

## 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



#### 电气特性 Electrical Characteristics:

参数 Parameter	代码 Symbol	Min	Typ	Max	单位 Units
频率范围 Frequency range	BW	12-20			GHz
功率增益 Power Gain	GP	33			dB
增益调节范围 Gain adjust Range	$\Delta$ GR		31.5		dB
增益调节步进 Gain adjust Step	$\Delta$ GS		0.5		dB
饱和输出功率 Output Psat	Psat	33			dBm
杂散 Spurious	Spur			-60	dBc
输入驻波 Input VSWR	VSWRin			2	:1
交流电压 AC Voltage	Vac		220		V AC
功耗 Power Consumption	Pdiss			60	W
阻抗 Impedance	I/O-IMP	50			Ohms

#### 机械特性 Mechanical Specifications:

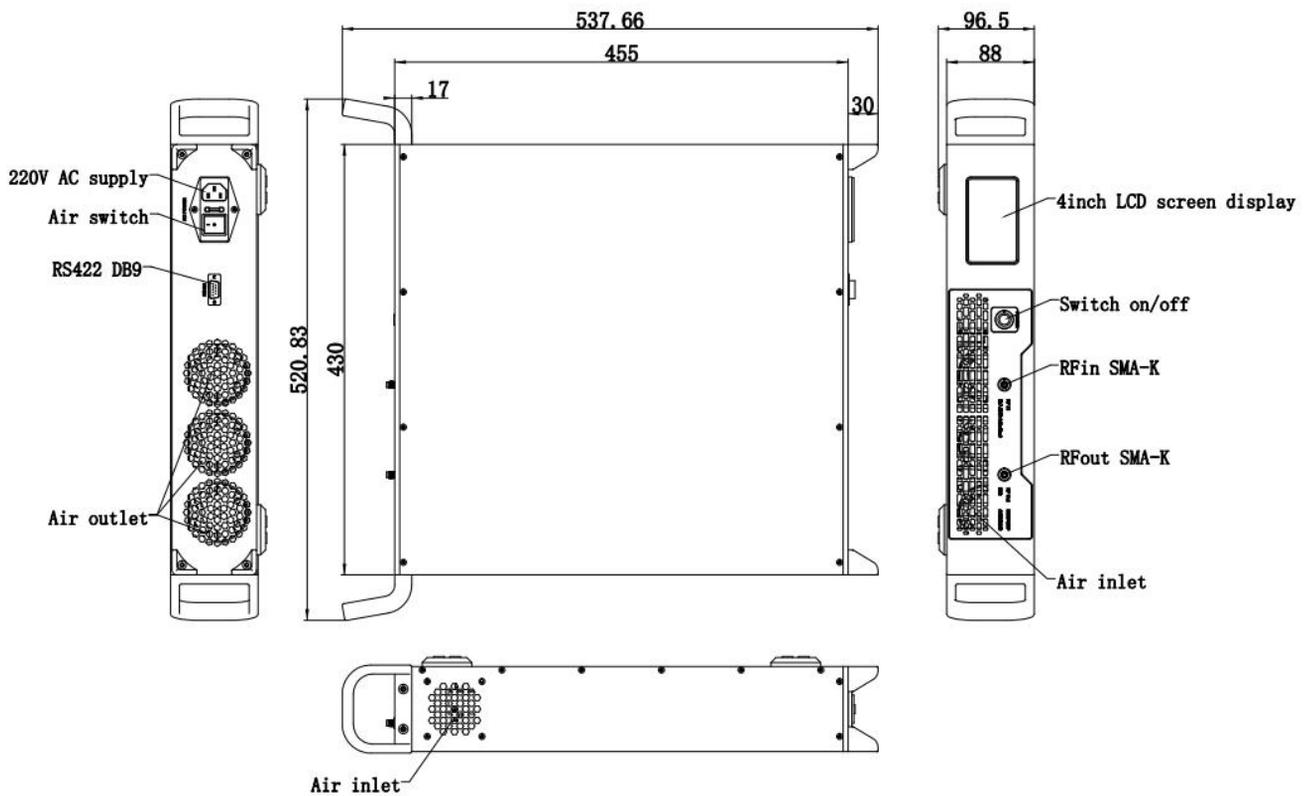
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/ SMA Female	
加电接口 Power Interface	Y50X-1203	
通信接口 Communication Connector	J30J-9ZKP	
尺寸 Size	19 Inch 2U	
重量 Weight	7.5	Kg

## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
输入功率 RF Input Power	+10 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

## 外形图 Outline Drawing:

Unit:mm



## 主要功能 Key Features:

参数 Parameter	特点 Advantages
控制功能 Control functions	1, Power setting On/Off 2, ALC automatic level control
内置保护功能 Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR
监控和控制 Remote control	LAN
冷却系统 Cooling system	Built in Cooling system, forced air cooling

## 温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-20		+50	°C
存储温度 Non-operating Temperature*	-30		+60	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave, 3 axis both directions			

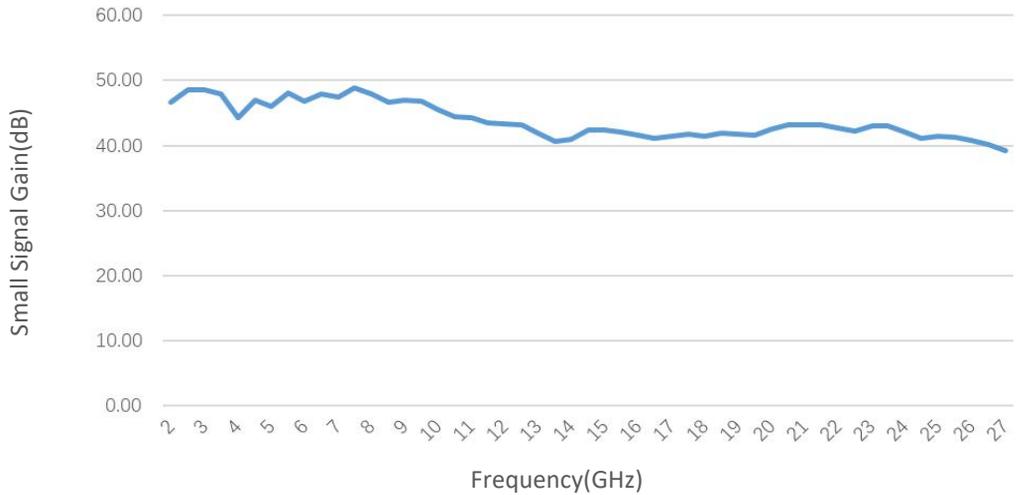
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

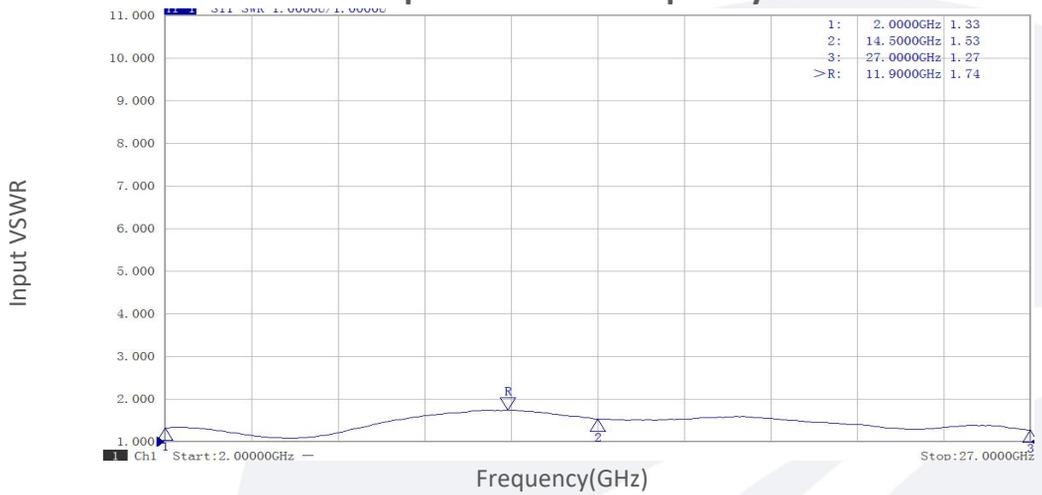
标准型号 Base Number	描述 Description	版本号 Revision
TLPA12G20G-33-33-BC	Solid State High Power Amplifier Systems 12-20GHz, Gain:33dB, Psat:33dBm, 220V AC, Built in Fan Cooling	Rev.1.1

