

## Power Amplifier

1-6GHz/45dB Gain/34dBm Psat

Model: TLPA1G6G-45-33

TLPA1G6G-45-33 is a power amplifier with a minimum small signal gain of 45 dB and a nominal Psat of 34 dBm across the frequency range of 1 to 6 GHz. The DC power requirement for the amplifier is +15 VDC/0.7 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 1-6GHz
- Gain: 45dB Min
- Output Power Psat: 34dBm 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	1		6	GHz
Small Signal Gain	45	47		dB
Gain Flatness		±3	±4	dB
Output P1dB	30	31		dBm
Output Psat	33	34		dBm
Harmonic		-15		dBc
Input VSWR		1.5	2	:1
DC Voltage		15	16	V DC
DC Supply Current		0.7	1.5	A
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	100*50*15	mm
Weight	150	g

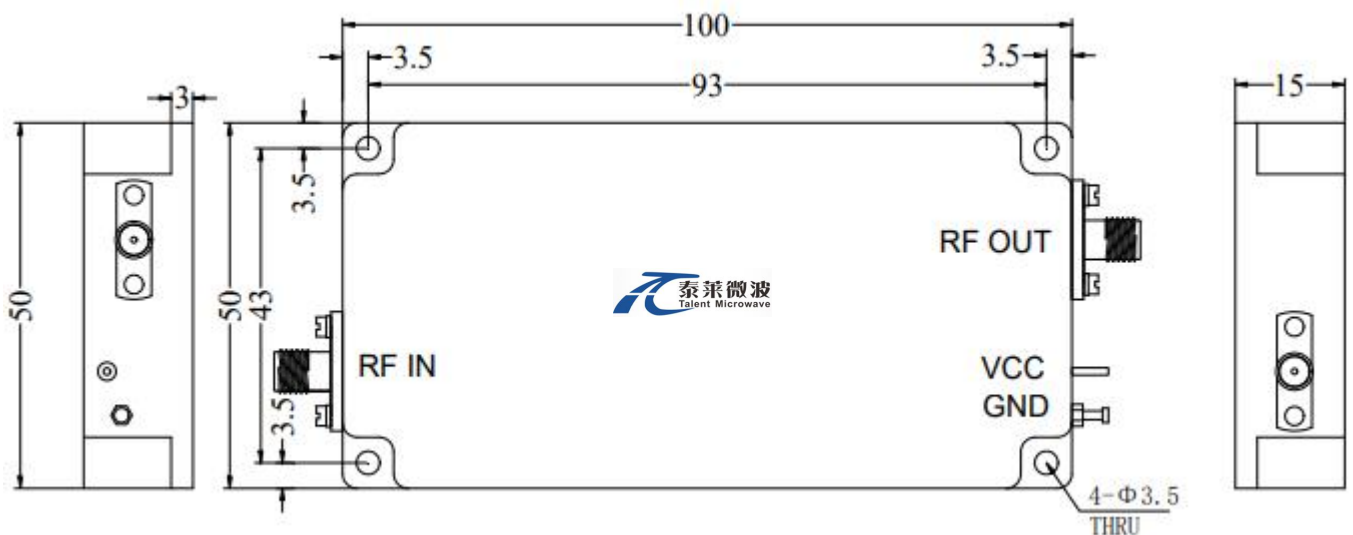
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+16 V
RF Input Power	0 dBm
ESD sensitivity (HBM)	Class 0, passed 150V



### Outline Drawing:

Unit:mm



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



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

### Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°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			

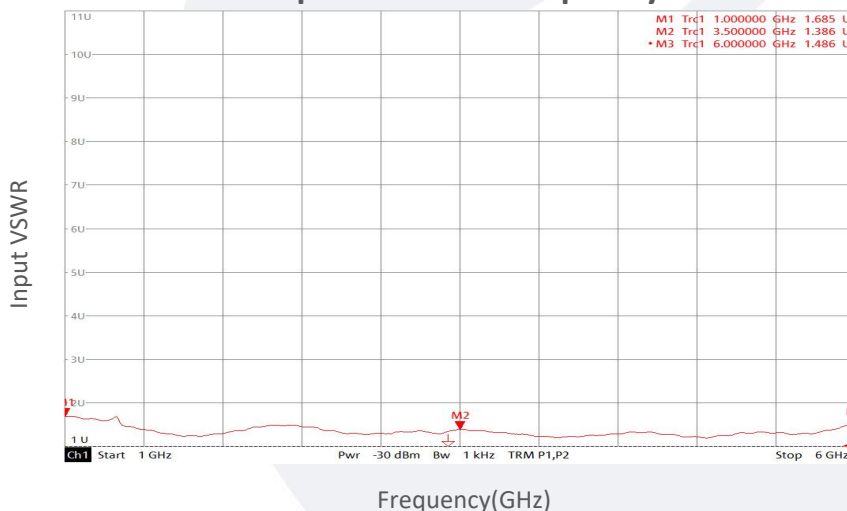
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA1G6G-45-33	Power amplifier 1-6GHz, Gain:45dB,Psat:33dBm,+15V DC,Without Heatsink	Rev.1.0
TLPA1G6G-45-33-HS	Power amplifier 1-6GHz, Gain:45dB,Psat:33dBm,+15V DC,With Heatsink	Rev.1.0

