



FCC RF Test Report

APPLICANT : Thundercomm Technology Co., Ltd
EQUIPMENT : Cellular Module
BRAND NAME : TurboX
MODEL NAME : CM6125
FCC ID : 2AOHHTURBOXCM6125
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Sep. 30, 2022 ~ Nov. 08, 2022

We, Sporton International Inc. (ShenZhen), 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 Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia



Approved by: Jason Jia

Sporton International Inc. (ShenZhen)

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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR232517-01D	Rev. 01	Initial issue of report	Nov. 17, 2022



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit for U-NII-1 ~ U-NII-2C	Limit for U-NII-3	Result	Remark
3.1	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	≤ 30 dBm	Pass	-
3.2	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 3.14 dB at 5142.74 MHz
3.3	15.207	AC Conducted Emission	15.207(a)	15.207(a)	Pass	Under limit 9.97 dB at 0.50 MHz
3.4	15.203 & 15.407(a)	Antenna Requirement	N/A	N/A	Pass	-

Note: This is a variant report. The change note could be referred to the Class II Permissive Change letter which is exhibit separately. The cellular module remains the same as the original module, only the antenna is different, so the conducted power is reused from the original report. Based on the similarity between current and previous project, only the related cases of the new antenna were tested and shown in this report, all the other test results are referred to the original report FR232517D.

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

Thundercomm Technology Co., Ltd

No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122

1.2 Manufacturer

Thundercomm Technology Co., Ltd

No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Cellular Module
Brand Name	TurboX
Model Name	CM6125
FCC ID	2AOHHTURBOXCM6125
IMEI Code	Conducted: 869835050001758/869835050002558 Conduction: 869835050002210/869835050003010 Radiation: 869835050002210/869835050003010
HW Version	V03
SW Version	Turbox-CM6125_xx.xx_la1.0.V.userdebug.20220509.0843
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz 5745 MHz ~ 5825 MHz
Maximum Output Power to Antenna	<p><5180 MHz ~ 5240 MHz> 802.11a : 15.45 dBm / 0.0351 W 802.11n HT20 : 14.31 dBm / 0.0270 W 802.11n HT40 : 15.30 dBm / 0.0339 W 802.11ac VHT20: 14.09 dBm / 0.0256 W 802.11ac VHT40: 15.15 dBm / 0.0327 W 802.11ac VHT80: 14.42 dBm / 0.0277 W</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 15.66 dBm / 0.0368 W 802.11n HT20 : 14.77 dBm / 0.0300 W 802.11n HT40 : 15.43 dBm / 0.0349 W 802.11ac VHT20: 14.57 dBm / 0.0286 W 802.11ac VHT40: 15.19 dBm / 0.0330 W 802.11ac VHT80: 15.16 dBm / 0.0328 W</p> <p><5500 MHz ~ 5700 MHz > 802.11a : 16.13 dBm / 0.0410 W 802.11n HT20 : 15.18 dBm / 0.0330 W 802.11n HT40 : 16.01 dBm / 0.0399 W 802.11ac VHT20: 15.00 dBm / 0.0316 W 802.11ac VHT40: 15.80 dBm / 0.0380 W 802.11ac VHT80: 15.94 dBm / 0.0393 W</p> <p><5745 MHz ~ 5825 MHz> 802.11a : 16.16 dBm / 0.0413 W 802.11n HT20 : 15.24 dBm / 0.0334 W 802.11n HT40 : 16.09 dBm / 0.0406 W 802.11ac VHT20: 15.13 dBm / 0.0326 W 802.11ac VHT40: 15.89 dBm / 0.0388 W 802.11ac VHT80: 15.83 dBm / 0.0383 W</p>
Antenna Type / Gain	<p><5180 MHz ~ 5240 MHz> PIFA Antenna with gain 2.99 dBi</p> <p><5260 MHz ~ 5320 MHz> PIFA Antenna with gain 2.99 dBi</p> <p><5500 MHz ~ 5700 MHz> PIFA Antenna with gain 2.99 dBi</p> <p><5745 MHz ~ 5825 MHz> PIFA Antenna with gain 2.99 dBi</p>
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing has assessed only 802.11n HT20/ HT40 by referring to their higher conducted power.



1.5 Modification of EUT

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

1.6 Testing Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b



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.
- ♦ 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

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5180-5240 MHz U-NII-1	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5260-5320 MHz U-NII-2A	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5500-5700MHz U-NII-2C	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

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



Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 [#]	5610	128	5640

Note:

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

2.2 Test Mode

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

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0
Co-location Mode	
802.11ac VHT80 Tx CH42 + LTE Band 7 Tx	

Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band V Idle+ Bluetooth Link+ WLAN Link(5G)+ Adapter

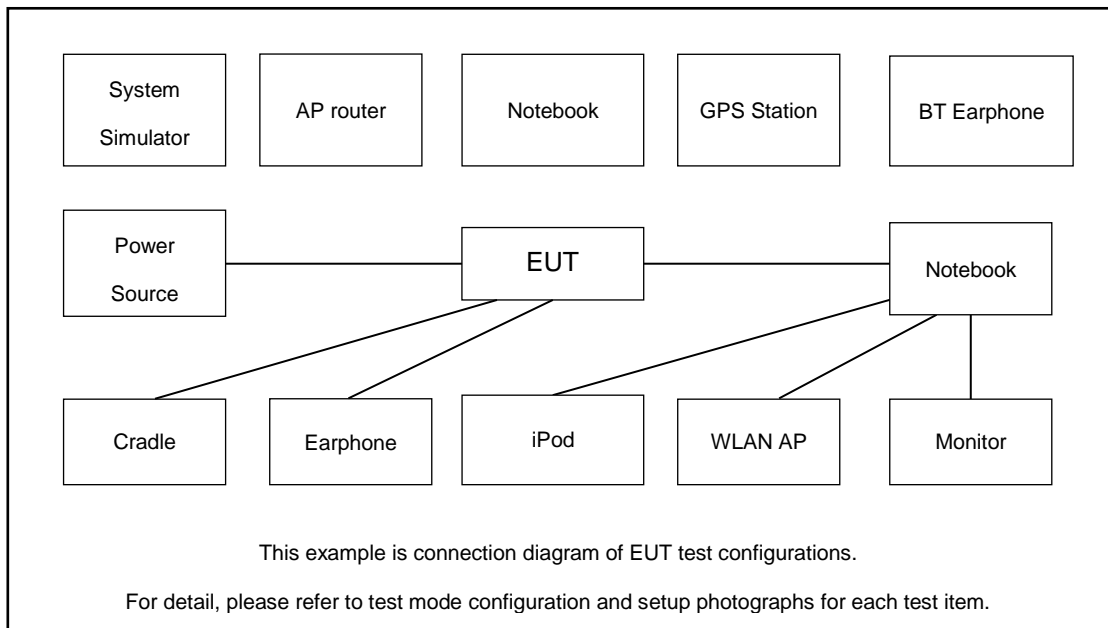
Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		5180-5240 MHz	5260-5320 MHz	5500-5700MHz	5745-5825 MHz
		802.11a	802.11a	802.11a	802.11a
L	Low	36	52	100	149
M	Middle	44	60	116	157
H	High	48	64	140	165

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		5180-5240 MHz	5260-5320 MHz	5500-5700MHz	5745-5825 MHz
		802.11n HT20	802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100	149
M	Middle	44	60	116	157
H	High	48	64	140	165

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		5180-5240 MHz	5260-5320 MHz	5500-5700MHz	5745-5825 MHz
		802.11n HT40	802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102	151
M	Middle	-	-	110	-
H	High	46	62	134	159

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		5180-5240 MHz	5260-5320 MHz	5500-5700MHz	5745-5825 MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106	-
M	Middle	42	58	-	155
H	High	-	-	-	-

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.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	WLAN AP	Dlink	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8m
3.	Notebook	Lenovo	E540	FCC DoC	Lenovo	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
5.	Test Jig	N/A	N/A	N/A	N/A	N/A
6.	WLAN Antenna	N/A	N/A	N/A	N/A	N/A
7.	WWAN Antenna	N/A	N/A	N/A	N/A	N/A
8.	Adapter	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

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

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.



3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log 10 B$, where B is the 26 dB emission bandwidth in megahertz.

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.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.1.2 Measuring Instruments

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

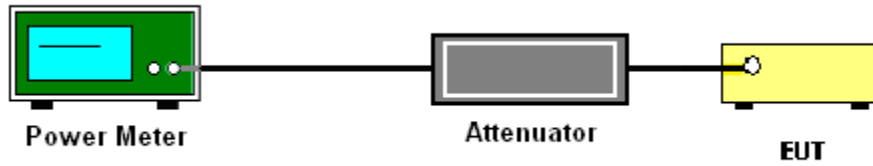
3.1.3 Test Procedures

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

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Test Mode	Antenna	Freq (MHz)	Set Power	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11A	Ant1	5180	17	15.20	98.07	0.08	15.28	≤23.98	2.99	18.27	---	PASS
		5220	17	15.29	98.07	0.08	15.37	≤23.98	2.99	18.36	---	PASS
		5240	17	15.37	98.07	0.08	15.45	≤23.98	2.99	18.44	---	PASS
		5260	17	15.55	98.07	0.08	15.63	≤23.98	2.99	18.62	≤26.99	PASS
		5300	17	15.46	98.07	0.08	15.54	≤23.98	2.99	18.53	≤26.99	PASS
		5320	17	15.58	98.07	0.08	15.66	≤23.98	2.99	18.65	≤26.99	PASS
		5500	17	15.94	98.07	0.08	16.02	≤23.98	2.99	19.01	≤26.99	PASS
		5580	17	16.02	98.07	0.08	16.10	≤23.98	2.99	19.09	≤26.99	PASS
		5700	17	16.05	98.07	0.08	16.13	≤23.98	2.99	19.12	≤26.99	PASS
		5745	17	16.07	98.07	0.08	16.15	≤30.00	2.99	19.14	---	PASS
		5785	17	16.08	98.07	0.08	16.16	≤30.00	2.99	19.15	---	PASS
5825	17	15.87	98.07	0.08	15.95	≤30.00	2.99	18.94	---	PASS		
11N20	Ant1	5180	16	14.10	98.44	0.07	14.17	≤23.98	2.99	17.16	---	PASS
		5220	16	14.24	98.44	0.07	14.31	≤23.98	2.99	17.3	---	PASS
		5240	16	14.17	98.44	0.07	14.24	≤23.98	2.99	17.23	---	PASS
		5260	16	14.36	98.44	0.07	14.43	≤23.98	2.99	17.42	≤26.99	PASS
		5300	16	14.36	98.44	0.07	14.43	≤23.98	2.99	17.42	≤26.99	PASS
		5320	16	14.70	98.44	0.07	14.77	≤23.98	2.99	17.76	≤26.99	PASS
		5500	16	14.86	98.44	0.07	14.93	≤23.98	2.99	17.92	≤26.99	PASS
		5580	16	15.07	98.44	0.07	15.14	≤23.98	2.99	18.13	≤26.99	PASS
		5700	16	15.11	98.44	0.07	15.18	≤23.98	2.99	18.17	≤26.99	PASS
		5745	16	15.17	98.44	0.07	15.24	≤30.00	2.99	18.23	---	PASS
		5785	16	15.13	98.44	0.07	15.20	≤30.00	2.99	18.19	---	PASS
5825	16	14.84	98.44	0.07	14.91	≤30.00	2.99	17.9	---	PASS		
11N40	Ant1	5190	15	14.12	95.88	0.18	14.30	≤23.98	2.99	17.29	---	PASS
		5230	16	15.12	95.88	0.18	15.30	≤23.98	2.99	18.29	---	PASS
		5270	16	15.12	95.88	0.18	15.30	≤23.98	2.99	18.29	≤26.99	PASS
		5310	16	15.25	95.88	0.18	15.43	≤23.98	2.99	18.42	≤26.99	PASS
		5510	15	14.80	95.88	0.18	14.98	≤23.98	2.99	17.97	≤26.99	PASS
		5550	16	15.78	95.88	0.18	15.96	≤23.98	2.99	18.95	≤26.99	PASS
		5670	16	15.83	95.88	0.18	16.01	≤23.98	2.99	19	≤26.99	PASS
		5755	16	15.91	95.88	0.18	16.09	≤30.00	2.99	19.08	---	PASS



