



Power Amplifier

Model: PA-2G9-3G1-100

2.9-3.1GHz 100W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 2.9-3.1GHz
- 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-2G9-3G1-100 is a power amplifier with a minimum small signal gain of 50 dB and a minimum Psat of 100W across the frequency range of 2.9 to 3.1 GHz. The DC power requirement for the amplifier is +28 VDC/15 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N female.



Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	2.9		3.1	GHz
Small Signal Gain	50	52		dB
Gain Flatness		±1	±1.5	dB
Output Psat	50	51		dBm
Spurious			-60	dBc
Harmonic		-25	-20	dBc
Input VSWR			2.0	:1
DC Voltage		+28		V DC
DC Supply Current		15		A
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 Bias	D-SUB 9PIN	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	200*130*20	mm

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

Absolute Maximum Ratings:

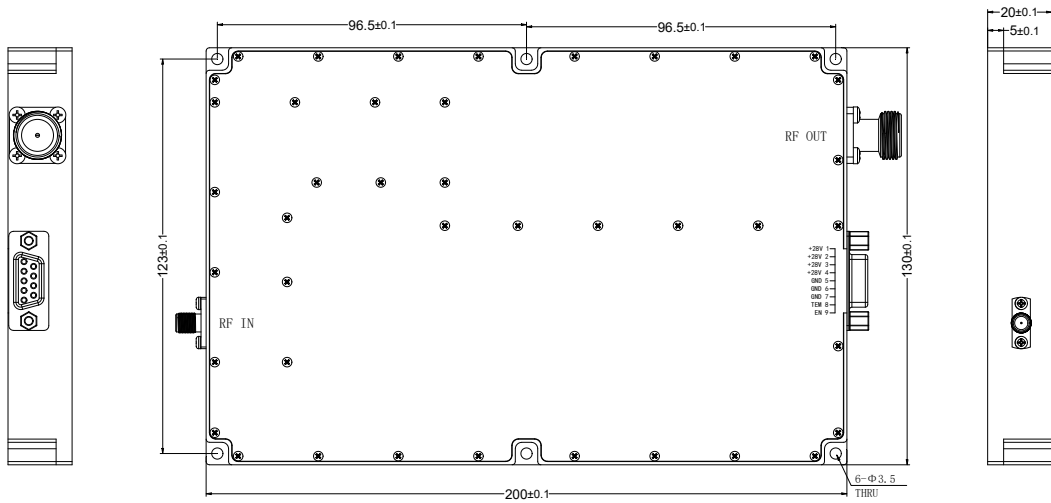
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



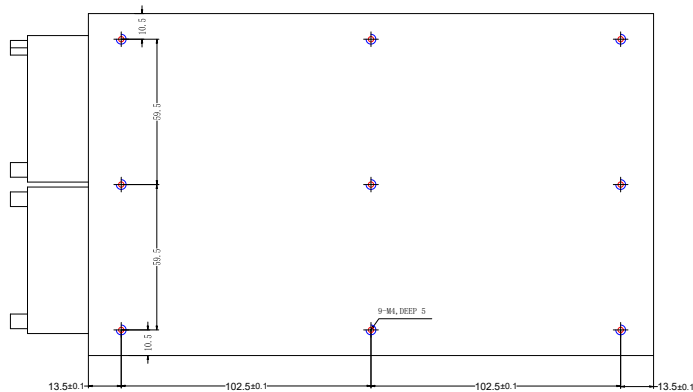
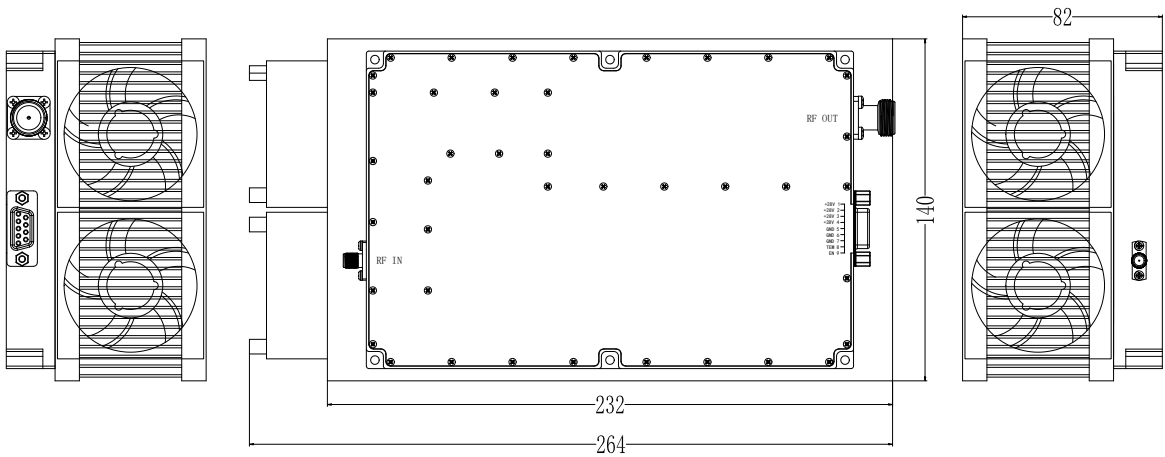
Outline Drawing:

Unit:mm

PA-2G9-3G1-100



PA-2G9-3G1-100-HS





Fans Supply Current:

Fan power supply	
Red line	Power supply positive,+24VDC DC current: 0.4A
Black line	Ground

DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	+28V	+26.0-30.0VDC
2	+28V	+26.0-30.0VDC
3	+28V	+26.0-30.0VDC
4	+28V	+26.0-30.0VDC
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	Over Temperature	When the temperature of the case exceeds 70 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High)

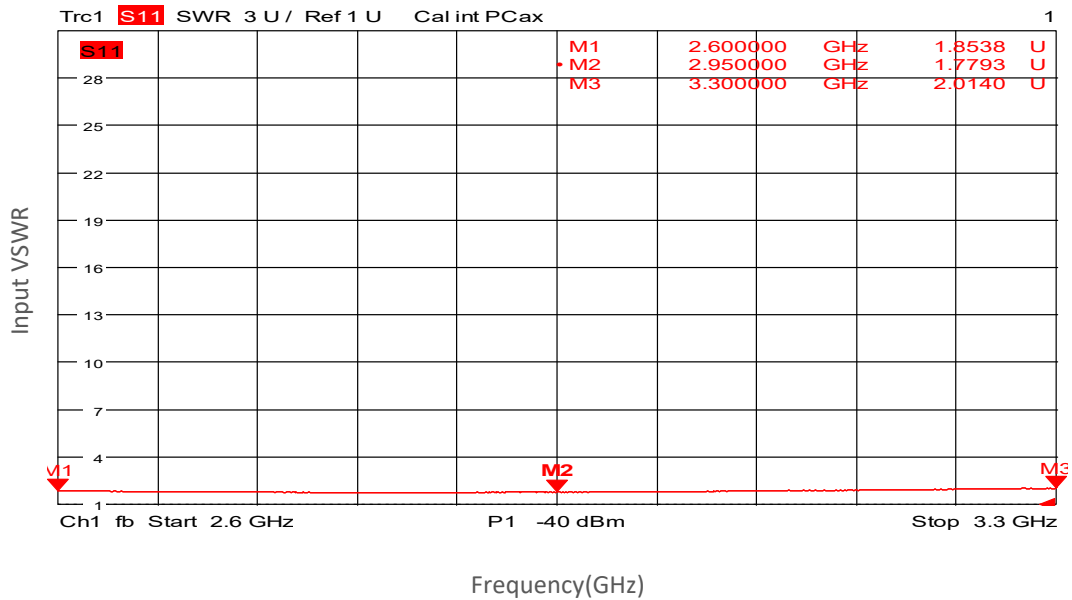
Ordering Information:

Base Number	Description	Optional
PA-2G9-3G1-100	Power Amplifier, 2.9-3.1GHz, Gain:50dB,Psat:100W,+28V DC	Without Heatsink
PA-2G9-3G1-100-HS	Power Amplifier, 2.9-3.1GHz, Gain:50dB,Psat:100W,+28V DC	With Heatsink

