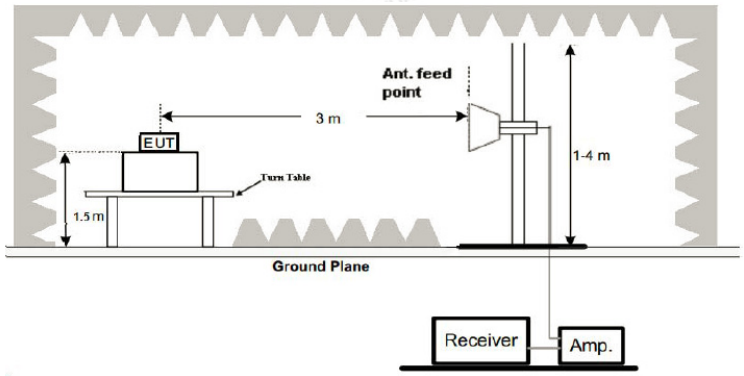
4.8 Band Edge

4.8.1 Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407
Test Method:	ANSI C63.10 2013
Limit:	In the 5.925-7.125 GHz band, client devices, except fixed client devices, must operate under the control of a standard power access point, indoor access point or subordinate devices; Subordinate devices must operate under the control of an indoor access point.
Test Setup:	
Test Mode:	Transmitting mode with modulation
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 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.

	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

4.8.2 Test Instruments

Radiated Emission Test Site (966)					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 20, 2024	Feb. 19, 2025
Preamplifier	EMCI	EMC051845S	HKE-006	Feb. 20, 2024	Feb. 19, 2025
Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 20, 2024	Feb. 19, 2025
Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 20, 2024	Feb. 19, 2025
6dB Attenuator	Pasternack	6db	HKE-184	Feb. 20, 2024	Feb. 19, 2025
EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 20, 2024	Feb. 19, 2025
Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	Feb. 21, 2024	Feb. 20, 2026
Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	Feb. 20, 2026
Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	Feb. 20, 2026
EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	N/A	N/A
RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	N/A	N/A

Radiated Emission Test Site (966)					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	EMCI	EMC051845S	HKE-006	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 19, 2025	Feb. 18, 2026
6dB Attenuator	Pasternack	6db	HKE-184	Feb. 19, 2025	Feb. 18, 2026
EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 19, 2025	Feb. 18, 2026
Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	Feb. 21, 2024	Feb. 20, 2026
Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	Feb. 20, 2026
Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	Feb. 20, 2026
EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	N/A	N/A
RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	N/A	N/A

4.8.3 Test Data

All modes of operation were investigated and the worst-case emissions of ANT.2 are reported.

802.11a Mode with NII-Band 5 LOW

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5825	53.12	-2.06	51.06	68.2	-17.14	peak
5850	87.33	-1.96	85.37	105.2	-19.83	peak
5900	84.56	-2.87	81.69	110.8	-29.11	peak
5925	109.71	-2.14	107.57	122.2	-14.63	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
5825	58.92	-2.06	56.86	68.2	-11.34	peak
5850	87.85	-1.96	85.89	105.2	-19.31	peak
5900	94.24	-2.87	91.37	110.8	-19.43	peak
5925	110.09	-2.14	107.95	122.2	-14.25	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 5 HIGH

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6425	109.71	-1.97	107.74	122.2	-14.46	peak
6475	94.89	-2.13	92.76	110.8	-18.04	peak
6525	86.46	-2.65	83.81	105.2	-21.39	peak
6550	51.51	-2.28	49.23	68.2	-18.97	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6425	103.32	-1.97	101.35	122.2	-20.85	peak
6475	93.44	-2.13	91.31	110.8	-19.49	peak
6525	87.06	-2.65	84.41	105.2	-20.79	peak
6550	54.21	-2.28	51.93	68.2	-16.27	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 6 LOW

