

Power Amplifier

WR-5.1/146-220GHz/17dB Gain/14dBm Psat**Model: TMPA-146220-1913-05**

TMPA-146220-1913-05 is a power amplifier with a typical small signal gain of 17 dB and a nominal Psat of 14 dBm across the frequency range of 146 to 220 GHz. The DC power requirement for the amplifier is +12 VDC/360 mA. The input and output port configuration offers an inline structure with WR-5.1 waveguides and UG-387/U-M anticocking flanges.

Features:

- Frequency range: 146-220GHz
- Gain: 17dB Typ
- Output Power Psat: 14dBm Typ
- Good Power and Gain Flatness

Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	146		220	GHz
Small Signal Gain		17		dB
Power Gain		9		dB
Output Psat		14		dBm
DC Voltage		12		V DC
DC Supply Current		360		mA

Mechanical Specifications:

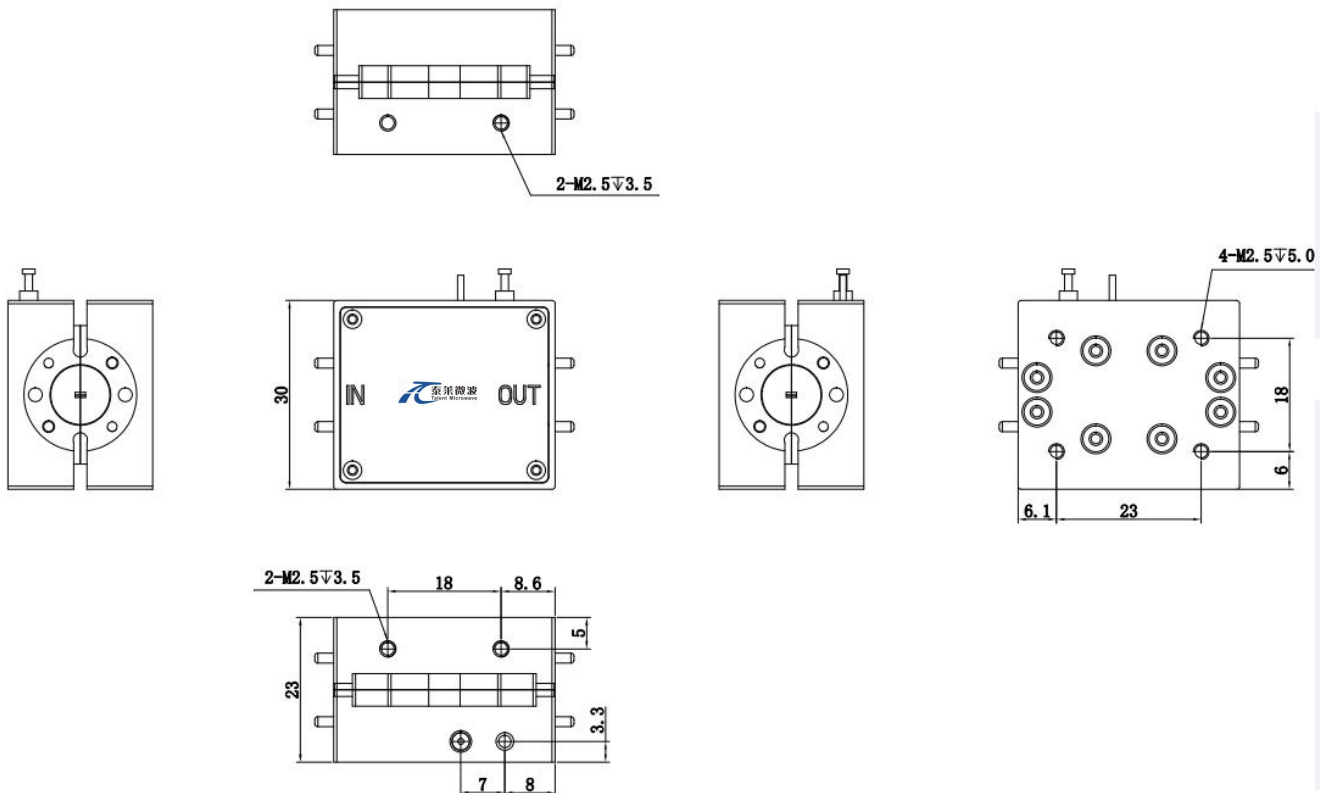
Parameter	Value	Units
Input /Output Connector	WR-5.1/UG-387/U	
DC Bias	Solder Pin	
Size	35.2*30*23	mm

