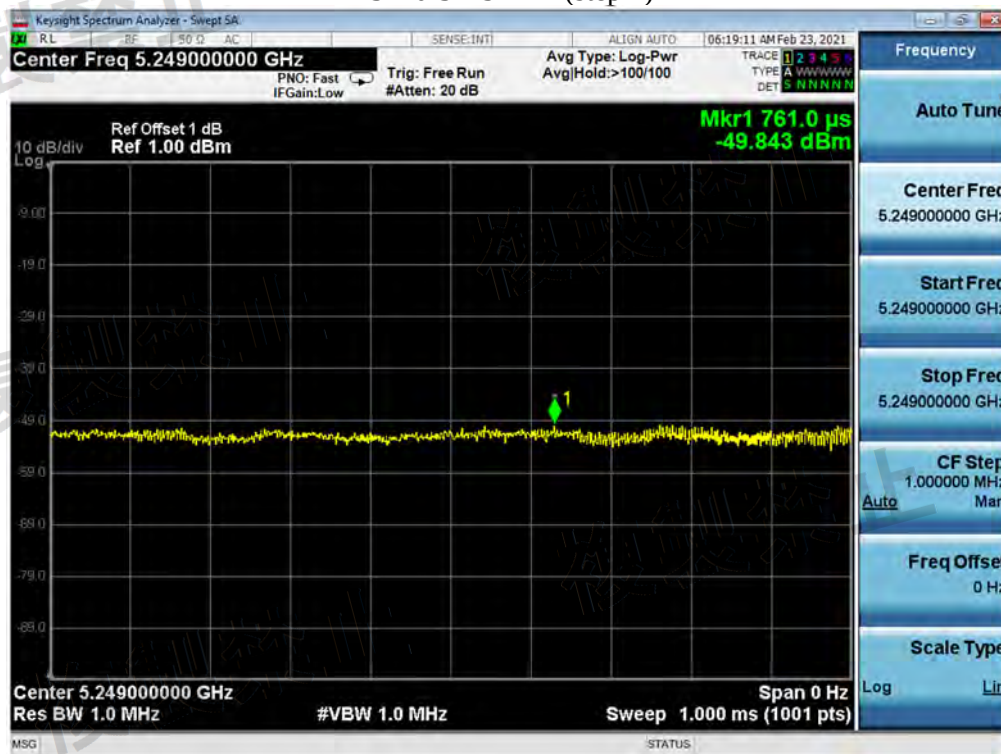
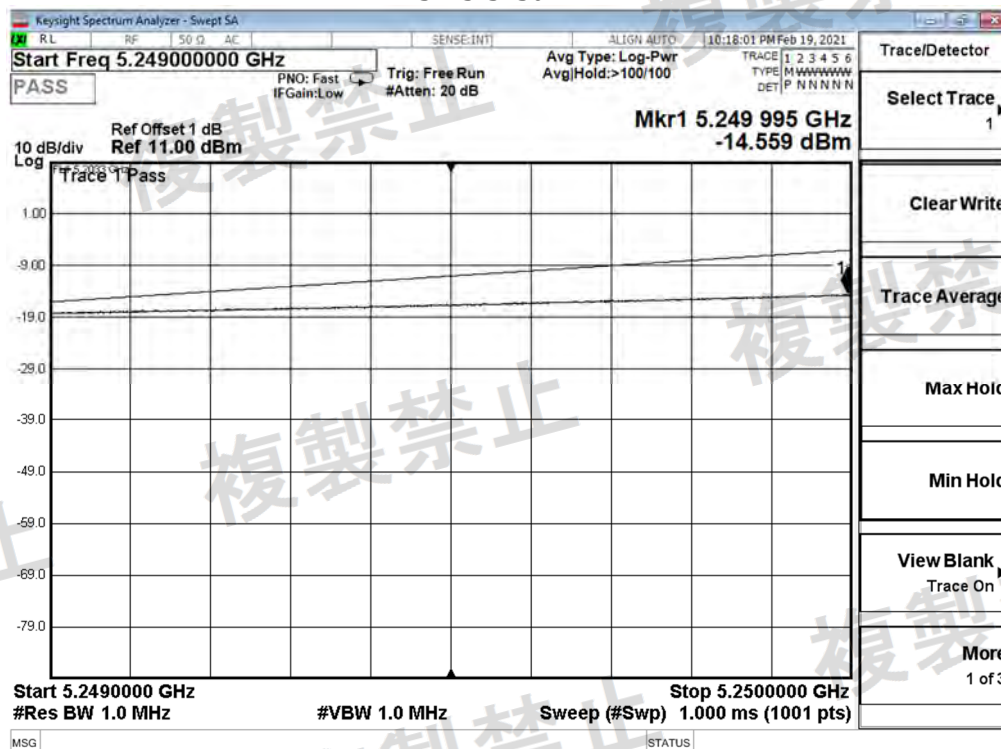


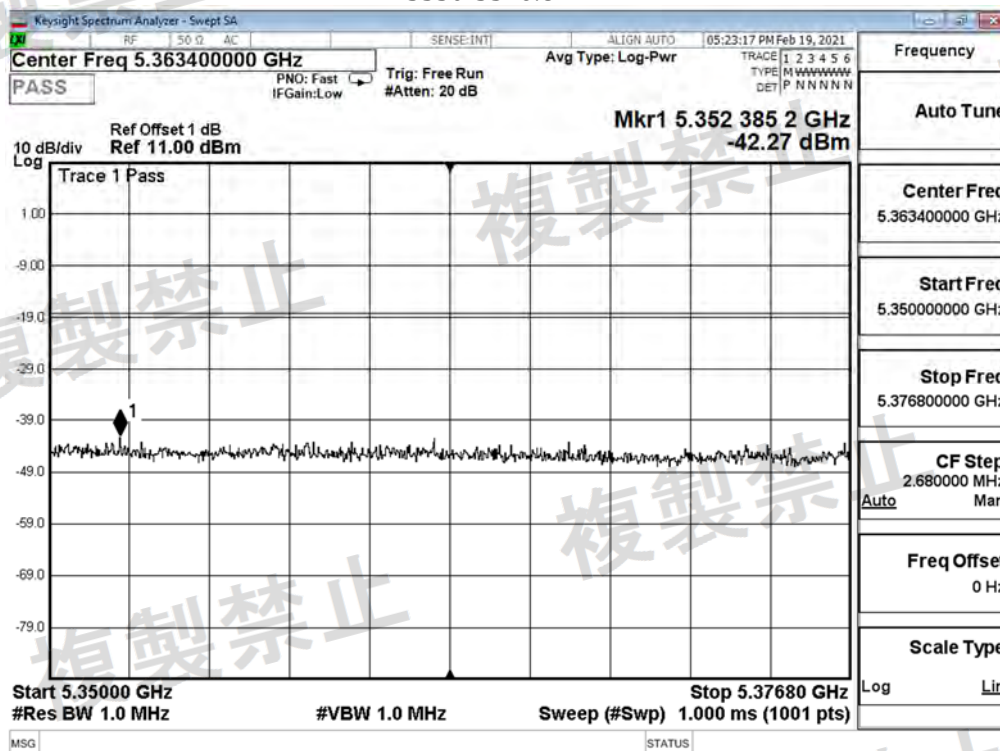
5210-5249MHz (step 2)



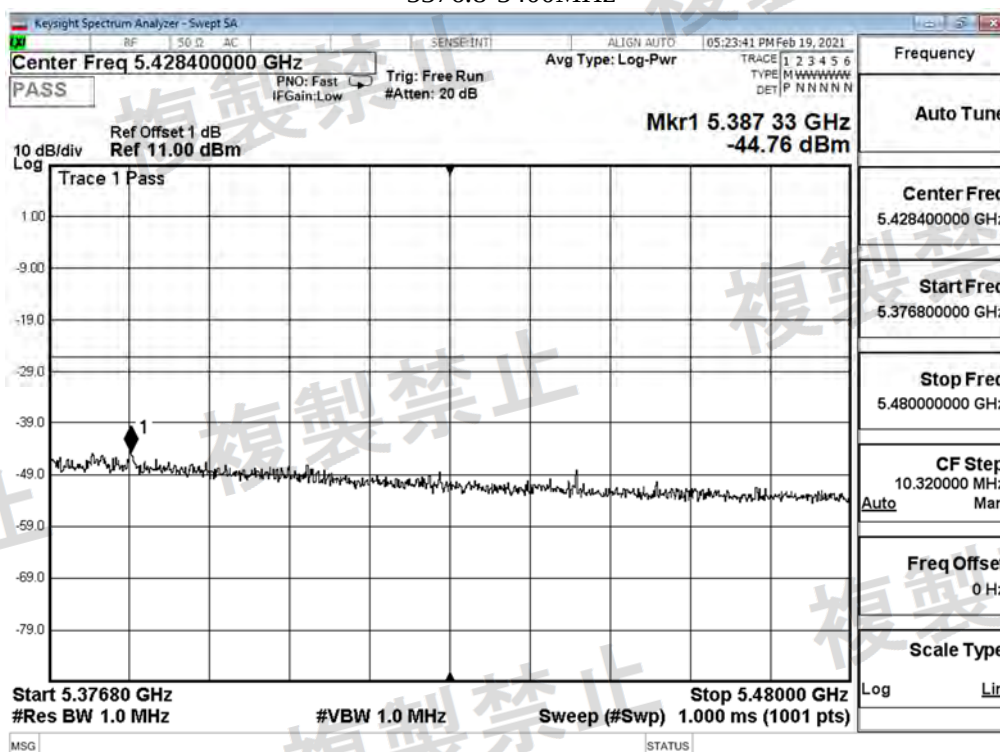
5249-5250MHz



5350-5376.8MHz



5376.8-5400MHz



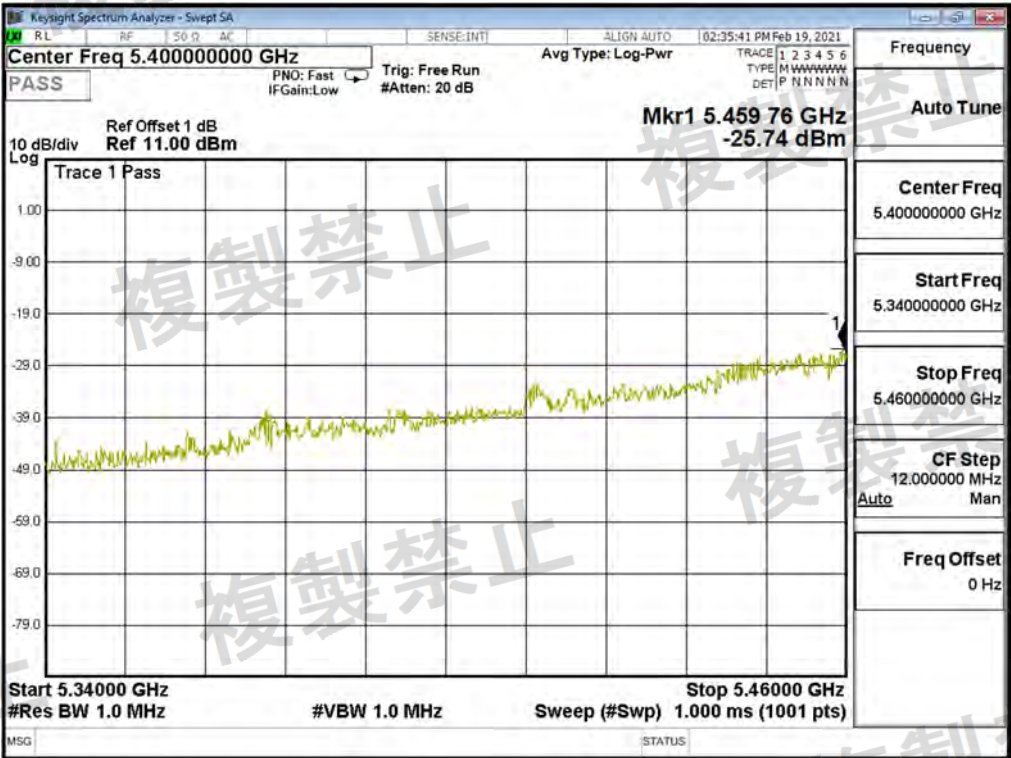
Product : Wireless module
Test Item : Out-Band Leakage Power
Test Mode : Mode 1: Transmit (802.11ac-80BW) 5530MHz_Chain A (Dipole) (Panel)

Antenna gain: 8.87dBi

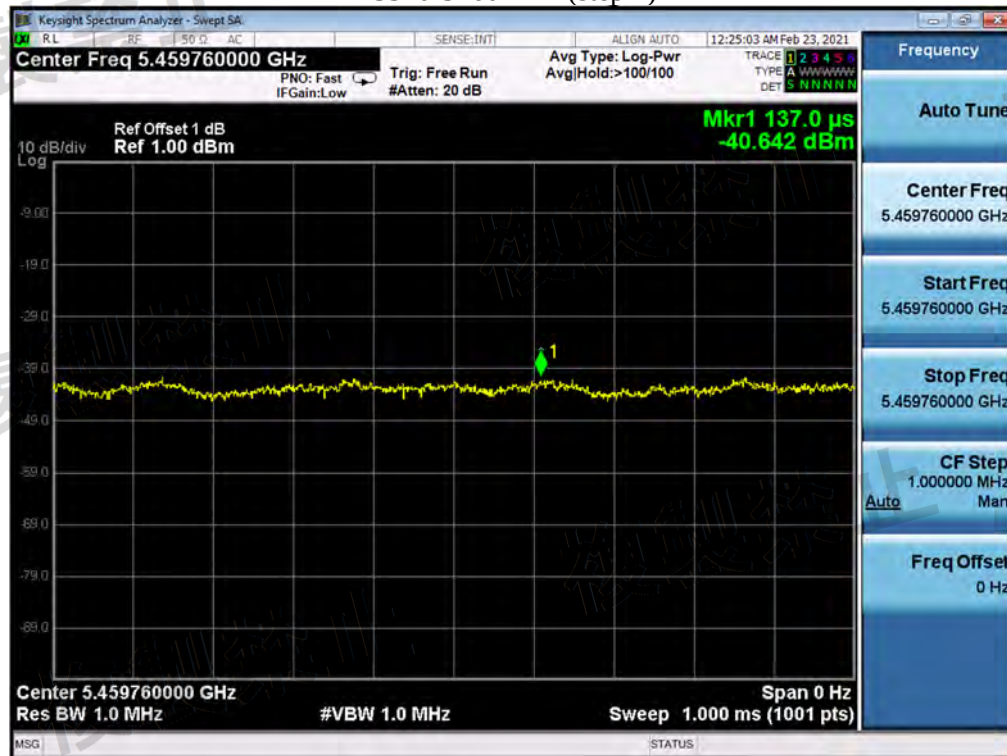
Chain A					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-40.64	0.6650	≤ 12.5
		5460 to 5469.5MHz	-23.55	34.0408	≤ 50
		5469.5 to 5470MHz	-22.44	43.9542	≤ 51.2
		5770 to 5800MHz	-47.93	0.1242	≤ 12.5

Measurement Level (uW) = $10^{((\text{Reading Value (dBm)} + \text{Antenna Gain} + \text{Cable loss})/10)*1000}$

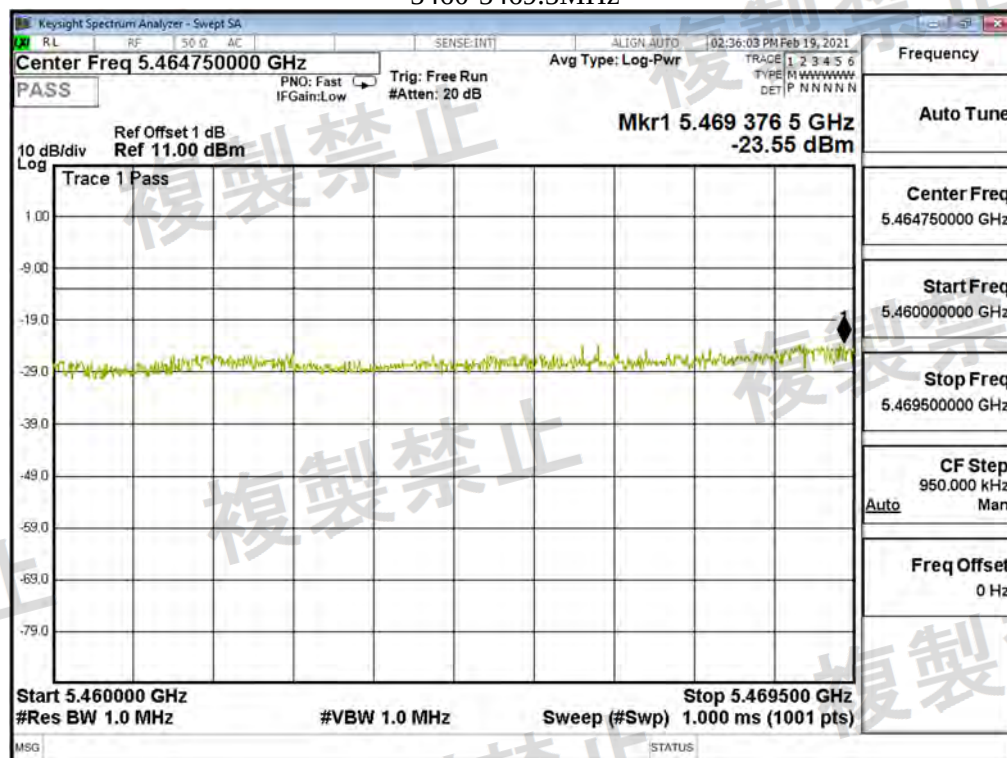
5340-5460MHz



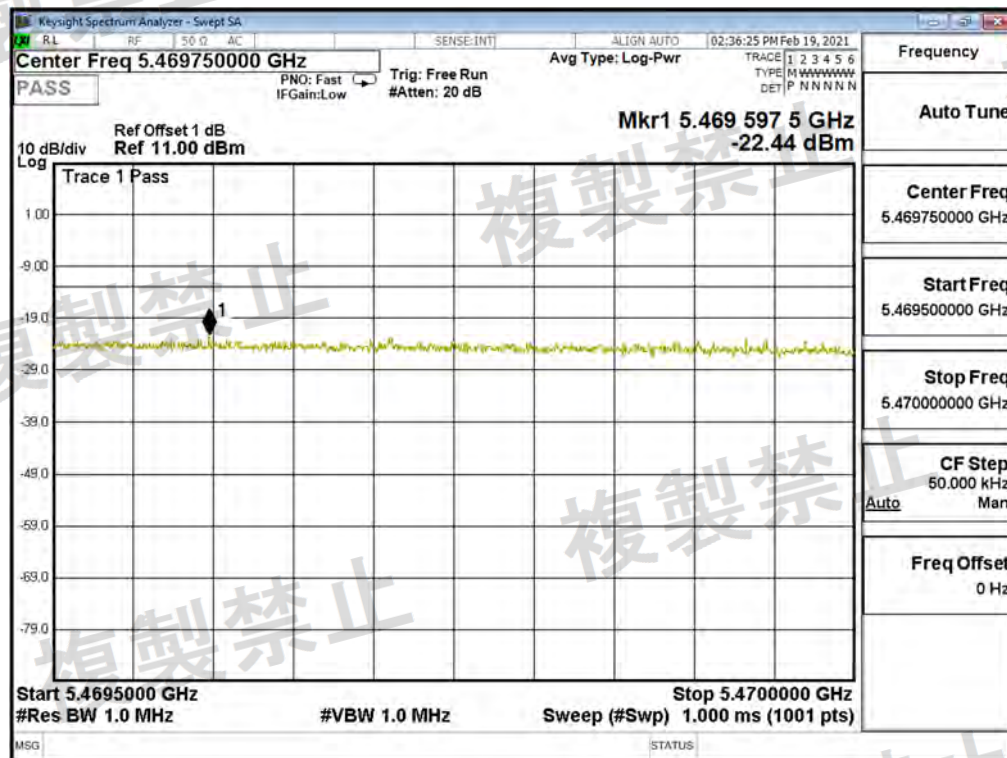
5340-5460MHz (step 2)



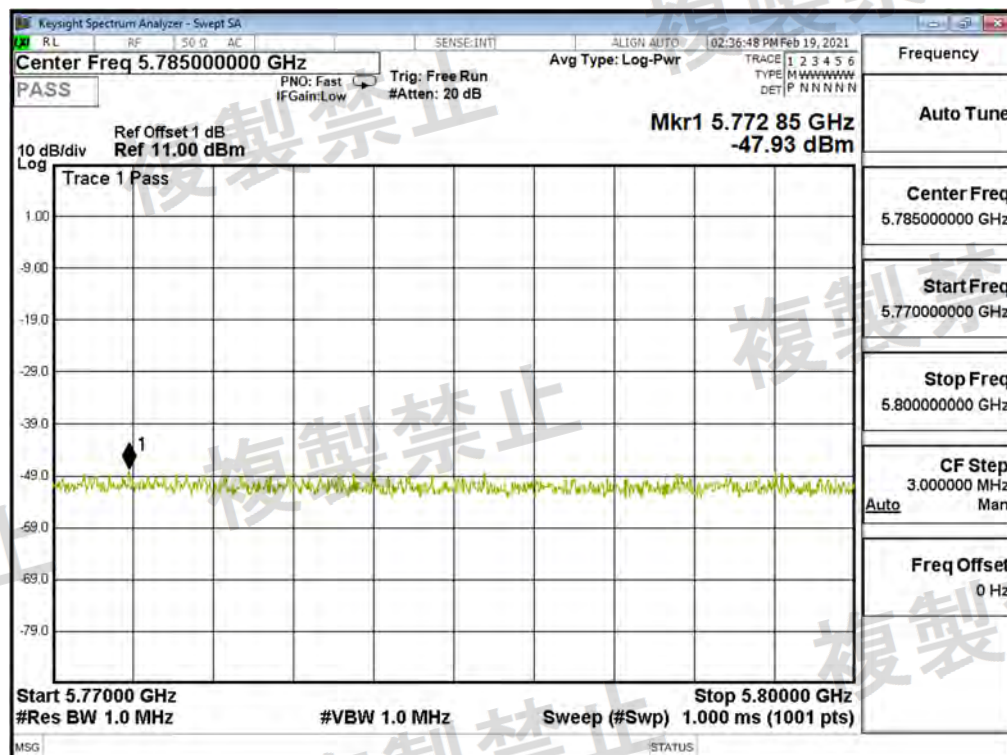
5460-5469.5MHz



5469.5-5470MHz



5770 -5800MHz



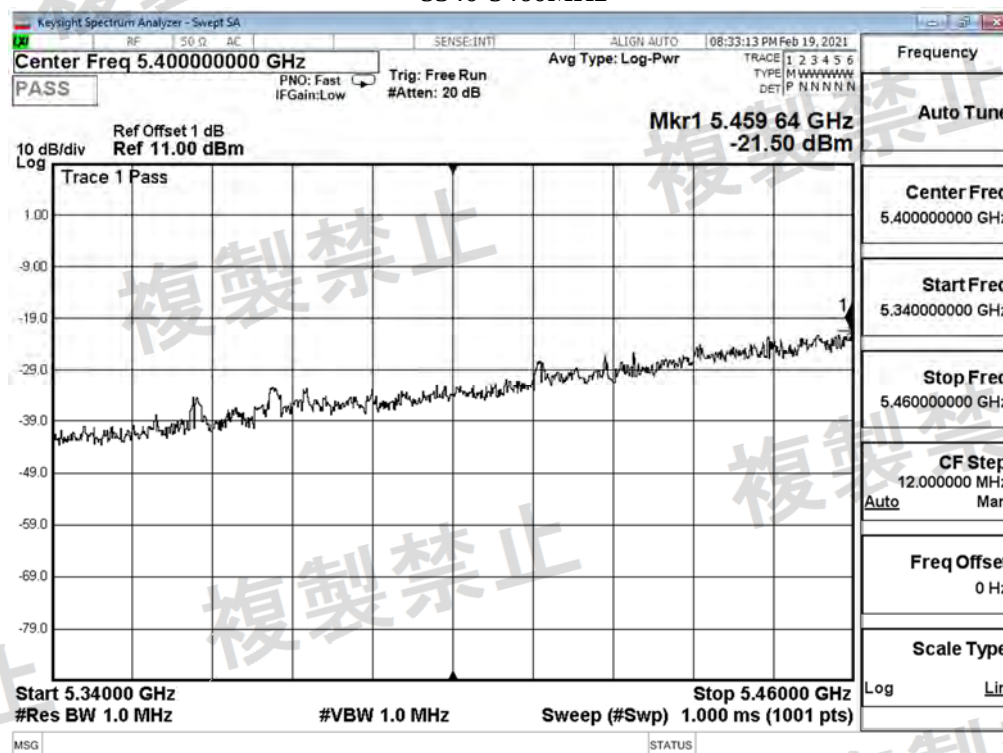
Product : Wireless module
 Test Item : Out-Band Leakage Power
 Test Mode : Mode 1: Transmit (802.11ac-80BW) 5530MHz_Chain B (Dipole) (Panel)

Antenna gain: 8.87dBi

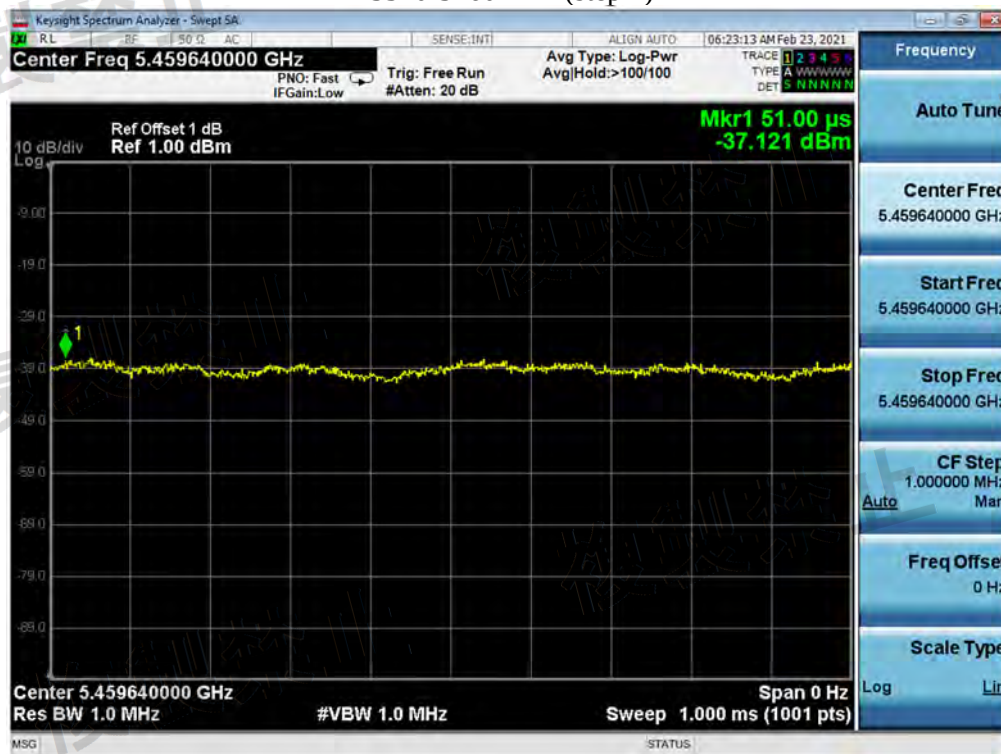
Chain B					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-37.12	1.4959	≤ 12.5
		5460 to 5469.5MHz	-37.23	1.4592	≤ 50
		5469.5 to 5470MHz	-36.94	1.5585	≤ 51.2
		5770 to 5800MHz	-40.19	0.7379	≤ 12.5

Measurement Level (uW) = $10^{((\text{Reading Value (dBm)} + \text{Antenna Gain} + \text{Cable loss})/10)*1000}$

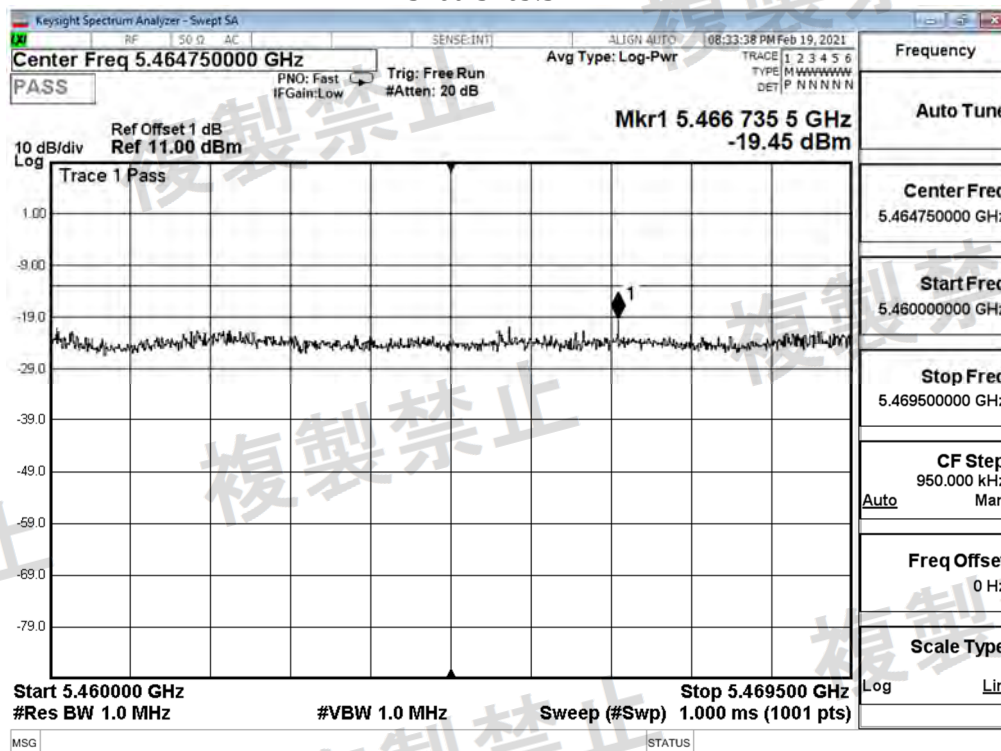
5340-5460MHz



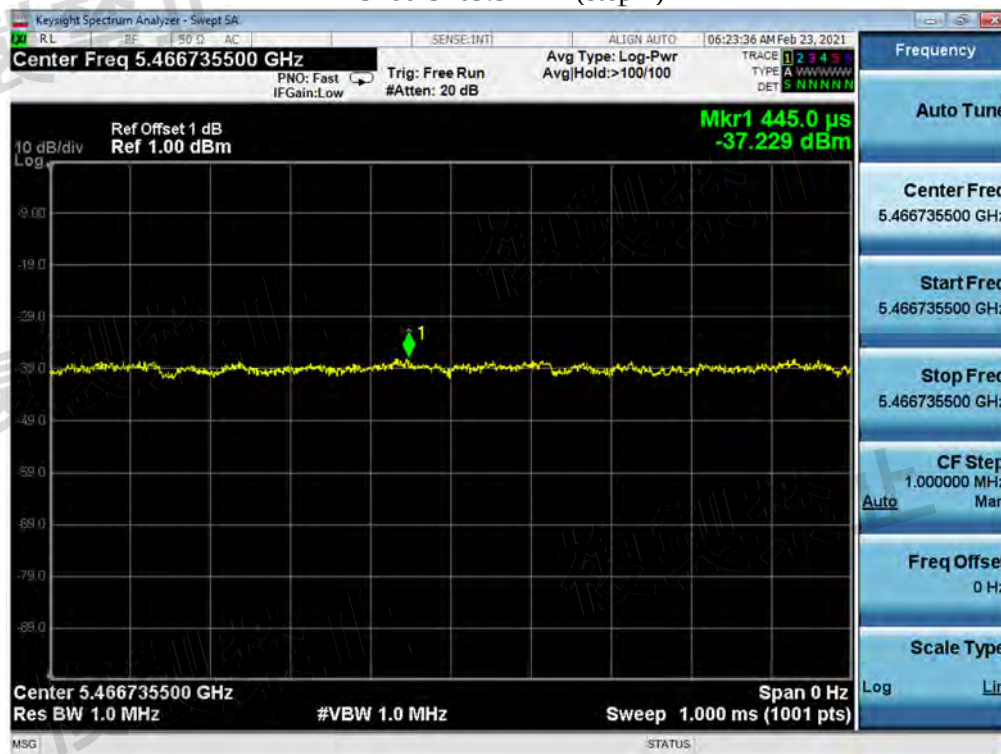
5340-5460MHz (step 2)



