

Power Amplifier

18-40GHz/35dB Gain/31dBm Psat

Model: TLPA18G40G-35-31

TLPA18G40G-35-31 is a power amplifier with a typical small signal gain of 40 dB and a nominal Psat of 31 dBm across the frequency range of 18 to 40 GHz. The DC power requirement for the amplifier is +12 VDC/2.2 A. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 18-40GHz
- Gain: 40dB Typ
- Output Power Psat: 31dBm 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	18		40	GHz
Small Signal Gain	35	40		dB
Gain Flatness		±3		dB
Output P1dB	27	29		dBm
Output Psat		31		dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		12		V DC
DC Supply Current		2.2		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	130.4*74.5*16	mm

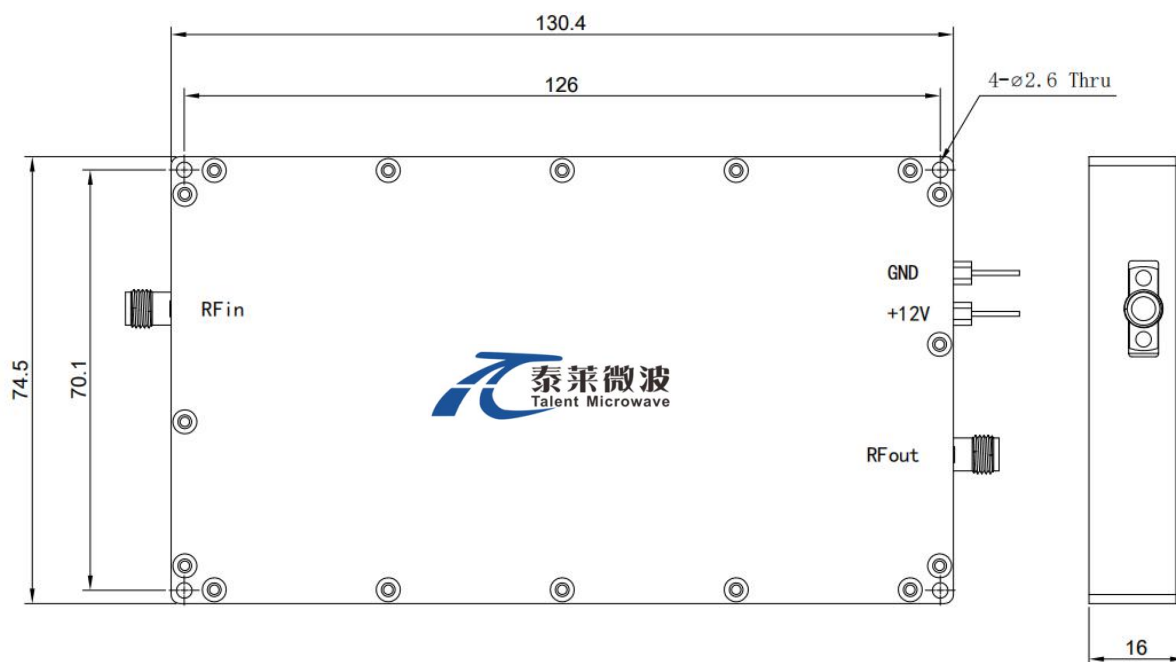
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	+3 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



