



High Power Amplifier

Model:RPA-2G5-7G5-1000

2.5-7.5GHz 1000W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 2.5-7.5GHz
- High output power at saturation, 60dBm Min
- High gain, 60dB Min
- Operates from AC line power: 380V

Applications:

- Laboratory test instrument
- RF Power stress test
- EMI and antenna testing
- Reliability testing

Product Overview:

The RPA-2G5-7G5-1000 is a high power, rack mount amplifier with a self-contained AC power supply which can be used for a wide variety of laboratory testing applications. This rugged amplifier is capable of amplifying signals up to 1000W output power over its entire operating bandwidth of 2.5 to 7.5GHz. The control functions RPA-2G5-7G5-1000 possesses include the on/off of the power supply and the control of the gain. Built-in safety features include fans alarms and automatic shut down mechanism to prevent damage in the event of excessive internal temperatures. The amplifier's output stage is further protected in the event of a fault condition, allowing high power operation for up to 5 minutes into an open or short load (refer to the maximum input power specifications). It has built-in protection functions included over TEM, over voltage, over current and output mismatch protection. And it has monitor functions included output power, reflected power, TEM, operating voltage and operating current. It can also be remotely controlled via RS422 or LAN.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	2.5-7.5			GHz
Working Mode	MOD	CW/PULSE compatible			
Power Gain	GP	60			dB
Gain flatness	ΔGL		±4		dB
Output Psat	Psat	60			dBm
Spurious@Pout=60dBm	Spur			-60	dBc
Harmonics@Pout=60dBm	HAM		-15		dBc
AC Voltage	Vac		380		V AC
Power Consumption@Pout=60dBm	Pdiss			9000	W
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20 to +40	°C
Non-operating Temperature*	-30 to +50	°C
Relative humidity	95	%
RF Input/Output Connector	N Female/WRD250	
Forward/Reverse Coupling Connector	SMA Female/ SMA Female	
Communication Connector	DB9/RJ-45	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Digital Monitor & Control	RS422;LAN	
Cooling system	Built in Cooling system,forced air cooling	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	20U	mm
Weight	≤350	Kg

*Note: For a wider temperature range, please consult the manufacturer.



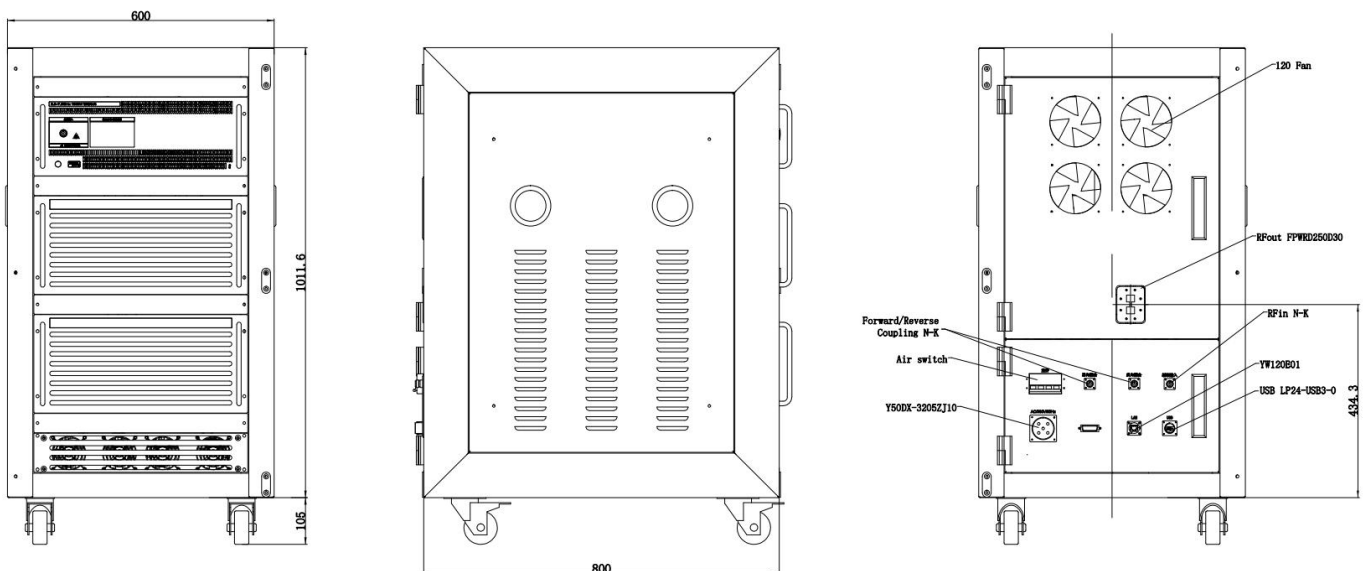
Absolute Maximum Ratings:

Parameter	Value
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm

RPA-2G5-7G5-1000



Optional items:

Number	Parameter
1	LCD display touchscreen
2	Ingress protection grad
3	Customized operating temperature range
4	Built in Cooling system(air or liquid)
5	Types of RF,coupling and monitor&control interfaces

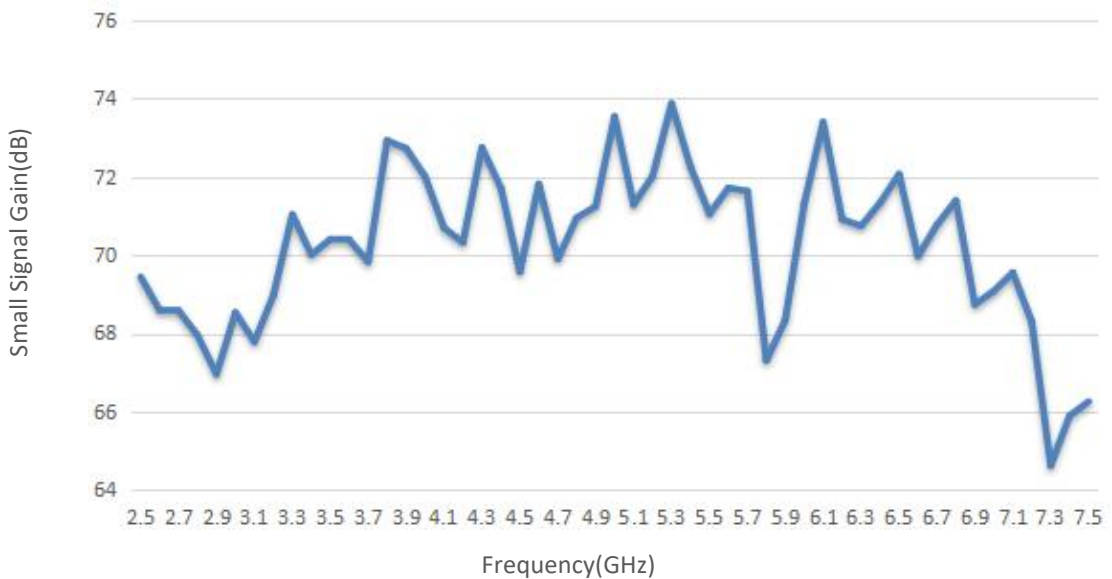


Outline Drawing:

Base Number	Description	Optional
RPA-2G5-7G5-1000	High Power Amplifier, 2.5-7.5GHz, 1000W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-2G5-7G5-1000-M	High Power Amplifier, 2.5-7.5GHz, 1000W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-2G5-7G5-1000-IPxx	High Power Amplifier, 2.5-7.5GHz, 1000W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad

Typical Performance Data:

Small Signal Gain vs Frequency

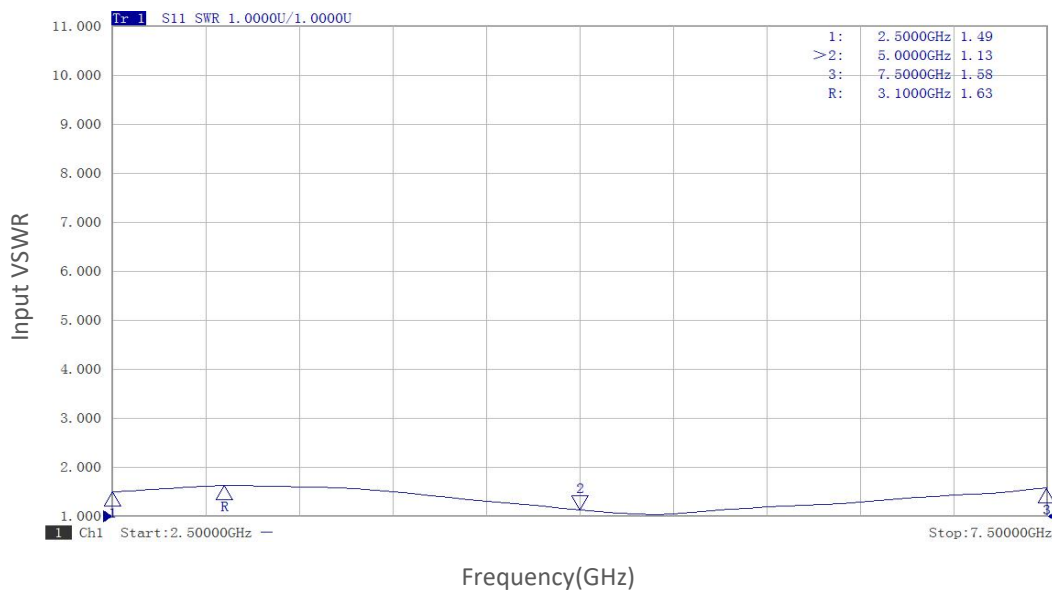


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

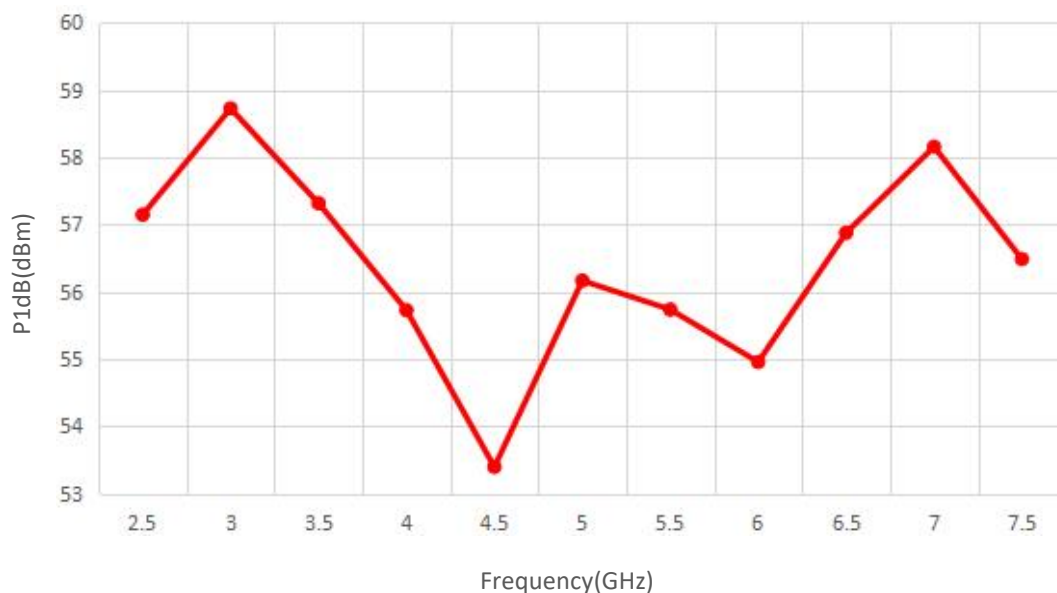


Typical Performance Data:

Input VSWR vs Frequency



P1dB vs Frequency

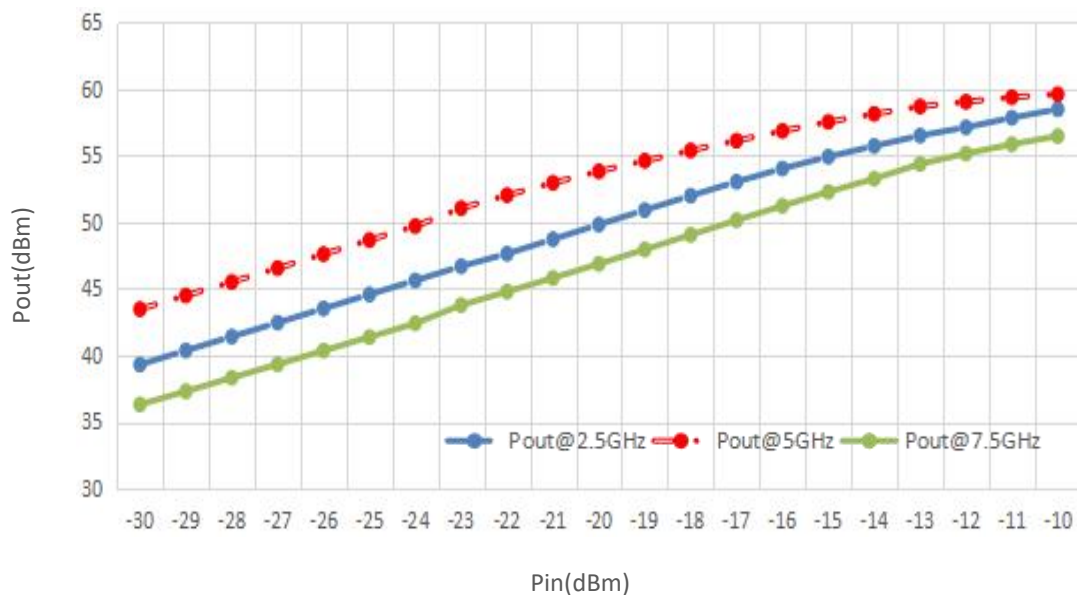


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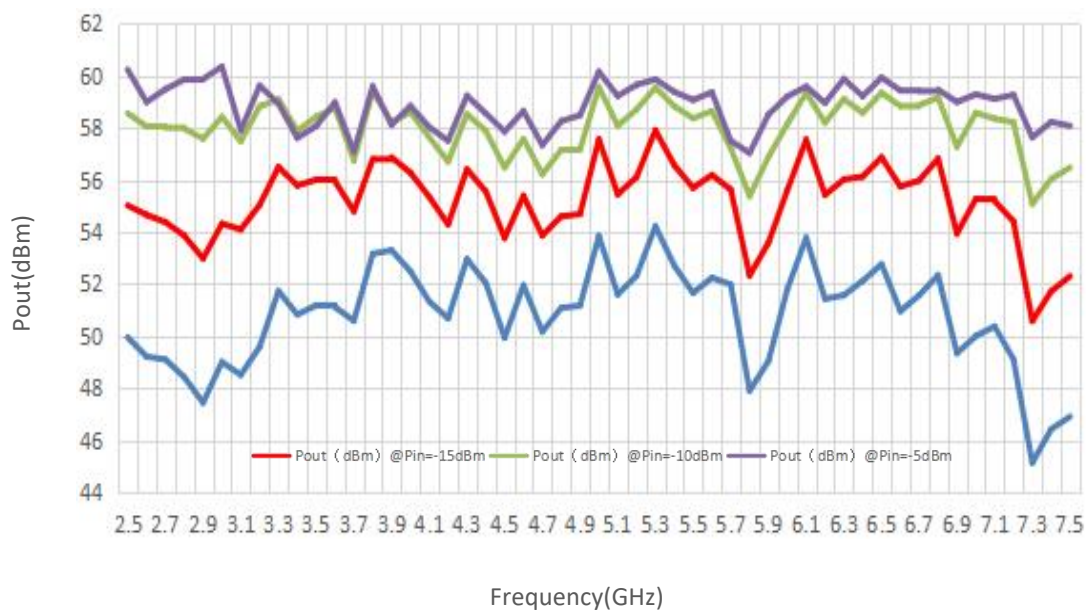


