

## Solid State High Power Amplifier Systems

2-18GHz /56dB Gain/56 dBm Psat/220V AC

Model: TLPA2G18G-56-56-P-BC

TLPA2G18G-56-56-P-BC is a solid state high power amplifier systems provides high output power and high gain across the 2 to 18 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: 2-18GHz
- Gain: 56dB Min
- Psat Output Power:56dBm 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	2-18			GHz
Working Mode	MOD	Pulse only			
PowerGain	GP	56			dB
Gain flatness	$\Delta$ GL		$\pm 3$		dB
Output Psat	Psat	56			dBm
Spurious@Pout=400W	Spur			-55	dBc
Harmonics@Pout=400W	HAM		-15	-10	dBc
Modulation Signal Level	TTL	0		5	V
Modulation Frequency	MF	1		100	KHz
Pulse Width	T	0.3		500	us
Duty Cycle	$\tau$	0.1		20	%
Rise/Fall Time	Tr		50	100	ns
Pulse Input	TTL level, 50 ohm nominal termination				
Pulse Drop@T=100us	Pdrop		0.5	1	dB
Star Delay	DSU		150		ns
Shutoff Delay	TOF		250		ns
Input VSWR	VSWR		1.5	2	:1

## Electrical Characteristics:

Parameter	Symbol	Min	Typ	Max	Units
AC Voltage	Vac	220 VAC(±10%), Single phase, 50Hz(±10%)			V AC
Power consumption@20%	Pdiss	700/1200			W
Output power control (Power Variation)	OPC		20		dB
Impedance	I/O-IMP	50			Ohms

## Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	N Female/N Female	
Forward/Reverse Coupling	SMA Female/SMA Female	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Pulse Input Connector	BNC Female	
Communication Connector	DB9/RJ-45	
Size	19 Inch 8U*800 depth	mm
Weight	≤100	Kg

## Absolute Maximum Ratings:

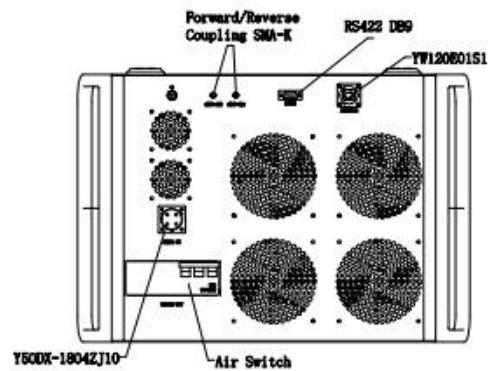
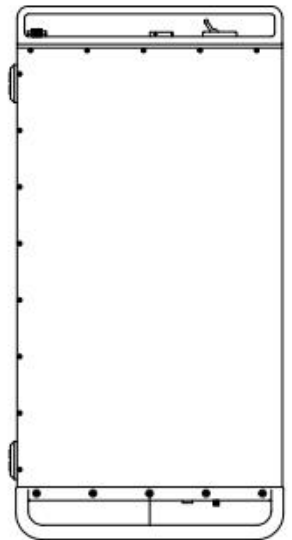
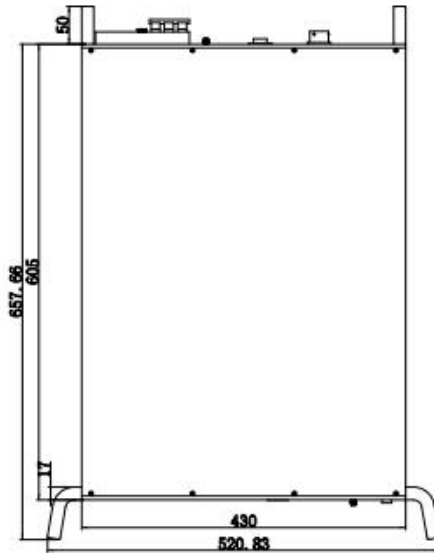
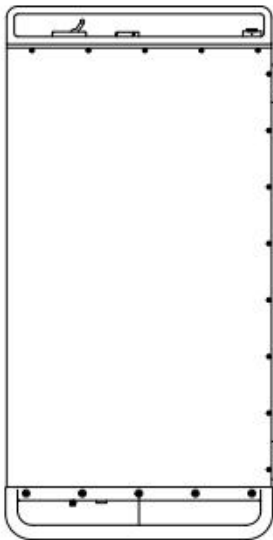
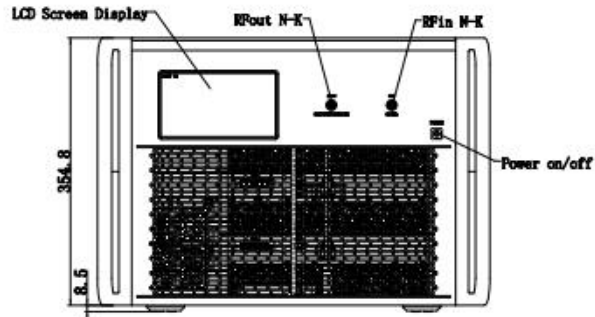
Parameter	Value
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

