



FCC TEST REPORT

FCC ID: 2BXJ2-A4183

On Behalf of

Shenzhen Hongde Electronics Co., Ltd.

Carplay Box

Model No.: A4183

Prepared for : Shenzhen Hongde Electronics Co., Ltd.
Address : Room 601, Building A2, Yinfeng Industrial Park, Hangcheng
Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.
Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District,
518103, Shenzhen, Guangdong, China

Report Number : A2607273-C03-R03
Date of Receipt : July 28, 2026
Date of Test : July 30, 2026 – August 28, 2026
Date of Report : August 28, 2026
Version Number : V0
Result **Pass**

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TEST REPORT DECLARATION

Applicant : Shenzhen Hongde Electronics Co., Ltd.
Address : Room 601, Building A2, Yinfeng Industrial Park, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Manufacturer : Shenzhen Hongde Electronics Co., Ltd.
Address : Room 601, Building A2, Yinfeng Industrial Park, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China
EUT Description : Carplay Box
(A) Model No. : A4183
(B) Trademark : N/A

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart E

ANSI C63.10-2020

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart E limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:

Yannis Wen
Project Engineer


.....

Approved by (name + signature).....:

Alan Fan
Project Manager


.....

Date of issue.....:

August 28, 2026

Revision History

Revision	Issue Date	Revisions	Revised By
V0	August 28, 2026	Initial released Issue	Yannis Wen

1 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	Section 15.203	PASS
AC Power Line Conducted Emission	Section 15.207(a)	PASS
Maximum Conducted Output Power	Section 15.407(a)	PASS
Power Spectral Density	Section 15.407(a)	PASS
26dB/6dB&99% Bandwidth	Section 15.407	PASS
Undesirable Emission	Section 15.407(b)	PASS
Conducted Spurious Emission	Section 15.407(b)	PASS
Conducted Band Edge	Section 15.407(b)	PASS
Radiated Emission	15.205&15.209 (a)	PASS
Radiated Band Edge	15.205&15.209 (a)	PASS

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Frequency Stability: The manufacturer stated in the user's manual.
3. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.
4. N/A is an abbreviation for Not Applicable.

1.1 Measurement Uncertainty

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8} GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%
Uncertainty for Power Spectral Density	0.39dB
Uncertainty for Occupied-Bandwidth	968Hz

2 General Information

2.1 General Description of EUT

EUT Name : Carplay Box
 Model No. : A4183
 DIFF. : N/A
 Power supply : DC 5V

Radio Technology	: 5G WIFI
Operation Frequency	: 802.11a/n(HT20)/ac(VHT20): 5180~5240MHz; 5260-5320MHz; 5500-5700MHz; 5745~5825MHz 802.11n(HT40)/ac(VHT40): 5190~5230MHz; 5270-5310MHz; 5510-5670MHz; 5755~5795MHz
Channel separation	: 20MHz for 802.11a/ 802.11ac(VHT20)/ 802.11n(HT20) 40MHz for 802.11ac(VHT40)/ 802.11n(HT40)
Modulation technology:	: IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Type	: Internal antenna U-NII-1:max gain -1.82dBi U-NII-2A:max gain -2.05dBi U-NII-2C:max gain -1.17dBi U-NII-3:max gain -1.17dBi (Antenna information is provided by applicant.)
Software version	: V1.0
Hardware version	: V1.0
Intend use environment	: Residential, commercial and light industrial environment

2.2 Test mode

Transmitting mode Keep the EUT in transmitting with modulation.

EUT was test with 99% duty cycle at its maximum power control level.

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

U-NII-1:

Tested mode, channel, and data rate information			
Mode	Data rate (Mbps) see Note	Channel	Frequency (MHz)
IEEE 802.11a	6	CH36	5180
	6	CH40	5200
	6	CH48	5240
IEEE 802.11n HT20	6.5	CH36	5180
	6.5	CH40	5200
	6.5	CH48	5240
IEEE 802.11n HT40	13.5	CH38	5190
	13.5	CH46	5230
IEEE 802.11ac VHT20	6.5	CH36	5180
	6.5	CH40	5200
	6.5	CH48	5240
IEEE 802.11ac VHT40	13.5	CH38	5190
	13.5	CH46	5230
Note: According exploratory test and product specification EUT will have maximum output power in those data rate, so those data rate were used for all test.			

U-NII-2A:

Tested mode, channel, and data rate information			
Mode	Data rate (Mbps) see Note	Channel	Frequency (MHz)
IEEE 802.11a	6	CH52	5260
	6	CH56	5280
	6	CH64	5320
IEEE 802.11n HT20	6.5	CH52	5260
	6.5	CH56	5280
	6.5	CH64	5320
IEEE 802.11n HT40	13.5	CH54	5270
	13.5	CH62	5310
IEEE 802.11ac VHT20	6.5	CH52	5260
	6.5	CH56	5280
	6.5	CH64	5320
IEEE 802.11ac VHT40	13.5	CH54	5270
	13.5	CH62	5310
Note: According exploratory test and product specification EUT will have maximum output power in those data rate, so those data rate were used for all test.			

U-NII-2C:

Tested mode, channel, and data rate information			
Mode	Data rate (Mbps) see Note	Channel	Frequency (MHz)
IEEE 802.11a	6	CH100	5500
	6	CH116	5580
	6	CH140	5700
IEEE 802.11n HT20	6.5	CH100	5500
	6.5	CH116	5580
	6.5	CH140	5700
IEEE 802.11n HT40	13.5	CH102	5510
	13.5	CH134	5670
IEEE 802.11ac VHT20	6.5	CH100	5500
	6.5	CH116	5580
	6.5	CH140	5700
IEEE 802.11ac VHT40	13.5	CH102	5510
	13.5	CH134	5670
Note: According exploratory test and product specification EUT will have maximum output power in those data rate, so those data rate were used for all test.			

UNII-3:

Tested mode, channel, and data rate information			
Mode	Data rate (Mbps) see Note	Channel	Frequency (MHz)
IEEE 802.11a	6	CH149	5745
	6	CH157	5785
	6	CH165	5825
IEEE 802.11n HT20	6.5	CH149	5745
	6.5	CH157	5785
	6.5	CH165	5825
IEEE 802.11n HT40	13.5	CH151	5755
	13.5	CH159	5795
IEEE 802.11ac VHT20	6.5	CH149	5745
	6.5	CH157	5785
	6.5	CH165	5825
IEEE 802.11ac VHT40	13.5	CH151	5755
	13.5	CH159	5795
Note: According exploratory test and product specification EUT will have maximum output power in those data rate, so those data rate were used for all test.			

2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission

Registration Number: 293961

July 25, 2017 Certificated by IC

Registration Number: 12135A

CAB identified: CN0085

2.4 Description of Support Units

Accessories : /

Manufacturer : /

Model : /

Ratings : /

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.

2.7 Other Information Requested by the Customer

None.

2.8 Additional instructions

Software (Used for test) from client

Channel	Power level
Lowest	Default
Middle	Default
Highest	Default

Note: Use the engineering interface to control EUT operation in continuous TX mode, and select test channel, wireless mode, The power level for the test is set to default.

3 Test Instruments list

Equipment	Manufacturer	Model No.	Firmware version	Serial No.	Last Cal.	Cal. Due day
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2025/03/09	2029/03/08
4*4*3 Shielded room	CHENYU	4*4*3	/	N/A	2025/03/09	2029/03/08
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2026/7/28	2027/7/27
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2026/7/27	2027/7/26
Spectrum analyzer	Keysight	N9020A	A.19.05	MY54500254	2026/7/27	2027/7/26
Spectrum analyzer	ROHDE&SCHWARZ	FSU	4.71.SP5	200002	2026/7/28	2027/7/27
CMW500	ROHDE&SCHWARZ	CMW500	V 3.7.22	1201.0002K50-117239-sM	2026/7/27	2027/7/26
UXM 5G Base Wireless Test Platform	Keysight	E5175E	1.8.1.2908 2(NR)(LTE)	MY62226130	2026/03/03	2027/03/02
Test Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03-102082-Wa	2026/7/27	2027/7/26
Test Receiver	ROHDE&SCHWARZ	ESCI	4.42 SP1	101165	2026/7/28	2027/7/27
Bilog Antenna	SCHWARZBECK	VULB 9168	/	VULB 9168#627	2025/08/11	2027/08/10
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2025/08/11	2027/08/10
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2025/08/11	2027/08/10
RF Cable	Resenberger	Cable 1	/	RE1	2026/7/27	2027/7/26
RF Cable	Resenberger	Cable 2	/	RE2	2026/7/27	2027/7/26
RF Cable	Resenberger	Cable 3	/	CE1	2026/7/27	2027/7/26
Amplifier	HP	HP8347A	/	2834A00455	2026/7/28	2027/7/27
Amplifier	Agilent	8449B	/	3008A02664	2026/7/27	2027/7/26
Amplifier	SKET	LNPA_0118G-45	/	SK2020010801	2026/7/27	2027/7/26
Filter/Amplifier bank unit	SKET	RSESU-HPH-LNPP18G	/	SK20190712	2026/7/27	2027/7/26
L.I.S.N.#1	SCHWARZBECK	NSLK8126	/	8126-466	2026/7/28	2027/7/27
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2026/7/28	2027/7/27
Pulse Limiter	SCHWARZBECK	9516F	/	9618	2026/7/27	2027/7/26
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2025/8/11	2027/8/10
Preamplifier	SKET	LNPA_1840-50	/	SK2018101801	2026/7/27	2027/7/26
Vector Signal Generator	Agilent	N5182A	/	MY49060042	2026/7/28	2027/7/27
Vector Signal Generator	Agilent	N5172B	2.02	MY51350397	2026/7/27	2027/7/26
Analog Signal Generator	HP	83712B	10.02	US34490219	2026/7/27	2027/7/26
Power Meter	Agilent	E4419B	/	GB40202122	2026/7/27	2027/7/26
Power Sensor	Agilent	E9300A	/	MY41496628	2026/7/27	2027/7/26
Power Sensor	Agilent	E9304A	/	MY41496815	2026/7/27	2027/7/26
Power Sensor	DARE	RPR3006W	/	15100041SNO91	2026/7/28	2027/7/27
Power Sensor	DARE	RPR3006W	/	15100041SNO92	2026/7/28	2027/7/27
Temp. & Humid. Chamber	Teelong	TL-HW408S	/	TL-20191205-01	2026/07/07	2027/07/06
Electronic Thermo-	S.H.Qixiang	HTC-1	/	N/A	2026/7/31	2027/7/30

Hygrometer						
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2026/7/27	2027/7/26
Adjustable attenuator	MWRFtest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A
6dB Fixed Attenuator	SKET	AP_DC01G-2W-N-6dB	/	N/A	2026/7/28	2027/7/27

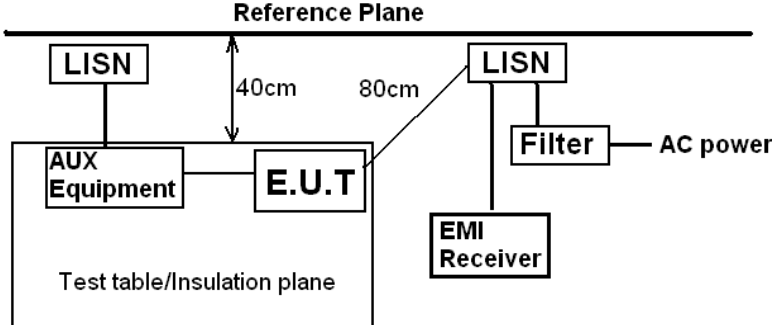
Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	EZ	Alpha-3A1
CE	EZ-EMC	EZ	Alpha-3A1
RF-CE	MTS 8310	MW	V2.0.0.0

4 Test results and Measurement Data

4.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The antenna is Internal antenna. It complies with the standard requirement.	

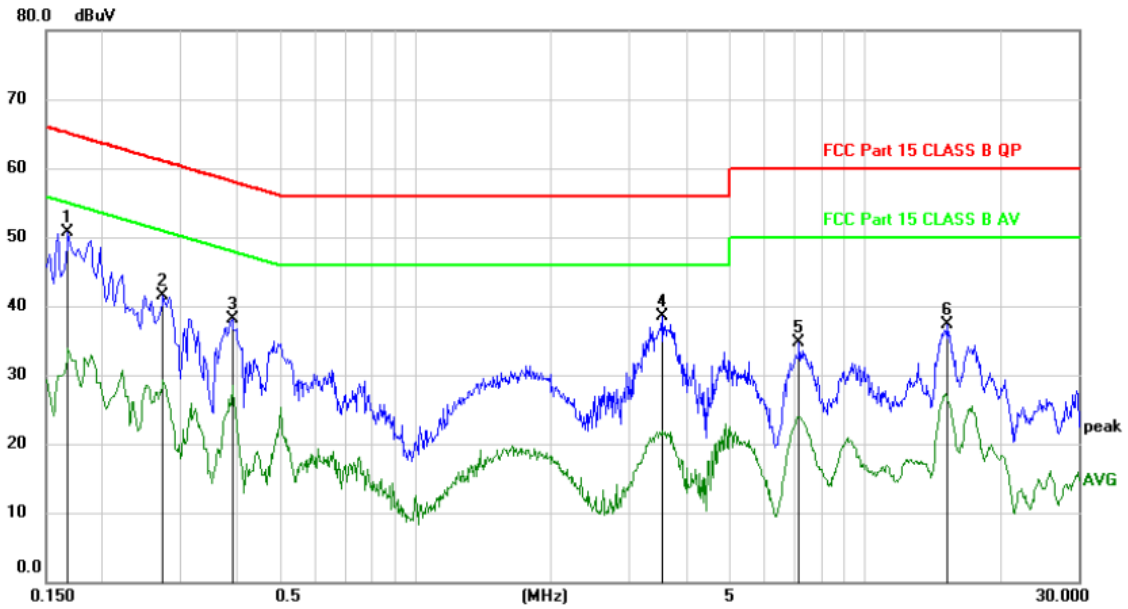
4.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207		
Test Method:	ANSI C63.10-2020		
Test Frequency Range:	150KHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9KHz, VBW=30KHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		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.			
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.		
Test setup:	 Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m		
Test results:	Pass		

Measurement Data

An initial pre-scan was performed on the line and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Line:

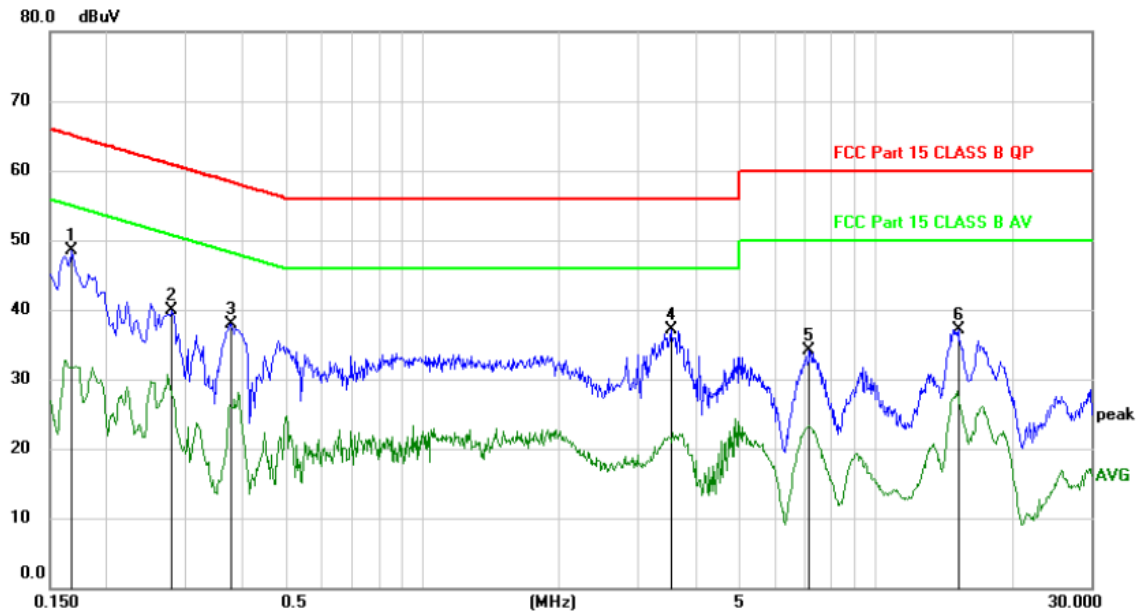


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1680	39.87	10.84	50.71	65.06	-14.35	peak	
2		0.2730	30.66	10.80	41.46	61.03	-19.57	peak	
3		0.3899	27.11	11.03	38.14	58.07	-19.93	peak	
4		3.5370	27.62	10.90	38.52	56.00	-17.48	peak	
5		7.1400	23.51	11.12	34.63	60.00	-25.37	peak	
6		15.3300	26.10	11.15	37.25	60.00	-22.75	peak	

