

FCC AND ISED CERTIFICATION TEST REPORT

Applicant	:	JiangSu HuiTong Group Co.,Ltd
Address	:	No.24, Block 2, Taohuawu New District Zhenjiang Jiangsu P.R.C
Equipment under Test	:	Ninebot Engine Speaker
Model No.	:	PY0801
Trade Name	:	Ninebot
FCC ID	:	PUW-2K25-SF2219
IC	:	23608-91SF2219
Manufacturer	:	Ninebot (Changzhou) Tech Co., Ltd.
Address	:	16F-17F, Block A, Building 3, No.18, Changwu Mid Rd,Wujin Dist., Changzhou, Jiangsu, China.
Issued By	:	Suzhou Dongdian Testing Service Co., Ltd.
Address	:	Phase II, No.16 Runsheng Road, Suzhou Industrial Park, Suzhou, People's Republic of China Tel: +86-0512-62531270, E-mail: rui.zhang@dgddt.com, http://www.dgddt.com



REPORT

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Test Report Declare

Applicant	:	JiangSu HuiTong Group Co.,Ltd
Address	:	No.24, Block 2, Taohuawu New District Zhenjiang Jiangsu P.R.C
Equipment under Test	:	Ninebot Engine Speaker
Model No.	:	PY0801
Trade Name	:	Ninebot
Manufacturer	:	Ninebot (Changzhou) Tech Co., Ltd.
Address	:	16F-17F, Block A, Building 3, No.18, Changwu Mid Rd,Wujin Dist., Changzhou, Jiangsu, China.

Test Standard Used: FCC Rules and Regulations Part 15 Subpart C, RSS-247 Issue 3

Test procedure used: ANSI C63.10:2020, RSS-Gen Issue 5 , KDB 558074 D01 15.247 Meas Guidance v05r02

We Declare:

The equipment described above is tested by Suzhou Dongdian Testing Service Co.,Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Suzhou Dongdian Testing Service Co.,Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC&ISED standards.

Report No:	DDT-B25011705-7E02		
Sample No:	Y25011705-02		
Date of Receipt:	Mar. 25, 2025	Date of Test:	Apr. 24, 2025~ Jul.23, 2025

Prepared By:

Bacon Dong

Bacon Dong/Engineer

Reviewed By:

Leon Wu

Leon Wu/Director

Authorized By:

Chris Zhong

Chris Zhong/EMC Manager

Note:

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Suzhou Dongdian Testing Service Co., Ltd.

The results reported herein have been performed in accordance with the laboratory's terms of accreditation.

This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.

This report does not imply that the product(s) has met the criteria for certification.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Jul. 23, 2025	

1. Summary of Test Results

Description of Test Item	Standard	Verdict
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3	Pass
20 dB Bandwidth and 99% Bandwidth	FCC Part 15: 15.215 ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3	Pass
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3	Pass
Number of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3	Pass
Dwell Time	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3	Pass
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3 RSS-Gen Issue 5	Pass
Band Edge Compliance	FCC Part 15: 15.247(d) ANSI C63.10-2020+COR 1-2023 RSS-247 Issue 3 RSS-Gen Issue 5	Pass
Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.10-2020+COR 1-2023 RSS-Gen Issue 5	Pass
Antenna Requirement	FCC Part 15: 15.203 RSS-Gen Issue 5	Pass

Note: The measurement result for the sample received is <Pass> according to < ANSI C63.10:2020+CORR.1:2023, FCC CFR 47 Part 2, FCC CFR 47 Part 15C> when <Accuracy Method> decision rule is applied.

2. General Test Information

2.1. Description of EUT

EUT* Name	: Ninebot Engine Speaker
Model Number	: PY0801
Difference of model number	N/A
Test Model	: PY0801
EUT function description	: Please reference user manual of this device
Power Supply	: AC 100-240V 50/60Hz 0.15A
Operation Frequency	: 2402MHz-2480MHz
Modulation	: GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	: 1Mbps, 2Mbps, 3Mbps
Antenna Type	: Ceramic Antenna
Antenna Gain	For Classic BT/BLE: 2400-2483.5MHz: 2.78 dBi (Declare by customer and the lab isn't responsible for the value)
Serial Number	: N/A

Note1: The lab isn't responsible for the value provide by customer(Such as RF cable loss, antenna gain etc..)

Channel information					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459
4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
6	2408	33	2435	60	2462
7	2409	34	2436	61	2463
8	2410	35	2437	62	2464
9	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number	Description	Remark
N/A	N/A	N/A	N/A	N/A

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
Adapter	amazon	FANA7R	N/A	Supplied by client
Laptop	Lenovo	ThinkPad E14	N/A	Supplied by lab

2.4. Block diagram of EUT configuration for test



Test software: Telink BDT, Version: V5.8.0

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 0.5dB (According to the manufacturer's claims)

Tested mode, channel, information			
Mode	Setting Tx Power	Channel	Frequency (MHz)
GFSK hopping on Tx mode	0.5	CH0 to CH78	2402 to 2480
$\pi/4$ -DQPSK hopping on Tx mode	-10	CH0 to CH78	2402 to 2480
8DPSK hopping on Tx mode	-10	CH0 to CH78	2402 to 2480
GFSK hopping off Tx mode	0.5	CH0	2402
	0.5	CH39	2441
	0.5	CH78	2480
$\pi/4$ -DQPSK hopping off Tx mode	-10	CH0	2402
	-10	CH39	2441
	-10	CH78	2480
8DPSK hopping off Tx mode	-10	CH0	2402
	-10	CH39	2441
	-10	CH78	2480

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25 °C
--------------------	----------

Humidity range:	40-75%
Pressure range:	86-106 kPa

2.7. Test laboratory

Lab Information	Company Name: Suzhou Dongdian Testing Service Co.,Ltd. Address: Phase II, No.16 Runsheng Road, Suzhou Industrial Park, Suzhou, People's Republic of China. Tel: +86-0512-62531270, E-mail: rui.zhang@dgdtdt.com, http://www.ddttest.com
Accreditation Certificate	A2LA (Certificate No.: 7346.01) Suzhou Dongdian Testing Service Co.,Ltd. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1397) Suzhou Dongdian Testing Service Co.,Ltd. has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. IC (IC Designation No.: 32952; CAB No.:CN0182) Suzhou Dongdian Testing Service Co.,Ltd. has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
Note 1: All tests measurement facilities use to collect the measurement data are located at Phase II, No.16 Runsheng Road, Suzhou Industrial Park, Suzhou, China. Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS. Note 3: The test anechoic chamber in Suzhou Dongdian Testing Service Co.,Ltd had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.	

2.8. Measurement uncertainty

Test Item	Uncertainty
Max Peak Conducted Output Power	±1.5 dB
Bandwidth	±1.9%
Carrier Frequency Separation	±1.9%
Maximum Power Spectral Density Level	±1.5dB
Number of Hopping Channel	±1.9%
Time of Occupancy	±0.56 %
Band-edge Spurious Emission	±1.9%
Conducted RF Spurious Emission	30MHz-30MHz:±1.5 dB
	1GHz-12.75GHz: ± 1.9dB
	12.75GHz-26.5GHz: ±2.1dB
Uncertainty for Power line conduction emission test	3.4 dB (150 kHz - 30 MHz)
Radiated Emissions (30MHz to 1GHz) at 3m Chamber	3.7dB
Radiated Emissions (Above 1GHz) at 3m Chamber	4.4 dB(1GHz-6GHz)
	4.7 dB(6GHz-18GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the	

95% confidence level using a coverage factor of $k=2$.

3. Equipment Used During Test

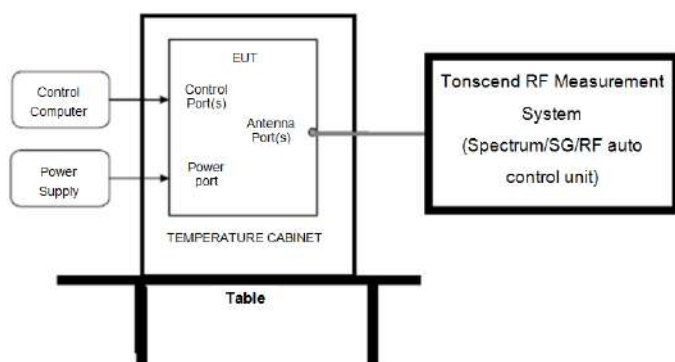
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
RF Conducted Test					
MXG Vector Signal Generator(100kHz-6GHz)	Agilent	N5182A	MY50144775	2025/01/23	1 Year
Spectrum Analyzer(9kHz-40GHz)	R&S	FSV40-N	101642	2025/01/23	1 Year
Vector Signal Generator(4kHz-7.125GHz)	R&S	SMCV100B	103781	2025/01/23	1 Year
WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW 500	167141	2025/01/23	1 Year
Signal Analyzer(10Hz-26.5GHz)	Keysight	N9020B	MY56080159	2025/01/23	1 Year
RF Control Unit	Tonscend	JS0806-3	24A80620795	2025/01/23	1 Year
Signal Generator	R&S	SMF 100A	101396	2025/01/23	1 Year
Programmable Temperature Humidity Chamber	Zhi Xiang	ZXGDJS-225L	ZX20171127A	2025/01/23	1 Year
Temperature, humidity and pressure recorder	Huahanwei	TH10R	c00286000Ebc	2025/01/23	1 Year
Test Software	TONSCEND	JS1120-3	3.5.39	N/A	N/A
Radiated Spurious Emission 3m EMI Chamber					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	R&S	ESC17	101138	2025/01/23	1 Year
Signal Analyzer	R&S	FSV40	101730	2025/01/23	1 Year
Hybrid antenna	TESEQ	CBL6141B	27421	2024/01/10	3 Year
Horn Antenna	ETS	ETS 3117	157735	2024/01/19	3 Year
Pre-Amplifier_HF	COM-MW	DPA8-1000-18000-1012	9BH231242575	2025/01/23	1 Year
Temperature, humidity and pressure recorder	Huahanwei	TH10R	c0222020002F	2025/01/23	1 Year
3m Anechoic Chamber	CeRuiTong	3m-SAC	N/A	2024/05/10	3 Year
Test Software	TONSCEND	JS32-RE	5.0.0	N/A	N/A
Power Line Conducted Emissions Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
EMI Test Receiver	Rohde & Schwarz	ESC13	101705	2025/01/23	1 Year
Two-Line V-Network	Rohde & Schwarz	ENV216	101063	2025/01/23	1 Year
Test software	TONSCEND	JS32-CE	5.0.0	N/A	N/A

4. Maximum Peak Output Power

4.1. General Information

Test date	Jun. 10, 2025	Test engineer	Jennie Huang
Climate condition	Ambient temperature	24.6°C	Relative humidity
	Atmospheric pressure	101.0kPa	68.2%
Test place	Shield Room 1		

4.2. Block diagram of test setup



4.3. Limits

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W.

4.4. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Measure the maximum output power of EUT by spectrum analyzer with PK detector and RBW=3 MHz (above 20 dB bandwidth of measured signal), VBW=8 MHz

Note: The attenuator loss was inputted into spectrum analyzer as amplitude offset.

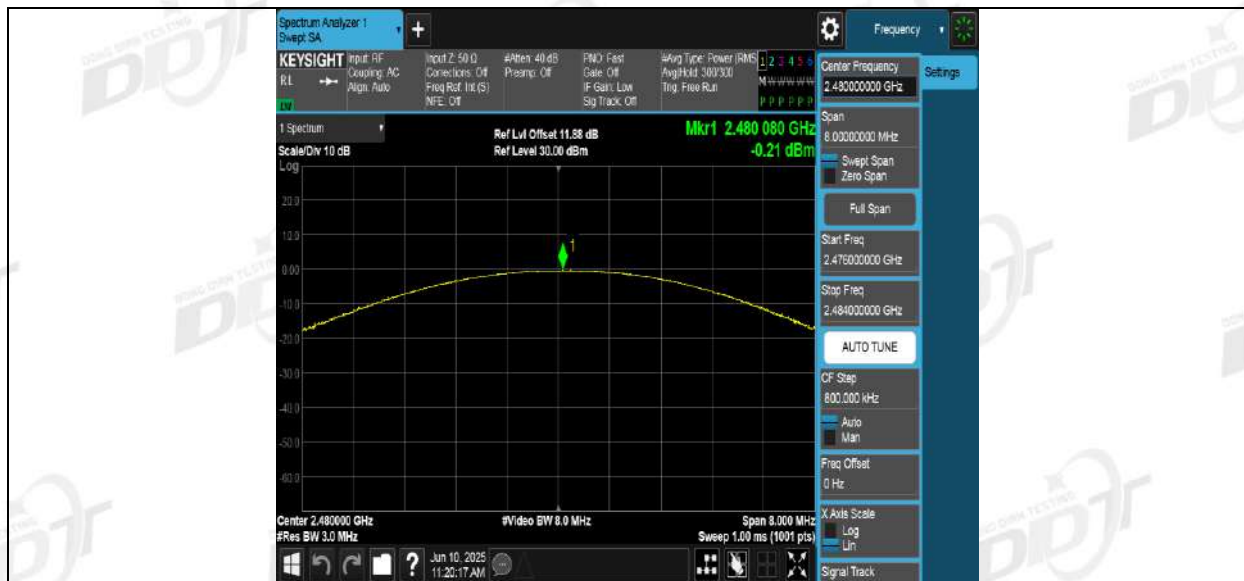
4.5. Test result

Mode	Antenna	Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GFSK	ANT1	2402	0.13	≤20.97	Pass
	ANT1	2441	0.39	≤20.97	Pass
	ANT1	2480	-0.21	≤20.97	Pass
$\pi/4$ -DQPSK	ANT1	2402	1.70	≤20.97	Pass
	ANT1	2441	2.00	≤20.97	Pass
	ANT1	2480	1.30	≤20.97	Pass
8DPSK	ANT1	2402	1.64	≤20.97	Pass

	ANT1	2441	1.93	≤ 20.97	Pass
	ANT1	2480	1.21	≤ 20.97	Pass

4.6. Original test data





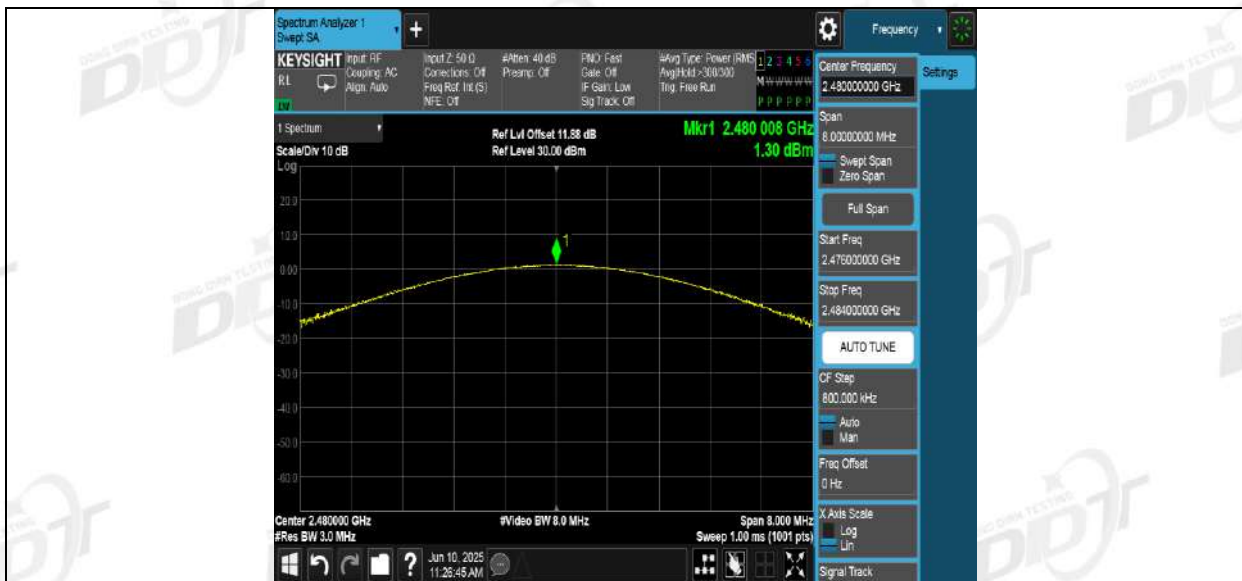
2DH5_Ant1_2402



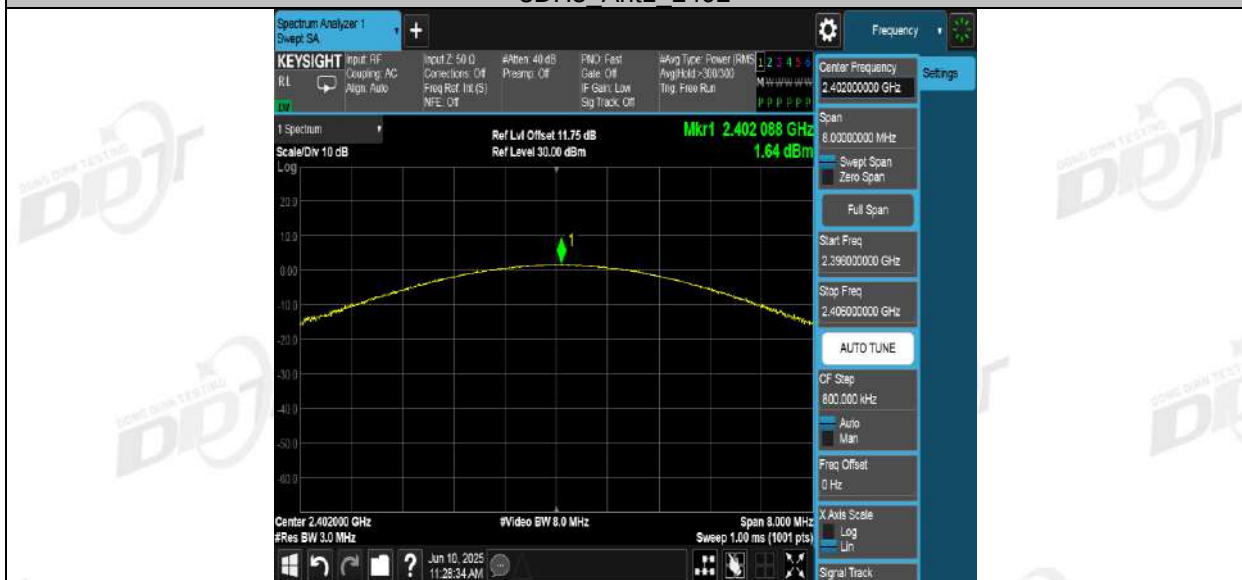
2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



5. 20 dB Bandwidth and 99% Bandwidth

5.1. General Information

Test date	Apr. 24, 2025	Test engineer	Jennie Huang	
Climate condition	Ambient temperature	25.3°C	Relative humidity	54.1%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

5.2. Block diagram of test setup

Same as section 4.1

5.3. Limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.4. Test procedure

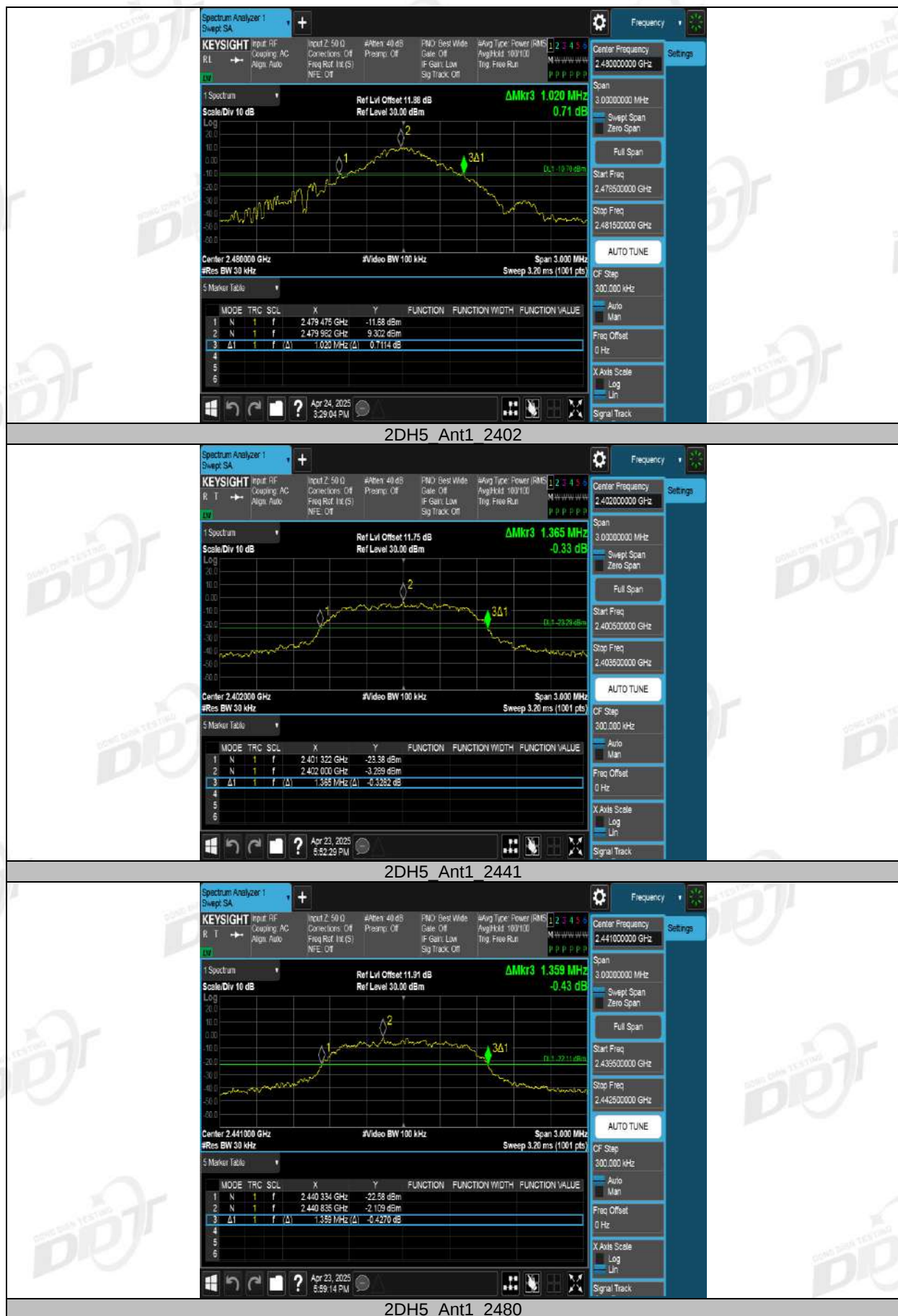
- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30 kHz RBW and 100 kHz VBW. The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

5.5. Test result

Mode	Freq. (MHz)	20 dB bandwidth Result (MHz)	99% bandwidth Result (MHz)	Verdict
GFSK	2402	0.945	0.85241	Pass
	2441	0.954	0.85832	Pass
	2480	1.020	0.86483	Pass
$\pi/4$ -DQPSK	2402	1.365	1.2231	Pass
	2441	1.359	1.2154	Pass
	2480	1.338	1.2296	Pass
8DPSK	2402	1.338	1.2074	Pass
	2441	1.332	1.2060	Pass
	2480	1.332	1.2023	Pass

5.6. Original test data







3DH5 Ant1 2402



3DH5 Ant1 2441



3DH5 Ant1 2480



DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



6. Carrier Frequency Separation

6.1. General Information

Test date	Apr. 24, 2025	Test engineer	Jennie Huang	
Climate condition	Ambient temperature	24.8°C	Relative humidity	52.6%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

6.2. Block diagram of test setup

Same as section 4.1

6.3. Limits

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

6.4. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.

