

TEST REPORT

FCC ID..... :	2AUARTKX12	
Test Report No..... :	TCT240820E907	
Date of issue..... :	Aug. 28, 2024	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	THINKCAR TECH CO., LTD.	
Address..... :	2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China	
Manufacturer's name ... :	THINKCAR TECH CO., LTD.	
Address..... :	2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China	
Standard(s)	FCC CFR Title 47 Part 15 Subpart E Section 15.407 KDB 662911 D01 Multiple Transmitter Output v02r01 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Product Name..... :	AI Automotive Diagnostic Tool	
Trade Mark	THINKCAR, XHINKCAR, MUCAR	
Model/Type reference..... :	TKX12	
Rating(s)..... :	Adapter Information: Model: PSYB0502500 Input: AC 100-240V, 50/60Hz, 0.6A Max Output: DC 5.0V, 2.5A, 12.5W Rechargeable Li-ion Battery DC 7.6V	
Date of receipt of test item	Aug. 20, 2024	
Date (s) of performance of test..... :	Aug. 20, 2024 ~ Aug. 28, 2024	
Tested by (+signature) ... :	Rleo LIU	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name.....:	AI Automotive Diagnostic Tool
Model/Type reference.....:	TKX12
Sample Number.....:	TCT240820E902-0101
Operation Frequency	Band 1: 5180 MHz ~ 5240 MHz Band 3: 5745 MHz ~ 5825 MHz
Channel Bandwidth.....:	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Modulation Technology	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....:	Internal Antenna
Antenna Gain.....:	Band 1: 3.91dBi Band 3: 4.63dBi
Rating(s).....:	Adapter Information: Model: PSYB0502500 Input: AC 100-240V, 50/60Hz, 0.6A Max Output: DC 5.0V, 2.5A, 12.5W Rechargeable Li-ion Battery DC 7.6V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

1.3. Test Frequency

Band 1

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180	38	5190	42	5210
40	5200	46	5230		
48	5240				

Band 3

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745	151	5755	155	5775
157	5785	159	5795		
165	5825				

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(a)	PASS
26dB Emission Bandwidth & 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Restricted Bands around fundamental frequency	§15.407(b)	PASS
Radiated Emission	§15.407(b)	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.
5. For the band 5.15-5.25GHz, EUT meet the requirements of 15.407(a)(ii).
6. This report is issued as a supplemental report to original FCC ID: 2AUARTKX12, the difference is changing product name, model name, color, appearance and shell material in this report, conducted emission and radiated emission had been re-tested and only its data was presented in this report.

3. General Information

3.1. Test environment and mode

Operating Environment:	
Temperature:	24.3 °C
Humidity:	50 % RH
Atmospheric Pressure:	1010 mbar
Test Software:	
Software Information:	Engineering Mode
Power Level:	20M: 18 40M/80M: 14
Test Mode:	
AC mode	Keep the EUT in continuous transmitting by select channel and modulations with max. duty cycle.
Battery mode	
The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a	6 Mbps
802.11n(HT20)	6.5 Mbps
802.11n(HT40)	13.5 Mbps
802.11ac(VHT20)	6.5 Mbps
802.11ac(VHT40)	13.5 Mbps
802.11ac(VHT80)	29.3 Mbps

3.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

4. Facilities and Accreditations

4.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Innovation, Science and Economic Development Canada for radio equipment testing.