		5795	16	15.66	95.88	0.18	15.84	≤30.00	2.99	18.83	---	PASS
11AC20	Ant1	5180	16	13.88	97.93	0.09	13.97	≤23.98	2.99	16.96	---	PASS
		5220	16	13.97	97.93	0.09	14.06	≤23.98	2.99	17.05	---	PASS
		5240	16	14.00	97.93	0.09	14.09	≤23.98	2.99	17.08	---	PASS
		5260	16	14.13	97.93	0.09	14.22	≤23.98	2.99	17.21	≤26.99	PASS
		5300	16	14.21	97.93	0.09	14.30	≤23.98	2.99	17.29	≤26.99	PASS
		5320	16	14.48	97.93	0.09	14.57	≤23.98	2.99	17.56	≤26.99	PASS
		5500	16	14.65	97.93	0.09	14.74	≤23.98	2.99	17.73	≤26.99	PASS
		5580	16	14.86	97.93	0.09	14.95	≤23.98	2.99	17.94	≤26.99	PASS
		5700	16	14.91	97.93	0.09	15.00	≤23.98	2.99	17.99	≤26.99	PASS
		5745	16	15.04	97.93	0.09	15.13	≤30.00	2.99	18.12	---	PASS
		5785	16	14.98	97.93	0.09	15.07	≤30.00	2.99	18.06	---	PASS
		5825	16	14.67	97.93	0.09	14.76	≤30.00	2.99	17.75	---	PASS
		11AC40	Ant1	5190	15	14.03	95.88	0.18	14.21	≤23.98	2.99	17.20
5230	16			14.97	95.88	0.18	15.15	≤23.98	2.99	18.14	---	PASS
5270	16			14.96	95.88	0.18	15.14	≤23.98	2.99	18.13	≤26.99	PASS
5310	16			15.01	95.88	0.18	15.19	≤23.98	2.99	18.18	≤26.99	PASS
5510	15			14.59	95.88	0.18	14.77	≤23.98	2.99	17.76	≤26.99	PASS
5550	16			15.61	95.88	0.18	15.79	≤23.98	2.99	18.78	≤26.99	PASS
5670	16			15.62	95.88	0.18	15.80	≤23.98	2.99	18.79	≤26.99	PASS
5755	16			15.71	95.88	0.18	15.89	≤30.00	2.99	18.88	---	PASS
5795	16			15.45	95.88	0.18	15.63	≤30.00	2.99	18.62	---	PASS
11AC80	Ant1	5210	13	11.81	93.88	0.27	12.08	≤23.98	2.99	15.07	---	PASS
		5290	15.5	14.36	93.88	0.27	14.63	≤23.98	2.99	17.62	≤26.99	PASS
		5530	13	12.78	93.88	0.27	13.05	≤23.98	2.99	16.04	≤26.99	PASS
		5610	16	15.67	93.88	0.27	15.94	≤23.98	2.99	18.93	≤26.99	PASS
		5775	16	15.56	93.88	0.27	15.83	≤30.00	2.99	18.82	---	PASS

Note : The Duty Cycle Factor is compensated in the graph.



3.2 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

3.2.1 Limit of Unwanted Emissions

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

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725 MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725 MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) 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.



(3) 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

(4) 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

3.2.2 Measuring Instruments

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



3.2.3 Test Procedures

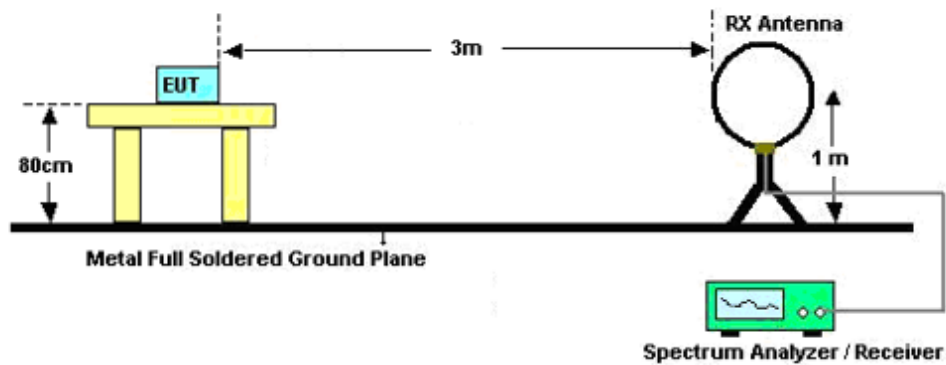
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak 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.
 - (4) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 3 MHz
 - Detector = power averaging (rms), set span/(# of points in sweep) \geq RBW/2.
 - Averaging type = power averaging(RMS)
 - The correction factor shall be offset is 10 log (1/x), where x is the duty cycle.
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.

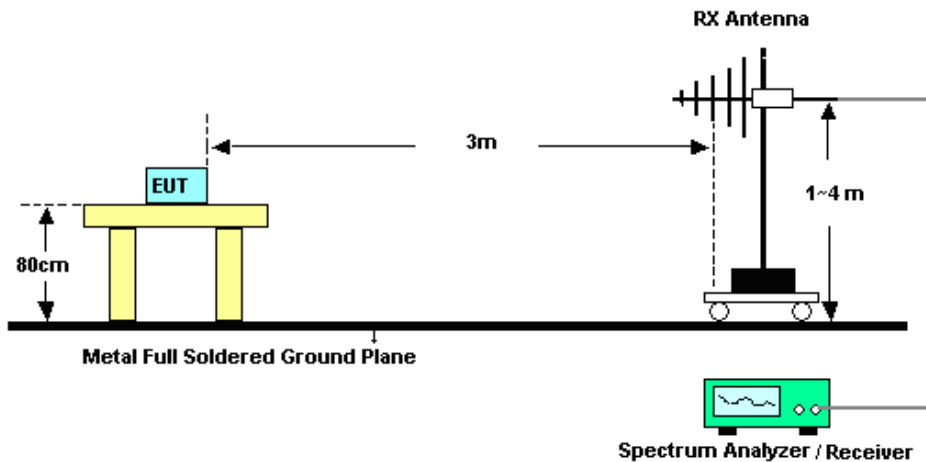
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, 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 average 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.

3.2.4 Test Setup

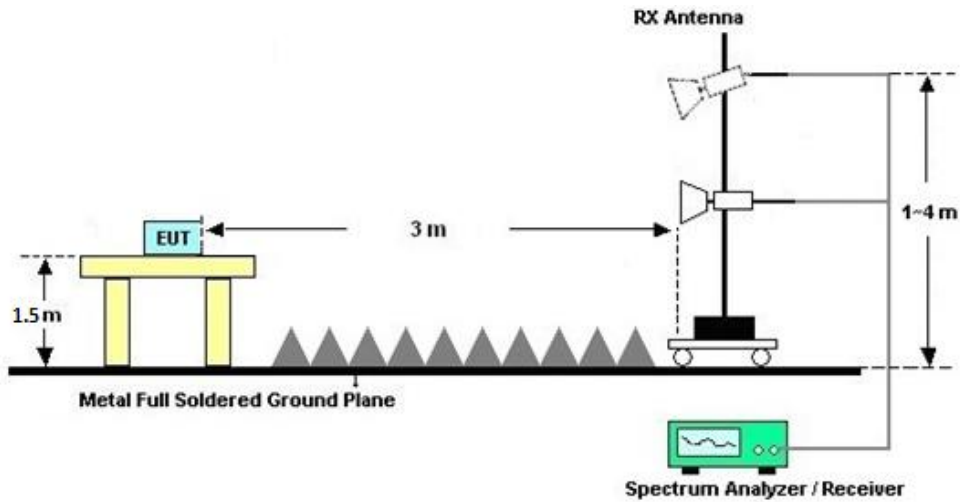
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 Test Results of Radiated Spurious 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.2.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.



3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

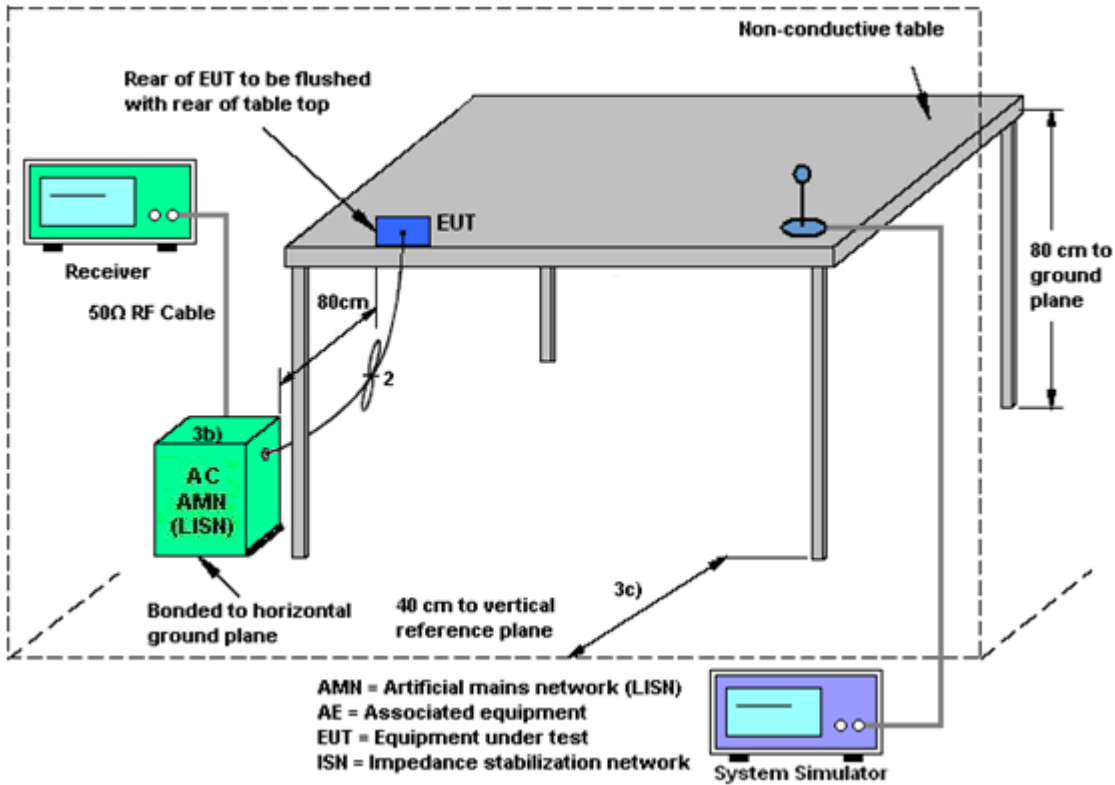
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix A.