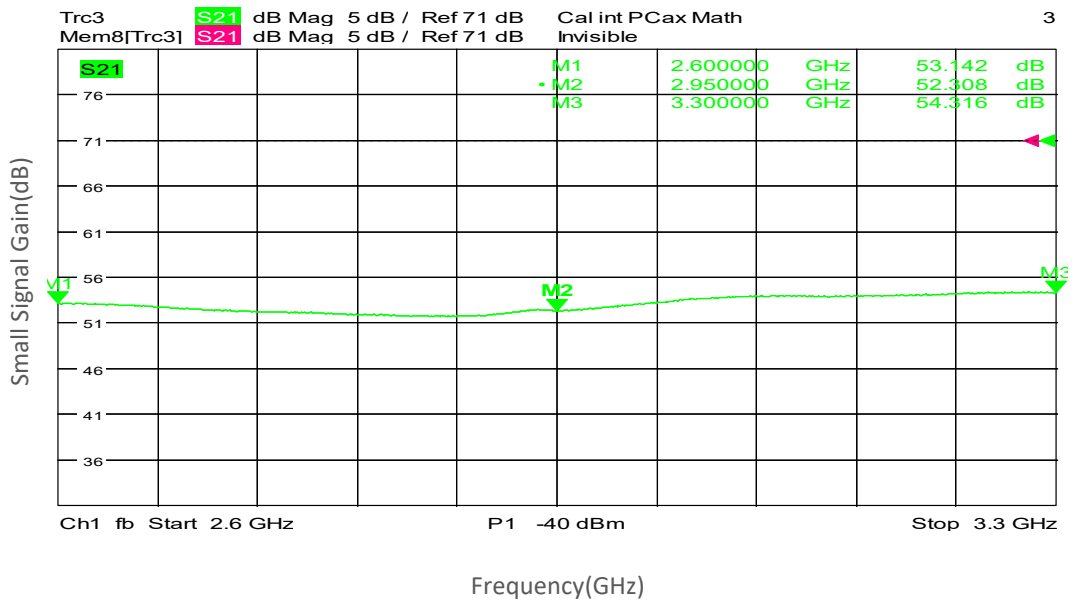


Typical Performance Data:

Input VSWR vs Frequency



Small Signal Gain vs Frequency

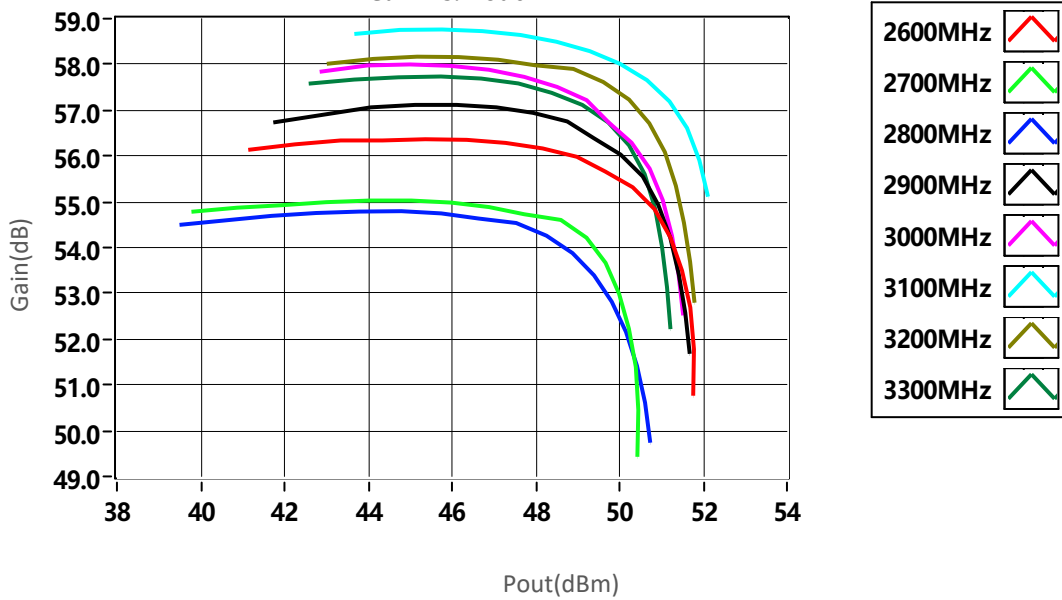


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

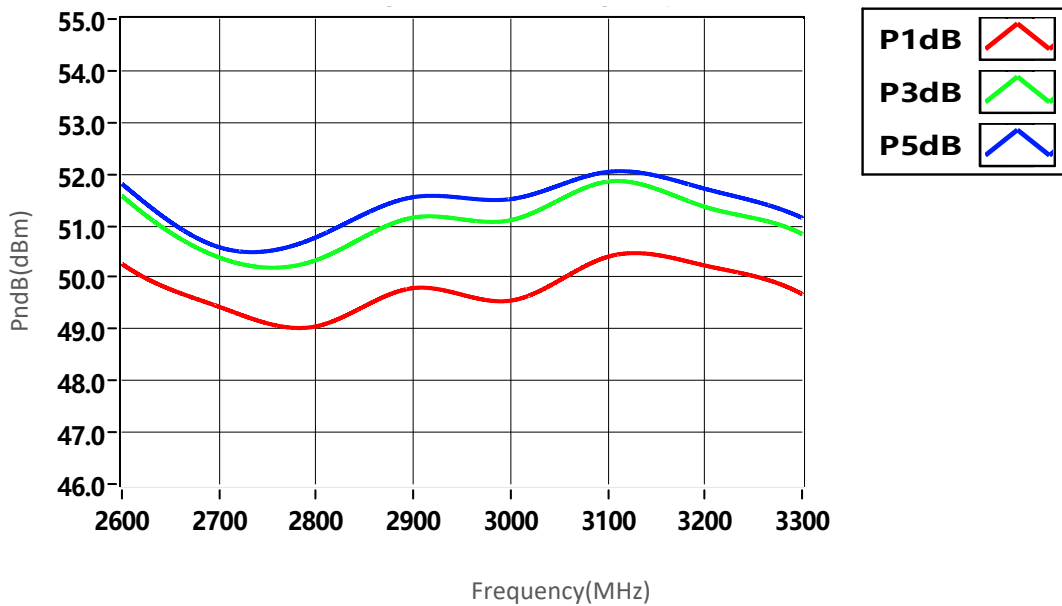


Typical Performance Data:

Gain vs Output Power



PndB vs Frequency

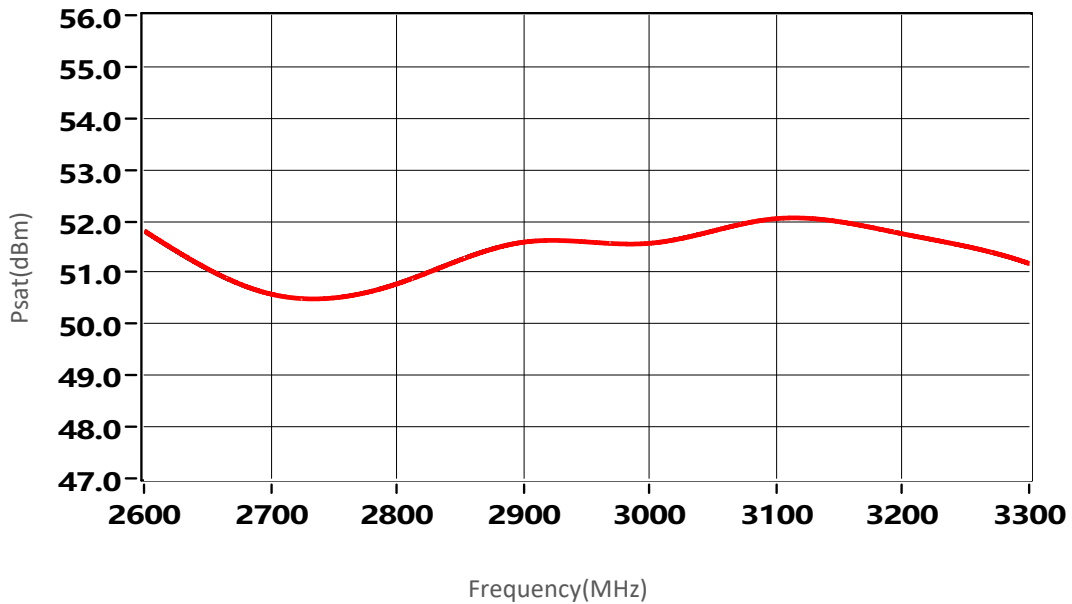


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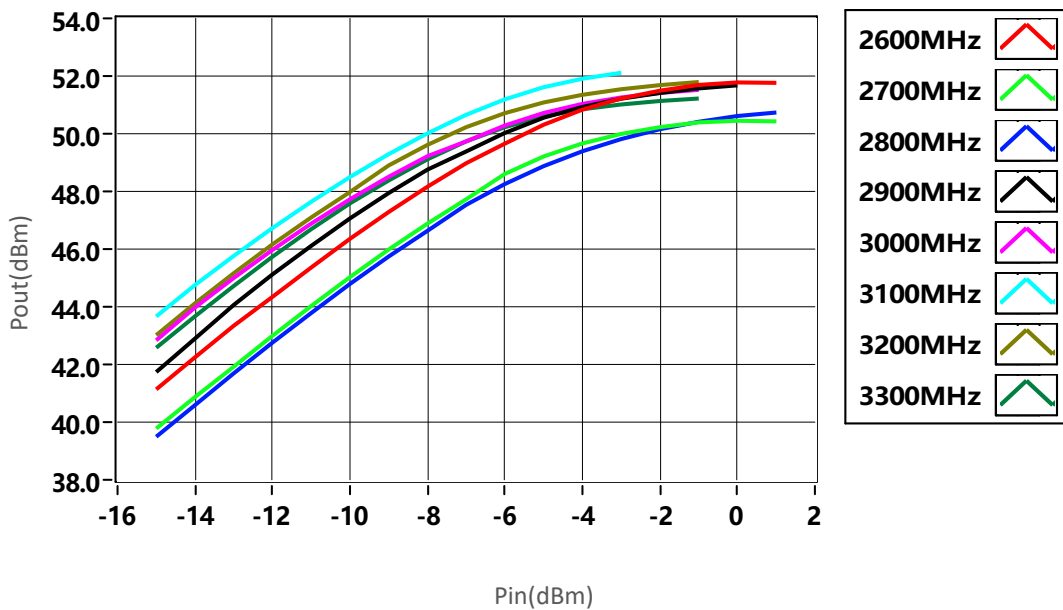


Typical Performance Data:

Psat vs Frequency



Pout vs Pin

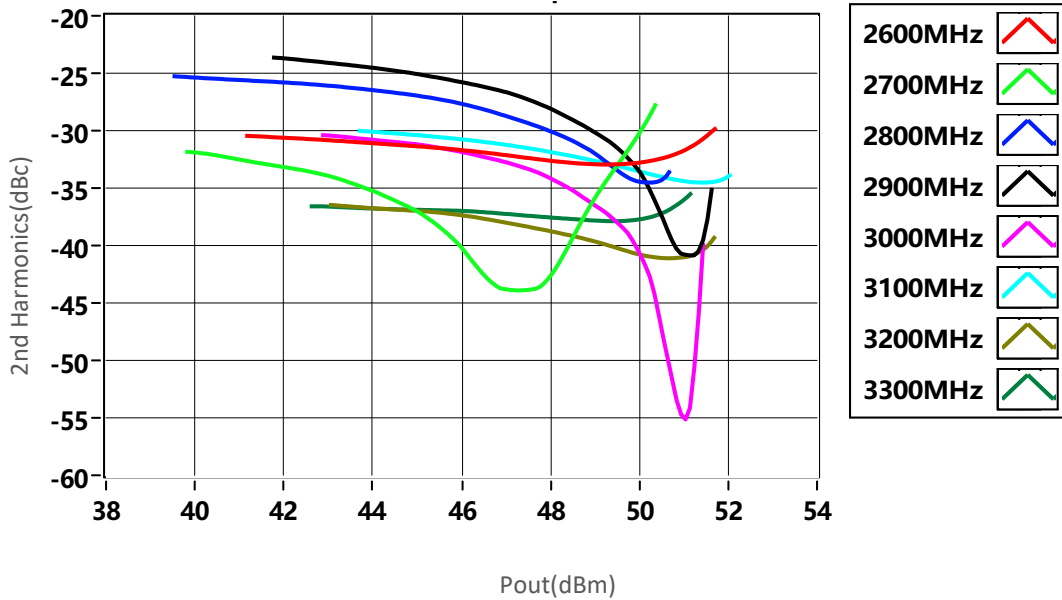


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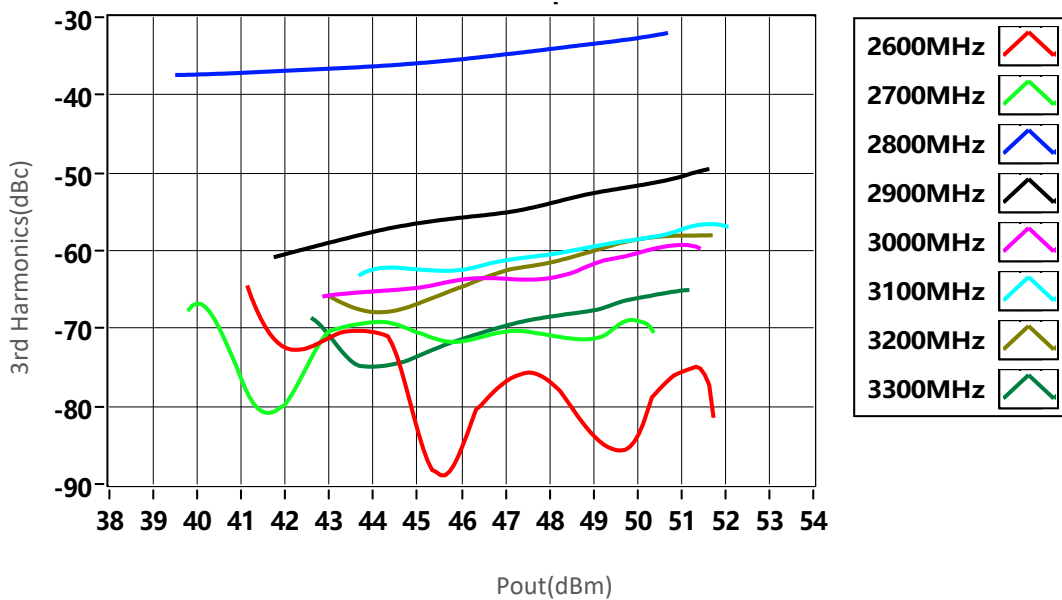


Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power

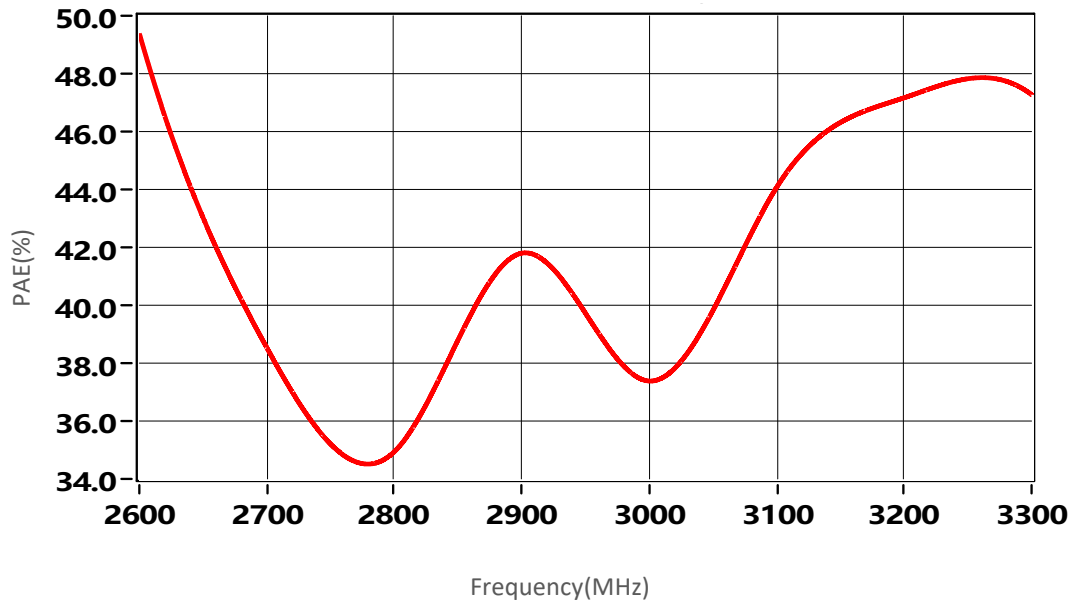


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Typical Performance Data:

PAE vs Frequency



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