TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID. ..... :	2BEGI-CM100	
Test Report No..... :	TCT250619E024	
Date of issue..... :	Aug. 06, 2025	
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..... :	Shenzhen WISO Technology Co., Ltd	
Address..... :	Room 913, Building 10, Shenzhen Bay Tech-Eco Park, 10 Gaoxin South 9th Rd, Nanshan District, Shenzhen, China	
Manufacturer's name ... :	Shenzhen Yilianyi Communication Technology Co., Ltd	
Address..... :	502 Room, building A, wenle Industrial Zone, Longzhu community, Xixiang street. Bao'an District. Shenzhen	
Standard(s) ..... :	FCC CFR Title 47 Part 15 Subpart C Section 15.249 ANSI C63.10:2020	
Product Name..... :	Chessnut Move Robotic Chessboard	
Trade Mark ..... :	Chessnut	
Model/Type reference..... :	CM100, CM101, CM102, CM103, CM104	
Rating(s)..... :	DC Rating: DC 5V, 3A Rechargeable Li-ion Battery DC 3.7V	
Date of receipt of test item ..... :	Jun. 19, 2025	
Date (s) of performance of test..... :	Jun. 19, 2025 ~ Aug. 04, 2025	
Tested by (+signature) ... :	Aaron MO	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

General disclaimer:

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1. General Product Information

1.1. EUT description

Product Name.....:	Chessnut Move Robotic Chessboard
Model/Type reference.....:	CM100
Sample Number.....:	TCT250619E023-0101
Operation Frequency.....:	2402MHz~2480MHz
Channel Separation .....:	2MHz
Number of Channel.....:	40
Modulation Technology .....:	GFSK
Antenna Type.....:	Internal Antenna
Antenna Gain.....:	3.01dBi
Rating(s).....:	DC Rating: DC 5V, 3A Rechargeable Li-ion Battery DC 3.7V

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

No.	Model No.	Tested with
1	CM100	☒
Other models	CM101, CM102, CM103, CM104	☐

Note: CM100 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of CM100 can represent the remaining models.

1.3. Operation Frequency

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
…	…	…	…	…	…	…	…
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz
Remark: Channel 0, 19 & 39 have been tested.							

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2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Field Strength of Fundamental	§15.249 (a)	PASS
Spurious Emissions	§15.249 (a) (d)/ §15.209	PASS
Band Edge	§15.249 (d)/ §15.205	PASS
20dB Occupied Bandwidth	§15.215 (c)	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.

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3. General Information

3.1. Test Environment and Mode

Operating Environment:		
Condition	Conducted Emission	Radiated Emission
Temperature:	24.8 °C	24.6 °C
Humidity:	51 % RH	50 % RH
Atmospheric Pressure:	1010 mbar	1010 mbar
Test Software:		
Software Information:	RFTest_0901_boxed	
Power Level:	Default	
Test Mode:		
Engineer mode:	Keep the EUT in continuous transmitting by select channel and modulations with Fully-charged battery.	

The sample was placed 0.8m & 1.5m for the measurement below & 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 (Z axis) are shown in Test Results of the following pages.

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
Adapter	EP-TA200	R37H8AA3AJ1DK3	/	SAMSUNG

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.

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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.

- A2LA-No.: 4320.01

  SHENZHEN TONGCE TESTING LAB

  The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

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

5. Measurement Uncertainty

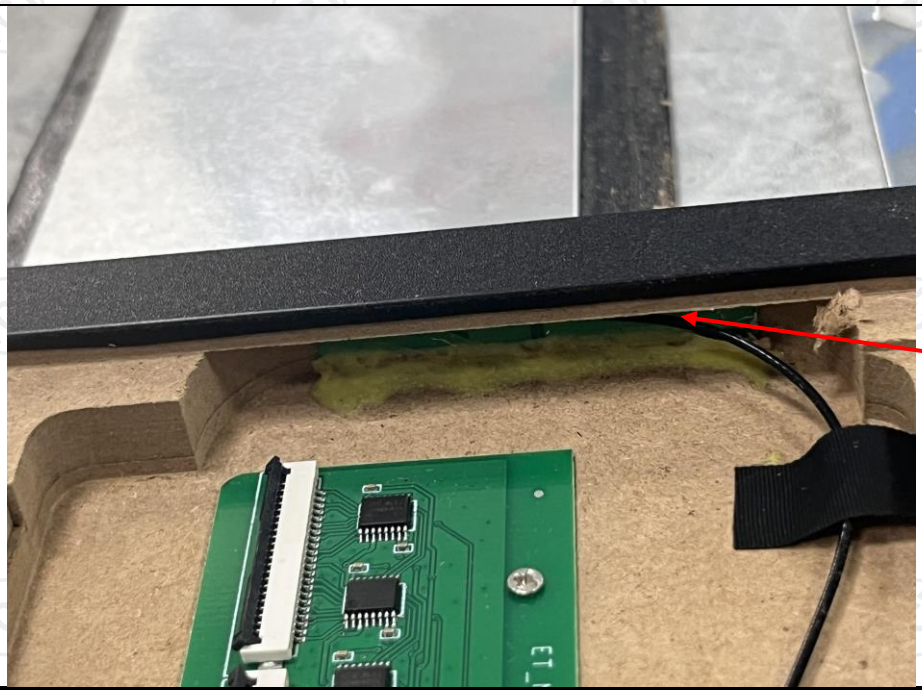
The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

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

6. Test Results and Measurement Data

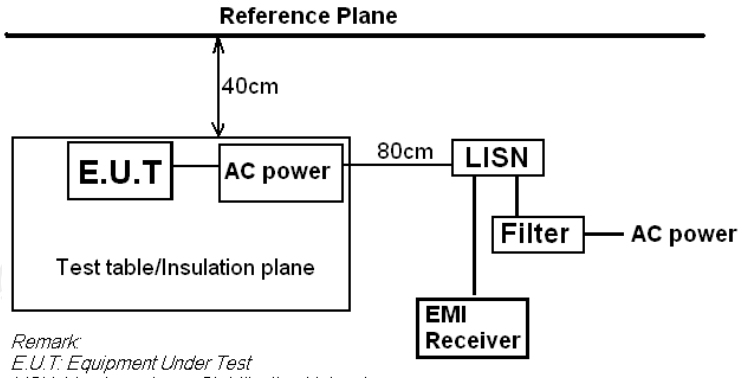
6.1. Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The EUT antenna is Internal antenna which permanently attached, and the best case gain of the antenna is 3.01dBi.	



