


4.4. 26DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

4.4.1. Test Specification

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	No restriction limits
Test Setup:	 <p style="text-align: center;">Spectrum Analyzer EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth $RBW = 1\% EBW$, $VBW \geq 3RBW$, In order to make an accurate measurement. 4. Measure and record the results in the test report.
Test Result:	N/A

4.4.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 09, 2021	Dec. 08, 2022
RF cable	Times	1-40G	HKE-034	Dec. 09, 2021	Dec. 08, 2022
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 09, 2021	Dec. 08, 2022


Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4.4.3. Test Result

N/A

4.5. POWER SPECTRAL DENSITY

4.5.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	≤30.00dBm/500KHz for Band IV 5725MHz-5850MHz
Test Setup:	 <p style="text-align: center;">Spectrum Analyzer EUT</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 2. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS. 3. Allow the sweeps to continue until the trace stabilizes. 4. Use the peak marker function to determine the maximum amplitude level. 5. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

4.5.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 09, 2021	Dec. 08, 2022
RF cable	Times	1-40G	HKE-034	Dec. 09, 2021	Dec. 08, 2022
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 09, 2021	Dec. 08, 2022

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



4.5.3. Test data

ANT 1

Configuration Band IV (5725 - 5850 MHz)						
Mode	Test channel	Level [dBm/510kHz]	10log(500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
11a	CH149	10.38	-0.086	10.294	30	PASS
11a	CH157	8.51	-0.086	8.424	30	PASS
11a	CH165	9.26	-0.086	9.174	30	PASS
11n HT20	CH149	10.76	-0.086	10.674	30	PASS
11n HT20	CH157	11.74	-0.086	11.654	30	PASS
11n HT20	CH165	11.8	-0.086	11.714	30	PASS
11n HT40	CH151	10.33	-0.086	10.244	30	PASS
11n HT40	CH159	10.46	-0.086	10.374	30	PASS
11ac HT20	CH149	10.41	-0.086	10.324	30	PASS
11ac HT20	CH157	10.96	-0.086	10.874	30	PASS
11ac HT20	CH165	9.64	-0.086	9.554	30	PASS
11ac HT40	CH151	10.24	-0.086	10.154	30	PASS
11ac HT40	CH159	9.88	-0.086	9.794	30	PASS
11ac HT80	CH155	9.08	-0.086	8.994	30	PASS
11ax HT20	CH149	11.77	-0.086	11.684	30	PASS
11ax HT20	CH157	13.55	-0.086	13.464	30	PASS
11ax HT20	CH165	13.2	-0.086	13.114	30	PASS
11ax HT40	CH151	10.81	-0.086	10.724	30	PASS
11ax HT40	CH159	12.59	-0.086	12.504	30	PASS
11ax HT80	CH155	10.57	-0.086	10.484	30	PASS

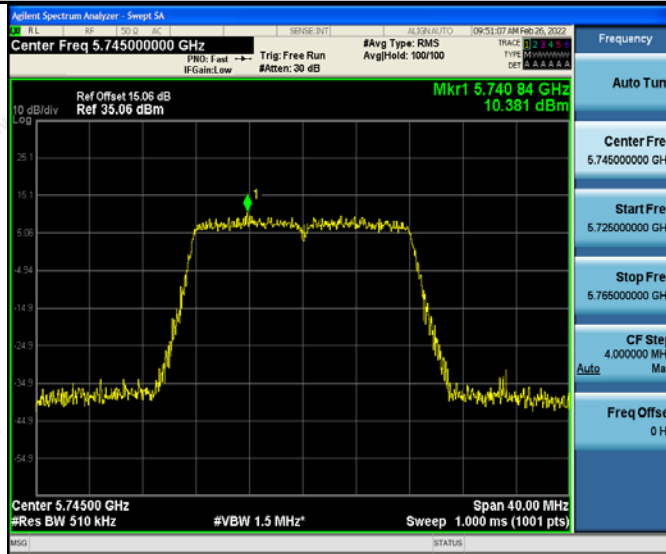
Note: Power Spectral Density= Level [dBm/510kHz]+ (10log(Limit RBW/Test RBW))

Test plots as follows:

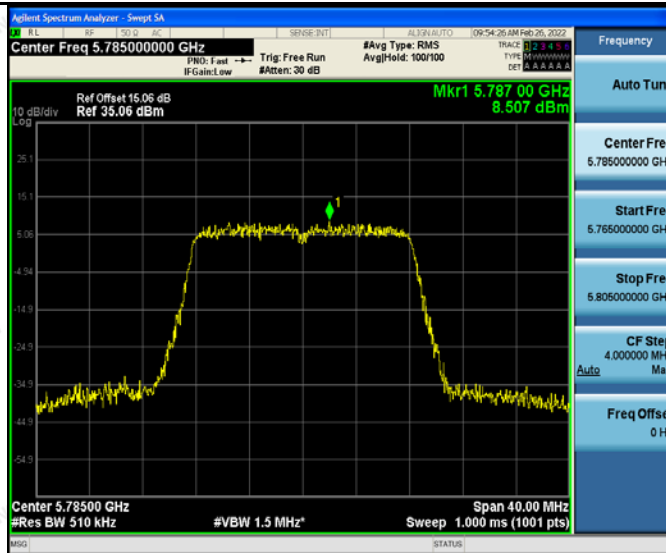


Band IV (5725-5850 MHz)

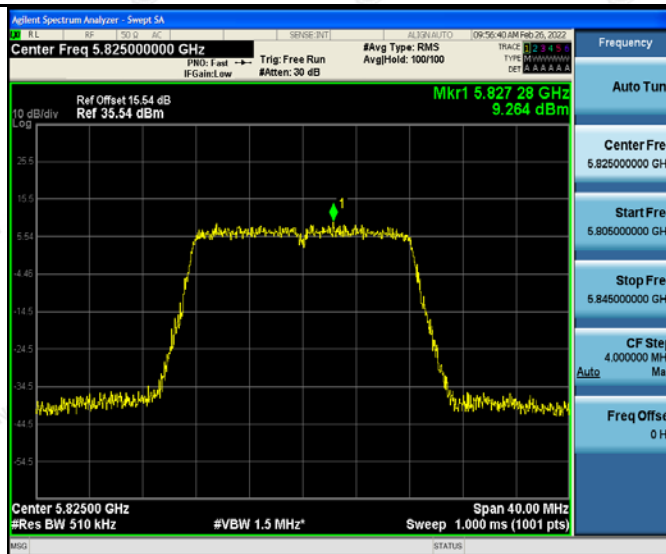
802.11a



Low



Mid

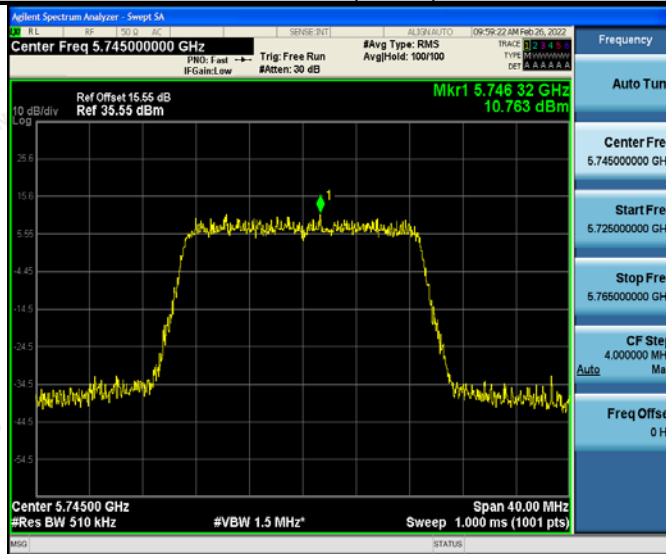


High

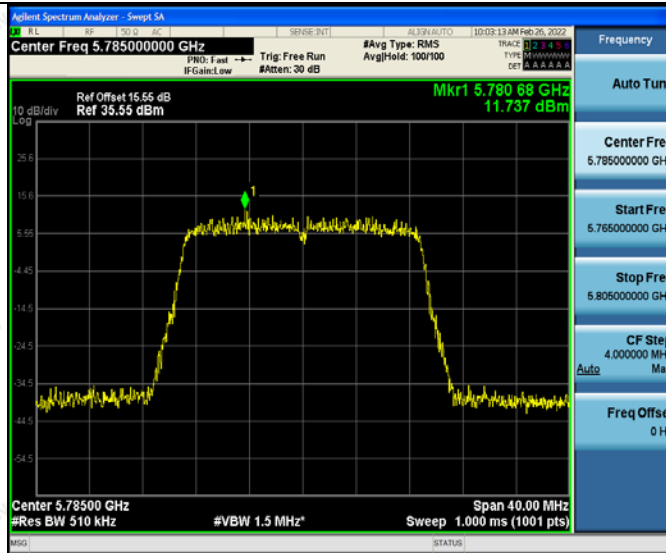
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAJ, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



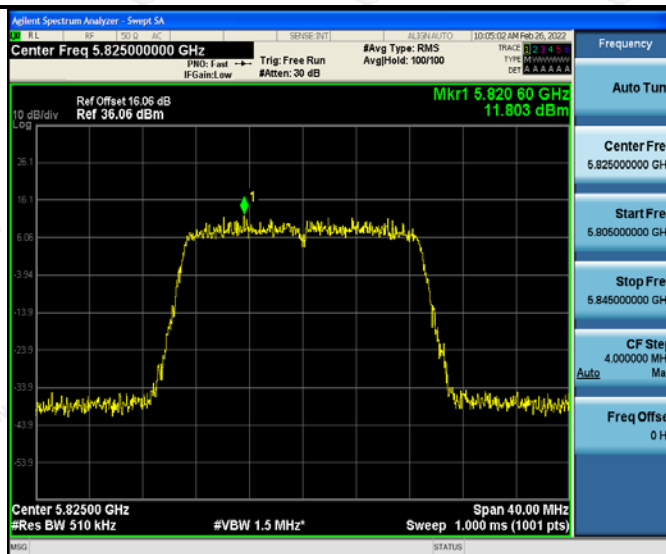
802.11n(HT20)



Low



Mid

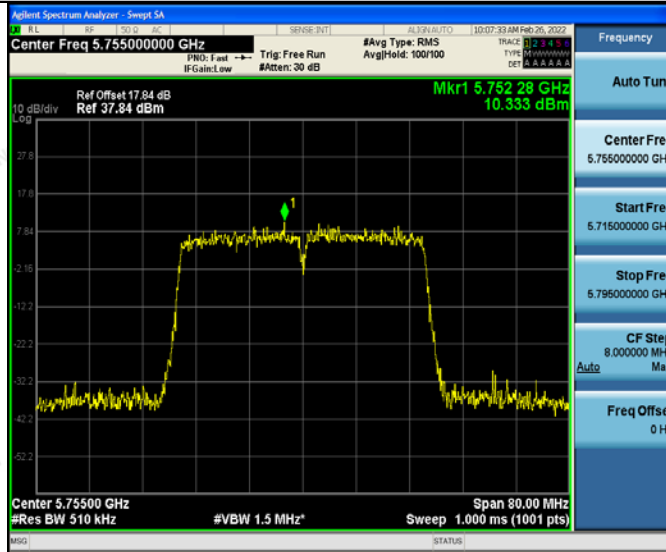


High

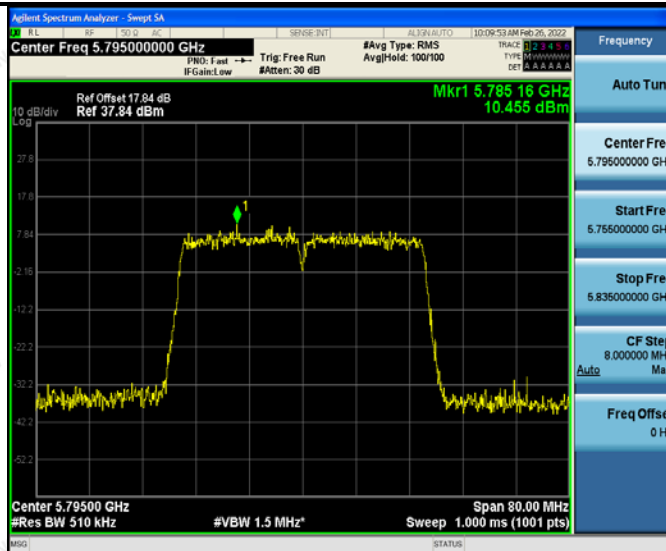
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



802.11n(HT40)

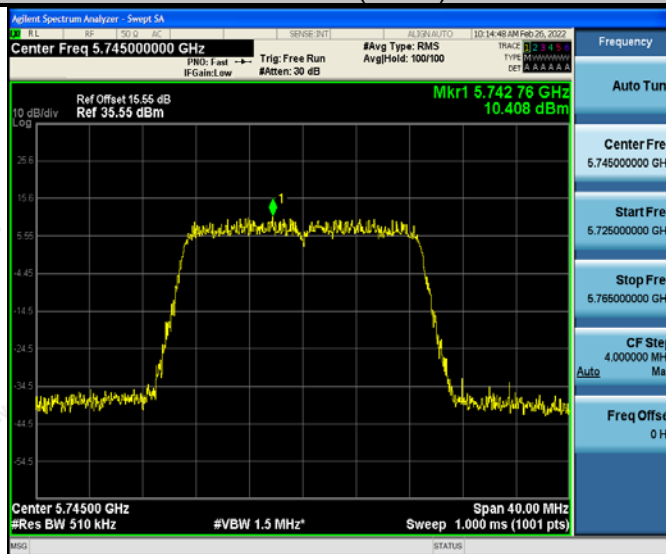


Low



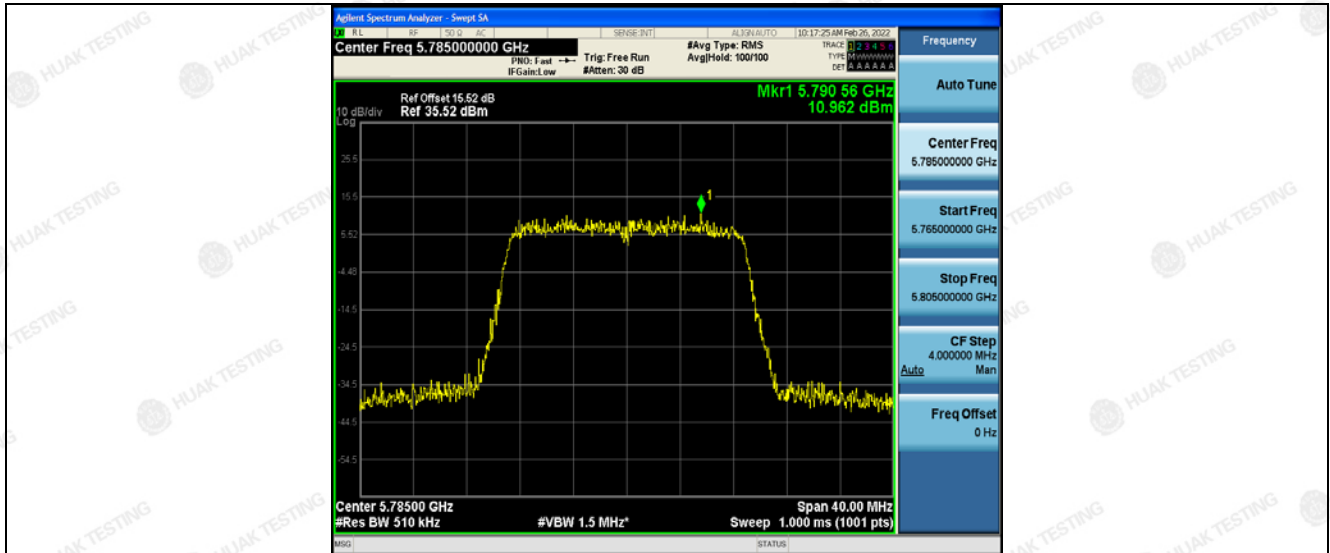
High

802.11ac(HT20)