Video (or average) bandwidth (VBW) $\geq$ RBW.

6.5. Test result

Mode	Channel separation (MHz)	Limit (MHz) 2/3 of 20dB bandwidth	Verdict
GFSK	1.016	≥ 0.960	Pass
$\pi/4$ -DQPSK	1.135	≥ 0.910	Pass
8DPSK	1.035	≥ 0.892	Pass

6.6. Original test data





7. Number of Hopping Channel

7.1. General Information

Test date	Apr. 24, 2025	Test engineer	Jennie Huang	
Climate condition	Ambient temperature	24.8°C	Relative humidity	52.6%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

7.2. Block diagram of test setup

Same as section 4.1

7.3. Limits

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

7.4. Test procedure

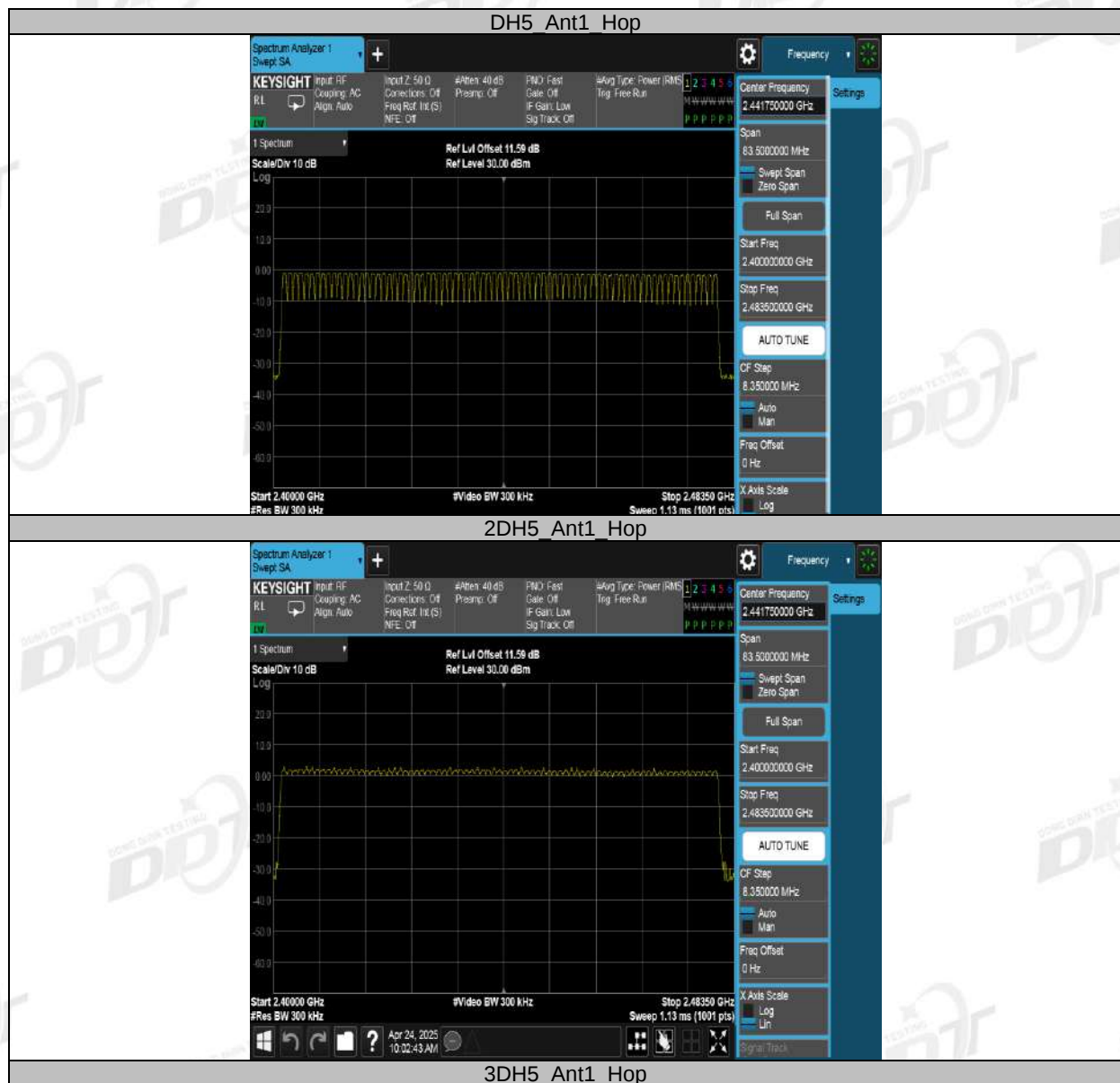
- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel.
 $VBW \geq RBW$.
- (3) spacing or the 20 dB bandwidth, whichever is smaller.

7.5. Test result

Left side:

Mode	Number of hopping channels	Limit	Verdict
GFSK	79	>15	Pass
$\pi/4$ -DQPSK	79	>15	Pass
8DPSK	79	>15	Pass

7.6. Original test data





8. Time of Occupancy

8.1. General Information

Test date	Apr. 24, 2025	Test engineer	Jennie Huang	
Climate condition	Ambient temperature	24.8°C	Relative humidity	52.6%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

8.2. Block diagram of test setup

Same as section 4.1

8.3. Limits

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

8.4. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) The test period: $T = 0.4 \text{ Second/Channel} \times 79 \text{ Channel} = 31.6 \text{ s}$
- (3) Measure the hopping number and on time of each pulse with spectrum analyzer in zero span set, and calculate dwell time with formula $\text{Dwell time} = \text{total hops} \times \text{pulse's on time}$.

8.5. Test result

Test Mode	Antenna	Freq(MHz)	Burst Width [ms]	Total Hops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.365	330	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.620	170	0.275	≤0.4	PASS
DH5	Ant1	Hop	2.869	110	0.316	≤0.4	PASS
2DH1	Ant1	Hop	0.374	330	0.123	≤0.4	PASS
2DH3	Ant1	Hop	1.625	170	0.276	≤0.4	PASS
2DH5	Ant1	Hop	2.873	110	0.316	≤0.4	PASS
3DH1	Ant1	Hop	0.374	330	0.123	≤0.4	PASS
3DH3	Ant1	Hop	1.623	170	0.276	≤0.4	PASS
3DH5	Ant1	Hop	2.875	110	0.316	≤0.4	PASS

DH1 Ant1 Hop

Spectrum Analyzer 1
Sweep: SA

KEYSIGHT Input: RF Coupling: AC Align: Auto
#Port: 2: 50.0 Connections: Off #Atten: 30.0dB PMD: Fast Gate: Off #Avg Type: Power (RMS) 2 3 4 5
Ref: Lvl Offset: 11.91 dB Ref Level: 25.00 dBm
IF Gain: Low Sig Track: Off
Ting Delay: 2.000 ms
WWW.WWW.P P P P P P

1 Spectrum
Scale/Div: 10 dB
Log
Ref Lvl Offset: 11.91 dB
Ref Level: 25.00 dBm
 Δ Mkr2: 365.0 μ s
1.09 dB

Center: 2.441000000 GHz
Res BW: 1.0 MHz
#Video BW: 3.0 MHz
Sweep: 10.13 ms (5000 pts)
Span: 0 Hz

Center Frequency: 2.441000000 GHz
Span: 0.000000000 Hz
Sweep Span: Zero Span
Full Span
Start Freq: 2.441000000 GHz
Stop Freq: 2.441000000 GHz
AUTO TUNE
CF Step: 1.000000 MHz
Auto Man
Freq Offset: 0 Hz
X Axis Scale: Log Lin
Signal Track

DH2 Ant1 Hop

Spectrum Analyzer 1
Sweep: SA

KEYSIGHT Input: RF Coupling: AC Align: Auto
#Port: 2: 50.0 Connections: Off #Atten: 30.0dB PMD: Fast Gate: Off #Avg Type: Power (RMS) 2 3 4 5
Ref: Lvl Offset: 11.91 dB Ref Level: 25.00 dBm
IF Gain: Low Sig Track: Off
Ting Delay: 0.000 s
WWW.WWW.P P P P P P

1 Spectrum
Scale/Div: 10 dB
Log
Ref Lvl Offset: 11.91 dB
Ref Level: 25.00 dBm
 Δ Mkr2: 1.620 ms
0.66 dB

Center: 2.441000000 GHz
Res BW: 1.0 MHz
#Video BW: 3.0 MHz
Sweep: 3.162 s (30000 pts)
Span: 0 Hz

Center Frequency: 2.441000000 GHz
Span: 0.000000000 Hz
Sweep Span: Zero Span
Full Span
Start Freq: 2.441000000 GHz
Stop Freq: 2.441000000 GHz
AUTO TUNE
CF Step: 5.000000 kHz
Auto Man
Freq Offset: 0 Hz
X Axis Scale: Log Lin
Signal Track

DH3 Ant1 Hop

Spectrum Analyzer 1
Sweep: SA

KEYSIGHT Input: RF Coupling: AC Align: Auto
#Port: 2: 50.0 Connections: Off #Atten: 30.0dB PMD: Fast Gate: Off #Avg Type: Power (RMS) 2 3 4 5
Ref: Lvl Offset: 11.91 dB Ref Level: 25.00 dBm
IF Gain: Low Sig Track: Off
Ting Delay: 2.000 ms
WWW.WWW.P P P P P P

1 Spectrum
Scale/Div: 10 dB
Log
Ref Lvl Offset: 11.91 dB
Ref Level: 25.00 dBm
 Δ Mkr2: 1.620 ms
0.66 dB

Center: 2.441000000 GHz
Res BW: 1.0 MHz
#Video BW: 3.0 MHz
Sweep: 10.13 ms (5000 pts)
Span: 0 Hz

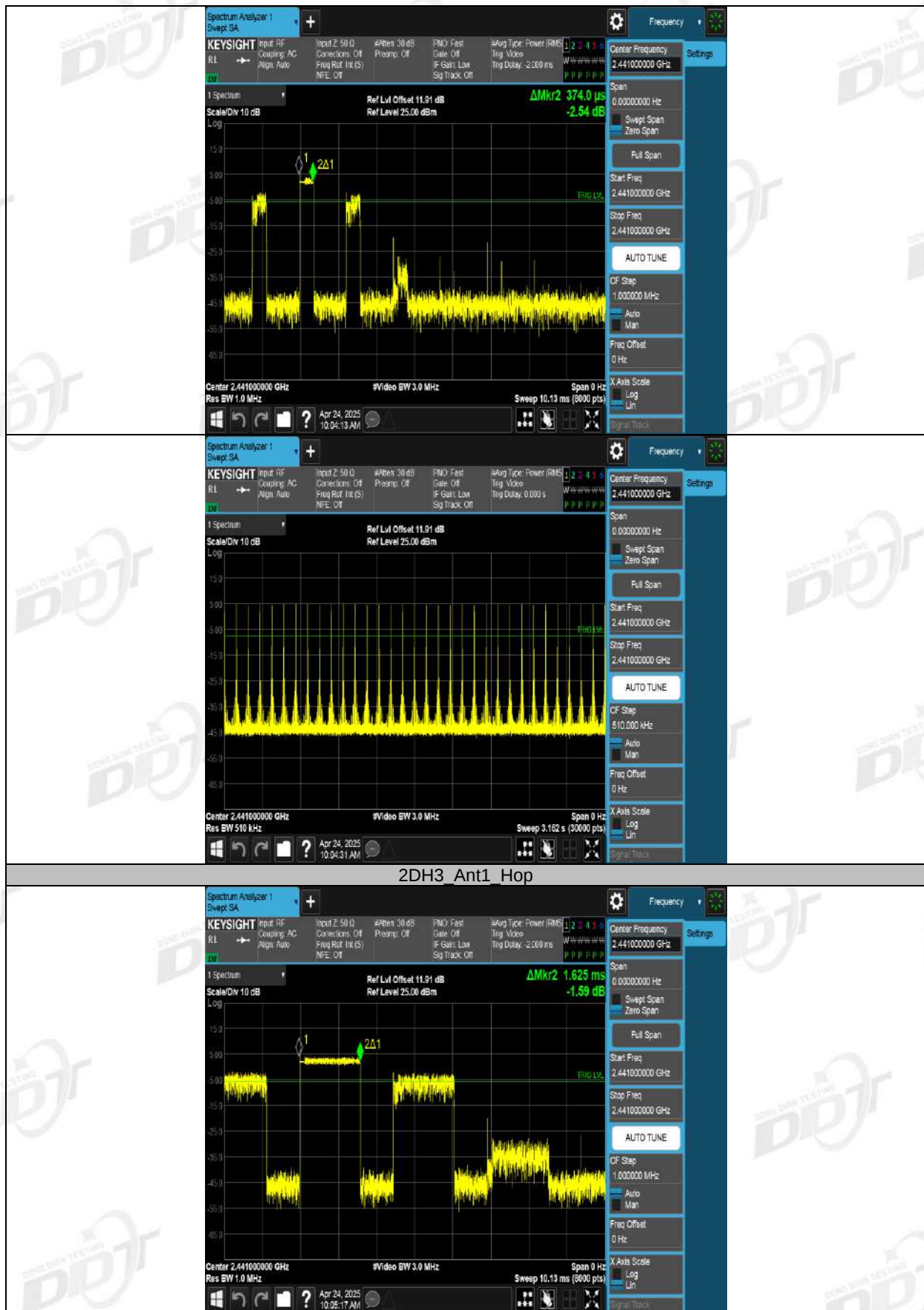
Center Frequency: 2.441000000 GHz
Span: 0.000000000 Hz
Sweep Span: Zero Span
Full Span
Start Freq: 2.441000000 GHz
Stop Freq: 2.441000000 GHz
AUTO TUNE
CF Step: 1.000000 MHz
Auto Man
Freq Offset: 0 Hz
X Axis Scale: Log Lin
Signal Track



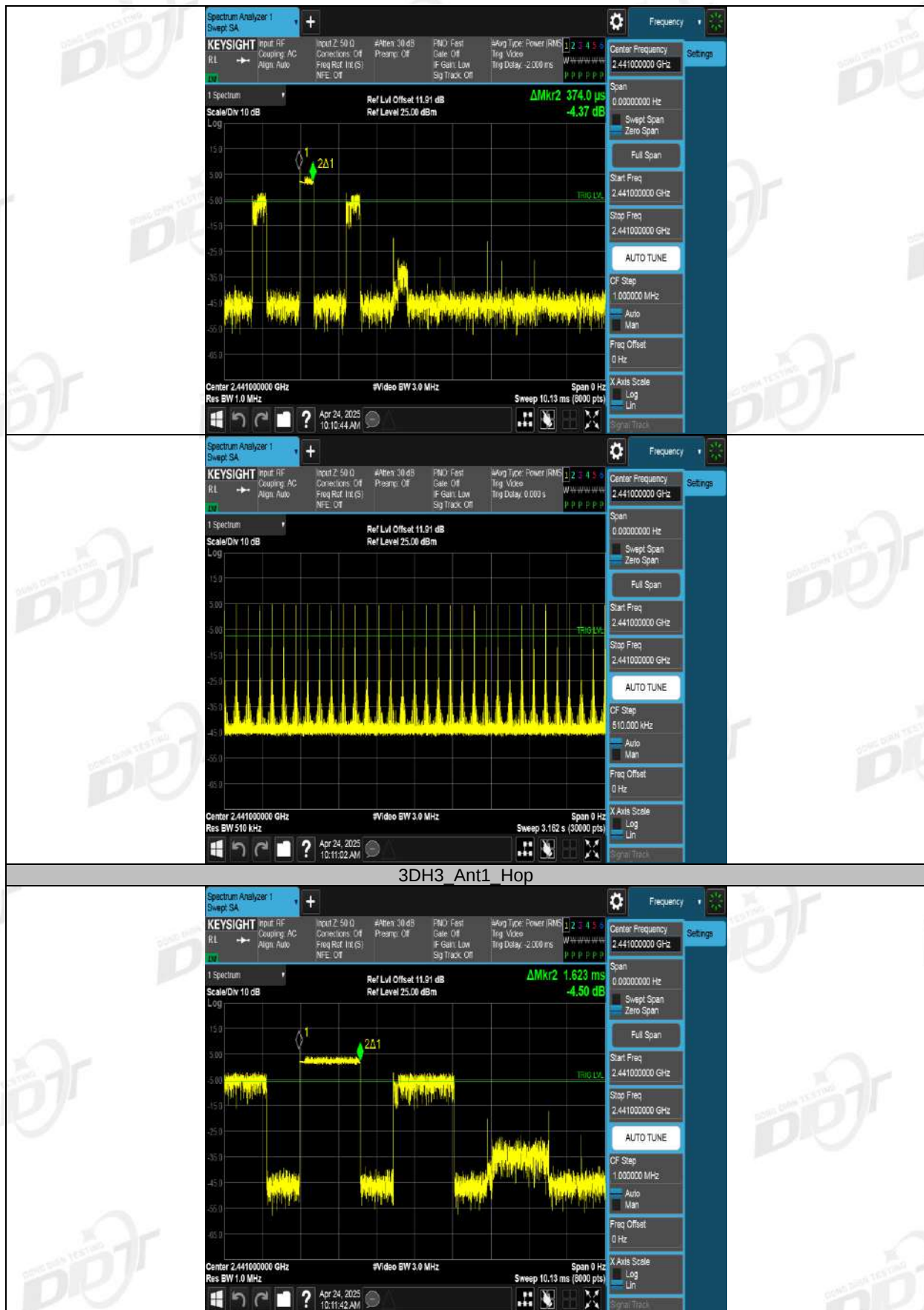
DH5 Ant1 Hop



2DH1 Ant1 Hop









9. Band Edge Compliance (Conducted Method)

9.1. General Information

Test date	Jul. 23, 2025	Test engineer	Jennie Huang	
Climate condition	Ambient temperature	25.3°C	Relative humidity	54.1%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

9.2. Block diagram of test setup

Same as section 4.1

9.3. Limit

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

9.4. Test Procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Set the spectrum analyzer as follows:

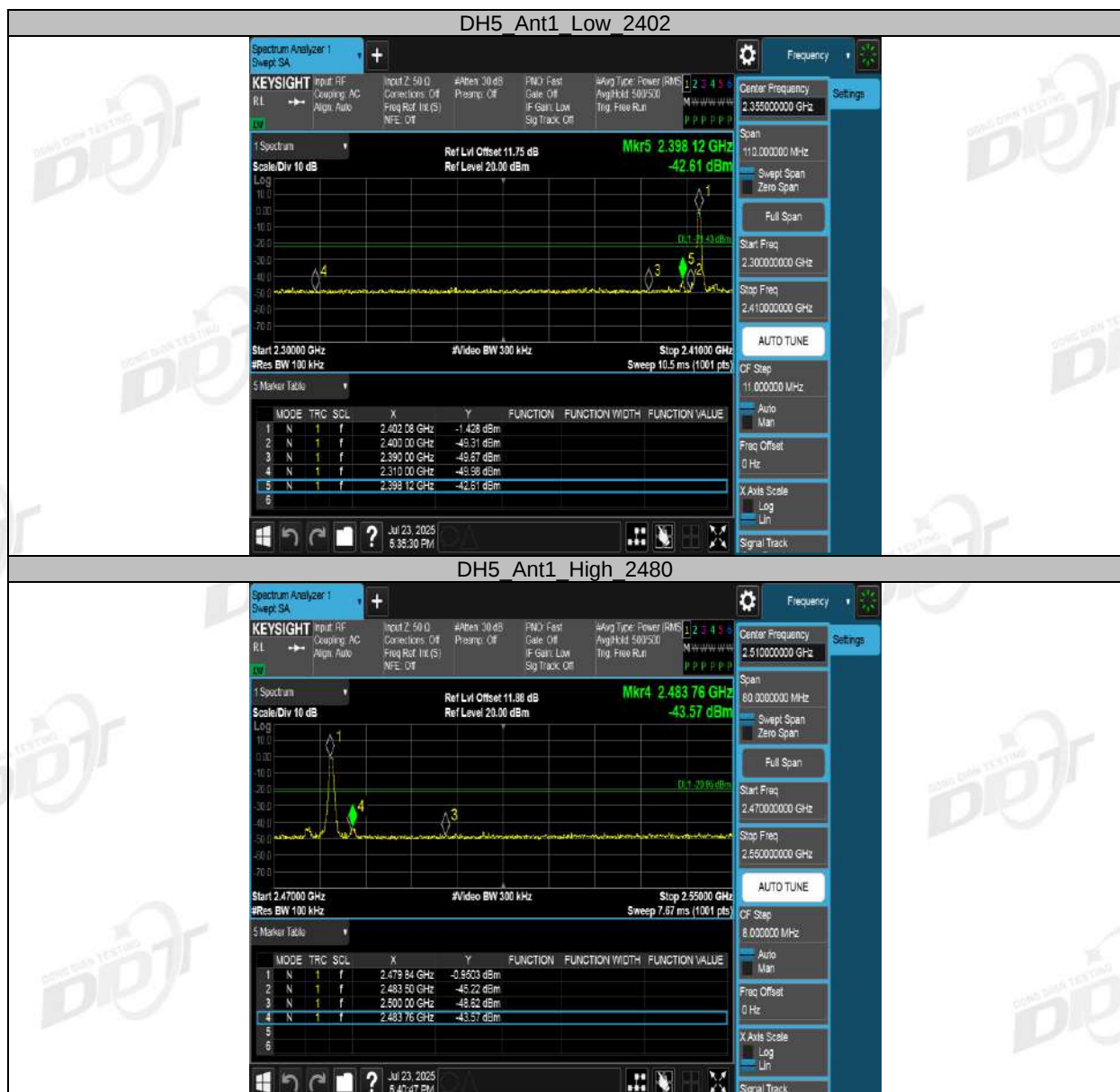
RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span/RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

