

## Power Amplifier

11.7-15GHz/53dB Gain/53dBm Psat

Model: TLPA11.7G15G-53-53-IP65

TLPA11.7G15G-53-53-IP65 is a power amplifier with a minimum power gain of 53 dB and a minimum Psat of 53 dBm across the frequency range of 11.7 to 15 GHz. The DC power requirement for the amplifier is +28VDC. The input port configuration offers coax adapter structure with N female and output port is WR75.

### Features:

- Frequency range: 11.7-15 GHz
- Power Gain: 53dB Min
- Output Power Psat: 53dBm Min
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	11.7		15	GHz
Linear Gain		65		dB
Linear Gain Flatness		±4		dB
Power Gain	53			dB
Output Psat	53			dBm
Output Psat flatness			±1.5	dB
Gain adjust Range	30			dB
Gain adjust Step		0.5		dB
Gain stability@24h		±0.25		dB
Spurious@Pout=53dBm			-60	dBc
Harmonic@Pout=53dBm			-25	dBc
VSWR			1.5	:1
Load VSWR			3	:1
DC Voltage		28	29	V DC

## Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Power Consumption@Pout=53dBm		1.5		kW
Power Consumption@Psat			2	kW
Ingress Protection Grade	IP-65			
Impedance	50			Ohms

## Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	N Female/WR75	
DC Power Connector	Y50DDX-1203	
Update connector	J30J-9ZKP	
M&C connector	Ethernet:RJ-45	DCU/UDP (choose one)
Size	440*370*150	mm
Weight	≤30	Kg

## Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+29 V
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

