FCC CO-LOCATION RADIO TEST REPORT

FCC ID	:	TVE-110T17
Equipment	:	Bluetooth Low Energy Module
Brand Name	:	FORTINET
Model Name	:	FBLE-2024TI
Applicant	:	Fortinet Inc. 909 Kifer Rd., Sunnyvale, CA 94086, United States
Manufacturer	:	Fortinet Inc. 909 Kifer Rd., Sunnyvale, CA 94086, United States
Standard	:	FCC Part 15 Subpart C §15.247

The product was received on May 05, 2025 and testing was performed from May 13, 2025 to Jun. 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.)

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History of this test report

Report No.	Version	Description	Issue Date
FR3D0610-05A	01	Initial issue of report	May 28, 2025
FR3D0610-05A	02	Add Output Power This report is an updated version, replacing the report issued on May 28, 2025.	Jun. 19, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(b)(3) 15.247(b)(4)	Output Power	Pass	-
3.2	15.247(d)	Radiated Band Edges and Spurious Emission	Pass	2.85 dB under the limit at 2548 MHz
3.3	15.203	Antenna Requirement	Pass	-

Note: The Manufacturer defined the Co-located radiated spurious emission test results can cover the standalone radiated spurious emission results.

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: Yun Huang

Report Producer: Jessie Ho

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Installed into the Host	Equipment Name: Network Security Gateway Brand Name: FORTINET Model Name: FortiGate 50G-5Gxxxxxxxxxx, FORTIGATE-50G-5Gxxxxxxxxxx, FG-50G-5Gxxxxxxxxxx, FortiGate 51G-5Gxxxxxxxxxx, FORTIGATE-51G-5Gxxxxxxxxxx, FG-51G-5Gxxxxxxxxxx, FortiWiFi 50G-5Gxxxxxxxxxx, FORTIWIFI-50G-5Gxxxxxxxxxx, FWF-50G-5Gxxxxxxxxxx, FortiWiFi 51G-5Gxxxxxxxxxx, FORTIWIFI-51G-5Gxxxxxxxxxx, FWF-51G-5Gxxxxxxxxxx, FortiWiFi 50G-5G-IIxxxxxxxxxx, FORTIWIFI-50G-5G-IIxxxxxxxxxx, FWF-50G-5G-IIxxxxxxxxxx, FortiWiFi 51G-5G-IIxxxxxxxxxx, FORTIWIFI-51G-5G-IIxxxxxxxxxx, FWF-51G-5G-IIxxxxxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software purposes or marketing purposes only) Marketing Name: FortiGate 50G-5G, FortiGate 51G-5G, FortiWiFi 50G-5G, FortiWiFi 51G-5G, FortiWiFi 50G-5G-II, FortiWiFi 51G-5G-II
General Specs	Bluetooth-LE
Antenna Type	Monopole

Antenna information		
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	1.53

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. 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, 03CH23-HY

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

FCC designation No.: 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 E
- FCC Part 15 Subpart C §15.247
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

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.

2 Test Configuration of Equipment Under Test

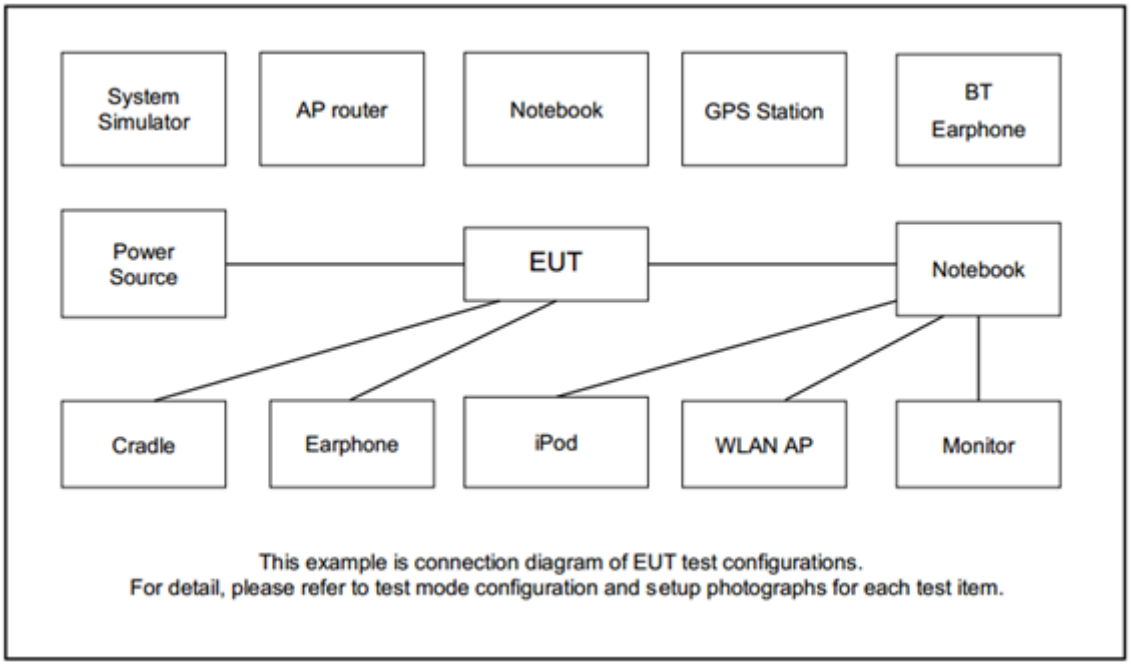
a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Summary table of Test Cases	
Test Item	**Data Rate / Modulation**
Conducted Test Cases	**Bluetooth – LE / GFSK**
	Mode 1: Bluetooth Tx CH00_2402 MHz_500kbps
	Mode 2: Bluetooth Tx CH19_2440 MHz_500kbps
	Mode 3: Bluetooth Tx CH39_2480 MHz_500kbps

2.1 Carrier Frequency and Channel

The detailed test modes are shown in Appendix B.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	ideaPad Gaming	PD9AX201NG	N/A	N/A

2.4 EUT Operation Test Setup

The RF test items, utility “Tera Term Version 4.95” 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 Output Power Measurement

3.1.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna of directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

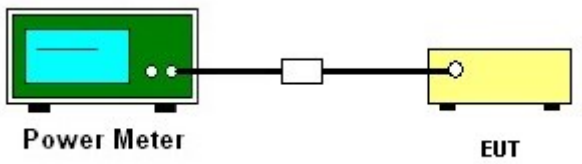
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
2. The RF output of EUT is connected to the power meter by RF cable and attenuator.
3. The path loss is compensated to the results for each measurement.
4. Set the maximum power setting and enable the EUT to transmit continuously.
5. Measure the conducted output power and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of Average Output Power

Please refer to Appendix A.