*:Maximum data x:Over limit !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Neutral:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1680	37.71	10.84	48.55	65.06	-16.51	peak
2		0.2790	29.12	10.81	39.93	60.85	-20.92	peak
3		0.3780	26.98	11.01	37.99	58.32	-20.33	peak
4		3.5340	26.13	10.90	37.03	56.00	-18.97	peak
5		7.1520	23.04	11.12	34.16	60.00	-25.84	peak
6		15.2430	25.96	11.15	37.11	60.00	-22.89	peak

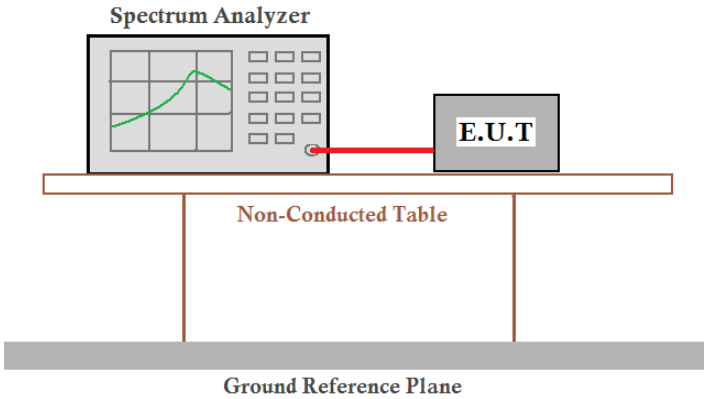
*:Maximum data x:Over limit !:over margin

(Reference Only)

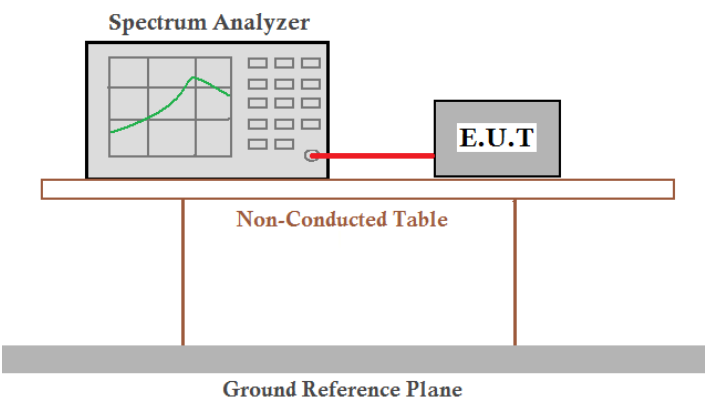
Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Note: All modes and channels have been tested and only the n20 5180MHz mode with the worst data is listed

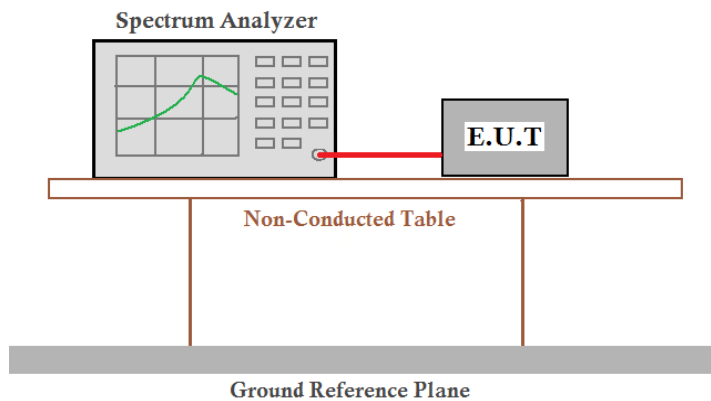
4.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10-2020
Limit:	N/A
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by two vertical legs. Below the table is a Ground Reference Plane.
Test procedure:	1. Set center frequency to the nominal EUT channel center frequency. 2. Set span = 1.5 times to 5.0 times the OBW. 3. Set RBW = 1% to 5% of the OBW 4. Set VBW $\geq 3 \times$ RBW 5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. 6. Use the 99% power bandwidth function of the instrument (if available). 7. If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.
Test results:	Please refer to Appendix of 5GWIFI data.

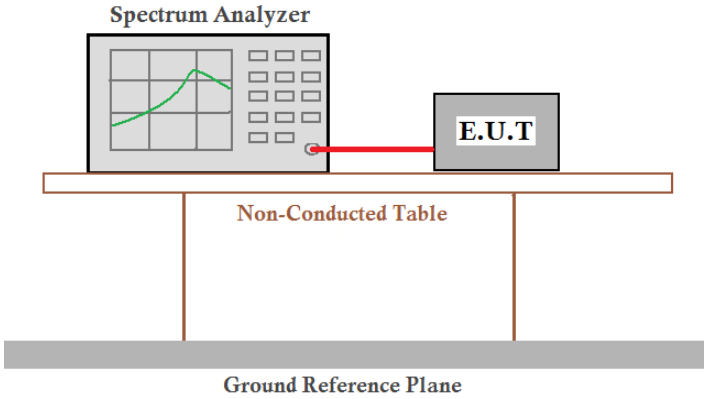
4.4 Duty Cycle

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10-2020
Limit:	/
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test procedure:	Measurements of duty cycle and transmission duration shall be performed using one of the following techniques: - A diode detector and an oscilloscope that together have sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal. - Set the center frequency of the instrument to the center frequency of the transmission. Set $RBW \geq EBW$ if possible; otherwise, set RBW to the largest available value. Set $VBW \geq RBW$. Set detector = peak.
Test results:	Please refer to Appendix of 5GWIFI data.

4.5 Average Transmit Power

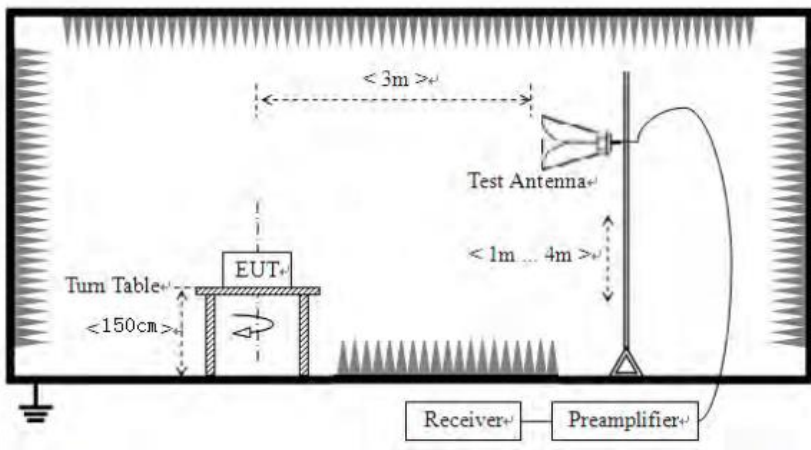
Test Requirement:	FCC Part15 E Section 15.407																		
Test Method:	ANSI C63.10-2020																		
Limit:	FCC: For the band 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725GHz, The maximum conducted output power over the frequency bands of operation shall not exceed 250mW. For the band 5.725-5.85GHz, the maximum conducted output power over the frequency bands of operation shall not exceed 1W. IC: <table><thead><tr><th>Section.</th><th>Test Item.</th><th>Limit.</th><th>FrequencyRange. (MHz).</th><th>Result.</th></tr></thead><tbody><tr><td>6.2.1.1.</td><td rowspan="4">Peak Output Power.</td><td>200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.</td><td>5150-5250.</td><td rowspan="4">PASS.</td></tr><tr><td>6.2.2.1.</td><td rowspan="2">The lesser of 250 mW or $11 \text{ dBm} + 10 \log (26 \text{ dB emission bandwidth})$.</td><td>5250-5350.</td></tr><tr><td>6.2.3.1.</td><td>5470-5725.</td></tr><tr><td>6.2.4.1.</td><td>1 watt.</td><td>5725-5825.</td></tr></tbody></table>	Section.	Test Item.	Limit.	FrequencyRange. (MHz).	Result.	6.2.1.1.	Peak Output Power.	200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.	5150-5250.	PASS.	6.2.2.1.	The lesser of 250 mW or $11 \text{ dBm} + 10 \log (26 \text{ dB emission bandwidth})$.	5250-5350.	6.2.3.1.	5470-5725.	6.2.4.1.	1 watt.	5725-5825.
Section.	Test Item.	Limit.	FrequencyRange. (MHz).	Result.															
6.2.1.1.	Peak Output Power.	200 mW or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.	5150-5250.	PASS.															
6.2.2.1.		The lesser of 250 mW or $11 \text{ dBm} + 10 \log (26 \text{ dB emission bandwidth})$.	5250-5350.																
6.2.3.1.			5470-5725.																
6.2.4.1.		1 watt.	5725-5825.																
Test setup:	Spectrum Analyzer  Non-Conducted Table Ground Reference Plane																		
Test procedure:	Measurement using an RF average power meter (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle. b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level. c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five. (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B). (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter. (iv) Adjust the measurement in dBm by adding $10 \log(1/x)$ where x is the duty cycle (e.g., $10 \log(1/0.25)$ if the duty cycle is 25 percent).																		
Test results:	Please refer to Appendix of 5GWIFI data.																		

4.6 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10-2020
Limit:	FCC: 1. $\leq 11.00\text{dBm/MHz}$ for 5150MHz-5250MHz, 5250-5350MHz and 5470-5725 MHz 2. $\leq 30.00\text{dBm/500KHz}$ for 5725MHz-5850MHz IC: 1. For the 5.15-5.25 GHz, The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band. 2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. 3. For 5725MHz-5850MHz, the output power spectral density shall not exceed 30 dBm in any 500 kHz band.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test procedure:	Refer to ANSI C63.10-2020
Test results:	Please refer to Appendix of 5GWIFI B1/B2/B3/B4 data

4.7 Radiated Band Edge

Test Requirement:	15.205&15.209																								
Test Method:	ANSI C63.10-2020																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	AV	1MHz	3MHz	Average Value	
Frequency	Detector	RBW	VBW	Remark																					
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																					
Above 1GHz	Peak	1MHz	3MHz	Peak Value																					
	AV	1MHz	3MHz	Average Value																					
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>68.2</td><td>Peak Value</td></tr></table> Undesirable emission limits: (1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. (2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. (3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.					Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	68.2	Peak Value
Frequency	Limit (dBuV/m @3m)	Remark																							
30MHz-88MHz	40.0	Quasi-peak Value																							
88MHz-216MHz	43.5	Quasi-peak Value																							
216MHz-960MHz	46.0	Quasi-peak Value																							
960MHz-1GHz	54.0	Quasi-peak Value																							
Above 1GHz	54.0	Average Value																							
	68.2	Peak Value																							
Test Procedure:	a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.																								
Test setup:	Above 1GHz																								

	
Test results:	Pass

Remark:

According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:

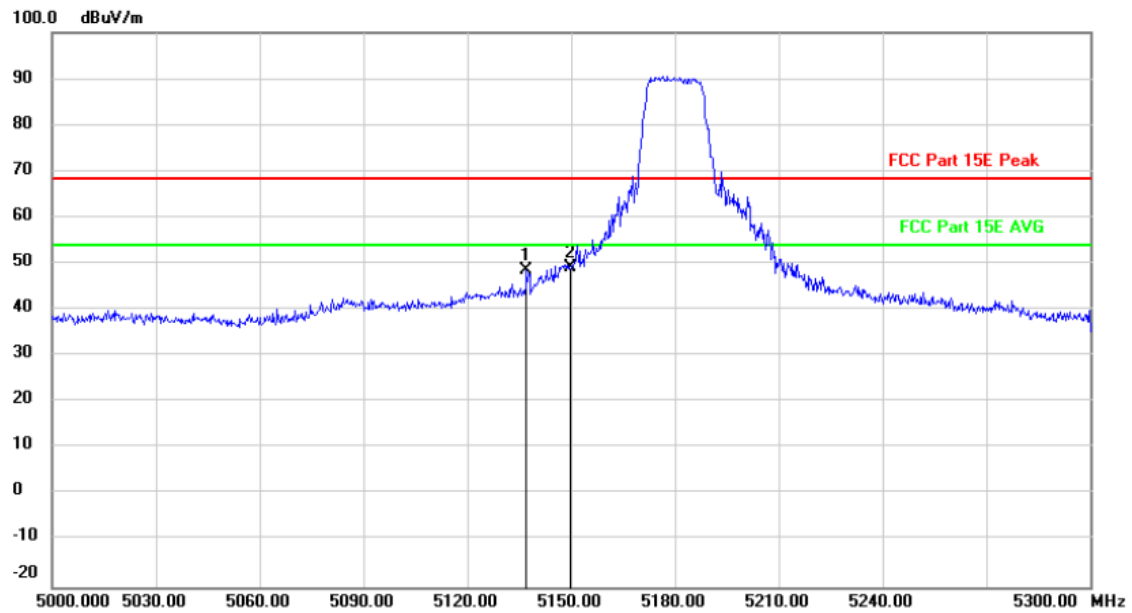
$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2,$$

For example, if EIRP = -27dBm

$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

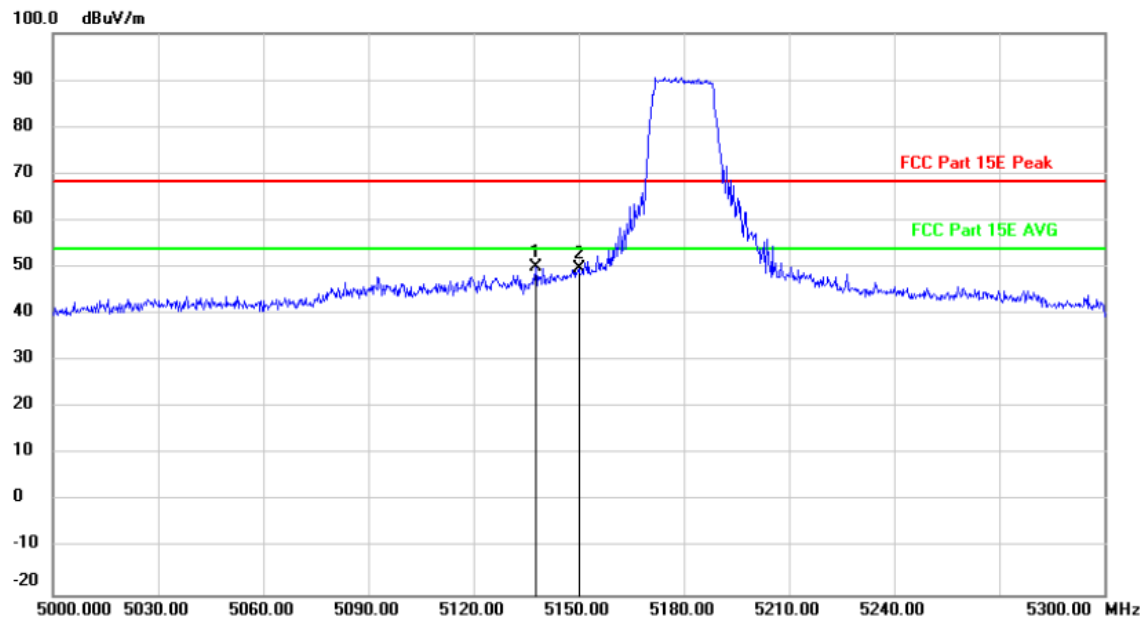
Measurement Data:**Band1&Band2**

A-L Vertical



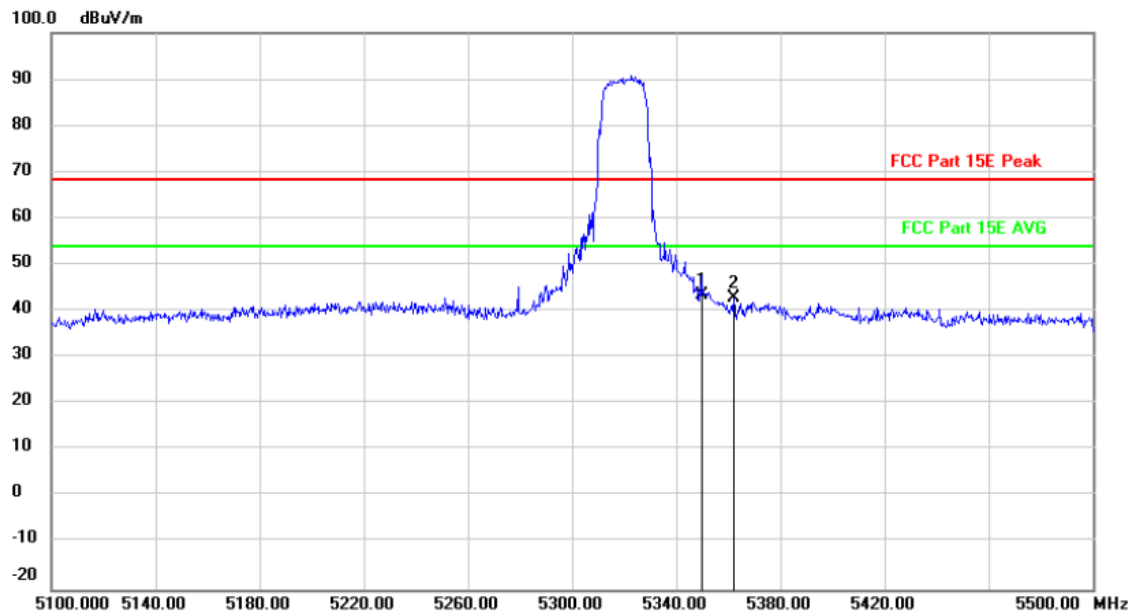
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		5137.330	61.86	-13.30	48.56	68.20	-19.64	peak		
2	*	5150.000	62.41	-13.30	49.11	68.20	-19.09	peak		

