FCC/IC - TEST REPORT

Report Number	:	**709502403252-00B**	Date of Issue:	August 28, 2024

Model	:	**Aoralscan Elite Wireless**
Product Type	:	Intraoral Scanner
FCC ID	:	2AMG4-AOSEW
IC	:	24652-AOSEW
Applicant	:	SHINING 3D Tech Co., Ltd.
Address	:	No.1398 Xiangbin Road, Wenyan, Xiaoshan, Hangzhou, Zhejiang, China
Manufacturer	:	SHINING 3D Tech Co., Ltd.
Address	:	No.1398 Xiangbin Road, Wenyan, Xiaoshan, Hangzhou, Zhejiang, China

Test Result	:	■ **Positive**	☐ **Negative**
Total pages including Appendices	:	112	

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1 Table of Contents

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

2 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1	TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No.16 Lane, 1951 Du Hui Road, Shanghai 201108, P.R. China
Telephone:	+86 21 6141 0123
Fax:	+86 21 6140 8600
FCC Registration No.:	820234
FCC Designation Number:	CN1183
ISED CAB identifier	CN0101
IC Registration No.:	31668

3 Description of the Equipment under Test

Product:	Intraoral Scanner
Model no.:	Aoralscan Elite Wireless
Hardware Version Identification No. (HVIN)	Aoralscan Elite Wireless
Product Marketing Name (PMN)	Aoralscan Elite Wireless
FCC ID:	2AMG4-AOSEW
IC:	24652-AOSEW
Options and accessories:	NA
Rating:	DC 3.6V, 5A
RF Transmission Frequency:	For 5G Wi-Fi: 5180~5240 MHz (U-NII-1) 5745~5825 MHz (U-NII-3)

No. of Operated Channel:

For 5G Wi-Fi:

Band (GHz)	Operating Channel Number	Channel center frequencies for 20MHz bandwidth (MHz)
5.15GHz~5.25GHz	36	5180
	40	5200
	44	5220
	48	5240
5.725GHz~5.825GHz	149	5745
	153	5765
	157	5785
	161	5805
	165	5825

Band (GHz)	Operating Channel Number	Channel center frequencies for 40MHz bandwidth (MHz)

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5.15GHz~5.25GHz	38	5190
	46	5230
5.725GHz~5.825GHz	151	5755
	159	5795

Band (GHz)	Operating Channel Number	Channel center frequencies for 80MHz bandwidth (MHz)
5.15GHz~5.25GHz	42	5210
5.725GHz~5.825GHz	155	5775

Modulation: For 5G Wi-Fi:
Orthogonal Frequency Division Multiplexing (OFDM) for 802.11a/n/ac/ax

Hardware Version: 3

Software Version: /

Data speed: 5G Wi-Fi:
SISO: 11a 6 ~ 54Mbps,
11n HT20 6.5 ~ 72.2Mbps, 11n HT 40 13.5 ~ 150Mbps,
11ac VHT20 6.5 ~ 86.7Mbps, 11ac VHT40 13.5 ~ 200Mbps,
11ac VHT80 29.3 ~ 433.3Mbps
11ax HE20 7.313 ~ 143.382Mbps,11ax HE40 14.625 ~ 286.765Mbps,
11ax HE80 30.625 ~ 600.490Mbps
MIMO: 11a 6 ~ 54Mbps,
11n HT20 13 ~ 144.4Mbps, 11n HT 40 27 ~ 300Mbps,
11ac VHT20 13 ~ 173.3Mbps, 11ac VHT40 27 ~ 400Mbps,
11ac VHT80 58.5 ~ 866.7Mbps
11ax HE20 14.625 ~ 286.765Mbps,11ax HE40 29.250 ~ 573.529Mbps,
11ax HE80 61.250 ~ 1200.980Mbps

Antenna Type: Capacitor Antenna

Antenna Gain: Antenna1: -1.2 dBi, Antenna2: -0.5 dBi

Directional gain: For 5GHz Wi-Fi output power & power spectral density: 2.17 dBi
Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi
G1 = -1.2 dBi, G2 = -0.5 dBi, NANT = 2
So Directional gain =
10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi = 10 log[$(10^{-1.2/20} + 10^{-0.5/20})^2$ /2]dBi =2.17 dBi

The Equipment supports MIMO and does not support beamforming and CDD modulation, and all antennas have the different gain,
According to KDB662911 D01 chapter F d) (i) :
Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}$] dBi

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[Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.],

Description of the EUT:	The Equipment Under Test (EUT) is an Intraoral Scanner with Wi-Fi Module. The EUT support Wi-Fi operated at 5GHz.
Test sample no.:	SHA-813016-2 (Radiated sample) SHA-813016-1 (Conducted sample)

The sample’s mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment, antenna gain or any information supplied.

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4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart E, 2021 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart E - Unlicensed National Information Infrastructure Devices
RSS-Gen Issue 5 Amendment 2 February 2021	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 3 August 2023	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSS) and License-Exempt Local Area Network (LE-LAN) Devices

Test Method:
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices

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5 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart E & RSS-247 Issue 3/RSS-Gen Issue 5						
Test Condition		Pages	Test Site	Test Result		
				Pass	Fail	N/A
§15.207 & RSS-GEN 8.8	Conducted emission AC power port	15-17	Site 1	☒	☐	☐
§15.407(a)(2), (e) & RSS-247 6.2.1.2, RSS-247 6.2.2.1, RSS-247 6.2.3.1, RSS-247 6.2.4.2, RSS-Gen 6.7	Emission bandwidth	18-19	Site 1	☒	☐	☐
15.407407(a)(1)(2)(3) & RSS-247 6.2	Maximum Conducted Output Power and EIRP	20-21	Site 1	☒	☐	☐
15.407(a)(1)(2)(3) & RSS-247 6.2	Maximum Power Spectral Density	22-23	Site 1	☒	☐	☐
§15.407(g) & RSS-GEN 6.11	Frequencies Stability	24	Site 1	☒	☐	☐
§15.407(b)(1), 15.407(b)(2), 15.407(b)(3), 15.407(b)(4), 15.407(b)(8), 15.407(b)(9),15.209 & RSS-247 6.2 RSS-GEN 8.9	Unwanted Emissions	25-108	Site 1	☒	☐	☐
§15.203 & RSS-Gen 6.8	Antenna requirement	See note 1		☒	☐	☐

Remark 1: The EUT only operation at 5G Wi-Fi UNII Band (5180MHz-5240MHz, 5745MHz-5825MHz).

Note 1: The EUT uses two capacitor antenna, which gain is Antenna1: -1.2 dBi, Antenna2: -0.5 dBi. In accordance to §15.203 and RSS-Gen 6.8, It is considered sufficiently to comply with the provisions of this section.

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. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

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6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2AMG4-AOSEW, IC: 24652-AOSEW complies with Section 15.207, 15.209, 15.407 of the FCC Part 15, Subpart E Rules and RSS-247, RSS-GEN.

This report in only for 5GHz Wi-Fi. The TX and RX range is 5180MHz-5240MHz, 5745MHz-5825MHz.

We tested it and listed the worst data in this report.

SUMMARY:

All tests according to the regulations cited on page 6 were

■ - Performed

☐ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date:	May 13, 2024
Testing Start Date:	May 15, 2024
Testing End Date:	June 27, 2024

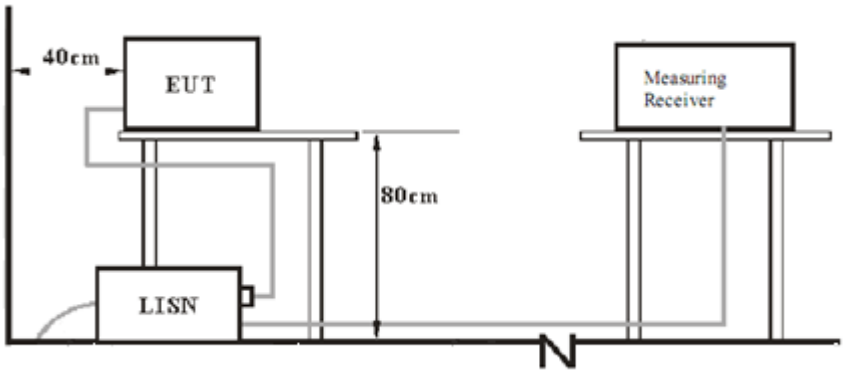
- TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

Reviewed by:	Prepared by:	Tested by:
Hui TONG	Wenqiang LU	Chengjie GUO
Review Engineer	Project Engineer	Test Engineer

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

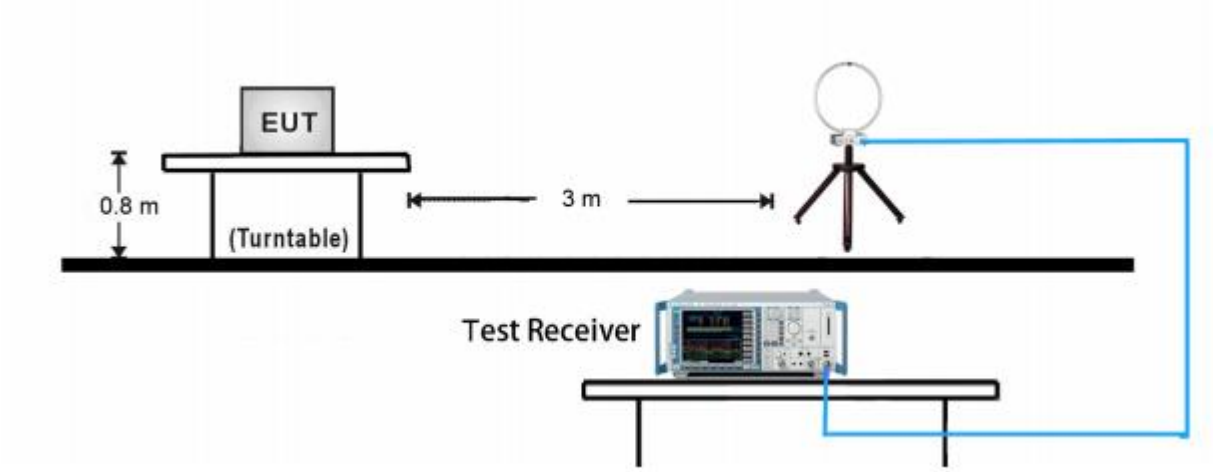
7 Test Setups

7.1 AC Power Line Conducted Emission test setups



7.2 Radiated test setups

9kHz ~ 30MHz Test Setup:



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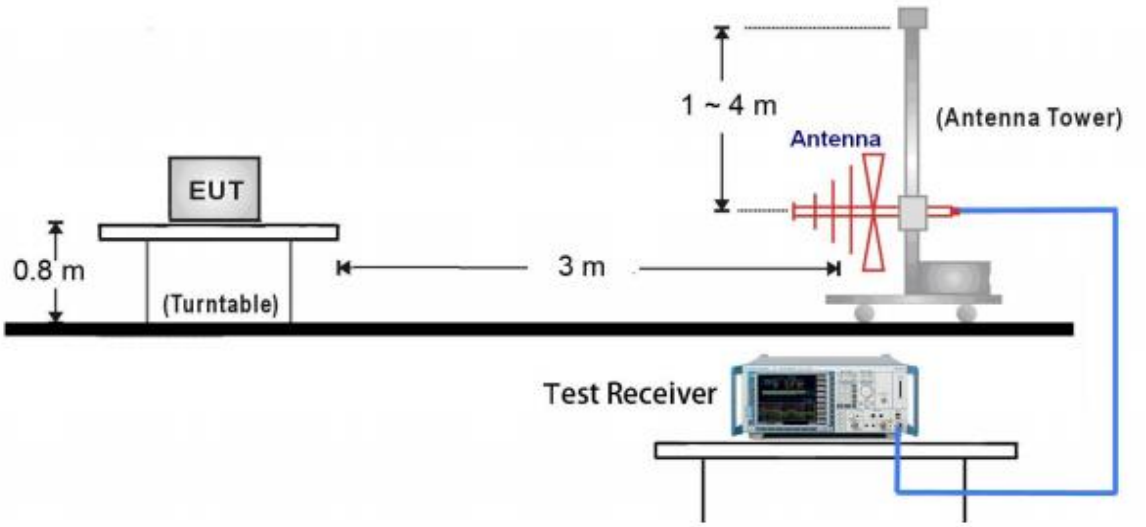
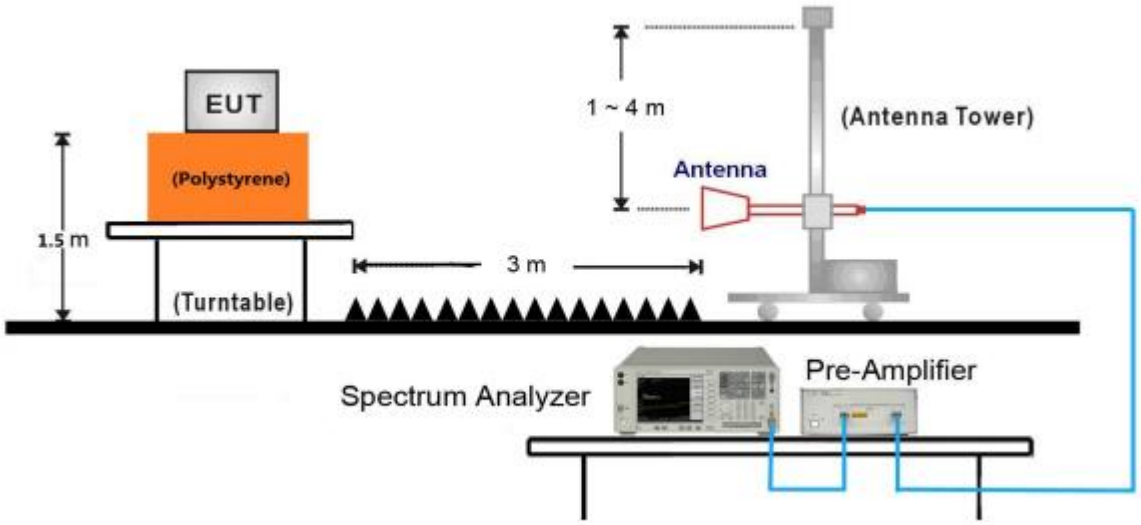
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



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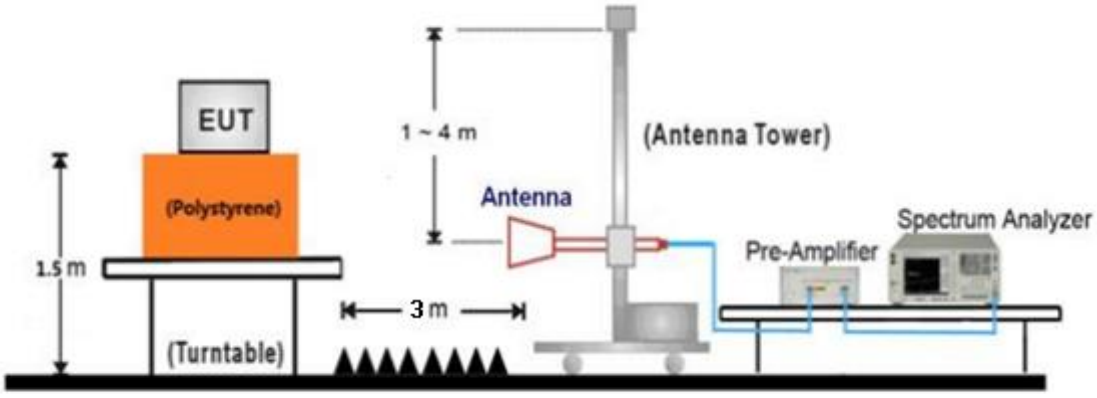
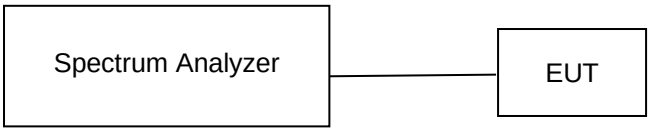
18GHz ~ 40GHz Test Setup:



7.3 Conducted RF test setups



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8 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
Notebook	Lenove	E470	PF-OU5TS7 17/09

Test software: SecureCRT.exe, which used to control the EUT in continues transmitting mode.

The system was configured to channel:

Test Mode	Channel (MHz)		
802.11a, 802.11n HT20 802.11ac VHT20 802.11ax HE20	5G WIFI-Band 1		
	CH36 (5180MHz)	CH40 (5200MHz)	CH48 (5240MHz)
	5G WIFI-Band 3		
	CH149 (5745MHz),	CH157 (5785MHz)	CH165 (5825MHz)

Test Mode	Channel (MHz)	
802.11n HT40 802.11ac VHT40 802.11ax HE40	5G WIFI-Band 1	
	CH38 (5190MHz)	CH46 (5230MHz)
	5G WIFI-Band 4	
	CH151 (5755MHz)	CH159 (5795MHz)

Test Mode	Channel (MHz)
802.11ac VHT80 802.11ax HE80	5G WIFI-Band 1
	CH42 (5210MHz)
	5G WIFI-Band 4
	CH155 (5775MHz)

The pre-test has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

	Modulation Type	Data Rate	Index Value (Power level setting)
SISO	802.11a OFDM	6Mbps	15
	802.11n (HT20): OFDM	MCS0 (6.5Mbps)	15
	802.11n (HT40): OFDM	MCS0 (13.5Mbps)	12
	802.11ac (VHT20): OFDM	11ac 6.5Mbps	15
	802.11ac (VHT40): OFDM	11ac 13.5Mbps	12
	802.11ac (VHT80): OFDM	11ac 29.3Mbps	12
	802.11ax (HE20): OFDM	11ax 7.313Mbps	15
	802.11ax (HE40): OFDM	11ax 14.625Mbps	12
	802.11ax (HE80): OFDM	11ax 30.625Mbps	12

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	Modulation Type	Data Rate	
	802.11a OFDM	6Mbps	15
	802.11n (HT20): OFDM	MCS0 (13Mbps)	15
	802.11n (HT40): OFDM	MCS0 (27Mbps)	12
MIMO	802.11ac (VHT20): OFDM	11ac 13Mbps	15
	802.11ac (VHT40): OFDM	11ac 27Mbps	12
	802.11ac (VHT80): OFDM	11ac 58.5Mbps	12
	802.11ax (HE20): OFDM	11ax 14.625Mbps	15
	802.11ax (HE40): OFDM	11ax 29.250Mbps	12
	802.11ax (HE80): OFDM	11ax 61.250Mbps	12

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9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. An EMI test receiver is used to test the emissions from both sides of AC line

Limit

According to §15.207 & RSS-GEN 8.8, conducted emissions limit as below:

Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

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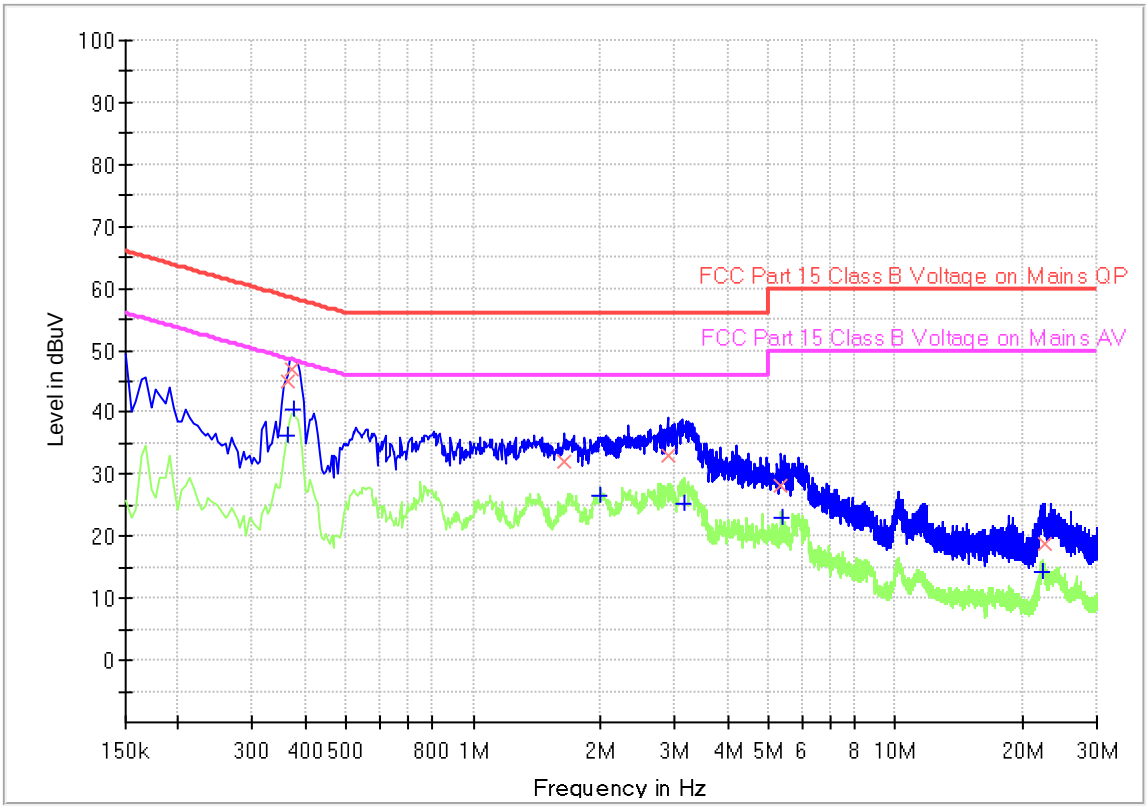
Conducted Emission

Product Type	:	Intraoral Scanner
M/N	:	Aoralscan Elite Wireless
Operating Condition	:	Mode 1: Tx_802.11a, 5785MHz MIMO
Test Specification	:	L-Line
Comment	:	AC 120V/60Hz



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.361500	---	36.31	48.69	12.38	1000.0	9.000	L1	19.5
0.361500	45.13	---	58.69	13.56	1000.0	9.000	L1	19.5
0.370500	47.03	---	58.49	11.46	1000.0	9.000	L1	19.5
0.375000	---	40.53	48.39	7.86	1000.0	9.000	L1	19.5
1.644000	31.91	---	56.00	24.09	1000.0	9.000	L1	19.5
2.008500	---	26.52	46.00	19.48	1000.0	9.000	L1	19.5
2.881500	33.10	---	56.00	22.90	1000.0	9.000	L1	19.5
3.156000	---	25.26	46.00	20.74	1000.0	9.000	L1	19.5
5.365500	28.12	---	60.00	31.88	1000.0	9.000	L1	19.6
5.392500	---	22.95	50.00	27.05	1000.0	9.000	L1	19.6
22.326000	---	14.16	50.00	35.84	1000.0	9.000	L1	20.7
22.497000	18.80	---	60.00	41.20	1000.0	9.000	L1	20.7