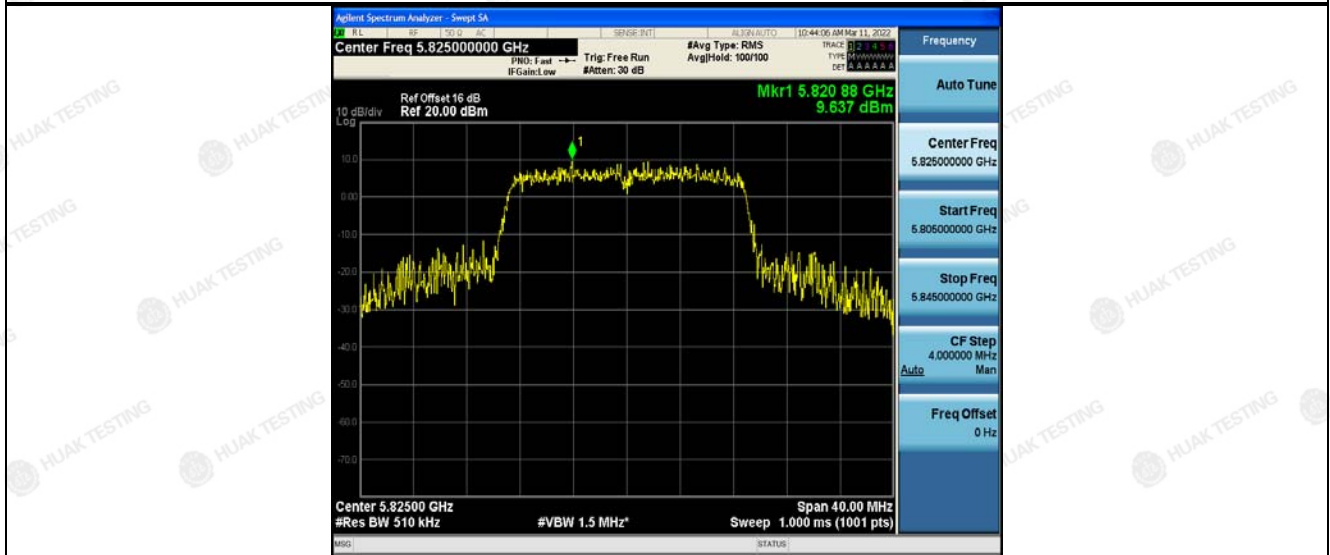


Low

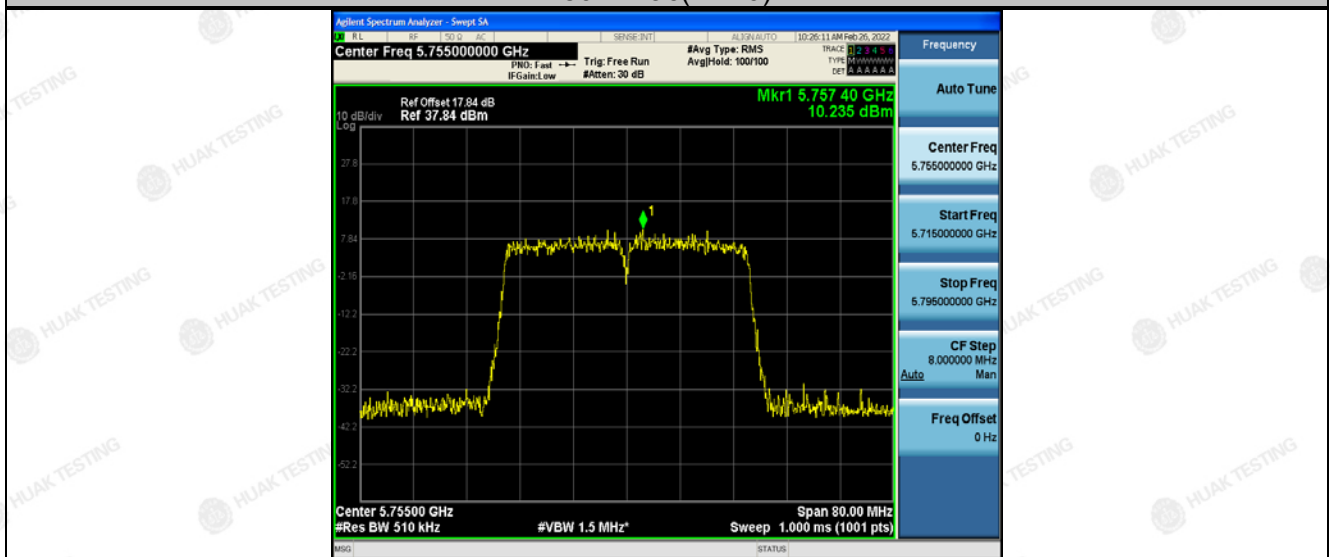
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Mid

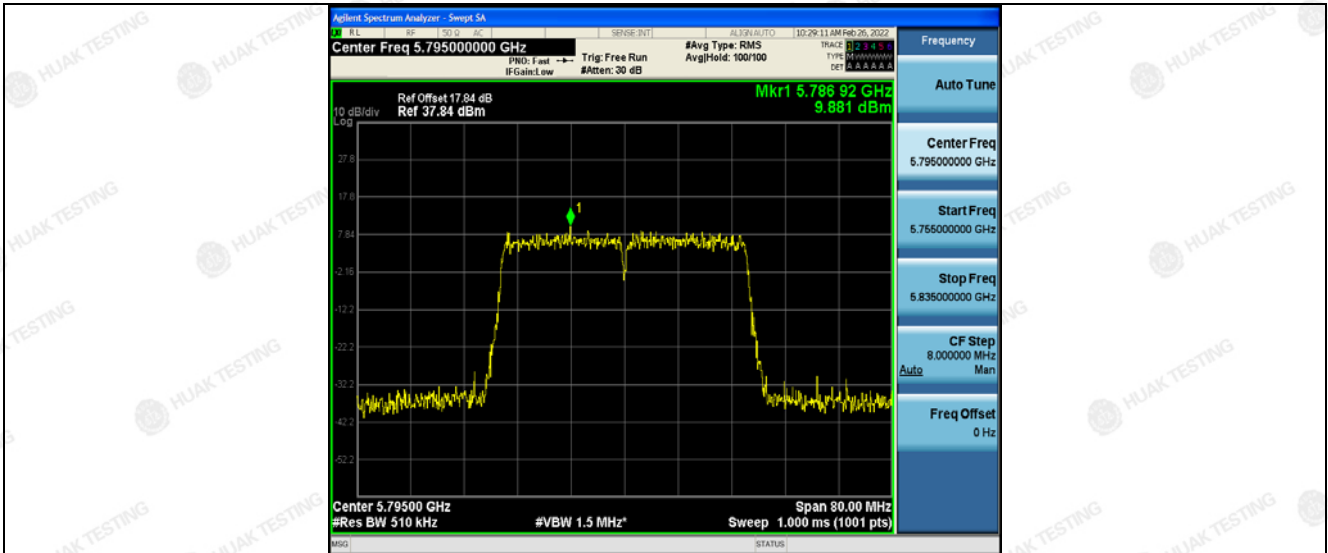


High
802.11ac(HT40)

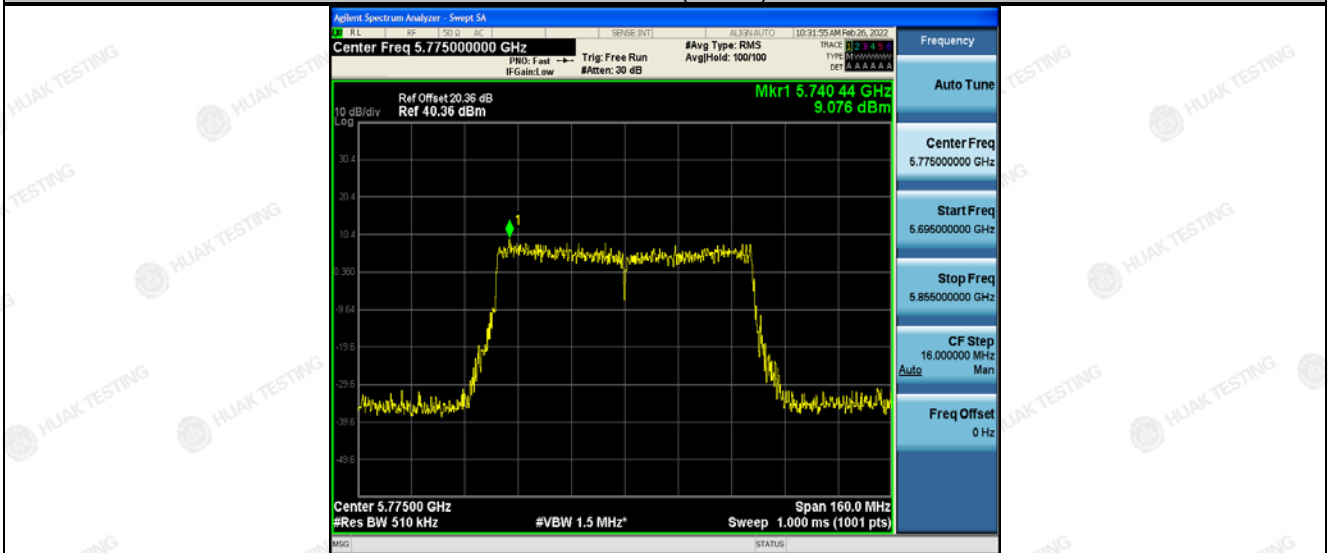


Low

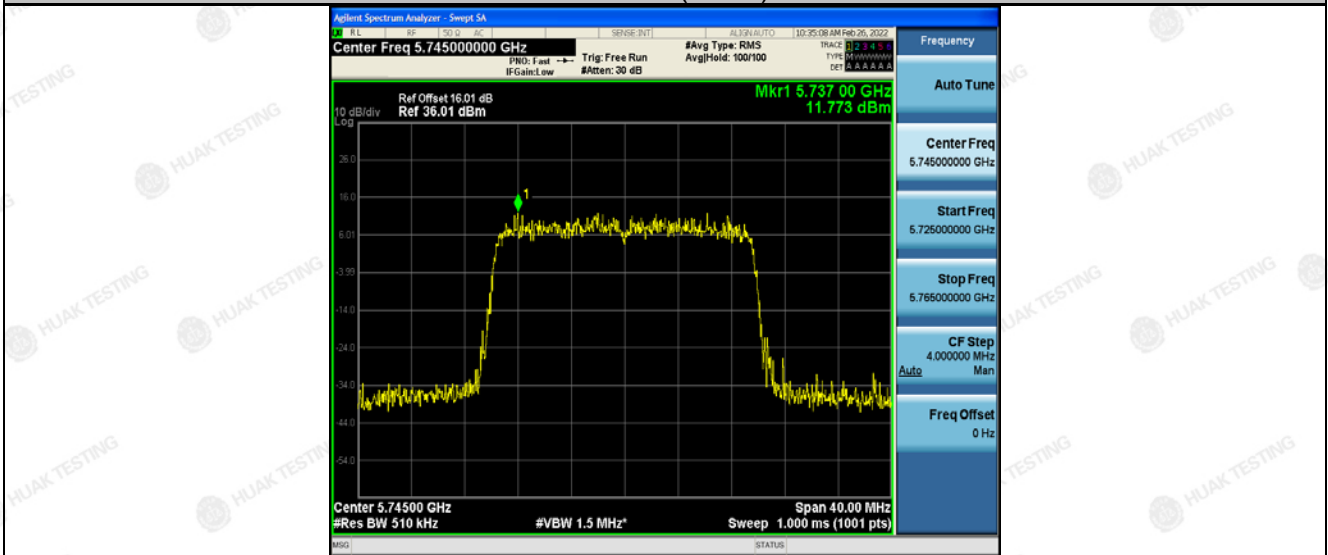
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



High
802.11ac(HT80)

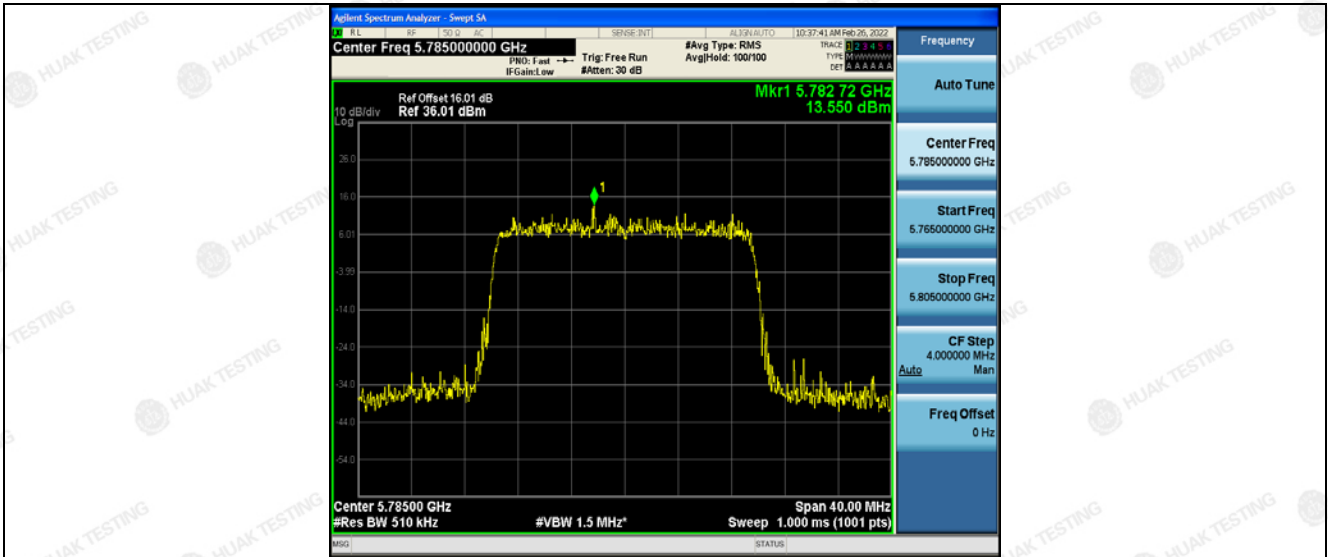


802.11ax(HT20)