6.2. Conducted Emission

6.2.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2020</td></tr>
<tr><td>Frequency Range:</td><td>150 kHz to 30 MHz</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9 kHz, VBW=30 kHz, Sweep time=auto</td></tr>
<tr><td>Limits:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></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>
</td></tr>
<tr><td>Test Setup:</td><td> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test Mode:</td><td>Charging + Transmitting Mode</td></tr>
<tr><td>Test Procedure:</td><td>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 C63.10:2020 on conducted measurement.</td></tr>
<tr><td>Test Result:</td><td>PASS</td></tr>
</table>

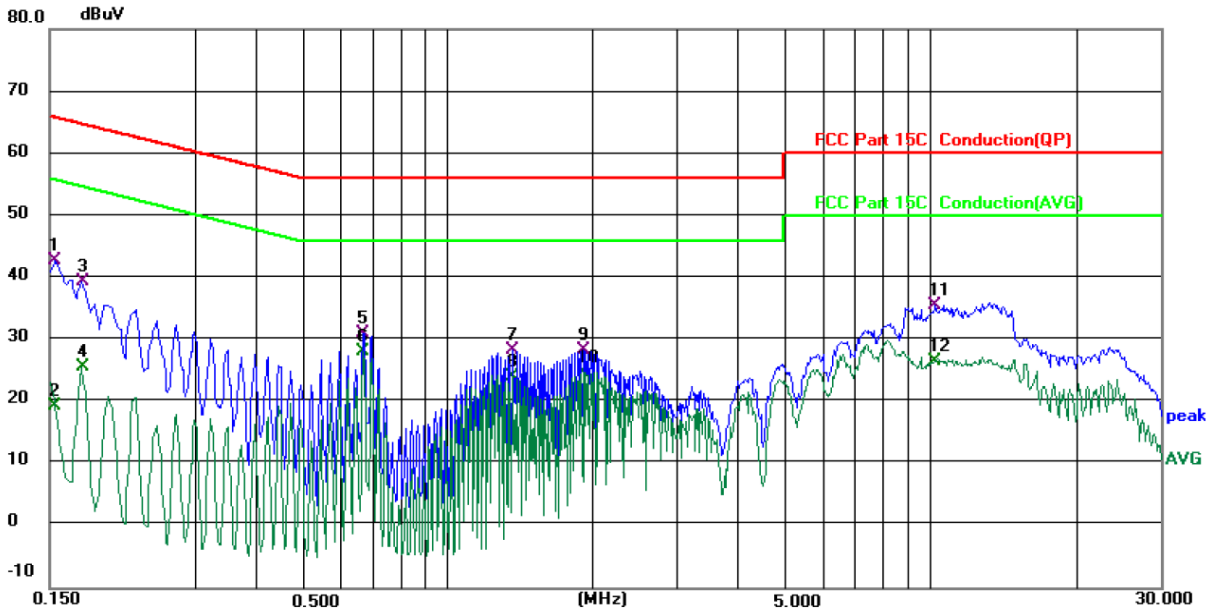
6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Date of Cal.**	**Due Date**
EMI Test Receiver	R&S	ESCI3	100898	Jun. 26, 2025	Jun. 25, 2026
LISN	Schwarzbeck	NSLK 8126	8126453	Jan. 21, 2025	Jan. 20, 2026
Attenuator	N/A	10dB	164080	Jun. 26, 2025	Jun. 25, 2026
Line-5	TCT	CE-05	/	Jun. 26, 2025	Jun. 25, 2026
EMI Test Software	EZ_EMC	EMEC-3A1	1.1.4.2	/	/

6.2.3. 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: 24.8 (℃) | Humidity: 51 %