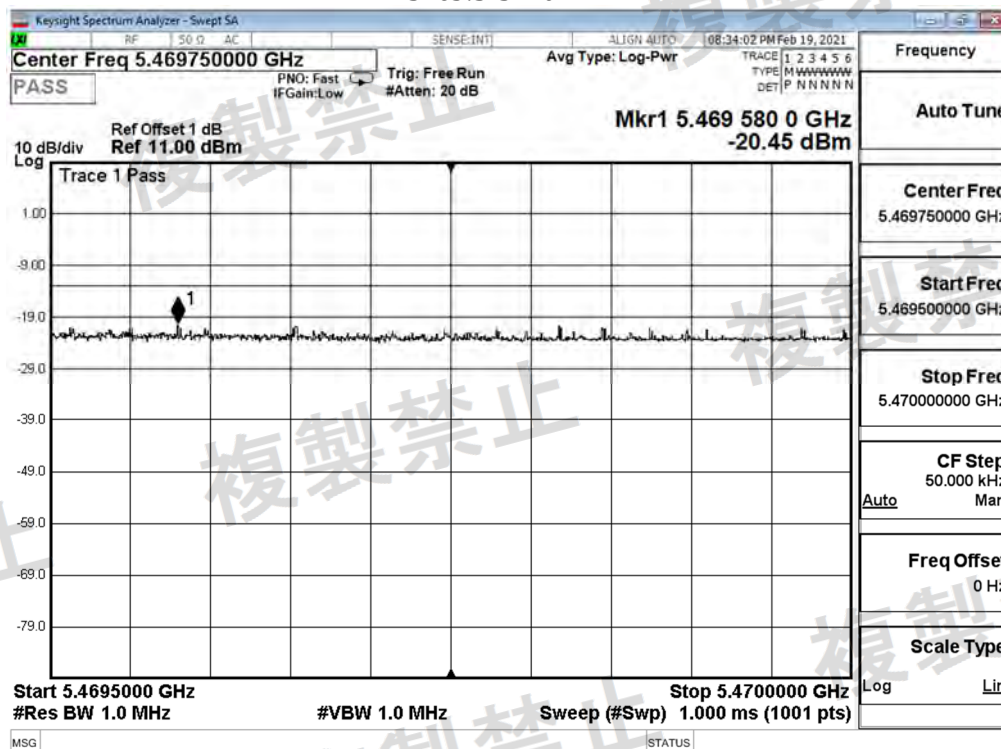
5460-5469.5MHz



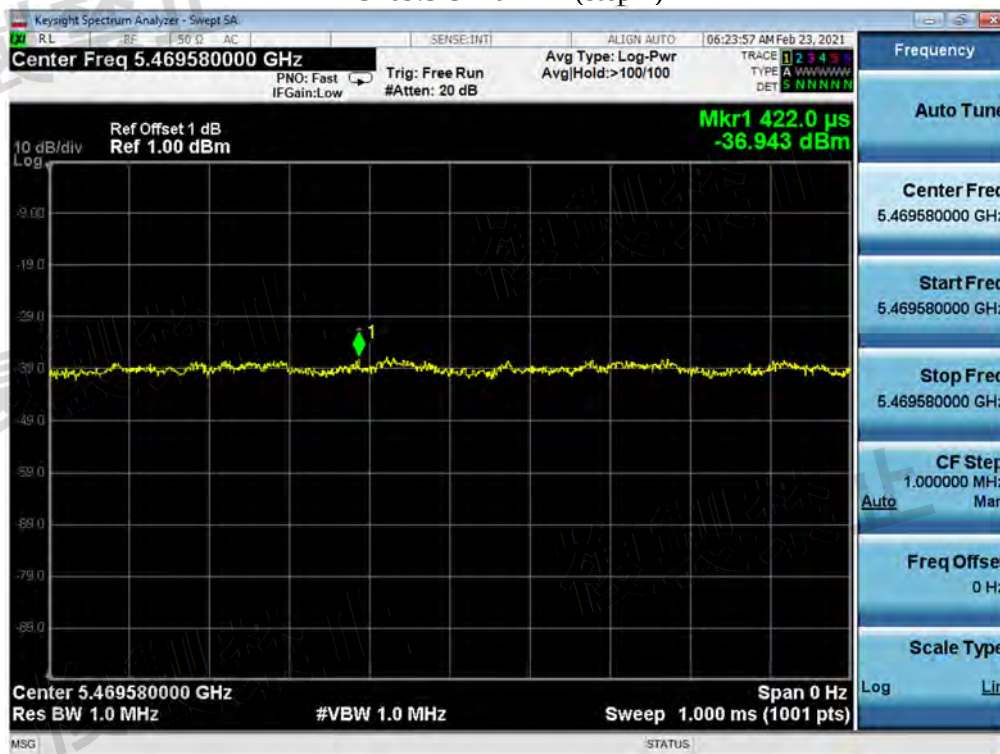
5460-5469.5MHz (step 2)



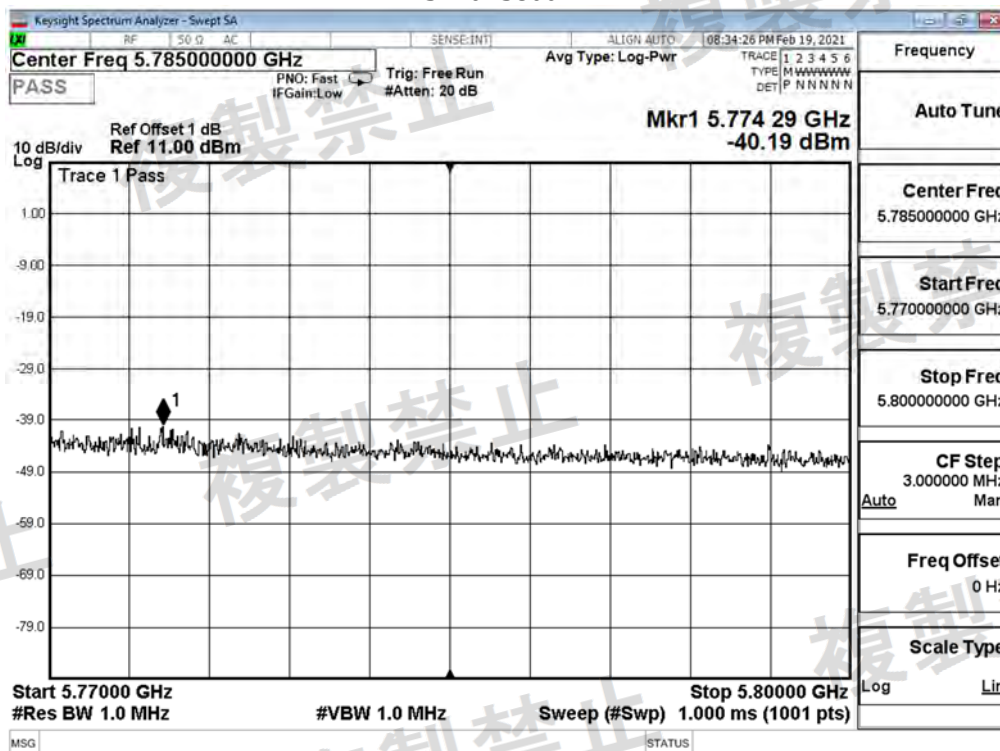
5469.5-5470MHz



5469.5-5470MHz (step 2)



5770 -5800Mz



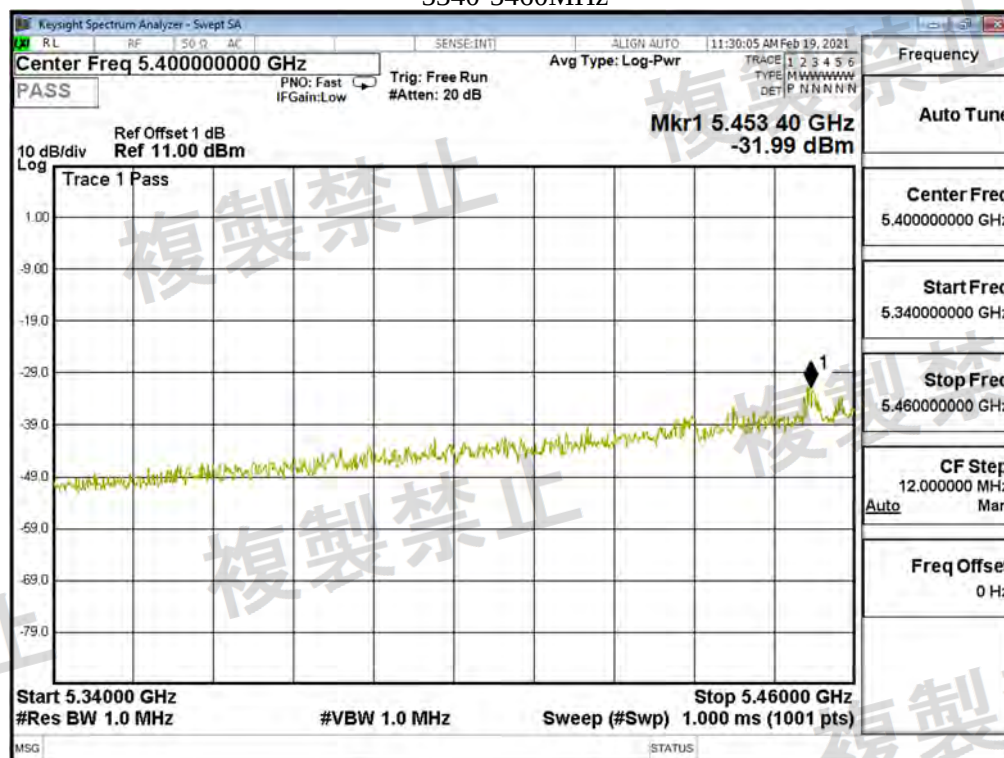
Product : Wireless module
 Test Item : Out-Band Leakage Power
 Test Mode : Mode 1: Transmit (802.11ac-80BW) 5610MHz_Chain A (Dipole) (Panel)

Antenna gain: 8.87dBi

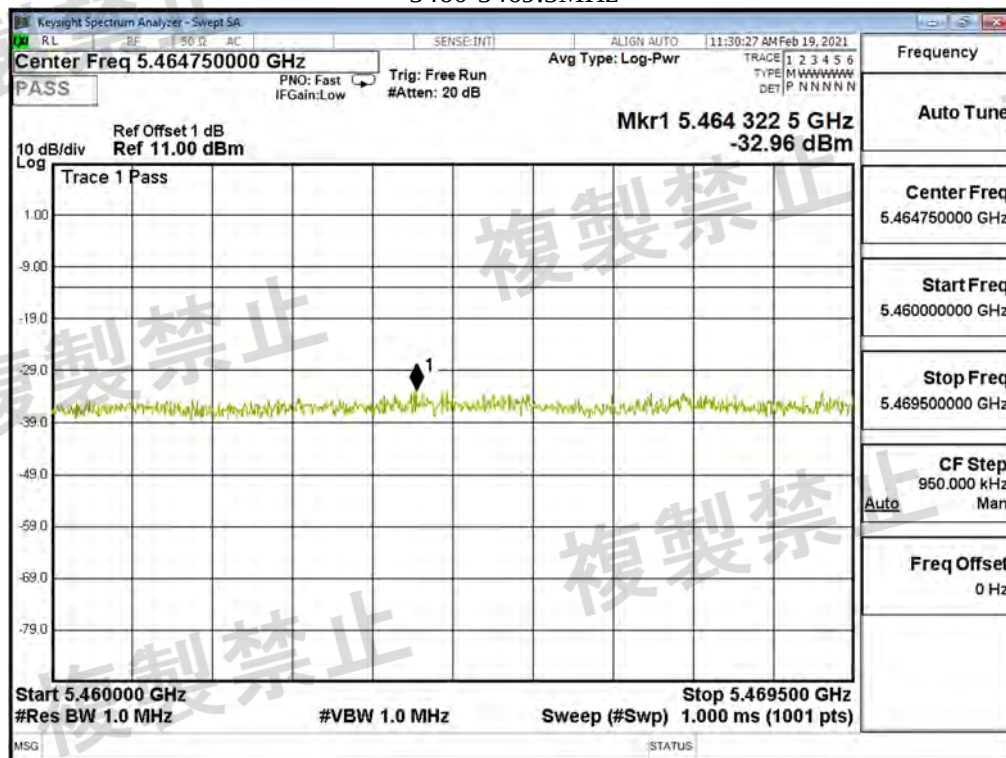
Chain A					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-31.99	4.8753	≤ 12.5
		5460 to 5469.5MHz	-32.96	3.8994	≤ 50
		5469.5 to 5470MHz	-32.78	4.0644	≤ 51.2
		5770 to 5800MHz	-32.76	4.0832	≤ 12.5

Measurement Level (uW) = $10^{((\text{Reading Value (dBm)} + \text{Antenna Gain} + \text{Cable loss})/10)*1000}$

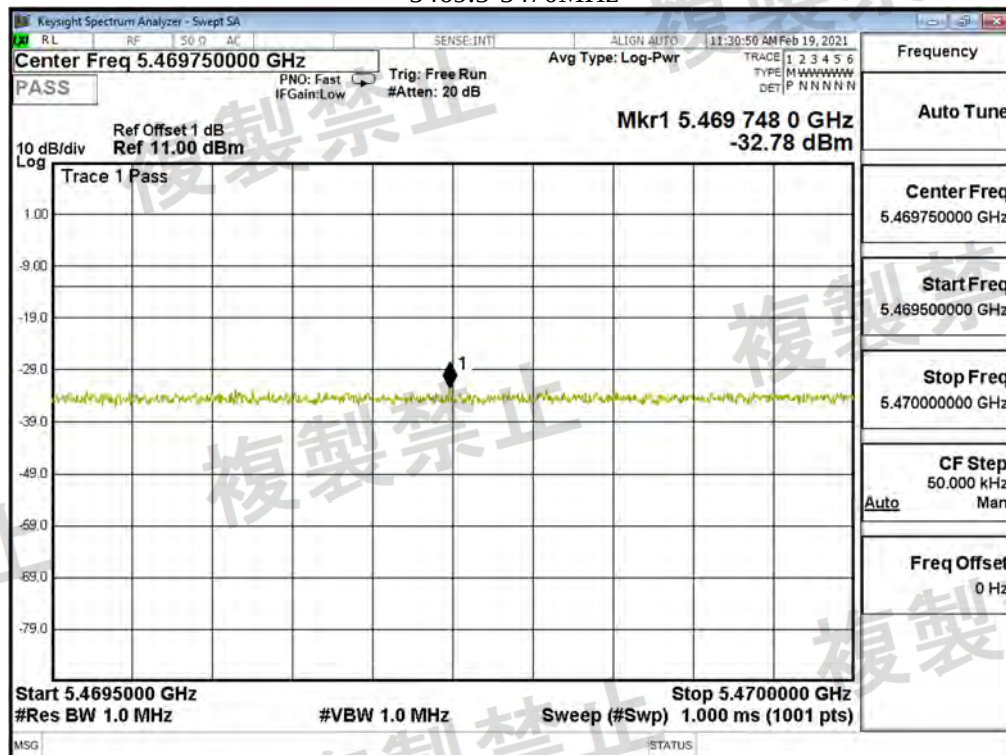
5340-5460MHz



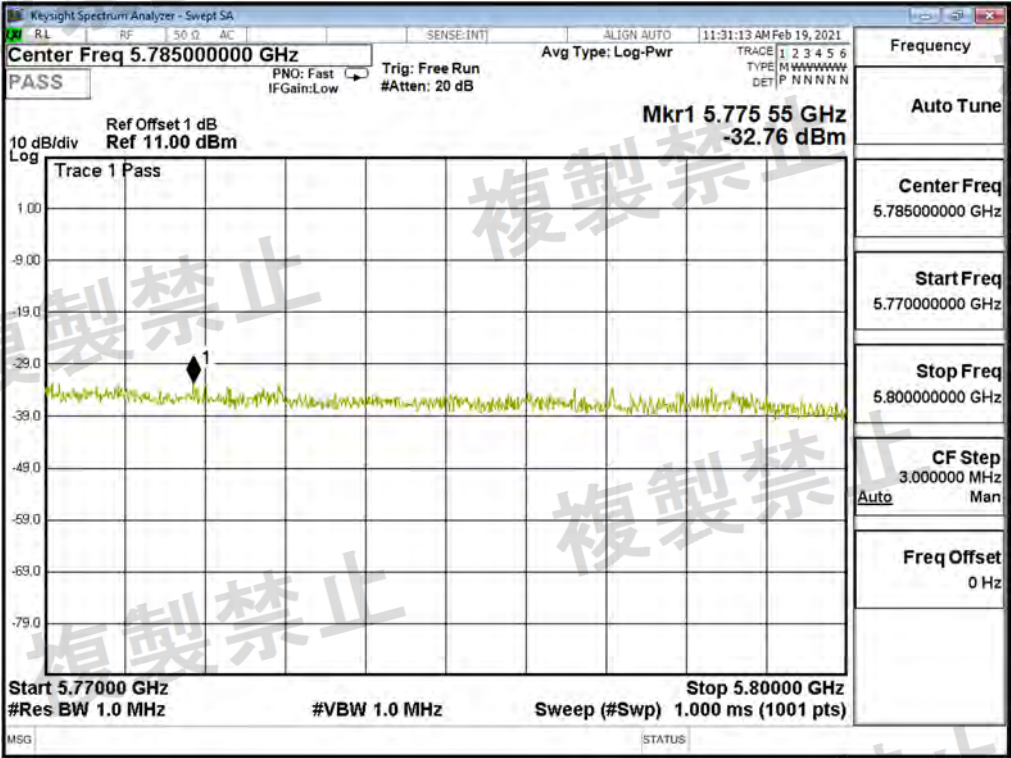
5460-5469.5MHz



5469.5-5470MHz



5770 - 5800MHz



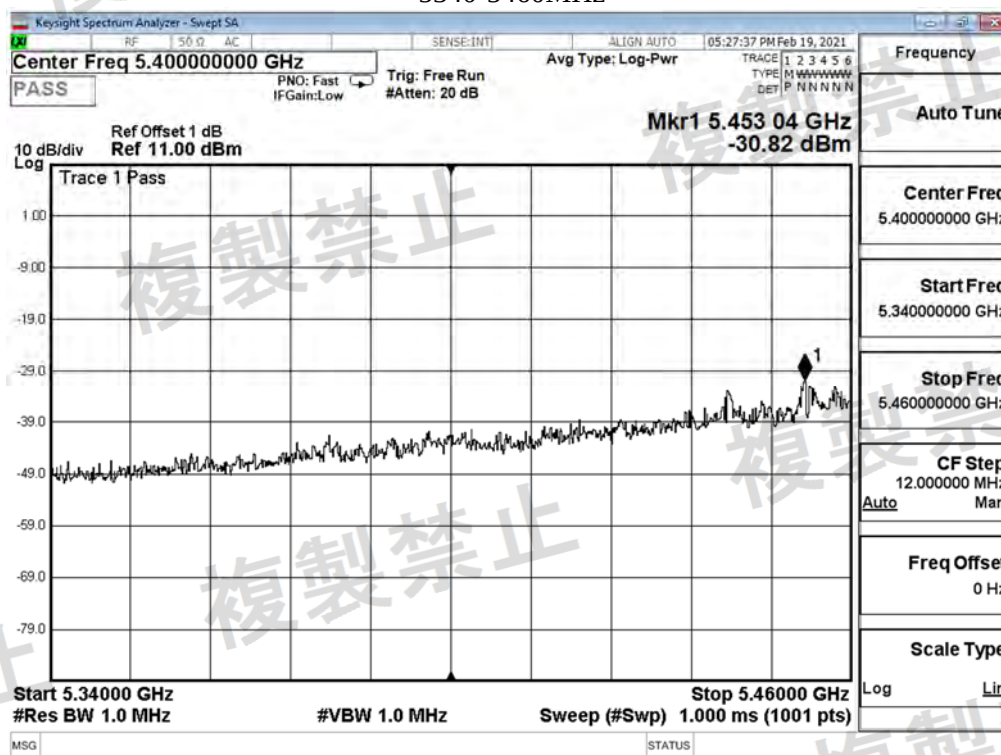
Product : Wireless module
 Test Item : Out-Band Leakage Power
 Test Mode : Mode 1: Transmit (802.11ac-80BW) 5610MHz_Chain B (Dipole) (Panel)

Antenna gain: 8.87dBi

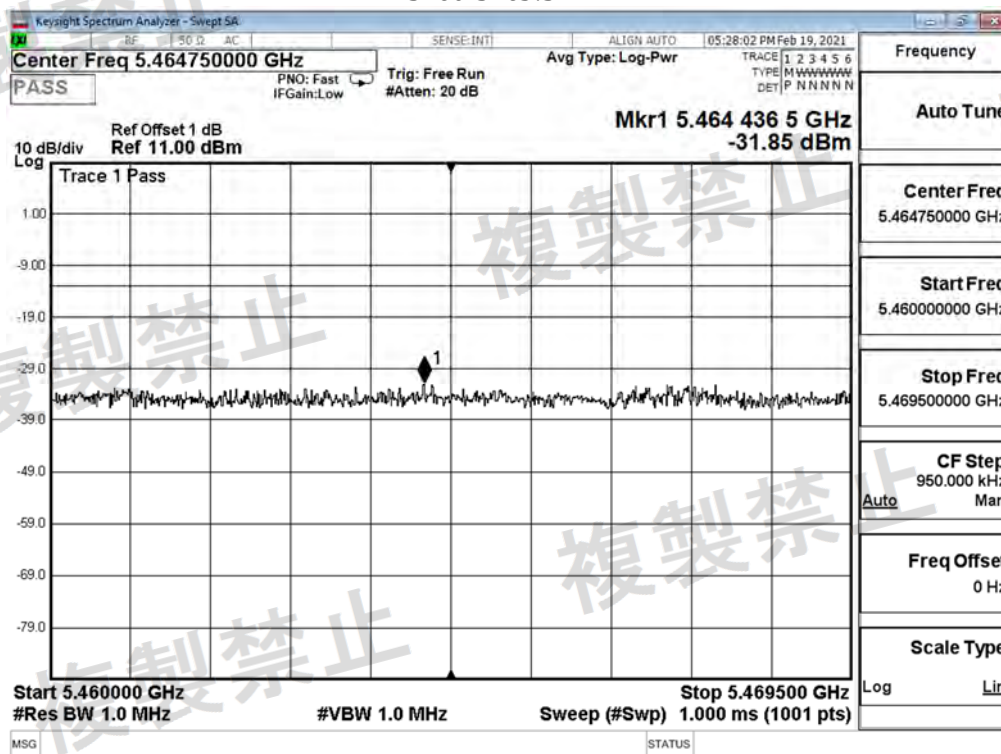
Chain B					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-30.82	6.3826	≤ 12.5
		5460 to 5469.5MHz	-31.85	5.0350	≤ 50
		5469.5 to 5470MHz	-31.89	4.9888	≤ 51.2
		5770 to 5800MHz	-31.33	5.6754	≤ 12.5

Measurement Level (uW) = $10^{((\text{Reading Value (dBm)} + \text{Antenna Gain} + \text{Cable loss})/10)*1000}$

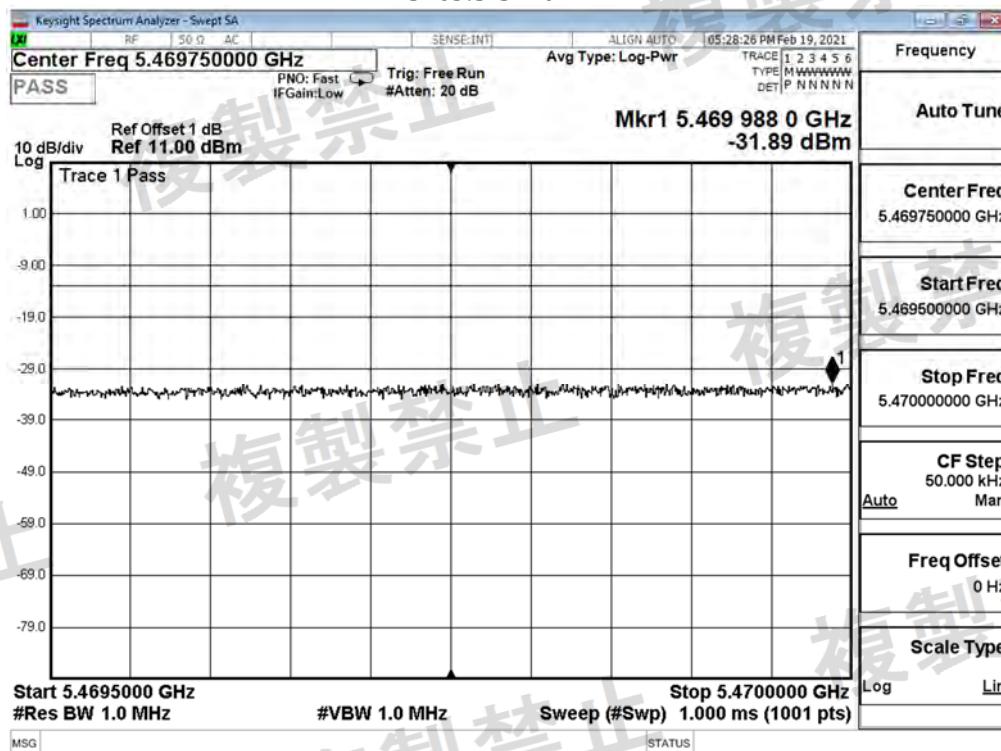
5340-5460MHz



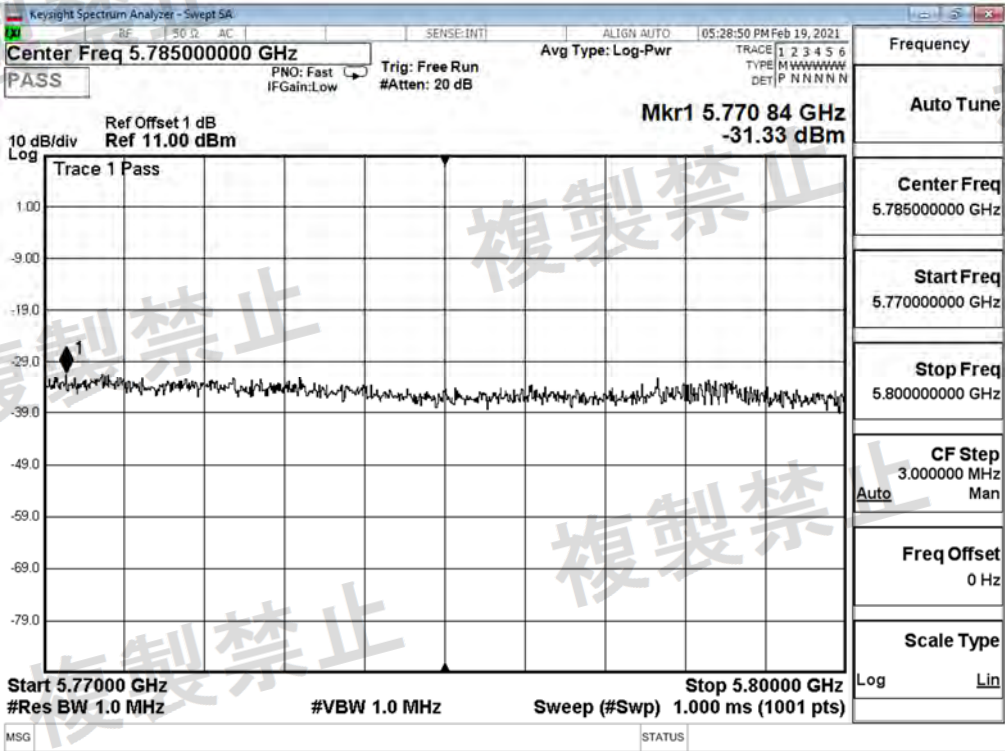
5460-5469.5MHz



5469.5-5470MHz



5770 - 5800MHz

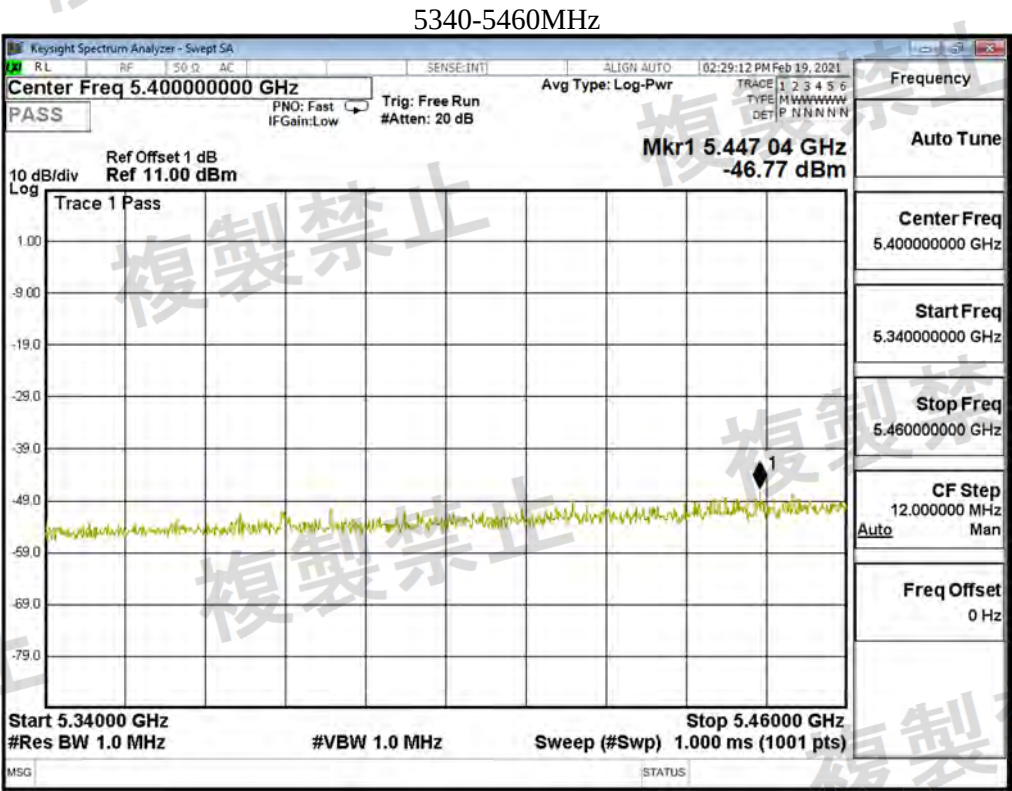


Product : Wireless module
Test Item : Out-Band Leakage Power
Test Mode : Mode 1: Transmit (802.11ac-80BW) 5690MHz_Chain A (Dipole) (Panel)