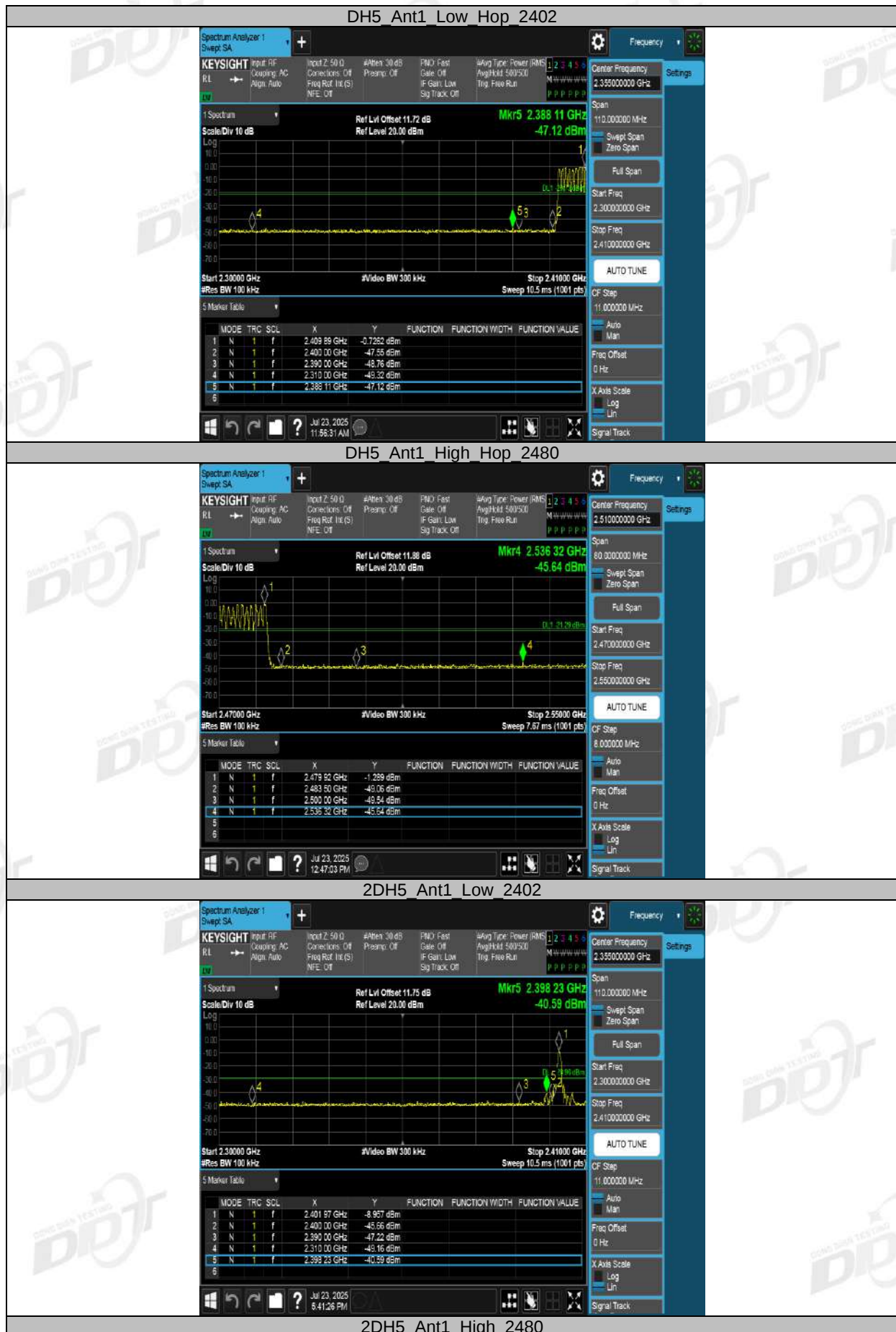
(3) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

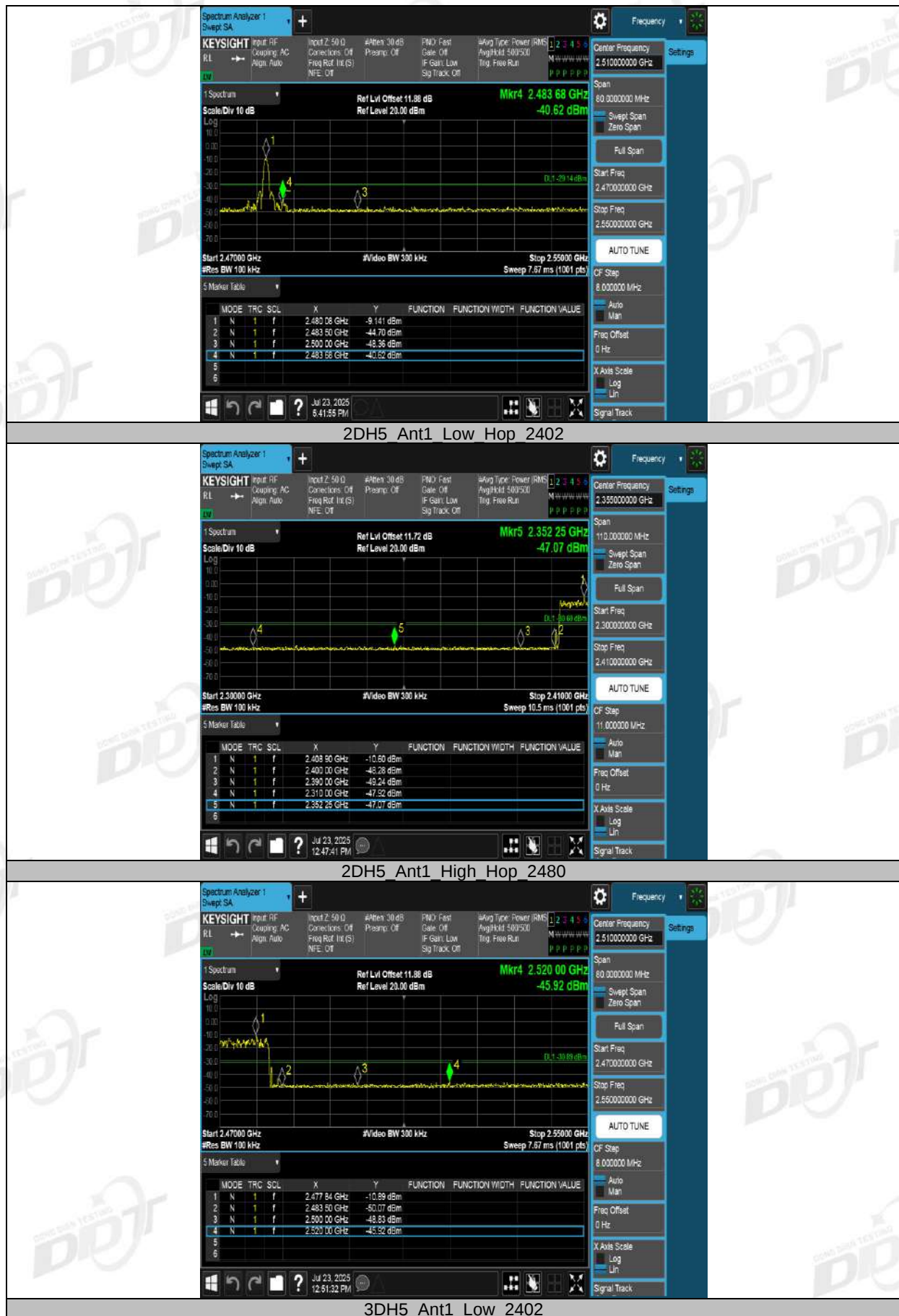
9.5. Test result

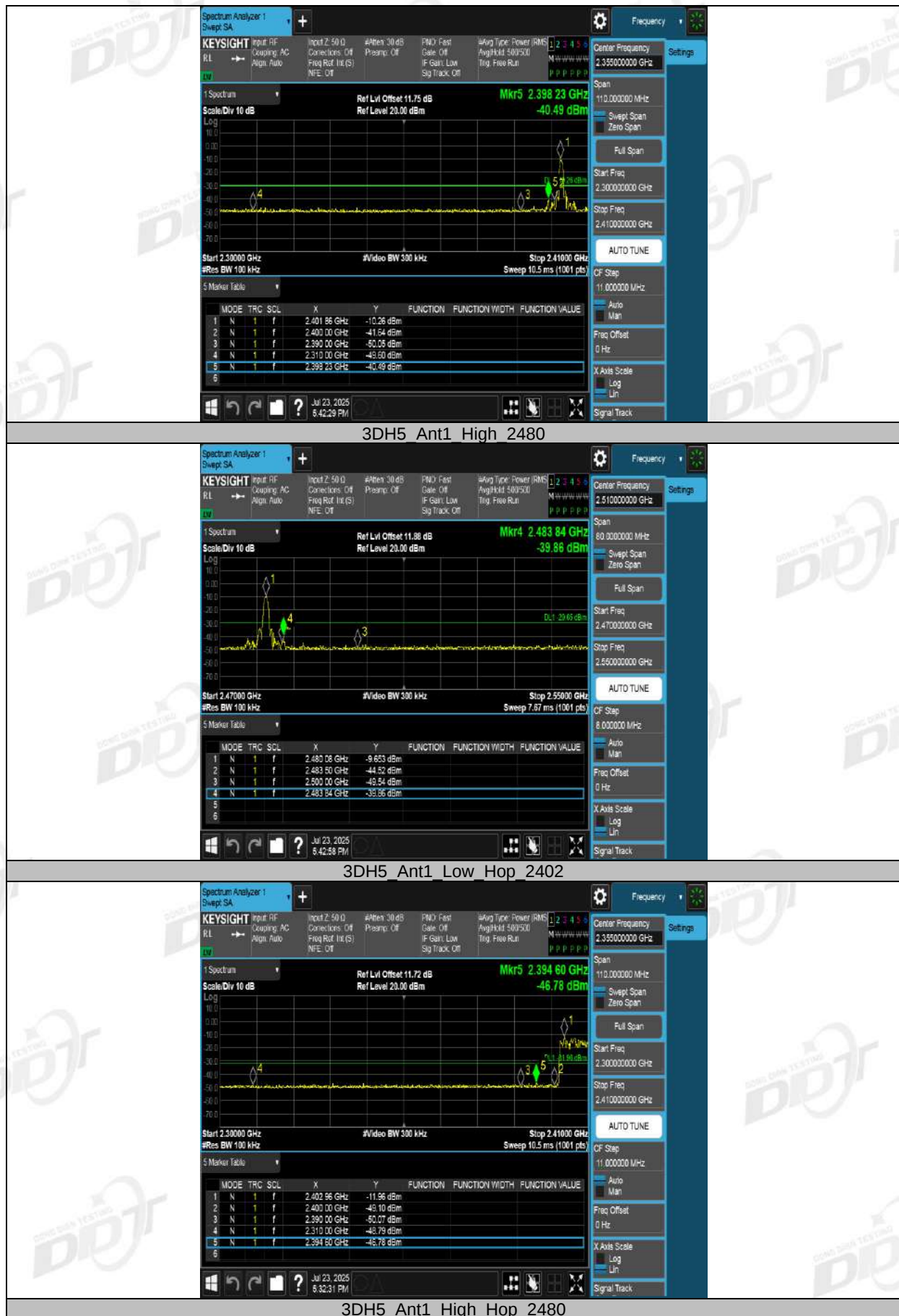
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.43	-42.61	≤-21.43	PASS
		High	2480	-0.95	-43.57	≤-20.95	PASS
		Low	Hop 2402	-0.73	-47.12	≤-20.73	PASS
		High	Hop 2480	-1.29	-45.64	≤-21.29	PASS
2DH5	Ant1	Low	2402	-8.96	-40.59	≤-28.96	PASS
		High	2480	-9.14	-40.62	≤-29.14	PASS
		Low	Hop 2402	-10.60	-47.07	≤-30.6	PASS
		High	Hop 2480	-10.89	-45.93	≤-30.89	PASS
3DH5	Ant1	Low	2402	-10.26	-40.49	≤-30.26	PASS
		High	2480	-9.65	-39.86	≤-29.65	PASS
		Low	Hop 2402	-11.96	-46.78	≤-31.96	PASS
		High	Hop 2480	-9.20	-45.93	≤-29.2	PASS

9.6. Original test data









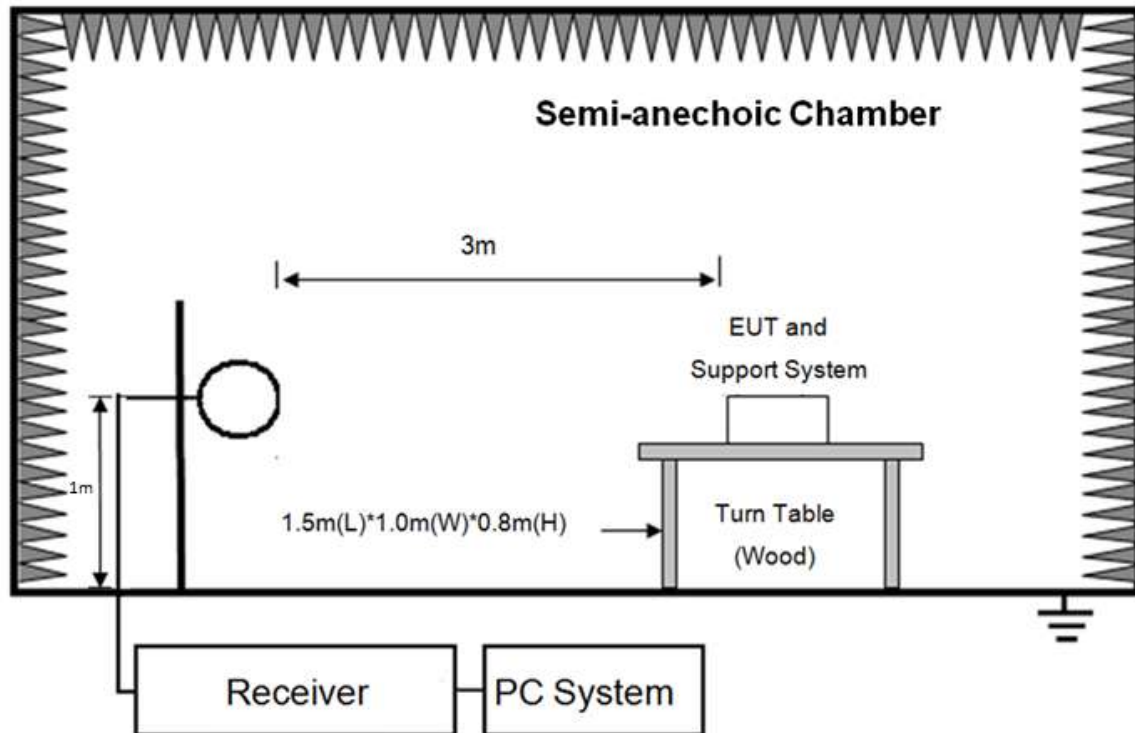


10. Radiated Emission

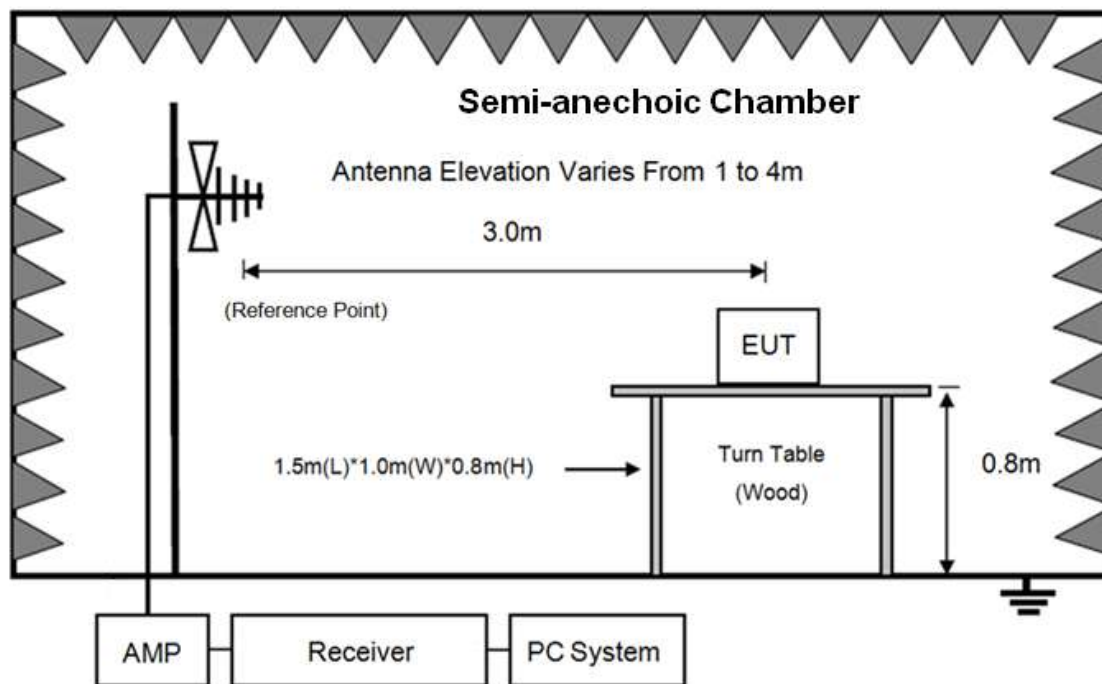
Test date	Jun. 12, 2025	Test engineer	Phil Zhou	
Climate condition	Ambient temperature	22.9°C	Relative humidity	47.6%
	Atmospheric pressure	101.1kPa		
Test place	Shield Room 1			

10.1. Block diagram of test setup

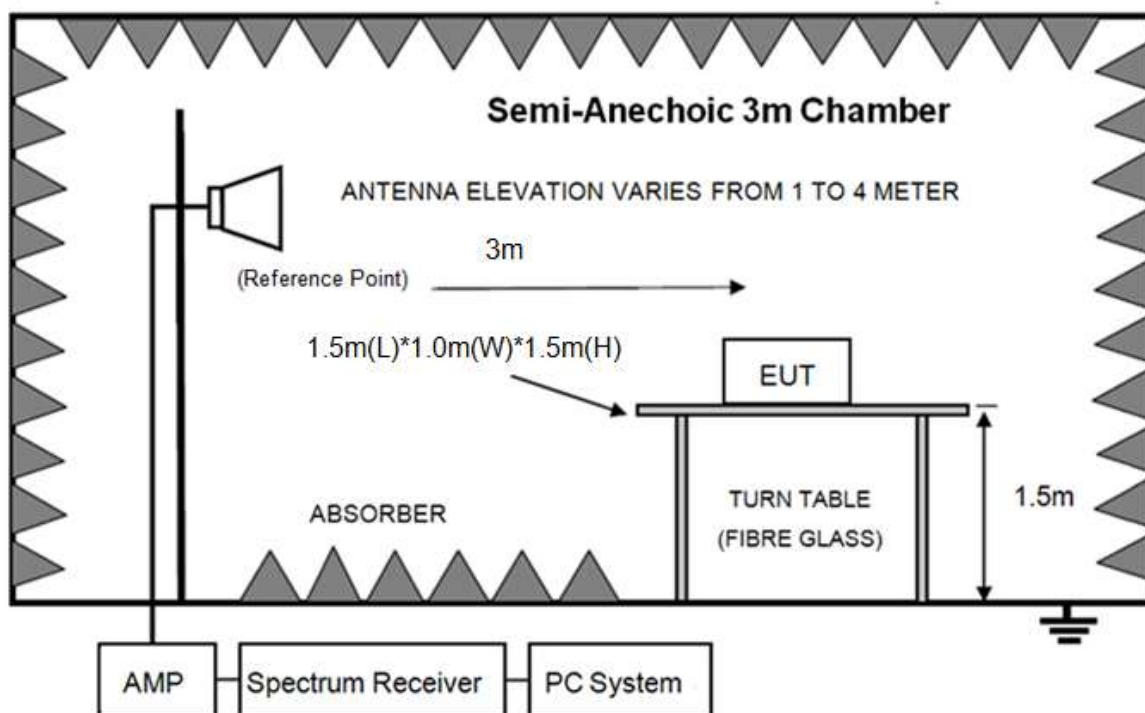
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

10.2. Limit

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

(2) FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3m}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30m}(\text{dB}\mu\text{V}/\text{m}) + 40\text{Log}(30m/3m)$$

(3) Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

10.3. Test Procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.
- (2) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna (1 GHz - 18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna (18 GHz - 40 GHz)	3 m

According ANSI C63.10:2020+CORR.1:2023 clause 6.4.4.2 and 6.5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also is positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. For measurement above 30 MHz, the trilog Broadband Antenna or Horn Antenna was located 3 m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

- (3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 26 GHz:

- (a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

- (b) Change work frequency or channel of device if practicable.

- (c) Change modulation type of device if practicable.

- (d) Change power supply range from 85% to 115% of the rated supply voltage

- (e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 26 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 26 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the

interface cables were changed according to ANSI C63.10:2020+CORR.1:2023 on Radiated Emission test.

- (5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.
- (6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

- (7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2020+CORR.1:2023 clause 4.1.4.2.2 procedure for average measure.
- (8) X axis, Y axis, Z axis are tested, and worse setup X axis is reported.

10.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 26 GHz were comply with 15.209 limits.