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6325	56.91	-2.06	54.85	68.2	-13.35	peak
6350	89.84	-1.96	87.88	105.2	-17.32	peak
6400	95.55	-2.87	92.68	110.8	-18.12	peak
6425	113.73	-2.14	111.59	122.2	-10.61	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6325	56.51	-2.06	54.45	68.2	-13.75	peak
6350	96.32	-1.96	94.36	105.2	-10.84	peak
6400	95.69	-2.87	92.82	110.8	-17.98	peak
6425	111.82	-2.14	109.68	122.2	-12.52	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 6 HIGH

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6525	109.11	-1.97	107.14	122.2	-15.06	peak
6575	93.24	-2.13	91.11	110.8	-19.69	peak
6625	97.59	-2.65	94.94	105.2	-10.26	peak
6650	53.78	-2.28	51.5	68.2	-16.7	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6525	107.52	-1.97	105.55	122.2	-16.65	peak
6575	94.96	-2.13	92.83	110.8	-17.97	peak
6625	88.73	-2.65	86.08	105.2	-19.12	peak
6650	56.24	-2.28	53.96	68.2	-14.24	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 7 LOW

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6425	58.62	-2.06	56.56	68.2	-11.64	peak
6450	91.19	-1.96	89.23	105.2	-15.97	peak
6500	93.25	-2.87	90.38	110.8	-20.42	peak
6525	110.07	-2.14	107.93	122.2	-14.27	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6425	58.45	-2.06	56.39	68.2	-11.81	peak
6450	91.78	-1.96	89.82	105.2	-15.38	peak
6500	98.21	-2.87	95.34	110.8	-15.46	peak
6525	111.65	-2.14	109.51	122.2	-12.69	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 7 HIGH

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6875	106.36	-1.97	104.39	122.2	-17.81	peak
6925	92.84	-2.13	90.71	110.8	-20.09	peak
6975	88.97	-2.65	86.32	105.2	-18.88	peak
7000	53.19	-2.28	50.91	68.2	-17.29	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6875	106.08	-1.97	104.11	122.2	-18.09	peak
6925	92.35	-2.13	90.22	110.8	-20.58	peak
6975	87.71	-2.65	85.06	105.2	-20.14	peak
7000	53.84	-2.28	51.56	68.2	-16.64	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 8 LOW

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6775	56.88	-2.06	54.82	68.2	-13.38	peak
6800	87.82	-1.96	85.86	105.2	-19.34	peak
6850	95.76	-2.87	92.89	110.8	-17.91	peak
6875	108.11	-2.14	105.97	122.2	-16.23	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
6775	59.99	-2.06	57.93	68.2	-10.27	peak
6800	90.25	-1.96	88.29	105.2	-16.91	peak
6850	94.68	-2.87	91.81	110.8	-18.99	peak
6875	106.71	-2.14	104.57	122.2	-17.63	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

802.11a Mode with NII-Band 8 HIGH

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
7125	110.24	-1.97	108.27	122.2	-13.93	peak
7175	93.65	-2.13	91.52	110.8	-19.28	peak
7225	87.76	-2.65	85.11	105.2	-20.09	peak
7250	53.83	-2.28	51.55	68.2	-16.65	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

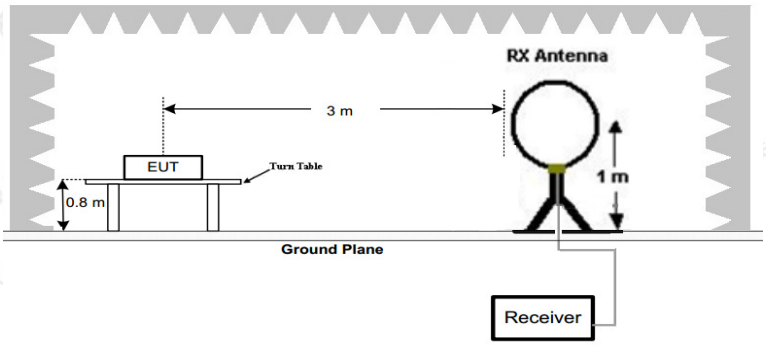
Vertical:

