

Solid State High Power Amplifier Systems

0.5-6GHz/50dB Gain/47dBm Psat/220V AC

Model: TLPA0.5G6G-50-47-BC

TLPA0.5G6G-50-47-BC is a solid state high power amplifier systems provides high output power and high gain across the 0.5 to 6 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: 0.5-6GHz
- Gain: 50dB Min
- Psat Output Power:47dBm 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	0.5-6			GHz
Power Gain	GP	50			dB
Gain flatness	Δ GL		± 3.5		dB
Gain adjust Range	Δ GR	20			dB
Gain adjust Step	Δ GS		0.5		dB
Output P1dB	P1dB	40	42		dB
Output Psat	Psat	47			dBm
Spurious@Pout=47dBm	Spur			-60	dBc
Harmonics@Pout=47dBm	HAM		-10		dBc
Input VSWR	VSWRin			2	:1
AC Voltage	Vac		220		V AC
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

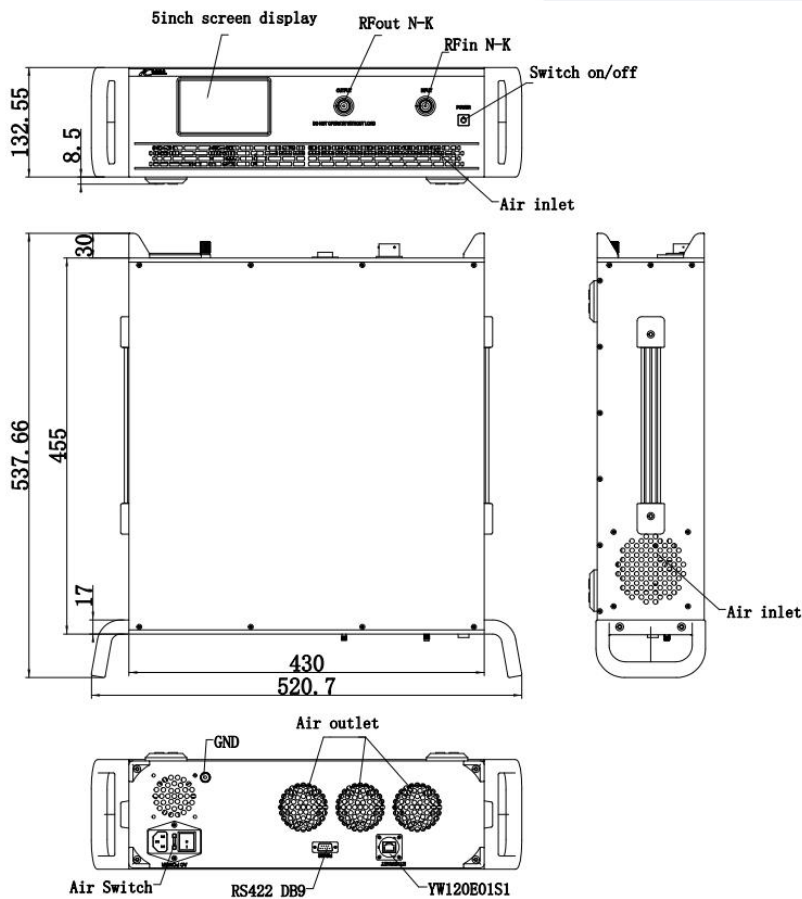
Parameter	Value	Units
Input /Output Connector	N Female/N Female	
AC Power Interface	Air switch	
Size	19 Inch 3U	mm
Weight	≤30	Kg

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	260V AC
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



Key Features:

Parameter	Advantages
Control functions	1, Gain setting with 20dB range 2, ALC
Monitoring functions	1, Forward Power 2, Temp Fault
Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR
Remote control	Ethernet RJ-45 TCP/IP
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			

