FCC RADIO TEST REPORT

FCC ID	:	**H4ISM2182**
Equipment	:	**Wireless Mouse**
Brand Name	:	**hp**
Model Name	:	**TPA-L005M**
Applicant	:	**LITE-ON Technology Corp. 16F,392, Ruey Kuang Road, Neihu, Taipei 11492, Taiwan.**
Manufacturer	:	**LITE-ON Technology Corp. 16F,392, Ruey Kuang Road, Neihu, Taipei 11492, Taiwan.**
Standard	:	**FCC Part 15 Subpart C §15.249**

The product was received on Jul. 28, 2025 and testing was performed from Aug. 05, 2025 to Aug. 19, 2025. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory
No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

Table of Contents

History of this test report **3**
Summary of Test Result **4**
1 General Description **5**
1.1 Product Feature of Equipment Under Test 5
1.2 Modification of EUT 5
1.3 Testing Location 5
1.4 Applicable Standards 6
2 Test Configuration of Equipment Under Test **7**
2.1 Carrier Frequency Channel 7
2.2 Test Mode 7
2.3 Connection Diagram of Test System 8
2.4 Support Unit used in test configuration and system 9
2.5 EUT Operation Test Setup 9
3 Test Result **10**
3.1 Emission Bandwidth 10
3.2 Radiated Band Edges and Spurious Emission Measurement 11
3.3 AC Conducted Emission Measurement 15
3.4 Antenna Requirements 17
4 List of Measuring Equipment **18**
5 Measurement Uncertainty **20**
Appendix A. Conducted Test Results
Appendix B. AC Conducted Emission Test Result
Appendix C. Radiated Spurious Emission Test Data
Appendix D. Duty Cycle Plots
Appendix E. Setup Photographs

History of this test report

Report No.	Version	Description	Issue Date
FR572506B	01	Initial issue of report	Sep. 11, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	§15.215(c)	Emission Bandwidth	Pass	-
3.2	15.249(a) 15.249(d)	Radiated Band Edges and Spurious Emission	Pass	-
3.3	15.207	AC Conducted Emission	Pass	-
3.4	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”.

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Keven Cheng

Report Producer: Clio Lo

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs Bluetooth-LE and 2.4G SRD. **Antenna Type** 2.4G SRD: Chip Antenna

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	1.85

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	CO05-HY (TAF Code: 1190)
Remark	The AC Conducted Emission test item subcontracted to Sporton International Inc. EMC & Wireless Communications Laboratory.

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	TH05-HY, 03CH20-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW1190 and TW3786

1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.249
- FCC KDB 414788 D01 Radiated Test Site v01r01
- ANSI C63.10-2020

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2405	7	2423
	2	2447	8	2474
	3	2422	9	2408
	4	2473	10	2452
	5	2407	11	2427
	6	2451	12	2476

2.2 Test Mode

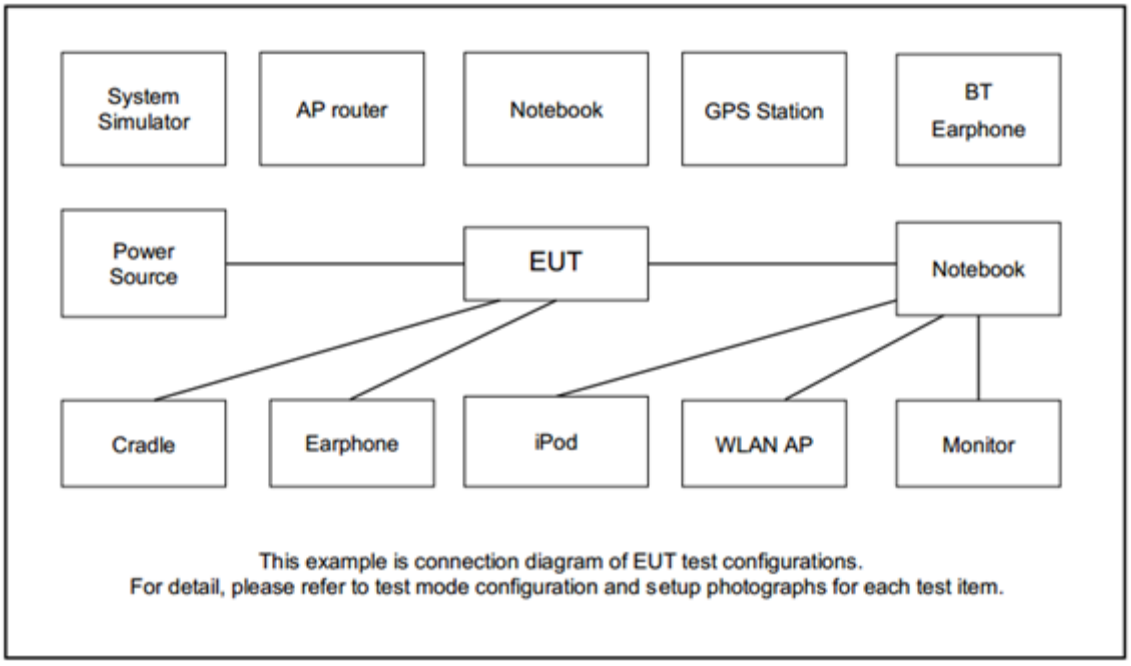
a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

b. AC power line Conducted Emission was tested under maximum output power.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	**Data Rate / Modulation**
Conducted Test Cases	**SRD 2.4GHz / pi/4-DQPSK**
	Mode 1: SRD 2.4GHz Tx CH01_2405 MHz_2Mbps Mode 2: SRD 2.4GHz Tx CH02_2447 MHz_2Mbps Mode 3: SRD 2.4GHz Tx CH12_2476 MHz_2Mbps
AC Conducted Emission	Mode 1 :BLE 1 Idle + SRD Link + USB Cable + Notebook + BLE 2 Idle Mode 2 :BLE 1 Link + SRD on + USB Cable + Notebook + BLE 2 Idle Mode 3 :BLE 1 Idle + SRD on + USB Cable + Notebook + BLE 2 Link
Remark: 1. The worst case of Conducted Emission is mode 3; only the test data of it was reported. 2. The detailed radiated test modes are shown in Appendix C.	

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “SM2182 Mouse RF test procedure” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 Emission Bandwidth

3.1.1 Limit of 20dB and 99% Bandwidth

For reference only.

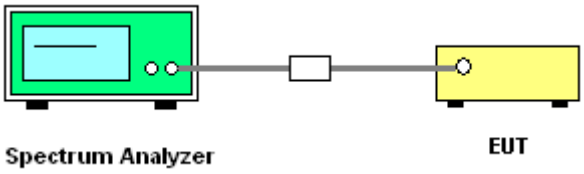
3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3.
2. Enable the EUT transmit continuously under FMCW mode.
3. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
4. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 20dB Bandwidth

Please refer to Appendix A.

3.1.6 Test Result of 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Radiated Band Edges and Spurious Emission Measurement

3.2.1 Limit of Radiated Band Edges and Spurious Emission

The field strength measured at 3 meters shall not exceed the limits in the following table:

Rules and specifications	FCC CFR 47 Part 15 section 15.249	
Description	Field strength of fundamental	
2400-2483.5 (MHz)	Fundamental emissions (millivolts/meter) at 3m	Fundamental emissions (dBμV/m) at 3m
Average limits	50	94
Peak limits	-	114
Description	**Field strength of harmonics**	
2400-2483.5 (MHz)	Fundamental emissions (microvolts/meter) at 3m	Harmonic emissions (dBμV/m) at 3m
Average limits	500	54
Peak limits	-	74

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

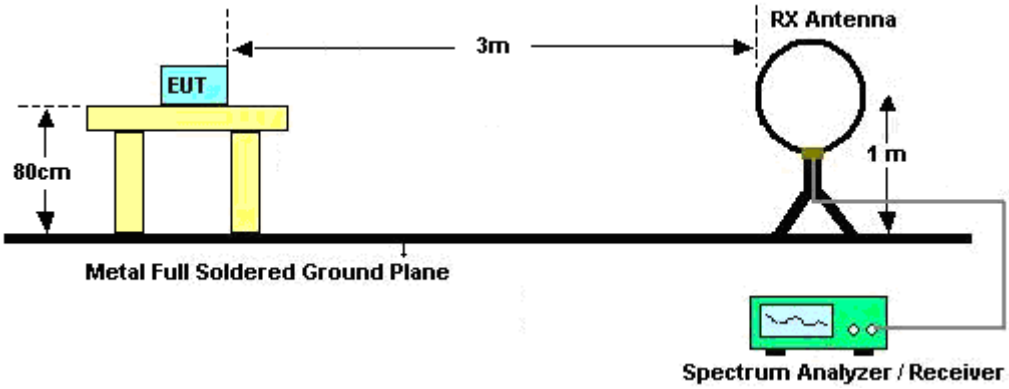
3.2.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as "-".
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW = 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW = 3 MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