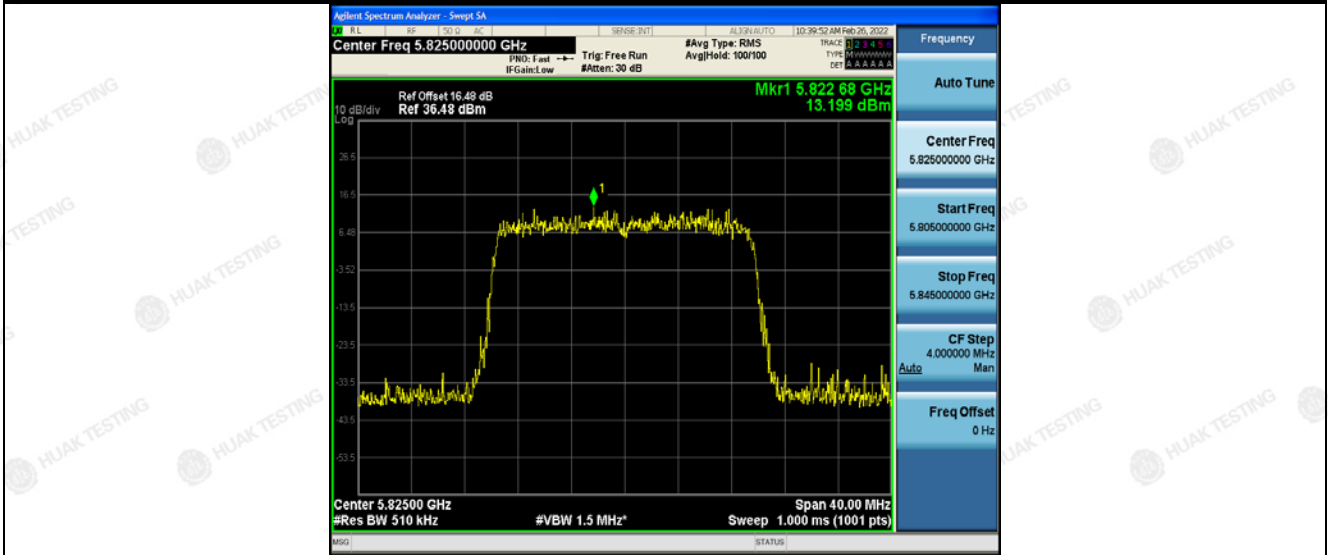


Low

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Mid

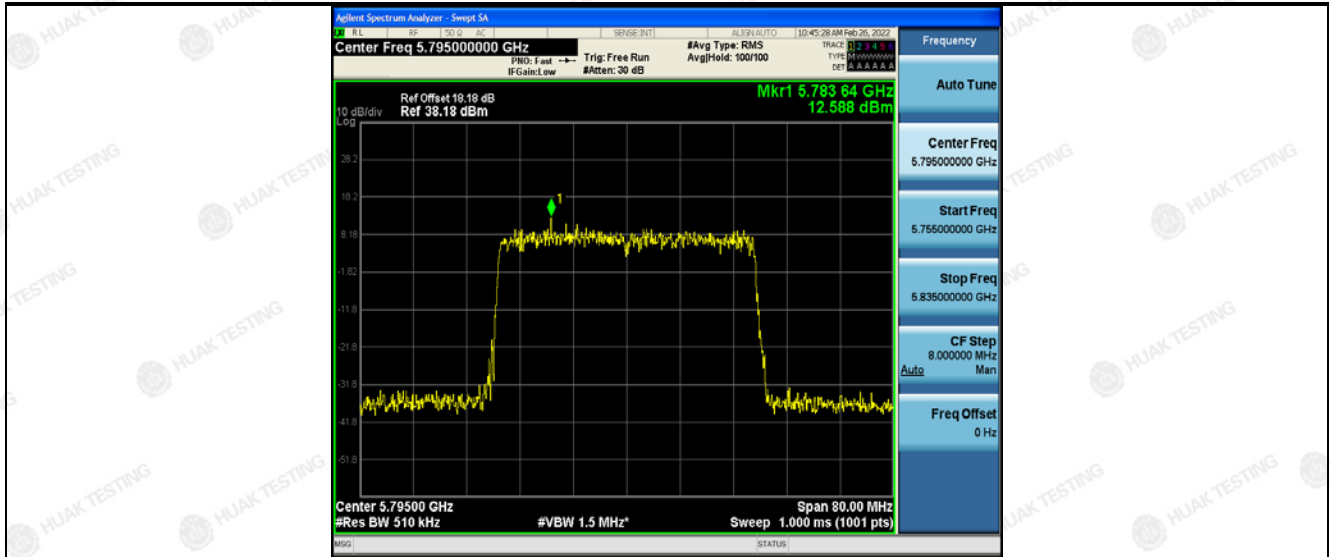


High
802.11ax(HT40)

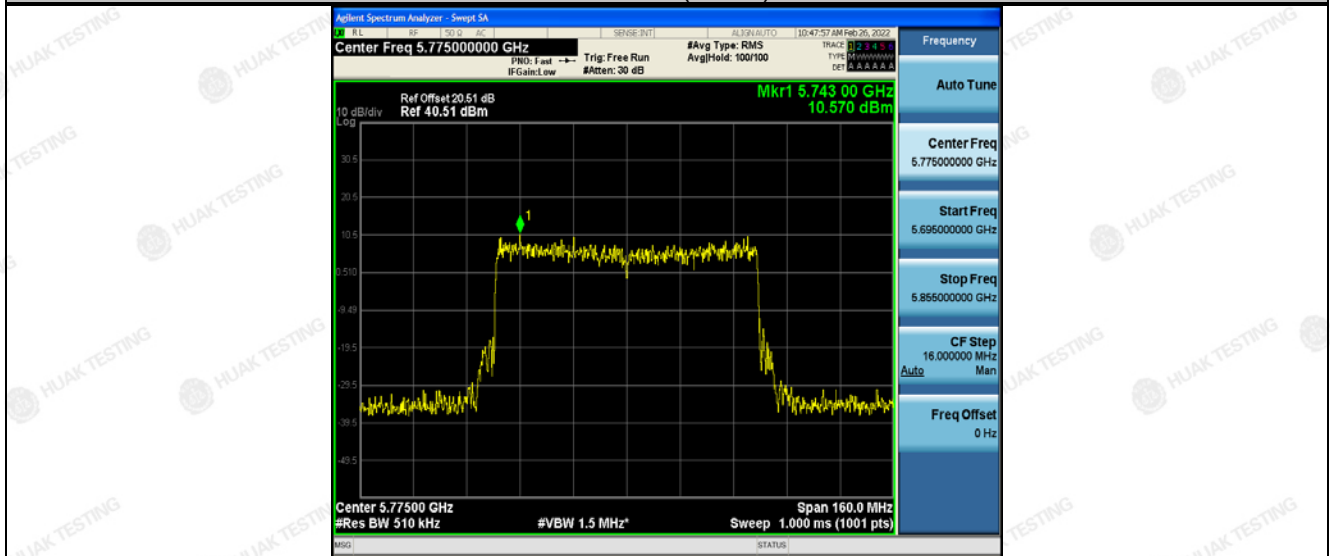


Low

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



High
802.11ax(HT80)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



ANT 2

Configuration Band IV (5725 - 5850 MHz)						
Mode	Test channel	Level [dBm/510kHz]	10log(500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
11a	CH149	6.4	-0.086	6.314	30	PASS
11a	CH157	7.29	-0.086	7.204	30	PASS
11a	CH161	7.91	-0.086	7.824	30	PASS
11n(HT20)	CH149	6.57	-0.086	6.484	30	PASS
11n(HT20)	CH157	7.96	-0.086	7.874	30	PASS
11n(HT20)	CH161	8.62	-0.086	8.534	30	PASS
11n(HT40)	CH151	6.35	-0.086	6.264	30	PASS
11n(HT40)	CH159	7.72	-0.086	7.634	30	PASS
11ac(HT20)	CH149	8.22	-0.086	8.134	30	PASS
11ac(HT20)	CH157	7.02	-0.086	6.934	30	PASS
11ac(HT20)	CH161	8.6	-0.086	8.514	30	PASS
11ac(HT40)	CH151	6.46	-0.086	6.374	30	PASS
11ac(HT40)	CH159	6.77	-0.086	6.684	30	PASS
11ac(HT80)	CH155	6.57	-0.086	6.484	30	PASS
11ax(HT20)	CH149	10.13	-0.086	10.044	30	PASS
11ax(HT20)	CH157	9.48	-0.086	9.394	30	PASS
11ax(HT20)	CH161	9.49	-0.086	9.404	30	PASS
11ax(HT40)	CH151	6.78	-0.086	6.694	30	PASS
11ax(HT40)	CH159	7.71	-0.086	7.624	30	PASS
11ax(HT80)	CH155	7.68	-0.086	7.594	30	PASS

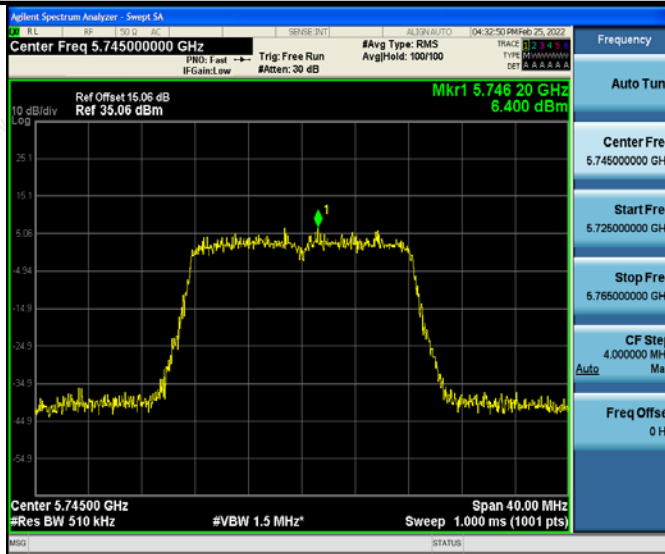
Note: Power Spectral Density= Level [dBm/510kHz]+ (10log(Limit RBW/Test RBW))

Test plots as follows:

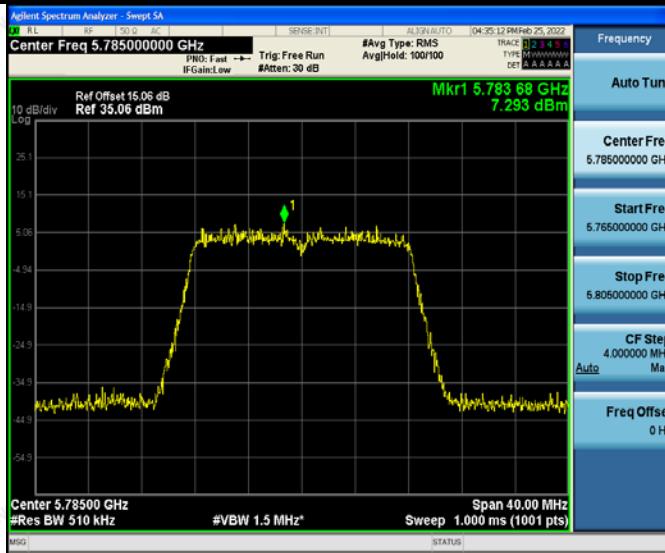


Band IV (5725 – 5850 MHz)

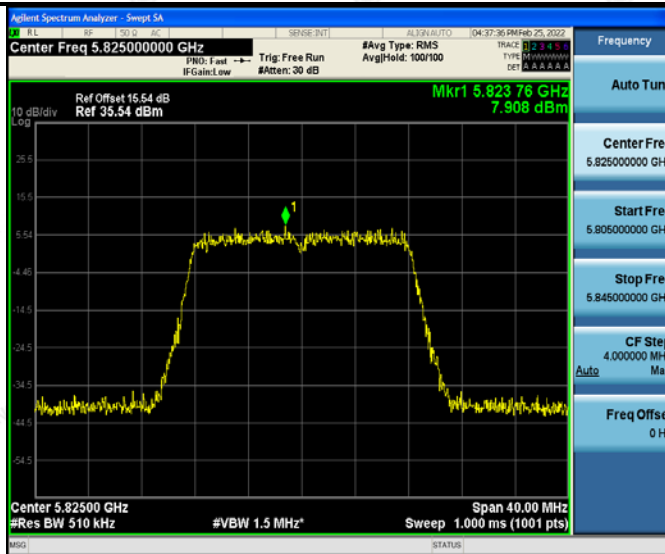
802.11a



Low



Mid

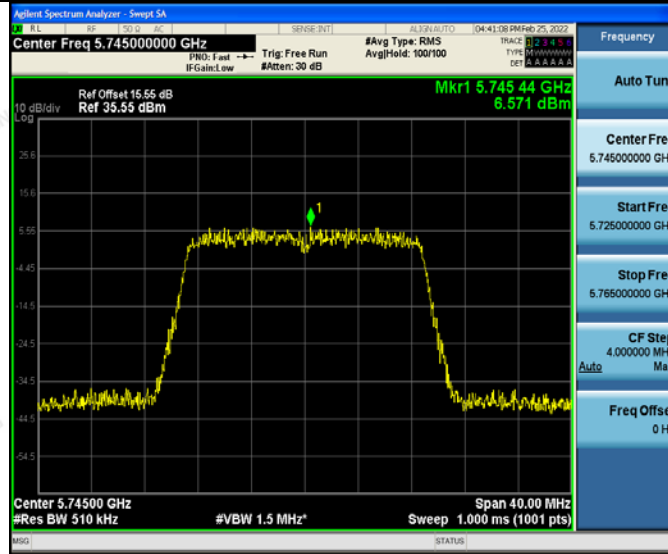


High

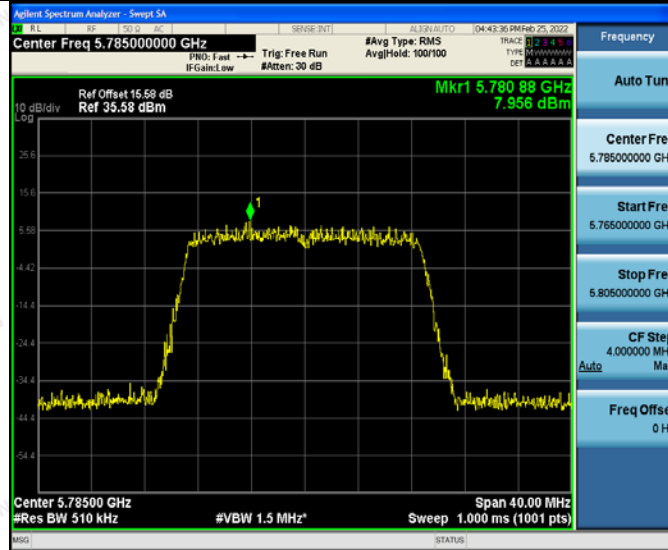
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAJ, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



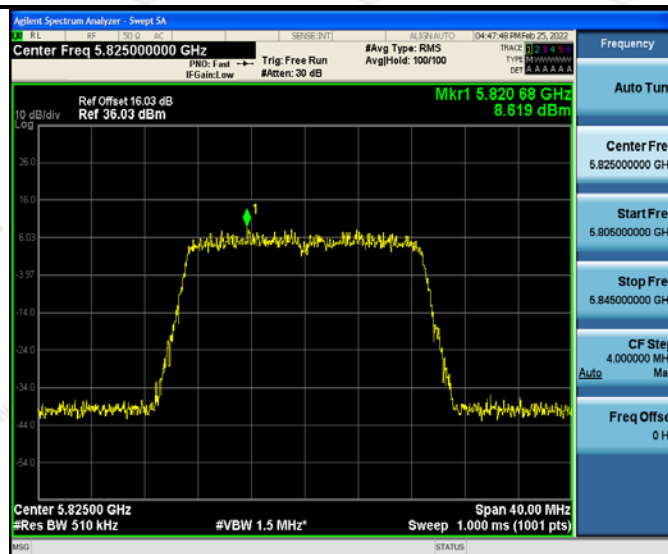
802.11n(HT20)



Low



Mid

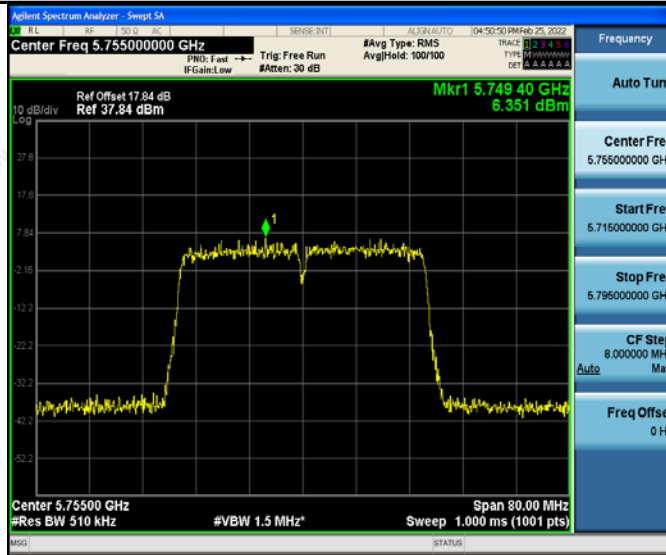


High

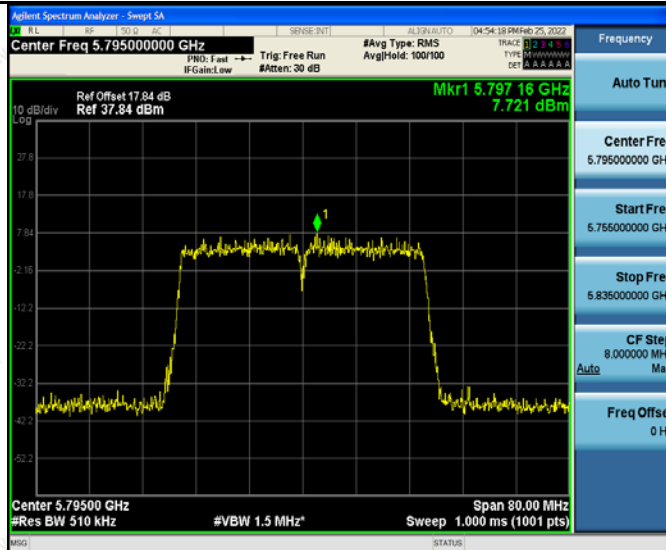
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



