



Power Amplifier

Model: PA-8G-12G-100-IP67

8-12GHz 100W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 8-12GHz
- High output power at saturation, 100W Min.
- High gain, 50 dB Min.
- 50 Ohm Matched Input / Output.

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Product Overview:

The PA-8G-12G-100-IP67 is a power amplifier with a minimum power gain of 50 dB and a minimum Psat of 100W across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +28 VDC/650 W. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N female. And it has built-in protection functions included over TEM, over DC voltage, over current, and Load VSWR protection.



Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	8		12	GHz
Linear Gain adjustment range	30			dB
Linear Gain adjustment step		0.5		dB
Power Gain@Pout=50dBm	50			dB
Power Gain Flatness		±4.5		dB
Output P1dB	45			dBm
Output Psat	50			dBm
Output Psat Flatness		±1.5		dB
Spurious@Pout=50dBm			-60	dBc
Harmonics@Pout=50dBm			-25	dBc
Input VSWR			1.5	:1
Output VSWR			2	:1
Load VSWR			5	:1
DC Voltage		+28	+29	V DC
Power Consumption@Pout=50dBm		600		W
Power Consumption@Psat			650	W
Ingress Protection Grade	IP-67(Power off)			
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20°C to +50°C	
Non-operating Temperature*	-30°C to +60°C	
Relative humidity	95	%
RF Input/Output Connector	SMA Female/N Female	
DC Supply Connector	Y50DX-1404	Pin1~2 : +28V Pin3~4: GND
M&C Connector	Ethernet:RJ-45;Serial:Y50X-1007	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	

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



Mechanical Specifications:

Parameter	Value	Notes
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	280*180*120	mm
Weight	≤7	Kg

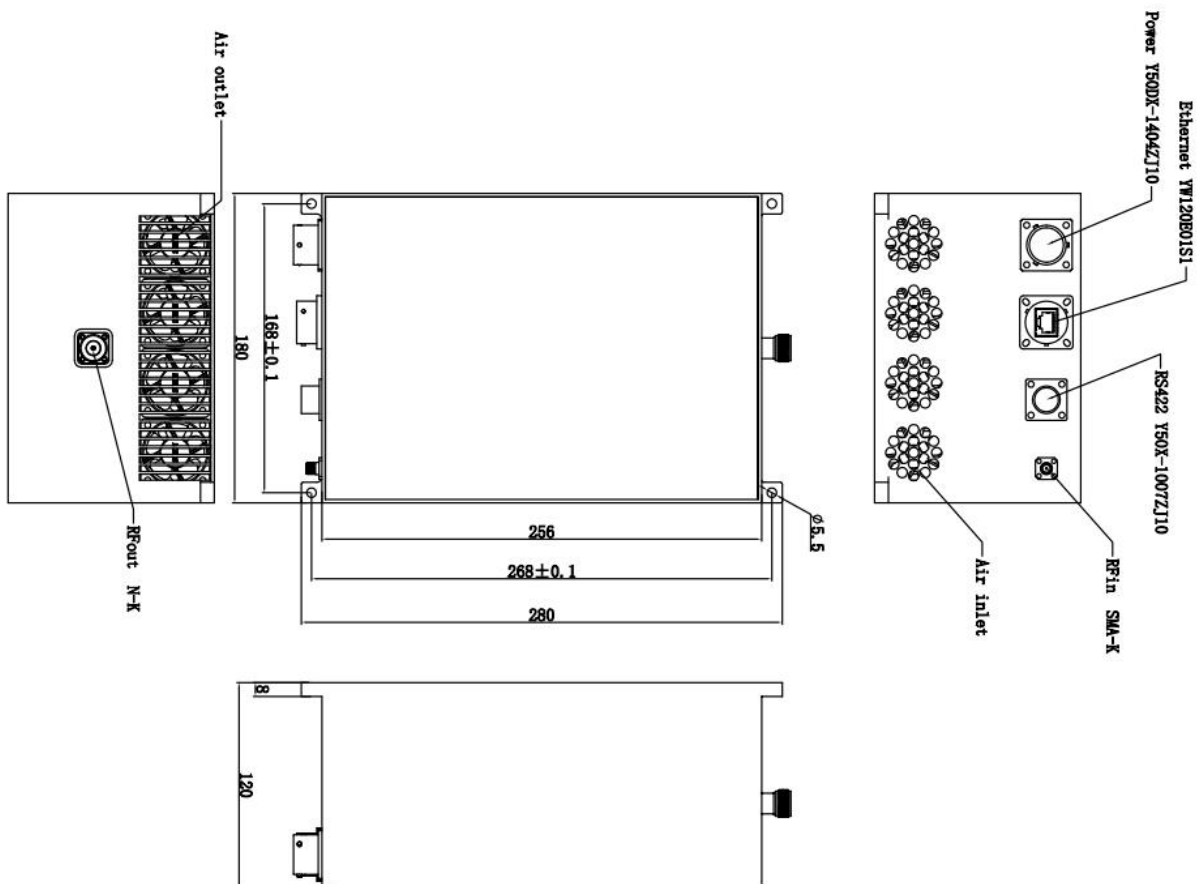
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+29 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm