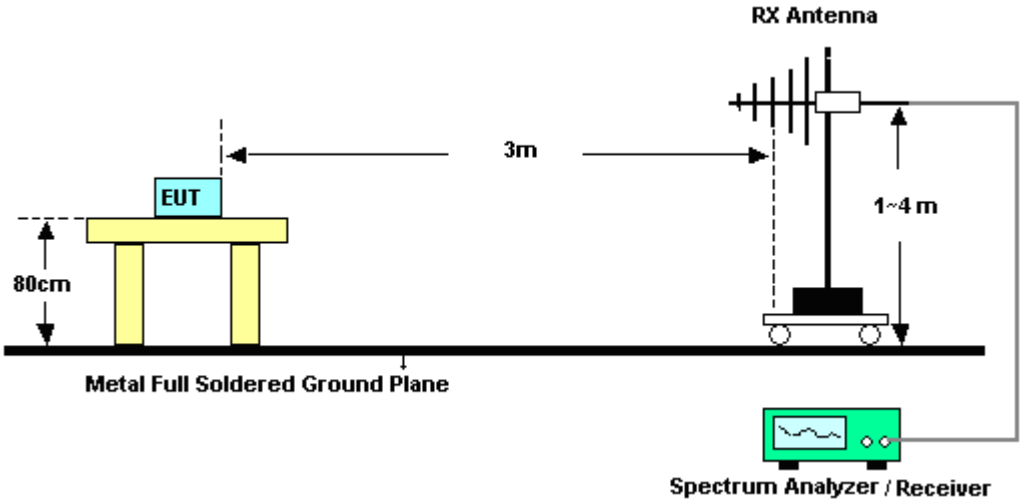
   Note: The average levels are calculated from the peak level corrected with duty cycle correction factor (-12.08dB) derived from 20log (Duty cycle). This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

3.2.4 Test Setup

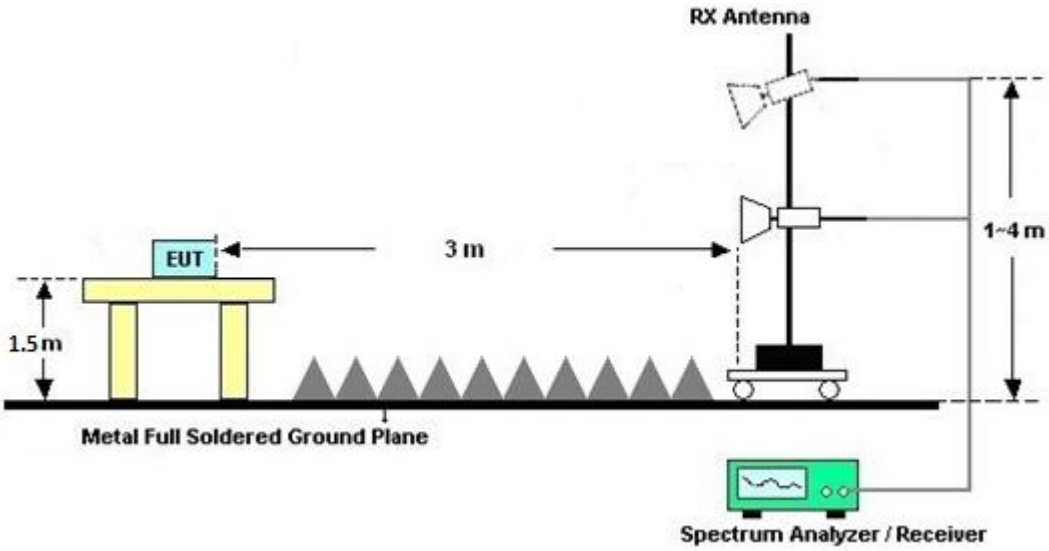
For radiated test below 30MHz



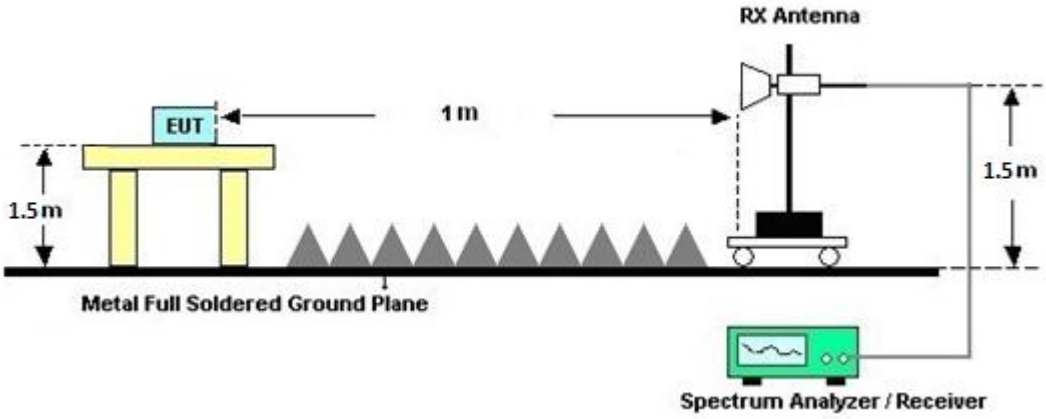
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.2.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result comes out very similar.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.2.7 Duty Cycle

Please refer to Appendix D.

3.2.8 Test Result of Radiated Spurious Emission (30 MHz ~ 10th Harmonic)

Please refer to Appendix C.

3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

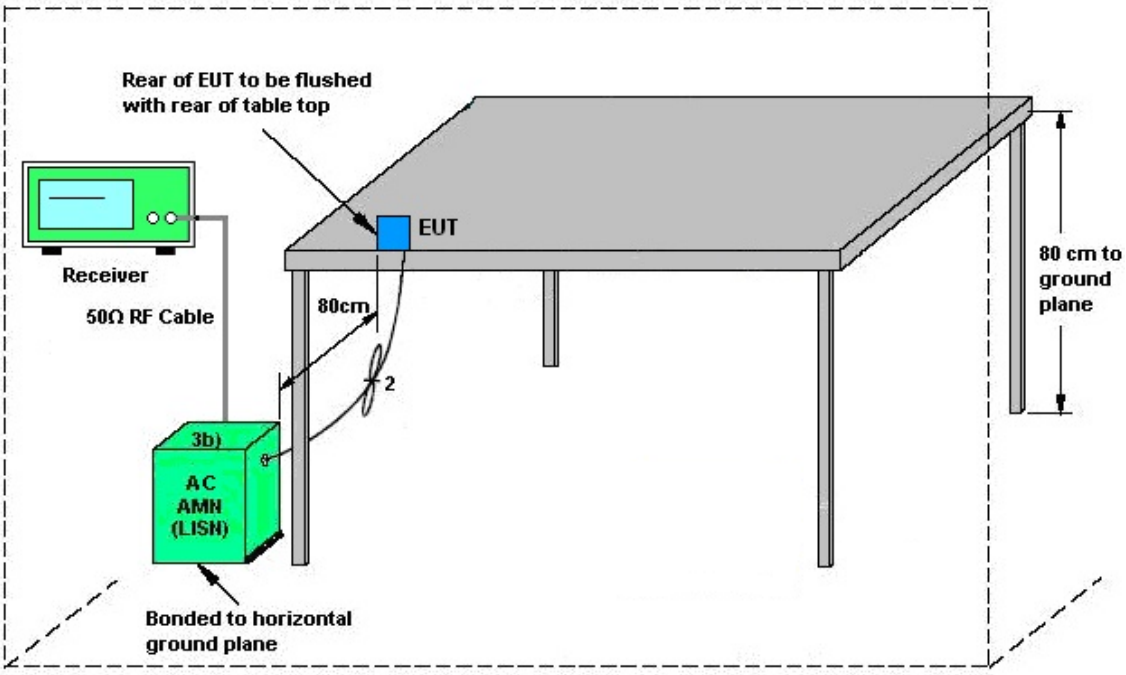
3.3.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.3.3 Test Procedures

1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
7. The frequency range from 150 kHz to 30 MHz is scanned.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.3.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.4 Antenna Requirements

3.4.1 Standard Applicable

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.4.2 Antenna Anti-Replacement Construction

