

General Description

Part:	Solid-State High-Power Amplifier System 2-18GHz/55dB Gain/55dBm Psat/220 V AC
Model:	TLPA2G18G-55-55-P-BC
Part Description:	
The TLPA2G18G-55-55-P-BC is a solid-state high-power amplifier system 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.	

Electrical Characteristics

No.	Parameter	Symbol	Minimum	Typical	Maximum	Units
1	Frequency range	BW	2		18	GHz
2	Working mode	MOD	Pulse Only			
3	Power gain	GP	55			dB
4	Gain flatness	ΔGL		± 3		dB
5	Output Psat	Psat	55			dBm
6	Spurious@Pout = 316W	Spur			-55	dBc
7	Harmonics@Pout = 316W	HAM		-15	-10	dBc
8	Modulation signal level	TTL	0		5	V
9	Modulation frequency	MF	1		100	kHz
10	Pulse width	T	0.3		500	us
11	Duty cycle	τ	0.1		20	%
12	Rise/fall time	Tr		50	100	ns
13	Pulse input	TTL level, 50 Ohm nominal termination 400				
14	Pulse drop@T = 100us	Pdrop		0.5	1	dB
15	Star delay	DSU		150		ns
16	Shutoff delay	TOF		250		Ns
17	Input VSWR	VSWR		1.5	2	:1
18	AC voltage	Vac	220 VAC ($\pm 10\%$), single phase, 50 Hz ($\pm 10\%$)			V AC
19	Power consumption @20%	Pdiss		700/1200		W
20	Output power control (power variation)	OPC		20		dB
21	Impedance	I/O-IMP		50		Ohm

Mechanical Specifications

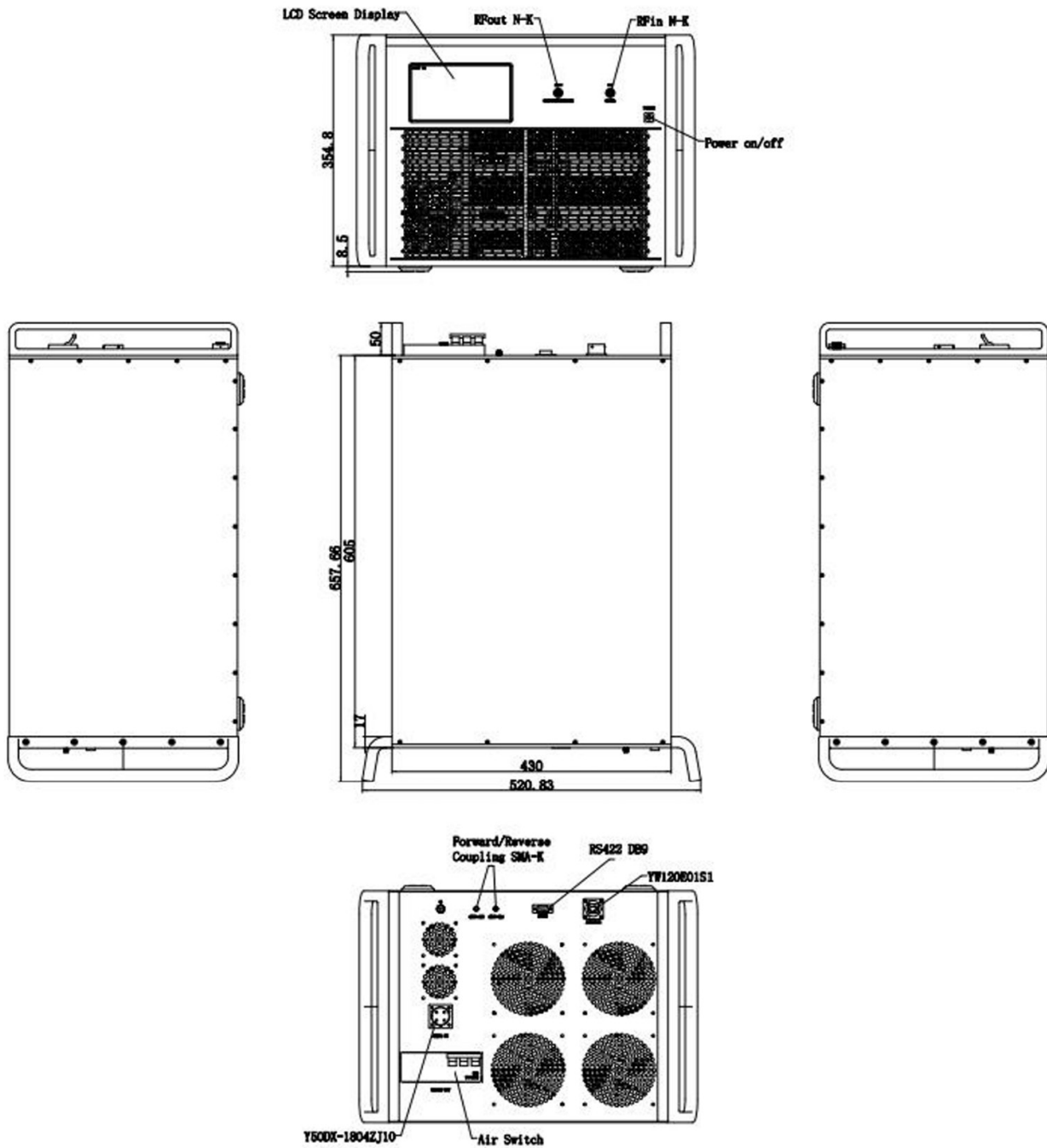
No.	Parameter	Value	Units	Note
1	Input connector	N		Female
2	Output connector	N		Female
3	Forward coupling	SMA		Female
4	Reverse coupling	SMA		Female
5	Front panel LCD screen display	7	inch	LCD screen display
6	Pulse input connector	BNC		Female
7	Communication connector	DB9/RJ-45		
8	Size	19 inch 8U * 800	mm	Depth
9	Weight	≤100	kg	