Typical Performance Data:

Pout@Pin



Pout@Equal_Pin

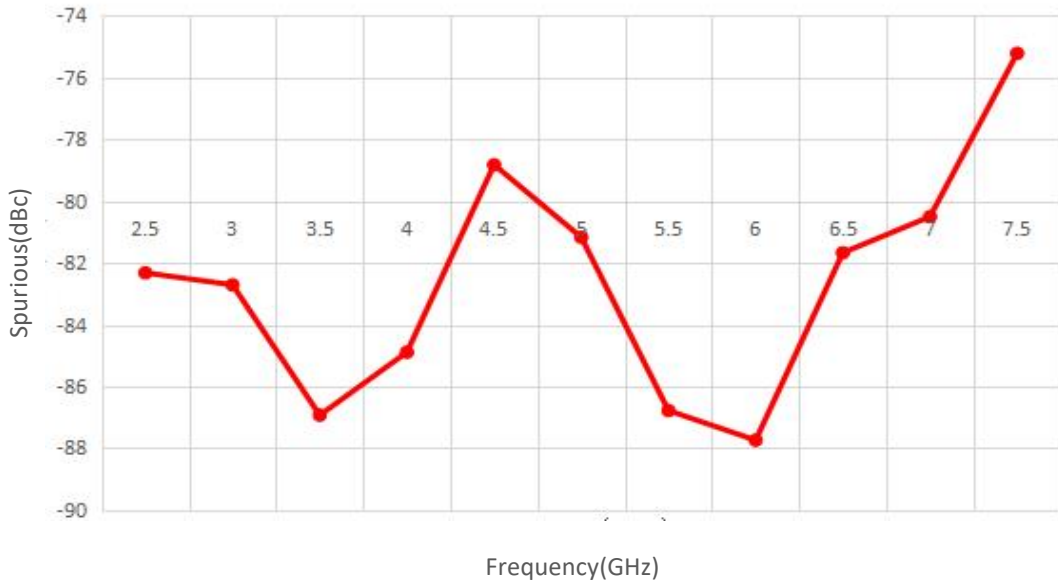


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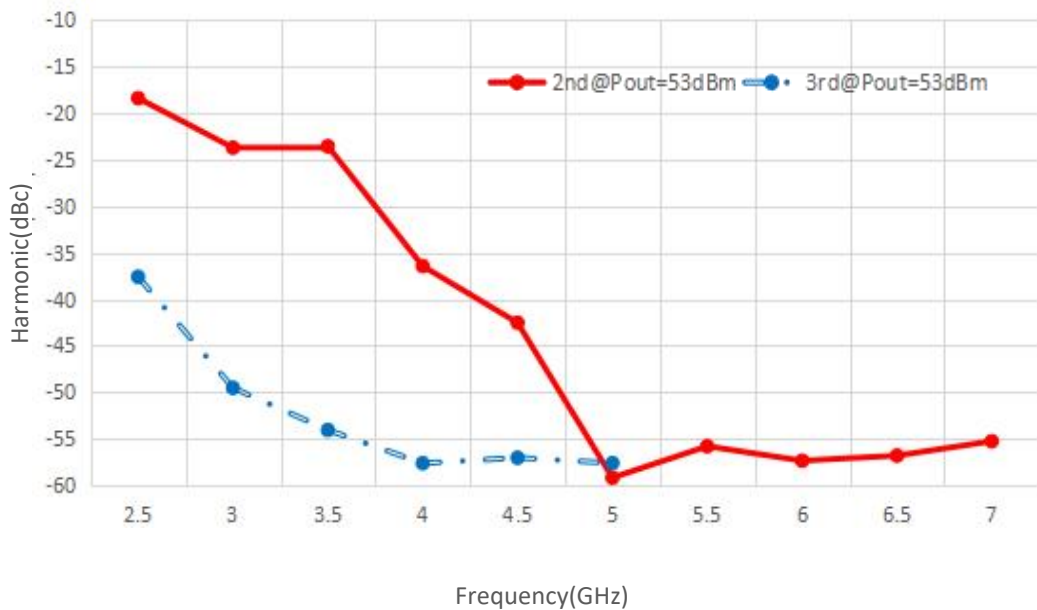


