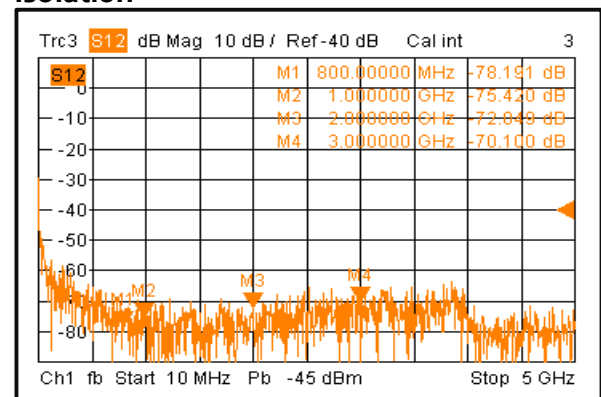
Input Return Loss



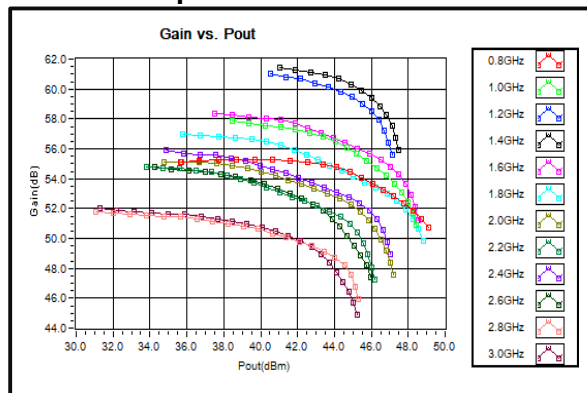
Output Return Loss



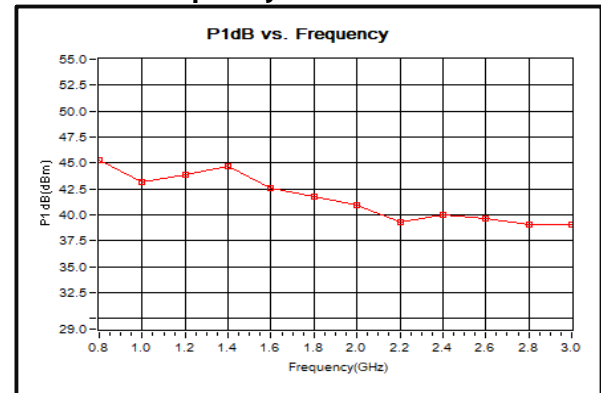
Isolation



Gain vs. Output Power



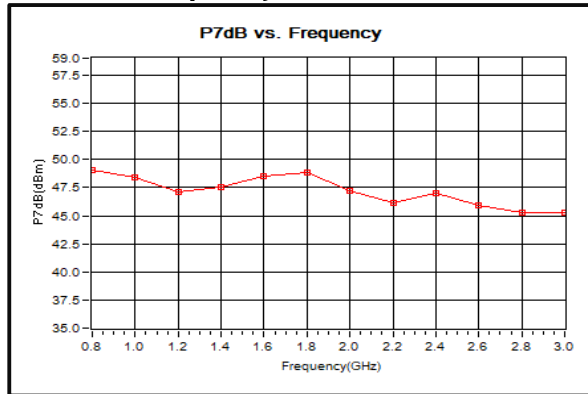
P1dB vs. Frequency



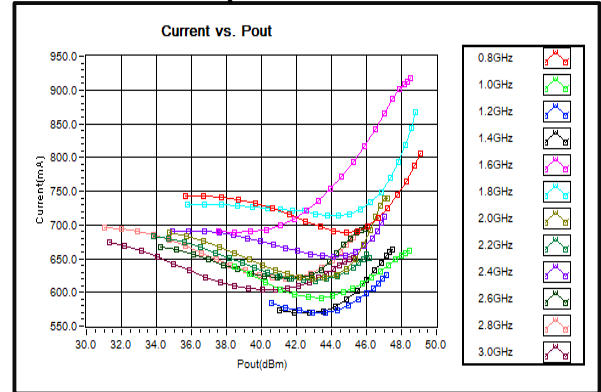
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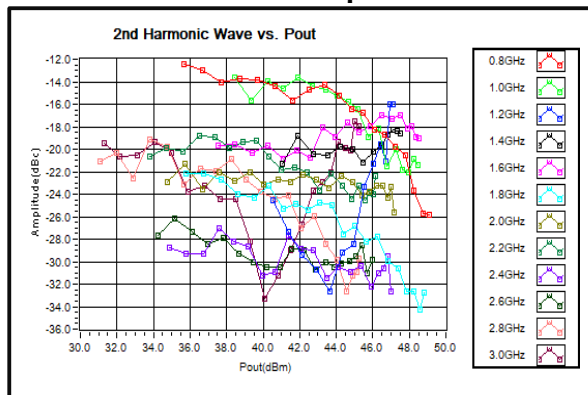
P7dB vs. Frequency