4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB

5. Test Results and Measurement Data

5.1. Antenna requirement

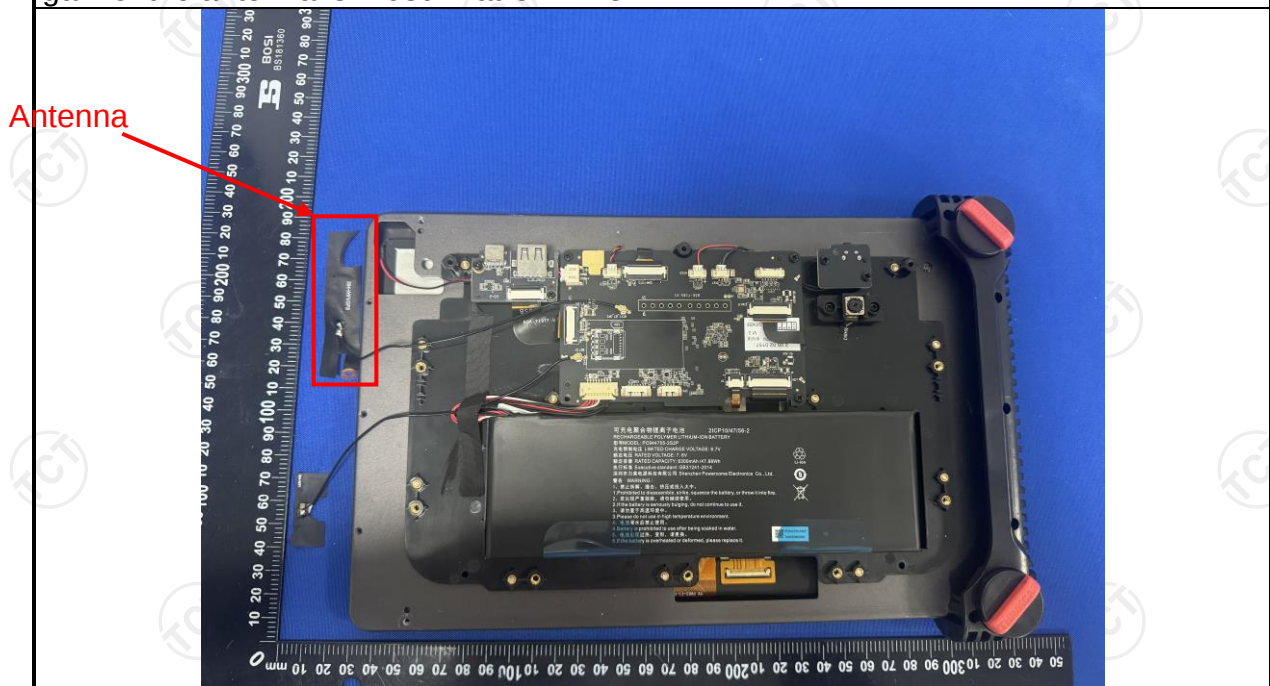
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
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15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

E.U.T Antenna:	
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The EUT antenna is internal antenna which permanently attached, and the maximum gain of the antenna is 4.63dBi at UNII-B3.



5.2. Conducted Emission

5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane 40cm Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	AC Mode														
Test Procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

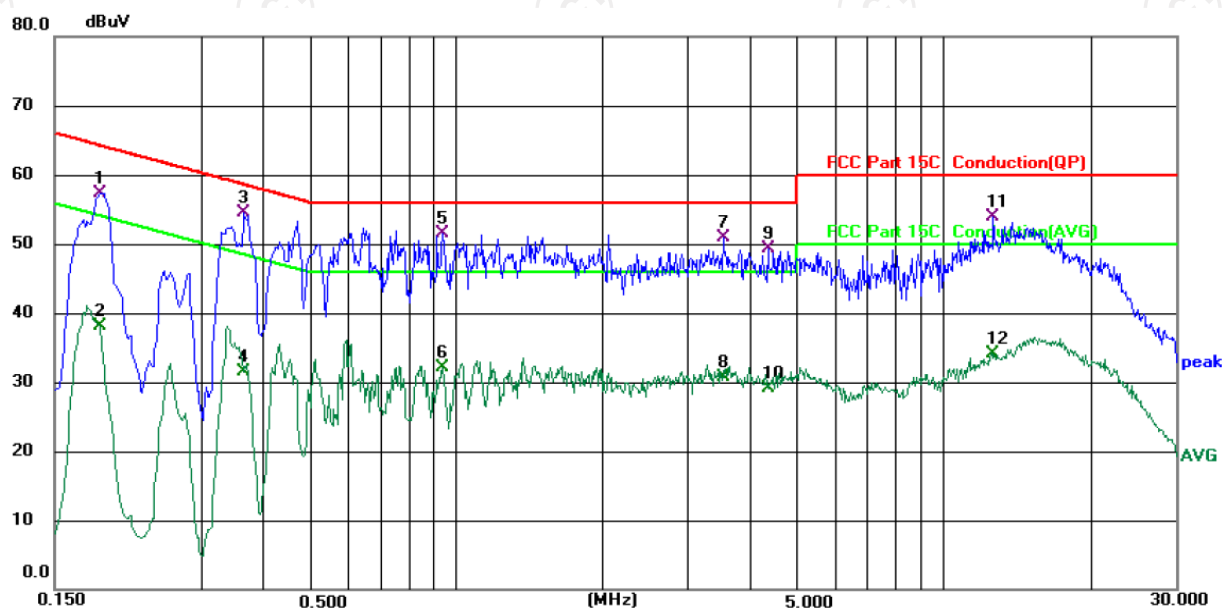
5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI3	100898	Jun. 26, 2025
LISN	Schwarzbeck	NSLK 8126	8126453	Jan. 31, 2025
Attenuator	N/A	10dB	164080	Jun. 26, 2025
Line-5	TCT	CE-05	/	Jun. 26, 2025
EMI Test Software	EZ_EMCC	EMEC-3A1	1.1.4.2	/