**典型曲线 Typical Performance Data:**

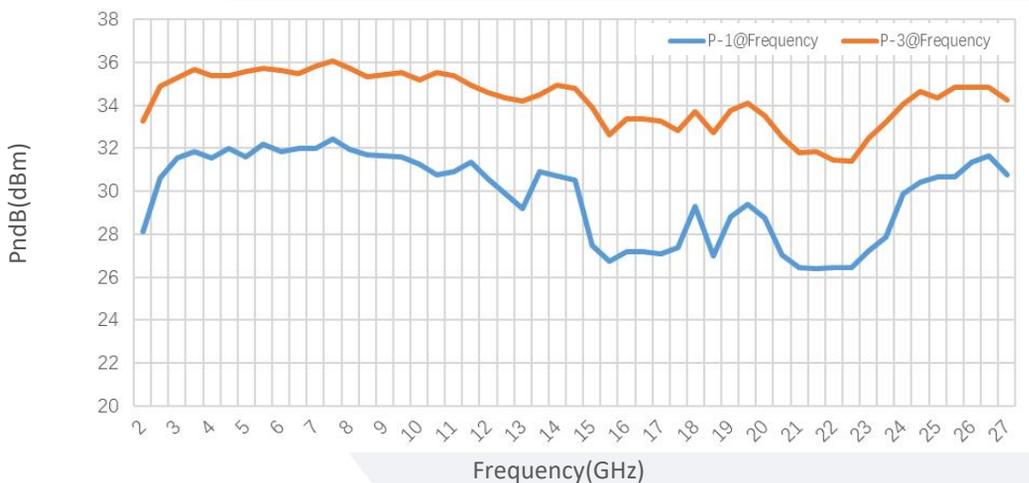
**Small Signal Gain vs Frequency**



**Input VSWR vs Frequency**



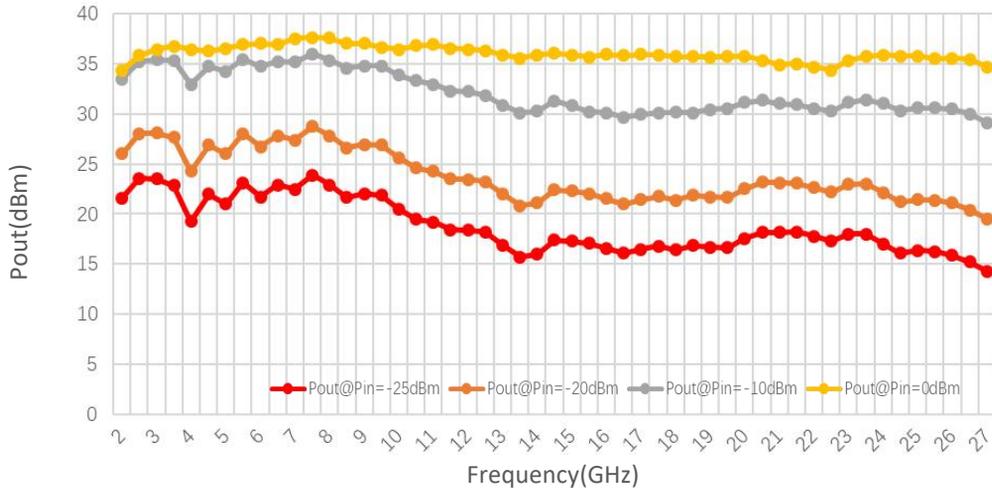
**PndB vs Frequency**



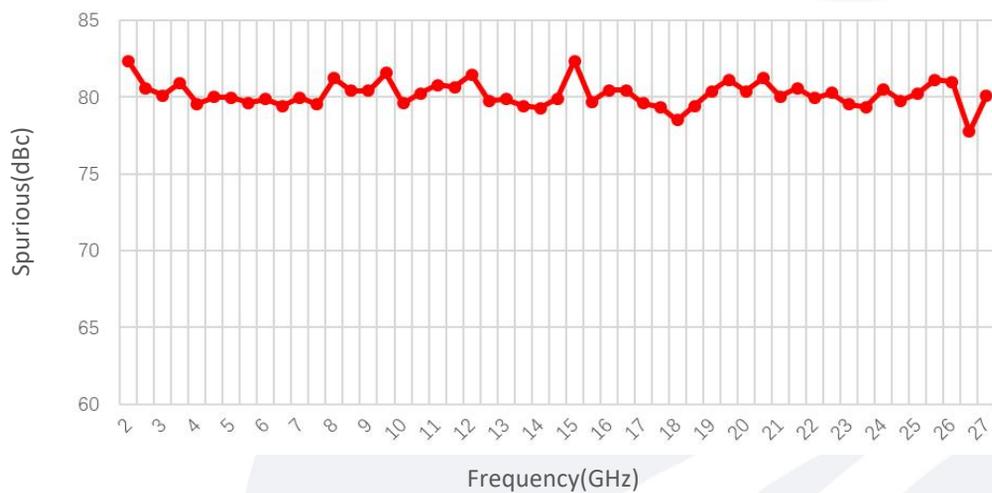