## Key Features:

Parameter	Advantages
Control functions	1, Power setting On/Off
Protection functions	1,Over TEM 2,Over voltage 3,Over current 4,Over VSWR
Remote control	RS422/LAN, LCD Screen Display
Cooling system	Front to back forced air cooling fans makes this ideal for usage in test equipment racks

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			

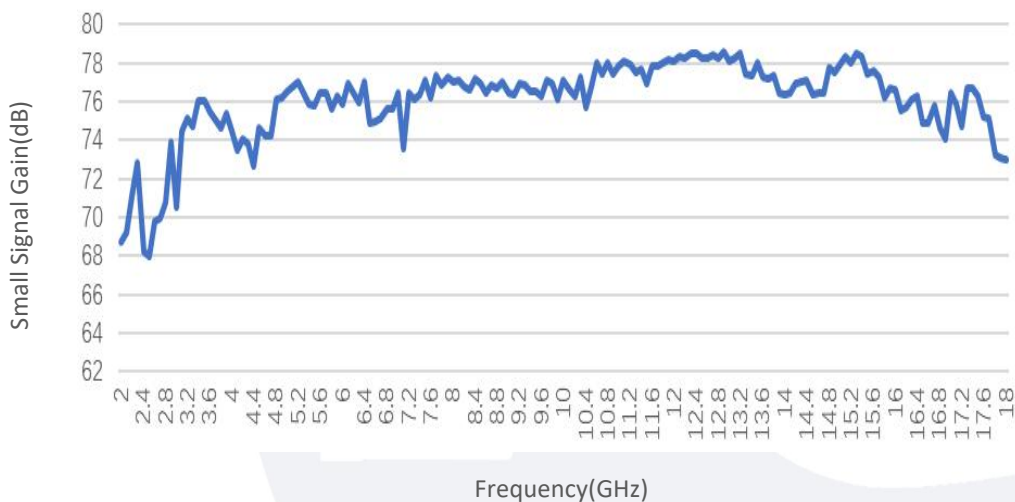
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA2G18G-56-56-P-BC	Solid State High Power Amplifier Systems 2-18GHz, Gain:56dB, Psat:56 dBm, 220V AC, Built in Fan Cooling	Rev.1.1