3.2 Radiated Band Edges and Spurious Emission Measurement

3.2.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device is measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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.

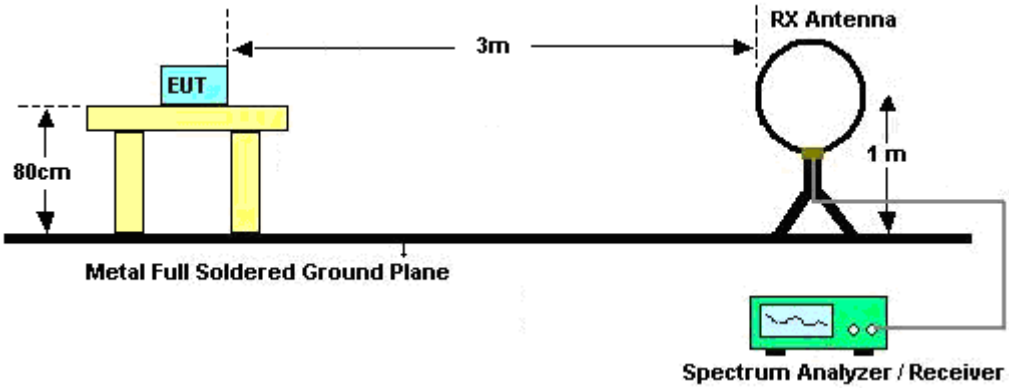
3.2.3 Test Procedures

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 “-“.

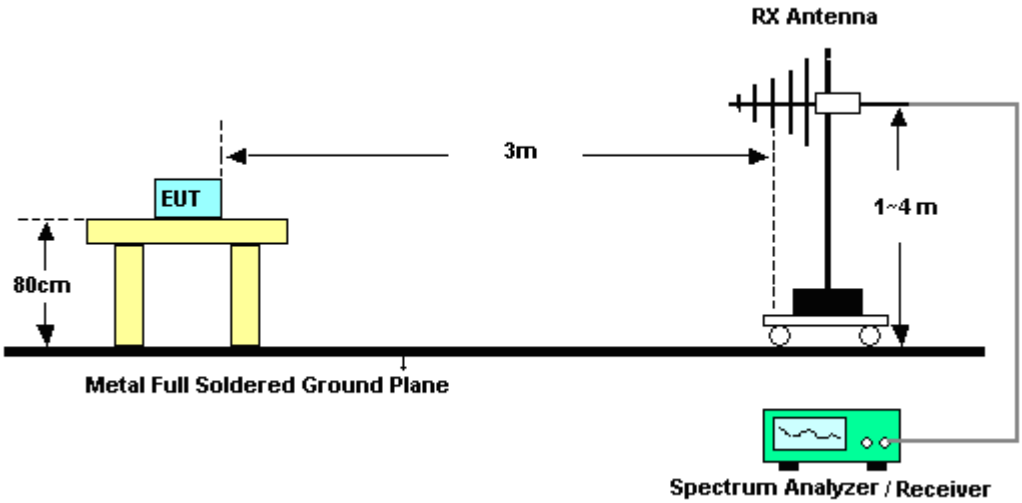
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with 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.