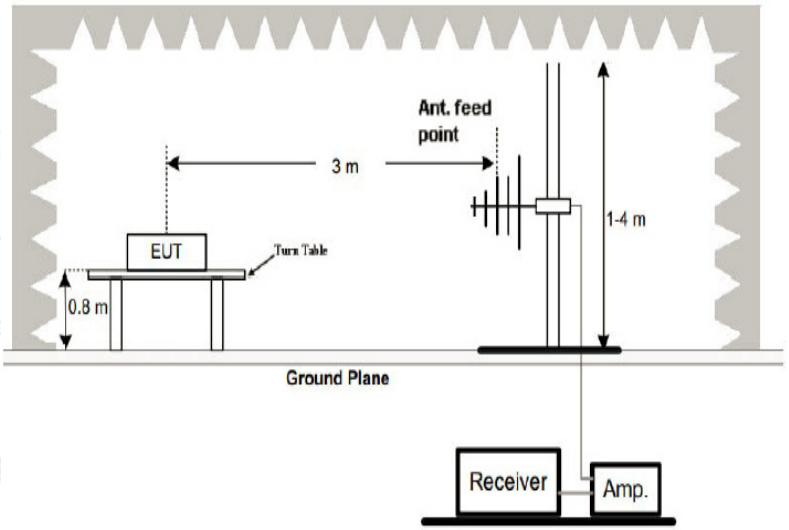
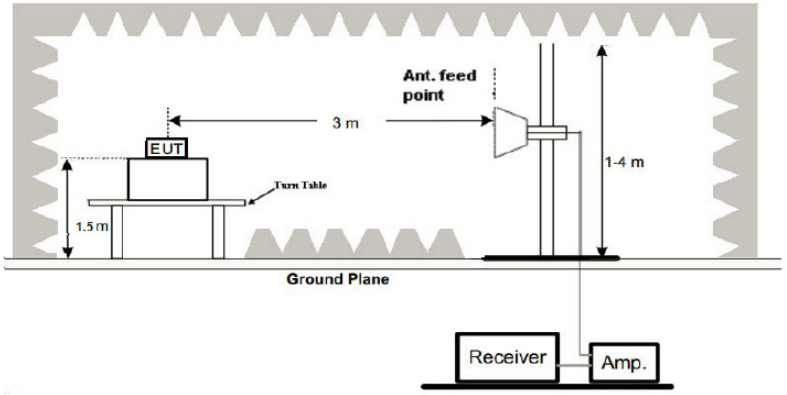
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
7125	109.14	-1.97	107.17	122.2	-15.03	peak
7175	93.36	-2.13	91.23	110.8	-19.57	peak
7225	87.98	-2.65	85.33	105.2	-19.87	peak
7250	55.14	-2.28	52.86	68.2	-15.34	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

4.9 Spurious Emission

4.9.1.1 Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205</td></tr>
<tr><td>Test Method:</td><td>KDB 789033 D02 v02r01</td></tr>
<tr><td>Frequency Range:</td><td>9kHz to 40GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of −27 dBm/MHz.

The limit of frequency below 1GHz and which fall in rest ricted bands should complies 15.209.</td></tr>
<tr><td>Test Setup:</td><td>For radiated emissions below 30MHz
 
</td></tr>
</table>

	30MHz to 1GHz  Above 1GHz 
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.

