



# Power Amplifier

## Model: PA-3G3-3G9-100

3.3-3.9GHz 100W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 3.3-3.9GHz
- High output power at saturation, 100W Typ.
- High gain, 53 dB Typ.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-3G3-3G9-100 is a power amplifier with a typical small signal gain of 53 dB and a nominal  $P_{sat}$  of 100W across the frequency range of 3.3 to 3.9 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	3.3		3.9	GHz
Small Signal Gain	50	53		dB
Gain Flatness		±1	±2	dB
Output P1dB	48	49		dBm
Output Psat	49	50		dBm
Output IM3@Two tones, +40 dBm/tone, 1 MHz spacing.		-20		dBc
Noise Figure		9.5	13	dB
Input VSWR		1.5	2.5	:1
Output VSWR		1.5	2.5	: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	D89	
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	200*130*24	mm

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

## Absolute Maximum Ratings:

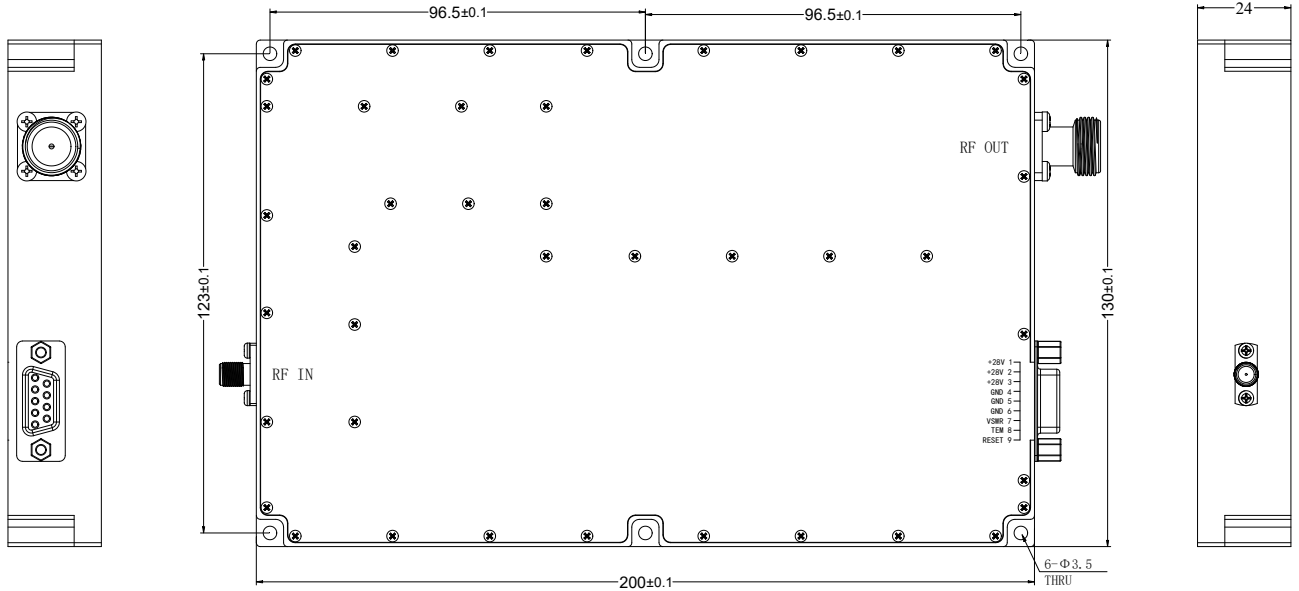
Parameter	Value
Supply Bias Voltage	+28 V
RF Input Power	+7 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

### PA-3G3-3G9-100



## DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	+28V	+26-30VDC
2	+28V	+26-30VDC
3	+28V	+26-30VDC
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	VSWR	VSWR FAULT:(TTL High= Fault, TTL Low =Normal)
8	TEM	When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 80 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
9	RESET	Resets PA when logic LOW is applied and released (Internally Pulled-High)