802.11n(HT40)

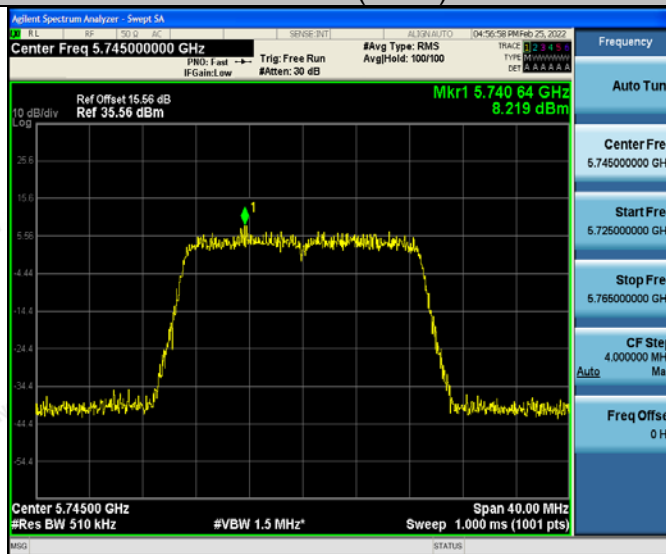


Low



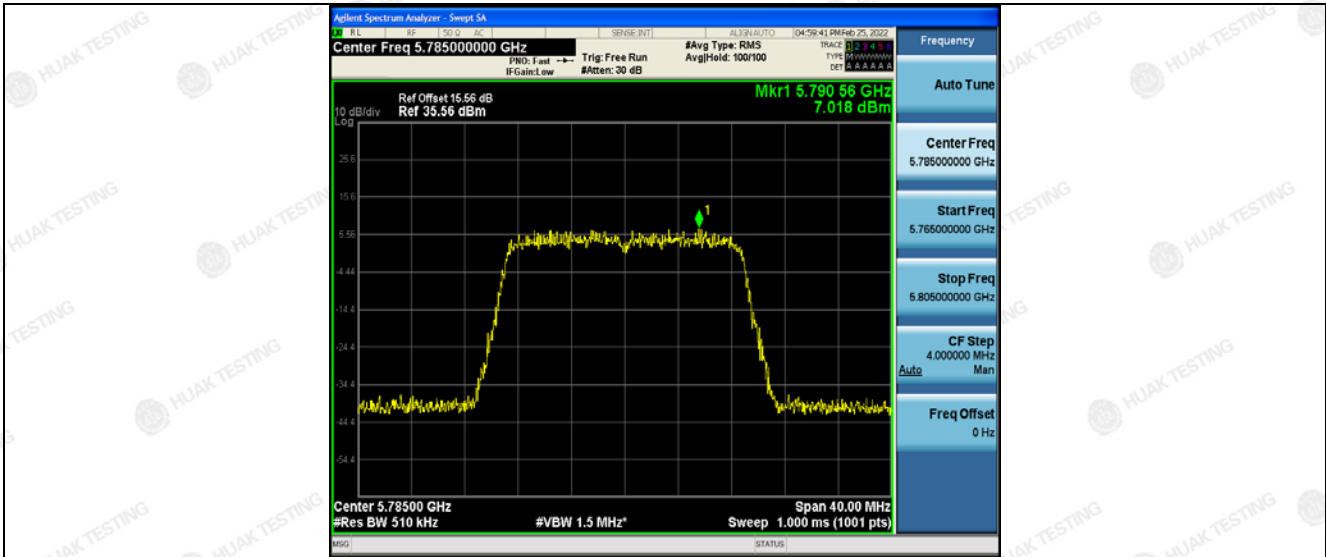
High

802.11ac(HT20)

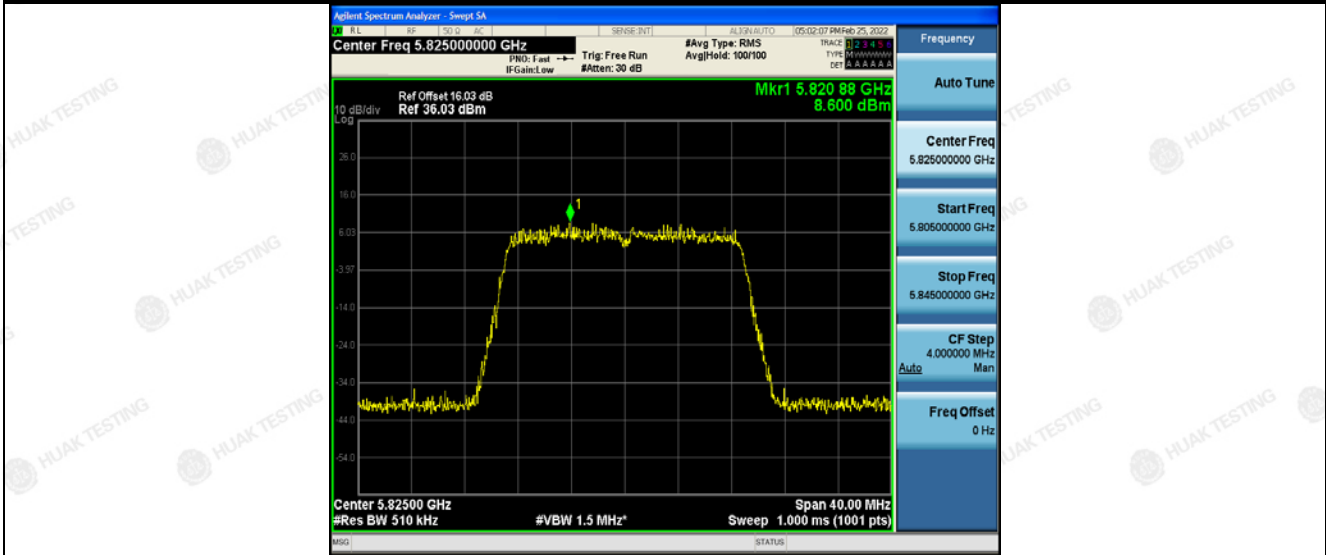


Low

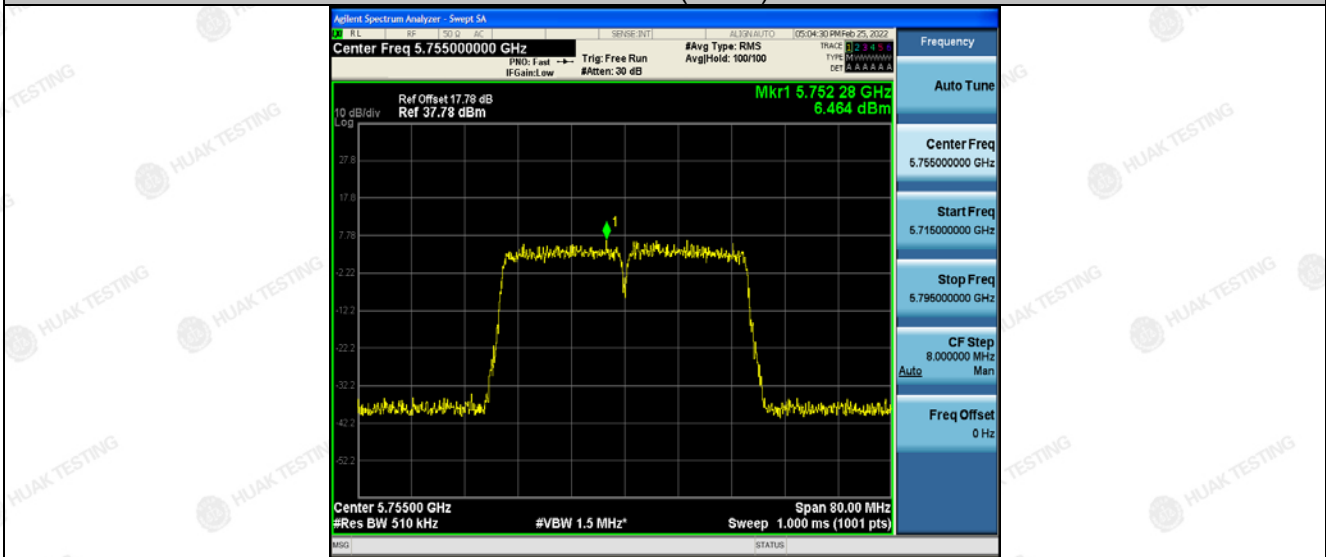
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Mid

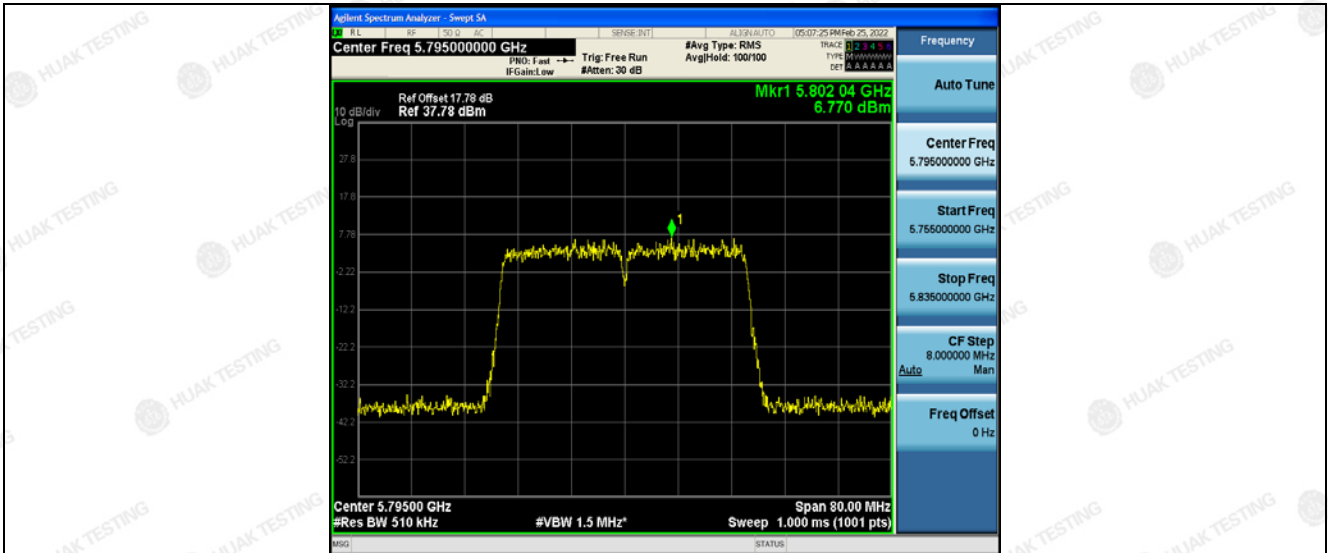


High
802.11ac(HT40)

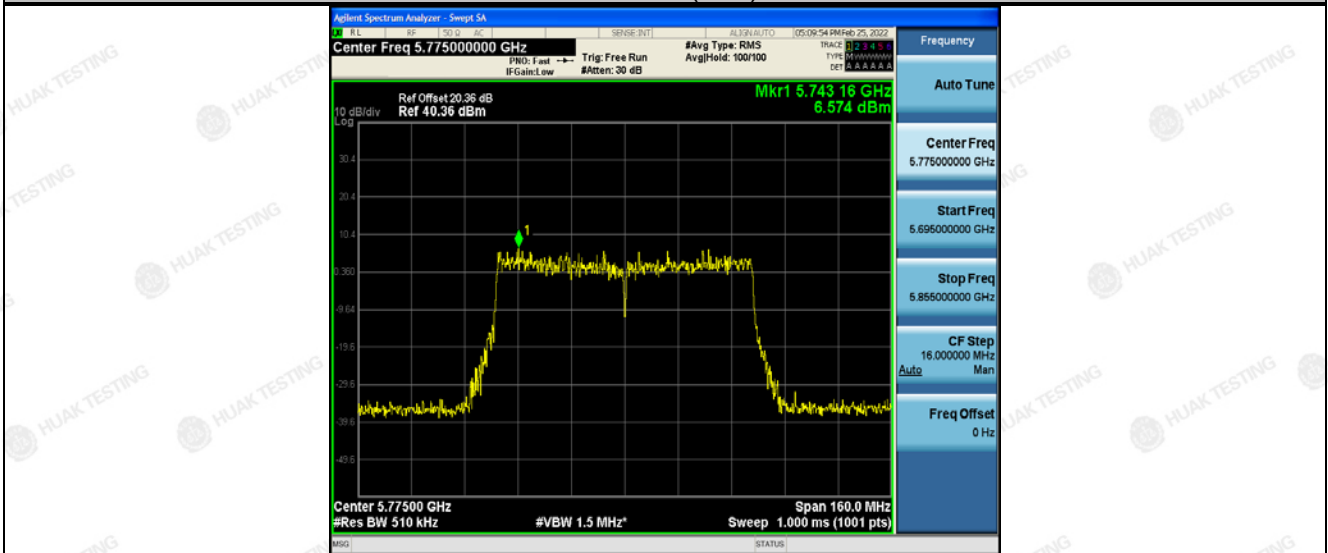


Low

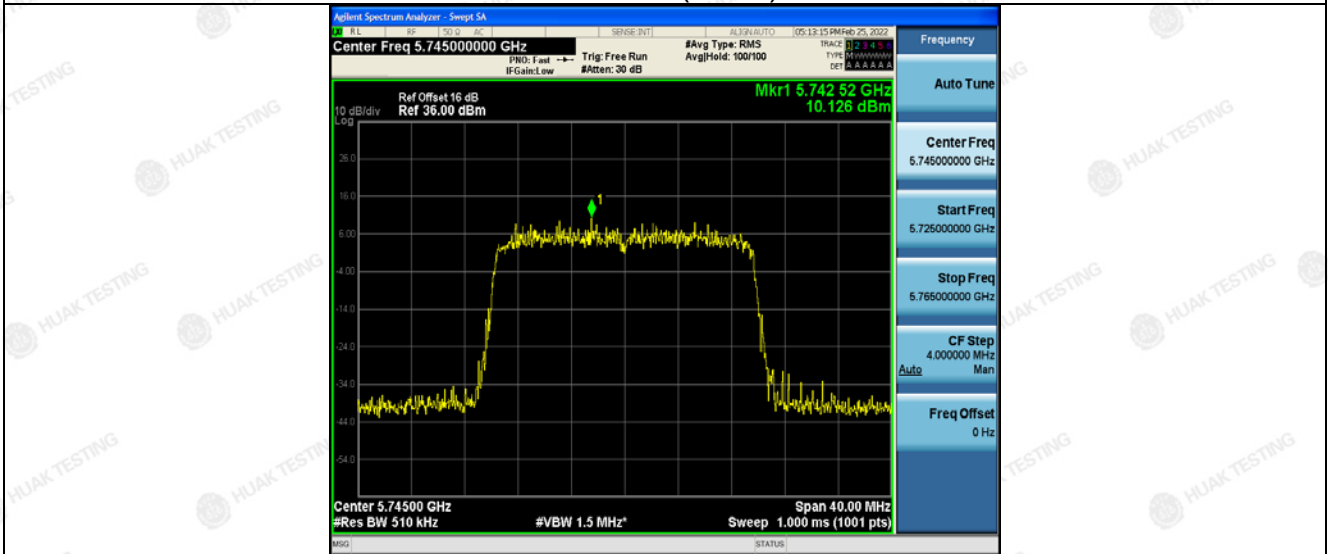
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAJ, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



High
802.11ac(T80)