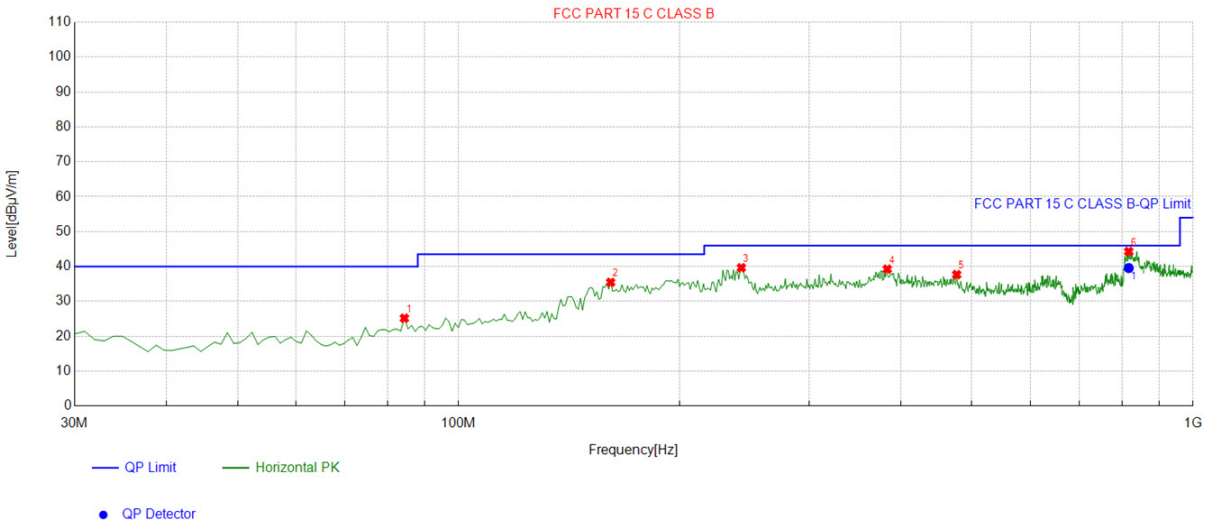
	5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions 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

4.9.2 Test Data

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

Below 1GHz

Horizontal

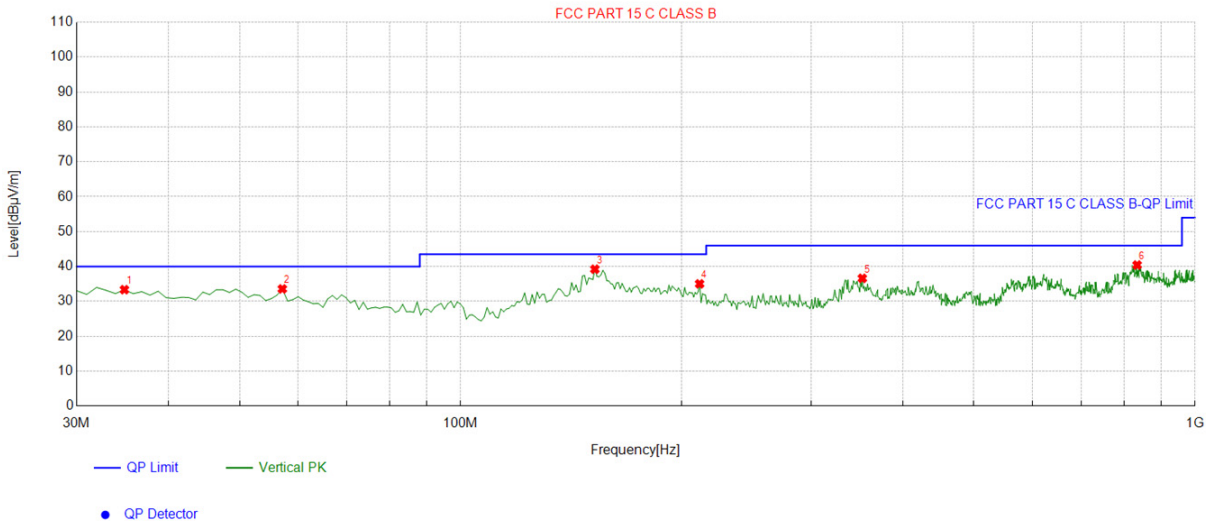


Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	84.374374	-17.88	43.05	25.17	40.00	14.83	100	19	Horizontal
2	161.08108	-17.67	53.12	35.45	43.50	8.05	100	128	Horizontal
3	242.64264	-13.42	53.04	39.62	46.00	6.38	100	106	Horizontal
4	383.43343	-9.11	48.35	39.24	46.00	6.76	100	255	Horizontal
5	476.64664	-8.23	45.90	37.67	46.00	8.33	100	329	Horizontal
6	817.45745	-2.94	47.23	44.29	46.00	1.71	100	292	Horizontal