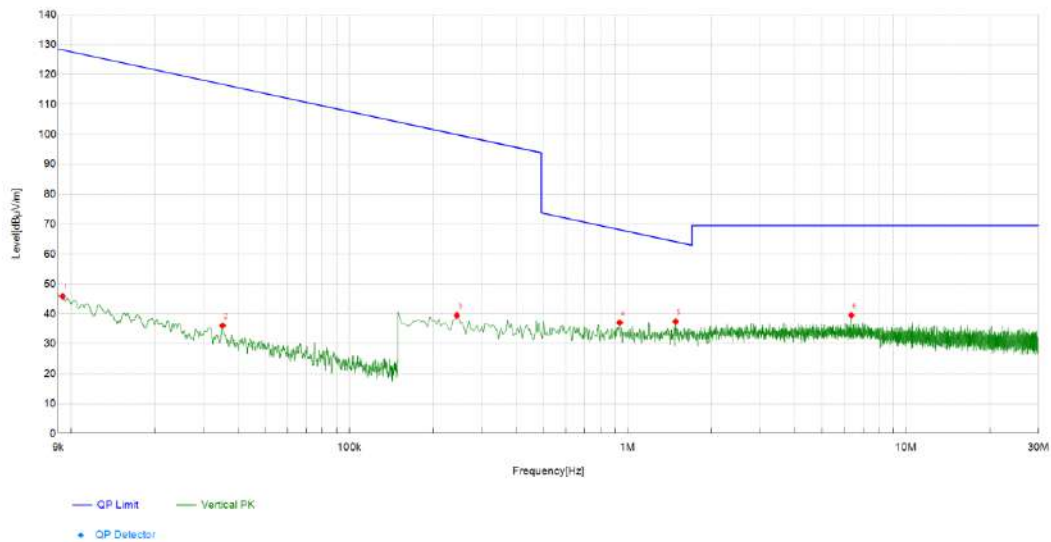
Note1: For emissions 9KHz to 30 MHz and 18 GHz to 26 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions 9KHz to 30 MHz and 18 GHz to 26 GHz, the final test was only performed with EUT working in the worst case Pi/4 DQPSK, Tx 2441 MHz mode.

Note2: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Note3: Scan with all modes, the worst case was recorded in this report.

Radiated Emission test (9KHz-30MHz)

Mode	Test channel	Ant. Pol.
2DH5	2441MHz	N/A

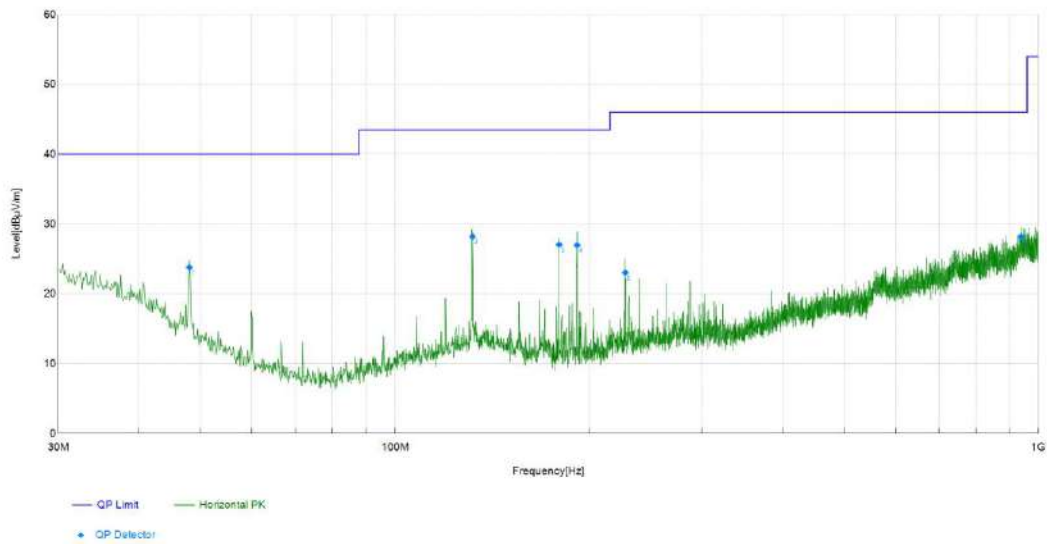
Test Graph

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	0.01	24.34	45.85	21.51	128.22	82.37	PK	V	PASS
2	0.04	15.69	36.10	20.41	116.71	80.61	PK	V	PASS
3	0.24	19.10	39.47	20.37	99.88	60.41	PK	V	PASS
4	0.94	16.87	37.04	20.17	68.17	31.13	PK	V	PASS
5	1.49	17.36	37.42	20.06	64.14	26.72	PK	V	PASS
6	6.37	19.18	39.50	20.32	69.54	30.04	PK	V	PASS

Note: If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

Radiated Emission test (30MHz-1GHz)

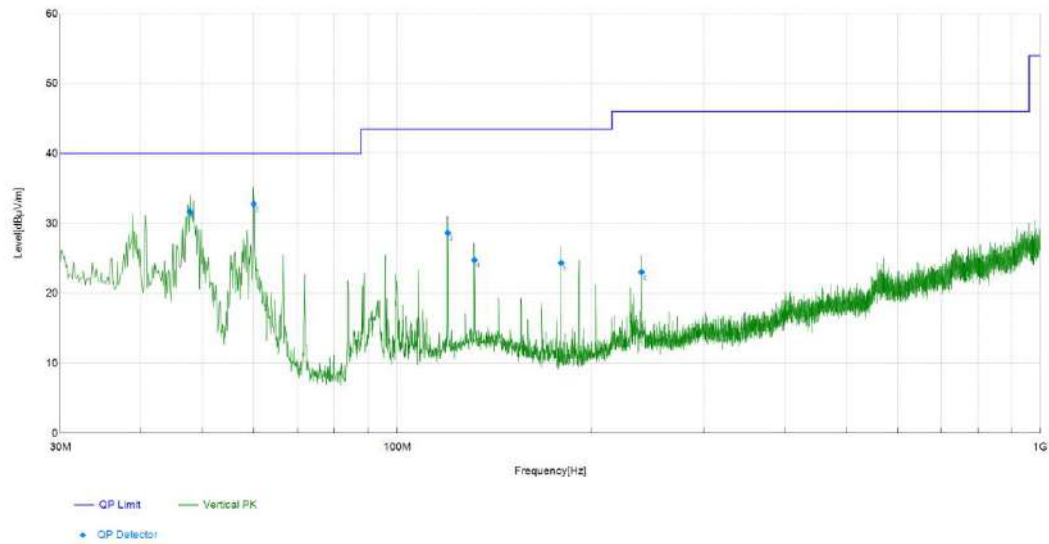
Mode	Test channel	Ant. Pol.
2DH5	2441MHz	Horizontal

Test Graph

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	47.95	45.97	23.83	-22.14	40.00	16.17	QK	H	PASS
2	131.97	51.93	28.25	-23.68	43.50	15.25	QK	H	PASS
3	179.99	52.76	27.09	-25.67	43.50	16.41	QK	H	PASS
4	191.99	52.39	26.99	-25.40	43.50	16.51	QK	H	PASS
5	228.00	46.58	23.04	-23.54	46.00	22.96	QK	H	PASS
6	940.10	36.39	28.26	-8.13	46.00	17.74	QK	H	PASS

Mode	Test channel	Ant. Pol.
2DH5	2441MHz	Vertical

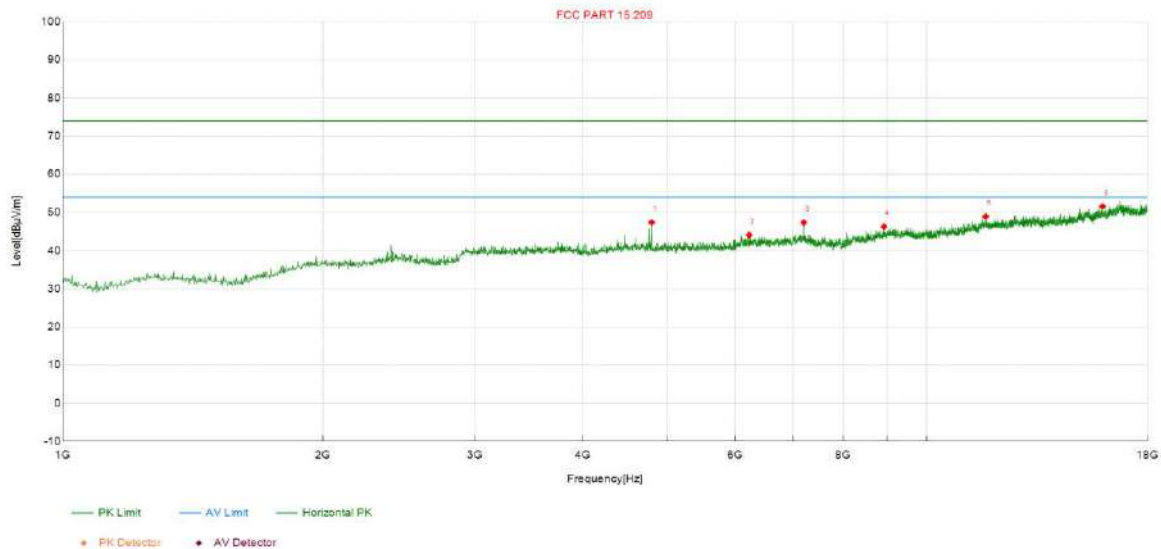
Test Graph



NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	47.70	53.71	31.72	-21.99	40.00	8.28	QP	V	PASS
2	59.95	59.96	32.81	-27.15	40.00	7.19	QP	V	PASS
3	119.97	53.32	28.67	-24.65	43.50	14.83	QP	V	PASS
4	131.97	48.45	24.77	-23.68	43.50	18.73	QP	V	PASS
5	179.99	50.06	24.39	-25.67	43.50	19.11	QP	V	PASS
6	240.01	46.68	23.05	-23.63	46.00	22.95	QP	V	PASS

Radiated Emission test (1GHz-18GHz)

Mode	Test channel	Ant. Pol.
DH5	2402MHz	Horizontal

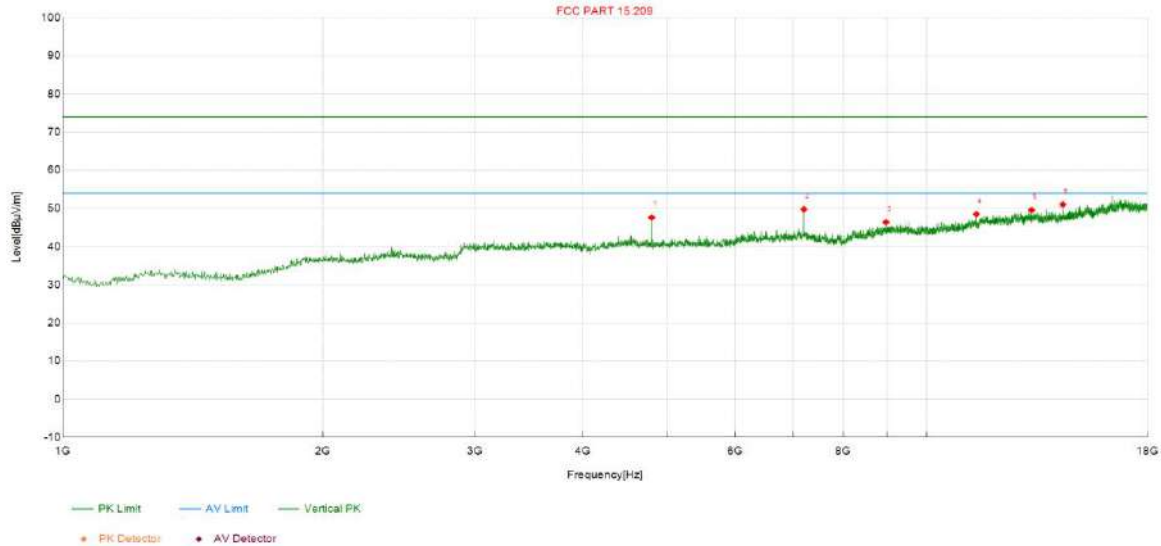
Test Graph

NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4803.75	56.51	47.41	-9.10	54.00	6.59	AV	H	PASS
2	6227.50	50.08	44.11	-5.97	54.00	9.89	AV	H	PASS
3	7205.00	51.73	47.38	-4.35	54.00	6.62	AV	H	PASS
4	8919.88	49.19	46.30	-2.89	54.00	7.70	AV	H	PASS
5	11701.50	47.04	49.00	1.96	54.00	5.00	AV	H	PASS
6	15968.50	44.35	51.60	7.25	54.00	2.40	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
DH5	2402MHz	Vertical

Test Graph

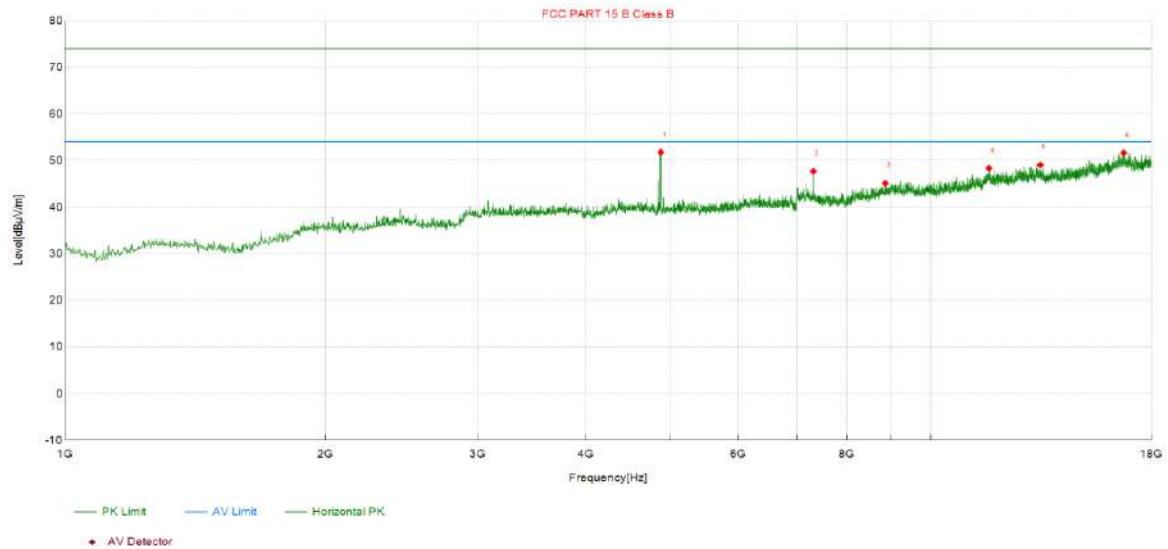


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4803.75	56.78	47.68	-9.10	54.00	6.32	AV	V	PASS
2	7207.13	54.19	49.83	-4.36	54.00	4.17	AV	V	PASS
3	8968.75	49.23	46.42	-2.81	54.00	7.58	AV	V	PASS
4	11412.50	47.12	48.53	1.41	54.00	5.47	AV	V	PASS
5	13220.88	45.91	49.62	3.71	54.00	4.38	AV	V	PASS
6	14368.38	46.18	51.09	4.91	54.00	2.91	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
DH5	2441MHz	Horizontal

Test Graph

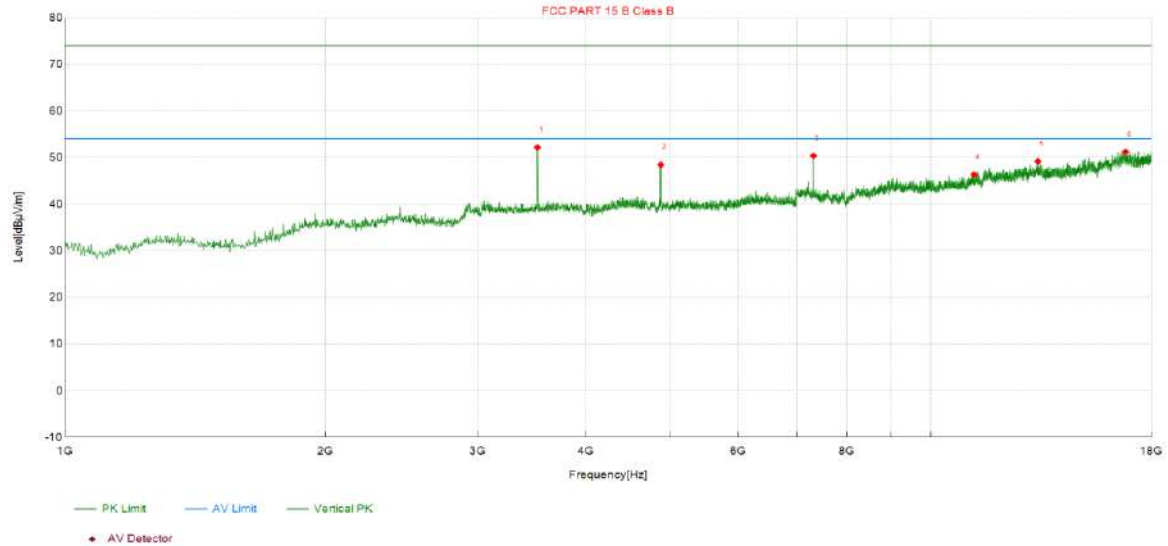


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4882.38	60.69	51.77	-8.92	54.00	2.23	AV	H	PASS
2	7321.88	52.21	47.69	-4.52	54.00	6.31	AV	H	PASS
3	8866.75	48.12	45.14	-2.98	54.00	8.86	AV	H	PASS
4	11682.38	46.46	48.34	1.88	54.00	5.66	AV	H	PASS
5	13393.00	45.4	49.05	3.65	54.00	4.95	AV	H	PASS
6	16727.13	42.2	51.66	9.46	54.00	2.34	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
DH5	2441MHz	Vertical

Test Graph

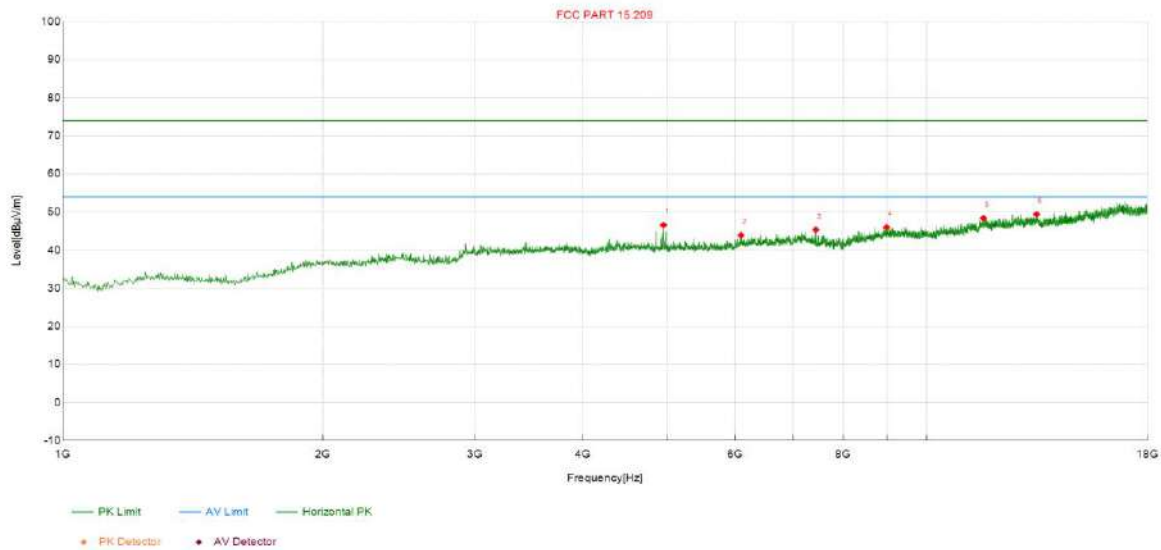


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	3516.00	64.07	52.14	-11.93	54.00	1.86	AV	V	PASS
2	4882.38	57.34	48.42	-8.92	54.00	5.58	AV	V	PASS
3	7324.00	54.86	50.34	-4.52	54.00	3.66	AV	V	PASS
4	11231.88	45.36	46.34	0.98	54.00	7.66	AV	V	PASS
5	13310.13	45.49	49.16	3.67	54.00	4.84	AV	V	PASS
6	16803.63	41.59	51.19	9.60	54.00	2.81	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
DH5	2480MHz	Horizontal

Test Graph

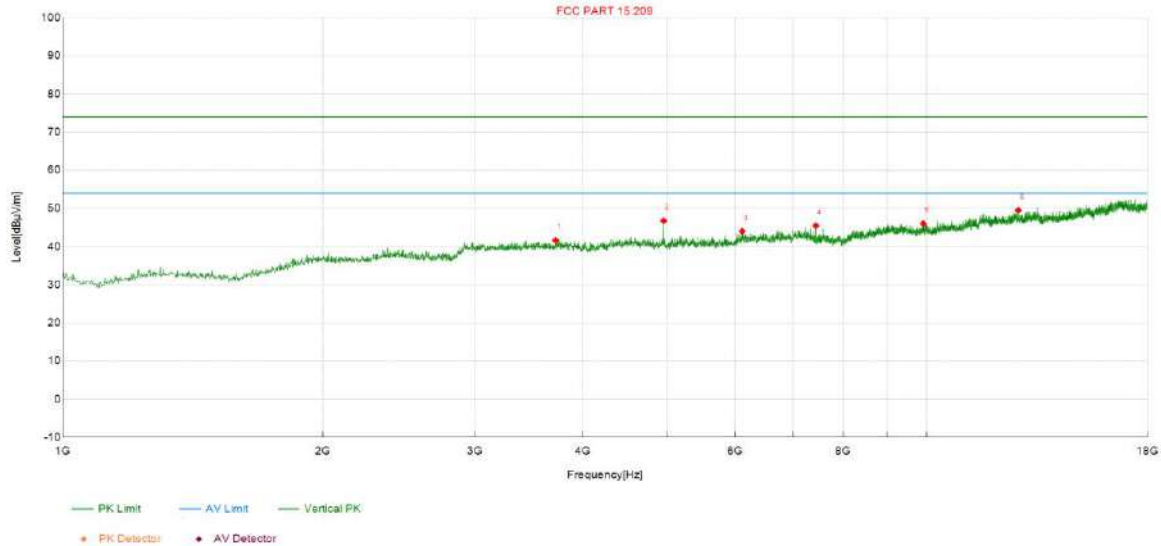


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4956.75	55.48	46.62	-8.86	54.00	7.38	AV	H	PASS
2	6093.63	50.43	43.94	-6.49	54.00	10.06	AV	H	PASS
3	7440.88	49.83	45.37	-4.46	54.00	8.63	AV	H	PASS
4	8983.63	48.81	46.05	-2.76	54.00	7.95	AV	H	PASS
5	11627.13	46.69	48.44	1.75	54.00	5.56	AV	H	PASS
6	13395.13	45.83	49.46	3.63	54.00	4.54	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
DH5	2480MHz	Vertical

