FCC RADIO TEST REPORT

FCC ID	:	**2AEIM-WL18DBMOD**
Equipment	:	**WiFi Module**
Brand Name	:	**Tesla, Inc.**
Model Name	:	**TSLA-WL18DBMOD**
Applicant	:	**Tesla, Inc.** **3500 DEER CREEK ROAD PALO ALTO, CA 94304**
Manufacturer	:	**Texas Instruments Incorporated** **12500 TI Boulevard, M/S 8751, Dallas, TX 75243, USA**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Nov. 30, 2022 and testing was performed from Dec. 02, 2022 to Dec. 27, 2022. We, Sporton International (USA) Inc, 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 partial report apply exclusively to the tested model / sample. Without written approval from Sporton International (USA) Inc, the test report shall not be reproduced except in full.

Lance Tang

Approved by: Lance Tang

Sporton International (USA) Inc.

1175 Montague Expressway, Milpitas, CA 95035

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History of this test report

Report No.	Version	Description	Issue Date
FR221118001C	01	Initial issue of report	Jan. 09, 2023

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
3.2	15.407(b)	Unwanted Emissions	Pass	1.96 dB under the limit at 350.100 MHz
3.3	15.203	Antenna Requirement	Pass	-

Note:

1. The report contains power measurement and radiated spurious emission test results to validate if the conditions of Class II Permissive Change are complied with, the rest of the test items not covered in this test report are conditionally leveraged from the existing modular approval (FCC ID: 2AEIM-WL18DBMOD).
2. Bluetooth function has been disabled by software configuration, the change will also be reflected in the Permissive Change Request Letter.
3. The original module supports 2x2 MIMO but in this application for Permissive Change, it has been configured to 1Tx from only the Main Port through software configuration.

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. Please refer to the section ” Uncertainty of Evaluation ” for measurement uncertainty.
Comments and Explanations:
The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Product Feature of Equipment Under Test

Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n

Product Feature	
Antenna Type	WLAN: PCB Antenna

Antenna information		
5725 MHz ~ 5850 MHz	Peak Gain (dBi)	3.39

Remark: The EUT's information above is declared by manufacturer. Please refer to Comments and Explanations 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 (USA) Inc.
Test Site Location	1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300
Test Site No.	**Sporton Site No.**
	TH01-CA, 03CH02-CA, 03CH01-CA

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

FCC Designation No.: US1250

1.4 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- 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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note: The above Frequency and Channel with "*" are 802.11n HT40

2.2 Test Mode

The final test modes include the worst data rates for each modulation shown in the table below.

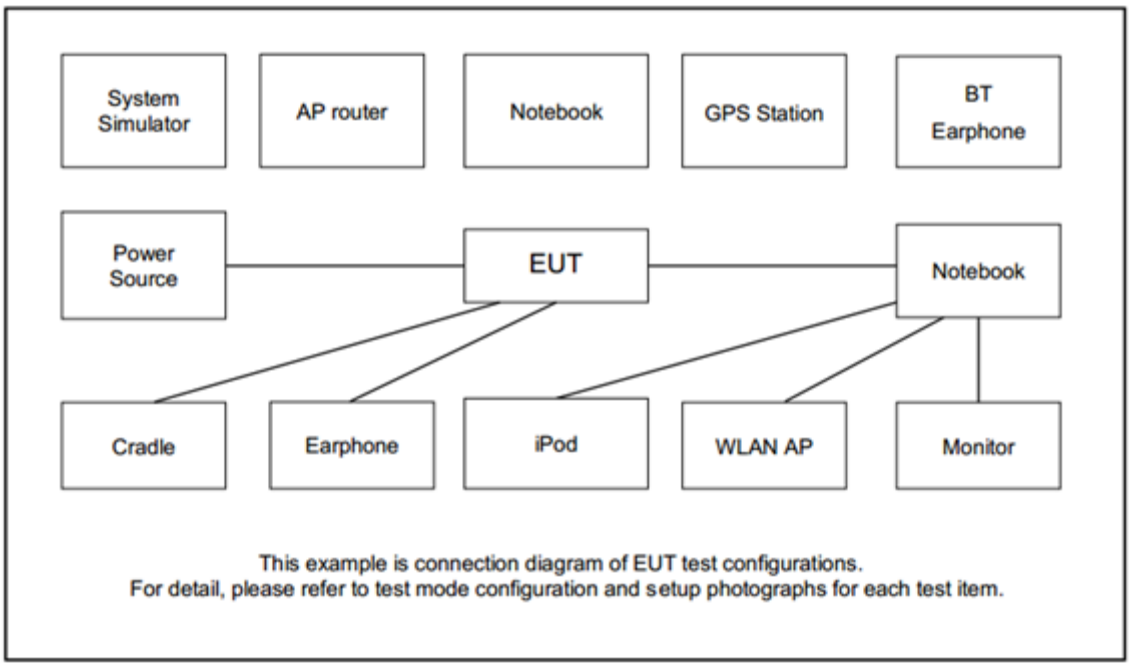
Single Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

Ch. #		Band IV：5725-5850 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	149	149	151
M	Middle	157	157	-
H	High	165	165	159

Remark: For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Acer	Altos PS548-G1	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Battery	YUASA	YTX9-BS	KA2DIR628A2	N/A	12V 8Ah

2.5 EUT Operation Test Setup

The RF test items, utility “Teraterm v4.106” was installed in Host 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 Maximum Conducted Output Power Measurement

3.1.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.1.2 Measuring Instruments

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

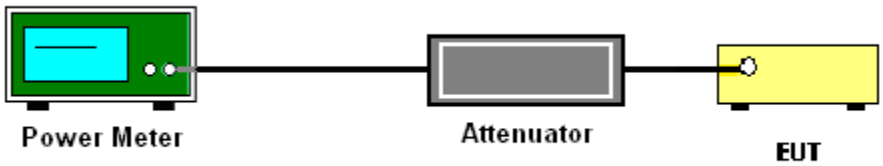
3.1.3 Test Procedures

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

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

3.2.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) 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.

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

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

(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.

3.2.2 Measuring Instruments

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

3.2.3 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

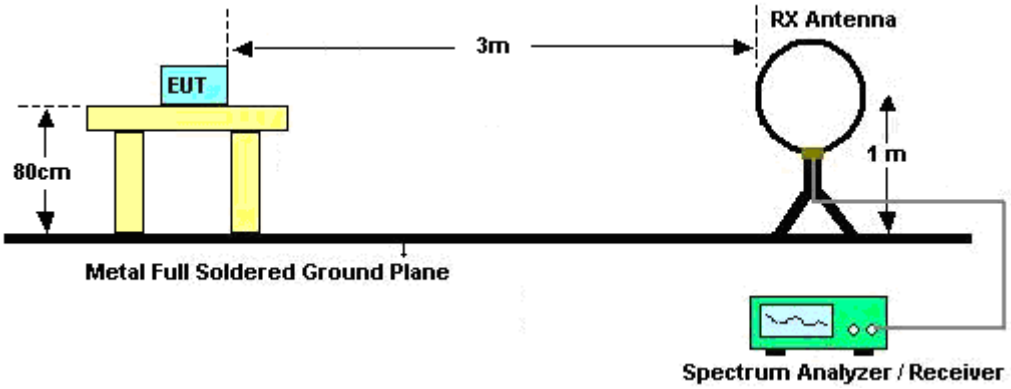
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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 “-“..

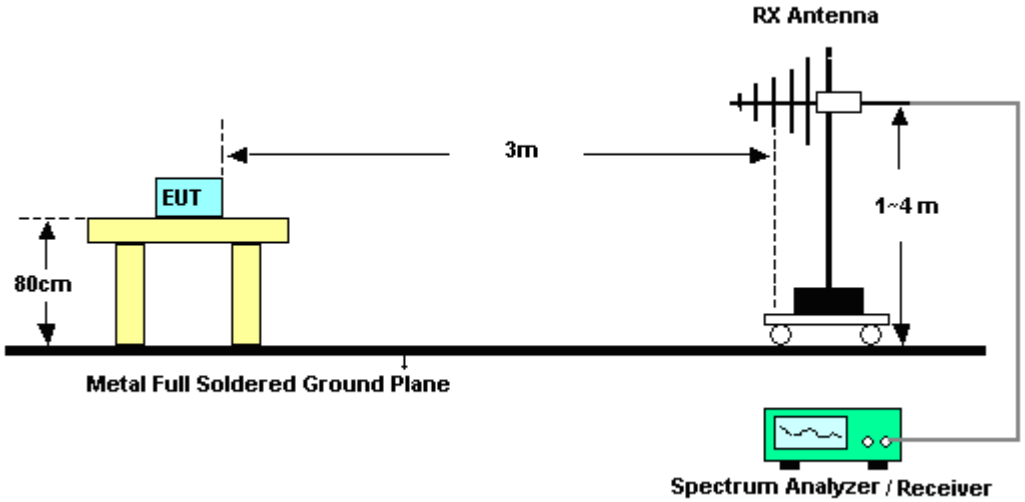
7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies.
   When there is no suspected emission found and the harmonic emission level is with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