5.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: L1

Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1		0.1859	47.25	10.14	57.39	64.22	-6.83	QP	
2		0.1859	27.92	10.14	38.06	54.22	-16.16	AVG	
3	*	0.3659	44.86	9.57	54.43	58.59	-4.16	QP	
4		0.3659	21.89	9.57	31.46	48.59	-17.13	AVG	
5		0.9415	42.44	9.04	51.48	56.00	-4.52	QP	
6		0.9415	22.99	9.04	32.03	46.00	-13.97	AVG	
7		3.5379	40.80	10.07	50.87	56.00	-5.13	QP	
8		3.5379	20.69	10.07	30.76	46.00	-15.24	AVG	
9		4.3620	39.18	10.07	49.25	56.00	-6.75	QP	
10		4.3620	19.12	10.07	29.19	46.00	-16.81	AVG	
11		12.7140	43.72	10.16	53.88	60.00	-6.12	QP	
12		12.7140	24.04	10.16	34.20	50.00	-15.80	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

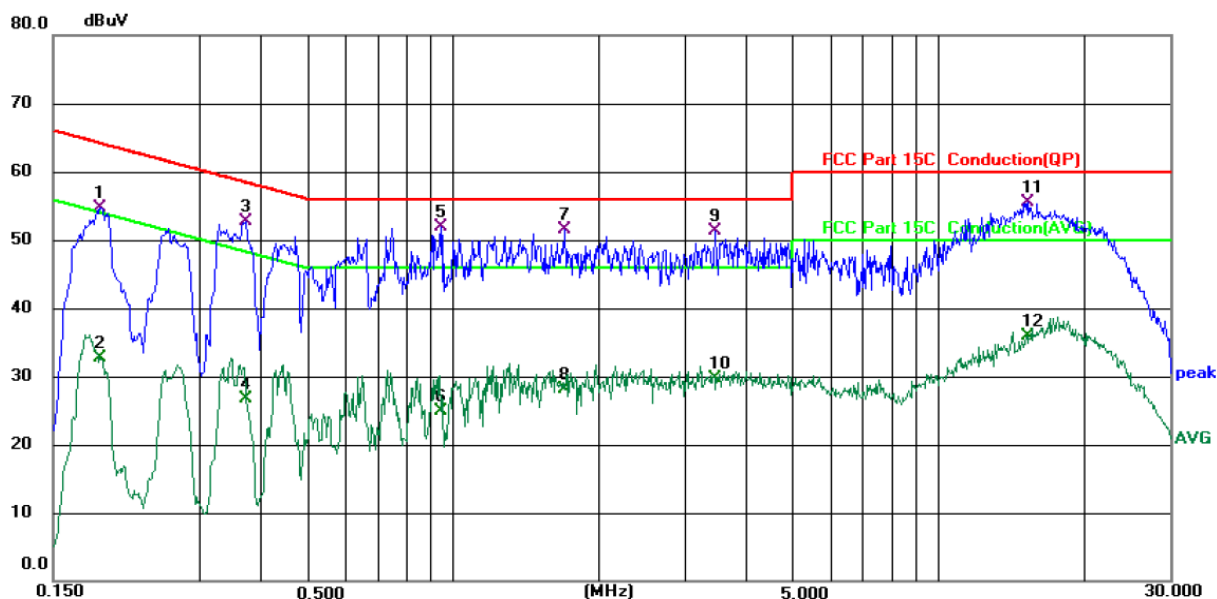
Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: **N**

Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1		0.1872	44.62	10.14	54.76	64.16	-9.40	QP	
2		0.1872	22.63	10.14	32.77	54.16	-21.39	AVG	
3		0.3738	43.15	9.58	52.73	58.42	-5.69	QP	
4		0.3738	17.12	9.58	26.70	48.42	-21.72	AVG	
5	*	0.9455	42.87	9.04	51.91	56.00	-4.09	QP	
6		0.9455	15.78	9.04	24.82	46.00	-21.18	AVG	
7		1.7056	41.54	10.00	51.54	56.00	-4.46	QP	
8		1.7056	18.19	10.00	28.19	46.00	-17.81	AVG	
9		3.4620	41.32	10.06	51.38	56.00	-4.62	QP	
10		3.4620	19.66	10.06	29.72	46.00	-16.28	AVG	
11		15.3500	45.25	10.26	55.51	60.00	-4.49	QP	
12		15.3500	25.73	10.26	35.99	50.00	-14.01	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

