



FCC RF Test Report

APPLICANT : Inseego Corp.
EQUIPMENT : wireless device
BRAND NAME : Inseego
MODEL NAME : FX20003, FX2000e-3
FCC ID : PKRISGFX20003
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The testing was completed on Feb. 26, 2021. We, Sporton International (Kunshan) 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 report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager



Sporton International (Kunshan) Inc.

No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 8.83 dB at 70.740 MHz
3.2	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.3	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Inseego Corp.
9710 Scranton Road, Suite 200 San Diego, CA 92121

1.2 Manufacturer

MeiG Smart Technology Co., Ltd
Floor 2, Office Building No.5, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	wireless device
Brand Name	Inseego
Model Name	FX20003, FX2000e-3
FCC ID	PKRISGFX20003
EUT supports Radios application	WCDMA/LTE/5G NR/GNSS WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 WLAN 5GHz 802.11ax HE20/HE40/HE80
IMEI Code	Radiation: 990016670003779
HW Version	Rev1
FVIN	1
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for FX20003, FX2000e-3. The change note could be referred to the product equality declaration which is exhibit separately. Based on the similarity between current and previous project, only the related test cases of RSE from original report (Sporton Report Number FR082812-01C) were verified for the differences.



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification										
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz									
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac/ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)									
Antenna Type / Gain	<Ant. 1> : IFA Antenna with gain 4.92 dBi <Ant. 2> : Monopole Antenna with gain 4.44 dBi									
Antenna Function Description	<table border="1"> <thead> <tr> <th></th> <th>Ant. 1</th> <th>Ant. 2</th> </tr> </thead> <tbody> <tr> <td>802.11a/n/ac/ax SISO</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11a/n/ac/ax MIMO</td> <td colspan="2">V</td> </tr> </tbody> </table>		Ant. 1	Ant. 2	802.11a/n/ac/ax SISO	V	V	802.11a/n/ac/ax MIMO	V	
	Ant. 1	Ant. 2								
802.11a/n/ac/ax SISO	V	V								
802.11a/n/ac/ax MIMO	V									

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH06-KS	CN1257	314309

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24al



1.8 Applicable Standards

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

- ♦ 47 CFR Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

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, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

2.1 Carrier Frequency and Channel

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

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40 and 802.11ax HE40.
2. The above Frequency and Channel in "[#]" were 802.11ac VHT80 and 802.11ax HE80.

2.2 Test Mode

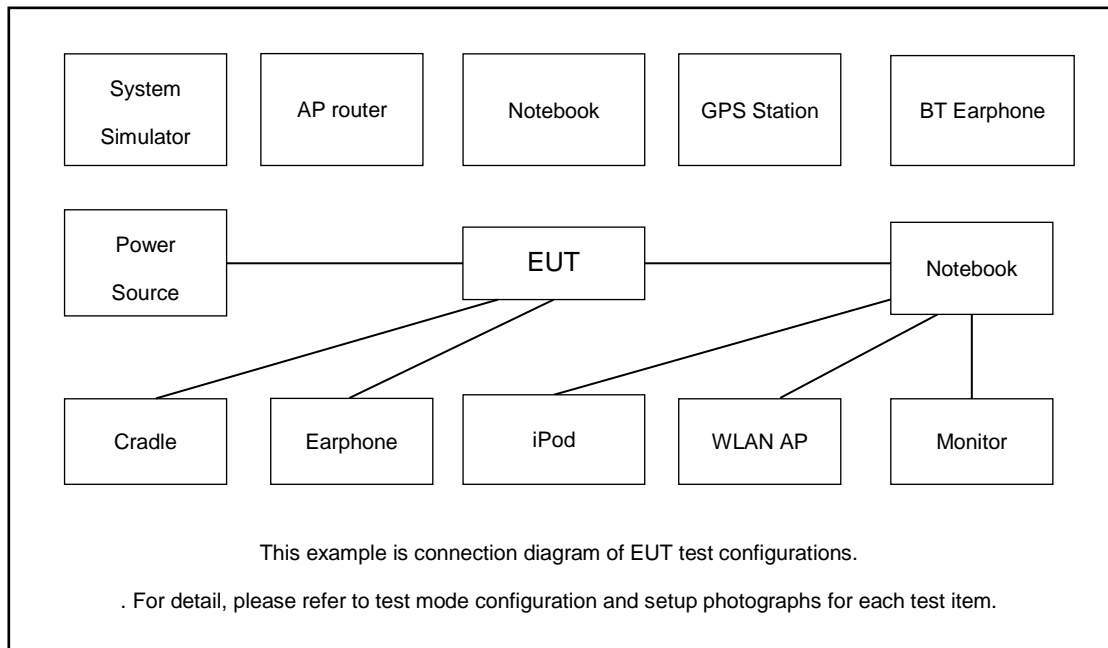
Final test modes are considering the modulation and worse data rates as below table.

MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0

Ch. #		Band IV : 5745-5825 MHz			
		802.11a	802.11ax HE20	802.11ax HE40	802.11ax HE80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

2.3 Connection Diagram of Test System





2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
2.	Notebook	Lenovo	V130-15IKB005	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
3.	Hard DISK	WD	C6B	N/A	N/A	N/A
4.	Earphone	Lenovo	P121	N/A	Unshielded,1.2m	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.