3.2.4 Test Setup

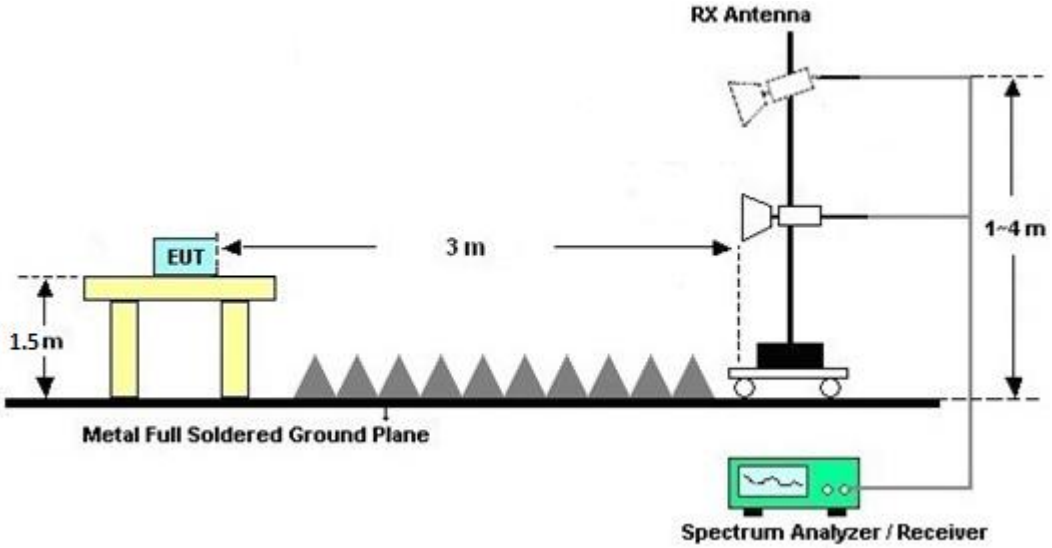
For radiated emissions below 30MHz



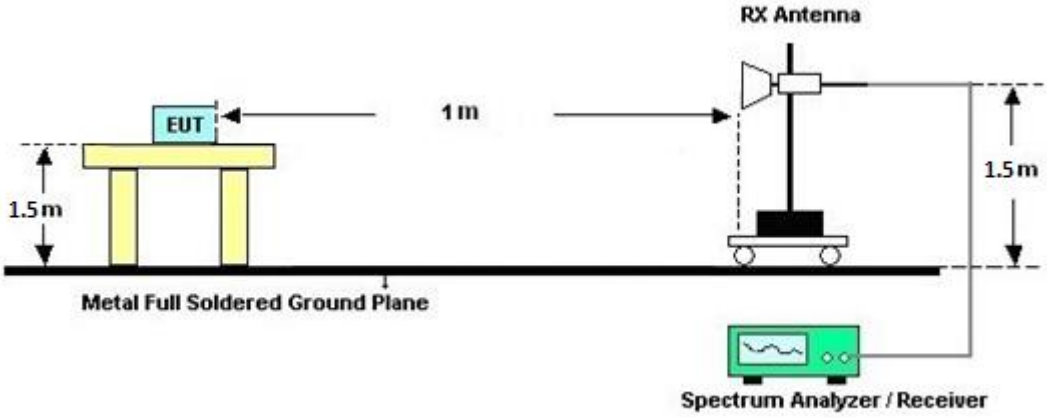
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



3.2.5 Test Results of Radiated 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.

3.2.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

3.2.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.3 Antenna Requirements

3.3.1 Standard Applicable

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Horn Antenna	SCHWARZBECK	BBHA 9120D	02113	1GHz~18GHz	Jun. 22, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jun. 21, 2023	Radiation (03CH02-CA)
Horn Antenna	SCHWARZBECK	BBHA 9170D	00842	18GHz~40GHz	Aug. 16, 2022	Dec. 02, 2022~ Dec. 27, 2022	Aug. 15, 2023	Radiation (03CH02-CA)
Preamplifier	Keysight	83017A	MY53270323	1GHz~26.5GHz	May 11, 2022	Dec. 02, 2022~ Dec. 27, 2022	May 10, 2023	Radiation (03CH02-CA)
Preamplifier	E-instrument	ERA-100M-18G-56-01-A70	EC1900251	1GHz~18GHz	May 10, 2022	Dec. 02, 2022~ Dec. 27, 2022	May 09, 2023	Radiation (03CH02-CA)
Preamplifier	EMEC	EMC18G40G	060726	18GHz-40GHz	Feb. 10, 2022	Dec. 02, 2022~ Dec. 27, 2022	Feb. 09, 2023	Radiation (03CH02-CA)
Spectrum Analyzer	Keysight	N9010A	MY57420221	10Hz~44GHz	Aug. 30, 2022	Dec. 02, 2022~ Dec. 27, 2022	Aug. 29, 2023	Radiation (03CH02-CA)
RF Cable	HUBER+SUHNER	SUCOFLEX 102	8024032/2, 802406/2, 802875/2	N/A	Jun. 22, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jun. 21, 2023	Radiation (03CH02-CA)
Filter	WOKEN	WFIL-H6750-18000F	WFIL-H6750-18000F	6.75Hz High Pass Filter	Sep. 01, 2022	Dec. 02, 2022~ Dec. 27, 2022	Aug. 31, 2023	Radiation (03CH02-CA)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN10	3GHz High Pass Filter	Jul. 22, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jul. 21, 2023	Radiation (03CH02-CA)
Hygrometer	TESEO	608-H1	45142602	N/A	Sep. 12, 2022	Dec. 02, 2022~ Dec. 27, 2022	Sep. 11, 2023	Radiation (03CH02-CA)
Controller	ChainTek	EM-1000	060876	NA	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH02-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH02-CA)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH02-CA)
Software	Audix	E3	N/A	N/A	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH02-CA)
Bilog Antenna	TESEQ	6111D	50392	30MHz~1GHz	Jul. 11, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jul. 10, 2023	Radiation (03CH01-CA)
Loop Antenna	R&S	HFH2-Z2E	100840	9kHz~30MHz	Jul. 05, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jul. 04, 2023	Radiation (03CH01-CA)
Preamplifier	SONOMA	310N	372241	9kHz~1GHz	May 09, 2022	Dec. 02, 2022~ Dec. 27, 2022	May 08, 2023	Radiation (03CH01-CA)
EMI Test Receiver	R&S	ESU26	100049	20Hz~26.5GHz	Jun. 01, 2022	Dec. 02, 2022~ Dec. 27, 2022	May 31, 2023	Radiation (03CH01-CA)
RF Cable	HUBER+SUHNER	SUCOFLEX 102	8015932/2, 8015762/2, 6015772/2	N/A	Aug. 08, 2022	Dec. 02, 2022~ Dec. 27, 2022	Aug. 07, 2023	Radiation (03CH01-CA)
Hygrometer	TESTO	608-H1	45141354	N/A	Jul. 27, 2022	Dec. 02, 2022~ Dec. 27, 2022	Jul. 26, 2023	Radiation (03CH01-CA)
Controller	Chaintek	EM-1000	060881	Control Turn Table & Antenna Mast	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH01-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH01-CA)
Test Software	Audix E3	E6.2009-8-24d	PK-002093	N/A	N/A	Dec. 02, 2022~ Dec. 27, 2022	N/A	Radiation (03CH01-CA)
Hygrometer	Testo	608-H1	45141354	N/A	Jul. 27, 2022	Dec. 02, 2022~ Dec. 08, 2022	Jul. 26, 2023	Conducted (TH01-CA)
Power Sensor	DARE!!	RPR3006W	RPR6W-191024	N/A	May 10, 2022	Dec. 02, 2022~ Dec. 08, 2022	May 09, 2023	Conducted (TH01-CA)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101545	10Hz-40GHz	May 31, 2022	Dec. 02, 2022~ Dec. 08, 2022	May 30, 2023	Conducted (TH01-CA)

5 Uncertainty of Evaluation

<03CH01-CA>

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.60 dB**

<03CH02-CA>

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.90 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.20 dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Venkata Kondepudi	Temperature:	17.7 ~ 20.6	°C
Test Date:	2022/12/02 ~ 2022/12/08	Relative Humidity:	36.8 ~ 50.9	%