Absolute Maximum Ratings

No.	Parameter	Value	Units	Note
1	RF Input power	+5	dBm	
2	ESD sensitivity (HBm)	passed 150	V	Class 0

Technical Drawing

Unit: mm;



TLPA2G18G-55-55-P-BC

Key Features

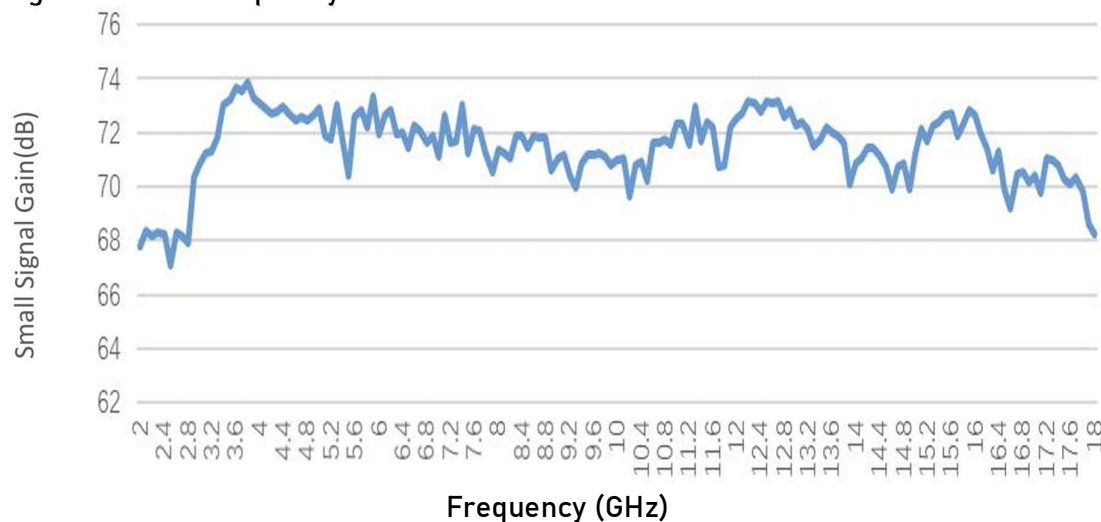
No.	Parameter	Advantages
1	Control functions	Power setting On/Off
2	Protection functions	Over TEM, Over voltage, Over current, Over VSWR
3	Remote control	RS422/Ethernet
4	Cooling system	Built in cooling system, forced air cooling

Environmental Conditions

No.	Parameter	Minimum	Typical	Maximum	Units
1	Operating temperature	-20		+40	°C
2	Non-operating temperature	-30		+50	°C
3	Relative humidity		95		%
4	Altitude		10,000		feet
5	Shock/Vibration (MIL-STD-810F)	25g rms (15 degrees 2kHz) endurance, 1 hour per axis			
6	Shock (non-operating)	20G for 11msc half sine wave, 3 axis both directions			

