



FCC CO-LOCATION RADIO TEST REPORT

FCC ID : 2AGOZ-S3A
Equipment : VR Headset
Brand Name : META PLATFORMS TECHNOLOGIES, LLC
Model Name : S3A
Applicant : Meta Platforms Technologies, LLC.
1 Hacker Way, Menlo Park, CA 94025, USA
Manufacturer : Meta Platforms Technologies, LLC.
1 Hacker Way, Menlo Park, CA 94025, USA
Standard : FCC Part 15 Subpart E §15.407

The product was received on May 02, 2023 and testing was performed from Jun. 09, 2023 to Jun. 19, 2023. 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.

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 6

 1.4 Applicable Standards..... 6

2 Test Configuration of Equipment Under Test 7

 2.1 Carrier Frequency and 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 8

 2.5 EUT Operation Test Setup 8

3 Test Result 9

 3.1 Unwanted Emissions Measurement 9

 3.2 Antenna Requirements..... 15

4 List of Measuring Equipment..... 16

5 Measurement Uncertainty 17

Appendix A. Radiated Spurious Emission

Appendix B. Radiated Spurious Emission Plots

Appendix C. Duty Cycle Plots

Appendix D. Setup Photographs



History of this test report

Report No.	Version	Description	Issue Date
FR261607-06G	01	Initial issue of report	Jun. 26, 2023



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(b)	Unwanted Emissions	Pass	1.10 dB under the limit at 2483.720 MHz
3.2	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: Yun Huang
Report Producer: Lucy Wu



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
General Specs	Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, Wi-Fi 5GHz 802.11a/n/ac/ax, Wi-Fi 6GHz 802.11ax, and nRF.
Sample 1	Main-A
Sample 2	Main-B
Sample 3	Main-C
Sample 4	Main-D
Antenna Type	WLAN: <Ant. 0>: Dipole Antenna <Ant. 1>: Dipole Antenna Bluetooth: Dipole Antenna nRF: Dipole Antenna

Antenna information		
2400 MHz ~ 2483.5 MHz (nRF)	Peak Gain (dBi)	2.20
2400 MHz ~ 2483.5 MHz (Bluetooth)	Peak Gain (dBi)	4.7
2400 MHz ~ 2483.5 MHz (WLAN)	Peak Gain (dBi)	Ant. 0: 3.8 Ant. 1: 4.7
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	Ant. 0: 2.3 Ant. 1: 2.8
6875 MHz ~ 7125 MHz	Peak Gain (dBi)	Ant. 0: 5.1 Ant. 1: 3.7

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. 03CH21-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 C §15.247
- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 987594 D02 U-NII 6 GHz EMC Measurement v01r01
- ♦ 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). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

2.1 Carrier Frequency and Channel

2400-2483.5 MHz		2400-2483.5 MHz	
Bluetooth-LE		nRF	
Channel	Freq. (MHz)	Channel	Freq. (MHz)
39	2480	38	2478

2400-2483.5 MHz		5150-5250 MHz	
802.11ax HE20		802.11ax HE160	
Channel	Freq. (MHz)	Channel	Freq. (MHz)
11	2462	50	5250

6875-7125 MHz	
802.11ax HE160	
Channel	Freq. (MHz)
207	6985

2.2 Test Mode

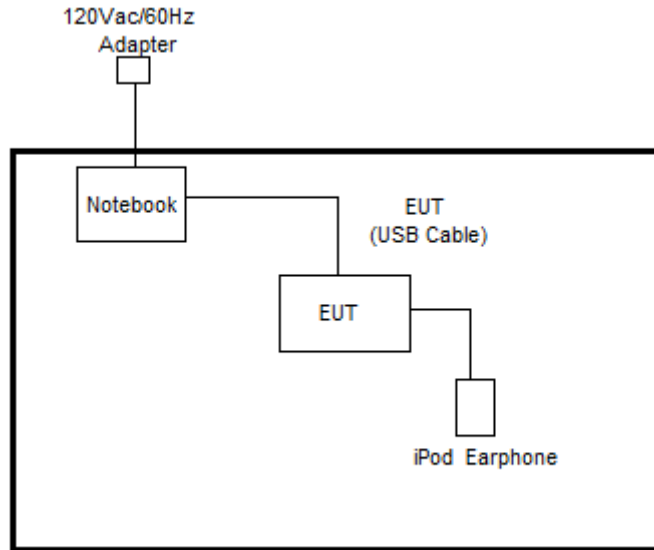
<Co-Location>

Modulation	Data Rate
nRF for Ant. 2 + Bluetooth-LE for Ant. 1 + 5GHz 802.11ax HE160 for MIMO <Ant. 0+1>	GFSK + GFSK + MCS0
nRF for Ant. 2 + Bluetooth-LE for Ant. 1 + 6GHz 802.11ax HE160 for MIMO <Ant. 0+1>	GFSK + GFSK + MCS0
nRF for Ant. 2 + 2.4GHz 802.11ax HE20 for MIMO <Ant. 0+1> + 5GHz 802.11ax HE160 for MIMO <Ant. 0+1>	GFSK + MCS0 + MCS0
nRF for Ant. 2 + 2.4GHz 802.11ax HE20 for MIMO <Ant. 0+1> + 6GHz 802.11ax HE160 for MIMO <Ant. 0+1>	GFSK + MCS0 + MCS0

Remark: For Radiated Test Cases, the tests were performed with Battery 1, USB Cable 1 and Sample 1.

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



2.4 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 3	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT v4.0.00209” 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 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.1.1 Limit of Unwanted Emissions

<For 2402 MHz ~ 2480 MHz>

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.

<For 5180 MHz ~ 5240 MHz>

For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

<For 6875 MHz ~ 7125 MHz >

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27 (RMS)	68.3
- 7 (Peak)	88.3

According 987594 D02 U-NII 6GHz EMC Measurement v01 section G:

Unwanted emissions outside of restricted bands are measured with a RMS detector.

In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit



Unwanted spurious emissions falls in restricted bands shall comply with the general field strength limits as below table:

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.3

KDB789033 D02 v02r01 G)2)c)

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

3.1.2 Measuring Instruments

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



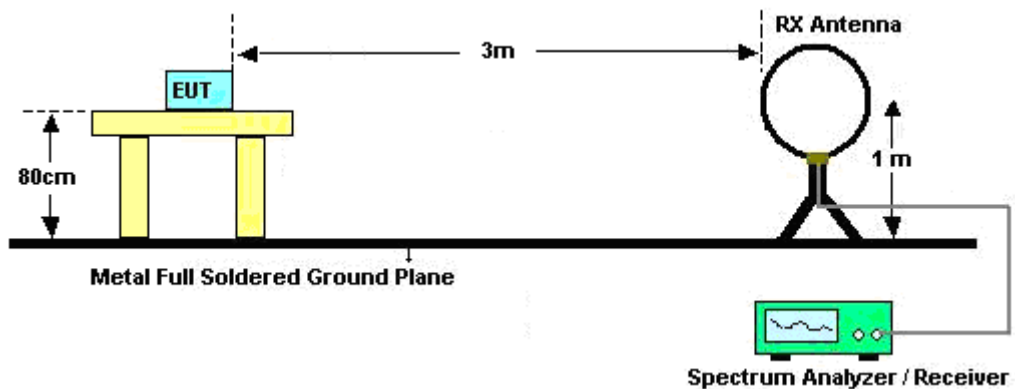
3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW \geq 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW \geq 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.
2. 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.
3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
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 "-".

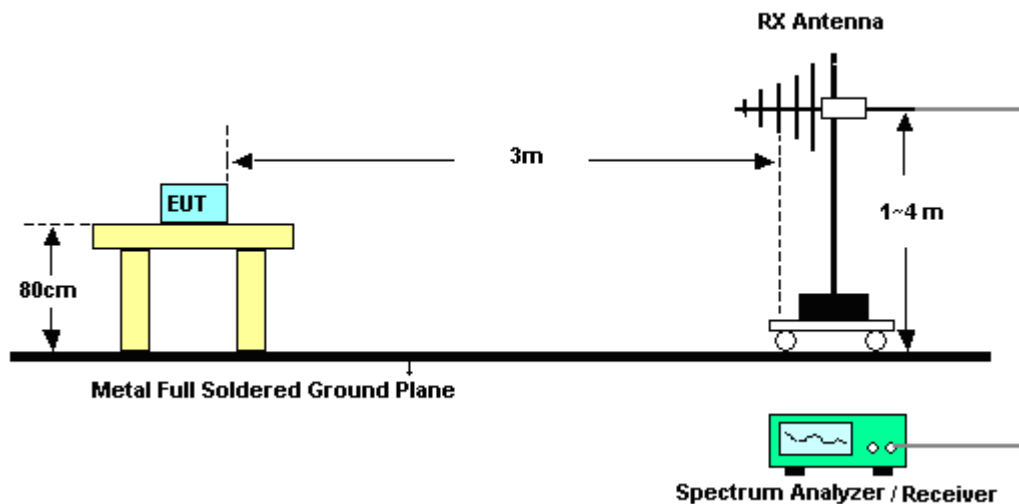
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as “-”.

3.1.4 Test Setup

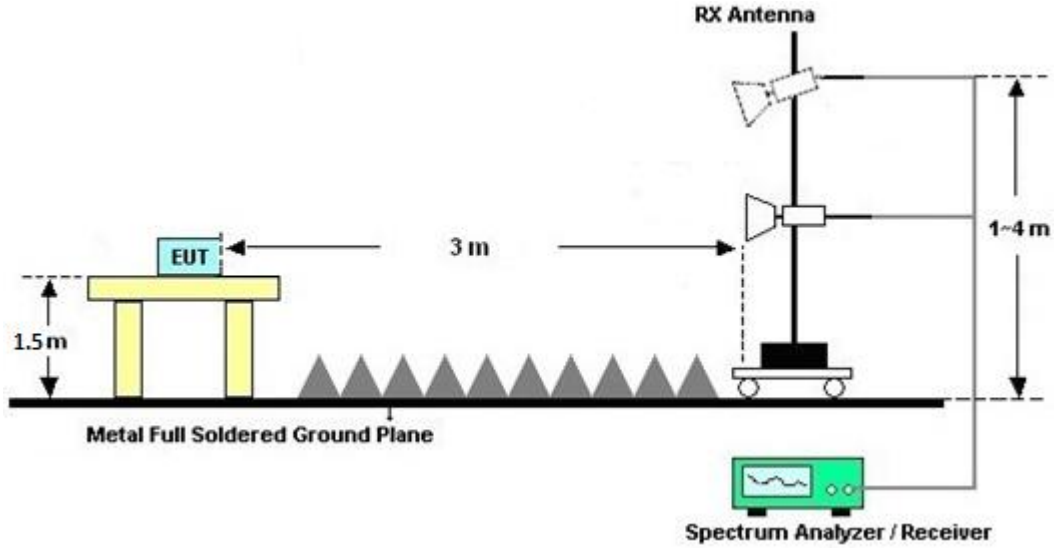
For radiated emissions below 30MHz



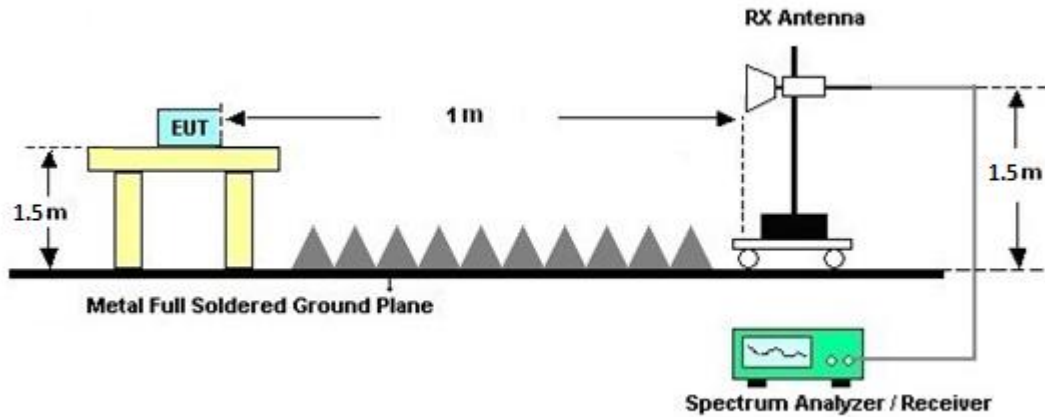
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz





3.1.5 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 came out very similar.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix A and B.