TEST RESULTS DATA
Average Power Table

FCC UNII-3 single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	12.21	-		30.00	-	3.39	-	Pass
11a	6Mbps	1	157	5785	16.09	-		30.00	-	3.39	-	Pass
11a	6Mbps	1	165	5825	12.22	-		30.00	-	3.39	-	Pass
HT20	MCS0	1	149	5745	12.32	-		30.00	-	3.39	-	Pass
HT20	MCS0	1	157	5785	17.01	-		30.00	-	3.39	-	Pass
HT20	MCS0	1	165	5825	13.32	-		30.00	-	3.39	-	Pass
HT40	MCS0	1	151	5755	9.29	-		30.00	-	3.39	-	Pass
HT40	MCS0	1	159	5795	8.87	-		30.00	-	3.39	-	Pass

Appendix B. Radiated Spurious Emission

Test Engineer :	Daniel Lee and Leo Liu	**Temperature :**	20~24°C
		Relative Humidity :	42~47%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	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)
802.11a CH 149 5745MHz		5604.8	54.5	-13.7	68.2	39.26	33.23	12.39	30.38	100	119	P	H
		5664.2	54.26	-24.48	78.74	38.9	33.31	12.46	30.41	100	119	P	H
		5719.8	56.9	-53.84	110.74	41.2	33.58	12.54	30.42	100	119	P	H
		5724.4	65.16	-55.67	120.83	49.42	33.62	12.54	30.42	100	119	P	H
	*	5745	105.51	-	-	89.6	33.76	12.57	30.42	100	119	P	H
	*	5745	98.59	-	-	82.68	33.76	12.57	30.42	100	119	A	H
		5626.6	53.21	-14.99	68.2	37.95	33.24	12.41	30.39	386	338	P	V
		5672.4	54.32	-30.5	84.82	38.92	33.34	12.47	30.41	386	338	P	V
		5718.6	55.03	-55.38	110.41	39.34	33.58	12.53	30.42	386	338	P	V
		5725	62.09	-60.11	122.2	46.35	33.62	12.54	30.42	386	338	P	V
	*	5745	104.43	-	-	88.52	33.76	12.57	30.42	386	338	P	V
	*	5745	96.9	-	-	80.99	33.76	12.57	30.42	386	338	A	V
802.11a CH 165 5825MHz	*	5825	107.69	-	-	91.28	34.19	12.67	30.45	121	190	P	H
	*	5825	100.58	-	-	84.17	34.19	12.67	30.45	121	190	A	H
		5851	62.19	-57.73	119.92	45.73	34.23	12.7	30.47	121	190	P	H
		5855.4	61.92	-48.77	110.69	45.46	34.23	12.7	30.47	121	190	P	H
		5890.8	56.18	-37.29	93.47	39.69	34.24	12.74	30.49	121	190	P	H
		5931	56.5	-11.7	68.2	40.01	34.22	12.78	30.51	121	190	P	H
	*	5825	105.35	-	-	88.94	34.19	12.67	30.45	356	339	P	V
	*	5825	97.86	-	-	81.45	34.19	12.67	30.45	356	339	A	V
		5850.2	57.86	-63.88	121.74	41.4	34.23	12.7	30.47	356	339	P	V
		5873	57.31	-48.45	105.76	40.84	34.23	12.72	30.48	356	339	P	V
		5923.6	55.87	-13.36	69.23	39.37	34.22	12.78	30.5	356	339	P	V
		5930.6	55.77	-12.43	68.2	39.28	34.22	12.78	30.51	356	339	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
802.11a CH 149 5745MHz		11490	47.06	-26.94	74	57.19	39.05	18.56	67.74	-	-	P	H
		17235	47.73	-20.47	68.2	55.62	37.64	23.18	68.71	-	-	P	H
													H
													H
													H
													H
		11490	47.94	-26.06	74	58.07	39.05	18.56	67.74	-	-	P	V
		17235	46.94	-21.26	68.2	54.83	37.64	23.18	68.71	-	-	P	V
													V
													V
													V
													V
802.11a CH 157 5785MHz		11570	46.92	-27.08	74	57.16	38.75	18.63	67.62	-	-	P	H
		17355	48.07	-20.13	68.2	55.87	38.05	23.31	69.16	-	-	P	H
													H
													H
													H
													H
		11570	46.83	-27.17	74	57.07	38.75	18.63	67.62	-	-	P	V
		17355	48.12	-20.08	68.2	55.92	38.05	23.31	69.16	-	-	P	V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
802.11a CH 165 5825MHz		11650	46.66	-27.34	74	57.19	38.35	18.71	67.59	-	-	P	H
		17475	48.62	-19.58	68.2	56.26	38.4	23.43	69.47	-	-	P	H
													H
													H
													H
													H
		11650	46.96	-27.04	74	57.49	38.35	18.71	67.59	-	-	P	V
		17475	48.33	-19.87	68.2	55.97	38.4	23.43	69.47	-	-	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
		5636.4	55.3	-12.9	68.2	40.02	33.24	12.43	30.39	100	120	P	H
		5695	55.44	-46.07	101.51	39.93	33.43	12.5	30.42	100	120	P	H
		5719.6	61.3	-49.39	110.69	45.6	33.58	12.54	30.42	100	120	P	H
		5724.6	67.12	-54.17	121.29	51.38	33.62	12.54	30.42	100	120	P	H
802.11n	*	5745	107.04	-	-	91.13	33.76	12.57	30.42	100	120	P	H
HT20	*	5745	99.59	-	-	83.68	33.76	12.57	30.42	100	120	A	H
CH 149		5634.2	55.05	-13.15	68.2	39.78	33.24	12.42	30.39	365	337	P	V
5745MHz		5693.4	54.92	-45.41	100.33	39.42	33.42	12.5	30.42	365	337	P	V
		5719.8	59.22	-51.52	110.74	43.52	33.58	12.54	30.42	365	337	P	V
		5725	63.38	-58.82	122.2	47.64	33.62	12.54	30.42	365	337	P	V
	*	5745	105.72	-	-	89.81	33.76	12.57	30.42	365	337	P	V
	*	5745	97.91	-	-	82	33.76	12.57	30.42	365	337	A	V
	*	5825	106.87	-	-	90.46	34.19	12.67	30.45	100	190	P	H
	*	5825	100.22	-	-	83.81	34.19	12.67	30.45	100	190	A	H
		5850.2	64.72	-57.02	121.74	48.26	34.23	12.7	30.47	100	190	P	H
		5855	60.48	-50.32	110.8	44.02	34.23	12.7	30.47	100	190	P	H
802.11n		5902.8	56.44	-28.15	84.59	39.95	34.24	12.75	30.5	100	190	P	H
HT20		5932.8	55.6	-12.6	68.2	39.11	34.21	12.79	30.51	100	190	P	H
CH 165	*	5825	105.41	-	-	89	34.19	12.67	30.45	356	338	P	V
5825MHz	*	5825	97.9	-	-	81.49	34.19	12.67	30.45	356	338	A	V
		5850	60.28	-61.92	122.2	43.83	34.23	12.69	30.47	356	338	P	V
		5856	57.51	-53.01	110.52	41.05	34.23	12.7	30.47	356	338	P	V
		5916.6	55.7	-18.69	74.39	39.2	34.23	12.77	30.5	356	338	P	V
		5936	56.09	-12.11	68.2	39.6	34.21	12.79	30.51	356	338	P	V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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)
		11490	46.55	-27.45	74	56.68	39.05	18.56	67.74	-	-	P	H
		17235	47.34	-20.86	68.2	55.23	37.64	23.18	68.71	-	-	P	H
													H
													H
802.11n													H
HT20													H
CH 149		11490	47.22	-26.78	74	57.35	39.05	18.56	67.74	-	-	P	V
5745MHz		17235	47.87	-20.33	68.2	55.76	37.64	23.18	68.71	-	-	P	V
													V
													V
													V
													V
		11570	47.53	-26.47	74	57.77	38.75	18.63	67.62	-	-	P	H
		17355	47.9	-20.3	68.2	55.7	38.05	23.31	69.16	-	-	P	H
													H
													H
802.11n													H
HT20													H
CH 157		11570	46.64	-27.36	74	56.88	38.75	18.63	67.62	-	-	P	V
5785MHz		17355	48.11	-20.09	68.2	55.91	38.05	23.31	69.16	-	-	P	V
													V
													V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
		11650	46.21	-27.79	74	56.74	38.35	18.71	67.59	-	-	P	H
		17475	48.15	-20.05	68.2	55.79	38.4	23.43	69.47	-	-	P	H
													H
													H
802.11n													H
HT20													H
CH 165		11650	47.16	-26.84	74	57.69	38.35	18.71	67.59	-	-	P	V
5825MHz		17475	48.78	-19.42	68.2	56.42	38.4	23.43	69.47	-	-	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
		5640	54.29	-13.91	68.2	39.01	33.25	12.43	30.4	104	121	P	H
		5691.8	55.46	-43.69	99.15	39.96	33.42	12.5	30.42	104	121	P	H
		5716	61.86	-47.82	109.68	46.19	33.56	12.53	30.42	104	121	P	H
		5722.8	64.25	-52.93	117.18	48.52	33.61	12.54	30.42	104	121	P	H
	*	5755	101.59	-	-	85.6	33.83	12.58	30.42	104	121	P	H
	*	5755	93.81	-	-	77.82	33.83	12.58	30.42	104	121	A	H
		5851	55.76	-64.16	119.92	39.3	34.23	12.7	30.47	104	121	P	H
		5864.6	55.17	-52.94	108.11	38.71	34.23	12.71	30.48	104	121	P	H
		5897.6	56.15	-32.29	88.44	39.66	34.24	12.75	30.5	104	121	P	H
		5927.8	56.4	-11.8	68.2	39.91	34.22	12.78	30.51	104	121	P	H
802.11n													H
HT40													H
CH 151		5611.2	54.68	-13.52	68.2	39.44	33.23	12.39	30.38	361	338	P	V
5755MHz		5658.8	55.53	-19.21	74.74	40.18	33.29	12.46	30.4	361	338	P	V
		5716.6	58.29	-51.56	109.85	42.62	33.56	12.53	30.42	361	338	P	V
		5722.8	60.49	-56.69	117.18	44.76	33.61	12.54	30.42	361	338	P	V
	*	5755	99.41	-	-	83.42	33.83	12.58	30.42	361	338	P	V
	*	5755	91.79	-	-	75.8	33.83	12.58	30.42	361	338	A	V
		5850.8	57.02	-63.36	120.38	40.56	34.23	12.7	30.47	361	338	P	V
		5871.2	55.03	-51.23	106.26	38.56	34.23	12.72	30.48	361	338	P	V
		5910	57.11	-22.16	79.27	40.62	34.23	12.76	30.5	361	338	P	V
		5948.4	55.59	-12.61	68.2	39.1	34.2	12.8	30.51	361	338	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (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)
		5606.4	55.11	-13.09	68.2	39.87	33.23	12.39	30.38	100	121	P	H
		5674	54.12	-31.88	86	38.7	33.35	12.48	30.41	100	121	P	H
		5718	56.52	-53.72	110.24	40.84	33.57	12.53	30.42	100	121	P	H
		5721.2	60.15	-53.39	113.54	44.44	33.59	12.54	30.42	100	121	P	H
	*	5795	104.84	-	-	88.53	34.12	12.63	30.44	100	121	P	H
	*	5795	97.7	-	-	81.39	34.12	12.63	30.44	100	121	A	H
		5851.2	57.11	-62.35	119.46	40.65	34.23	12.7	30.47	100	121	P	H
		5856.4	58.79	-51.62	110.41	42.33	34.23	12.7	30.47	100	121	P	H
		5899	55.95	-31.45	87.4	39.46	34.24	12.75	30.5	100	121	P	H
		5939.8	55.74	-12.46	68.2	39.25	34.21	12.79	30.51	100	121	P	H
802.11n													H
HT40													H
CH 159		5606.8	54.29	-13.91	68.2	39.05	33.23	12.39	30.38	356	335	P	V
5795MHz		5686.4	54.99	-40.18	95.17	39.51	33.4	12.49	30.41	356	335	P	V
		5717	54.62	-55.34	109.96	38.94	33.57	12.53	30.42	356	335	P	V
		5724.2	56.49	-63.89	120.38	40.76	33.61	12.54	30.42	356	335	P	V
	*	5795	102.33	-	-	86.02	34.12	12.63	30.44	356	335	P	V
	*	5795	95.18	-	-	78.87	34.12	12.63	30.44	356	335	A	V
		5851.8	54.93	-63.17	118.1	38.47	34.23	12.7	30.47	356	335	P	V
		5858.6	56.76	-53.03	109.79	40.31	34.23	12.7	30.48	356	335	P	V
		5913.6	56.56	-20.05	76.61	40.07	34.23	12.76	30.5	356	335	P	V
		5941	55.96	-12.24	68.2	39.46	34.21	12.8	30.51	356	335	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (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)
		11510	47.27	-26.73	74	57.37	39.02	18.58	67.7	-	-	P	H
		17265	48.3	-19.9	68.2	56.09	37.77	23.2	68.76	-	-	P	H
													H
													H
802.11n													H
HT40													H
CH 151		11510	47.49	-26.51	74	57.59	39.02	18.58	67.7	-	-	P	V
5755MHz		17265	47	-21.2	68.2	54.79	37.77	23.2	68.76	-	-	P	V
													V
													V
													V
													V
		11590	46.4	-27.6	74	56.74	38.6	18.65	67.59	-	-	P	H
		17385	48.05	-20.15	68.2	55.94	38.08	23.34	69.31	-	-	P	H
													H
													H
802.11n													H
HT40													H
CH 159		11590	47.19	-26.81	74	57.53	38.6	18.65	67.59	-	-	P	V
5795MHz		17385	48.02	-20.18	68.2	55.91	38.08	23.34	69.31	-	-	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line. 3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.												