3.2.4 Test Setup

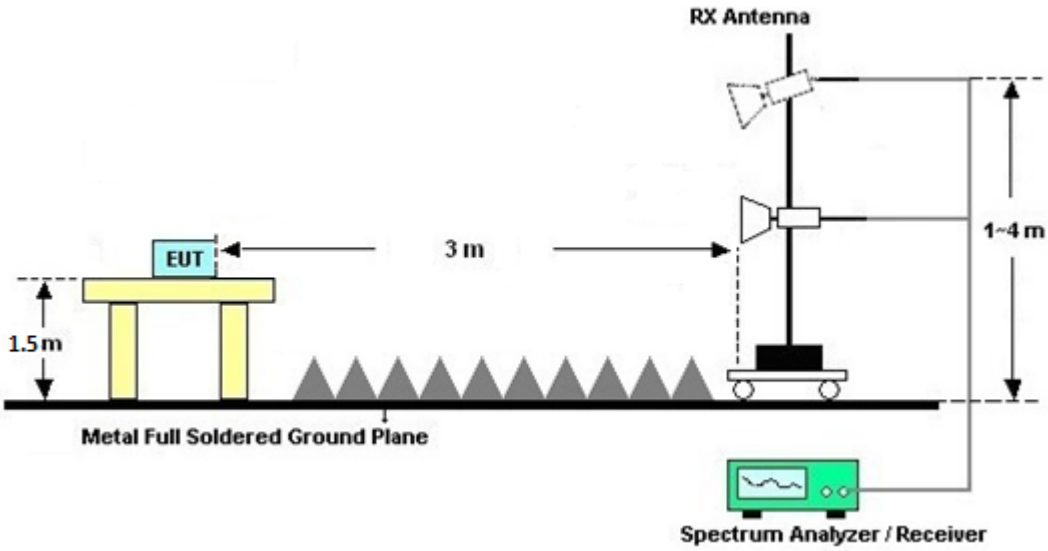
For radiated emissions below 30MHz



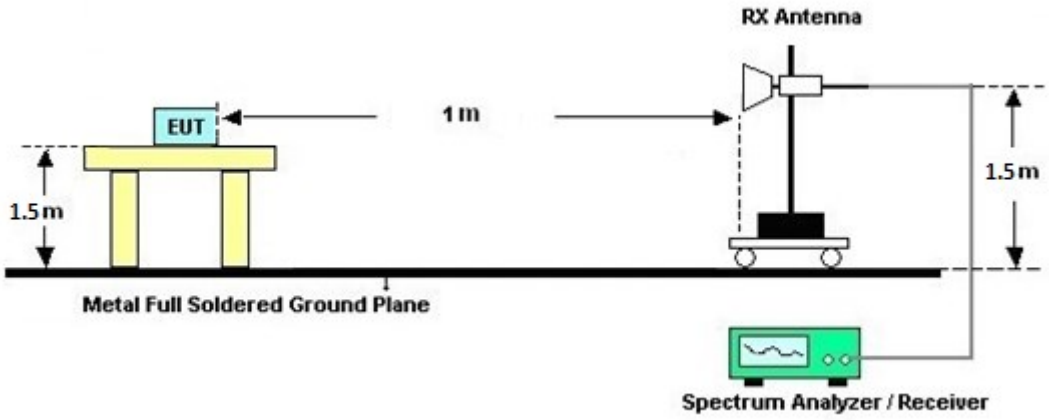
For radiated emissions from 30MHz to 1GHz



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 B.

3.2.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.

3.3 Antenna Requirements

3.3.1 Standard Applicable

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 rule.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug 29, 2024	May. 13, 2025~ May. 14, 2025	Aug 28, 2025	Radiation (03CH23-HY)
Bilog Antenna	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	62028 & 003	30MHz~1GHz	Nov. 27, 2024	May. 13, 2025~ May. 14, 2025	Nov. 26, 2025	Radiation (03CH23-HY)
Amplifier	SONOMA	310N	421582	9kHz~1GHz	Jul. 14, 2024	May. 13, 2025~ May. 14, 2025	Jul. 13, 2025	Radiation (03CH23-HY)
Amplifier	EMEC	EM01G18GA	060878	N/A	Sep. 27, 2024	May. 13, 2025~ May. 14, 2025	Sep. 26, 2025	Radiation (03CH23-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C05A18EN	1GHz~18GHz	Jun. 20, 2024	May. 13, 2025~ May. 14, 2025	Jun. 19, 2025	Radiation (03CH23-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1223	18GHz-40GHz	Jun. 24, 2024	May. 13, 2025~ May. 14, 2025	Jun. 23, 2025	Radiation (03CH23-HY)
Preamplifier	EMEC	EM18G40G	060873	18GHz~40GHz	Sep. 02, 2024	May. 13, 2025~ May. 14, 2025	Sep. 01, 2025	Radiation (03CH23-HY)
Signal Analyzer	Keysight	N9010B	MY62170337	N/A	Aug. 21, 2024	May. 13, 2025~ May. 14, 2025	Aug. 20, 2025	Radiation (03CH23-HY)
Hygrometer	TECPEL	DTM-303B	TP211542	N/A	Oct. 21, 2024	May. 13, 2025~ May. 14, 2025	Oct. 20, 2025	Radiation (03CH23-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	May. 13, 2025~ May. 14, 2025	N/A	Radiation (03CH23-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	May. 13, 2025~ May. 14, 2025	N/A	Radiation (03CH23-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	May. 13, 2025~ May. 14, 2025	N/A	Radiation (03CH23-HY)
Software	Audix	E3 6.09824_2019122	RK-002348	N/A	N/A	May. 13, 2025~ May. 14, 2025	N/A	Radiation (03CH23-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 05, 2025	May. 13, 2025~ May. 14, 2025	Mar. 04, 2026	Radiation (03CH23-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804395/2	N/A	Nov. 26, 2024	May. 13, 2025~ May. 14, 2025	Nov. 25, 2025	Radiation (03CH23-HY)
RF Cable	EMC	EMC101Y	231115/231119 /231122	N/A	Nov. 26, 2024	May. 13, 2025~ May. 14, 2025	Nov. 25, 2025	Radiation (03CH23-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 01, 2024	Jun. 19, 2025	Oct. 30, 2025	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	13I00030SNO31 (NO:182)	9kHz~6GHz	Jan. 09, 2025	Jun. 19, 2025	Jan. 08, 2026	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV3044	101467	10HZ~44GHZ	Jan. 14, 2025	Jun. 19, 2025	Jan. 13, 2026	Conducted (TH05-HY)
Switch Control Mainframe	E-Instument	ETF-1405-0	EC1900157 (BOX6)	N/A	Feb. 10, 2025	Jun. 19, 2025	Feb. 09, 2026	Conducted (TH05-HY)
Software	Sporton	BTWIFI_Final_version_240513	N/A	Conducted Other Test Item	N/A	Jun. 19, 2025	N/A	Conducted (TH05-HY)

5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.6 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))	4.8 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:	Shiming Liu	Temperature:	21~25	°C
Test Date:	2025/6/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	500kbps	1	0	2402	7.30	30.00	1.53	8.83	36.00	Pass
BLE	500kbps	1	19	2440	7.30	30.00	1.53	8.83	36.00	Pass
BLE	500kbps	1	39	2480	6.80	30.00	1.53	8.33	36.00	Pass