3.4 Antenna Requirements

3.4.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2), 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.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 06, 2022	Oct. 31, 2022~Nov. 08, 2022	Apr. 05, 2023	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 06, 2022	Oct. 31, 2022~Nov. 08, 2022	Apr. 05, 2023	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Oct. 31, 2022~Nov. 08, 2022	Jul. 27, 2024	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Aug. 09, 2022	Oct. 31, 2022~Nov. 08, 2022	Aug. 08, 2023	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 08, 2022	Oct. 31, 2022~Nov. 08, 2022	Apr. 07, 2023	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Oct. 21, 2022	Oct. 31, 2022~Nov. 08, 2022	Oct. 20, 2023	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	Oct. 31, 2022~Nov. 08, 2022	Apr. 09, 2023	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz~3000MHz	Oct. 21, 2022	Oct. 31, 2022~Nov. 08, 2022	Oct. 20, 2023	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 21, 2022	Oct. 31, 2022~Nov. 08, 2022	Oct. 20, 2023	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2021	Oct. 31, 2022~Nov. 08, 2022	Dec. 26, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Oct. 31, 2022~Nov. 08, 2022	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Oct. 31, 2022~Nov. 08, 2022	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Oct. 31, 2022~Nov. 08, 2022	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jul. 07, 2022	Sep. 30, 2022	Jul. 06, 2023	Conduction (CO01-SZ)
AC LISN	R&S	ENV216	100063	9kHz~30MHz	Sep. 15, 2022	Sep. 30, 2022	Sep. 14, 2023	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 29, 2021	Sep. 30, 2022	Oct. 28, 2022	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 07, 2022	Sep. 30, 2022	Jul. 06, 2023	Conduction (CO01-SZ)

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 Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.26
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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))	4.9dB
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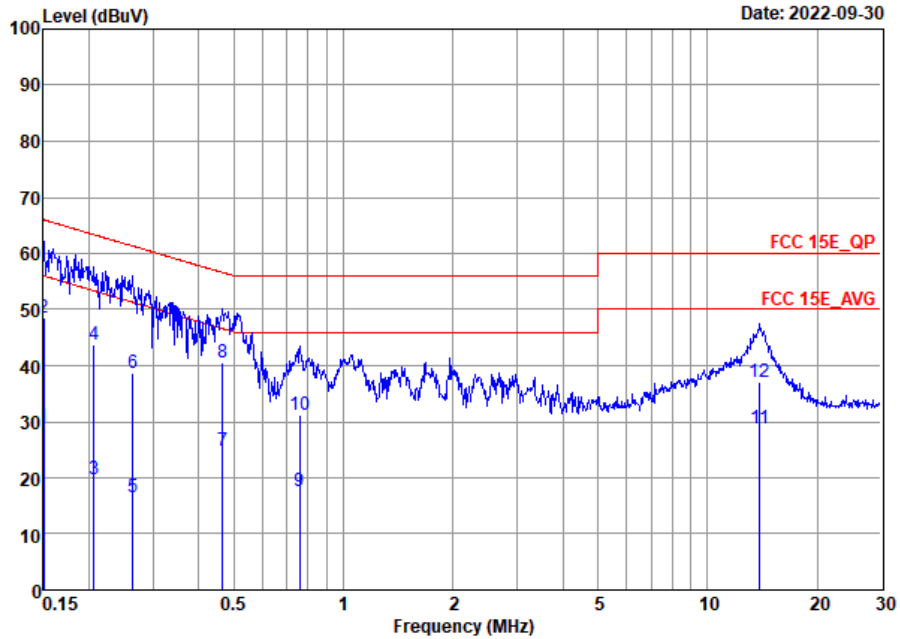
Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB
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Appendix A. AC Conducted Emission Test Results

Test Engineer :	Lily Qiu	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

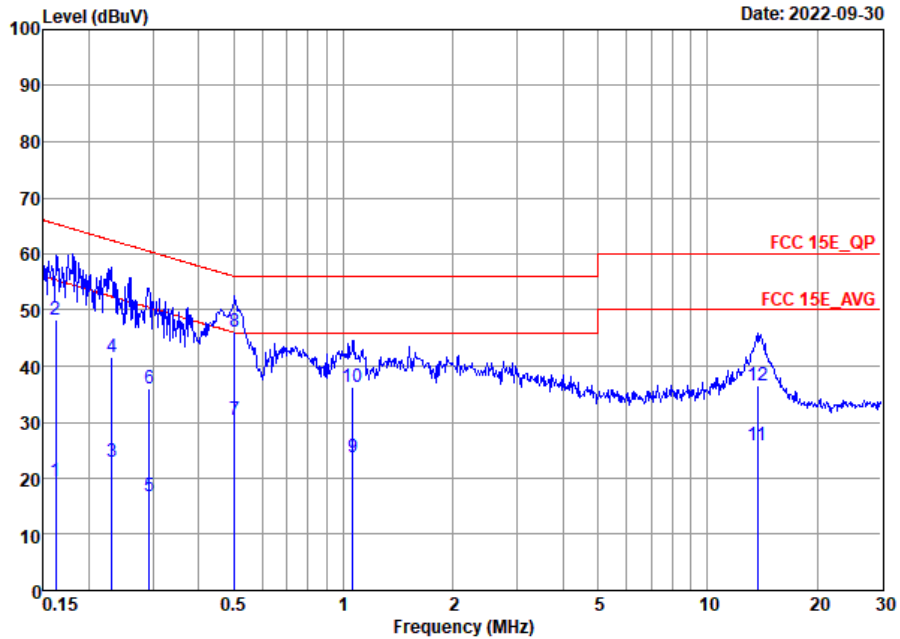


Site : CO01-SZ
 Condition: FCC 15E_QP LISN_20220811_ L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	29.15	-26.85	56.00	8.10	10.20	10.85	Average
2	0.15	48.65	-17.35	66.00	27.60	10.20	10.85	QP
3	0.21	19.71	-33.65	53.36	-0.70	10.20	10.21	Average
4	0.21	43.81	-19.55	63.36	23.40	10.20	10.21	QP
5	0.26	16.45	-34.84	51.29	-4.40	10.17	10.68	Average
6	0.26	38.75	-22.54	61.29	17.90	10.17	10.68	QP
7	0.47	24.75	-21.83	46.58	2.90	10.11	11.74	Average
8 *	0.47	40.55	-16.03	56.58	18.70	10.11	11.74	QP
9	0.76	17.71	-28.29	46.00	-3.29	10.13	10.87	Average
10	0.76	31.11	-24.89	56.00	10.11	10.13	10.87	QP
11	13.91	28.79	-21.21	50.00	8.70	9.76	10.33	Average
12	13.91	37.19	-22.81	60.00	17.10	9.76	10.33	QP



Test Engineer :	Lily Qiu	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
 Condition: FCC 15E_QP LISN_20220811_ N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.16	19.56	-35.78	55.34	-1.40	10.31	10.65	Average
2	0.16	48.36	-16.98	65.34	27.40	10.31	10.65	QP
3	0.23	22.88	-29.51	52.39	2.20	10.26	10.42	Average
4	0.23	41.68	-20.71	62.39	21.00	10.26	10.42	QP
5	0.29	16.78	-33.68	50.46	-4.30	10.22	10.86	Average
6	0.29	35.88	-24.58	60.46	14.80	10.22	10.86	QP
7	0.50	30.43	-15.57	46.00	8.40	10.19	11.84	Average
8 *	0.50	46.03	-9.97	56.00	24.00	10.19	11.84	QP
9	1.06	23.66	-22.34	46.00	3.20	10.23	10.23	Average
10	1.06	36.36	-19.64	56.00	15.90	10.23	10.23	QP
11	13.70	25.83	-24.17	50.00	5.60	9.90	10.33	Average
12	13.70	36.53	-23.47	60.00	16.30	9.90	10.33	QP

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix B. Radiated Spurious Emission