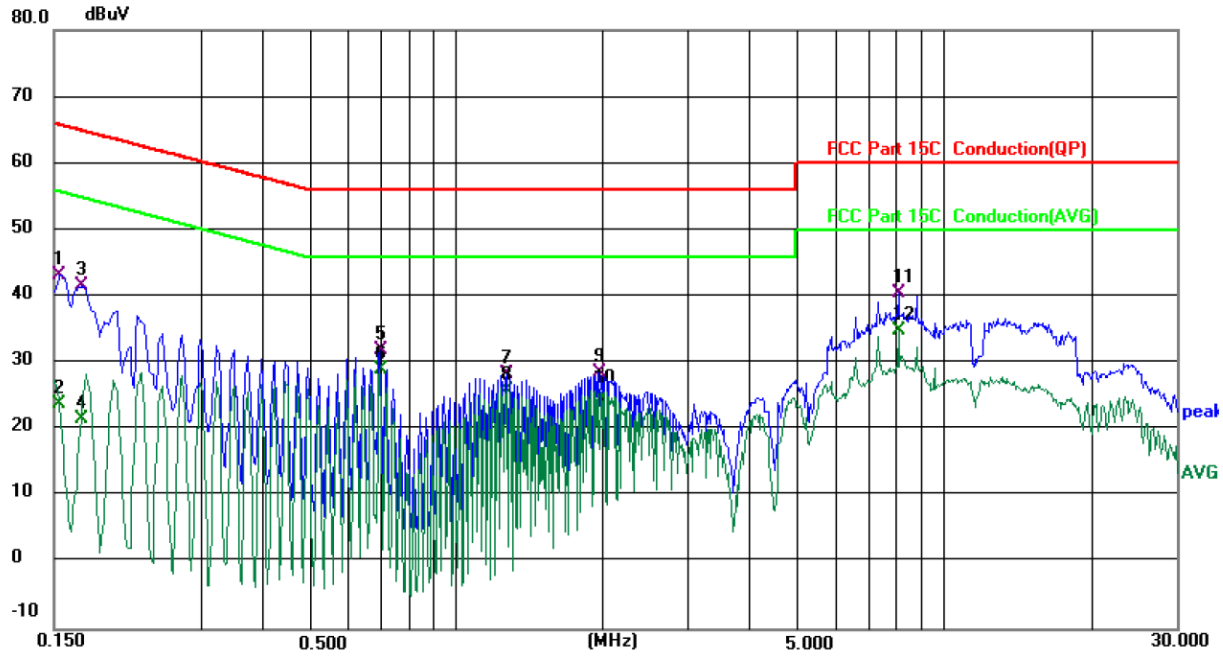
Limit: FCC Part 15C Conduction(QP) | Power: DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1539	32.87	9.96	42.83	65.79	-22.96	QP	
2		0.1539	9.50	9.96	19.46	55.79	-36.33	AVG	
3		0.1739	29.53	9.94	39.47	64.77	-25.30	QP	
4		0.1739	15.62	9.94	25.56	54.77	-29.21	AVG	
5		0.6700	21.15	9.90	31.05	56.00	-24.95	QP	
6	*	0.6700	18.15	9.90	28.05	46.00	-17.95	AVG	
7		1.3660	18.41	9.97	28.38	56.00	-27.62	QP	
8		1.3660	14.10	9.97	24.07	46.00	-21.93	AVG	
9		1.9139	18.27	10.00	28.27	56.00	-27.73	QP	
10		1.9139	14.67	10.00	24.67	46.00	-21.33	AVG	
11		10.2460	25.23	10.29	35.52	60.00	-24.48	QP	
12		10.2460	16.36	10.29	26.65	50.00	-23.35	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: 24.8 (℃) | Humidity: 51 %

Limit: FCC Part 15C Conduction(QP) | Power: DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1539	33.38	9.94	43.32	65.79	-22.47	QP	
2		0.1539	13.98	9.94	23.92	55.79	-31.87	AVG	
3		0.1700	31.62	9.94	41.56	64.96	-23.40	QP	
4		0.1700	11.63	9.94	21.57	54.96	-33.39	AVG	
5		0.6979	21.92	9.94	31.86	56.00	-24.14	QP	
6		0.6979	19.14	9.94	29.08	46.00	-16.92	AVG	
7		1.2700	18.28	9.98	28.26	56.00	-27.74	QP	
8		1.2700	16.01	9.98	25.99	46.00	-20.01	AVG	
9		1.9659	18.57	10.02	28.59	56.00	-27.41	QP	
10		1.9659	15.40	10.02	25.42	46.00	-20.58	AVG	
11		8.0860	30.17	10.26	40.43	60.00	-19.57	QP	
12	*	8.0860	24.70	10.26	34.96	50.00	-15.04	AVG	

Note1:

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)

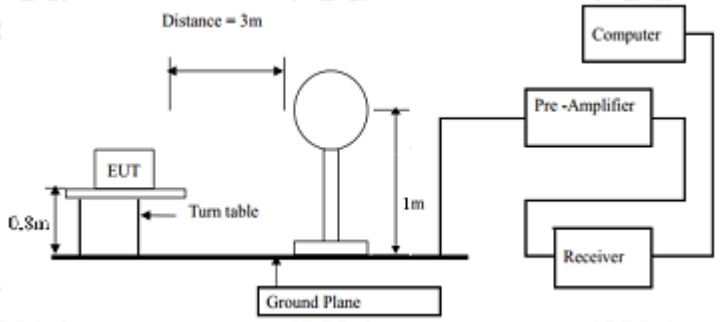
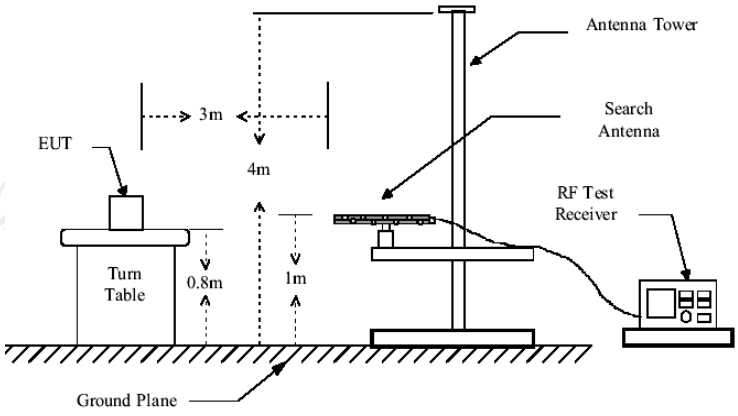
Q.P. =Quasi-Peak AVG =average