Antenna permanently attached.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	N/A	Oct. 16, 2024	Aug. 18, 2025~ Aug. 19, 2025	Oct. 15, 2025	Radiation (03CH20-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug. 29, 2024	Aug. 18, 2025~ Aug. 19, 2025	Aug. 28, 2025	Radiation (03CH20-HY)
Preamplifier	EMEC	EM18G40G	060871	18GHz~40GHz	Aug. 23, 2024	Aug. 18, 2025~ Aug. 19, 2025	Aug. 22, 2025	Radiation (03CH20-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Aug. 18, 2025~ Aug. 19, 2025	N/A	Radiation (03CH20-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 18, 2025~ Aug. 19, 2025	N/A	Radiation (03CH20-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 18, 2025~ Aug. 19, 2025	N/A	Radiation (03CH20-HY)
Signal Analyzer	Keysight	N9010B	MY60240520	N/A	Dec. 09, 2024	Aug. 18, 2025~ Aug. 19, 2025	Dec. 08, 2025	Radiation (03CH20-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800N 1D01N-06	55606 & 08	30MHz~1GHz	Nov. 27, 2024	Aug. 18, 2025~ Aug. 19, 2025	Nov. 26, 2025	Radiation (03CH20-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	02360	1GHz-18GHz	Nov. 01, 2024	Aug. 18, 2025~ Aug. 19, 2025	Oct. 31, 2025	Radiation (03CH20-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	1223	18GHz-40GHz	Jul. 02, 2025	Aug. 18, 2025~ Aug. 19, 2025	Jul. 01, 2026	Radiation (03CH20-HY)
Preamplifier	COM-POWER	PAM-103	18020201	1MHz-1000MHz	Dec. 31, 2024	Aug. 18, 2025~ Aug. 19, 2025	Dec. 30, 2025	Radiation (03CH20-HY)
Amplifier	EMCI	EMC118A45SE	980792	N/A	Nov. 12, 2024	Aug. 18, 2025~ Aug. 19, 2025	Nov. 11, 2025	Radiation (03CH20-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519229/2,804 015/2,804027 /2	N/A	Jan. 16, 2025	Aug. 18, 2025~ Aug. 19, 2025	Jan. 15, 2026	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303A	TP211382	N/A	Mar. 31, 2025	Aug. 18, 2025~ Aug. 19, 2025	Mar. 30, 2026	Radiation (03CH20-HY)
Software	Audix	N/A	RK-002156	N/A	N/A	Aug. 18, 2025~ Aug. 19, 2025	N/A	Radiation (03CH20-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 01, 2024	Aug. 07, 2025~ Aug. 19, 2025	Oct. 31, 2025	Conducted (TH05-HY)
Power Sensor	DARE	RPR3008W	RPR8W-2301 0013 (NO:100)	10MHz~8GHz	Jul. 18, 2025	Aug. 07, 2025~ Aug. 19, 2025	Jul. 17, 2026	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101467	10HZ~44GHZ	Jan. 14, 2025	Aug. 07, 2025~ Aug. 19, 2025	Jan. 13, 2026	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_v ersion_240513	N/A	Conducted Other Test Item	N/A	Aug. 07, 2025~ Aug. 19, 2025	N/A	Conducted (TH05-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Aug. 05, 2025	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Dec. 10, 2024	Aug. 05, 2025	Dec. 09, 2025	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Oct. 14, 2024	Aug. 05, 2025	Oct. 13, 2025	Conduction (CO05-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	9kHz~30MHz	Mar. 26, 2025	Aug. 05, 2025	Mar. 25, 2026	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Jul. 25, 2025	Aug. 01, 2025	Jul. 24, 2026	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32	N/A	N/A	N/A	Aug. 05, 2025	N/A	Conduction (CO05-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	00691	N/A	Jul. 29, 2025	Aug. 05, 2025	Jul. 28, 2026	Conduction (CO05-HY)
LISN Cable	MVE	RG-400	MQT24082501	9KHz - 30MHz	Oct. 15, 2024	Aug. 05, 2025	Oct. 14, 2025	Conduction (CO05-HY)

5 Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.7 dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.7 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.4 dB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.6 dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.7 dB

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Bryant Liu	Temperature:	21~25	°C
Test Date:	2025/08/07 ~ 2025/08/19	Relative Humidity:	51~54	%

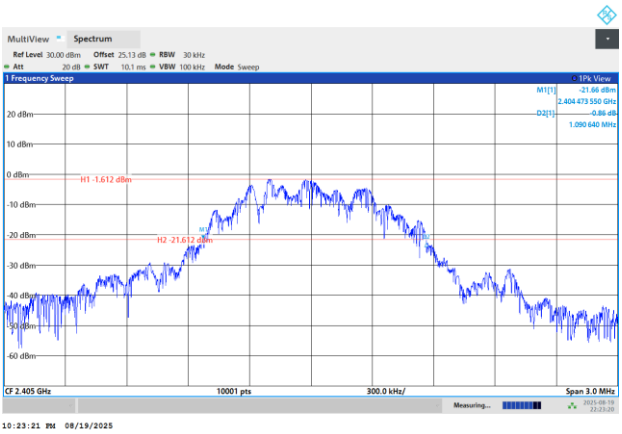
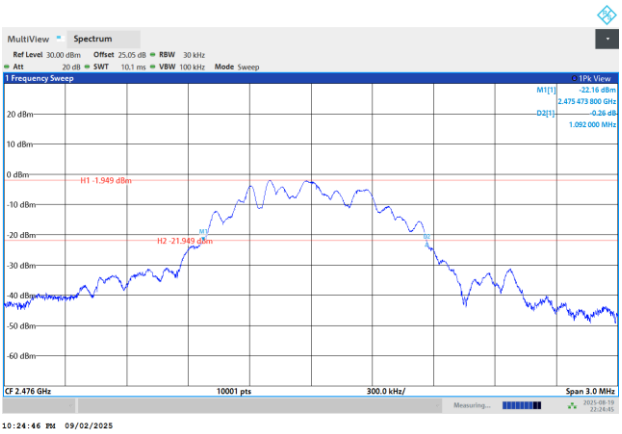
TEST RESULTS DATA
20dB and 99% Occupied Bandwidth

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	99% Occupied BW (MHz)	20dB BW (MHz)
SRD GFSK	2Mbps	1	1	2405	1.023	1.091
SRD GFSK	2Mbps	1	2	2447	1.022	1.089
SRD GFSK	2Mbps	1	12	2476	1.022	1.092

Number of TX = 1, Ant. 1 (Measured)

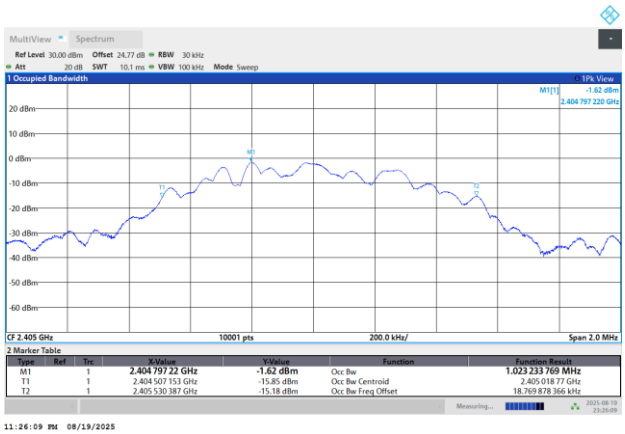
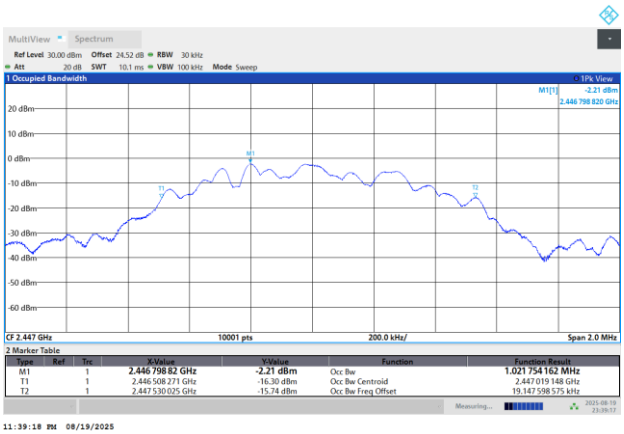
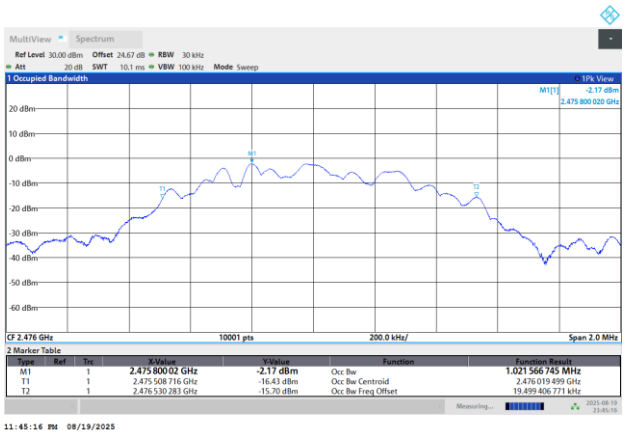
20dB Bandwidth