A-L Horizontal



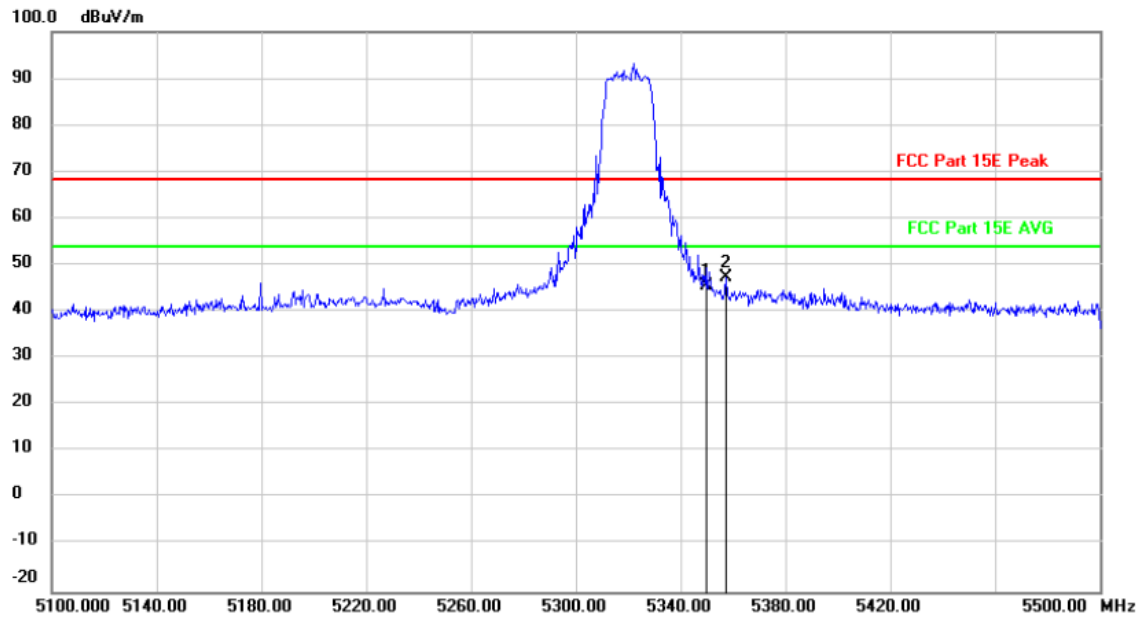
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV		dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	5137.890	63.35	-13.30	50.05	68.20	-18.15	peak		
2		5150.000	62.93	-13.30	49.63	68.20	-18.57	peak		

A-H Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5350.000	56.86	-13.36	43.50	68.20	-24.70	peak		
2		5362.147	56.09	-13.32	42.77	68.20	-25.43	peak		

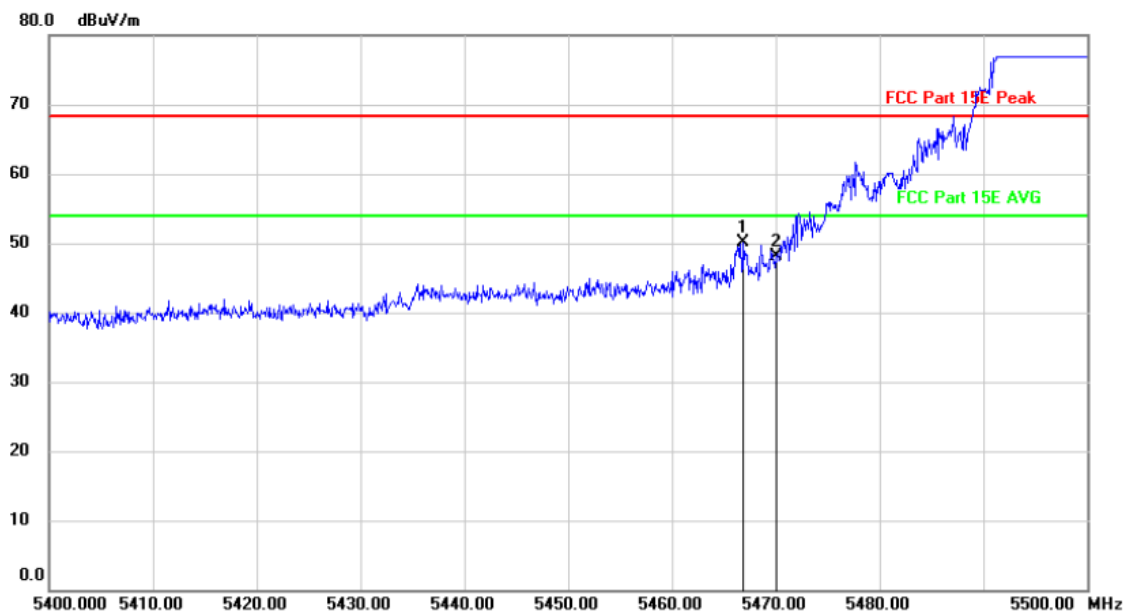
A-H Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		5350.000	58.77	-13.36	45.41	68.20	-22.79	peak		
2	*	5357.293	60.71	-13.34	47.37	68.20	-20.83	peak		

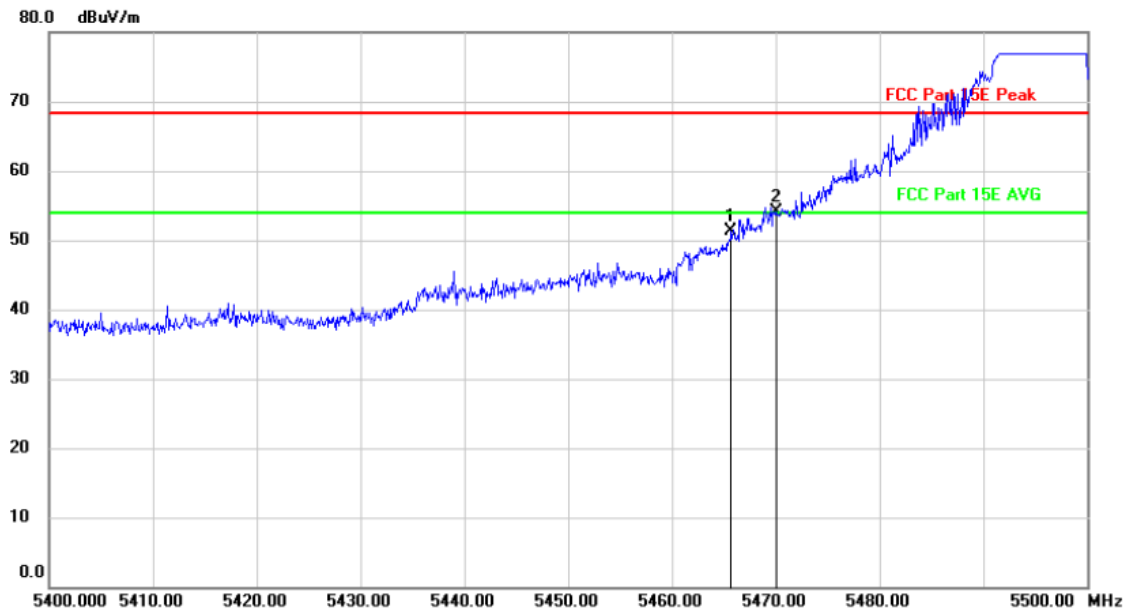
Band3

A-L Vertical



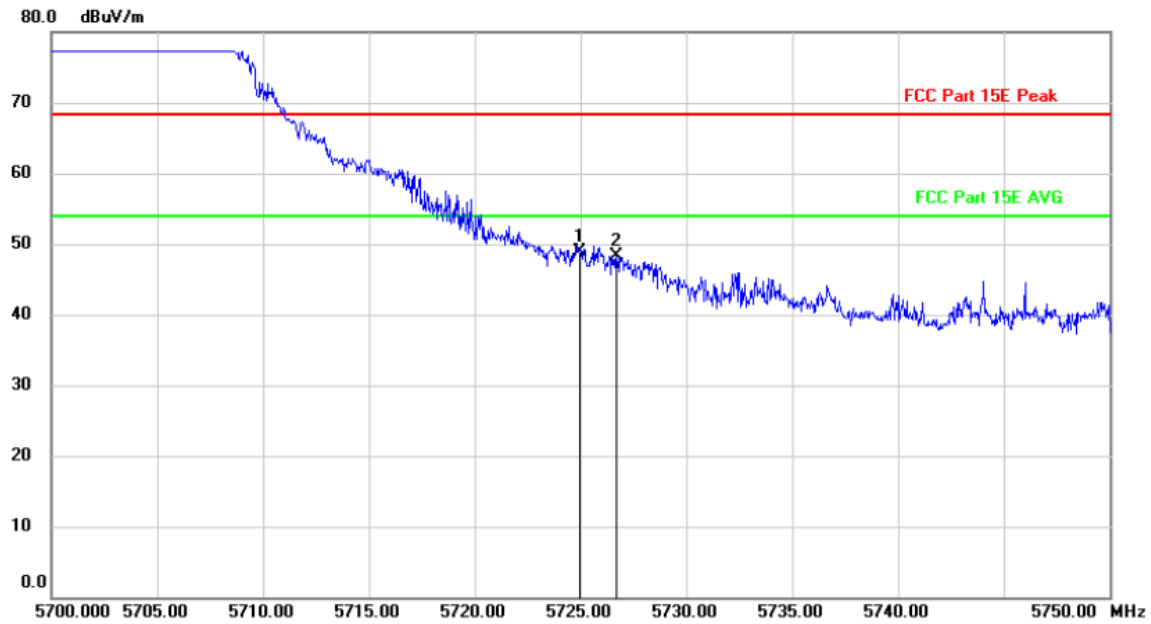
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5466.830	63.20	-13.07	50.13	68.20	-18.07	peak		
2		5470.000	61.15	-13.08	48.07	68.20	-20.13	peak		

A-L Horizontal



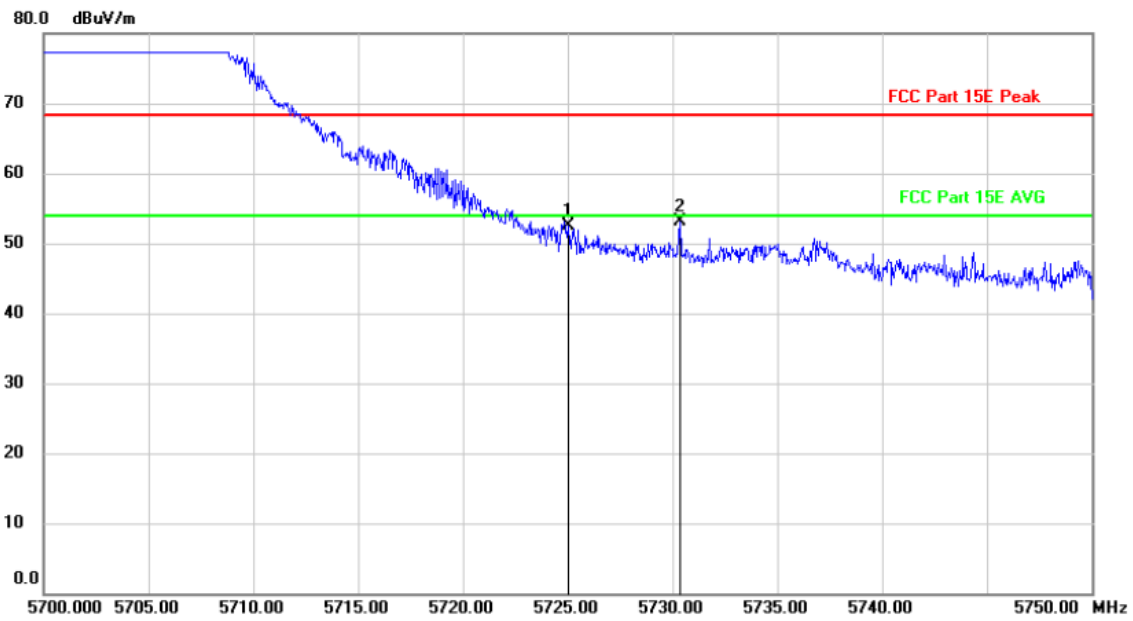
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		5465.723	64.47	-13.07	51.40	68.20	-16.80	peak		
2	*	5470.000	67.22	-13.08	54.14	68.20	-14.06	peak		

A-H Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	5725.000	61.45	-12.54	48.91	68.20	-19.29	peak		
2		5726.700	60.93	-12.55	48.38	68.20	-19.82	peak		

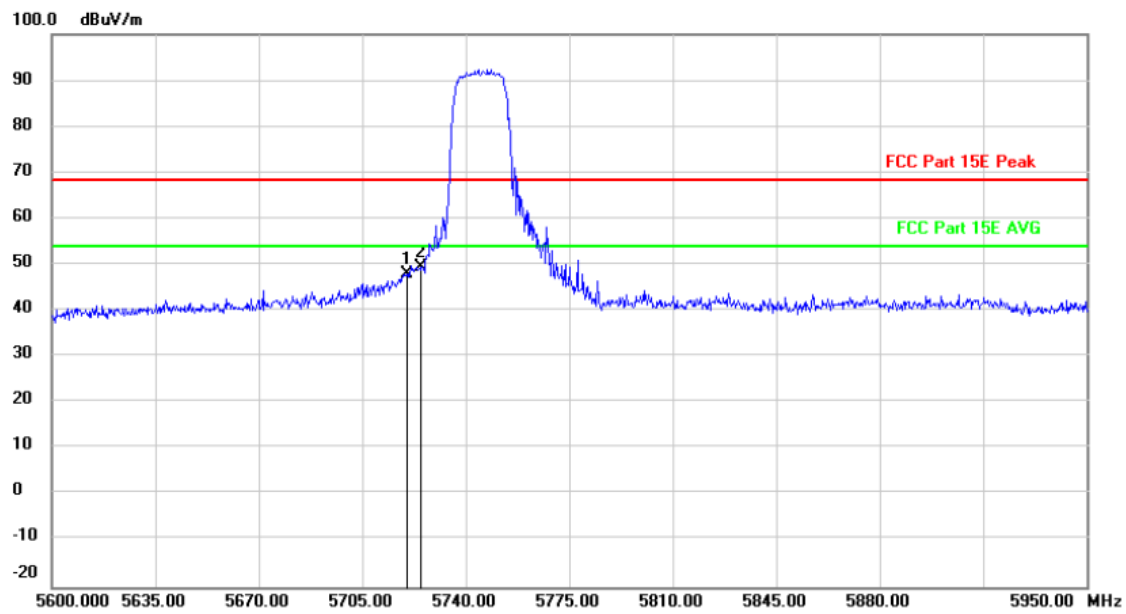
A-H Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		5725.000	65.07	-12.54	52.53	68.20	-15.67	peak		
2	*	5730.365	65.59	-12.53	53.06	68.20	-15.14	peak		