UNII-1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5146.9	51.01	-22.99	74	41.41	34.54	7.91	32.85	100	298	P	H
		5149.76	43.93	-10.07	54	34.33	34.54	7.91	32.85	100	298	A	H
	*	5180	107.25	-	-	97.68	34.53	7.93	32.89	100	298	P	H
		5180	100.02	-	-	90.45	34.53	7.93	32.89	100	298	A	H
		5133.9	50.24	-23.76	74	40.59	34.55	7.91	32.81	393	3	P	V
		5150	42.01	-11.99	54	32.41	34.54	7.91	32.85	393	3	A	V
	*	5180	104.23	-	-	94.66	34.53	7.93	32.89	393	3	P	V
		5180	97.11	-	-	87.54	34.53	7.93	32.89	393	3	A	V
802.11a CH 48 5240MHz		5028.08	49.63	-24.37	74	39.85	34.59	7.83	32.64	100	297	P	H
		5143.78	40.07	-13.93	54	30.47	34.54	7.91	32.85	100	297	A	H
	*	5240	103.38	-	-	93.8	34.5	8.06	32.98	100	297	P	H
		5240	96.25	-	-	86.67	34.5	8.06	32.98	100	297	A	H
		5442	48.35	-25.65	74	38.82	34.42	8.43	33.32	100	297	P	H
		5388	38.28	-15.72	54	28.59	34.44	8.48	33.23	100	297	A	H
		5120.9	49.32	-24.68	74	39.67	34.55	7.91	32.81	380	26	P	V
		5049.92	39.95	-14.05	54	30.19	34.58	7.86	32.68	380	26	A	V
	*	5240	101.34	-	-	91.76	34.5	8.06	32.98	380	26	P	V
		5240	94.05	-	-	84.47	34.5	8.06	32.98	380	26	A	V
		5428.08	48.57	-25.43	74	39.03	34.43	8.43	33.32	380	26	P	V
	5382.96	38.16	-15.84	54	28.56	34.45	8.38	33.23	380	26	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-1 5150~5250MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		6907	51.64	-16.66	68.3	60.87	36.06	8.84	54.13	-	-	P	H
		10360	48.64	-19.66	68.3	51.37	39.72	10.73	53.18	-	-	P	H
		15540	50.29	-23.71	74	50.22	41.74	12.72	54.39	-	-	P	H
		6907	49.89	-18.41	68.3	59.12	36.06	8.84	54.13	-	-	P	V
		10360	48.36	-19.94	68.3	51.09	39.72	10.73	53.18	-	-	P	V
		15540	50.58	-23.42	74	50.51	41.74	12.72	54.39	-	-	P	V
802.11a CH 44 5220MHz		6962	50.8	-17.5	68.3	60.12	36.08	8.84	54.24	-	-	P	H
		10440	48.93	-19.37	68.3	51.65	39.76	10.79	53.27	-	-	P	H
		15660	50.47	-23.53	74	50.44	41.86	12.72	54.55	-	-	P	H
		6962	49.13	-19.17	68.3	58.45	36.08	8.84	54.24	-	-	P	V
		10440	48.4	-19.9	68.3	51.12	39.76	10.79	53.27	-	-	P	V
		15660	49.69	-24.31	74	49.66	41.86	12.72	54.55	-	-	P	V
802.11a CH 48 5240MHz		6984	49.94	-18.36	68.3	59.28	36.09	8.84	54.27	-	-	P	H
		10480	48.12	-20.18	68.3	50.85	39.79	10.82	53.34	-	-	P	H
		15720	49.61	-24.39	74	49.61	41.92	12.72	54.64	-	-	P	H
		6984	46.15	-22.15	68.3	55.49	36.09	8.84	54.27	-	-	P	V
		10480	48.16	-20.14	68.3	50.89	39.79	10.82	53.34	-	-	P	V
		15720	49.31	-24.69	74	49.31	41.92	12.72	54.64	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-1 5150~5250MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5142.74	50.65	-23.35	74	41.05	34.54	7.91	32.85	100	297	P	H
		5147.68	42.2	-11.8	54	32.6	34.54	7.91	32.85	100	297	A	H
	*	5180	104.51	-	-	94.94	34.53	7.93	32.89	100	297	P	H
		5180	97.36	-	-	87.79	34.53	7.93	32.89	100	297	A	H
		5018.98	50.37	-23.63	74	40.59	34.59	7.83	32.64	393	4	P	V
		5148.72	40.95	-13.05	54	31.35	34.54	7.91	32.85	393	4	A	V
	*	5180	102.85	-	-	93.28	34.53	7.93	32.89	393	4	P	V
		5180	95.68	-	-	86.11	34.53	7.93	32.89	393	4	A	V
802.11n HT20 CH 48 5240MHz		5138.32	50.56	-23.44	74	40.92	34.54	7.91	32.81	100	297	P	H
		5144.3	40.21	-13.79	54	30.61	34.54	7.91	32.85	100	297	A	H
	*	5240	102.87	-	-	93.29	34.5	8.06	32.98	100	297	P	H
		5240	95.7	-	-	86.12	34.5	8.06	32.98	100	297	A	H
		5445.12	47.88	-26.12	74	38.35	34.42	8.43	33.32	100	297	P	H
		5392.08	38.21	-15.79	54	28.52	34.44	8.48	33.23	100	297	A	H
		5018.2	49.81	-24.19	74	40.03	34.59	7.83	32.64	383	335	P	V
		5049.14	39.99	-14.01	54	30.23	34.58	7.86	32.68	383	335	A	V
	*	5240	101.39	-	-	91.81	34.5	8.06	32.98	383	335	P	V
		5240	93.36	-	-	83.78	34.5	8.06	32.98	383	335	A	V
	5358.24	48.47	-25.53	74	38.82	34.46	8.38	33.19	383	335	P	V	
	5388.24	38.21	-15.79	54	28.52	34.44	8.48	33.23	383	335	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		6907	53.5	-14.8	68.3	62.73	36.06	8.84	54.13	100	360	P	H
		10360	47.75	-20.55	68.3	50.48	39.72	10.73	53.18	-	-	P	H
		15540	49.65	-24.35	74	49.58	41.74	12.72	54.39	-	-	P	H
		6907	50.99	-17.31	68.3	60.22	36.06	8.84	54.13	-	-	P	V
		10360	47.69	-20.61	68.3	50.42	39.72	10.73	53.18	-	-	P	V
802.11n HT20 CH 44 5220MHz		6962	52.37	-15.93	68.3	61.69	36.08	8.84	54.24	302	360	P	H
		10440	47.79	-20.51	68.3	50.51	39.76	10.79	53.27	-	-	P	H
		15660	49.38	-24.62	74	49.35	41.86	12.72	54.55	-	-	P	H
		6962	50.61	-17.69	68.3	59.93	36.08	8.84	54.24	100	0	P	V
		10440	47.41	-20.89	68.3	50.13	39.76	10.79	53.27	-	-	P	V
802.11n HT20 CH 48 5240MHz		15660	49.97	-24.03	74	49.94	41.86	12.72	54.55	-	-	P	V
		6984	51.21	-17.09	68.3	60.55	36.09	8.84	54.27	-	-	P	H
		10480	47.05	-21.25	68.3	49.78	39.79	10.82	53.34	-	-	P	H
		15720	49.15	-24.85	74	49.15	41.92	12.72	54.64	-	-	P	H
		6984	48.74	-19.56	68.3	58.08	36.09	8.84	54.27	-	-	P	V
5240MHz		10480	48.01	-20.29	68.3	50.74	39.79	10.82	53.34	-	-	P	V
		15720	49.92	-24.08	74	49.92	41.92	12.72	54.64	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-1 5150~5250MHz
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5148.2	59.27	-14.73	74	49.67	34.54	7.91	32.85	100	297	P	H
		5149.76	50.02	-3.98	54	40.42	34.54	7.91	32.85	100	297	A	H
	*	5190	102.1	-	-	92.54	34.52	7.93	32.89	100	297	P	H
		5190	94.7	-	-	85.14	34.52	7.93	32.89	100	297	A	H
		5423.6	48.37	-25.63	74	38.73	34.43	8.48	33.27	100	297	P	H
		5402.6	39.83	-14.17	54	30.18	34.44	8.48	33.27	100	297	A	H
		5148.72	54.49	-19.51	74	44.89	34.54	7.91	32.85	390	348	P	V
		5147.42	47.1	-6.9	54	37.5	34.54	7.91	32.85	390	348	A	V
	*	5190	99.98	-	-	90.42	34.52	7.93	32.89	390	348	P	V
		5190	92.67	-	-	83.11	34.52	7.93	32.89	390	348	A	V
		5350.8	48.88	-25.12	74	39.23	34.46	8.38	33.19	390	348	P	V
		5398.4	39.86	-14.14	54	30.17	34.44	8.48	33.23	390	348	A	V
802.11n HT40 CH 46 5230MHz		5140.92	51.3	-22.7	74	41.66	34.54	7.91	32.81	341	72	P	H
		5148.98	42.72	-11.28	54	33.12	34.54	7.91	32.85	341	72	A	H
	*	5230	102.98	-	-	93.49	34.51	7.96	32.98	341	72	P	H
		5230	95.82	-	-	86.33	34.51	7.96	32.98	341	72	A	H
		5354.4	48.4	-25.6	74	38.75	34.46	8.38	33.19	341	72	P	H
		5383.68	40.12	-13.88	54	30.52	34.45	8.38	33.23	341	72	A	H
		5053.3	51.46	-22.54	74	41.7	34.58	7.86	32.68	387	345	P	V
		5108.94	41.96	-12.04	54	32.29	34.56	7.88	32.77	387	345	A	V
	*	5230	100.34	-	-	90.85	34.51	7.96	32.98	387	345	P	V
		5230	92.93	-	-	83.44	34.51	7.96	32.98	387	345	A	V
	5410.8	48	-26	74	38.35	34.44	8.48	33.27	387	345	P	V	
	5377.44	40.17	-13.83	54	30.57	34.45	8.38	33.23	387	345	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include data for 802.11n HT40 CH 38 (5190MHz) and 802.11n HT40 CH 46 (5230MHz).

Remark

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



UNII-1 5150~5250MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include test results for frequencies like 5149.76, 5142.74, 5210, 5456.88, 5403.12, 5140.66, 5142.48, 5210, 5210, 5391.36, 5419.92.

Remark

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



UNII-1 5150~5250MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include data for 802.11ac VHT80 CH 42 at 5210MHz and a Remark section.