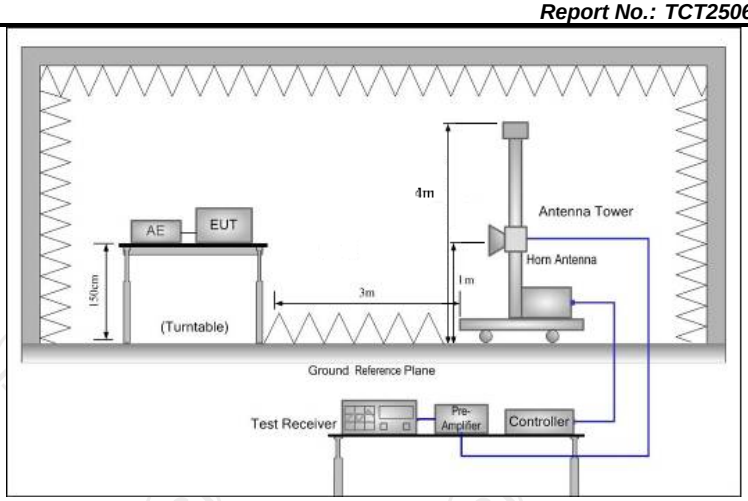
** is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.*

6.3. Radiated Emission Measurement

6.3.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2020</td></tr>
<tr><td>Frequency Range:</td><td>9 kHz to 25 GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</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(Field strength of the fundamental signal):</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="2">2400MHz-2483.5MHz</td><td>94.00</td><td>Average Value</td></tr>
<tr><td>114.00</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit(Spurious Emissions):</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(KHz)</td><td>Quasi-peak Value</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(KHz)</td><td>Quasi-peak Value</td></tr>
<tr><td>1.705-30</td><td>30</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit (band edge):</td><td>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.</td></tr>
<tr><td>Test Procedure:</td><td>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber in below 1GHz, 1.5m above the ground in above 1GHz. 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.</td></tr>
</table>

	4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test setup:	For radiated emissions below 30MHz  30MHz to 1GHz  Above 1GHz (The diagram below shows the test setup that is utilized to make the measurements for emission from 1GHz to the tenth harmonic of the highest fundamental frequency or to 40GHz emissions, whichever is lower.)

	
Test results:	PASS

6.3.2. Test Instruments

Radiated Emission Test Site (966)					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Date of Cal.**	**Due Date**
EMI Test Receiver	R&S	ESCI7	100529	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 26, 2025	Jun. 25, 2026
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Apr. 11, 2025	Apr. 10, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 26, 2025	Jun. 25, 2026
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 30, 2025	Jun. 29, 2026
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 24, 2025	Jan. 23, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2025	Jun. 26, 2026
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ_EMC	FA-03A2 RE+	1.1.4.2	/	/

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6.3.3. Test Data

Field Strength of Fundamental

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission PK (dBuV/m)	Horizontal /Vertical	Limits PK (dBuV/m)	Margin (dB)
2402	108.08	-16.75	91.33	H	114	-22.67
2402	101.73	-16.75	84.98	V	114	-29.02
2440	106.85	-16.63	90.22	H	114	-23.78
2440	101.32	-16.63	84.69	V	114	-29.31
2480	108.62	-16.51	92.11	H	114	-21.89
2480	102.27	-16.51	85.76	V	114	-28.24

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Emission AV (dBuV/m)	Horizontal /Vertical	Limits AV (dBuV/m)	Margin (dB)
2402	107	-16.75	90.25	H	94	-3.75
2402	100.73	-16.75	83.98	V	94	-10.02
2440	106.74	-16.63	90.11	H	94	-3.89
2440	100.32	-16.63	83.69	V	94	-10.31
2480	108.01	-16.51	91.50	H	94	-2.50
2480	101.64	-16.51	85.13	V	94	-8.87

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.

3. For fundamental frequency, RBW >20dB BW, VBW>=RBW, PK detector is for PK value, RMS detector is for AV value.

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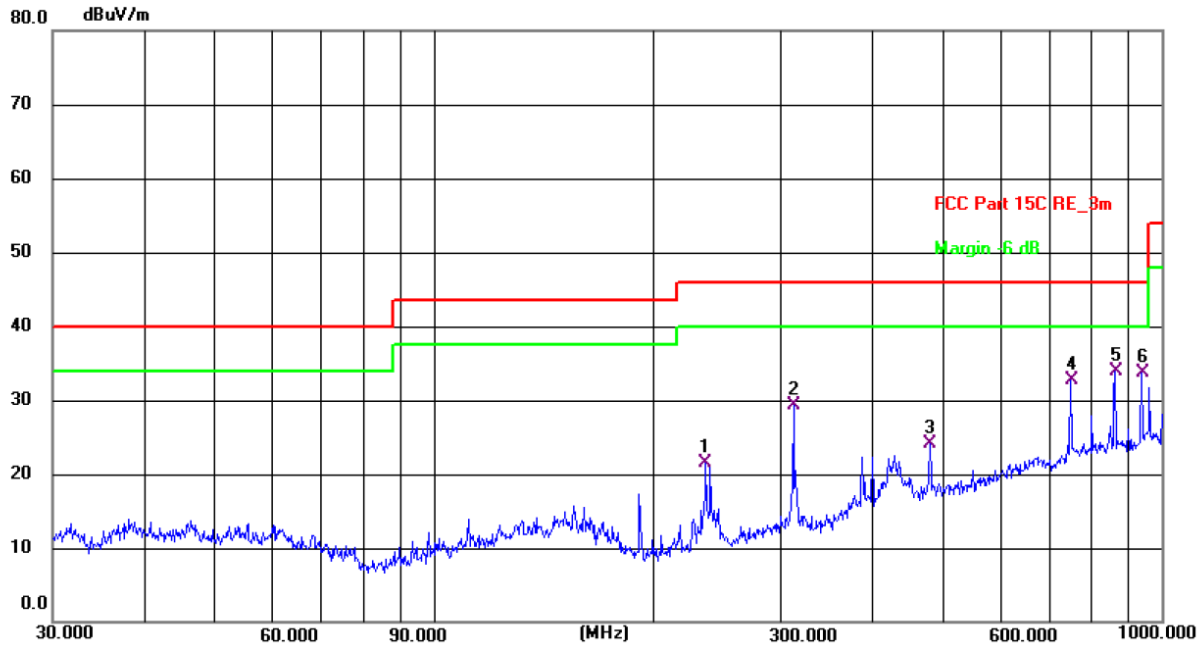
Frequency Range (30MHz-1GHz)