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBµV/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	817.4574	-2.94	42.50	39.56	46.00	6.44	100	292	Horizontal

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

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	34.854855	-14.84	48.19	33.35	40.00	6.65	100	139	Vertical
2	57.187187	-13.76	47.32	33.56	40.00	6.44	100	212	Vertical
3	152.34234	-17.95	57.16	39.21	43.50	4.29	100	16	Vertical
4	211.57157	-14.85	49.87	35.02	43.50	8.48	100	116	Vertical
5	352.36236	-10.13	46.73	36.60	46.00	9.40	100	150	Vertical
6	833.96396	-2.60	43.02	40.42	46.00	5.58	100	321	Vertical

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

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

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

LOW CH01 (802.11 ax Mode with NII-Band 5)/5955

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	53.96	-4.59	49.37	68.2	-18.83	peak
11910	49.15	4.21	53.36	68.2	-14.84	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3368	58.22	-4.59	53.63	68.2	-14.57	peak
11910	54.37	4.21	58.58	68.2	-9.62	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

MID CH45 (802.11 ax Mode with NII-Band 5)/6175

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3172	58.08	-4.59	53.49	68.2	-14.71	peak
12350	51.41	4.21	55.62	68.2	-12.58	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
3172	57.32	-4.59	52.73	68.2	-15.47	peak
12350	52.96	4.21	57.17	68.2	-11.03	peak
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

HIGH CH93 (802.11 ax Mode with NII-Band 5)/6415

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2705	57.07	-4.59	52.48	74	-21.52	peak
2705	49.18	-4.59	44.59	54	-9.41	AVG
12830	54.42	4.84	59.26	74	-14.74	peak
12830	36.79	4.84	41.63	54	-12.37	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

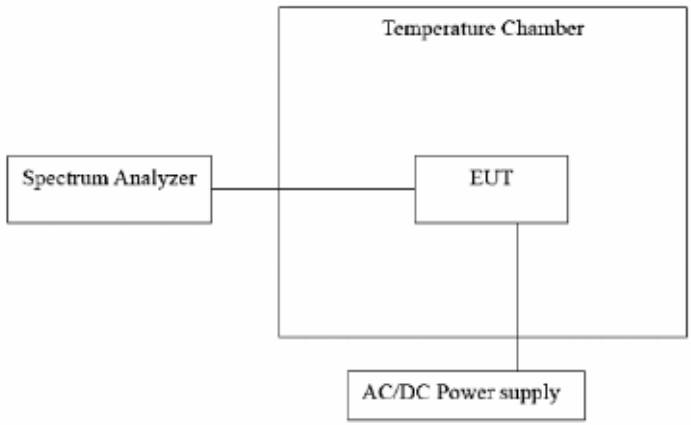
Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2705	59.81	-4.59	55.22	74	-18.78	peak
2705	44.63	-4.59	40.04	54	-13.96	AVG
12830	50.57	4.84	55.41	74	-18.59	peak
12830	38.11	4.84	42.95	54	-11.05	AVG
Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit.						

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.