UNII-1 - 5150~5250MHz

UNII-2A - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		5052.52	49.01	-24.99	74	39.25	34.58	7.86	32.68	268	296	P	H
		5047.84	39.91	-14.09	54	30.15	34.58	7.86	32.68	268	296	A	H
	*	5260	104.14	-	-	94.6	34.5	8.06	33.02	268	296	P	H
		5260	96.88	-	-	87.34	34.5	8.06	33.02	268	296	A	H
		5365.92	47.68	-26.32	74	38.04	34.45	8.38	33.19	268	296	P	H
		5388	38.15	-15.85	54	28.46	34.44	8.48	33.23	268	296	A	H
		5030.68	48.88	-25.12	74	39.1	34.59	7.83	32.64	400	27	P	V
		5050.18	39.87	-14.13	54	30.11	34.58	7.86	32.68	400	27	A	V
	*	5260	103.17	-	-	93.63	34.5	8.06	33.02	400	27	P	V
		5260	96.09	-	-	86.55	34.5	8.06	33.02	400	27	A	V
		5391.6	48.21	-25.79	74	38.52	34.44	8.48	33.23	400	27	P	V
		5387.04	38.16	-15.84	54	28.56	34.45	8.38	33.23	400	27	A	V
802.11a CH 64 5320MHz	*	5320	102.96	-	-	93.33	34.47	8.27	33.11	103	97	P	H
		5320	95.79	-	-	86.16	34.47	8.27	33.11	103	97	A	H
		5354.08	48.28	-25.72	74	38.63	34.46	8.38	33.19	103	97	P	H
		5350.08	40.44	-13.56	54	30.79	34.46	8.38	33.19	103	97	A	H
	*	5320	100.37	-	-	90.74	34.47	8.27	33.11	368	347	P	V
		5320	92.97	-	-	83.34	34.47	8.27	33.11	368	347	A	V
		5352.64	48.45	-25.55	74	38.8	34.46	8.38	33.19	368	347	P	V
		5350.08	39.2	-14.8	54	29.55	34.46	8.38	33.19	368	347	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2A 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		7011.5	48.86	-19.44	68.3	58.2	36.11	8.84	54.29	-	-	P	H
		10520	48.22	-20.08	68.3	50.97	39.79	10.84	53.38	-	-	P	H
		15780	50.91	-23.09	74	50.93	41.98	12.71	54.71	-	-	P	H
		7011.5	49.94	-18.36	68.3	59.28	36.11	8.84	54.29	-	-	P	V
		10520	47.88	-20.42	68.3	50.63	39.79	10.84	53.38	-	-	P	V
		15780	49.68	-24.32	74	49.7	41.98	12.71	54.71	-	-	P	V
802.11a CH 60 5300MHz		7065	48.42	-19.88	68.3	57.78	36.16	8.74	54.26	-	-	P	H
		10600	47.8	-26.2	74	50.65	39.74	10.9	53.49	-	-	P	H
		15900	49.98	-24.02	74	50.04	42.1	12.71	54.87	-	-	P	H
		7065	47.98	-20.32	68.3	57.34	36.16	8.74	54.26	-	-	P	V
		10600	48.28	-25.72	74	51.13	39.74	10.9	53.49	-	-	P	V
		15900	49.6	-24.4	74	49.66	42.1	12.71	54.87	-	-	P	V
802.11a CH 64 5320MHz		7091.5	47.42	-20.88	68.3	56.74	36.19	8.74	54.25	-	-	P	H
		10640	48.95	-25.05	74	51.84	39.72	10.93	53.54	-	-	P	H
		15960	48.94	-25.06	74	49.04	42.16	12.7	54.96	-	-	P	H
		7091.5	48.06	-20.24	68.3	57.38	36.19	8.74	54.25	-	-	P	V
		10640	49.15	-24.85	74	52.04	39.72	10.93	53.54	-	-	P	V
		15960	48.71	-25.29	74	48.81	42.16	12.7	54.96	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-2A 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5136.76	51.38	-22.62	74	41.73	34.55	7.91	32.81	268	297	P	H
		5049.92	39.97	-14.03	54	30.21	34.58	7.86	32.68	268	297	A	H
	*	5260	103.12	-	-	93.58	34.5	8.06	33.02	268	297	P	H
		5260	95.98	-	-	86.44	34.5	8.06	33.02	268	297	A	H
		5412	48.97	-25.03	74	39.32	34.44	8.48	33.27	268	297	P	H
		5385.36	38.17	-15.83	54	28.57	34.45	8.38	33.23	268	297	A	H
		5052.78	50.27	-23.73	74	40.51	34.58	7.86	32.68	400	28	P	V
		5050.96	39.98	-14.02	54	30.22	34.58	7.86	32.68	400	28	A	V
	*	5260	102.27	-	-	92.73	34.5	8.06	33.02	400	28	P	V
		5260	95.01	-	-	85.47	34.5	8.06	33.02	400	28	A	V
802.11n HT20 CH 64 5320MHz		5424.96	48.75	-25.25	74	39.11	34.43	8.48	33.27	400	28	P	V
		5388.48	38.19	-15.81	54	28.5	34.44	8.48	33.23	400	28	A	V
	*	5320	102.21	-	-	92.58	34.47	8.27	33.11	281	296	P	H
		5320	95.14	-	-	85.51	34.47	8.27	33.11	281	296	A	H
		5424	48.28	-25.72	74	38.64	34.43	8.48	33.27	281	296	P	H
		5350.08	39.43	-14.57	54	29.78	34.46	8.38	33.19	281	296	A	H
	*	5320	99.08	-	-	89.45	34.47	8.27	33.11	370	347	P	V
	5320	91.75	-	-	82.12	34.47	8.27	33.11	370	347	A	V	
	5368.32	48.07	-25.93	74	38.43	34.45	8.38	33.19	370	347	P	V	
	5350.4	38.73	-15.27	54	29.08	34.46	8.38	33.19	370	347	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2A 5250~5350MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		7011.5	52.14	-16.16	68.3	61.48	36.11	8.84	54.29	162	360	P	H
		10520	47.39	-20.91	68.3	50.14	39.79	10.84	53.38	-	-	P	H
		15780	49.42	-24.58	74	49.44	41.98	12.71	54.71	-	-	P	H
		7011.5	50.77	-17.53	68.3	60.11	36.11	8.84	54.29	162	360	P	V
		10520	47.78	-20.52	68.3	50.53	39.79	10.84	53.38	-	-	P	V
802.11n HT20 CH 60 5300MHz		7065	48.21	-20.09	68.3	57.57	36.16	8.74	54.26	-	-	P	H
		10600	47.93	-26.07	74	50.78	39.74	10.9	53.49	-	-	P	H
		15900	50.9	-23.1	74	50.96	42.1	12.71	54.87	-	-	P	H
		7065	48.85	-19.45	68.3	58.21	36.16	8.74	54.26	-	-	P	V
		10600	48.7	-25.3	74	51.55	39.74	10.9	53.49	-	-	P	V
802.11n HT20 CH 64 5320MHz		15900	50.11	-23.89	74	50.17	42.1	12.71	54.87	-	-	P	V
		7075	46.69	-21.61	68.3	56.04	36.17	8.74	54.26	-	-	P	H
		10640	48.55	-25.45	74	51.44	39.72	10.93	53.54	-	-	P	H
		15960	49.9	-24.1	74	50	42.16	12.7	54.96	-	-	P	H
		7075	48.95	-19.35	68.3	58.3	36.17	8.74	54.26	-	-	P	V
5320MHz		10640	47.15	-26.85	74	50.04	39.72	10.93	53.54	-	-	P	V
		15960	49.84	-24.16	74	49.94	42.16	12.7	54.96	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2A 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5075.25	50.74	-23.26	74	41.04	34.57	7.86	32.73	363	71	P	H
		5046.55	41.85	-12.15	54	32.09	34.58	7.86	32.68	363	71	A	H
	*	5270	99.33	-	-	89.8	34.49	8.06	33.02	363	71	P	H
		5270	93.08	-	-	83.55	34.49	8.06	33.02	363	71	A	H
		5379.84	48.65	-25.35	74	39.05	34.45	8.38	33.23	363	71	P	H
		5358.72	40.35	-13.65	54	30.7	34.46	8.38	33.19	363	71	A	H
		5015.4	50.21	-23.79	74	40.43	34.59	7.83	32.64	358	343	P	V
		5044.1	41.74	-12.26	54	31.98	34.58	7.86	32.68	358	343	A	V
	*	5270	97.19	-	-	87.66	34.49	8.06	33.02	358	343	P	V
		5270	91.09	-	-	81.56	34.49	8.06	33.02	358	343	A	V
		5439.84	48.05	-25.95	74	38.52	34.42	8.43	33.32	358	343	P	V
		5392.08	39.92	-14.08	54	30.23	34.44	8.48	33.23	358	343	A	V
802.11n HT40 CH 62 5310MHz		5068.95	51.08	-22.92	74	41.38	34.57	7.86	32.73	373	84	P	H
		5040.6	41.82	-12.18	54	32.06	34.58	7.86	32.68	373	84	A	H
	*	5310	101.02	-	-	91.38	34.48	8.27	33.11	373	84	P	H
		5310	95.19	-	-	85.55	34.48	8.27	33.11	373	84	A	H
		5350.32	52.72	-21.28	74	43.07	34.46	8.38	33.19	373	84	P	H
		5350.56	46.08	-7.92	54	36.43	34.46	8.38	33.19	373	84	A	H
		5015.4	50.09	-23.91	74	40.31	34.59	7.83	32.64	374	353	P	V
		5053.9	41.79	-12.21	54	32.03	34.58	7.86	32.68	374	353	A	V
	*	5310	96.18	-	-	86.54	34.48	8.27	33.11	374	353	P	V
		5310	91.08	-	-	81.44	34.48	8.27	33.11	374	353	A	V
	5445.12	48.69	-25.31	74	39.16	34.42	8.43	33.32	374	353	P	V	
	5350.8	41.49	-12.51	54	31.84	34.46	8.38	33.19	374	353	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2A 5250~5350MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		7025	48.13	-20.17	68.3	36.78	36.12	8.84	33.61	-	-	P	H
		10540	48.08	-20.22	68.3	50.84	39.78	10.87	53.41	-	-	P	H
		15810	49.93	-24.07	74	49.96	42.01	12.71	54.75	-	-	P	H
		7025	48.55	-19.75	68.3	57.88	36.12	8.84	54.29	-	-	P	V
		10540	47.7	-20.6	68.3	50.46	39.78	10.87	53.41	-	-	P	V
		15810	49.42	-24.58	74	49.45	42.01	12.71	54.75	-	-	P	V
802.11n HT40 CH 62 5310MHz		7078	47.11	-21.19	68.3	56.44	36.18	8.74	54.25	-	-	P	H
		10620	48.22	-25.78	74	51.08	39.73	10.93	53.52	-	-	P	H
		15930	50.2	-23.8	74	50.28	42.13	12.7	54.91	-	-	P	H
		7078	47.63	-20.67	68.3	56.96	36.18	8.74	54.25	-	-	P	V
		10620	47.76	-26.24	74	50.62	39.73	10.93	53.52	-	-	P	V
		15930	48.52	-25.48	74	48.6	42.13	12.7	54.91	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2A 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include test results for 802.11ac VHT80 CH 58 5290MHz and a Remark section.



UNII-2A 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include data for 802.11ac VHT80 CH 58 at 7053, 10580, and 15870 MHz.