Horizontal:



Site 3m Anechoic Chamber2 Polarization: *Horizontal* Temperature: 24.6(C) Humidity: 50 %

Limit: FCC Part 15C RE_3m Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	236.6447	41.56	-20.04	21.52	46.00	-24.48	QP	P	
2	312.1794	46.96	-17.71	29.25	46.00	-16.75	QP	P	
3	480.5276	36.88	-12.77	24.11	46.00	-21.89	QP	P	
4	750.1083	40.41	-7.72	32.69	46.00	-13.31	QP	P	
5 *	863.0562	40.46	-6.52	33.94	46.00	-12.06	QP	P	
6	938.8326	39.16	-5.40	33.76	46.00	-12.24	QP	P	

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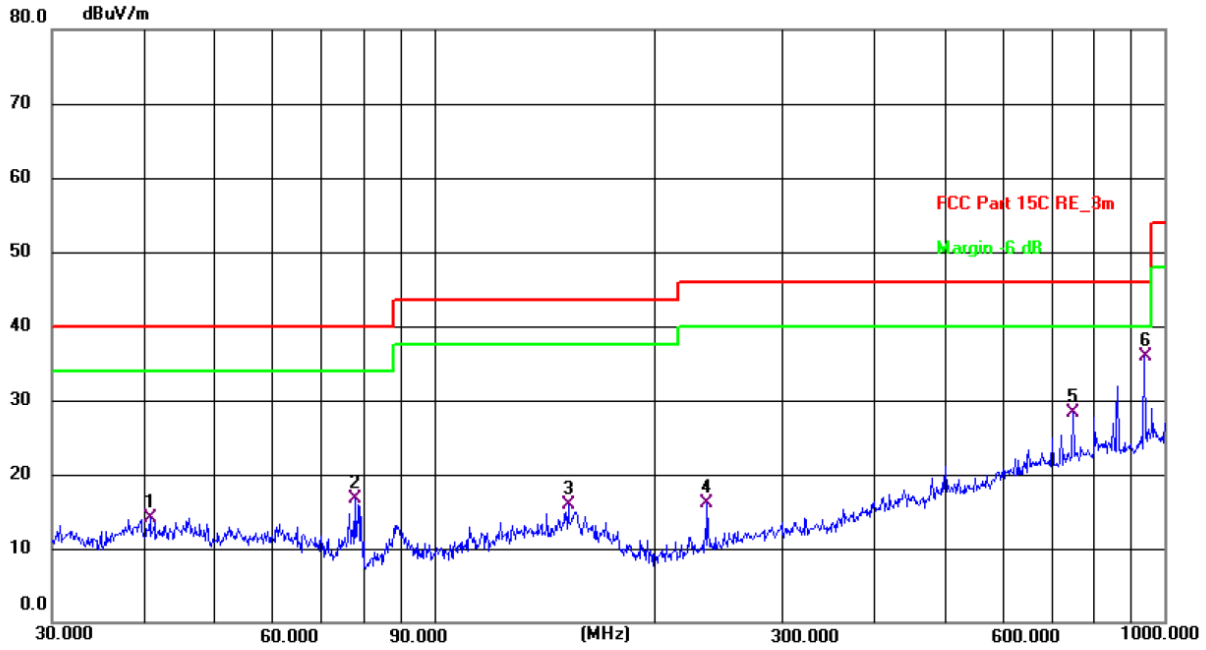
Vertical:



Site 3m Anechoic Chamber2 Polarization: *Vertical* Temperature: 24.6(C) Humidity: 50 %

Limit: FCC Part 15C RE_3m Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	40.8445	32.44	-18.37	14.07	40.00	-25.93	QP	P	
2	77.8653	38.34	-21.65	16.69	40.00	-23.31	QP	P	
3	152.6641	32.99	-17.07	15.92	43.50	-27.58	QP	P	
4	236.6447	36.08	-20.04	16.04	46.00	-29.96	QP	P	
5	750.1082	35.94	-7.72	28.22	46.00	-17.78	QP	P	
6 *	938.8326	41.38	-5.40	35.98	46.00	-10.02	QP	P	

Note: *Measurements were conducted in all channels (high, middle, low), and the worst case (Highest channel) was submitted only.*

Above 1GHz

Low channel: 2402MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
					Peak (dBµV/m)	AV (dBµV/m)			
4804	H	56.12	---	-9.51	46.61	---	74	54	-7.39
7206	H	46.60	---	-1.41	45.19	---	74	54	-8.81
---	---	---	---	---	---	---	---	---	---
4804	V	56.99	---	-9.51	47.48	---	74	54	-6.52
7206	V	47.45	---	-1.41	46.04	---	74	54	-7.96
---	---	---	---	---	---	---	---	---	---

Middle channel: 2440MHz									
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)			
4880	H	55.13	---	-9.36	45.77	---	74	54	-8.23
7320	H	46.58	---	-1.15	45.43	---	74	54	-8.57
---	---	---	---	---	---	---	---	---	---
4880	V	57.77	---	-9.36	48.41	---	74	54	-5.59
7320	V	47.61	---	-1.15	46.46	---	74	54	-7.54
---	---	---	---	---	---	----	---	---	---

High channel: 2480MHz									
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)			
4960	H	57.99	---	-9.20	48.79	---	74	54	-5.21
7440	H	46.52	---	-0.96	45.56	---	74	54	-8.44
---	---	---	---	---	---	---	---	---	---
4960	V	56.42	---	-9.20	47.22	---	74	54	-6.78
7440	V	45.34	---	-0.96	44.38	---	74	54	-9.62
---	---	---	---	---	---	---	---	---	---