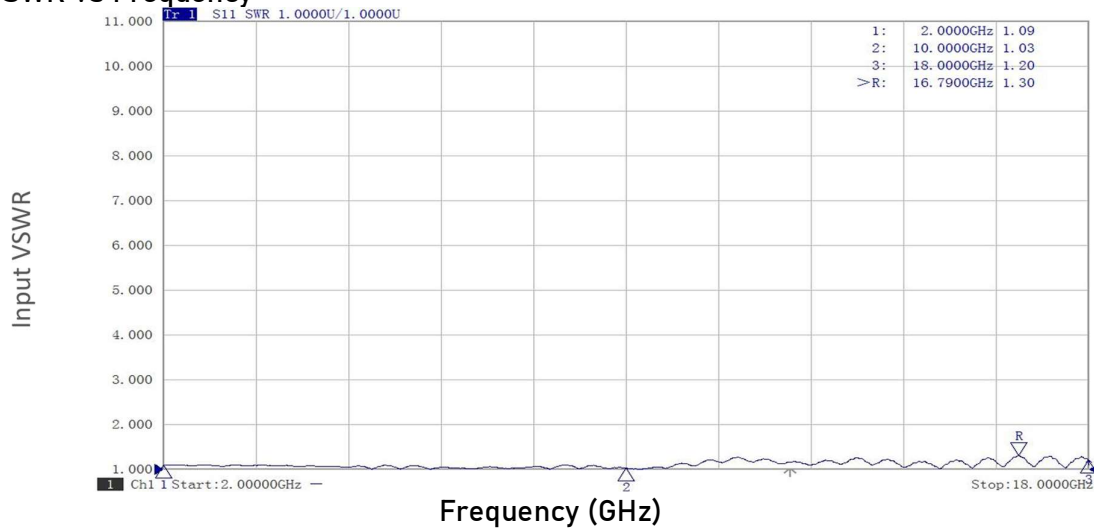
Typical Performance Data

Small Signal Gain vs Frequency

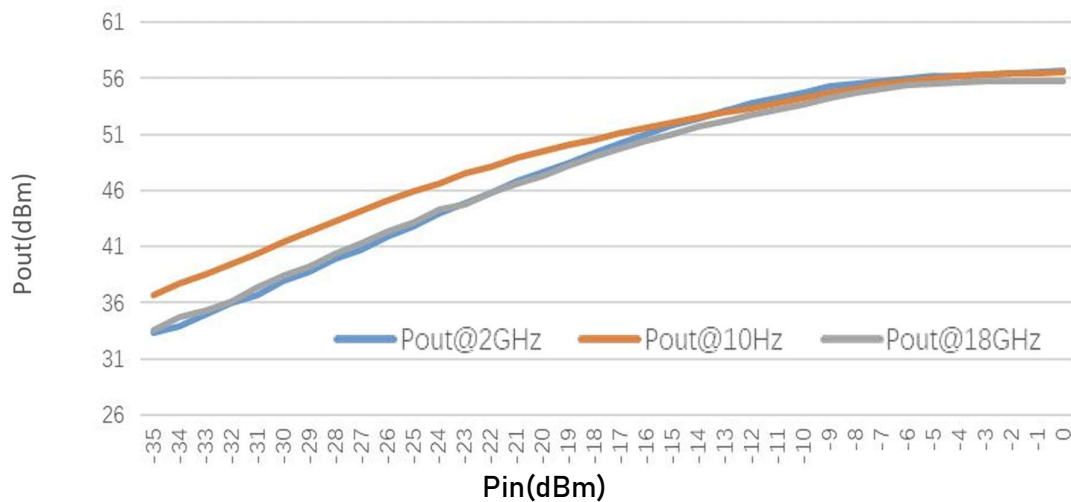


Note: Above data is for reference only, actual data may vary from unit to unit depending on operating environment and other factors like material lots, etc.

