

Solid State High Power Amplifier Systems

12-20GHz/33dB Gain/33dBm Psat/220V AC

Model: TLPA12G20G-33-33-BC

TLPA12G20G-33-33-BC is a solid state high power amplifier systems provides high output power and high gain across the 12 to 20 GHz frequency range. The amplifier features a built-in 220V power supply, making it easy to use in most lab environments. This model features thermal self protection, preventing damage to the amplifier and providing added reliability.

Features:

- Frequency range: 12-20GHz
- Gain: 33dB Min
- Psat Output Power: 33dBm Min
- Protection: Over TEM, over voltage, over current, over VSWR protection
- 50 Ohm Matched Input / Output



Electrical Characteristics:

| Parameter | Symbol | Min | Typ | Max | Units |
|-------------------|--------------------|-------|------|-----|-------|
| Frequency range | BW | 12-20 | | | GHz |
| Power Gain | GP | 33 | | | dB |
| Gain adjust Range | Δ GR | | 31.5 | | dB |
| Gain adjust Step | Δ GS | | 0.5 | | dB |
| Output Psat | Psat | 33 | | | dBm |
| Spurious | Spur | | | -60 | dBc |
| Input VSWR | VSWR _{in} | | | 2 | :1 |
| AC Voltage | Vac | | 220 | | V AC |
| Power Consumption | P _{diss} | | | 60 | W |
| Impedance | I/O-IMP | 50 | | | Ohms |

Mechanical Specifications:

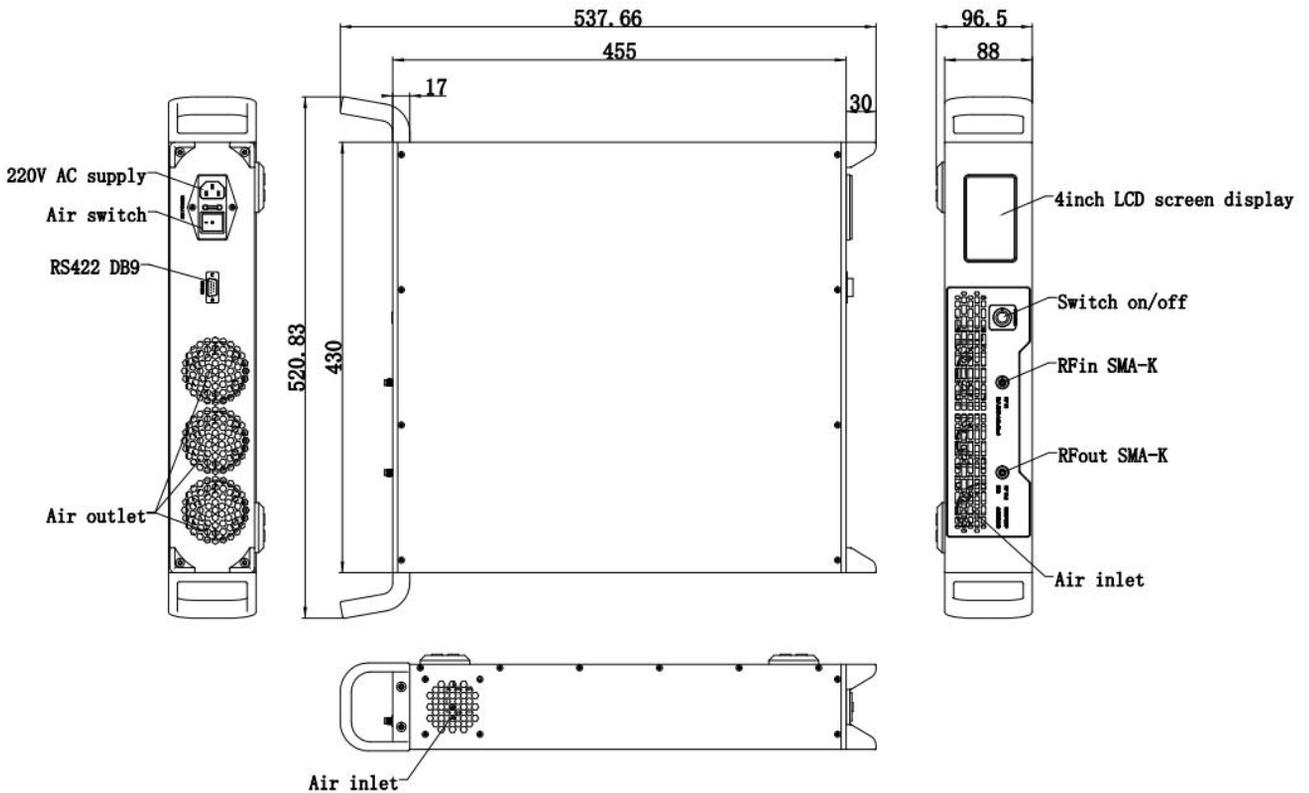
| Parameter | Value | Units |
|-------------------------|------------------------|-------|
| Input /Output Connector | SMA Female/ SMA Female | |
| Power Interface | Y50X-1203 | |
| Communication Connector | J30J-9ZKP | |
| Size | 19 Inch 2U | |
| Weight | 7.5 | Kg |