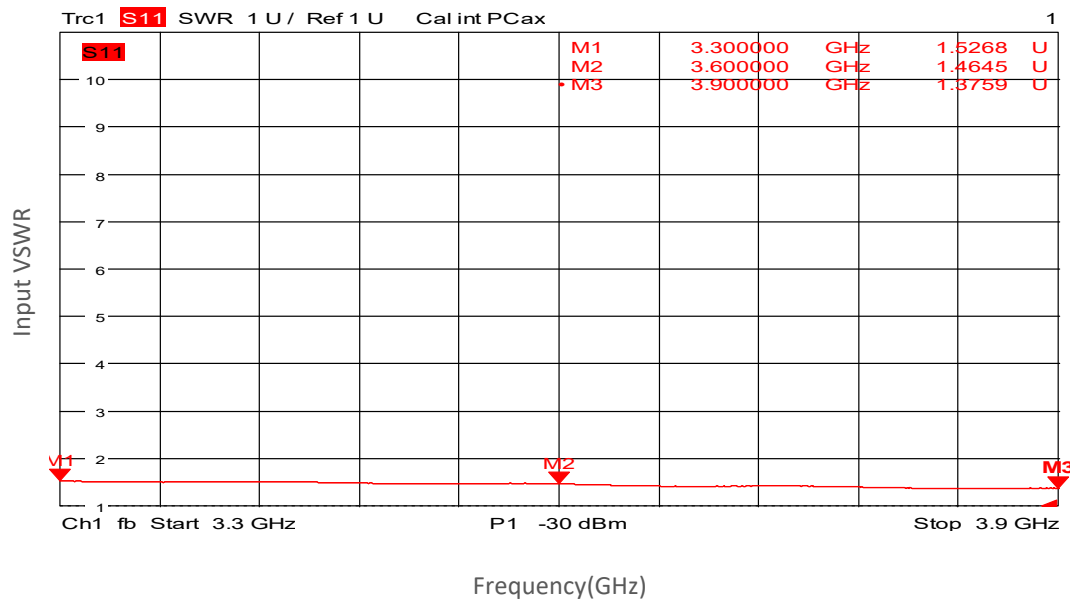


## Ordering Information:

Base Number	Description	Optional
PA-3G3-3G9-100	Power Amplifier, 3.3-3.9GHz, Gain:50dB,Psat:100W,+28V DC	Without Heatsink
PA-3G3-3G9-100-HS	Power Amplifier, 3.3-3.9GHz, Gain:50dB,Psat:100W,+28V DC	With Heatsink