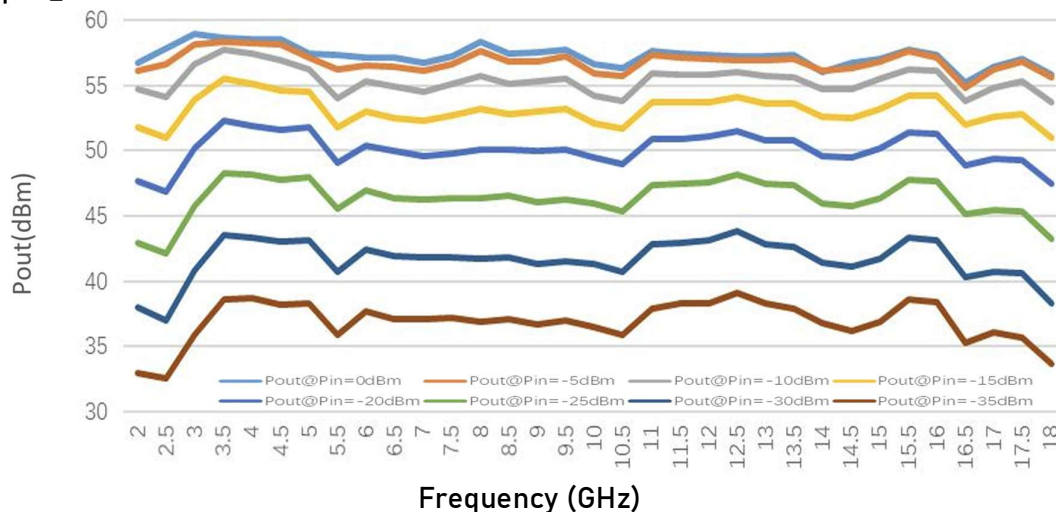
Input VSWR vs Frequency



Pout@Pin

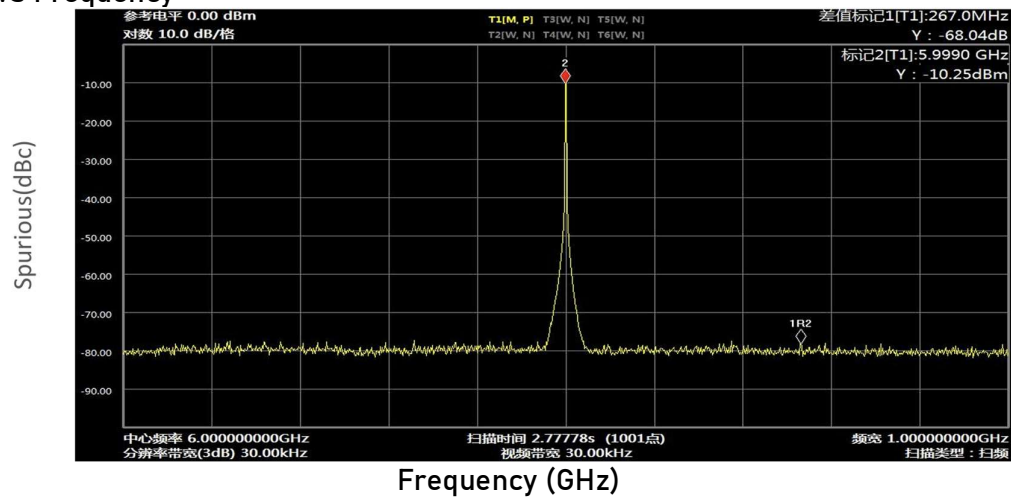


Pout@Equal_Pin

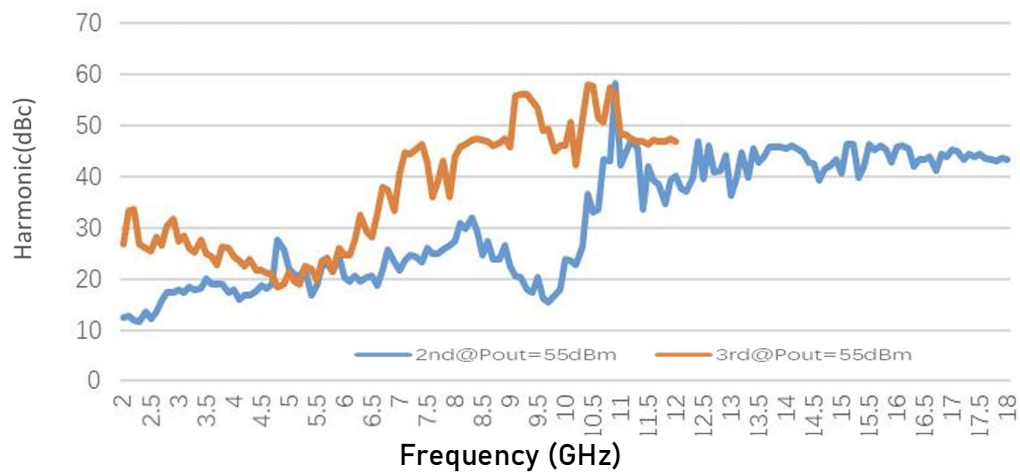


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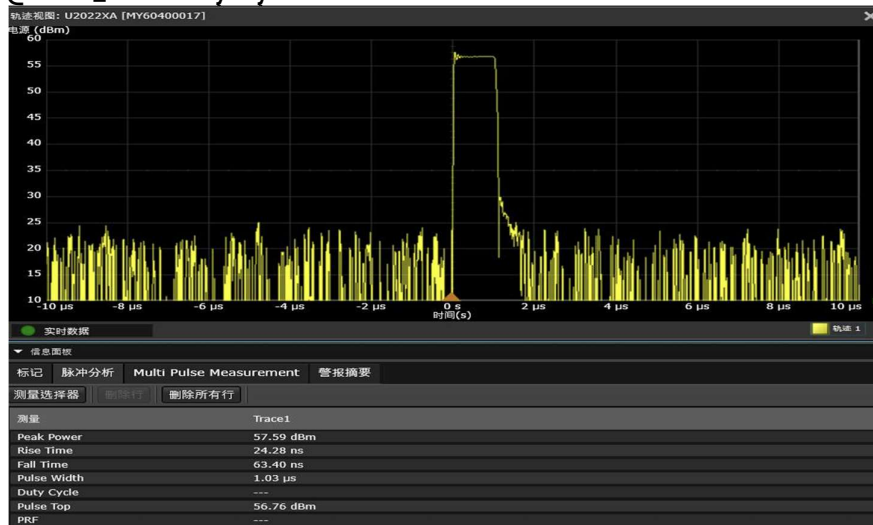
Spurious vs Frequency