4.10 Frequency Stability Measurement

4.10.1 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:	
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

Test Result as follows:

Mode	Voltage (V)	FHL (5925MHz)	Deviation (KHz)	FHH (6425MHz)	Deviation (KHz)
U-NII 5 band	16.15V	5925.988	-12	6425.003	3
	19.0V	5925.014	14	6425.025	25
	21.85V	5925.007	7	6424.989	-11

Mode	Temperature (℃)	FHL (5925MHz)	Deviation (KHz)	FHH (6425MHz)	Deviation (KHz)
U-NII-5 band	-30	5924.982	-18	6424.986	-14
	-20	5924.988	-12	6424.998	-2
	-10	5925.004	4	6425.012	12
	0	5924.993	-7	6425.003	3
	10	5924.984	-16	6424.995	-5
	20	5925.021	21	6424.988	-12
	30	5925.012	12	6424.991	-9
	40	5925.007	7	6425.002	2
	50	5924.998	-2	6425.011	11

Mode	Voltage (V)	FHL (6425MHz)	Deviation (KHz)	FHH (6525MHz)	Deviation (KHz)
U-NII 6 band	16.15V	6425.002	2	6525.011	11
	19.0V	6424.993	-7	6524.998	-2
	21.85V	6424.986	-14	6525.014	14

Mode	Temperature (℃)	FHL (6425MHz)	Deviation (KHz)	FHH (6525MHz)	Deviation (KHz)
U-NII-6 band	-30	6425.012	12	6525.007	7
	-20	6424.998	-2	6524.991	-9
	-10	6424.983	-17	6524.979	-21
	0	6425.013	13	6525.005	5
	10	6425.007	7	6525.018	18
	20	6424.985	-15	6524.982	-18
	30	6424.989	-11	6524.986	-14
	40	6425.003	3	6525.009	9
	50	6425.016	16	6524.994	-6

Mode	Voltage (V)	FHL (6525MHz)	Deviation (KHz)	FHH (6875MHz)	Deviation (KHz)
U-NII 7 band	16.15V	6525.007	7	6875.006	3
	19.0V	6524.998	-2	6874.992	25
	21.85V	6524.987	-13	6874.989	-11

Mode	Temperature (℃)	FHL (6525MHz)	Deviation (KHz)	FHH (6875MHz)	Deviation (KHz)
U-NII-7 band	-30	6525.005	5	6875.004	4
	-20	6525.011	11	6874.996	-4
	-10	6524.987	-13	6874.989	-11
	0	6524.986	-14	6874.993	-7
	10	6525.009	9	6875.014	14
	20	6524.996	-4	6875.025	25
	30	6524.983	-17	6874.991	-9
	40	6525.017	17	6875.021	21
	50	6525.003	3	6875.005	5

Mode	Voltage (V)	FHL (6875MHz)	Deviation (KHz)	FHH (7125MHz)	Deviation (KHz)
U-NII 8 band	16.15V	6875.011	11	7125.009	9
	19.0V	6874.993	-7	7124.987	-13
	21.85V	6875.004	4	7124.996	-4

Mode	Temperature (℃)	FHL (6875MHz)	Deviation (KHz)	FHH (7125MHz)	Deviation (KHz)
U-NII-8 band	-30	6875.006	6	7125.009	9
	-20	6874.993	-7	7125.011	11
	-10	6874.989	-11	7124.998	-2
	0	6875.002	2	7124.976	-24
	10	6874.984	-16	7124.985	-15
	20	6875.021	21	7124.986	-14
	30	6874.998	-2	7125.014	14
	40	6875.007	7	7125.012	12
	50	6875.025	25	7125.009	9

4.11 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.