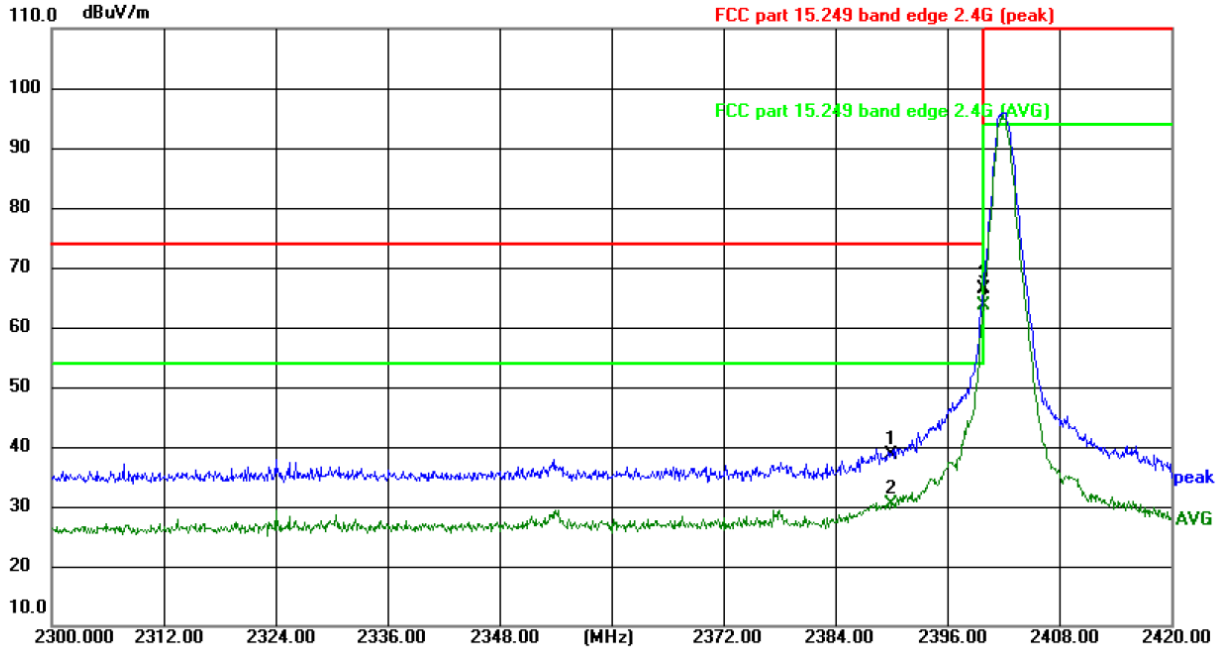
Note:

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.*
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. *All the restriction bands are compliance with the limit of 15.209.*

Band Edge Requirement

Lowest channel 2402:

Horizontal:

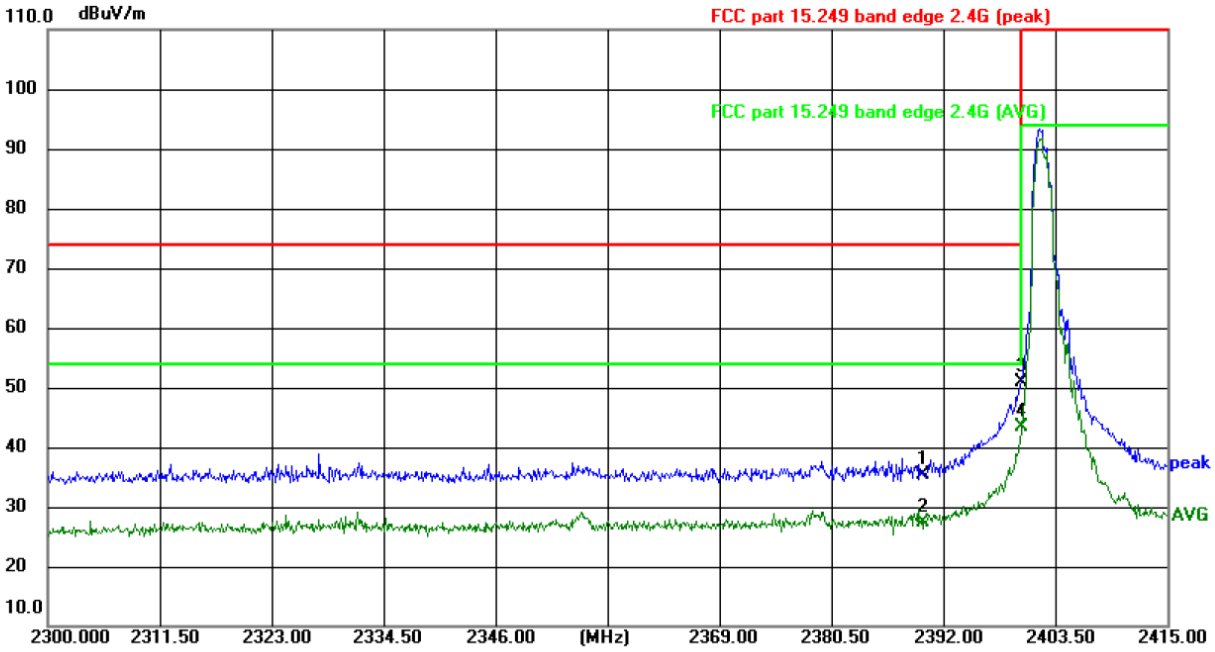


Site: 3m Anechoic Chamber Polarization: ***Horizontal*** Temperature: 24.6(℃) Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak) Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2390.000	55.30	-16.76	38.54	74.00	-35.46	peak	P	
2	2390.000	47.10	-16.76	30.34	54.00	-23.66	AVG	P	
3	2400.000	83.20	-16.75	66.45	74.00	-7.55	peak	P	
4 *	2400.000	80.37	-16.75	63.62	54.00	9.62	AVG	F	