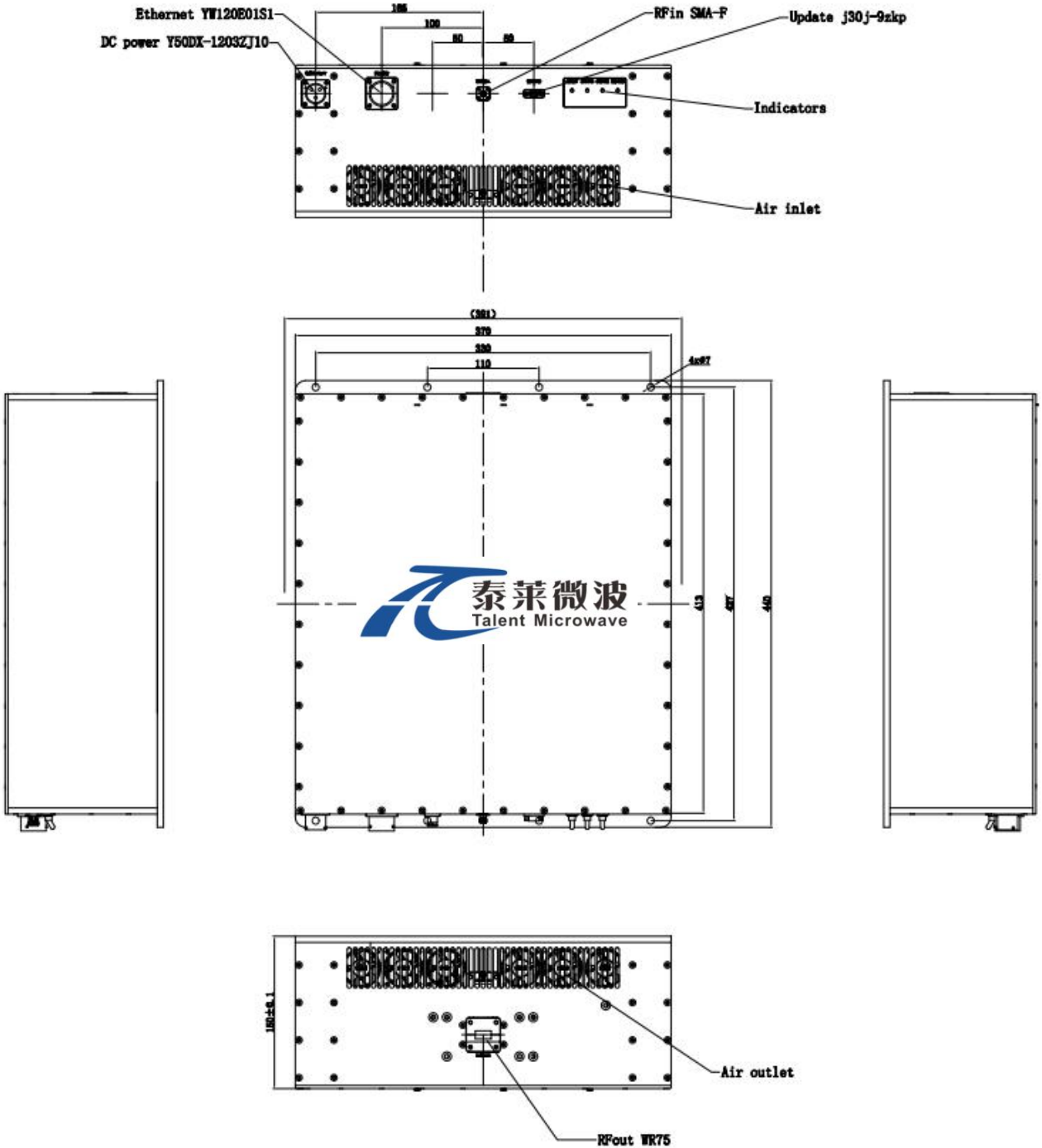


## Key Features:

Parameter	Advantages
Protection functions	1,Over TEM:≥+65°C shutdown 2,Over voltage:≥29.5V shutdown 3,Load VSWR protection:The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB
Monitoring function	1,Chip-level: status of power chip(gate voltage, drain current, case-temp); 2,System-level: output power, reverse power, load VSWR, DC voltage, DC current, environment temp, Cool-plate temp.

Outline Drawing:

Unit:mm



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

## Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity			95	%
Altitude			3000	meters
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			

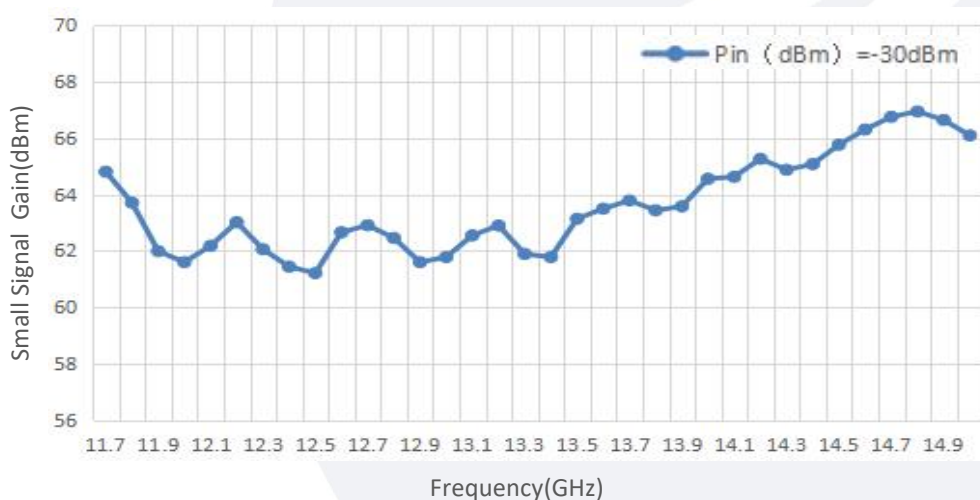
\*Note: For a wider temperature range, please consult the manufacturer.

## Ordering Information:

Base Number	Description	Revision
TLPA11.7G15G-53-53-IP65	Power amplifier 11.7-15GHz,Gain:53dB,Psat:53dBm, +28V DC,Ingress Protection Grade:IP-65	Rev.1.1