### Typical Performance Data:

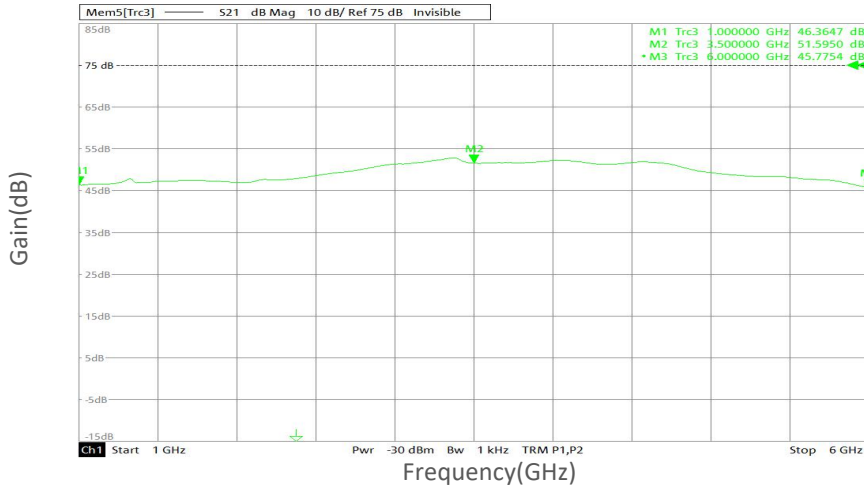
Input VSWR vs Frequency



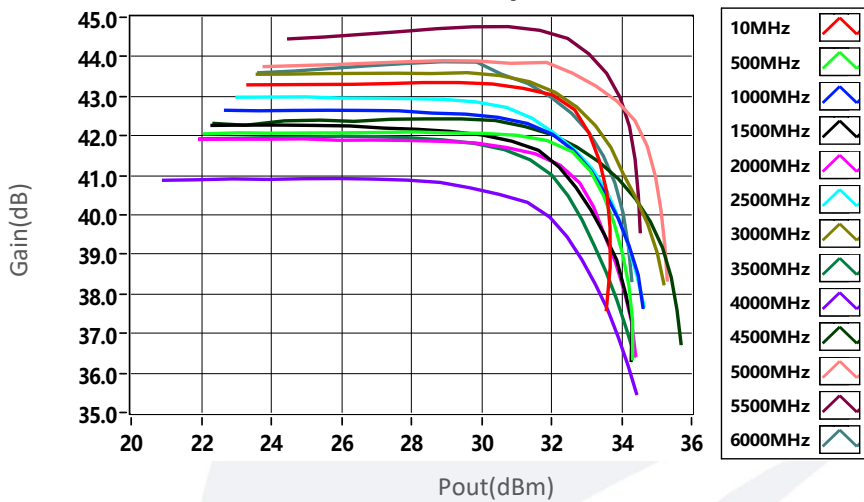
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

