

**SALUKI TECHNOLOGY**
**Wide Band Power Amplifier 2GHz~6GHz**
**Features**

- Wide Band Power Amplifier
- Gain: 55dB typical
- Output power +47dBm typical


**Typical Applications**

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

**RF Microwave & VSAT  
Fiber Optics**

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2		6	GHz
Gain	47	55		dB
Gain Flatness		±2.5		dB
Gain Variation Over Temperature (-40°C~+60°C )		±2.0		dB
Input VSWR		1.6		: 1
Output 1dB Compression Point (P1dB)		43		dBm
Saturated Output Power (Psat)		47		dBm
Isolation S12		-55		dB
Supply Current (Vcc=+28V)		6	11	A
Efficiency at P1dB		20		%
TDD-Time-Division Duplexing PA Blanking	ON		2.5	ms
	OFF		2.5	us

Weight	Net	23 Max.ounces	Impedance	50ohms
	Including Heat Sink	131 Max. ounces		
Input / Output Connectors		SMA-Female	Material	Aluminum
Finish	Nickel Plated	Package Sealing	Epoxy Sealed (Standard)	
			Hermetically Sealed (Optional)	

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**Absolute Maximum Ratings**

Operating Voltage (No RF Input)	+28.5V
RF Input Power (+28V)	Psat – Large Signal Gain