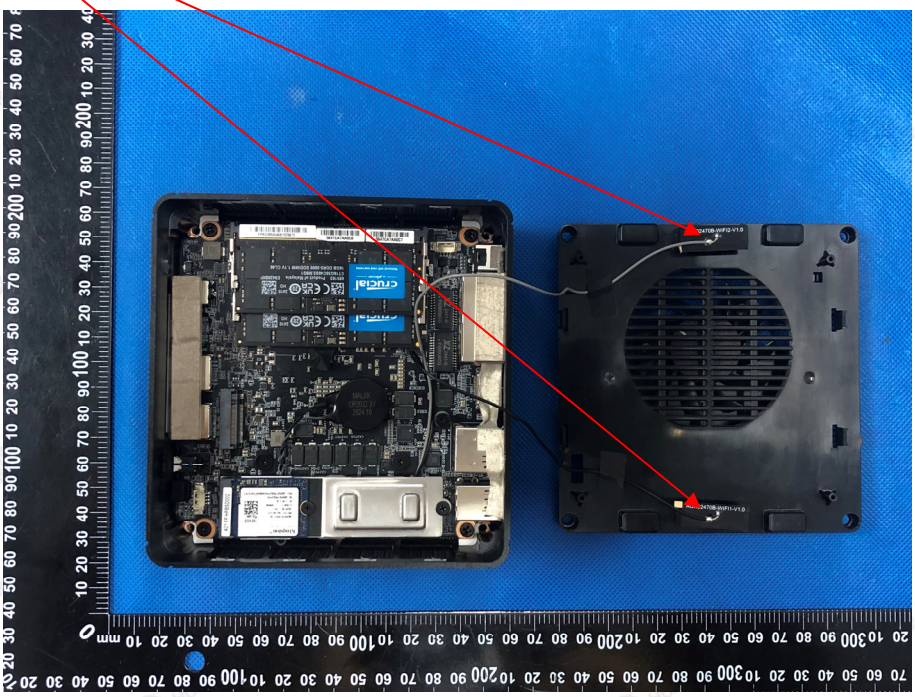
Refer to statement below for compliance.

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

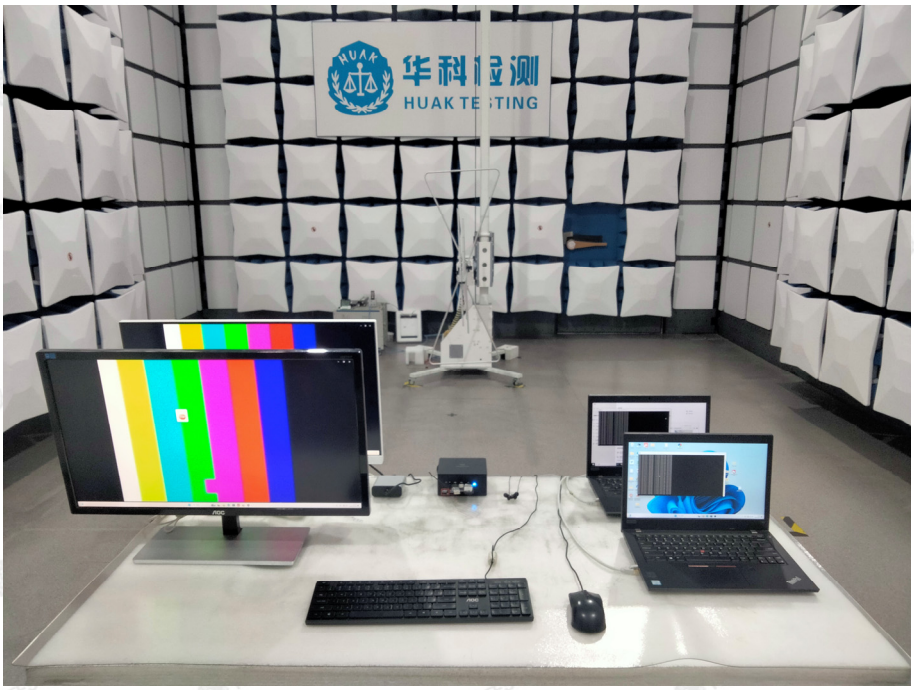
The antenna used in this product is FPC antenna, need professional installation, not easy to remove. It conforms to the standard requirements. and the best case gain of the antenna is Antenna port 1: 2.59dBi and Antenna port 2: -0.63dBi.

