

## Solid State High Power Amplifier Systems

5.8-6.8GHz /63dB Gain/63 dBm Psat/380V AC

Model: TLPA5.8G6.8G-63-63-BC

TLPA5.8G6.8G-63-63-BC is a solid state high power amplifier systems provides high output power and high gain across the 5.8 to 6.8 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: 5.8-6.8GHz
- Gain: 63dB Min
- Psat Output Power:63dBm 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      | 5.8-6.8 |     |       | GHz   |
| Linear Gain                  | LGP     |         | 75  |       | dB    |
| Linear Gain flatness         | ΔGL     |         | ±2  |       | dB    |
| Power Gain                   | Gp      | 63      |     |       | dB    |
| Gain adjust Range            | ΔGR     |         | 30  |       | dB    |
| Gain adjust Step             | ΔGS     |         | 0.5 |       | dB    |
| Output Psat                  | Psat    | 63      | 64  |       | dBm   |
| Output Psat flatness         | ΔPsat   |         |     | ±1.5  | dB    |
| Spurious@Pout=63dBm          | Spur    |         |     | -60   | dBc   |
| Harmonics@Pout=63dBm         | HAM     |         |     | -20   | dBc   |
| Gain stability@24h           | Gstb    |         |     | ±0.25 | dB    |
| Output IM3*                  | IM3     |         |     | -25   | dBc   |
| Input VSWR                   | VSWRin  |         |     | 1.25  | :1    |
| Output VSWR                  | VSWRout |         |     | 1.5   | :1    |
| Load VSWR                    | LVSWR   |         |     | 3     | :1    |
| AC Voltage                   | Vac     |         | 380 | 420   | V AC  |
| Power Consumption@Pout=63dBm | Pdiss   |         | 7   | 7.5   | kW    |
| Power Consumption@Psat       | Pdiss   |         | 8   | 8.5   | kW    |
| Impedance                    | I/O-IMP | 50      |     |       | Ohms  |

\*test condition: two tone/spacing 5MHz/total output power 55dBm

## Mechanical Specifications:

| Parameter                      | Value                     | Units                                                                |
|--------------------------------|---------------------------|----------------------------------------------------------------------|
| Input /Output Connector        | N Female/WR137            |                                                                      |
| Forward/Reverse Coupling       | SMA Female/ SMA Female    |                                                                      |
| Communication Connector        | DB-15                     |                                                                      |
| Front Panel LCD Screen Display | 7 inch LCD Screen Display |                                                                      |
| Liquid Interface               | Inlet/outlet:ZFS-08       | Coolant temp range:0~30℃<br>Pressure: 1.2 bar<br>Liquid flow: 8L/min |
| Size                           | 4U*580 depth              | mm                                                                   |
| Weight                         | ≤50                       | Kg                                                                   |

## Absolute Maximum Ratings:

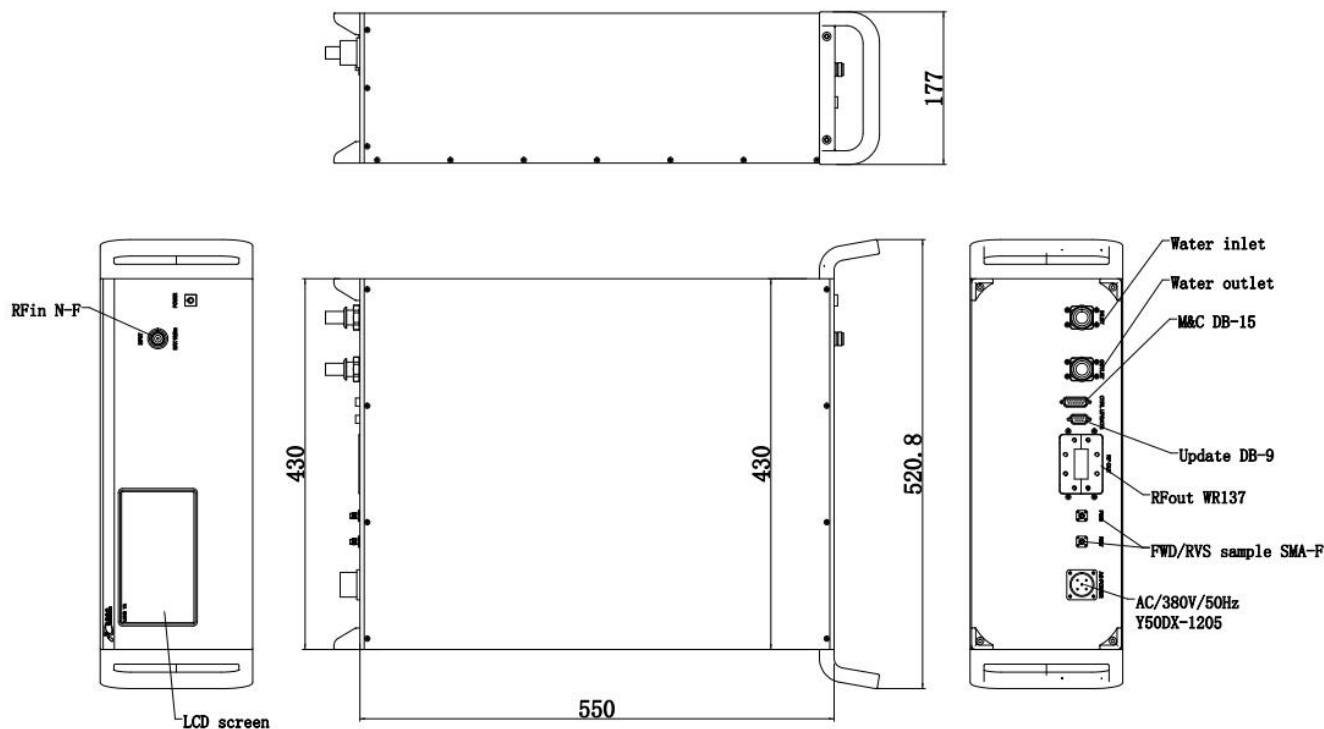
| Parameter             | Value                |
|-----------------------|----------------------|
| RF Input Power        | +10 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Key Features:

| Parameter            | Advantages                                                                                                                                                                                                                                                         |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control functions    | 1, Power setting On/Off                                                                                                                                                                                                                                            |
| Protection functions | 1,Over TEM:≥+50℃ shutdown<br>2,Over DC voltage:≥29V shutdown<br>3,Under DC voltage:≤20V shutdown<br>4,Input overdrive:≥10dBm shutdown<br>5,Load VSWR protection:The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB |
| Remote control       | RS422/485                                                                                                                                                                                                                                                          |
| Cooling system       | Built in Cooling system,forced liquid cooling                                                                                                                                                                                                                      |

## Outline Drawing:

Unit:mm



## Environmental Conditions:

| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature*          | -20                                                 |     | +40 | °C    |
| Non-operating Temperature*      | -30                                                 |     | +50 | °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 |
|-----------------------|--------------------------------------------------------------------------------------------------------|----------|
| TLPA5.8G6.8G-63-63-BC | Solid State High Power Amplifier Systems 5.8-6.8GHz,Gain:63dB,Psat:63 dBm,380V AC,Built in Fan Cooling | Rev.1.2  |