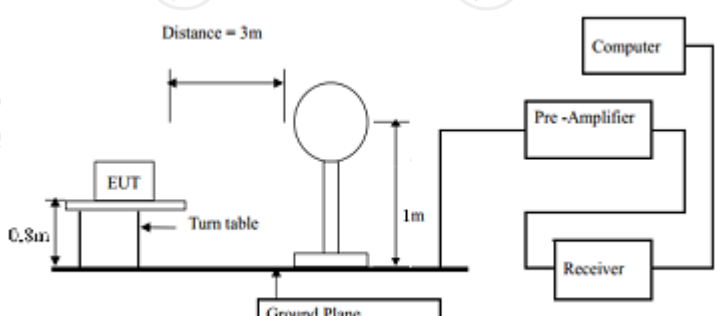
AVG =average

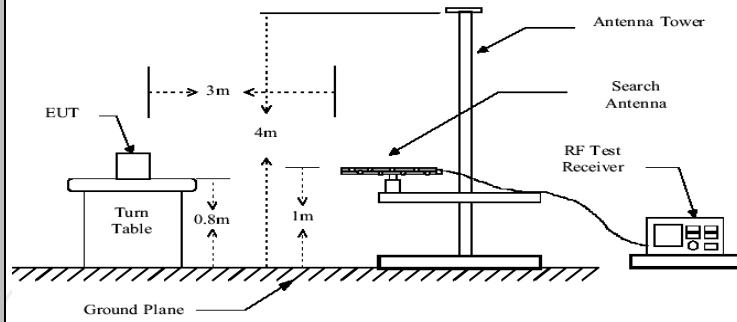
* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80) and the worst case Mode (Highest channel and 802.11n(HT40)) was submitted only.

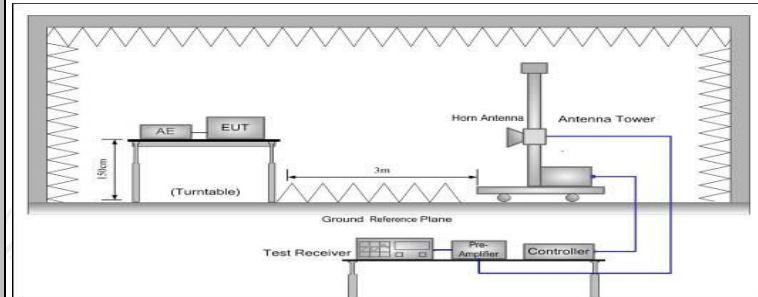
5.3. Unwanted Emissions

5.3.1. 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:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table, In restricted bands:				
	Frequency		Detector		Limit@3m
	Above 1G		Peak		74dBµV/m
			AVG		54dBµV/m
	Frequency		Field Strength (microvolts/meter)	Measurement Distance (meters)	
	0.009-0.490		2400/ (KHz)	300	
	0.490-1.705		24000/F(KHz)	3	
	1.705-30		30	30	
	30-88		100	3	
	88-216		150	3	
216-960		200	3		
Above 960		500	3		
Test setup:	In un-restricted bands: 68.2dBuV/m				
	For radiated emissions below 30MHz				
Test setup:					
	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 rotating 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 results:

PASS

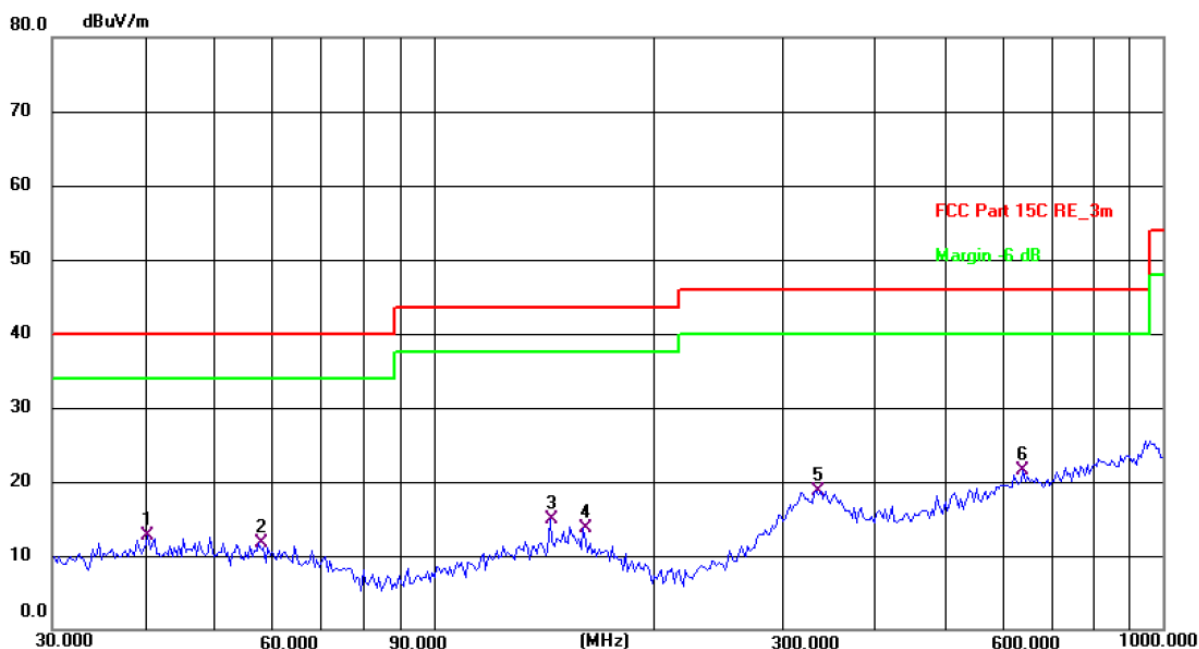
5.3.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI7	100529	Jan. 31, 2025
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 26, 2025
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 31, 2025
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 31, 2025
Pre-amplifier	HP	8447D	2727A05017	Jun. 26, 2025
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 26, 2025
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 02, 2025
Coaxial cable	SKET	RE-03-D	/	Jun. 26, 2025
Coaxial cable	SKET	RE-03-M	/	Jun. 26, 2025
Coaxial cable	SKET	RE-03-L	/	Jun. 26, 2025
Coaxial cable	SKET	RE-04-D	/	Jun. 26, 2025
Coaxial cable	SKET	RE-04-M	/	Jun. 26, 2025
Coaxial cable	SKET	RE-04-L	/	Jun. 26, 2025
Antenna Mast	Keleto	RE-AM	/	/
EMI Test Software	EZ EMC	FA-03A2 RE+	1.1.4.2	/

5.3.3. Test Data

Please refer to following diagram for individual
Below 1GHz

Horizontal:



Site: 3m Anechoic Chamber1

Polarization: **Horizontal**

Temperature: 24.6(C)