Appendix B. Radiated Spurious Emission Test Data

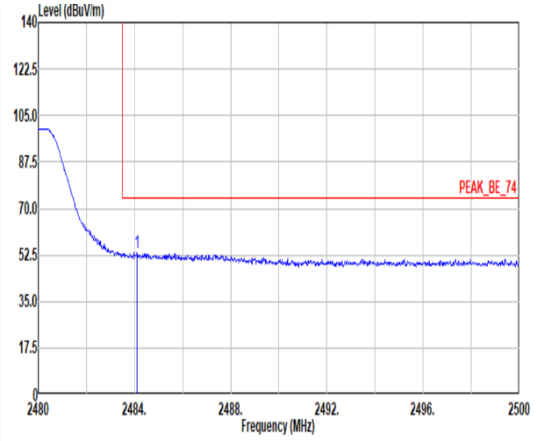
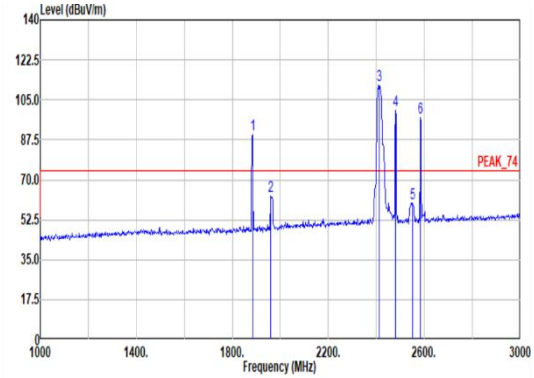
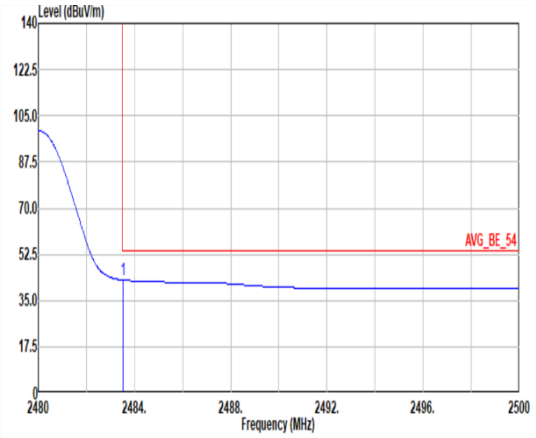
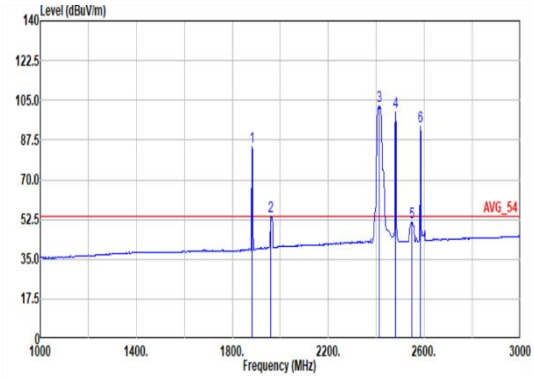
Test Engineer :	Leo Li,Karl Hou, Lucifer Jiang	**Temperature :**	21.7~22.5°C
		Relative Humidity :	51~57%

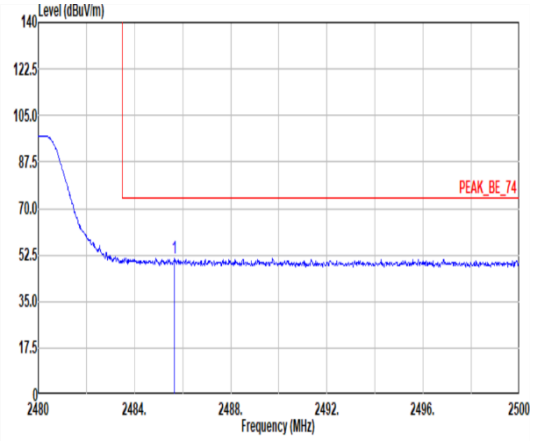
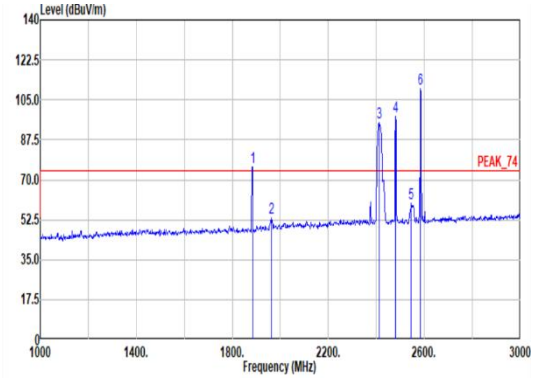
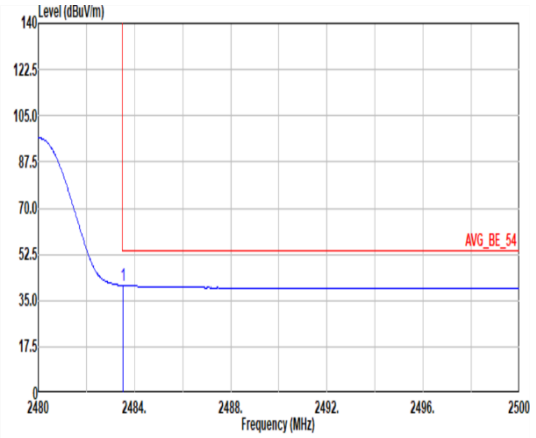
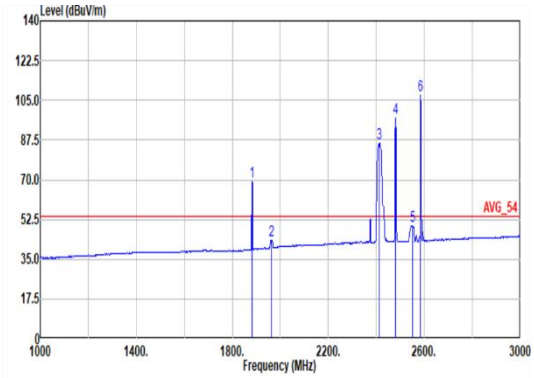
B1. Radiated Spurious Emission Test Modes