Remark

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



UNII-2C - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		5458.48	55.56	-18.44	74	46.07	34.42	8.43	33.36	329	97	P	H
		5469.84	62.6	-5.7	68.3	53.17	34.41	8.38	33.36	329	97	P	H
		5459.92	45.13	-8.87	54	35.64	34.42	8.43	33.36	329	97	A	H
	*	5500	102.07	-	-	92.69	34.4	8.38	33.4	329	97	P	H
		5500	95.04	-	-	85.66	34.4	8.38	33.4	329	97	A	H
		5458.48	52.8	-21.2	74	43.31	34.42	8.43	33.36	382	349	P	V
		5468.24	59.19	-9.11	68.3	49.76	34.41	8.38	33.36	382	349	P	V
		5459.76	41.78	-12.22	54	32.29	34.42	8.43	33.36	382	349	A	V
	*	5500	99.29	-	-	89.91	34.4	8.38	33.4	382	349	P	V
		5500	92.16	-	-	82.78	34.4	8.38	33.4	382	349	A	V
802.11a CH 140 5700MHz	*	5700	104.26	-	-	94.13	34.84	8.65	33.36	354	54	P	H
		5700	97.16	-	-	87.03	34.84	8.65	33.36	354	54	A	H
		5725.08	54.2	-14.1	68.3	44	34.9	8.65	33.35	354	54	P	H
	*	5700	98.39	-	-	88.26	34.84	8.65	33.36	301	360	P	V
		5700	91.19	-	-	81.06	34.84	8.65	33.36	301	360	A	V
	5731.08	50.88	-17.42	68.3	40.67	34.91	8.65	33.35	301	360	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2C - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		7333	49.67	-24.33	74	58.4	36.43	8.95	54.11	-	-	P	H
		11000	47.34	-26.66	74	50.64	39.5	11.2	54	-	-	P	H
		16500	50.77	-17.53	68.3	48.95	42.5	12.9	53.58	-	-	P	H
		7333	51.25	-22.75	74	59.97	36.43	8.95	54.1	384	79	P	V
		7333	46.92	-7.08	54	55.64	36.43	8.95	54.1	384	79	A	V
		11000	48.56	-25.44	74	51.86	39.5	11.2	54	-	-	P	V
802.11a CH 116 5580MHz		7438	51.57	-22.43	74	59.88	36.54	9.19	54.04	280	47	P	H
		7438	47.8	-6.2	54	56.11	36.54	9.19	54.04	280	47	A	H
		11160	51.05	-22.95	74	54.18	39.47	11.3	53.9	100	86	P	H
		11160	42.56	-11.44	54	45.69	39.47	11.3	53.9	100	86	A	H
		16740	50.26	-18.04	68.3	47.7	42.45	13.02	52.91	-	-	A	H
		7438	52.79	-21.21	74	61.1	36.54	9.19	54.04	400	62	P	V
		7438	48.01	-5.99	54	56.32	36.54	9.19	54.04	400	62	A	V
		11160	47.45	-26.55	74	50.58	39.47	11.3	53.9	-	-	P	V
802.11a CH 140 5700MHz		16740	49.98	-18.32	68.3	47.42	42.45	13.02	52.91	-	-	P	V
		7598	51.19	-22.81	74	59.4	36.58	9.15	53.94	264	49	P	H
		7598	46.7	-7.3	54	54.91	36.58	9.15	53.94	264	49	A	H
		11400	54.35	-19.65	74	57.28	39.42	11.41	53.76	100	33	P	H
		11400	43.68	-10.32	54	46.61	39.42	11.41	53.76	100	33	A	H
		7598	53.06	-20.94	74	61.27	36.58	9.15	53.94	277	177	P	V
		7598	49.96	-4.04	54	58.17	36.58	9.15	53.94	277	177	A	V
		11400	51.01	-22.99	74	53.94	39.42	11.41	53.76	100	150	P	V
Remark		11400	40.79	-13.21	54	43.72	39.42	11.41	53.76	100	150	A	V
	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-2C - 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5417.04	50.12	-23.88	74	40.48	34.43	8.48	33.27	343	54	P	H
		5469.2	53.99	-14.31	68.3	44.56	34.41	8.38	33.36	343	54	P	H
		5460	39.52	-14.48	54	30.03	34.42	8.43	33.36	343	54	A	H
	*	5500	101.4	-	-	92.02	34.4	8.38	33.4	343	54	P	H
		5500	94.15	-	-	84.77	34.4	8.38	33.4	343	54	A	H
		5460.00	48.87	-19.43	74	39.38	34.42	8.43	33.36	383	350	P	V
		5469.52	52.29	-16.01	68.3	42.86	34.41	8.38	33.36	383	350	P	V
		5459.92	38.43	-15.57	54	28.94	34.42	8.43	33.36	383	350	A	V
	*	5500	96.97	-	-	87.59	34.4	8.38	33.4	383	350	P	V
	5500	89.82	-	-	80.44	34.4	8.38	33.4	383	350	A	V	
802.11n HT20 CH 140 5700MHz	*	5700	102.56	-	-	92.43	34.84	8.65	33.36	353	55	P	H
		5700	95.27	-	-	85.14	34.84	8.65	33.36	353	55	A	H
		5729	50.86	-17.44	68.3	40.66	34.9	8.65	33.35	353	55	P	H
	*	5700	97.68	-	-	87.55	34.84	8.65	33.36	337	30	P	V
		5700	90.46	-	-	80.33	34.84	8.65	33.36	337	30	A	V
	5731.24	50.75	-17.55	68.3	40.54	34.91	8.65	33.35	337	30	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2C - 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		7333	50.35	-23.65	74	59.07	36.43	8.95	54.1	-	-	P	H
		11000	48.41	-25.59	74	51.71	39.5	11.2	54	-	-	P	H
		16500	50.33	-17.97	68.3	48.51	42.5	12.9	53.58	-	-	P	H
		7333	52.63	-21.37	74	61.36	36.43	8.95	54.11	400	75	P	V
		7333	48.51	-5.49	54	57.24	36.43	8.95	54.11	400	75	A	V
		11000	48.12	-25.88	74	51.42	39.5	11.2	54	-	-	P	V
802.11n HT20 CH 116 5580MHz		7438	49.24	-24.76	74	57.55	36.54	9.19	54.04	-	-	P	H
		11160	49.46	-24.54	74	52.59	39.47	11.3	53.9	-	-	P	H
		16740	50.06	-18.24	68.3	47.5	42.45	13.02	52.91	-	-	P	H
		7438	49.67	-24.33	74	57.98	36.54	9.19	54.04	-	-	P	V
		11160	49.45	-24.55	74	52.58	39.47	11.3	53.9	-	-	P	V
802.11n HT20 CH 140 5700MHz		16740	49.81	-18.49	68.3	47.25	42.45	13.02	52.91	-	-	P	V
		7598	50.29	-23.71	74	58.5	36.58	9.15	53.94	-	-	P	H
		11400	48.49	-25.51	74	51.42	39.42	11.41	53.76	-	-	P	H
		17100	50.52	-17.78	68.3	47.26	42.38	13.15	52.27	-	-	P	H
		7598	50.76	-23.24	74	58.97	36.58	9.15	53.94	-	-	P	V
		11400	46.91	-27.09	74	49.84	39.42	11.41	53.76	-	-	P	V
		17100	49.45	-18.85	68.3	46.19	42.38	13.15	52.27	-	-	P	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.
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UNII-2C - 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		5456.8	56.81	-17.19	74	47.32	34.42	8.43	33.36	390	68	P	H
		5469.52	59.59	-8.71	68.3	50.16	34.41	8.38	33.36	390	68	P	H
		5457.76	50.5	-3.5	54	41.01	34.42	8.43	33.36	390	68	A	H
	*	5510	95.32	-	-	85.98	34.42	8.32	33.4	390	68	P	H
		5510	88.9	-	-	79.56	34.42	8.32	33.4	390	68	A	H
		5754.29	48.68	-19.62	68.3	38.27	34.96	8.8	33.35	390	68	P	H
		5458.72	56.31	-17.69	74	46.82	34.42	8.43	33.36	388	357	P	V
		5467.12	58.48	-9.82	68.3	49.05	34.41	8.38	33.36	388	357	P	V
		5459.68	48.61	-5.39	54	39.12	34.42	8.43	33.36	388	357	A	V
	*	5510	92.44	-	-	83.1	34.42	8.32	33.4	388	357	P	V
		5510	86.46	-	-	77.12	34.42	8.32	33.4	388	357	A	V
		5761.85	48.96	-19.34	68.3	38.53	34.98	8.8	33.35	388	357	P	V
802.11n HT40 CH 134 5670MHz		5368.55	48.58	-25.42	74	38.94	34.45	8.38	33.19	384	69	P	H
		5463.05	46.84	-21.46	68.3	37.36	34.41	8.43	33.36	384	69	P	H
		5380.45	39.96	-14.04	54	30.36	34.45	8.38	33.23	384	69	A	H
	*	5670	98.45	-	-	88.54	34.77	8.51	33.37	384	69	P	H
		5670	92.38	-	-	82.47	34.77	8.51	33.37	384	69	A	H
		5736.125	51.02	-17.28	68.3	40.8	34.92	8.65	33.35	384	69	P	H
		5361.55	47.68	-26.32	74	38.03	34.46	8.38	33.19	373	360	P	V
		5459.9	46.86	-27.14	74	37.37	34.42	8.43	33.36	373	360	P	V
		5392.35	39.76	-14.24	54	30.07	34.44	8.48	33.23	373	360	A	V
	*	5670	91.93	-	-	82.02	34.77	8.51	33.37	373	360	P	V
	5670	86.05	-	-	76.14	34.77	8.51	33.37	373	360	A	V	
	5728.775	51.07	-17.23	68.3	40.87	34.9	8.65	33.35	373	360	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2C - 5470~5725MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		7345	49.11	-24.89	74	57.69	36.44	9.08	54.1	-	-	P	H
		11020	46.74	-27.26	74	50.01	39.5	11.22	53.99	-	-	P	H
		16530	50.1	-18.2	68.3	48.17	42.49	12.92	53.48	-	-	P	H
		7345	49.78	-24.22	74	58.36	36.44	9.08	54.1	-	-	P	V
		11020	46.96	-27.04	74	50.23	39.5	11.22	53.99	-	-	P	V
		16530	50.41	-17.89	68.3	48.48	42.49	12.92	53.48	-	-	P	V
802.11n HT40 CH 110 5550MHz		7398	48.52	-25.48	74	56.89	36.5	9.2	54.07	-	-	P	H
		11100	47.55	-26.45	74	50.75	39.48	11.26	53.94	-	-	P	H
		16650	50.58	-17.72	68.3	48.29	42.47	12.97	53.15	-	-	P	H
		7398	48.76	-25.24	74	57.13	36.5	9.2	54.07	-	-	P	V
		11100	48.18	-25.82	74	51.38	39.48	11.26	53.94	-	-	P	V
		16650	50.77	-17.53	68.3	48.48	42.47	12.97	53.15	-	-	P	V
802.11n HT40 CH 134 5670MHz		7561	47.78	-26.22	74	55.99	36.59	9.16	53.96	100	272	P	H
		7561	44.33	-9.67	54	52.54	36.59	9.16	53.96	100	272	A	H
		11340	47.94	-26.06	74	50.94	39.43	11.37	53.8	-	-	P	H
		17010	51.92	-16.38	68.3	48.6	42.4	13.13	52.21	-	-	P	H
		7561	49.98	-24.02	74	58.19	36.59	9.16	53.96	233	57	P	V
		7561	47.13	-6.87	54	55.34	36.59	9.16	53.96	233	57	A	V
		11340	46.16	-27.84	74	49.16	39.43	11.37	53.8	-	-	P	V
		17010	52.17	-16.13	68.3	48.85	42.4	13.13	52.21	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-2C 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5448.16	59.96	-14.04	74	50.43	34.42	8.43	33.32	333	88	P	H
		5469.28	61.56	-6.74	68.3	52.13	34.41	8.38	33.36	333	88	P	H
		5458	50.14	-3.86	54	40.65	34.42	8.43	33.36	333	88	A	H
	*	5530	94.08	-	-	84.69	34.47	8.32	33.4	333	88	P	H
		5530	86.85	-	-	77.46	34.47	8.32	33.4	333	88	A	H
		5737.595	50.12	-18.18	68.3	39.9	34.92	8.65	33.35	333	88	P	H
		5458.72	54.83	-19.17	74	45.34	34.42	8.43	33.36	390	360	P	V
		5469.52	57.02	-11.28	68.3	47.59	34.41	8.38	33.36	390	360	P	V
		5458.24	46.89	-7.11	54	37.4	34.42	8.43	33.36	390	360	A	V
	*	5530	89.7	-	-	80.31	34.47	8.32	33.4	390	360	P	V
		5530	82.57	-	-	73.18	34.47	8.32	33.4	390	360	A	V
		5732.555	49.49	-18.81	68.3	39.28	34.91	8.65	33.35	390	360	P	V
802.11ac VHT80 CH 122 5610MHz		5434.24	49.53	-24.47	74	39.99	34.43	8.43	33.32	320	78	P	H
		5466.4	51.89	-16.41	68.3	42.46	34.41	8.38	33.36	320	78	P	H
		5459.2	41.01	-12.99	54	31.52	34.42	8.43	33.36	320	78	A	H
	*	5610	96.14	-	-	86.66	34.64	8.22	33.38	320	78	P	H
		5610	88.84	-	-	79.36	34.64	8.22	33.38	320	78	A	H
		5734.375	56.05	-12.25	68.3	45.83	34.92	8.65	33.35	320	78	P	H
		5351.92	48.86	-25.14	74	39.21	34.46	8.38	33.19	400	358	P	V
		5465.2	47.44	-20.86	68.3	37.96	34.41	8.43	33.36	400	358	P	V
		5393.68	39.99	-14.01	54	30.3	34.44	8.48	33.23	400	358	A	V
	*	5610	91.45	-	-	81.97	34.64	8.22	33.38	400	358	P	V
	5610	84.36	-	-	74.88	34.64	8.22	33.38	400	358	A	V	
	5724.925	51.86	-16.44	68.3	41.67	34.89	8.65	33.35	400	358	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-2C 5470~5725MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include test results for 802.11ac VHT80 CH 106 and 802.11ac VHT80 CH 122 at 5530MHz and 5610MHz.

Remark

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



UNII-2C 5470~5725MHz

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11ac VHT80 LF		54.25	18.36	-21.64	40	32.22	19.42	1.68	34.96	-	-	P	H
		172.59	18.56	-24.94	43.5	33.18	17.63	2.45	34.7	-	-	P	H
		286.08	21.71	-24.29	46	34.49	18.69	3.16	34.63	-	-	P	H
		555.74	25.23	-20.77	46	31.82	24.41	3.51	34.51	-	-	P	H
		682.81	27.02	-18.98	46	30.92	26.81	3.72	34.43	-	-	P	H
		803.09	31.4	-14.6	46	33.41	27.9	4.39	34.3	-	-	P	H
		36.79	25.52	-14.48	40	40.13	18.92	1.31	34.84	-	-	P	V
		67.83	25.07	-14.93	40	40.63	17.43	1.83	34.82	-	-	P	V
		295.78	21.65	-24.35	46	34.07	19	3.19	34.61	-	-	P	V
		555.74	26.45	-19.55	46	33.04	24.41	3.51	34.51	-	-	P	V
		825.4	32.63	-13.37	46	34.22	28.33	4.38	34.3	-	-	P	V
	938.89	30.81	-15.19	46	31.1	29.52	4.49	34.3	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



UNII-3 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.					Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5645.8	49.85	-18.45	68.3	40.14	34.72	8.36	33.37	351	85	P	H
		5692.2	49.18	-50.29	99.47	39.21	34.82	8.51	33.36	351	85	P	H
		5716.4	51.43	-58.36	109.79	41.25	34.88	8.65	33.35	351	85	P	H
		5725	53.83	-68.37	122.2	43.63	34.9	8.65	33.35	351	85	P	H
	*	5745	103.42	-	-	93.03	34.94	8.8	33.35	351	85	P	H
		5745	96.24	-	-	85.85	34.94	8.8	33.35	351	85	A	H
		5638.8	49.17	-19.13	68.3	39.47	34.71	8.36	33.37	388	4	P	V
		5672.2	48.79	-35.93	84.72	38.87	34.78	8.51	33.37	388	4	P	V
		5706.8	49.25	-57.86	107.11	39.11	34.85	8.65	33.36	388	4	P	V
		5723.6	49.53	-69.48	119.01	39.34	34.89	8.65	33.35	388	4	P	V
	*	5745	100.38	-	-	89.99	34.94	8.8	33.35	388	4	P	V
		5745	93.17	-	-	82.78	34.94	8.8	33.35	388	4	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz	*	5825	105.94	-	-	95.26	35.12	8.89	33.33	307	54	P	H
		5825	98.66	-	-	87.98	35.12	8.89	33.33	307	54	A	H
		5850.4	52.87	-68.42	121.29	42.14	35.17	8.89	33.33	307	54	P	H
		5858	51.85	-58.11	109.96	41.14	35.19	8.85	33.33	307	54	P	H
		5887.8	51.42	-44.28	95.7	40.65	35.25	8.85	33.33	307	54	P	H
		5940	50.76	-17.54	68.3	39.94	35.37	8.76	33.31	307	54	P	H
	*	5825	101.52	-	-	90.84	35.12	8.89	33.33	398	0	P	V
		5825	94.55	-	-	83.87	35.12	8.89	33.33	398	0	A	V
		5850	51.69	-70.51	122.2	40.96	35.17	8.89	33.33	398	0	P	V
		5867.8	50.49	-56.72	107.21	39.76	35.21	8.85	33.33	398	0	P	V
		5912.6	50.39	-26.96	77.35	39.6	35.31	8.8	33.32	398	0	P	V
		5949.2	50.06	-18.24	68.3	39.22	35.39	8.76	33.31	398	0	P	V
	Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