3.2 Antenna Requirements

3.2.1 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.

3.2.2 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	Sep. 20, 2022	Jun. 09, 2023~ Jun. 19, 2023	Sep. 19, 2023	Radiation (03CH21-HY)
Bilog Antenna	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	63303 & 001	30MHz~1GHz	Oct. 04, 2022	Jun. 09, 2023~ Jun. 19, 2023	Oct. 03, 2023	Radiation (03CH21-HY)
Horn Antenna	RFSPIN	DRH18-E	LE2C03A18EN	1GHz~18GHz	Jul. 06, 2022	Jun. 09, 2023~ Jun. 19, 2023	Jul. 05, 2023	Radiation (03CH21-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1223	18GHz~40GHz	Jul. 05, 2022	Jun. 09, 2023~ Jun. 19, 2023	Jul. 04, 2022	Radiation (03CH21-HY)
Amplifier	SONOMA	310N	421580	30MHz~1GHz	Jul. 16, 2022	Jun. 09, 2023~ Jun. 19, 2023	Jul. 15, 2023	Radiation (03CH21-HY)
Amplifier	EMEC	EM01G18GA	060876	1GHz~18GHz	Sep. 28, 2022	Jun. 09, 2023~ Jun. 19, 2023	Sep. 27, 2023	Radiation (03CH21-HY)
Preamplifier	EMEC	EM18G40G	060871	18GHz~40GHz	Sep. 29, 2022	Jun. 09, 2023~ Jun. 19, 2023	Sep. 28, 2023	Radiation (03CH21-HY)
Spectrum Analyzer	Keysight	N9010B	MY62170358	10Hz~44GHz	Sep. 11, 2022	Jun. 09, 2023~ Jun. 19, 2023	Sep. 10, 2023	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 07, 2023	Jun. 09, 2023~ Jun. 19, 2023	Mar. 06, 2024	Radiation (03CH21-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804397/2,804612/2,804614/2	30MHz~40GHz	Oct. 25, 2022	Jun. 09, 2023~ Jun. 19, 2023	Oct. 24, 2023	Radiation (03CH21-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN27	1.53GHz Low Pass Filter	May 23, 2023	Jun. 09, 2023~ Jun. 19, 2023	May 22, 2024	Radiation (03CH21-HY)
Filter	Wainwright	WHKX12-2805-3000-18000-40ST	SN19	3GHz High Pass Filter	Aug. 05, 2022	Jun. 09, 2023~ Jun. 19, 2023	Aug. 04, 2023	Radiation (03CH21-HY)
Filter	Wainwright	WHKX8-6090-7000-18000-40SS	SN98	7GHz High Pass Filter	Nov. 03, 2022	Jun. 09, 2023~ Jun. 19, 2023	Nov. 02, 2023	Radiation (03CH21-HY)
Filter	Wainwright	WHKX6-7268-9200-26500-40CD	SN4	9GHz High Pass Filter	May 23, 2023	Jun. 09, 2023~ Jun. 19, 2023	May 22, 2024	Radiation (03CH21-HY)
Hygrometer	TECPEL	DTM-303A	TP211568	N/A	Nov. 17, 2022	Jun. 09, 2023~ Jun. 19, 2023	Nov. 16, 2023	Radiation (03CH21-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 09, 2023~ Jun. 19, 2023	N/A	Radiation (03CH21-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 09, 2023~ Jun. 19, 2023	N/A	Radiation (03CH21-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jun. 09, 2023~ Jun. 19, 2023	N/A	Radiation (03CH21-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Jun. 09, 2023~ Jun. 19, 2023	N/A	Radiation (03CH21-HY)



5 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.84 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.40 dB
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Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.42 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.38 dB
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Appendix A. Radiated Spurious Emission

Test Engineer :	Jack Cheng and Karl Hou	Temperature :	18~26°C
		Relative Humidity :	50~70%

nRF + BLE (2M) + WLAN (5GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF Ant.	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	TanRF Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
nRF CH 38 2478MHz	*	2478	107.74	-	-	94.3	26.74	19.56	32.86	180	352	P	H
	*	2478	105.3	-	-	91.86	26.74	19.56	32.86	180	352	A	H
		2484.44	55.65	-18.35	74	42.21	26.73	19.58	32.87	180	352	P	H
		2484	47.93	-6.07	54	34.49	26.73	19.58	32.87	180	352	A	H
	*	2478	98.32	-	-	84.88	26.74	19.56	32.86	201	9	P	V
	*	2478	97.82	-	-	84.38	26.74	19.56	32.86	201	9	A	V
		2483.52	52.3	-21.7	74	38.87	26.73	19.57	32.87	201	9	P	V
		2483.92	44.43	-9.57	54	30.99	26.73	19.58	32.87	201	9	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

BLE (Band Edge @ 3m)

BLE	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE CH 39 2480MHz	*	2480	115.48	-	-	102.04	26.74	19.57	32.87	264	20	P	H
	*	2480	113.65	-	-	100.21	26.74	19.57	32.87	264	20	A	H
		2483.56	59.36	-14.64	74	45.93	26.73	19.57	32.87	264	20	P	H
		2483.6	47.71	-6.29	54	34.28	26.73	19.57	32.87	264	20	A	H
													H
													H
	*	2480	110.28	-	-	96.84	26.74	19.57	32.87	272	270	P	V
	*	2480	108.99	-	-	95.55	26.74	19.57	32.87	272	270	A	V
		2483.6	54.67	-19.33	74	41.24	26.73	19.57	32.87	272	270	P	V
		2483.52	44.09	-9.91	54	30.66	26.73	19.57	32.87	272	270	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 - 5150~5250MHz

WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE160 Full CH 50 5250MHz		5111.8	61.66	-12.34	74	49.37	32.48	14.11	34.3	244	359	P	H
		5144.56	52.55	-1.45	54	40.36	32.41	14.13	34.35	244	359	A	H
	*	5250	104.6	-	-	92.52	32.4	14.19	34.51	244	359	P	H
	*	5250	96.28	-	-	84.2	32.4	14.19	34.51	244	359	A	H
		5354.72	58.14	-15.86	74	46.19	32.39	14.24	34.68	244	359	P	H
		5355.56	50.98	-3.02	54	39.03	32.39	14.24	34.68	244	359	A	H
		5134.68	57.07	-16.93	74	44.86	32.43	14.12	34.34	400	294	P	V
		5134.68	47.55	-6.45	54	35.34	32.43	14.12	34.34	400	294	A	V
	*	5250	96.52	-	-	84.44	32.4	14.19	34.51	400	294	P	V
	*	5250	89.07	-	-	76.99	32.4	14.19	34.51	400	294	A	V
		5354.44	52.87	-21.13	74	40.92	32.39	14.24	34.68	400	294	P	V
		5355.84	43.96	-10.04	54	32.01	32.39	14.24	34.68	400	294	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



nRF + BLE (2M) + WLAN 802.11ax HE160 Full
(Harmonic @ 3m)

Ant. Simultaneously	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 50 5250MHz		4956	53.31	-20.69	74	40.19	32.6	14.66	34.14	206	197	P	H
		4956	43.5	-10.5	54	30.38	32.6	14.66	34.14	206	197	A	H
		4960	53.46	-20.54	74	40.34	32.6	14.65	34.13	206	195	P	H
		4960	43.43	-10.57	54	30.31	32.6	14.65	34.13	206	195	A	H
		7000	62.96	-5.24	68.2	45.88	36.3	17.15	36.37	208	199	P	H
		7434	49.1	-24.9	74	31.55	36.9	17.27	36.62	279	173	P	H
		7434	41.76	-12.24	54	24.21	36.9	17.27	36.62	279	173	A	H
		7440	58.4	-15.6	74	40.85	36.9	17.28	36.63	281	178	P	H
		7440	50.4	-3.6	54	32.85	36.9	17.28	36.63	281	178	A	H
		10500	49.37	-18.83	68.2	32.15	37.3	20.03	40.11	285	173	P	H
		15750	53.24	-20.76	74	34.27	40.65	24.44	46.12	282	171	P	H
		15750	43.4	-10.6	54	24.43	40.65	24.44	46.12	282	171	A	H
		4956	52.97	-21.03	74	39.85	32.6	14.66	34.14	105	233	P	V
		4956	43.34	-10.66	54	30.22	32.6	14.66	34.14	105	233	A	V
		4960	52.92	-21.08	74	39.8	32.6	14.65	34.13	105	230	P	V
		4960	42.95	-11.05	54	29.83	32.6	14.65	34.13	105	230	A	V
		7000	56.03	-12.17	68.2	38.95	36.3	17.15	36.37	400	246	P	V
		7434	48.83	-25.17	74	31.28	36.9	17.27	36.62	103	185	P	V
		7434	41.61	-12.39	54	24.06	36.9	17.27	36.62	103	185	A	V
		7440	54.07	-19.93	74	36.52	36.9	17.28	36.63	101	164	P	V
	7440	47.92	-6.08	54	30.37	36.9	17.28	36.63	101	164	A	V	
	10500	50.2	-18	68.2	32.98	37.3	20.03	40.11	112	177	P	V	
	15750	53.24	-20.76	74	34.27	40.65	24.44	46.12	115	183	P	V	
	15750	43.39	-10.61	54	24.42	40.65	24.44	46.12	115	183	A	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission above 18GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (SHF @ 1m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 50 5250MHz		31277	43.96	-30.04	74	39.93	40.77	24.68	61.42	-	-	P	H
													H
													H
													H
													H
													H
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													H
													H
													H
													H
	nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 50 5250MHz		31277	43.58	-30.42	74	39.55	40.77	24.68	61.42	-	-	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark		1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.											