Harmonic vs Frequency



Rise/Fall Time @1kHz_0.1% Duty Cycle



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

Rise/Fall Time @1kHz_20% Duty Cycle

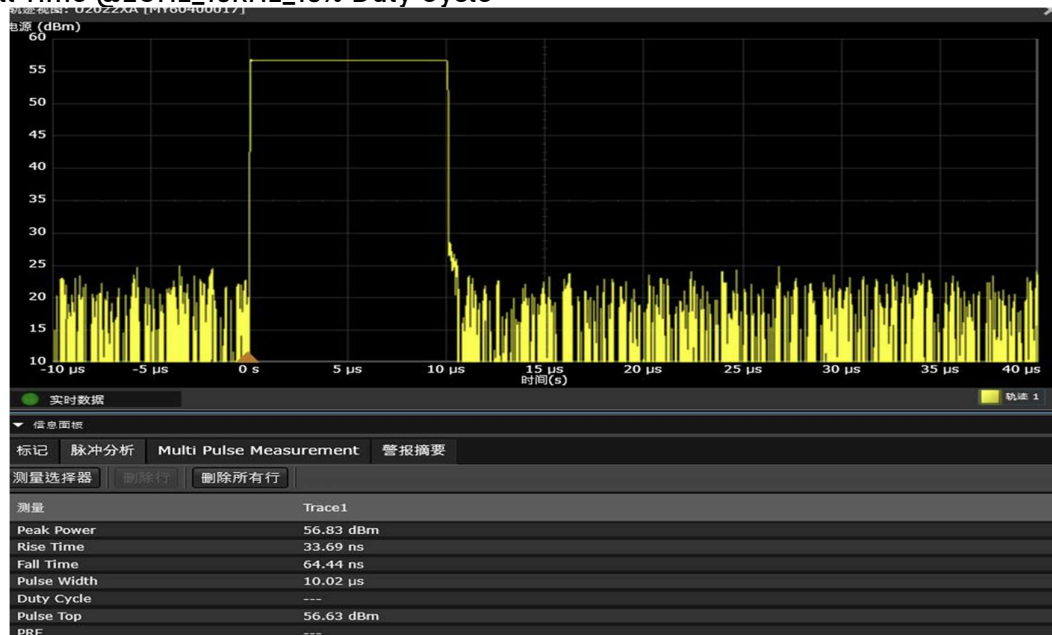


Rise/Fall Time @100kHz_3% Duty Cycle

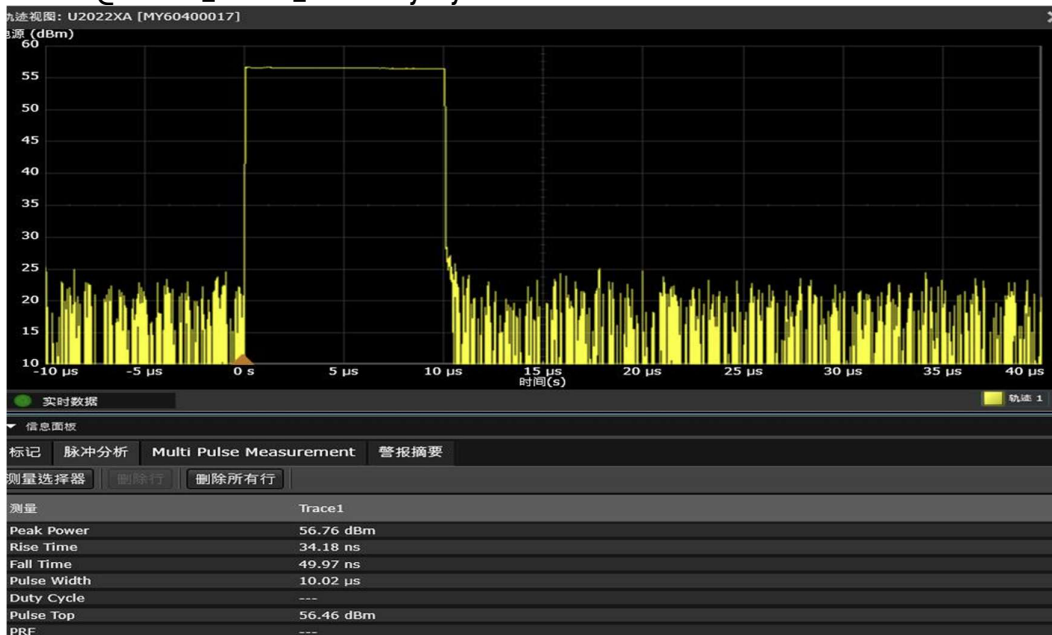


Note: Above data is for reference only, actual data may vary from unit to unit depending