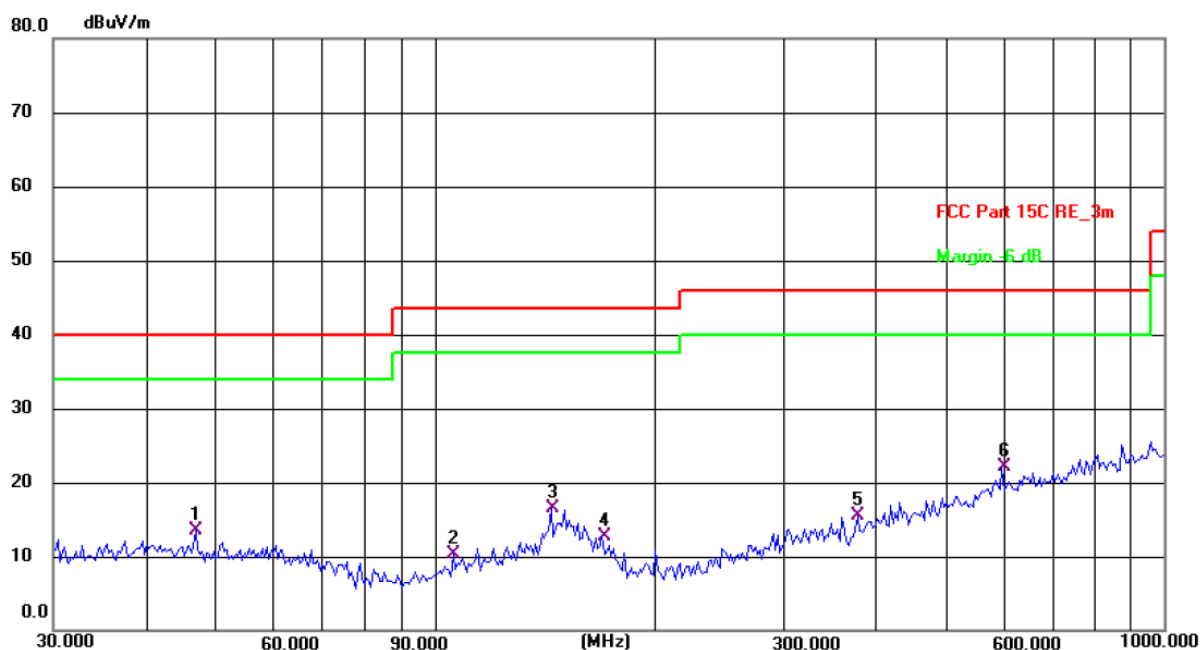
Humidity: 53 %

Limit: FCC Part 15C RE_3m

Power: DC 7.6 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	40.5591	24.49	-11.83	12.66	40.00	-27.34	QP	P	
2	57.5939	24.23	-12.57	11.66	40.00	-28.34	QP	P	
3	144.3347	26.83	-11.92	14.91	43.50	-28.59	QP	P	
4	160.3456	25.05	-11.37	13.68	43.50	-29.82	QP	P	
5	334.8588	28.90	-10.23	18.67	46.00	-27.33	QP	P	
6 *	642.8612	25.55	-4.10	21.45	46.00	-24.55	QP	P	

Vertical:



Site: 3m Anechoic Chamber1

Polarization: **Vertical**

Temperature: 24.6(C)

Humidity: 53 %

Limit: FCC Part 15C RE_3m

Power: DC 7.6 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	46.9947	25.71	-12.19	13.52	40.00	-26.48	QP	P	
2	106.0126	25.14	-14.88	10.26	43.50	-33.24	QP	P	
3	144.3347	28.44	-11.92	16.52	43.50	-26.98	QP	P	
4	169.5990	24.42	-11.62	12.80	43.50	-30.70	QP	P	
5	379.9141	24.99	-9.55	15.44	46.00	-30.56	QP	P	
6 *	599.3212	27.04	-4.94	22.10	46.00	-23.90	QP	P	

Note: 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80) and the worst case Mode (Highest channel and 802.11n(HT40)) was submitted only.

3.Measurement (dBuV) = Reading level + Correction Factor , correction Factor= Antenna Factor + Cable I oss – Pre-amplifier.

4. Both AC mode and Battery mode were tested, only the worse mode (Battery mode) is reported.

Modulation Type: Band 1									
11a CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	38.47	---	1.78	40.25	---	68.2	---	-27.95
15540	H	39.96	---	5.21	45.17	---	74	54	-8.83
---	H	---	---	---	---	---	---	---	---
10360	V	38.55	---	1.78	40.33	---	68.2	---	-27.87
15540	V	40.78	---	5.21	45.99	---	74	54	-8.01
---	V	---	---	---	---	---	---	---	---
11a CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	39.83	---	1.83	41.66	---	68.2	---	-26.54
15600	H	40.15	---	5.23	45.38	---	74	54	-8.62
---	H	---	---	---	---	---	---	---	---
10400	V	40.44	---	1.83	42.27	---	68.2	---	-25.93
15600	V	41.17	---	5.23	46.4	---	74	54	-7.6
---	V	---	---	---	---	---	---	---	---
11a CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	38.16	---	1.85	40.01	---	68.2	---	-28.19
15720	H	39.68	---	5.25	44.93	---	74	54	-9.07
---	H	---	---	---	---	---	---	---	---
10480	V	38.51	---	1.85	40.36	---	68.2	---	-27.84
15720	V	40.64	---	5.25	45.89	---	74	54	-8.11
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	41.73	---	1.78	43.51	---	68.2	---	-24.69
15540	H	40.85	---	5.21	46.06	---	74	54	-7.94
---	H	---	---	---	---	---	---	---	---
10360	V	42.05	---	1.78	43.83	---	68.2	---	-24.37
15540	V	41.49	---	5.21	46.7	---	74	54	-7.3