Absolute Maximum Ratings:

| Parameter | Value |
|-----------------------|----------------------|
| RF Input Power | +10 dBm |
| ESD sensitivity (HBm) | Class 0, passed 150V |

Outline Drawing:

Unit:mm



Key Features:

| Parameter | Advantages |
|----------------------|---|
| Control functions | 1, Power setting On/Off 2, ALC automatic level control |
| Protection functions | 1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR |
| Remote control | LAN |
| Cooling system | Built in Cooling system, forced air cooling |

Environmental Conditions:

| Parameter | Min | Typ | Max | Units |
|---------------------------------|---|-----|-----|-------|
| Operating Temperature* | -20 | | +50 | °C |
| Non-operating Temperature* | -30 | | +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 | | | |

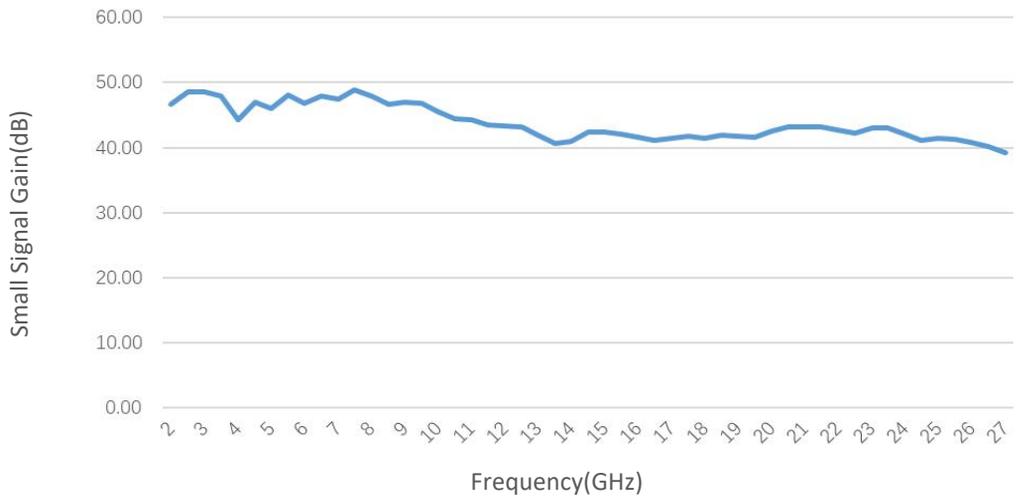
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