Emission above 18GHz

WIFI 802.11a (SHF @ 1m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	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)
		22568	39.15	-34.85	74	36.66	38.33	16.39	52.23	-	-	P	H
		23728	39.66	-34.34	74	36.51	38.5	16.99	52.34	-	-	P	H
		36458	46.81	-27.19	74	36.16	42.35	23.93	55.63	-	-	P	H
		39258	52.44	-21.56	74	35.67	45	25.76	53.99	-	-	P	H
		39258	43.6	-10.4	54	26.83	45	25.76	53.99	-	-	A	H
													H
													H
													H
													H
802.11a													H
SHF		22968	39.31	-34.69	74	36.29	38.62	16.6	52.2	-	-	P	V
		23736	39.64	-34.36	74	36.49	38.5	16.99	52.34	-	-	P	V
		36458	47.78	-26.22	74	37.13	42.35	23.93	55.63	-	-	P	V
		39272	52.56	-21.44	74	35.78	44.98	25.77	53.97	-	-	P	V
		39272	43.48	-10.52	54	26.7	44.98	25.77	53.97	-	-	A	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

5GHz WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	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)
		350.1	44.04	-1.96	46	53.3	20.4	2.86	32.52	100	45	QP	H
		450.01	43.37	-2.63	46	49.8	22.9	3.34	32.67	101	310	QP	H
		500.45	41.26	-4.74	46	46.7	23.8	3.51	32.75	195	0	QP	H
		549.92	39.62	-6.38	46	43.38	25.39	3.66	32.81	-	-	P	H
		700.27	39.88	-6.12	46	42.01	26.5	4.19	32.82	-	-	P	H
		900.09	39.4	-6.6	46	37.41	29.2	4.72	31.93	-	-	P	H
													H
													H
													H
													H
													H
802.11a													H
LF		50.37	36.68	-3.32	40	53.81	14.11	1.13	32.37	102	357	QP	V
		82.38	32.08	-7.92	40	49.22	13.68	1.54	32.36	-	-	P	V
		135.73	30.94	-12.56	43.5	43.9	17.6	1.8	32.36	-	-	P	V
		350.1	34.64	-11.36	46	43.9	20.4	2.86	32.52	-	-	P	V
		450.01	37.36	-8.64	46	43.79	22.9	3.34	32.67	-	-	P	V
		549.92	31.45	-14.55	46	35.21	25.39	3.66	32.81	-	-	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 or emission level has at least 6dB margin against limit or 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 **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

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. Over Limit(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. Over Limit(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. Over Limit(dB) = Level(dBµV/m) – Limit Line(dBµV/m)

= 43.54(dBµV/m) – 54(dBµV/m)

= -10.46(dB)

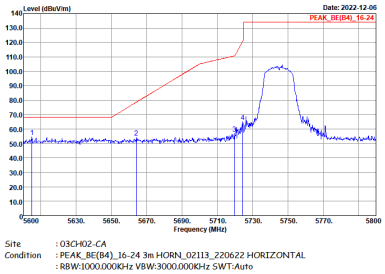
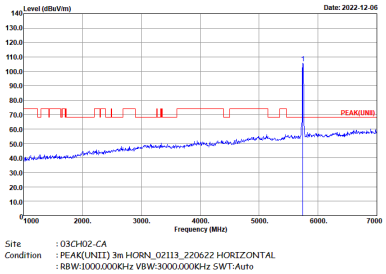
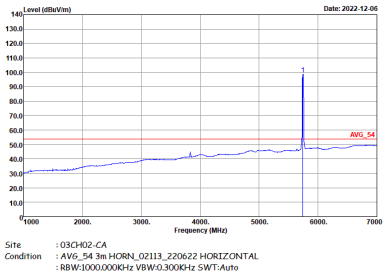
Both peak and average measured complies with the limit line, so test result is “PASS”.