Emission below 1GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (LF @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 50 5250MHz		30.97	22.74	-17.26	40	29.49	24.61	1.4	32.76	-	-	P	H	
		91.11	21.55	-21.95	43.5	36.82	15.02	2.41	32.7	-	-	P	H	
		258.92	21.28	-24.72	46	30.68	19.73	3.62	32.75	-	-	P	H	
		566.41	28.38	-17.62	46	30.06	26.24	5.09	33.01	-	-	P	H	
		857.41	33.68	-12.32	46	30.47	29.45	6.15	32.39	-	-	P	H	
		964.11	36.83	-17.17	54	30.56	31.32	6.45	31.5	-	-	P	H	
														H
														H
														H
														H
														H
														H
			30.97	22.59	-17.41	40	29.34	24.61	1.4	32.76	-	-	P	V
			91.11	19.98	-23.52	43.5	35.25	15.02	2.41	32.7	-	-	P	V
			261.83	20.9	-25.1	46	30.08	19.94	3.63	32.75	-	-	P	V
			560.59	29.37	-16.63	46	31.02	26.3	5.06	33.01	-	-	P	V
			843.83	33.18	-12.82	46	30.39	29.15	6.11	32.47	-	-	P	V
			953.44	36.23	-9.77	46	30.06	31.37	6.4	31.6	-	-	P	V
													V	
													V	
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against limit line. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only. 													



nRF + BLE (2M) + WLAN (6GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	TanRF Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
nRF CH 38 2478MHz	*	2478	109.08	-	-	95.64	26.74	19.56	32.86	100	178	P	H
	*	2478	107.21	-	-	93.77	26.74	19.56	32.86	100	178	A	H
		2485.12	55.73	-18.27	74	42.29	26.73	19.58	32.87	100	178	P	H
		2483.72	47.76	-6.24	54	34.33	26.73	19.57	32.87	100	178	A	H
	*	2478	98.77	-	-	85.33	26.74	19.56	32.86	142	217	P	V
	*	2478	97.17	-	-	83.73	26.74	19.56	32.86	142	217	A	V
		2483.76	51.81	-22.19	74	38.38	26.73	19.57	32.87	142	217	P	V
		2483.92	44.46	-9.54	54	31.02	26.73	19.58	32.87	142	217	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

BLE (Band Edge @ 3m)

BLE	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BLE CH 39 2480MHz	*	2480	113.81	-	-	100.37	26.74	19.57	32.87	384	200	P	H
	*	2480	112.05	-	-	98.61	26.74	19.57	32.87	384	200	A	H
		2483.56	58.74	-15.26	74	45.31	26.73	19.57	32.87	384	200	P	H
		2483.56	46.35	-7.65	54	32.92	26.73	19.57	32.87	384	200	A	H
													H
													H
	*	2480	110	-	-	96.56	26.74	19.57	32.87	399	107	P	V
	*	2480	108.67	-	-	95.23	26.74	19.57	32.87	399	107	A	V
		2483.52	54.24	-19.76	74	40.81	26.73	19.57	32.87	399	107	P	V
		2484.2	43.88	-10.12	54	30.44	26.73	19.58	32.87	399	107	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 8 - 6875~7125MHz

WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE160 Full CH 207 6985MHz	*	6985	96.56	-	-	80.27	36.3	16.34	36.35	203	20	P	H
	*	6985	86.53	-	-	70.24	36.3	16.34	36.35	203	20	A	H
		7134.12	53.4	-34.8	88.2	36.7	36.54	16.61	36.45	203	20	P	H
		7187.24	44.49	-23.71	68.2	27.67	36.6	16.7	36.48	203	20	A	H
													H
													H
	*	6985	85.37	-	-	69.08	36.3	16.34	36.35	202	26	P	V
	*	6985	77.88	-	-	61.59	36.3	16.34	36.35	202	26	A	V
		7203.56	55.3	-32.9	88.2	38.45	36.61	16.73	36.49	202	26	P	V
		7205.48	45.44	-22.76	68.2	28.58	36.62	16.73	36.49	202	26	A	V
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



nRF + BLE (2M) + WLAN 802.11ax HE160 Full
(Harmonic @ 3m)

Ant. Simultaneously	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 207 6985MHz		4956	52.33	-21.67	74	39.21	32.6	14.66	34.14	282	1	P	H	
		4956	43.21	-10.79	54	30.09	32.6	14.66	34.14	282	1	A	H	
		4960	52.5	-21.5	74	39.38	32.6	14.65	34.13	282	1	P	H	
		4960	43.23	-10.77	54	30.11	32.6	14.65	34.13	282	1	A	H	
		7434	48.56	-25.44	74	31.53	36.9	16.75	36.62	283	3	P	H	
		7434	41.38	-12.62	54	24.35	36.9	16.75	36.62	283	3	A	H	
		7440	59.05	-14.95	74	42.02	36.9	16.76	36.63	284	4	P	H	
		7440	50.73	-3.27	54	33.7	36.9	16.76	36.63	284	4	A	H	
		13970	53.14	-35.06	88.2	32.98	40.57	23.09	43.5	290	13	P	H	
		20955	39.83	-34.17	74	45.64	38.29	17.7	61.8	299	15	P	H	
														H
														H
			4956	50.61	-23.39	74	37.49	32.6	14.66	34.14	288	76	P	V
			4956	43.27	-10.73	54	30.15	32.6	14.66	34.14	288	76	A	V
			4960	50.75	-23.25	74	37.63	32.6	14.65	34.13	288	76	P	V
			4960	43.26	-10.74	54	30.14	32.6	14.65	34.13	288	76	A	V
			7434	48.89	-25.11	74	31.86	36.9	16.75	36.62	273	69	P	V
			7434	41.2	-12.8	54	24.17	36.9	16.75	36.62	273	69	A	V
			7440	53.11	-20.89	74	36.08	36.9	16.76	36.63	298	78	P	V
			7440	47.25	-6.75	54	30.22	36.9	16.76	36.63	298	78	A	V
		13970	53.02	-35.18	88.2	32.86	40.57	23.09	43.5	313	91	P	V	
		20955	40.66	-33.34	74	46.47	38.29	17.7	61.8	319	98	P	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



Emission above 18GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (SHF @ 1m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 207 6985MHz		31288	43.88	-30.12	74	39.86	40.75	24.68	61.41	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			31409	44.49	-29.51	74	40.57	40.61	24.6	61.29	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



Emission below 1GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (LF @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + BLE CH 39 2480MHz + 802.11ax HE160 Full CH 207 6985MHz		30	23.43	-16.57	40	29.77	25	1.42	32.76	-	-	P	H	
		91.11	22.95	-20.55	43.5	38.22	15.02	2.41	32.7	-	-	P	H	
		266.68	21.99	-24.01	46	31.43	19.66	3.66	32.76	-	-	P	H	
		556.71	28.31	-17.69	46	30.1	26.17	5.04	33	-	-	P	H	
		812.79	33.27	-12.73	46	32.16	27.8	5.96	32.65	-	-	P	H	
		948.59	36.49	-9.51	46	30.53	31.22	6.39	31.65	-	-	P	H	
														H
														H
														H
														H
														H
			30.97	22.71	-17.29	40	29.46	24.61	1.4	32.76	-	-	P	V
			91.11	20.59	-22.91	43.5	35.86	15.02	2.41	32.7	-	-	P	V
			271.53	21.2	-24.8	46	31.36	18.91	3.69	32.76	-	-	P	V
			558.65	28.93	-17.07	46	30.63	26.25	5.05	33	-	-	P	V
			774.96	33.45	-12.55	46	32.22	28.2	5.82	32.79	-	-	P	V
			953.44	36.22	-9.78	46	30.05	31.37	6.4	31.6	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against limit line. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only. 													



nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	TanRF Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
nRF CH 38 2478MHz	*	2478	104.71	-	-	91.27	26.74	19.56	32.86	124	332	P	H
	*	2478	104.23	-	-	90.79	26.74	19.56	32.86	124	332	A	H
		2483.92	61.25	-12.75	74	47.81	26.73	19.58	32.87	124	332	P	H
		2483.72	52.9	-1.1	54	39.47	26.73	19.57	32.87	124	332	A	H
	*	2478	98.43	-	-	84.99	26.74	19.56	32.86	157	14	P	V
	*	2478	97.94	-	-	84.5	26.74	19.56	32.86	157	14	A	V
		2495.84	53.69	-20.31	74	40.26	26.71	19.6	32.88	157	14	P	V
		2496.52	46.97	-7.03	54	33.54	26.71	19.6	32.88	157	14	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Full CH 11 2462MHz	*	2462	117.09	-	-	103.64	26.78	19.52	32.85	297	326	P	H
	*	2462	107.67	-	-	94.22	26.78	19.52	32.85	297	326	A	H
		2483.64	65.84	-8.16	74	52.41	26.73	19.57	32.87	297	326	P	H
		2483.52	49.47	-4.53	54	36.04	26.73	19.57	32.87	297	326	A	H
													H
													H
	*	2462	115.35	-	-	101.9	26.78	19.52	32.85	400	263	P	V
	*	2462	104.05	-	-	90.6	26.78	19.52	32.85	400	263	A	V
		2484.12	62.03	-11.97	74	48.59	26.73	19.58	32.87	400	263	P	V
		2483.52	46.58	-7.42	54	33.15	26.73	19.57	32.87	400	263	A	V
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 - 5150~5250MHz

WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE160 Full CH 50 5250MHz		5145.86	62.39	-11.61	74	49.63	32.41	14.7	34.35	242	0	P	H
		5145.34	52.38	-1.62	54	39.62	32.41	14.7	34.35	242	0	A	H
	*	5250	104.46	-	-	91.75	32.4	14.82	34.51	242	0	P	H
	*	5250	96.46	-	-	83.75	32.4	14.82	34.51	242	0	A	H
		5355.56	60.68	-13.32	74	48	32.39	14.97	34.68	242	0	P	H
		5356.12	51.78	-2.22	54	39.1	32.39	14.97	34.68	242	0	A	H
		5135.2	54.54	-19.46	74	41.76	32.43	14.69	34.34	383	301	P	V
		5125.06	46.75	-7.25	54	33.93	32.45	14.69	34.32	383	301	A	V
	*	5250	98.42	-	-	85.71	32.4	14.82	34.51	383	301	P	V
	*	5250	89.39	-	-	76.68	32.4	14.82	34.51	383	301	A	V
		5366.48	52.38	-21.62	74	39.72	32.37	14.98	34.69	383	301	P	V
		5366.2	44.3	-9.7	54	31.64	32.37	14.98	34.69	383	301	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full
(Harmonic @ 3m)**

Ant. Simultaneously	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 50 5250MHz		4924	51.91	-22.09	74	38.79	32.55	14.71	34.14	186	191	P	H
		4924	43.73	-10.27	54	30.61	32.55	14.71	34.14	186	191	A	H
		4956	53.23	-20.77	74	40.11	32.6	14.66	34.14	186	191	P	H
		4956	43.61	-10.39	54	30.49	32.6	14.66	34.14	186	191	A	H
		7000	62.91	-5.29	68.2	45.83	36.3	17.15	36.37	205	195	P	H
		7386	49.16	-24.84	74	31.67	36.87	17.21	36.59	222	183	P	H
		7386	39.79	-14.21	54	22.3	36.87	17.21	36.59	222	183	A	H
		7434	49.61	-24.39	74	32.06	36.9	17.27	36.62	222	183	P	H
		7434	39.71	-14.29	54	22.16	36.9	17.27	36.62	222	183	A	H
		10500	48.71	-19.49	68.2	31.49	37.3	20.03	40.11	233	198	P	H
		15750	53.28	-20.72	74	34.31	40.65	24.44	46.12	135	199	P	H
		15750	44.18	-9.82	54	25.21	40.65	24.44	46.12	135	199	A	H
		4924	52.72	-21.28	74	39.6	32.55	14.71	34.14	388	247	P	V
		4924	43.09	-10.91	54	29.97	32.55	14.71	34.14	388	247	A	V
		4956	52.06	-21.94	74	38.94	32.6	14.66	34.14	388	247	P	V
		4956	43.25	-10.75	54	30.13	32.6	14.66	34.14	388	247	A	V
		7000	57.05	-11.15	68.2	39.97	36.3	17.15	36.37	370	242	P	V
		7386	49.06	-24.94	74	31.57	36.87	17.21	36.59	397	256	P	V
		7386	39.83	-14.17	54	22.34	36.87	17.21	36.59	397	256	A	V
		7434	49.31	-24.69	74	31.76	36.9	17.27	36.62	397	256	P	V
	7434	40.05	-13.95	54	22.5	36.9	17.27	36.62	397	256	A	V	
	10500	49.26	-18.94	68.2	32.04	37.3	20.03	40.11	388	287	P	V	
	15750	53.37	-20.63	74	34.4	40.65	24.44	46.12	389	290	P	V	
	15750	44.01	-9.99	54	25.04	40.65	24.44	46.12	389	290	A	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission above 18GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full (SHF @ 1m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 50 5250MHz		31255	44.15	-29.85	74	40.1	40.79	24.7	61.44	-	-	P	H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
													H	
			31343	43.59	-30.41	74	39.62	40.69	24.64	61.36	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.													