### Typical Performance Data:

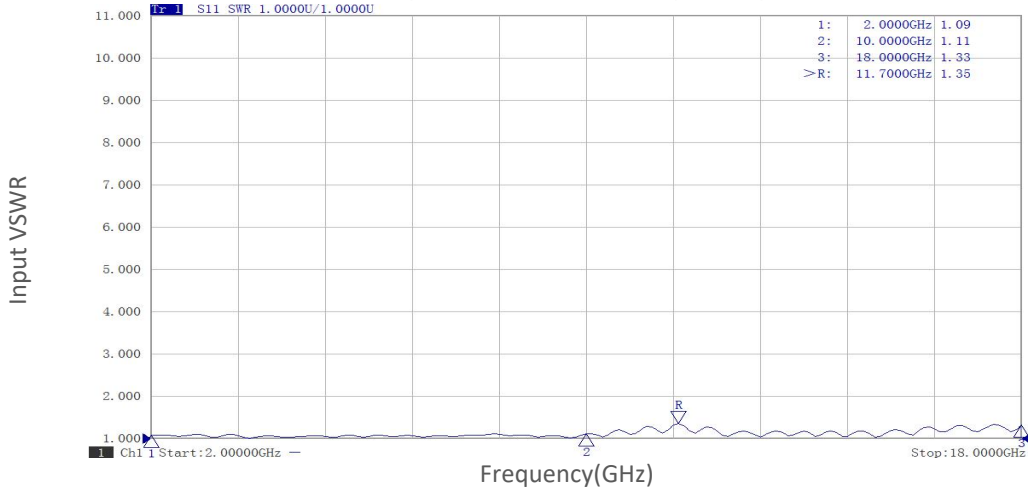
Small Signal Gain vs Frequency



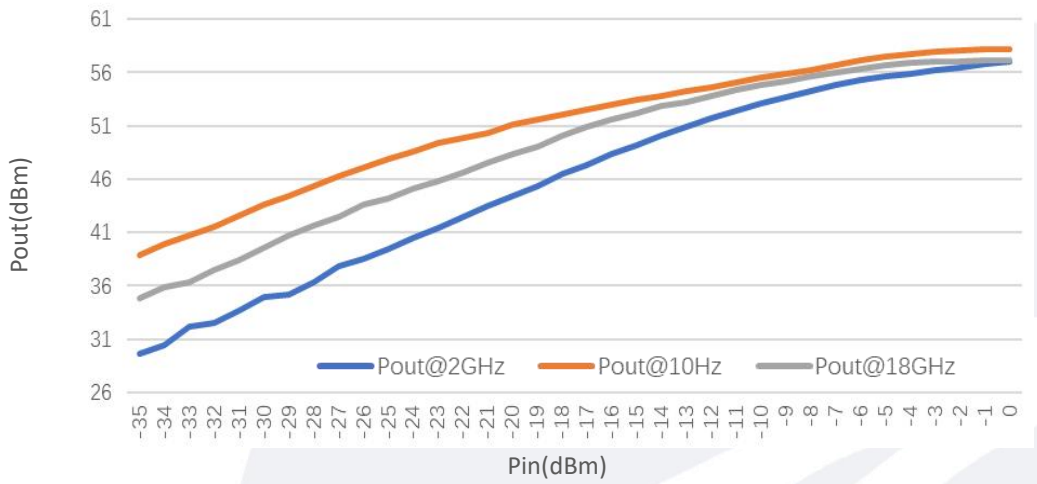
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