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

(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 fallen 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

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

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

$$EIRP = E_{Meas} + 20\log (d_{Meas}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dBµV/m

d_{Meas} is the measurement distance, in m



3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

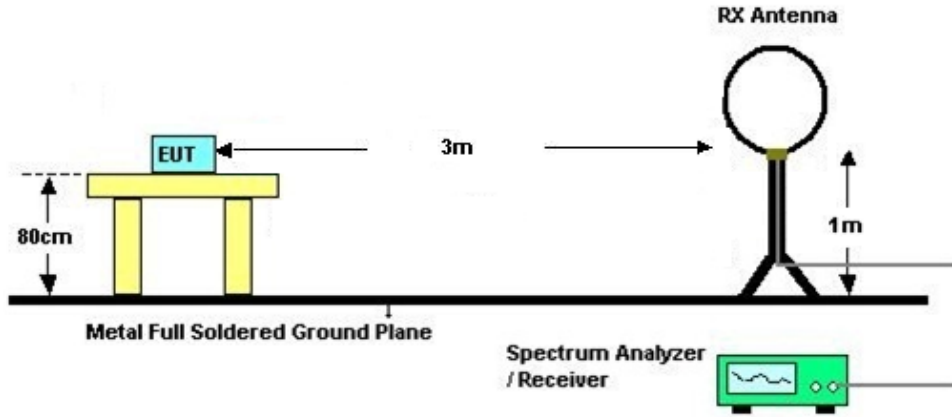
3.1.3 Test Procedures

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 1000MHz
 - 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 1000MHz
 - 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 was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was 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 was 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. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in

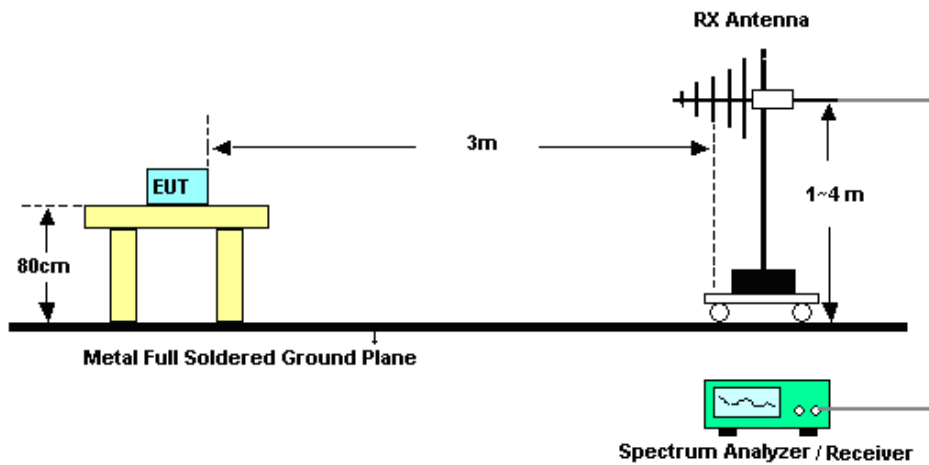
average mode again and reported.

3.1.4 Test Setup

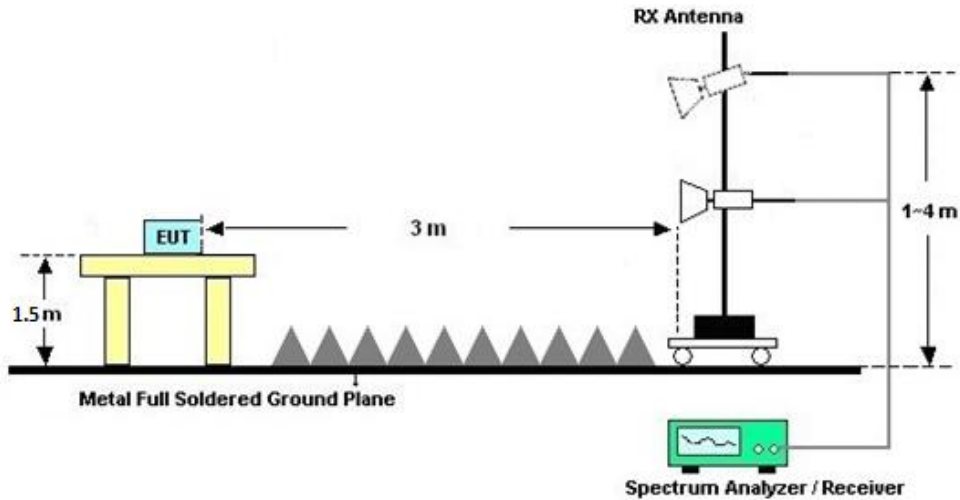
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.1.6 Test Result of Radiated Band Edges

Please refer to Appendix A.

3.1.7 Duty Cycle

Please refer to Appendix B.

3.1.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix A.