Vertical:



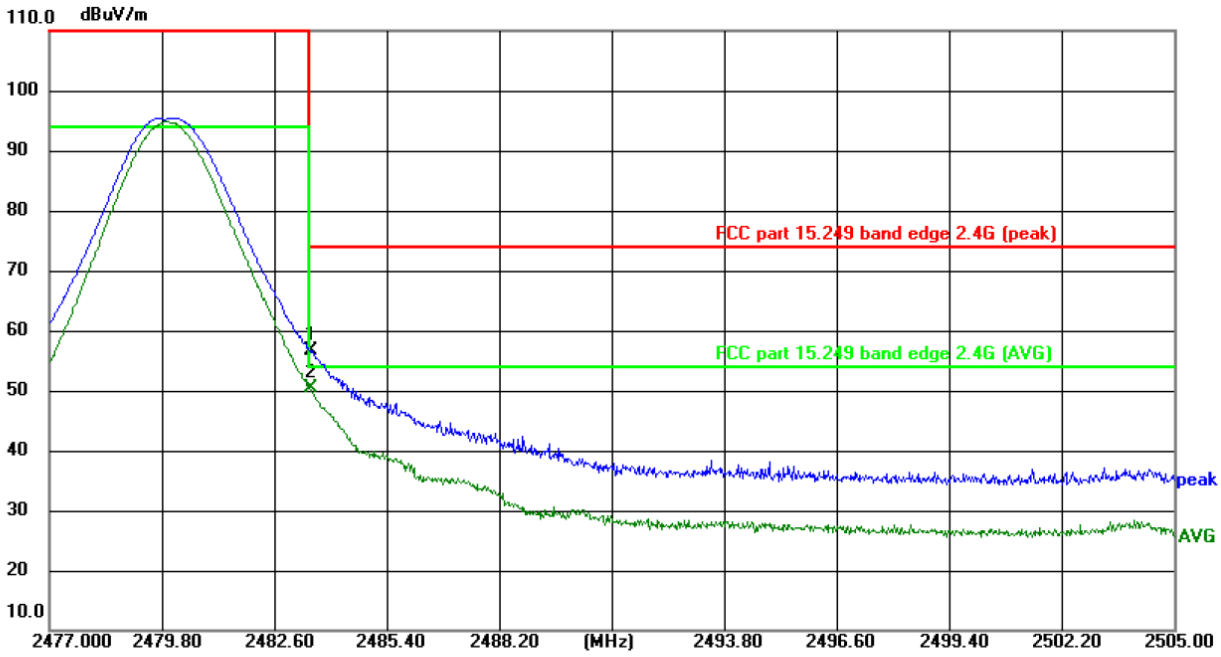
Site: 3m Anechoic Chamber Polarization: ***Horizontal*** Temperature: 24.6(℃) Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak) Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2390.000	52.14	-16.76	35.38	74.00	-38.62	peak	P	
2	2390.000	44.10	-16.76	27.34	54.00	-26.66	AVG	P	
3	2400.000	67.72	-16.75	50.97	74.00	-23.03	peak	P	
4 *	2400.000	60.20	-16.75	43.45	54.00	-10.55	AVG	P	

Highest channel 2480:

Horizontal:

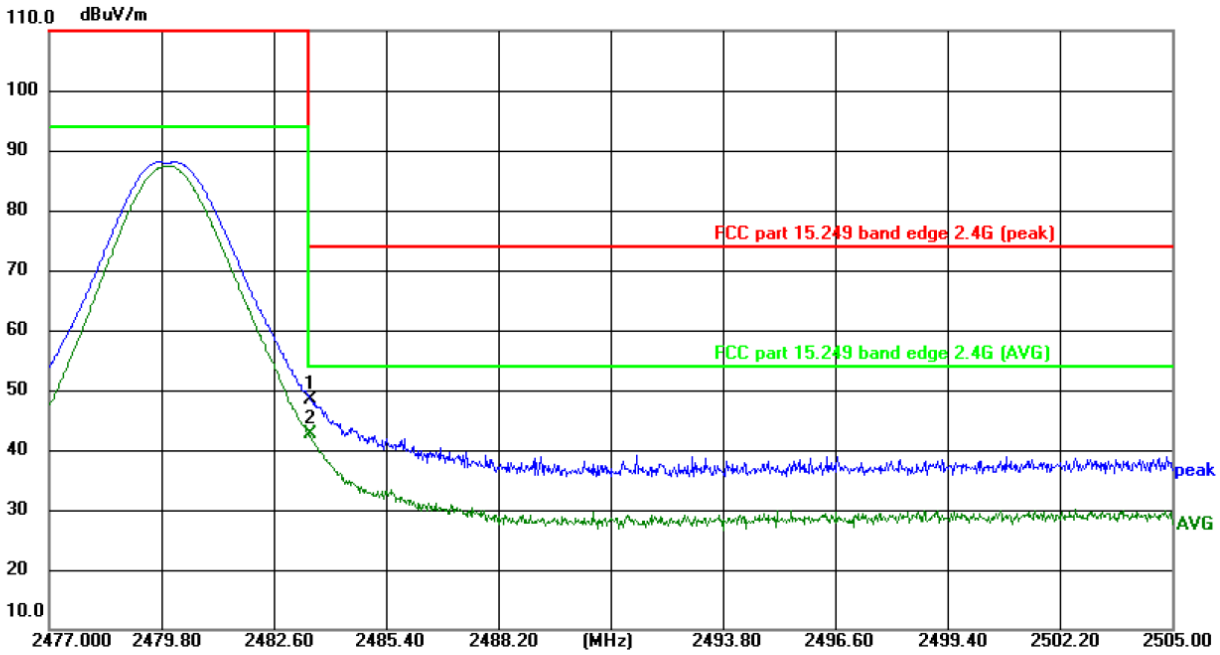


Site: 3m Anechoic Chamber Polarization: ***Horizontal*** Temperature: 24.6(℃) Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak) Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2483.500	73.03	-16.50	56.53	74.00	-17.47	peak	P	
2 *	2483.500	66.91	-16.50	50.41	54.00	-3.59	AVG	P	