<1M>

20 dB Bandwidth Plot in Channel 1	20 dB Bandwidth Plot in Channel 2
	
20 dB Bandwidth Plot in Channel 12	
	

99% Occupied Bandwidth

<1M>

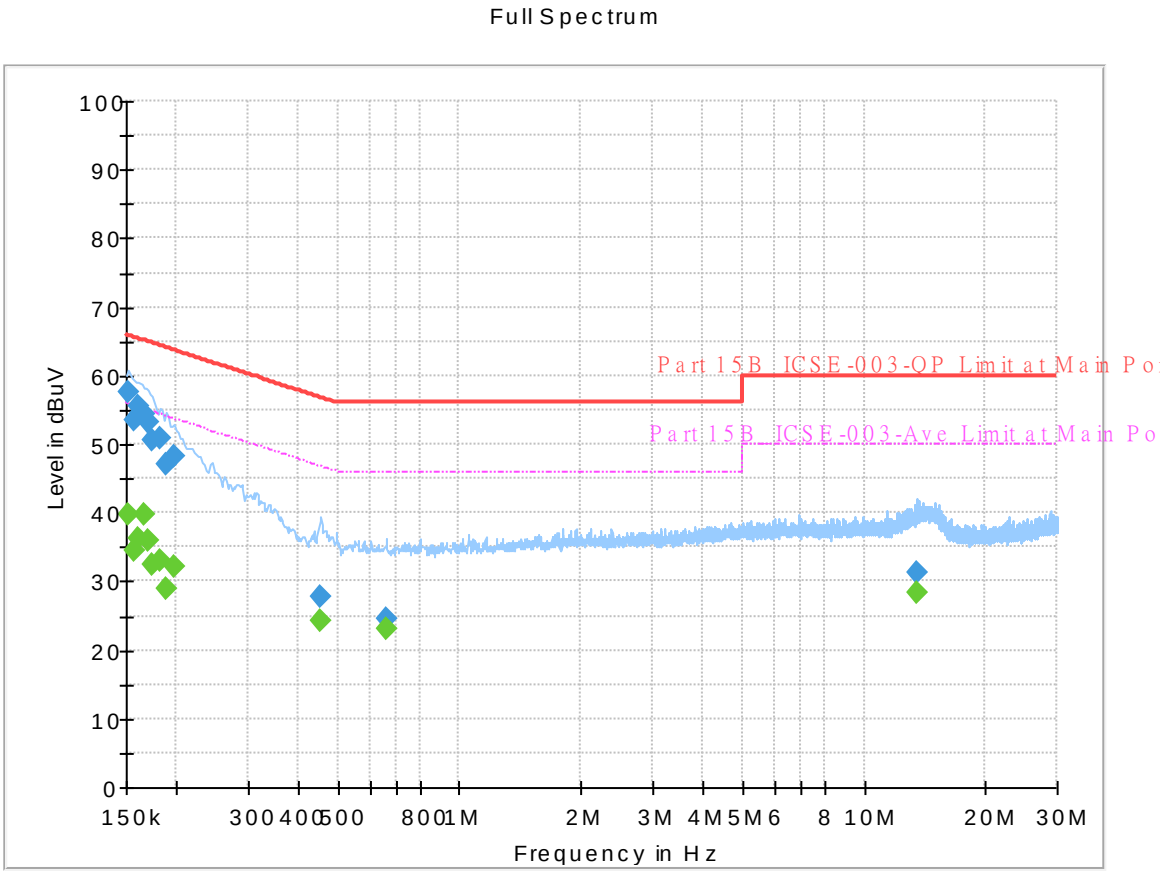
99% Occupied Bandwidth Plot on Channel 1	99% Occupied Bandwidth Plot on Channel 2
	
99% Occupied Bandwidth Plot on Channel 12	
	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Brian Chen	**Temperature :**	23~26℃
		Relative Humidity :	45~55%

EUT Information

Report NO :	572506
Test Mode :	Mode 3
Test Voltage :	Power From System
Phase :	Line



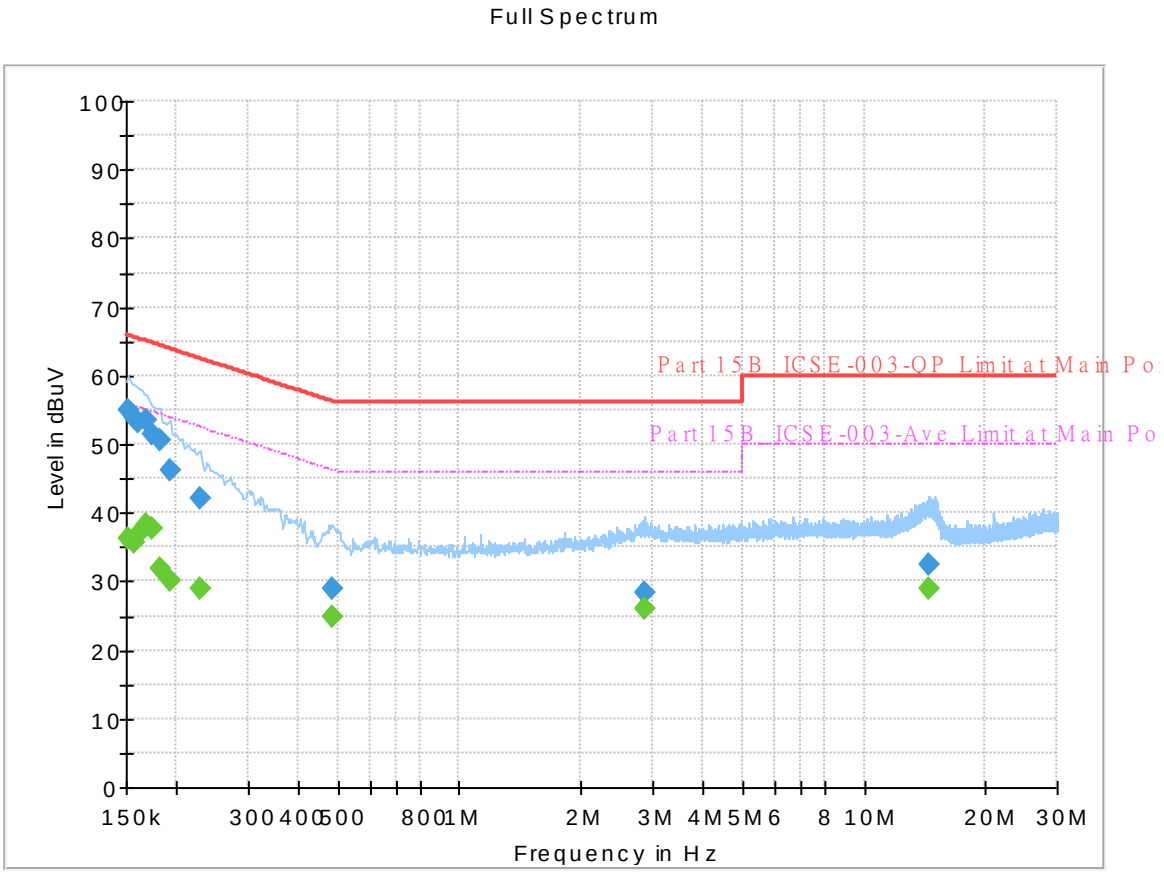
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	39.85	55.88	16.03	L1	OFF	19.7
0.152250	57.46	---	65.88	8.42	L1	OFF	19.7
0.156750	---	34.48	55.63	21.15	L1	OFF	19.7
0.156750	53.51	---	65.63	12.12	L1	OFF	19.7
0.161250	---	36.16	55.40	19.24	L1	OFF	19.7
0.161250	55.54	---	65.40	9.86	L1	OFF	19.7
0.165750	---	39.62	55.17	15.55	L1	OFF	19.7
0.165750	54.48	---	65.17	10.69	L1	OFF	19.7
0.170250	---	35.92	54.95	19.03	L1	OFF	19.7
0.170250	53.29	---	64.95	11.66	L1	OFF	19.7
0.174750	---	32.42	54.73	22.31	L1	OFF	19.7
0.174750	50.68	---	64.73	14.05	L1	OFF	19.7
0.181500	---	33.18	54.42	21.24	L1	OFF	19.7
0.181500	50.75	---	64.42	13.67	L1	OFF	19.7
0.188250	---	28.85	54.11	25.26	L1	OFF	19.7
0.188250	46.98	---	64.11	17.13	L1	OFF	19.7
0.197250	---	32.08	53.73	21.65	L1	OFF	19.7
0.197250	48.24	---	63.73	15.49	L1	OFF	19.7
0.453750	---	24.14	46.81	22.67	L1	OFF	19.7
0.453750	27.66	---	56.81	29.15	L1	OFF	19.7
0.658500	---	23.16	46.00	22.84	L1	OFF	19.8

0.658500	**24.65**	**---**	**56.00**	**31.35**	**L1**	**OFF**	**19.8**
13.479000	**---**	**28.33**	**50.00**	**21.67**	**L1**	**OFF**	**20.5**
13.479000	**31.37**	**---**	**60.00**	**28.63**	**L1**	**OFF**	**20.5**