Test Graph

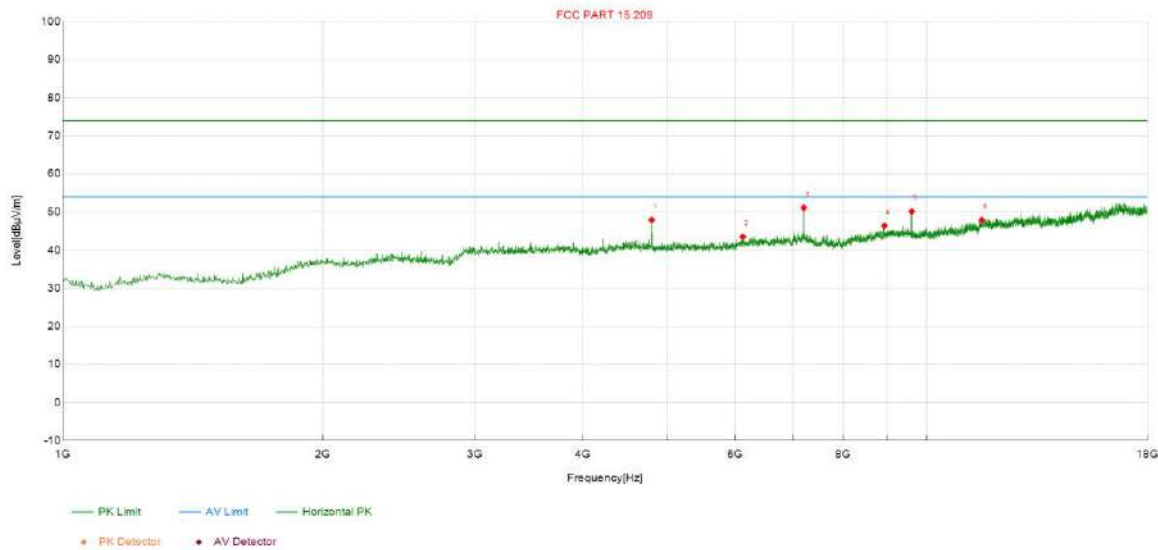


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	3720.00	53.19	41.69	-11.50	54.00	12.31	AV	V	PASS
2	4961.00	55.63	46.81	-8.82	54.00	7.19	AV	V	PASS
3	6114.88	50.35	44.04	-6.31	54.00	9.96	AV	V	PASS
4	7440.88	49.96	45.50	-4.46	54.00	8.50	AV	V	PASS
5	9908.00	47.44	46.08	-1.36	54.00	7.92	AV	V	PASS
6	12759.75	46.14	49.55	3.41	54.00	4.45	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2402MHz	Horizontal

Test Graph

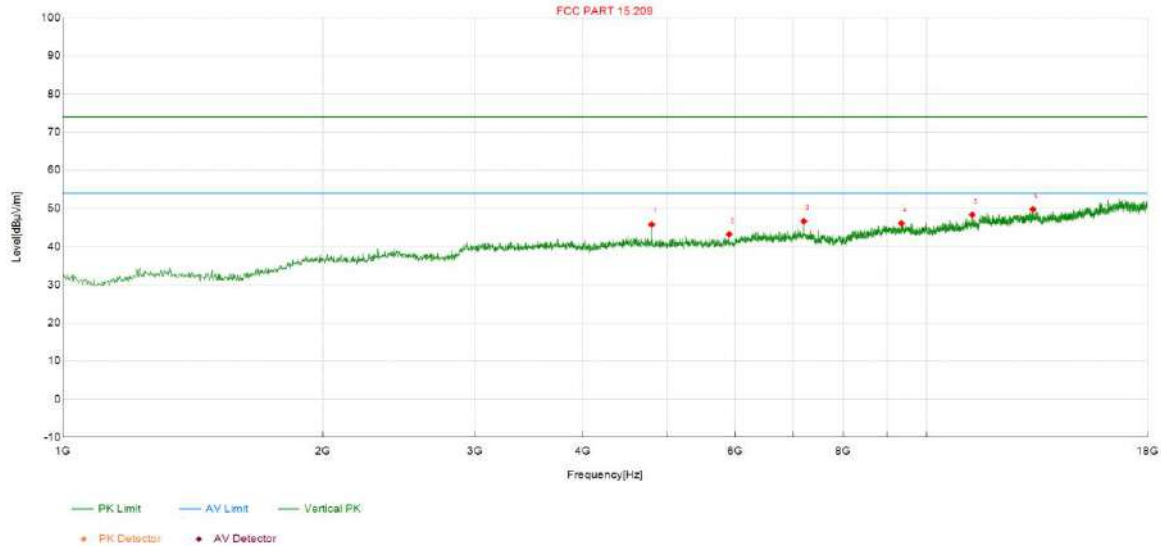


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4803.75	57.07	47.97	-9.10	54.00	6.03	AV	H	PASS
2	6125.50	49.83	43.55	-6.28	54.00	10.45	AV	H	PASS
3	7205.00	55.51	51.16	-4.35	54.00	2.84	AV	H	PASS
4	8932.63	49.28	46.43	-2.85	54.00	7.57	AV	H	PASS
5	9608.38	52.03	50.18	-1.85	54.00	3.82	AV	H	PASS
6	11580.38	46.32	47.96	1.64	54.00	6.04	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2402MHz	Vertical

Test Graph

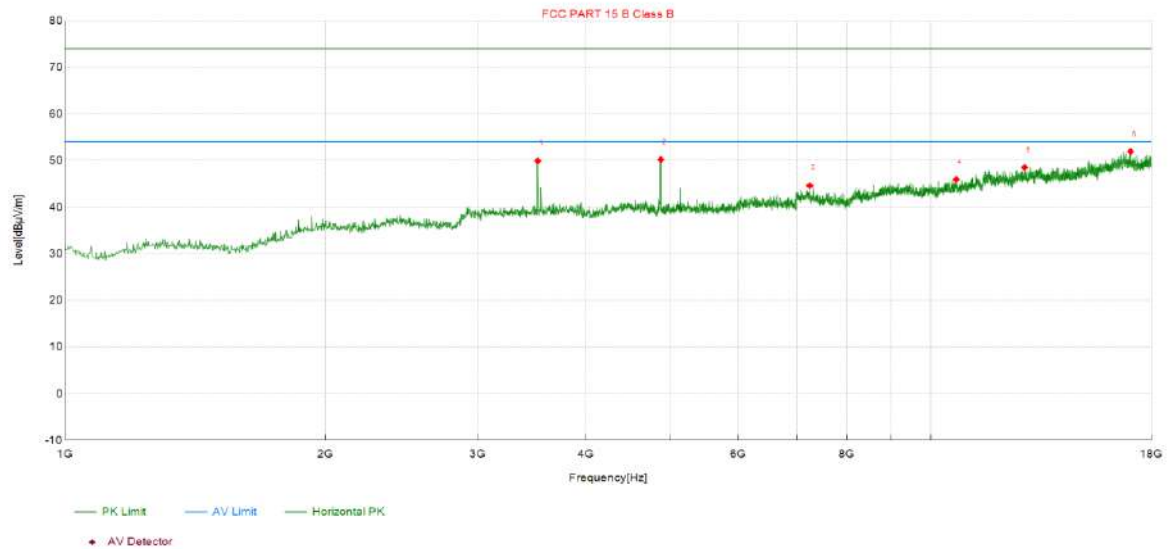


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4803.75	54.95	45.85	-9.10	54.00	8.15	AV	V	PASS
2	5904.50	50.17	43.23	-6.94	54.00	10.77	AV	V	PASS
3	7205.00	51.04	46.69	-4.35	54.00	7.31	AV	V	PASS
4	9344.88	48.38	46.13	-2.25	54.00	7.87	AV	V	PASS
5	11285.00	47.27	48.36	1.09	54.00	5.64	AV	V	PASS
6	13269.75	46.15	49.85	3.70	54.00	4.15	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2441MHz	Horizontal

Test Graph

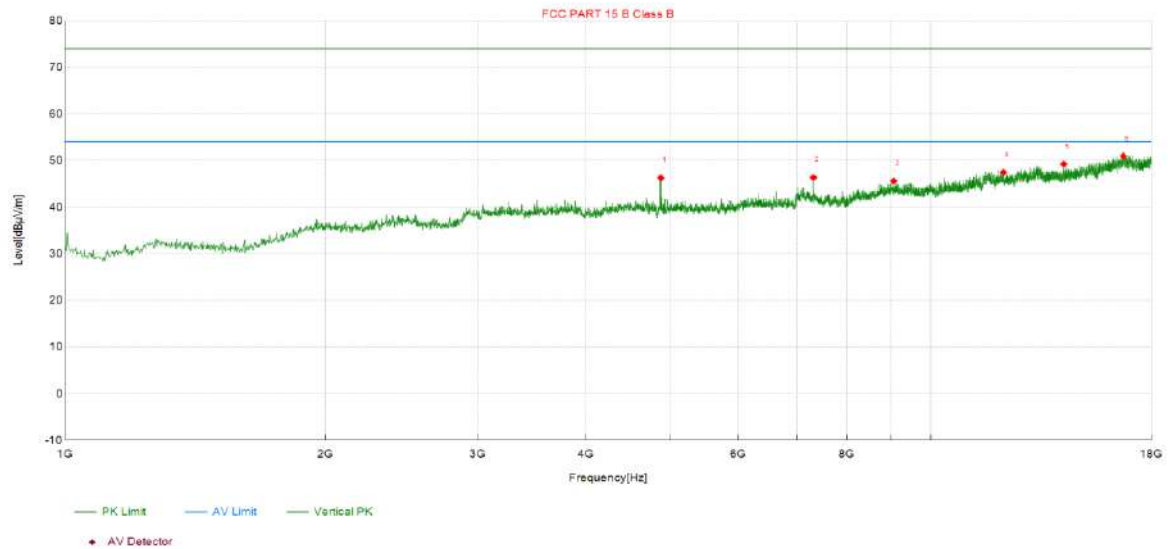


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	3518.13	61.86	49.92	-11.94	54.00	4.08	AV	H	PASS
2	4882.38	59.11	50.19	-8.92	54.00	3.81	AV	H	PASS
3	7251.75	49.07	44.69	-4.38	54.00	9.31	AV	H	PASS
4	10707.00	45.90	45.95	0.05	54.00	8.05	AV	H	PASS
5	12846.88	44.97	48.51	3.54	54.00	5.49	AV	H	PASS
6	17028.88	41.90	51.92	10.02	54.00	2.08	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2441MHz	Vertical

Test Graph

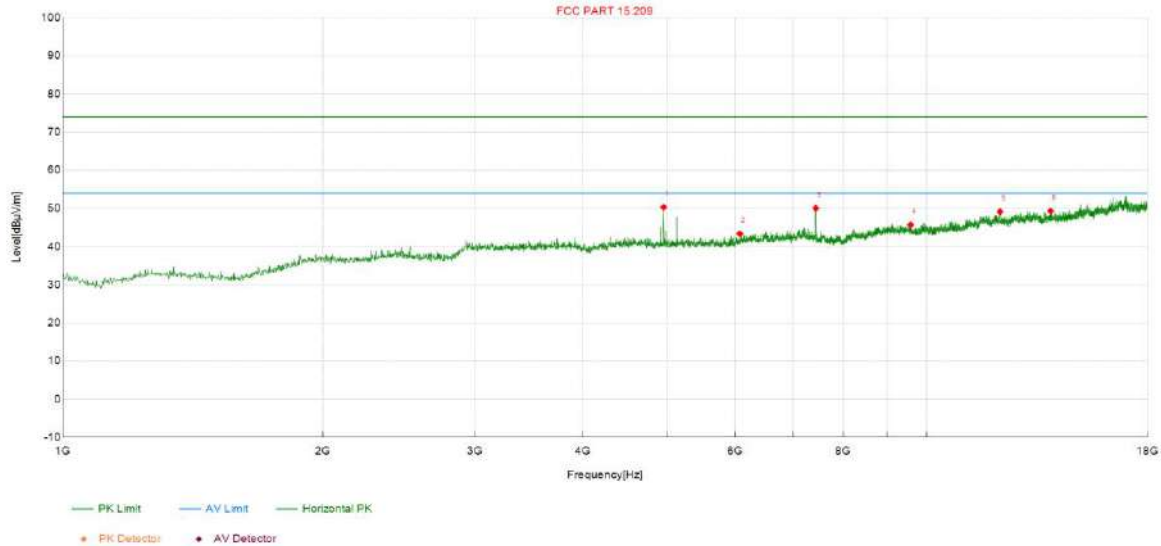


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4882.38	55.20	46.28	-8.92	54.00	7.72	AV	V	PASS
2	7324.00	50.89	46.37	-4.52	54.00	7.63	AV	V	PASS
3	9066.50	48.23	45.67	-2.56	54.00	8.33	AV	V	PASS
4	12139.25	44.92	47.45	2.53	54.00	6.55	AV	V	PASS
5	14257.88	44.58	49.23	4.65	54.00	4.77	AV	V	PASS
6	16710.13	41.49	50.90	9.41	54.00	3.10	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2480MHz	Horizontal

Test Graph

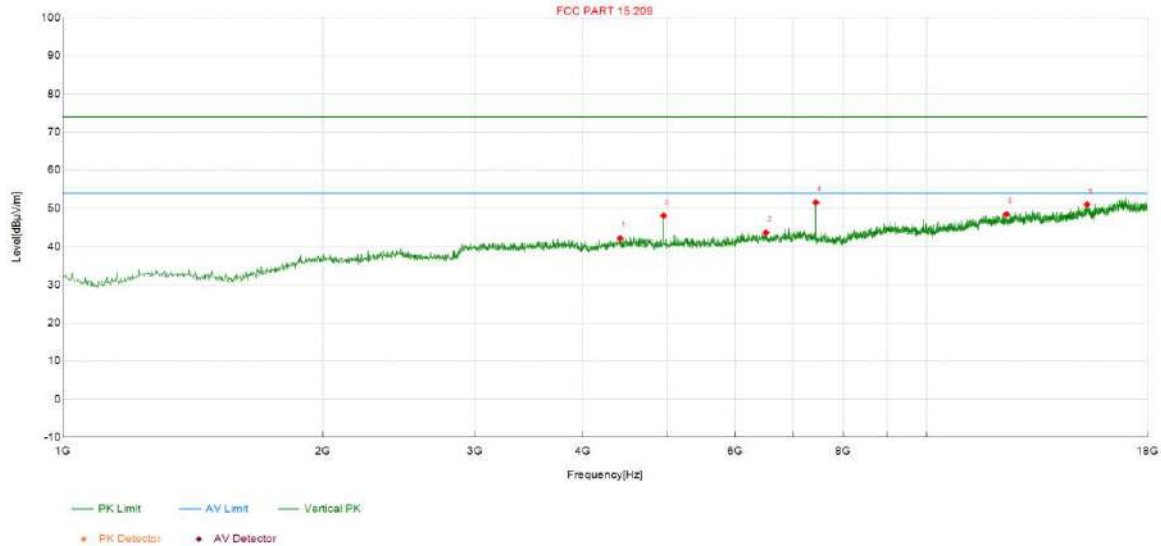


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4958.88	59.18	50.34	-8.84	54.00	3.66	AV	H	PASS
2	6074.50	49.92	43.39	-6.53	54.00	10.61	AV	H	PASS
3	7440.88	54.57	50.11	-4.46	54.00	3.89	AV	H	PASS
4	9576.50	47.71	45.76	-1.95	54.00	8.24	AV	H	PASS
5	12154.13	46.58	49.19	2.61	54.00	4.81	AV	H	PASS
6	13909.38	45.43	49.37	3.94	54.00	4.63	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
2DH5	2480MHz	Vertical

Test Graph

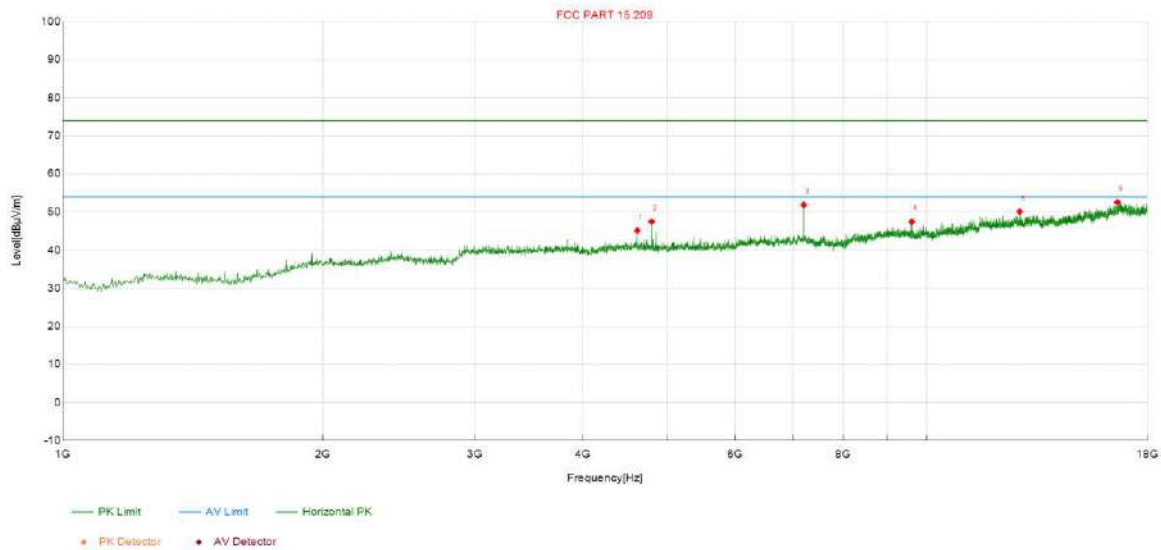


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4417.00	51.82	42.19	-9.63	54.00	11.81	AV	V	PASS
2	4958.88	56.97	48.13	-8.84	54.00	5.87	AV	V	PASS
3	6514.38	49.14	43.71	-5.43	54.00	10.29	AV	V	PASS
4	7440.88	56.06	51.60	-4.46	54.00	2.40	AV	V	PASS
5	12364.50	45.70	48.53	2.83	54.00	5.47	AV	V	PASS
6	15322.50	45.08	51.09	6.01	54.00	2.91	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2402MHz	Horizontal

Test Graph

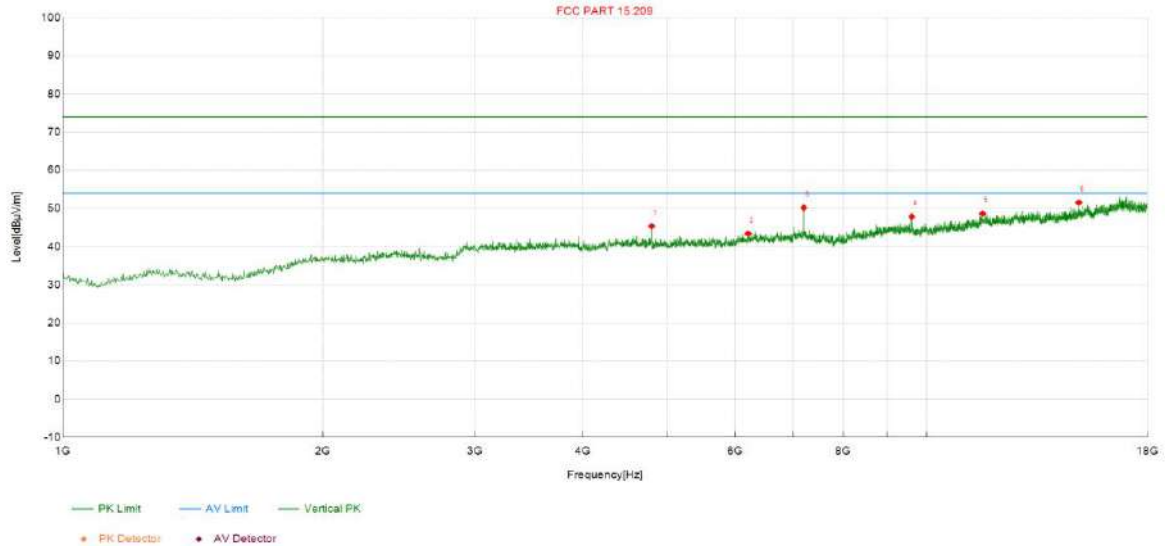


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4623.13	54.42	45.19	-9.23	54.00	8.81	AV	H	PASS
2	4803.75	56.59	47.49	-9.10	54.00	6.51	AV	H	PASS
3	7205.00	56.29	51.94	-4.35	54.00	2.06	AV	H	PASS
4	9608.38	49.34	47.49	-1.85	54.00	6.51	AV	H	PASS
5	12810.75	46.72	50.16	3.44	54.00	3.84	AV	H	PASS
6	16618.75	43.40	52.62	9.22	54.00	1.38	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2402MHz	Vertical

Test Graph

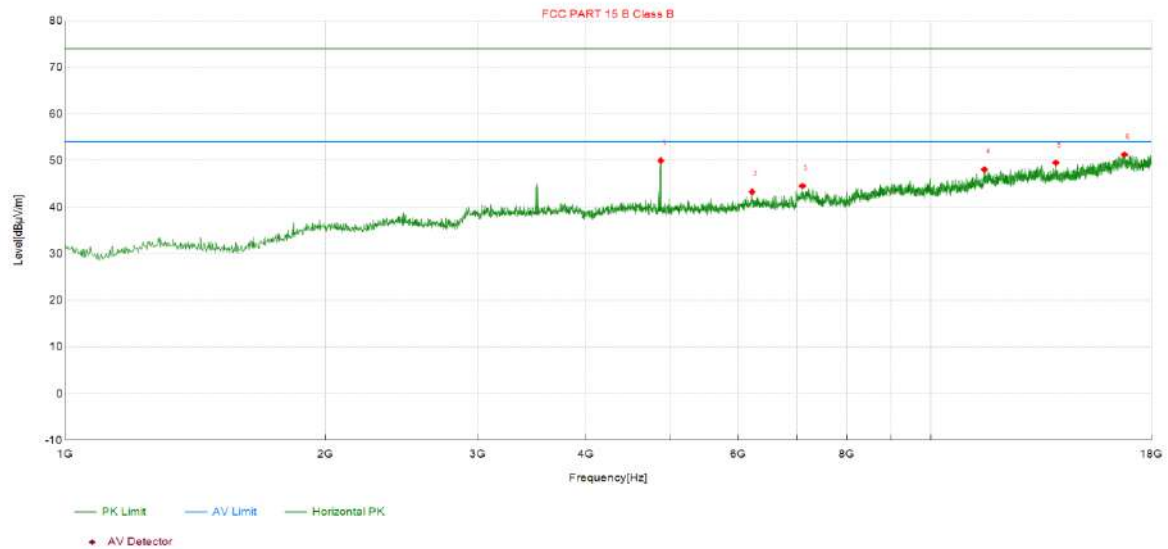


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4803.75	54.48	45.38	-9.10	54.00	8.62	AV	V	PASS
2	6210.50	49.42	43.41	-6.01	54.00	10.59	AV	V	PASS
3	7205.00	54.60	50.25	-4.35	54.00	3.75	AV	V	PASS
4	9608.38	49.73	47.88	-1.85	54.00	6.12	AV	V	PASS
5	11601.63	46.90	48.72	1.82	54.00	5.28	AV	V	PASS
6	14993.13	45.87	51.58	5.71	54.00	2.42	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2441MHz	Horizontal

