High Power Amplifier

Model:RPA-5G85-7G075-630

5.85-7.075GHz 630W CW

Ultrabroad frequency range, high performanceand exceptional RF characteristics

Features:

- Frequency range: 5.85-7.075GHz
- High output power at saturation, 58dBm Typ.
- Small signal gain, 75dB Typ.
- Operates from AC line power: 220V

Applications:

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

Product Overview：

The RPA-5G85-7G075-630 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 630W output power over its entire operating bandwidth of 5.85 to 7.075GHz. The control functions RPA-5G85-7G075-630 possesses include the on/off of the power supply and output power can be controlled by the automatic ALC system. 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 can also be remotely controlled via RS422 or RS485.

Electrical Specifications at 25℃:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	5.85-7.075			GHz
Small Signal Gain@Pout=57dBm	SSGP	70	75		dB
Gain flatness	ΔGL			±3	dB
Output Psat	Psat	57	58		dBm
Pout adjust range	Padj	20			dB
Gain stability@24h	Gstb			±0.25	dB
Gain fluctuation@-40~+55℃	Gvrt		±2		dB
Gain slope	Gslp			±0.02	dB/MHz
Spurious@Pout=57dBm	Spur			-60	dBc
2nd Harmonics	HAM			-20	dBc
Input VSWR	VSWRin		1.3	1.5	:1
Output VSWR	VSWRout		1.3	1.5	:1
AC Voltage	Vac		220		V AC
Power Consumption	Pdiss			2200	W
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20 to +40	℃
Non-operating Temperature*	-20 to +50	℃
Relative humidity	95	%
RF Input /Output Connector	N Female/WR137	
Forward/Reverse Coupling	N Female/N Female	
Digital Monitor & Control	Serial:RS422/RS485	Optional: GPIB
Cooling	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	
Monitor functions	1,Temperature;2, Voltage 3,Current;4,Output/Reverse Power	

Mechanical Specifications:

Parameter	Value	Notes
Dimensions W x H x D	375*400*123	mm
Weight	≤38	Kg

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

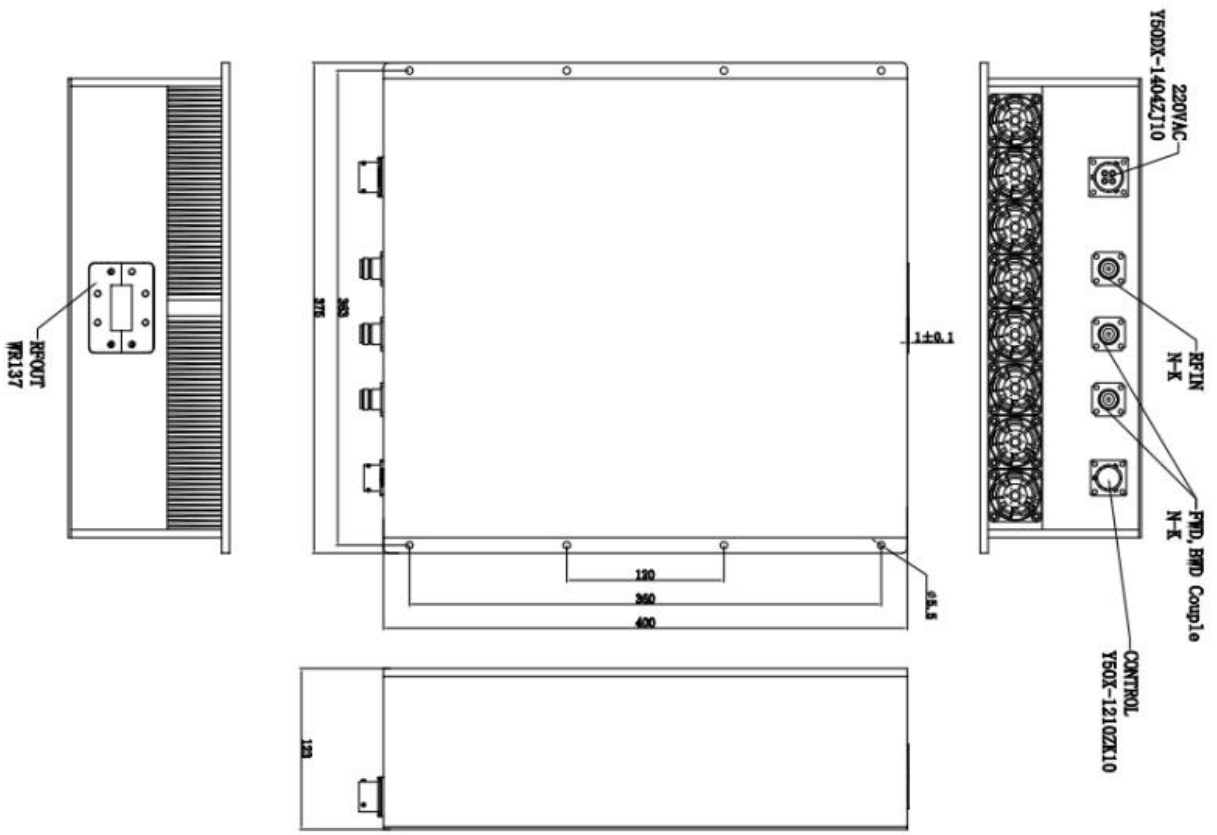
Absolute Maximum Ratings:

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

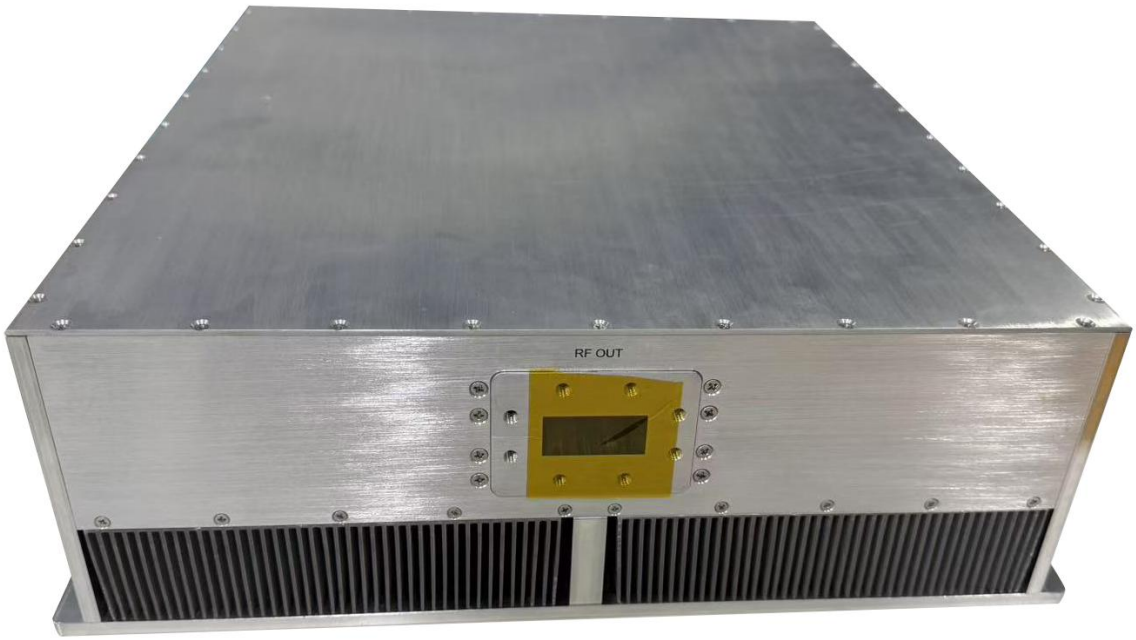
Outline Drawing:

Unit:mm

RPA-5G85-7G075-630



Physical picture:



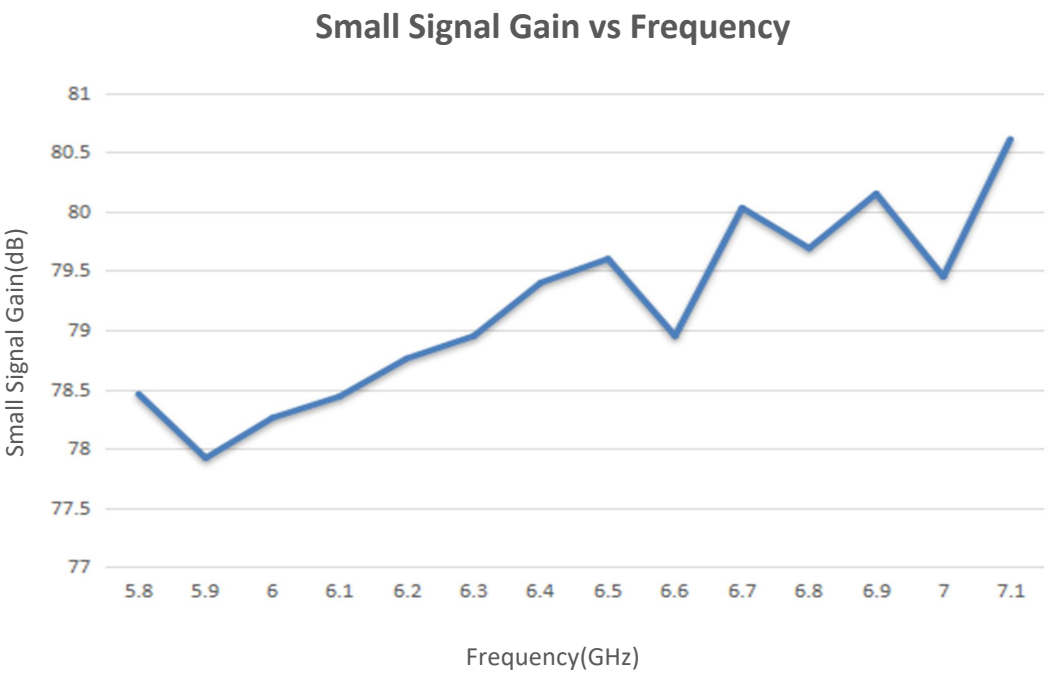
Optional items:

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-5G85-7G075-630	High Power Amplifier, 5.85-7.075GHz, 630W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-5G85-7G075-630-M	High Power Amplifier, 5.85-7.075GHz, 630W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-5G85-7G075-630-IPxx	High Power Amplifier, 5.85-7.075GHz, 630W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad

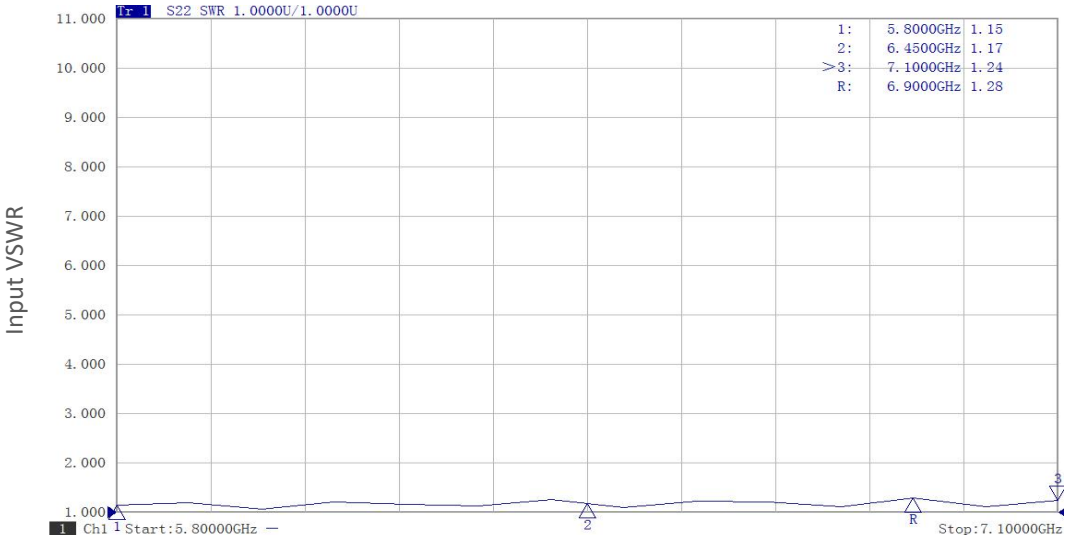
Typical Performance Data:



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:

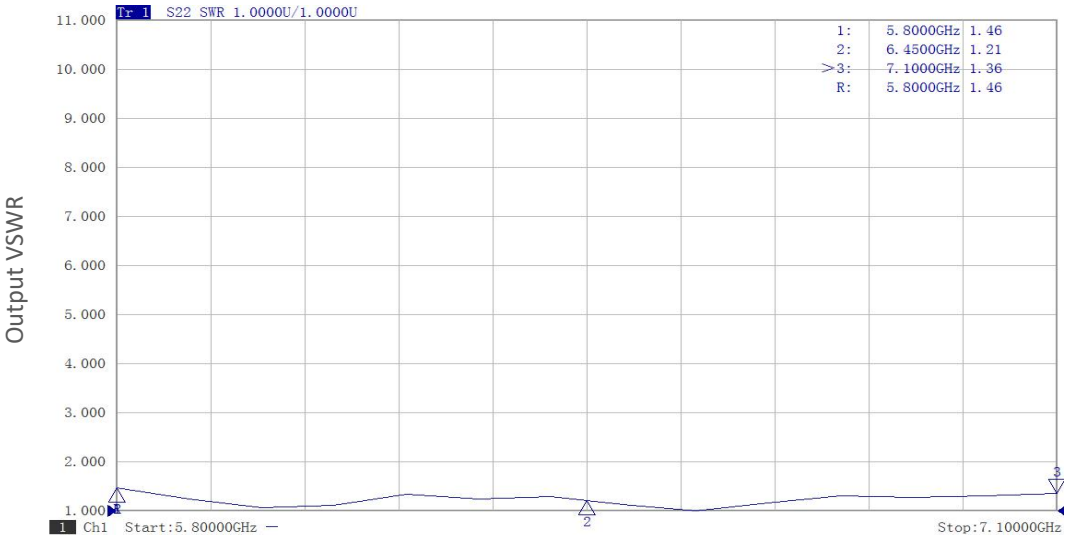
Input VSWR vs Frequency



Input VSWR

Frequency(GHz)

Output VSWR vs Frequency



Output VSWR

Frequency(GHz)

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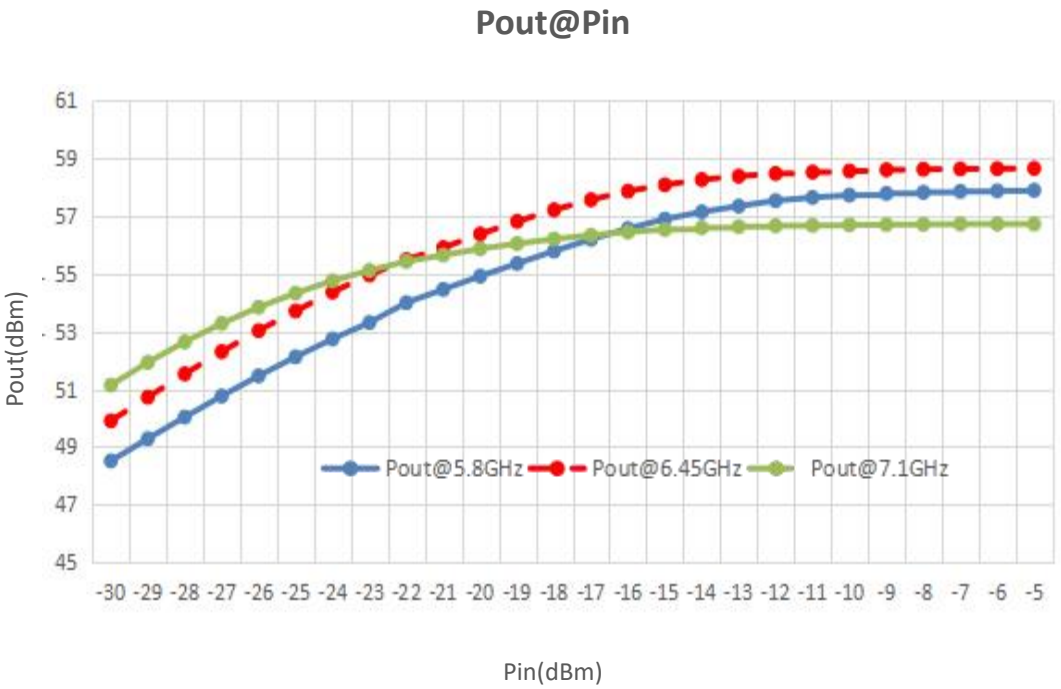