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	40.66	---	1.83	42.49	---	68.2	---	-25.71
15600	H	41.17	---	5.23	46.4	---	74	54	-7.6
---	H	---	---	---	---	---	---	---	---
10400	V	40.25	---	1.83	42.08	---	68.2	---	-26.12
15600	V	39.89	---	5.23	45.12	---	74	54	-8.88
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	41.67	---	1.85	43.52	---	68.2	---	-24.68
15720	H	41.61	---	5.25	46.86	---	74	54	-7.14
---	H	---	---	---	---	---	---	---	---
10480	V	40.28	---	1.85	42.13	---	68.2	---	-26.07
15720	V	40.07	---	5.25	45.32	---	74	54	-8.68
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH38: 5190MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10380	H	39.88	---	1.80	41.68	---	68.2	---	-26.52
15570	H	41.64	---	5.22	46.86	---	74	54	-7.14
---	H	---	---	---	---	---	---	---	---
10380	V	40.95	---	1.80	42.75	---	68.2	---	-25.45
15570	V	39.21	---	5.22	44.43	---	74	54	-9.57
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH46: 5230MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10460	H	41.69	---	1.85	43.54	---	68.2	---	-24.66
15690	H	39.11	---	5.08	44.19	---	74	54	-9.81
---	H	---	---	---	---	---	---	---	---
10460	V	41.44	---	1.85	43.29	---	68.2	---	-24.91
15690	V	40.38	---	5.08	45.46	---	74	54	-8.54
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	40.42	---	1.78	42.2	---	68.2	---	-26
15540	H	39.87	---	5.21	45.08	---	74	54	-8.92
---	H	---	---	---	---	---	---	---	---
10360	V	38.56	---	1.78	40.34	---	68.2	---	-27.86
15540	V	39.05	---	5.21	44.26	---	74	54	-9.74
---	V	---	---	---	---	---	---	---	---
11ac(VHT20) CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	40.07	---	1.83	41.9	---	68.2	---	-26.3
15600	H	40.27	---	5.23	45.5	---	74	54	-8.5
---	H	---	---	---	---	---	---	---	---
10400	V	39.83	---	1.83	41.66	---	68.2	---	-26.54
15600	V	39.52	---	5.23	44.75	---	74	54	-9.25
---	V	---	---	---	---	---	---	---	---
11ac(VHT20) CH48:5240									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	37.75	---	1.85	39.6	---	68.2	---	-28.6
15720	H	39.01	---	5.25	44.26	---	74	54	-9.74
---	H	---	---	---	---	---	---	---	---
10480	V	38.33	---	1.85	40.18	---	68.2	---	-28.02
15720	V	39.54	---	5.25	44.79	---	74	54	-9.21
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH38:5190									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10380	H	40.86	---	1.80	42.66	---	68.2	---	-25.54
15570	H	39.85	---	5.22	45.07	---	74	54	-8.93
---	H	---	---	---	---	---	---	---	---
10380	V	38.56	---	1.80	40.36	---	68.2	---	-27.84
15570	V	39.59	---	5.22	44.81	---	74	54	-9.19
---	V	---	---	---	---	---	---	---	---