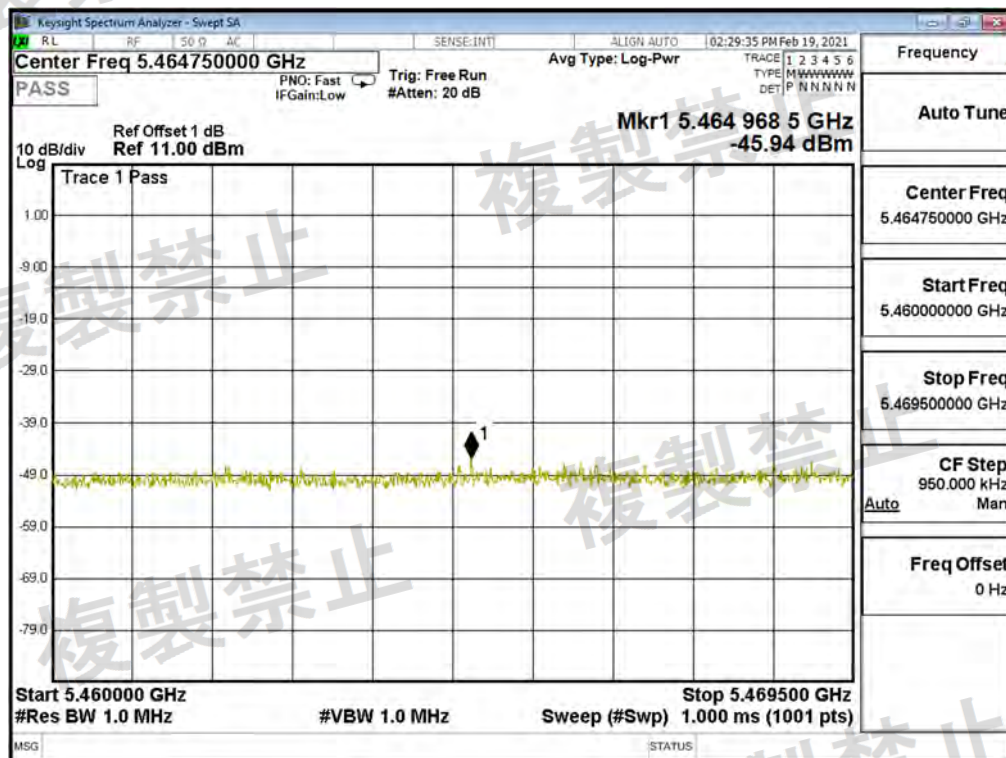
Antenna gain: 8.87dBi

Chain A					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-46.77	0.1622	≤ 12.5
		5460 to 5469.5MHz	-45.94	0.1963	≤ 50
		5469.5 to 5470MHz	-45.60	0.2123	≤ 51.2
		5770 to 5800MHz	-39.83	0.8009	≤ 12.5

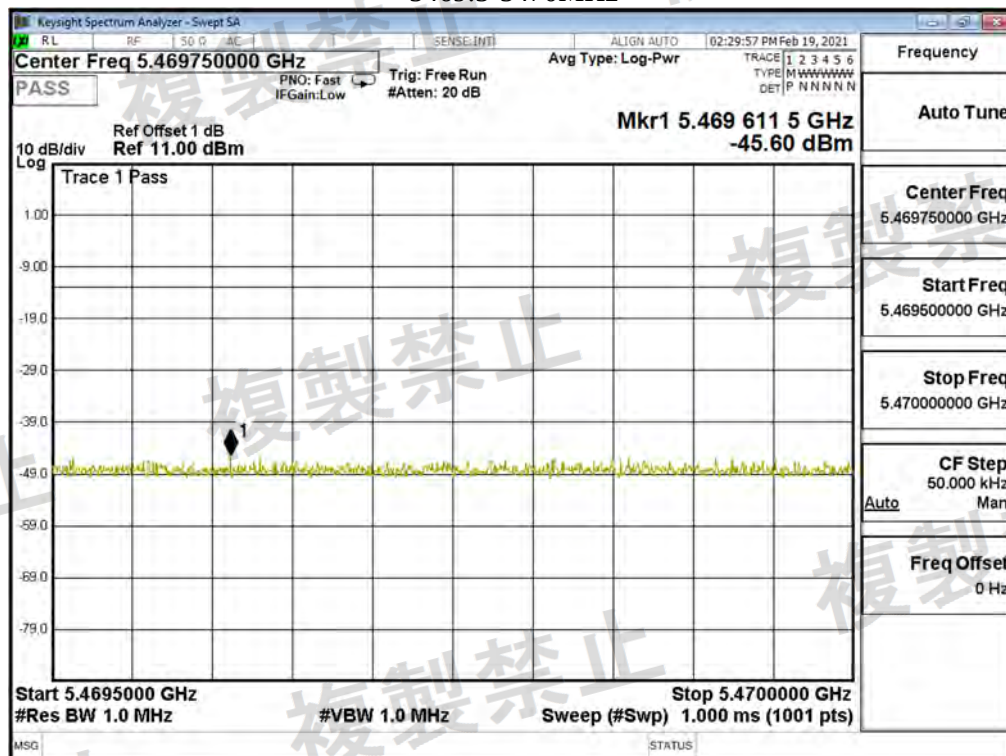
Measurement Level (uW) = 10^((Reading Value (dBm) +Antenna Gain+Cable loss)/10)*1000



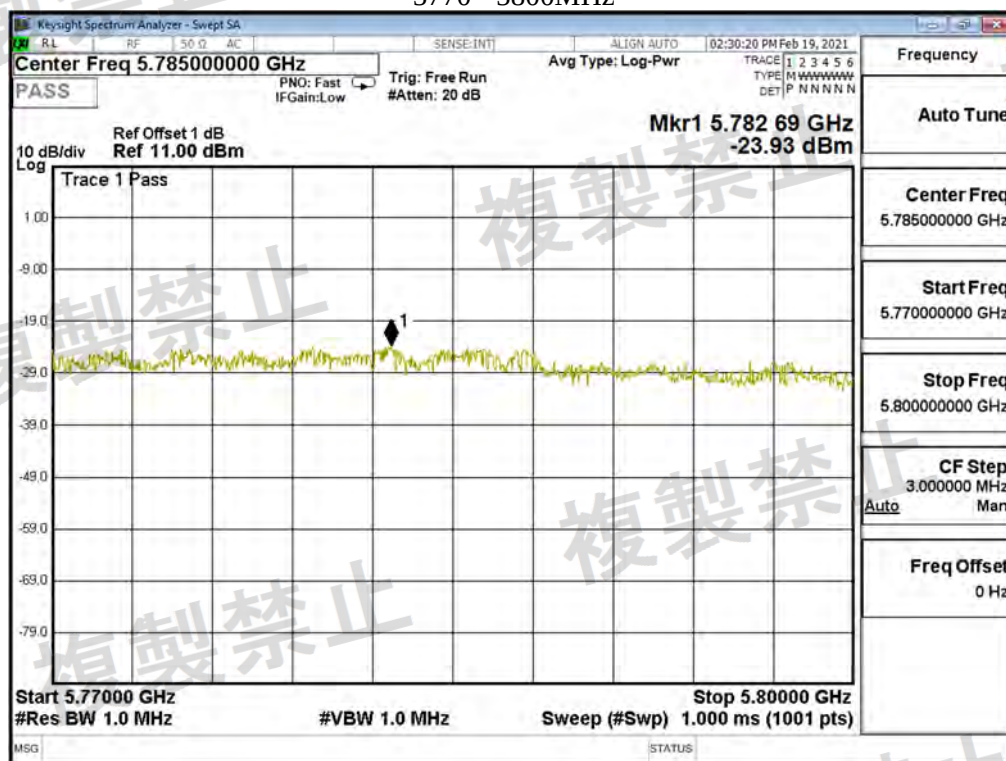
5460-5469.5MHz



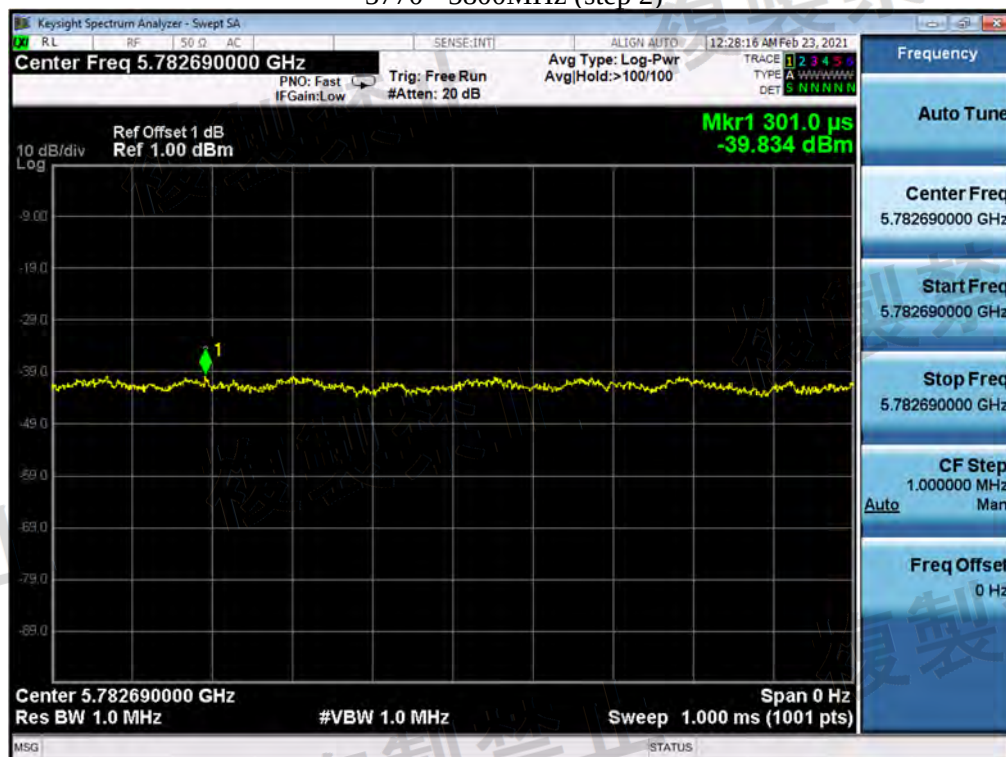
5469.5-5470MHz



5770 - 5800MHz



5770 - 5800MHz (step 2)



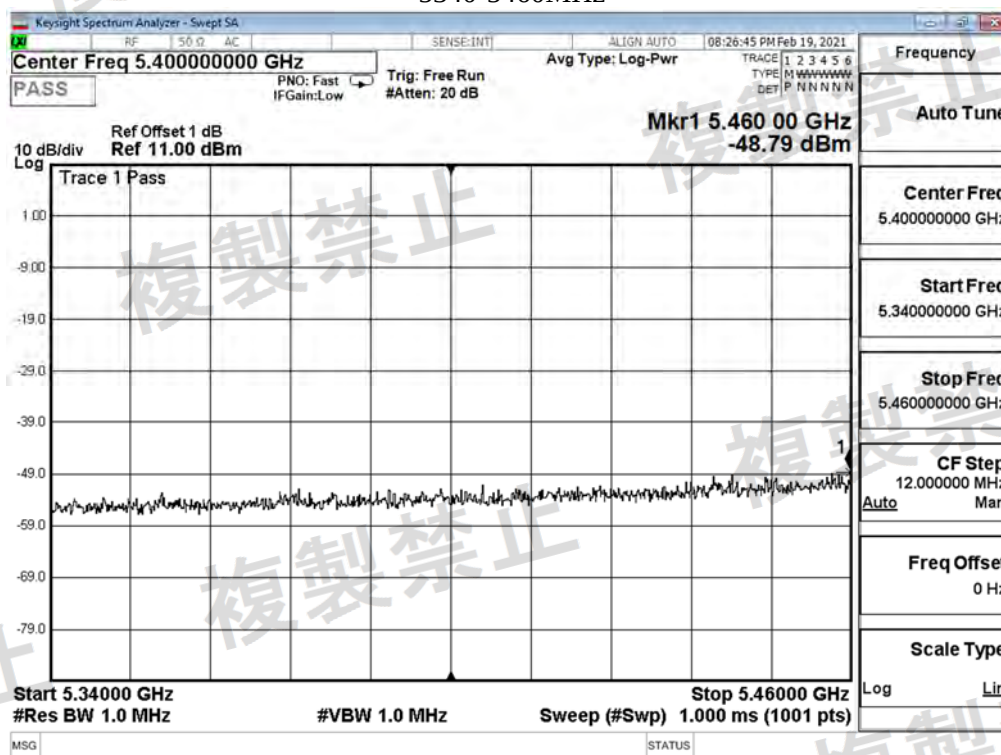
Product : Wireless module
 Test Item : Out-Band Leakage Power
 Test Mode : Mode 1: Transmit (802.11ac-80BW) 5690MHz_Chain B (Dipole) (Panel)

Antenna gain: 8.87dBi

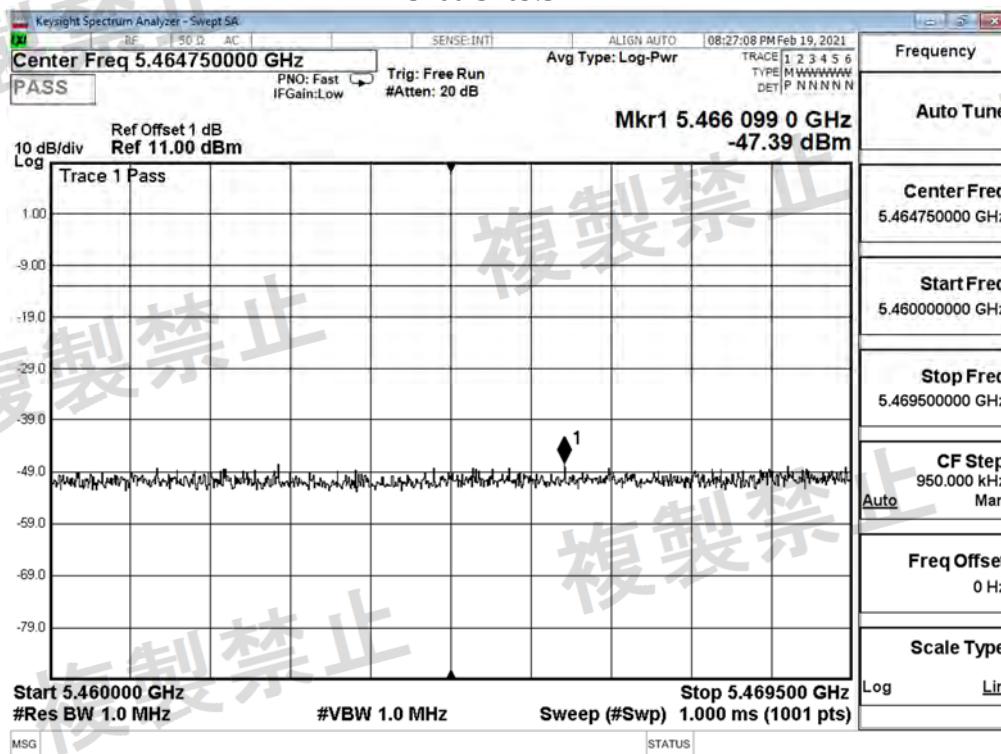
Chain B					
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Measurement Level (uW)	Limit (uW/MHz)
T _{nom} (25 °C)	V _{nom} (100 V)	5340 to 5460MHz	-48.79	0.1019	≤ 12.5
		5460 to 5469.5MHz	-47.39	0.1406	≤ 50
		5469.5 to 5470MHz	-44.94	0.2472	≤ 51.2
		5770 to 5800MHz	-37.19	1.4710	≤ 12.5

Measurement Level (uW) = $10^{((\text{Reading Value (dBm)} + \text{Antenna Gain} + \text{Cable loss})/10)*1000}$

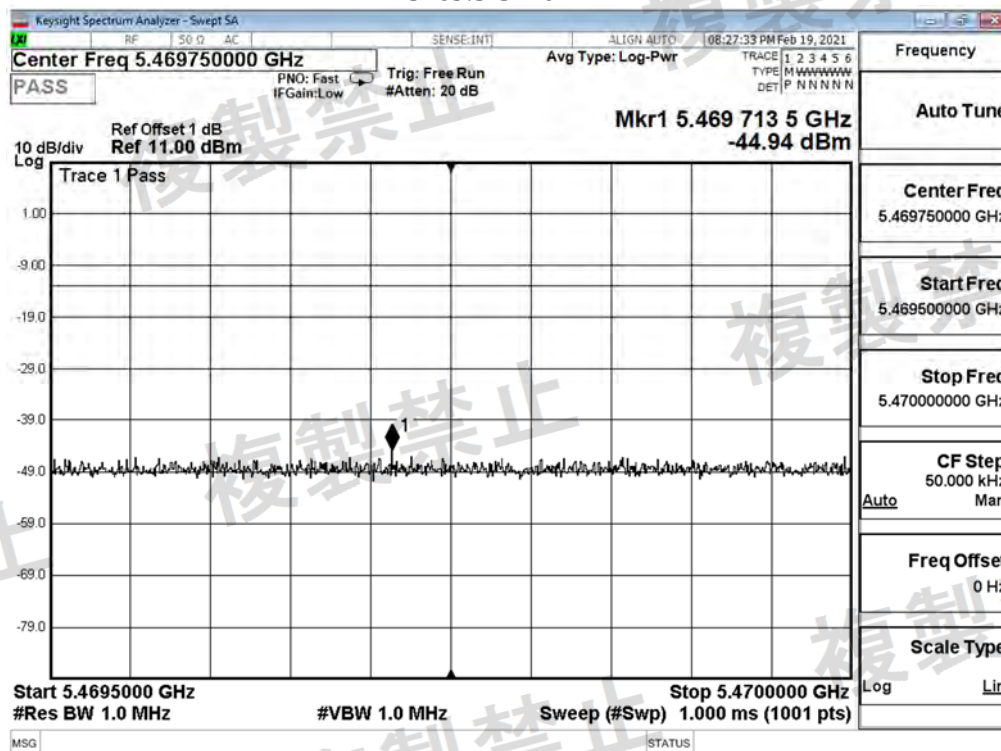
5340-5460MHz



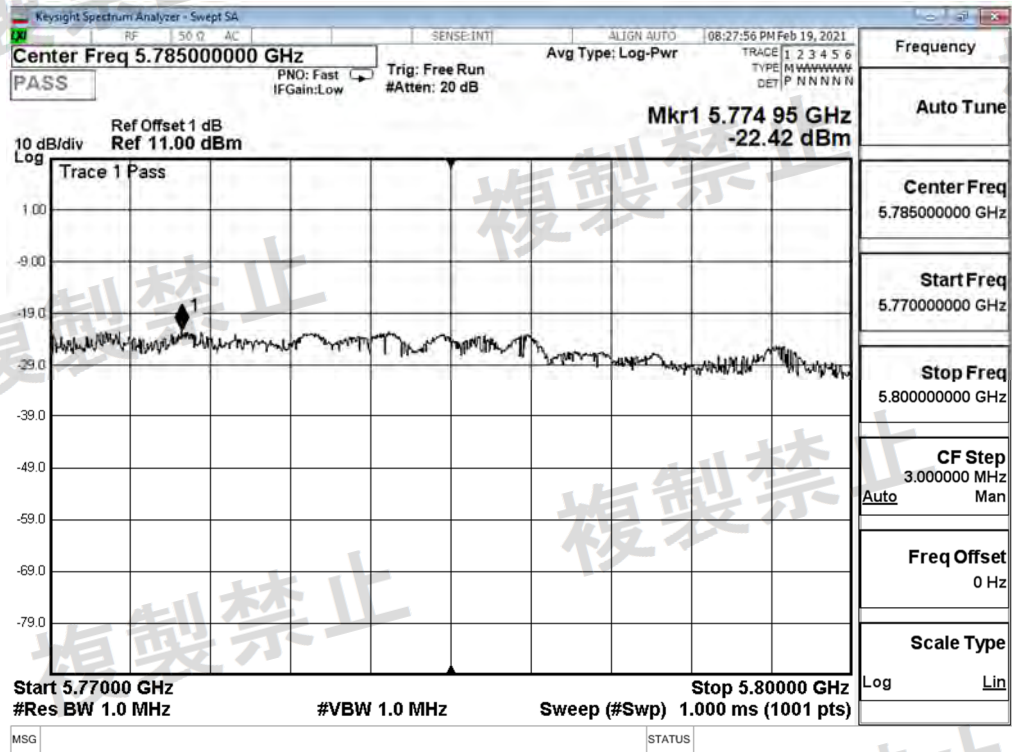
5460-5469.5MHz



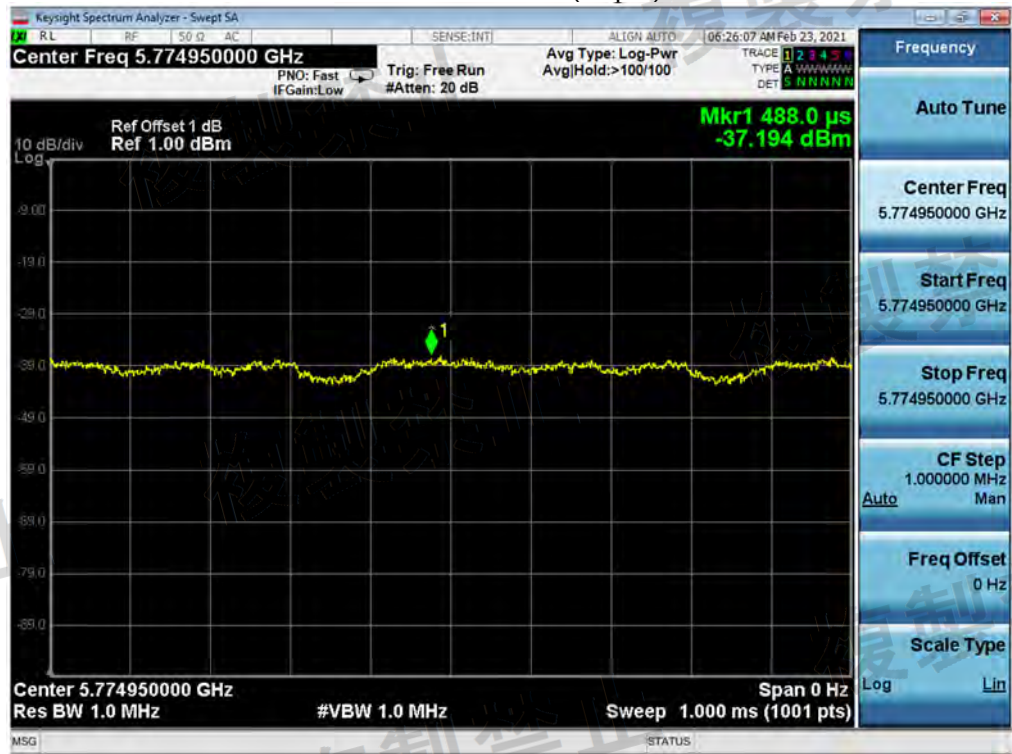
5469.5-5470MHz



5770 - 5800MHz



5770 - 5800MHz (step 2)



Test Result

PASS

9. Receiver Spurious Emissions

9.1. Test Setup



9.2. Test Procedure

A spectrum analyzer or similar device shall be used to observe a sample of the modulated transmitter's radio frequency power output.

- (a) A positive peak detector function must be used.
- (b) The measurement instrument bandwidth and span must be set sufficiently with, and, the scan time set sufficiently slow, to ensure all major modulation products are captured. Note that the measurement bandwidth should also be set sufficiently narrow to avoid adding significant error to the test result.
- (c) 'Maximum Hold' mode may be used to accumulate the measurement result over several scans provided the emission is repetitive in nature.

9.3. Test method

According to MIC Notice No. 88 Annex 45.

9.4. Limits

$\leq 4\text{nW}$ for 30 – 1000 MHz

$\leq 20\text{nW}$ for 1000 – 26000MHz

9.5. Uncertainty

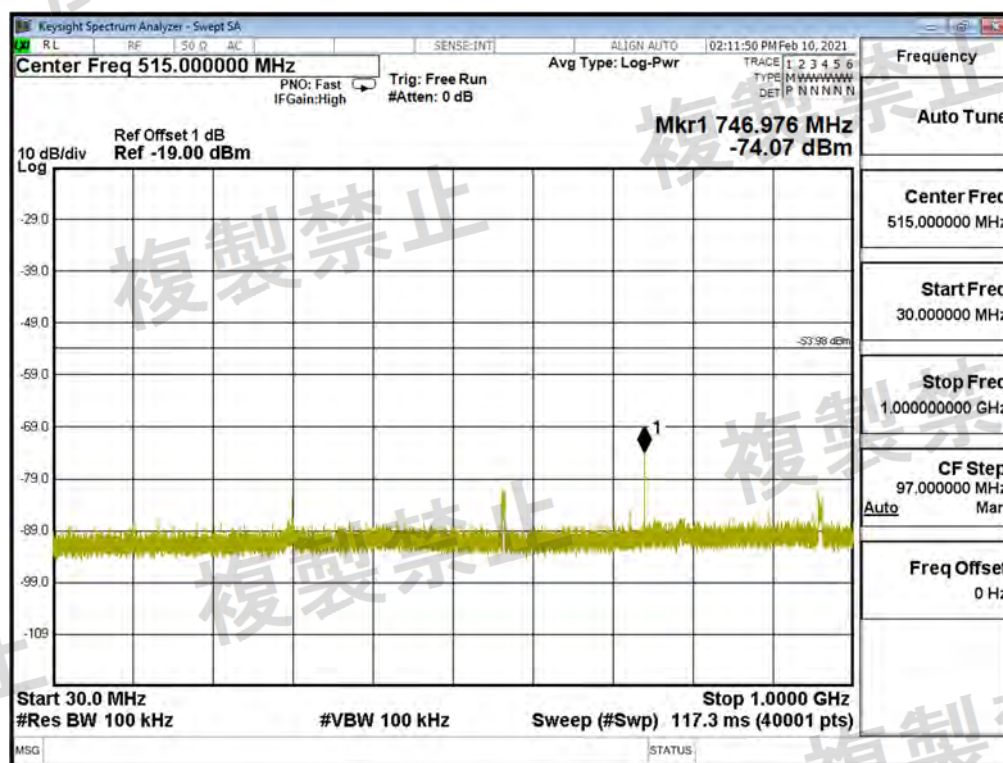
$\pm 1.30\text{dB}$.