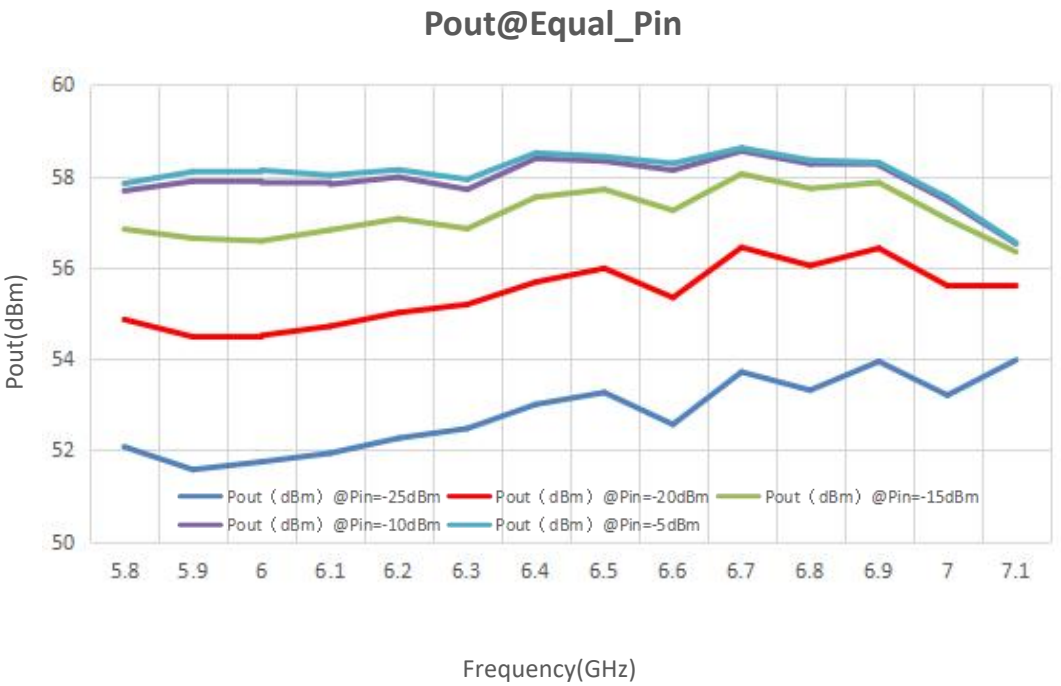

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