

Power Amplifier

13.75-14.5GHz/53dB Gain/53dBm Psat

Model: TLPA13.75G14.5G-53-53-HS

TLPA13.75G14.5G-53-53-HS is a power amplifier with power gain of 53 dB and a minimum Psat of 53 dBm across the frequency range of 13.75 to 14.5 GHz. The DC power requirement for the amplifier is +28 VDC/1200 W. The input port configuration offers coax adapter structure with SMA female and output port configuration offers an inline structure with WR-12 waveguide.

Features:

- Frequency range: 13.75-14.5GHz
- Gain: 53dB Min
- Output Power Psat: 53dBm Min
- Protection: Over TEM, over current, over voltage, over VSWR protection
- 50 Ohm Matched Input / Output

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	13.75		14.5	GHz
功率增益 Power Gain	53			dB
增益平坦度 Gain flatness@full band		±3		dB
增益平坦度 Gain flatness@40MHz		±0.5		dB
饱和输出功率 Output Psat	53			dBm
增益调节范围 Gain adjust Range		31.5		dB
增益调节步进 Gain adjust Step		0.5		dB
杂散 Spurious@Pout=53dBm			-60	dBc
谐波 Harmonics@Pout=53dBm			-20	dBc
三阶互调 Output IM3*			-25	dBc
输入驻波 Input VSWR		1.5		:1
输出驻波 Output VSWR		1.5	1.8	:1

*Test conditions: 5 MHz interval between tones, total power of tone synthesis 50 dBm, 25°C

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
驻波告警 VSWR Warning		3		:1
直流电压 DC Voltage		28	29	V DC
功耗 Power Consumption			1200	W
阻抗 Impedance		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/WR-62	
正向/反向耦合 Forward/Reverse Coupling	SMA Female/SMA Female	50±0.5dB
通信接口 Communication Connector	J30J-15ZKP	
供电接口 DC Supply Connector	DSUB-5W5	Pin1~2: +28V Pin3~5: GND
尺寸 Size	318*328*128	mm
重量 Weight	≤10	Kg

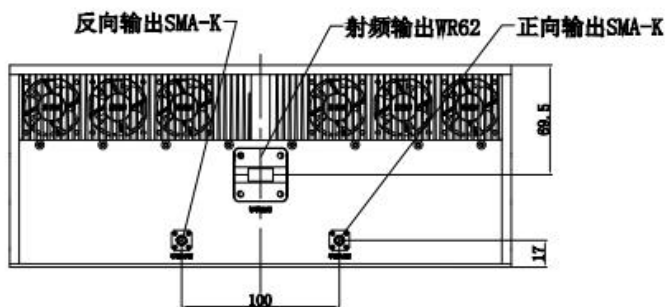
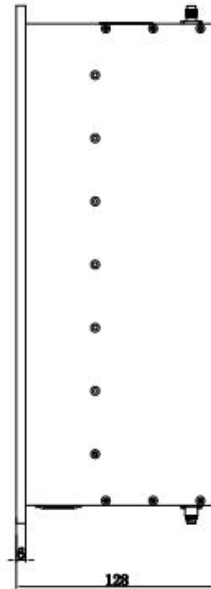
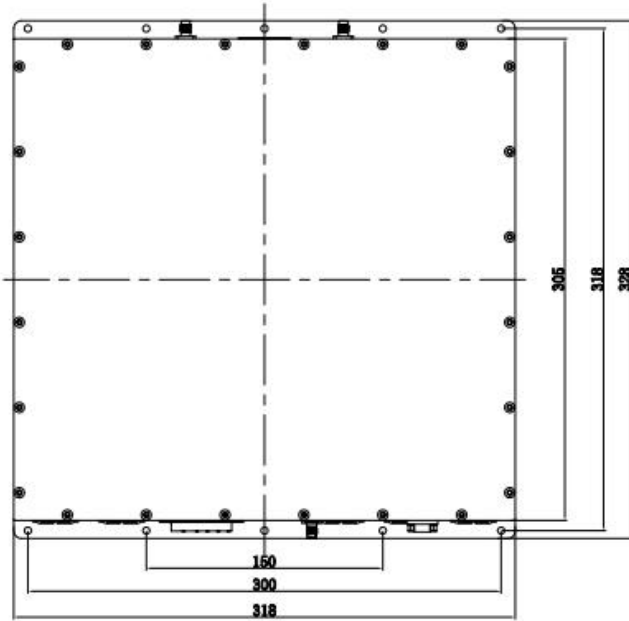
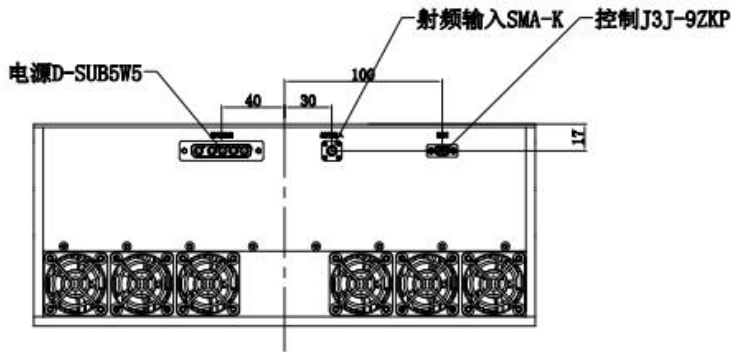
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+29 VDC
输入功率 RF Input Power	+5 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

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 3, Gain 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	RS422
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
TLPA13.75G14.5G-53-53-HS	Power amplifier 13.75-14.5GHz, Gain:53dB, Psat:53dBm, +28V DC, With Heatsink	Rev.1.1