**Biassing Up Procedure**

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +28V biasing

**Power OFF Procedure**

Step 1	Turn off +28V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

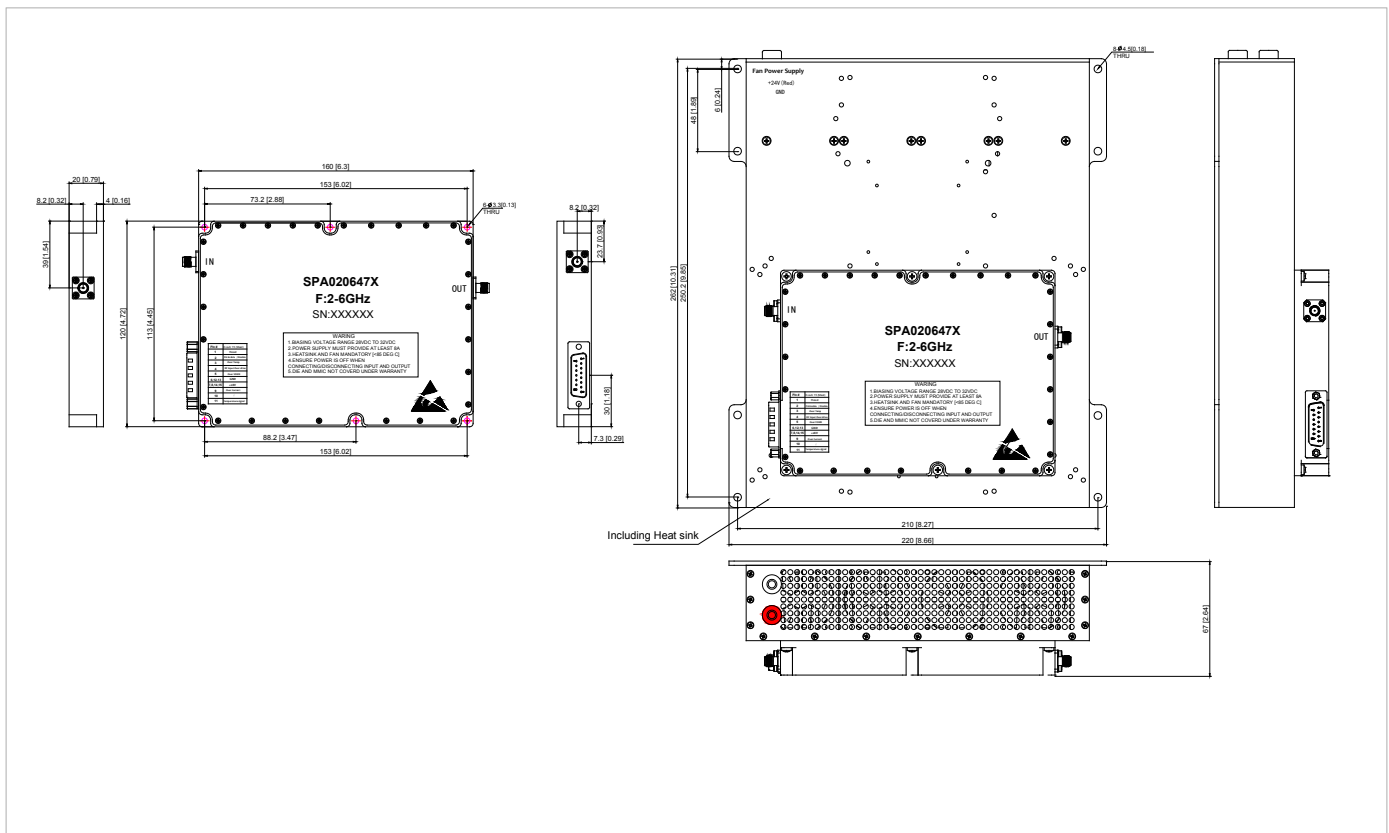
**Environmental Specifications**

Operational Temperature	-40°C~+85°C(Case Temperature)
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

**Outline Drawing:**

All Dimensions in mm (inches)  
Housing Tolerances ±0.5 (0.02)

Heat Sink required during operation(Sold Separately)

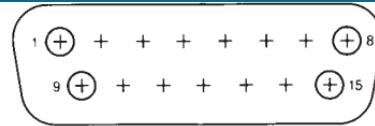


**Wide Band Power Amplifier 2GHz~6GHz**
**Packing List**

ID	Description	QTY
1	Fig a. DB15 cable (51321000015)	1


**Fig a.**
**Protection Connector Table**

Male D-Sub is on the housing  
 The mating Female part number: 172-E15-203R001



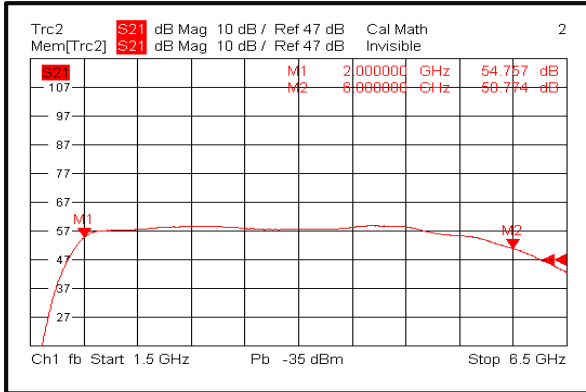
Pin #	Name	Function	Initial State	Description	Applied
1	Reset	Control	HIGH	Reset is effective when PA is protected	Yes
2	PA Enable / Disable	Control	High	Amplifier Disable , TTL Logic Low	Yes
3	Over Temp	Indicator	Low	Pin will be latched to logic HIGH when Temperature signal is over limit	Yes
