

Power Amplifier

3.3-3.9GHz /50dB Gain/50 dBm Psat

Model: TLPA3.3G3.9G-50-50

TLPA3.3G3.9G-50-50 is a power amplifier with a typical small signal gain of 53 dB and a nominal Psat of 50 dBm 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 and output port configuration offers coax adapter structure with SMA female.

Features:

- Ultra Wide Band: 3.3-3.9GHz
- Gain: 53dB Typ
- Output Power Psat: 50dBm Typ
- 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	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:

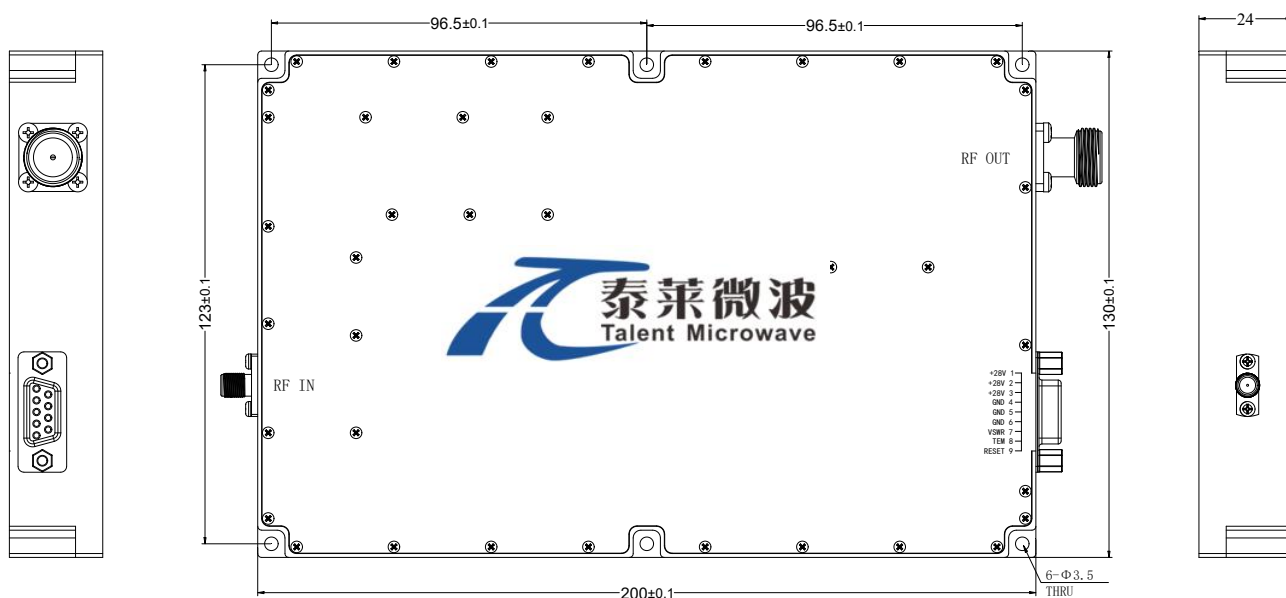
Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Bias	DB9	
Size	200*130*24	mm
Weight	/	g

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



*****Heat Sink Required During Operation**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

DC Supply(D-sub,9Pin,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)

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°C
Relative humidity		95		%
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			

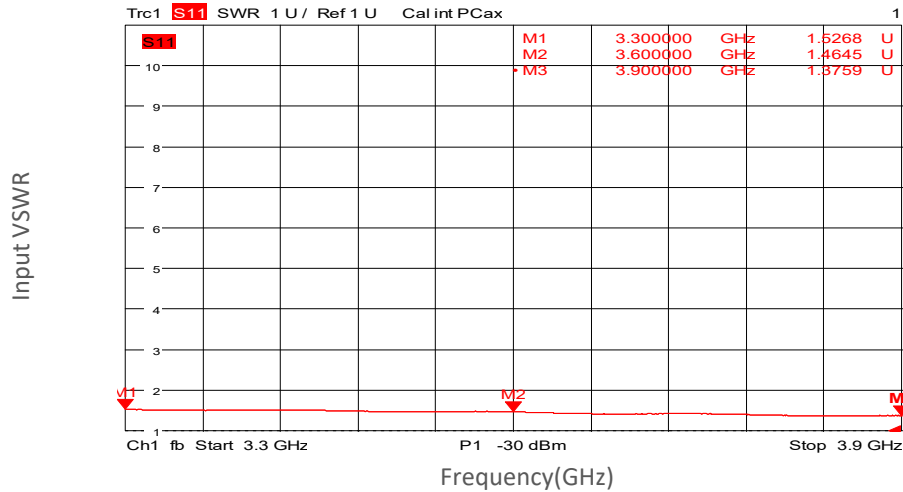
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