EUT Information

Report NO :	572506
Test Mode :	Mode 3
Test Voltage :	Power From System
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	36.19	55.88	19.69	N	OFF	19.7
0.152250	54.90	---	65.88	10.98	N	OFF	19.7
0.156750	---	35.70	55.63	19.93	N	OFF	19.7
0.156750	53.92	---	65.63	11.71	N	OFF	19.7
0.161250	---	36.74	55.40	18.66	N	OFF	19.7
0.161250	53.21	---	65.40	12.19	N	OFF	19.7
0.168000	---	38.43	55.06	16.63	N	OFF	19.7
0.168000	53.59	---	65.06	11.47	N	OFF	19.7
0.174750	---	37.85	54.73	16.88	N	OFF	19.7
0.174750	51.47	---	64.73	13.26	N	OFF	19.7
0.181500	---	31.95	54.42	22.47	N	OFF	19.7
0.181500	50.51	---	64.42	13.91	N	OFF	19.7
0.192750	---	29.98	53.92	23.94	N	OFF	19.7
0.192750	46.31	---	63.92	17.61	N	OFF	19.7
0.228750	---	28.91	52.50	23.59	N	OFF	19.7
0.228750	41.99	---	62.50	20.51	N	OFF	19.7
0.485250	---	24.86	46.25	21.39	N	OFF	19.7
0.485250	29.06	---	56.25	27.19	N	OFF	19.7
2.856750	---	25.89	46.00	20.11	N	OFF	19.9
2.856750	28.45	---	56.00	27.55	N	OFF	19.9
14.502750	---	28.98	50.00	21.02	N	OFF	20.5

14.502750	**32.32**	**---**	**60.00**	**27.68**	**N**	**OFF**	**20.5**

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	John Chuang, David Dai and Sam Chou	**Temperature :**	19.8~22.5°C
		Relative Humidity :	64.9~70.3%

Note symbol

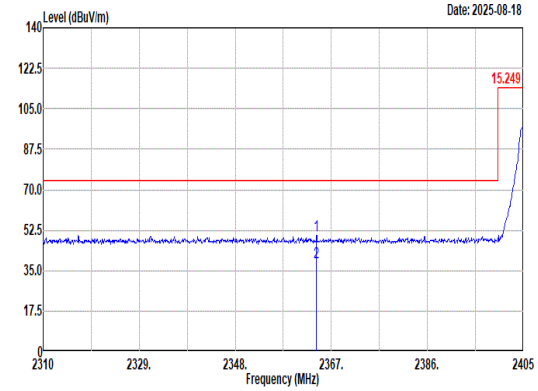
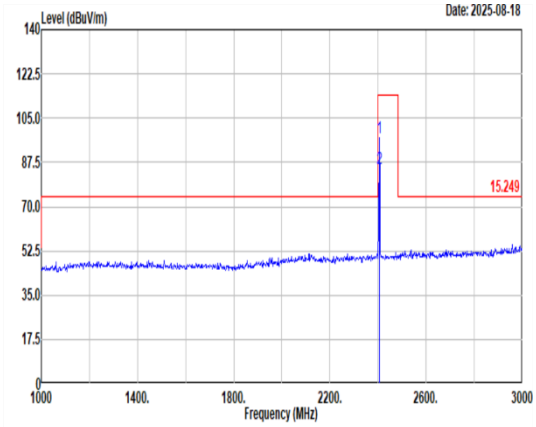
-L	**Low channel location**
-R	**High channel location**

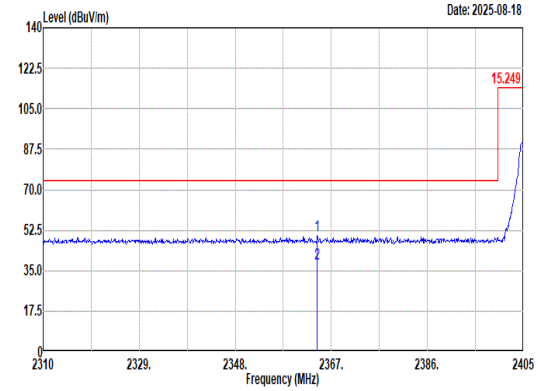
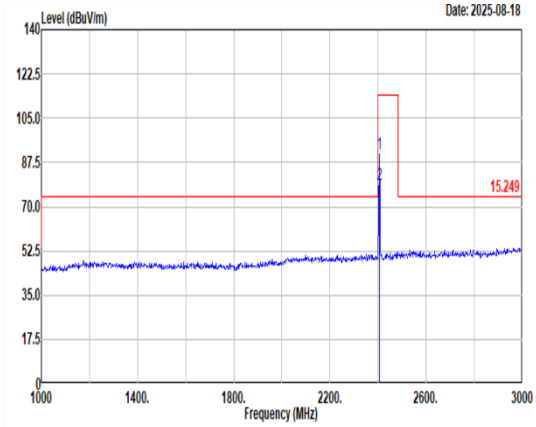
C1.Radiated Spurious Emission Test Modes

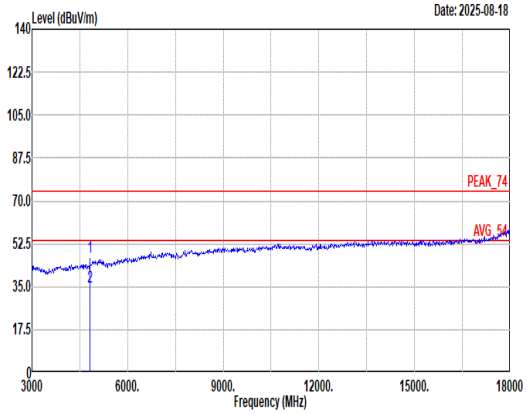
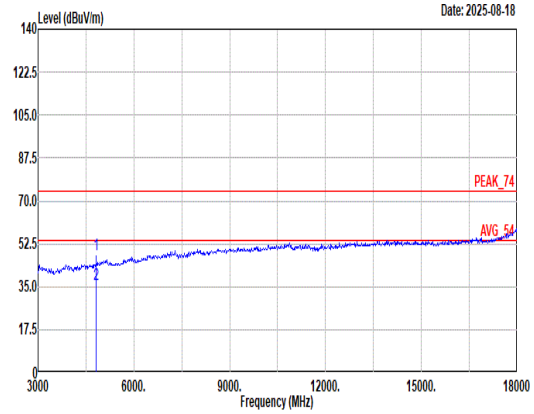
Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	1	SRD GSFK	01	2405	2Mbps	-	-
Mode 2	2400-2483.5	1	SRD GSFK	02	2447	2Mbps	-	-
Mode 3	2400-2483.5	1	SRD GSFK	12	2476	2Mbps	-	-
Mode 4	2400-2483.5	1	SRD GSFK	12	2476	2Mbps	-	LF
Mode 5	2400-2483.5	1	SRD GSFK	12	2476	2Mbps	-	SHF

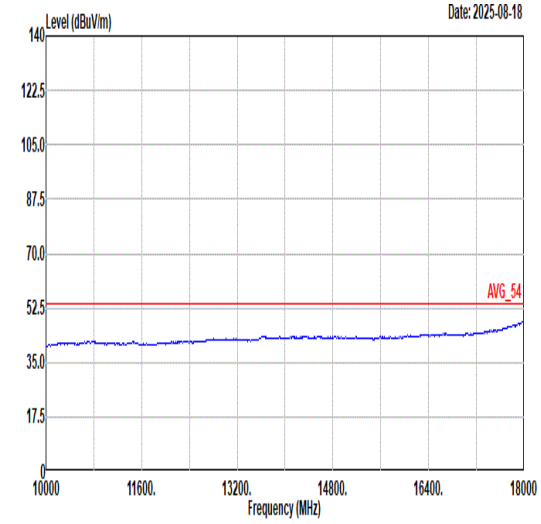
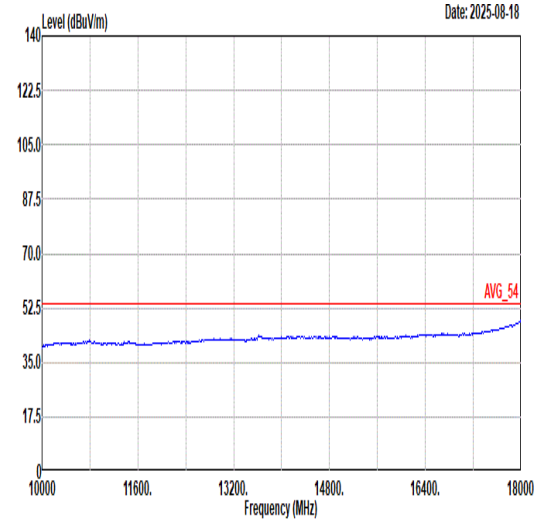
C2.Summary of each worse mode