on operating environment and other factors like material lots, etc.

Rise/Fall Time @2GHz_10kHz_10% Duty Cycle

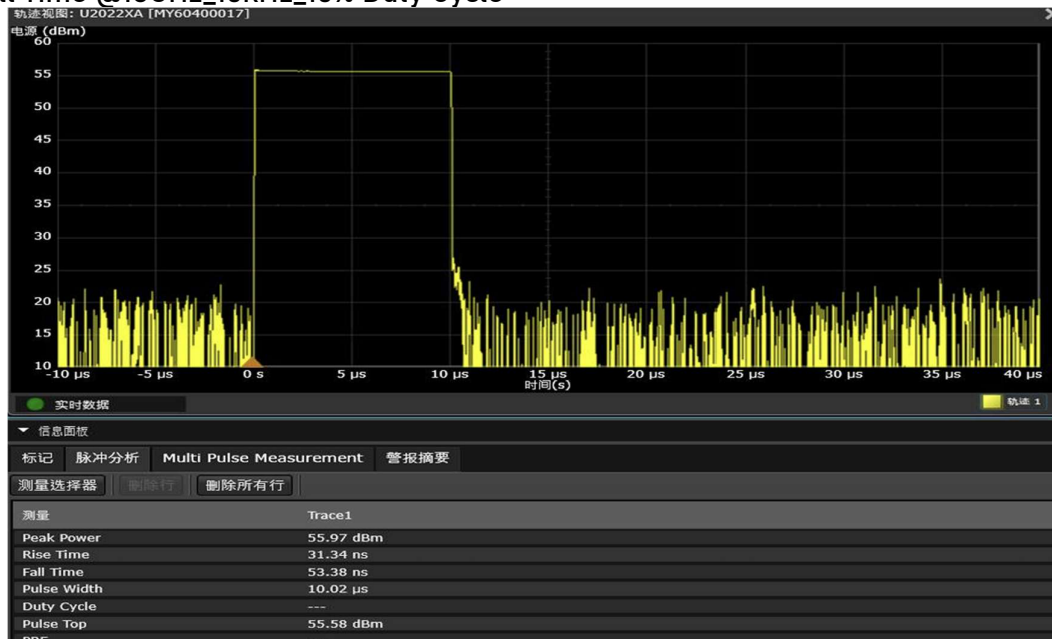


Rise/Fall Time @10GHz_10kHz_10% Duty Cycle



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

Rise/Fall Time @18GHz_10kHz_10% Duty Cycle



Delay



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