Emission below 1GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full (LF @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 50 5250MHz		30.97	22.9	-17.1	40	29.65	24.61	1.4	32.76	-	-	P	H	
		91.11	20.37	-23.13	43.5	35.64	15.02	2.41	32.7	-	-	P	H	
		276.38	21.94	-24.06	46	32.27	18.7	3.73	32.76	-	-	P	H	
		571.26	29.07	-16.93	46	30.96	26.02	5.11	33.02	-	-	P	H	
		754.59	32.02	-13.98	46	30.87	28.21	5.77	32.83	-	-	P	H	
		850.62	34.27	-11.73	46	31.16	29.4	6.14	32.43	-	-	P	H	
														H
														H
														H
														H
														H
			30.97	22.96	-17.04	40	29.71	24.61	1.4	32.76	-	-	P	V
			91.11	20.14	-23.36	43.5	35.41	15.02	2.41	32.7	-	-	P	V
			265.71	20.46	-25.54	46	29.7	19.86	3.66	32.76	-	-	P	V
			561.56	28.61	-17.39	46	30.26	26.3	5.06	33.01	-	-	P	V
			736.16	31.91	-14.09	46	31.19	27.92	5.68	32.88	-	-	P	V
			957.32	36.29	-9.71	46	30.03	31.4	6.42	31.56	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.													



nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	TanRF Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
nRF CH 38 2478MHz	*	2478	99.22	-	-	85.78	26.74	19.56	32.86	303	203	P	H
	*	2478	95.85	-	-	82.41	26.74	19.56	32.86	303	203	A	H
		2495.8	51.44	-22.56	74	38.01	26.71	19.6	32.88	303	203	P	H
		2484.2	44.52	-9.48	54	31.08	26.73	19.58	32.87	303	203	A	H
	*	2478	115.18	-	-	101.74	26.74	19.56	32.86	133	153	P	V
	*	2478	108.25	-	-	94.81	26.74	19.56	32.86	133	153	A	V
		2485.28	58.01	-15.99	74	44.57	26.73	19.58	32.87	133	153	P	V
		2483.8	49.89	-4.11	54	36.45	26.73	19.58	32.87	133	153	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Full CH 11 2462MHz	*	2462	109.67	-	-	96.22	26.78	19.52	32.85	176	346	P	H
	*	2462	101.96	-	-	88.51	26.78	19.52	32.85	176	346	A	H
		2483.92	55.56	-18.44	74	42.12	26.73	19.58	32.87	176	346	P	H
		2483.6	43.29	-10.71	54	29.86	26.73	19.57	32.87	176	346	A	H
													H
													H
	*	2462	119.39	-	-	105.94	26.78	19.52	32.85	106	66	P	V
	*	2462	109.94	-	-	96.49	26.78	19.52	32.85	106	66	A	V
		2484.76	62.34	-11.66	74	48.9	26.73	19.58	32.87	106	66	P	V
		2483.52	48.51	-5.49	54	35.08	26.73	19.57	32.87	106	66	A	V
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 8 - 6875~7125MHz

WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
0+1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE160 Full CH 207 6985MHz	*	6985	98.69	-	-	82.4	36.3	16.34	36.35	198	357	P	H
	*	6985	89.76	-	-	73.47	36.3	16.34	36.35	198	357	A	H
		7141.48	53.81	-34.39	88.2	37.07	36.57	16.62	36.45	198	357	P	H
		7206.76	45.22	-22.98	68.2	28.35	36.63	16.73	36.49	198	357	A	H
													H
													H
	*	6985	84.05	-	-	67.76	36.3	16.34	36.35	111	360	P	V
	*	6985	76.53	-	-	60.24	36.3	16.34	36.35	111	360	A	V
		7184.36	54.89	-33.31	88.2	38.07	36.6	16.7	36.48	111	360	P	V
		7205.48	45.96	-22.24	68.2	29.1	36.62	16.73	36.49	111	360	A	V
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full
(Harmonic @ 3m)**

Ant. Simultaneously	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 207 6985MHz		4924	50.82	-23.18	74	37.7	32.55	14.71	34.14	195	355	P	H	
		4924	43.06	-10.94	54	29.94	32.55	14.71	34.14	195	355	A	H	
		4956	50.89	-23.11	74	37.77	32.6	14.66	34.14	198	357	P	H	
		4956	43.26	-10.74	54	30.14	32.6	14.66	34.14	198	357	A	H	
		7386	47.68	-26.32	74	30.7	36.87	16.7	36.59	100	98	P	H	
		7386	37.17	-16.83	54	20.19	36.87	16.7	36.59	100	98	A	H	
		7434	49.99	-24.01	74	32.96	36.9	16.75	36.62	100	96	P	H	
		7434	40.91	-13.09	54	23.88	36.9	16.75	36.62	100	96	A	H	
		13970	53.68	-34.52	88.2	33.39	40.57	23.22	43.5	150	103	P	H	
		20955	39.85	-34.15	74	45.66	38.29	17.7	61.8	177	89	P	H	
														H
														H
			4924	51.22	-22.78	74	38.1	32.55	14.71	34.14	101	355	P	V
			4924	43.08	-10.92	54	29.96	32.55	14.71	34.14	101	355	A	V
			4956	53.1	-20.9	74	39.98	32.6	14.66	34.14	111	360	P	V
			4956	43.45	-10.55	54	30.33	32.6	14.66	34.14	111	360	A	V
			7386	47.25	-26.75	74	30.27	36.87	16.7	36.59	100	176	P	V
			7386	37.16	-16.84	54	20.18	36.87	16.7	36.59	100	176	A	V
			7434	51.36	-22.64	74	34.33	36.9	16.75	36.62	100	174	P	V
			7434	40.9	-13.1	54	23.87	36.9	16.75	36.62	100	174	A	V
		13970	54.79	-33.41	88.2	34.5	40.57	23.22	43.5	133	205	P	V	
		20955	39.68	-34.32	74	45.49	38.29	17.7	61.8	128	203	P	V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



Emission above 18GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full (SHF @ 1m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preampl	Ant	Table	Peak	Pol.
Ant.		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 207 6985MHz		31398	43.88	-30.12	74	39.96	40.62	24.6	61.3	-	-	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
	nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 207 6985MHz		31310	44.18	-29.82	74	40.18	40.73	24.66	61.39	-	-	P
													V
													V
													V
													V
													V
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													V
													V
													V
													V
													V
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													V
Remark		1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.											



Emission below 1GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full (LF @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.		
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
nRF CH 38 2478MHz + 802.11ax HE20 Full CH 11 2462MHz + 802.11ax HE160 Full CH 207 6985MHz		43.58	24.9	-15.1	40	37.97	17.88	1.8	32.75	-	-	P	H	
		160.95	22.91	-20.59	43.5	36.26	16.31	3.04	32.7	-	-	P	H	
		200.72	26.75	-16.75	43.5	41.2	15.01	3.25	32.71	-	-	P	H	
		336.52	26.92	-19.08	46	35.78	19.93	4.02	32.81	-	-	P	H	
		623.64	34.83	-11.17	46	36.5	26.05	5.31	33.03	-	-	P	H	
		796.3	33.72	-12.28	46	32.6	27.97	5.89	32.74	-	-	P	H	
														H
														H
														H
														H
														H
			32.91	22.88	-17.12	40	30.93	23.35	1.36	32.76	-	-	P	V
			91.11	18.97	-24.53	43.5	34.24	15.02	2.41	32.7	-	-	P	V
			289.96	21.17	-24.83	46	31.12	19	3.82	32.77	-	-	P	V
			557.68	28.09	-17.91	46	29.83	26.21	5.05	33	-	-	P	V
			759.44	31.98	-14.02	46	30.73	28.29	5.78	32.82	-	-	P	V
			953.44	36.29	-9.71	46	30.12	31.37	6.4	31.6	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line. 3. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.													



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is Margin line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
Full													
CH 01		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H
2412MHz													

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Margin(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Margin(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix B. Radiated Spurious Emission Plots

Test Engineer :	Jack Cheng and Karl Hou	Temperature :	18~26°C
		Relative Humidity :	50~70%

Note symbol

-L	Low channel location
-R	High channel location



nRF + BLE (2M) + WLAN (5GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	<p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>

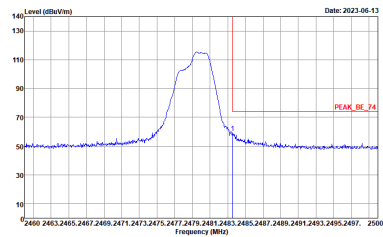
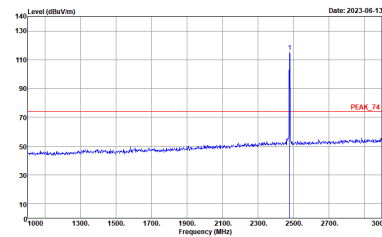
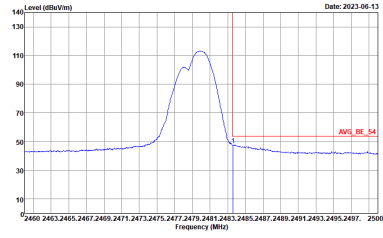
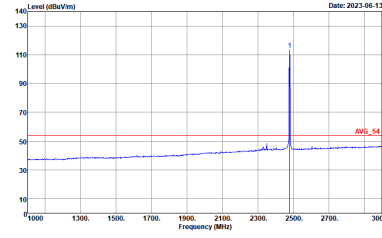


nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>

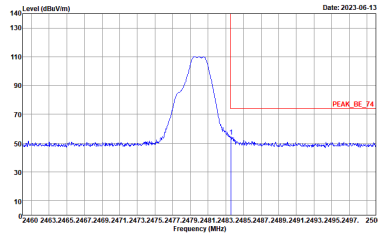
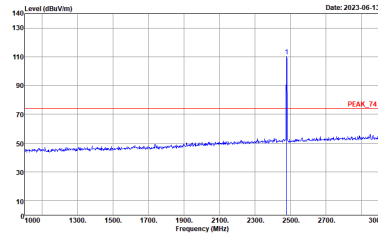
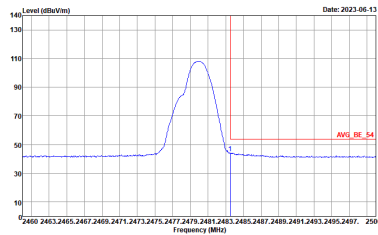
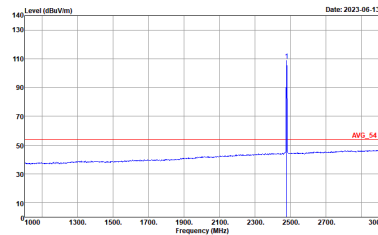


2.4GHz 2400~2483.5MHz

BLE (Band Edge @ 3m)

BLE	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BLE CH39 2480MHz	
1	Horizontal	Fundamental
Peak	 <p>Level (dBm/Vm) vs Frequency (MHz) plot showing a peak at approximately 2480 MHz. The peak level is marked as PEAK_BE_74.</p> <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Level (dBm/Vm) vs Frequency (MHz) plot showing a sharp peak at 2480 MHz. The peak level is marked as PEAK_74.</p> <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
	 <p>Level (dBm/Vm) vs Frequency (MHz) plot showing an average peak at approximately 2480 MHz. The average level is marked as AVG_BE_54.</p> <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:5.100kHz SWT:Auto</p>	 <p>Level (dBm/Vm) vs Frequency (MHz) plot showing an average sharp peak at 2480 MHz. The average level is marked as AVG_54.</p> <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000kHz VBW:5.100kHz SWT:Auto</p>
Avg.		