4	RF Input Over drive	Indicator	Low	Pin will be latched to logic HIGH when input signal is over limit	Yes
5	Over VSWR	Indicator	Low	Pin will be latched to logic HIGH when output reflection is over limit	No
6	GND	Ground	Low	Ground	Yes
7	+28V	Power Supply	+28V	+28V DC is supply Voltage	Yes
8	+28V	Power Supply	+28V	+28V DC is supply Voltage	Yes
9	Over Current	Indicator	Low	Pin will be latched to logic HIGH when drain current limit is reached	Yes
10	Current imbalance	Indicator	Low	Pin will be latched to logic HIGH when Current imbalance	Yes
11	Temperature signal	Indicator	/	The voltage value decreases with the increase of temperature	Yes
12	GND	Ground	GND	Ground	Yes
13	GND	Ground	GND	Ground	Yes
14	+28V	Power Supply	+28V	+28V DC is supply Voltage	Yes
15	+28V	Power Supply	+28V	+28V DC is supply Voltage	Yes

**Notes:**

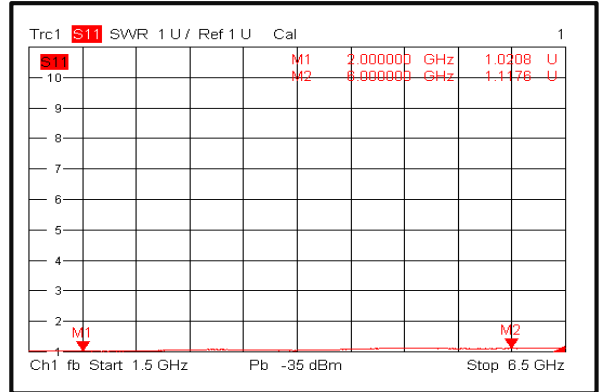
- HIGH/LOW voltages are standard TTL signals 0.0V to 0.8V = LOW. 2.8V to 5V = HIGH. Input current is 10uA.
- Matching connector and cable will be shipped with the product.
- Applied=Yes means the feature is included. Applied=No means the feature is not included with this model.
- 5V reference supply can source 700mA.
- Indicator output signals can source 24mA.