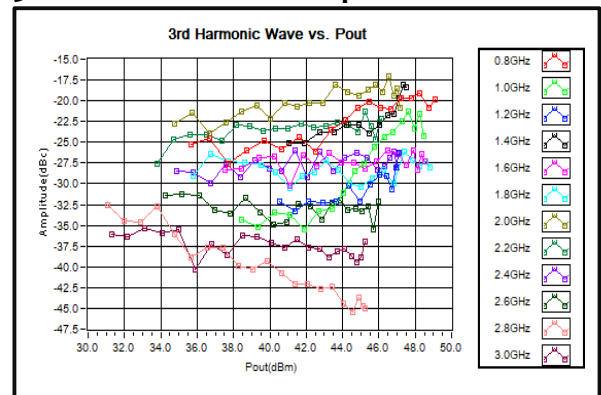
Current vs. Output Power



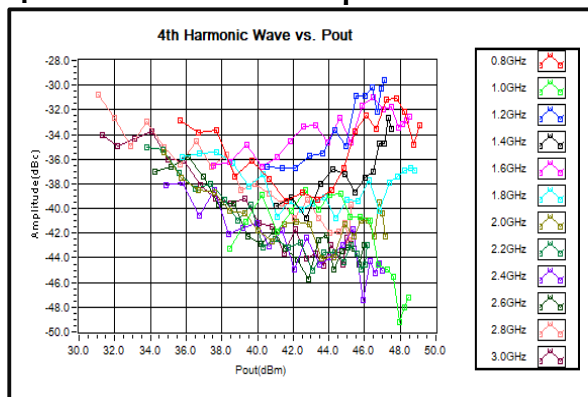
2nd Harmonic Wave Output Power



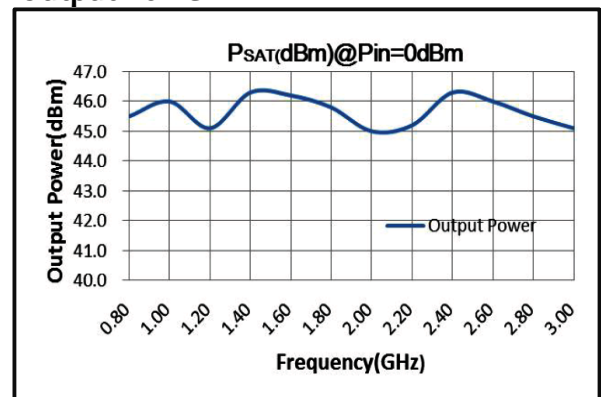
3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



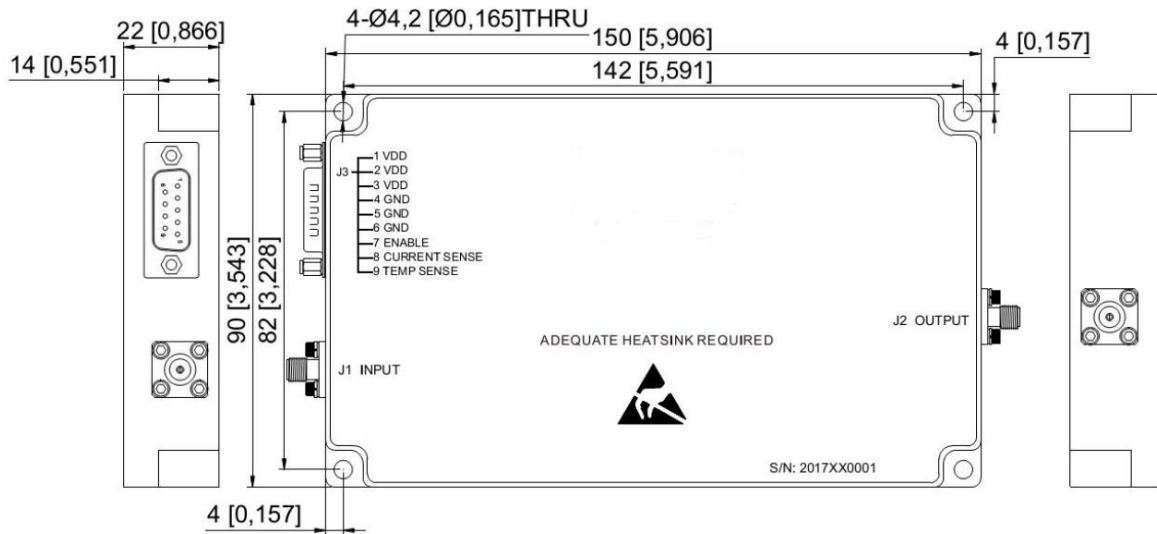
Output Power





Outline Drawing:

All Dimensions in mm [inches]



DC Interface Connector

Pin #	Description	Specifications
1,2,3	VDD	28V _{DC}
4	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
5	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
6,7,8	GND	Ground
9	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C



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