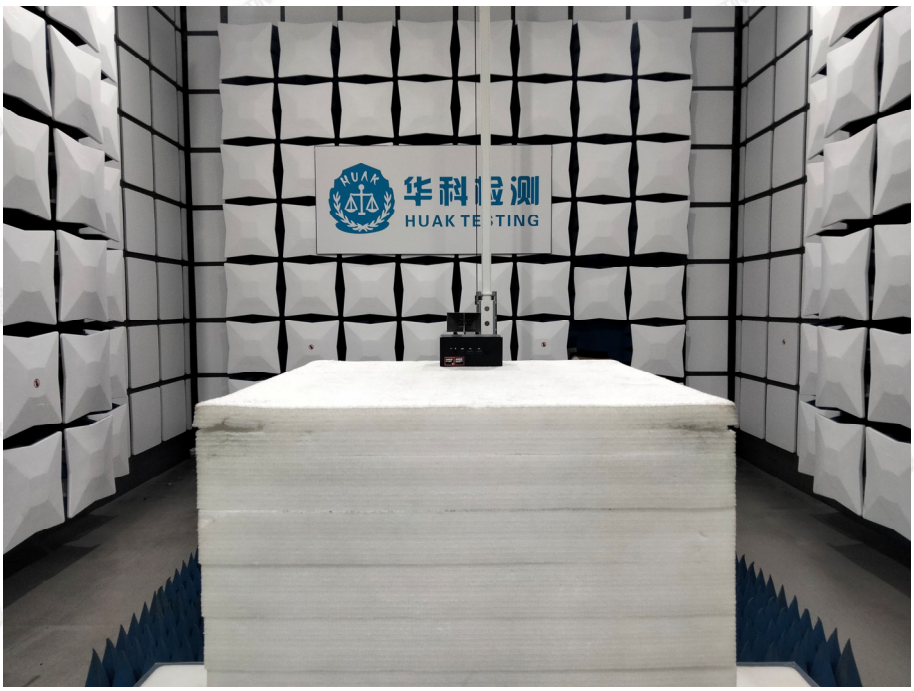
WIFI ANTENNA



5. Photographs of Test Setup

Radiated Emission





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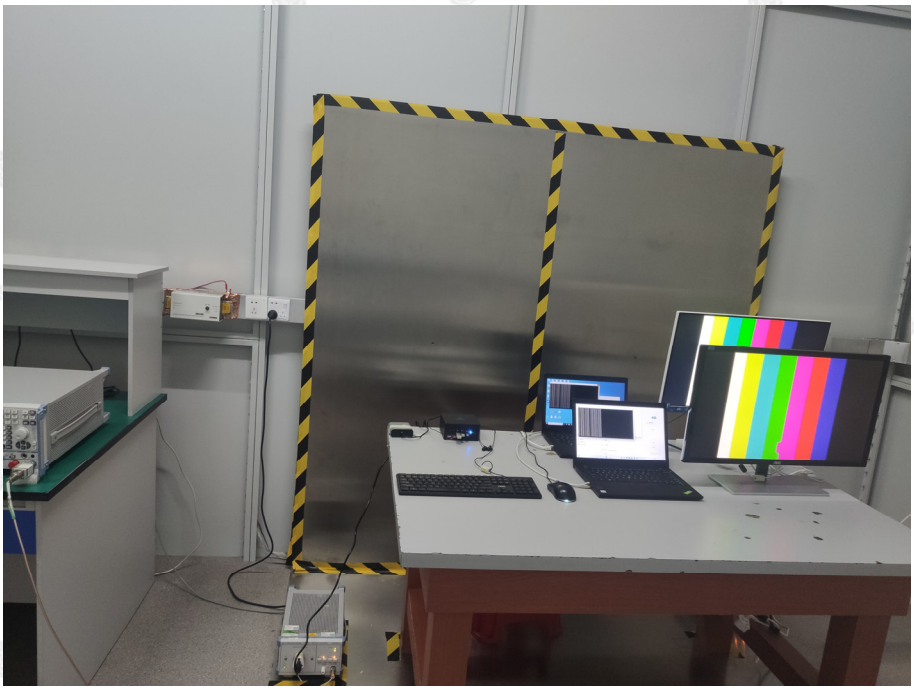
Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Conducted Emission



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6. Photos of the EUT

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

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

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