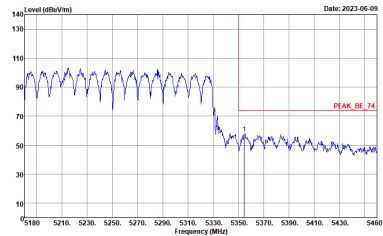
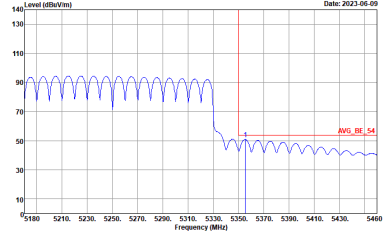
BLE	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BLE CH39 2480MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>



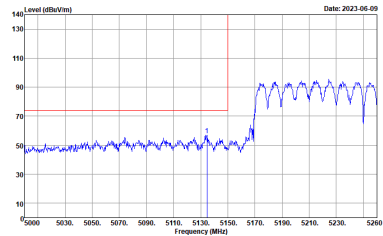
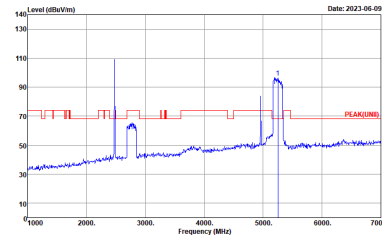
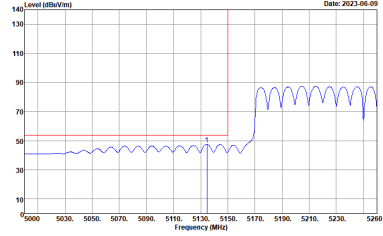
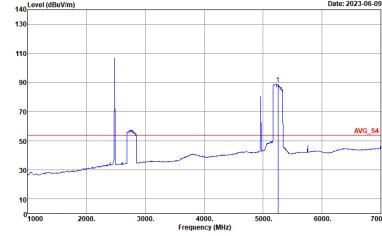
Band 1 - 5150~5250MHz
WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - L	
0+1	Horizontal	Fundamental
Peak	<p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : PEAK(FUN1) 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>

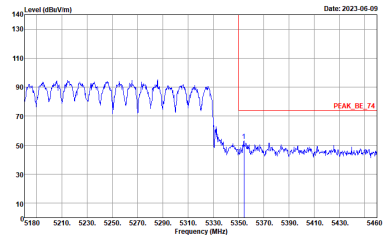
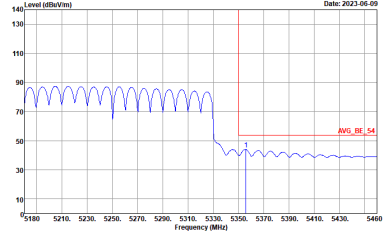


WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - R	
0+1	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Left blank</p>



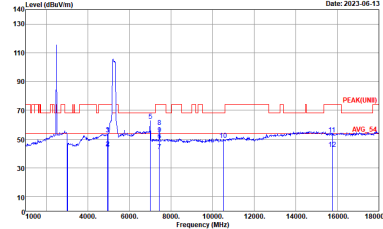
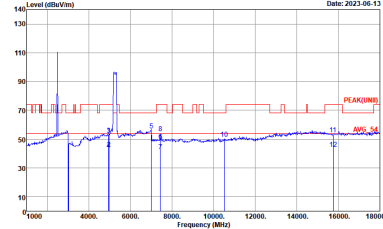
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - L	
0+1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK(FUNDT) 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - R	
0+1	Vertical	Fundamental
<p>Peak</p>	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Left blank</p>



nRF + BLE (2M) + WLAN 802.11ax HE160 Full
(Harmonic @ 3m)

Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
<p style="text-align: center;">Peak Avg.</p>	 <p style="font-size: small;">Date: 2023-06-13 Site : 03CH21-HY Condition : PEAK(UM) 3m DRH18-E_LE2C03A_2207 HORIZONTAL</p>	 <p style="font-size: small;">Date: 2023-06-13 Site : 03CH21-HY Condition : PEAK(UM) 3m DRH18-E_LE2C03A_2207 VERTICAL</p>

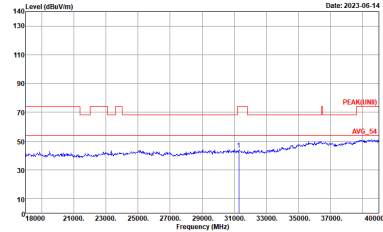
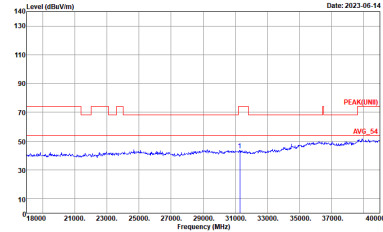


Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
Avg.	<p>Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL :</p>	<p>Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL :</p>



Emission above 18GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (SHF @ 1m)

Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT) Im B8HA9170_1223_220705 HORIZONTAL</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT) Im B8HA9170_1223_220705 VERTICAL</p>



Emission below 1GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (LF @ 3m)

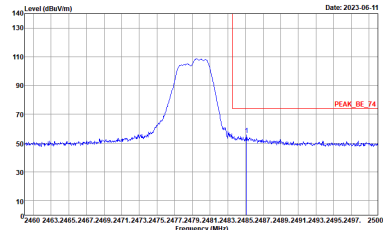
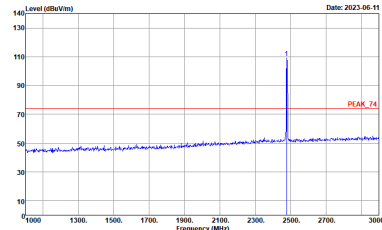
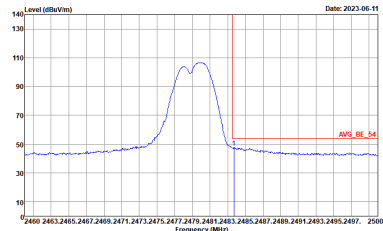
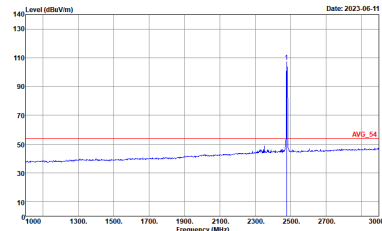
Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
<p style="text-align: center;">QP / Peak</p>		



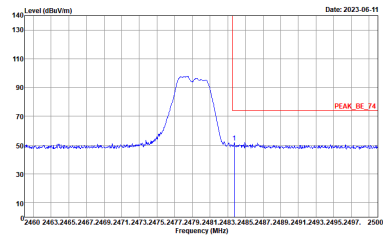
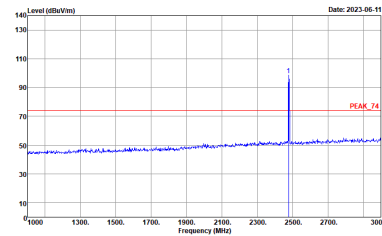
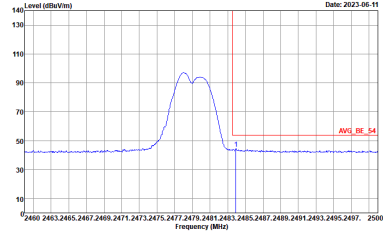
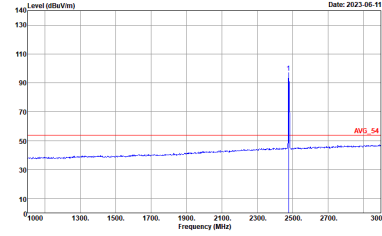
nRF + BLE (2M) + WLAN (6GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Horizontal	Fundamental
Peak	 <p>Site : 03CH21-4Y Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-4Y Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-4Y Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto</p>	 <p>Site : 03CH21-4Y Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto</p>

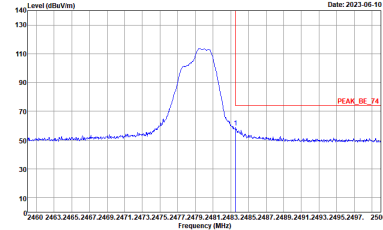
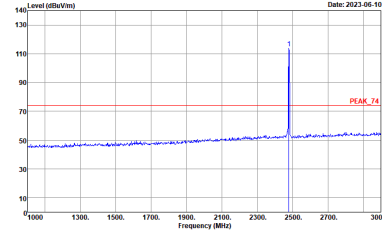
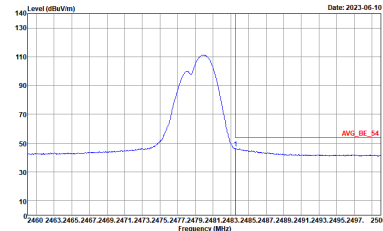
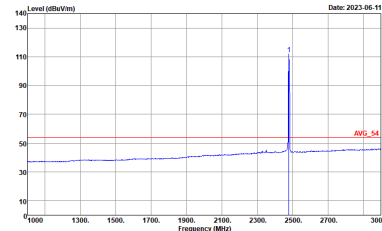


nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>

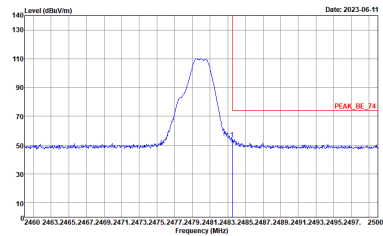
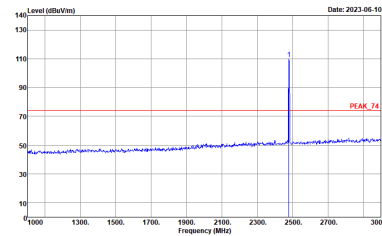
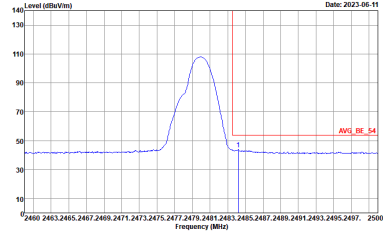
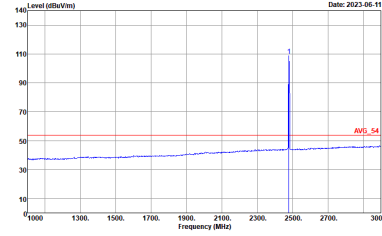


2.4GHz 2400~2483.5MHz

BLE (Band Edge @ 3m)

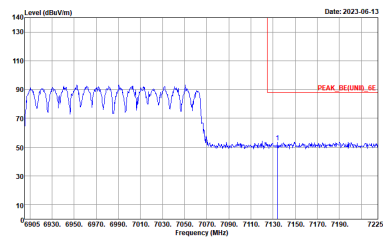
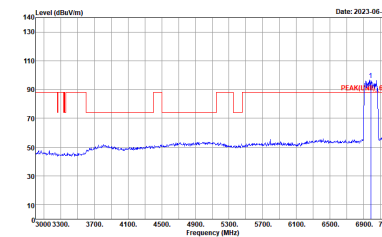
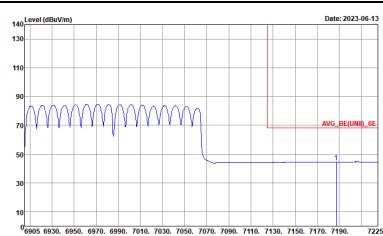
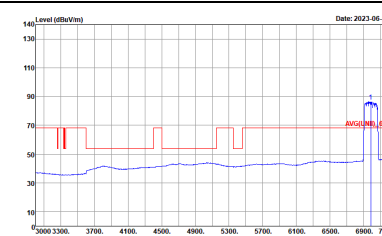
BLE	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BLE CH39 2480MHz	
1	<p style="text-align: center;">Horizontal</p>  <p style="text-align: right;">Date: 2023-06-10</p> <p>Site : 03CH21-4Y Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p style="text-align: center;">Fundamental</p>  <p style="text-align: right;">Date: 2023-06-10</p> <p>Site : 03CH21-4Y Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p style="text-align: right;">Date: 2023-06-10</p> <p>Site : 03CH21-4Y Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>	 <p style="text-align: right;">Date: 2023-06-11</p> <p>Site : 03CH21-4Y Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>
Avg.		



