

Low Noise Amplifier

50KHz-43GHz/5dB NF/15dB Gain/14dBm P1dB

Model: TLLA50K43G-15-50

TLLA50K43G-15-50 is a low noise amplifier with a typical small signal gain of 15 dB and a nominal noise figure of 5 dB across the frequency range of 50 KHz to 43 GHz. The DC power requirement for the amplifier is +12 V DC/100 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 50KHz-43GHz
- Gain: 15dB Typ
- Noise Figure: 5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|-------------------|-------------|-----|-----|-------|
| Frequency range | 50KHz-43GHz | | | |
| Small Signal Gain | | 15 | | dB |
| Noise Figure | | 5 | | dB |
| Output P1dB | | 14 | | dBm |
| Input VSWR | | 2.0 | | :1 |
| Output VSWR | | 2.0 | | :1 |
| DC Voltage | | +12 | | V DC |
| DC Supply Current | | 100 | | mA |
| Impedance | 50 | | | Ohms |

Mechanical Specifications:

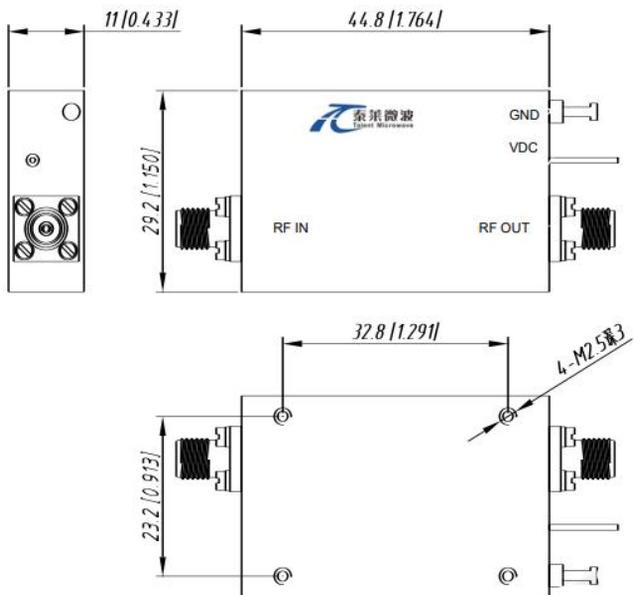
| Parameter | Value | Units |
|-------------------------|-----------------------------|-------|
| Input /Output Connector | 2.92mm Female/2.92mm Female | |
| DC Bias | Solder Pin | |
| Size | 44.8*29.2*11 | mm |

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



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



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

Environmental Conditions:

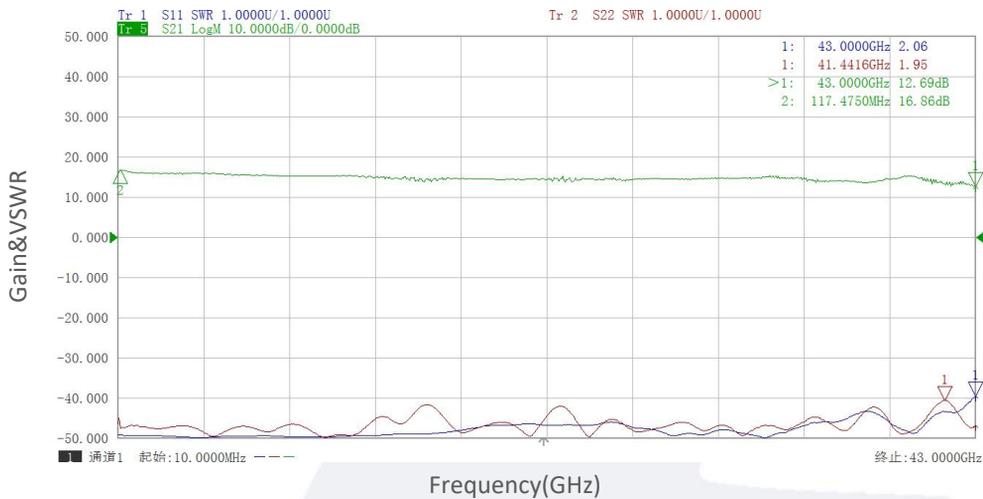
| Parameter | Min | Typ | Max | Units |
|---------------------------------|---|-----|------|-------|
| Operating Temperature | -40 | | +85 | °C |
| Non-operating Temperature | -55 | | +125 | °C |
| Relative humidity | | 95 | | % |
| Altitude | 50,000 | | | feet |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