Typical Performance Data:

Spurious vs Frequency



Harmonic vs Frequency

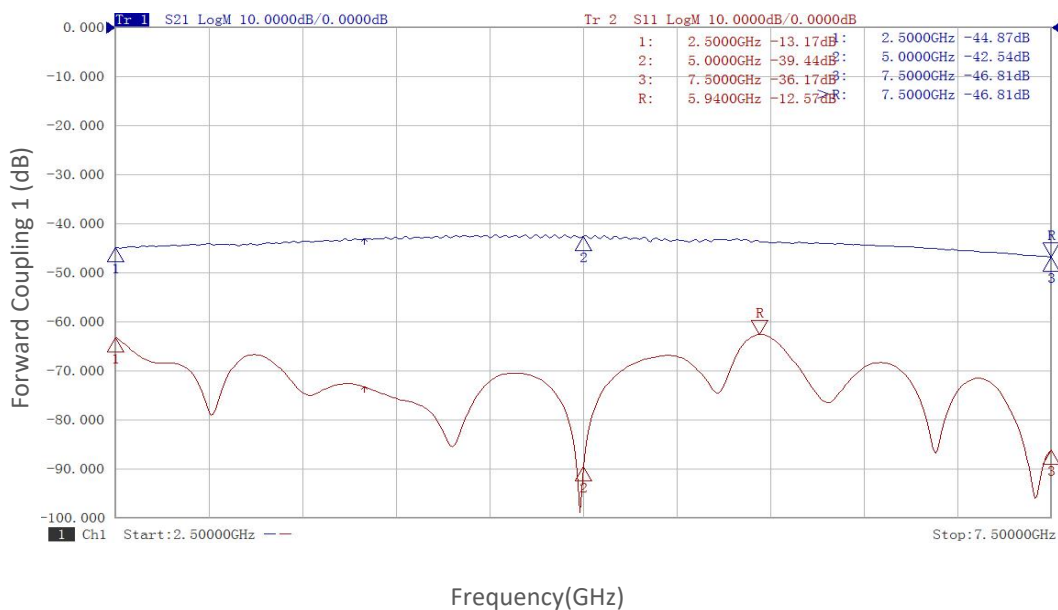


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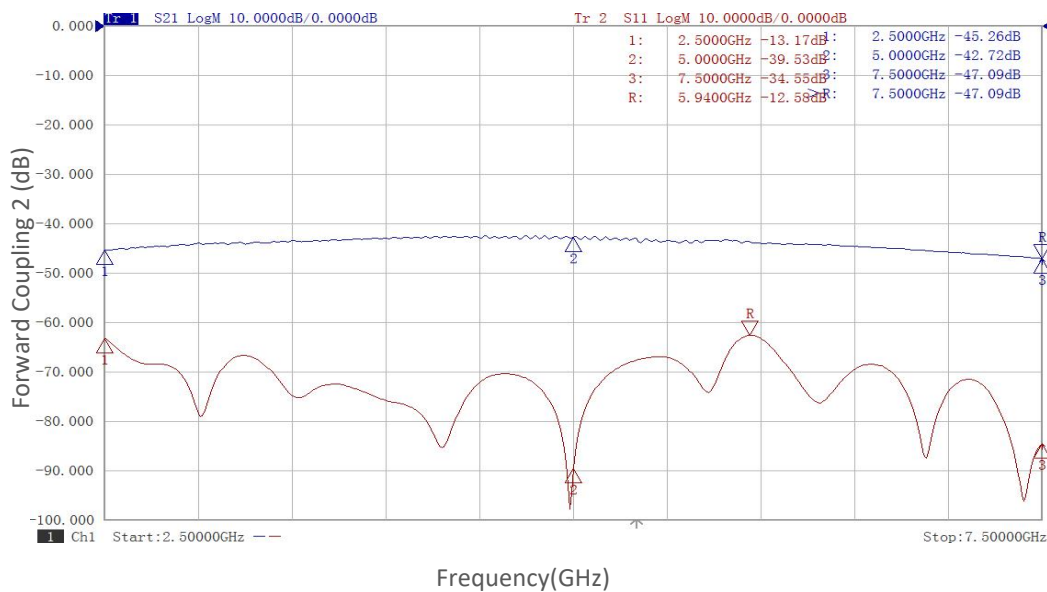


Typical Performance Data:

Forward Coupling 1 vs Frequency



Forward Coupling 2 vs Frequency

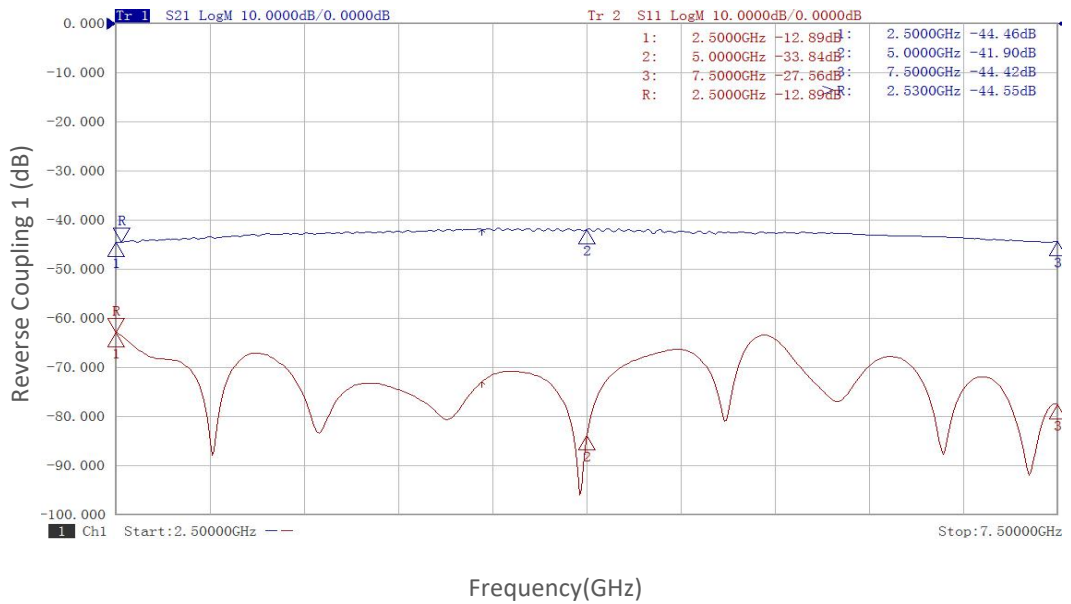


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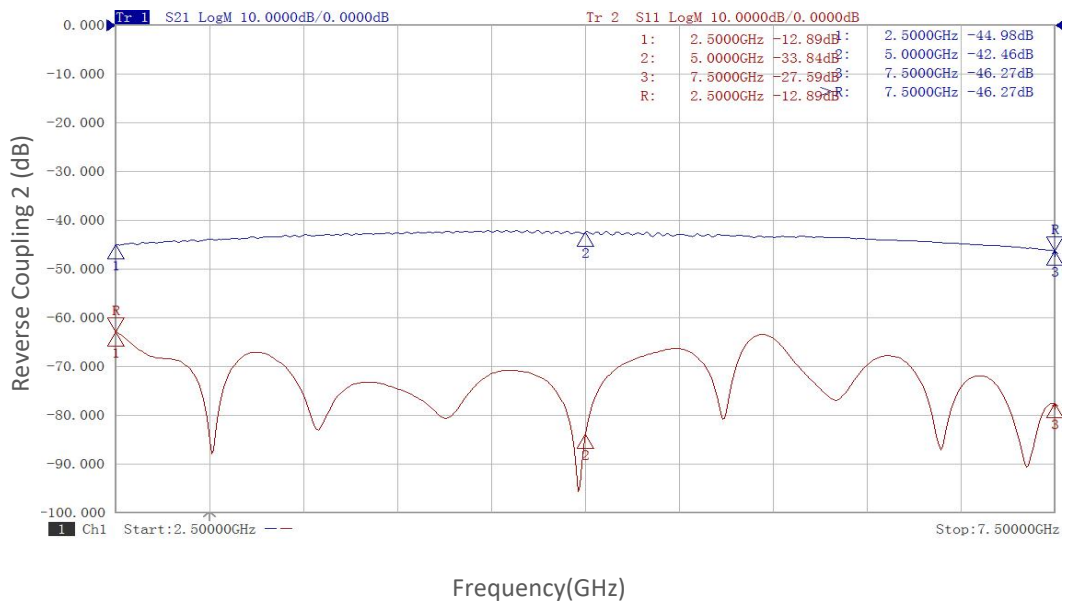


Typical Performance Data:

Reverse Coupling 1 vs Frequency