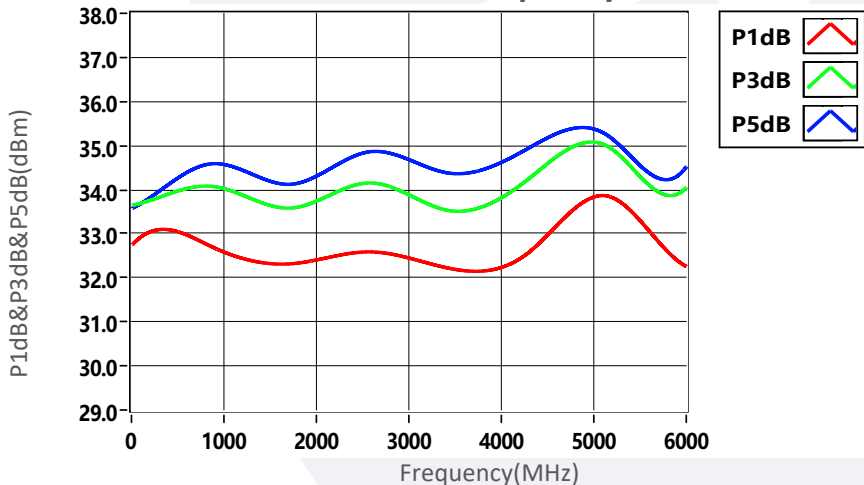
**Small Signal Gain vs Frequency**



**Gain vs Output Power**



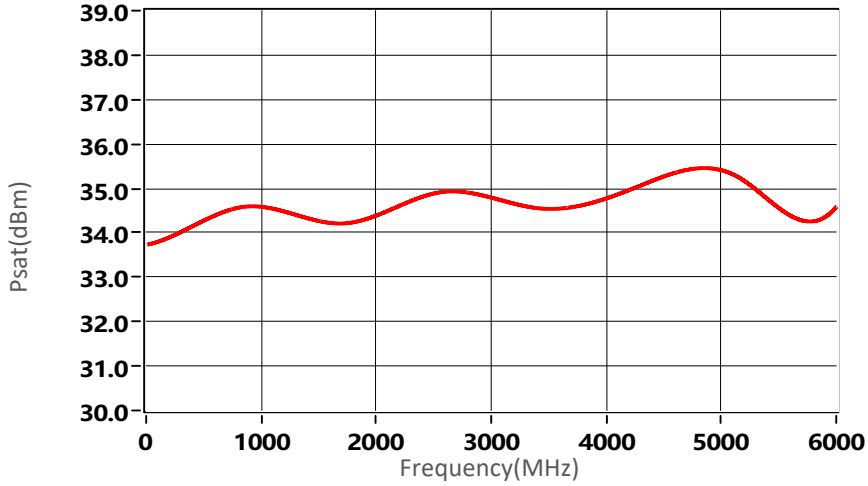
**PndB vs Frequency**



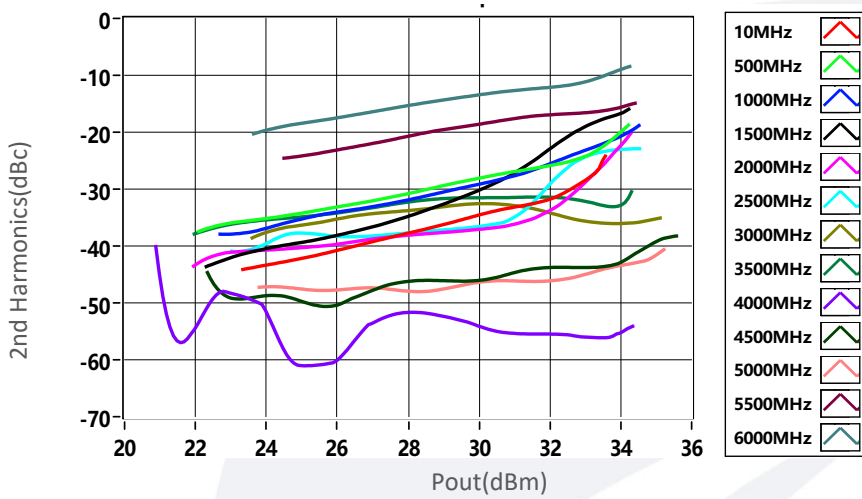
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

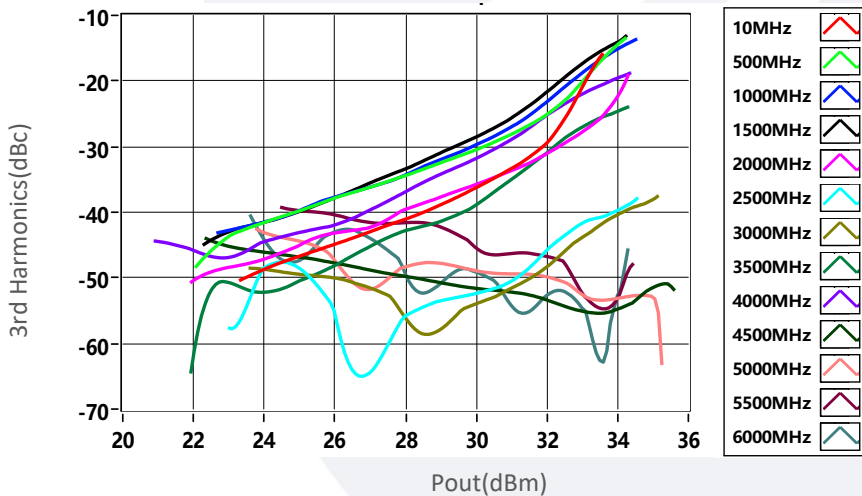
### Psat vs Frequency



### 2nd Harmonics vs Output Power



### 3rd 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.