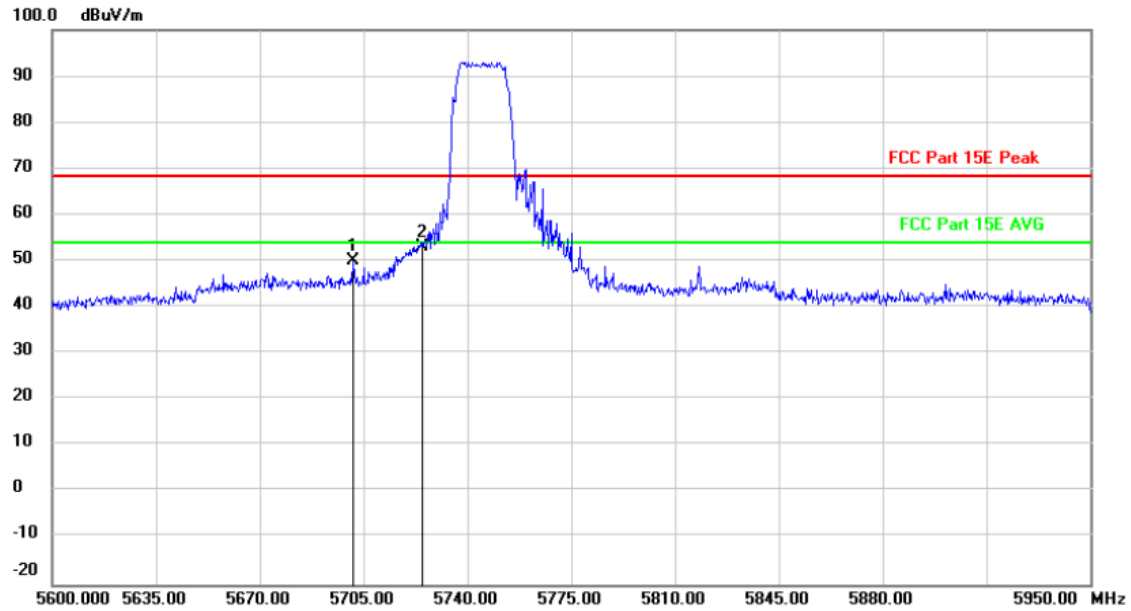
Band4

A-L Vertical



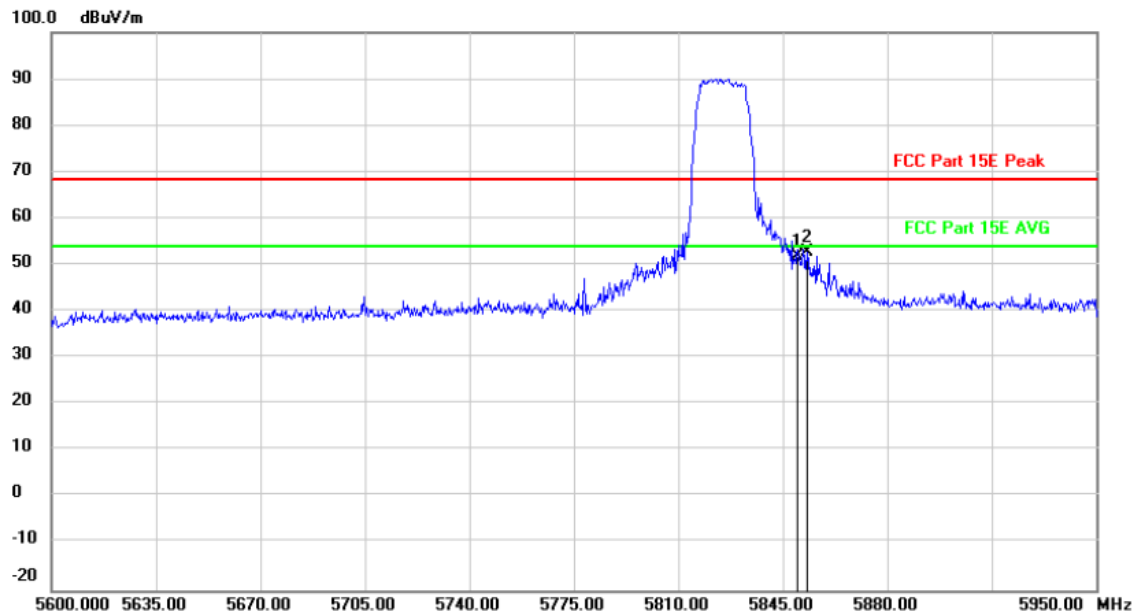
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		5720.365	60.61	-12.55	48.06	68.20	-20.14	peak		
2	*	5725.000	61.85	-12.54	49.31	68.20	-18.89	peak		

A-L Horizontal



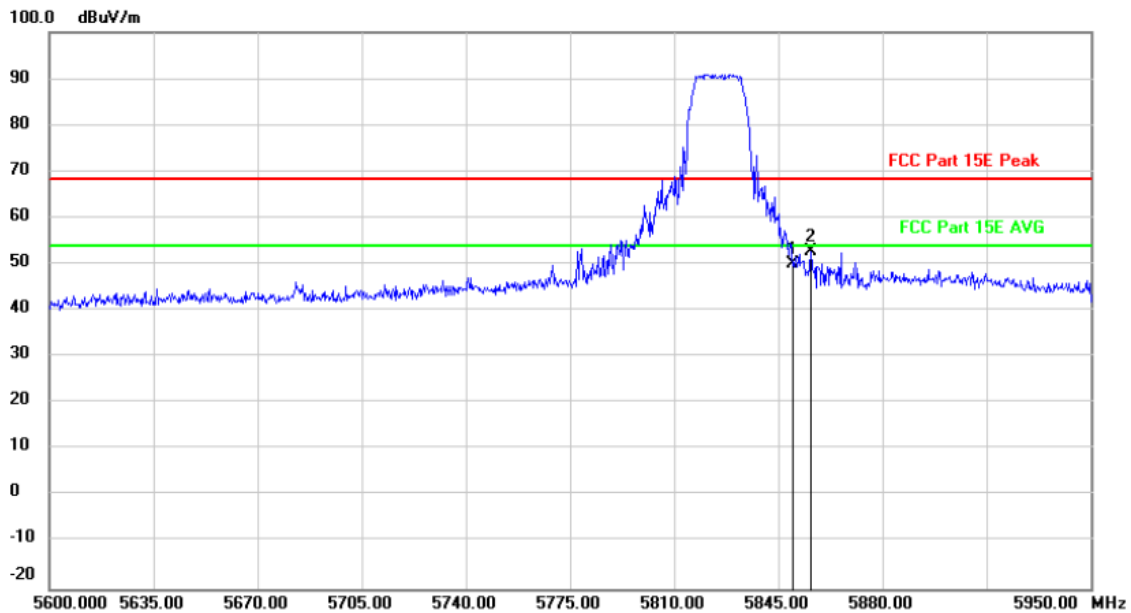
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		5701.570	62.73	-12.61	50.12	68.20	-18.08	peak		
2	*	5725.000	65.61	-12.54	53.07	68.20	-15.13	peak		

A-H Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		5850.000	64.07	-12.20	51.87	68.20	-16.33	peak		
2	*	5853.190	64.97	-12.19	52.78	68.20	-15.42	peak		

A-H Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		5850.000	62.29	-12.20	50.09	68.20	-18.11			peak
2	*	5856.095	65.03	-12.20	52.83	68.20	-15.37			peak

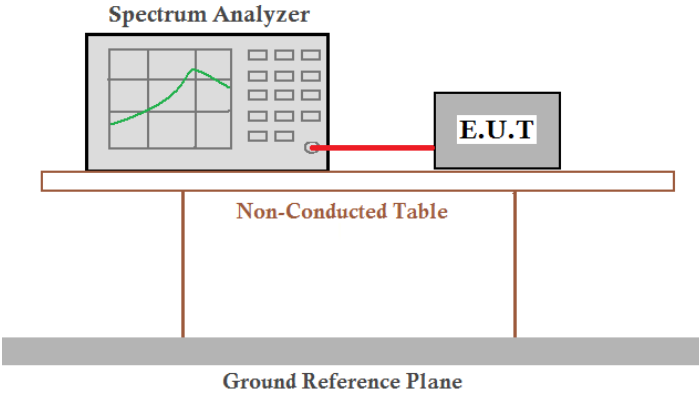
Note:

1.Pre-scan all mode, and found the IEEE 802.11a mode which it is worse case, so only show the test data for worse case.

2.Since the peak value is less than the limit of the AVG value, there is no AVG data.

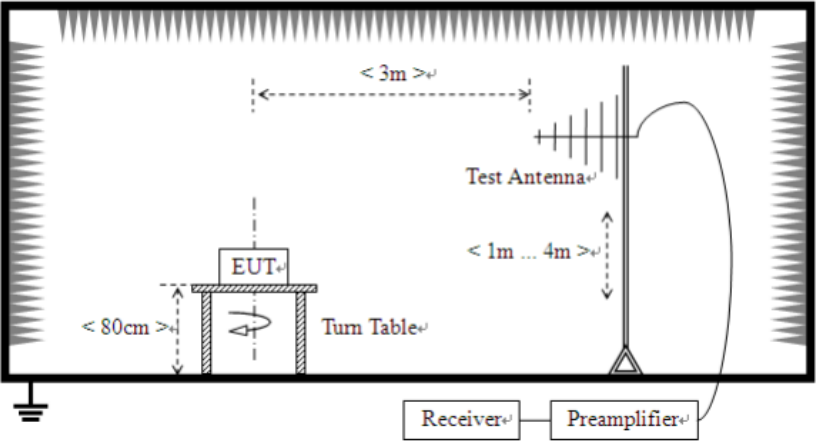
3. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss

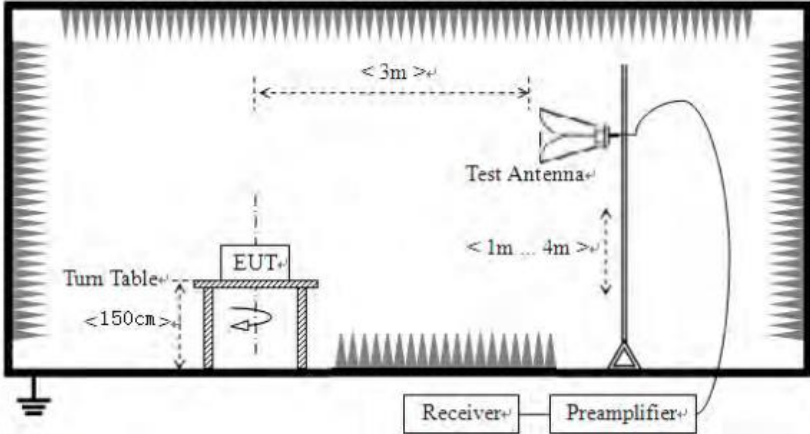
4.8 Conducted Band Edge

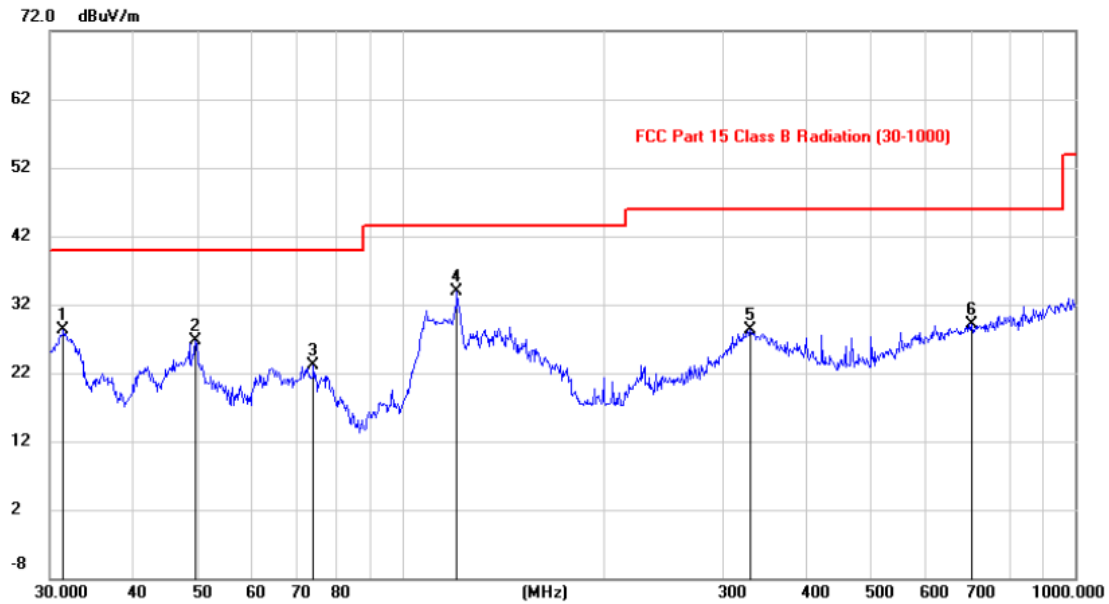
Test Requirement:	FCC Part15 E Section 15.407, RSS-247 Issue 3
Test Method:	ANSI C63.10-2020
Limit:	1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. 2. For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. 3. For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz. 4. For transmitters operating solely in the 5.725-5.850 GHz band: 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.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test procedure:	The procedure for peak unwanted emissions measurements above 1000 MHz is as follows: a) Peak emission levels are measured by setting the instrument as follows: 1) RBW = 1 MHz. 2) VBW $\geq [3 \times \text{RBW}]$. 3) Detector = peak. 4) Sweep time = auto. 5) Trace mode = max hold. 6) Allow sweeps to continue until the trace stabilizes.
Test results:	Please refer to Appendix of 5GWIFI B1/B2/B3/B4 data

4.9 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10-2020				
Test Frequency Range:	30MHz to 40GHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	960MHz-1GHz		54.0		Quasi-peak Value
	Above 1GHz		74.0		Peak Value
			54.0		Average Value
Test Procedure:	Substitution method was performed to determine the actual ERP emission levels of the EUT. The following test procedure as below: 1>.Below 1GHz test procedure: 1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 2>.Above 1GHz test procedure: 1. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.				

	4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ where: Pg is the generator output power into the substitution antenna.
Test setup:	Below 1GHz  Above 1GHz

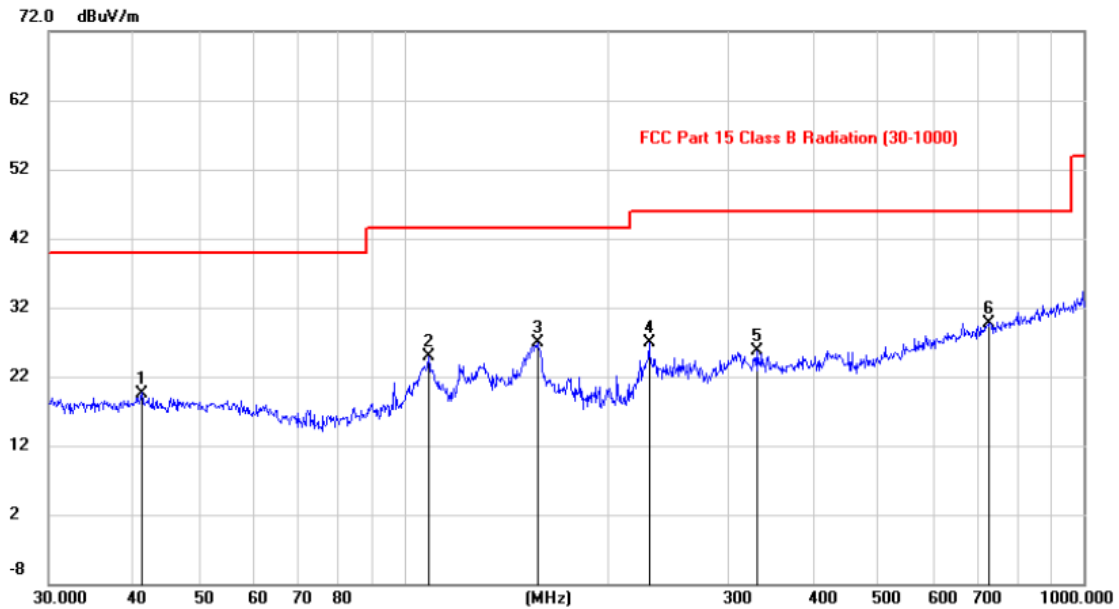
	
Test results:	Pass

Vertical:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree degree	Comment
1		31.4249	15.10	13.11	28.21	40.00	-11.79	peak		
2		49.4690	13.19	13.54	26.73	40.00	-13.27	peak		
3		73.8756	12.84	10.21	23.05	40.00	-16.95	peak		
4	*	121.0381	21.35	12.60	33.95	43.50	-9.55	peak		
5		329.4623	13.41	14.99	28.40	46.00	-17.60	peak		
6		701.7607	6.58	22.50	29.08	46.00	-16.92	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Horizontal:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		41.2331	5.69	13.91	19.60	40.00	-20.40	peak		
2		108.9140	13.67	11.20	24.87	43.50	-18.63	peak		
3		157.3931	12.21	14.70	26.91	43.50	-16.59	peak		
4		229.9370	14.84	12.10	26.94	46.00	-19.06	peak		
5		330.3491	10.76	15.00	25.76	46.00	-20.24	peak		
6	*	729.0172	6.91	22.88	29.79	46.00	-16.21	peak		

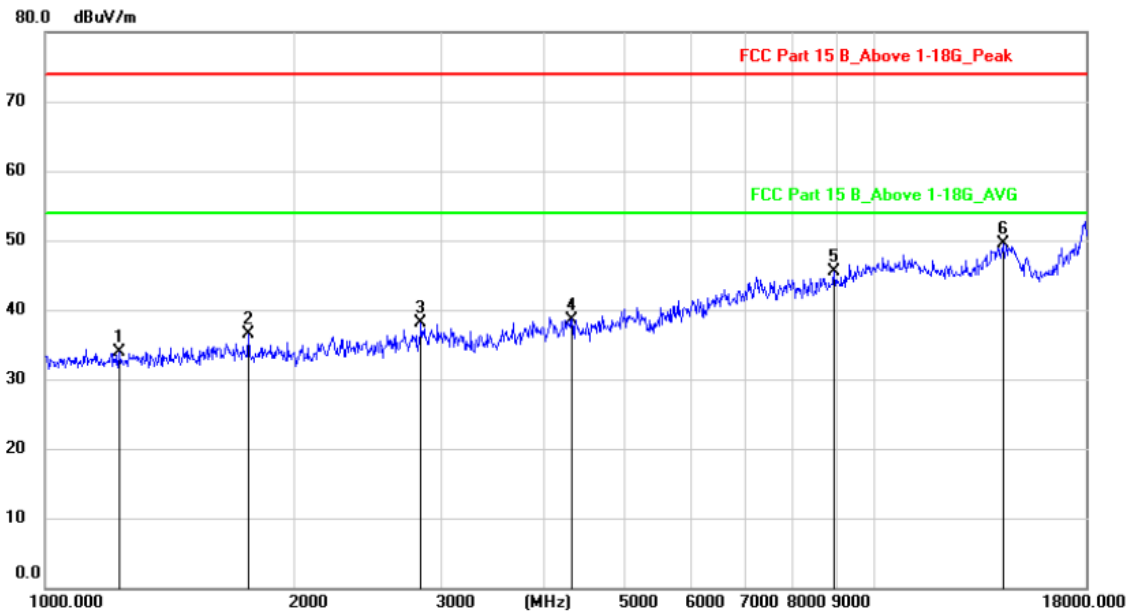
Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes have been tested, and only worst data of 802.11a mode, Channel 5180MHz was listed in this report.