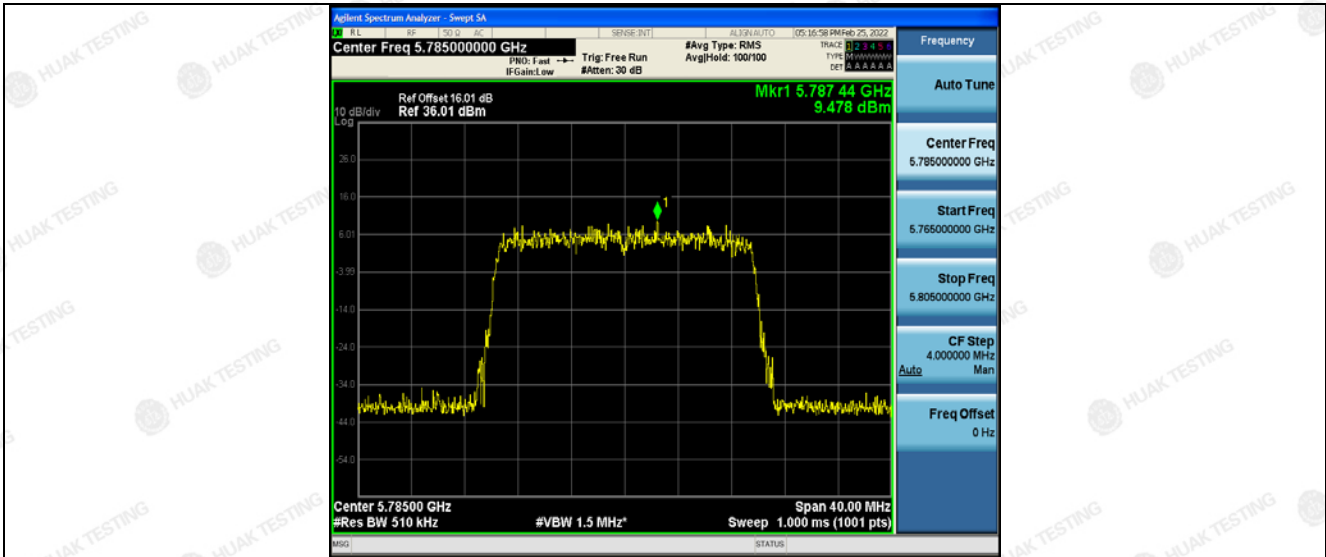


802.11ax(HT20)

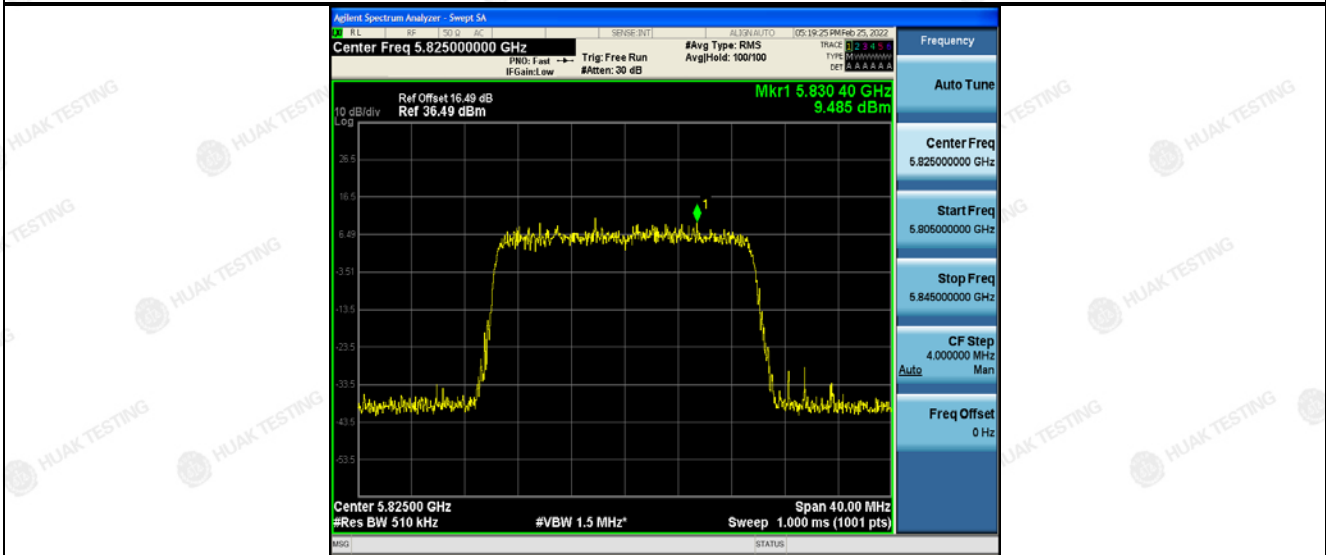


Low

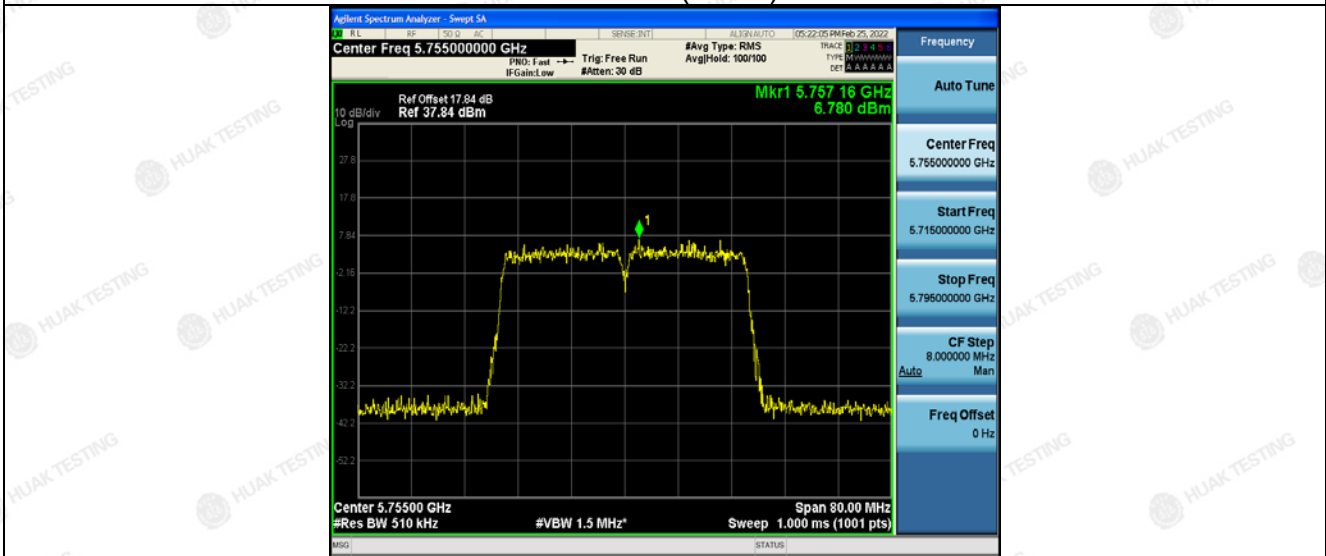
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Mid

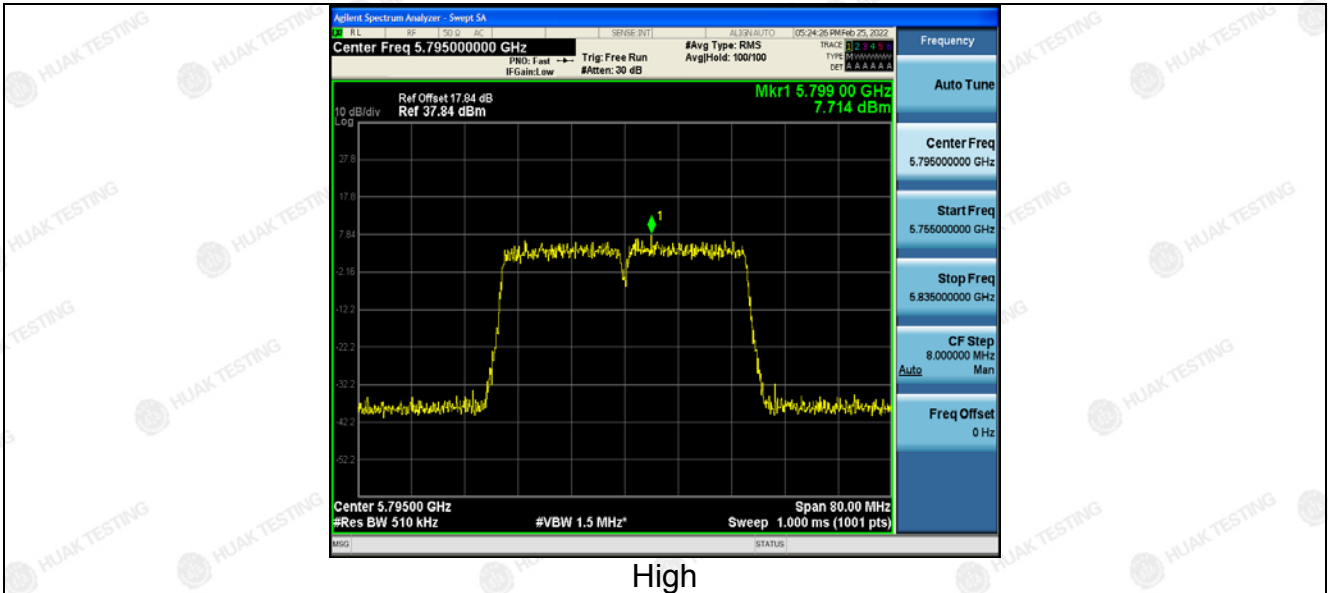


High
802.11ax(HT40)

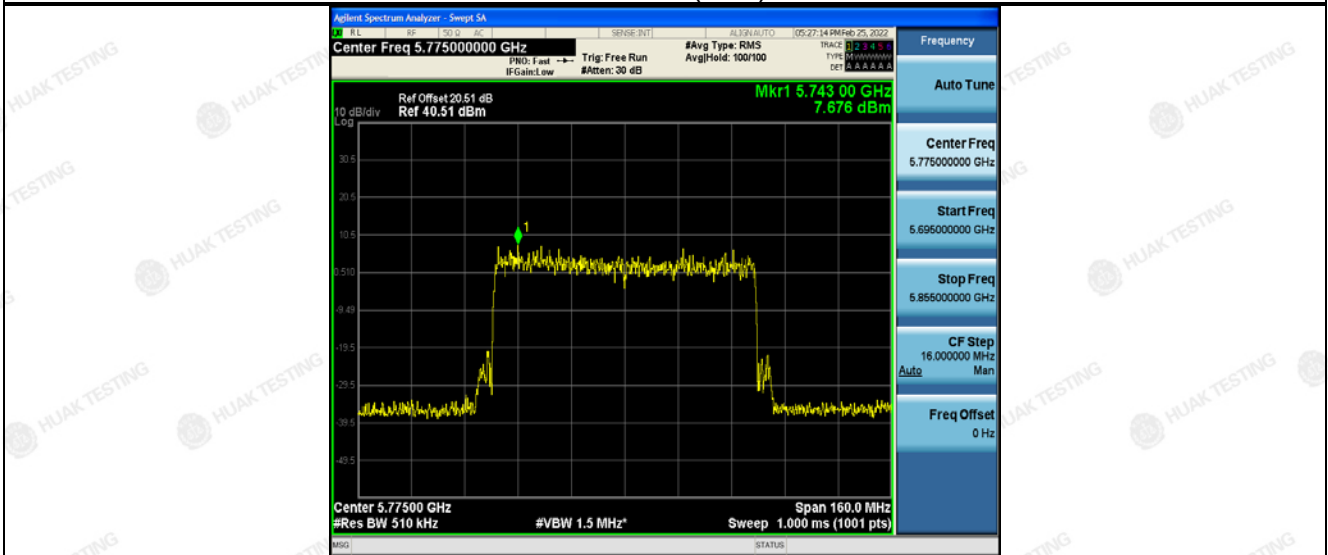


Low

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



High
802.11ax(T80)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



For MIMO antenna port 1+antenna port 2

Configuration Band IV (5725 - 5850 MHz)

Mode	Test channel	Power Density (dBm)	Limit (dBm)	Result
11n(HT20)	CH149	12.08	29.31	PASS
11n(HT20)	CH157	13.17	29.31	PASS
11n(HT20)	CH161	13.42	29.31	PASS
11n(HT40)	CH151	11.71	29.31	PASS
11n(HT40)	CH159	12.23	29.31	PASS
11ac(HT20)	CH149	12.38	29.31	PASS
11ac(HT20)	CH157	12.35	29.31	PASS
11ac(HT20)	CH161	12.08	29.31	PASS
11ac(HT40)	CH151	11.67	29.31	PASS
11ac(HT40)	CH159	11.52	29.31	PASS
11ac(HT80)	CH155	10.93	29.31	PASS
11ax(HT20)	CH149	13.95	29.31	PASS
11ax(HT20)	CH157	14.90	29.31	PASS
11ax(HT20)	CH161	14.65	29.31	PASS
11ax(HT40)	CH151	12.17	29.31	PASS
11ax(HT40)	CH159	13.73	29.31	PASS
11ax(HT80)	CH155	12.29	29.31	PASS
<p>Note: 1 According to KDB 662911, Result power = $10\log(10^{(ant1/10)}+10^{(ant2/10)})$. 2 Result unit: W, The end result is converted to units of dBm. limit=30dBm-(direction gain-6dBi)=30-(3.68+10log2-6)=29.31dBm</p>				

Note: This product supports antenna 1 and antenna 2 launch, but only support 802.11 n/ac/ax for MIMO mode, not support 802.11 a for MIMO mode.

4.6. BAND EDGE

4.6.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407
Test Method:	ANSI C63.10 2013
Limit:	<p>(1) 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. The limit of frequency below 1GHz and which fall in restricted bands should complies 15.209.</p>
Test Setup:	<p>The diagram illustrates the test setup within an anechoic chamber. An EUT (Equipment Under Test) is placed on a turn table at a height of 1.5 m. The turn table is positioned 3 m away from an antenna tower. The antenna tower has an antenna feed point at a height of 1-4 m. A ground plane is shown at the base of the chamber. A receiver and amplifier (Amp.) are connected to the antenna tower.</p>
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8 meters 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 rota 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.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



	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.
Test Result:	PASS



4.6.2. Test Instruments

Radiated Emission Test Site (966)

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	R&S	ESRP3	HKE-005	Dec. 09, 2021	Dec. 08, 2022
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 09, 2021	Dec. 08, 2022
Preamplifier	EMCI	EMC051845S E	HKE-015	Dec. 09, 2021	Dec. 08, 2022
Preamplifier	Agilent	83051A	HKE-016	Dec. 09, 2021	Dec. 08, 2022
Loop antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 09, 2021	Dec. 08, 2022
Broadband antenna	Schwarzbeck	VULB 9163	HKE-012	Dec. 09, 2021	Dec. 08, 2022
Horn antenna	Schwarzbeck	9120D	HKE-013	Dec. 09, 2021	Dec. 08, 2022
Antenna Mast	Keleto	CC-A-4M	N/A	N/A	N/A
Position controller	Taiwan MF	MF7802	HKE-011	Dec. 09, 2021	Dec. 08, 2022
Radiated test software	Tonscend	TS+ Rev 2.5.0.0	HKE-082	N/A	N/A
RF cable (9KHz-1GHz)	Times	381806-001	N/A	N/A	N/A
Hf antenna	Schwarzbeck	LB-180400-KF	HKE-031	Dec. 09, 2021	Dec. 08, 2022
RF cable	Tonscend	1-18G	HKE-099	Dec. 09, 2021	Dec. 08, 2022
RF cable	Times	1-40G	HKE-034	Dec. 09, 2021	Dec. 08, 2022
Horn Antenna	Schwarzbeck	BBHA 9170	HKE-017	Dec. 09, 2021	Dec. 08, 2022
Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 09, 2021	Dec. 08, 2022