9.6. Test Result of Receiver Spurious Emissions

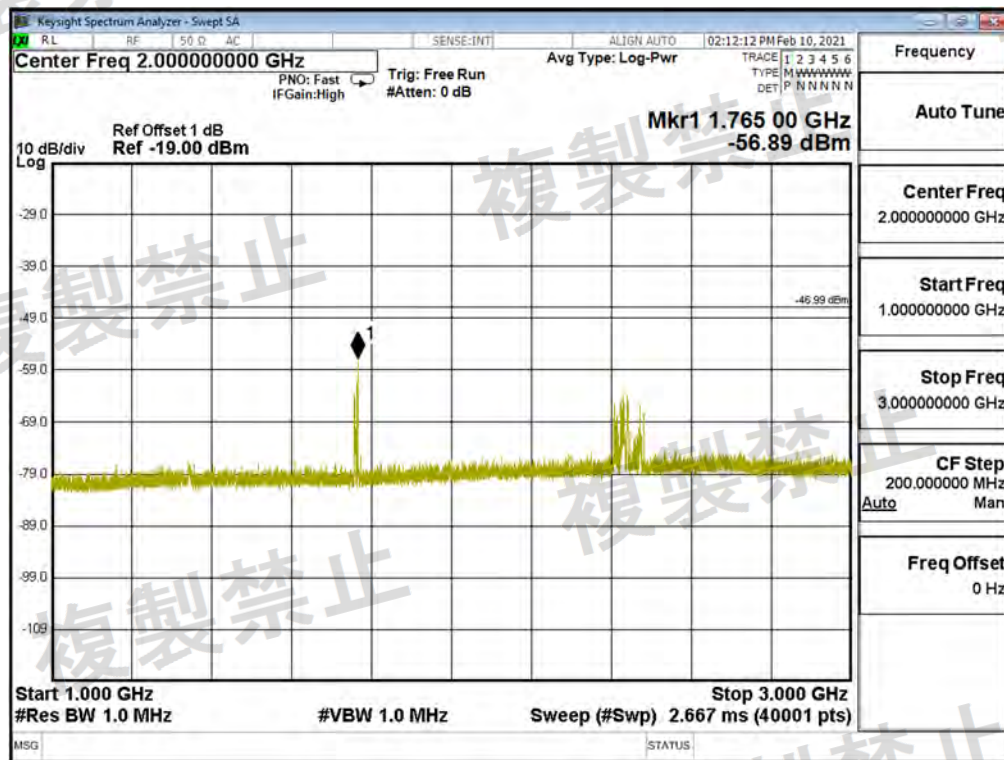
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11a) 5180MHz z Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 –1000	-74.07	-54 (4nW)
		1000 – 3000	-56.89	-47 (20nW)
		3000 – 16000	-70.82	-47 (20nW)
		16000 – 26000	-59.87	-47 (20nW)

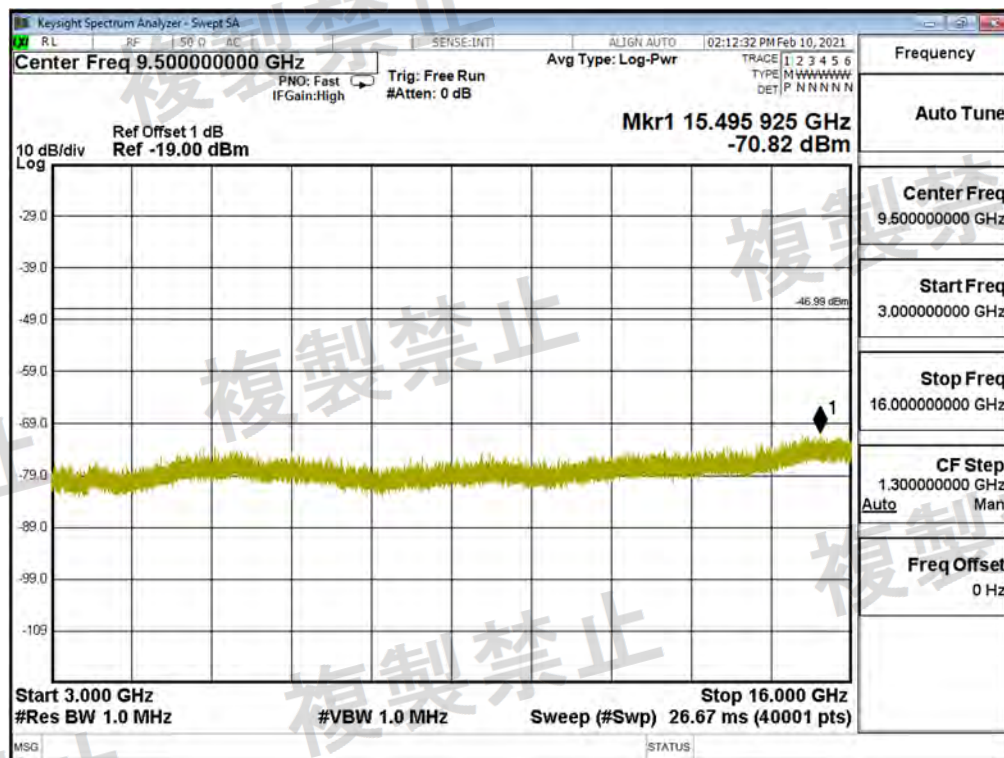
30 – 1000MHz



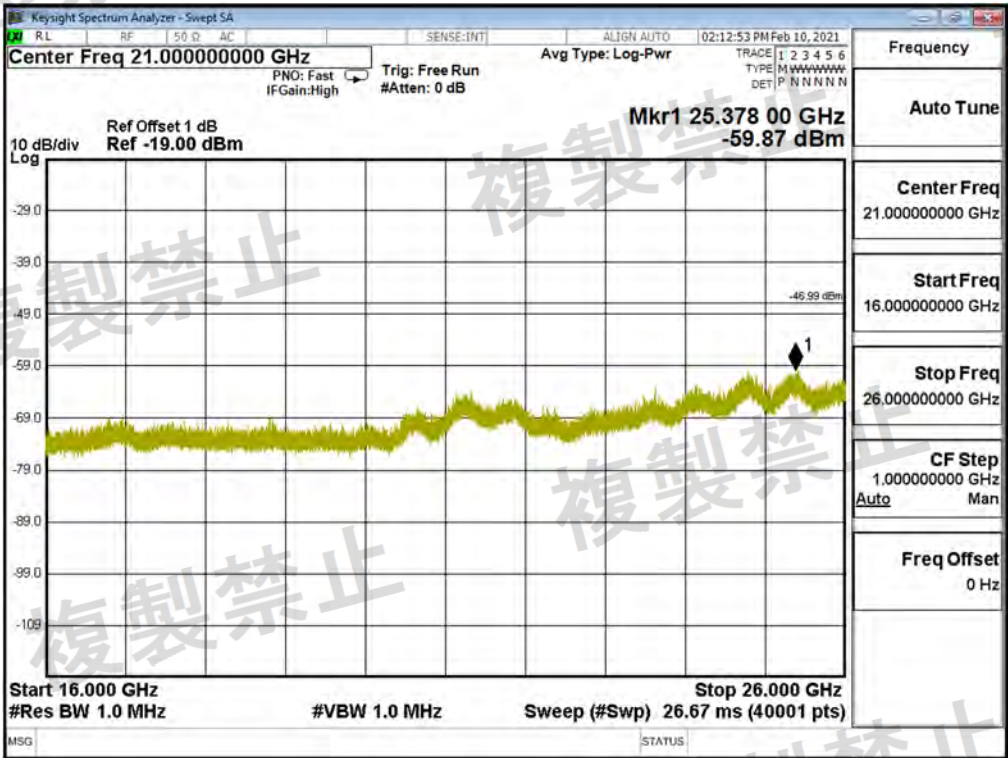
1000 – 3000MHz



3000 – 16000MHz



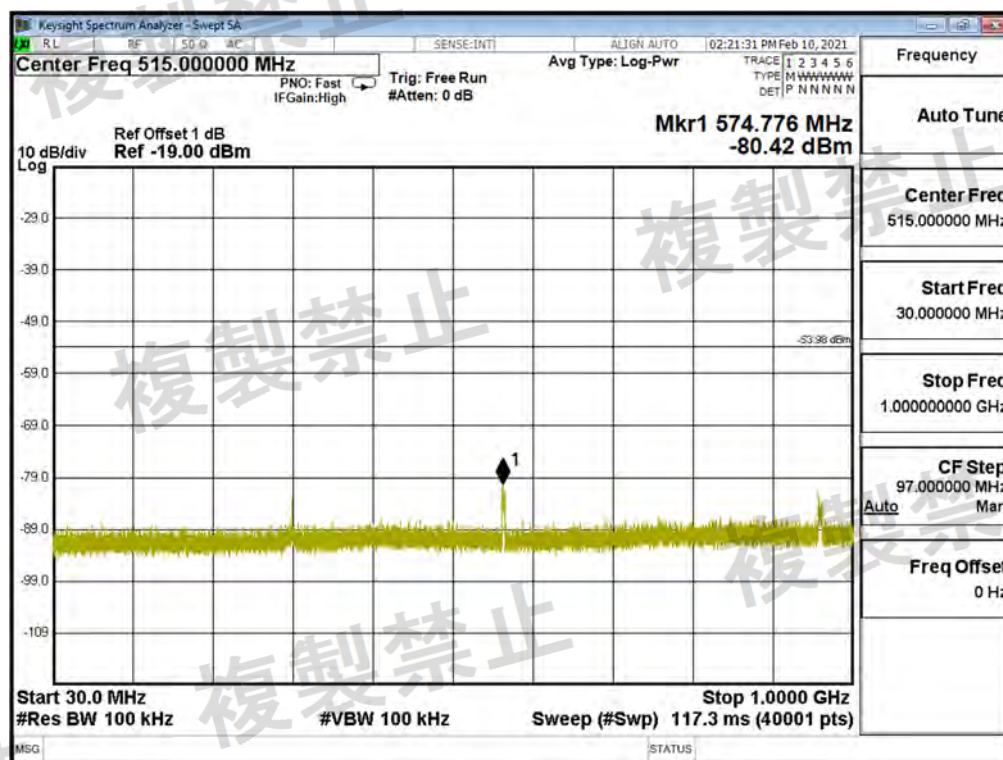
16000 – 26000MHz



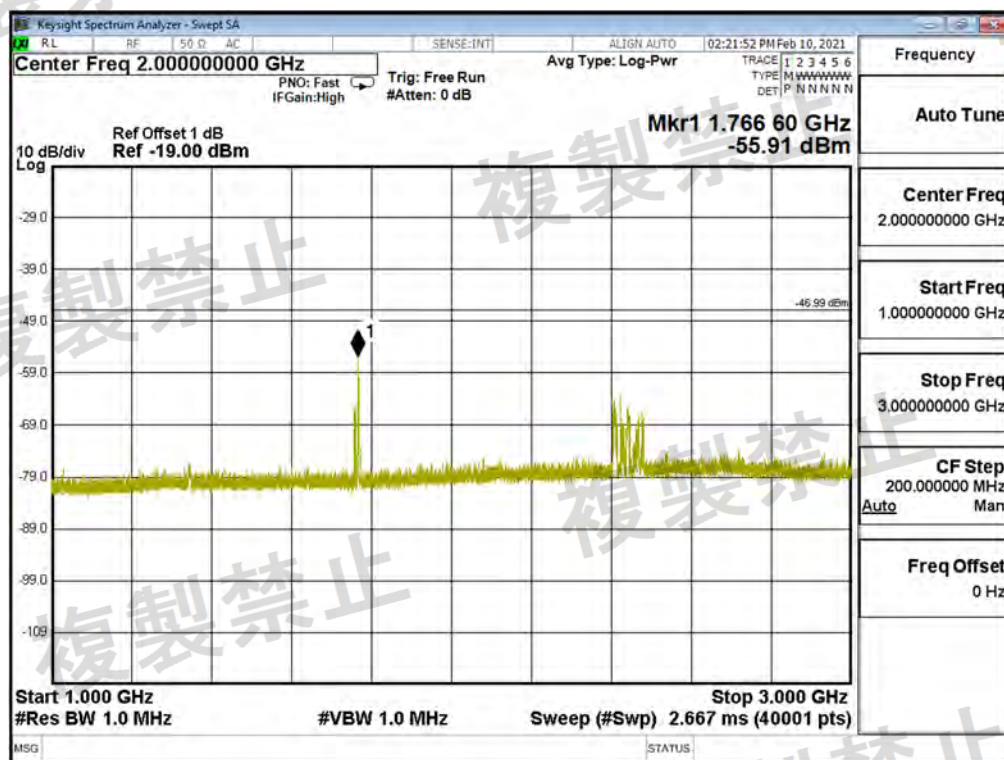
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11a) 5240MHz_Chain A (Dipole) (Panel)

Chain A			
Test Conditions		Frequency Range (MHz)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-54 (4nW)
		1000 - 3000	-47 (20nW)
		3000 - 16000	-47 (20nW)
		16000 - 26000	-47 (20nW)

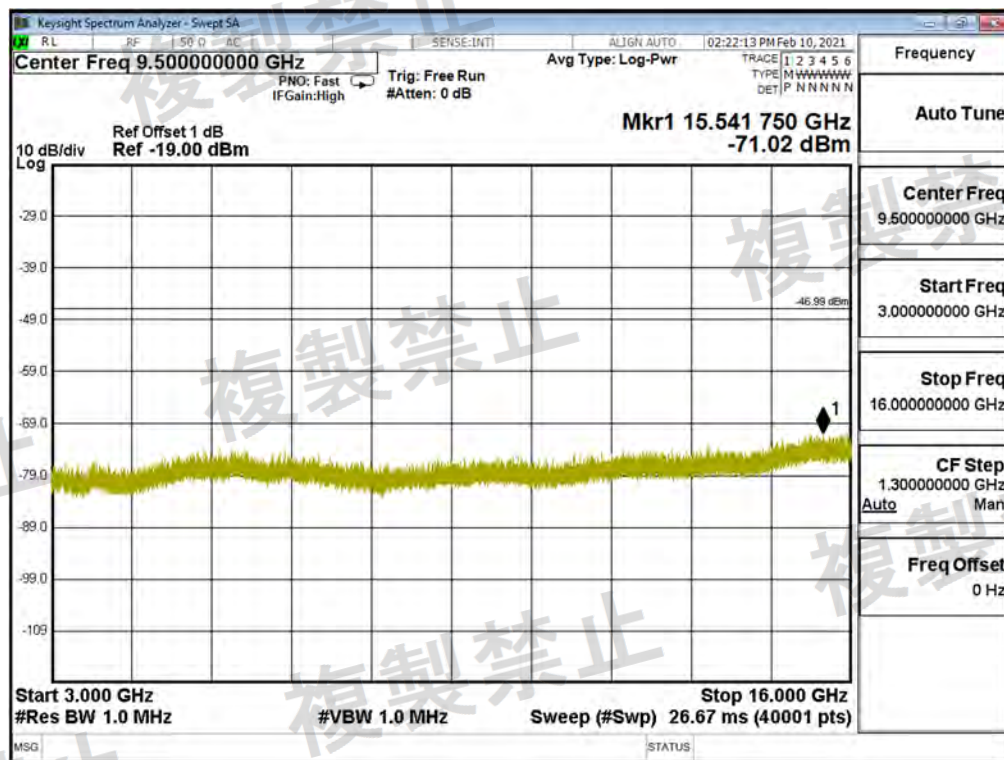
30 - 1000MHz



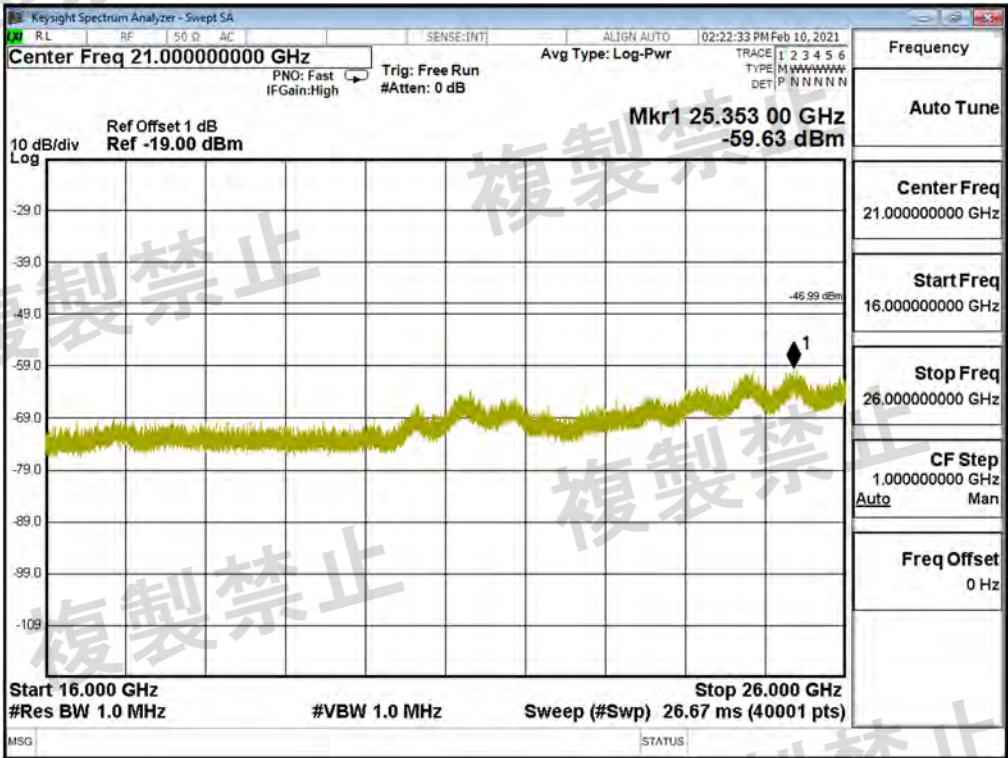
1000 – 3000MHz



3000 – 16000MHz



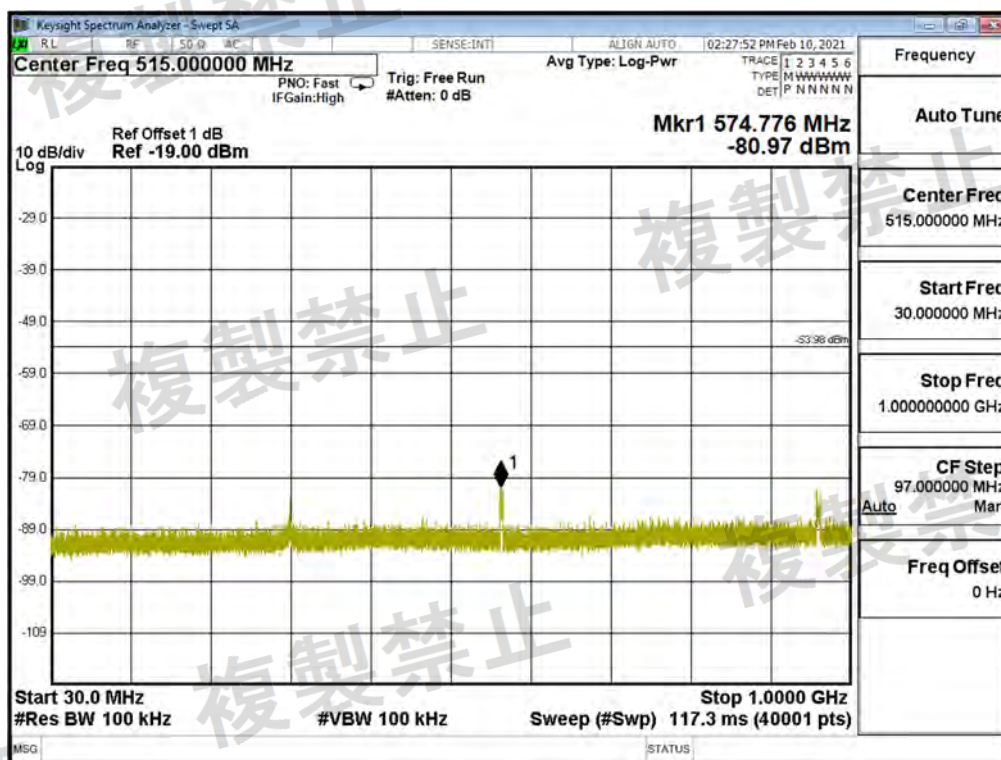
16000 – 26000MHz



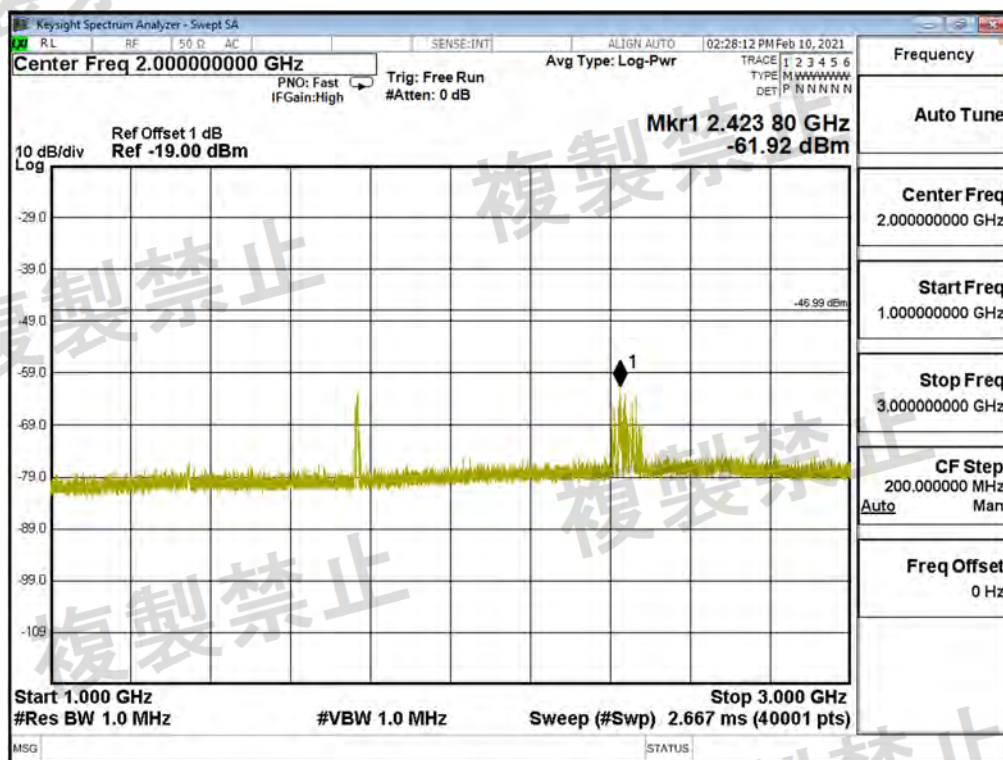
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11a) 5260MHz_Chain A (Dipole) (Panel)

Chain A			
Test Conditions		Frequency Range (MHz)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 – 1000	-80.97
		1000 – 3000	-61.92
		3000 – 16000	-70.62
		16000 – 26000	-59.86

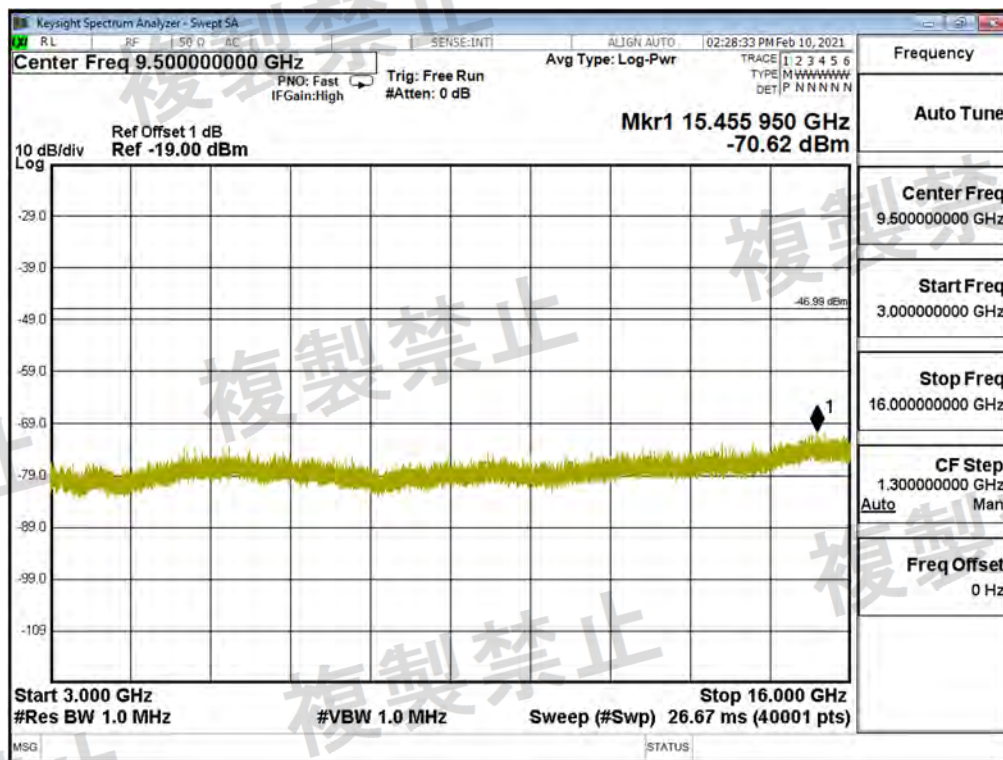
30 – 1000MHz



1000 – 3000MHz



3000 – 16000MHz



Keysight Spectrum Analyzer - Sweep SA

RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 02:28:53 PM Feb 10, 2021

Center Freq 21.00000000 GHz PNO: Fast IF Gain: High Trig: Free Run #Atten: 0 dB Avg Type: Log-Pwr

Frequency

Auto Tune

Center Freq 21.00000000 GHz

Start Freq 16.00000000 GHz

Stop Freq 26.00000000 GHz

CF Step 1.00000000 GHz Auto Man

Freq Offset 0 Hz

10 dB/div Log

Ref Offset 1 dB Ref -19.00 dBm

Mkr1 25.428 25 GHz -59.86 dBm

-46.99 dBm

1

Start 16.000 GHz #Res BW 1.0 MHz

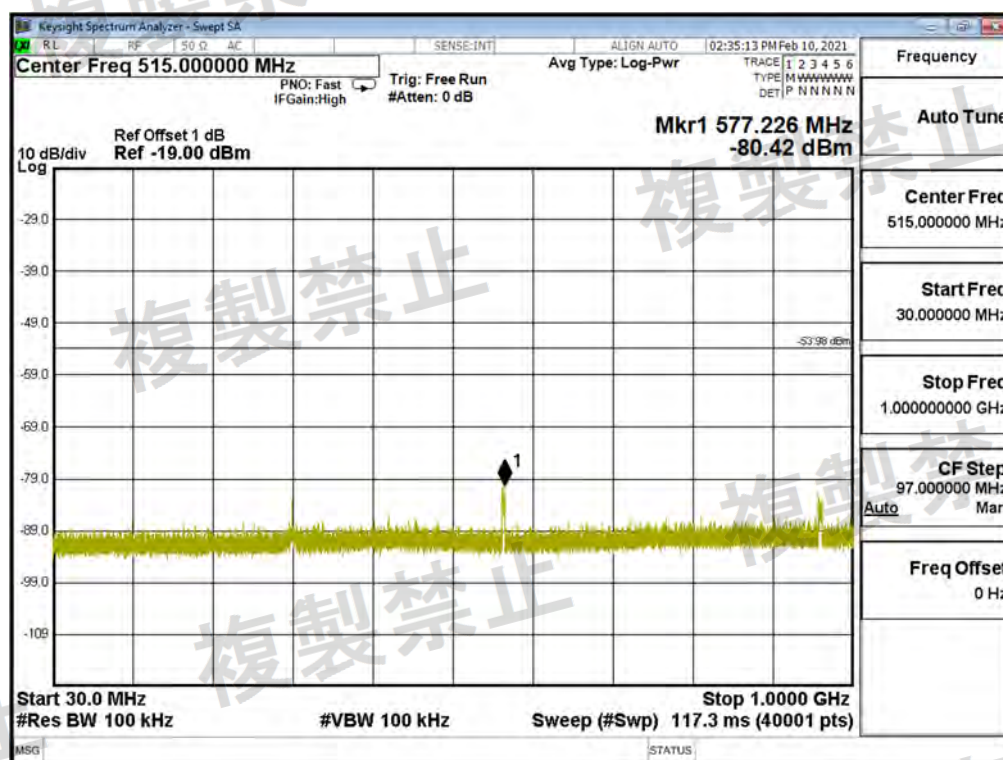
Stop 26.000 GHz Sweep (#Swp) 26.67 ms (40001 pts)

MSG STATUS

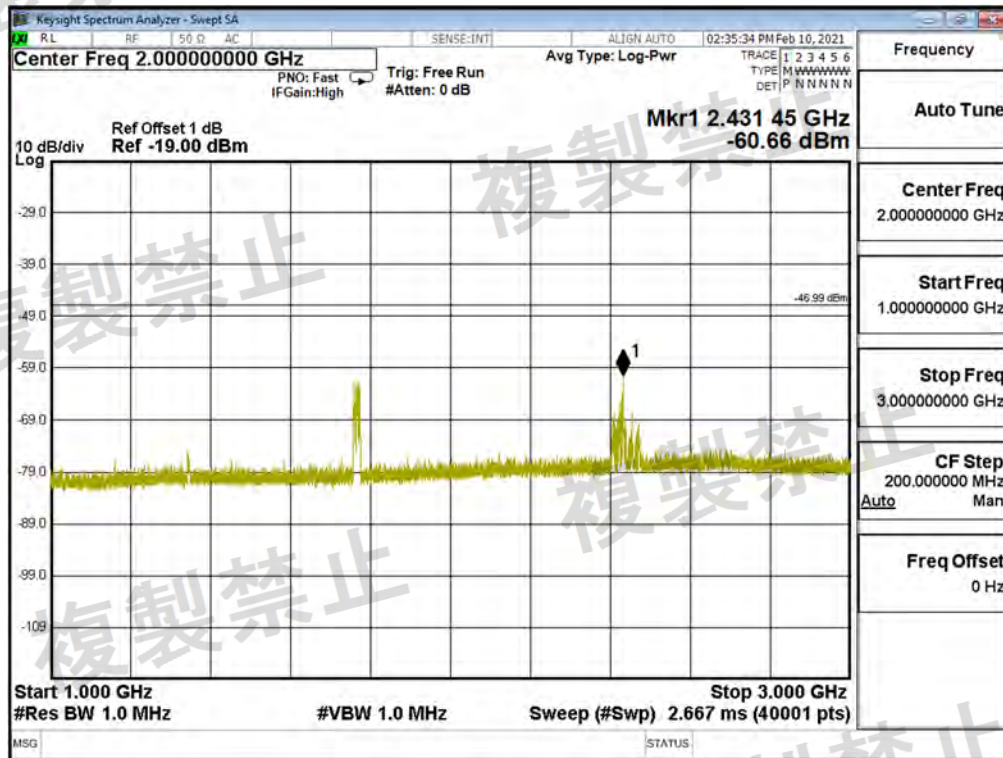
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11a) 5320MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T_{nom} (25 °C)	V_{nom} (100 V)	30 – 1000	-80.42	-54 (4nW)
		1000 – 3000	-60.66	-47 (20nW)
		3000 – 16000	-70.76	-47 (20nW)
		16000 – 26000	-59.32	-47 (20nW)