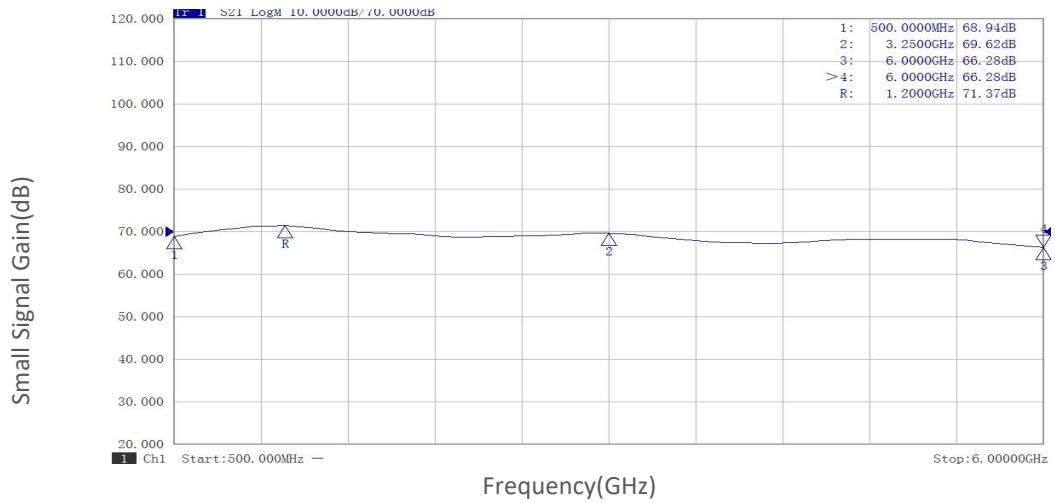
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

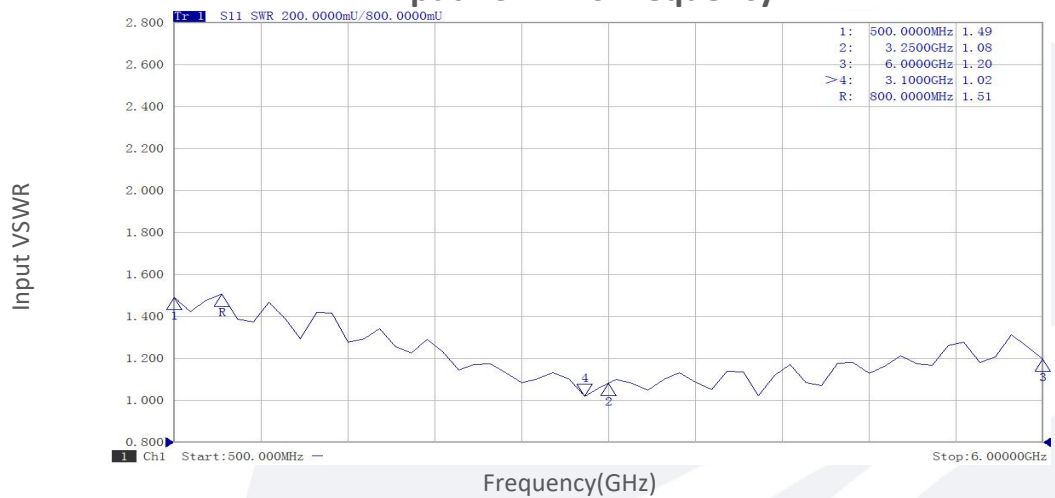
Base Number	Description	Revision
TLPA0.5G6G-50-47-BC	Solid State High Power Amplifier Systems 0.5-6GHz, Gain:50dB, Psat:47 dBm, 220V AC, Built in Fan Cooling	Rev.1.1

Typical Performance Data:

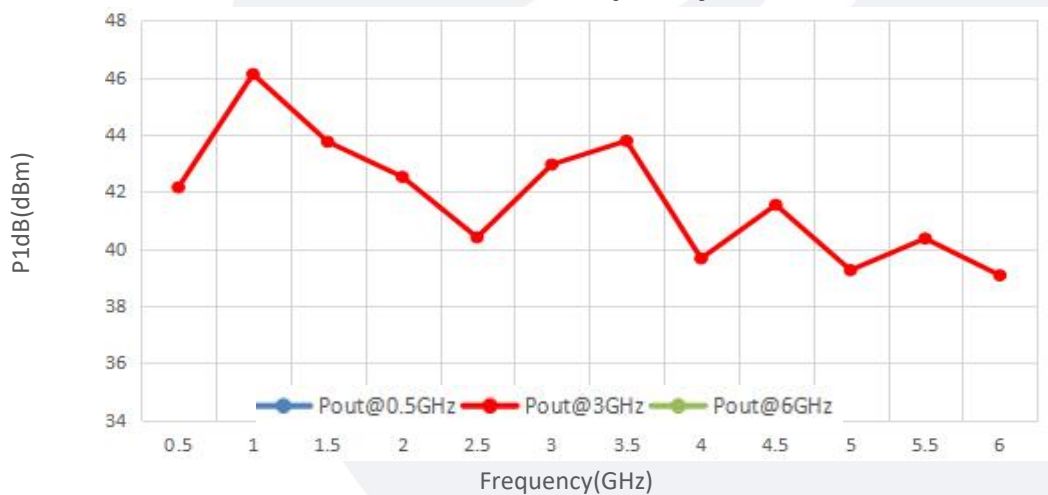
Small Signal Gain vs Frequency



Input VSWR vs Frequency



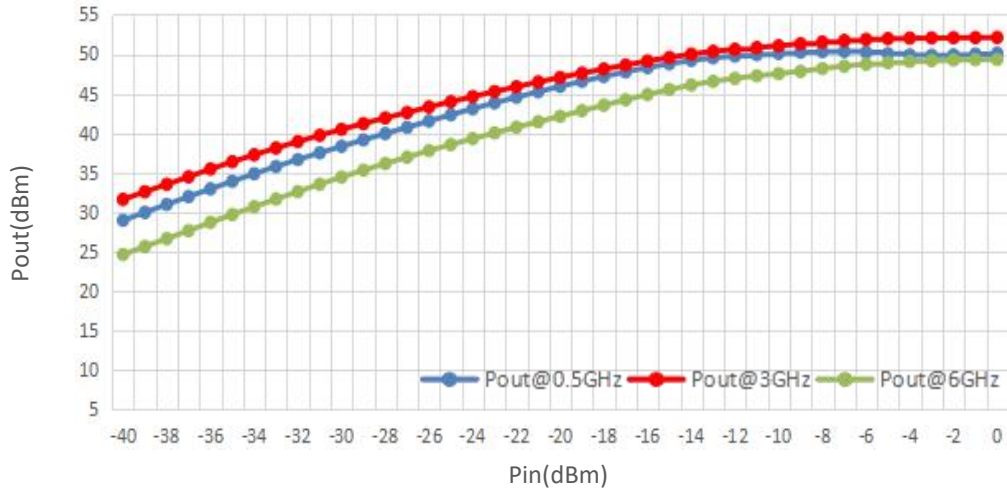
P1dB vs Frequency



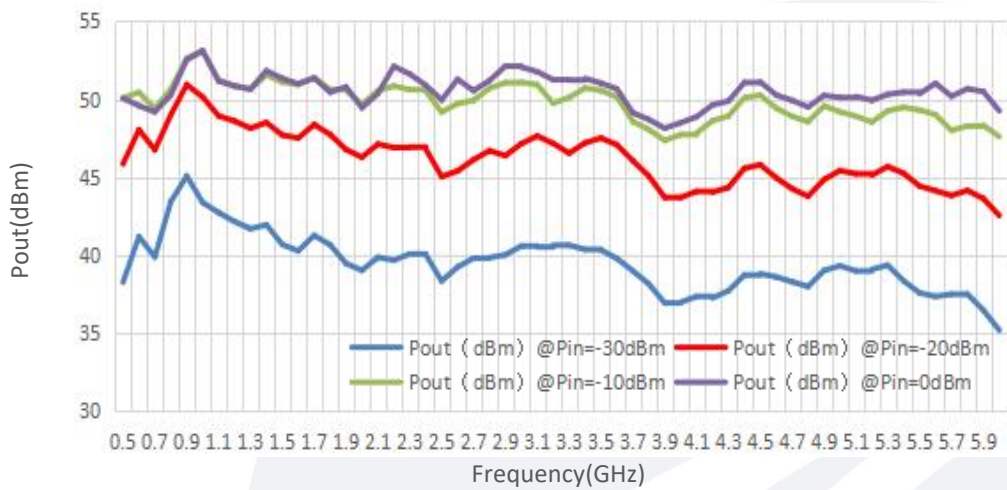
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