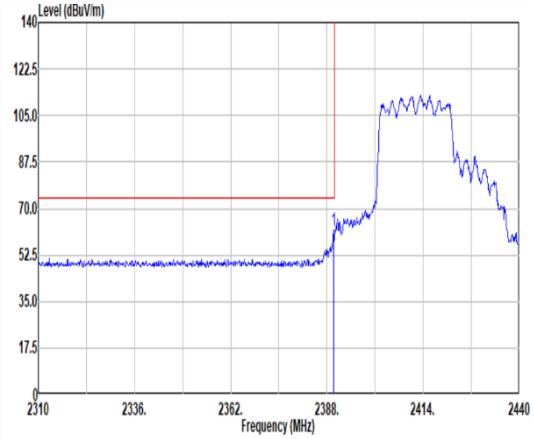
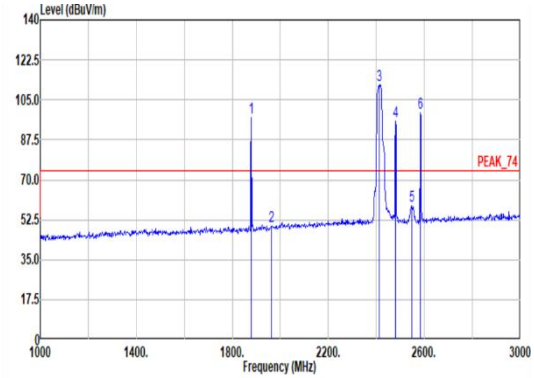
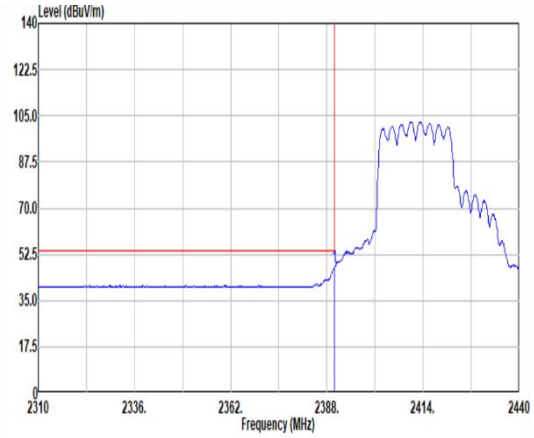
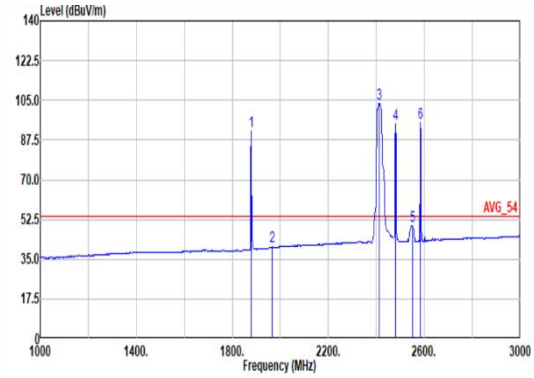
Mode	Antenna	Configuration	Remark
Mode 1	SISO	Bluetooth-LE 500kbps Ch39	-
	MIMO	802.11ax HE20 Full RU Ch01	
	MIMO	EN-DC 25A-n41A (BW20M 1RB1 BPSK Ch 518598)	-

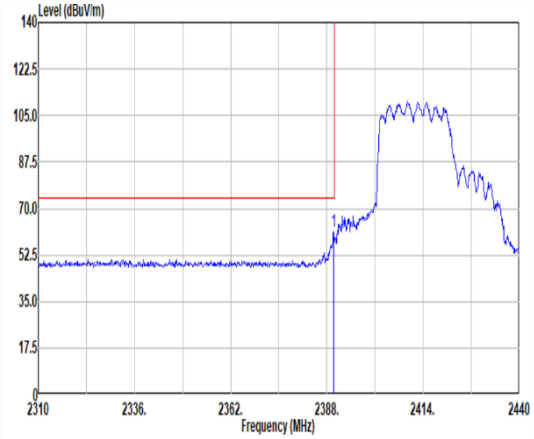
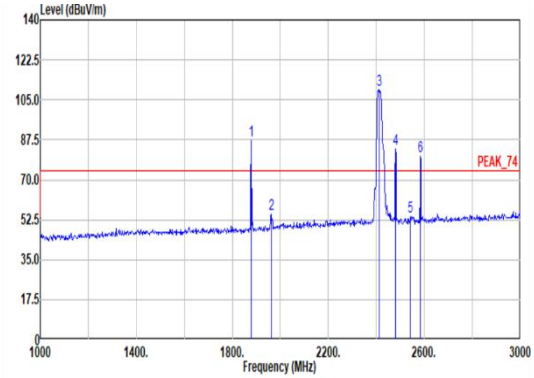
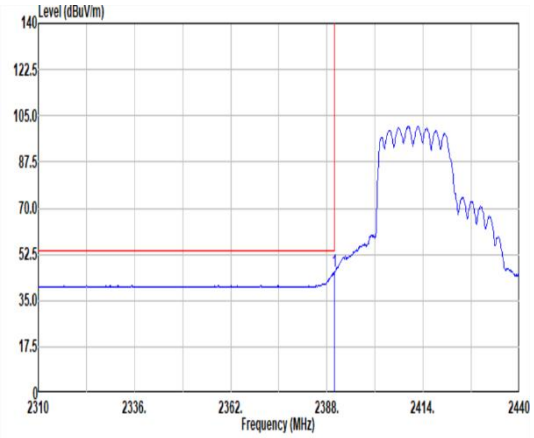
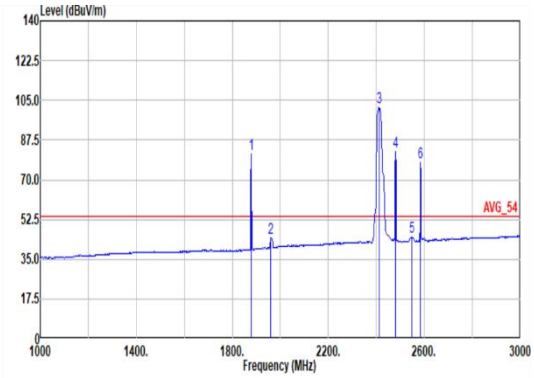
B2. Summary of each worse mode