Test Graph

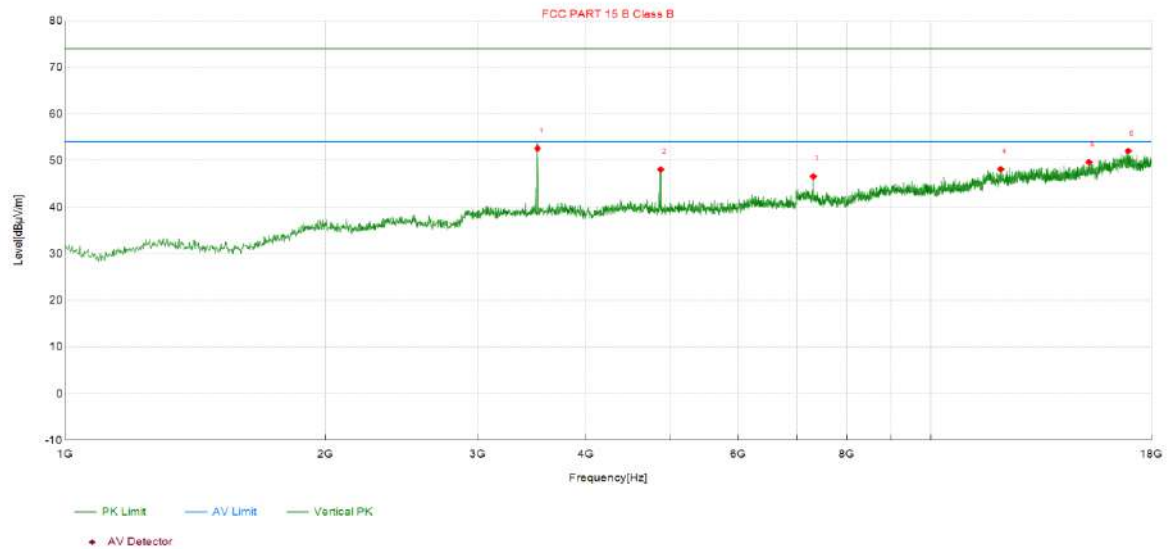


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4882.38	58.91	49.99	-8.92	54.00	4.01	AV	H	PASS
2	6223.25	49.27	43.33	-5.94	54.00	10.67	AV	H	PASS
3	7111.50	48.79	44.60	-4.19	54.00	9.40	AV	H	PASS
4	11542.13	46.47	48.06	1.59	54.00	5.94	AV	H	PASS
5	13960.38	45.53	49.51	3.98	54.00	4.49	AV	H	PASS
6	16756.88	41.93	51.24	9.31	54.00	2.76	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2441MHz	Vertical

Test Graph

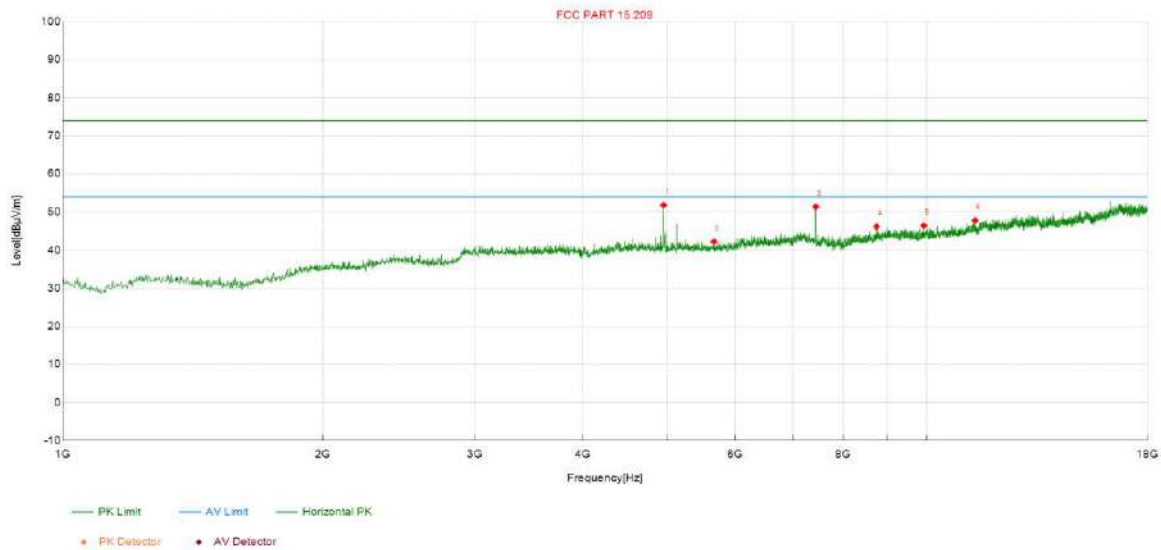


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	3516.00	64.52	52.59	-11.93	54.00	1.41	AV	V	PASS
2	4880.25	56.97	48.06	-8.91	54.00	5.94	AV	V	PASS
3	7321.88	51.14	46.62	-4.52	54.00	7.38	AV	V	PASS
4	12056.38	45.61	48.13	2.52	54.00	5.87	AV	V	PASS
5	15248.13	43.55	49.64	6.09	54.00	4.36	AV	V	PASS
6	16931.13	42.11	52.01	9.90	54.00	1.99	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2480MHz	Horizontal

Test Graph

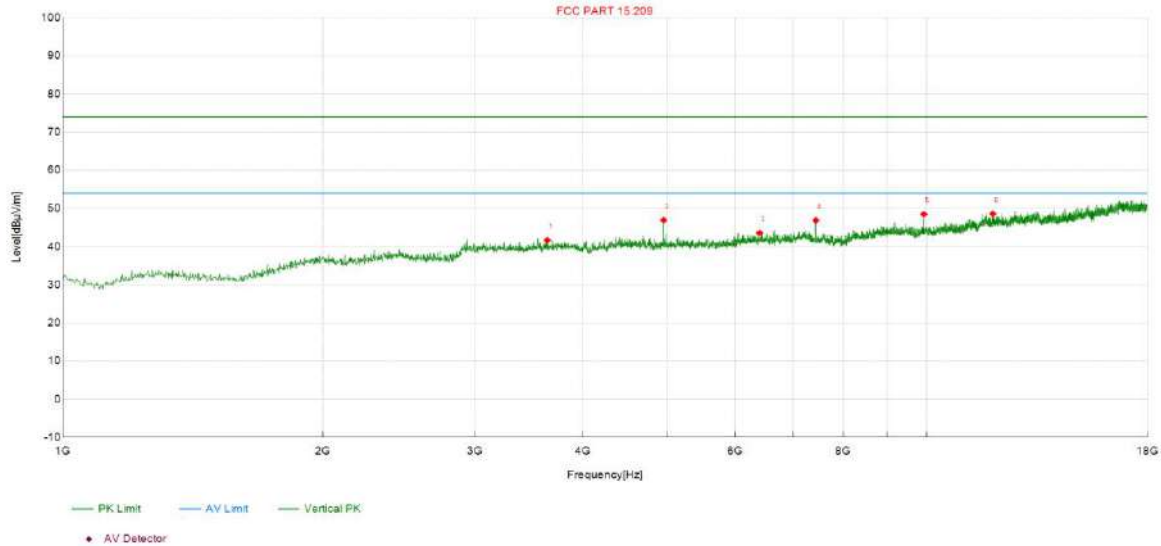


NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	4958.88	60.72	51.88	-8.84	54.00	2.12	AV	H	PASS
2	5670.75	49.54	42.25	-7.29	54.00	11.75	AV	H	PASS
3	7440.88	55.90	51.44	-4.46	54.00	2.56	AV	H	PASS
4	8747.75	49.49	46.19	-3.30	54.00	7.81	AV	H	PASS
5	9920.75	47.76	46.46	-1.30	54.00	7.54	AV	H	PASS
6	11372.13	46.70	47.82	1.12	54.00	6.18	AV	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Mode	Test channel	Ant. Pol.
3DH5	2480MHz	Vertical

Test Graph



NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Limit Det	Pol	Verdict
1	3637.13	53.41	41.73	-11.68	54.00	12.27	AV	V	PASS
2	4958.88	55.83	46.99	-8.84	54.00	7.01	AV	V	PASS
3	6403.88	49.27	43.63	-5.64	54.00	10.37	AV	V	PASS
4	7440.88	51.38	46.92	-4.46	54.00	7.08	AV	V	PASS
5	9920.75	49.84	48.54	-1.30	54.00	5.46	AV	V	PASS
6	11922.50	46.42	48.65	2.23	54.00	5.35	AV	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

Radiated Emission test (18GHz-26GHz)



NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	18357.50	28.92	31.21	2.29	74.00	42.79	PK	H	PASS
2	18937.75	28.77	30.53	1.76	74.00	43.47	PK	H	PASS
3	20557.50	30.22	30.42	0.20	74.00	43.58	PK	H	PASS
4	22273.50	28.73	29.38	0.65	74.00	44.62	PK	H	PASS
5	22488.00	29.25	30.14	0.89	74.00	43.86	PK	H	PASS
6	23841.00	28.55	28.99	0.44	74.00	45.01	PK	H	PASS

NO.	Frequency [MHz]	Factor [dB/m]	AV Reading [dBμV]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Pol	Verdict
1	18357.50	2.29	15.73	18.02	54.00	35.98	H	PASS
2	18937.75	1.76	15.34	17.10	54.00	36.90	H	PASS
3	20557.50	0.20	16.45	16.65	54.00	37.35	H	PASS
4	22273.50	0.65	15.20	15.85	54.00	38.15	H	PASS
5	22488.00	0.89	14.55	15.44	54.00	38.56	H	PASS
6	23841.00	0.44	13.92	14.36	54.00	39.64	H	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.



NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	19215.50	30.35	31.62	1.27	74.00	42.38	PK	V	PASS
2	20961.75	30.08	30.20	0.12	74.00	43.80	PK	V	PASS
3	21165.25	30.02	30.06	0.04	74.00	43.94	PK	V	PASS
4	21660.25	29.96	29.63	-0.33	74.00	44.37	PK	V	PASS
5	22400.00	29.04	29.92	0.88	74.00	44.08	PK	V	PASS
6	23387.25	28.41	29.06	0.65	74.00	44.94	PK	V	PASS

NO.	Frequency [MHz]	Factor [dB/m]	AV Reading [dBμV]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Pol	Verdict
1	19215.50	1.27	15.28	16.55	54.00	37.45	V	PASS
2	20961.75	0.12	16.11	16.23	54.00	37.77	V	PASS
3	21165.25	0.04	15.15	15.19	54.00	38.81	V	PASS
4	21660.25	-0.33	15.69	15.36	54.00	38.64	V	PASS
5	22400.00	0.88	15.08	15.96	54.00	38.04	V	PASS
6	23387.25	0.65	14.19	14.84	54.00	39.16	V	PASS

Note: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

11. RF Conducted Spurious Emissions

11.1. General Information

Test date	Apr. 23, 2025&Jul. 23, 2025	Test engineer	Jennie Huang
Climate condition	Ambient temperature	25.3°C	Relative humidity 54.1%
	Atmospheric pressure	101.1kPa	
Test place	Shield Room 1		

11.2. Block diagram of test setup

Same as section 4.1

11.3. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

11.4. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span}/\text{RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

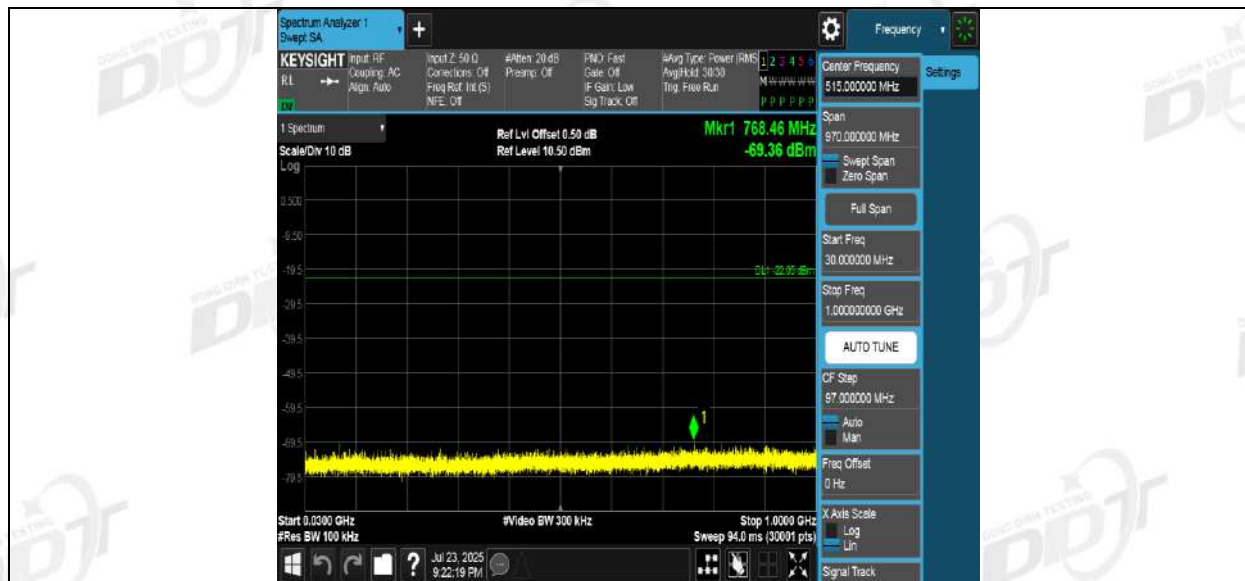
- (5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

11.5. Test result

Mode	Freq. (MHz)	Verdict
GFSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass
$\pi/4$ -DQPSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass
8DPSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass

11.6. Original test data





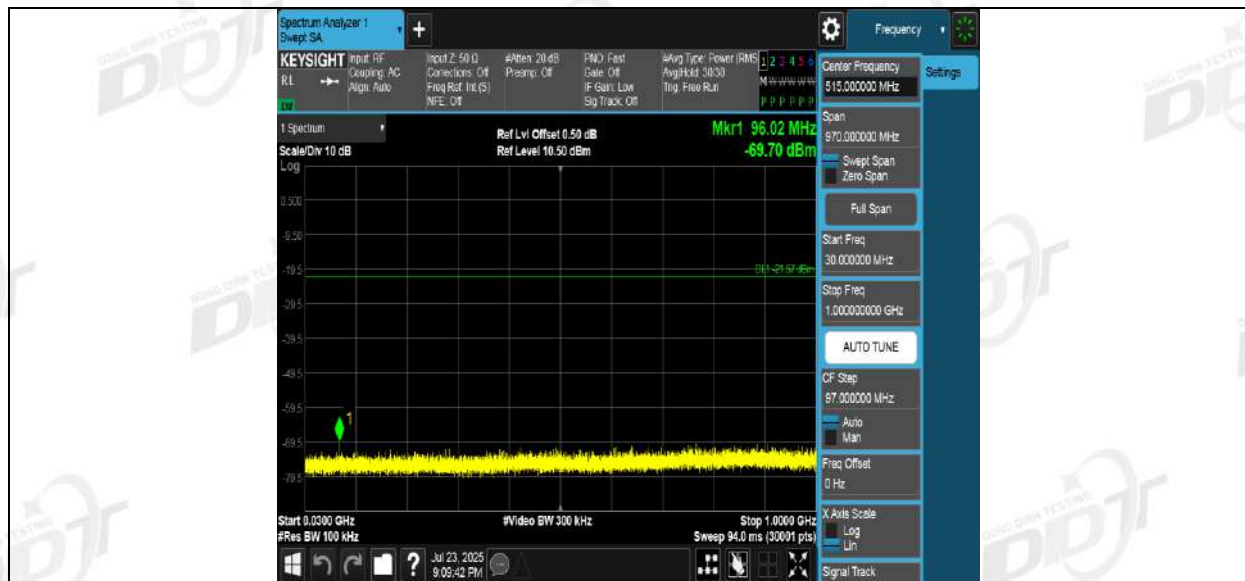
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



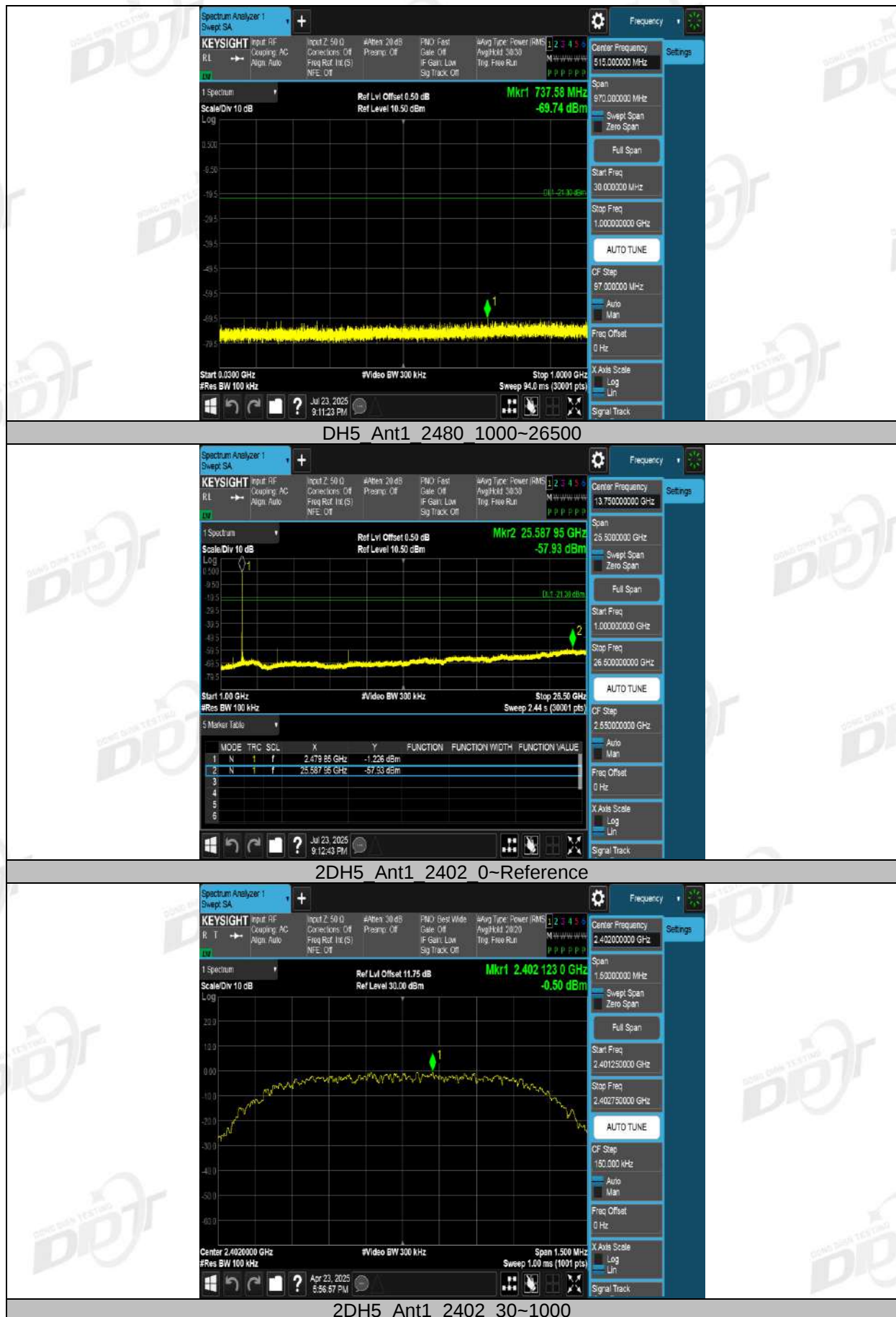
DH5_Ant1_2441_1000~26500

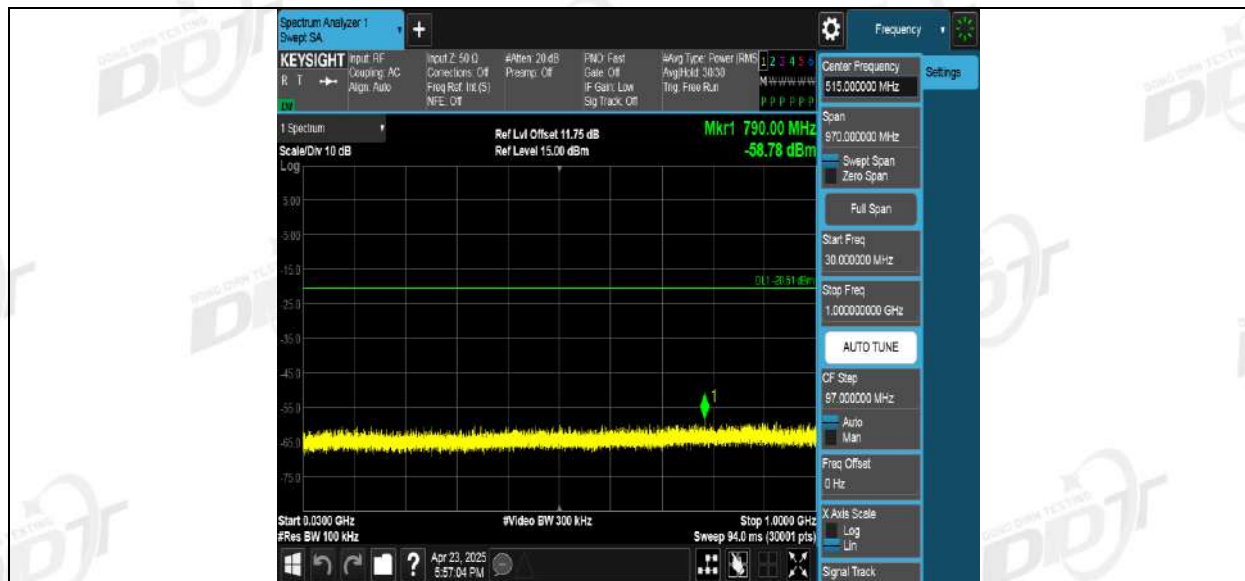


DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000





2DH5_Ant1_2402_1000~26500

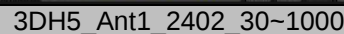
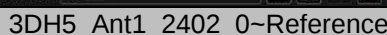
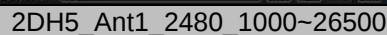


