

Solid State High Power Amplifier Systems

13.5-14.5GHz/60dB Gain/60dBm Psat/380V AC

Model: TLPA13.5G14.5G-60-60-BC

TLPA13.5G14.5G-60-60-BC is a solid state high power amplifier systems provides high output power and high gain across the 13.5 to 14.5 GHz frequency range. The amplifier features a built-in 380V 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:

- Wide Band:13.5-14.5 GHz
- Gain: 60 dB Min
- Psat Output Power:60 dBm Min
- Protection:Over TEM,input overdrive,over voltage, under voltage ,load VSWR protection
- 50 Ohm Matched Input / Output

Electrical Characteristics:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	13.5-14.5			GHz
Linear Gain flatness	ΔGL		$\pm 0.3@40\text{MHz}$ $\pm 2@full\ band$		dB
Power Gain	Gp	60			dB
Gain adjust Range	ΔGR	20			dB
Gain adjust Step	ΔGS		0.5		dB
Output Psat	Psat	60			dBm
Spurious@Pout=60dBm	Spur			-60	dBc
Harmonics@Pout=60dBm	HAM			-30	dBc
Gain stability@24h	Gstb			± 0.25	dB
Two-tone intermodulation (5MHz space)	IMD	-25 dBc max at total output power 56dBm			dBc
Input VSWR	VSWRin			1.5	:1
Output VSWR	VSWRout		1.5	2	:1
AC Voltage @3-phase (50-60Hz)	Vac		380	420	V AC
Power Consumption@Pout=60dBm	Pdiss			8	kW
Power Consumption@Psat	Pdiss			9	kW
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	N Female/WR62	
Forward/Reverse Coupling	N Female/N Female	
Communication Connector	Serial:RS422;Ethernet: RJ-45	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
AC Power Connector	Y50DX-3205	
Size	20U*580 depth	mm
Weight	≤300	Kg

Absolute Maximum Ratings:

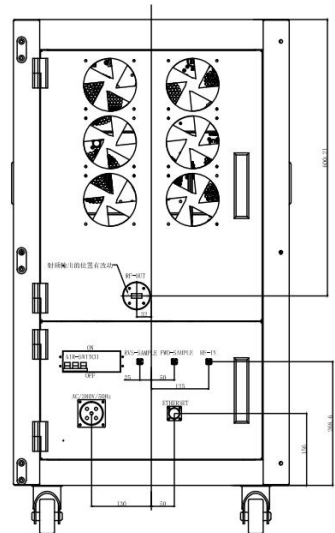
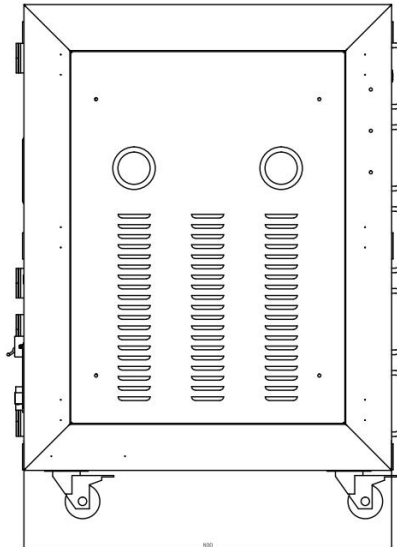
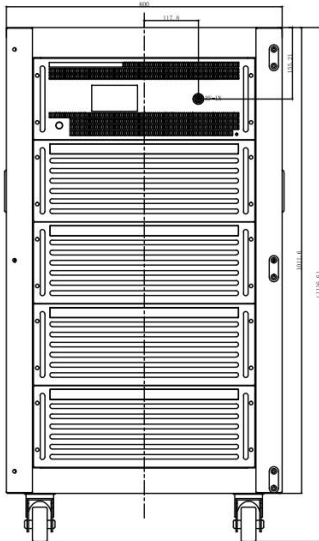
Parameter	Value
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Key Features:

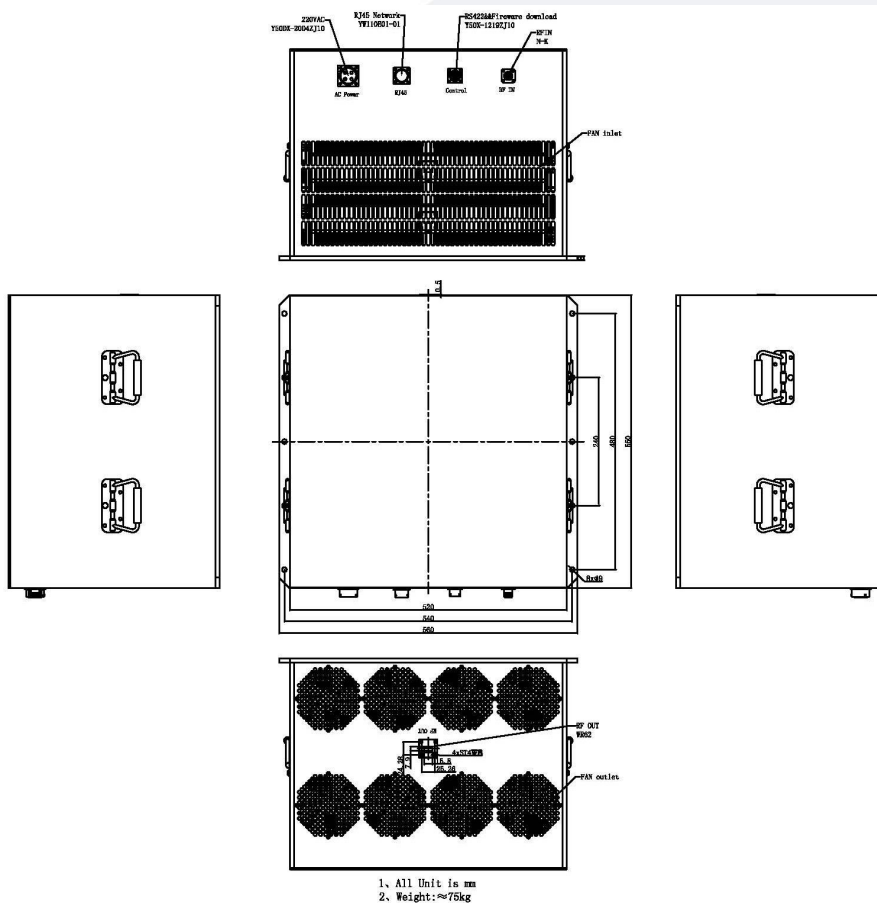
Parameter	Advantages
Control functions	1, Power setting On/Off
Protection functions	1,Over TEM:≥+55℃ shutdown 2,Over DC voltage:≥29V shutdown 3,Under DC voltage:≤20V shutdown 4,Input overdrive:≥10dBm shutdown 5,Load VSWR protection:The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB
Monitoring function	1,Input voltage 2,nput current 3,Input power(rf) 4,output VSWR 5,output power 6,reverse power 7,status of gate voltages 8,temp
Remote control	RS422/LAN
Cooling system	Built in Cooling system,forced air cooling

Outline Drawing:

Unit:mm



Vesion 1



Vesion 2(designing, current outline is not correct)

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-40		+70	°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
TLPA13.5G14.5G-60-60-BC	Solid State High Power Amplifier Systems 13.5-14.5GHz,Gain:60dB,Psat:60 dBm,380V AC,Built in Fan Cooling	Rev.1.2