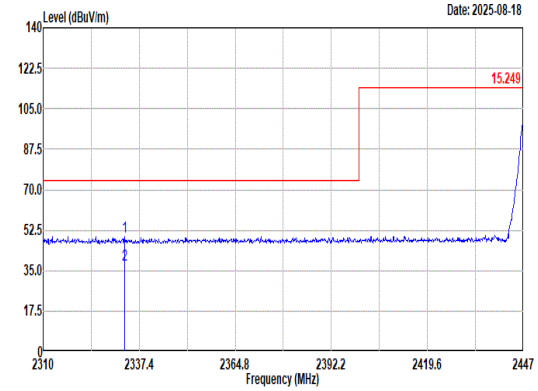
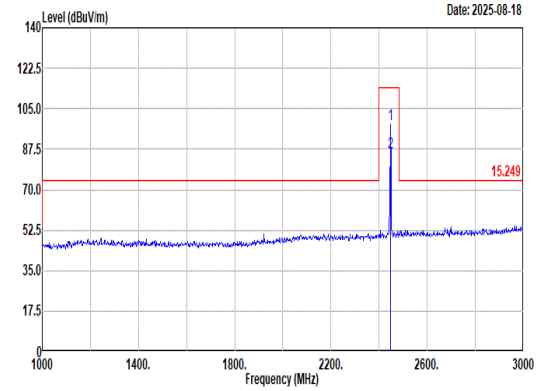
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
1	SRD GSFK	01	2364.06	38.33	54.00	-15.67	H	Avg.	Pass	-	Band Edge
	SRD GSFK	01	4810.00	36.09	54.00	-17.91	V	Avg.	Pass	-	Harmonic
2	SRD GSFK	02	2489.72	38.39	54.00	-15.61	V	Avg.	Pass	-	Band Edge
	SRD GSFK	02	4894.00	37.40	54.00	-16.60	H	Avg.	Pass	-	Harmonic
3	SRD GSFK	12	2484.28	38.87	54.00	-15.13	H	Avg.	Pass	-	Band Edge
	SRD GSFK	12	4952.00	39.27	54.00	-14.73	H	Avg.	Pass	-	Harmonic
4	LF	12	954.41	35.52	46.00	-10.48	H	Peak	Pass	-	LF
5	SHF	12	24937.00	40.84	74.00	-33.16	H	Peak	Pass	-	SHF

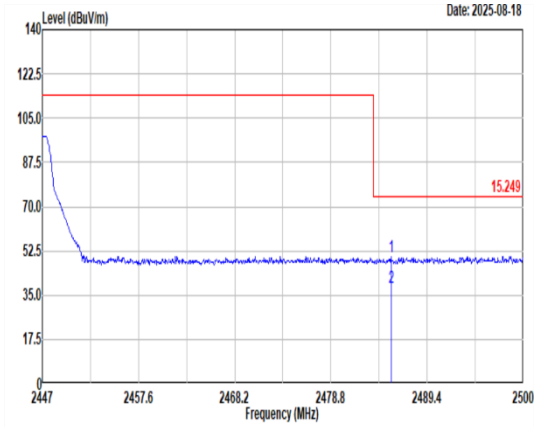
Mode	1	
	Band Edge	
	2400-2483.5_SRD GSFK_CH01_2405MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2364.06 50.41 74.00 -23.59 41.12 27.30 8.57 36.26 9.68 275 12 Peak 2 2364.06 38.33 54.00 -15.67 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2405.00 97.17 114.00 -16.83 87.66 27.45 8.65 36.27 9.68 275 12 Peak 2 2405.00 85.09 94.00 -8.91 -- -- -- -- -- -- -- Average

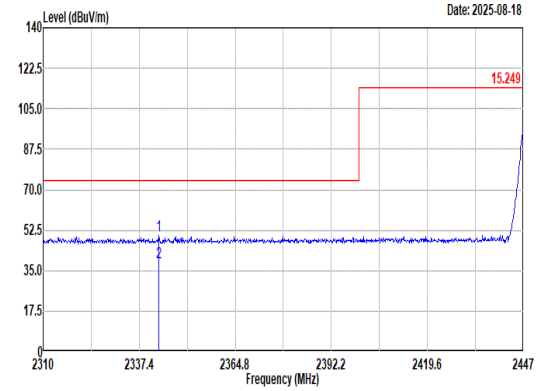
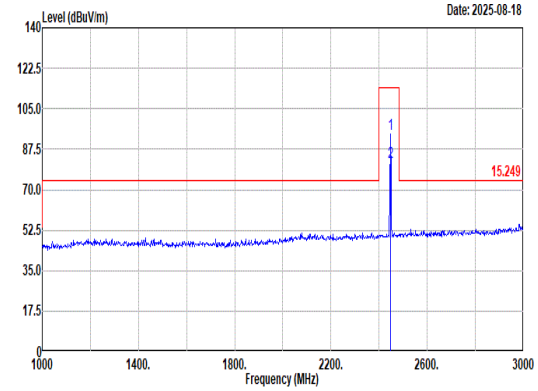
Mode	1	
	Band Edge	
	2400-2483.5_SRD GSFK_CH01_2405MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2364.25 50.10 74.00 -23.90 40.81 27.30 8.57 36.26 9.68 400 194 Peak 2 2364.25 38.02 54.00 -15.98 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2405.00 90.82 114.00 -23.18 81.31 27.45 8.65 36.27 9.68 400 194 Peak 2 2405.00 78.74 94.00 -15.26 -- -- -- -- -- -- -- Average

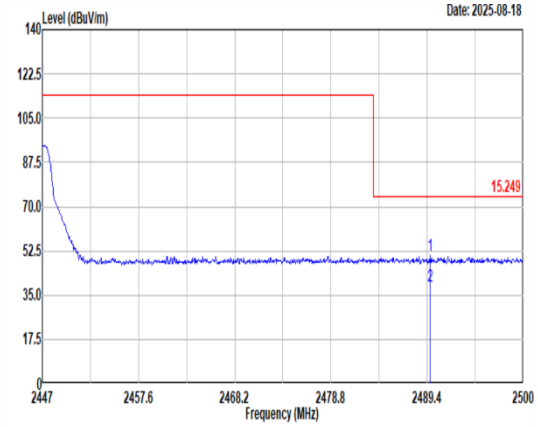
Mode	1	
	Harmonic	
	2400-2483.5_SRD GSFK_CH01_2405MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4810.00 47.16 74.00 -26.84 39.51 32.28 12.26 37.52 0.63 -- -- Peak 2 4810.00 35.08 54.00 -18.92 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4810.00 48.17 74.00 -25.83 40.52 32.28 12.26 37.52 0.63 -- -- Peak 2 4810.00 36.09 54.00 -17.91 -- -- -- -- -- -- -- Average

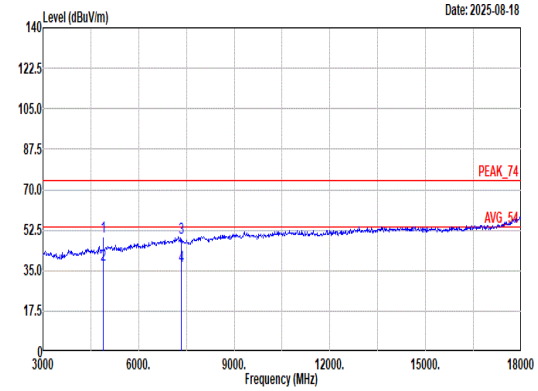
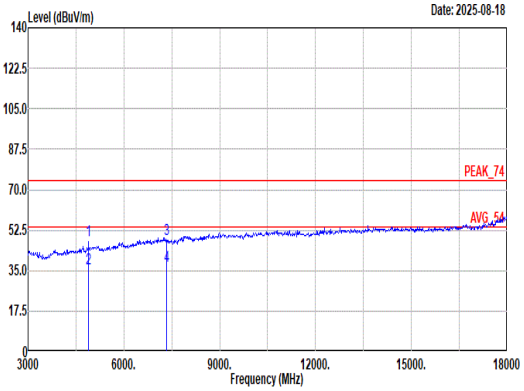
Mode	1	
	Harmonic	
	2400-2483.5_SRD GSFK_CH01_2405MHz	
ANT	1	
Pol.	Horizontal	Vertical
10G ~18G Avg	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 HORIZONTAL	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 VERTICAL