3.2 Automatically Discontinue Transmission

3.2.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



3.3 Antenna Requirements

3.3.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	4.92	4.44	4.92	7.69	0.00	1.69



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 17, 2020	Feb. 26, 2021	Oct. 16, 2021	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44GHz	Apr. 14, 2020	Feb. 26, 2021	Apr. 13, 2021	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Feb. 26, 2021	Oct. 31, 2021	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	May 29, 2020	Feb. 26, 2021	May 28, 2021	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 27, 2020	Feb. 26, 2021	Apr. 26, 2021	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2020	Feb. 26, 2021	Nov. 09, 2021	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 14, 2020	Feb. 26, 2021	Apr. 13, 2021	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 06, 2021	Feb. 26, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Feb. 26, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 15, 2020	Feb. 26, 2021	Apr. 14, 2021	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Feb. 26, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Feb. 26, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Feb. 26, 2021	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required



5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB
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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))	5.0dB
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Appendix A. Radiated Spurious Emission

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5608.8	54.33	-13.97	68.3	39.94	35.37	11.66	32.64	321	46	P	H
		5685.2	55.65	-38.73	94.38	41.14	35.35	11.86	32.7	321	46	P	H
		5718.4	55.05	-55.4	110.45	40.5	35.32	11.95	32.72	321	46	P	H
		5724.8	59.24	-62.6	121.84	44.69	35.32	11.95	32.72	321	46	P	H
		5746	108.18	-	-	93.61	35.31	11.99	32.73	321	46	P	H
		5746	101.7	-	-	87.13	35.31	11.99	32.73	321	46	A	H
		5606	55	-13.3	68.3	40.61	35.37	11.66	32.64	100	128	P	V
		5660.4	54.94	-21.08	76.02	40.47	35.38	11.78	32.69	100	128	P	V
		5720	57.34	-53.56	110.9	42.79	35.32	11.95	32.72	100	128	P	V
		5724.8	60.61	-61.23	121.84	46.06	35.32	11.95	32.72	100	128	P	V
		5752	110.76	-	-	96.17	35.29	12.03	32.73	100	128	P	V
		5752	103.69	-	-	89.1	35.29	12.03	32.73	100	128	A	V



WIFI Ant. 1+2	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 157 5785MHz		5617.6	55.17	-13.13	68.3	40.75	35.38	11.7	32.66	339	45	P	H
		5662.4	54.93	-22.58	77.51	40.46	35.38	11.78	32.69	339	45	P	H
		5705.2	55.52	-51.24	106.76	40.97	35.34	11.91	32.7	339	45	P	H
		5720	54.07	-56.83	110.9	39.52	35.32	11.95	32.72	339	45	P	H
		5850	53.32	-68.98	122.3	38.79	35.22	12.12	32.81	339	45	P	H
		5856.8	54.86	-55.54	110.4	40.35	35.2	12.12	32.81	339	45	P	H
		5892.8	54.97	-37.12	92.09	40.46	35.21	12.12	32.82	339	45	P	H
		5981.6	54.79	-13.51	68.3	40.3	35.23	12.14	32.88	339	45	P	H
		5776	108.27	-	-	93.68	35.28	12.07	32.76	339	45	P	H
		5776	101.43	-	-	86.84	35.28	12.07	32.76	339	45	A	H
		5644.8	55.27	-13.03	68.3	40.8	35.4	11.74	32.67	113	176	P	V
		5698.8	55.6	-48.82	104.42	41.09	35.35	11.86	32.7	113	176	P	V
		5712	54.48	-54.18	108.66	39.95	35.34	11.91	32.72	113	176	P	V
		5722.8	53.89	-63.39	117.28	39.34	35.32	11.95	32.72	113	176	P	V
		5851.2	53.75	-65.81	119.56	39.22	35.22	12.12	32.81	113	176	P	V
		5871.2	55.04	-51.32	106.36	40.54	35.2	12.12	32.82	113	176	P	V
		5876.4	54.82	-49.44	104.26	40.32	35.2	12.12	32.82	113	176	P	V
		5968	55.4	-12.9	68.3	40.92	35.22	12.14	32.88	113	176	P	V
		5776	111.43	-	-	96.84	35.28	12.07	32.76	113	176	P	V
	5776	103.32	-	-	88.73	35.28	12.07	32.76	113	176	A	V	



WIFI Ant. 1+2	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		5852.8	56.5	-59.42	115.92	41.97	35.22	12.12	32.81	369	44	P	H
		5855.1	55.53	-55.34	110.87	41.02	35.2	12.12	32.81	369	44	P	H
		5902.4	54.82	-30.17	84.99	40.33	35.21	12.12	32.84	369	44	P	H
		5957.2	55.3	-13	68.3	40.81	35.22	12.14	32.87	369	44	P	H
		5824	107.69	-	-	93.14	35.23	12.11	32.79	369	44	P	H
		5824	100.62	-	-	86.07	35.23	12.11	32.79	369	44	A	H
		5850	57.86	-64.44	122.3	43.33	35.22	12.12	32.81	121	177	P	V
		5855.6	56.04	-54.69	110.73	41.53	35.2	12.12	32.81	121	177	P	V
		5919.6	56.43	-15.85	72.28	41.94	35.21	12.13	32.85	121	177	P	V
		5953.6	56.05	-12.25	68.3	41.57	35.22	12.13	32.87	121	177	P	V
		5830	112.32	-	-	97.77	35.23	12.11	32.79	121	177	P	V
		5830	105.03	-	-	90.48	35.23	12.11	32.79	121	177	A	V
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 												