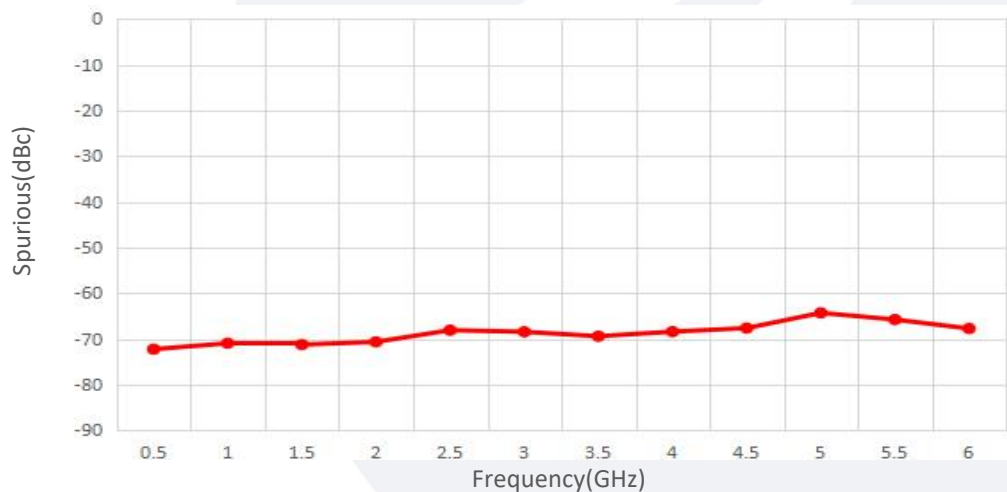
Pout@Pin



Pout@Equal_Pin



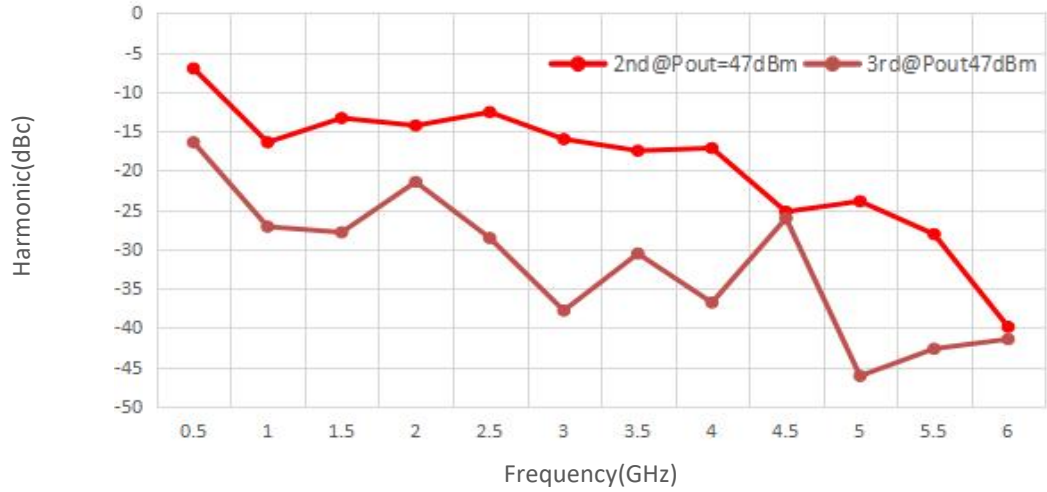
Spurious vs Frequency



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Typical Performance Data:

Harmonic vs Frequency



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