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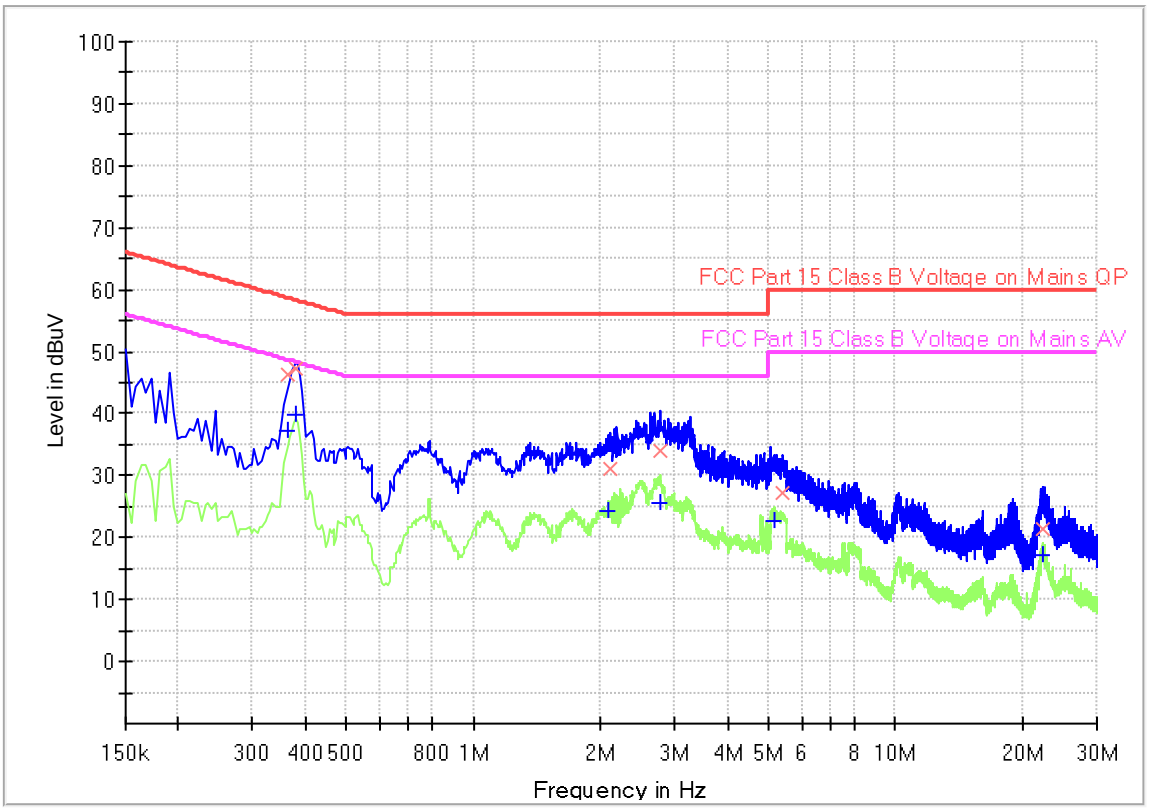
Product Type	:	Intraoral Scanner
M/N	:	Aoralscan Elite Wireless
Operating Condition	:	Mode 1: Tx_802.11a, 5785MHz MIMO
Test Specification	:	N-Line
Comment	:	AC 120V/60Hz



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.361500	---	37.16	48.69	11.53	1000.0	9.000	N	19.5
0.361500	46.33	---	58.69	12.36	1000.0	9.000	N	19.5
0.379500	---	39.95	48.29	8.34	1000.0	9.000	N	19.5
0.379500	47.21	---	58.29	11.08	1000.0	9.000	N	19.5
2.089500	---	24.25	46.00	21.75	1000.0	9.000	N	19.5
2.103000	30.98	---	56.00	25.02	1000.0	9.000	N	19.5
2.764500	33.85	---	56.00	22.15	1000.0	9.000	N	19.5
2.764500	---	25.43	46.00	20.57	1000.0	9.000	N	19.5
5.158500	---	22.63	50.00	27.37	1000.0	9.000	N	19.6
5.424000	27.25	---	60.00	32.75	1000.0	9.000	N	19.6
22.276500	21.48	---	60.00	38.52	1000.0	9.000	N	20.4
22.380000	---	17.03	50.00	32.97	1000.0	9.000	N	20.4

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)
Factor (dB) = Cable Loss (dB) + LISN Factor (dB) + 10dB Attenuator

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9.2 Emission bandwidth

1、Test Method of 26dB Bandwidth

According to KDB789033 D02

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Limit: No limit

2、Test Method of 6dB Bandwidth

According to KDB789033 D02

a) Set RBW = 100KHz
b) Set the video bandwidth (VBW) ≥ 3 × RBW
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Limit: ≥500KHz

3、Test Method of 99% Bandwidth

According to KDB789033 D02

a) Set center frequency to the nominal EUT channel center frequency
b) Set span = 1.5 times to 5.0 times the OBW.
c) Set RBW = 1 % to 5 % of the OBW
d) Set VBW ≥ 3 · RBW
e) 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.
f) Use the 99 % power bandwidth function of the instrument (if available).
g) 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.

Limit: No limit

26dB Bandwidth Test Result:

Test data should be referred to Appendix A for 709502403252-00B.

6dB Bandwidth Test Result:

Test data should be referred to Appendix A for 709502403252-00B.

99% Bandwidth Test Result

Test data should be referred to Appendix A for 709502403252-00B.

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9.3 Maximum conducted output power and EIRP

Test Method
According to C63.10, the EUT was places on 0.8m height table, the RF output of EUT was connected to the Spectrum Analyzer by RF cable. The path loss was compensated to the results for each measurement.

1. Measure the duty cycle
2. Use the following spectrum analyzer settings:
   RBW=1MHz, VBW≥3MHz, Span≥ the 99% Bandwidth of the emission being measured
   Sweep = auto, Detector function = power averaging.
3. Trace average at least 100 traces in power averaging (rms) mode
4. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times

15.407 Limits:

For 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 provided the maximum antenna gain does not exceed 6 dBi.
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26dB emission bandwidth in megahertz.
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

RSS 247 Limits:

For client devices in the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.

For the 5.25-5.35 GHz bands,
shall comply with the following:
a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less;
b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that 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.

For the 5.47-5.6 and 5.65-5.725 GHz bands, The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less.
The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that 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.

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Maximum conducted output power Test Result:

Test data should be referred to Appendix A for 709502403252-00B.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

9.4 Maximum power spectral density

Test Method

According to C63.10, the EUT was places on 0.8m height table, the RF output of EUT was connected to the test power meter by RF cable. The path loss was compensated to the results for each measurement.

1. Create an average power spectrum for the EUT operating mode being tested by following the instructions in II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
2. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
3. Make the following adjustments to the peak value of the spectrum, if applicable:
a) If Method SA-2 or SA-2 Alternative was used, add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.
b) If Method SA-3 Alternative was used and the linear mode was used in II.E.2.g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4. The result is the Maximum PSD over 1 MHz reference bandwidth.
5. For devices operating in the bands 5.15−5.25 GHz, 5.25−5.35 GHz, and 5.47−5.725 GHz, the preceding procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5) & RSS-247 6.2. For devices operating in the band 5.725−5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
a) Set RBW ≥ 1/T, where T is defined in II.B.I.a).
b) Set VBW ≥ 3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (<500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.
Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the II.F.5.c) and II.F.5.d), since RBW=100 kHz is available on nearly all spectrum analyzers.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

Limit: The maximum power spectral density shall not exceed 11dBm for the 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725 GHz Band in any 1 megahertz band.
For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30dBm in any 1 500kHz band.

Test Result:

Test data should be referred to Appendix A for 709502403252-00B.

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

9.5 Frequencies Stability

Test Method

1. Connect the UUT to the spectrum analyzer
2. Set Centre Frequency of the channel under test.
3. Set Detector PEAK
4. Set RBW: 10KHz, VBW: 3RBW
5. Set Span: Encompass the entire emissions bandwidth (EBW) of the signal.
6. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
User manual temperature is 10 to 30 °C.

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

Limit: 20ppm

Test Results (All conditions and all modes were performed, only list Worst-Case in the report)
Remark: NV is normal Voltage: 3.6V DC, HV is High Voltage: 4.2V DC, LV is Low Voltage: 3.0V DC, NT is normal Temperature: +20 °C.

Test Result:

Test data should be referred to Appendix A for 709502403252-00B.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

9.6 Unwanted emissions

Transmitting spurious emission test result as below:

Test Method

Radiated Mode:

1. The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3meter chamber room for test. 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 height of antenna 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
5. Use the following spectrum analyzer settings According to C63.10:
   For Above 1GHz
   Span = wide enough to capture the peak level of the in-band emission and all spurious
   RBW = 1MHz, VBW≥RBW for peak measurement and VBW = 10Hz for average measurement, Sweep = auto, Detector function = peak, Trace = max hold.
   For Below 1GHz
   Use the following spectrum analyzer settings:
   Span = wide enough to capture the peak level of the in-band emission and all spurious
   RBW = 100 KHz, VBW≥RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

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 e.i.r.p. of −27 dBm/MHz.

(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 e.i.r.p. of −27 dBm/MHz.

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

(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.

According to part 15.407(b) & RSS-247 6.2, the radio emission outside the operating frequency band shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Radiated emissions which fall in the restricted bands, as defined in section15.205 and RSS-GEN 8.10, must comply with the radiated emission limits specified in section 15.209 & RSS-GEN 8.9.

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

The only worse case listed in the report.

Transmitting spurious emission worse case test result:

Transmitting spurious emission test result as below:

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11a Modulation 5180MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (dB)
1000-7000	5150.09	Horizontal	48.82	PK	74	25.18
1000-7000	4780.91	Vertical	48.75	PK	74	25.25
1000-7000	5145.40	Vertical	52.76	PK	74	21.24
1000-7000	5145.40	Vertical	42.40	AV	54	11.6
7000-40000	10368.06	Horizontal	48.83	PK	74	25.17
7000-40000	10369.12	Vertical	48.94	PK	74	25.06

802.11a Modulation 5200MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (dB)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10403.65	Horizontal	49.07	PK	74	24.93
7000-40000	10403.65	Vertical	47.94	PK	74	26.06

802.11a Modulation 5240MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (dB)
1000-7000	5349.93	Horizontal	43.33	PK	74	30.67
1000-7000	5350.47	Vertical	42.98	PK	74	31.02
7000-40000	10481.21	Horizontal	47.77	PK	74	26.23
7000-40000	10481.21	Vertical	48.06	PK	74	25.94

802.11a Modulation 5180MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (dB)
1000-7000	5150.30	Horizontal	48.12	PK	74	25.88
1000-7000	4648.96	Vertical	49.62	PK	74	24.38
1000-7000	4792.74	Vertical	49.51	PK	74	24.49
1000-7000	5144.14	Vertical	51.59	PK	74	22.41
1000-7000	5144.14	Vertical	41.20	AV	54	12.8
7000-40000	10365.40	Horizontal	47.84	PK	74	26.16
7000-40000	10361.68	Vertical	48.96	PK	74	25.04

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11a Modulation 5200MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (dB)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10405.25	Horizontal	46.74	PK	74	27.26
7000-40000	10401.53	Vertical	48.23	PK	74	25.77

802.11a Modulation 5240MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.03	Horizontal	41.72	PK	74	32.28
1000-7000	5349.50	Vertical	43.87	PK	74	30.13
7000-40000	10481.21	Horizontal	48.25	PK	74	25.75
7000-40000	10480.68	Vertical	46.21	PK	74	27.79

802.11a Modulation 5180MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5149.95	Horizontal	57.07	PK	74	16.93
1000-7000	5149.95	Horizontal	44.70	AV	54	9.3
1000-7000	5149.67	Vertical	61.23	PK	74	12.77
1000-7000	5149.67	Vertical	47.80	AV	54	6.2
7000-40000	10364.34	Horizontal	47.42	PK	74	26.58
7000-40000	10360.62	Vertical	47.10	PK	74	26.9

802.11a Modulation 5200MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10401.00	Horizontal	48.05	PK	74	25.95
7000-40000	10400.46	Vertical	47.68	PK	74	26.32