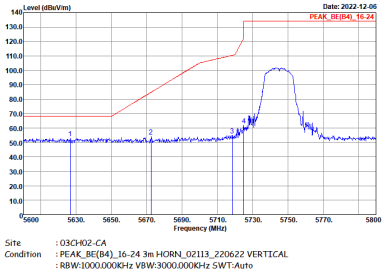
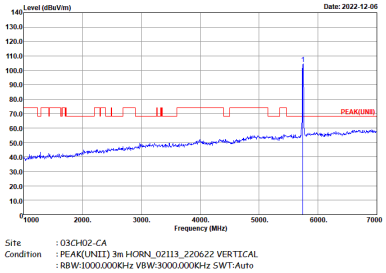
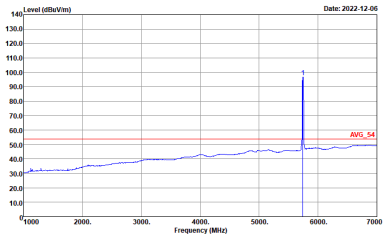
Appendix C. Radiated Spurious Emission Plots

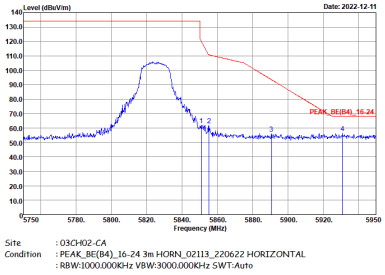
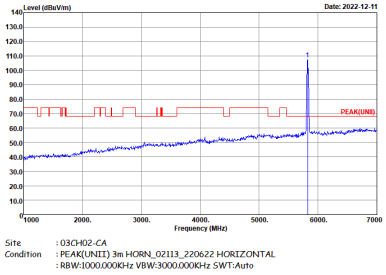
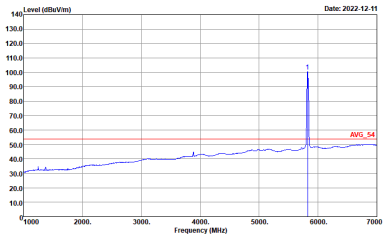
Test Engineer :	Daniel Lee and Leo Liu	**Temperature :**	20~24°C
		Relative Humidity :	42~47%

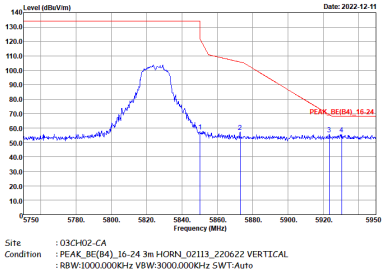
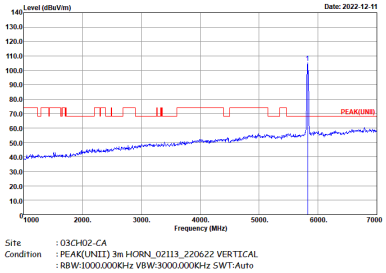
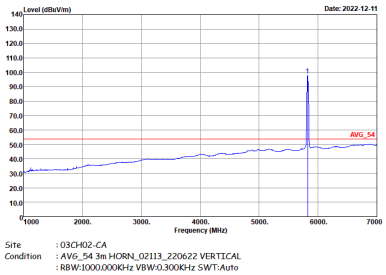
Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

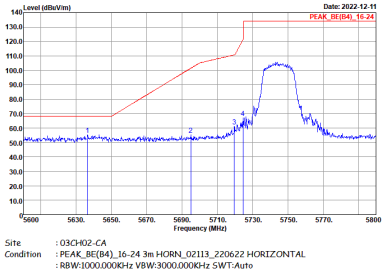
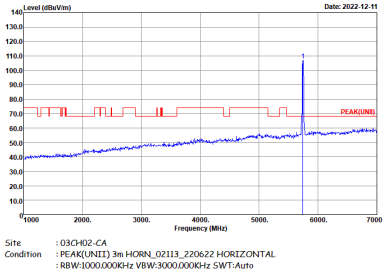
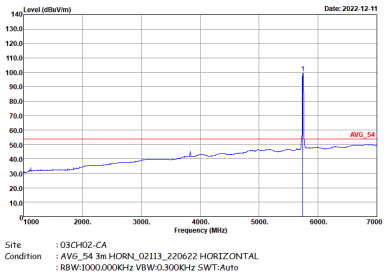
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

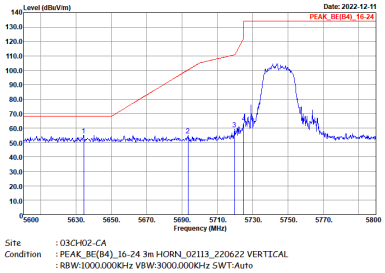
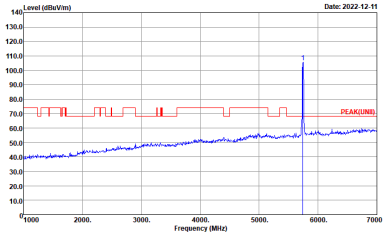
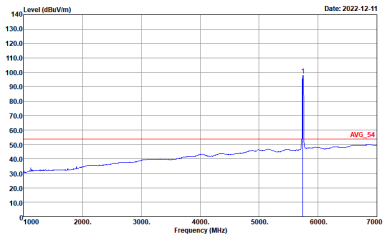
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto

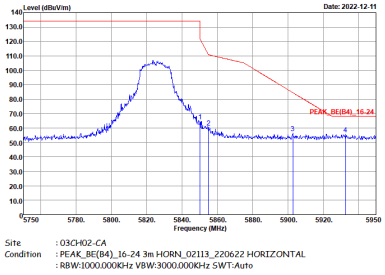
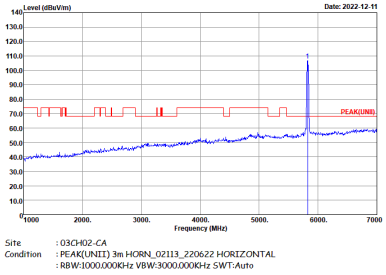
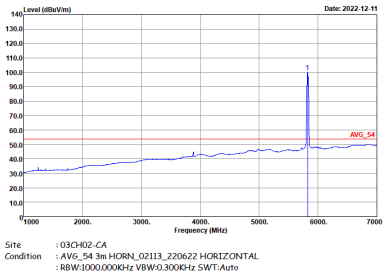
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto

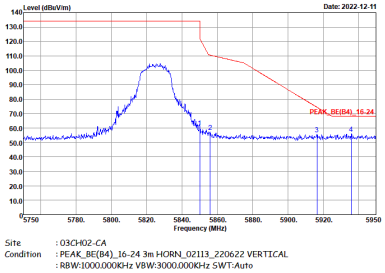
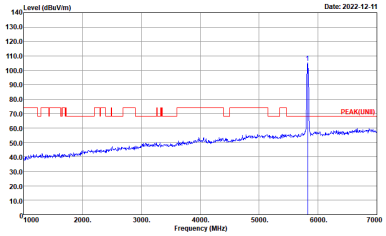
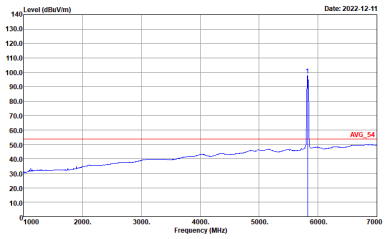
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak		
Avg	Left blank	

Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

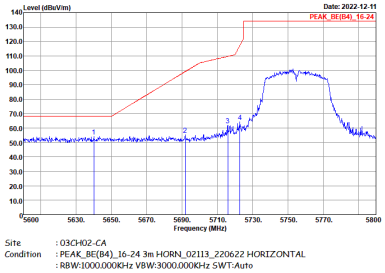
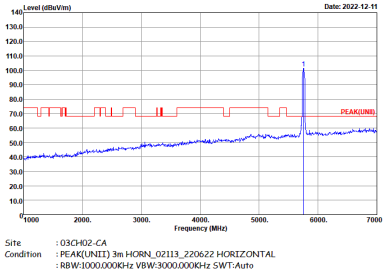
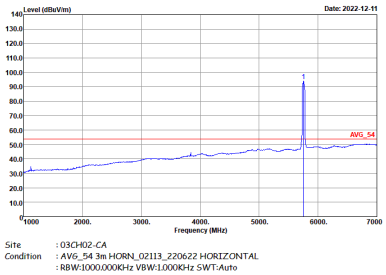
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank		

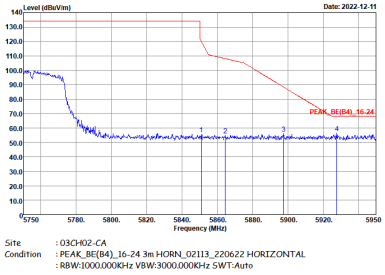
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto