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



4.6.3. Test Data

ANT 1

Operation Mode: 802.11a Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	57.16	-2.06	55.1	68.2	-13.1	peak
5700	87.71	-1.96	85.75	105.2	-19.45	peak
5720	92.95	-2.87	90.08	110.8	-20.72	peak
5725	108.89	-2.14	106.75	122.2	-15.45	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	58.12	-2.06	56.06	68.2	-12.14	peak
5700	86.92	-1.96	84.96	105.2	-20.24	peak
5720	94.42	-2.87	91.55	110.8	-19.25	peak
5725	109.93	-2.14	107.79	122.2	-14.41	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.62	-1.97	107.65	122.2	-14.55	peak
5855	92.37	-2.13	90.24	110.8	-20.56	peak
5875	87.35	-2.65	84.7	105.2	-20.5	peak
5925	51.07	-2.28	48.79	68.2	-19.41	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	103.53	-1.97	101.56	122.2	-20.64	peak
5855	94.43	-2.13	92.3	110.8	-18.5	peak
5875	85.57	-2.65	82.92	105.2	-22.28	peak
5925	53.3	-2.28	51.02	68.2	-17.18	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11n20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	55.29	-2.06	53.23	68.2	-14.97	
5700	89.73	-1.96	87.77	105.2	-17.43	peak
5720	95.6	-2.87	92.73	110.8	-18.07	peak
5725	112.6	-2.14	110.46	122.2	-11.74	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	57.1	-2.06	55.04	68.2	-13.16	
5700	94.56	-1.96	92.6	105.2	-12.6	peak
5720	97.24	-2.87	94.37	110.8	-16.43	peak
5725	110.6	-2.14	108.46	122.2	-13.74	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.29	-1.97	106.32	122.2	-15.88	peak
5855	94.13	-2.13	92	110.8	-18.8	peak
5875	93.74	-2.65	91.09	105.2	-14.11	peak
5925	51.9	-2.28	49.62	68.2	-18.58	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	105.95	-1.97	103.98	122.2	-18.22	peak
5855	92.6	-2.13	90.47	110.8	-20.33	peak
5875	87.86	-2.65	85.21	105.2	-19.99	peak
5925	55.92	-2.28	53.64	68.2	-14.56	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11n40 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	57.87	-2.06	55.81	68.2	-12.39	peak
5700	92.29	-1.96	90.33	105.2	-14.87	peak
5720	92.76	-2.87	89.89	110.8	-20.91	peak
5725	110.63	-2.14	108.49	122.2	-13.71	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	58.95	-2.06	56.89	68.2	-11.31	peak
5700	92.25	-1.96	90.29	105.2	-14.91	peak
5720	94.82	-2.87	91.95	110.8	-18.85	peak
5725	110.23	-2.14	108.09	122.2	-14.11	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	104.92	-1.97	102.95	122.2	-19.25	peak
5855	92.45	-2.13	90.32	110.8	-20.48	peak
5875	87.27	-2.65	84.62	105.2	-20.58	peak
5925	51.99	-2.28	49.71	68.2	-18.49	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	106.88	-1.97	104.91	122.2	-17.29	peak
5855	92.59	-2.13	90.46	110.8	-20.34	peak
5875	88.06	-2.65	85.41	105.2	-19.79	peak
5925	54.09	-2.28	51.81	68.2	-16.39	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.05	-2.06	53.99	68.2	-14.21	peak
5700	86.49	-1.96	84.53	105.2	-20.67	peak
5720	93.96	-2.87	91.09	110.8	-19.71	peak
5725	110.39	-2.14	108.25	122.2	-13.95	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.23	-2.06	54.17	68.2	-14.03	peak
5700	90.72	-1.96	88.76	105.2	-16.44	peak
5720	95.8	-2.87	92.93	110.8	-17.87	peak
5725	110.45	-2.14	108.31	122.2	-13.89	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.09	-1.97	108.12	122.2	-14.08	peak
5855	94.32	-2.13	92.19	110.8	-18.61	peak
5875	89.51	-2.65	86.86	105.2	-18.34	peak
5925	53.39	-2.28	51.11	68.2	-17.09	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.36	-1.97	108.39	122.2	-13.81	peak
5855	94.29	-2.13	92.16	110.8	-18.64	peak
5875	86.33	-2.65	83.68	105.2	-21.52	peak
5925	54.04	-2.28	51.76	68.2	-16.44	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	57.18	-2.06	55.12	68.2	-13.08	peak
5700	86.81	-1.96	84.85	105.2	-20.35	peak
5720	92.49	-2.87	89.62	110.8	-21.18	peak
5725	109.34	-2.14	107.2	122.2	-15	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.84	-2.06	54.78	68.2	-13.42	peak
5700	88.18	-1.96	86.22	105.2	-18.98	peak
5720	94.06	-2.87	91.19	110.8	-19.61	peak
5725	110.92	-2.14	108.78	122.2	-13.42	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.82	-1.97	109.85	122.2	-12.35	peak
5855	93.52	-2.13	91.39	110.8	-19.41	peak
5875	87.83	-2.65	85.18	105.2	-20.02	peak
5925	54.68	-2.28	52.4	68.2	-15.8	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.7	-1.97	108.73	122.2	-13.47	peak
5855	92.18	-2.13	90.05	110.8	-20.75	peak
5875	89.51	-2.65	86.86	105.2	-18.34	peak
5925	60.07	-2.28	57.79	68.2	-10.41	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	55.66	-2.06	53.6	68.2	-14.6	peak
5700	88.28	-1.96	86.32	105.2	-18.88	peak
5720	93.52	-2.87	90.65	110.8	-20.15	peak
5725	109.13	-2.14	106.99	122.2	-15.21	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	57.4	-2.06	55.34	68.2	-12.86	peak
5700	88.3	-1.96	86.34	105.2	-18.86	peak
5720	93.16	-2.87	90.29	110.8	-20.51	peak
5725	110.54	-2.14	108.4	122.2	-13.8	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.68	-1.97	107.71	122.2	-14.49	peak
5855	95.05	-2.13	92.92	110.8	-17.88	peak
5875	88.93	-2.65	86.28	105.2	-18.92	peak
5925	50.79	-2.28	48.51	68.2	-19.69	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.7	-1.97	106.73	122.2	-15.47	peak
5855	94.04	-2.13	91.91	110.8	-18.89	peak
5875	90.31	-2.65	87.66	105.2	-17.54	peak
5925	54.92	-2.28	52.64	68.2	-15.56	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: 802.11ax20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5650	56.51	-2.06	54.45	68.2	-13.75	
5700	88.8	-1.96	86.84	105.2	-18.36	peak
5720	93.92	-2.87	91.05	110.8	-19.75	peak
5725	110.6	-2.14	108.46	122.2	-13.74	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5650	57.88	-2.06	55.82	68.2	-12.38	
5700	91.18	-1.96	89.22	105.2	-15.98	peak
5720	94.25	-2.87	91.38	110.8	-19.42	peak
5725	109.6	-2.14	107.46	122.2	-14.74	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.02	-1.97	106.05	122.2	-16.15	peak
5855	94.2	-2.13	92.07	110.8	-18.73	peak
5875	86.63	-2.65	83.98	105.2	-21.22	peak
5925	55.29	-2.28	53.01	68.2	-15.19	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.84	-1.97	106.87	122.2	-15.33	peak
5855	93.01	-2.13	90.88	110.8	-19.92	peak
5875	89.02	-2.65	86.37	105.2	-18.83	peak
5925	54.59	-2.28	52.31	68.2	-15.89	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	58.11	-2.06	56.05	68.2	-12.15	peak
5700	86.03	-1.96	84.07	105.2	-21.13	peak
5720	95.67	-2.87	92.8	110.8	-18	peak
5725	108.16	-2.14	106.02	122.2	-16.18	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	54.95	-2.06	52.89	68.2	-15.31	peak
5700	87.65	-1.96	85.69	105.2	-19.51	peak
5720	92.9	-2.87	90.03	110.8	-20.77	peak
5725	110.21	-2.14	108.07	122.2	-14.13	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	112.21	-1.97	110.24	122.2	-11.96	peak
5855	95.26	-2.13	93.13	110.8	-17.67	peak
5875	88.66	-2.65	86.01	105.2	-19.19	peak
5925	54.9	-2.28	52.62	68.2	-15.58	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.22	-1.97	108.25	122.2	-13.95	peak
5855	94.05	-2.13	91.92	110.8	-18.88	peak
5875	89.94	-2.65	87.29	105.2	-17.91	peak
5925	59.24	-2.28	56.96	68.2	-11.24	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: 802.11ax80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	56.52	-2.06	54.46	68.2	-13.74	peak
5700	88.01	-1.96	86.05	105.2	-19.15	peak
5720	93.27	-2.87	90.4	110.8	-20.4	peak
5725	109.14	-2.14	107	122.2	-15.2	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	56.16	-2.06	54.1	68.2	-14.1	peak
5700	92.55	-1.96	90.59	105.2	-14.61	peak
5720	94.21	-2.87	91.34	110.8	-19.46	peak
5725	110.58	-2.14	108.44	122.2	-13.76	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.44	-1.97	108.47	122.2	-13.73	peak
5855	95.3	-2.13	93.17	110.8	-17.63	peak
5875	87.24	-2.65	84.59	105.2	-20.61	peak
5925	51.66	-2.28	49.38	68.2	-18.82	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.17	-1.97	109.2	122.2	-13	peak
5855	93.09	-2.13	90.96	110.8	-19.84	peak
5875	90.25	-2.65	87.6	105.2	-17.6	peak
5925	56.86	-2.28	54.58	68.2	-13.62	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



ANT 2

Operation Mode: 802.11a Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5650	56.18	-2.06	54.12	68.2	-14.08	peak
5700	90.45	-1.96	88.49	105.2	-16.71	peak
5720	93.87	-2.87	91	110.8	-19.8	peak
5725	108.66	-2.14	106.52	122.2	-15.68	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5650	56.21	-2.06	54.15	68.2	-14.05	peak
5700	88.94	-1.96	86.98	105.2	-18.22	peak
5720	94.45	-2.87	91.58	110.8	-19.22	peak
5725	108.84	-2.14	106.7	122.2	-15.5	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	107.93	-1.97	105.96	122.2	-16.24	peak
5855	95.02	-2.13	92.89	110.8	-17.91	peak
5875	86.8	-2.65	84.15	105.2	-21.05	peak
5925	56.65	-2.28	54.37	68.2	-13.83	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	106.62	-1.97	104.65	122.2	-17.55	peak
5855	92.46	-2.13	90.33	110.8	-20.47	peak
5875	86.64	-2.65	83.99	105.2	-21.21	peak
5925	54.31	-2.28	52.03	68.2	-16.17	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11n20 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	56.8	-2.06	54.74	68.2	-13.46	peak
5700	90.14	-1.96	88.18	105.2	-17.02	peak
5720	94.48	-2.87	91.61	110.8	-19.19	peak
5725	109.62	-2.14	107.48	122.2	-14.72	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	58.06	-2.06	56	68.2	-12.2	peak
5700	91.23	-1.96	89.27	105.2	-15.93	peak
5720	93.8	-2.87	90.93	110.8	-19.87	peak
5725	108.4	-2.14	106.26	122.2	-15.94	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	107.99	-1.97	106.02	122.2	-16.18	peak
5855	90.87	-2.13	88.74	110.8	-22.06	peak
5875	87.15	-2.65	84.5	105.2	-20.7	peak
5925	51.2	-2.28	48.92	68.2	-19.28	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	105.24	-1.97	103.27	122.2	-18.93	peak
5855	93.03	-2.13	90.9	110.8	-19.9	peak
5875	86.18	-2.65	83.53	105.2	-21.67	peak
5925	56.66	-2.28	54.38	68.2	-13.82	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11n40 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	50.42	-2.06	48.36	68.2	-19.84	peak
5700	91.25	-1.96	89.29	105.2	-15.91	peak
5720	92.64	-2.87	89.77	110.8	-21.03	peak
5725	107.48	-2.14	105.34	122.2	-16.86	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	56.57	-2.06	54.51	68.2	-13.69	peak
5700	92.81	-1.96	90.85	105.2	-14.35	peak
5720	92.87	-2.87	90	110.8	-20.8	peak
5725	108.96	-2.14	106.82	122.2	-15.38	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	105.95	-1.97	103.98	122.2	-18.22	peak
5855	92.91	-2.13	90.78	110.8	-20.02	peak
5875	88.13	-2.65	85.48	105.2	-19.72	peak
5925	53.72	-2.28	51.44	68.2	-16.76	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	106.03	-1.97	104.06	122.2	-18.14	peak
5855	93.45	-2.13	91.32	110.8	-19.48	peak
5875	87.58	-2.65	84.93	105.2	-20.27	peak
5925	51.08	-2.28	48.8	68.2	-19.4	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	60.05	-2.06	57.99	68.2	-10.21	peak
5700	88.57	-1.96	86.61	105.2	-18.59	peak
5720	94.31	-2.87	91.44	110.8	-19.36	peak
5725	110.12	-2.14	107.98	122.2	-14.22	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	58.13	-2.06	56.07	68.2	-12.13	peak
5700	89.06	-1.96	87.1	105.2	-18.1	peak
5720	95.97	-2.87	93.1	110.8	-17.7	peak
5725	110.31	-2.14	108.17	122.2	-14.03	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.43	-1.97	109.46	122.2	-12.74	peak
5855	93.14	-2.13	91.01	110.8	-19.79	peak
5875	89.23	-2.65	86.58	105.2	-18.62	peak
5925	52.52	-2.28	50.24	68.2	-17.96	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	105.12	-1.97	103.15	122.2	-19.05	peak
5855	95.32	-2.13	93.19	110.8	-17.61	peak
5875	89.07	-2.65	86.42	105.2	-18.78	peak
5925	54.17	-2.28	51.89	68.2	-16.31	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	55.5	-2.06	53.44	68.2	-14.76	peak
5700	86.44	-1.96	84.48	105.2	-20.72	peak
5720	95.64	-2.87	92.77	110.8	-18.03	peak
5725	105.86	-2.14	103.72	122.2	-18.48	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.68	-2.06	54.62	68.2	-13.58	peak
5700	91.53	-1.96	89.57	105.2	-15.63	peak
5720	95.81	-2.87	92.94	110.8	-17.86	peak
5725	110.4	-2.14	108.26	122.2	-13.94	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.2	-1.97	106.23	122.2	-15.97	peak
5855	91.56	-2.13	89.43	110.8	-21.37	peak
5875	87.05	-2.65	84.4	105.2	-20.8	peak
5925	53.43	-2.28	51.15	68.2	-17.05	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.68	-1.97	109.71	122.2	-12.49	peak
5855	93.12	-2.13	90.99	110.8	-19.81	peak
5875	86.13	-2.65	83.48	105.2	-21.72	peak
5925	57.17	-2.28	54.89	68.2	-13.31	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	52.08	-2.06	50.02	68.2	-18.18	peak
5700	87.4	-1.96	85.44	105.2	-19.76	peak
5720	94.7	-2.87	91.83	110.8	-18.97	peak
5725	109.67	-2.14	107.53	122.2	-14.67	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	60.04	-2.06	57.98	68.2	-10.22	peak
5700	89.6	-1.96	87.64	105.2	-17.56	peak
5720	93.45	-2.87	90.58	110.8	-20.22	peak
5725	109.62	-2.14	107.48	122.2	-14.72	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.8	-1.97	107.83	122.2	-14.37	peak
5855	93.26	-2.13	91.13	110.8	-19.67	peak
5875	91.68	-2.65	89.03	105.2	-16.17	peak
5925	52.55	-2.28	50.27	68.2	-17.93	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	107.29	-1.97	105.32	122.2	-16.88	peak
5855	91.22	-2.13	89.09	110.8	-21.71	peak
5875	89.2	-2.65	86.55	105.2	-18.65	peak
5925	54.94	-2.28	52.66	68.2	-15.54	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax20 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	58.27	-2.06	56.21	68.2	-11.99	peak
5700	88.26	-1.96	86.3	105.2	-18.9	peak
5720	91.66	-2.87	88.79	110.8	-22.01	peak
5725	110.91	-2.14	108.77	122.2	-13.43	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	58.82	-2.06	56.76	68.2	-11.44	peak
5700	90.5	-1.96	88.54	105.2	-16.66	peak
5720	94.14	-2.87	91.27	110.8	-19.53	peak
5725	109.04	-2.14	106.9	122.2	-15.3	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.34	-1.97	106.37	122.2	-15.83	peak
5855	92.57	-2.13	90.44	110.8	-20.36	peak
5875	89.97	-2.65	87.32	105.2	-17.88	peak
5925	53.44	-2.28	51.16	68.2	-17.04	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	105.85	-1.97	103.88	122.2	-18.32	peak
5855	96.47	-2.13	94.34	110.8	-16.46	peak
5875	91.87	-2.65	89.22	105.2	-15.98	peak
5925	54.17	-2.28	51.89	68.2	-16.31	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	53.88	-2.06	51.82	68.2	-16.38	peak
5700	89.17	-1.96	87.21	105.2	-17.99	peak
5720	94.44	-2.87	91.57	110.8	-19.23	peak
5725	107.21	-2.14	105.07	122.2	-17.13	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	58.15	-2.06	56.09	68.2	-12.11	peak
5700	91.05	-1.96	89.09	105.2	-16.11	peak
5720	94.65	-2.87	91.78	110.8	-19.02	peak
5725	109.7	-2.14	107.56	122.2	-14.64	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	106.15	-1.97	104.18	122.2	-18.02	peak
5855	93.52	-2.13	91.39	110.8	-19.41	peak
5875	86.44	-2.65	83.79	105.2	-21.41	peak
5925	53.11	-2.28	50.83	68.2	-17.37	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.14	-1.97	109.17	122.2	-13.03	peak
5855	93.88	-2.13	91.75	110.8	-19.05	peak
5875	86.27	-2.65	83.62	105.2	-21.58	peak
5925	54.7	-2.28	52.42	68.2	-15.78	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	53.43	-2.06	51.37	68.2	-16.83	peak
5700	88.81	-1.96	86.85	105.2	-18.35	peak
5720	92.35	-2.87	89.48	110.8	-21.32	peak
5725	109.3	-2.14	107.16	122.2	-15.04	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	58.67	-2.06	56.61	68.2	-11.59	peak
5700	89.86	-1.96	87.9	105.2	-17.3	peak
5720	94.4	-2.87	91.53	110.8	-19.27	peak
5725	110.51	-2.14	108.37	122.2	-13.83	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	107.11	-1.97	105.14	122.2	-17.06	peak
5855	94.74	-2.13	92.61	110.8	-18.19	peak
5875	92.69	-2.65	90.04	105.2	-15.16	peak
5925	51.97	-2.28	49.69	68.2	-18.51	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	107.69	-1.97	105.72	122.2	-16.48	peak
5855	92.65	-2.13	90.52	110.8	-20.28	peak
5875	89.37	-2.65	86.72	105.2	-18.48	peak
5925	52.98	-2.28	50.7	68.2	-17.5	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MIMO