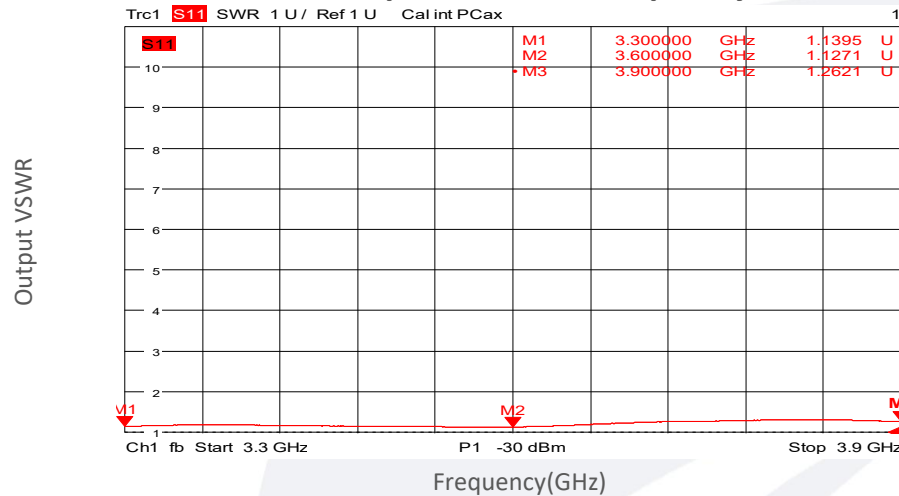
Base Number	Description	Revision
TLPA3.3G3.9G-50-50	Power amplifier 3.3-3.9GHz,Gain:53dB,Psat:50dBm, +28V DC,Without Heatsink	Rev.1.1
TLPA3.3G3.9G-50-50-HS	Power amplifier 3.3-3.9GHz,Gain:53dB,Psat:50dBm, +28V DC,With Heatsink	Rev.1.1

Typical Performance Data:

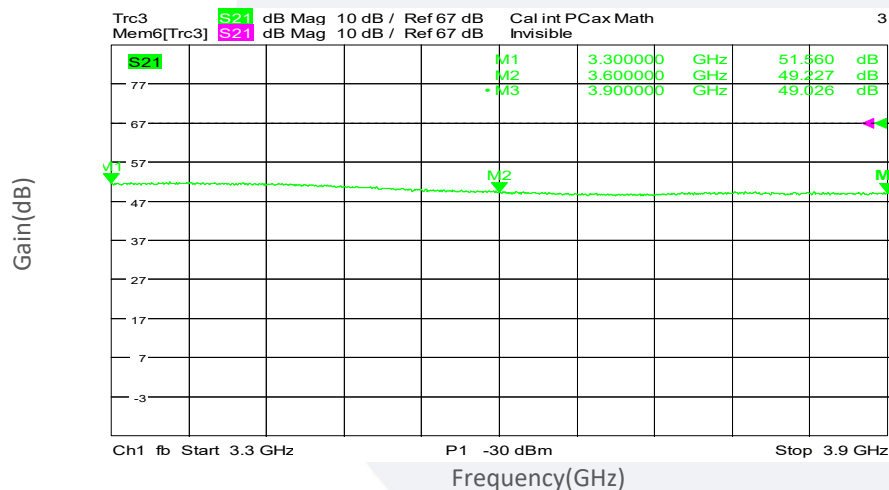
Input VSWR vs Frequency



Output VSWR vs Frequency



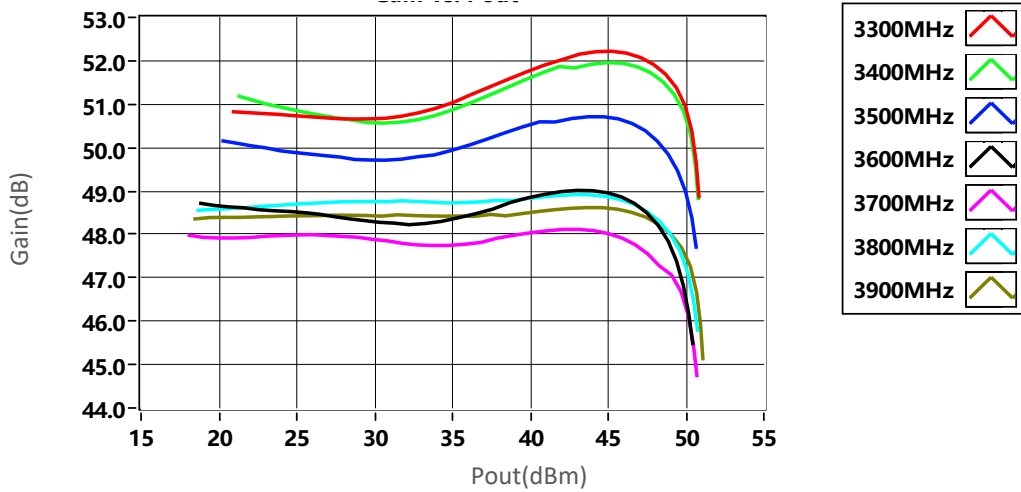
Small Signal Gain vs Frequency



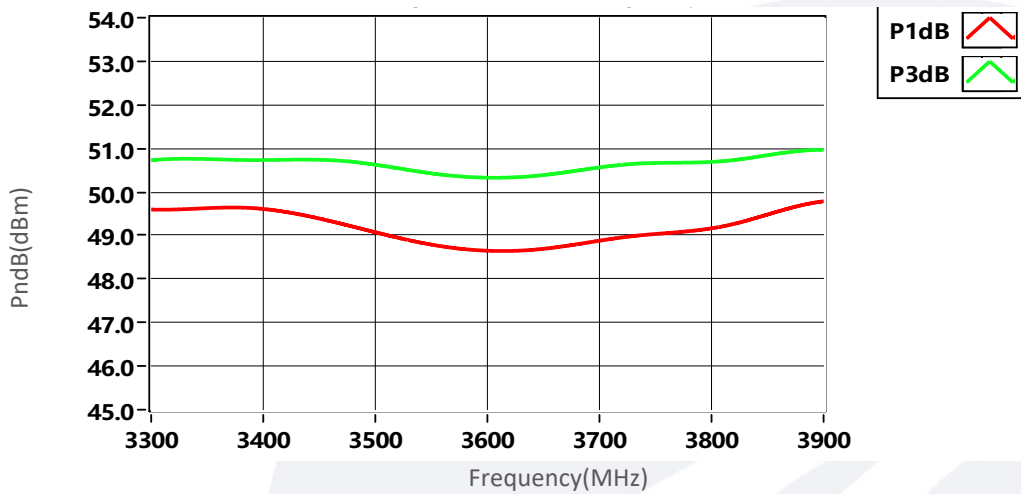
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