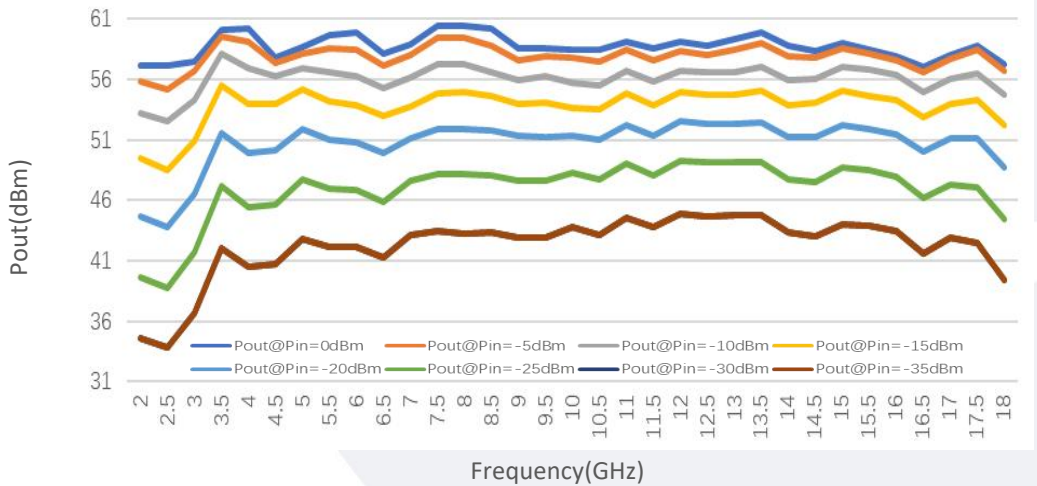
**Input VSWR vs Frequency**



**Pout@Pin**



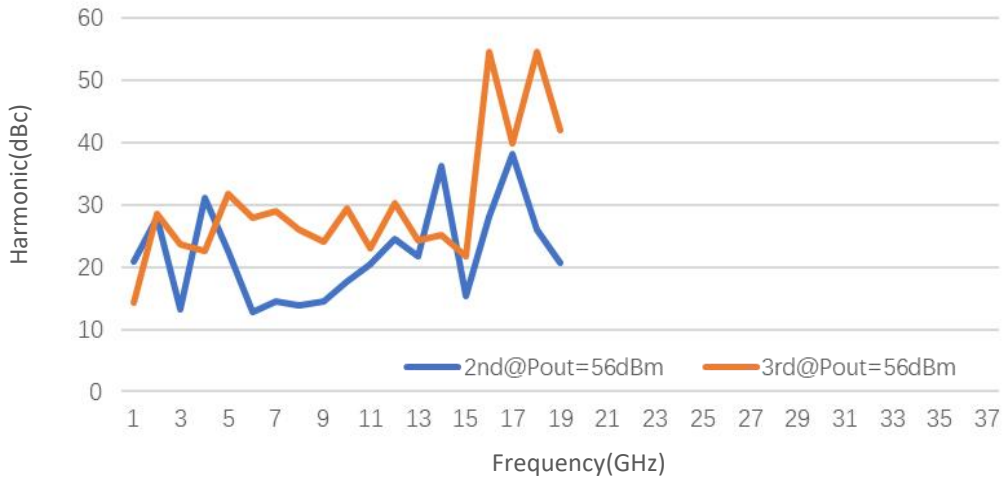
**Pout@Equal\_Pin**



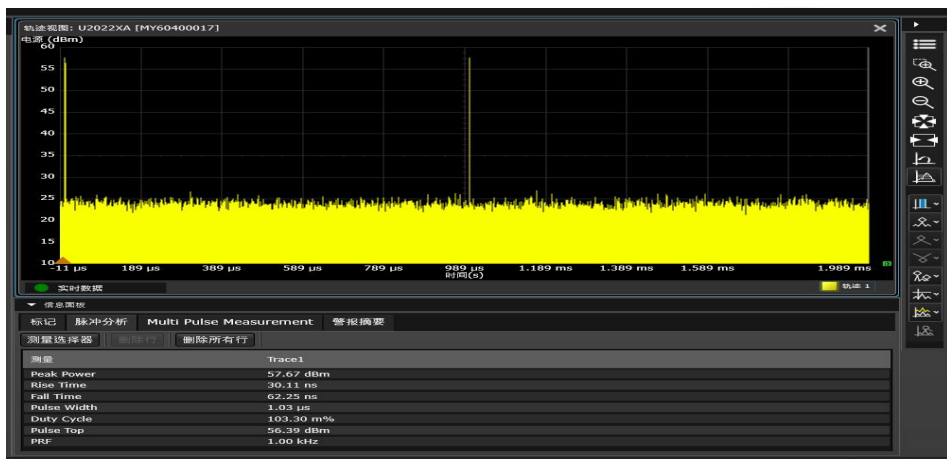
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