Operation Mode: 802.11n20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.71	-2.06	54.65	68.2	-13.55	peak
5700	90.51	-1.96	88.55	105.2	-16.65	peak
5720	94.62	-2.87	91.75	110.8	-19.05	peak
5725	111.81	-2.14	109.67	122.2	-12.53	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	61.62	-2.06	59.56	68.2	-8.64	peak
5700	94.83	-1.96	92.87	105.2	-12.33	peak
5720	97.38	-2.87	94.51	110.8	-16.29	peak
5725	111.51	-2.14	109.37	122.2	-12.83	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.56	-1.97	107.59	122.2	-14.61	peak
5855	93.97	-2.13	91.84	110.8	-18.96	peak
5875	87	-2.65	84.35	105.2	-20.85	peak
5925	53.19	-2.28	50.91	68.2	-17.29	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	104.9	-1.97	102.93	122.2	-19.27	peak
5855	92.75	-2.13	90.62	110.8	-20.18	peak
5875	86.09	-2.65	83.44	105.2	-21.76	peak
5925	57.15	-2.28	54.87	68.2	-13.33	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11n40 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	55.16	-2.06	53.1	68.2	-15.1	peak
5700	92.34	-1.96	90.38	105.2	-14.82	peak
5720	90.87	-2.87	88	110.8	-22.8	peak
5725	110.85	-2.14	108.71	122.2	-13.49	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	57.44	-2.06	55.38	68.2	-12.82	peak
5700	94.14	-1.96	92.18	105.2	-13.02	peak
5720	94.56	-2.87	91.69	110.8	-19.11	peak
5725	110.02	-2.14	107.88	122.2	-14.32	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	103.92	-1.97	101.95	122.2	-20.25	
5855	91.08	-2.13	88.95	110.8	-21.85	peak
5875	85.77	-2.65	83.12	105.2	-22.08	peak
5925	53.7	-2.28	51.42	68.2	-16.78	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	107.64	-1.97	105.67	122.2	-16.53	
5855	93.43	-2.13	91.3	110.8	-19.5	peak
5875	86.58	-2.65	83.93	105.2	-21.27	peak
5925	52.72	-2.28	50.44	68.2	-17.76	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: 802.11ac20 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.87	-2.06	54.81	68.2	-13.39	peak
5700	87.16	-1.96	85.2	105.2	-20	peak
5720	93.73	-2.87	90.86	110.8	-19.94	peak
5725	108.62	-2.14	106.48	122.2	-15.72	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	57.36	-2.06	55.3	68.2	-12.9	peak
5700	91.44	-1.96	89.48	105.2	-15.72	peak
5720	93.25	-2.87	90.38	110.8	-20.42	peak
5725	108.29	-2.14	106.15	122.2	-16.05	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	108.89	-1.97	106.92	122.2	-15.28	peak
5855	94.55	-2.13	92.42	110.8	-18.38	peak
5875	89.52	-2.65	86.87	105.2	-18.33	peak
5925	52.73	-2.28	50.45	68.2	-17.75	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.35	-1.97	108.38	122.2	-13.82	peak
5855	95.29	-2.13	93.16	110.8	-17.64	peak
5875	87.75	-2.65	85.1	105.2	-20.1	peak
5925	54.86	-2.28	52.58	68.2	-15.62	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	57.16	-2.06	55.1	68.2	-13.1	peak
5700	87.39	-1.96	85.43	105.2	-19.77	peak
5720	91.91	-2.87	89.04	110.8	-21.76	peak
5725	109.97	-2.14	107.83	122.2	-14.37	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	58.92	-2.06	56.86	68.2	-11.34	peak
5700	86.93	-1.96	84.97	105.2	-20.23	peak
5720	92.89	-2.87	90.02	110.8	-20.78	peak
5725	110.41	-2.14	108.27	122.2	-13.93	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.88	-1.97	108.91	122.2	-13.29	peak
5855	92.98	-2.13	90.85	110.8	-19.95	peak
5875	88.55	-2.65	85.9	105.2	-19.3	peak
5925	53.74	-2.28	51.46	68.2	-16.74	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	111.91	-1.97	109.94	122.2	-12.26	peak
5855	93.03	-2.13	90.9	110.8	-19.9	peak
5875	87.96	-2.65	85.31	105.2	-19.89	peak
5925	59.96	-2.28	57.68	68.2	-10.52	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ac80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	55.95	-2.06	53.89	68.2	-14.31	peak
5700	88.3	-1.96	86.34	105.2	-18.86	peak
5720	95.8	-2.87	92.93	110.8	-17.87	peak
5725	110.27	-2.14	108.13	122.2	-14.07	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
5650	55.53	-2.06	53.47	68.2	-14.73	peak
5700	91.89	-1.96	89.93	105.2	-15.27	peak
5720	94.63	-2.87	91.76	110.8	-19.04	peak
5725	110.72	-2.14	108.58	122.2	-13.62	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.74	-1.97	107.77	122.2	-14.43	peak
5855	94.33	-2.13	92.2	110.8	-18.6	peak
5875	89.98	-2.65	87.33	105.2	-17.87	peak
5925	49.41	-2.28	47.13	68.2	-21.07	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.32	-1.97	107.35	122.2	-14.85	peak
5855	93.28	-2.13	91.15	110.8	-19.65	peak
5875	89.04	-2.65	86.39	105.2	-18.81	peak
5925	54.37	-2.28	52.09	68.2	-16.11	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax20 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	56.87	-2.06	54.81	68.2	-13.39	peak
5700	87.74	-1.96	85.78	105.2	-19.42	peak
5720	96.53	-2.87	93.66	110.8	-17.14	peak
5725	110.34	-2.14	108.2	122.2	-14	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	58.53	-2.06	56.47	68.2	-11.73	peak
5700	90.76	-1.96	88.8	105.2	-16.4	peak
5720	93.65	-2.87	90.78	110.8	-20.02	peak
5725	108.16	-2.14	106.02	122.2	-16.18	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	109.05	-1.97	107.08	122.2	-15.12	
5855	94.17	-2.13	92.04	110.8	-18.76	peak
5875	87.45	-2.65	84.8	105.2	-20.4	peak
5925	51.72	-2.28	49.44	68.2	-18.76	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
5850	109.24	-1.97	107.27	122.2	-14.93	
5855	95.54	-2.13	93.41	110.8	-17.39	peak
5875	84.89	-2.65	82.24	105.2	-22.96	peak
5925	56.1	-2.28	53.82	68.2	-14.38	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax40 Mode with 5.8G TX CH Low

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	56.23	-2.06	54.17	68.2	-14.03	peak
5700	86.56	-1.96	84.6	105.2	-20.6	peak
5720	96.28	-2.87	93.41	110.8	-17.39	peak
5725	108.76	-2.14	106.62	122.2	-15.58	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5650	57.59	-2.06	55.53	68.2	-12.67	peak
5700	89.54	-1.96	87.58	105.2	-17.62	peak
5720	93.42	-2.87	90.55	110.8	-20.25	peak
5725	110.95	-2.14	108.81	122.2	-13.39	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.87	-1.97	108.9	122.2	-13.3	peak
5855	93.34	-2.13	91.21	110.8	-19.59	peak
5875	87.23	-2.65	84.58	105.2	-20.62	peak
5925	53.77	-2.28	51.49	68.2	-16.71	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	112.55	-1.97	110.58	122.2	-11.62	peak
5855	93.41	-2.13	91.28	110.8	-19.52	peak
5875	90.18	-2.65	87.53	105.2	-17.67	peak
5925	59.99	-2.28	57.71	68.2	-10.49	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: 802.11ax80 Mode with 5.8G TX CH Low

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	57.21	-2.06	55.15	68.2	-13.05	peak
5700	88.97	-1.96	87.01	105.2	-18.19	peak
5720	96.61	-2.87	93.74	110.8	-17.06	peak
5725	109.95	-2.14	107.81	122.2	-14.39	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5650	56.59	-2.06	54.53	68.2	-13.67	peak
5700	91.95	-1.96	89.99	105.2	-15.21	peak
5720	93.89	-2.87	91.02	110.8	-19.78	peak
5725	110.65	-2.14	108.51	122.2	-13.69	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Operation Mode: TX CH High with 5.8G

Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	110.06	-1.97	108.09	122.2	-14.11	peak
5855	95.6	-2.13	93.47	110.8	-17.33	peak
5875	87.32	-2.65	84.67	105.2	-20.53	peak
5925	50.43	-2.28	48.15	68.2	-20.05	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
5850	109.5	-1.97	107.53	122.2	-14.67	peak
5855	94.8	-2.13	92.67	110.8	-18.13	peak
5875	87.89	-2.65	85.24	105.2	-19.96	peak
5925	55.65	-2.28	53.37	68.2	-14.83	peak

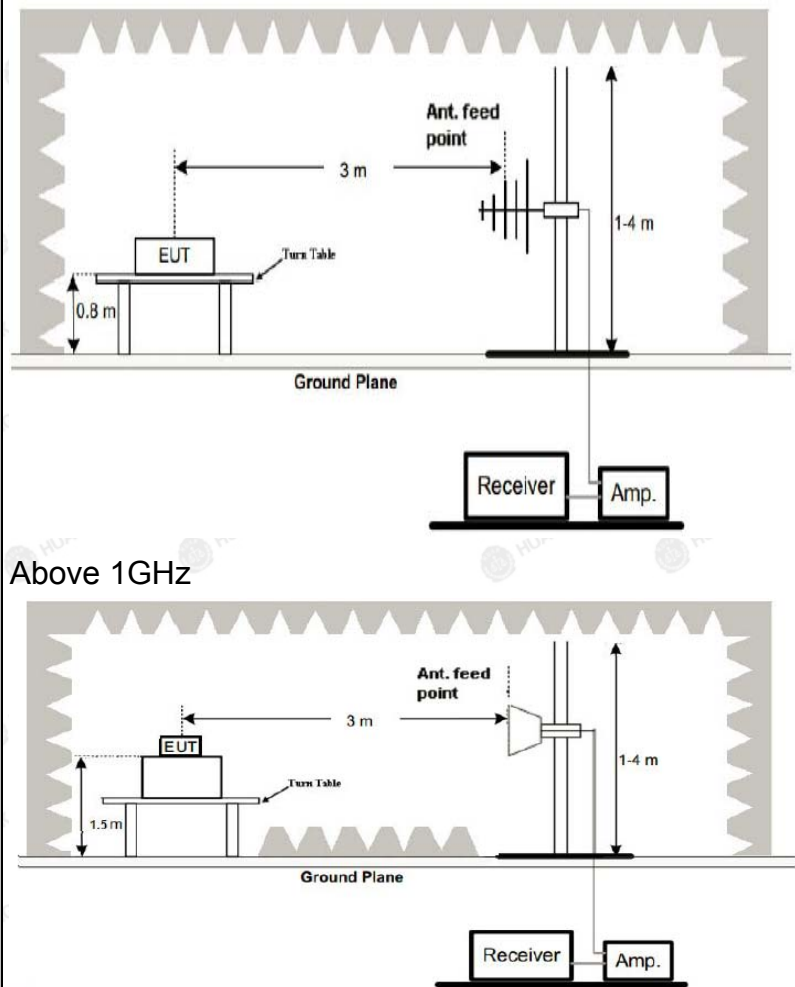
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

4.7. SPURIOUS EMISSION

4.7.1.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	<p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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. The limit of frequency below 1GHz and which fall in restricted bands should comply 15.209.</p>				
Test setup:	<p>For radiated emissions below 30MHz</p> <p>30MHz to 1GHz</p>				

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

**Test Procedure:**

1. The EUT was placed on the top of a rotating table 0.8 meters 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 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.
Test results:	PASS



4.7.2. Test Data

test mode: TX 802.11a 5745MHz

All the test modes completed for test. The worst case of Radiated Emission; the test data of this mode was reported.

Below 1GHz

Horizontal

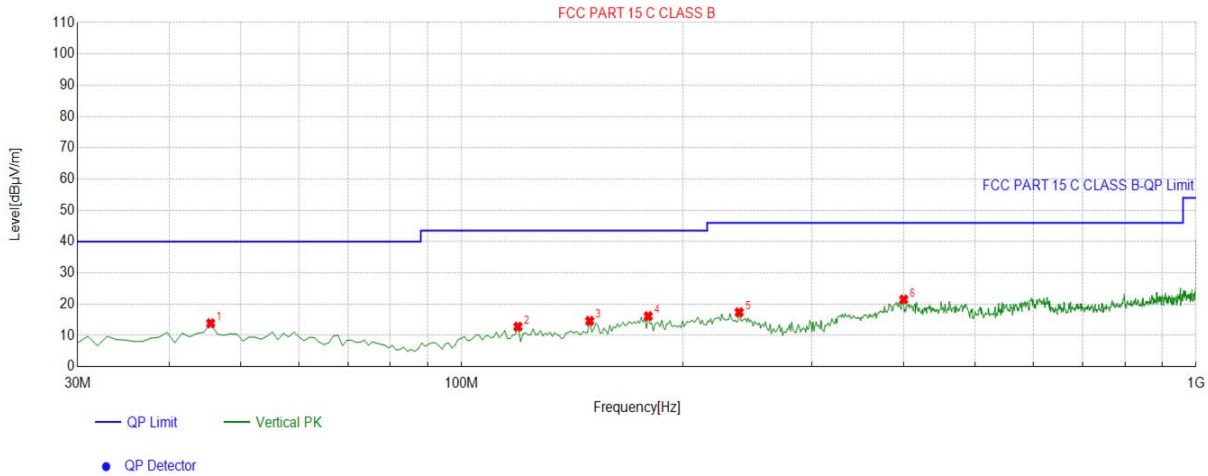


Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	50.3904	-13.71	24.04	10.33	40.00	29.67	100	2	Horizontal
2	105.7357	-15.42	25.33	9.91	43.50	33.59	100	30	Horizontal
3	177.5876	-16.96	40.01	23.05	43.50	20.45	100	90	Horizontal
4	234.8749	-14.09	40.36	26.27	46.00	19.73	100	125	Horizontal
5	317.4074	-12.23	34.74	22.51	46.00	23.49	100	26	Horizontal
6	399.9399	-10.41	32.03	21.62	46.00	24.38	100	241	Horizontal

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	45.5355	-13.65	27.52	13.87	40.00	26.13	100	185	Vertical
2	119.3293	-16.99	29.78	12.79	43.50	30.71	100	41	Vertical
3	149.4294	-18.95	33.58	14.63	43.50	28.87	100	137	Vertical
4	179.5295	-16.88	33.04	16.16	43.50	27.34	100	126	Vertical
5	238.7588	-13.91	31.29	17.38	46.00	28.62	100	189	Vertical
6	399.9399	-10.41	31.87	21.46	46.00	24.54	100	9	Vertical

Remark: Factor = Cable loss + Antenna factor – Pre-amplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
--	--	--
--	--	--
--	--	--
--	--	--

- Note:** 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor
- 2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement



Above 1GHz

RADIATED EMISSION TEST

LOW CH 149 (802.11 a Mode with 5.8G)/5745

All modes of operation were investigated and the worst-case of Ant 1 are reported.