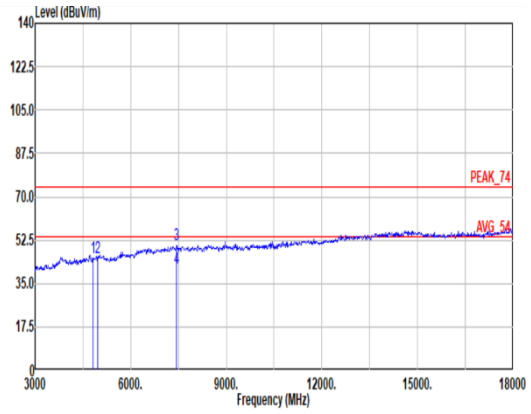
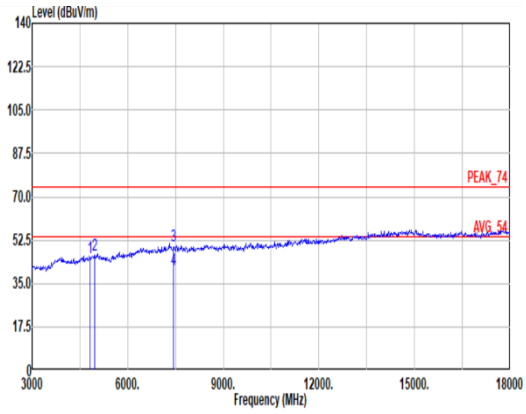
Mode	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	2548.00	51.15	54.00	-2.85	H	Avg.	Pass	-

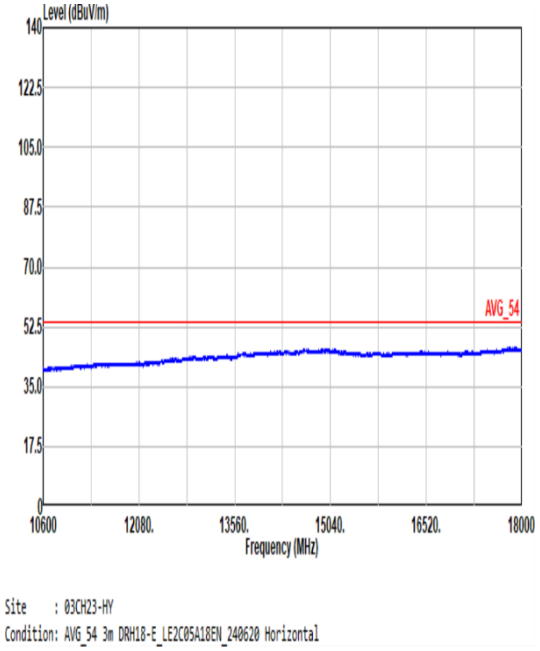
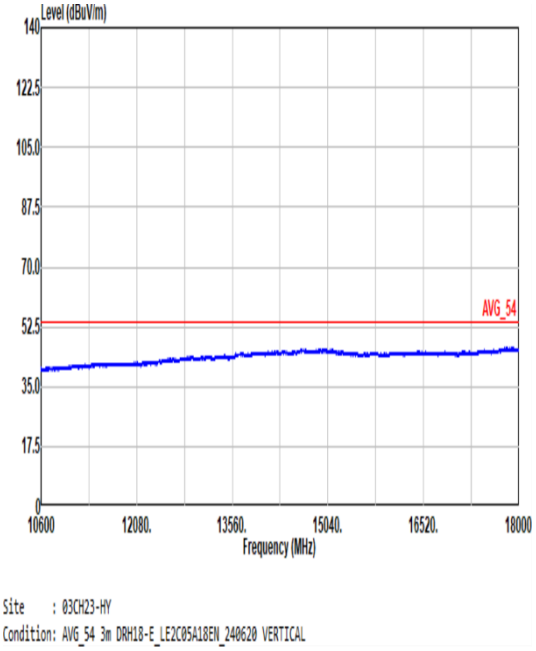
Mode	1	
	Bluetooth-LE Band Edge	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2484.10 53.37 74.00 -20.63 40.84 26.84 7.34 32.03 10.38 105 337 Peak	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 1884.00 89.60 ------ ------ 79.11 25.24 6.55 31.58 10.28 105 337 Peak 2 1960.00 62.67 ------ ------ 51.45 25.80 6.79 31.66 10.29 105 337 Peak 3 2412.00 111.34 ------ ------ 98.61 27.08 7.25 31.98 10.38 105 337 Peak 4 2480.00 100.38 ------ ------ 87.90 26.80 7.33 32.03 10.38 105 337 Peak 5 2552.00 59.69 74.00 -14.31 46.89 27.02 7.43 32.04 10.39 105 337 Peak 6 2584.00 96.96 ------ ------ 84.04 27.10 7.47 32.04 10.39 105 337 Peak
Avg	 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 1 2483.52 42.71 54.00 -11.29 30.18 26.84 7.34 32.03 10.38 105 337 Average	 Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 1 1882.00 84.27 ------ ------ 73.81 25.22 6.54 31.58 10.28 105 337 Average 2 1960.00 54.03 ------ ------ 42.81 25.80 6.79 31.66 10.29 105 337 Average 3 2412.00 102.52 ------ ------ 89.79 27.08 7.25 31.98 10.38 105 337 Average 4 2480.00 99.71 ------ ------ 87.23 26.80 7.33 32.03 10.38 105 337 Average 5 2548.00 51.15 54.00 -2.85 38.38 27.00 7.42 32.04 10.39 105 337 Average 6 2584.00 93.76 ------ ------ 80.84 27.10 7.47 32.04 10.39 105 337 Average