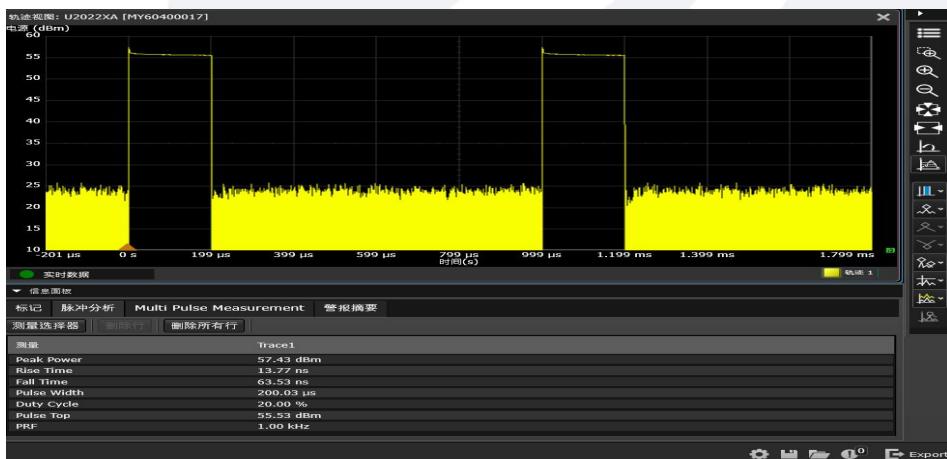
### Harmonic vs Frequency



### Rise/Fall Time @1KHz\_0.1% Duty Cycle



### Rise/Fall Time @1KHz\_20% Duty Cycle



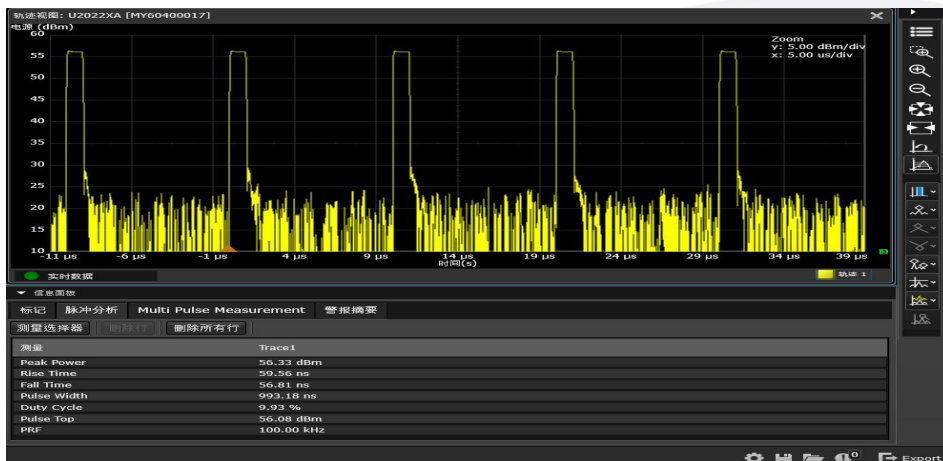
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

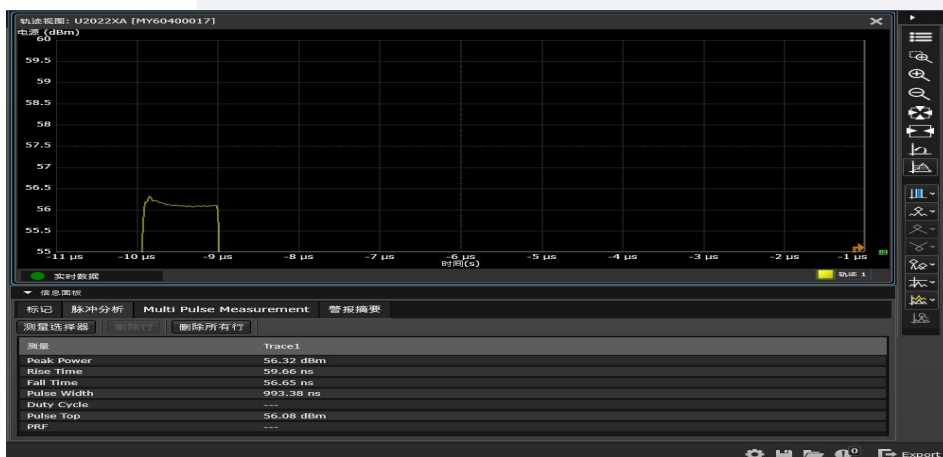
### Rise/Fall Time @100KHz\_3% Duty Cycle