Above 1GHz:

U-NII-1
802.11a 5180MHz-Vertical

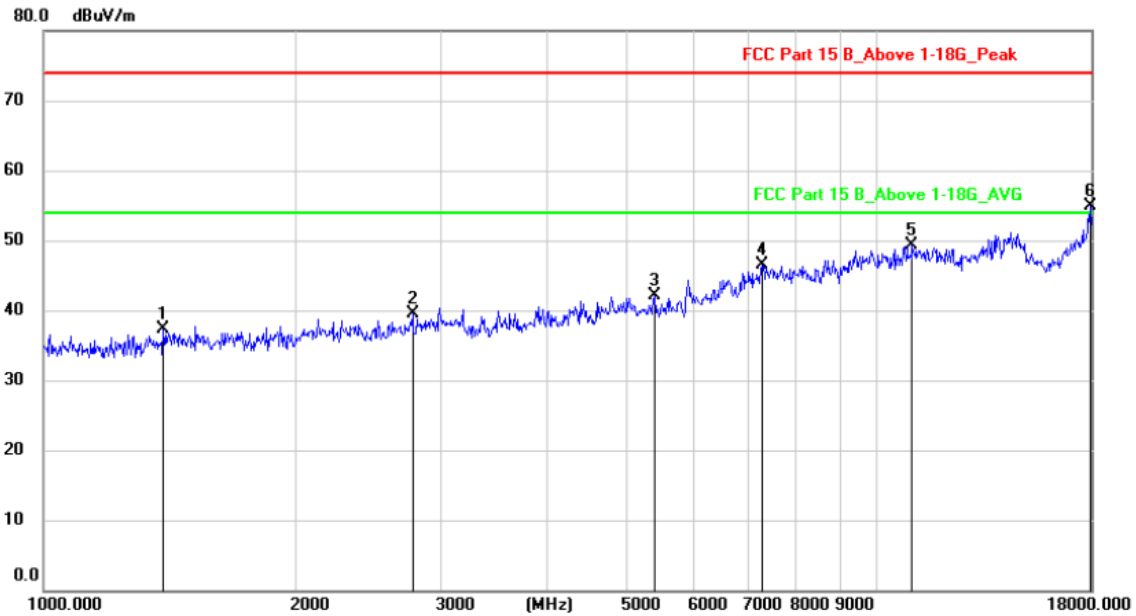


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1230.633	53.54	-19.59	33.95	74.00	-40.05	peak		
2		1760.415	57.28	-20.76	36.52	74.00	-37.48	peak		
3		2845.768	55.88	-17.85	38.03	74.00	-35.97	peak		
4		4316.859	53.85	-15.25	38.60	74.00	-35.40	peak		
5		8948.446	53.47	-7.91	45.56	74.00	-28.44	peak		
6	*	14359.92	51.64	-2.11	49.53	74.00	-24.47	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5180MHz-Horizontal

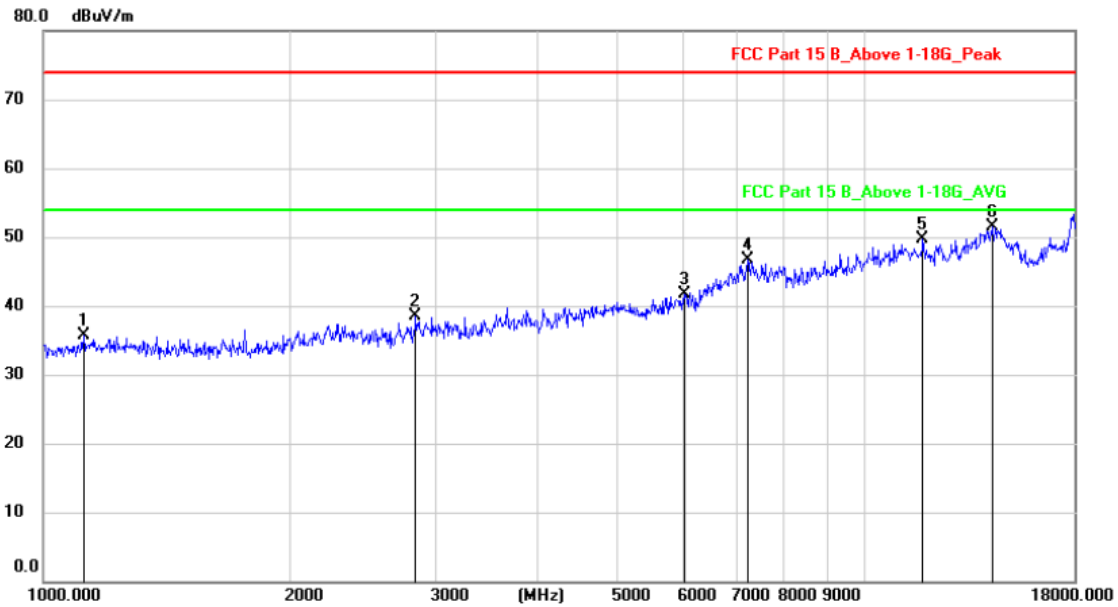


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1390.946	56.88	-19.66	37.22	74.00	-36.78	peak		
2		2770.825	57.47	-18.02	39.45	74.00	-34.55	peak		
3		5401.759	55.22	-13.21	42.01	74.00	-31.99	peak		
4		7279.828	54.61	-8.14	46.47	74.00	-27.53	peak		
5		10993.17	54.30	-4.90	49.40	74.00	-24.60	peak		
6	*	17991.33	51.83	3.05	54.88	74.00	-19.12	peak		

Note: 1. *:Maximum data; x:Over limit; l:over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5200MHz-Vertical

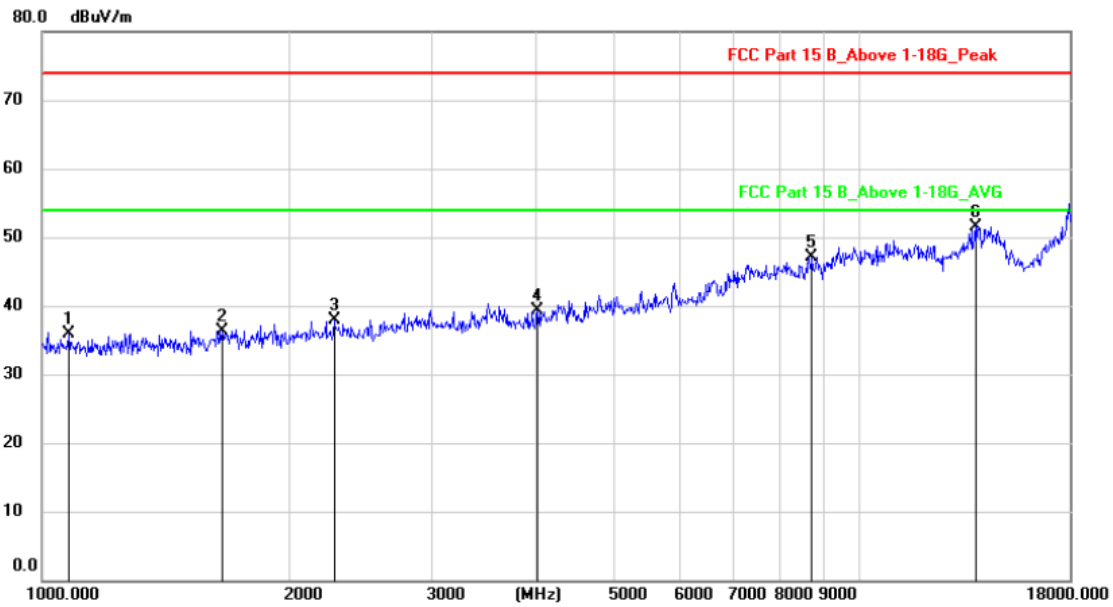


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1119.755	55.64	-19.89	35.75	74.00	-38.25	peak		
2		2845.768	56.38	-17.85	38.53	74.00	-35.47	peak		
3		6045.733	53.59	-11.88	41.71	74.00	-32.29	peak		
4		7220.455	54.90	-8.15	46.75	74.00	-27.25	peak		
5		11790.77	54.73	-5.09	49.64	74.00	-24.36	peak		
6	*	14359.92	53.64	-2.11	51.53	74.00	-22.47	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5200MHz- Horizontal

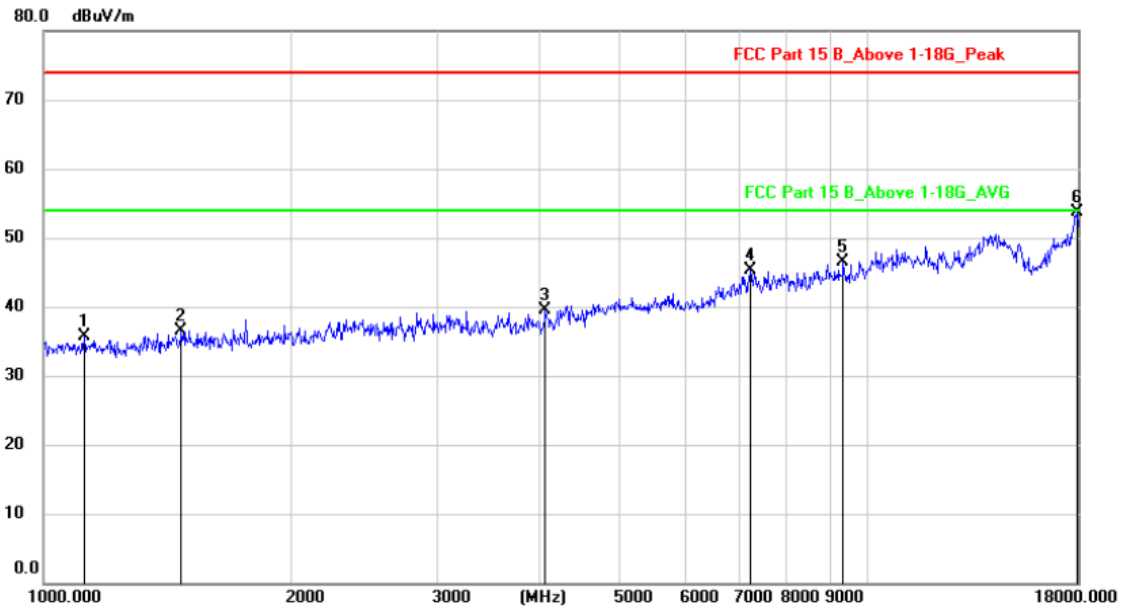


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1078.877	55.74	-19.92	35.82	74.00	-38.18			peak
2		1659.295	57.04	-20.74	36.30	74.00	-37.70			peak
3		2275.972	56.46	-18.52	37.94	74.00	-36.06			peak
4		4028.718	55.26	-15.88	39.38	74.00	-34.62			peak
5		8726.232	55.12	-7.98	47.14	74.00	-26.86			peak
6	*	13807.72	54.76	-3.16	51.60	74.00	-22.40			peak

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5240MHz-Vertical

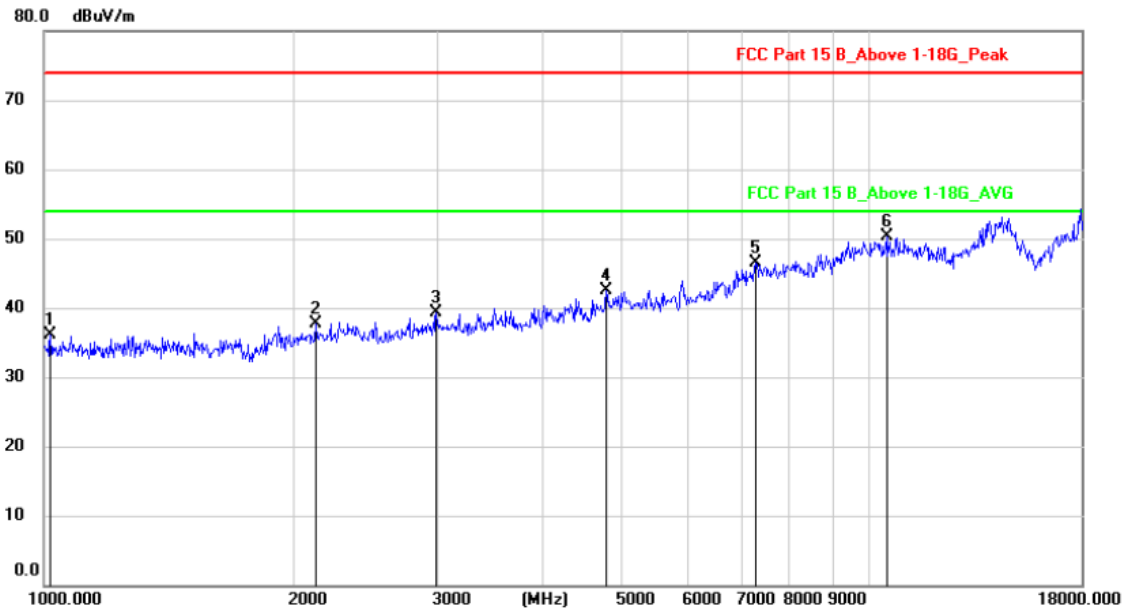


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1119.755	55.64	-19.89	35.75	74.00	-38.25	peak		
2		1471.027	56.58	-20.01	36.57	74.00	-37.43	peak		
3		4064.586	55.26	-15.84	39.42	74.00	-34.58	peak		
4		7220.455	53.40	-8.15	45.25	74.00	-28.75	peak		
5		9339.543	53.61	-7.09	46.52	74.00	-27.48	peak		
6	*	17980.93	50.76	3.00	53.76	74.00	-20.24	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5240MHz-Horizontal