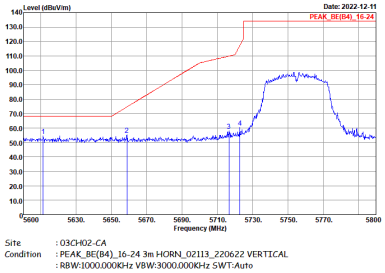
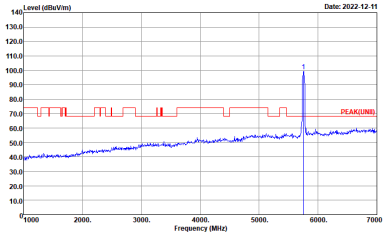
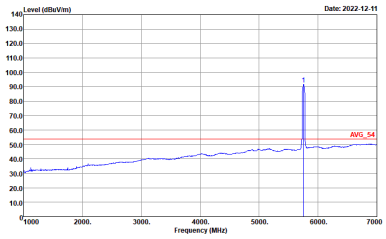
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto

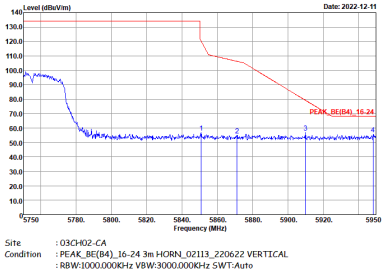
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:0.300KHz SWT:Auto

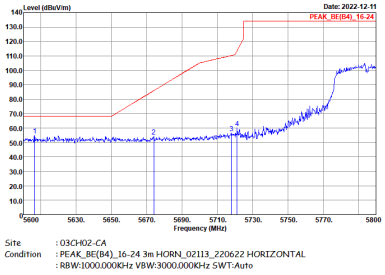
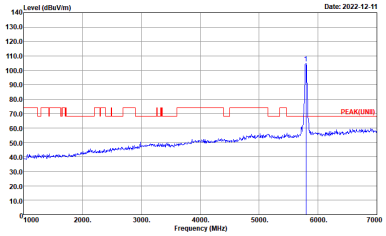
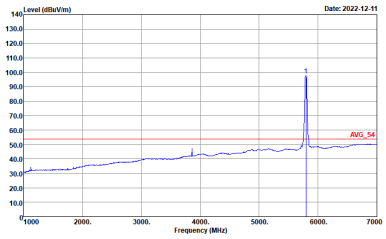
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

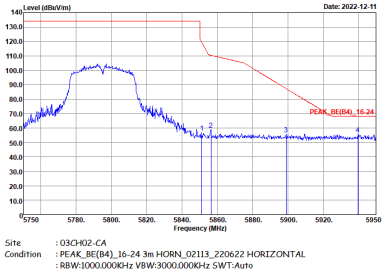
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak		
Avg	Left blank	

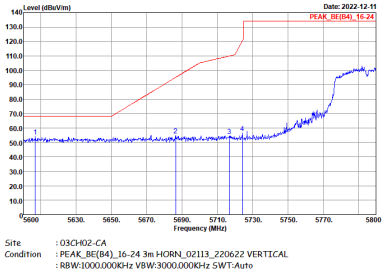
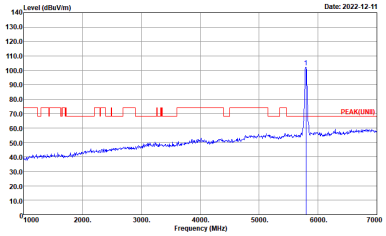
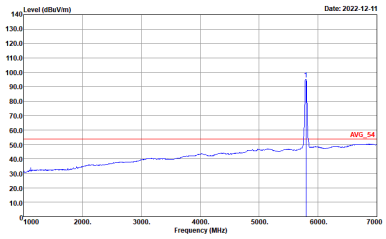
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak		Left blank

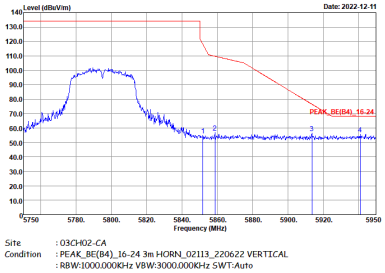
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

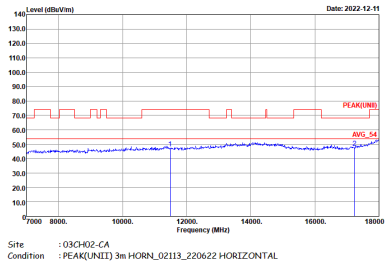
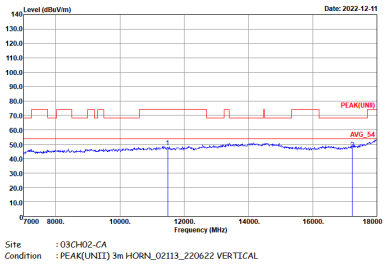
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak		Left blank

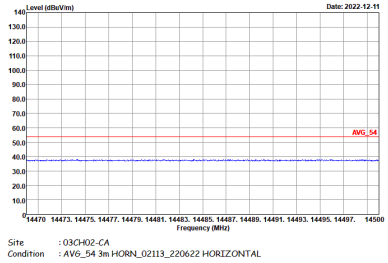
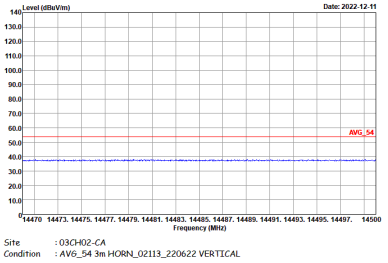
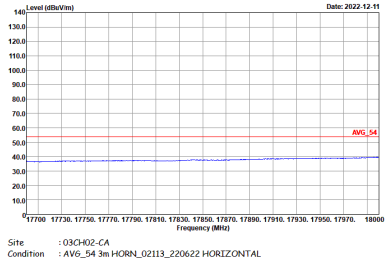
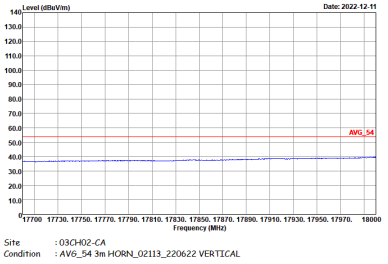
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH02-CA Condition : PEAK_BE(B4)_16-24 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg	Left blank	 Site : 03CH02-CA Condition : AVG_54 3m HORN_02113_220622 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto

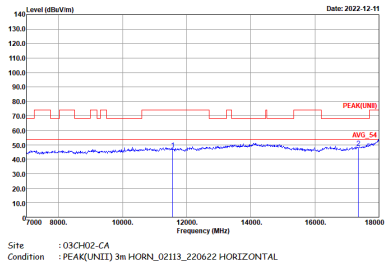
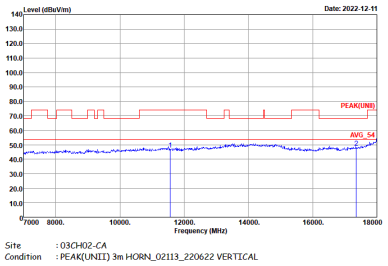
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak		Left blank

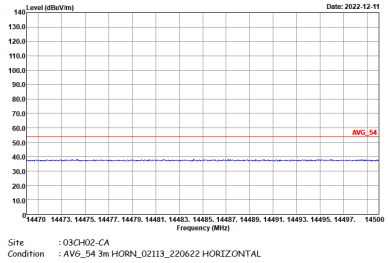
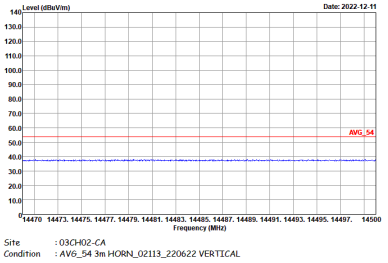
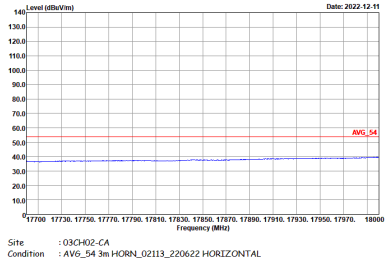
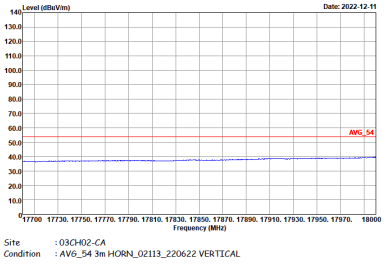
Band 4 - 5725~5850MHz