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11a Modulation 5240MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.91	Horizontal	42.57	PK	74	31.43
1000-7000	5350.52	Vertical	43.98	PK	74	30.02
7000-40000	10480.15	Horizontal	47.07	PK	74	26.93
7000-40000	10480.15	Vertical	47.52	PK	74	26.48

802.11n20 Modulation 5180MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5150.44	Horizontal	48.46	PK	74	25.54
1000-7000	4793.51	Vertical	50.56	PK	74	23.44
1000-7000	5150.09	Vertical	51.64	PK	74	22.36
7000-40000	10365.93	Horizontal	46.84	PK	74	27.16
7000-40000	10361.68	Vertical	48.70	PK	74	25.3

802.11n20 Modulation 5200MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10401.53	Horizontal	48.33	PK	74	25.67
7000-40000	10398.87	Vertical	48.99	PK	74	25.01

802.11n20 Modulation 5240MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.12	Horizontal	42.28	PK	74	31.72
1000-7000	5350.25	Vertical	43.43	PK	74	30.57
7000-40000	10480.68	Horizontal	47.52	PK	74	26.48
7000-40000	10482.28	Vertical	48.02	PK	74	25.98

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n20 Modulation 5180MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5150.09	Horizontal	46.79	PK	74	27.21
1000-7000	4664.78	Vertical	51.12	PK	74	22.88
1000-7000	4802.82	Vertical	49.74	PK	74	24.26
1000-7000	5146.17	Vertical	52.78	PK	74	21.22
1000-7000	5146.17	Vertical	41.70	AV	54	12.3
7000-40000	10360.09	Horizontal	46.93	PK	74	27.07
7000-40000	10361.68	Vertical	46.53	PK	74	27.47

802.11n20 Modulation 5200MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10401.53	Horizontal	46.68	PK	74	27.32
7000-40000	10408.89	Vertical	46.60	PK	74	27.4

802.11n20 Modulation 5240MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.44	Horizontal	42.41	PK	74	31.59
1000-7000	5349.76	Vertical	43.03	PK	74	30.97
7000-40000	10480.68	Horizontal	47.73	PK	74	26.27
7000-40000	10480.68	Vertical	48.21	PK	74	25.79

802.11n20 Modulation 5180MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5145.19	Horizontal	53.30	PK	74	20.7
1000-7000	5145.19	Horizontal	44.40	AV	54	9.6
1000-7000	4788.75	Vertical	49.44	PK	74	24.56
1000-7000	5143.51	Vertical	59.58	PK	74	14.42
1000-7000	5143.51	Vertical	50.40	AV	54	3.6
7000-40000	10361.15	Horizontal	47.39	PK	74	26.61
7000-40000	10361.68	Vertical	47.02	PK	74	26.98

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n20 Modulation 5200MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10402.06	Horizontal	47.52	PK	74	26.48
7000-40000	10399.94	Vertical	47.25	PK	74	26.75

802.11n20 Modulation 5240MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.98	Horizontal	42.52	PK	74	31.48
1000-7000	5350.55	Vertical	44.11	PK	74	29.89
7000-40000	10481.21	Horizontal	48.04	PK	74	25.96
7000-40000	11481.03	Vertical	49.42	PK	74	24.58

802.11n40 Modulation 5190MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	4781.12	Horizontal	47.70	PK	74	26.3
1000-7000	5148.97	Horizontal	61.29	PK	74	12.71
1000-7000	5148.97	Horizontal	50.40	AV	54	3.6
1000-7000	4781.12	Vertical	47.63	PK	74	26.37
1000-7000	5146.66	Vertical	60.24	PK	74	13.76
1000-7000	5146.66	Vertical	49.50	AV	54	4.5
7000-40000	10380.81	Horizontal	46.54	PK	74	27.46
7000-40000	10380.38	Vertical	48.42	PK	74	25.58

802.11n40 Modulation 5230MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.36	Horizontal	43.21	PK	74	30.79
1000-7000	5350.17	Vertical	43.18	PK	74	30.82
7000-40000	10459.96	Horizontal	47.87	PK	74	26.13
7000-40000	10462.09	Vertical	49.23	PK	74	24.77

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n40 Modulation 5190MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5148.69	Horizontal	54.12	PK	74	19.88
1000-7000	5148.69	Horizontal	42.50	AV	54	11.5
1000-7000	4800.30	Vertical	48.10	PK	74	25.9
1000-7000	5145.96	Vertical	60.05	PK	74	13.95
1000-7000	5145.96	Vertical	52.34	AV	54	1.66
7000-40000	10380.28	Horizontal	47.29	PK	74	26.71
7000-40000	10380.28	Vertical	47.75	PK	74	26.25

802.11n40 Modulation 5230MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.23	Horizontal	45.04	PK	74	28.96
1000-7000	5349.50	Vertical	44.77	PK	74	29.23
7000-40000	10459.97	Horizontal	48.16	PK	74	25.84
7000-40000	10459.97	Vertical	47.32	PK	74	26.68

802.11n40 Modulation 5190MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5142.04	Horizontal	54.38	PK	74	19.62
1000-7000	5142.04	Horizontal	42.40	AV	54	11.6
1000-7000	4795.75	Vertical	51.41	PK	74	22.59
1000-7000	5149.39	Vertical	58.16	PK	74	15.84
1000-7000	5149.39	Vertical	52.10	AV	54	1.9
7000-40000	10380.82	Horizontal	46.27	PK	74	27.73
7000-40000	10380.28	Vertical	47.60	PK	74	26.4

802.11n40 Modulation 5230MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.34	Horizontal	42.70	PK	74	31.3
1000-7000	5350.83	Vertical	45.41	PK	74	28.59
7000-40000	10461.03	Horizontal	47.06	PK	74	26.94
7000-40000	10461.57	Vertical	47.04	PK	74	26.96

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac20 Modulation 5180MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5139.94	Horizontal	53.29	PK	74	20.71
1000-7000	5139.94	Horizontal	43.90	AV	54	10.1
1000-7000	4647.91	Vertical	51.49	PK	74	22.51
1000-7000	4798.76	Vertical	48.20	PK	74	25.8
1000-7000	5149.88	Vertical	57.27	PK	74	16.73
1000-7000	5149.88	Vertical	44.20	PK	54	9.8
7000-40000	10360.09	Horizontal	47.56	PK	74	26.44
7000-40000	10361.15	Vertical	48.66	PK	74	25.34

802.11ac20 Modulation 5200MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10407.90	Horizontal	49.33	PK	74	24.67
7000-40000	10404.19	Vertical	48.65	PK	74	25.35

802.11ac20 Modulation 5240MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.14	Horizontal	42.04	PK	74	31.96
1000-7000	5350.01	Vertical	42.80	PK	74	31.2
7000-40000	10484.40	Horizontal	46.30	PK	74	27.7
7000-40000	10484.21	Vertical	48.04	PK	74	25.96

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802.11ac20 Modulation 5180MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5148.97	Horizontal	53.44	PK	74	20.56
1000-7000	5148.97	Horizontal	42.40	AV	54	11.6
1000-7000	4659.04	Vertical	49.77	PK	74	24.23
1000-7000	4800.37	Vertical	50.12	PK	74	23.88
1000-7000	5149.43	Vertical	60.32	PK	74	13.68
1000-7000	5149.43	Vertical	47.32	AV	54	6.68
7000-40000	10360.62	Horizontal	47.68	PK	74	26.32
7000-40000	10365.40	Vertical	46.56	PK	74	27.44

802.11ac20 Modulation 5200MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10399.40	Horizontal	47.72	PK	74	26.28
7000-40000	11401.34	Vertical	48.52	PK	74	25.48

802.11ac20 Modulation 5240MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.44	Horizontal	42.79	PK	74	31.21
1000-7000	5349.15	Vertical	43.97	PK	74	30.03
7000-40000	11483.15	Horizontal	46.80	PK	74	27.2
7000-40000	11479.43	Vertical	49.46	PK	74	24.54

802.11ac20 Modulation 5180MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5149.88	Horizontal	54.48	PK	74	19.52
1000-7000	5149.88	Horizontal	44.80	AV	54	9.2
1000-7000	5148.13	Vertical	60.96	PK	74	13.04
1000-7000	5148.13	Vertical	50.30	AV	54	3.7
7000-40000	10361.68	Horizontal	47.23	PK	74	26.77
7000-40000	10361.15	Vertical	47.57	PK	74	26.43

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac20 Modulation 5200MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10401.00	Horizontal	47.76	PK	74	26.24
7000-40000	10404.18	Vertical	48.51	PK	74	25.49

802.11ac20 Modulation 5240MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.61	Horizontal	42.46	PK	74	31.54
1000-7000	5349.68	Vertical	44.16	PK	74	29.84
7000-40000	10480.15	Horizontal	46.82	PK	74	27.18
7000-40000	10480.15	Vertical	47.32	PK	74	26.68

802.11ac40 Modulation 5190MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5148.13	Horizontal	62.84	PK	74	11.16
1000-7000	5148.13	Horizontal	48.90	AV	54	5.1
1000-7000	4788.40	Vertical	47.10	PK	74	26.9
1000-7000	5146.59	Vertical	59.35	PK	74	14.65
1000-7000	5146.59	Vertical	47.80	AV	54	6.2
7000-40000	10379.75	Horizontal	47.71	PK	74	26.29
7000-40000	10379.21	Vertical	47.15	PK	74	26.85

802.11ac40 Modulation 5230MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.23	Horizontal	44.31	PK	74	29.69
1000-7000	5349.58	Vertical	43.94	PK	74	30.06
7000-40000	10460.50	Horizontal	47.15	PK	74	26.85
7000-40000	10461.03	Vertical	47.58	PK	74	26.42

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac40 Modulation 5190MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5143.93	Horizontal	56.08	PK	74	17.92
1000-7000	5143.93	Horizontal	41.30	AV	54	12.7
1000-7000	5149.21	Vertical	62.32	PK	74	11.68
1000-7000	5149.21	Vertical	51.31	AV	54	2.69
7000-40000	10381.87	Horizontal	46.77	PK	74	27.23
7000-40000	10380.81	Vertical	47.08	PK	74	26.92

802.11ac40 Modulation 5230MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.52	Horizontal	42.82	PK	74	31.18
1000-7000	5350.31	Vertical	45.55	PK	74	28.45
7000-40000	10461.03	Horizontal	47.20	PK	74	26.8
7000-40000	10459.97	Vertical	47.27	PK	74	26.73

802.11ac40 Modulation 5190MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5143.93	Horizontal	55.64	PK	74	18.36
1000-7000	5143.93	Horizontal	45.10	AV	54	8.9
1000-7000	4794.07	Vertical	47.62	PK	74	26.38
1000-7000	5147.15	Vertical	62.06	PK	74	11.94
1000-7000	5147.15	Vertical	53.00	AV	54	1
7000-40000	10381.34	Horizontal	45.57	PK	74	28.43
7000-40000	10381.34	Vertical	47.32	PK	74	26.68

802.11ac40 Modulation 5230MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.93	Horizontal	43.12	PK	74	30.88
1000-7000	5349.33	Vertical	45.27	PK	74	28.73
7000-40000	10461.03	Horizontal	46.21	PK	74	27.79
7000-40000	10459.96	Vertical	48.03	PK	74	25.97

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac80 Modulation 5210MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5148.13	Horizontal	48.96	PK	74	25.04
1000-7000	5350.01	Horizontal	42.09	PK	74	31.91
1000-7000	5145.33	Vertical	51.91	PK	74	22.09
1000-7000	5150.16	Vertical	49.72	PK	74	24.28
1000-7000	5350.36	Vertical	43.43	PK	74	30.57
7000-40000	10420.12	Horizontal	47.58	PK	74	26.42
7000-40000	10421.18	Vertical	47.32	PK	74	26.68