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**典型曲线 Typical Performance Data:**

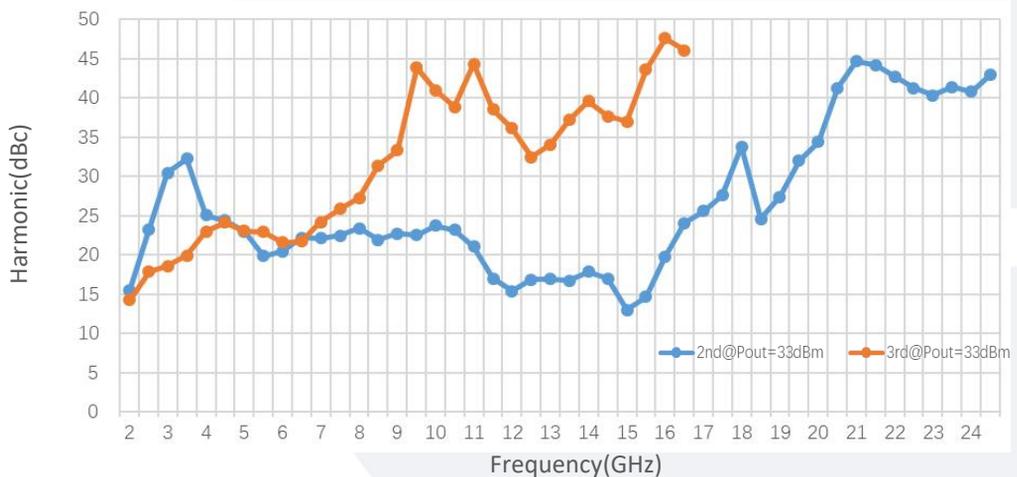
**Pout@Equal\_Pin**



**Spurious vs Frequency**



**Harmonic vs Frequency**



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