Horizontal:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
3368	52.94	-4.59	48.35	68.2	-19.85	peak
11096	49.6	4.21	53.81	74	-20.19	peak
11096	37.75	4.21	41.96	54	-12.04	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
3368	59.37	-4.59	54.78	68.2	-13.42	peak
11096	54.83	4.21	59.04	74	-14.96	peak
11096	35.01	4.21	39.22	54	-14.78	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH157 (802.11 a Mode with 5.8G)/5785

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3172	58.57	-4.59	53.98	68.2	-14.22	peak
10523	52.17	4.21	56.38	68.2	-11.82	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3172	55.65	-4.59	51.06	68.2	-17.14	peak
10523	53.18	4.21	57.39	68.2	-10.81	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



HIGH CH 165 (802.11a Mode with 5.8G)/5825

Horizontal:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2705	59.05	-4.59	54.46	74	-19.54	
2705	47.91	-4.59	43.32	54	-10.68	AVG
11717	54.56	4.84	59.4	74	-14.6	peak
11717	37.68	4.84	42.52	54	-11.48	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2705	57.15	-4.59	52.56	74	-21.44	
2705	45.44	-4.59	40.85	54	-13.15	AVG
11717	50.78	4.84	55.62	74	-18.38	peak
11717	40.13	4.84	44.97	54	-9.03	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11n20 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 149

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	60.56	-4.59	55.97	68.2	-12.23	peak
11096	57.14	4.21	61.35	74	-12.65	peak
11096	39.58	4.21	43.79	54	-10.21	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	61.46	-4.59	56.87	68.2	-11.33	peak
11096	54.66	4.21	58.87	74	-15.13	peak
11096	35.71	4.21	39.92	54	-14.08	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH157

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	63.07	-4.59	58.48	68.2	-9.72	peak
10523	53.5	4.21	57.71	68.2	-10.49	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	57.53	-4.59	52.94	68.2	-15.26	peak
10523	54.7	4.21	58.91	68.2	-9.29	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



HIGH CH165

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2705	59.55	-4.59	54.96	74	-19.04	
2705	48.02	-4.59	43.43	54	-10.57	AVG
11717	54.31	4.84	59.15	74	-14.85	peak
11717	38.88	4.84	43.72	54	-10.28	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2705	59.81	-4.59	55.22	74	-18.78	
2705	47.5	-4.59	42.91	54	-11.09	AVG
11717	52.26	4.84	57.1	74	-16.9	peak
11717	35.84	4.84	40.68	54	-13.32	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11n40 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 151

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	65.07	-4.59	60.48	68.2	-7.72	peak
11096	60.22	4.21	64.43	74	-9.57	peak
11096	37.26	4.21	41.47	54	-12.53	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	63.46	-4.59	58.87	68.2	-9.33	peak
11096	55.31	4.21	59.52	74	-14.48	peak
11096	36.33	4.21	40.54	54	-13.46	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH159

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	63.77	-4.59	59.18	68.2	-9.02	peak
10523	53.67	4.21	57.88	68.2	-10.32	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	57.03	-4.59	52.44	68.2	-15.76	peak
10523	50.01	4.21	54.22	68.2	-13.98	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11ac20 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 149

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	61.37	-4.59	56.78	68.2	-11.42	peak
11096	52.09	4.21	56.3	74	-17.7	peak
11096	38.83	4.21	43.04	54	-10.96	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	59.67	-4.59	55.08	68.2	-13.12	peak
11096	56.5	4.21	60.71	74	-13.29	peak
11096	37.23	4.21	41.44	54	-12.56	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH157

Horizontal:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
3172	61.87	-4.59	57.28	68.2	-10.92	peak
10523	52.27	4.21	56.48	68.2	-11.72	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
3172	58.4	-4.59	53.81	68.2	-14.39	peak
10523	52.01	4.21	56.22	68.2	-11.98	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



HIGH CH165

Horizontal:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2705	59.88	-4.59	55.29	74	-18.71	peak
2705	50.52	-4.59	45.93	54	-8.07	AVG
11717	54.93	4.84	59.77	74	-14.23	peak
11717	38.9	4.84	43.74	54	-10.26	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2705	58.34	-4.59	53.75	74	-20.25	peak
2705	46.77	-4.59	42.18	54	-11.82	AVG
11717	51.98	4.84	56.82	74	-17.18	peak
11717	36.42	4.84	41.26	54	-12.74	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11ac40 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 151

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
3368	62.07	-4.59	57.48	68.2	-10.72	
11096	57.45	4.21	61.66	74	-12.34	peak
11096	37.86	4.21	42.07	54	-11.93	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
3368	63.8	-4.59	59.21	68.2	-8.99	
11096	56.4	4.21	60.61	74	-13.39	peak
11096	38.38	4.21	42.59	54	-11.41	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



5.8G 802.11ac80 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

CH 155

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3368	58.55	-4.59	53.96	68.2	-14.24	peak
11096	54.64	4.21	58.85	74	-15.15	peak
11096	36.76	4.21	40.97	54	-13.03	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3368	61.02	-4.59	56.43	68.2	-11.77	peak
11096	55.89	4.21	60.1	74	-13.9	peak
11096	38.71	4.21	42.92	54	-11.08	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11ax20 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 149

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3368	60.02	-4.59	55.43	68.2	-12.77	peak
11096	51.16	4.21	55.37	74	-18.63	peak
11096	36.98	4.21	41.19	54	-12.81	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3368	60.86	-4.59	56.27	68.2	-11.93	peak
11096	56.67	4.21	60.88	74	-13.12	peak
11096	37.79	4.21	42	54	-12	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH157

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	61.07	-4.59	56.48	68.2	-11.72	peak
10523	52.75	4.21	56.96	68.2	-11.24	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	58.8	-4.59	54.21	68.2	-13.99	peak
10523	53.16	4.21	57.37	68.2	-10.83	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



HIGH CH165

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2705	59.59	-4.59	55	74	-19	peak
2705	49.39	-4.59	44.8	54	-9.2	AVG
11717	57.24	4.84	62.08	74	-11.92	peak
11717	38.65	4.84	43.49	54	-10.51	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2705	59.22	-4.59	54.63	74	-19.37	peak
2705	46.23	-4.59	41.64	54	-12.36	AVG
11717	51.1	4.84	55.94	74	-18.06	peak
11717	36.14	4.84	40.98	54	-13.02	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11ax40 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

LOW CH 151

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
3368	61.12	-4.59	56.53	68.2	-11.67	
11096	60.01	4.21	64.22	74	-9.78	peak
11096	36.87	4.21	41.08	54	-12.92	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
3368	62.8	-4.59	58.21	68.2	-9.99	
11096	57.29	4.21	61.5	74	-12.5	peak
11096	37.27	4.21	41.48	54	-12.52	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



MID CH159

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	62.15	-4.59	57.56	68.2	-10.64	peak
10523	52.92	4.21	57.13	68.2	-11.07	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	58.87	-4.59	54.28	68.2	-13.92	peak
10523	51.1	4.21	55.31	68.2	-12.89	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



MID CH159

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	62.41	-4.59	57.82	68.2	-10.38	peak
10523	53.83	4.21	58.04	68.2	-10.16	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
3172	58.8	-4.59	54.21	68.2	-13.99	peak
10523	51.22	4.21	55.43	68.2	-12.77	peak

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



5.8G 802.11ax80 Mode

All modes of operation were investigated and the worst-case of MIMO are reported.

CH 155

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	60.13	-4.59	55.54	68.2	-12.66	peak
11096	54.3	4.21	58.51	74	-15.49	peak
11096	37.6	4.21	41.81	54	-12.19	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	59.49	-4.59	54.9	68.2	-13.3	peak
11096	54.86	4.21	59.07	74	-14.93	peak
11096	39.38	4.21	43.59	54	-10.41	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



4.8. FREQUENCY STABILITY MEASUREMENT

4.8.1. Test Specification

Test Requirement:	FCC Part15 Section 15.407(g)
Test Method:	ANSI C63.10: 2013
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	<pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] subgraph TC [Temperature Chamber] EUT end P[AC/DC Power supply] --- EUT </pre>
Test Procedure:	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	N/A

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.



Test Result as follows:

Mode	Voltage (V)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	4.25V	5744.974	-26	5825.002	2
	5V	5745.023	23	5824.958	-42
	5.75V	5744.974	-26	5824.961	-39

Mode	Temperature (°C)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	-30	5744.974	-26	5825.051	51
	-20	5745.016	16	5825.042	42
	-10	5744.959	-41	5824.991	-9
	0	5744.971	-29	5824.969	-31
	10	5744.956	-44	5825.013	13
	20	5745.013	13	5824.984	-16
	30	5744.968	-32	5824.980	-20
	40	5744.987	-13	5824.982	-18
	50	5744.953	-47	5825.042	42

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

4.9. ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

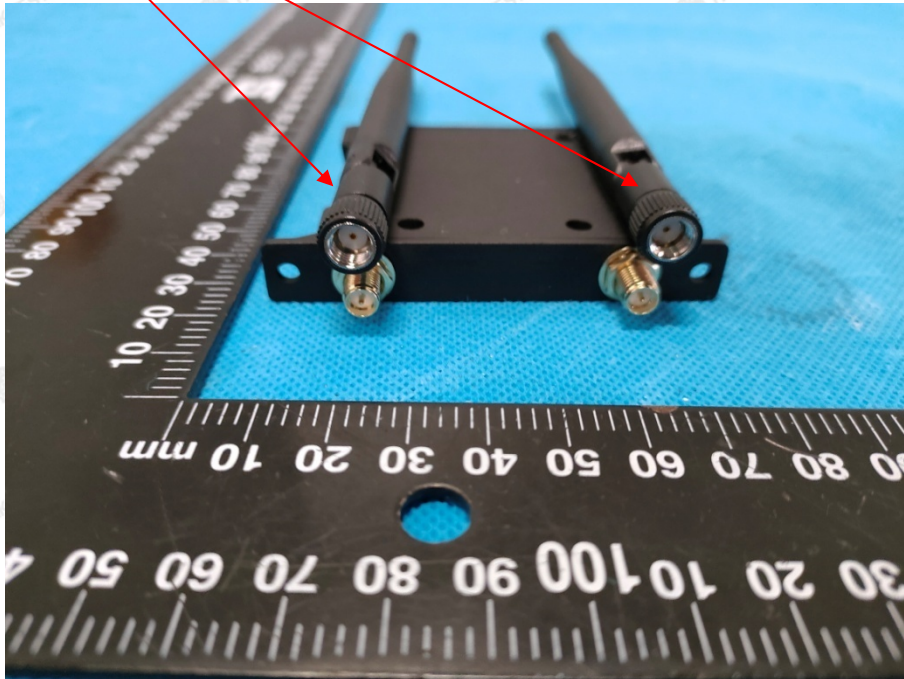
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a External Antenna, which have non-standard antenna jack. It conforms to the standard requirements. and the best case gain of the antenna is Antenna port 1:3.68 and Antenna port 2:3.68 dBi

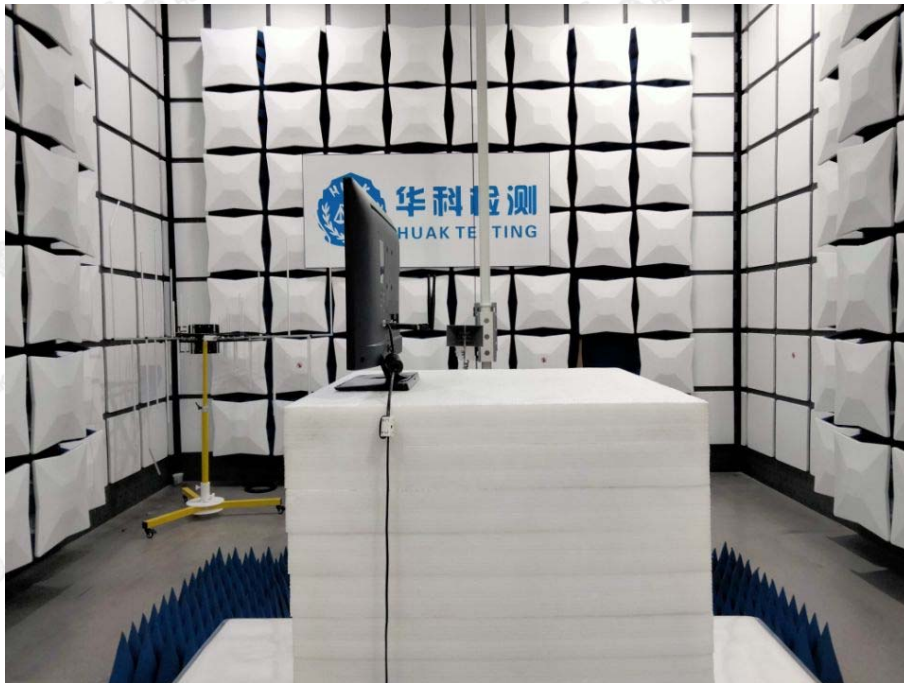
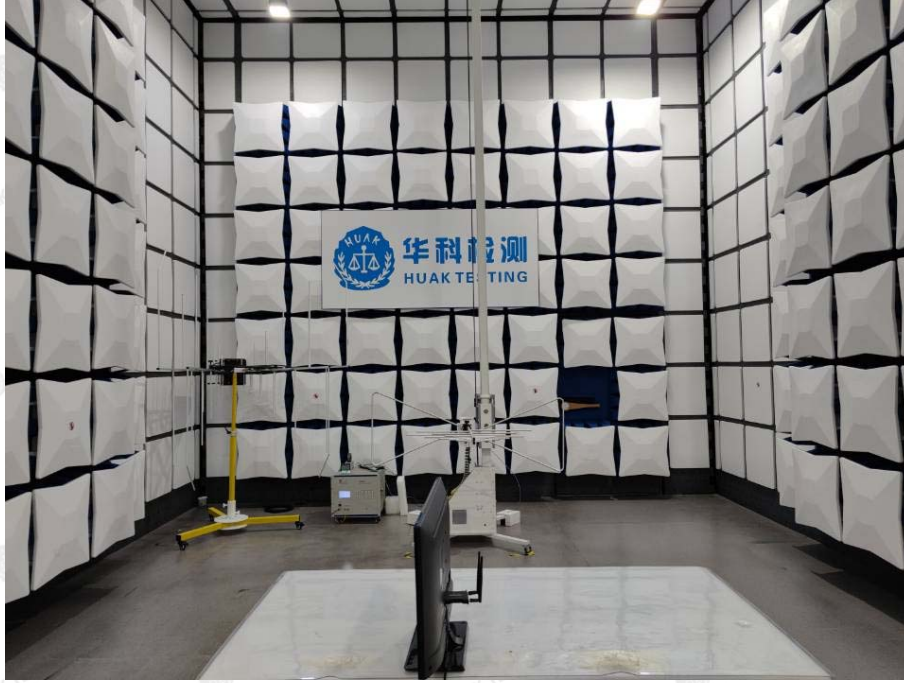
ANTENNA





5. PHOTOGRAPHS OF TEST SETUP

Radiated Emission



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

HUAK Testing Lab TEL : +86-755 2302 9901 FAX : +86-755 2302 9901 E-mail : service@cer-mark.com

1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



Conducted Emission



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

HUAK Testing Lab TEL : +86-755 2302 9901 FAX : +86-755 2302 9901 E-mail : service@cer-mark.com

1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



6. PHOTOS OF THE EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos

-----End of test report-----