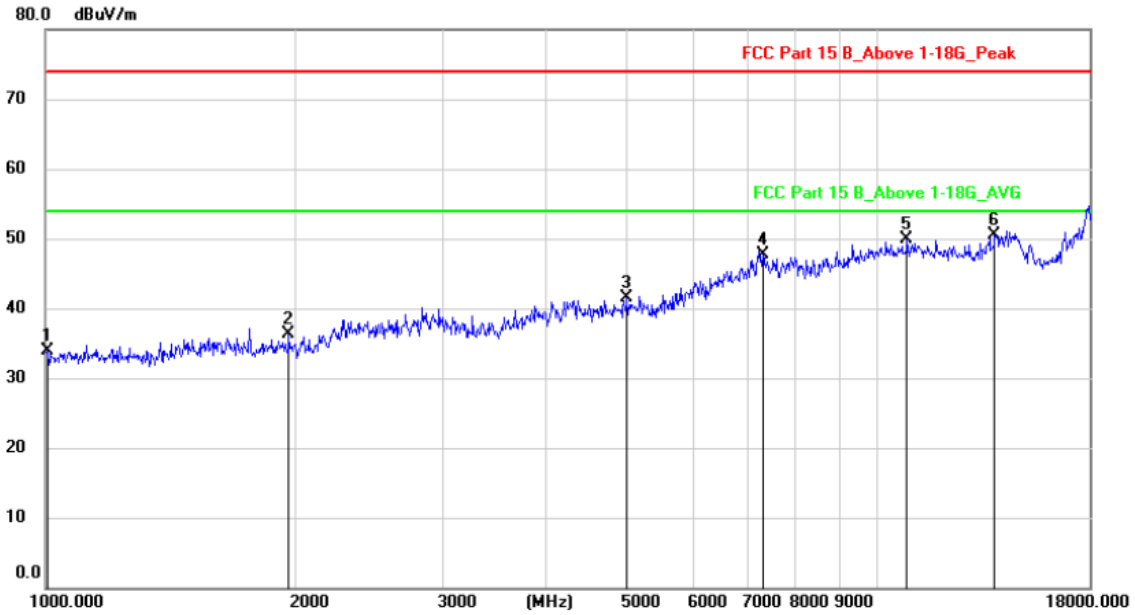


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1019.161	55.80	-19.73	36.07	74.00	-37.93	peak		
2		2133.079	56.87	-19.20	37.67	74.00	-36.33	peak		
3		2990.531	57.05	-17.71	39.34	74.00	-34.66	peak		
4		4794.862	56.45	-13.99	42.46	74.00	-31.54	peak		
5		7279.828	54.61	-8.14	46.47	74.00	-27.53	peak		
6	*	10474.13	56.02	-5.73	50.29	74.00	-23.71	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

U-NII-2A
802.11a 5260MHz-Vertical

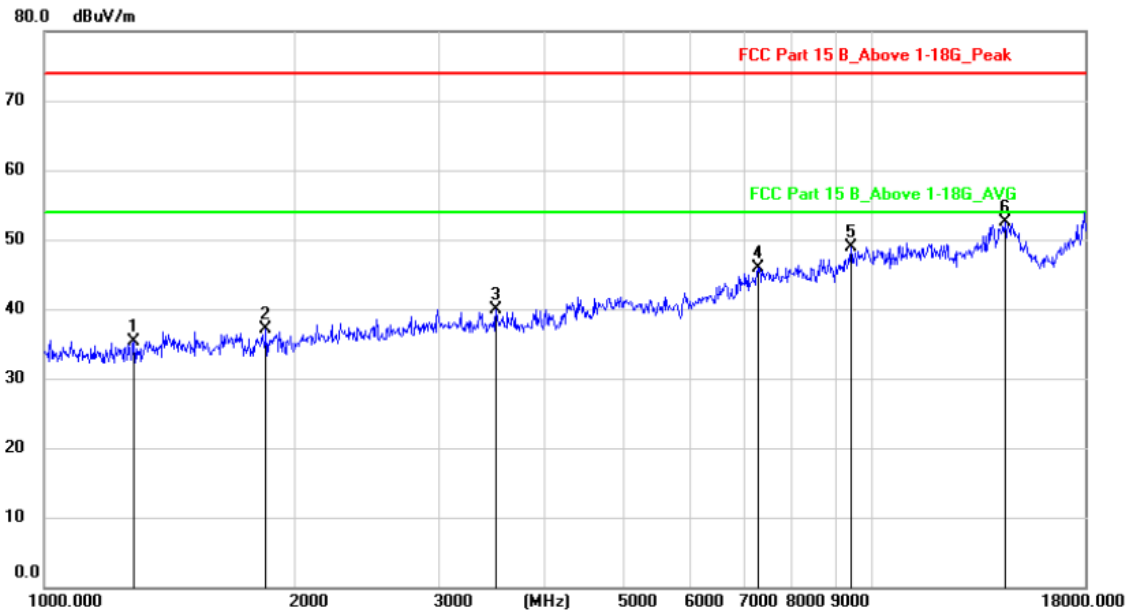


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1006.379	53.53	-19.65	33.88	74.00	-40.12	peak		
2		1965.922	56.60	-20.36	36.24	74.00	-37.76	peak		
3		5016.493	55.00	-13.49	41.51	74.00	-32.49	peak		
4		7293.870	55.89	-8.12	47.77	74.00	-26.23	peak		
5		10870.99	54.79	-4.98	49.81	74.00	-24.19	peak		
6	*	13842.35	53.64	-3.10	50.54	74.00	-23.46	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5260MHz-Horizontal

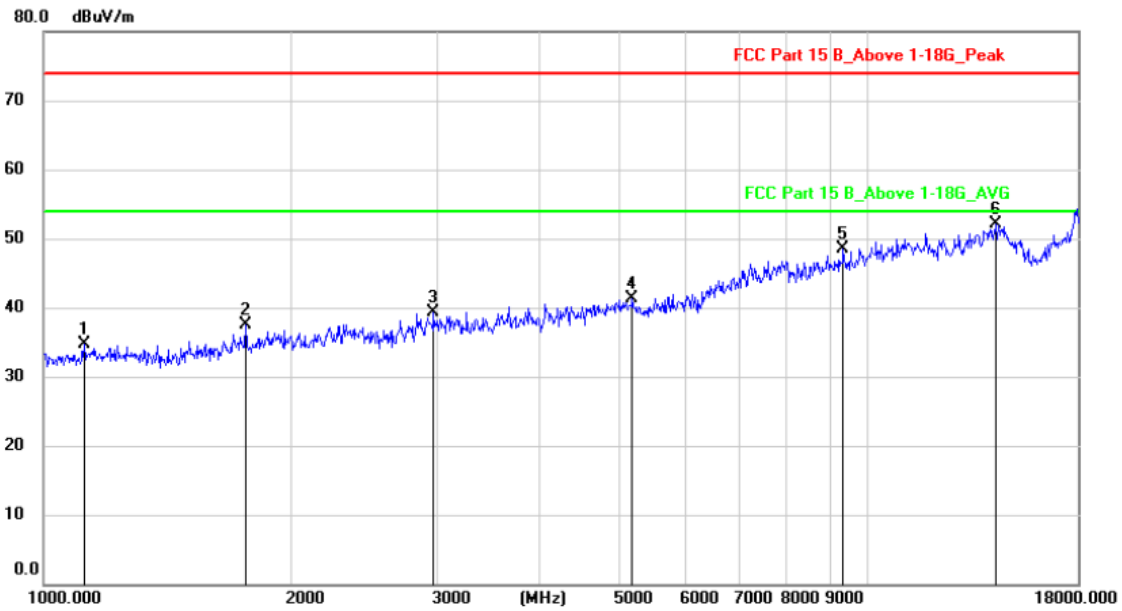


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1284.914	54.78	-19.48	35.30	74.00	-38.70	peak		
2		1851.393	57.73	-20.66	37.07	74.00	-36.93	peak		
3		3514.264	56.85	-17.04	39.81	74.00	-34.19	peak		
4		7279.828	54.11	-8.14	45.97	74.00	-28.03	peak		
5		9419.972	56.10	-7.11	48.99	74.00	-25.01	peak		
6	*	14427.87	54.61	-2.09	52.52	74.00	-21.48	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5280MHz-Vertical

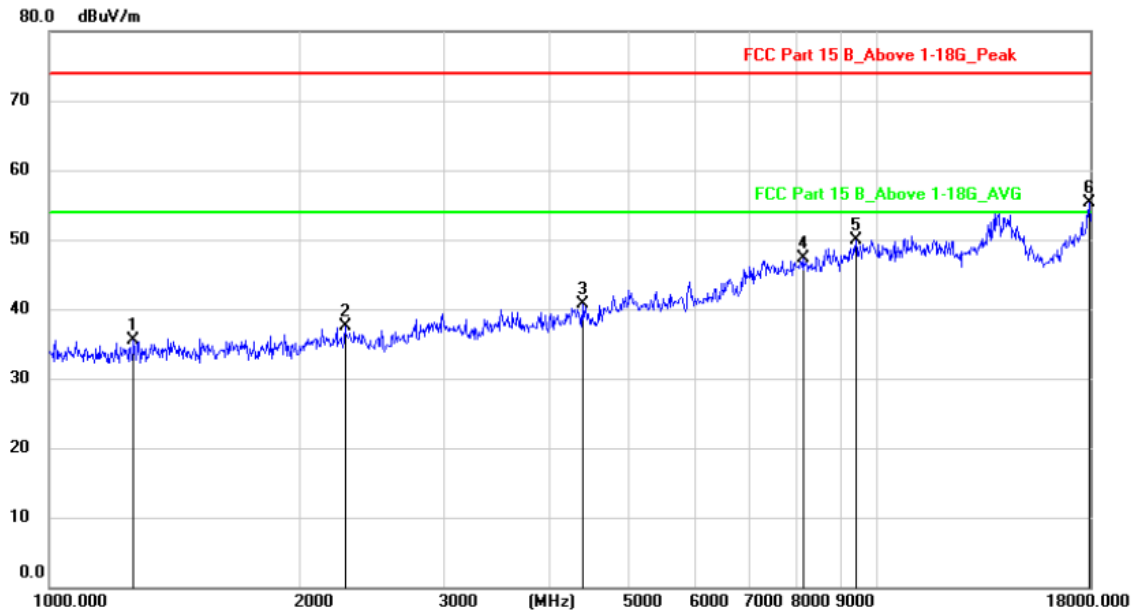


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1119.755	54.64	-19.89	34.75	74.00	-39.25	peak		
2		1760.415	58.28	-20.76	37.52	74.00	-36.48	peak		
3		2975.299	57.05	-17.70	39.35	74.00	-34.65	peak		
4		5182.543	54.63	-13.35	41.28	74.00	-32.72	peak		
5		9339.543	55.61	-7.09	48.52	74.00	-25.48	peak		
6	*	14359.92	54.14	-2.11	52.03	74.00	-21.97	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5280MHz- Horizontal

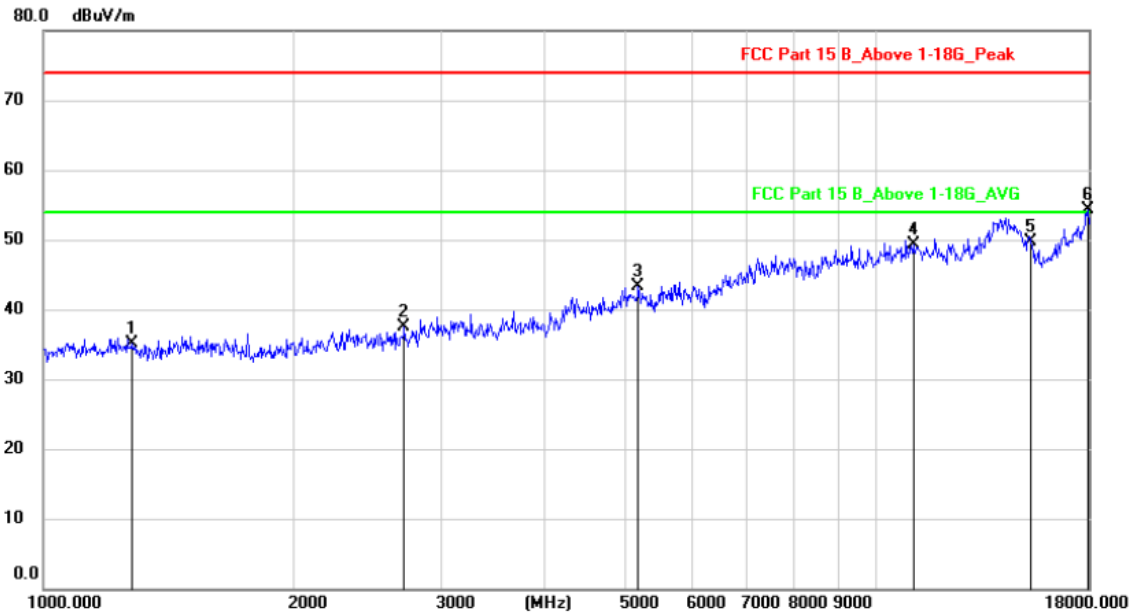


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1265.380	54.95	-19.53	35.42	74.00	-38.58	peak		
2		2275.972	55.96	-18.52	37.44	74.00	-36.56	peak		
3		4397.881	55.83	-15.04	40.79	74.00	-33.21	peak		
4		8106.199	55.21	-7.98	47.23	74.00	-26.77	peak		
5		9419.972	57.10	-7.11	49.99	74.00	-24.01	peak		
6	*	17991.33	52.33	3.05	55.38	74.00	-18.62	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5320MHz-Vertical

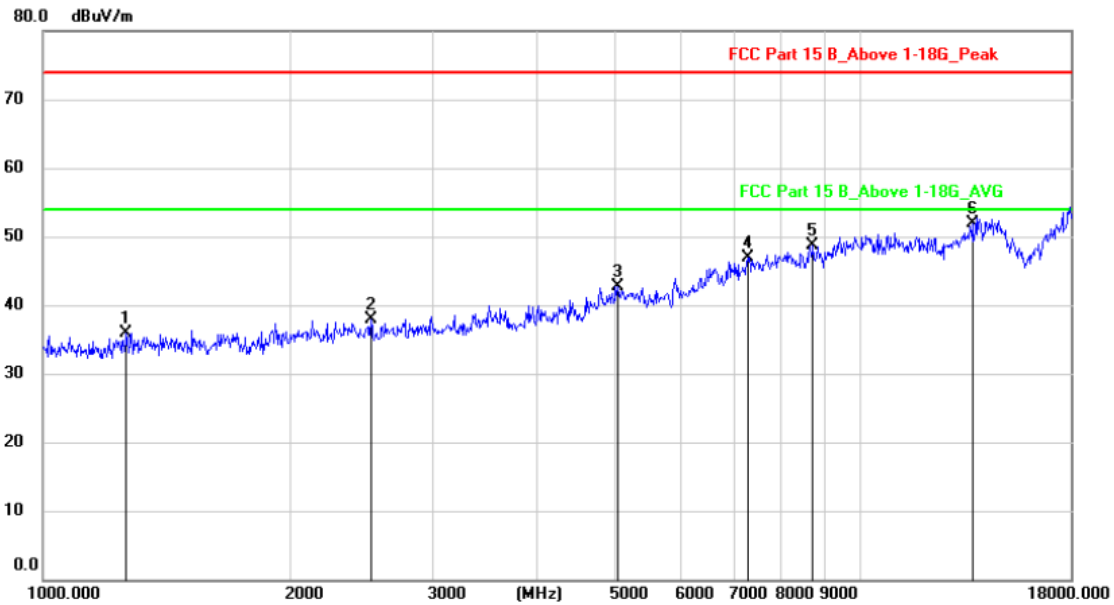


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1276.646	54.54	-19.50	35.04	74.00	-38.96	peak		
2		2716.374	55.73	-18.15	37.58	74.00	-36.42	peak		
3		5182.543	56.63	-13.35	43.28	74.00	-30.72	peak		
4		11102.80	54.22	-4.83	49.39	74.00	-24.61	peak		
5		15376.59	55.20	-5.43	49.77	74.00	-24.23	peak		
6	*	17980.93	51.26	3.00	54.26	74.00	-19.74	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5320MHz-Horizontal

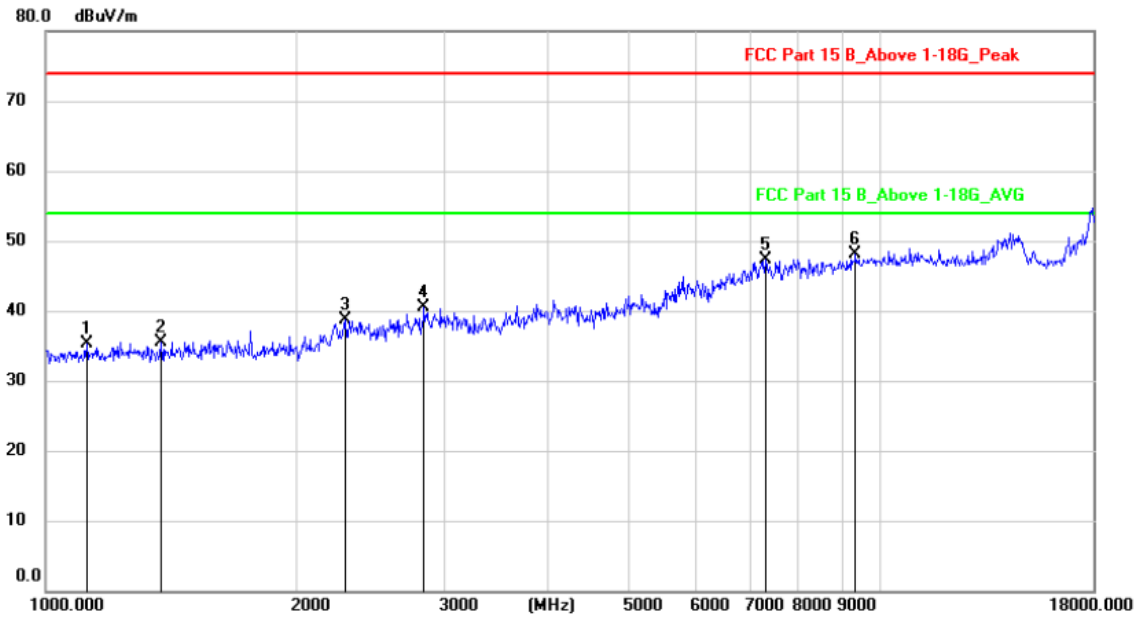


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table
		MHz	Level	Factor	ment			Height	Degree
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree
1		1265.380	55.45	-19.53	35.92	74.00	-38.08	peak	
2		2515.840	56.61	-18.71	37.90	74.00	-36.10	peak	
3		5038.289	56.18	-13.47	42.71	74.00	-31.29	peak	
4		7279.828	55.11	-8.14	46.97	74.00	-27.03	peak	
5		8726.232	56.62	-7.98	48.64	74.00	-25.36	peak	
6	*	13666.11	55.39	-3.43	51.96	74.00	-22.04	peak	