802.11ac80 Modulation 5210MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5150.79	Horizontal	46.21	PK	74	27.79
1000-7000	5349.44	Horizontal	42.90	PK	74	31.1
1000-7000	4781.54	Vertical	50.40	PK	74	23.6
1000-7000	5143.02	Vertical	53.12	PK	74	20.88
1000-7000	5143.02	Vertical	44.60	AV	54	9.4
1000-7000	5350.15	Vertical	45.44	PK	74	28.56
7000-40000	10420.12	Horizontal	47.39	PK	74	26.61
7000-40000	10420.65	Vertical	46.97	PK	74	27.03

802.11ac80 Modulation 5210MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5146.94	Horizontal	58.40	PK	74	15.6
1000-7000	5146.94	Horizontal	45.90	AV	54	8.1
1000-7000	5350.52	Horizontal	45.41	PK	74	28.59
1000-7000	4800.23	Vertical	50.75	PK	74	23.25
1000-7000	5143.02	Vertical	60.38	PK	74	13.62
1000-7000	5143.02	Vertical	51.90	AV	54	2.1
1000-7000	5350.36	Vertical	51.92	PK	74	22.08
1000-7000	5350.36	Vertical	43.30	AV	54	10.7
7000-40000	10420.65	Horizontal	47.11	PK	74	26.89
7000-40000	10420.65	Vertical	47.12	PK	74	26.88

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ax20 Modulation 5180MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5141.97	Horizontal	53.62	PK	74	20.38
1000-7000	5141.97	Horizontal	43.60	AV	54	10.4
1000-7000	4665.90	Vertical	52.56	PK	74	21.44
1000-7000	4778.46	Vertical	49.85	PK	74	24.15
1000-7000	5146.03	Vertical	55.03	PK	74	18.97
1000-7000	5146.03	Vertical	43.60	AV	54	10.4
7000-40000	10358.70	Horizontal	47.79	PK	74	26.21
7000-40000	10359.09	Vertical	46.43	PK	74	27.57

802.11ax20 Modulation 5200MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10398.27	Horizontal	47.28	PK	74	26.72
7000-40000	10399.92	Vertical	47.08	PK	74	26.92

802.11ax20 Modulation 5240MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.14	Horizontal	43.48	PK	74	30.52
1000-7000	5350.09	Vertical	43.31	PK	74	30.69
7000-40000	10479.30	Horizontal	47.95	PK	74	26.05
7000-40000	10479.47	Vertical	47.70	PK	74	26.3

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ax20 Modulation 5180MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5144.49	Horizontal	55.61	PK	74	18.39
1000-7000	5144.49	Horizontal	46.30	AV	54	7.7
1000-7000	4648.47	Vertical	50.60	PK	74	23.4
1000-7000	4783.43	Vertical	49.72	PK	74	24.28
1000-7000	5138.33	Vertical	58.31	PK	74	15.69
1000-7000	5138.33	Vertical	51.00	AV	54	3
7000-40000	10358.24	Horizontal	46.71	PK	74	27.29
7000-40000	10359.07	Vertical	47.80	PK	74	26.2

802.11ax20 Modulation 5200MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10398.82	Horizontal	48.45	PK	74	25.55
7000-40000	10399.74	Vertical	48.31	PK	74	25.69

802.11ax20 Modulation 5240MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.95	Horizontal	42.24	PK	74	31.76
1000-7000	5350.01	Vertical	43.65	PK	74	30.35
7000-40000	10478.03	Horizontal	47.70	PK	74	26.3
7000-40000	10479.64	Vertical	47.80	PK	74	26.2

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ax20 Modulation 5180MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	4790.36	Horizontal	51.59	PK	74	22.41
1000-7000	5135.95	Horizontal	57.93	PK	74	16.07
1000-7000	5135.95	Horizontal	51.60	AV	54	2.4
1000-7000	4788.68	Vertical	47.43	PK	74	26.57
1000-7000	5145.75	Vertical	62.23	PK	74	11.77
1000-7000	5145.75	Vertical	51.30	AV	54	2.7
7000-40000	10358.38	Horizontal	46.63	PK	74	27.37
7000-40000	10358.04	Vertical	46.61	PK	74	27.39

802.11ax20 Modulation 5200MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000		Horizontal		PK	74	74
1000-7000		Vertical		PK	74	74
7000-40000	10398.87	Horizontal	46.87	PK	74	27.13
7000-40000	10398.83	Vertical	47.11	PK	74	26.89

802.11ax20 Modulation 5240MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.85	Horizontal	42.31	PK	74	31.69
1000-7000	5350.22	Vertical	45.62	PK	74	28.38
7000-40000	10478.06	Horizontal	46.61	PK	74	27.39
7000-40000	10479.56	Vertical	46.73	PK	74	27.27

802.11ax40 Modulation 5190MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5149.04	Horizontal	60.69	PK	74	13.31
1000-7000	5149.04	Horizontal	49.50	AV	54	4.5
1000-7000	4780.77	Vertical	47.69	PK	74	26.31
1000-7000	5142.25	Vertical	62.49	PK	74	11.51
1000-7000	5142.25	Vertical	48.70	AV	54	5.3
7000-40000	10378.19	Horizontal	46.32	PK	74	27.68
7000-40000	10378.37	Vertical	46.97	PK	74	27.03

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802.11ax40 Modulation 5230MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5350.09	Horizontal	41.98	PK	74	32.02
1000-7000	5350.06	Vertical	44.29	PK	74	29.71
7000-40000	10459.35	Horizontal	47.45	PK	74	26.55
7000-40000	10458.75	Vertical	47.02	PK	74	26.98

802.11ax40 Modulation 5190MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5147.64	Horizontal	58.50	PK	74	15.5
1000-7000	5147.64	Horizontal	41.10	AV	54	12.9
1000-7000	4797.71	Vertical	49.09	PK	74	24.91
1000-7000	5145.47	Vertical	62.58	PK	74	11.42
1000-7000	5145.47	Vertical	50.90	AV	54	3.1
7000-40000	10379.28	Horizontal	45.04	PK	74	28.96
7000-40000	10379.43	Vertical	46.46	PK	74	27.54

802.11ax40 Modulation 5230MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5351.11	Horizontal	44.05	PK	74	29.95
1000-7000	5350.22	Vertical	46.39	PK	74	27.61
7000-40000	10458.40	Horizontal	46.70	PK	74	27.3
7000-40000	10259.46	Vertical	46.30	PK	74	27.7

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802.11ax40 Modulation 5190MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5144.28	Horizontal	55.06	PK	74	18.94
1000-7000	5144.28	Horizontal	42.70	AV	54	11.3
1000-7000	4797.01	Vertical	52.52	PK	74	21.48
1000-7000	5139.73	Vertical	63.00	PK	74	11
1000-7000	5139.73	Vertical	52.70	AV	54	1.3
7000-40000	10379.92	Horizontal	45.48	PK	74	28.52
7000-40000	10378.07	Vertical	45.34	PK	74	28.66

802.11ax40 Modulation 5230MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5349.58	Horizontal	42.78	PK	74	31.22
1000-7000	5349.47	Vertical	47.05	PK	74	26.95
7000-40000	10460.00	Horizontal	45.49	PK	74	28.51
7000-40000	10458.21	Vertical	46.56	PK	74	27.44

802.11ax80 Modulation 5210MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5151.14	Horizontal	47.28	PK	74	26.72
1000-7000	5349.31	Horizontal	42.72	PK	74	31.28
1000-7000	4793.72	Vertical	49.40	PK	74	24.6
1000-7000	5150.23	Vertical	47.70	PK	74	26.3
1000-7000	5349.63	Vertical	42.52	PK	74	31.48
7000-40000	10419.34	Horizontal	46.63	PK	74	27.37
7000-40000	10418.63	Vertical	45.98	PK	74	28.02

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802.11ax80 Modulation 5210MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5149.67	Horizontal	46.85	PK	74	27.15
1000-7000	5349.04	Horizontal	41.91	PK	74	32.09
1000-7000	4798.34	Vertical	49.14	PK	74	24.86
1000-7000	5149.46	Vertical	50.59	PK	74	23.41
1000-7000	5350.55	Vertical	45.36	PK	74	28.64
7000-40000	10419.95	Horizontal	46.39	PK	74	27.61
7000-40000	10418.27	Vertical	45.81	PK	74	28.19

802.11ax80 Modulation 5210MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	5132.59	Horizontal	58.48	PK	74	15.52
1000-7000	5132.59	Horizontal	46.80	AV	54	7.2
1000-7000	5350.79	Horizontal	43.43	PK	74	30.57
1000-7000	4790.64	Vertical	52.42	PK	74	21.58
1000-7000	5145.89	Vertical	64.88	PK	74	9.12
1000-7000	5145.89	Vertical	53.40	AV	54	0.6
1000-7000	5349.79	Vertical	48.19	PK	74	25.81
1000-7000	5395.26	Vertical	51.55	PK	74	22.45
7000-40000	10418.10	Horizontal	45.50	PK	74	28.5
7000-40000	10418.55	Vertical	45.26	PK	74	28.74

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802.11a Modulation 5745MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.34	Horizontal	48.33	PK	74	25.67
7000-40000	11488.11	Vertical	46.49	PK	74	27.51

802.11a Modulation 5785MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.68	Horizontal	47.10	PK	74	26.90
7000-40000	11568.07	Vertical	45.11	PK	74	28.89

802.11a Modulation 5825MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11649.01	Horizontal	47.23	PK	74	26.77
7000-40000	11648.56	Vertical	44.46	PK	74	29.54

802.11a Modulation 5745MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.30	Horizontal	48.78	PK	74	25.22
7000-40000	11489.27	Vertical	46.58	PK	74	27.42

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11a Modulation 5785MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.17	Horizontal	45.97	PK	74	28.03
7000-40000	11569.85	Vertical	45.55	PK	74	28.45

802.11a Modulation 5825MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.77	Horizontal	45.53	PK	74	28.47
7000-40000	11649.51	Vertical	44.99	PK	74	29.01

802.11a Modulation 5745MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11489.30	Horizontal	43.57	PK	74	30.43
7000-40000	11489.68	Vertical	47.03	PK	74	26.97

802.11a Modulation 5785MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.88	Horizontal	44.83	PK	74	29.17
7000-40000	11568.36	Vertical	44.72	PK	74	29.28

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11a Modulation 5825MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11649.11	Horizontal	46.94	PK	74	27.06
7000-40000	11648.24	Vertical	45.52	PK	74	28.48

802.11n20 Modulation 5745MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.16	Horizontal	47.34	PK	74	26.66
7000-40000	11489.85	Vertical	47.23	PK	74	26.77

802.11n20 Modulation 5785MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11568.29	Horizontal	47.50	PK	74	26.50
7000-40000	11568.04	Vertical	44.32	PK	74	29.68

802.11n20 Modulation 5825MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11649.93	Horizontal	46.20	PK	74	27.80
7000-40000	11649.28	Vertical	45.07	PK	74	28.93

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n20 Modulation 5745MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11489.48	Horizontal	48.75	PK	74	25.25
7000-40000	11489.24	Vertical	47.22	PK	74	26.78

802.11n20 Modulation 5785MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.91	Horizontal	46.02	PK	74	27.98
7000-40000	11569.67	Vertical	45.34	PK	74	28.66

802.11n20 Modulation 5825MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.38	Horizontal	46.39	PK	74	27.61
7000-40000	11649.96	Vertical	44.13	PK	74	29.87

802.11n20 Modulation 5745MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11489.98	Horizontal	44.05	PK	74	29.95
7000-40000	11489.17	Vertical	48.25	PK	74	25.75

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n20 Modulation 5785MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.42	Horizontal	46.21	PK	74	27.79
7000-40000	11568.05	Vertical	44.08	PK	74	29.92

802.11n20 Modulation 5825MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.64	Horizontal	48.05	PK	74	25.95
7000-40000	11648.29	Vertical	46.28	PK	74	27.72