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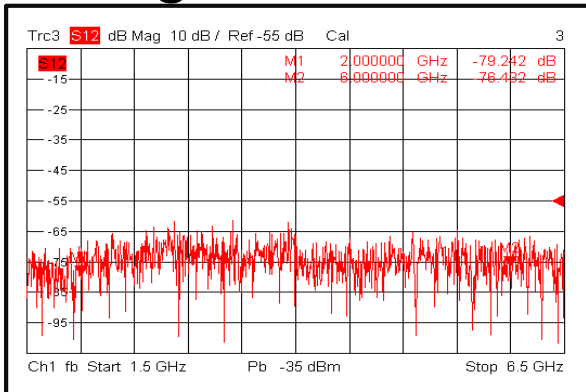
Gain @ +25°C



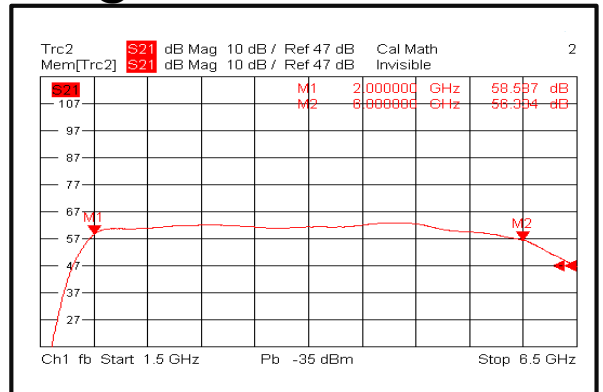
Input VSWR @ +25°C



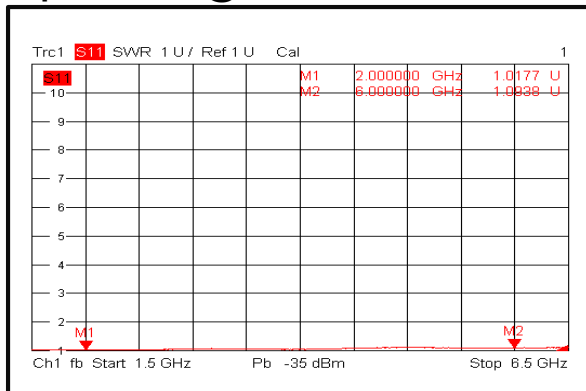
Isolation @ +25°C



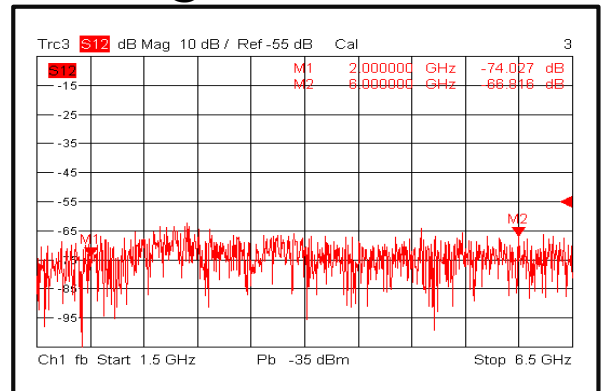
Gain @ -40°C



Input VSWR @ -40°C

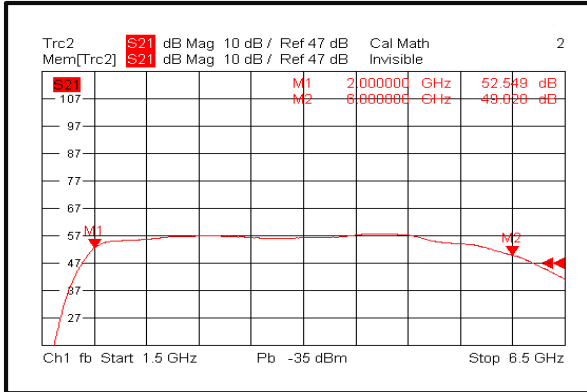


Isolation @ -40°C

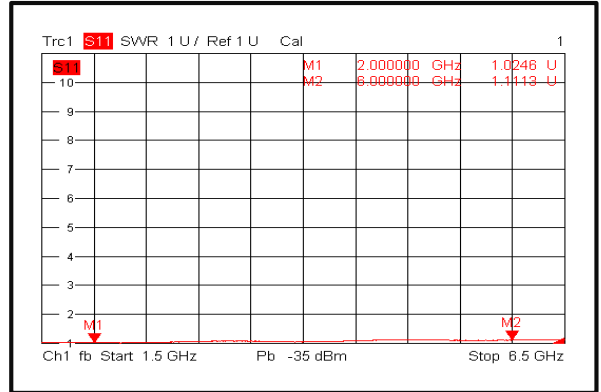


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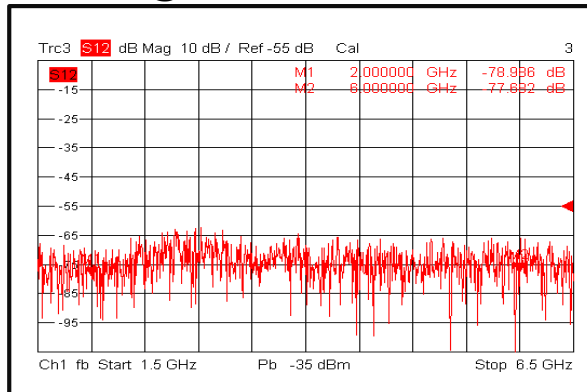
**Gain @ +60°C**