## Typical Performance Data:

### Input VSWR vs Frequency

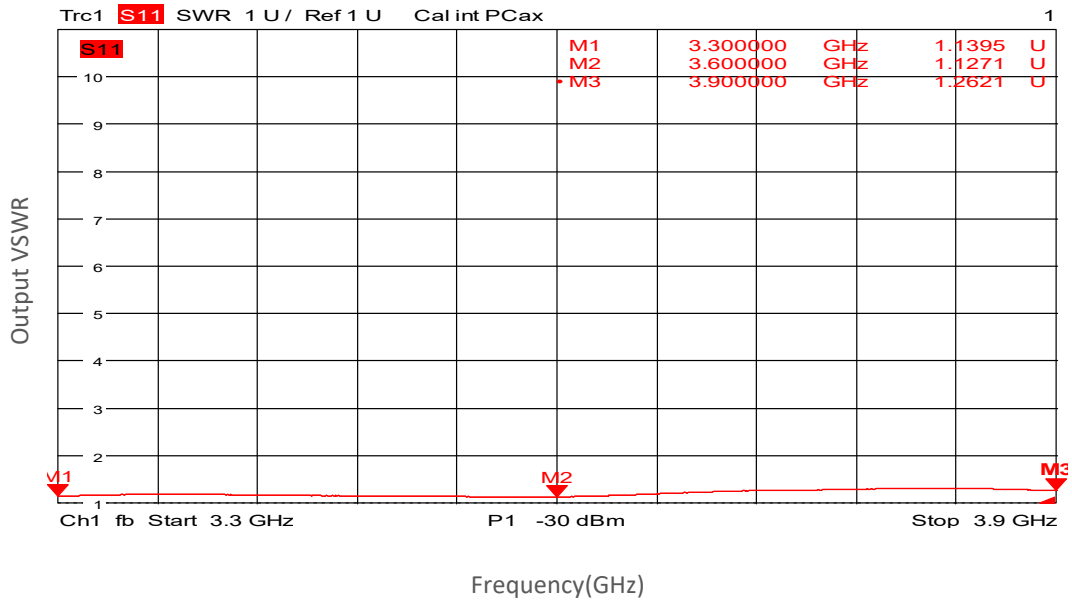


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

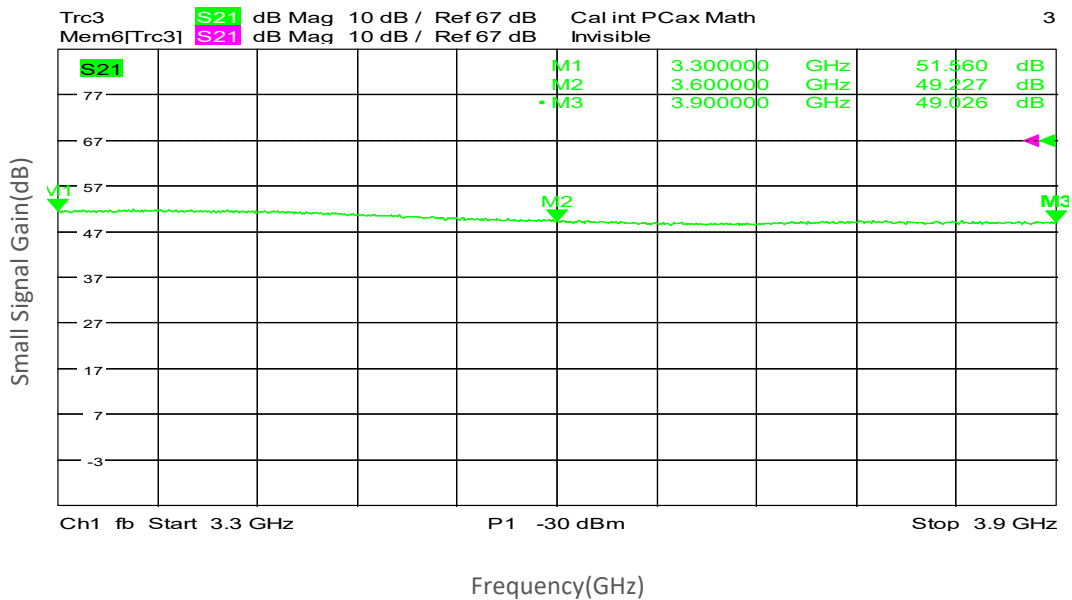


## Typical Performance Data:

### Output VSWR vs Frequency