802.11n40 Modulation 5755MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11508.98	Horizontal	47.59	PK	74	26.41
7000-40000	11509.94	Vertical	47.13	PK	74	26.87

802.11n40 Modulation 5795MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11588.57	Horizontal	48.33	PK	74	25.67
7000-40000	11589.28	Vertical	45.41	PK	74	28.59

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11n40 Modulation 5755MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11509.96	Horizontal	47.56	PK	74	26.44
7000-40000	11508.91	Vertical	47.12	PK	74	26.88

802.11n40 Modulation 5795MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.76	Horizontal	48.94	PK	74	25.06
7000-40000	11588.25	Vertical	46.71	PK	74	27.29

802.11n40 Modulation 5755MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11508.50	Horizontal	48.09	PK	74	25.91
7000-40000	11509.33	Vertical	45.50	PK	74	28.50

802.11n40 Modulation 5795MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.44	Horizontal	47.74	PK	74	26.26
7000-40000	11589.85	Vertical	45.52	PK	74	28.48

802.11ac20 Modulation 5745MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.80	Horizontal	47.77	PK	74	26.23
7000-40000	11489.75	Vertical	47.07	PK	74	26.93

802.11ac20 Modulation 5785MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.20	Horizontal	48.02	PK	74	25.98
7000-40000	11568.60	Vertical	46.06	PK	74	27.94

802.11ac20 Modulation 5825MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.07	Horizontal	47.28	PK	74	26.72
7000-40000	11649.58	Vertical	45.83	PK	74	28.17

802.11ac20 Modulation 5745MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11489.16	Horizontal	48.01	PK	74	25.99
7000-40000	11488.61	Vertical	45.84	PK	74	28.16

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac20 Modulation 5785MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11568.47	Horizontal	46.01	PK	74	27.99
7000-40000	11568.63	Vertical	47.12	PK	74	26.88

802.11ac20 Modulation 5825MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11649.48	Horizontal	46.39	PK	74	27.61
7000-40000	11649.14	Vertical	45.25	PK	74	28.75

802.11ac20 Modulation 5745MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.64	Horizontal	44.05	PK	74	29.95
7000-40000	11488.84	Vertical	48.01	PK	74	25.99

802.11ac20 Modulation 5785MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.35	Horizontal	45.98	PK	74	28.02
7000-40000	11569.48	Vertical	44.45	PK	74	29.55

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac20 Modulation 5825MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.79	Horizontal	47.26	PK	74	26.74
7000-40000	11648.80	Vertical	45.72	PK	74	28.28

802.11ac40 Modulation 5755MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11508.98	Horizontal	48.42	PK	74	25.58
7000-40000	11508.74	Vertical	45.55	PK	74	28.45

802.11ac40 Modulation 5795MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.39	Horizontal	48.98	PK	74	25.02
7000-40000	11589.93	Vertical	45.85	PK	74	28.15

802.11ac40 Modulation 5755MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11509.32	Horizontal	48.01	PK	74	25.99
7000-40000	11509.56	Vertical	45.84	PK	74	28.16

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Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac40 Modulation 5795MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.16	Horizontal	47.55	PK	74	26.45
7000-40000	11589.35	Vertical	47.07	PK	74	26.93

802.11ac40 Modulation 5755MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11509.29	Horizontal	47.50	PK	74	26.5
7000-40000	11509.37	Vertical	46.08	PK	74	27.92

802.11ac40 Modulation 5795MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.03	Horizontal	48.96	PK	74	25.04
7000-40000	11588.05	Vertical	46.06	PK	74	27.94

802.11ac80 Modulation 5775MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11549.33	Horizontal	48.09	PK	74	25.91
7000-40000	11549.85	Vertical	46.45	PK	74	27.55

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ac80 Modulation 5775MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11549.66	Horizontal	46.91	PK	74	27.09
7000-40000	11548.51	Vertical	47.02	PK	74	26.98

802.11ac80 Modulation 5775MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11548.95	Horizontal	48.41	PK	74	25.59
7000-40000	11549.39	Vertical	46.54	PK	74	27.46

802.11ax20 Modulation 5745MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.94	Horizontal	47.13	PK	74	26.87
7000-40000	11488.10	Vertical	46.82	PK	74	27.18

802.11ax20 Modulation 5785MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11568.73	Horizontal	47.97	PK	74	26.03
7000-40000	11568.63	Vertical	45.00	PK	74	29.00

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ax20 Modulation 5825MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11648.07	Horizontal	46.28	PK	74	27.72
7000-40000	11649.66	Vertical	45.46	PK	74	28.54

802.11ax20 Modulation 5745MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11489.39	Horizontal	48.06	PK	74	25.94
7000-40000	11489.95	Vertical	45.45	PK	74	28.55

802.11ax20 Modulation 5785MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11569.52	Horizontal	45.39	PK	74	28.61
7000-40000	11568.19	Vertical	45.58	PK	74	28.42

802.11ax20 Modulation 5825MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11649.20	Horizontal	45.24	PK	74	28.76
7000-40000	11648.69	Vertical	44.94	PK	74	29.06

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3-13, No.151, Heng Tong Road, Shanghai, 200070, P.R. China
Phone: +86 21 61410123, Fax:+86 21 61408600

802.11ax20 Modulation 5745MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11488.64	Horizontal	45.42	PK	74	28.58
7000-40000	11489.27	Vertical	46.74	PK	74	27.26

802.11ax20 Modulation 5785MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11571.34	Horizontal	47.99	PK	74	26.01
7000-40000	11575.59	Vertical	48.40	PK	74	25.60

802.11ax20 Modulation 5825MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11657.40	Horizontal	49.33	PK	74	24.67
7000-40000	11651.03	Vertical	48.83	PK	74	25.17

802.11ax40 Modulation 5755MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11511.84	Horizontal	46.37	PK	74	27.63
7000-40000	11511.84	Vertical	47.31	PK	74	26.69

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802.11ax40 Modulation 5795MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.94	Horizontal	46.38	PK	74	27.62
7000-40000	11591.53	Vertical	47.21	PK	74	26.79

802.11ax40 Modulation 5755MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11510.78	Horizontal	48.77	PK	74	25.23
7000-40000	11511.31	Vertical	46.04	PK	74	27.96

802.11ax40 Modulation 5795MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11589.93	Horizontal	47.71	PK	74	26.29
7000-40000	11590.46	Vertical	47.01	PK	74	26.99

802.11ax40 Modulation 5755MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11511.84	Horizontal	46.59	PK	74	27.41
7000-40000	11510.25	Vertical	47.89	PK	74	26.11

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802.11ax40 Modulation 5795MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11591.00	Horizontal	47.59	PK	74	26.41
7000-40000	11590.46	Vertical	46.96	PK	74	27.04

802.11ax80 Modulation 5775MHz SISO ANT1						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11551.15	Horizontal	47.98	PK	74	26.02
7000-40000	11550.09	Vertical	47.61	PK	74	26.39

802.11ax80 Modulation 5775MHz SISO ANT2						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11550.09	Horizontal	47.38	PK	74	26.62
7000-40000	11550.09	Vertical	47.40	PK	74	26.60

802.11ax80 Modulation 5775MHz MIMO						
Frequency Range MHz	Frequency MHz	Antenna Polarization	Emission Level(dBuV/m)	Detector	Limit (dBuV/m)	Margin (Db)
1000-7000	--	Horizontal	--	PK	74	--
1000-7000	--	Vertical	--	PK	74	--
7000-40000	11550.09	Horizontal	47.73	PK	74	26.27
7000-40000	11551.68	Vertical	47.86	PK	74	26.14

Remark:

(1) Above 1GHz Corrector factor= Antenna Factor +Cable Loss - Amp. Factor.
(2) Below 1GHz Corrector factor= Antenna Factor +Cable Loss.
(3) "*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions.
(4) "#" is band edge band
(5) Testing is carried out with frequency rang 30MHz to 40GHz, which data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(6) The Low frequency, which start from 9KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