PA-8G-12G-100-IP67





Key Features:

Parameter	Advantages
Protection functions	1,Over TEM: environment temperature $\geq +70^{\circ}\text{C}$ shutdown;case temperature $\geq +95^{\circ}\text{C}$ shutdown 2,Over DC voltage: $\geq 29.5\text{V}$ shutdown 3,Over current: $\geq 120\%$ rated current shutdown 4,Load VSWR protection: The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB
Communication function	RS422;DCP/UDP (choose one)
Monitor function	Chip-level: status of power chip(gate voltage, drain current, case-temp); System-level: output power, reverse power, load VSWR, DC voltage, DC current, environment temp.
Cooling system	Built in Cooling system,forced air cooling

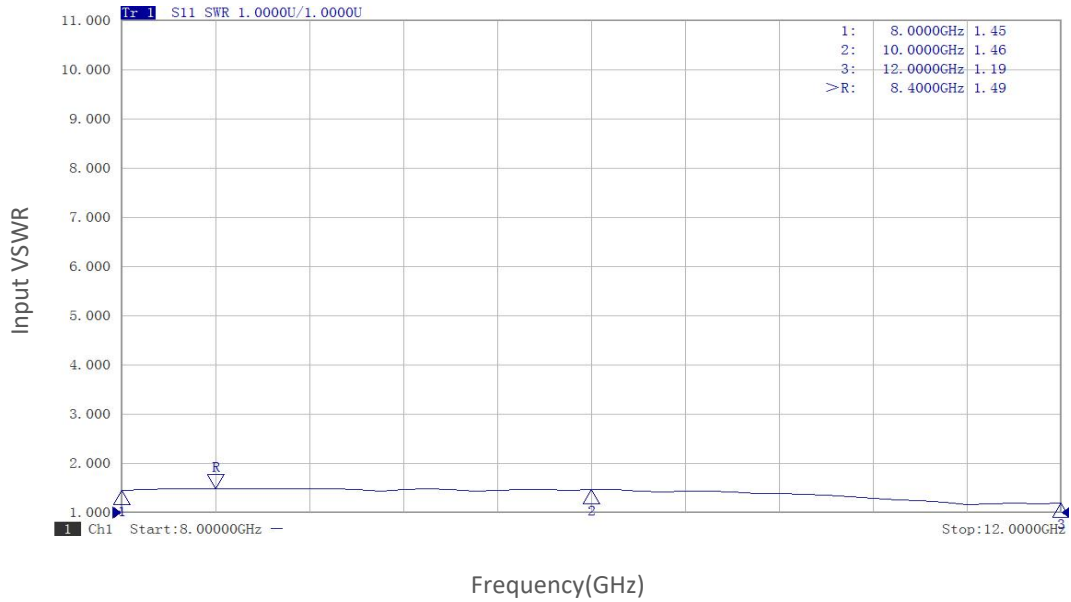
Ordering Information:

Base Number	Description	Optional
PA-8G-12G-100-IP67	Power Amplifier, 8-12GHz, Gain:50dB,Psat:100W,+28V DC	With Heatsink

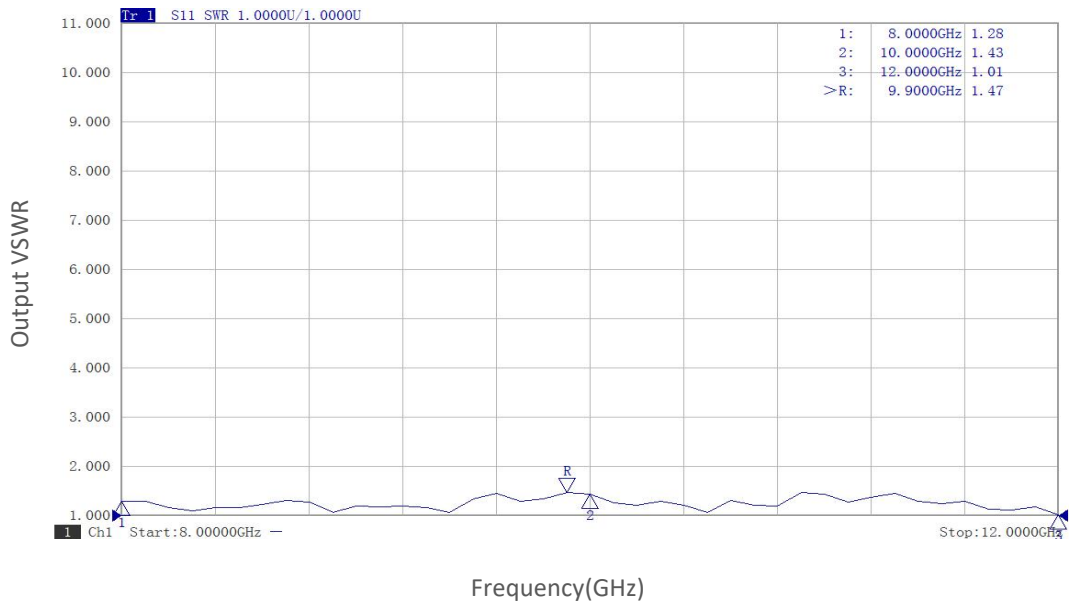


Typical Performance Data:

Input VSWR vs Frequency



Output VSWR vs Frequency

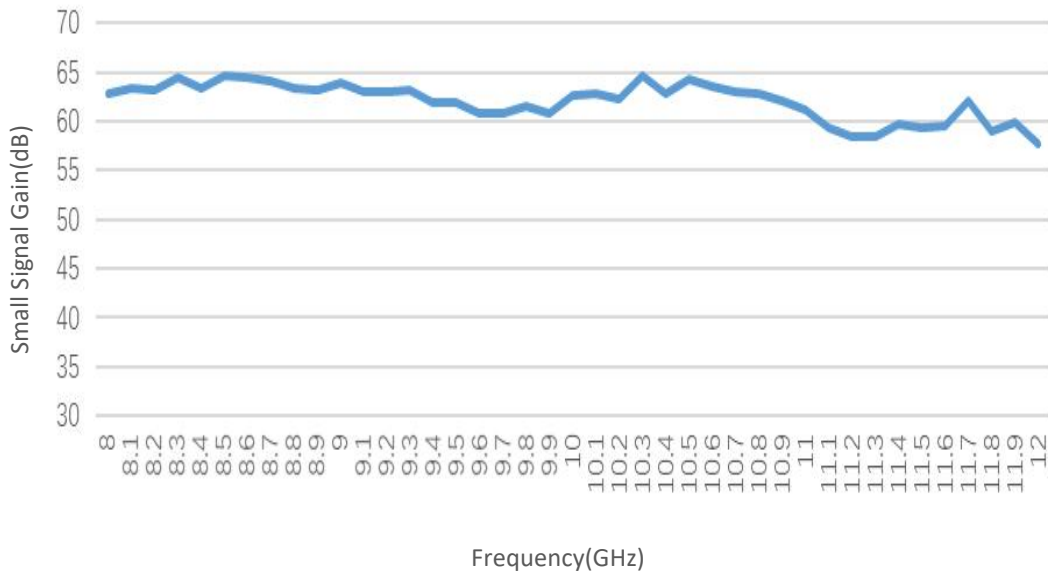


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

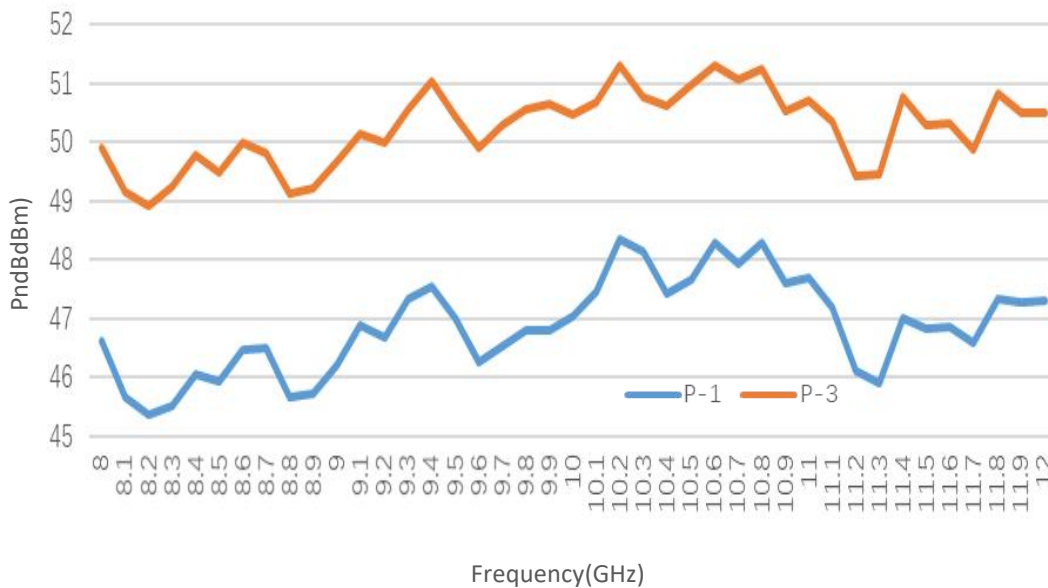


Typical Performance Data:

Small Signal Gain vs Frequency



PndB vs Frequency

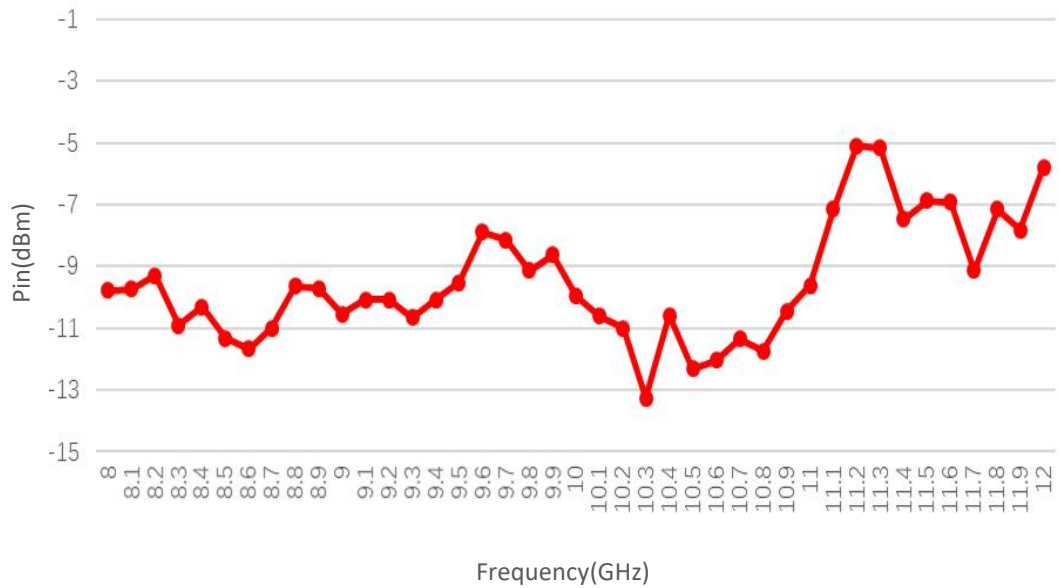


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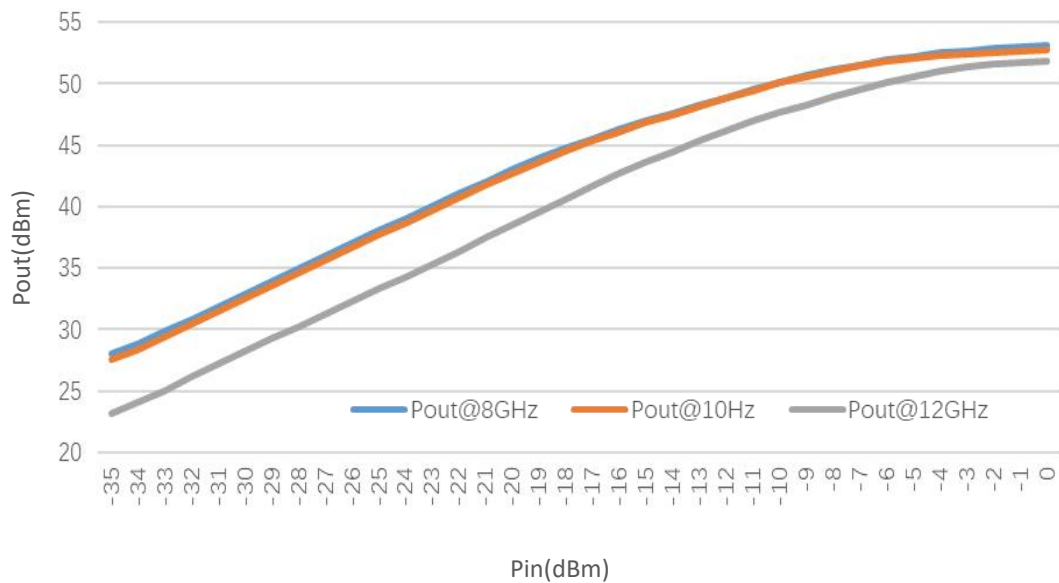


Typical Performance Data:

Pin@Pout=50dBm vs Frequency



Pout@Pin

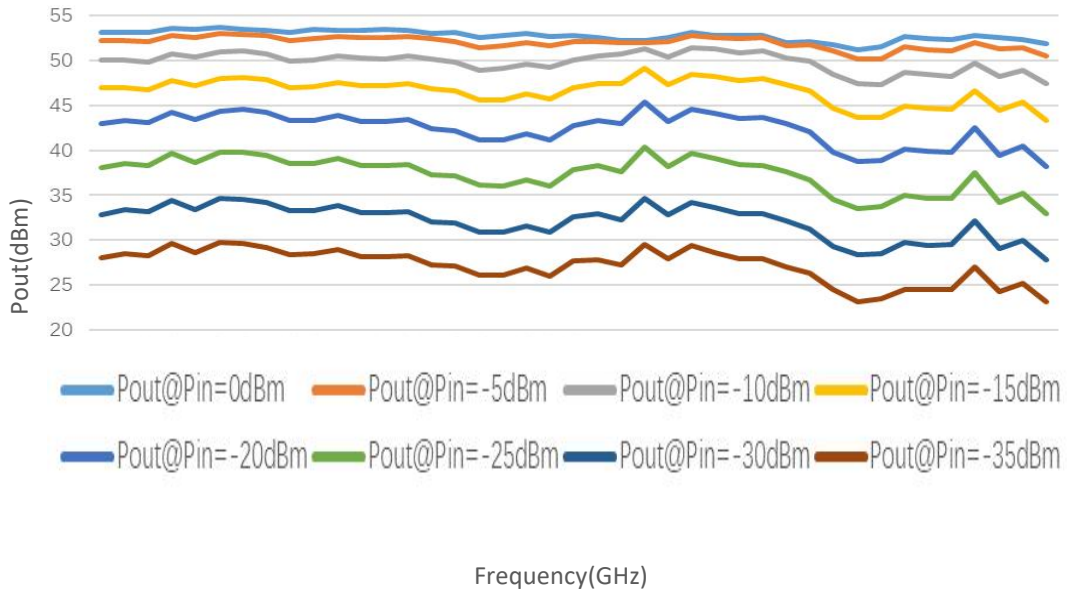


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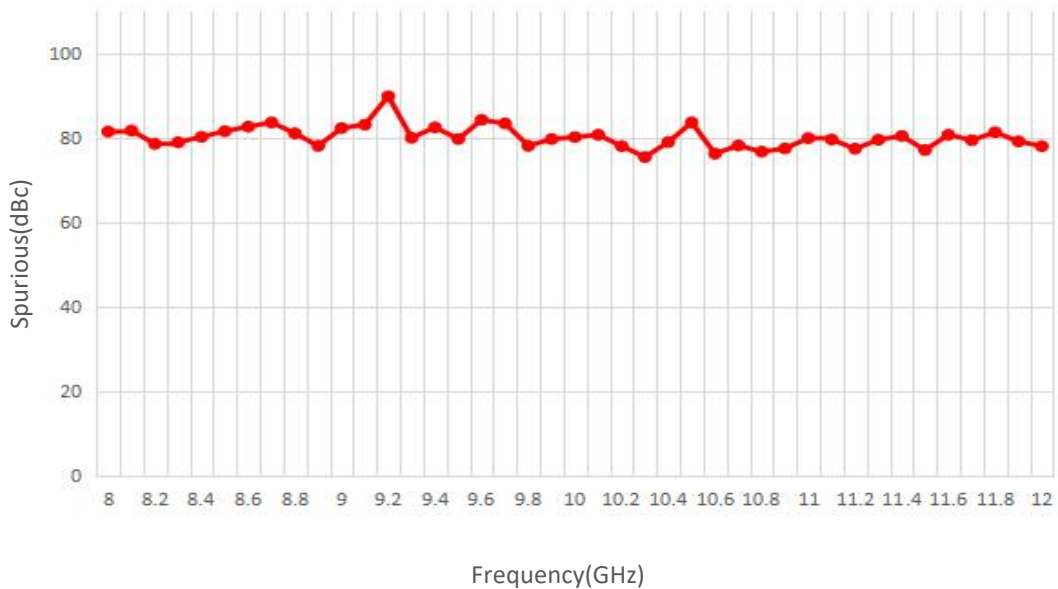


Typical Performance Data:

Pout@Equal_Pin



Spurious vs Frequency

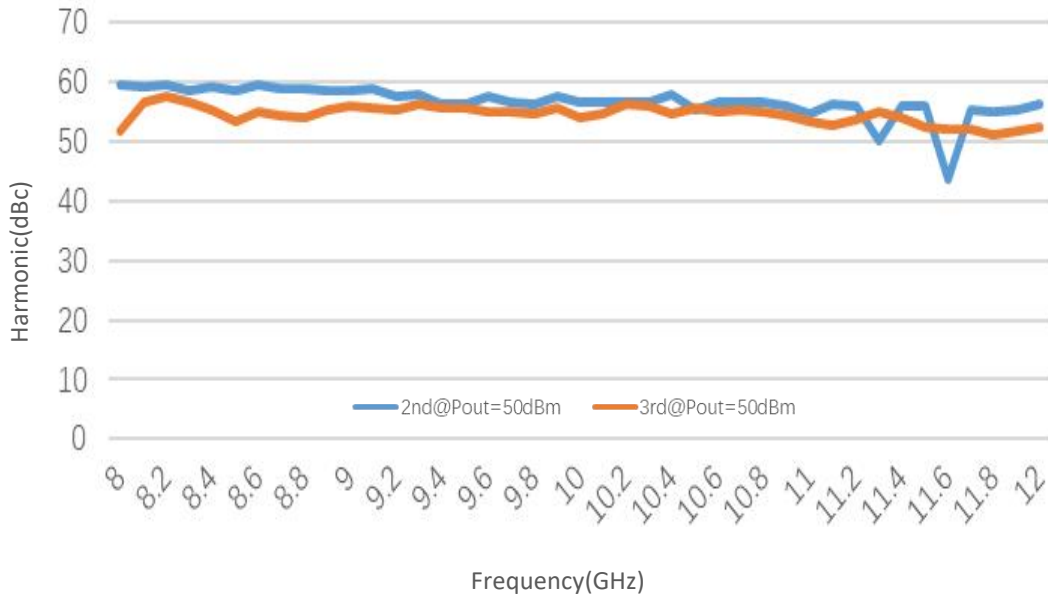


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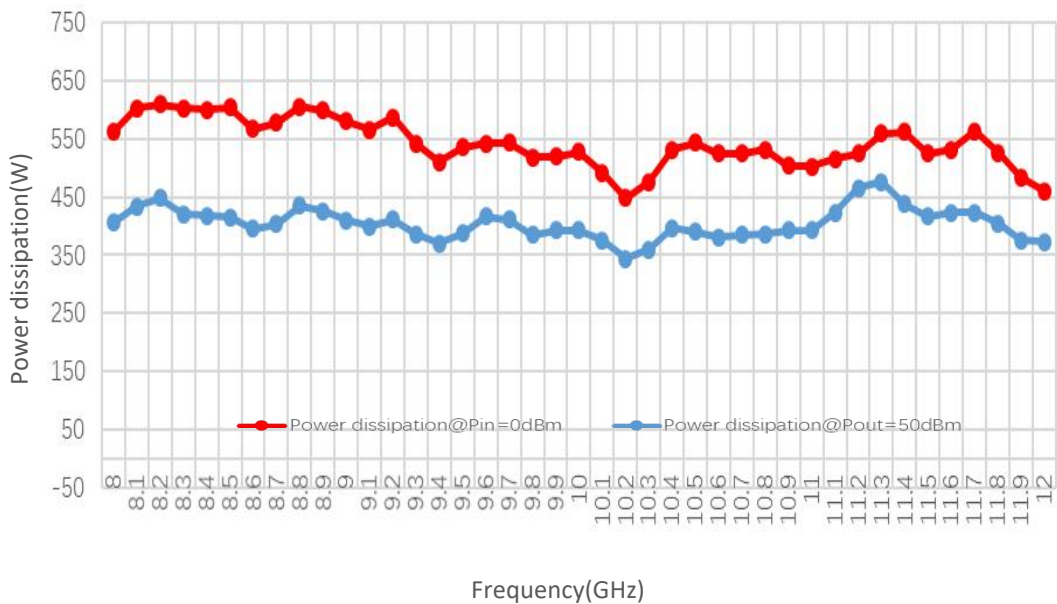


Typical Performance Data:

Harmonic vs Frequency



Power dissipation 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.