UNII-3 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		7658	46.04	-27.96	74	54.23	36.57	9.14	53.9	-	-	P	H
		11490	47.41	-26.59	74	50.27	39.4	11.45	53.71	-	-	P	H
		17235	50	-18.3	68.3	46.85	42.35	13.17	52.37	-	-	P	H
		7658	47.28	-26.72	74	55.47	36.57	9.14	53.9	-	-	P	V
		11490	47.75	-26.25	74	50.61	39.4	11.45	53.71	-	-	P	V
		17235	50.09	-18.21	68.3	46.94	42.35	13.17	52.37	-	-	P	V
802.11a CH 157 5785MHz		7715.5	48.33	-25.67	74	56.5	36.56	9.14	53.87	-	-	P	H
		11570	47.78	-26.22	74	50.44	39.5	11.49	53.65	-	-	P	H
		17355	50.99	-17.31	68.3	47.91	42.33	13.2	52.45	-	-	P	H
		7715.5	47.69	-26.31	74	55.86	36.56	9.14	53.87	-	-	P	V
		11570	46.82	-27.18	74	49.48	39.5	11.49	53.65	-	-	P	V
		17355	50.36	-17.94	68.3	47.28	42.33	13.2	52.45	-	-	P	V
802.11a CH 165 5825MHz		7765	48.1	-20.2	68.3	56.26	36.55	9.13	53.84	-	-	P	H
		11650	49	-25	74	51.47	39.61	11.53	53.61	-	-	P	H
		17475	50.21	-18.09	68.3	47.21	42.31	13.22	52.53	-	-	P	H
		7765	46.37	-21.93	68.3	54.53	36.55	9.13	53.84	-	-	P	V
		11650	48.01	-25.99	74	50.48	39.61	11.53	53.61	-	-	P	V
		17475	53.09	-15.21	68.3	50.09	42.31	13.22	52.53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5640.8	49.04	-19.26	68.3	39.34	34.71	8.36	33.37	313	56	P	H
		5690.2	49.04	-48.95	97.99	39.07	34.82	8.51	33.36	313	56	P	H
		5715.2	50.02	-59.44	109.46	39.85	34.87	8.65	33.35	313	56	P	H
		5725	50.61	-71.59	122.2	40.41	34.9	8.65	33.35	313	56	P	H
	*	5745	101.44	-	-	91.05	34.94	8.8	33.35	313	56	P	H
		5745	94.26	-	-	83.87	34.94	8.8	33.35	313	56	A	H
		5641.4	48.33	-19.97	68.3	38.63	34.71	8.36	33.37	390	6	P	V
		5685.8	49.29	-45.46	94.75	39.34	34.81	8.51	33.37	390	6	P	V
		5711.4	50.01	-58.38	108.39	39.85	34.87	8.65	33.36	390	6	P	V
		5720	49.08	-61.72	110.8	38.9	34.88	8.65	33.35	390	6	P	V
	*	5745	98.1	-	-	87.71	34.94	8.8	33.35	390	6	P	V
		5745	90.83	-	-	80.44	34.94	8.8	33.35	390	6	A	V
802.11n HT20 CH 165 5825MHz	*	5825	104.37	-	-	93.69	35.12	8.89	33.33	307	54	P	H
		5825	97.11	-	-	86.43	35.12	8.89	33.33	307	54	A	H
		5850.6	53.6	-67.23	120.83	42.87	35.17	8.89	33.33	307	54	P	H
		5858.6	51.34	-58.45	109.79	40.63	35.19	8.85	33.33	307	54	P	H
		5877.6	50.33	-52.94	103.27	39.58	35.23	8.85	33.33	307	54	P	H
		5932.4	50.08	-18.22	68.3	39.24	35.35	8.8	33.31	307	54	P	H
	*	5825	99.51	-	-	88.83	35.12	8.89	33.33	398	360	P	V
		5825	92.44	-	-	81.76	35.12	8.89	33.33	398	360	A	V
		5851.4	51.11	-67.9	119.01	40.38	35.17	8.89	33.33	398	360	P	V
		5856.6	50.24	-60.11	110.35	39.54	35.18	8.85	33.33	398	360	P	V
		5916.6	49.97	-24.42	74.39	39.17	35.32	8.8	33.32	398	360	P	V
		5942.6	49.48	-18.82	68.3	38.66	35.37	8.76	33.31	398	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-3 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		7658	47.81	-26.19	74	56	36.57	9.14	53.9	-	-	P	H
		11490	46.63	-27.37	74	49.49	39.4	11.45	53.71	-	-	P	H
		17235	50.26	-18.04	68.3	47.11	42.35	13.17	52.37	-	-	P	H
		7660.5	49.62	-24.38	74	57.81	36.57	9.14	53.9	-	-	P	V
		11490	47.81	-26.19	74	50.67	39.4	11.45	53.71	-	-	P	V
802.11n HT20 CH 157 5785MHz		7715.5	48.24	-25.76	74	56.41	36.56	9.14	53.87	-	-	P	H
		11570	47.67	-26.33	74	50.33	39.5	11.49	53.65	-	-	P	H
		17355	50.8	-17.5	68.3	47.72	42.33	13.2	52.45	-	-	P	H
		7715	48.44	-25.56	74	56.61	36.56	9.14	53.87	-	-	P	V
		11570	46.87	-27.13	74	49.53	39.5	11.49	53.65	-	-	P	V
802.11n HT20 CH 165 5825MHz		7765	47.11	-21.19	68.3	55.27	36.55	9.13	53.84	-	-	P	H
		11650	47.49	-26.51	74	49.96	39.61	11.53	53.61	-	-	P	H
		17475	51.96	-16.34	68.3	48.96	42.31	13.22	52.53	-	-	P	H
		7765	49.68	-18.62	68.3	57.84	36.55	9.13	53.84	-	-	P	V
		11650	48.02	-25.98	74	50.49	39.61	11.53	53.61	-	-	P	V
		17475	52.07	-16.23	68.3	49.07	42.31	13.22	52.53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**UNII-3 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5612.4	49.25	-19.05	68.3	39.76	34.65	8.22	33.38	313	57	P	H
		5698	52.26	-51.47	103.73	42.27	34.84	8.51	33.36	313	57	P	H
		5719.8	58.4	-52.34	110.74	48.22	34.88	8.65	33.35	313	57	P	H
		5723	58.45	-59.19	117.64	48.26	34.89	8.65	33.35	313	57	P	H
	*	5755	99.44	-	-	89.03	34.96	8.8	33.35	313	57	P	H
		5755	92.4	-	-	81.99	34.96	8.8	33.35	313	57	A	H
		5854.4	48.59	-63.58	112.17	37.85	35.18	8.89	33.33	313	57	P	H
		5863	50.03	-58.53	108.56	39.31	35.2	8.85	33.33	313	57	P	H
		5921.8	50.97	-19.59	70.56	40.15	35.33	8.8	33.31	313	57	P	H
		5948.6	49.84	-18.46	68.3	39	35.39	8.76	33.31	313	57	P	H
		5629.6	48.8	-19.5	68.3	39.13	34.69	8.36	33.38	391	5	P	V
		5698.6	49.59	-54.58	104.17	39.6	34.84	8.51	33.36	391	5	P	V
		5718.6	56.92	-53.49	110.41	46.74	34.88	8.65	33.35	391	5	P	V
		5720.8	55.35	-57.27	112.62	45.16	34.89	8.65	33.35	391	5	P	V
	*	5755	96.84	-	-	86.43	34.96	8.8	33.35	391	5	P	V
		5755	89.72	-	-	79.31	34.96	8.8	33.35	391	5	A	V
		5852	49.71	-67.93	117.64	38.98	35.17	8.89	33.33	391	5	P	V
		5859	50.65	-59.03	109.68	39.94	35.19	8.85	33.33	391	5	P	V
	5885.2	50.31	-47.32	97.63	39.54	35.25	8.85	33.33	391	5	P	V	
	5940.2	49.5	-18.8	68.3	38.68	35.37	8.76	33.31	391	5	P	V	



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5637.6	48.2	-20.1	68.3	38.51	34.7	8.36	33.37	386	81	P	H
		5693.6	48.7	-51.79	100.49	38.72	34.83	8.51	33.36	386	81	P	H
		5708.8	49.94	-57.73	107.67	39.79	34.86	8.65	33.36	386	81	P	H
		5721.2	49.06	-64.48	113.54	38.87	34.89	8.65	33.35	386	81	P	H
	*	5795	99.3	-	-	88.65	35.05	8.94	33.34	386	81	P	H
		5795	92.1	-	-	81.45	35.05	8.94	33.34	386	81	A	H
		5854	50.97	-62.11	113.08	40.23	35.18	8.89	33.33	386	81	P	H
		5866.6	49.44	-58.11	107.55	38.71	35.21	8.85	33.33	386	81	P	H
		5924	49.79	-19.15	68.94	38.97	35.33	8.8	33.31	386	81	P	H
		5947.8	49.56	-18.74	68.3	38.72	35.39	8.76	33.31	386	81	P	H
		5625.4	48.3	-20	68.3	38.64	34.68	8.36	33.38	384	7	P	V
		5650.8	48.91	-19.98	68.89	39.19	34.73	8.36	33.37	384	7	P	V
		5706.2	49.1	-57.84	106.94	38.96	34.85	8.65	33.36	384	7	P	V
		5722.8	48.97	-68.21	117.18	38.78	34.89	8.65	33.35	384	7	P	V
	*	5795	95.88	-	-	85.23	35.05	8.94	33.34	384	7	P	V
		5795	88.75	-	-	78.1	35.05	8.94	33.34	384	7	A	V
		5853.6	49.91	-64.08	113.99	39.17	35.18	8.89	33.33	384	7	P	V
		5857	50	-60.24	110.24	39.29	35.19	8.85	33.33	384	7	P	V
	5906.4	50.62	-31.31	81.93	39.85	35.29	8.8	33.32	384	7	P	V	
	5938.8	49.57	-18.73	68.3	38.75	35.37	8.76	33.31	384	7	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-3 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		7671.5	44.89	-29.11	74	53.08	36.57	9.14	53.9	-	-	P	H
		11510	47.21	-26.79	74	50.04	39.41	11.45	53.69	-	-	P	H
		17265	50.93	-17.37	68.3	47.79	42.35	13.18	52.39	-	-	P	H
		7671.5	47.81	-26.19	74	56	36.57	9.14	53.9	-	-	P	V
		11510	47.11	-26.89	74	49.94	39.41	11.45	53.69	-	-	P	V
		17265	50.94	-17.36	68.3	47.8	42.35	13.18	52.39	-	-	P	V
802.11n HT40 CH 159 5795MHz		7725	46.56	-27.44	74	54.72	36.56	9.14	53.86	-	-	P	H
		11590	47	-27	74	49.6	39.53	11.51	53.64	-	-	P	H
		17385	50.82	-17.48	68.3	47.77	42.32	13.2	52.47	-	-	P	H
		7725	48.83	-25.17	74	56.99	36.56	9.14	53.86	-	-	P	V
		11590	49.33	-24.67	74	51.93	39.53	11.51	53.64	-	-	P	V
		17385	50.9	-17.4	68.3	47.85	42.32	13.2	52.47	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-3 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5627	49.38	-18.92	68.3	39.72	34.68	8.36	33.38	330	52	P	H
		5694.4	61.08	-40	101.08	51.1	34.83	8.51	33.36	330	52	P	H
		5718	67.17	-43.07	110.24	56.99	34.88	8.65	33.35	330	52	P	H
		5723.2	63.57	-54.53	118.1	53.38	34.89	8.65	33.35	330	52	P	H
	*	5775	96.57	-	-	86.11	35.01	8.8	33.35	330	52	P	H
		5775	89.35	-	-	78.89	35.01	8.8	33.35	330	52	A	H
		5850.2	60.47	-61.27	121.74	49.74	35.17	8.89	33.33	330	52	P	H
		5867.6	60.8	-46.47	107.27	50.07	35.21	8.85	33.33	330	52	P	H
		5876	55.14	-49.32	104.46	44.39	35.23	8.85	33.33	330	52	P	H
		5928.6	50.02	-18.28	68.3	39.19	35.34	8.8	33.31	330	52	P	H
		5649.6	49.64	-18.66	68.3	39.92	34.73	8.36	33.37	374	3	P	V
		5697.2	58.26	-44.88	103.14	48.28	34.83	8.51	33.36	374	3	P	V
		5717.2	64.81	-45.21	110.02	54.63	34.88	8.65	33.35	374	3	P	V
		5721.4	60.97	-53.02	113.99	50.78	34.89	8.65	33.35	374	3	P	V
	*	5775	91.84	-	-	81.38	35.01	8.8	33.35	374	3	P	V
		5775	84.59	-	-	74.13	35.01	8.8	33.35	374	3	A	V
		5852	58.21	-59.43	117.64	47.48	35.17	8.89	33.33	374	3	P	V
		5861.4	57.6	-51.41	109.01	46.88	35.2	8.85	33.33	374	3	P	V
		5875.8	54.49	-50.12	104.61	43.74	35.23	8.85	33.33	374	3	P	V
	5933.6	49.55	-18.75	68.3	38.75	35.35	8.76	33.31	374	3	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