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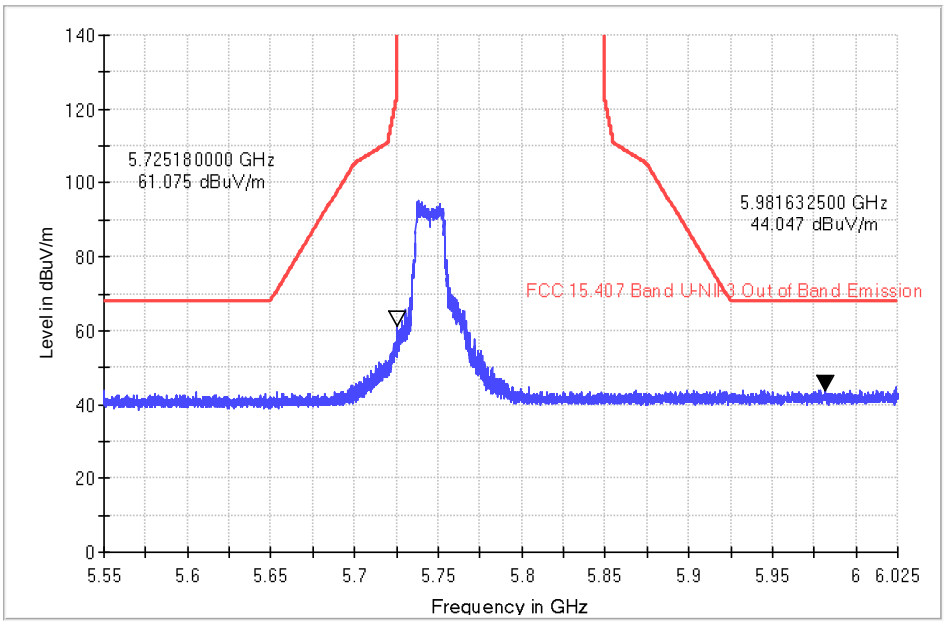
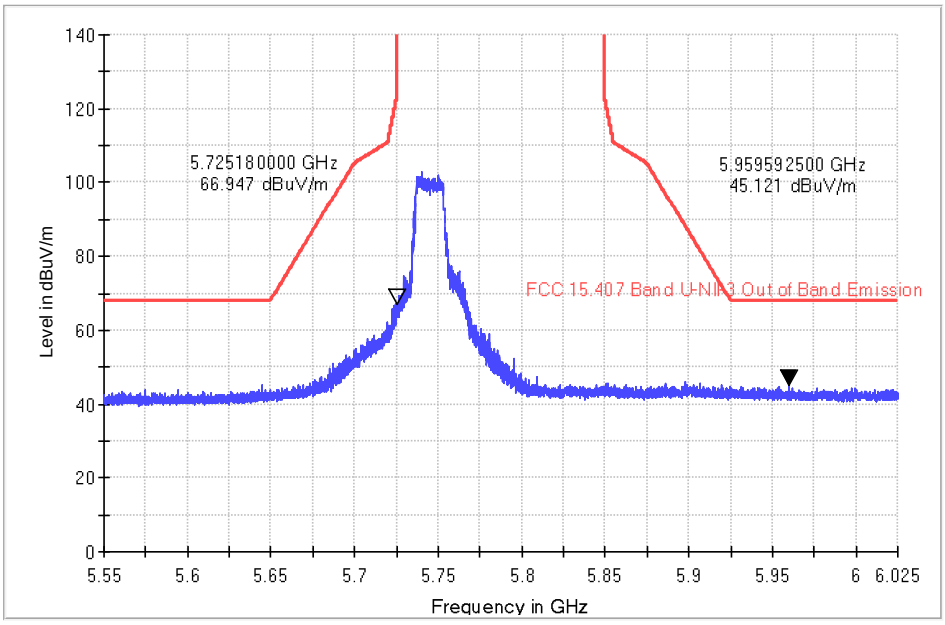
Out of Band Emission
802.11a: CH 5745MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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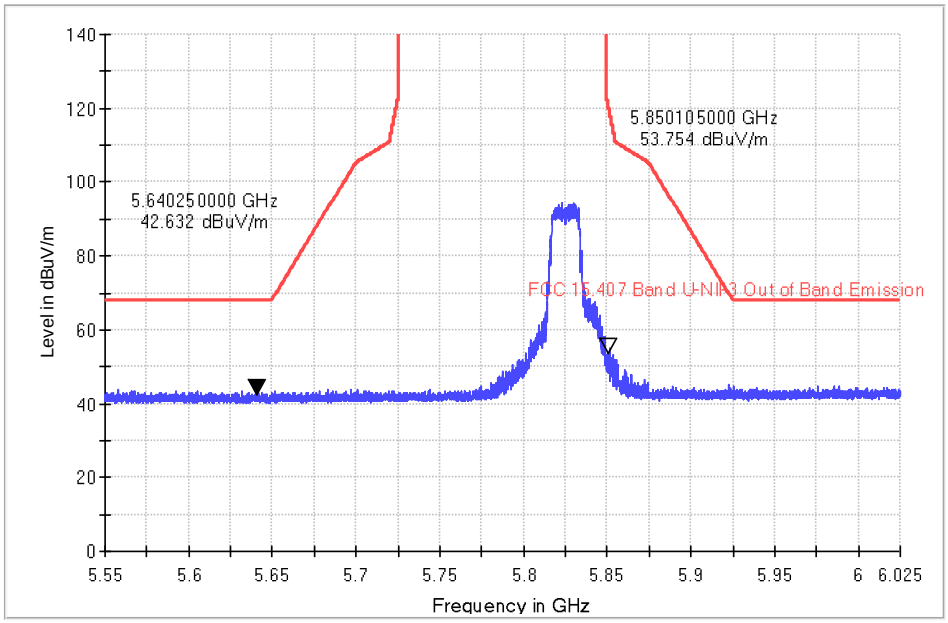
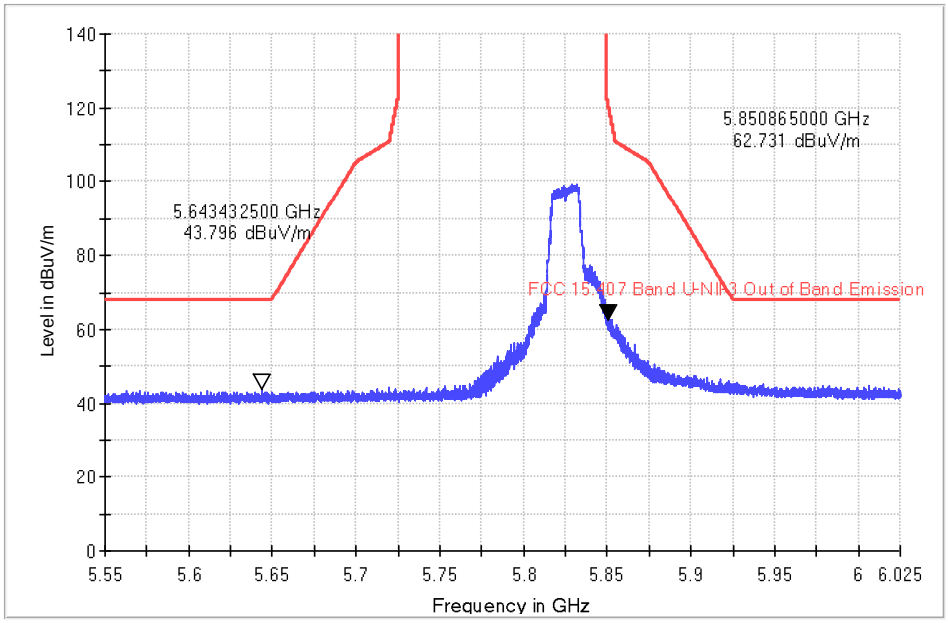
802.11a: CH 5825MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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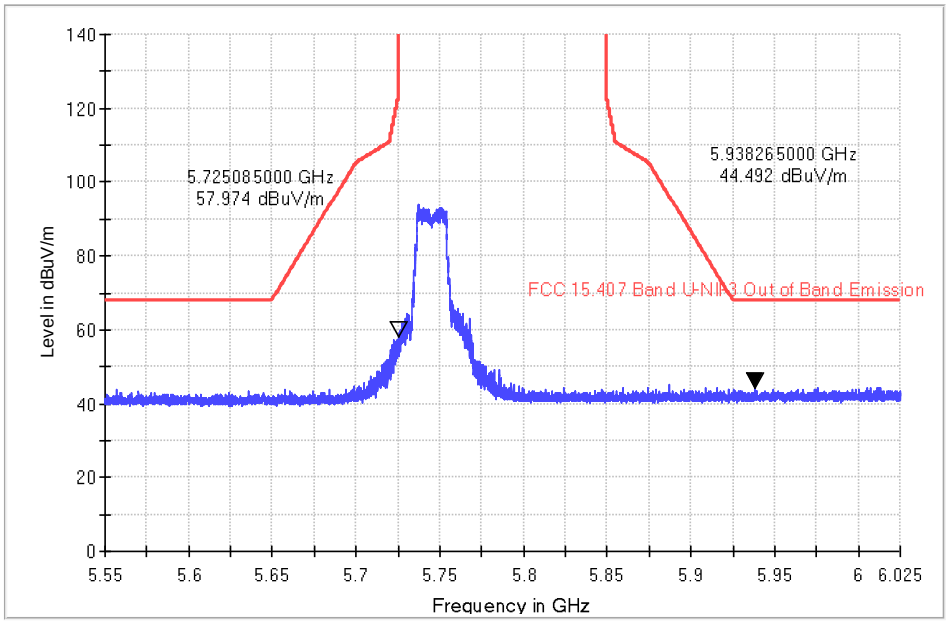
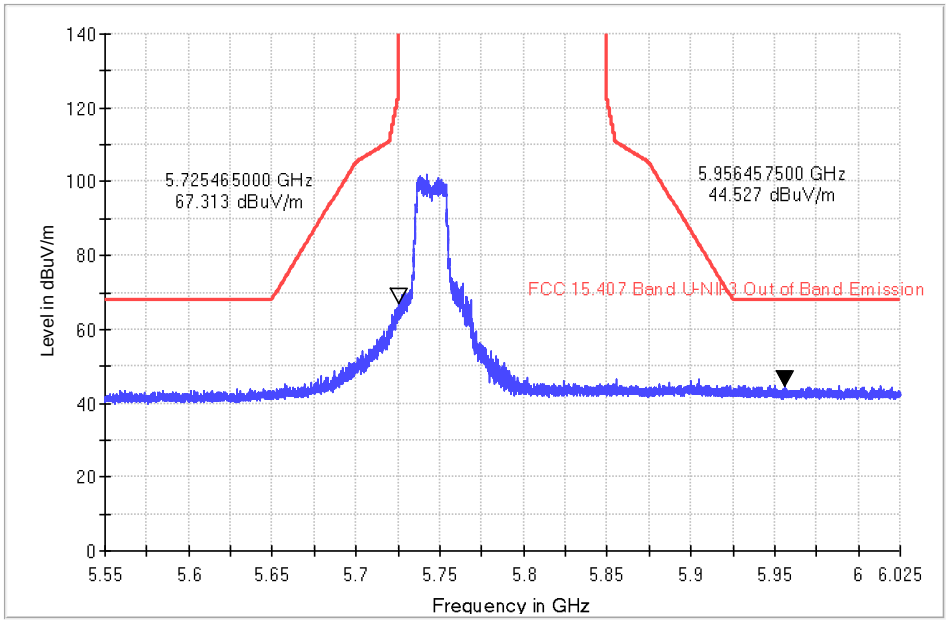
802.11n20: CH 5745MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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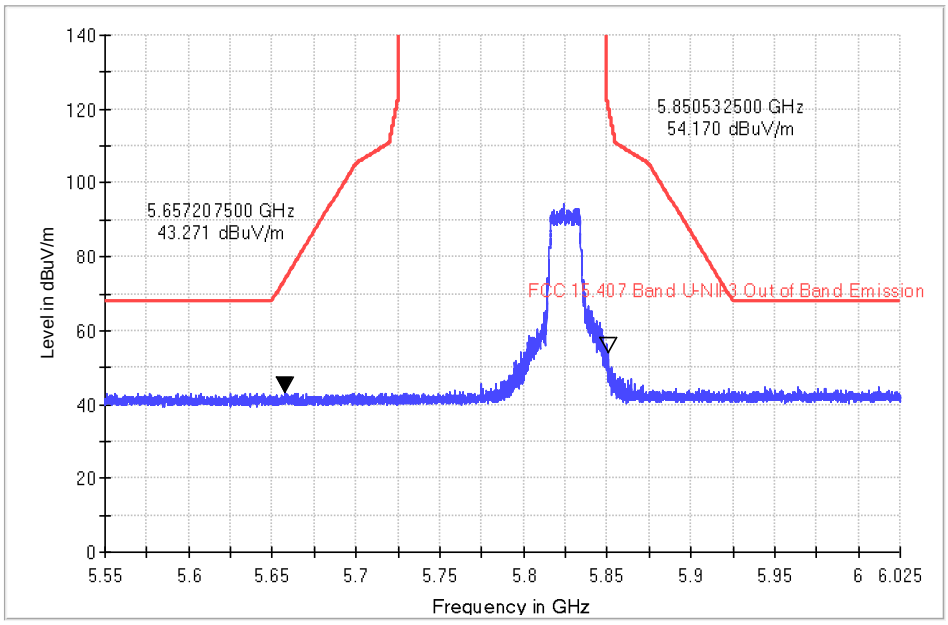
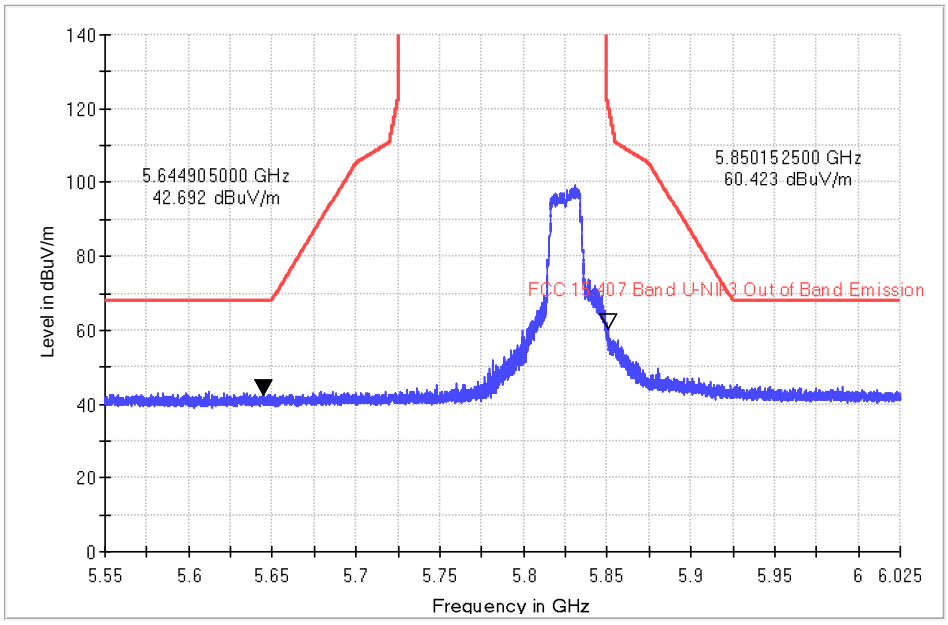