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+10 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:

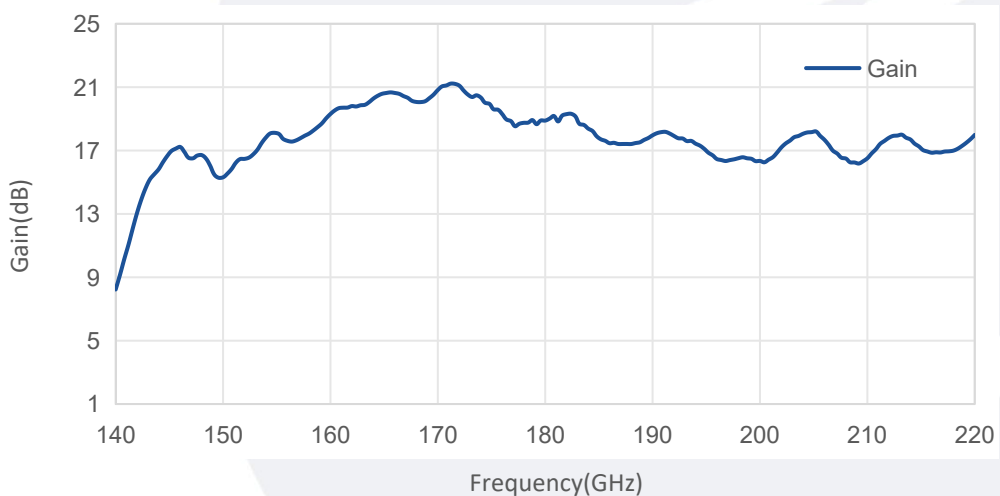
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TMPA-146220-1913-05	Power Amplifier, 146-220GHz, Gain: 17dB Type, Psat: 14dBm Type, +12V DC,WR-5.1, Without heatsink	Rev.1.1
TMPA-146220-1913-05-HS	Power Amplifier, 146-220GHz, Gain: 17dB Type, Psat: 14dBm Type, +12V DC,WR-5.1, With heatsink	Rev.1.1

Typical Performance Data:

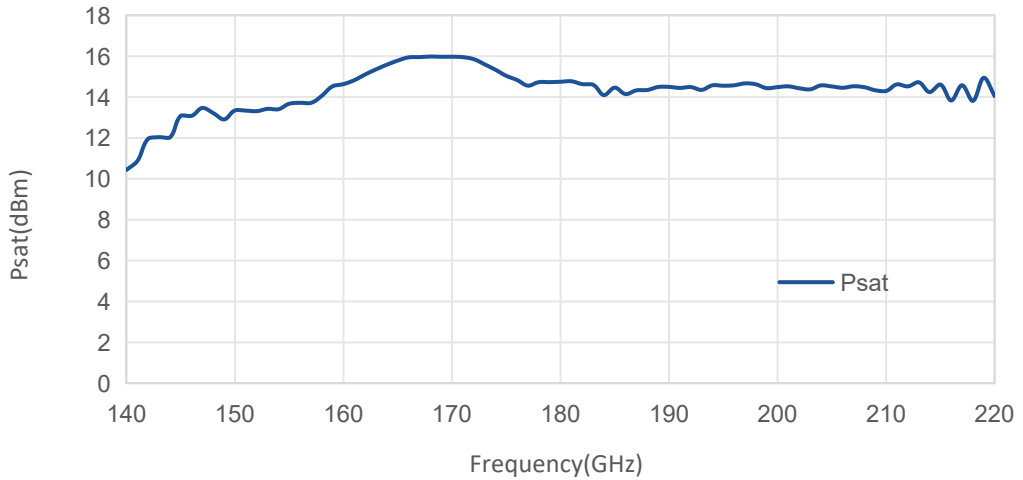
Gain vs Frequency



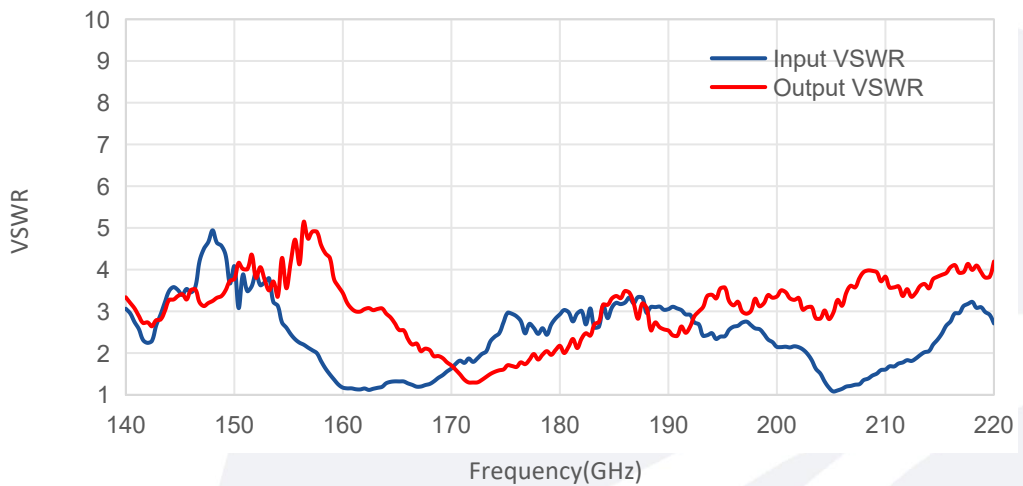
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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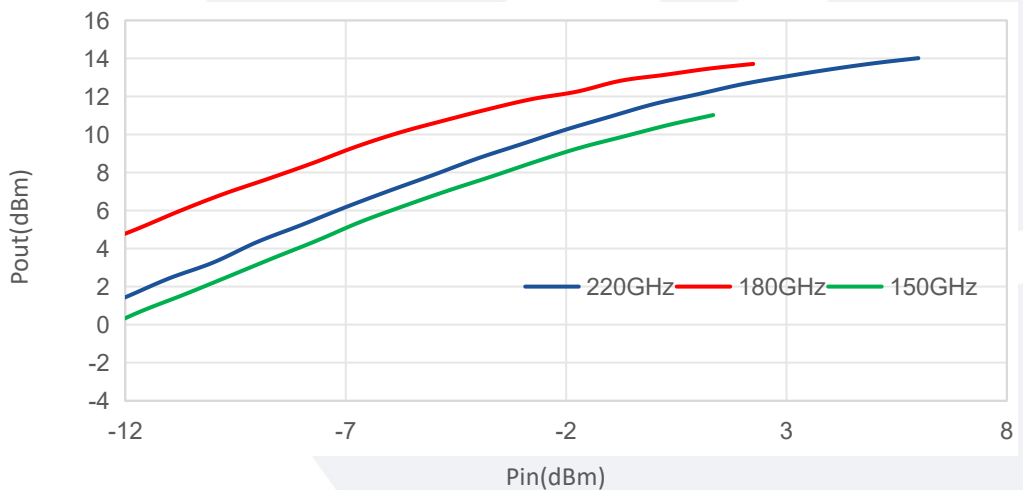
Psat vs Frequency



VSWR vs Frequency



Pout vs Pin



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