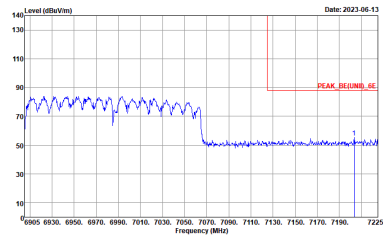
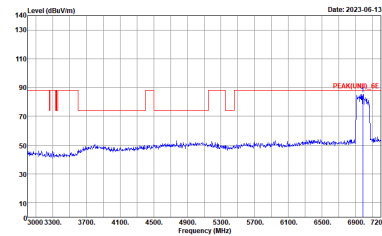
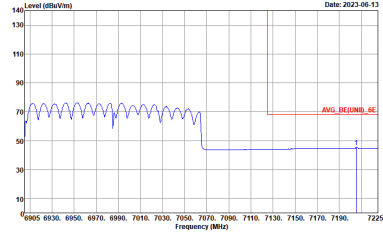
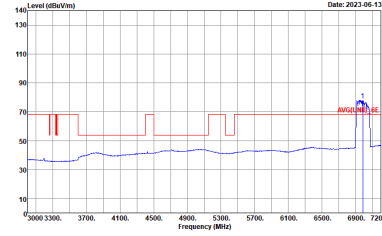
BLE	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	BLE CH39 2480MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:5.100KHz SWT:Auto</p>



Band 8 - 6875~7125MHz
WIFI 802.11ax HE160 Full (Band Edge @ 3m)

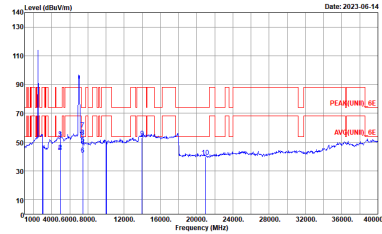
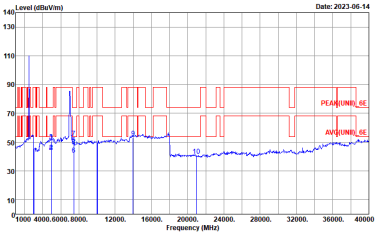
WIFI	Band 8 6875~7125MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH207 6985MHz	
0+1	Horizontal	Fundamental
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Peak Horizontal. The plot shows a signal level around 80 dBuV/m from 6900 to 7100 MHz, dropping to a noise floor of approximately 50 dBuV/m after 7100 MHz. A red line indicates the peak level at the band edge.</p> <p>Site : 03CH21-HY Condition : PEAK_BE(UNIT)_0E 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Peak Fundamental. The plot shows a signal level around 80 dBuV/m from 3300 to 6800 MHz, with a sharp peak at approximately 6985 MHz. A red line indicates the peak level at the band edge.</p> <p>Site : 03CH21-HY Condition : PEAK(UNIT)_0E 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Avg Horizontal. The plot shows an average signal level around 75 dBuV/m from 6900 to 7100 MHz, dropping to a noise floor of approximately 45 dBuV/m after 7100 MHz. A red line indicates the average level at the band edge.</p> <p>Site : 03CH21-HY Condition : AVG_BE(UNIT)_0E 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Avg Fundamental. The plot shows an average signal level around 75 dBuV/m from 3300 to 6800 MHz, with a peak at approximately 6985 MHz. A red line indicates the average level at the band edge.</p> <p>Site : 03CH21-HY Condition : AVG(UNIT)_0E 3m DRH18-E_LE2003A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	Band 8 6875~7125MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH207 6985MHz	
0+1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



nRF + BLE (2M) + WLAN 802.11ax HE160 Full
(Harmonic @ 3m)

Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
<p style="text-align: center;">Peak Avg.</p>	 <p style="font-size: small;">Date: 2023-05-14 Site : 03CH21-HY Condition : PEAK[UNIT]_6E 1m 88HA9170_1223_220705 HORIZONTAL</p>	 <p style="font-size: small;">Date: 2023-05-14 Site : 03CH21-HY Condition : PEAK[UNIT]_6E 1m 88HA9170_1223_220705 VERTICAL</p>



Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
Avg.	<p>Site : 03CH21-HY Condition : AV6_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL :-</p>	<p>Site : 03CH21-HY Condition : AV6_54 3m DRH18-E_LE2C03A_2207 VERTICAL :-</p>



Emission above 18GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (SHF @ 1m)

Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH21-HY Condition : PEAK[UNIT]_6E 1m 88HA9170_1223_220705 HORIZONTAL</p>	<p>Site : 03CH21-HY Condition : PEAK[UNIT]_6E 1m 88HA9170_1223_220705 VERTICAL</p>



Emission below 1GHz

nRF + BLE (2M) + WLAN 802.11ax HE160 Full (LF @ 3m)

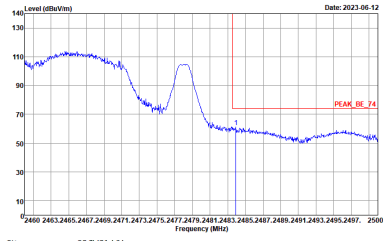
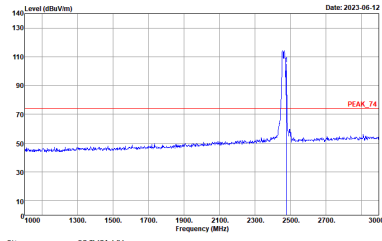
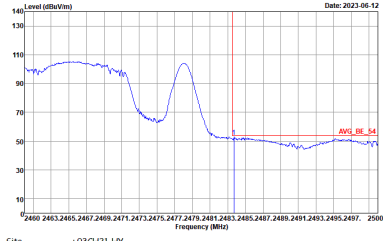
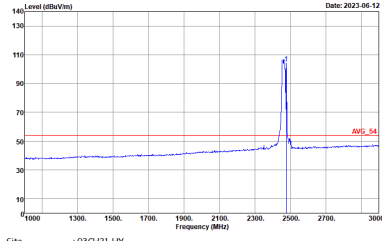
Ant.	nRF CH38 2478MHz + BLE CH39 2480MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
<p>QP / Peak</p>	<p style="font-size: small;">Date: 2023-05-14 Site : 03CH21-HY Condition : QP 3m CBL6111D_633034001 HORIZONTAL</p>	<p style="font-size: small;">Date: 2023-05-14 Site : 03CH21-HY Condition : QP 3m CBL6111D_633034001 VERTICAL</p>



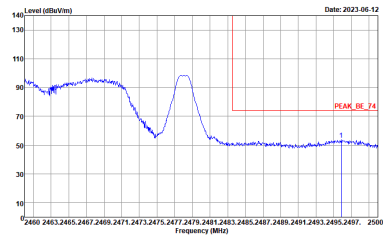
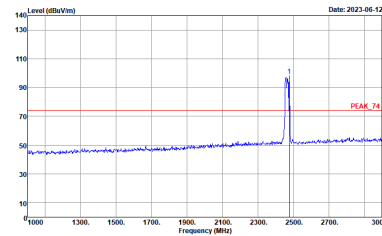
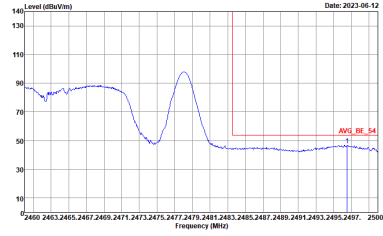
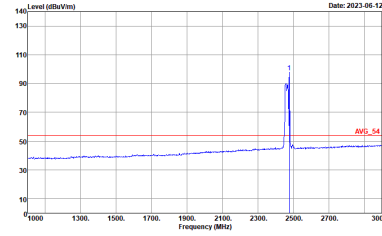
nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Horizontal	Fundamental
Peak	 <p>Site : 03CH21-4Y Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-4Y Condition : PEAK_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-4Y Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>	 <p>Site : 03CH21-4Y Condition : AVG_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>

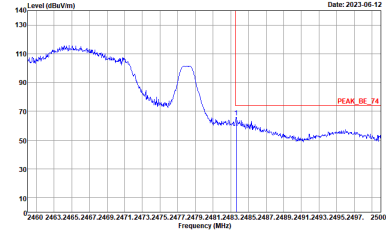
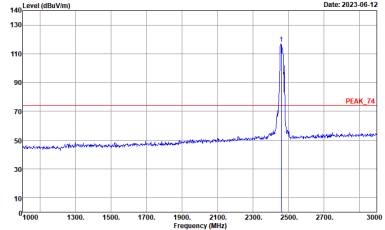
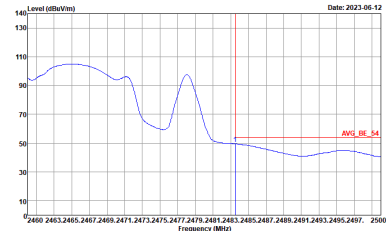
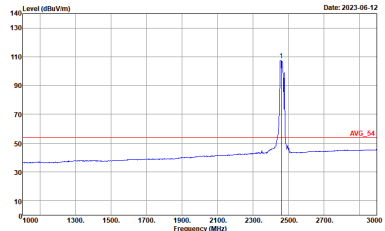


nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>

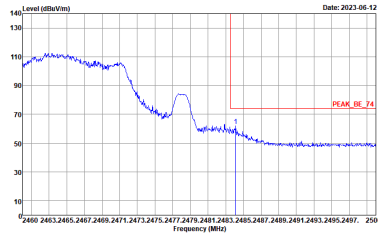
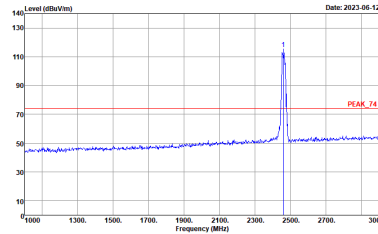
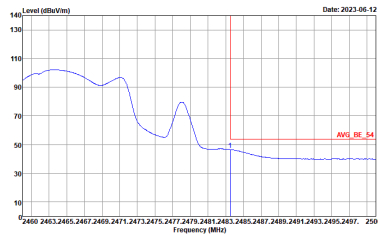
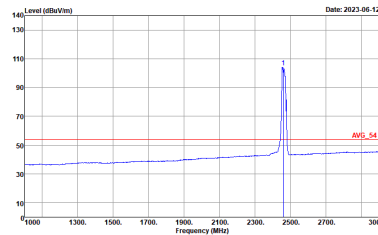