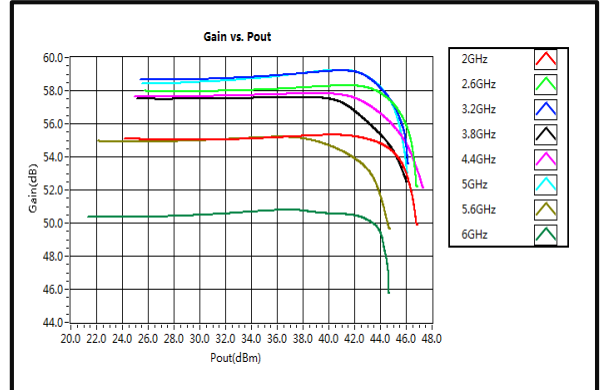
**Input VSWR @ +60°C**



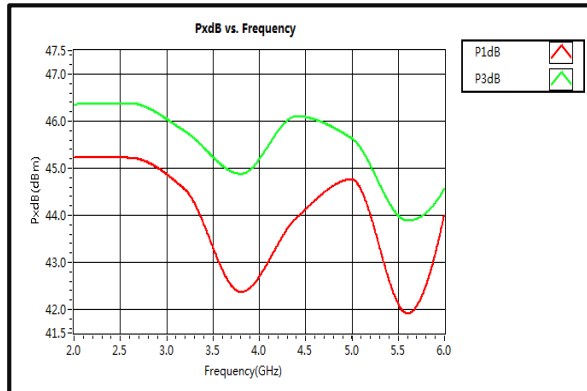
**Isolation @ +60°C**



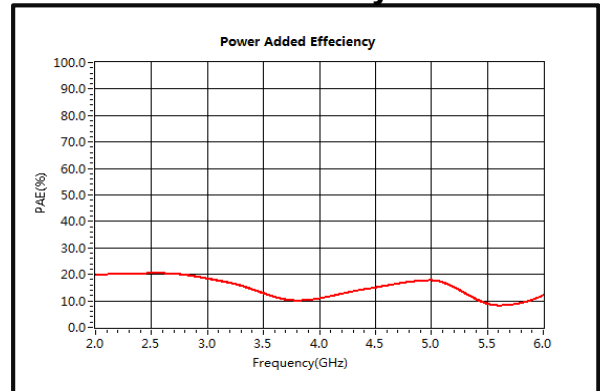
**Gain vs. Output Power**



**P1dB & P3dB vs. Frequency**

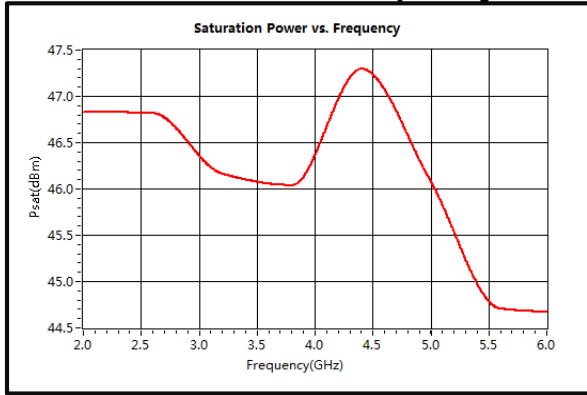


**Power Added Efficiency**

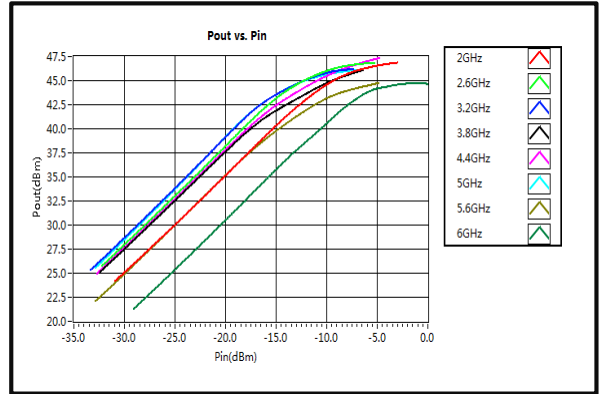


**Wide Band Power Amplifier 2GHz~6GHz**

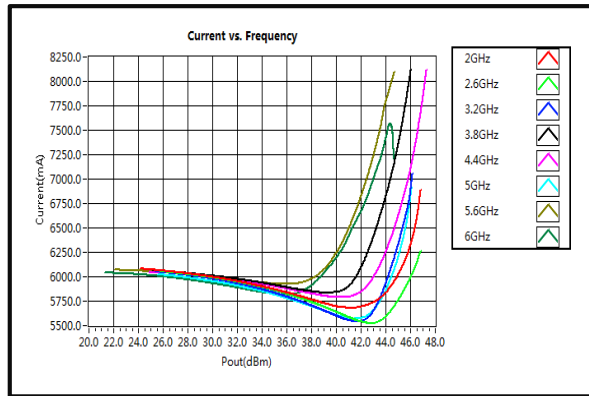
**Saturation Power vs. Frequency**



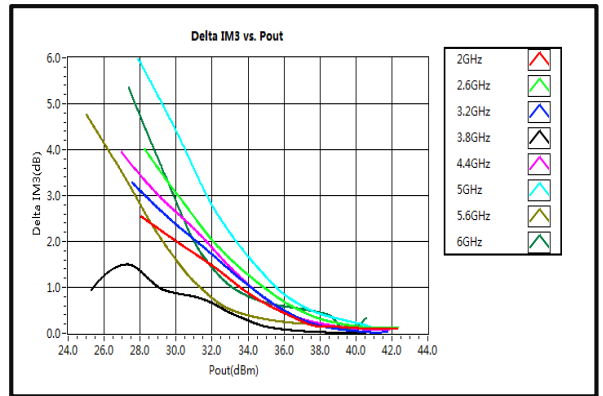
**Pout vs. Pin**



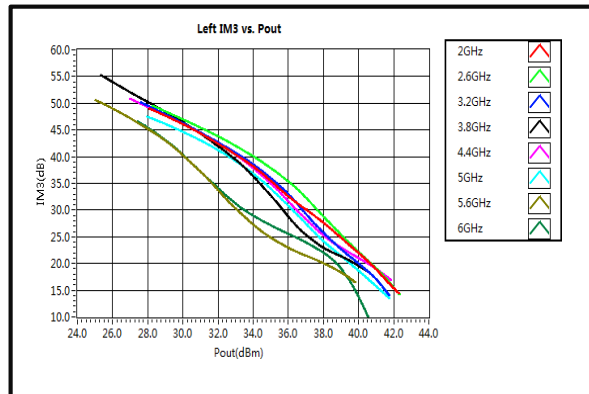
**Current vs. Pout**



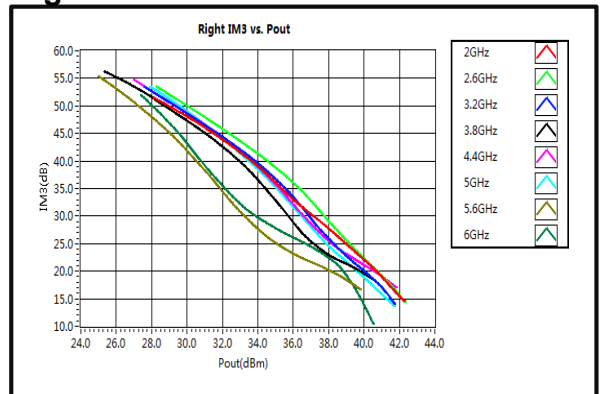