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	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		11489.48	45.42	-28.58	74	51.98	38.59	17.16	62.31	300	0	P	H
		11489.48	45.42	-28.58	74	51.98	38.59	17.16	62.31	100	360	P	V
802.11a CH 157 5785MHz		11569.56	45.91	-28.09	74	52.16	38.68	17.26	62.19	300	0	P	H
		11569.56	45.19	-28.81	74	51.44	38.68	17.26	62.19	100	360	P	V
802.11a CH 165 5825MHz		11649.64	45.05	-28.95	74	51.04	38.77	17.34	62.1	300	0	P	H
		11649.64	45.77	-28.23	74	51.76	38.77	17.34	62.1	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE20_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE20 Full CH 149 5745MHz		5635.2	55.16	-13.14	68.3	40.69	35.4	11.74	32.67	316	60	P	H
		5677.2	55.16	-33.31	88.47	40.66	35.37	11.82	32.69	316	60	P	H
		5715.6	56.81	-52.86	109.67	42.28	35.34	11.91	32.72	316	60	P	H
		5724.4	61.73	-59.2	120.93	47.18	35.32	11.95	32.72	316	60	P	H
		5752	110.71	-	-	96.12	35.29	12.03	32.73	316	60	P	H
		5752	99.08	-	-	84.49	35.29	12.03	32.73	316	60	A	H
		5610.4	54.77	-13.53	68.3	40.38	35.37	11.66	32.64	100	128	P	V
		5678.8	54.74	-34.91	89.65	40.24	35.37	11.82	32.69	100	128	P	V
		5719.6	58.95	-51.84	110.79	44.4	35.32	11.95	32.72	100	128	P	V
		5724.4	64.4	-56.53	120.93	49.85	35.32	11.95	32.72	100	128	P	V
		5746	112.11	-	-	97.54	35.31	11.99	32.73	100	128	P	V
		5746	103.3	-	-	88.73	35.31	11.99	32.73	100	128	A	V
802.11ax HE20 Full CH 165 5825MHz		5850.8	63.81	-56.67	120.48	49.28	35.22	12.12	32.81	266	61	P	H
		5854.8	59.77	-51.59	111.36	45.26	35.2	12.12	32.81	266	61	P	H
		5896.8	55.17	-33.96	89.13	40.68	35.21	12.12	32.84	266	61	P	H
		5954.4	56.06	-12.24	68.3	41.58	35.22	12.13	32.87	266	61	P	H
		5826	111.1	-	-	96.55	35.23	12.11	32.79	266	61	P	H
		5826	100.94	-	-	86.39	35.23	12.11	32.79	266	61	A	H
		5852.8	64.2	-51.72	115.92	49.67	35.22	12.12	32.81	104	130	P	V
		5854.8	58.48	-52.88	111.36	43.97	35.2	12.12	32.81	104	130	P	V
		5899.6	55.22	-31.84	87.06	40.73	35.21	12.12	32.84	104	130	P	V
		5970.8	55.73	-12.57	68.3	41.25	35.22	12.14	32.88	104	130	P	V
		5830	112.96	-	-	98.41	35.23	12.11	32.79	104	130	P	V
	5830	104.52	-	-	89.97	35.23	12.11	32.79	104	130	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11ax HE20_Partial 106 (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE20 Partial 106/53 CH 149 5745MHz		5647.6	54.64	-13.66	68.3	40.17	35.4	11.74	32.67	286	153	P	H
		5689.6	55.95	-41.68	97.63	41.44	35.35	11.86	32.7	286	153	P	H
		5718	56.9	-53.44	110.34	42.35	35.32	11.95	32.72	286	153	P	H
		5723.6	58.08	-61.03	119.11	43.53	35.32	11.95	32.72	286	153	P	H
		5740	109.6	-	-	95.03	35.31	11.99	32.73	286	153	P	H
		5740	100.94	-	-	86.37	35.31	11.99	32.73	286	153	A	H
		5607.2	55.32	-12.98	68.3	40.93	35.37	11.66	32.64	102	130	P	V
		5690.8	54.69	-43.83	98.52	40.18	35.35	11.86	32.7	102	130	P	V
		5719.2	58.11	-52.57	110.68	43.56	35.32	11.95	32.72	102	130	P	V
		5724.4	69.29	-51.64	120.93	54.74	35.32	11.95	32.72	102	130	P	V
		5740	112.79	-	-	98.22	35.31	11.99	32.73	102	130	P	V
		5740	105.06	-	-	90.49	35.31	11.99	32.73	102	130	A	V
802.11ax HE20 Partial 106/54 CH 165 5825MHz		5850	54.21	-68.09	122.3	39.68	35.22	12.12	32.81	266	60	P	H
		5858.8	54.68	-55.15	109.83	40.17	35.2	12.12	32.81	266	60	P	H
		5885.6	55.1	-42.33	97.43	40.6	35.2	12.12	32.82	266	60	P	H
		5966	54.95	-13.35	68.3	40.47	35.22	12.14	32.88	266	60	P	H
		5830	110.05	-	-	95.5	35.23	12.11	32.79	266	60	P	H
		5830	101.38	-	-	86.83	35.23	12.11	32.79	266	60	A	H
		5852.8	54.78	-61.14	115.92	40.25	35.22	12.12	32.81	100	131	P	V
		5871.2	54.54	-51.82	106.36	40.04	35.2	12.12	32.82	100	131	P	V
		5903.6	55.48	-28.62	84.1	40.99	35.21	12.12	32.84	100	131	P	V
		5997.2	56.43	-11.87	68.3	41.96	35.23	12.14	32.9	100	131	P	V
	5830	113.2	-	-	98.65	35.23	12.11	32.79	100	131	P	V	
	5830	104.95	-	-	90.4	35.23	12.11	32.79	100	131	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE40 Full CH 151 5755MHz		5624	55.62	-12.68	68.3	41.2	35.38	11.7	32.66	283	152	P	H
		5694.4	56.36	-44.81	101.17	41.85	35.35	11.86	32.7	283	152	P	H
		5717.6	62.15	-48.08	110.23	47.6	35.32	11.95	32.72	283	152	P	H
		5724.8	64.84	-57	121.84	50.29	35.32	11.95	32.72	283	152	P	H
		5853.2	53.81	-61.19	115	39.28	35.22	12.12	32.81	283	152	P	H
		5864.8	54.91	-53.24	108.15	40.4	35.2	12.12	32.81	283	152	P	H
		5886	55.31	-41.82	97.13	40.81	35.2	12.12	32.82	283	152	P	H
		5970	55.37	-12.93	68.3	40.89	35.22	12.14	32.88	283	152	P	H
		5752	105.08	-	-	90.49	35.29	12.03	32.73	283	152	P	H
		5752	96.72	-	-	82.13	35.29	12.03	32.73	283	152	A	H
		5626.4	55.74	-12.56	68.3	41.32	35.38	11.7	32.66	100	128	P	V
		5698.8	56.91	-47.51	104.42	42.4	35.35	11.86	32.7	100	128	P	V
		5719.6	68.07	-42.72	110.79	53.52	35.32	11.95	32.72	100	128	P	V
		5723.6	72.57	-46.54	119.11	58.02	35.32	11.95	32.72	100	128	P	V
		5850.8	54.33	-66.15	120.48	39.8	35.22	12.12	32.81	100	128	P	V
		5858.8	55.24	-54.59	109.83	40.73	35.2	12.12	32.81	100	128	P	V
		5883.6	54.89	-44.02	98.91	40.39	35.2	12.12	32.82	100	128	P	V
		5979.2	54.98	-13.32	68.3	40.49	35.23	12.14	32.88	100	128	P	V
		5770	109.48	-	-	94.88	35.28	12.07	32.75	100	128	P	V
	5770	101.17	-	-	86.57	35.28	12.07	32.75	100	128	A	V	