2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

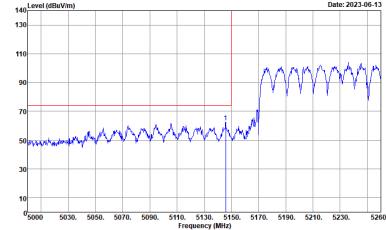
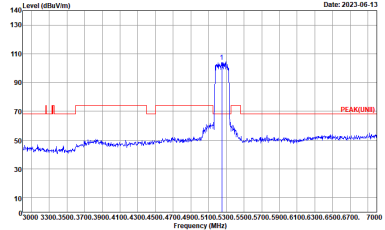
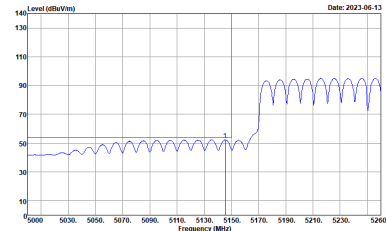
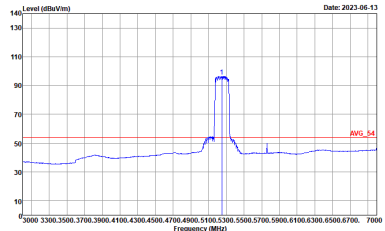
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



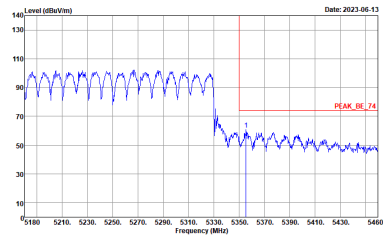
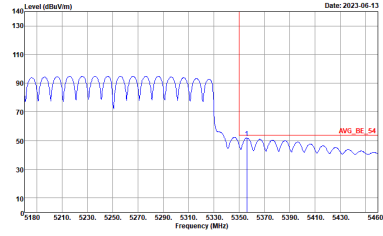
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



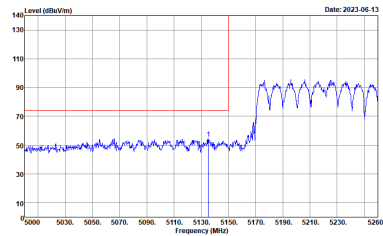
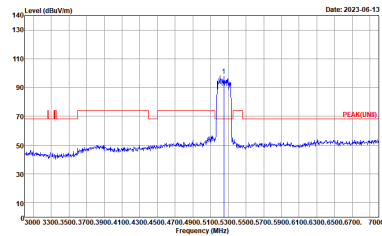
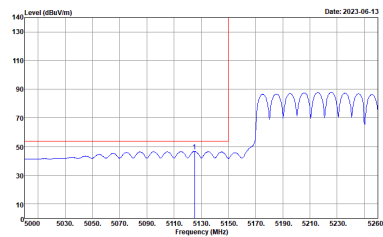
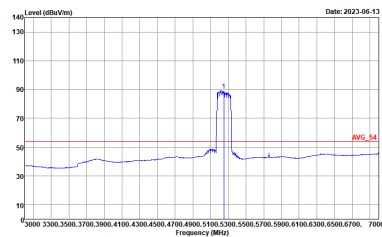
Band 1 - 5150~5250MHz
WIFI 802.11ax HE160 Full (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - L	
0+1	Horizontal	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT) 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - R	
0+1	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>	<p>Left blank</p>



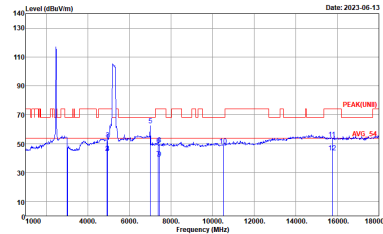
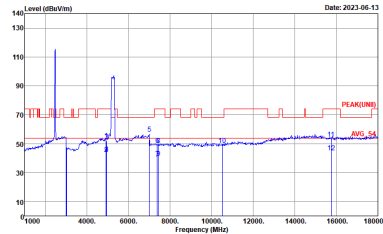
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - L	
0+1	Vertical	Fundamental
Peak	 <p>Level (dBm/100kHz) vs Frequency (MHz) plot showing a peak at 5150 MHz. The y-axis ranges from 10 to 140 dBm/100kHz, and the x-axis ranges from 5000 to 5260 MHz. A red vertical line marks the peak at 5150 MHz.</p> <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Level (dBm/100kHz) vs Frequency (MHz) plot showing a peak at 5150 MHz. The y-axis ranges from 10 to 140 dBm/100kHz, and the x-axis ranges from 5000 to 7000 MHz. A red vertical line marks the peak at 5150 MHz.</p> <p>Site : 03CH21-HY Condition : PEAK(LINE) 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Level (dBm/100kHz) vs Frequency (MHz) plot showing an average level at 5150 MHz. The y-axis ranges from 10 to 140 dBm/100kHz, and the x-axis ranges from 5000 to 5260 MHz. A red vertical line marks the average level at 5150 MHz.</p> <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Level (dBm/100kHz) vs Frequency (MHz) plot showing an average level at 5150 MHz. The y-axis ranges from 10 to 140 dBm/100kHz, and the x-axis ranges from 5000 to 7000 MHz. A red vertical line marks the average level at 5150 MHz.</p> <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH50 5250MHz - R	
0+1	Vertical	Fundamental
<p>Peak</p>	<p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Left blank</p>
<p>Avg.</p>	<p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Left blank</p>



nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full
(Harmonic @ 3m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH21-4FY Condition : PEAK(UNIT) 3m DRH18-E_LE203A_2207 HORIZONTAL</p>	 <p>Site : 03CH21-4FY Condition : PEAK(UNIT) 3m DRH18-E_LE203A_2207 VERTICAL</p>

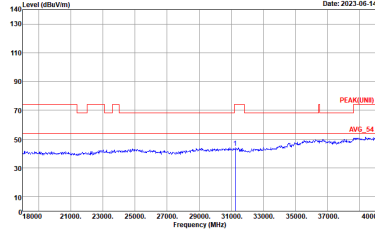
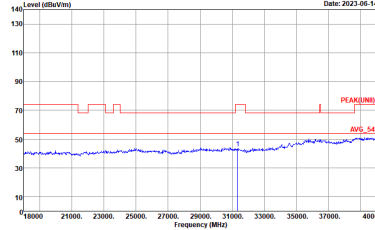


<p>Ant.</p>	<p>nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH50 5250MHz</p>	
<p>Simultaneously</p>	<p>Horizontal</p>	<p>Vertical</p>
<p>Avg.</p>	<p>Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL</p>	<p>Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL</p>



Emission above 18GHz

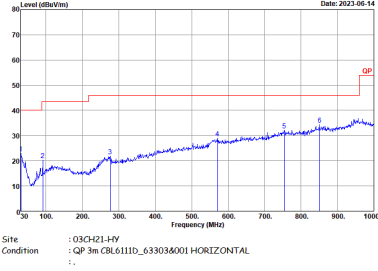
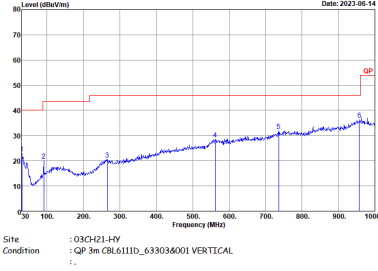
nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full (SHF @ 1m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT) Im 88HA9170_1223_220705 HORIZONTAL</p>	 <p>Site : 03CH21-HY Condition : PEAK(UNIT) Im 88HA9170_1223_220705 VERTICAL</p>



Emission below 1GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (5GHz) 802.11ax HE160 Full (LF @ 3m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH50 5250MHz	
Simultaneously	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH21-HY Condition : QP 3m CBL6111D_63303&001 HORIZONTAL</p>	 <p>Site : 03CH21-HY Condition : QP 3m CBL6111D_63303&001 VERTICAL</p>



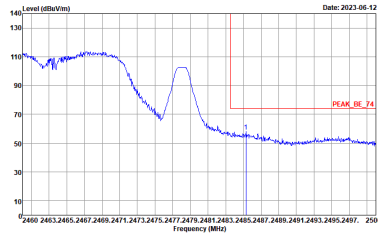
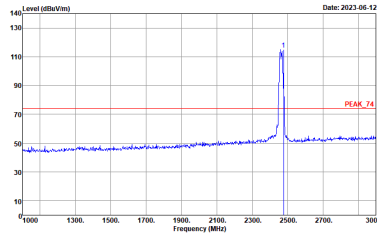
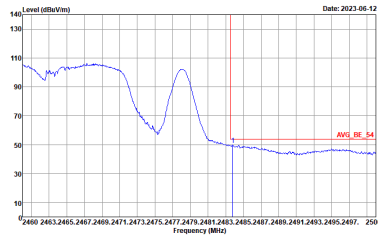
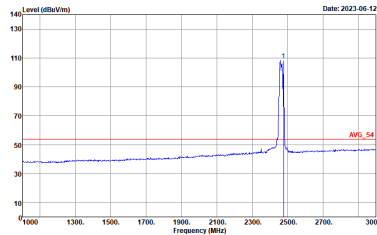
nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full

2.4GHz 2400~2483.5MHz

nRF (Band Edge @ 3m)

nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH21-1HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH21-1HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH21-1HY Condition : AVG_BE_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto</p>	<p>Site : 03CH21-1HY Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWT:Auto</p>

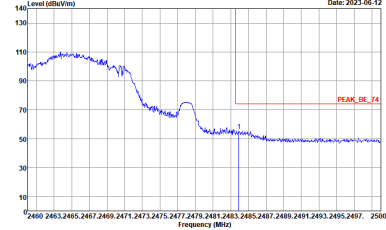
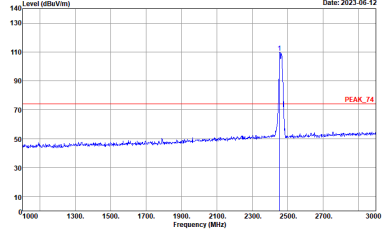
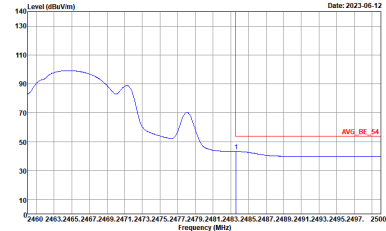
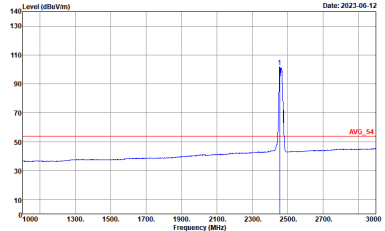


nRF	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	nRF CH38 2478MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AV6_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AV6_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto</p>

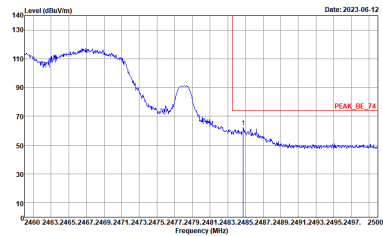
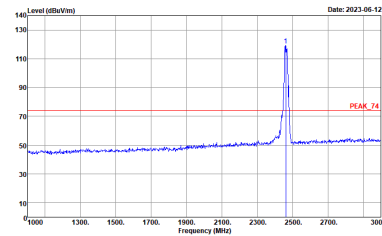
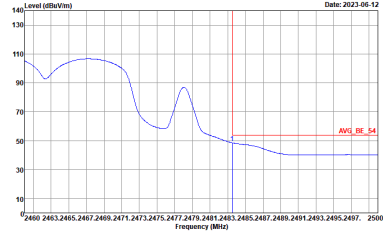
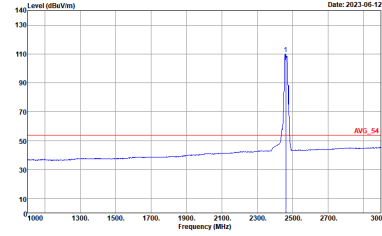


