

Power Amplifier

18-40GHz/43dB Gain/43 dBm Psat

Model: TLPA18G40G-43-43

TLPA18G40G-43-43 is a power amplifier with power gain of 43 dB and Psat of 43 dBm across the frequency range of 18 to 40 GHz. The DC power requirement for the amplifier is +18 VDC/25 A. The input port configuration offers coax adapter structure with 2.92mm female and output port configuration offers coax adapter structure with 2.92mm /WRD180C24.

Features:

- Frequency range: 18-40GHz
- Gain: 43dB Min
- Output Power Psat: 43dBm 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	18-40			GHz
Small Signal Gain		50		dB
Power Gain	43			dB
Small Signal Gain Flatness		±5		dB
Output Psat	43	44		dBm
Spurious@Pout=43dBm			-50	dBc
Input VSWR		2	2.5	:1
DC Voltage		18	19	V DC
DC Supply Current			25	A
DC Supply Current@Pout=43dBm		20		A
Working Mode	CW/PULSE compatible			
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input Connector	2.92mm Female	
Output Connector	WRD180C24/2.92mm	
DC Supply Interface	J30J-21ZKP	*Pin1:on/off switch Pin2~11:+18V Pin12~21:GND
Size	190*160*30(Without Heatsink)	mm

*Note: The power supply on-off pin can also be used for pulse modulation. Low level (0-0.8V) and floating are invalid, while high level (3.3-5V) is valid..

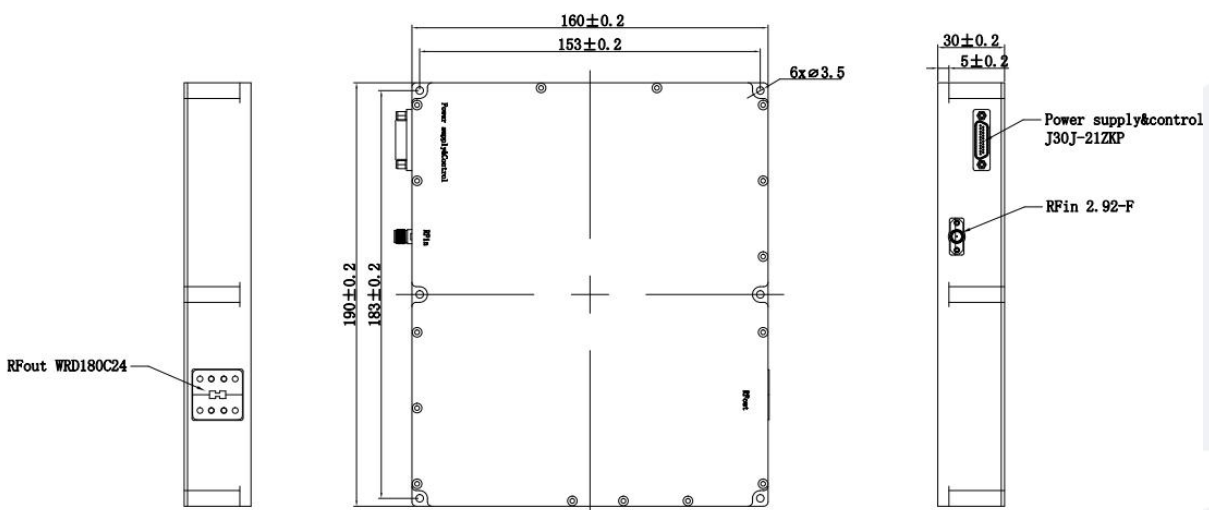
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+19 V
RF Input Power	+10 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		+50	°C
Non-operating Temperature*	-50		+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			