WIFI Ant. 1+2	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)
802.11ax HE40 Full CH 159 5795MHz		5617.2	56.24	-12.06	68.3	41.82	35.38	11.7	32.66	296	63	P	H
		5668	55.31	-26.35	81.66	40.81	35.37	11.82	32.69	296	63	P	H
		5714.4	54.51	-54.82	109.33	39.98	35.34	11.91	32.72	296	63	P	H
		5723.2	54.68	-63.52	118.2	40.13	35.32	11.95	32.72	296	63	P	H
		5854	57.14	-56.04	113.18	42.63	35.2	12.12	32.81	296	63	P	H
		5857.2	55.56	-54.72	110.28	41.05	35.2	12.12	32.81	296	63	P	H
		5909.6	54.74	-24.92	79.66	40.24	35.21	12.13	32.84	296	63	P	H
		5942.4	54.99	-13.31	68.3	40.51	35.22	12.13	32.87	296	63	P	H
		5794	106.32	-	-	91.71	35.26	12.11	32.76	296	63	P	H
		5794	97.06	-	-	82.45	35.26	12.11	32.76	296	63	A	H
		5611.2	55.39	-12.91	68.3	41	35.37	11.66	32.64	110	130	P	V
		5673.6	54.59	-31.21	85.8	40.09	35.37	11.82	32.69	110	130	P	V
		5715.2	54.85	-54.71	109.56	40.32	35.34	11.91	32.72	110	130	P	V
		5724	54.14	-65.88	120.02	39.59	35.32	11.95	32.72	110	130	P	V
		5850.8	57.48	-63	120.48	42.95	35.22	12.12	32.81	110	130	P	V
		5856.4	56.51	-54	110.51	42	35.2	12.12	32.81	110	130	P	V
		5918.4	55.85	-17.32	73.17	41.36	35.21	12.13	32.85	110	130	P	V
		5957.2	55.44	-12.86	68.3	40.95	35.22	12.14	32.87	110	130	P	V
		5800	109.67	-	-	95.08	35.26	12.11	32.78	110	130	P	V
	5800	101.54	-	-	86.95	35.26	12.11	32.78	110	130	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE40_Partial 242 (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE40 Partial 262/61 CH 151 5755MHz		5602.8	56.07	-12.23	68.3	41.68	35.37	11.66	32.64	282	153	P	H
		5676	54.81	-32.77	87.58	40.31	35.37	11.82	32.69	282	153	P	H
		5720	62.75	-48.15	110.9	48.2	35.32	11.95	32.72	282	153	P	H
		5724.8	73.56	-48.28	121.84	59.01	35.32	11.95	32.72	282	153	P	H
		5852	53.35	-64.39	117.74	38.82	35.22	12.12	32.81	282	153	P	H
		5868.4	55.03	-52.12	107.15	40.52	35.2	12.12	32.81	282	153	P	H
		5891.6	55.06	-37.92	92.98	40.55	35.21	12.12	32.82	282	153	P	H
		5966.4	55.22	-13.08	68.3	40.74	35.22	12.14	32.88	282	153	P	H
		5752	108.04	-	-	93.45	35.29	12.03	32.73	282	153	P	H
		5752	99.36	-	-	84.77	35.29	12.03	32.73	282	153	A	H
		5627.6	54.43	-13.87	68.3	40.01	35.38	11.7	32.66	100	130	P	V
		5694.4	66.34	-34.83	101.17	51.83	35.35	11.86	32.7	100	130	P	V
		5705.6	68.98	-37.89	106.87	54.45	35.34	11.91	32.72	100	130	P	V
		5724.8	77.98	-43.86	121.84	63.43	35.32	11.95	32.72	100	130	P	V
		5853.2	56	-59	115	41.47	35.22	12.12	32.81	100	130	P	V
		5855.8	55.42	-55.26	110.68	40.91	35.2	12.12	32.81	100	130	P	V
		5911.6	55.08	-23.11	78.19	40.58	35.21	12.13	32.84	100	130	P	V
		5962.8	55.97	-12.33	68.3	41.48	35.22	12.14	32.87	100	130	P	V
		5752	112.26	-	-	97.67	35.29	12.03	32.73	100	130	P	V
	5752	103.86	-	-	89.27	35.29	12.03	32.73	100	130	A	V	