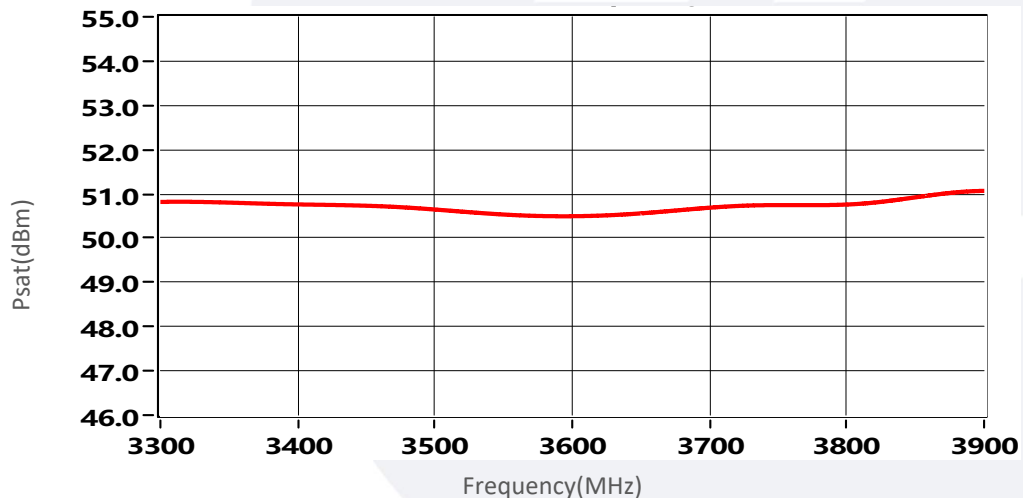
Gain vs Output Power



PndB vs Frequency



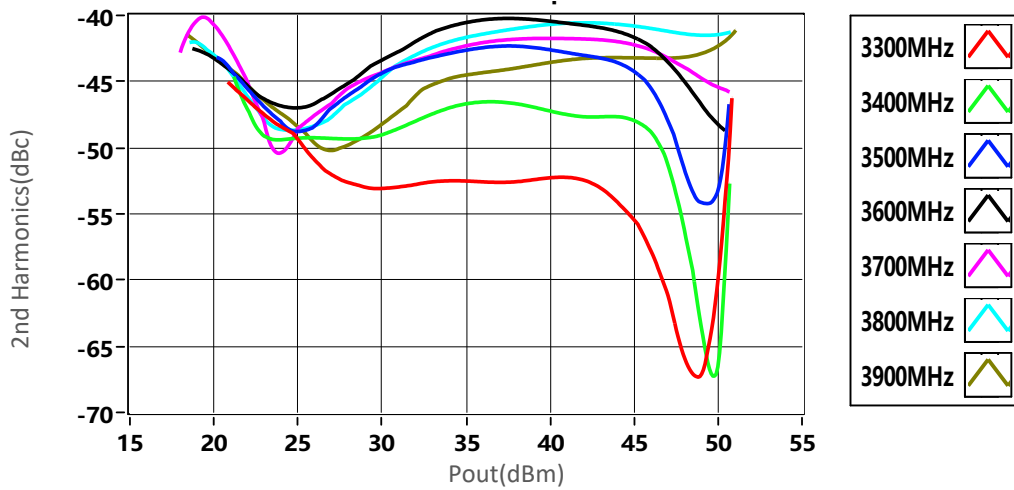
Psat vs Frequency



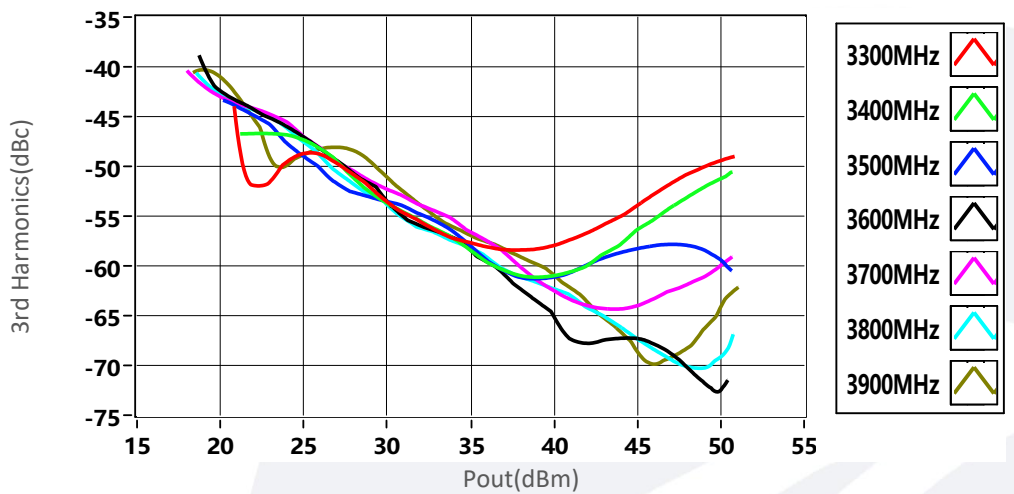
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

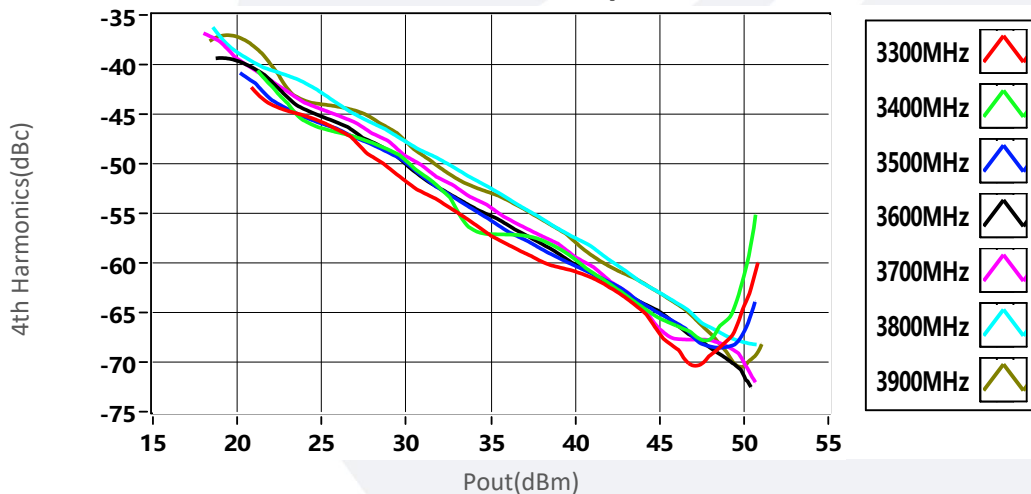
2nd Harmonics vs Output Power



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.