*****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			

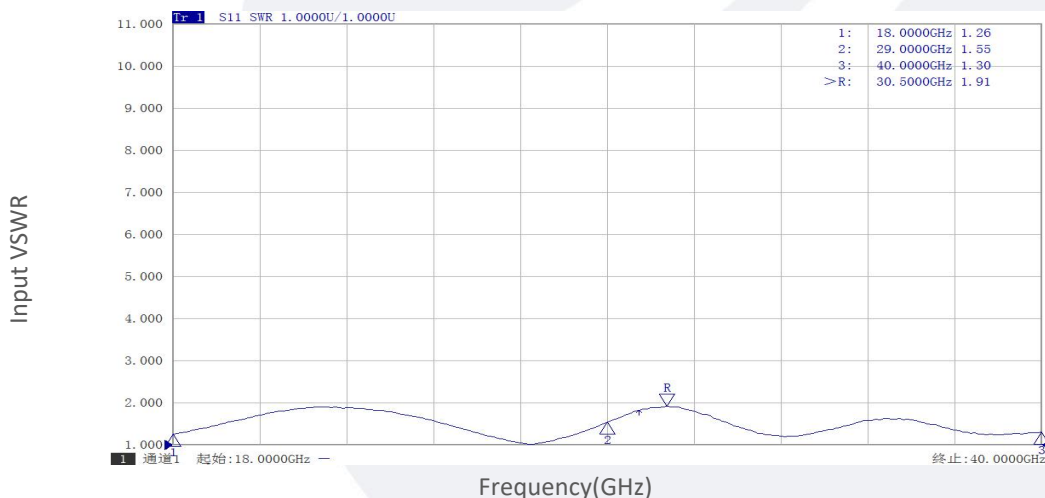
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA18G40G-35-31	Power amplifier 18-40GHz, Gain:35dB,Psat:31dBm,+12V DC,Without Heatsink.	Rev.1.2
TLPA18G40G-35-31-HS	Power amplifier 18-40GHz, Gain:35dB,Psat:31dBm,+12V DC,With Heatsink.	Rev.1.2

Typical Performance Data:

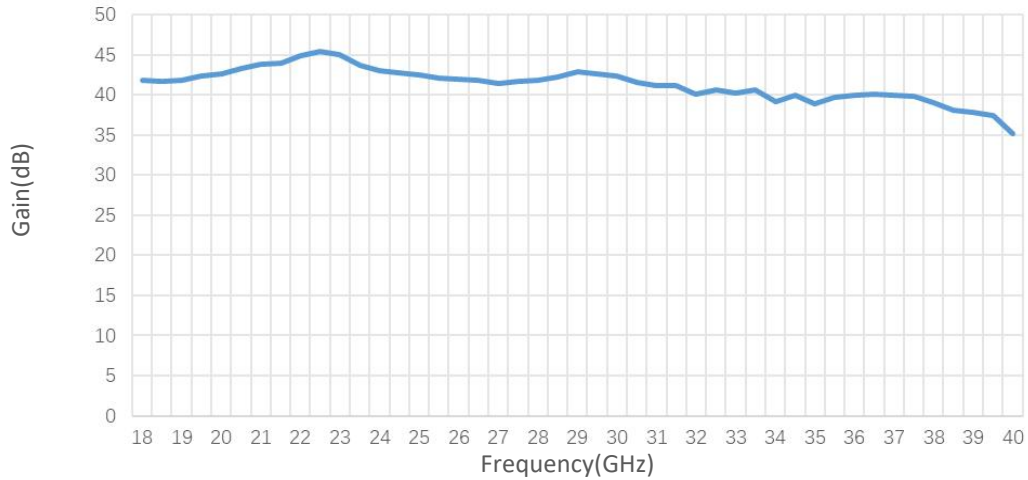
Input VSWR vs Frequency



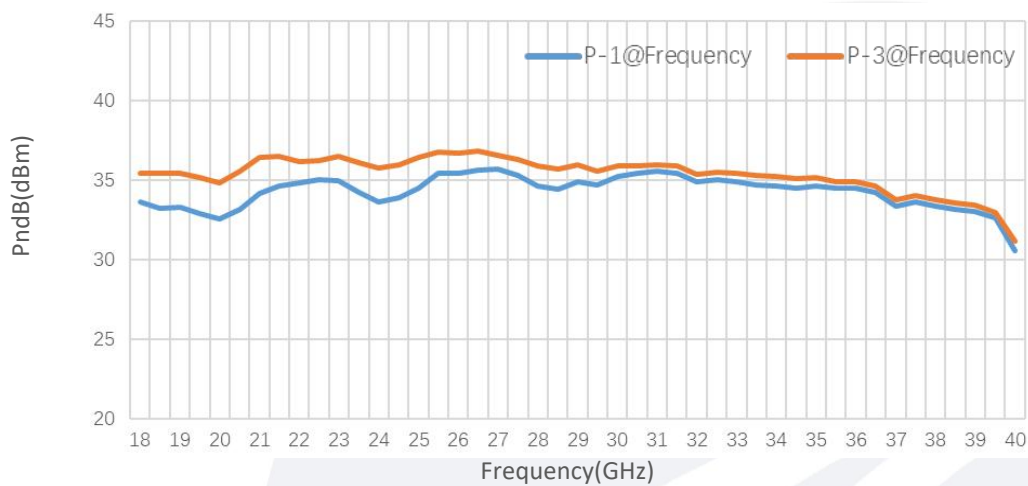
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