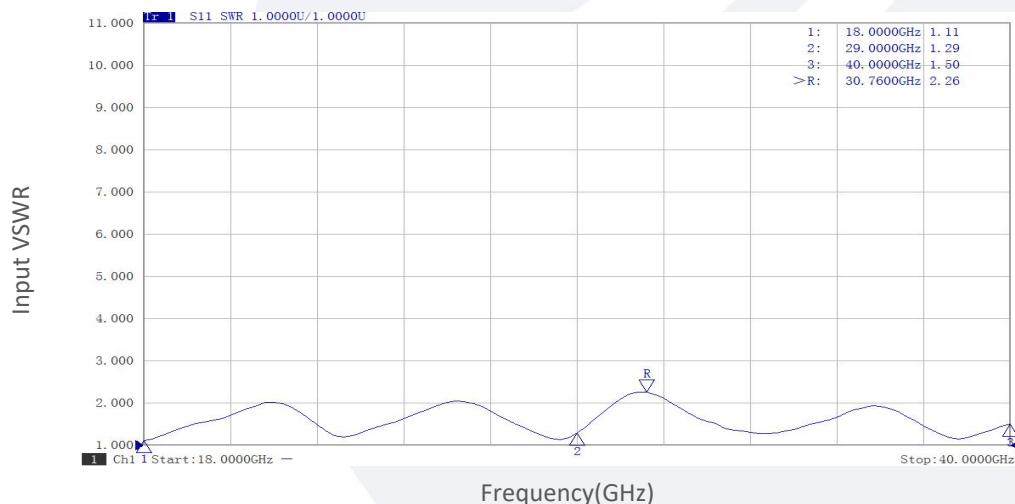
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA18G40G-43-43	Power amplifier 18-40GHz,Gain:43dB,Psat:43dBm, +18V DC,Without Heatsink	Rev.1.2
TLPA18G40G-43-43-HS	Power amplifier 18-40GHz,Gain:43dB,Psat:43dBm, +18V DC,With Heatsink	Rev.1.2

Typical Performance Data:

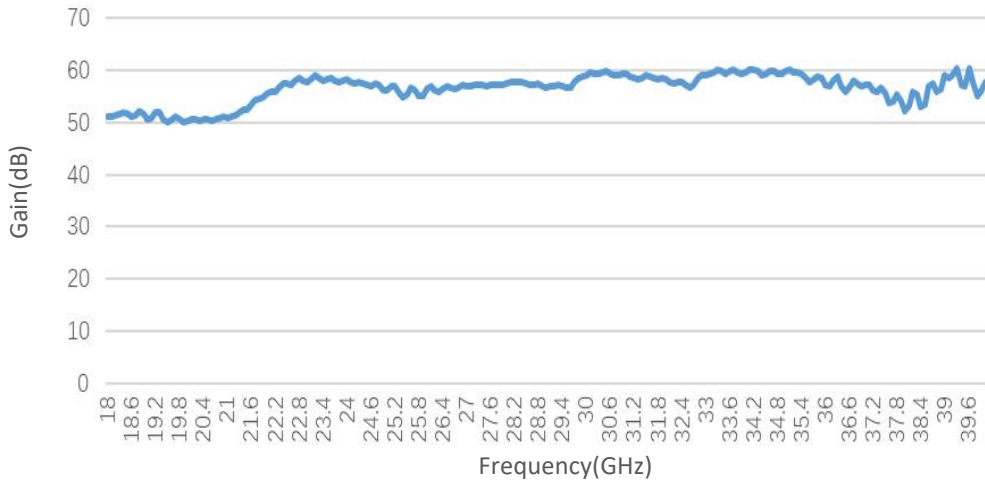
Input VSWR vs Frequency



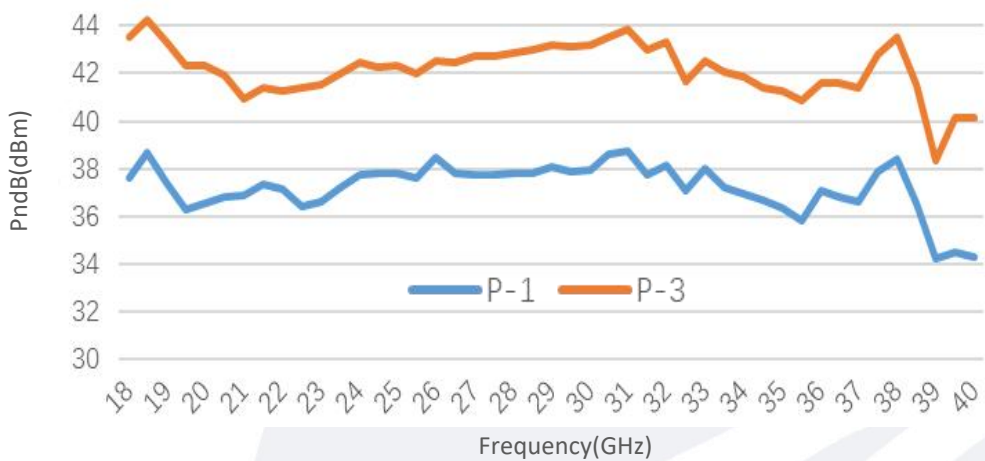
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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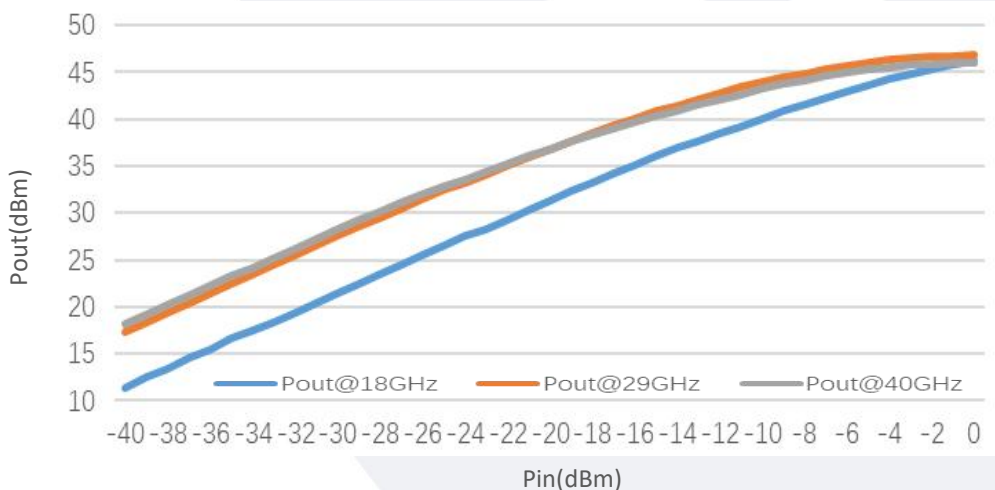
Small Signal Gain vs Frequency