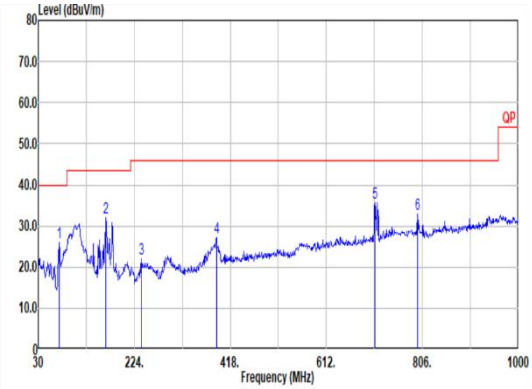
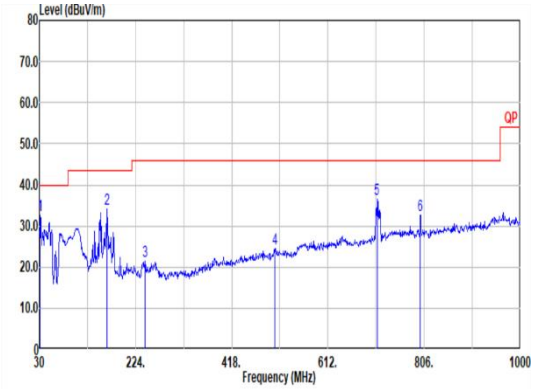
Mode	1	
	Band Edge	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2485.66 51.42 74.00 -22.58 38.87 26.86 7.34 32.03 10.38 100 7 Peak	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 1884.00 75.57 ------ ------ 65.08 25.24 6.55 31.58 10.28 100 7 Peak 2 1964.00 53.15 ------ ------ 41.88 25.84 6.80 31.66 10.29 100 7 Peak 3 2412.00 95.20 ------ ------ 82.47 27.08 7.25 31.98 10.38 100 7 Peak 4 2480.00 97.62 ------ ------ 85.14 26.80 7.33 32.03 10.38 100 7 Peak 5 2546.00 59.75 74.00 -14.25 46.98 27.00 7.42 32.04 10.39 100 7 Peak 6 2584.00 109.91 ------ ------ 96.99 27.10 7.47 32.04 10.39 100 7 Peak
Avg	 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 1 2483.52 40.66 54.00 -13.34 28.13 26.84 7.34 32.03 10.38 100 7 Average	 Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 1 1882.00 69.35 ------ ------ 58.89 25.22 6.54 31.58 10.28 100 7 Average 2 1964.00 43.43 ------ ------ 32.16 25.84 6.80 31.66 10.29 100 7 Average 3 2412.00 86.13 ------ ------ 73.40 27.08 7.25 31.98 10.38 100 7 Average 4 2480.00 97.14 ------ ------ 84.66 26.80 7.33 32.03 10.38 100 7 Average 5 2550.00 49.71 54.00 -4.29 36.94 27.00 7.42 32.04 10.39 100 7 Average 6 2584.00 107.01 ------ ------ 94.09 27.10 7.47 32.04 10.39 100 7 Average

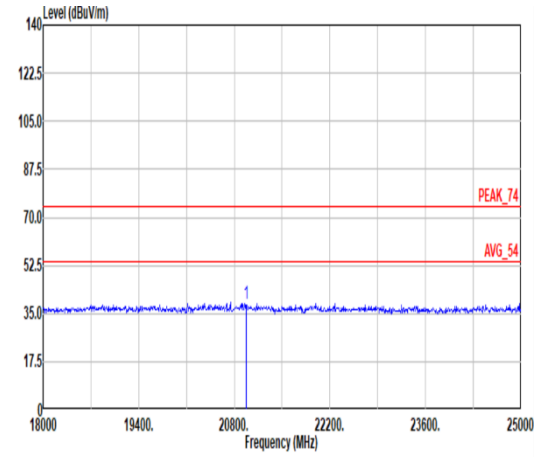
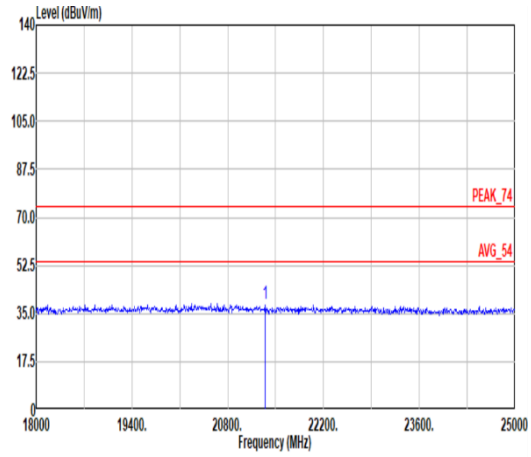
Mode	1	
	802.11ax Band Edge	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Fundamental
Peak	 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2389.82 61.63 74.00 -12.37 49.11 26.90 7.21 31.97 10.38 100 212 Peak	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 1878.00 97.03 ------ ------ 86.62 25.18 6.53 31.58 10.28 100 212 Peak 2 1964.00 49.56 ------ ------ 38.29 25.84 6.80 31.66 10.29 100 212 Peak 3 2412.00 111.33 ------ ------ 98.60 27.08 7.25 31.98 10.38 100 212 Peak 4 2480.00 95.44 ------ ------ 82.96 26.80 7.33 32.03 10.38 100 212 Peak 5 2548.00 58.50 74.00 -15.50 45.73 27.00 7.42 32.04 10.39 100 212 Peak 6 2584.00 99.10 ------ ------ 86.18 27.10 7.47 32.04 10.39 100 212 Peak
Avg	 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto 1 2389.95 47.30 54.00 -6.70 34.78 26.90 7.21 31.97 10.38 100 212 Average	 Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_240620 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto 1 1878.00 91.16 ------ ------ 80.75 25.18 6.53 31.58 10.28 100 212 Average 2 1966.00 40.61 ------ ------ 29.33 25.86 6.80 31.67 10.29 100 212 Average 3 2412.00 103.80 ------ ------ 91.07 27.08 7.25 31.98 10.38 100 212 Average 4 2480.00 94.80 ------ ------ 82.32 26.80 7.33 32.03 10.38 100 212 Average 5 2550.00 49.57 54.00 -4.43 36.80 27.00 7.42 32.04 10.39 100 212 Average 6 2584.00 95.17 ------ ------ 82.25 27.10 7.47 32.04 10.39 100 212 Average