Ordering Information:

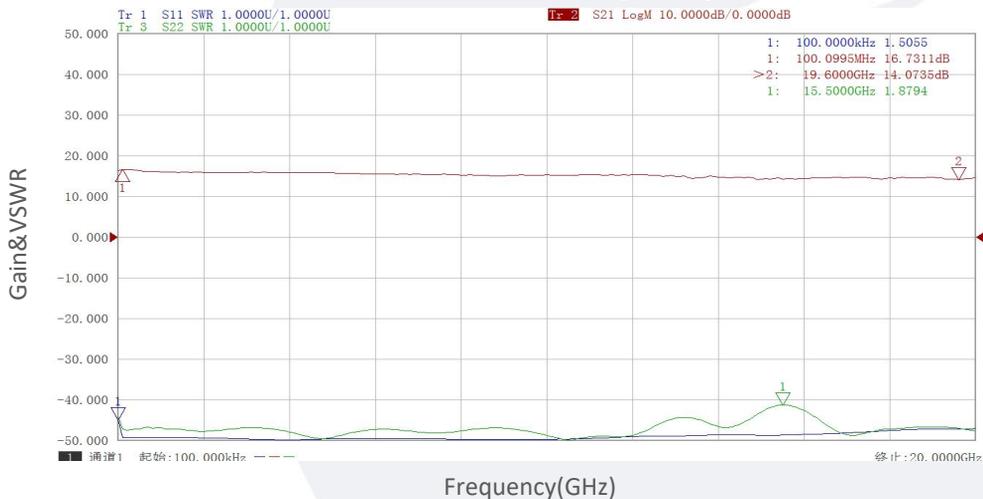
| Base Number | Description | Revision |
|---------------------|--|----------|
| TLLA50K43G-15-50 | Low Noise Amplifier, 50KHz-43GHz, Noise Figure:5.0dB, Gain: 15dB, P1dB:14dBm,+12V DC, Without Heatsink | Rev.1.1 |
| TLLA50K43G-15-50-HS | Low Noise Amplifier, 50KHz-43GHz, Noise Figure:5.0dB, Gain: 15dB, P1dB:14dBm,+12V DC, With Heatsink | Rev.1.1 |

Typical Performance Data:

Gain&VSWR vs Frequency



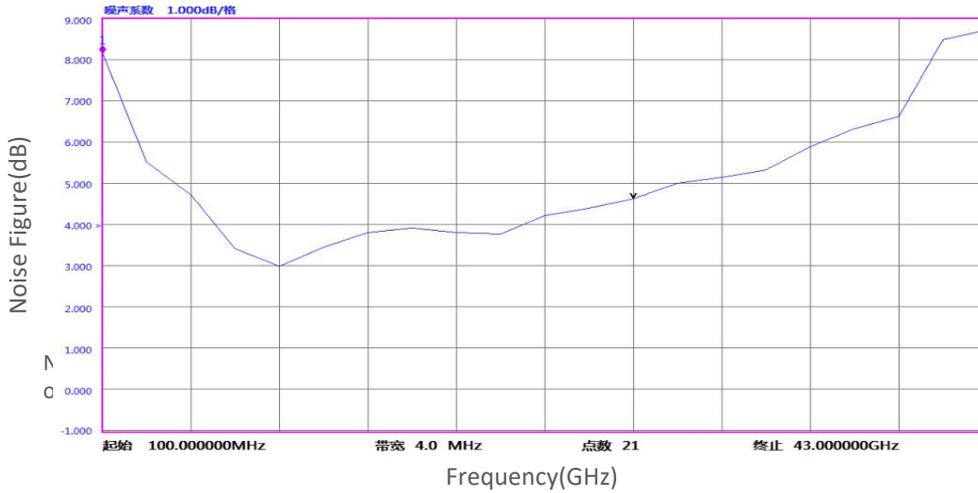
Gain&VSWR vs Frequency



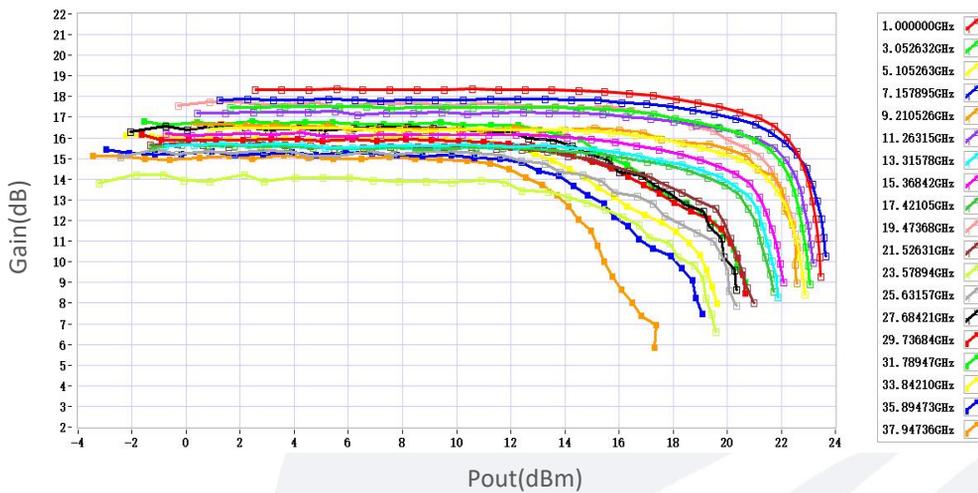
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

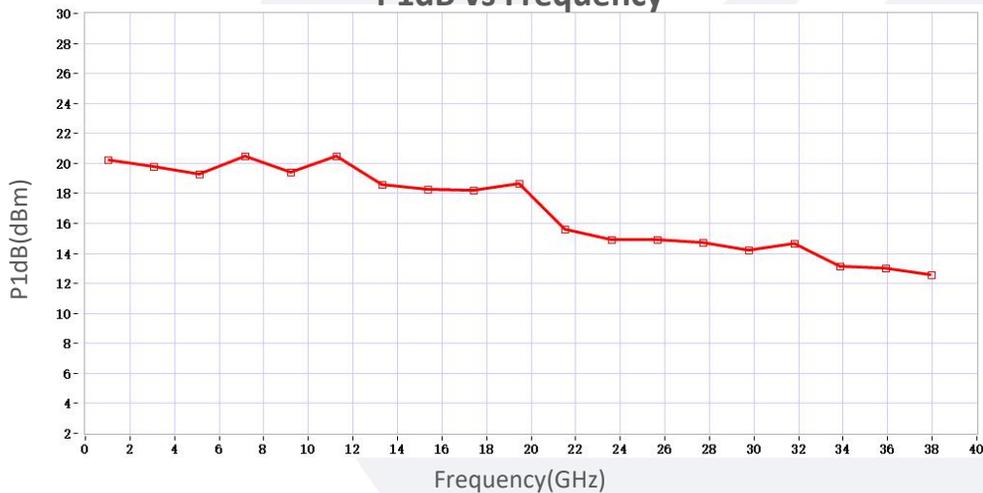
Noise Figure vs Frequency



Gain vs Output Power



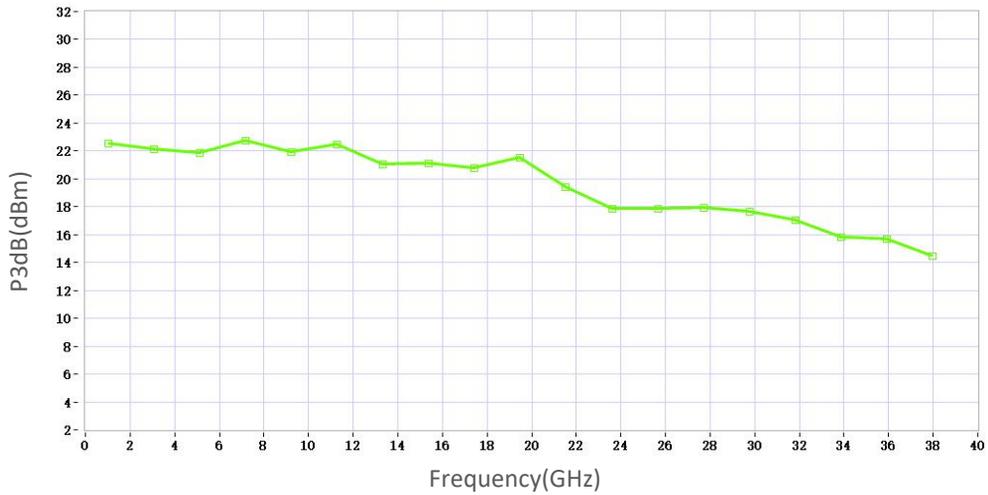
P1dB vs Frequency



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:

P3dB 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.