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

U-NII-2C
802.11a 5500MHz-Vertical

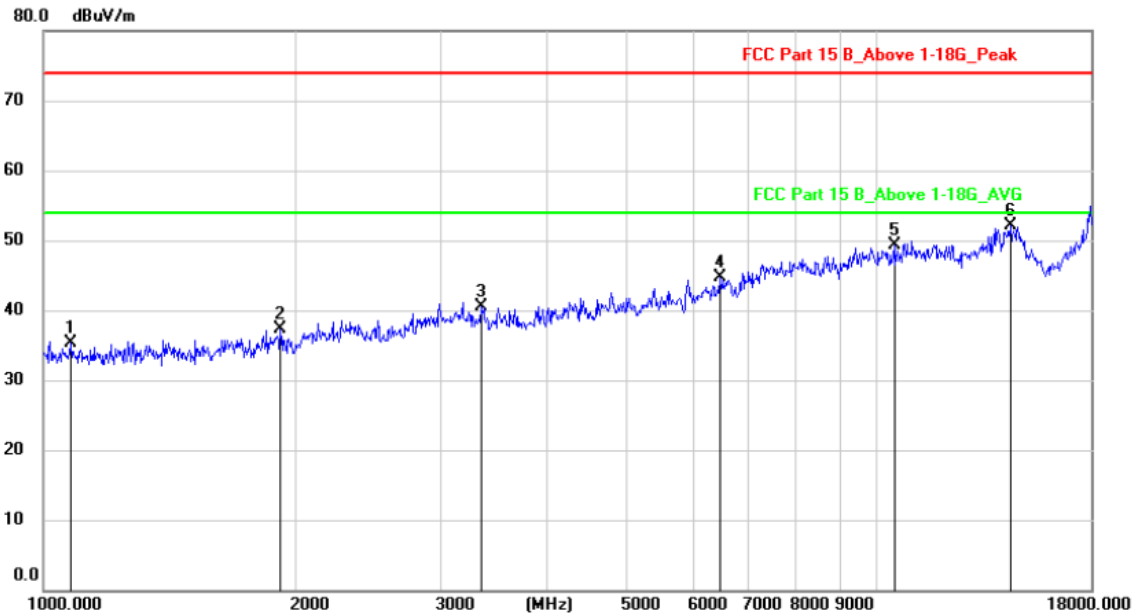


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1119.755	55.14	-19.89	35.25	74.00	-38.75	peak		
2		1375.354	55.20	-19.62	35.58	74.00	-38.42	peak		
3		2291.153	57.24	-18.51	38.73	74.00	-35.27	peak		
4		2845.768	58.38	-17.85	40.53	74.00	-33.47	peak		
5		7293.870	55.39	-8.12	47.27	74.00	-26.73	peak		
6	*	9339.543	55.11	-7.09	48.02	74.00	-25.98	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5500MHz-Horizontal

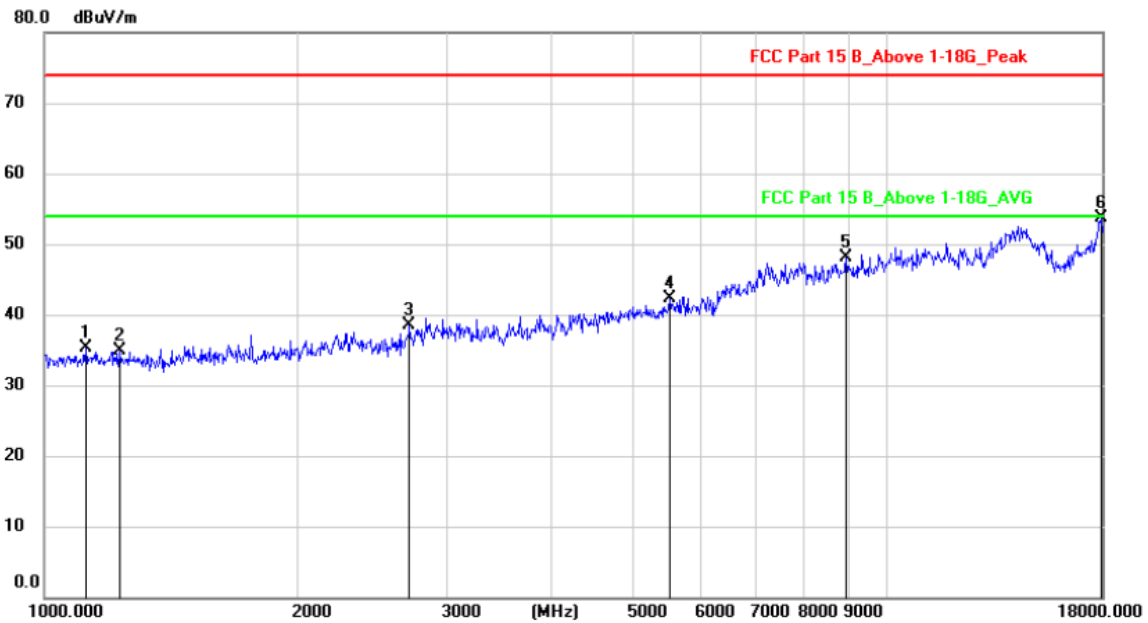


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1078.877	55.24	-19.92	35.32	74.00	-38.68			peak
2		1924.691	57.74	-20.48	37.26	74.00	-36.74			peak
3		3356.414	58.08	-17.55	40.53	74.00	-33.47			peak
4		6475.015	55.03	-10.35	44.68	74.00	-29.32			peak
5		10474.13	55.02	-5.73	49.29	74.00	-24.71			peak
6	*	14427.87	54.11	-2.09	52.02	74.00	-21.98			peak

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5580MHz-Vertical

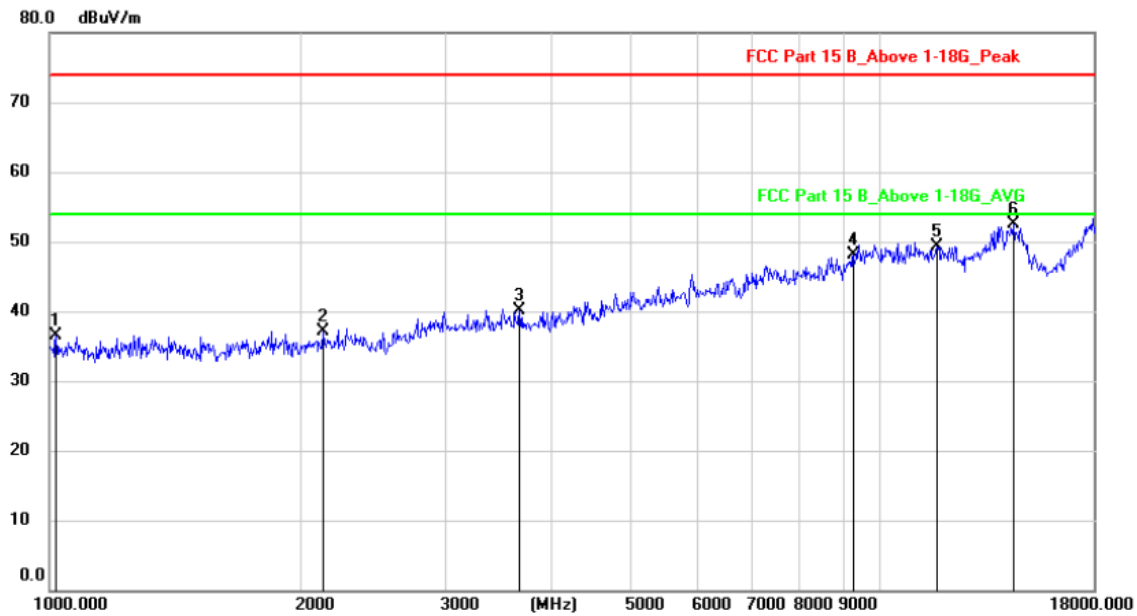


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1119.755	55.14	-19.89	35.25	74.00	-38.75	peak		
2		1230.633	54.54	-19.59	34.95	74.00	-39.05	peak		
3		2716.374	56.73	-18.15	38.58	74.00	-35.42	peak		
4		5522.263	55.29	-12.99	42.30	74.00	-31.70	peak		
5		8948.446	55.97	-7.91	48.06	74.00	-25.94	peak		
6	*	17980.93	50.76	3.00	53.76	74.00	-20.24	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5580MHz- Horizontal

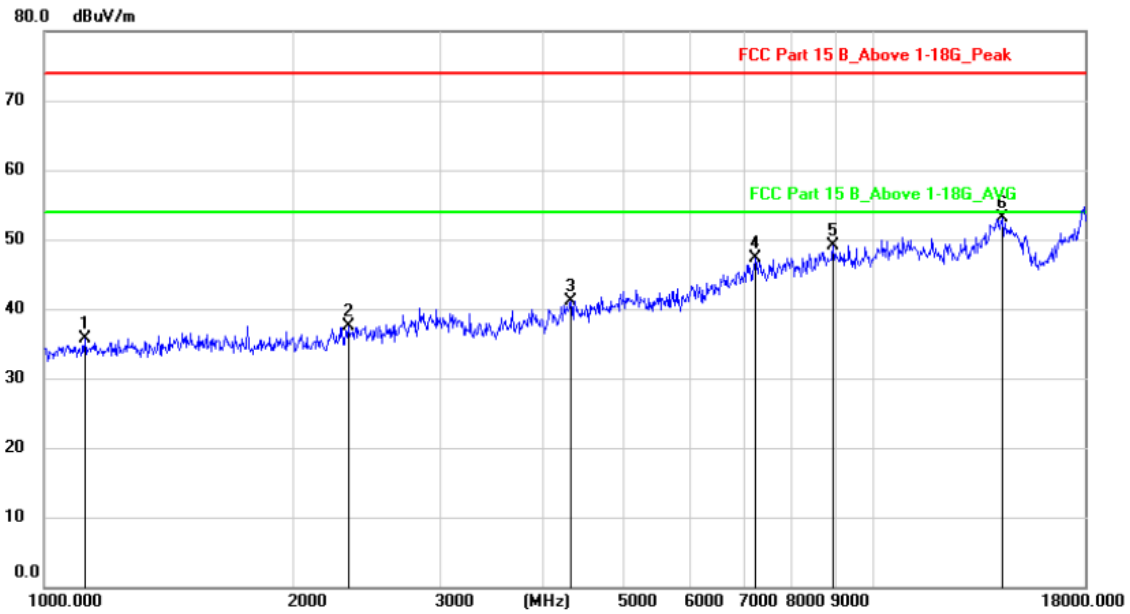


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1019.161	56.30	-19.73	36.57	74.00	-37.43	peak		
2		2133.079	56.37	-19.20	37.17	74.00	-36.83	peak		
3		3675.285	56.68	-16.67	40.01	74.00	-33.99	peak		
4		9283.026	55.35	-7.17	48.18	74.00	-25.82	peak		
5		11683.35	54.25	-4.86	49.39	74.00	-24.61	peak		
6	*	14427.87	54.61	-2.09	52.52	74.00	-21.48	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5700MHz-Vertical

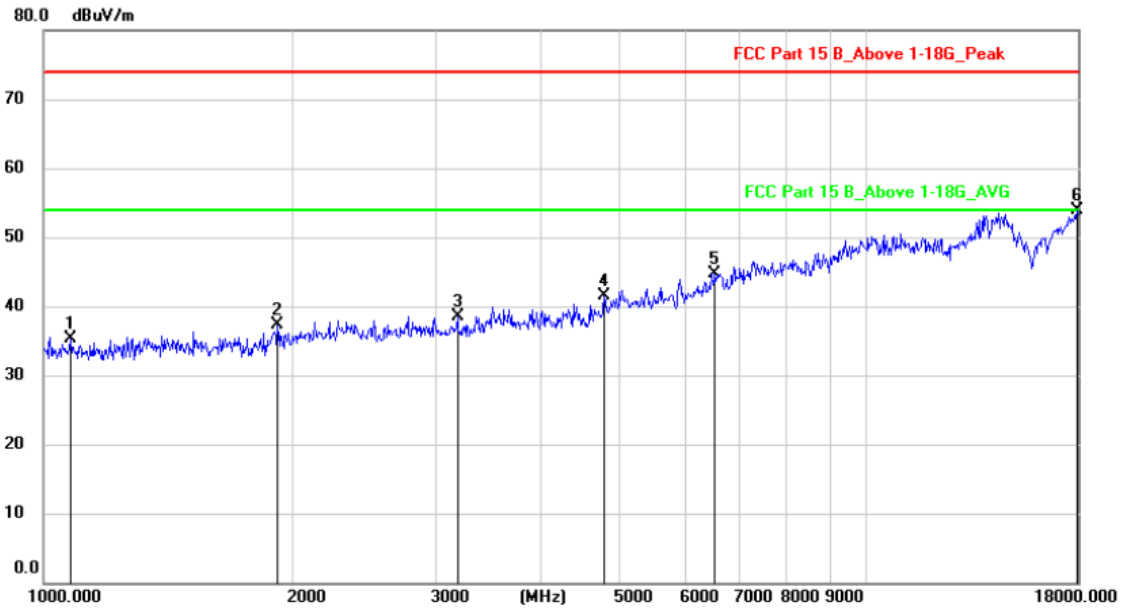


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1119.755	55.64	-19.89	35.75	74.00	-38.25	peak		
2		2328.090	56.14	-18.56	37.58	74.00	-36.42	peak		
3		4316.859	56.35	-15.25	41.10	74.00	-32.90	peak		
4		7220.455	55.40	-8.15	47.25	74.00	-26.75	peak		
5		8948.446	56.97	-7.91	49.06	74.00	-24.94	peak		
6	*	14359.92	55.14	-2.11	53.03	74.00	-20.97	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5700MHz-Horizontal

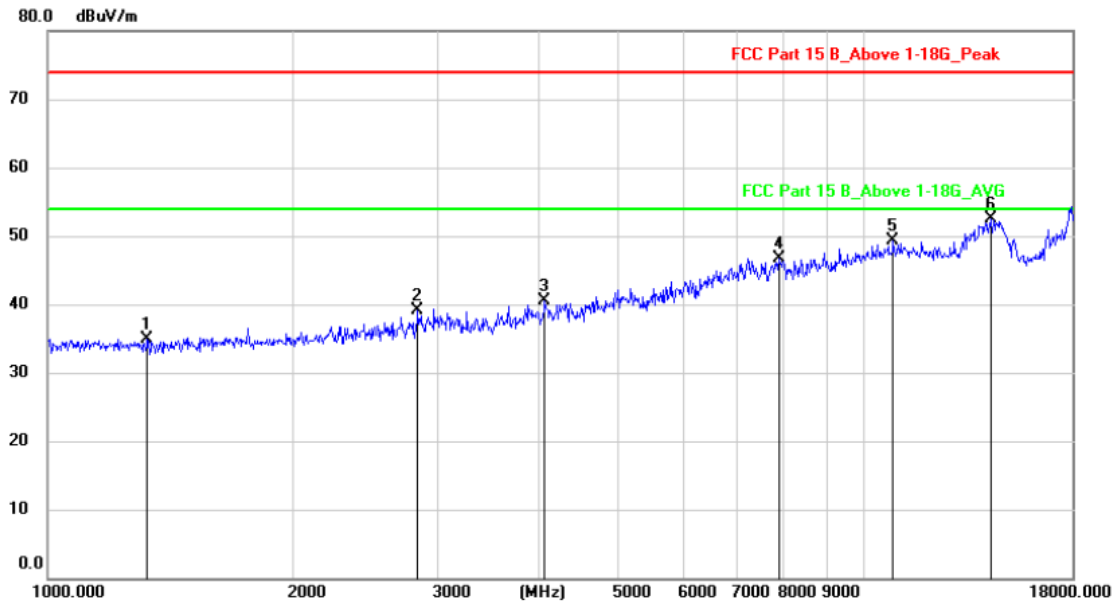


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1078.877	55.24	-19.92	35.32	74.00	-38.68	peak		
2		1924.691	57.74	-20.48	37.26	74.00	-36.74	peak		
3		3178.896	56.03	-17.48	38.55	74.00	-35.45	peak		
4		4794.862	55.45	-13.99	41.46	74.00	-32.54	peak		
5		6533.922	54.84	-10.10	44.74	74.00	-29.26	peak		
6	*	17991.33	50.83	3.05	53.88	74.00	-20.12	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