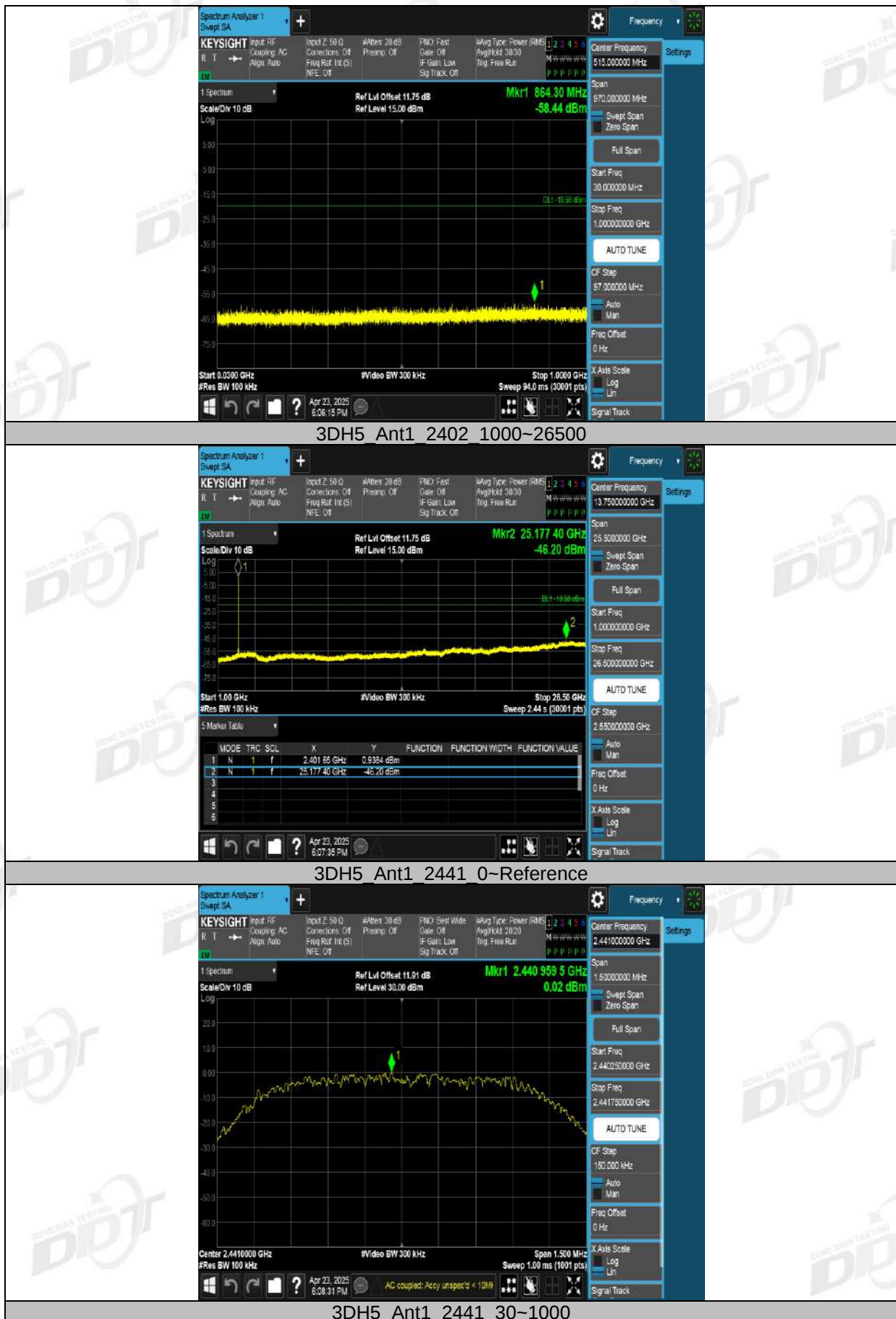
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000







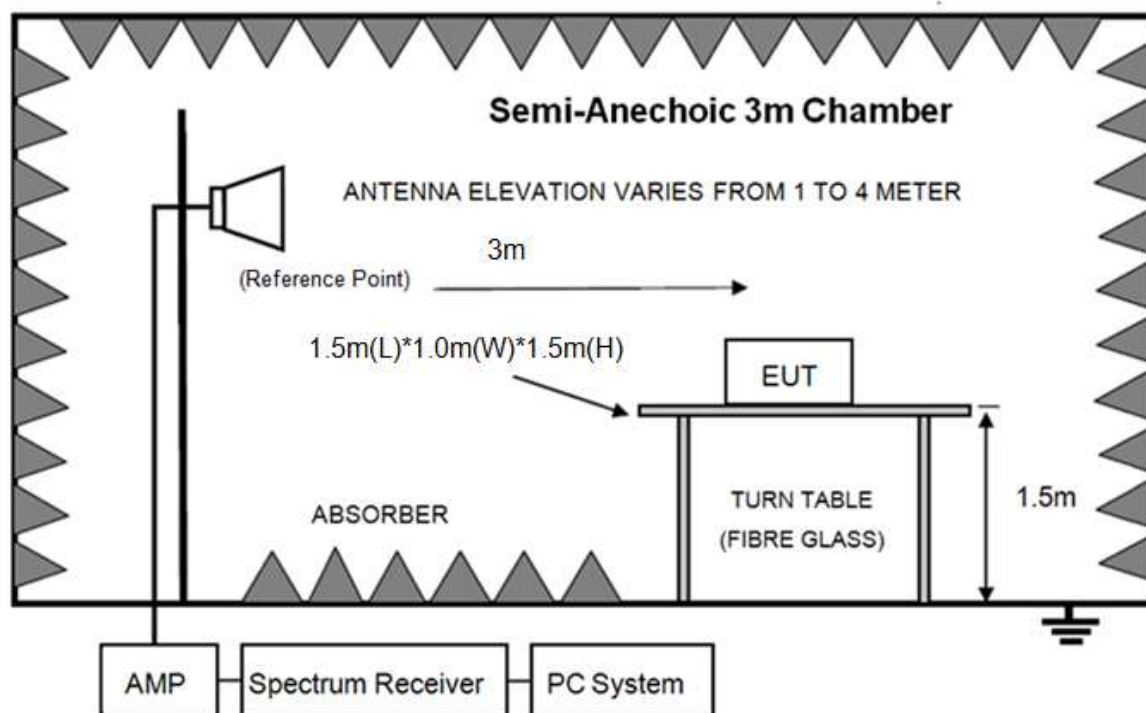




12. Band Edge Compliance (Radiated Method)

Test date	Jun. 07, 2025	Test engineer	Jon Chen	
Climate condition	Ambient temperature	23.6°C	Relative humidity	58.1%
	Atmospheric pressure	100.7kPa		
Test place	Shield Room 1			

12.1. Block diagram of test setup



12.2. Limit

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

12.3. Test Procedure

Same with clause 10.3 except change investigated frequency range from 2310 MHz to 2410 MHz and 2470 MHz to 2500 MHz.

Remark: All restriction band have been tested, and only the worst case is shown in report.

12.4. Test result

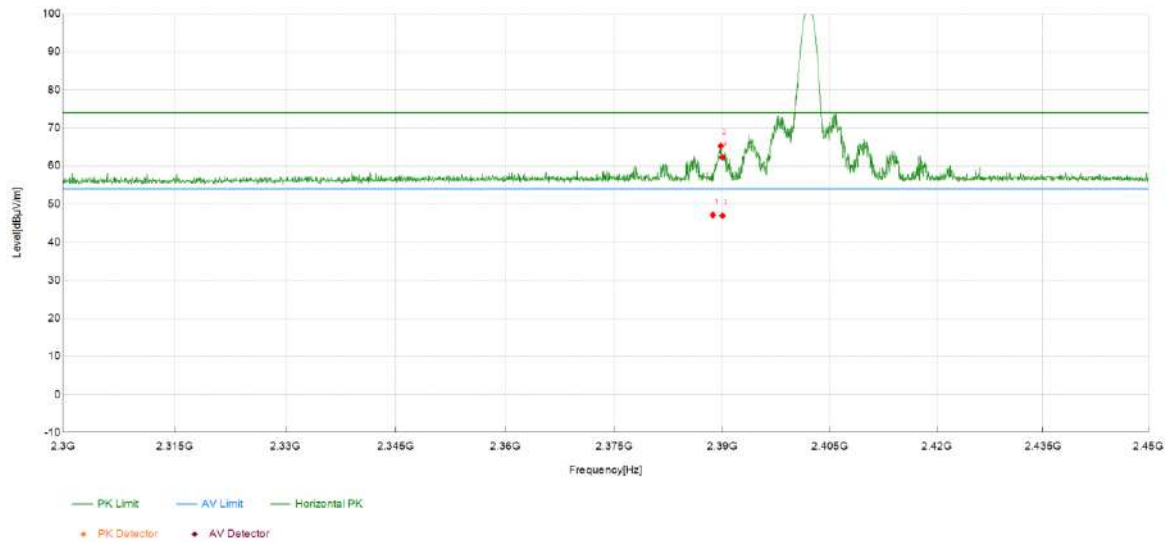
Pass. (See below detailed test result)

Remark: hopping on and hopping off mode all have been test, hopping off mode is worse and reported only. Scan with all side, the worst case is right side recorded in this report.

TR-4-E-009 Radiated Emission Test Result

Mode	Test channel	Ant. Pol.
DH5	2402MHz	Horizontal

Test Graph



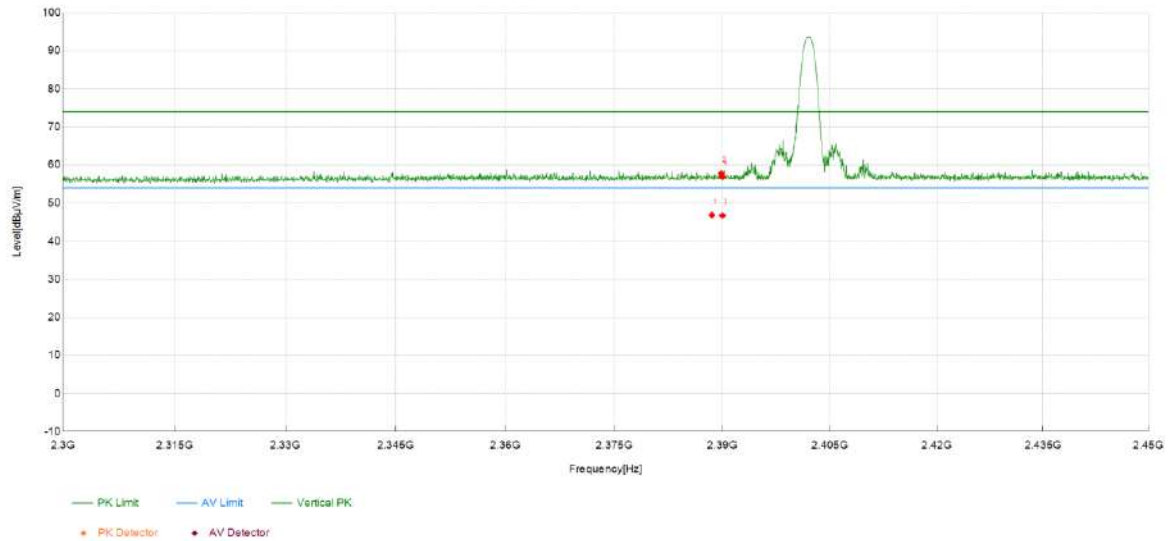
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2388.68	44.56	47.15	2.59	54.00	6.85	AV	H	PASS
2	2389.78	62.65	65.25	2.60	74.00	8.75	PK	H	PASS
3	2390.00	44.39	46.99	2.60	54.00	7.01	AV	H	PASS
4	2390.00	59.65	62.25	2.60	74.00	11.75	PK	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
DH5	2402MHz	Vert

Test Graph



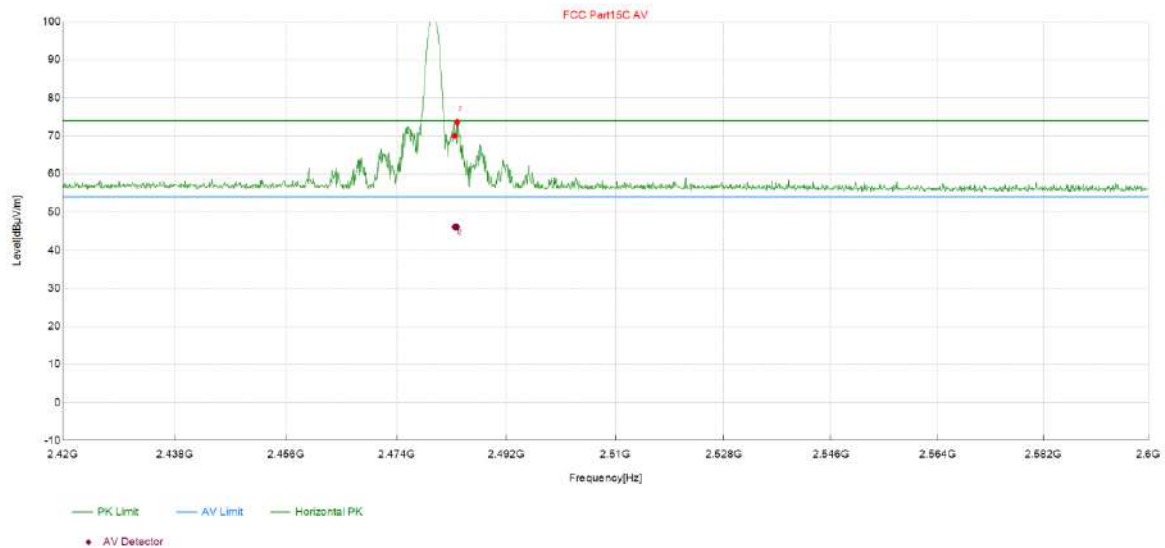
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2388.53	44.30	46.89	2.59	54.00	7.11	AV	V	PASS
2	2389.83	55.23	57.83	2.60	74.00	16.17	PK	V	PASS
3	2390.00	44.18	46.78	2.60	54.00	7.22	AV	V	PASS
4	2390.00	54.32	56.92	2.60	74.00	17.08	PK	V	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
DH5	2480MHz	Horizontal

Test Graph



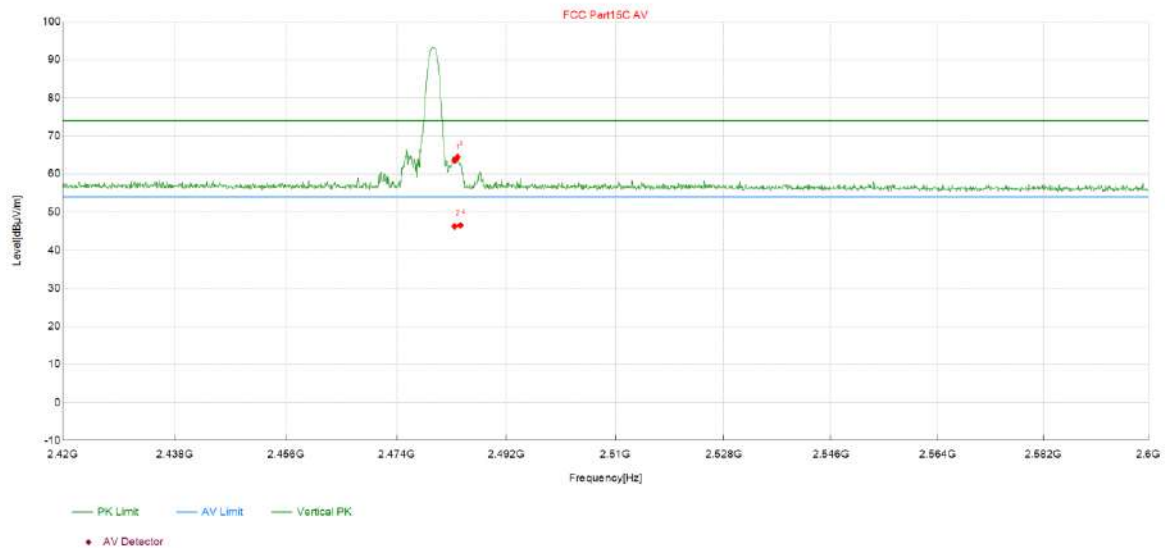
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	67.41	69.99	2.58	74.00	4.01	PK	H	PASS
2	2483.50	43.55	46.13	2.58	54.00	7.87	AV	H	PASS
3	2483.90	70.96	73.54	2.58	74.00	0.46	PK	H	PASS
4	2483.90	43.54	46.12	2.58	54.00	7.88	AV	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
DH5	2480MHz	Vert

Test Graph



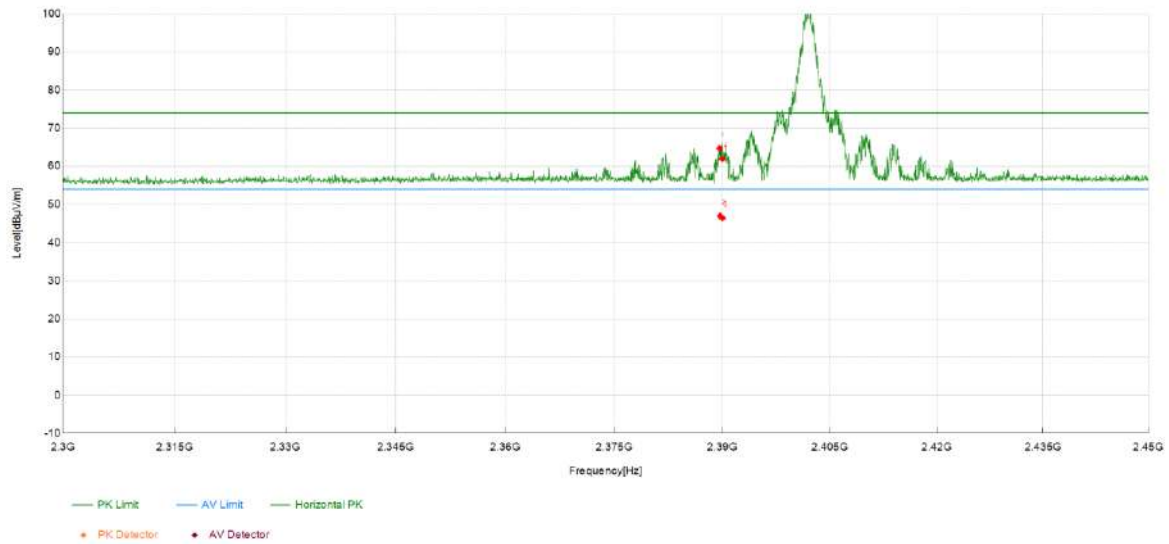
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	60.99	63.57	2.58	74.00	10.43	PK	V	PASS
2	2483.50	43.68	46.26	2.58	54.00	7.74	AV	V	PASS
3	2483.99	61.81	64.39	2.58	74.00	9.61	PK	V	PASS
4	2484.44	43.97	46.55	2.58	54.00	7.45	AV	V	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
2DH5	2402MHz	Horizontal

Test Graph



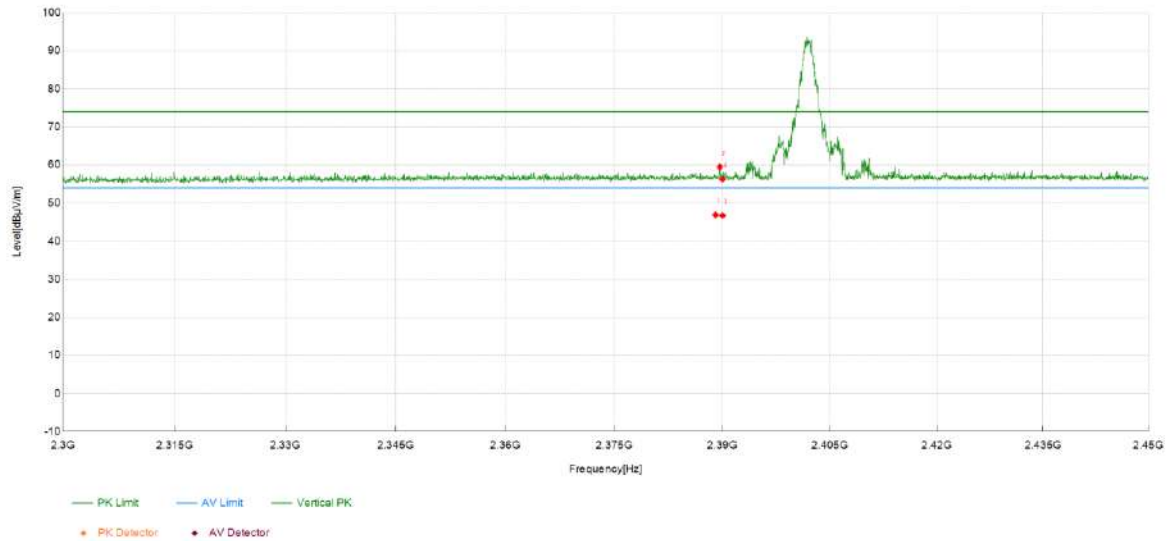
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2389.58	62.06	64.66	2.60	74.00	9.34	PK	H	PASS
2	2389.68	44.40	47.00	2.60	54.00	7.00	AV	H	PASS
3	2390.00	43.85	46.45	2.60	54.00	7.55	PK	H	PASS
4	2390.00	59.29	61.89	2.60	74.00	12.11	AV	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
2DH5	2402MHz	Vert