Mode	1	
	802.11ax Band Edge	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Vertical	Fundamental
Peak	 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 2389.82 61.06 74.00 -12.94 48.54 26.90 7.21 31.97 10.38 400 102 Peak	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 1 1878.00 87.32 ------ ------ 76.91 25.18 6.53 31.58 10.28 400 102 Peak 2 1962.00 54.70 ------ ------ 43.46 25.82 6.79 31.66 10.29 400 102 Peak 3 2412.00 109.58 ------ ------ 96.85 27.08 7.25 31.98 10.38 400 102 Peak 4 2480.00 83.28 ------ ------ 70.80 26.80 7.33 32.03 10.38 400 102 Peak 5 2542.00 53.83 74.00 -20.17 41.07 27.00 7.41 32.04 10.39 400 102 Peak 6 2584.00 80.41 ------ ------ 67.49 27.10 7.47 32.04 10.39 400 102 Peak
Avg	 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto 1 2389.95 45.71 54.00 -8.29 33.19 26.90 7.21 31.97 10.38 400 102 Average	 Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_240620 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWT:Auto 1 1878.00 81.32 ------ ------ 70.91 25.18 6.53 31.58 10.28 400 102 Average 2 1960.00 44.61 ------ ------ 33.39 25.80 6.79 31.66 10.29 400 102 Average 3 2412.00 101.87 ------ ------ 89.14 27.08 7.25 31.98 10.38 400 102 Average 4 2480.00 82.60 ------ ------ 70.12 26.80 7.33 32.03 10.38 400 102 Average 5 2548.00 44.84 54.00 -9.16 32.07 27.00 7.42 32.04 10.39 400 102 Average 6 2584.00 77.64 ------ ------ 64.72 27.10 7.47 32.04 10.39 400 102 Average

Mode	1	
	Harmonic	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Vertical
Peak Avg	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 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 4824.00 45.49 74.00 -28.51 34.57 32.55 10.16 33.16 1.37 -- -- Peak 2 4960.00 45.22 74.00 -28.78 33.60 32.80 10.38 33.18 1.62 -- -- Peak 3 7440.00 50.79 74.00 -23.21 35.09 37.20 12.59 36.07 1.98 -- -- Peak 4 7440.00 41.23 54.00 -12.77 25.53 37.20 12.59 36.07 1.98 -- -- Average	 Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_240620 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 4824.00 45.37 74.00 -28.63 34.45 32.55 10.16 33.16 1.37 -- -- Peak 2 4960.00 46.26 74.00 -27.74 34.64 32.80 10.38 33.18 1.62 -- -- Peak 3 7440.00 50.31 74.00 -23.69 34.61 37.20 12.59 36.07 1.98 -- -- Peak 4 7440.00 40.75 54.00 -13.25 25.05 37.20 12.59 36.07 1.98 -- -- Average

Mode	1	
	Harmonic	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Vertical
10.6G ~18G Avg		

Mode	1	
	LF	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Vertical
QP/ Peak	 Site : 03CH23-HY Condition: QP 3m CBL6111D_62028 & 003_241127 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 71.71 26.00 40.00 -14.00 45.17 12.47 1.05 32.74 0.05 -- -- Peak 2 166.77 31.89 43.50 -11.61 46.81 16.09 1.67 32.75 0.07 -- -- Peak 3 238.55 21.92 46.00 -24.08 32.62 20.03 1.99 32.80 0.08 -- -- Peak 4 389.87 27.19 46.00 -18.81 35.81 21.49 2.60 32.81 0.10 -- -- Peak 5 709.97 35.61 46.00 -10.39 37.96 26.74 3.59 32.83 0.15 -- -- Peak 6 796.30 32.99 46.00 -13.01 33.49 28.27 3.82 32.77 0.18 -- -- Peak	 Site : 03CH23-HY Condition: QP 3m CBL6111D_62028 & 003_241127 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 31.94 32.51 40.00 -7.49 41.07 23.57 0.65 32.81 0.03 -- -- Peak 2 166.77 34.19 43.50 -9.31 49.11 16.09 1.67 32.75 0.07 -- -- Peak 3 242.43 21.46 46.00 -24.54 32.13 20.05 2.01 32.81 0.08 -- -- Peak 4 505.30 24.46 46.00 -21.54 30.31 24.11 3.02 33.02 0.04 -- -- Peak 5 710.94 36.53 46.00 -9.47 38.86 26.76 3.59 32.83 0.15 -- -- Peak 6 798.24 32.75 46.00 -13.25 33.24 28.26 3.83 32.77 0.19 -- -- Peak

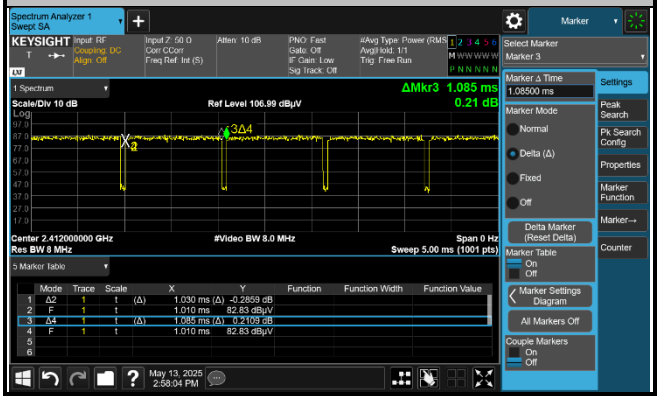
Mode	1	
	SHF	
	Bluetooth-LE 500kbps CH39 + 802.11ax HE20 Full RU Ch01 + EN-DC 25A-n41A	
Pol.	Horizontal	Vertical
Peak	 Site : 03CH23-HY Condition: PEAK_74 1m SHF_1223_240624 HORIZONTAL Freq Level Limit Line Margin Read Level Ant Factor Cable Loss Preamp Factor Aux Factor APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 20978.96 38.66 74.00 -35.34 53.65 38.34 19.44 63.23 -9.54 -- -- PEAK	 Site : 03CH23-HY Condition: PEAK_74 1m SHF_1223_240624 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 21349.78 38.39 74.00 -35.61 53.54 38.10 19.63 63.34 -9.54 -- -- PEAK

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
3	Bluetooth-LE for 500kbps	100.00	-	-	10Hz
0+1	2.4GHz 802.11ax HE20 Full RU	94.93	1030	0.97	1.1kHz

<Ant. 3>

Bluetooth-LE for 500kbps

MIMO <Ant. 0+1>

2.4GHz 802.11ax HE20 Full RU