WIFI Ant. 1+2	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)
802.11ax HE40 Partial 262/62 CH 159 5795MHz		5636	55.33	-12.97	68.3	40.86	35.4	11.74	32.67	295	152	P	H
		5685.6	55.58	-39.1	94.68	41.07	35.35	11.86	32.7	295	152	P	H
		5703.6	54.27	-52.04	106.31	39.72	35.34	11.91	32.7	295	152	P	H
		5724.8	53.96	-67.88	121.84	39.41	35.32	11.95	32.72	295	152	P	H
		5852.4	53.29	-63.54	116.83	38.76	35.22	12.12	32.81	295	152	P	H
		5859.2	55.72	-54	109.72	41.21	35.2	12.12	32.81	295	152	P	H
		5898.8	55.61	-32.04	87.65	41.12	35.21	12.12	32.84	295	152	P	H
		5963.2	54.71	-13.59	68.3	40.22	35.22	12.14	32.87	295	152	P	H
		5794	106.76	-	-	92.15	35.26	12.11	32.76	295	152	P	H
		5794	98.23	-	-	83.62	35.26	12.11	32.76	295	152	A	H
		5639.2	55.55	-12.75	68.3	41.08	35.4	11.74	32.67	100	129	P	V
		5659.6	54.34	-21.09	75.43	39.87	35.38	11.78	32.69	100	129	P	V
		5718.4	54.27	-56.18	110.45	39.72	35.32	11.95	32.72	100	129	P	V
		5720	54.08	-56.82	110.9	39.53	35.32	11.95	32.72	100	129	P	V
		5853.2	55.47	-59.53	115	40.94	35.22	12.12	32.81	100	129	P	V
		5861.2	55.38	-53.78	109.16	40.87	35.2	12.12	32.81	100	129	P	V
		5891.6	56.92	-36.06	92.98	42.41	35.21	12.12	32.82	100	129	P	V
		5947.6	55.28	-13.02	68.3	40.8	35.22	12.13	32.87	100	129	P	V
	5806	111.65	-	-	97.07	35.25	12.11	32.78	100	129	P	V	
	5806	102.27	-	-	87.69	35.25	12.11	32.78	100	129	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Full (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE80 Full CH 155 5775MHz		5616.4	55.98	-12.32	68.3	41.56	35.38	11.7	32.66	116	177	P	H
		5696.8	57.88	-45.06	102.94	43.37	35.35	11.86	32.7	116	177	P	H
		5702.8	57.2	-48.89	106.09	42.65	35.34	11.91	32.7	116	177	P	H
		5724.4	57.97	-62.96	120.93	43.42	35.32	11.95	32.72	116	177	P	H
		5853.2	57.41	-57.59	115	42.88	35.22	12.12	32.81	116	177	P	H
		5856.8	57.38	-53.02	110.4	42.87	35.2	12.12	32.81	116	177	P	H
		5889.2	55.19	-39.57	94.76	40.68	35.21	12.12	32.82	116	177	P	H
		5944.8	54.05	-14.25	68.3	39.57	35.22	12.13	32.87	116	177	P	H
		5764	101.52	-	-	86.95	35.29	12.03	32.75	116	177	P	H
		5764	92.71	-	-	78.14	35.29	12.03	32.75	116	177	A	H
		5600.8	55.78	-12.52	68.3	41.39	35.37	11.66	32.64	100	130	P	V
		5695.6	65.15	-36.91	102.06	50.64	35.35	11.86	32.7	100	130	P	V
		5716	67.38	-42.4	109.78	52.85	35.34	11.91	32.72	100	130	P	V
		5724.4	67.02	-53.91	120.93	52.47	35.32	11.95	32.72	100	130	P	V
		5852.8	68.68	-47.24	115.92	54.15	35.22	12.12	32.81	100	130	P	V
		5858	66.68	-43.38	110.06	52.17	35.2	12.12	32.81	100	130	P	V
		5874.8	58.67	-46.69	105.36	44.17	35.2	12.12	32.82	100	130	P	V
		5956	54.97	-13.33	68.3	40.48	35.22	12.14	32.87	100	130	P	V
		5776	107.64	-	-	93.05	35.28	12.07	32.76	100	130	P	V
	5776	98.48	-	-	83.89	35.28	12.07	32.76	100	130	A	V	