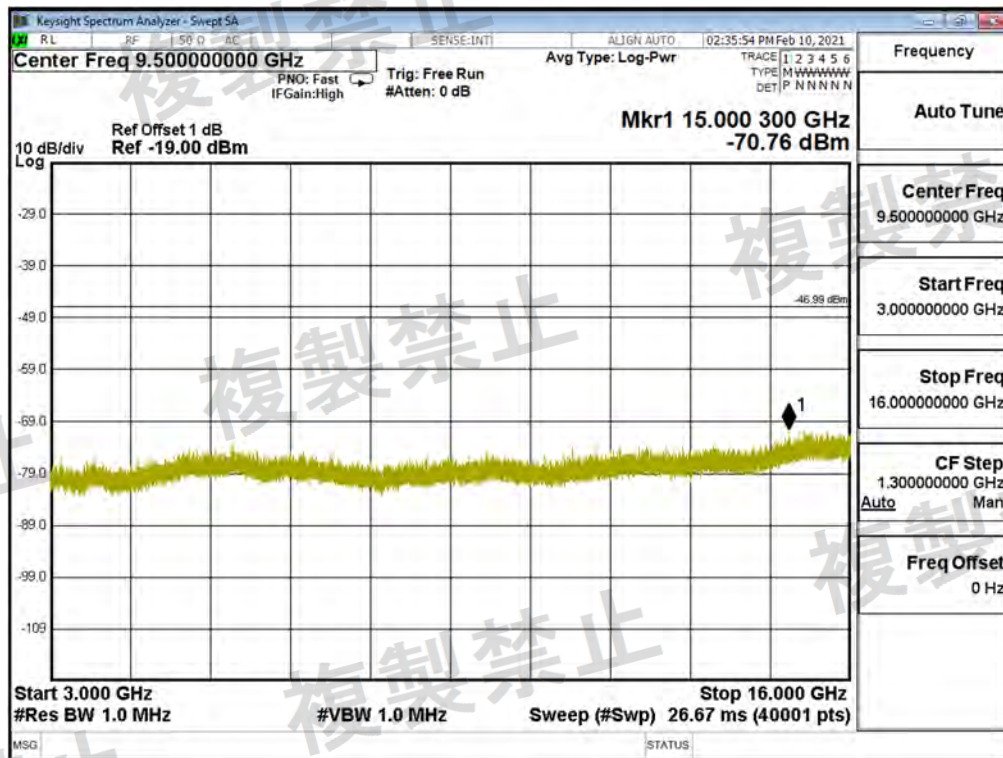
30 – 1000MHz



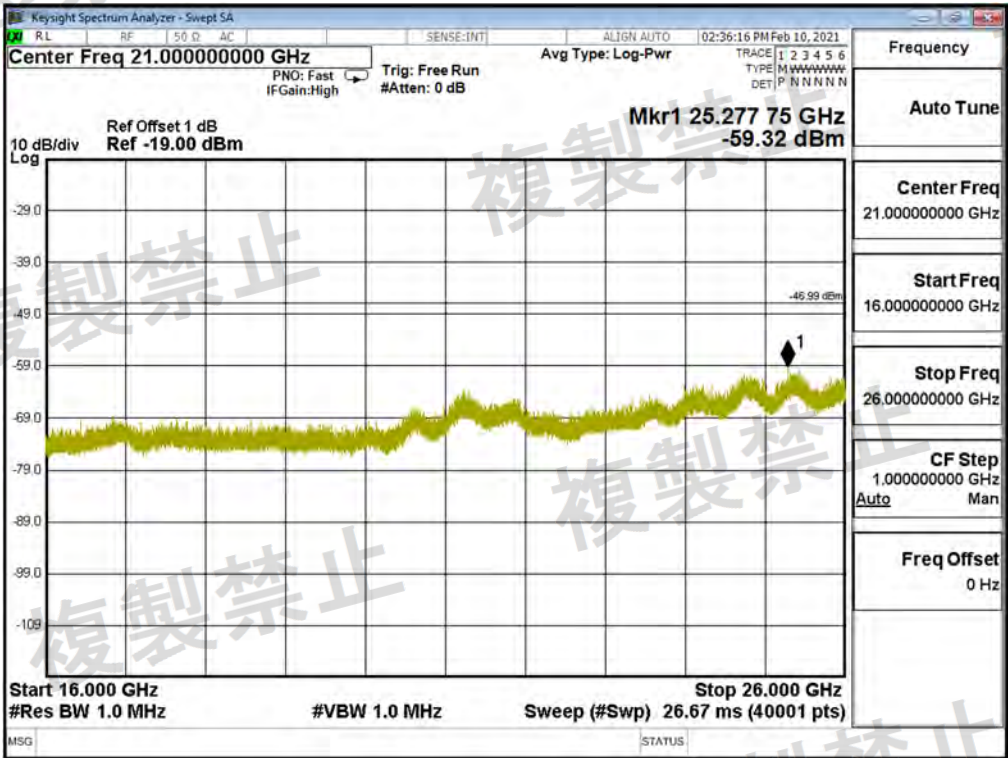
1000 – 3000MHz



3000 – 16000MHz



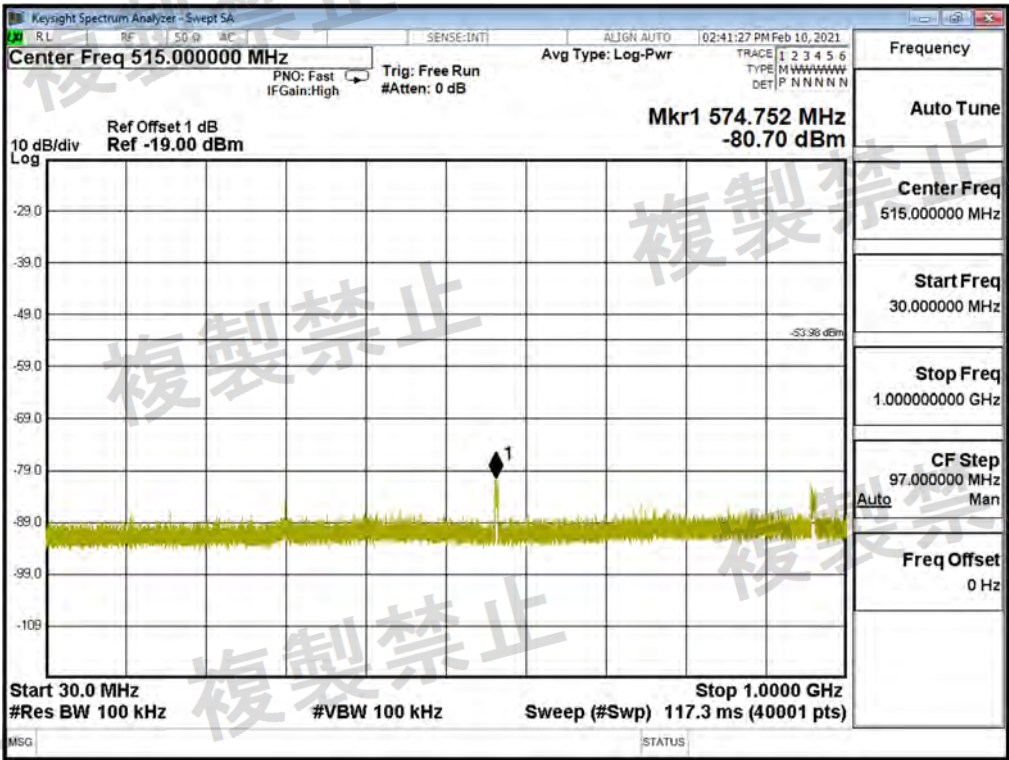
16000 – 26000MHz



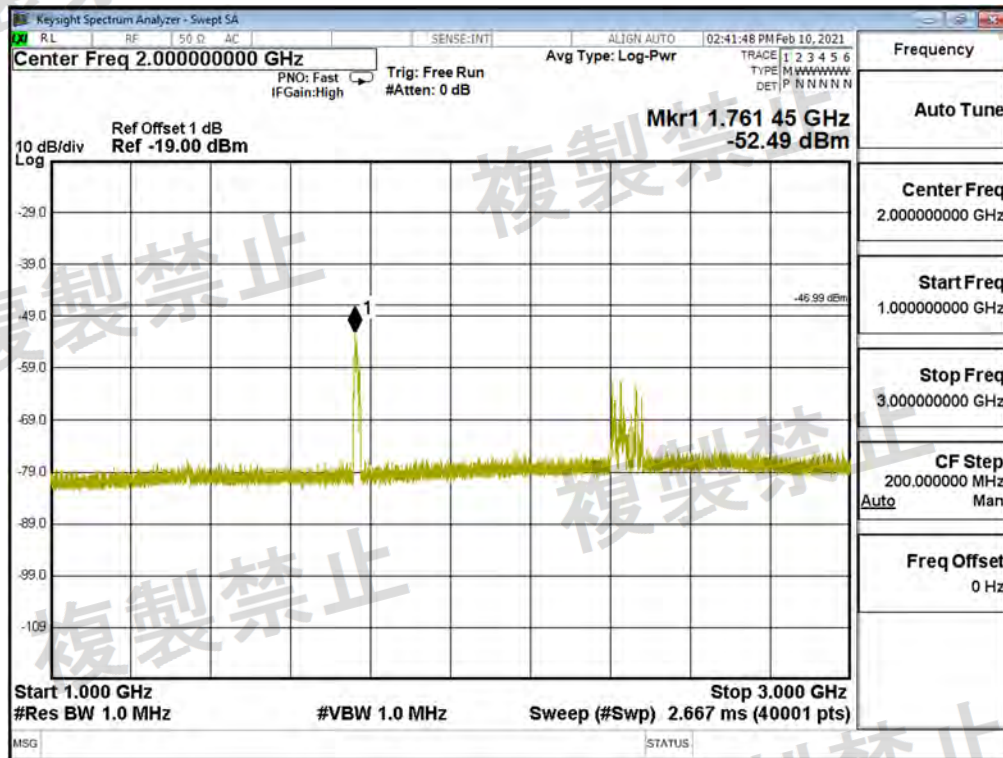
Product : Wireless module
Test Item : Receiver Spurious Emissions
Test Mode : Mode 2: Receiver (802.11a) 5500MHz_Chain A (Dipole) (Panel)

Chain A			
Test Conditions		Frequency Range (MHz)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-54 (4nW)
		1000 - 3000	-47 (20nW)
		3000 - 16000	-47 (20nW)
		16000 - 26000	-47 (20nW)

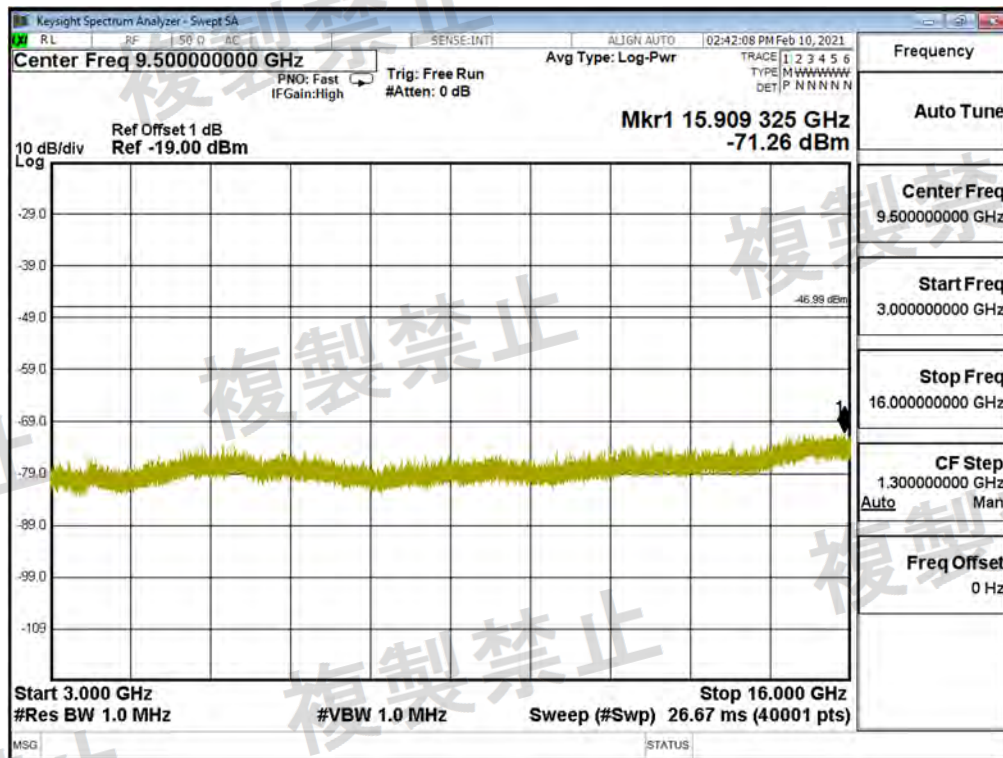
30 - 1000MHz



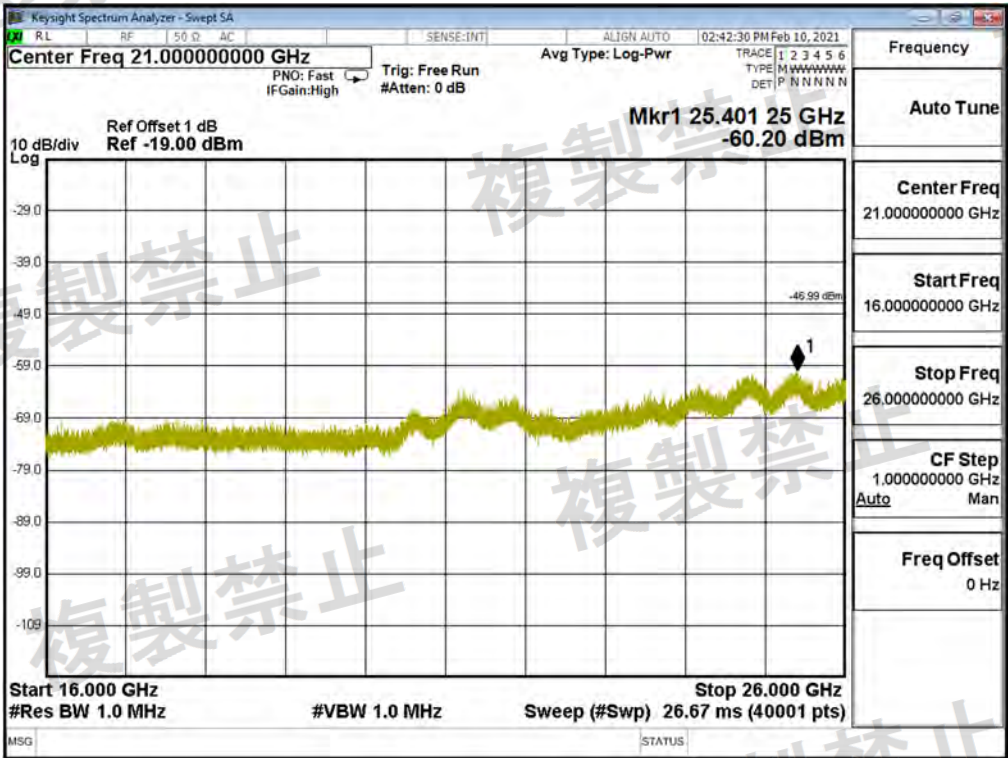
1000 – 3000MHz



3000 – 16000MHz



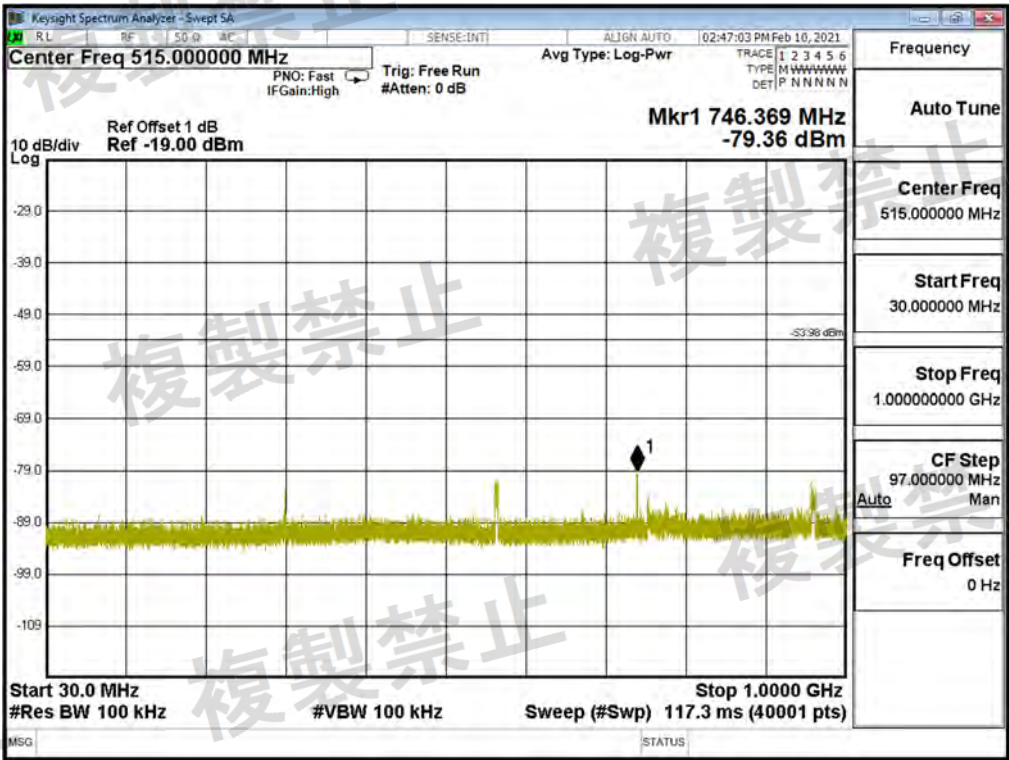
16000 – 26000MHz



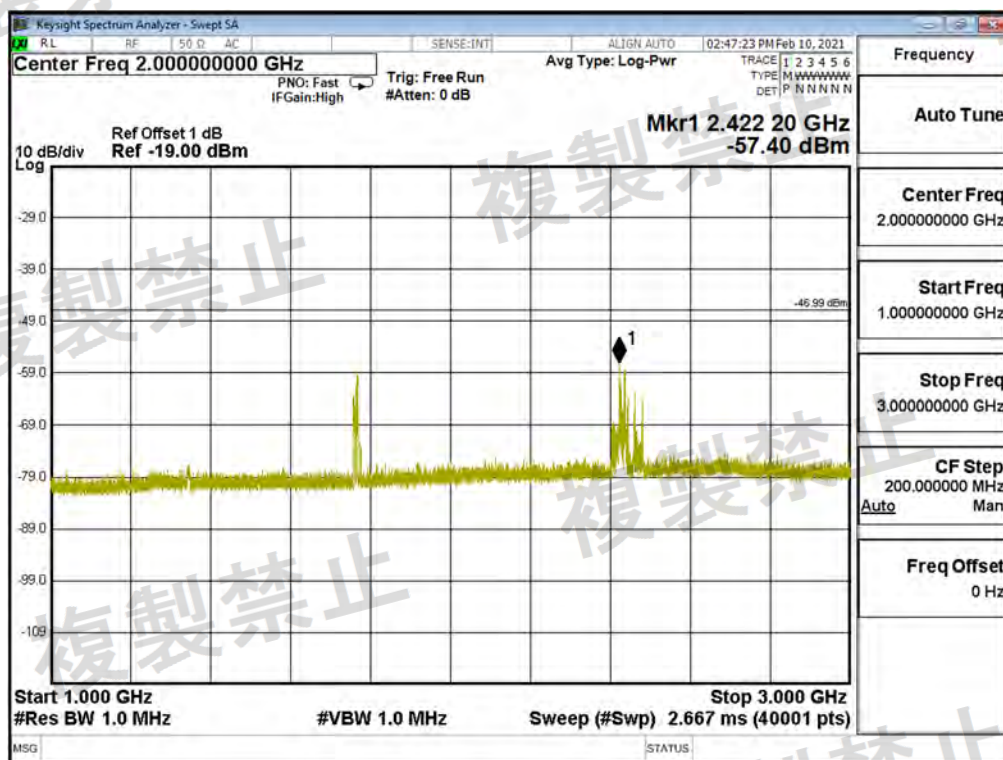
Product : Wireless module
Test Item : Receiver Spurious Emissions
Test Mode : Mode 2: Receiver (802.11a) 5600MHz_Chain A (Dipole) (Panel)

Chain A			
Test Conditions		Frequency Range (MHz)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-54 (4nW)
		1000 - 3000	-47 (20nW)
		3000 - 16000	-47 (20nW)
		16000 - 26000	-47 (20nW)

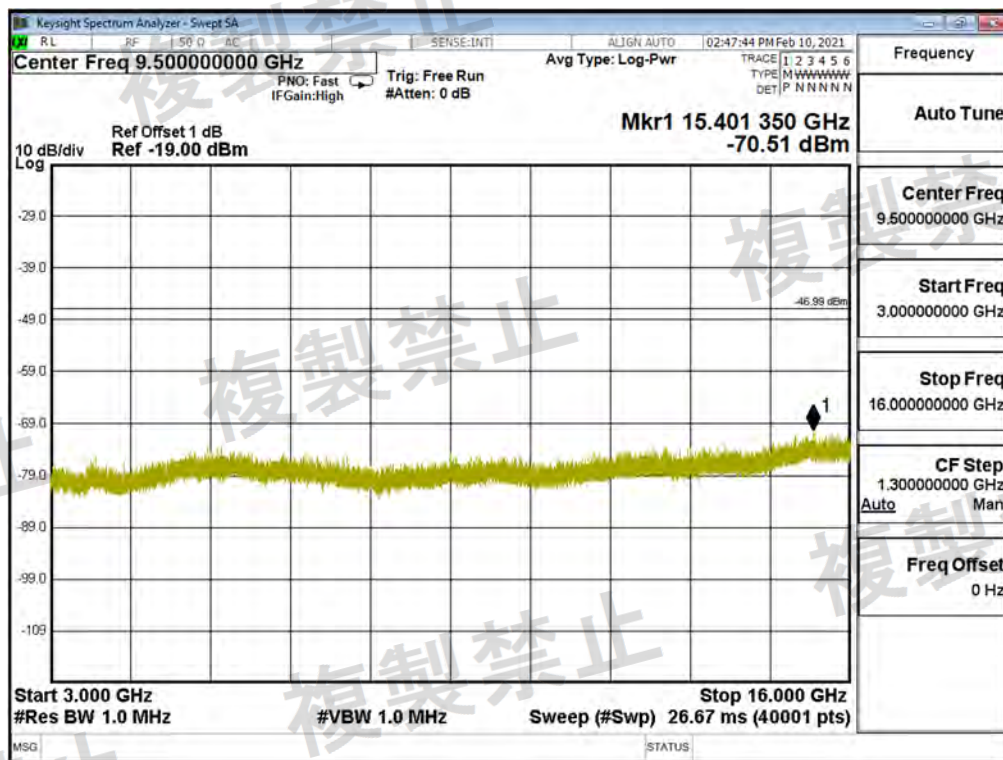
30 - 1000MHz



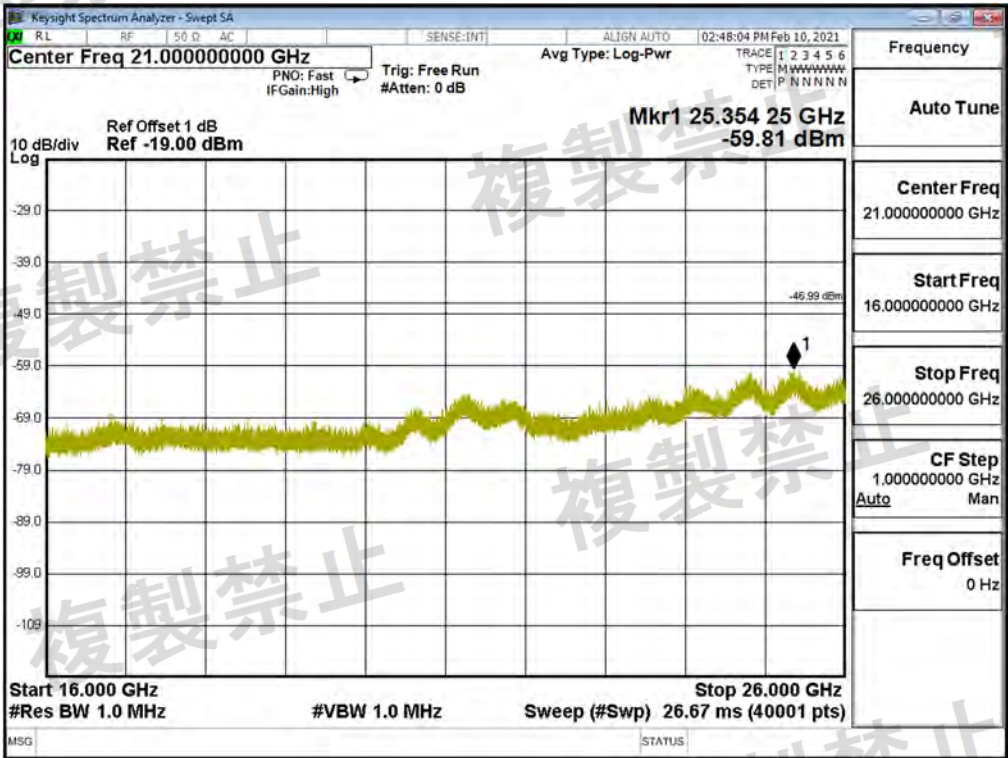
1000 – 3000MHz



3000 – 16000MHz



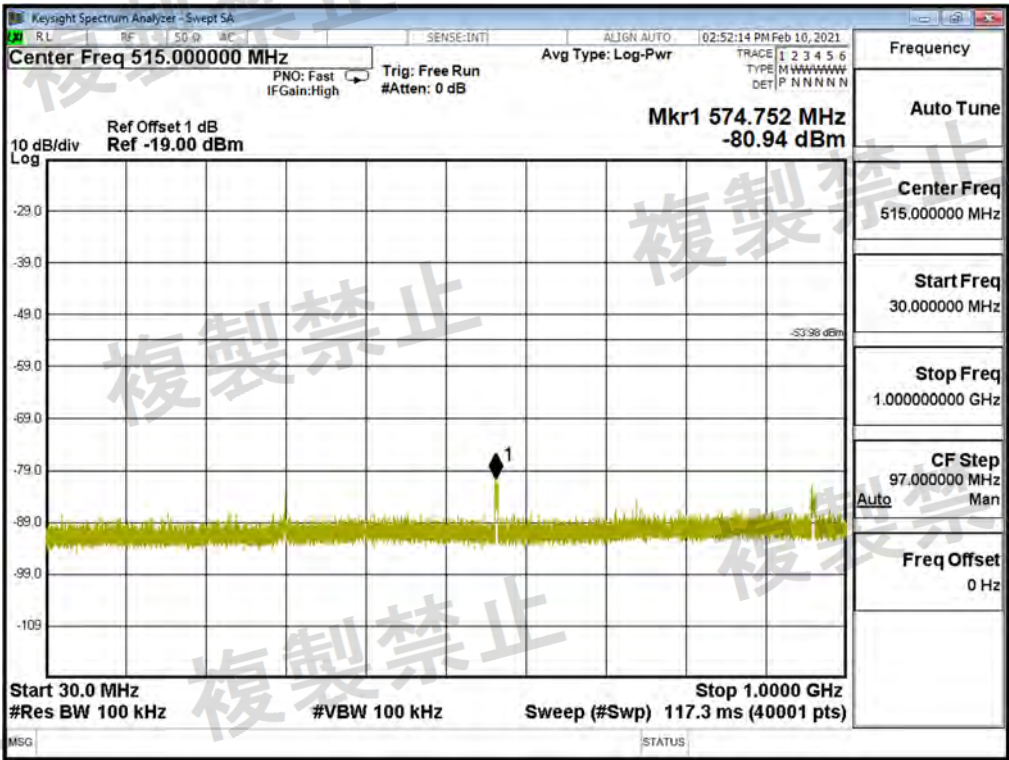
16000 – 26000MHz



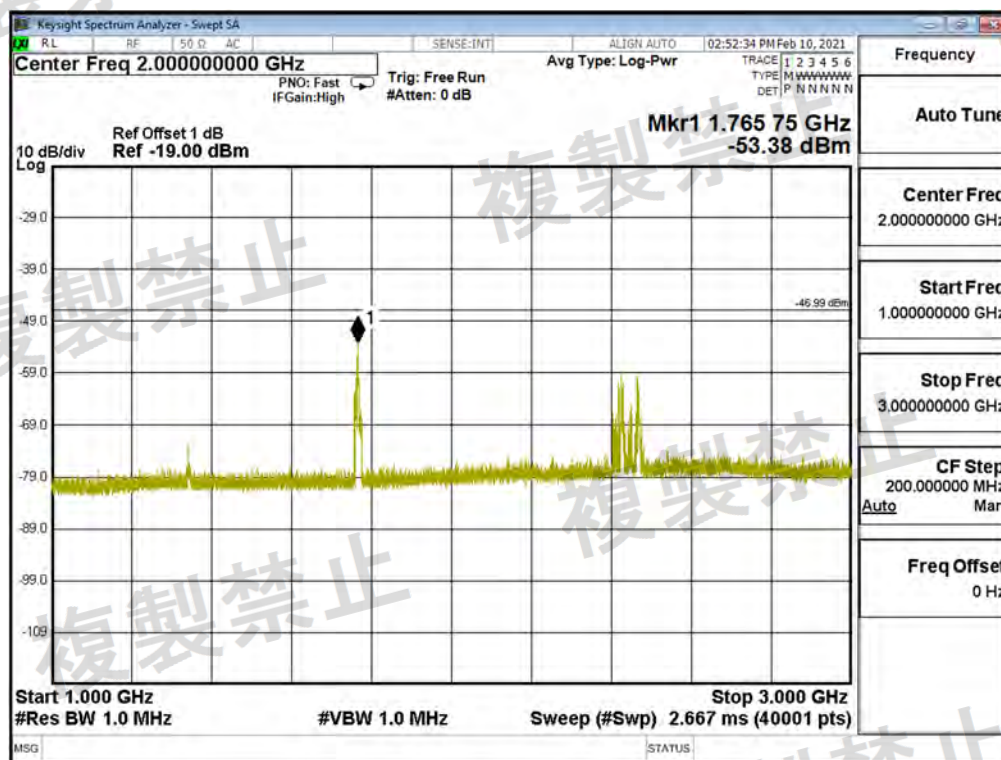
Product : Wireless module
Test Item : Receiver Spurious Emissions
Test Mode : Mode 2: Receiver (802.11a) 5700MHz_Chain A (Dipole) (Panel)

Chain A			
Test Conditions		Frequency Range (MHz)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-54 (4nW)
		1000 - 3000	-47 (20nW)
		3000 - 16000	-47 (20nW)
		16000 - 26000	-47 (20nW)