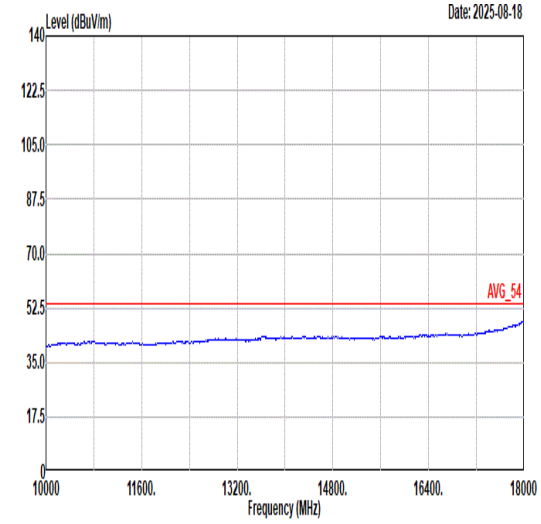
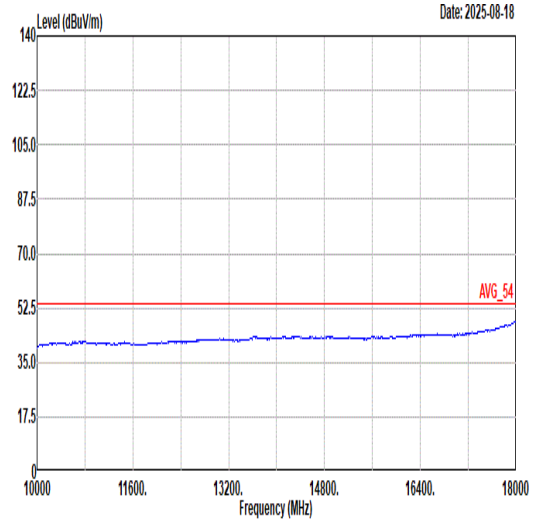
Mode	2	
	Band Edge - L	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2333.15 49.80 74.00 -24.20 40.58 27.27 8.52 36.25 9.68 274 7 Peak 2 2333.15 37.72 54.00 -16.28 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2447.00 98.03 114.00 -15.97 88.30 27.60 8.73 36.28 9.68 274 7 Peak 2 2447.00 85.95 94.00 -8.05 -- -- -- -- -- -- -- Average

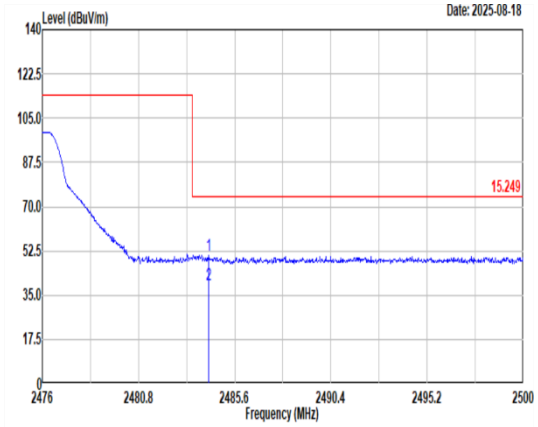
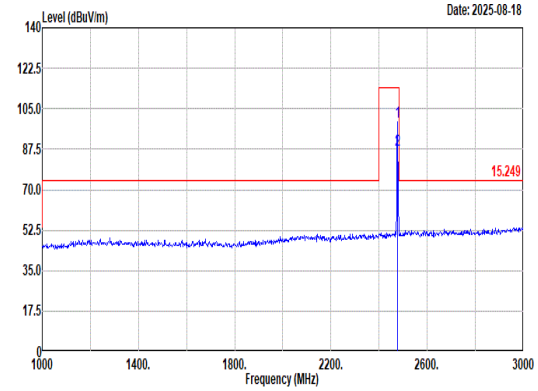
Mode	2	
	Band Edge - R	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2485.43 50.11 74.00 -23.89 39.98 27.95 8.80 36.30 9.68 274 7 Peak 2 2485.43 38.03 54.00 -15.97 -- -- -- -- -- -- -- Average	Blank

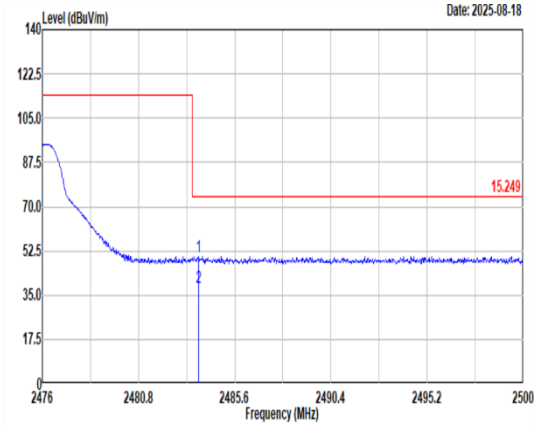
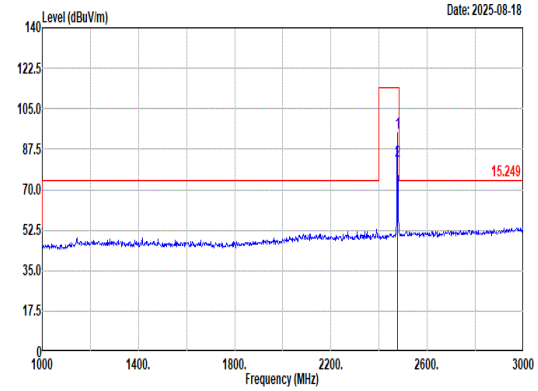
Mode	2	
	Band Edge - L	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2343.02 50.39 74.00 -23.61 41.20 27.23 8.53 36.25 9.68 345 193 Peak 2 2343.02 38.31 54.00 -15.69 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2447.00 94.03 114.00 -19.97 84.30 27.60 8.73 36.28 9.68 345 193 Peak 2 2447.00 81.95 94.00 -12.05 -- -- -- -- -- -- -- Average

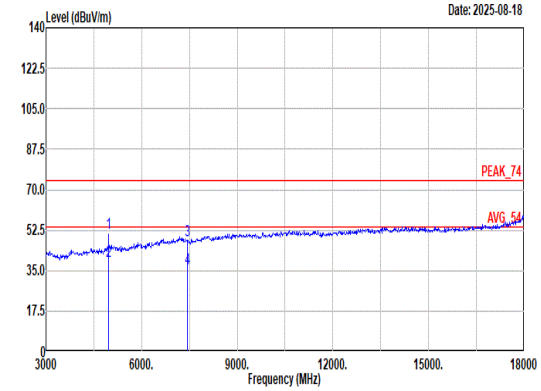
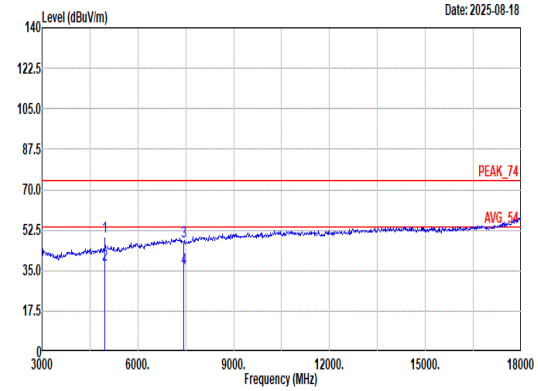
Mode	2	
	Band Edge - R	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2489.72 50.47 74.00 -23.53 40.28 28.00 8.81 36.30 9.68 345 193 Peak 2 2489.72 38.39 54.00 -15.61 -- -- -- -- -- -- -- Average	Blank

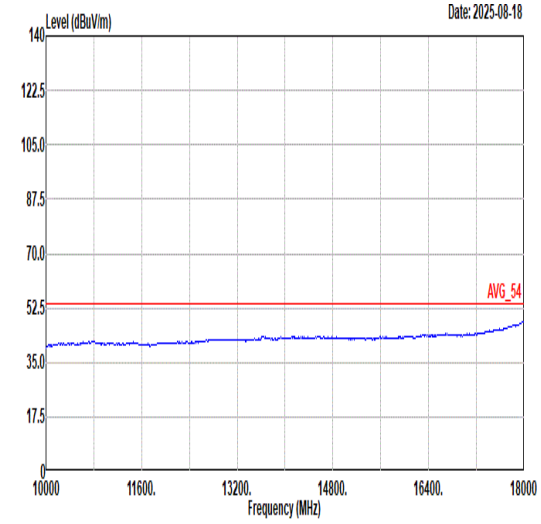
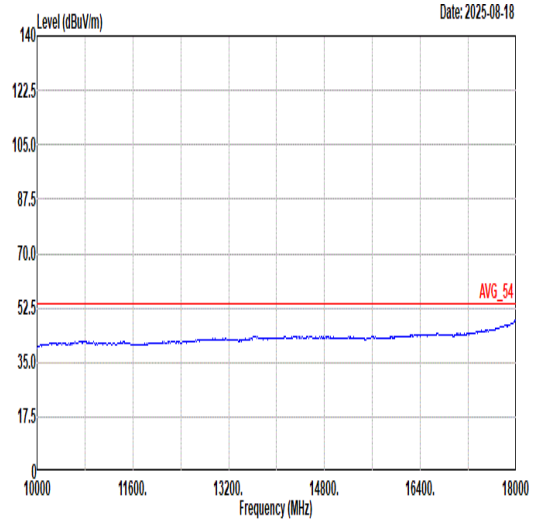
Mode	2	
	Harmonic	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4894.00 49.48 74.00 -24.52 41.25 32.78 12.41 37.59 0.63 -- -- Peak 2 4894.00 37.40 54.00 -16.60 -- -- -- -- -- -- -- Average 3 7341.00 49.31 74.00 -24.69 35.33 36.65 15.41 38.50 0.42 -- -- Peak 4 7341.00 37.23 54.00 -16.77 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4894.00 48.08 74.00 -25.92 39.85 32.78 12.41 37.59 0.63 -- -- Peak 2 4894.00 36.00 54.00 -18.00 -- -- -- -- -- -- -- Average 3 7341.00 48.80 74.00 -25.20 34.82 36.65 15.41 38.50 0.42 -- -- Peak 4 7341.00 36.72 54.00 -17.28 -- -- -- -- -- -- -- Average