Remark

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



Band 4 5725~5850MHz

WIFI 802.11ax HE80_Partial 484 (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ax HE80 Partial 484/65 CH 155 5775MHz		5642.4	55.6	-12.7	68.3	41.13	35.4	11.74	32.67	292	48	P	H
		5688	75.21	-21.24	96.45	60.7	35.35	11.86	32.7	292	48	P	H
		5705.2	69.08	-37.68	106.76	54.53	35.34	11.91	32.7	292	48	P	H
		5724.8	73.03	-48.81	121.84	58.48	35.32	11.95	32.72	292	48	P	H
		5853.6	53.81	-60.28	114.09	39.3	35.2	12.12	32.81	292	48	P	H
		5862.4	54.66	-54.17	108.83	40.15	35.2	12.12	32.81	292	48	P	H
		5919.6	54.86	-17.42	72.28	40.37	35.21	12.13	32.85	292	48	P	H
		5935.2	54.72	-13.58	68.3	40.22	35.22	12.13	32.85	292	48	P	H
		5746	103.56	-	-	88.99	35.31	11.99	32.73	292	48	P	H
		5746	95.96	-	-	81.39	35.31	11.99	32.73	292	48	A	H
		5621.6	55.96	-12.34	68.3	41.54	35.38	11.7	32.66	100	129	P	V
		5663.6	62.58	-15.82	78.4	48.11	35.38	11.78	32.69	100	129	P	V
		5712.4	65.35	-43.42	108.77	50.82	35.34	11.91	32.72	100	129	P	V
		5720.4	68.17	-43.64	111.81	53.62	35.32	11.95	32.72	100	129	P	V
		5850.4	55.04	-66.35	121.39	40.51	35.22	12.12	32.81	100	129	P	V
		5874.4	54.72	-50.75	105.47	40.22	35.2	12.12	32.82	100	129	P	V
		5906.8	55.24	-26.49	81.73	40.74	35.21	12.13	32.84	100	129	P	V
		5971.6	56.5	-11.8	68.3	42.02	35.22	12.14	32.88	100	129	P	V
	5770	106.71	-	-	92.11	35.28	12.07	32.75	100	129	P	V	
	5770	99.03	-	-	84.43	35.28	12.07	32.75	100	129	A	V	

Remark

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



WiFi Ant. 1+2	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)
802.11ax HE80 Partial 484/66 CH 155 5775MHz		5603.6	54.72	-13.58	68.3	40.33	35.37	11.66	32.64	288	60	P	H
		5693.6	65.7	-34.88	100.58	51.19	35.35	11.86	32.7	288	60	P	H
		5708	66.94	-40.6	107.54	52.41	35.34	11.91	32.72	288	60	P	H
		5724	66.21	-53.81	120.02	51.66	35.32	11.95	32.72	288	60	P	H
		5850	54.14	-68.16	122.3	39.61	35.22	12.12	32.81	288	60	P	H
		5860.4	64.31	-45.08	109.39	49.8	35.2	12.12	32.81	288	60	P	H
		5914	54.59	-21.82	76.41	40.09	35.21	12.13	32.84	288	60	P	H
		5955.6	54.68	-13.62	68.3	40.19	35.22	12.14	32.87	288	60	P	H
		5806	103.39	-	-	88.81	35.25	12.11	32.78	288	60	P	H
		5806	95.1	-	-	80.52	35.25	12.11	32.78	288	60	A	H
		5641.2	56.57	-11.73	68.3	42.1	35.4	11.74	32.67	106	179	P	V
		5684.8	75.47	-18.62	94.09	60.96	35.35	11.86	32.7	106	179	P	V
		5716.4	72.36	-37.53	109.89	57.83	35.34	11.91	32.72	106	179	P	V
		5724.4	69.09	-51.84	120.93	54.54	35.32	11.95	32.72	106	179	P	V
		5852.4	55	-61.83	116.83	40.47	35.22	12.12	32.81	106	179	P	V
		5868.8	67.37	-39.66	107.03	52.86	35.2	12.12	32.81	106	179	P	V
		5924	55.05	-13.99	69.04	40.55	35.22	12.13	32.85	106	179	P	V
		5952.8	55.37	-12.93	68.3	40.89	35.22	12.13	32.87	106	179	P	V
	5794	107.3	-	-	92.69	35.26	12.11	32.76	106	179	P	V	
	5794	99.22	-	-	84.61	35.26	12.11	32.76	106	179	A	V	