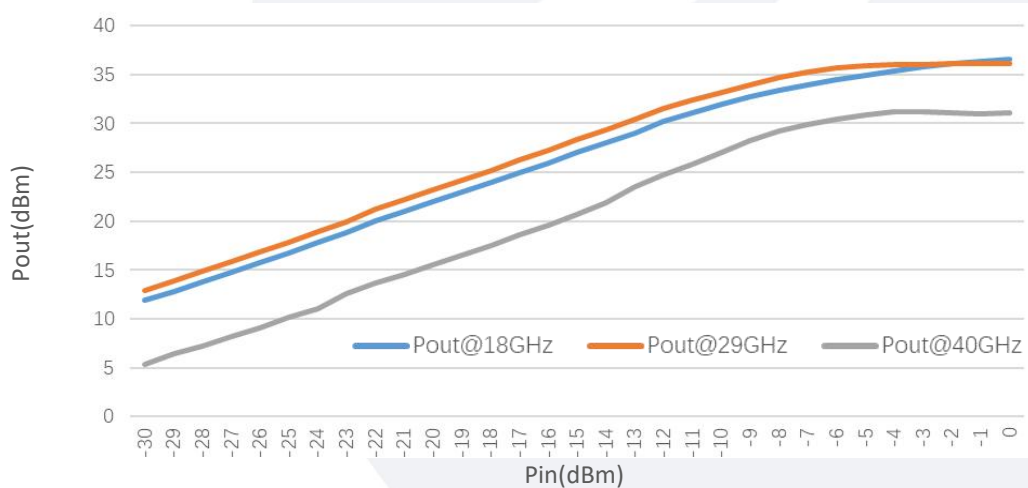
Small Signal Gain vs Frequency



PndB vs Frequency



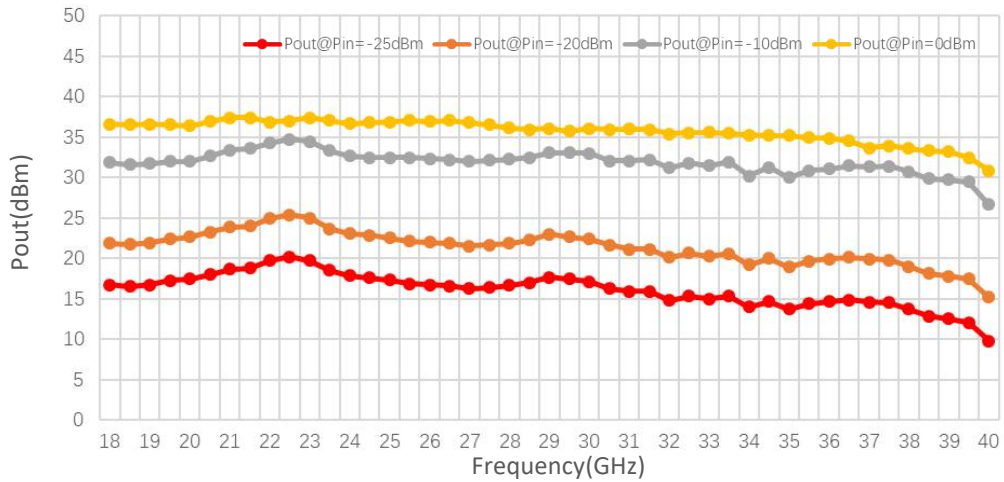
Pout@Pin



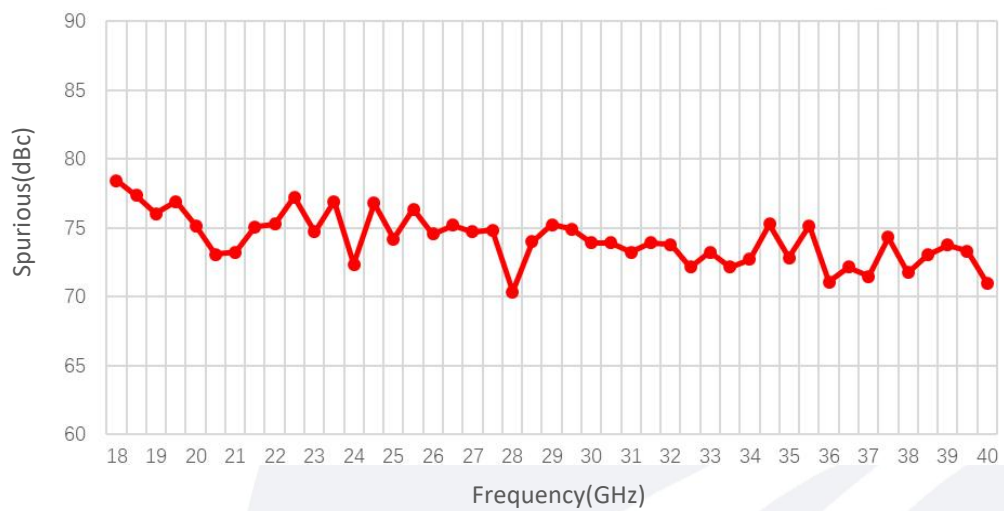
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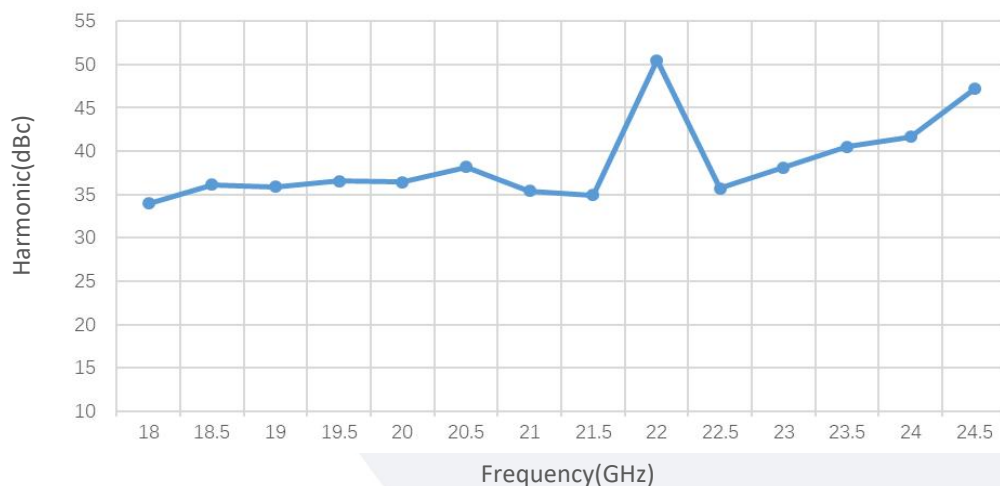
Pout@Equal_Pin



Spurious vs Frequency



Harmonic vs Frequency



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