802.11n20: CH 5825MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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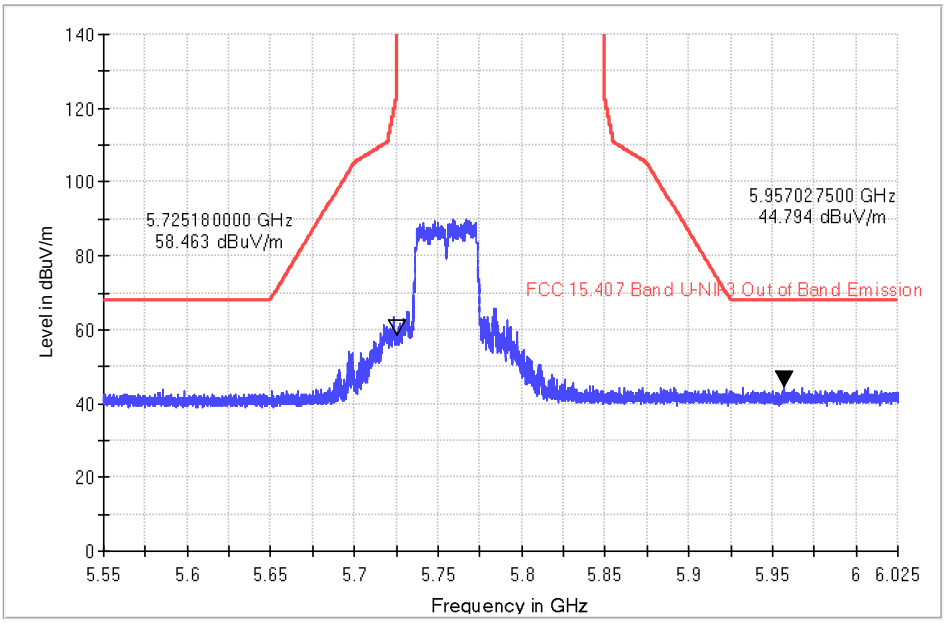
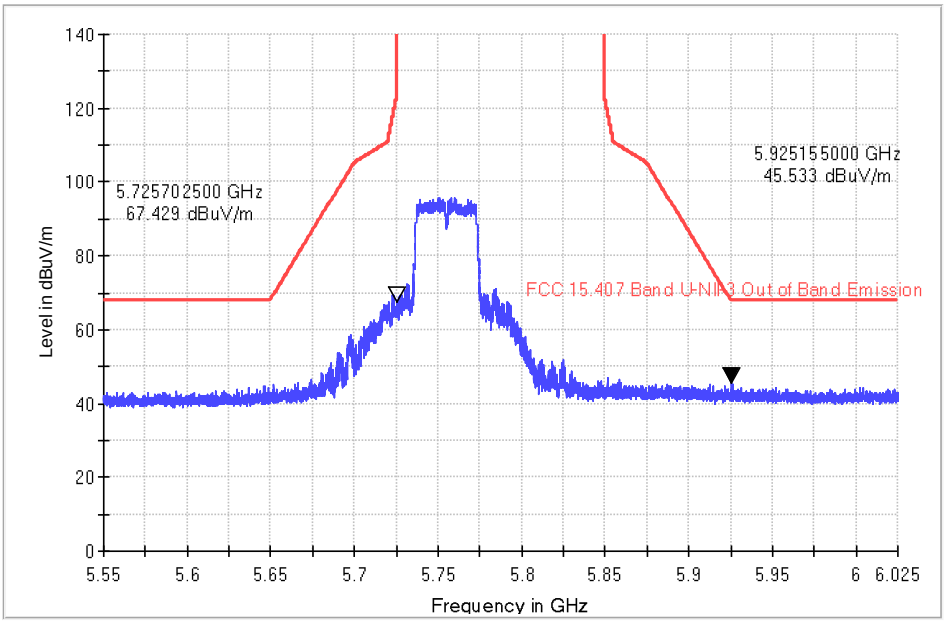
802.11n40: CH 5755MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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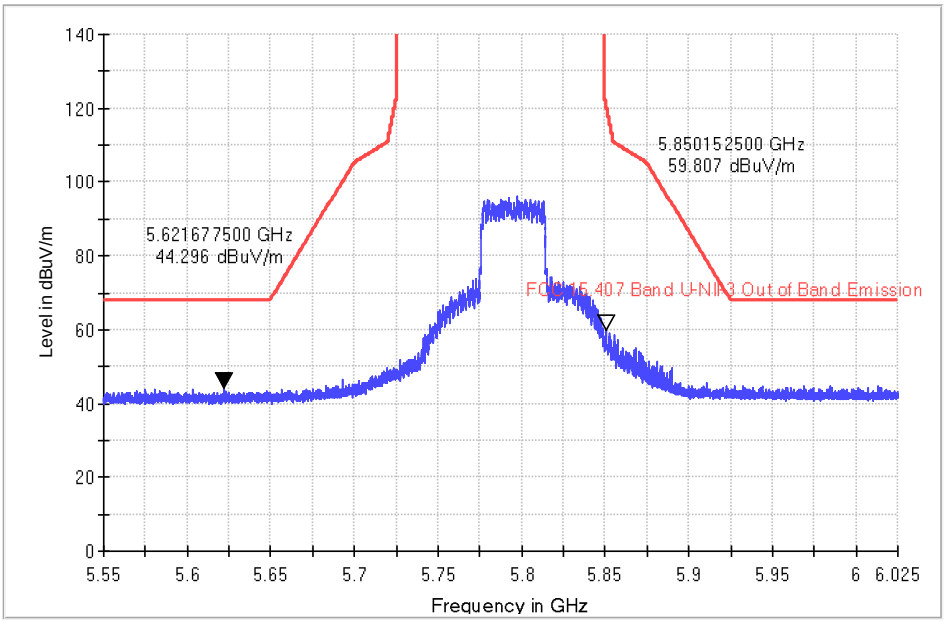
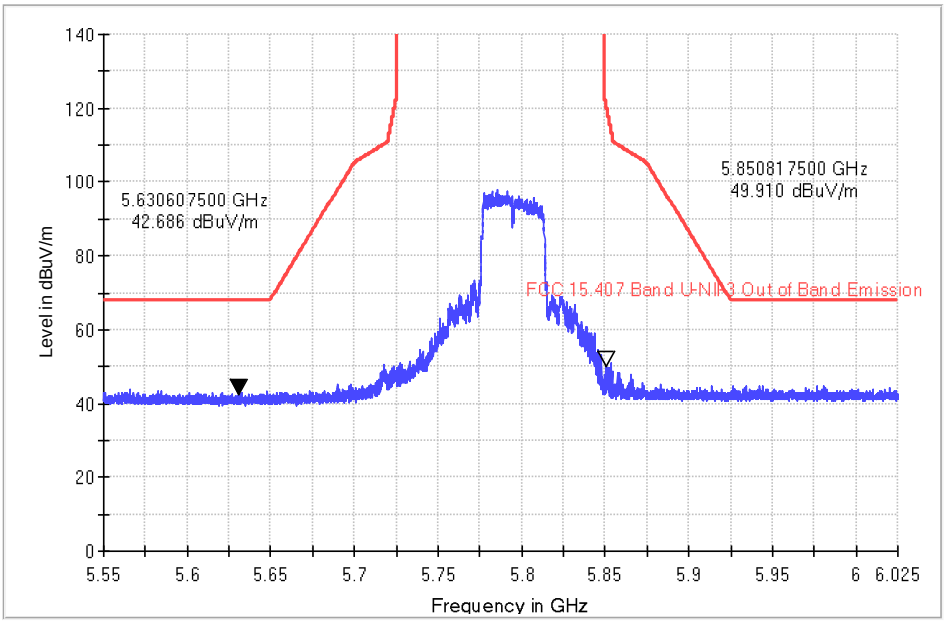
802.11n40: CH 5795MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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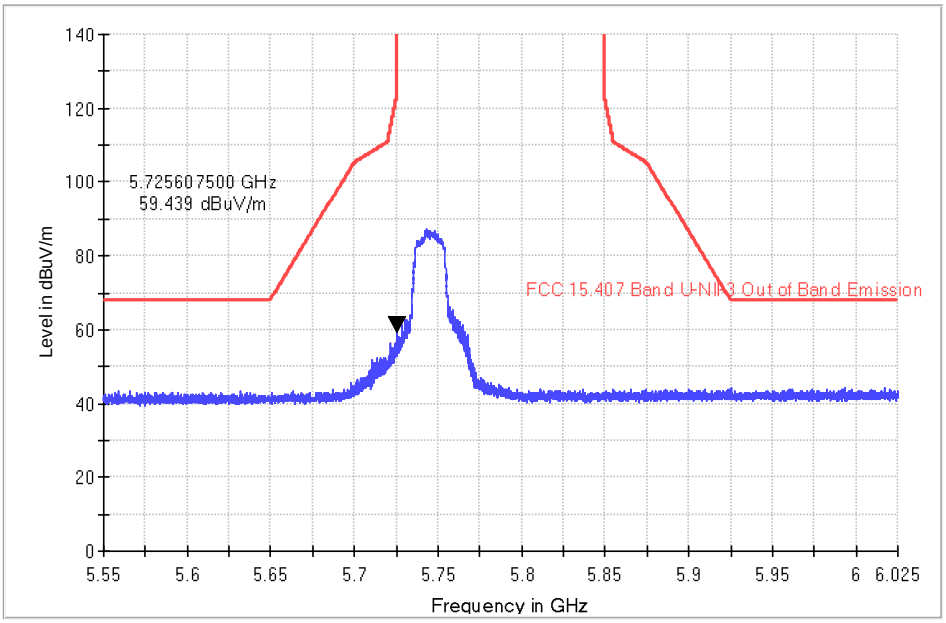
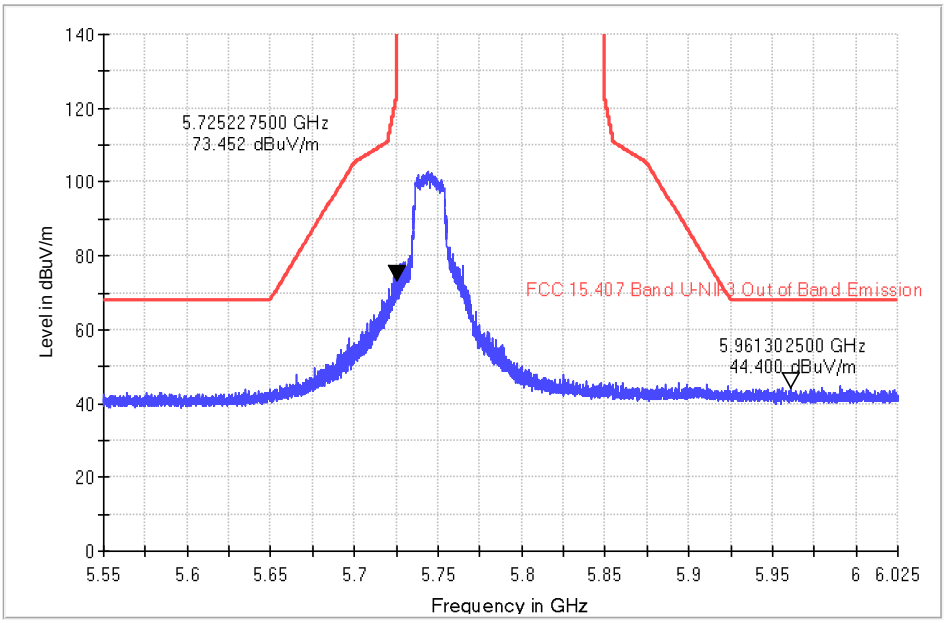
802.11ac20: CH 5745MHz SISO ANT1
Horizontal

FCC 15.407 U-NII Out of Band Emission



Vertical

FCC 15.407 U-NII Out of Band Emission



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