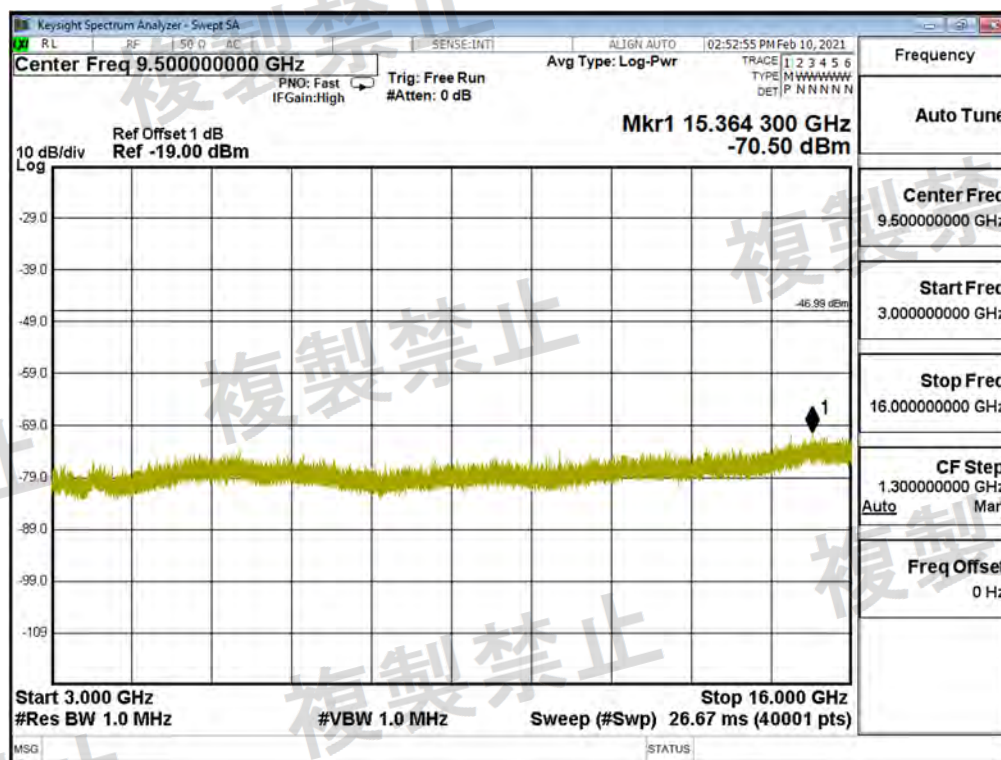
30 - 1000MHz



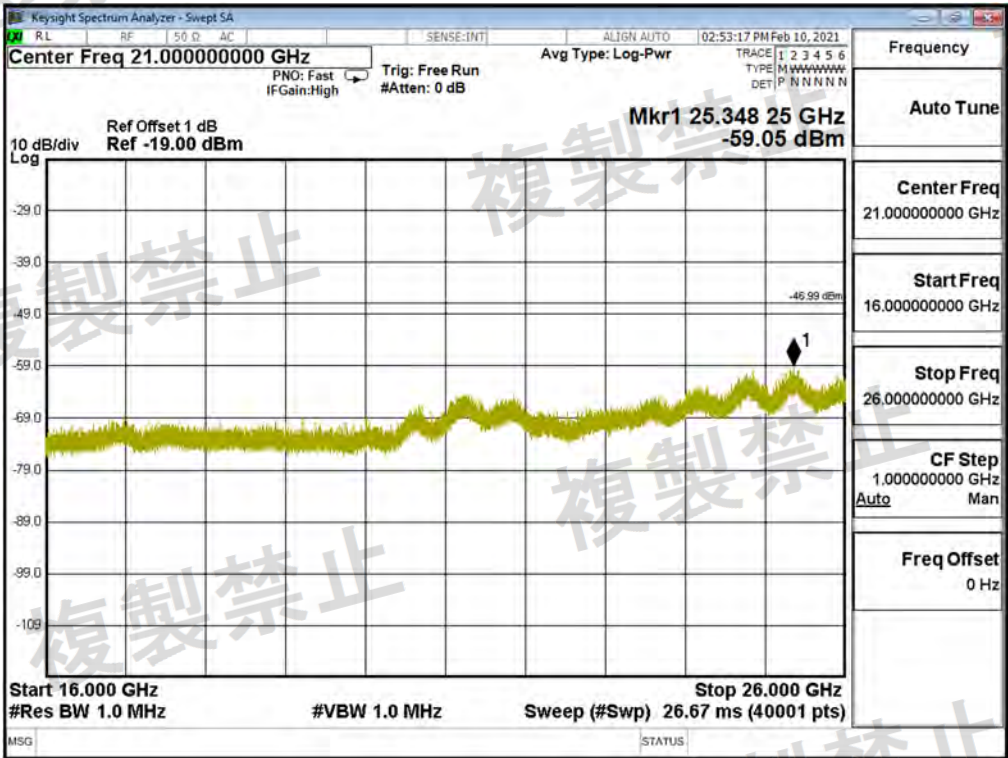
1000 – 3000MHz



3000 – 16000MHz



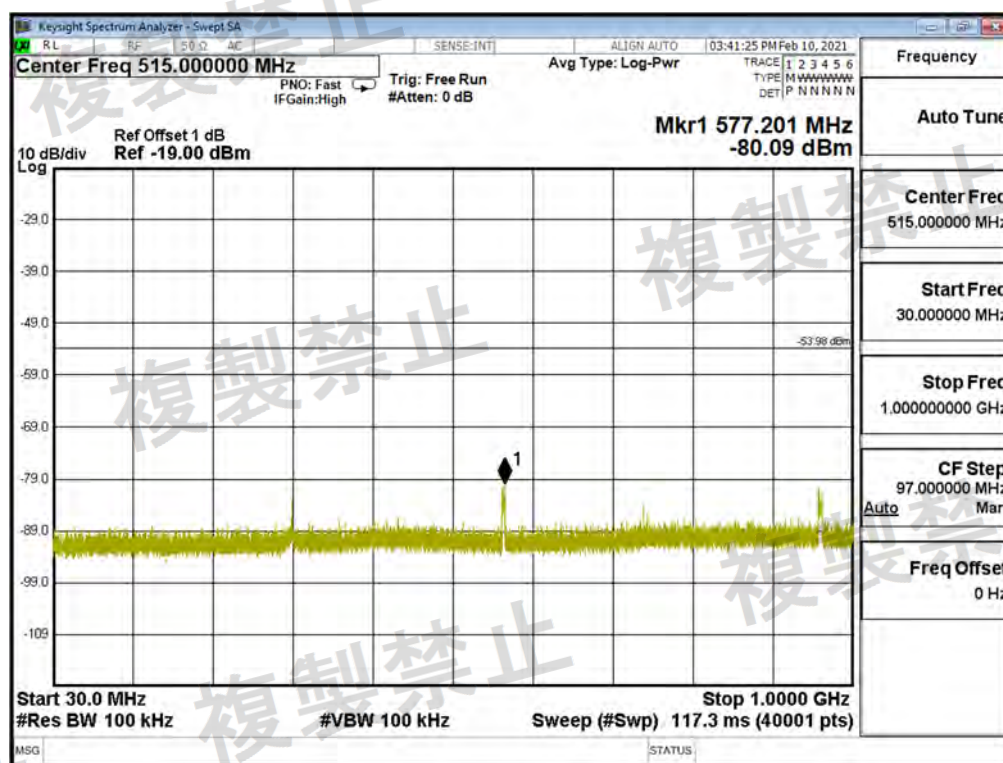
16000 – 26000MHz



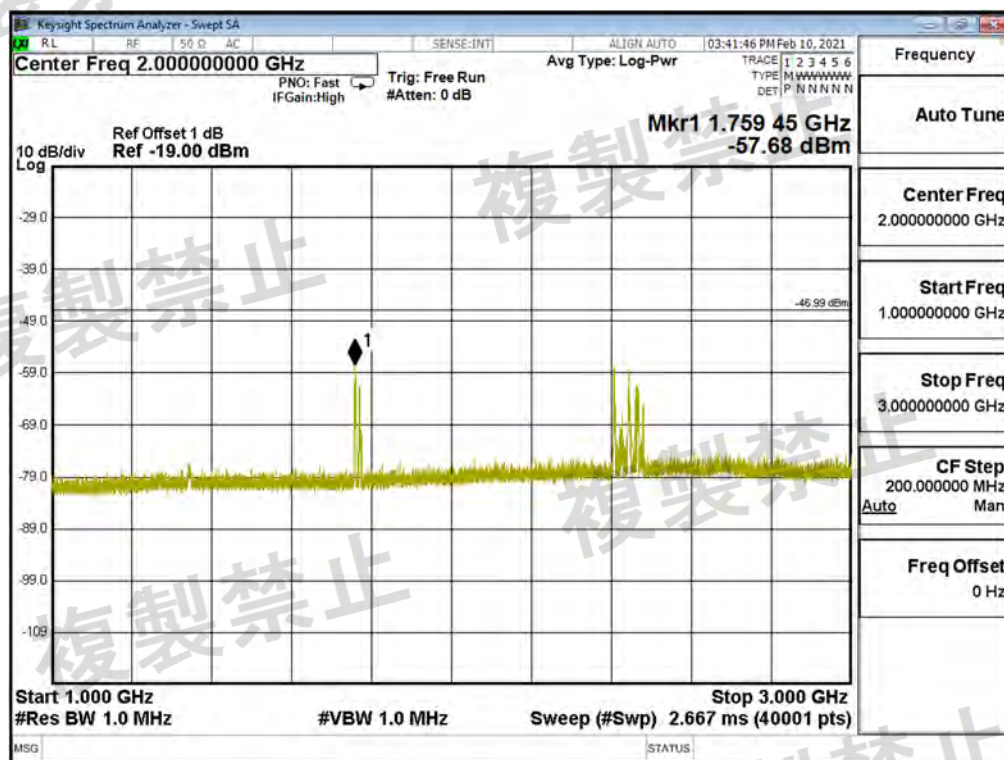
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5180MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T_{nom} (25 °C)	V_{nom} (100 V)	30 - 1000	-80.09	-54 (4nW)
		1000 - 3000	-57.68	-47 (20nW)
		3000 - 16000	-70.22	-47 (20nW)
		16000 - 26000	-59.26	-47 (20nW)

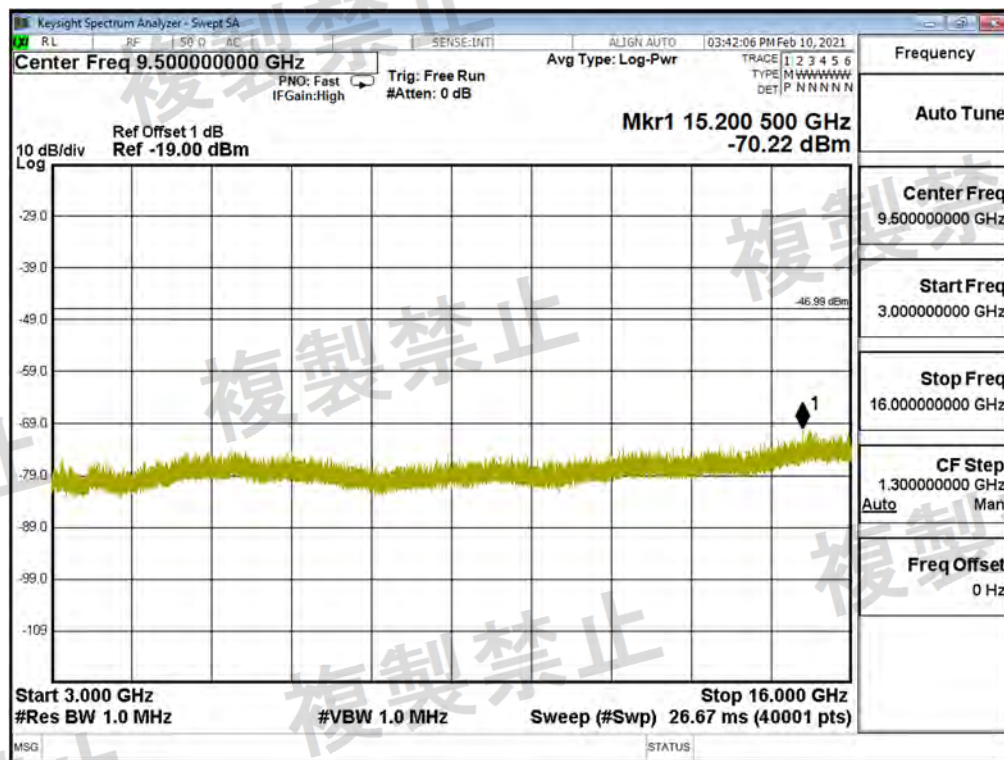
30 - 1000MHz



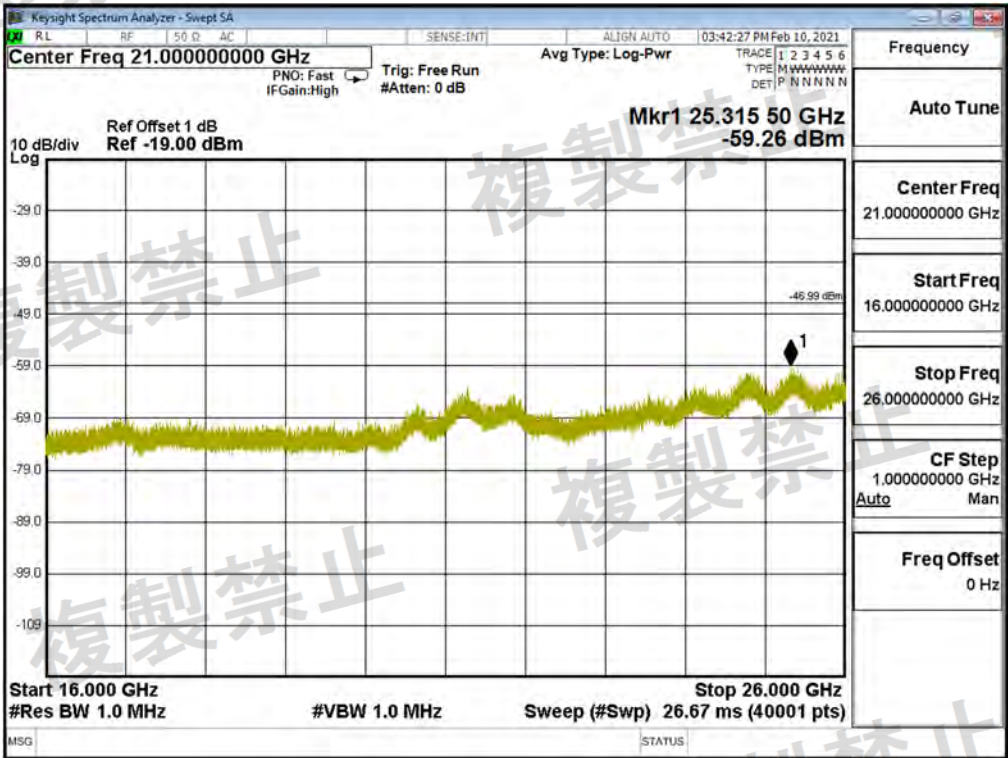
1000 – 3000MHz



3000 – 16000MHz



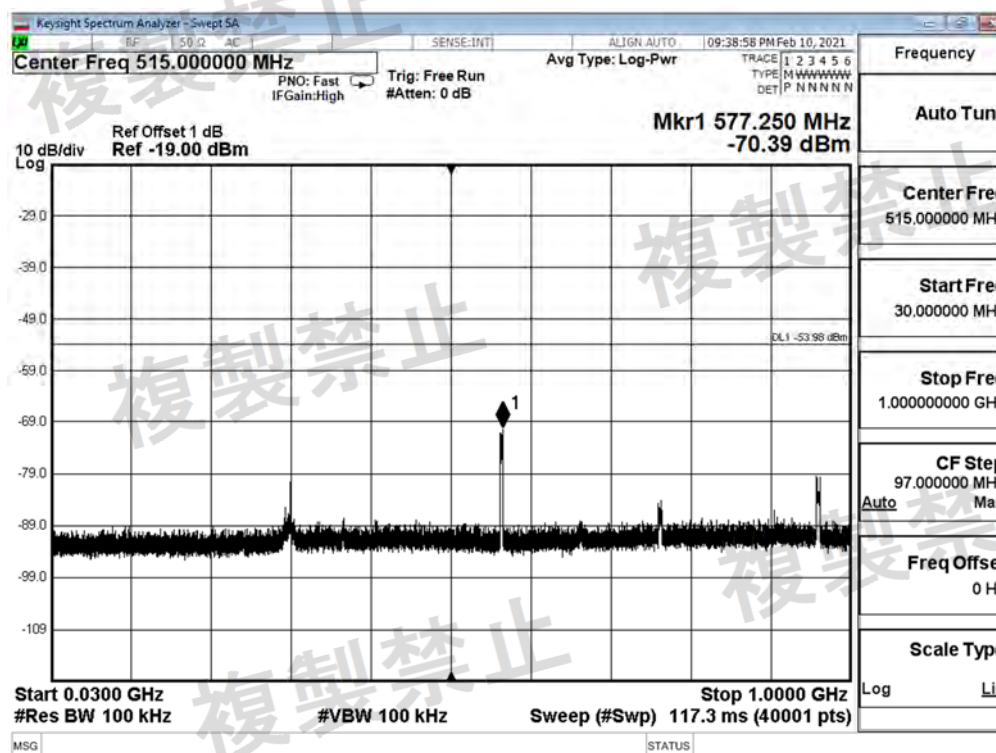
16000 – 26000MHz



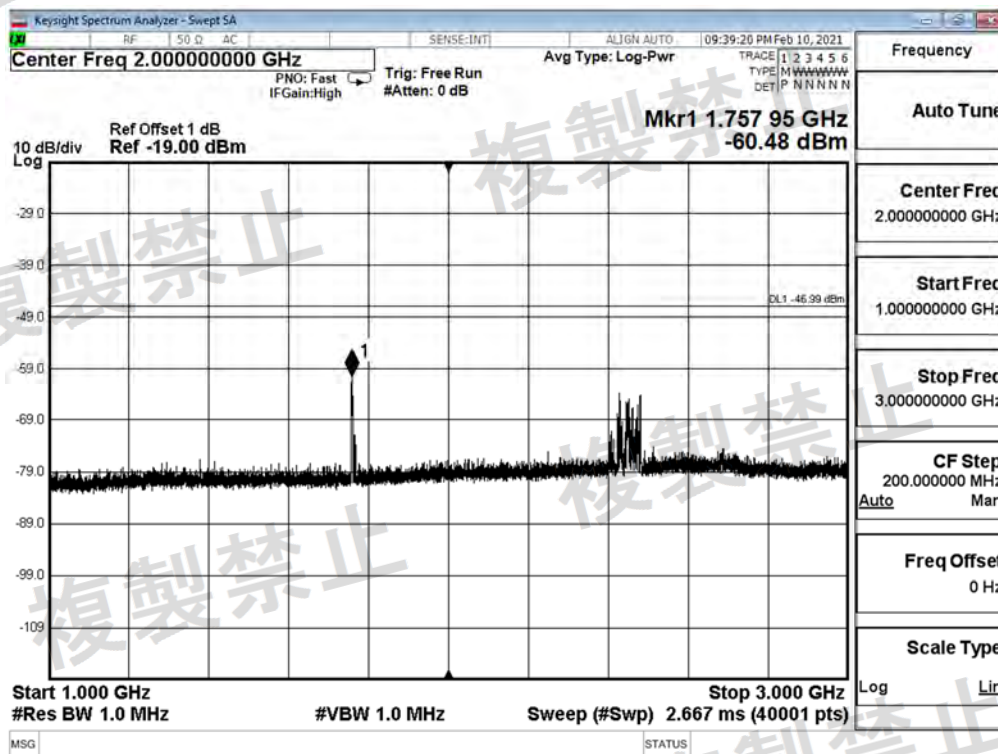
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5180MHz_Chain B (Dipole) (Panel)

Chain B				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-70.39	-54 (4nW)
		1000 - 3000	-60.48	-47 (20nW)
		3000 - 16000	-70.79	-47 (20nW)
		16000 - 26000	-61.01	-47 (20nW)

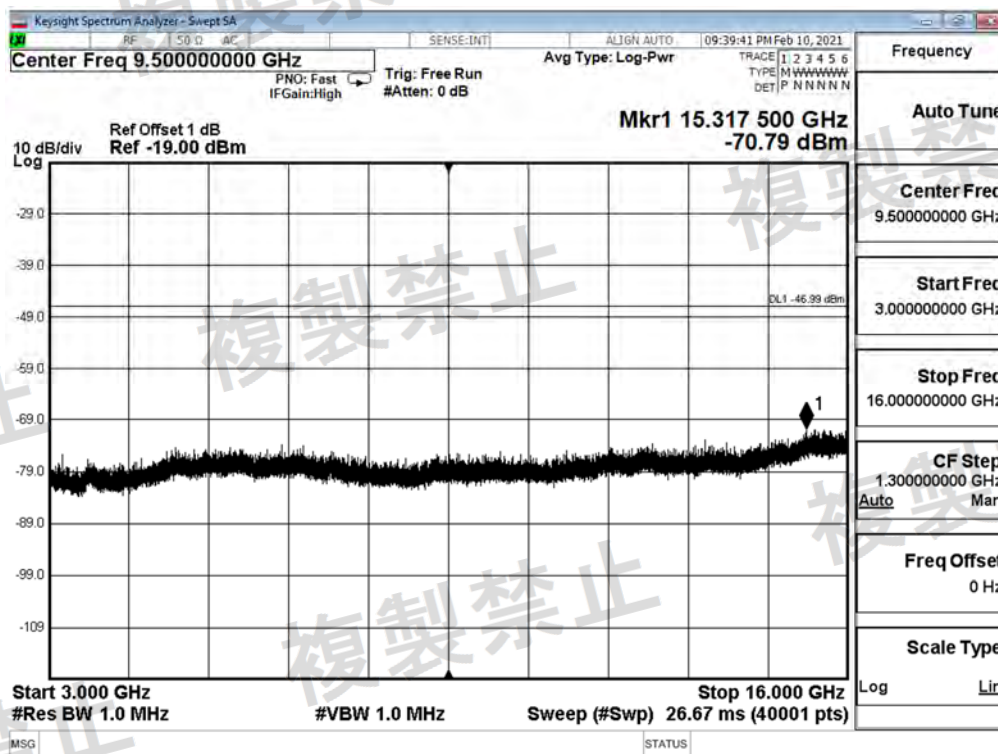
30 - 1000MHz



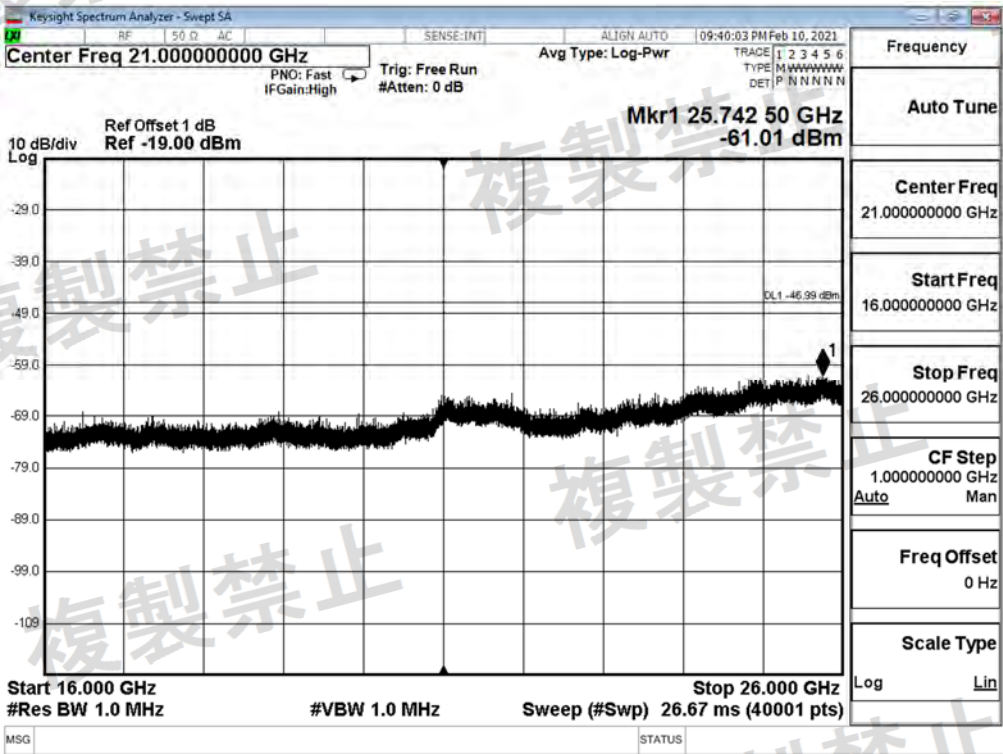
1000 – 3000MHz



3000 – 16000MHz



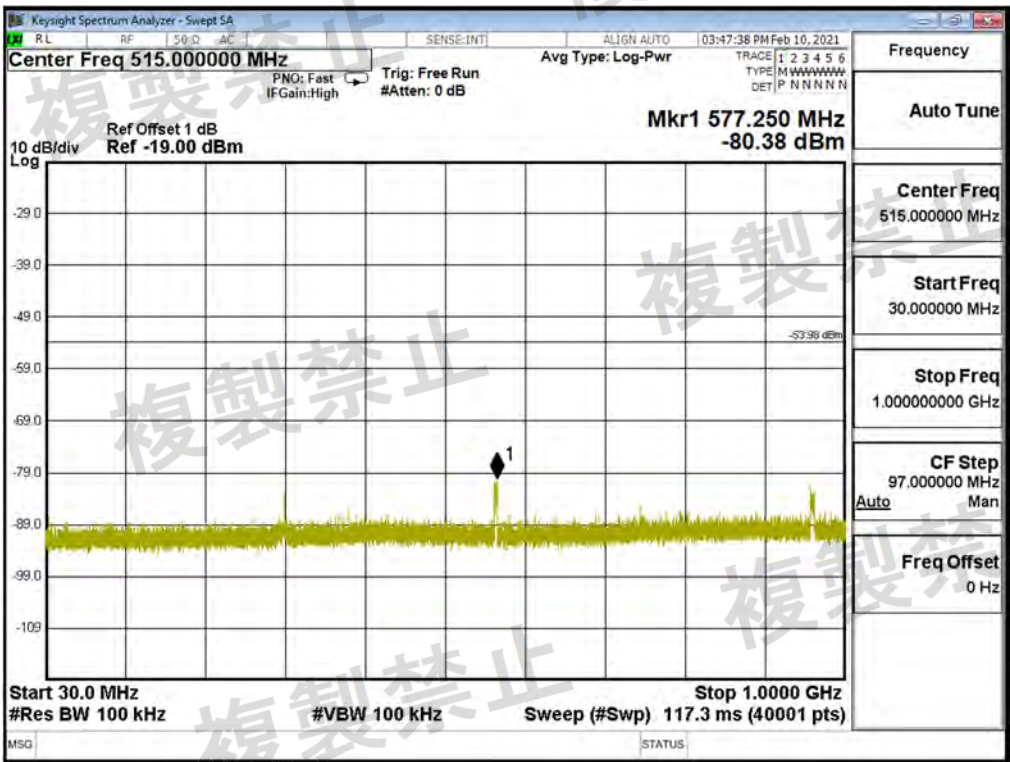
16000 – 26000MHz



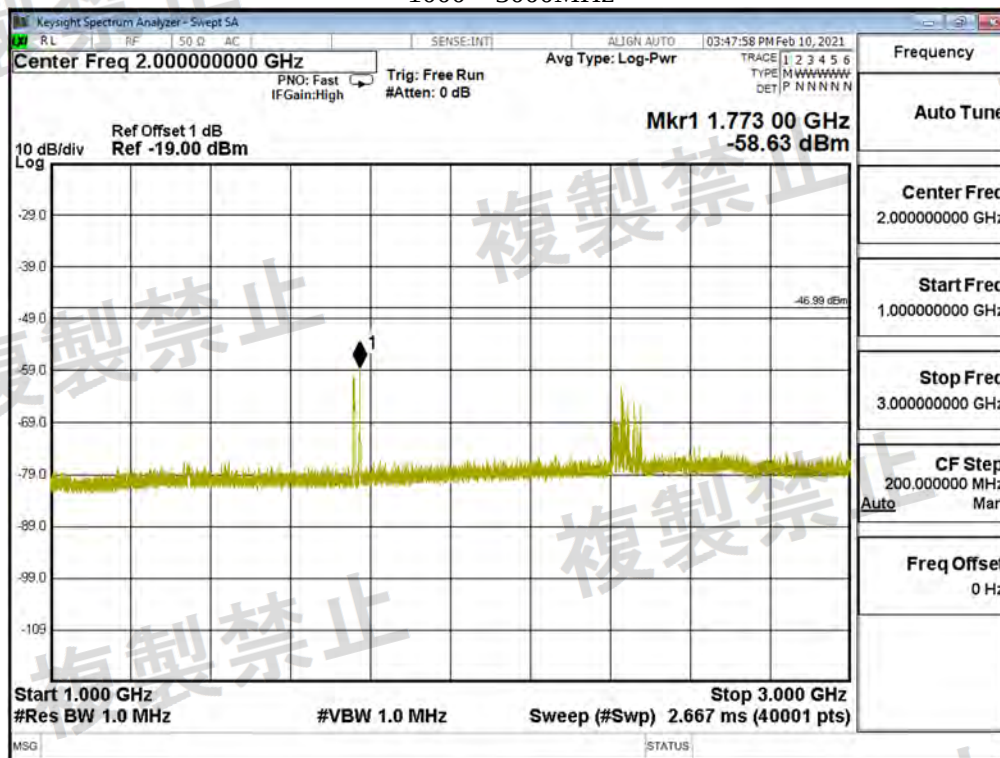
Product : Wireless module
Test Item : Receiver Spurious Emissions
Test Mode : Mode 2: Receiver (802.11ac-20BW) 5240MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-80.38	-54 (4nW)
		1000 – 3000	-58.63	-47 (20nW)
		3000 – 16000	-70.83	-47 (20nW)
		16000 – 26000	-60.46	-47 (20nW)