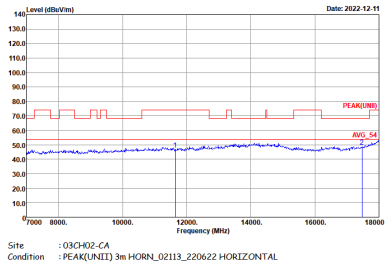
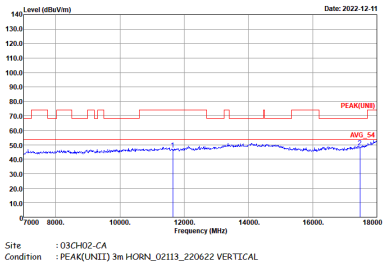
WIFI 802.11a (Harmonic @ 3m)

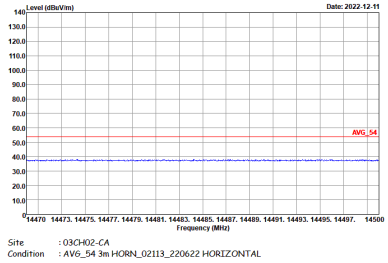
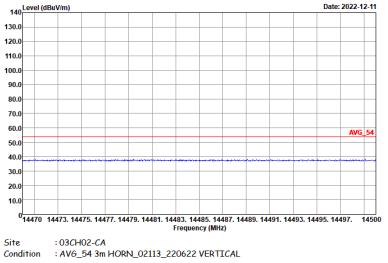
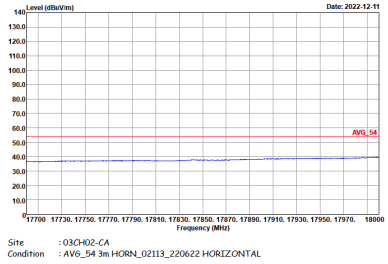
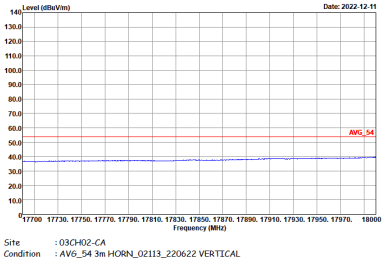
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

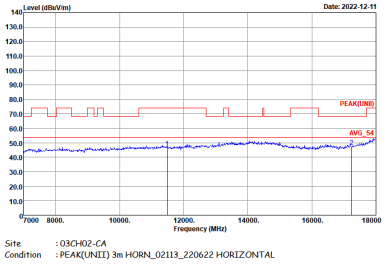
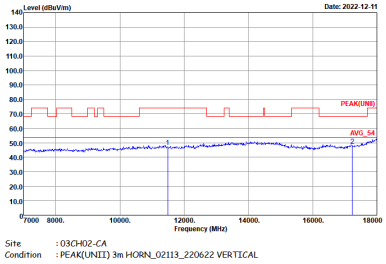
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL

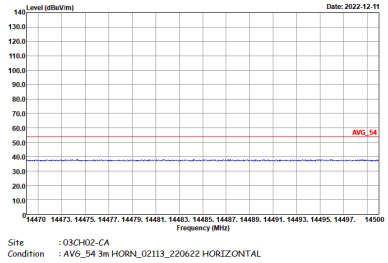
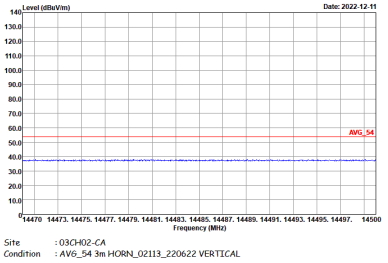
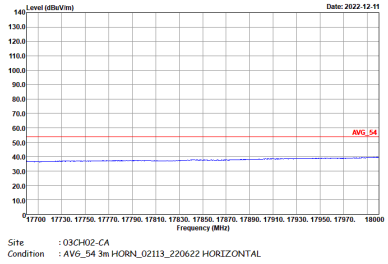
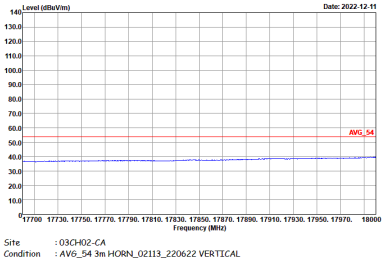
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

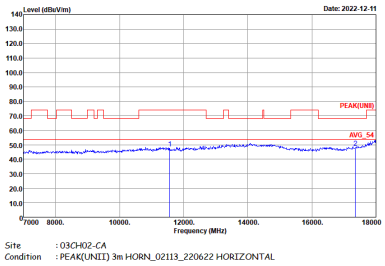
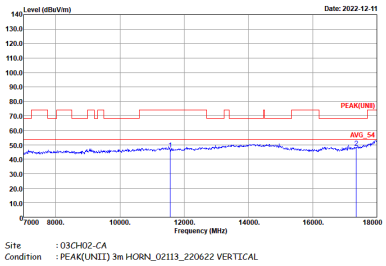
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.		

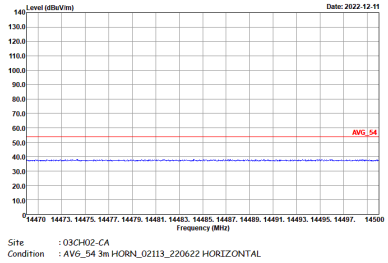
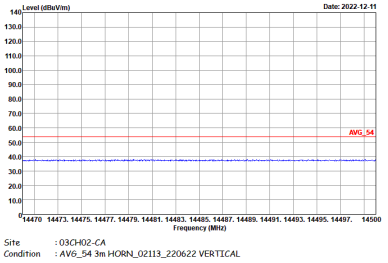
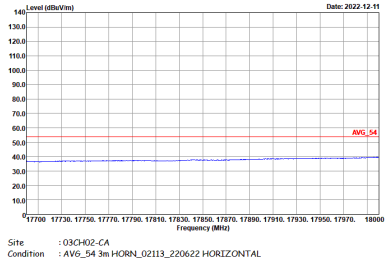
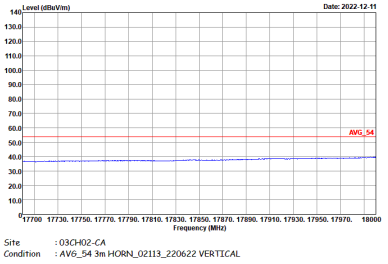
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

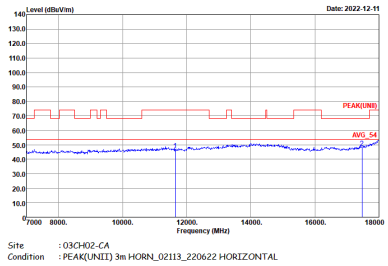
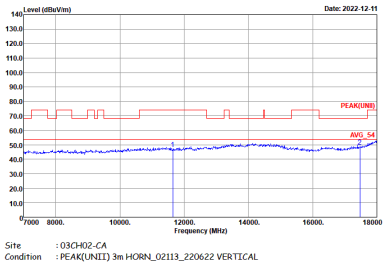
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

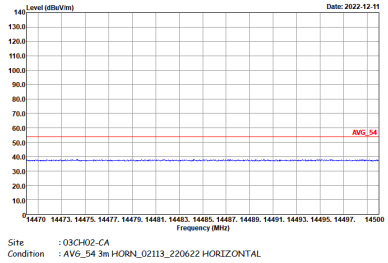
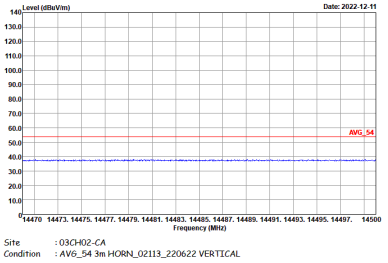
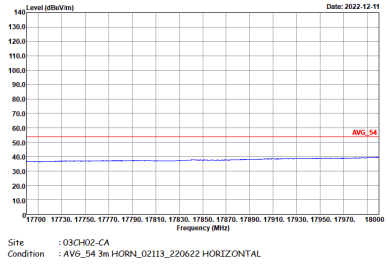
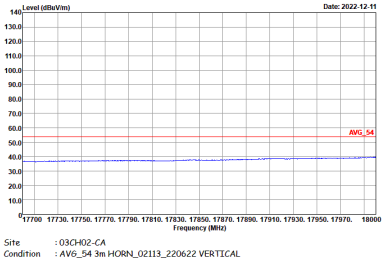
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

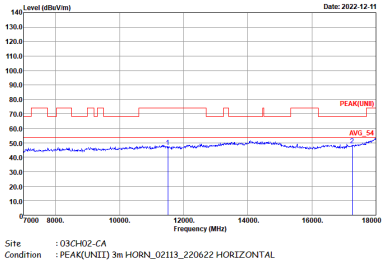
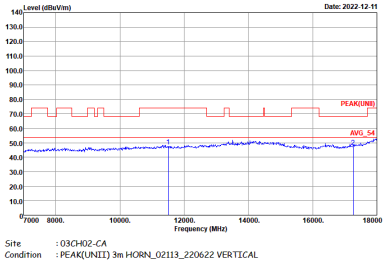
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.		