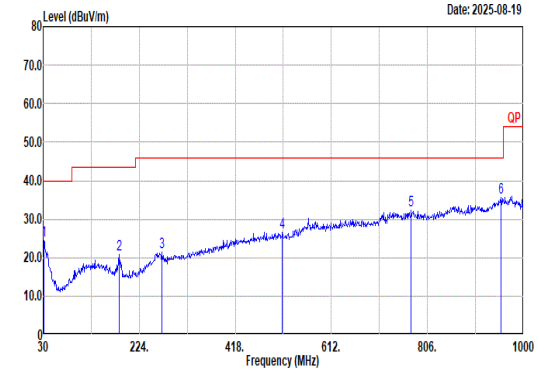
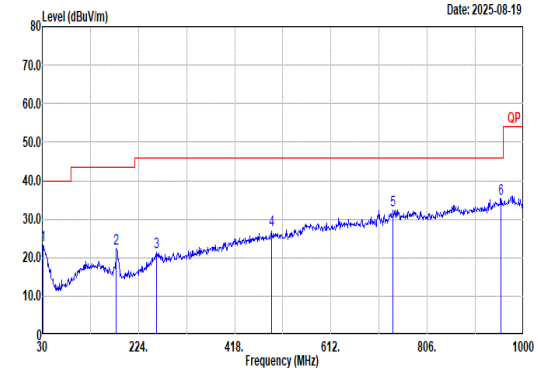
Mode	2	
	Harmonic	
	2400-2483.5_SRD GSFK_CH02_2447MHz	
ANT	1	
Pol.	Horizontal	Vertical
10G ~18G Avg	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 HORIZONTAL	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 VERTICAL

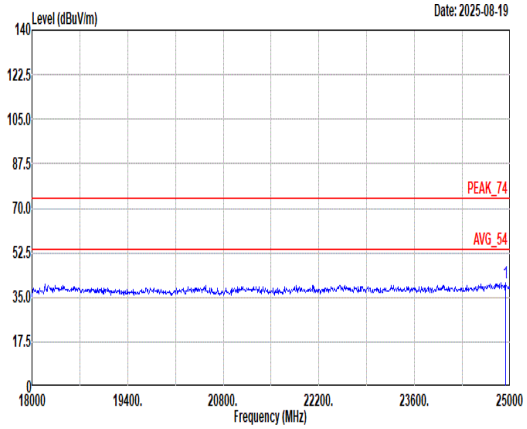
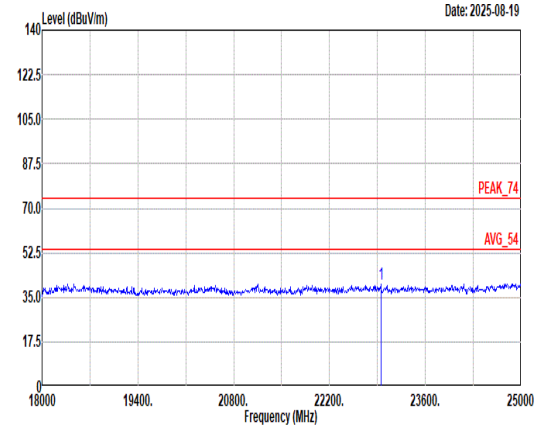
Mode	3	
	Band Edge	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.28 50.95 74.00 -23.05 40.83 27.94 8.80 36.30 9.68 295 12 Peak 2 2484.28 38.87 54.00 -15.13 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 99.40 114.00 -14.60 89.37 27.86 8.78 36.29 9.68 295 12 Peak 2 2476.00 87.32 94.00 -6.68 -- -- -- -- -- -- -- Average

Mode	3	
	Band Edge	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.78 50.33 74.00 -23.67 40.22 27.94 8.79 36.30 9.68 391 214 Peak 2 2483.78 38.25 54.00 -15.75 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: 15.249 3m HF_9120D_02360_241101 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2476.00 94.66 114.00 -19.34 84.63 27.86 8.78 36.29 9.68 391 214 Peak 2 2476.00 82.58 94.00 -11.42 -- -- -- -- -- -- -- Average

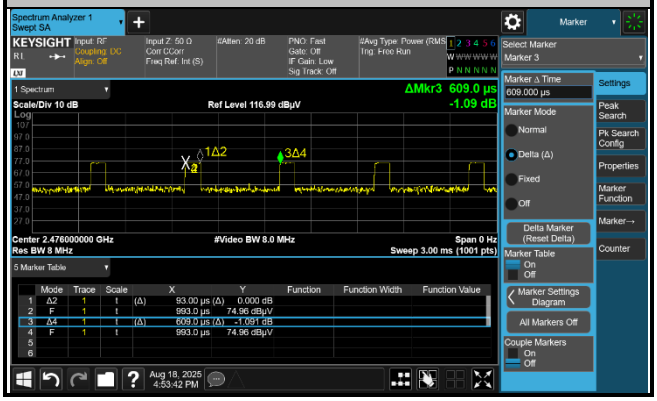
Mode	3	
	Harmonic	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4952.00 51.35 74.00 -22.65 42.73 33.11 12.52 37.63 0.62 -- -- Peak 2 4952.00 39.27 54.00 -14.73 -- -- -- -- -- -- -- Average 3 7428.00 47.92 74.00 -26.08 34.34 36.24 15.50 38.57 0.41 -- -- Peak 4 7428.00 35.84 54.00 -18.16 -- -- -- -- -- -- -- Average	 Site : 03CH20-HY Condition: PEAK_74 3m HF_9120D_02360_241101 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark 1 4952.00 49.60 74.00 -24.40 40.98 33.11 12.52 37.63 0.62 -- -- Peak 2 4952.00 37.52 54.00 -16.48 -- -- -- -- -- -- -- Average 3 7428.00 47.80 74.00 -26.20 34.22 36.24 15.50 38.57 0.41 -- -- Peak 4 7428.00 35.72 54.00 -18.28 -- -- -- -- -- -- -- Average

Mode	3	
	Harmonic	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Horizontal	Vertical
10G ~18G Avg	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 HORIZONTAL	 Site : 03CH20-HY Condition: AVG_54 3m HF_9120D_02360_241101 VERTICAL

Mode	4	
	LF	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Horizontal	Vertical
QP/ Peak	 Site : 03CH20-HY Condition: QP 3m Bilog_55606 & 08_241127 HORIZONTAL 1 31.94 24.36 40.00 -15.64 35.43 23.56 0.99 35.75 0.13 -- -- Peak 2 183.26 20.86 43.50 -22.64 38.87 14.98 2.41 35.54 0.14 -- -- Peak 3 269.59 21.40 46.00 -24.60 34.44 19.31 2.91 35.35 0.09 -- -- Peak 4 513.06 26.51 46.00 -19.49 33.15 24.00 4.00 34.73 0.09 -- -- Peak 5 773.02 32.23 46.00 -13.77 32.71 28.22 4.91 33.80 0.19 -- -- Peak 6 954.41 35.52 46.00 -10.48 31.98 30.94 5.44 33.14 0.30 -- -- Peak	 Site : 03CH20-HY Condition: QP 3m Bilog_55606 & 08_241127 VERTICAL 1 30.97 23.12 40.00 -16.88 33.63 24.12 0.98 35.75 0.14 -- -- Peak 2 179.38 22.20 43.50 -21.30 40.06 15.14 2.39 35.54 0.15 -- -- Peak 3 260.86 21.52 46.00 -24.48 33.74 20.20 2.87 35.37 0.08 -- -- Peak 4 491.72 27.02 46.00 -18.98 33.99 23.82 3.91 34.79 0.09 -- -- Peak 5 737.13 32.37 46.00 -13.63 33.36 27.94 4.80 33.94 0.21 -- -- Peak 6 954.41 35.38 46.00 -10.62 31.84 30.94 5.44 33.14 0.30 -- -- Peak

Mode	5	
	SHF	
	2400-2483.5_SRD GSFK_CH12_2476MHz	
ANT	1	
Pol.	Horizontal	Vertical
Peak	 Site : 03CH20-HY Condition: PEAK_74 1m BBHA9170_1223_250702 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 24937.00 40.84 74.00 -33.16 42.01 39.60 29.04 60.27 -9.54 -- -- Peak	 Site : 03CH20-HY Condition: PEAK_74 1m BBHA9170_1223_250702 VERTICAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 22949.00 40.29 74.00 -33.71 43.36 39.00 27.78 60.31 -9.54 -- -- Peak

Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
SRD	15.27	93	10.75	11kHz

SRD