Remark

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



Emission below 1GHz

WIFI 802.11ax HE80_Partial 484 (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
WIFI 802.11ax HE80_Partial 484 LF		30	21.17	-18.83	40	28.17	25	0.7	32.7	-	-	P	H
		120.21	29.44	-14.06	43.5	43.81	16.92	1.57	32.86	100	0	P	H
		217.21	29.74	-16.26	46	44.11	16.54	2.19	33.1	-	-	P	H
		265.71	26.52	-19.48	46	38.36	18.75	2.45	33.04	-	-	P	H
		462.62	24.61	-21.39	46	31.03	23.02	3.28	32.72	-	-	P	H
		639.16	25.88	-20.12	46	29.44	25.21	3.89	32.66	-	-	P	H
		33.88	30.37	-9.63	40	39.04	23.42	0.76	32.85	-	-	P	V
		70.74	31.17	-8.83	40	49.73	13.27	1.15	32.98	100	360	P	V
		178.41	29.73	-13.77	43.5	43.91	16.82	1.97	32.97	-	-	P	V
		217.21	29.55	-16.45	46	43.09	17.37	2.19	33.1	-	-	P	V
		267.65	29.31	-16.69	46	40.21	19.68	2.45	33.03	-	-	P	V
	831.22	34.15	-11.85	46	35.17	27.09	4.45	32.56	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



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	Peak or Average
H/V	Horizontal or Vertical



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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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”.

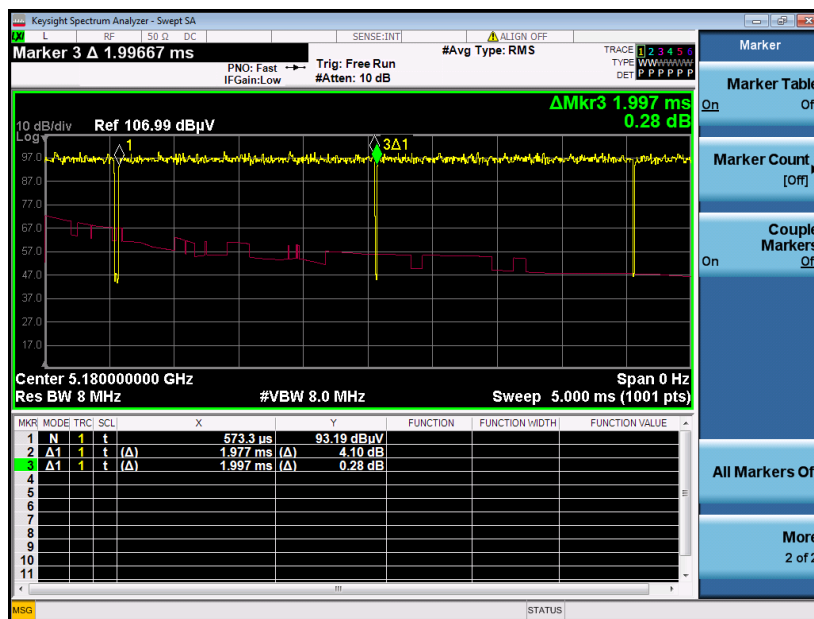


Appendix B. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1+2	802.11a	99.00	-	-	10Hz
1+2	802.11ax HE20	100	-	-	10Hz
1+2	802.11ax HE40	100	-	-	10Hz
1+2	802.11ax HE80	100	-	-	10Hz

<MIMO Ant.1+2>

802.11a

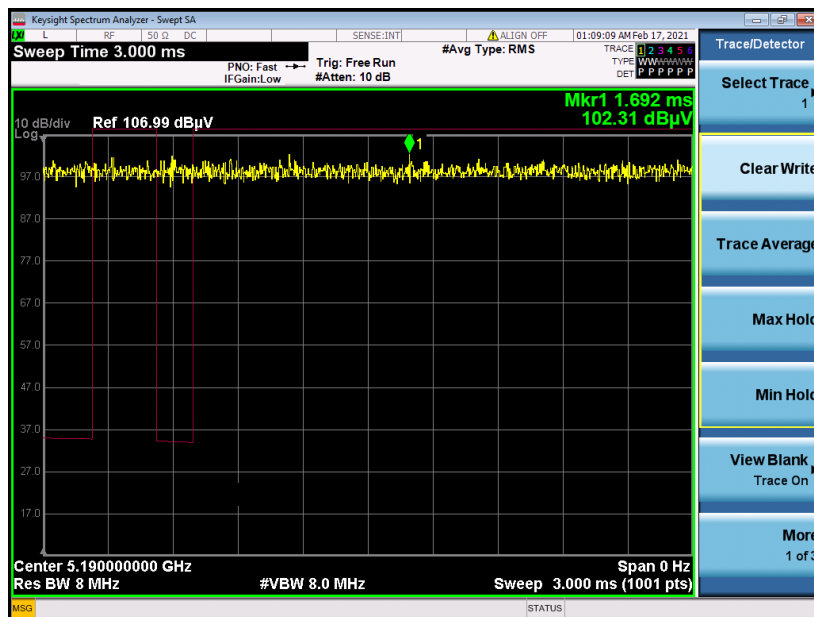




802.11ax HE20



802.11ax HE40





802.11ax HE80