UNII-3 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

Table with 14 columns: WIFI Ant. 1, Note, Frequency (MHz), Level (dBµV/m), Margin (dB), Limit Line (dBµV/m), Read Level (dBµV), Antenna Factor (dB/m), Path Loss (dB), Preamp Factor (dB), Ant Pos (cm), Table Pos (deg), Peak Avg. (P/A), Pol. (H/V). Rows include data for 802.11ac VHT80 CH 155 5775MHz and a Remark section.



UNII-3 5725~5850MHz

Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		37.76	17.34	-22.66	40	31.84	19.04	1.32	34.86	-	-	P	H
		147.37	17.54	-25.96	43.5	31.2	18.74	2.31	34.71	-	-	P	H
		291.9	22.57	-23.43	46	35.13	18.88	3.18	34.62	-	-	P	H
		515	23.8	-22.2	46	31.28	23.6	3.42	34.5	-	-	P	H
		726.46	27.89	-18.11	46	31.2	27.36	3.73	34.4	-	-	P	H
		844.8	31.11	-14.89	46	32.32	28.71	4.38	34.3	-	-	P	H
		35.82	25.06	-14.94	40	39.78	18.8	1.3	34.82	-	-	P	V
		67.83	24.04	-15.96	40	39.6	17.43	1.83	34.82	-	-	P	V
		219.15	21.03	-24.97	46	36.28	16.6	2.85	34.7	-	-	P	V
		289.96	21.68	-24.32	46	34.31	18.82	3.17	34.62	-	-	P	V
		607.15	26.92	-19.08	46	31.8	26.11	3.6	34.59	-	-	P	V
	825.4	32.28	-13.72	46	33.87	28.33	4.38	34.3	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Co-location mode: 802.11ac VHT80_TX_CH42<E B7

5GHz 5150~5250MHz (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	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)
802.11ac80 CH42 5210MHz & LTE Band7		5143.78	62.24	-11.76	74	52.64	34.54	7.91	32.85	230	287	P	H
		5142.48	50.42	-3.58	54	40.82	34.54	7.91	32.85	230	287	P	H
	*	5210	96.32	-	-	86.78	34.52	7.96	32.94	230	287	A	H
	*	5210	90.23	-	-	80.69	34.52	7.96	32.94	230	287	P	H
		5400	48.54	-25.46	74	38.85	34.44	8.48	33.23	230	287	A	H
		5424	39.8	-14.2	54	30.16	34.43	8.48	33.27	230	287	P	H
		5052.26	60.15	-13.85	74	50.39	34.58	7.86	32.68	392	25	P	V
		5141.18	49.88	-4.12	54	40.28	34.54	7.91	32.85	392	25	P	V
	*	5210	90.21	-	-	80.67	34.52	7.96	32.94	392	25	A	V
	*	5210	84.09	-	-	74.55	34.52	7.96	32.94	392	25	P	V
		5424.24	48.57	-25.43	74	38.93	34.43	8.48	33.27	392	25	A	V
		5362.08	39.54	-14.46	54	29.89	34.46	8.38	33.19	392	25	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5GHz 5150~5250MHz (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	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)
802.11ac80 CH42 5210MHz & LTE Band7		6945	49.35	-18.95	68.3	58.64	36.08	8.84	54.21	-	-	P	H
		10420	49.05	-19.25	68.3	51.76	39.75	10.79	53.25	-	-	p	H
		15630	49.73	-24.27	74	49.71	41.83	12.72	54.53	-	-	P	H
		6967	52.56	-15.74	68.3	41.24	36.09	8.84	33.61	-	-	P	V
		10104	54.54	-13.76	68.3	57.31	39.56	10.52	52.85	-	-	p	V
		15630	50.01	-23.99	74	49.99	41.83	12.72	54.53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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 Margin line.
P/A	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2													
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. Margin (dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

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

For Average Limit @ 2390MHz:

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

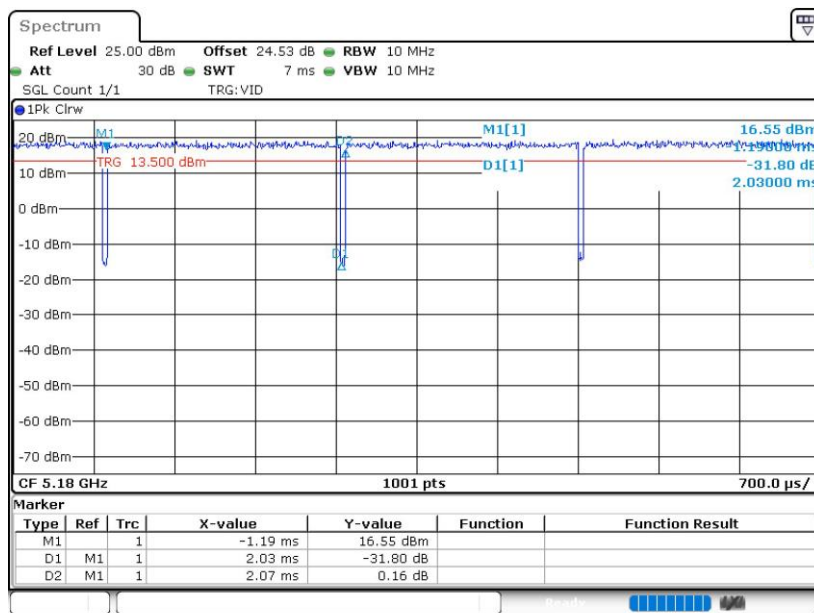
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix C. Duty Cycle Plots

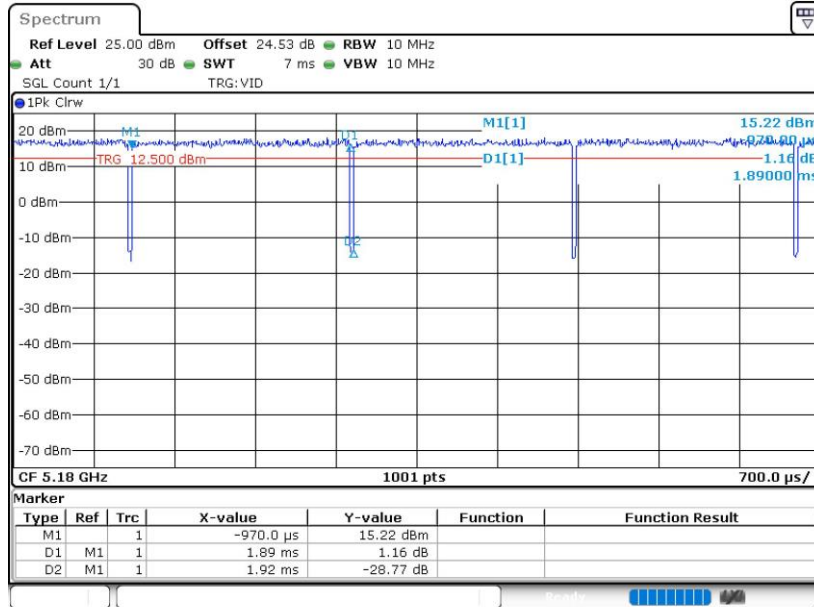
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.07	-	-	10Hz
802.11n HT20	98.44	-	-	10Hz
802.11n HT40	95.88	0.930	1.075	3kHz
802.11ac VHT80	93.88	0.460	2.174	3kHz

802.11a

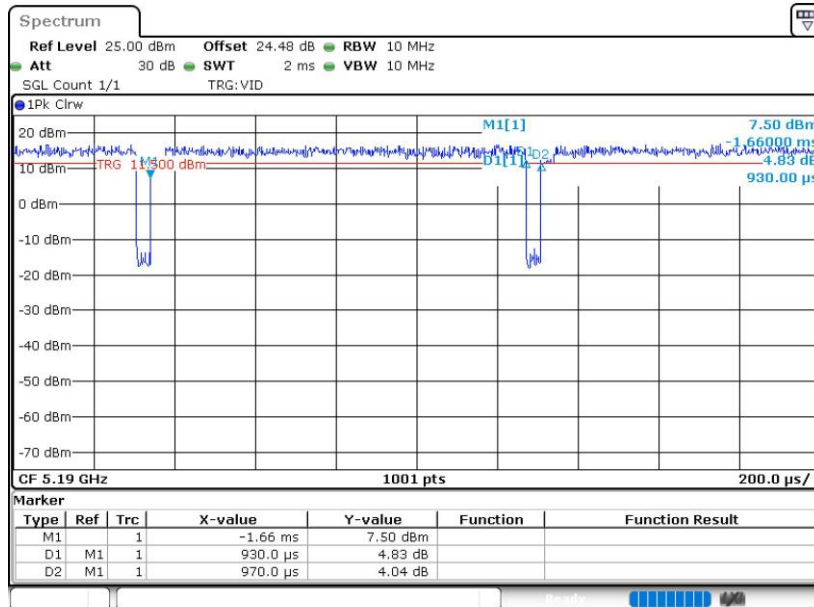




802.11n HT20



802.11n HT40





802.11ac VHT80