Reverse Coupling 2 vs Frequency

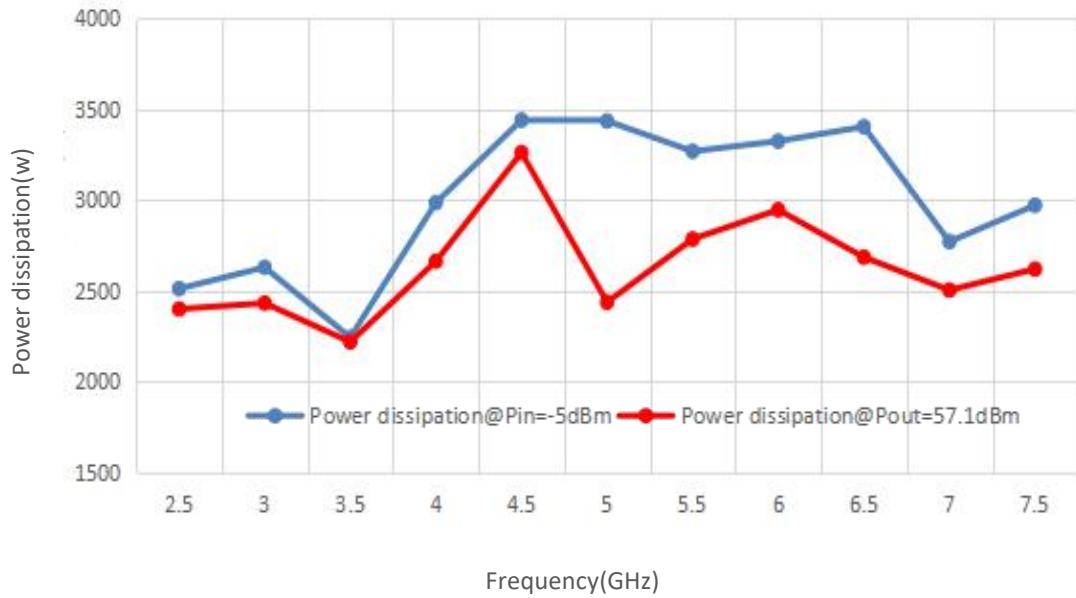


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Typical Performance Data:

Power dissipation vs Frequency



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