**Delta IM3 vs. Pout**



**Left IM3 vs. Pout**

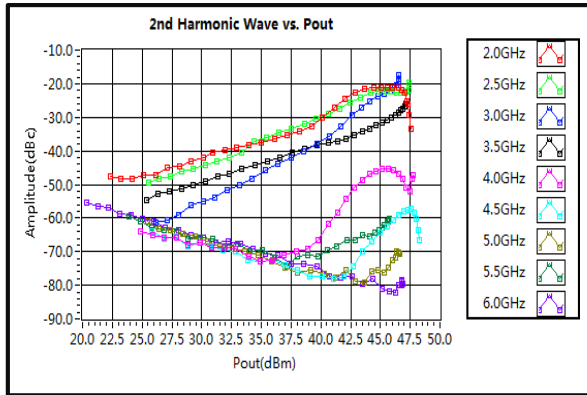


**Right IM3 vs. Pout**

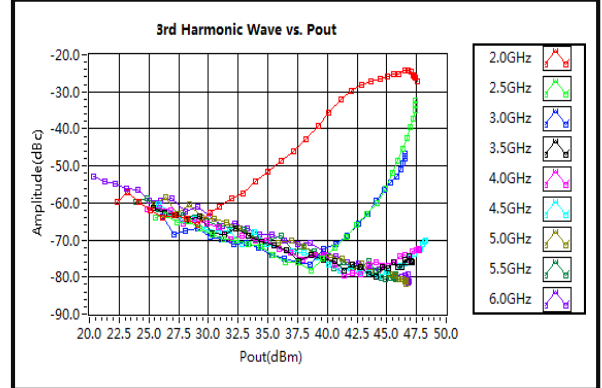


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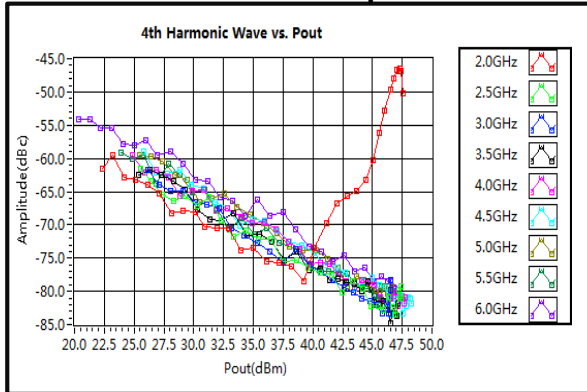
**2nd Harmonic Wave Output Power**



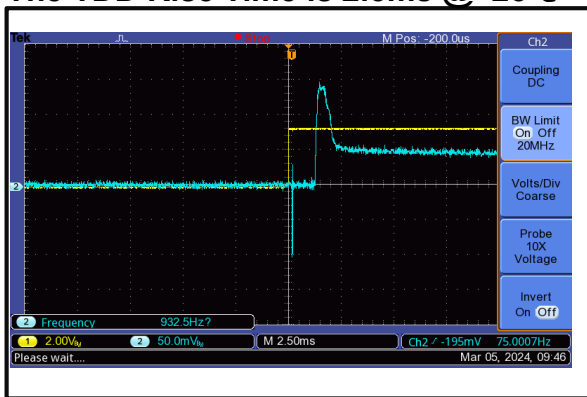
**3rd Harmonic Wave Output Power**



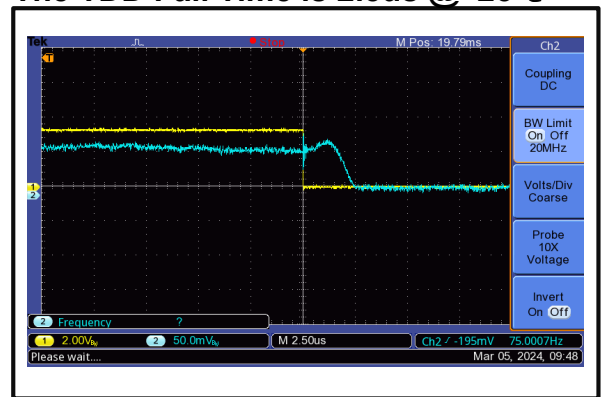
**4th Harmonic Wave Output Power**



**The TDD Rise Time is 2.5ms @+25°C**



**The TDD Fall Time is 2.5us @+25°C**



Note: the TDD control port: D-sub 15 PIN #2 (PA Disable).  
The yellow curve is the TDD control signal, the blue curve is RF output envelope.

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