### Small Signal Gain vs Frequency

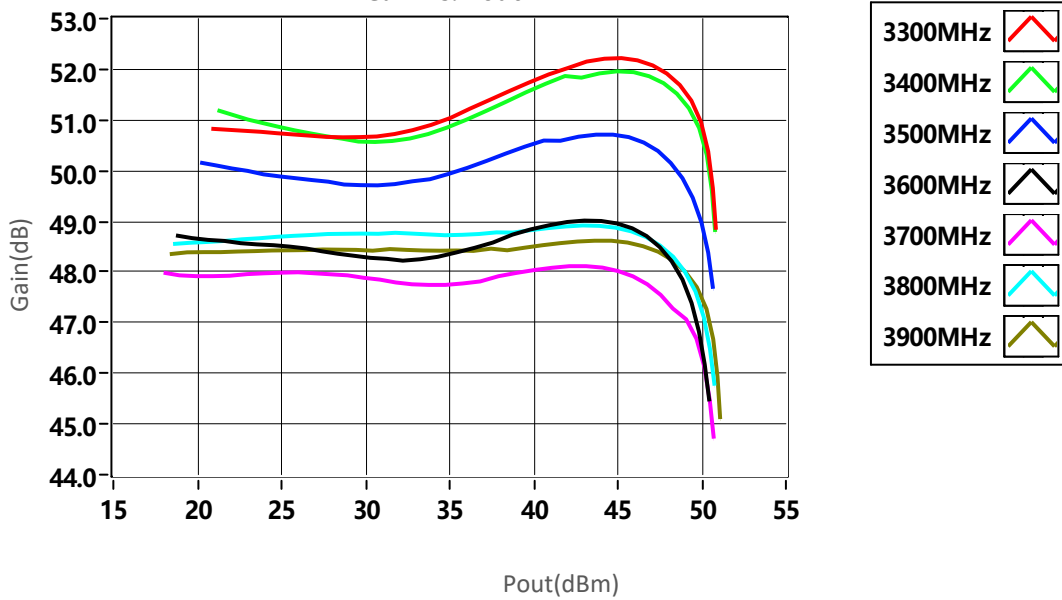


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

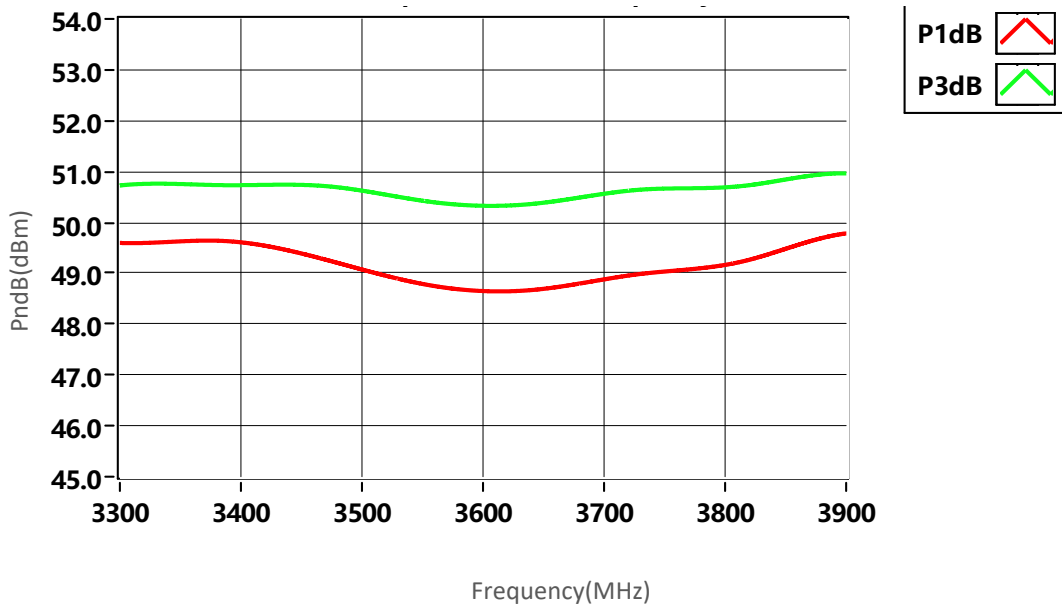


## Typical Performance Data:

### Gain vs Output Power



### PndB vs Frequency

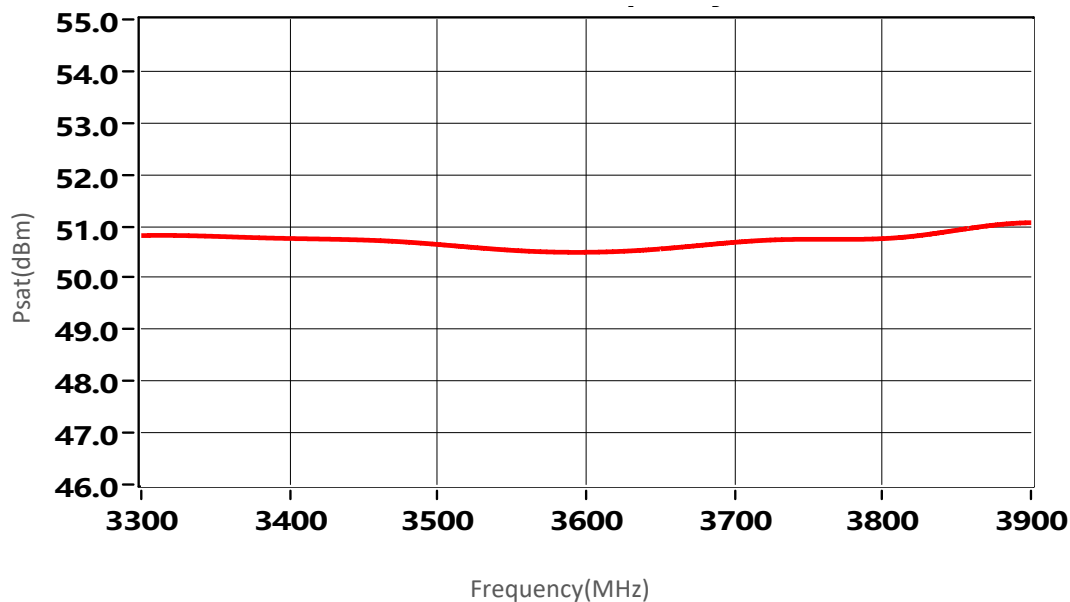