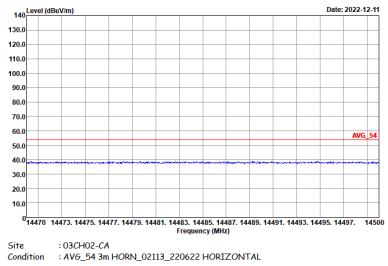
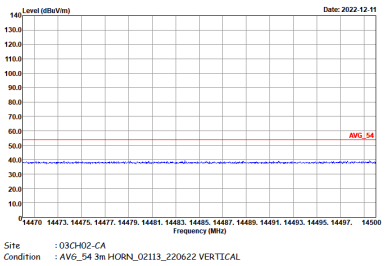
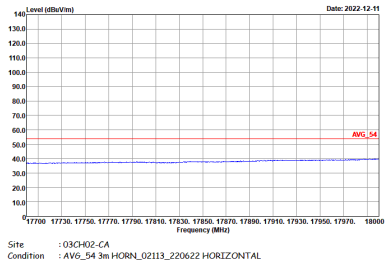
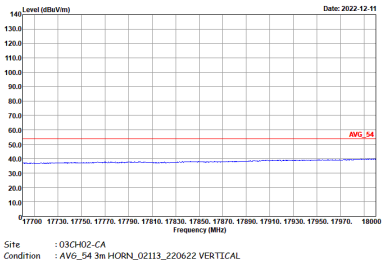
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

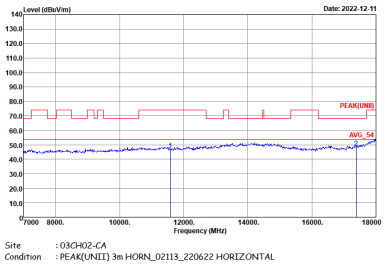
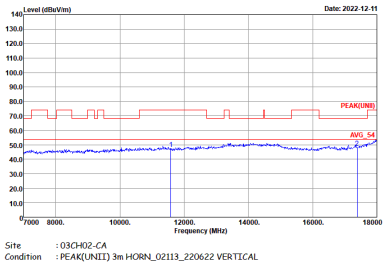
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL

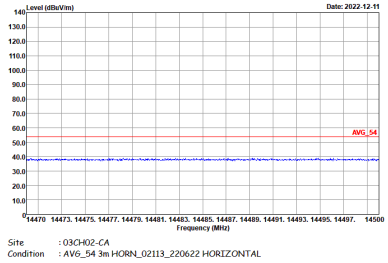
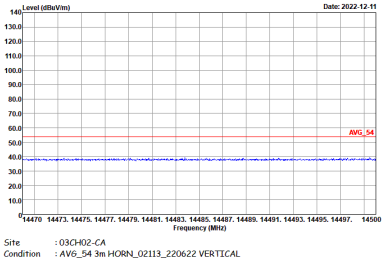
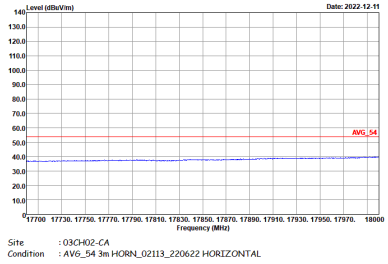
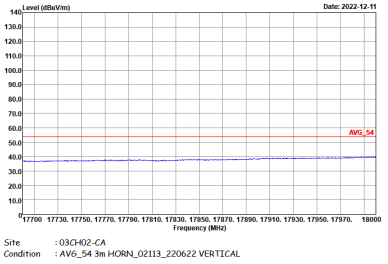
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.		

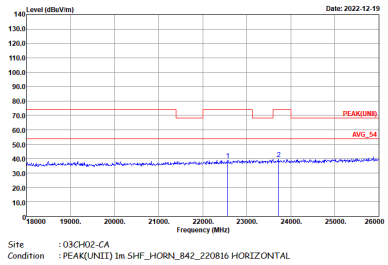
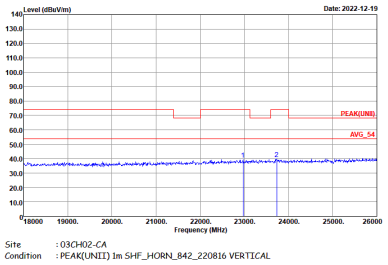
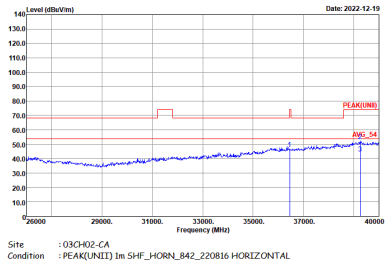
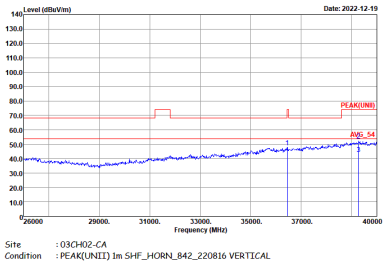
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 HORIZONTAL	 Site : 03CH02-CA Condition : PEAK(UNII) 3m HORN_02113_220622 VERTICAL

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
14.47G ~14.5G Avg.		
17.7G ~18G Avg		

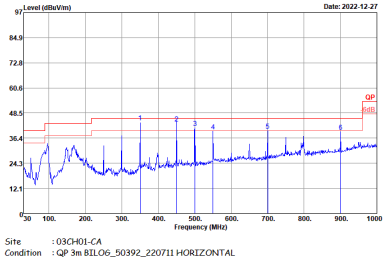
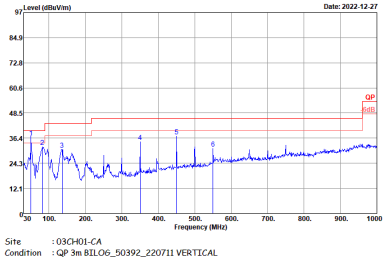
Emission above 18GHz

5GHz WIFI 802.11a (SHF @ 1m)

WIFI	5GHz WIFI	
ANT	802.11a SHF	
1	Horizontal	Vertical
Peak Avg.		
Peak Avg.		

Emission below 1GHz

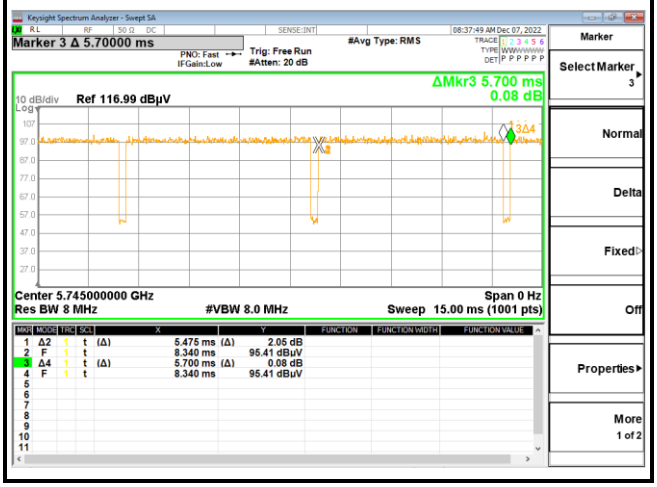
5GHz WIFI 802.11a (LF @ 3m)

WIFI	5GHz WIFI	
ANT	802.11a LF	
1	Horizontal	Vertical
QP / Peak		

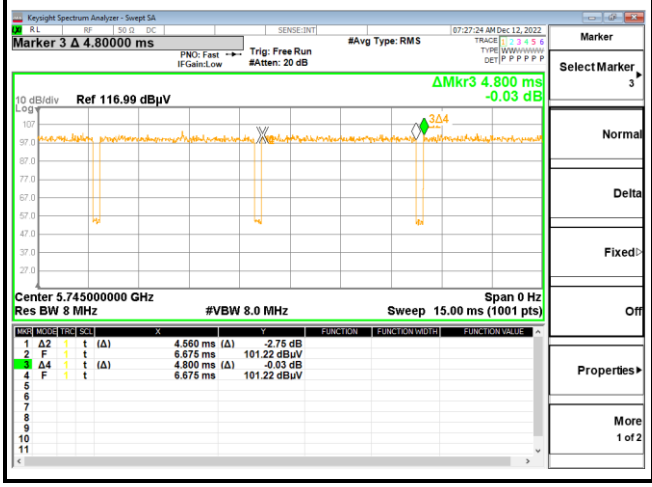
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	96.05	5475	0.18	300Hz
5GHz 802.11n HT20	95.00	4560	0.22	300Hz
5GHz 802.11n HT40	90.16	2200	0.45	1kHz

802.11a



802.11n HT20



802.11n HT40