### Rise/Fall Time @100KHz\_10% Duty Cycle



### Pulse Drop @100KHz\_10% Duty Cycle



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.

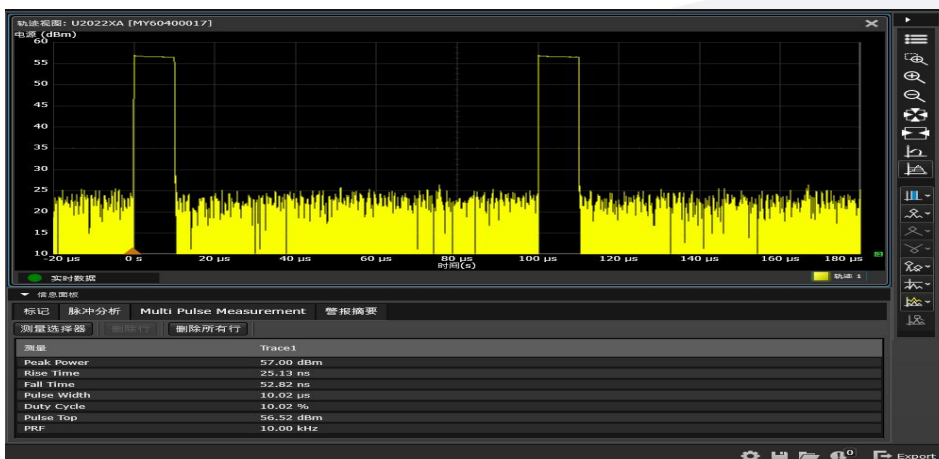


## Typical Performance Data:

### Rise/Fall Time @100KHz\_20% Duty Cycle



### Rise/Fall Time @10GHz\_10KHz\_10% Duty Cycle



### Pulse Drop @10GHz\_10KHz\_10% Duty Cycle



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.

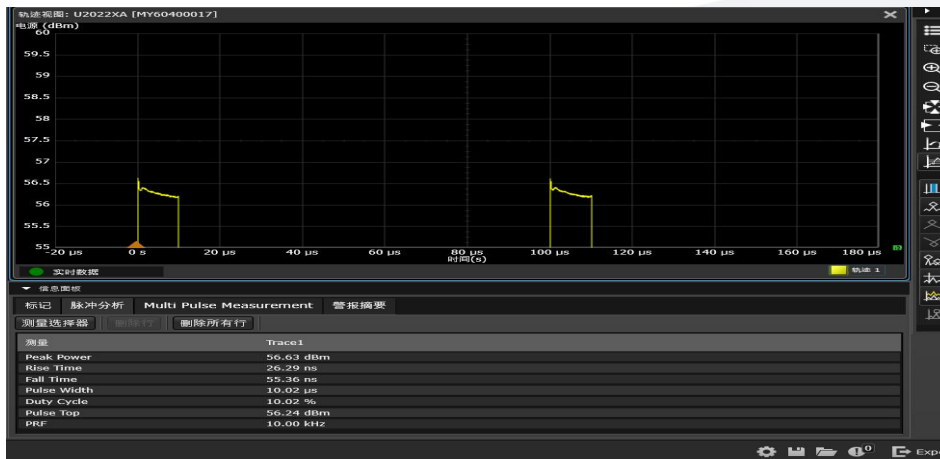


## Typical Performance Data:

### Rise/Fall Time @18GHz\_10KHz\_10% Duty Cycle



### Pulse Drop @18GHz\_10KHz\_10% Duty Cycle



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.