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

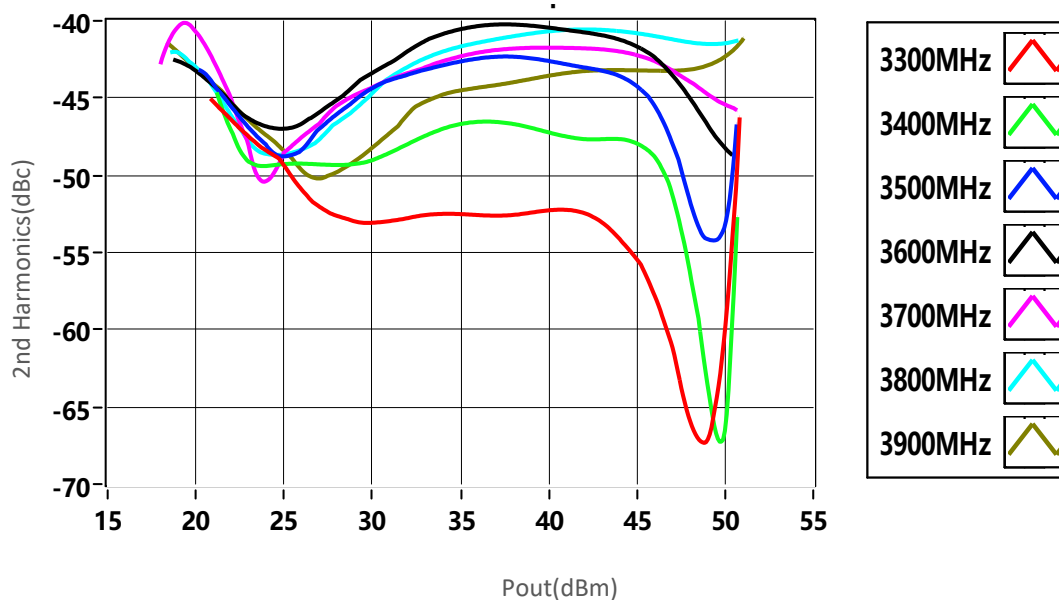


## Typical Performance Data:

### Psat vs Frequency



### 2nd Harmonics vs Output Power

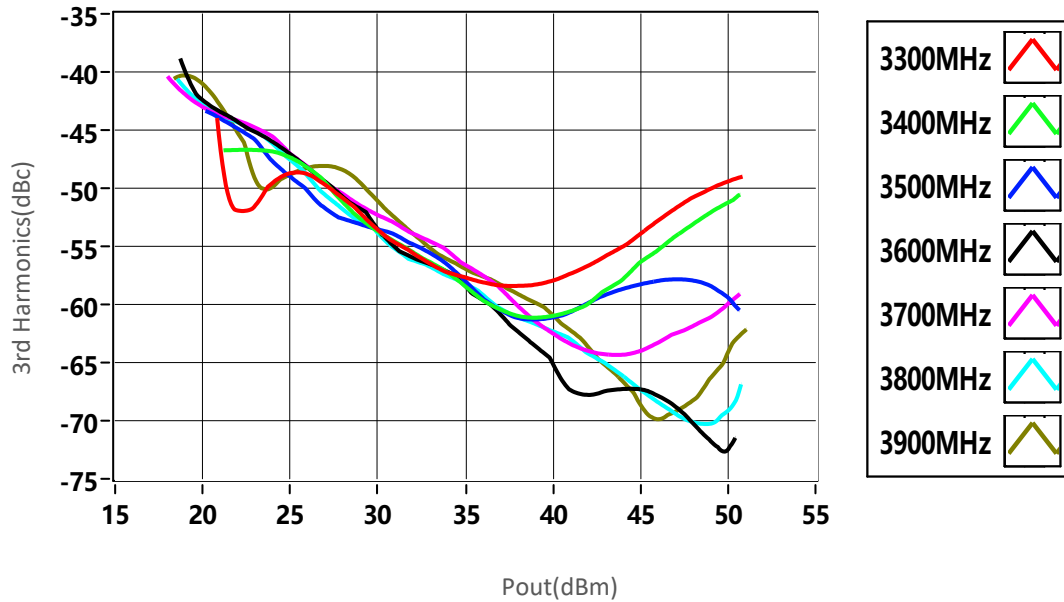