## Typical Performance Data:

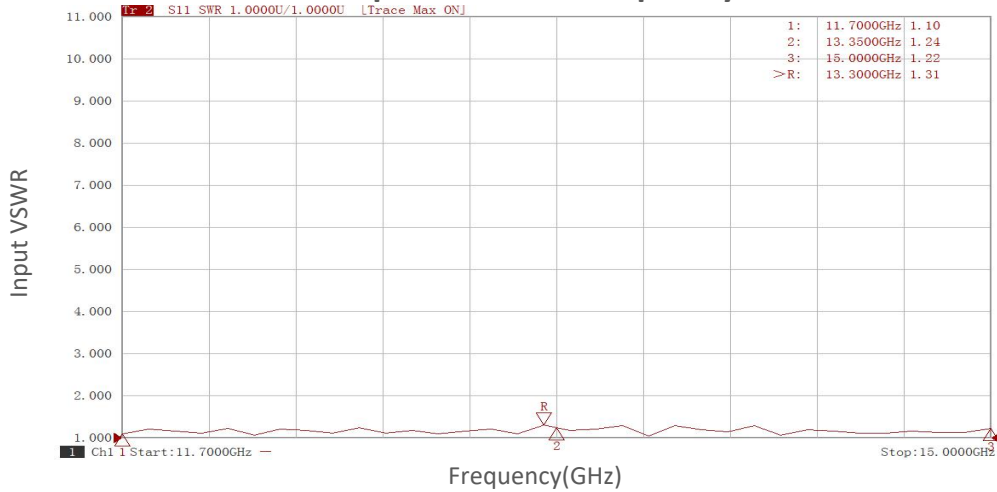
Small Signal Gain vs Frequency



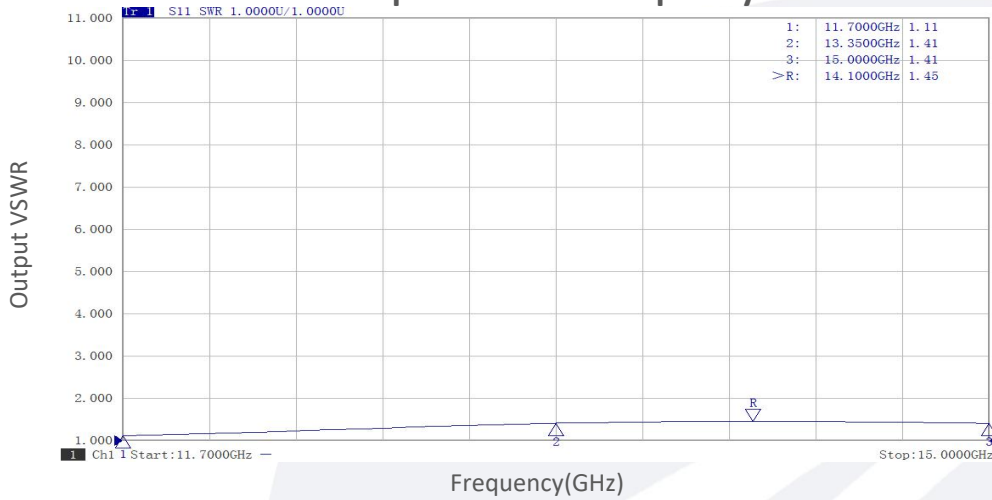
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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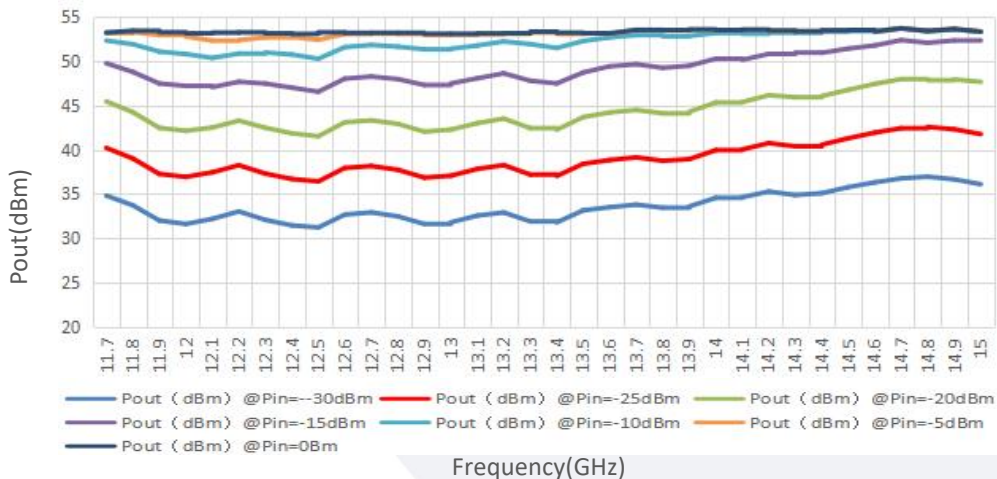
### Input VSWR vs Frequency