PndB vs Frequency



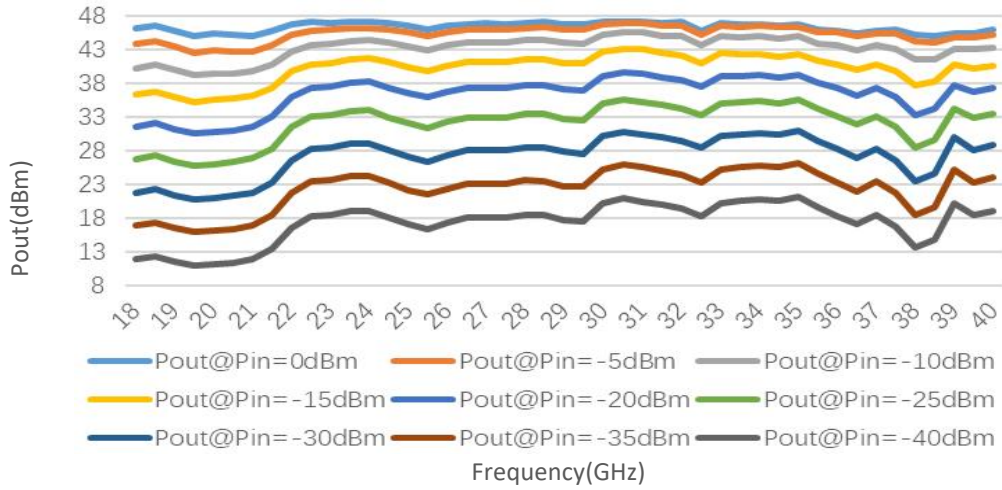
Pout@Pin



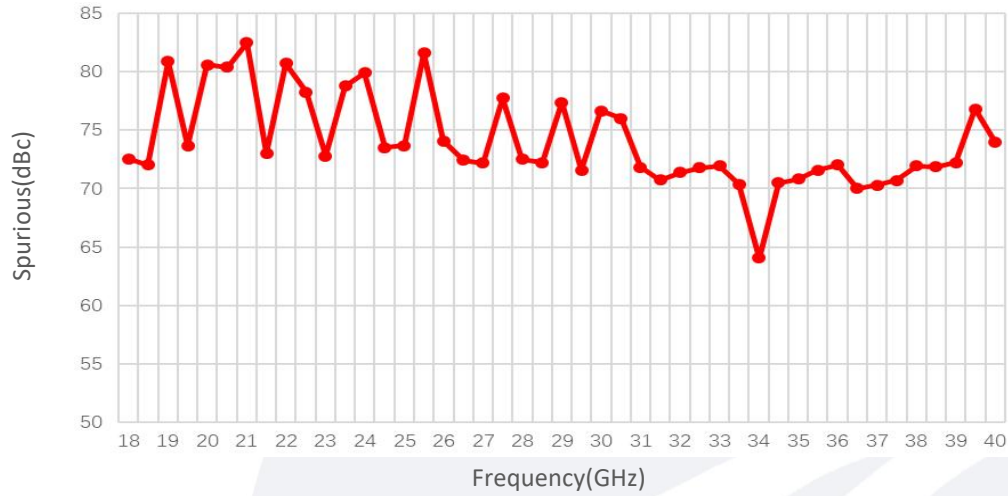
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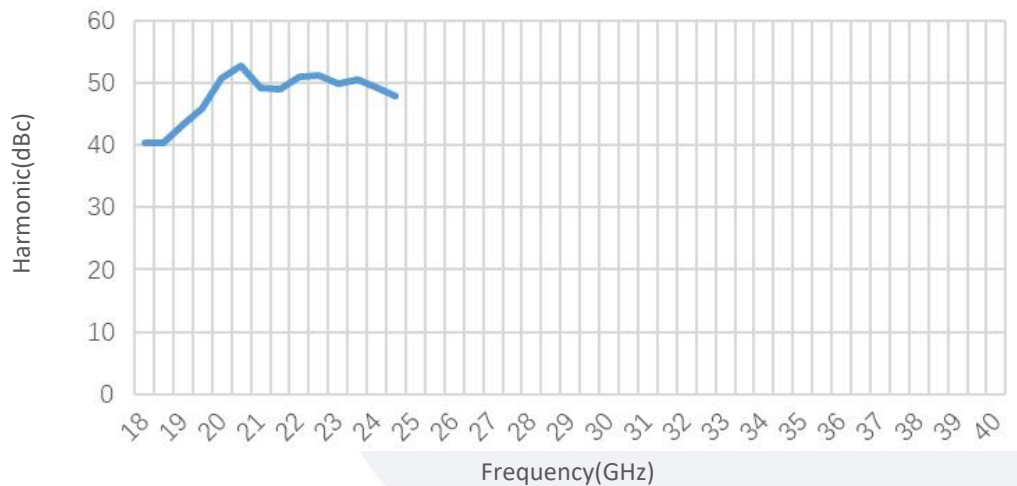
Pout@Equal_Pin



Spurious vs Frequency



Harmonic vs Frequency



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