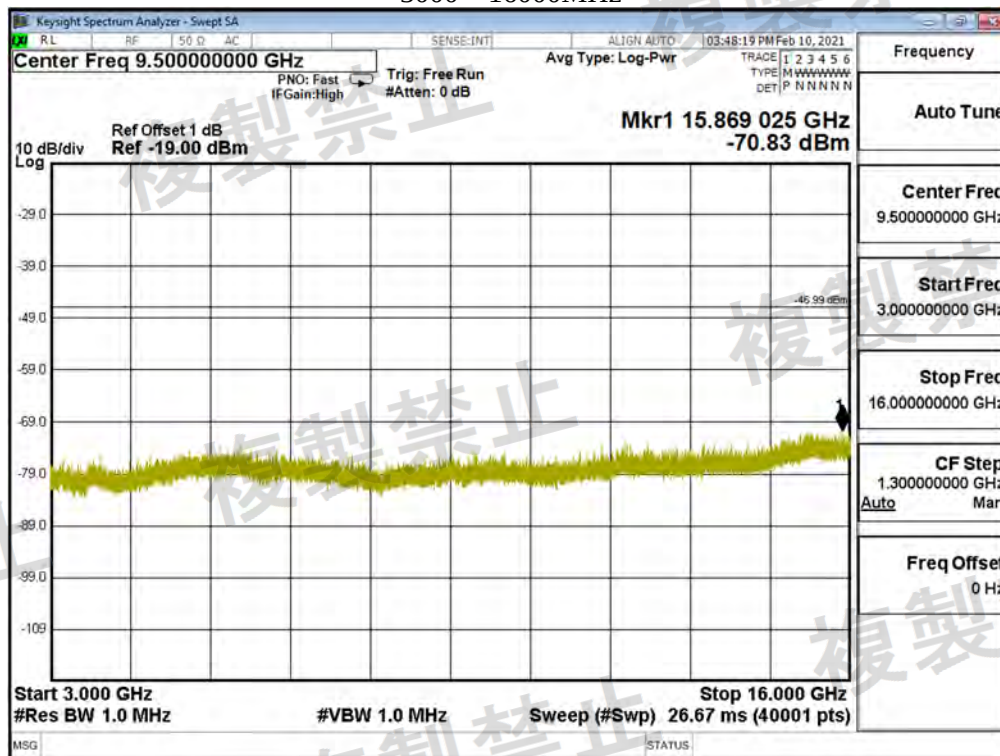
30 - 1000MHz



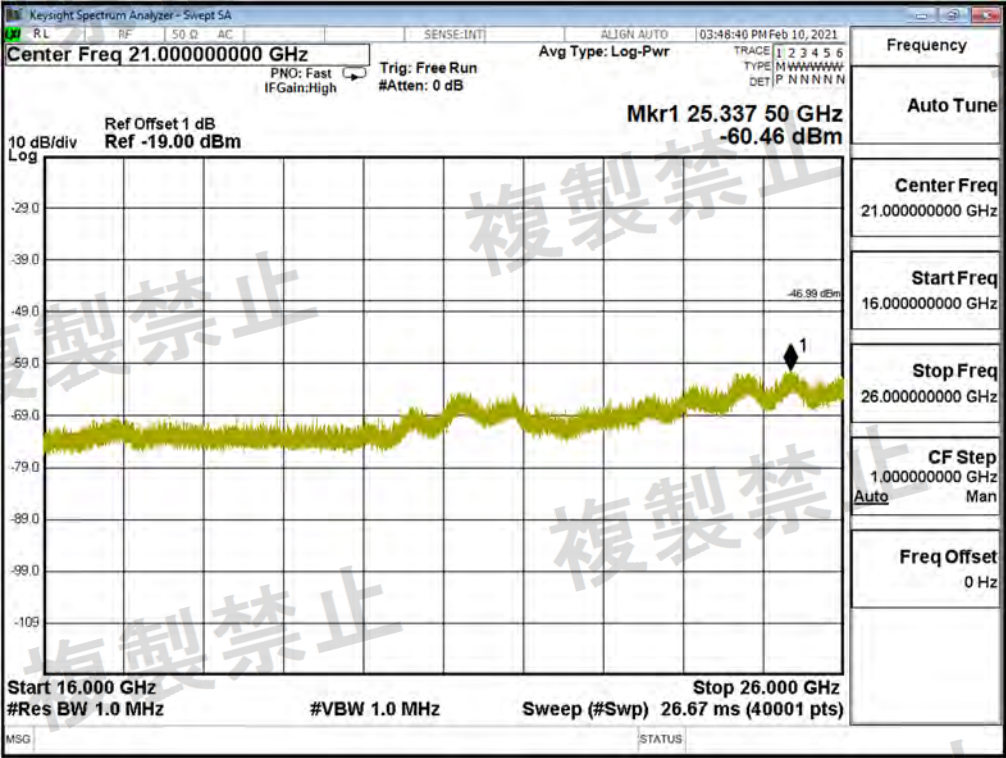
1000 – 3000MHz



3000 – 16000MHz



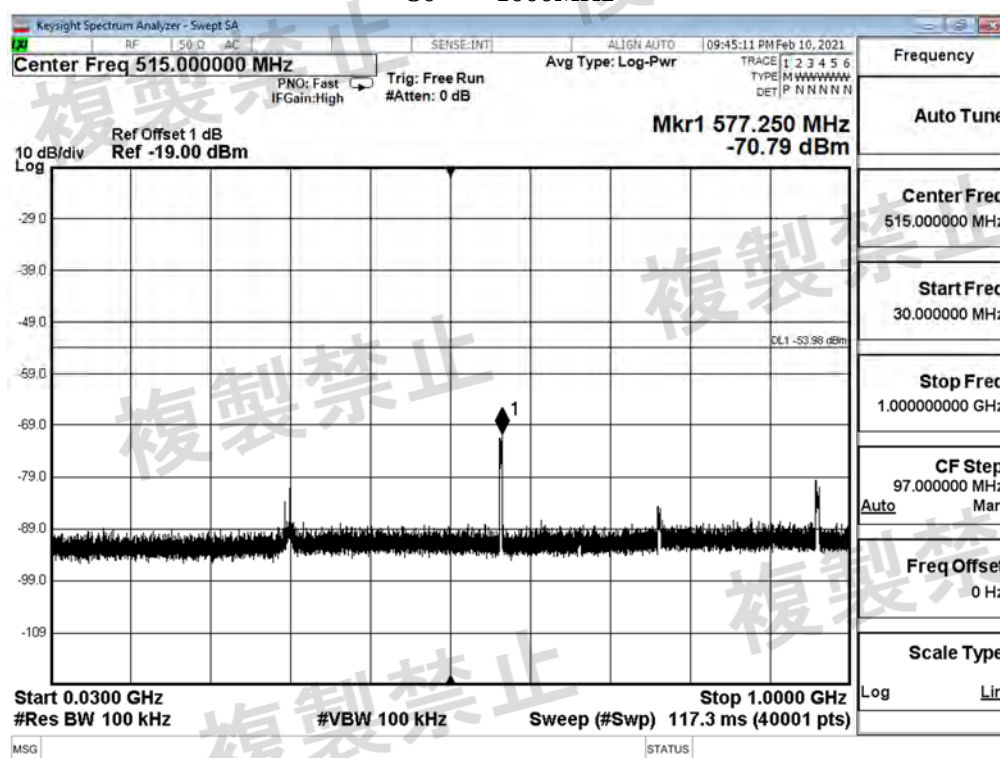
16000 – 26000MHz



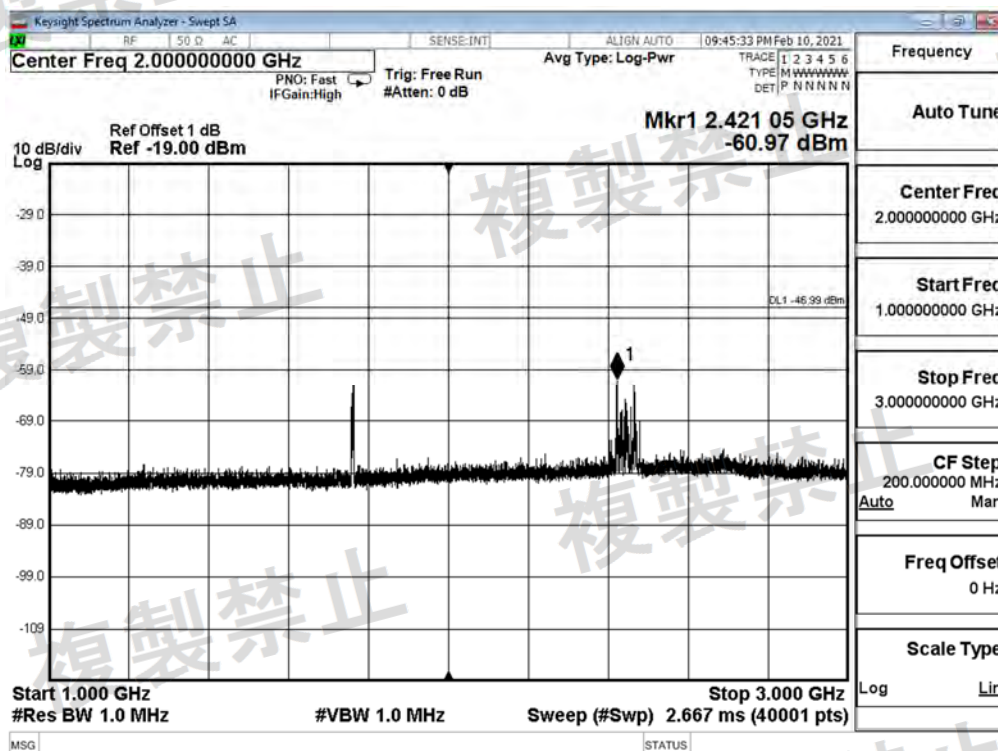
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5240MHz_Chain B (Dipole) (Panel)

Chain B				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 – 1000	-70.79	-54 (4nW)
		1000 – 3000	-60.97	-47 (20nW)
		3000 – 16000	-70.02	-47 (20nW)
		16000 – 26000	-60.42	-47 (20nW)

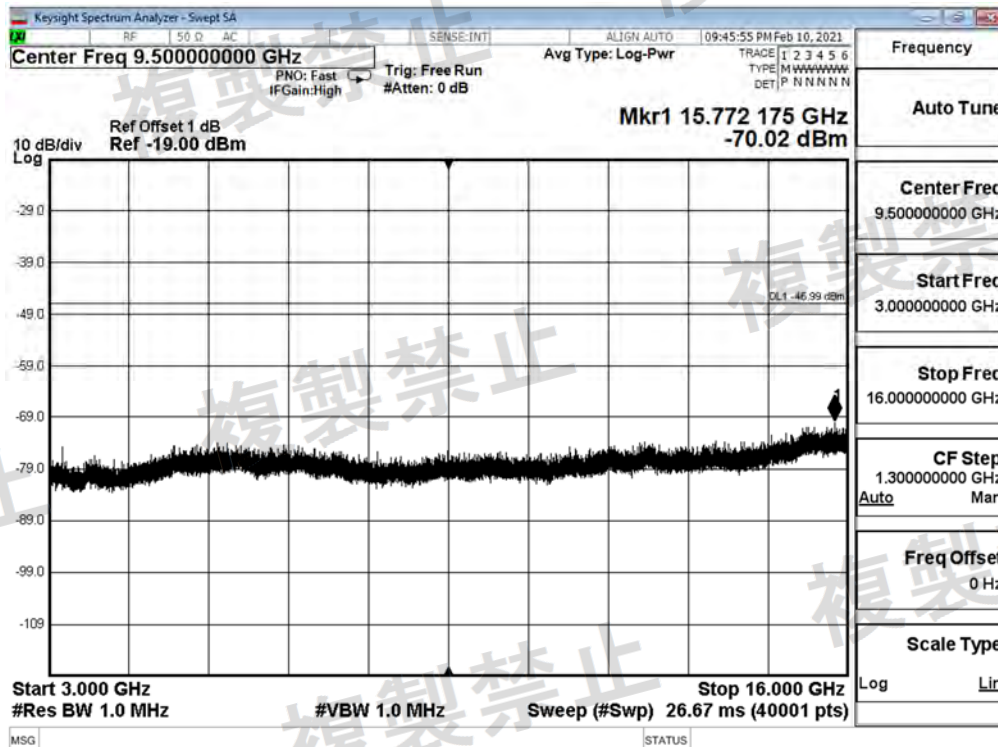
30 – 1000MHz



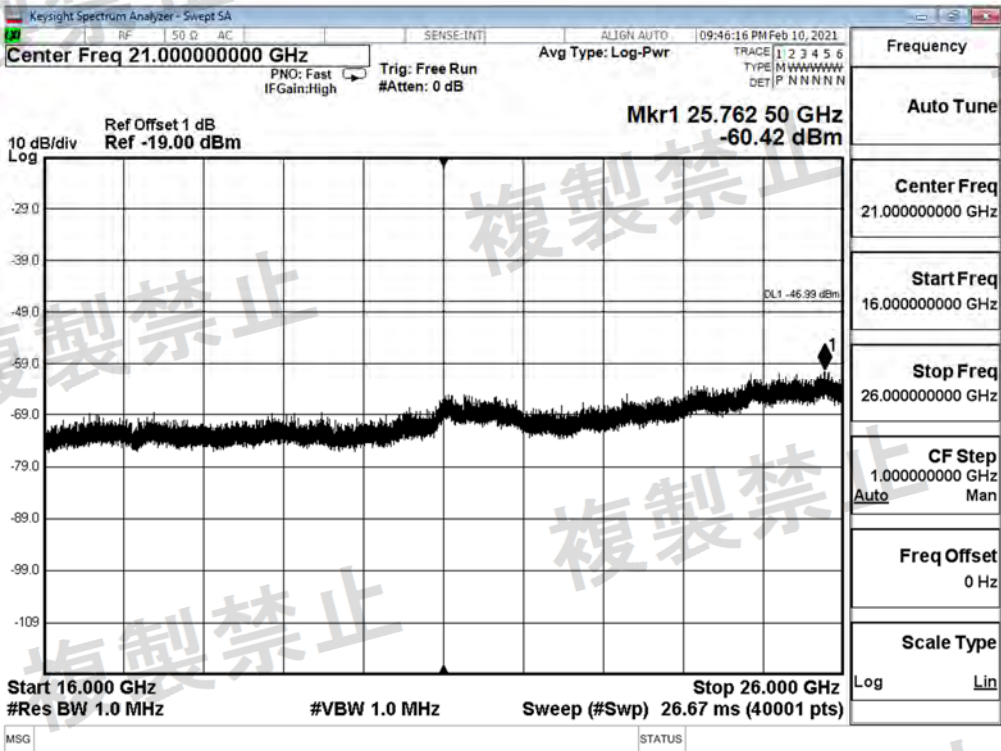
1000 – 3000MHz



3000 – 16000MHz



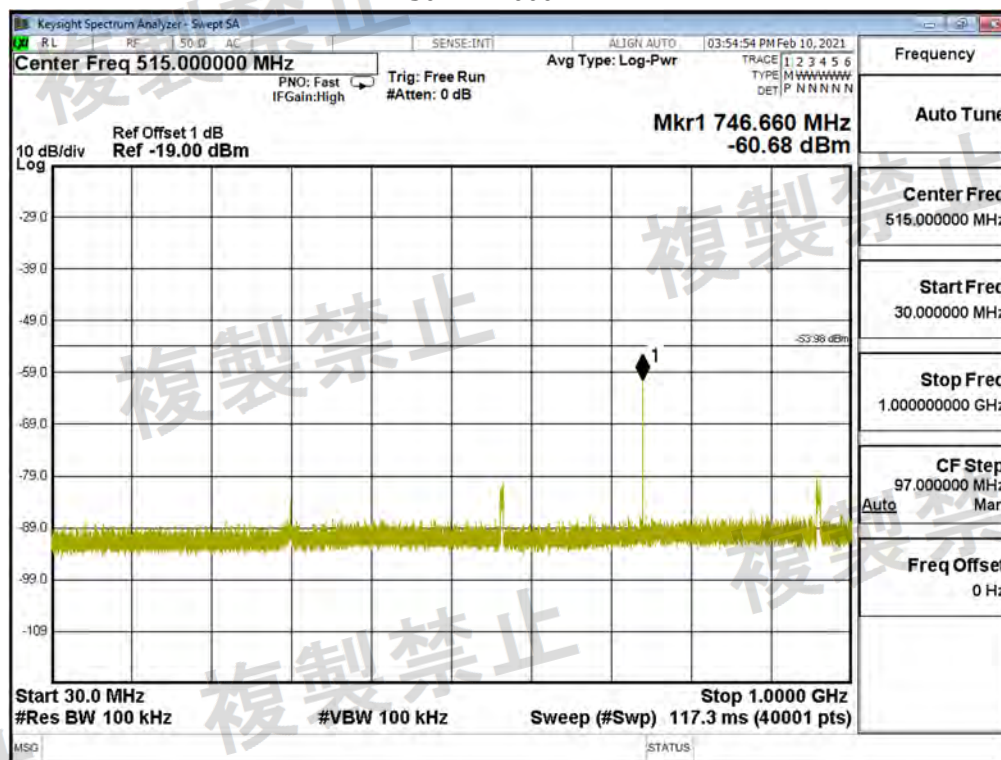
16000 – 26000MHz



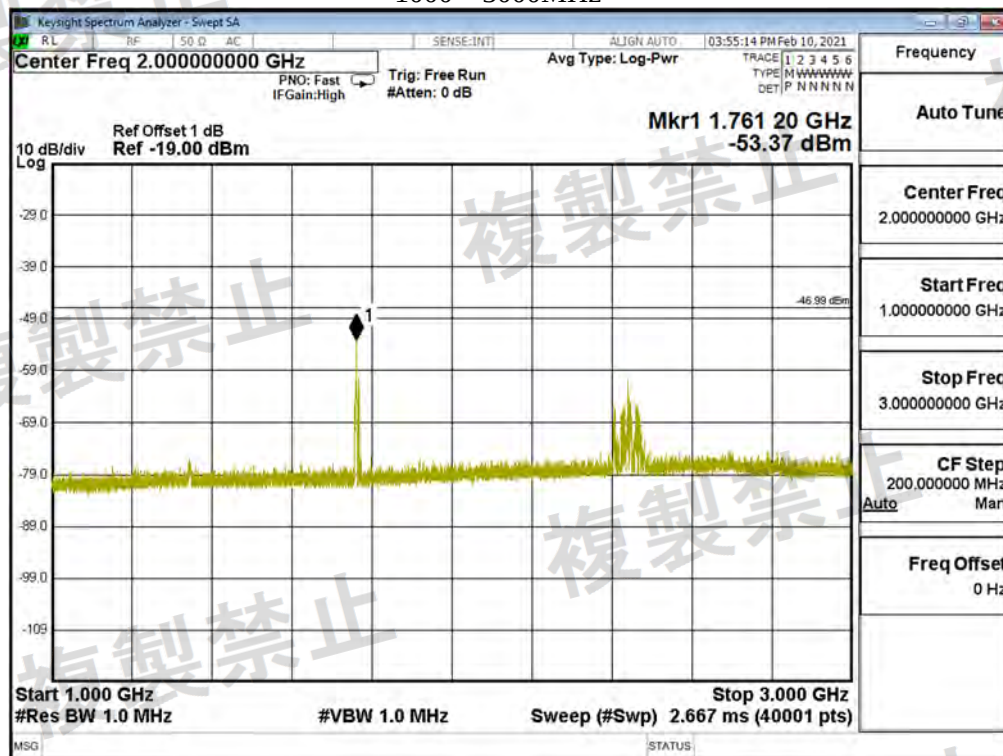
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5260MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T_{nom} (25 °C)	V_{nom} (100 V)	30 - 1000	-60.68	-54 (4nW)
		1000 - 3000	-53.37	-47 (20nW)
		3000 - 16000	-70.56	-47 (20nW)
		16000 - 26000	-58.94	-47 (20nW)

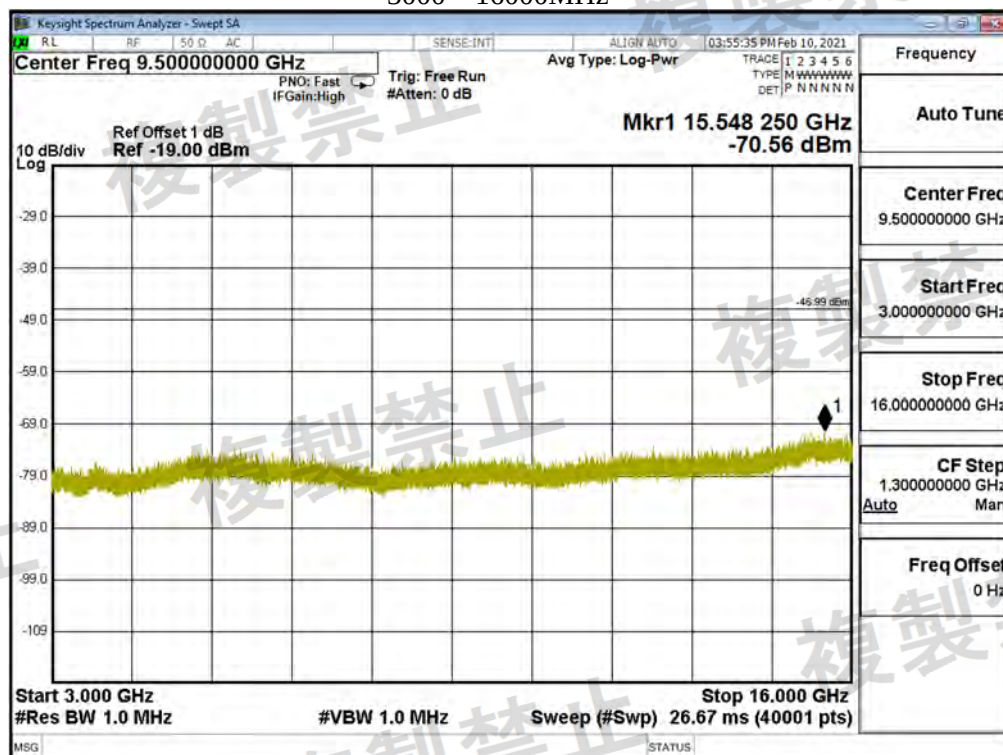
30 - 1000MHz



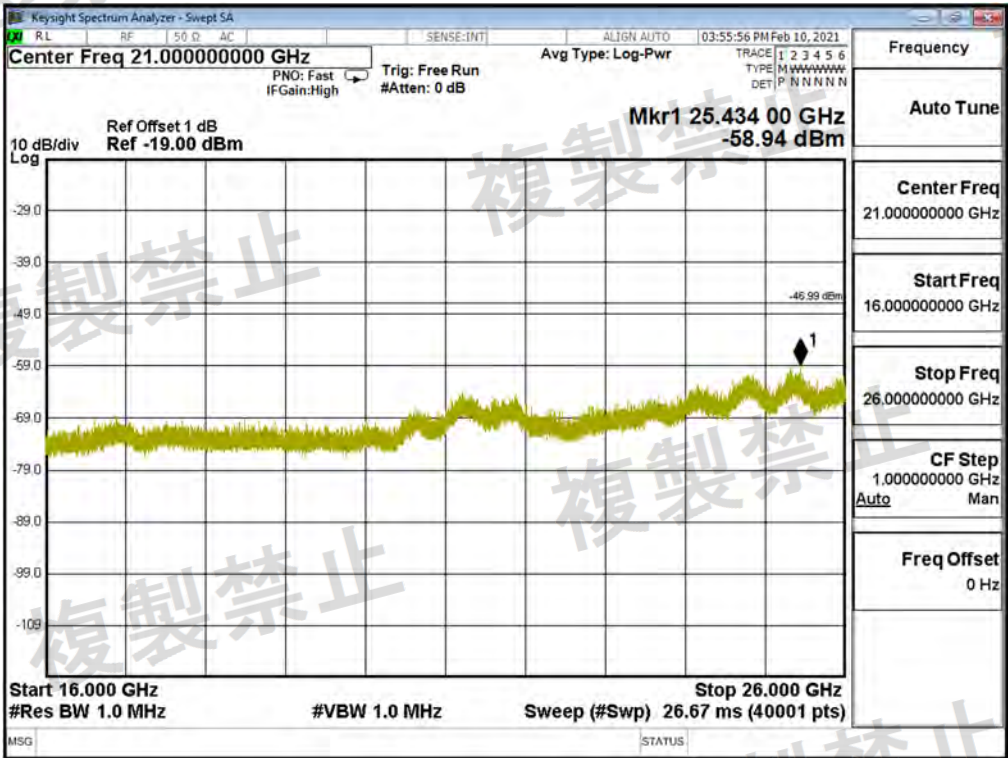
1000 – 3000MHz



3000 – 16000MHz

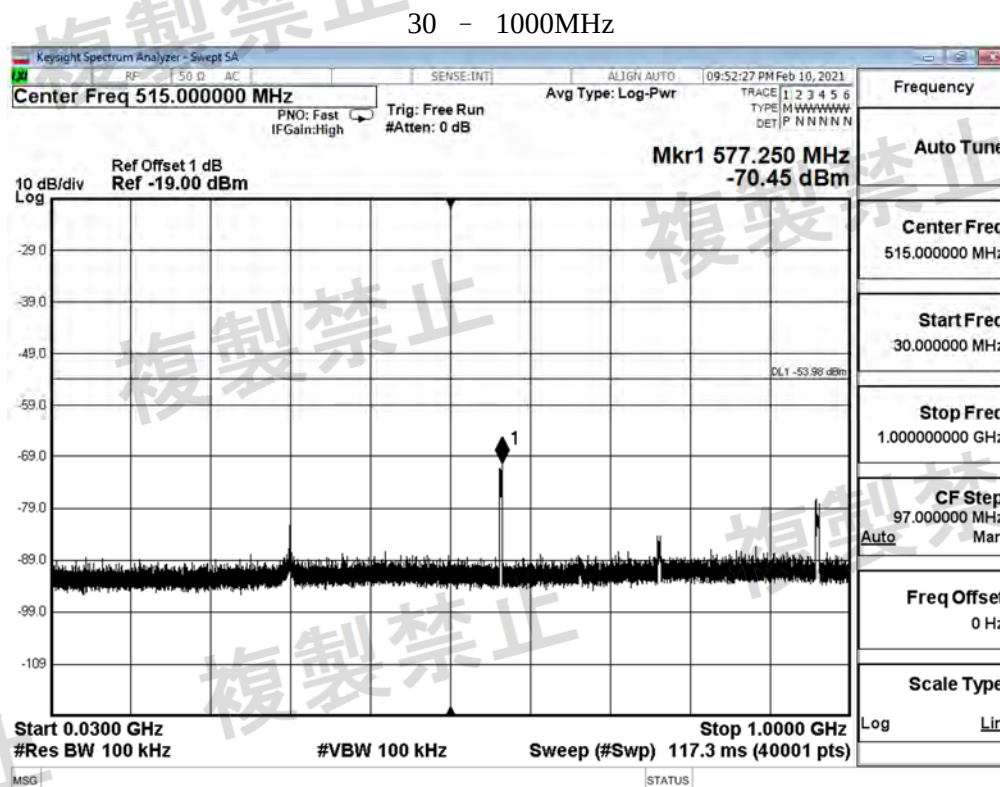


16000 – 26000MHz

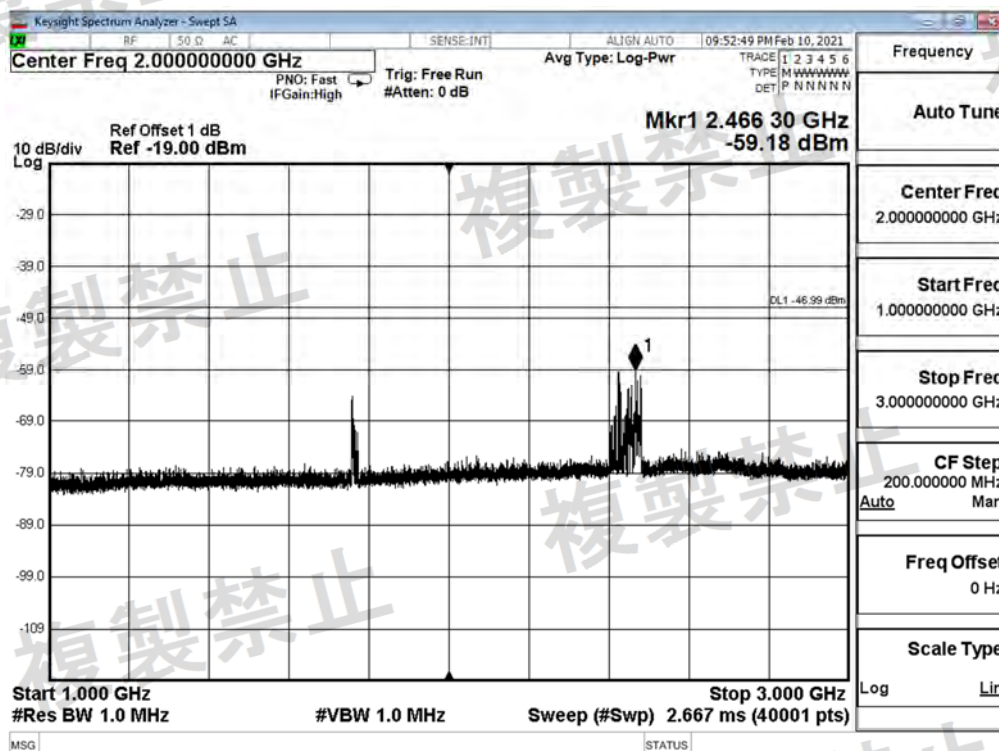


Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5260MHz_Chain B (Dipole) (Panel)

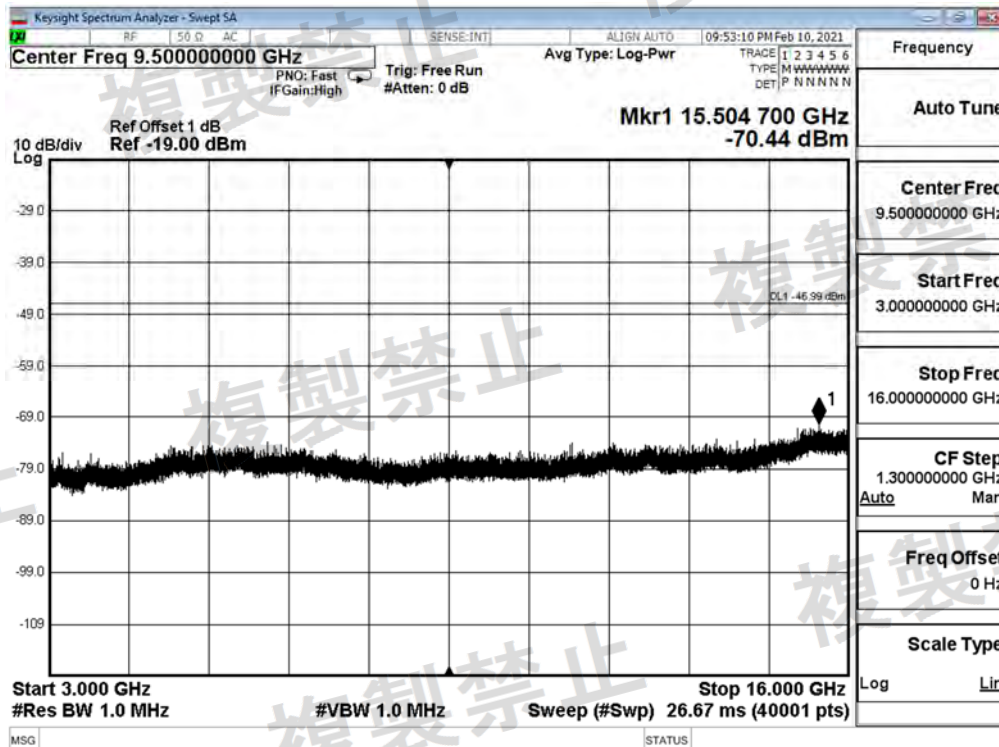
Chain B				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-70.45	-54 (4nW)
		1000 - 3000	-59.18	-47 (20nW)
		3000 - 16000	-70.44	-47 (20nW)
		16000 - 26000	-60.66	-47 (20nW)