11ac(VHT40) CH46:5230									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10460	H	38.71	---	1.85	40.56	---	68.2	---	-27.64
15690	H	39.99	---	5.08	45.07	---	74	54	-8.93
---	H	---	---	---	---	---	---	---	---
10460	V	39.64	---	1.85	41.49	---	68.2	---	-26.71
15690	V	40.43	---	5.08	45.51	---	74	54	-8.49
---	V	---	---	---	---	---	---	---	---
11ac(VHT80) CH42:5210									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10420	H	41.94	---	1.84	43.78	---	68.2	---	-24.42
15630	H	39.73	---	5.17	44.9	---	74	54	-9.1
---	H	---	---	---	---	---	---	---	---
10420	V	41.42	---	1.84	43.26	---	68.2	---	-24.94
15630	V	40.11	---	5.17	45.28	---	74	54	-8.72
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
6. Both AC mode and Battery mode were tested, only the worse mode (Battery mode) is reported.

Modulation Type: Band 3									
11a CH149: 5745MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	44.87	---	2.48	47.35	---	74	54	-6.65
17235	H	37.75	---	6.50	44.25	---	68.2	---	-23.95
---	H	---	---	---	---	---	---	---	---
11490	V	45.31	---	2.48	47.79	---	74	54	-6.21
17235	V	38.42	---	6.50	44.92	---	68.2	---	-23.28
---	V	---	---	---	---	---	---	---	---
11a CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	43.56	---	2.42	45.98	---	74	54	-8.02
17355	H	38.79	---	7.03	45.82	---	68.2	---	-22.38
---	H	---	---	---	---	---	---	---	---
11570	V	43.95	---	2.42	46.37	---	74	54	-7.63
17355	V	39.41	---	7.03	46.44	---	68.2	---	-21.76
---	V	---	---	---	---	---	---	---	---
11a CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	43.52	---	2.41	45.93	---	74	54	-8.07
17475	H	36.17	---	7.41	43.58	---	68.2	---	-24.62
---	H	---	---	---	---	---	---	---	---
11650	V	43.63	---	2.41	46.04	---	74	54	-7.96
17475	V	38.32	---	7.41	45.73	---	68.2	---	-22.47
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH149: 5745MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	44.72	---	2.48	47.2	---	74	54	-6.8
17235	H	38.24	---	6.50	44.74	---	68.2	---	-23.46
---	H	---	---	---	---	---	---	---	---
11490	V	44.55	---	2.48	47.03	---	74	54	-6.97
17235	V	37.08	---	6.50	43.58	---	68.2	---	-24.62
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	44.73	---	2.42	47.15	---	74	54	-6.85
17355	H	39.21	---	7.03	46.24	---	68.2	---	-21.96
---	H	---	---	---	---	---	---	---	---
11570	V	44.97	---	2.42	47.39	---	74	54	-6.61
17355	V	39.55	---	7.03	46.58	---	68.2	---	-21.62
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	45.36	---	2.41	47.77	---	74	54	-6.23
17475	H	37.78	---	7.41	45.19	---	68.2	---	-23.01
---	H	---	---	---	---	---	---	---	---
11650	V	45.22	---	2.41	47.63	---	74	54	-6.37
17475	V	40.12	---	7.41	47.53	---	68.2	---	-20.67
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH151: 5755MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11510	H	44.87	---	2.47	47.34	---	74	54	-6.66
17265	H	37.33	---	6.62	43.95	---	68.2	---	-24.25
---	H	---	---	---	---	---	---	---	---
11510	V	44.66	---	2.47	47.13	---	74	54	-6.87
17265	V	38.61	---	6.62	45.23	---	68.2	---	-22.97
---	V	---	---	---	---	---	---	---	---
11n(HT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11590	H	44.37	---	2.40	46.77	---	74	54	-7.23
17385	H	38.82	---	7.15	45.97	---	68.2	---	-22.23
---	H	---	---	---	---	---	---	---	---
11590	V	44.34	---	2.40	46.74	---	74	54	-7.26
17385	V	37.94	---	7.15	45.09	---	68.2	---	-23.11
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH149: 5745MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11490	H	44.76	---	2.48	47.24	---	74	54	-6.76
17235	H	37.54	---	6.50	44.04	---	68.2	---	-24.16
---	H	---	---	---	---	---	---	---	---
11490	V	44.88	---	2.48	47.36	---	74	54	-6.64
17235	V	38.64	---	6.50	45.14	---	68.2	---	-23.06
---	V	---	---	---	---	---	---	---	---
11ac(VHT20) CH157: 5785MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11570	H	43.73	---	2.42	46.15	---	74	54	-7.85
17355	H	36.45	---	7.03	43.48	---	68.2	---	-24.72
---	H	---	---	---	---	---	---	---	---
11570	V	43.89	---	2.42	46.31	---	74	54	-7.69
17355	V	38.27	---	7.03	45.3	---	68.2	---	-22.9
---	V	---	---	---	---	---	---	---	---
11ac(VHT20) CH165: 5825MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11650	H	44.36	---	2.41	46.77	---	74	54	-7.23
17475	H	38.72	---	7.41	46.13	---	68.2	---	-22.07
---	H	---	---	---	---	---	---	---	---
11650	V	44.21	---	2.41	46.62	---	74	54	-7.38
17475	V	40.18	---	7.41	47.59	---	68.2	---	-20.61
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH151: 5755MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11510	H	44.66	---	2.47	47.13	---	74	54	-6.87
17265	H	37.38	---	6.62	44	---	68.2	---	-24.2
---	H	---	---	---	---	---	---	---	---
11510	V	43.74	---	2.47	46.21	---	74	54	-7.79
17265	V	36.36	---	6.62	42.98	---	68.2	---	-25.22
---	V	---	---	---	---	---	---	---	---

11ac(VHT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11590	H	43.42	---	2.40	45.82	---	74	54	-8.18
17385	H	37.21	---	7.15	44.36	---	68.2	---	-23.84
---	H	---	---	---	---	---	---	---	---
11590	V	42.57	---	2.40	44.97	---	74	54	-9.03
17385	V	38.44	---	7.15	45.59	---	68.2	---	-22.61
---	V	---	---	---	---	---	---	---	---
11ac(VHT80) CH155: 5775MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11550	H	44.92	---	2.44	47.36	---	74	54	-6.64
17325	H	38.42	---	6.89	45.31	---	68.2	---	-22.89
---	H	---	---	---	---	---	---	---	---
11550	V	45.06	---	2.44	47.5	---	74	54	-6.5
17325	V	38.37	---	6.89	45.26	---	68.2	---	-22.94
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
6. Both AC mode and Battery mode were tested, only the worse mode (Battery mode) is reported.

Appendix B: Photographs of Test Setup

Refer to the test report No. TCT240820E902

Appendix C: Photographs of EUT

Refer to the test report No. TCT240820E902

*******END OF REPORT*******