Test Graph



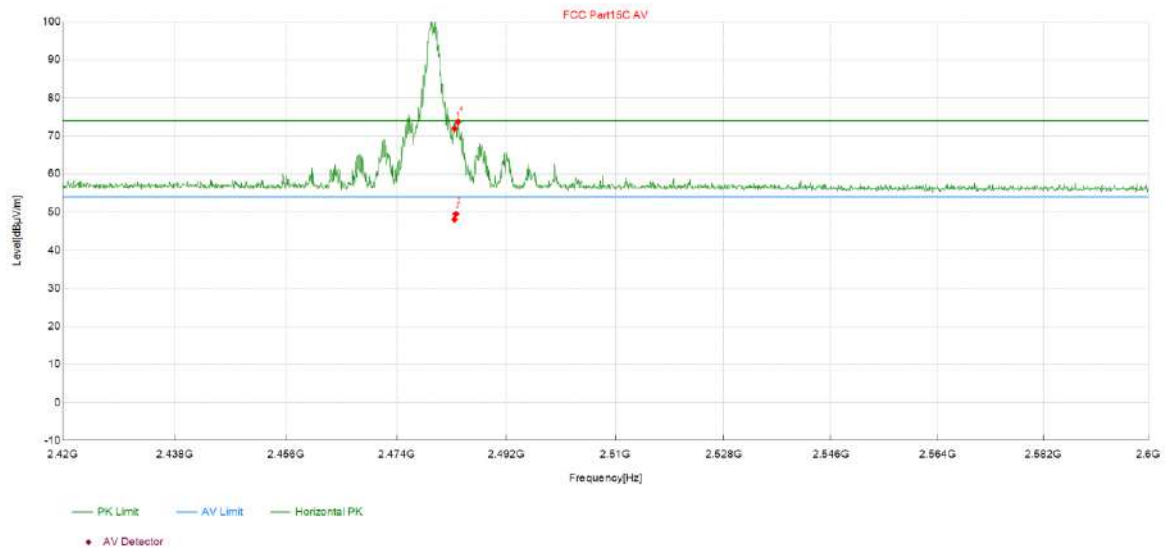
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2389.03	44.35	46.94	2.59	54.00	7.06	AV	V	PASS
2	2389.63	56.85	59.45	2.60	74.00	14.55	PK	V	PASS
3	2390.00	44.18	46.78	2.60	54.00	7.22	AV	V	PASS
4	2390.00	53.71	56.31	2.60	74.00	17.69	PK	V	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
2DH5	2480MHz	Horizontal

Test Graph



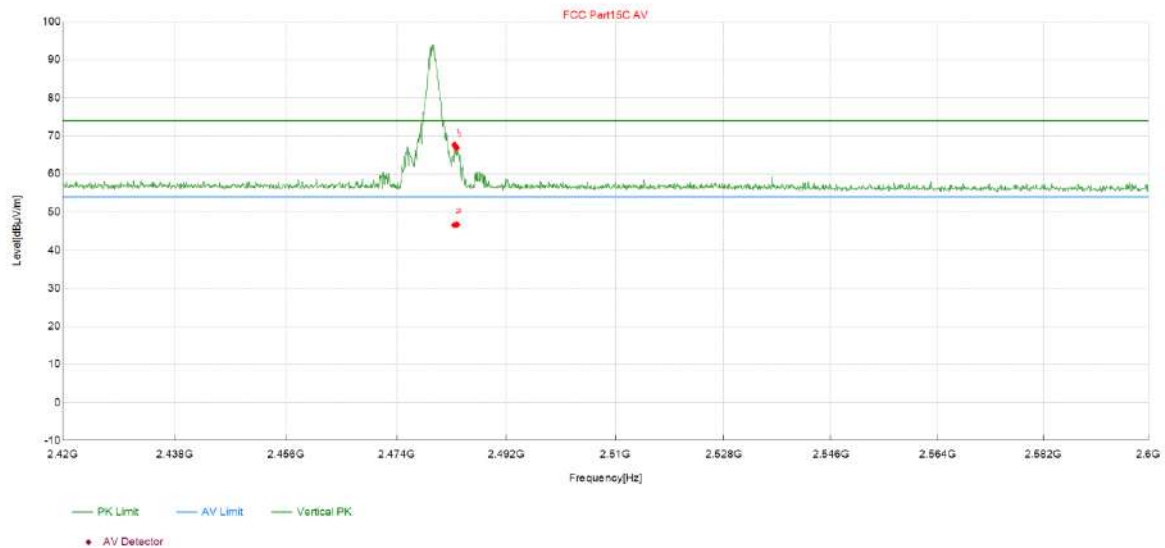
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	69.32	71.90	2.58	74.00	2.10	PK	H	PASS
2	2483.50	45.52	48.10	2.58	54.00	5.90	AV	H	PASS
3	2483.72	46.95	49.53	2.58	54.00	4.47	PK	H	PASS
4	2484.08	71.08	73.66	2.58	74.00	0.34	AV	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
2DH5	2480MHz	Vert

Test Graph



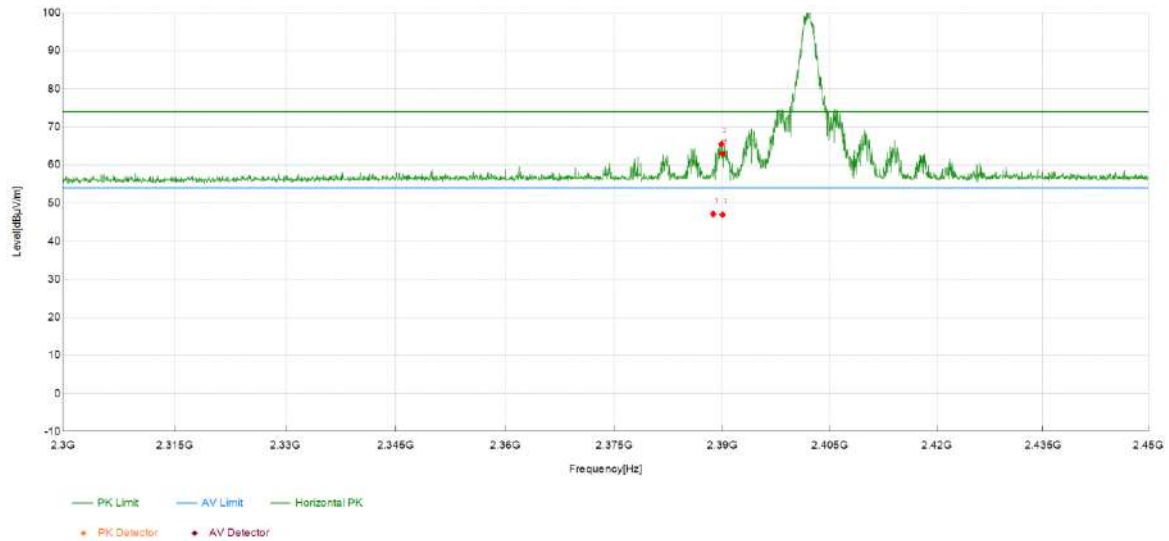
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	65.02	67.60	2.58	74.00	6.40	PK	V	PASS
2	2483.50	44.05	46.63	2.58	54.00	7.37	AV	V	PASS
3	2483.81	64.23	66.81	2.58	74.00	7.19	PK	V	PASS
4	2483.90	44.16	46.74	2.58	54.00	7.26	AV	V	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
3DH5	2402MHz	Horizontal

Test Graph



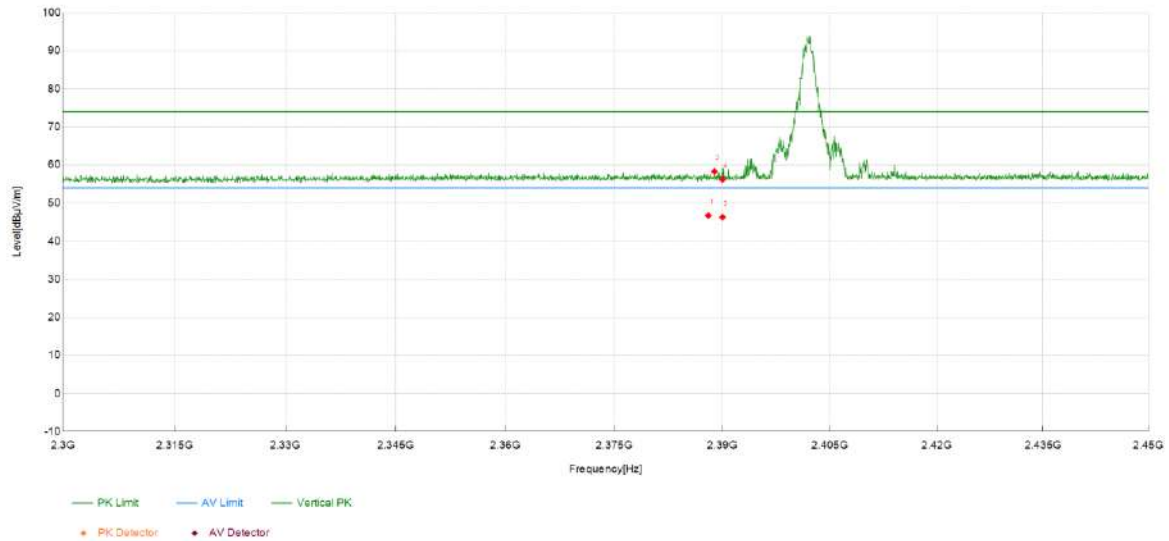
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2388.73	44.59	47.18	2.59	54.00	6.82	AV	H	PASS
2	2389.88	62.87	65.47	2.60	74.00	8.53	PK	H	PASS
3	2390.00	44.39	46.99	2.60	54.00	7.01	AV	H	PASS
4	2390.00	60.29	62.89	2.60	74.00	11.11	PK	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
3DH5	2402MHz	Vert

Test Graph



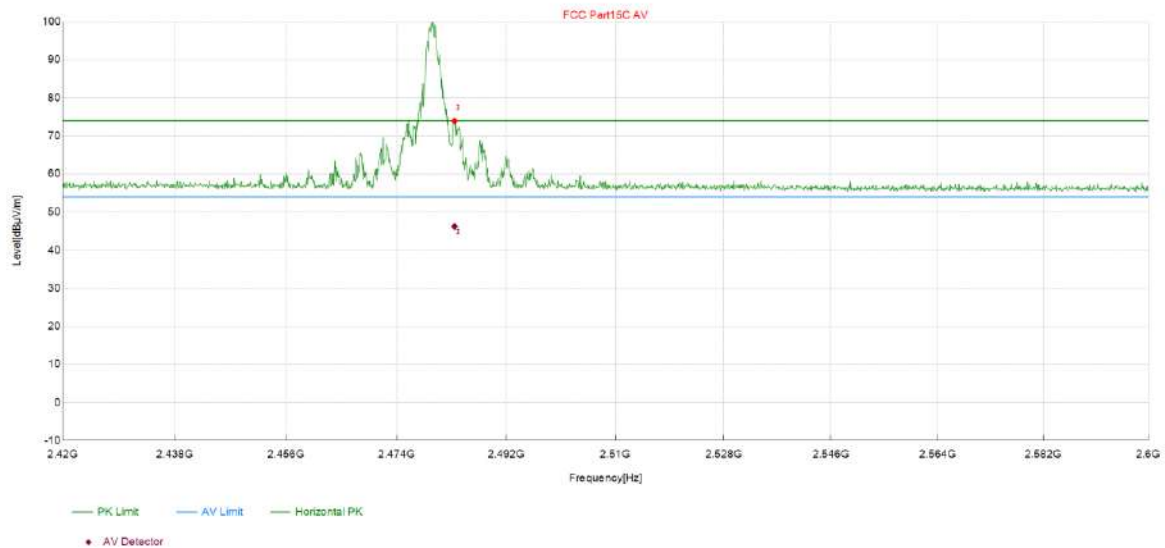
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2388.03	44.17	46.76	2.59	54.00	7.24	AV	V	PASS
2	2388.88	55.72	58.31	2.59	74.00	15.69	PK	V	PASS
3	2390.00	43.71	46.31	2.60	54.00	7.69	AV	V	PASS
4	2390.00	53.62	56.22	2.60	74.00	17.78	PK	V	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
3DH5	2480MHz	Horizontal

Test Graph



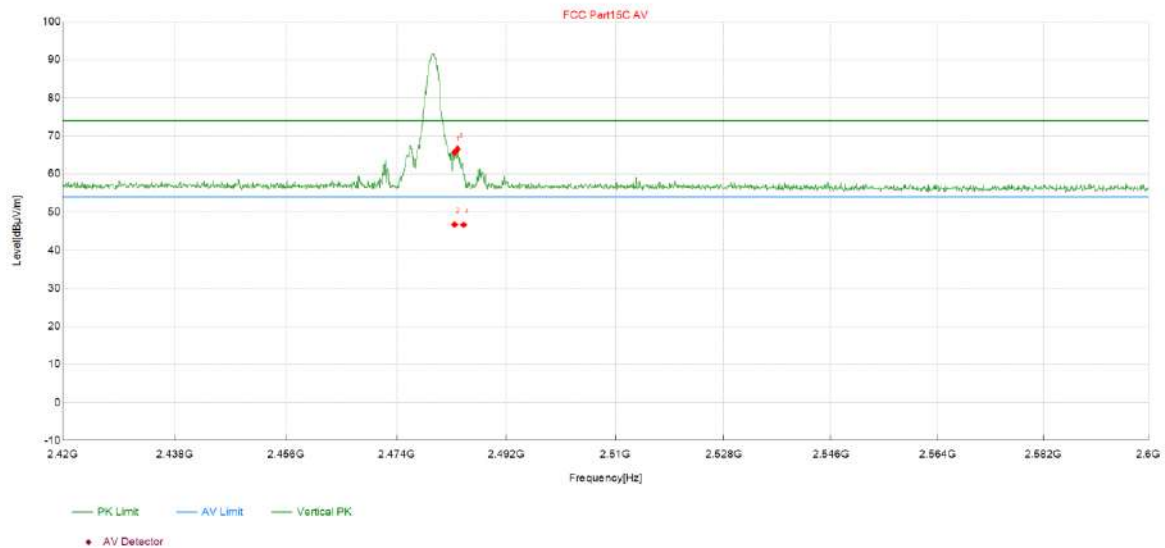
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	71.31	73.89	2.58	74.00	0.11	PK	H	PASS
2	2483.50	43.67	46.25	2.58	54.00	7.75	AV	H	PASS
3	2483.54	71.31	73.89	2.58	74.00	0.11	PK	H	PASS
4	2483.54	43.69	46.27	2.58	54.00	7.73	AV	H	PASS

Note: 1. Result Level = Read Level + Factor.

2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Mode	Test channel	Ant. Pol.
3DH5	2480MHz	Vert

Test Graph



NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Dec	Pol	Verdict
1	2483.50	63.06	65.64	2.58	74.00	8.36	PK	V	PASS
2	2483.50	44.19	46.77	2.58	54.00	7.23	AV	V	PASS
3	2483.99	63.93	66.51	2.58	74.00	7.49	PK	V	PASS
4	2484.98	44.12	46.70	2.58	54.00	7.30	AV	V	PASS

Note: 1. Result Level = Read Level + Factor.

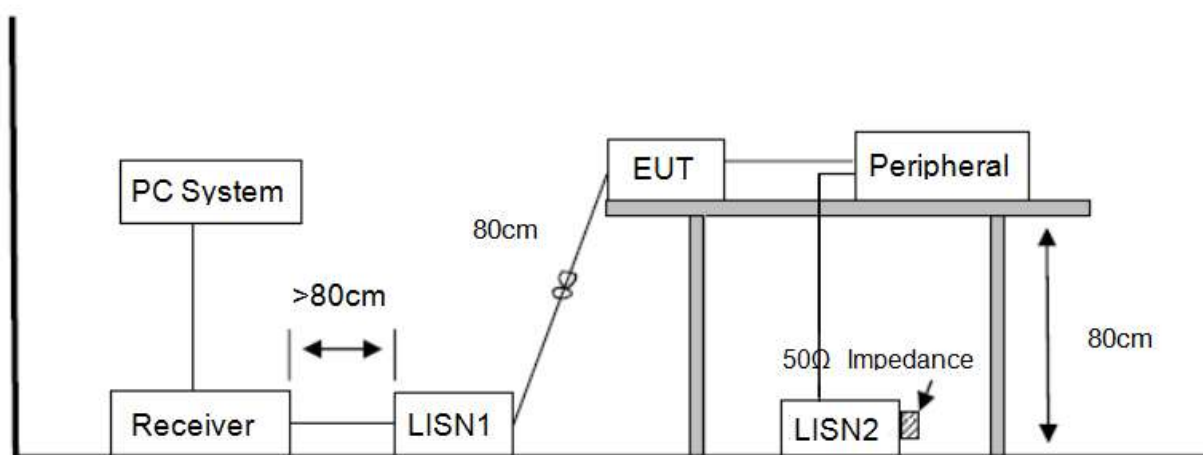
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13. Power Line Conducted Emission

13.1. General Information

Test date	May. 26, 2025	Test engineer	Rachel Wang	
Climate condition	Ambient temperature	21.4°C	Relative humidity	45.1%
	Atmospheric pressure	101.8kPa		
Test place	EMC Room 1#			

13.2. Block diagram of test setup



13.3. Power line conducted emission limits

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

13.4. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

13.5. Test result

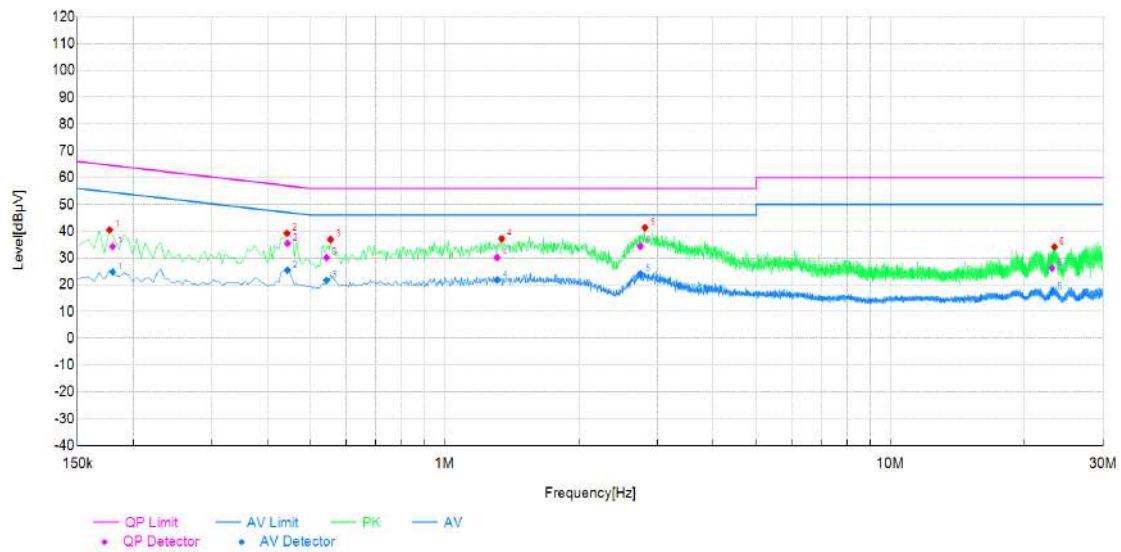
PASS. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: "-----" means Peak detection; "-----" means Average detection.

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz the final test was only performed with EUT working in GFSK, Tx 2402 MHz mode.

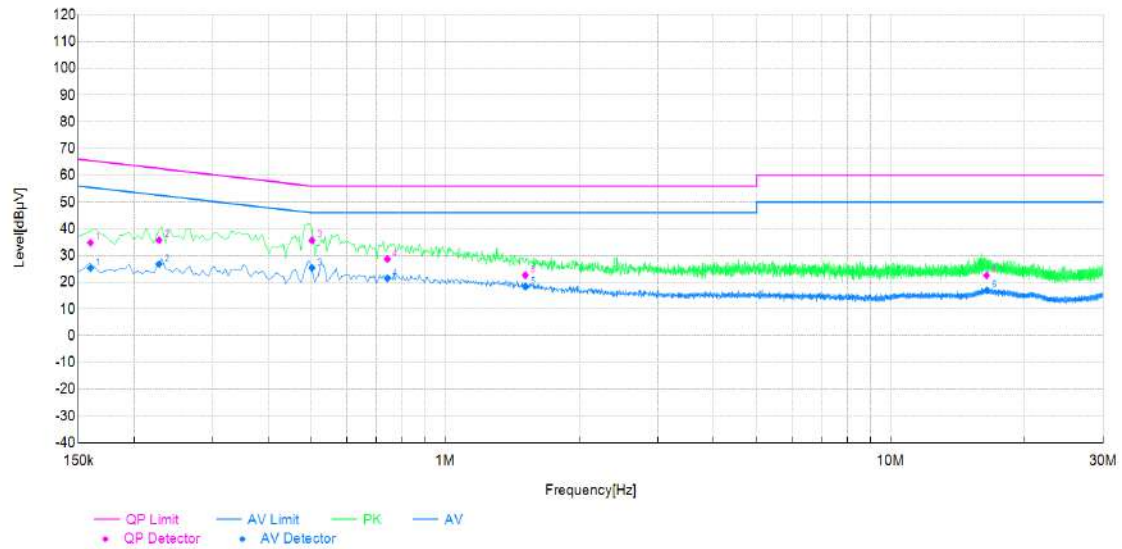
TR-4-E-010 Conducted Emission Test Result



Final Data List

NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Phase	Verdict
1	0.1800	19.18	15.12	34.30	64.49	30.19	5.55	24.73	54.49	29.76	L	PASS
2	0.4437	19.11	16.39	35.50	56.99	21.49	6.29	25.40	46.99	21.59	L	PASS
3	0.5433	19.10	11.04	30.14	56.00	25.86	2.58	21.68	46.00	24.32	L	PASS
4	1.3121	19.11	11.03	30.14	56.00	25.86	2.71	21.82	46.00	24.18	L	PASS
5	2.7493	19.17	15.19	34.36	56.00	21.64	4.86	24.03	46.00	21.97	L	PASS
6	23.0273	20.11	6.05	26.16	60.00	33.84	-2.83	17.28	50.00	32.72	L	PASS

Note: 1. Result Level = Read Level + LISN Factor



Final Data List

NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Phase	Verdict
1	0.1700	19.18	13.04	32.22	64.96	32.74	4.79	23.97	54.96	30.99	N	PASS
2	0.4250	19.12	10.96	30.08	57.35	27.27	4.38	23.50	47.35	23.85	N	PASS
3	0.9786	19.10	10.83	29.93	56.00	26.07	2.38	21.48	46.00	24.52	N	PASS
4	1.8390	19.12	12.13	31.25	56.00	24.75	2.61	21.73	46.00	24.27	N	PASS
5	2.8358	19.17	13.44	32.61	56.00	23.39	2.10	21.27	46.00	24.73	N	PASS
6	5.7162	19.31	6.44	25.75	60.00	34.25	-3.15	16.16	50.00	33.84	N	PASS

Note: 1. Result Level = Read Level + LISN Factor

14. Antenna Requirements

14.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

14.2. Result

The antennas used for this product are integrated antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 2.78 dBi

15. Test Setup Photograph

Please refer to the appendix file

16. Photos of the EUT

Please refer to the appendix file

END OF REPORT