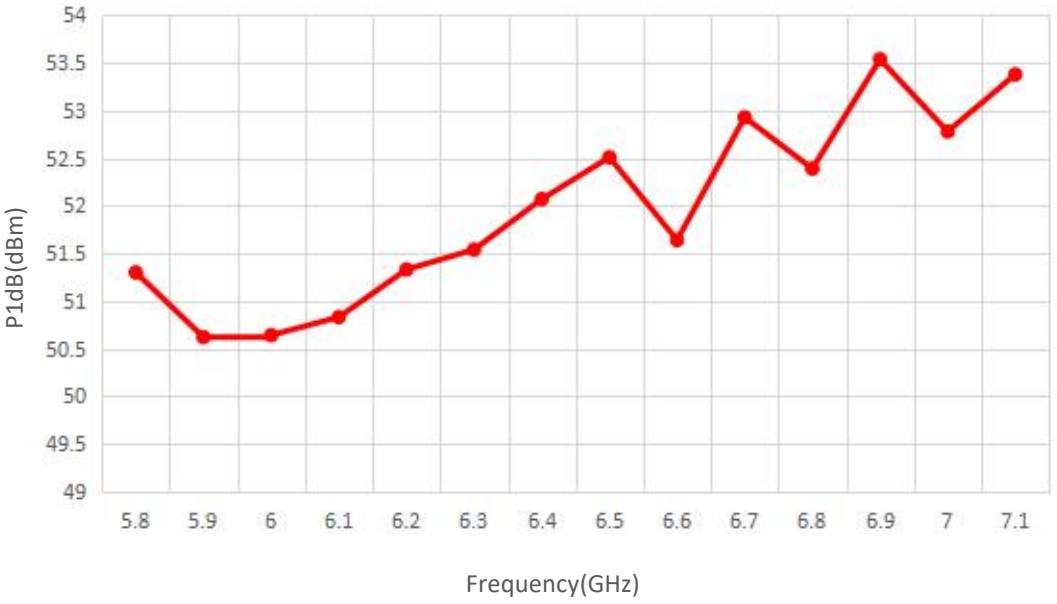
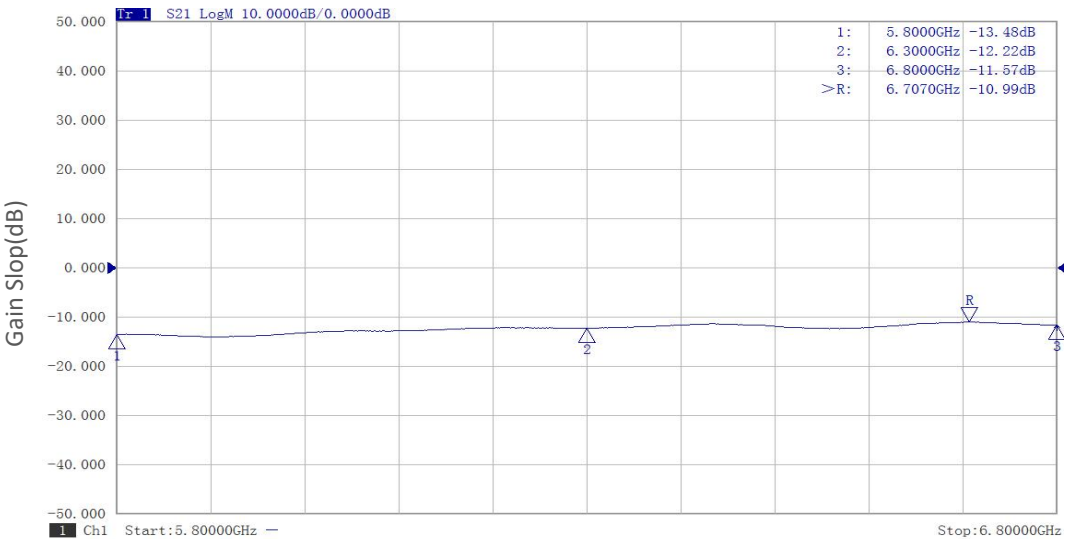
Typical Performance Data:

P1dB vs Frequency



Gain Slop vs Frequency



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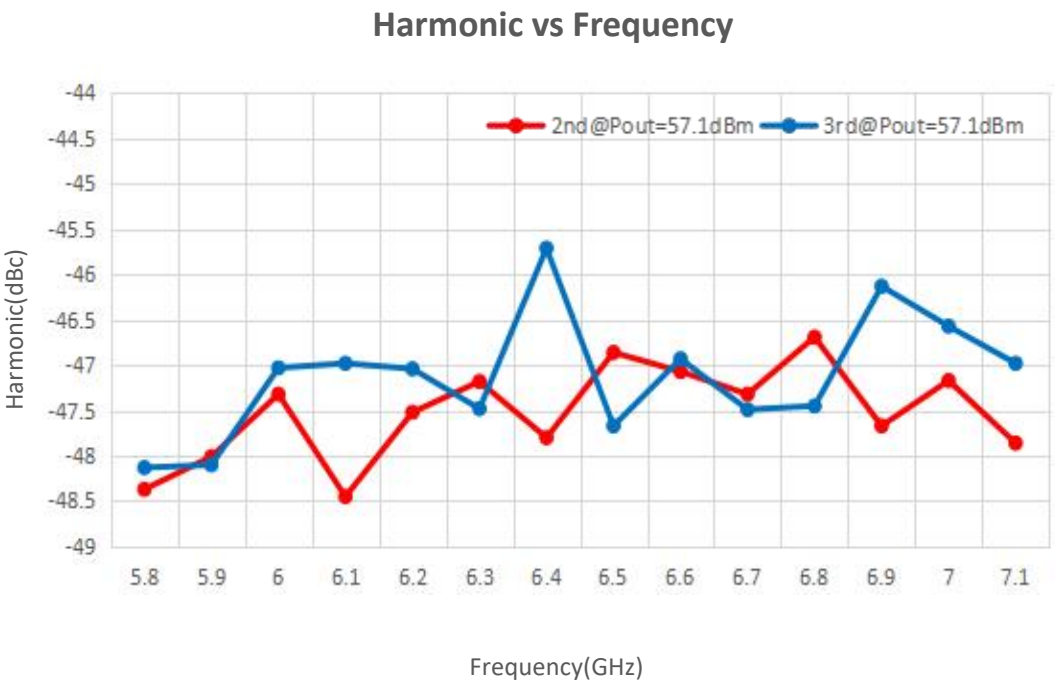

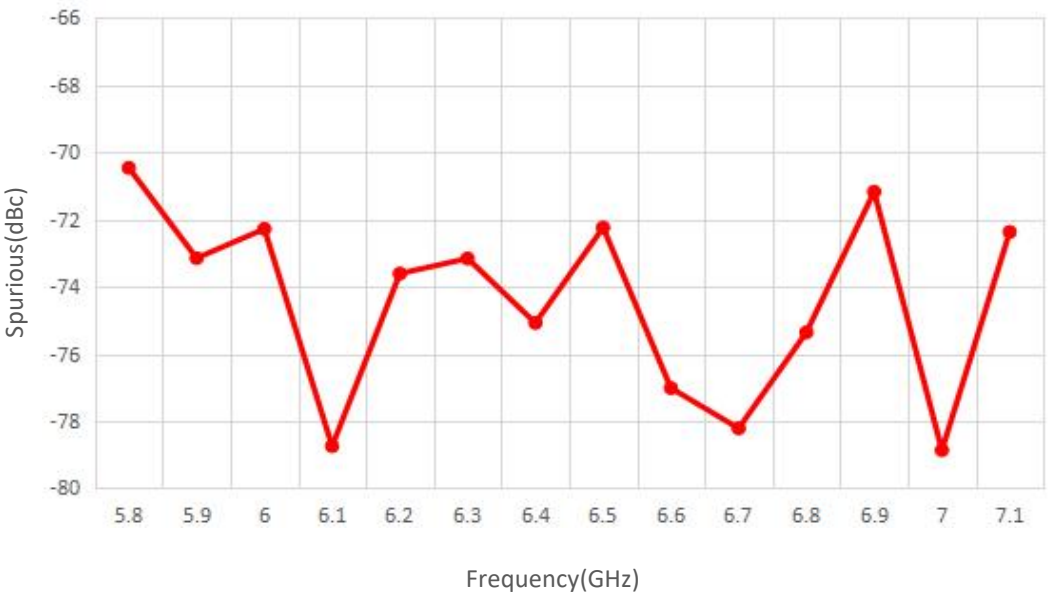

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