### Output VSWR vs Frequency



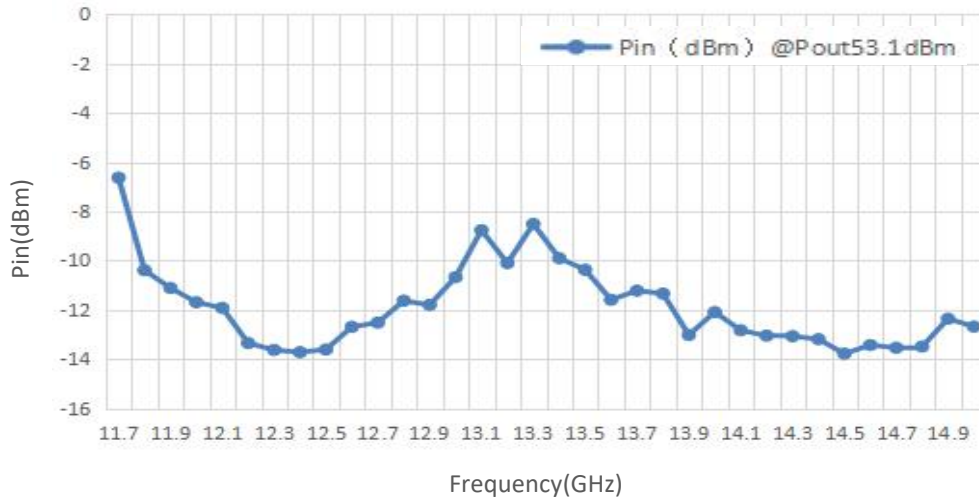
### Pout@Equal-Pin



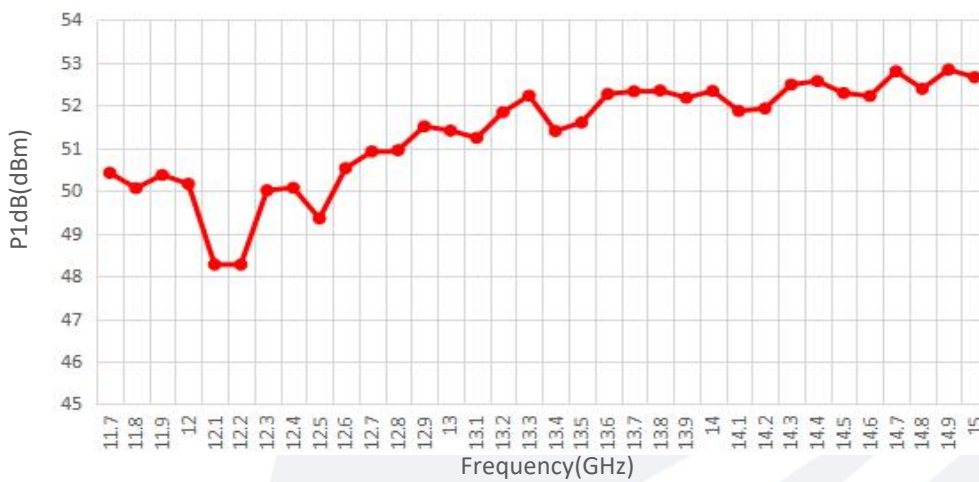
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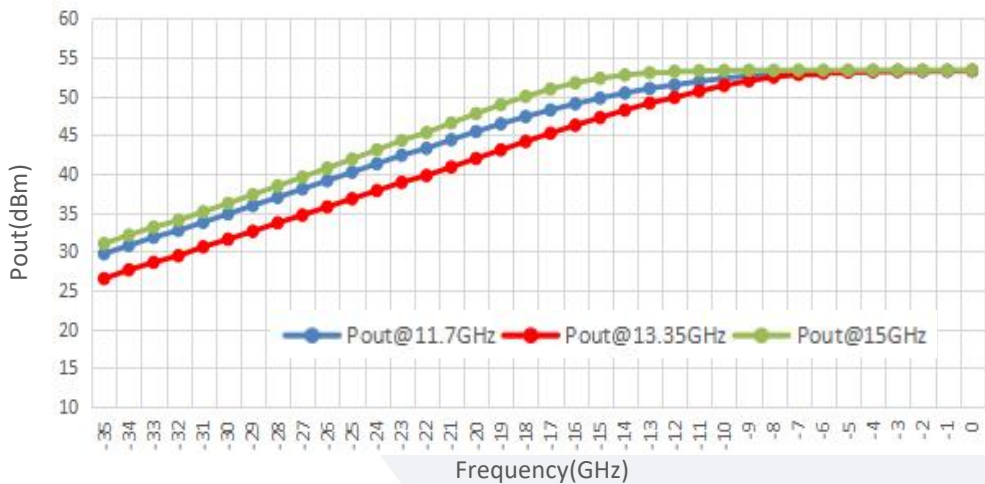
### Pin@Equal-Pout