Vertical:



Site: 3m Anechoic Chamber Polarization: ***Vertical*** Temperature: 24.6(℃) Humidity: 52 %

Limit: FCC part 15.249 band edge 2.4G (peak) Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2483.500	64.88	-16.50	48.38	74.00	-25.62	peak	P	
2 *	2483.500	59.14	-16.50	42.64	54.00	-11.36	AVG	P	

6.4. 20dB Occupied Bandwidth

6.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10:2020
Limit:	N/A
	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW≥1% of the 20 dB bandwidth; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. 4. Measure and record the results in the test report.
Test setup:	
Test Mode:	Transmitting mode with modulation
Test results:	PASS

6.4.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026

6.4.3. Test data

Test Channel	20dB Occupy Bandwidth (MHz)	Limit	Conclusion
Lowest	1.512	---	PASS
Middle	1.185	---	PASS
Highest	1.164	---	PASS

Test plots as follows:

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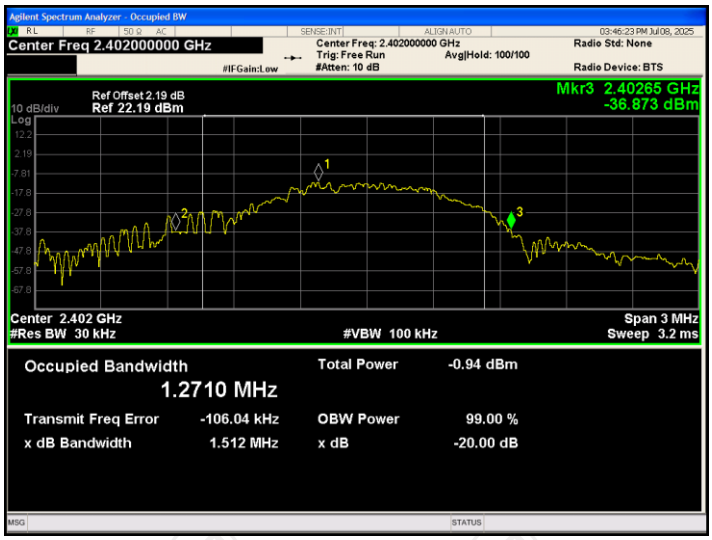
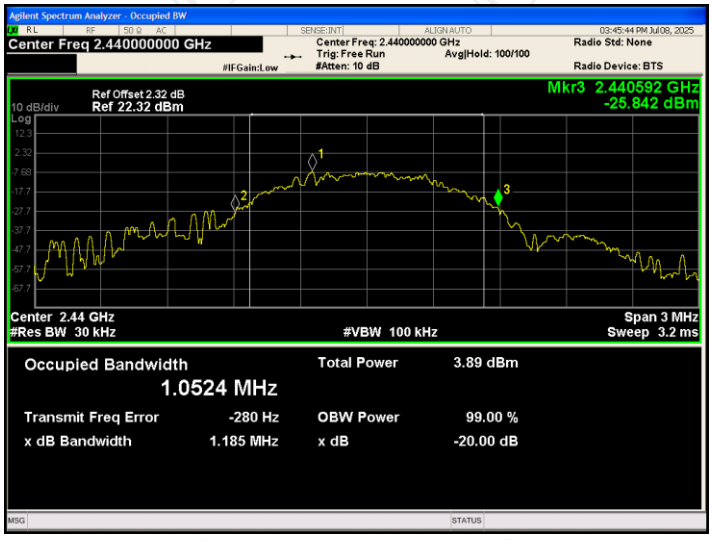
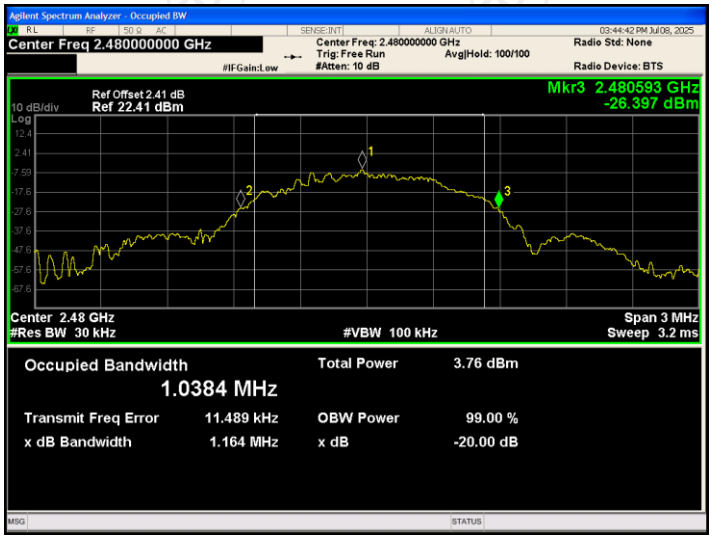
Lowest channel



Middle channel



Highest channel



Appendix A: Photographs of Test Setup

Please refer to document Appendix No.: TCT250619E023-A

Appendix B: Photographs of EUT

Please refer to document Appendix No.: TCT250619E023-B & TCT250619E023-C

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