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

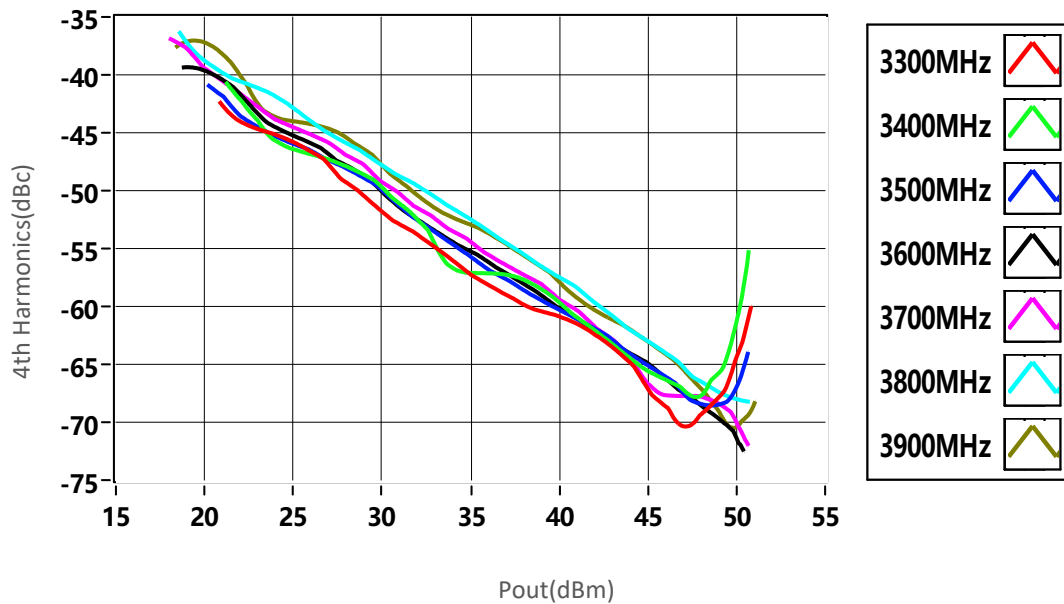


## Typical Performance Data:

### 3rd Harmonics vs Output Power



### 4th Harmonics vs Output Power



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.