### P1dB vs Frequency



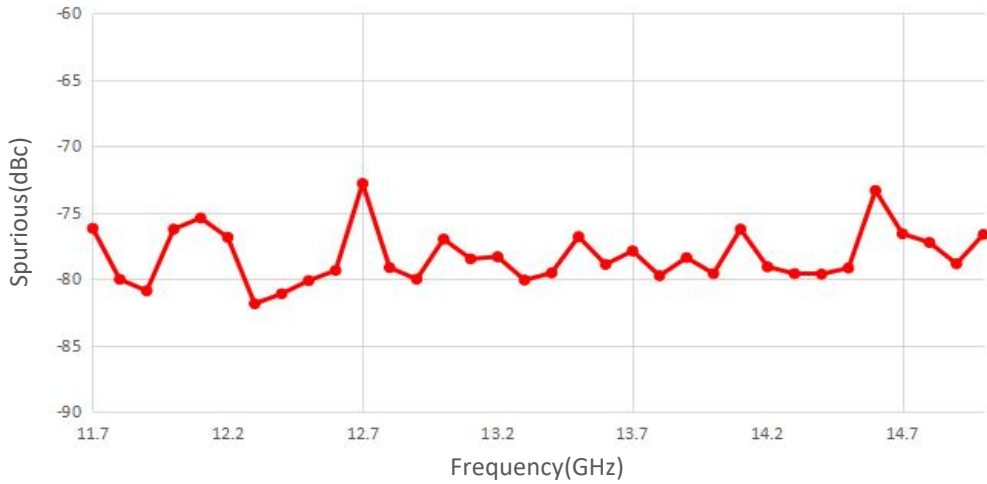
### Pout@Pin



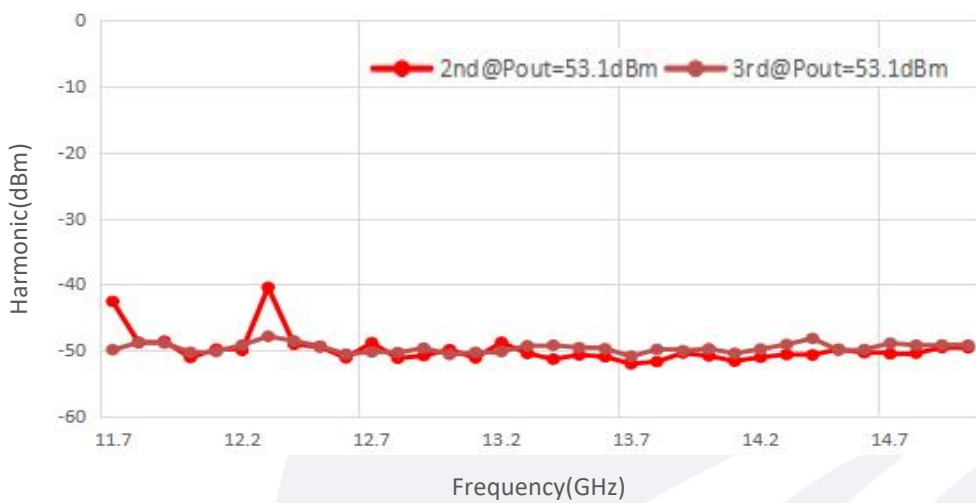
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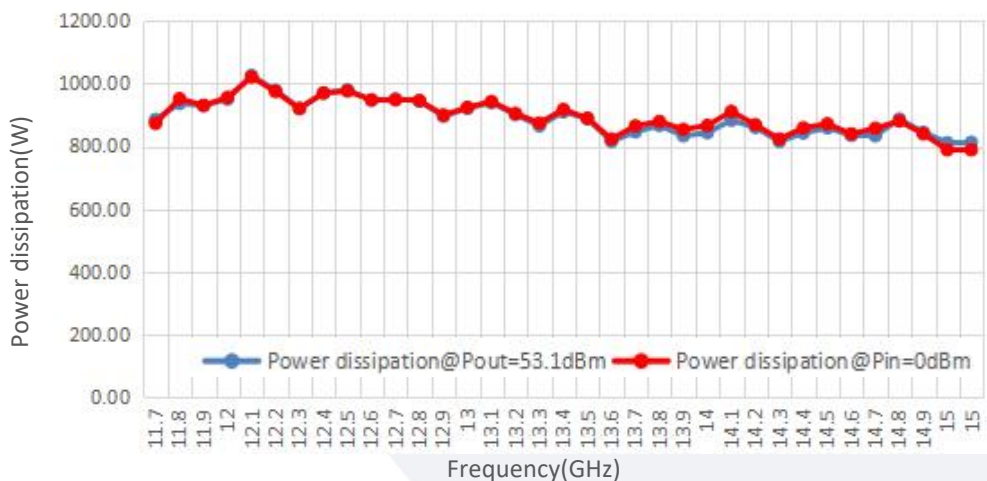
**Spurious vs Frequency**



**Harmonic vs Frequency**



**Power dissipation**



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