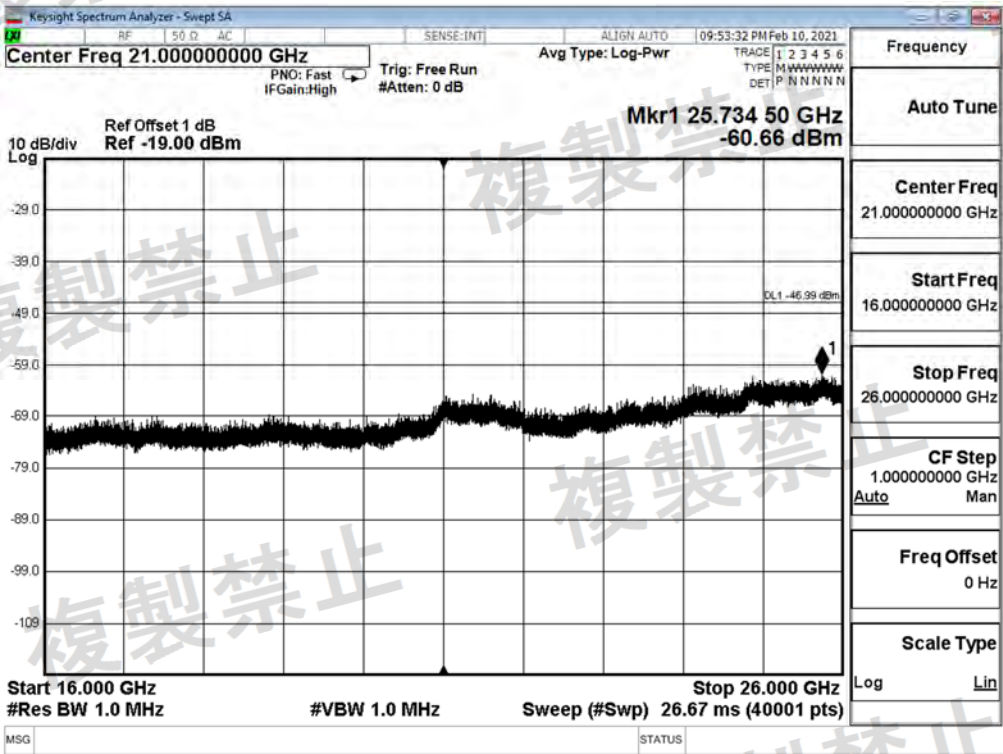
1000 – 3000MHz



3000 – 16000MHz



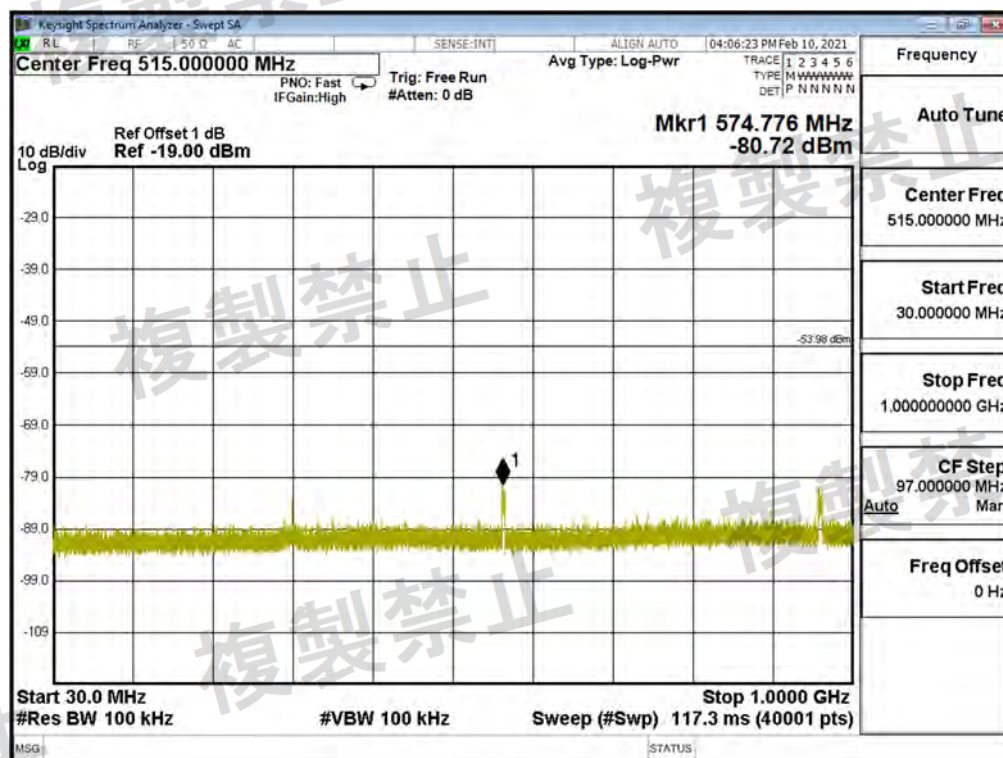
16000 – 26000MHz



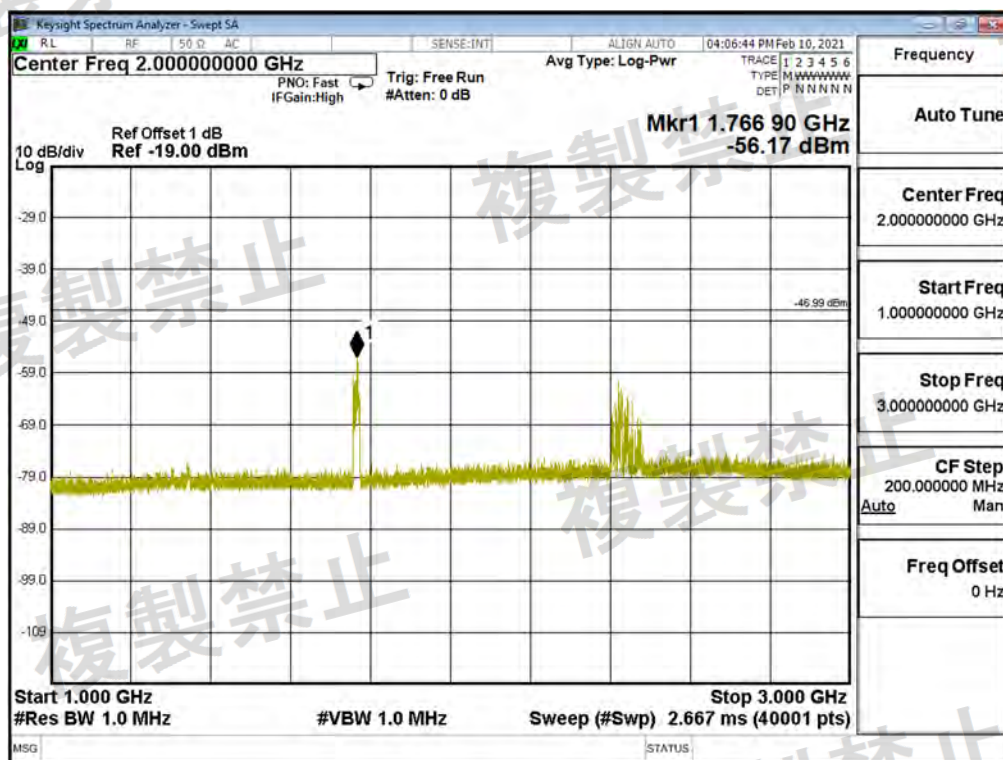
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5320MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-80.72	-54 (4nW)
		1000 – 3000	-56.17	-47 (20nW)
		3000 – 16000	-71.06	-47 (20nW)
		16000 – 26000	-59.91	-47 (20nW)

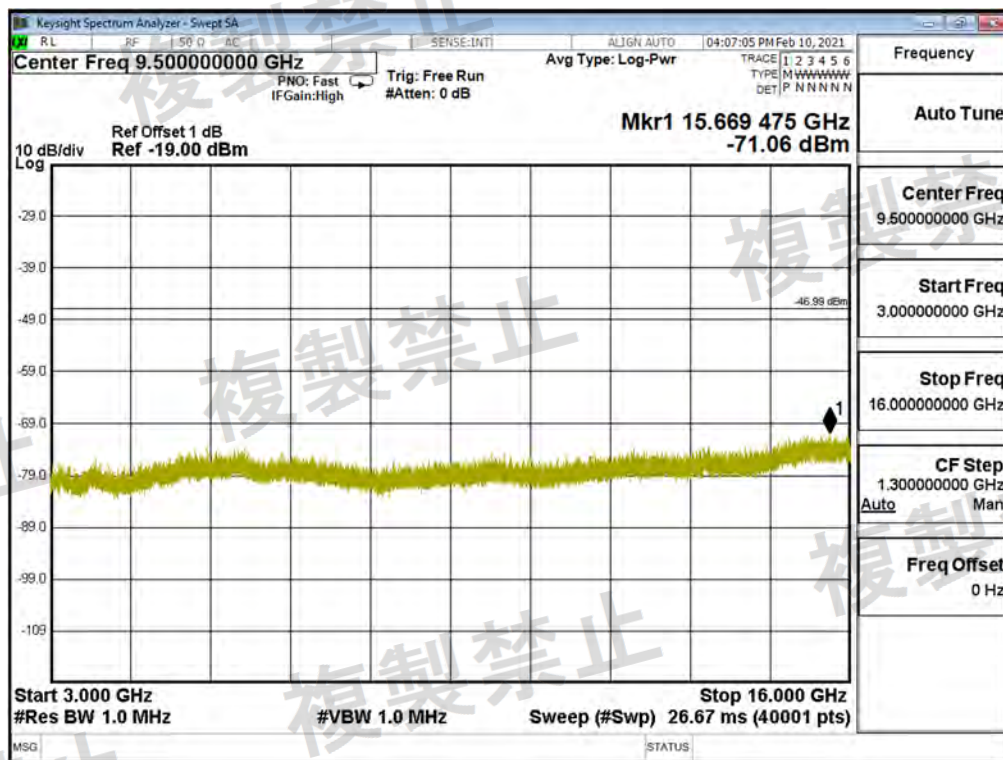
30 - 1000MHz



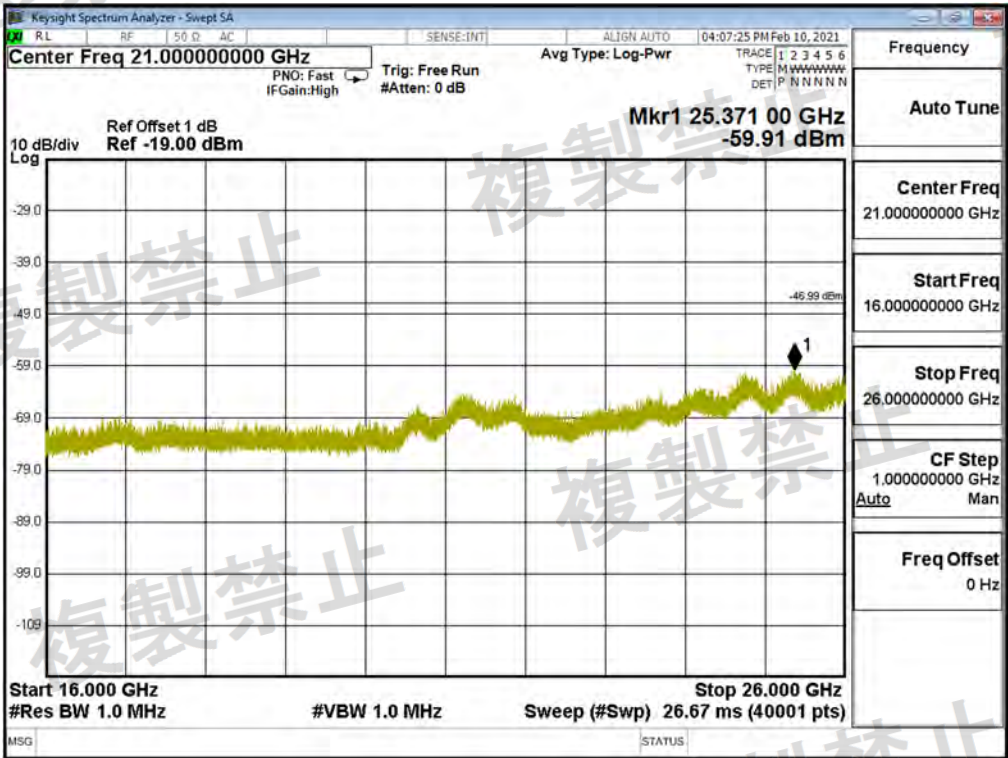
1000 – 3000MHz



3000 – 16000MHz



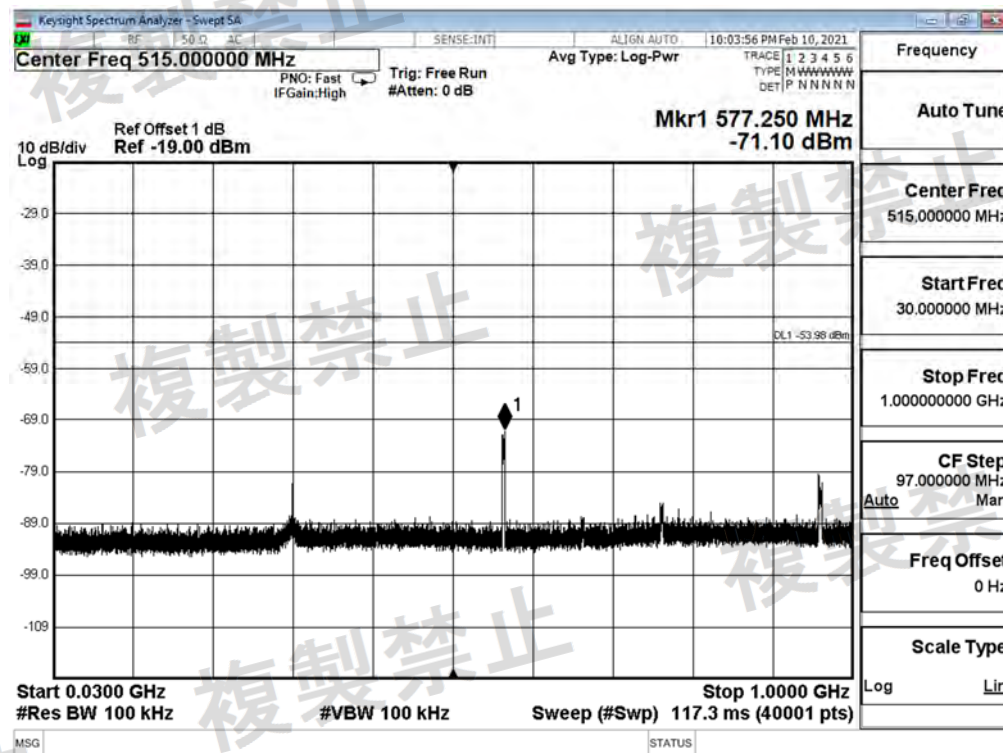
16000 – 26000MHz



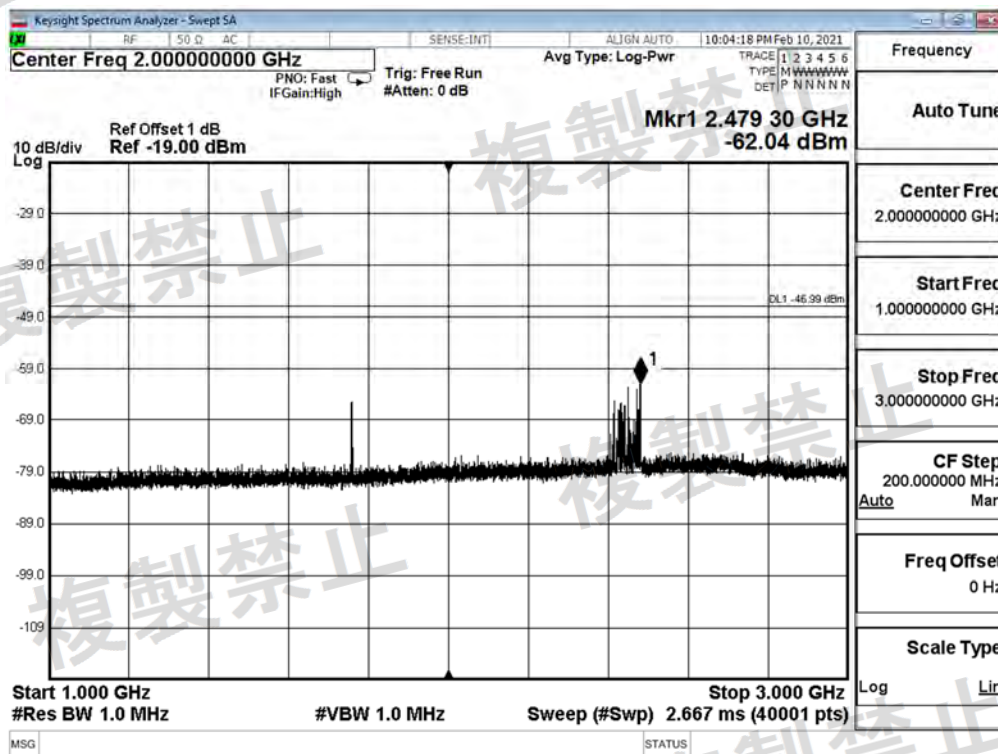
Product : Wireless module
 Test Item : Receiver Spurious Emissions
 Test Mode : Mode 2: Receiver (802.11ac-20BW) 5320MHz_Chain B (Dipole) (Panel)

Chain B				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-71.10	-54 (4nW)
		1000 - 3000	-62.04	-47 (20nW)
		3000 - 16000	-70.79	-47 (20nW)
		16000 - 26000	-60.41	-47 (20nW)

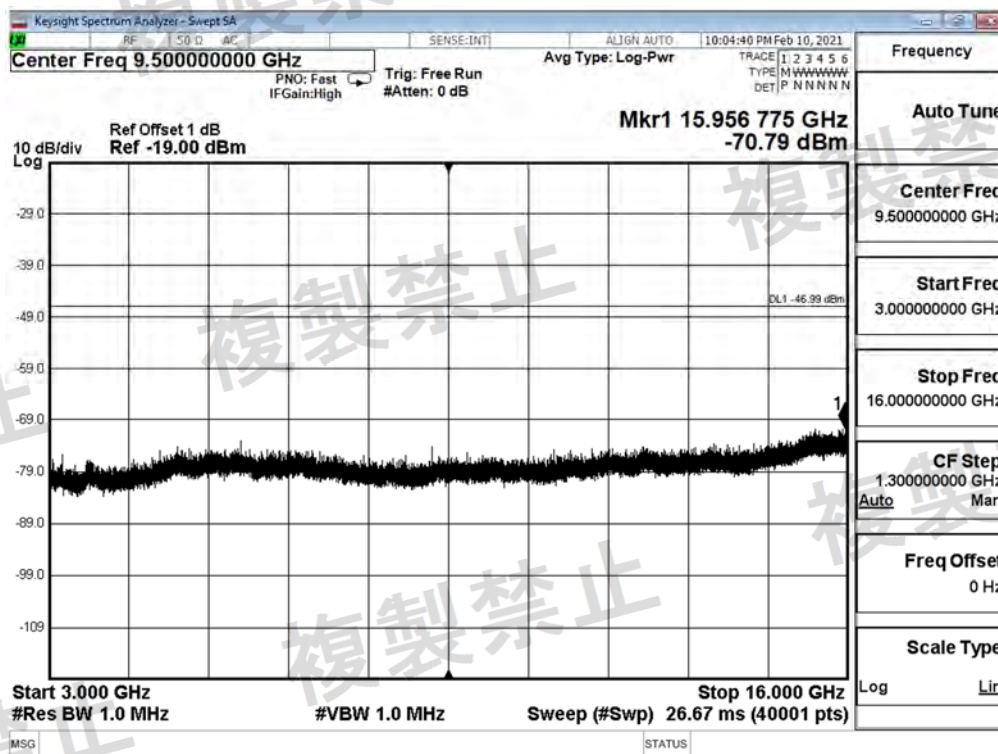
30 - 1000MHz



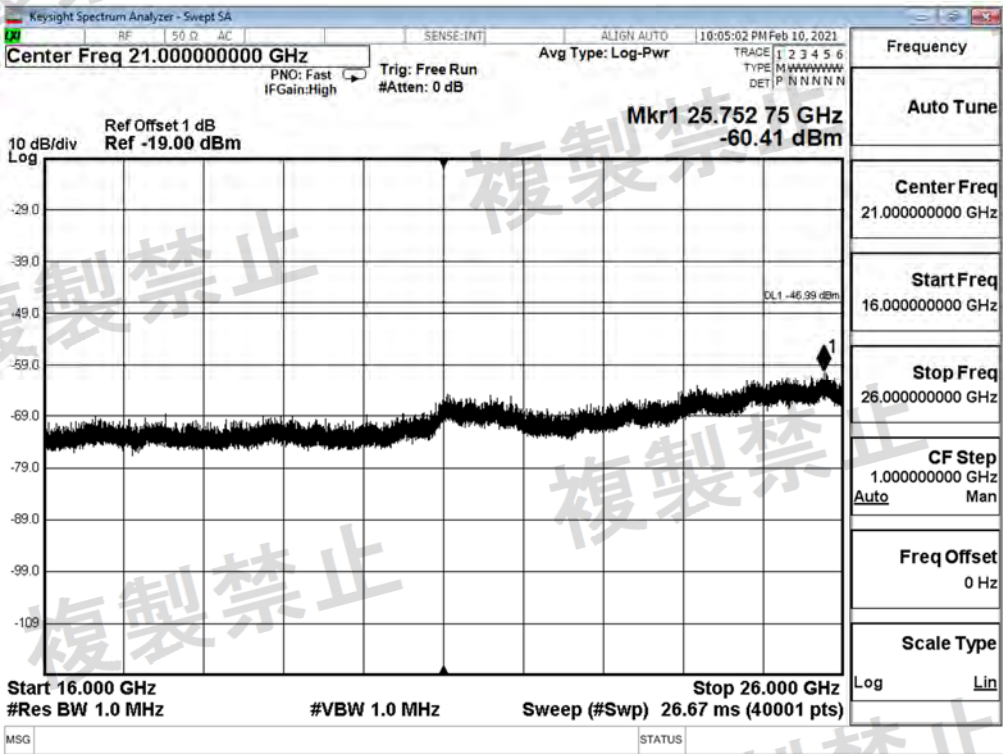
1000 – 3000MHz



3000 – 16000MHz



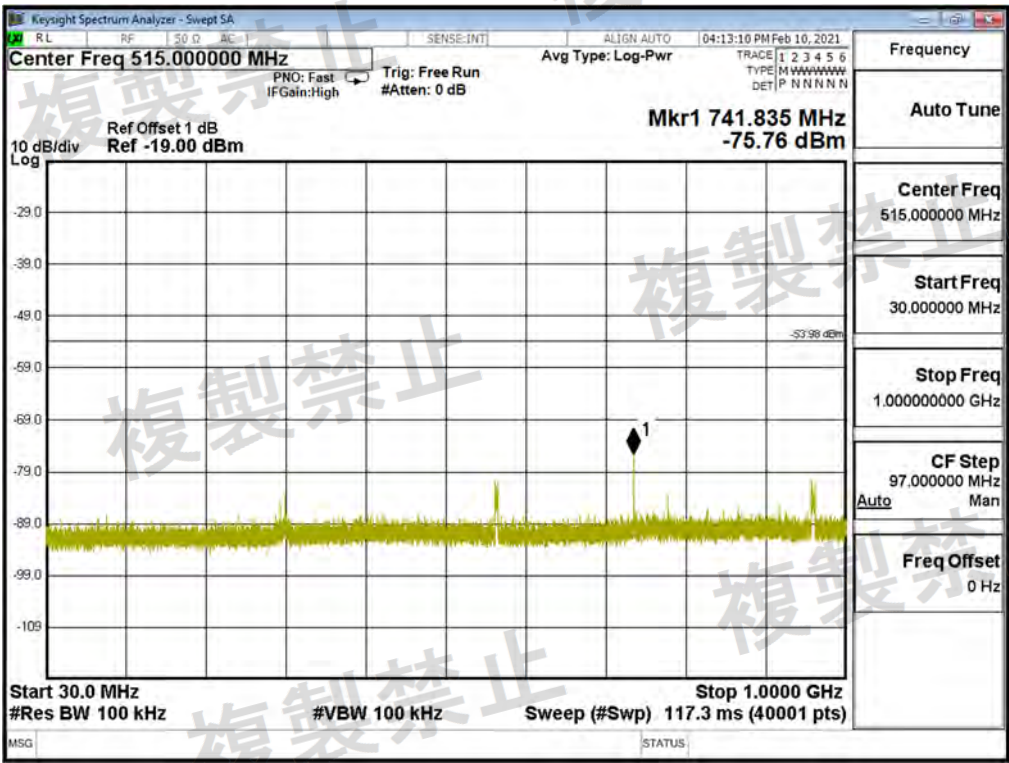
16000 – 26000MHz



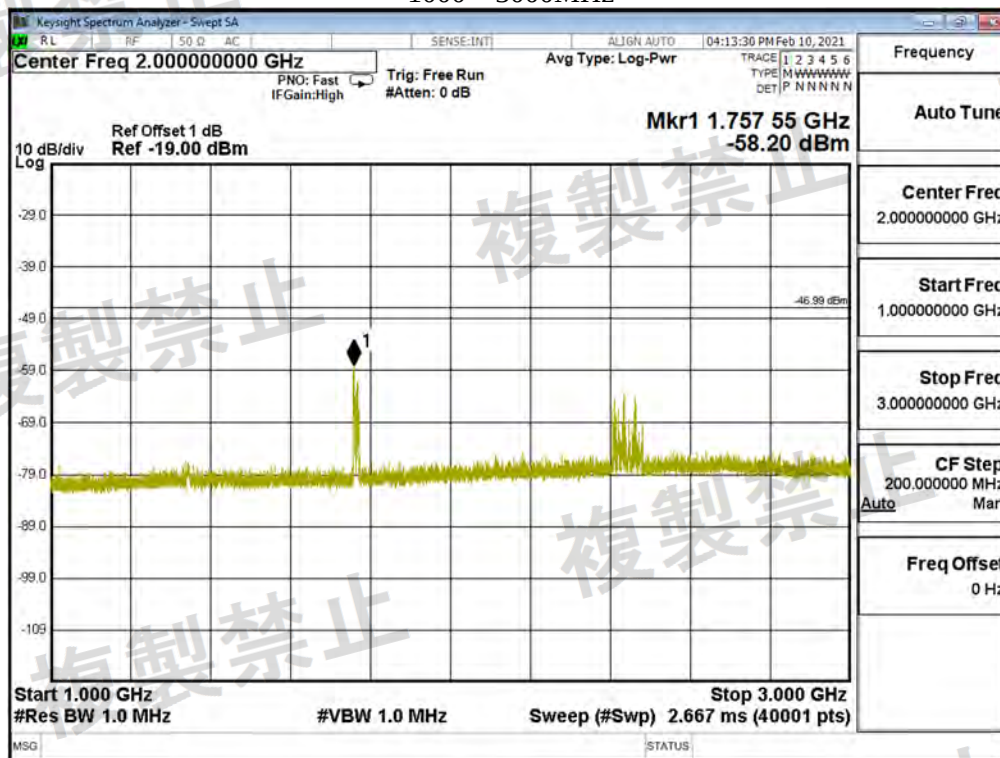
Product : Wireless module
Test Item : Receiver Spurious Emissions
Test Mode : Mode 2: Receiver (802.11ac-20BW) 5500MHz_Chain A (Dipole) (Panel)

Chain A				
Test Conditions		Frequency Range (MHz)	Reading Value (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (100 V)	30 - 1000	-75.76	-54 (4nW)
		1000 - 3000	-58.20	-47 (20nW)
		3000 - 16000	-70.84	-47 (20nW)
		16000 - 26000	-59.77	-47 (20nW)

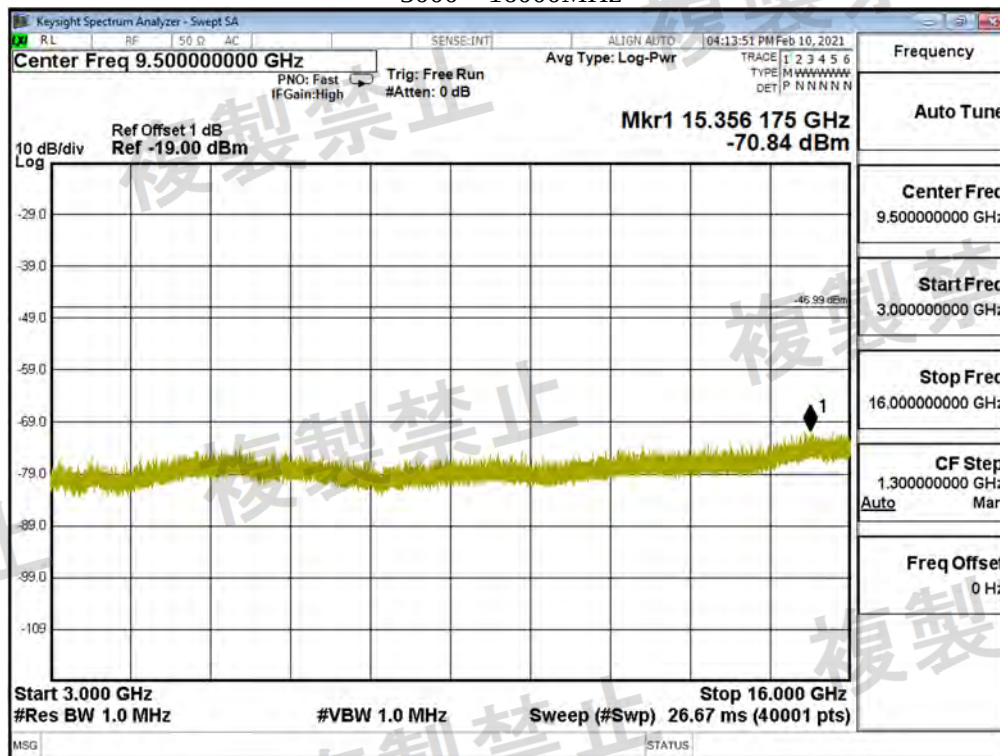
30 - 1000MHz



1000 – 3000MHz



3000 – 16000MHz



16000 – 26000MHz