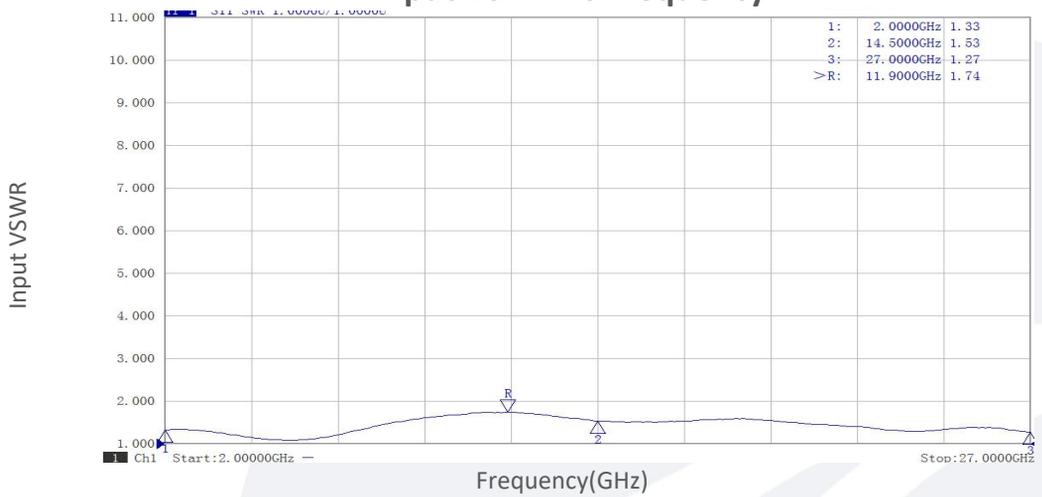
| Base Number | Description | Revision |
|---------------------|---|----------|
| TLPA12G20G-33-33-BC | Solid State High Power Amplifier Systems 12-20GHz, Gain:33dB, Psat:33dBm, 220V AC, Built in Fan Cooling | Rev.1.1 |

Typical Performance Data:

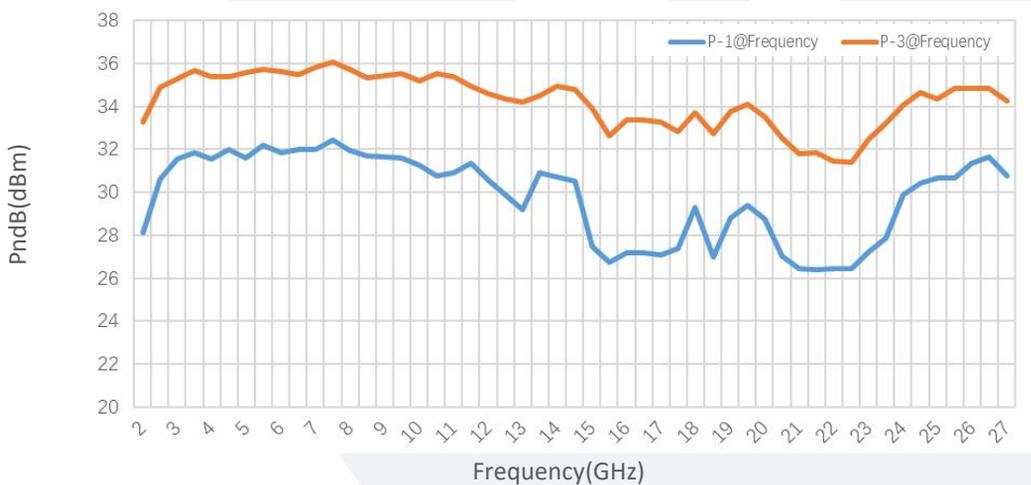
Small Signal Gain vs Frequency



Input VSWR vs Frequency



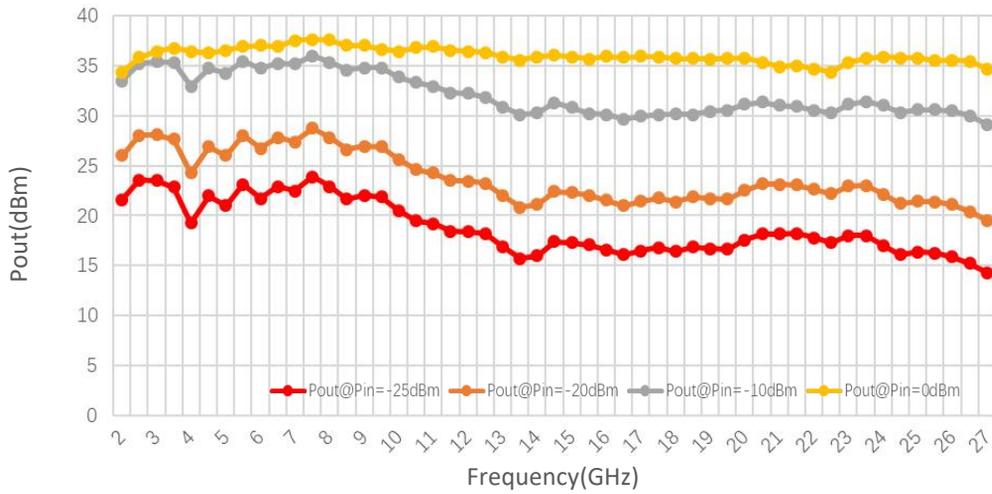
PndB vs Frequency



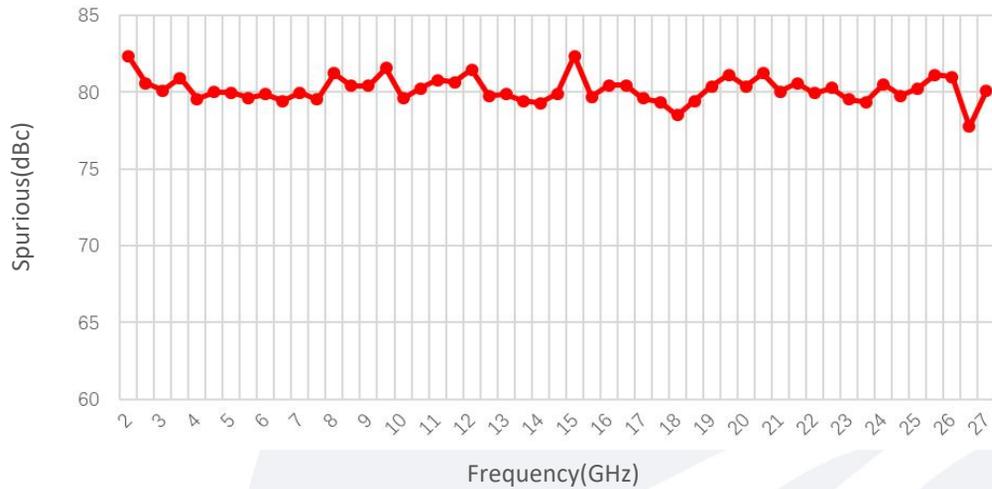
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

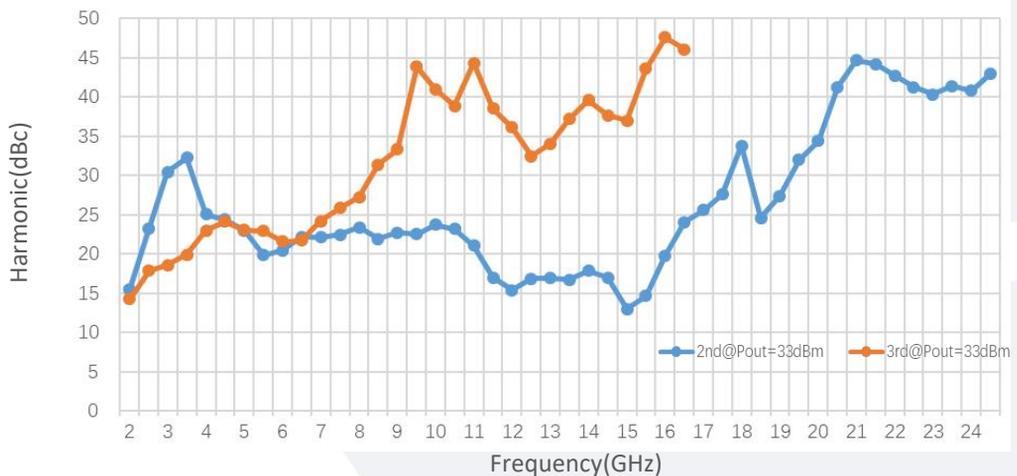
Pout@Equal_Pin



Spurious vs Frequency



Harmonic 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.