2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Full (Band Edge @ 3m)

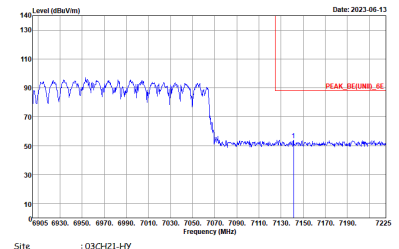
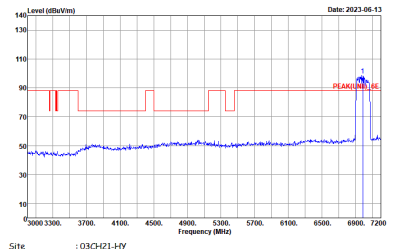
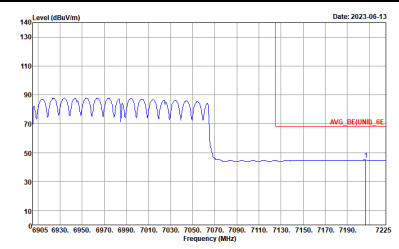
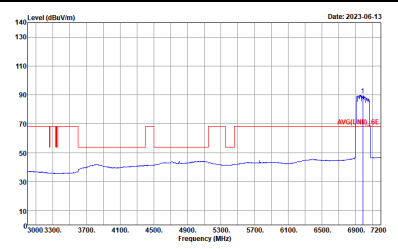
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
0+1	Horizontal	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AVG_BE_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AVG_54 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11ax HE20 Full CH11 2462MHz	
0+1	Vertical	Fundamental
Peak	 <p>Site : 03CH21-HY Condition : PEAK_BE_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : PEAK_74 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	 <p>Site : 03CH21-HY Condition : AV6_BE_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	 <p>Site : 03CH21-HY Condition : AV6_54 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



Band 8 - 6875~7125MHz
WIFI 802.11ax HE160 Full (Band Edge @ 3m)

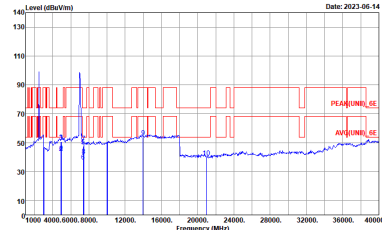
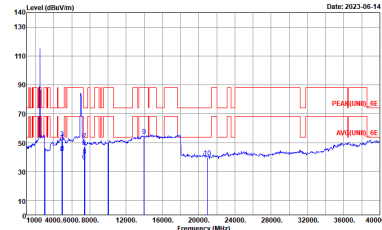
WIFI	Band 8 6875~7125MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH207 6985MHz	
0+1	Horizontal	Fundamental
Peak	 <p>Level (dBµV/m) vs Frequency (MHz) plot for Horizontal. The plot shows a signal level around 90 dBµV/m from 6900 to 7100 MHz, then dropping to about 50 dBµV/m. A red line indicates the peak level at approximately 90 dBµV/m. The x-axis ranges from 6905 to 7225 MHz. The y-axis ranges from 10 to 140 dBµV/m.</p> <p>Site : 03CH21-HY Condition : PEAK_BE(UNIT)_6E 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Level (dBµV/m) vs Frequency (MHz) plot for Fundamental. The plot shows a signal level around 90 dBµV/m from 3300 to 6900 MHz, then dropping to about 50 dBµV/m. A red line indicates the peak level at approximately 90 dBµV/m. The x-axis ranges from 3000 to 7200 MHz. The y-axis ranges from 10 to 140 dBµV/m.</p> <p>Site : 03CH21-HY Condition : PEAK(UNIT)_JE 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Level (dBµV/m) vs Frequency (MHz) plot for Horizontal. The plot shows an average signal level around 80 dBµV/m from 6900 to 7100 MHz, then dropping to about 50 dBµV/m. A red line indicates the average level at approximately 80 dBµV/m. The x-axis ranges from 6905 to 7225 MHz. The y-axis ranges from 10 to 140 dBµV/m.</p> <p>Site : 03CH21-HY Condition : AVG_BE(UNIT)_6E 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>	 <p>Level (dBµV/m) vs Frequency (MHz) plot for Fundamental. The plot shows an average signal level around 80 dBµV/m from 3300 to 6900 MHz, then dropping to about 50 dBµV/m. A red line indicates the average level at approximately 80 dBµV/m. The x-axis ranges from 3000 to 7200 MHz. The y-axis ranges from 10 to 140 dBµV/m.</p> <p>Site : 03CH21-HY Condition : AVG(UNIT)_JE 3m DRH18-E_LE203A_2207 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto</p>



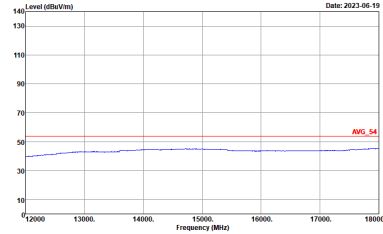
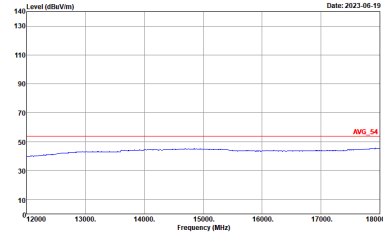
WIFI	Band 8 6875~7125MHz Band Edge @ 3m	
ANT	802.11ax HE160 Full CH207 6985MHz	
0+1	Vertical	Fundamental
Peak	<p>Site : 03CH21-HY Condition : PEAK_BE(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : PEAK(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Avg.	<p>Site : 03CH21-HY Condition : AVG_BE(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>	<p>Site : 03CH21-HY Condition : AVG(UNIT)_6E 3m DRH18-E_LE2C03A_2207 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto</p>



nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full
(Harmonic @ 3m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
<p style="text-align: center;">Peak Avg.</p>	 <p style="font-size: small;">Date: 2023-06-14 Site : 03CH21-HY Condition : PEAK(UNIT)_6E 1m 88HA9170_1223_220705 HORIZONTAL :</p>	 <p style="font-size: small;">Date: 2023-06-14 Site : 03CH21-HY Condition : PEAK(UNIT)_6E 1m 88HA9170_1223_220705 VERTICAL :</p>

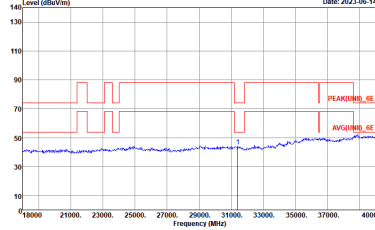
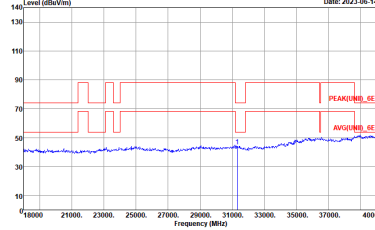


Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
Avg.	 <p data-bbox="491 685 782 728">Date: 2023-06-19 Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 HORIZONTAL</p>	 <p data-bbox="965 685 1256 728">Date: 2023-06-19 Site : 03CH21-HV Condition : AVG_54 3m DRH18-E_LE2C03A_2207 VERTICAL</p>



Emission above 18GHz

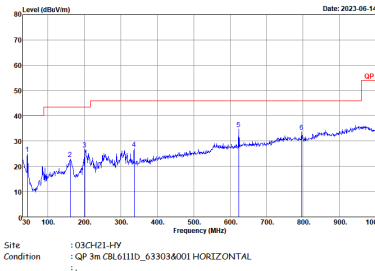
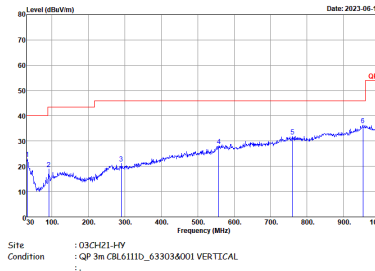
nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full (SHF @ 1m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
<p style="text-align: center;">Peak Avg.</p>	 <p>Site : 03CH421-HY Condition : :PEAK(UNIT)_GE 1m 88HA9170_1223_220705 HORIZONTAL :</p>	 <p>Site : 03CH421-HY Condition : :PEAK(UNIT)_GE 1m 88HA9170_1223_220705 VERTICAL :</p>



Emission below 1GHz

nRF + WLAN (2.4GHz) 802.11ax HE20 Full + WLAN (6GHz) 802.11ax HE160 Full (LF @ 3m)

Ant.	nRF CH38 2478MHz + 802.11ax HE20 Full CH11 2462MHz + 802.11ax HE160 Full CH207 6985MHz	
Simultaneously	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH21-HY Condition : QP 3m CBL6111D_633036001 HORIZONTAL</p>	 <p>Site : 03CH21-HY Condition : QP 3m CBL6111D_633036001 VERTICAL</p>

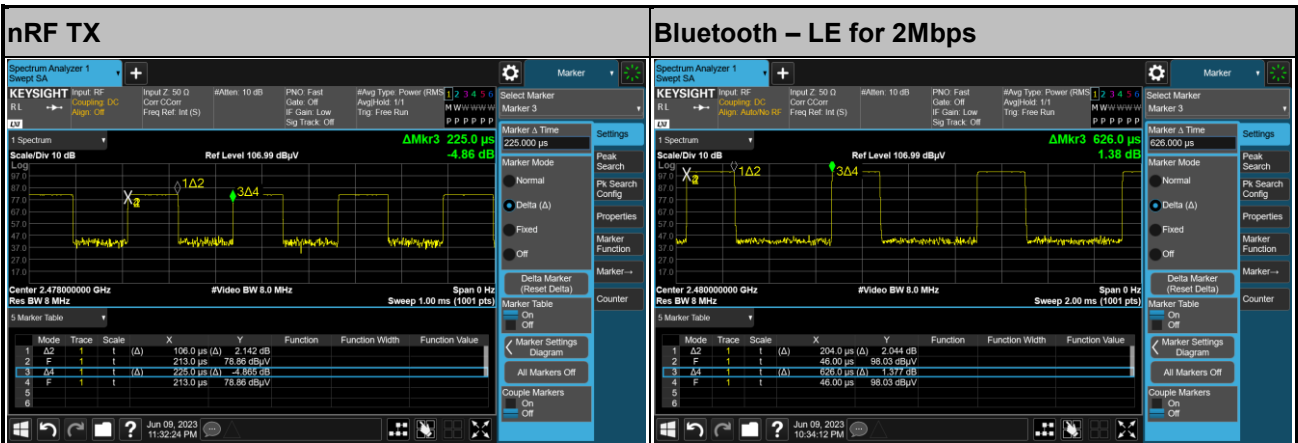


Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
2	nRF TX	47.11	106	9.43	10kHz
1	Bluetooth - LE for 2Mbps	32.59	204	4.90	5.1KHz
0+1	2.4GHz 802.11ax HE20 Full RU	99.73	-	-	10Hz
0+1	5GHz 802.11ax HE160 Full RU	99.54	-	-	10Hz
0+1	6GHz 802.11ax HE160 Full RU	99.31	-	-	10Hz

<Ant. 2>

<Ant. 1>



MIMO <Ant. 0+1>