U-NII-3
802.11a 5745MHz-Vertical

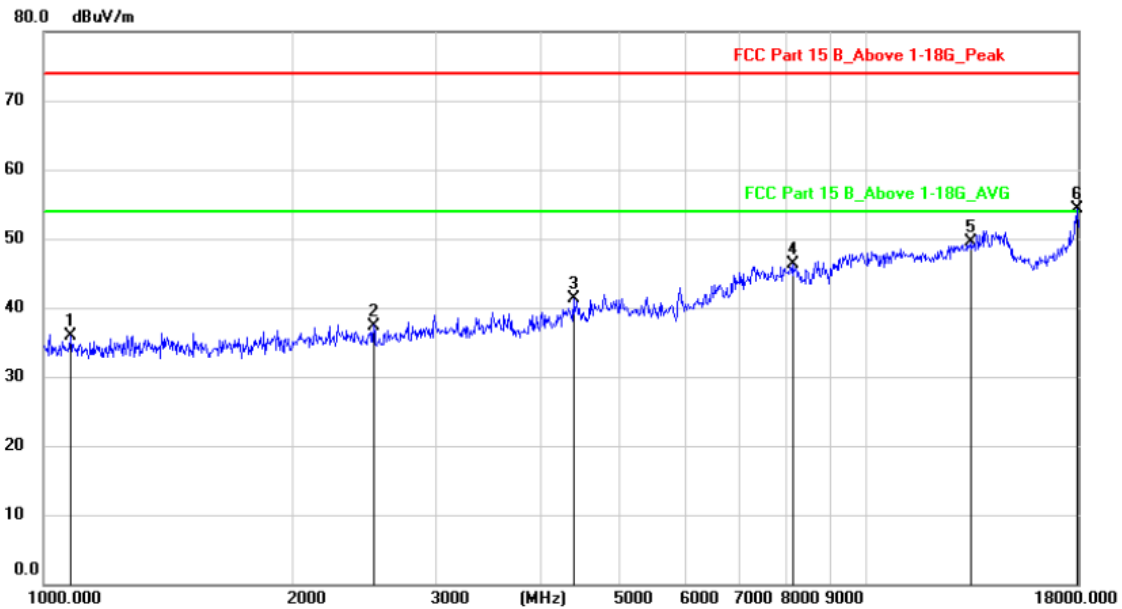


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree degree	Comment
1		1326.678	54.38	-19.51	34.87	74.00	-39.13	peak		
2		2845.768	56.88	-17.85	39.03	74.00	-34.97	peak		
3		4064.586	56.26	-15.84	40.42	74.00	-33.58	peak		
4		7885.884	54.75	-8.05	46.70	74.00	-27.30	peak		
5		10870.99	54.29	-4.98	49.31	74.00	-24.69	peak		
6	*	14359.92	54.64	-2.11	52.53	74.00	-21.47	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5745MHz-Horizontal

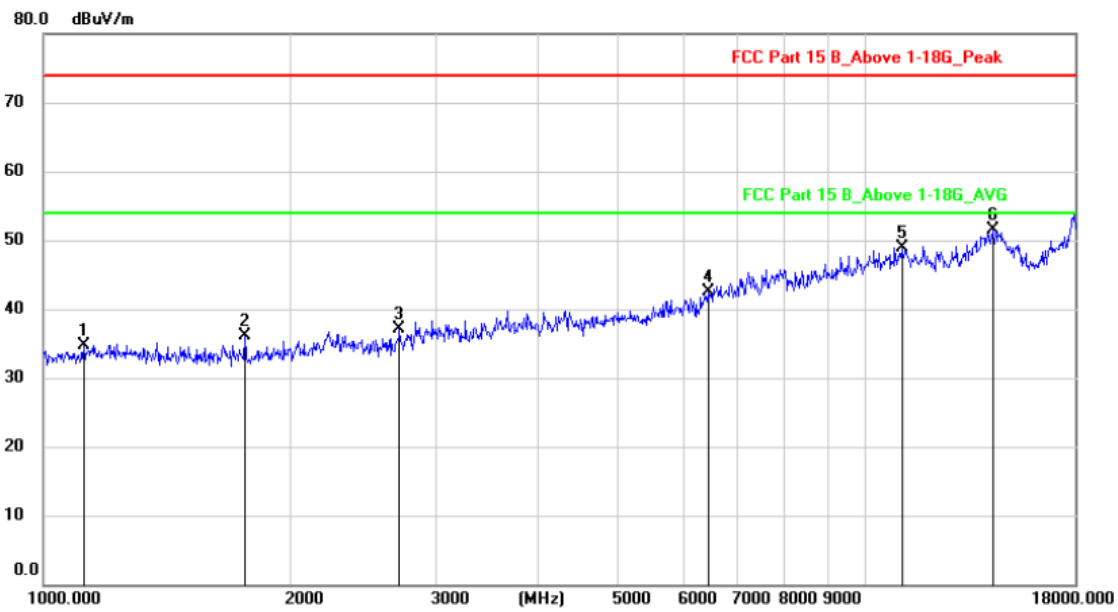


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1078.877	55.74	-19.92	35.82	74.00	-38.18	peak		
2		2515.840	56.11	-18.71	37.40	74.00	-36.60	peak		
3		4397.881	56.33	-15.04	41.29	74.00	-32.71	peak		
4		8106.199	54.21	-7.98	46.23	74.00	-27.77	peak		
5		13398.84	53.52	-3.94	49.58	74.00	-24.42	peak		
6	*	17991.33	51.33	3.05	54.38	74.00	-19.62	peak		

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5785MHz-Vertical

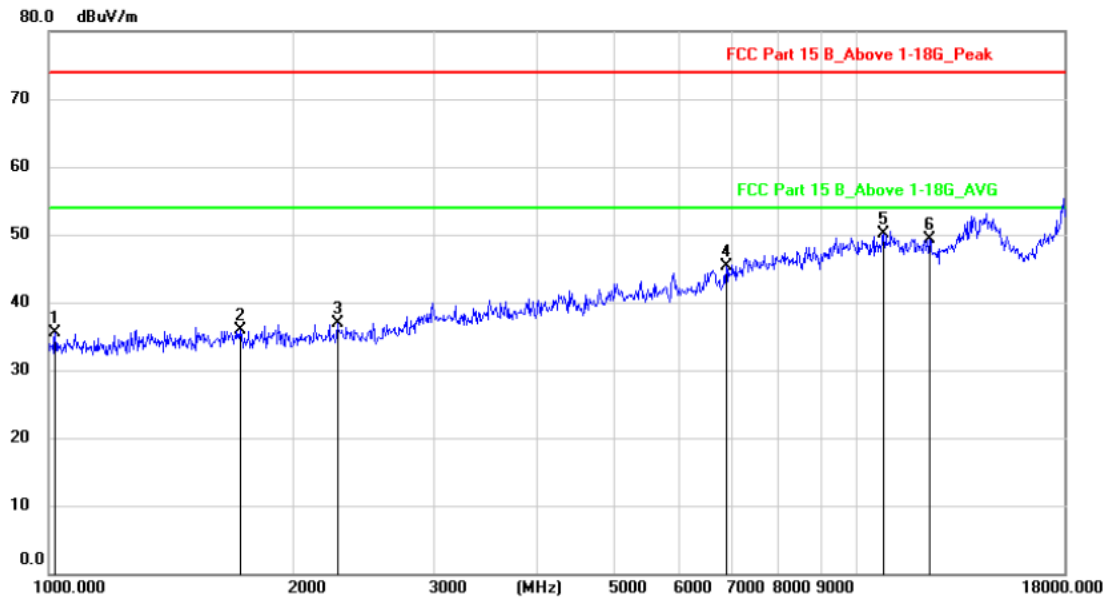


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Antenna Height	Table Degree
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree
1		1119.755	54.64	-19.89	34.75	74.00	-39.25	peak	
2		1760.415	56.78	-20.76	36.02	74.00	-37.98	peak	
3		2716.374	55.23	-18.15	37.08	74.00	-36.92	peak	
4		6447.624	53.07	-10.48	42.59	74.00	-31.41	peak	
5		11102.80	53.72	-4.83	48.89	74.00	-25.11	peak	
6	*	14359.92	53.64	-2.11	51.53	74.00	-22.47	peak	

Note: 1. *: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5785MHz- Horizontal

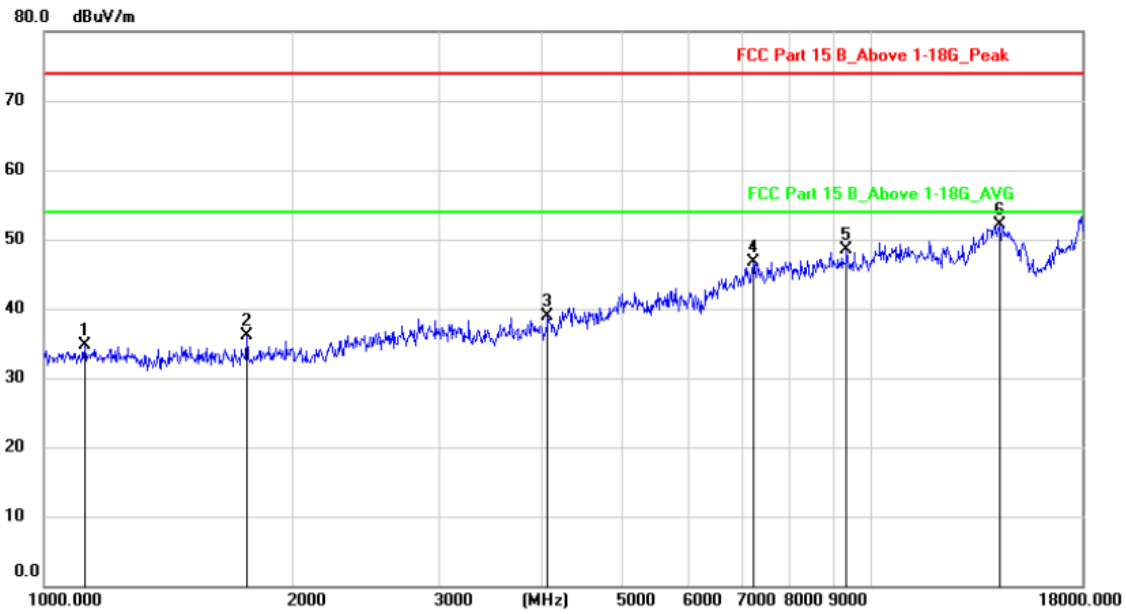


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1019.161	55.30	-19.73	35.57	74.00	-38.43	peak		
2		1721.834	56.70	-20.75	35.95	74.00	-38.05	peak		
3		2275.972	55.46	-18.52	36.94	74.00	-37.06	peak		
4		6883.522	54.74	-9.50	45.24	74.00	-28.76	peak		
5	*	10764.68	55.26	-5.21	50.05	74.00	-23.95	peak		
6		12263.49	54.62	-5.40	49.22	74.00	-24.78	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5825MHz-Vertical

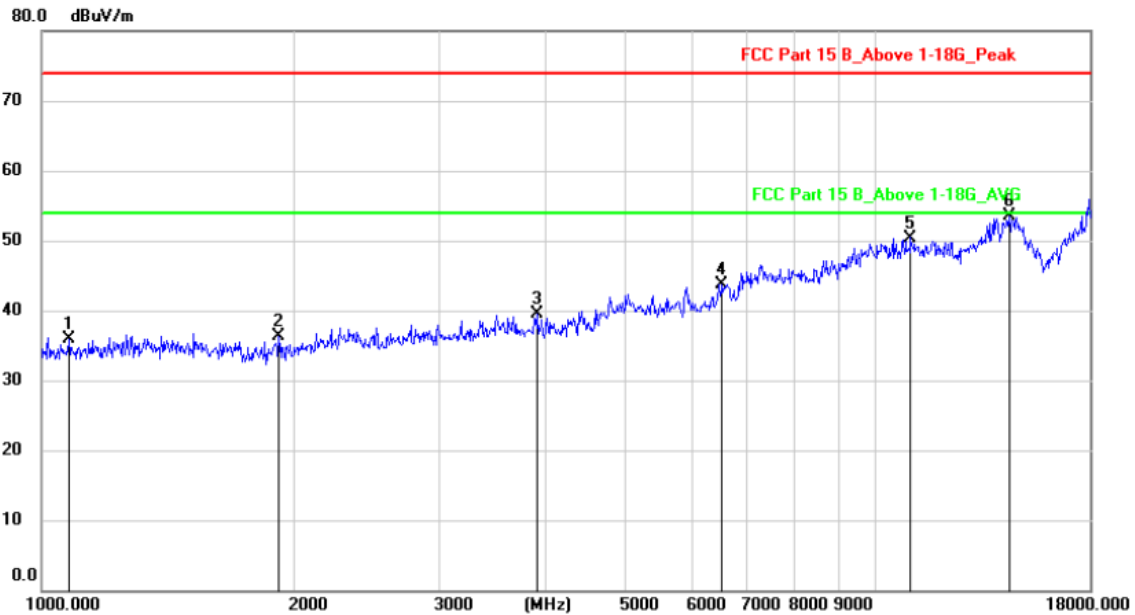


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1119.755	54.64	-19.89	34.75	74.00	-39.25	peak		
2		1760.415	56.78	-20.76	36.02	74.00	-37.98	peak		
3		4064.586	54.76	-15.84	38.92	74.00	-35.08	peak		
4		7220.455	54.90	-8.15	46.75	74.00	-27.25	peak		
5		9339.543	55.61	-7.09	48.52	74.00	-25.48	peak		
6	*	14359.92	54.14	-2.11	52.03	74.00	-21.97	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

802.11a 5825MHz-Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		1078.877	55.74	-19.92	35.82	74.00	-38.18	peak		
2		1924.691	56.74	-20.48	36.26	74.00	-37.74	peak		
3		3927.917	55.53	-16.03	39.50	74.00	-34.50	peak		
4		6533.922	53.84	-10.10	43.74	74.00	-30.26	peak		
5		10993.17	55.30	-4.90	50.40	74.00	-23.60	peak		
6	*	14427.87	55.61	-2.09	53.52	74.00	-20.48	peak		

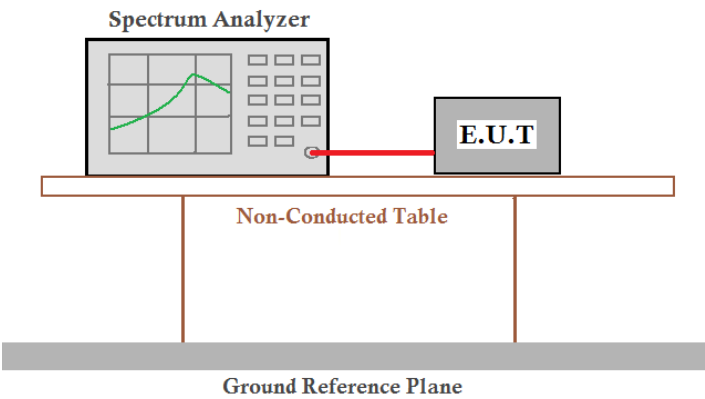
Note: 1. *:Maximum data; x:Over limit; !:over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Note:

1. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
2. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
3. This Report only show the test plots of the worst mode(802.11a).

4.10 Conducted Spurious Emission

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10-2020
Limit:	1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. 2. For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band. 3. For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs. Below the table is a Ground Reference Plane.
Test procedure:	The procedure for peak unwanted emissions measurements above 1000 MHz is as follows: a) Peak emission levels are measured by setting the instrument as follows: 1) RBW = 1 MHz. 2) VBW $\geq [3 \times \text{RBW}]$. 3) Detector = peak. 4) Sweep time = auto. 5) Trace mode = max hold. 6) Allow sweeps to continue until the trace stabilizes.
Test results:	Please refer to Appendix of 5GWIFI data.

5 Test setup photo

Please refer to the Appendix of Test photos

6 EUT Photo

Please refer to the Appendix of EUT photos

-----END OF REPORT-----