TEST REPORT

Applicant:	Shantou Xinyi Toys Co., Ltd.
Address of Applicant:	Longtian Industrial Zone, Guangyi Street, Chenghai District, Shantou City, Guangdong Province, China
Manufacturer:	Shantou Xinyi Toys Co., Ltd.
Address of Manufacturer:	Longtian Industrial Zone, Guangyi Street, Chenghai District, Shantou City, Guangdong Province, China
Equipment Under Test (EUT)	
Product Name:	Quadcopter
Model No.:	See section 5.1
FCC ID:	2BB66-H15
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249
Date of sample receipt:	July 06, 2023
Date of Test:	July 07-21, 2023
Date of report issued:	July 21, 2023
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Luo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*July 21, 2023*	*Original*

Prepared By: ***Date:*** *July 21, 2023*

Project Engineer

Check By: ***Date:*** *July 21, 2023*

Reviewer

3 Contents

Page

1 COVER PAGE 1

2 VERSION 2

3 CONTENTS 3

4 TEST SUMMARY 4

4.1 MEASUREMENT UNCERTAINTY 4

5 GENERAL INFORMATION 5

5.1 GENERAL DESCRIPTION OF EUT 5
5.2 TEST MODE 7
5.3 DESCRIPTION OF SUPPORT UNITS 7
5.4 DEVIATION FROM STANDARDS 7
5.5 ABNORMALITIES FROM STANDARD CONDITIONS 7
5.6 TEST FACILITY 7
5.7 TEST LOCATION 7
5.8 ADDITIONAL INSTRUCTIONS 7

6 TEST INSTRUMENTS LIST 8

7 TEST RESULTS AND MEASUREMENT DATA 10

7.1 ANTENNA REQUIREMENT 10
7.2 RADIATED EMISSION METHOD 11
7.2.1 Field Strength of The Fundamental Signal 13
7.2.2 Spurious emissions 14
7.2.3 Bandedge emissions 19
7.3 20DB OCCUPY BANDWIDTH 20

8 TEST SETUP PHOTO 22

9 EUT CONSTRUCTIONAL DETAILS 22

4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	N/A
Field strength of the fundamental signal	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

Remarks:

1. *Test according to ANSI C63.10:2013.*
2. *Pass: The EUT complies with the essential requirements in the standard.*

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz-30MHz	3.1dB	(1)
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Quadcopter
Model No.:	H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19, H20, H21, H22, H23, H24, H25, H26, H27, H28, H29, H30, H31, H32, H33, H34, H35, H36, H37, H38, H39, H40, H41, H42, H43, H44, H45, H46, H47, H48, H49, H50, H51, H52, H53, H54, H55, H56, H57, H58, H59, H60, H61, H62, H63, H64, H65, H66, H67, H68, H69, H70, H71, H72, H73, H74, H75, H76, H77, H78, H79, H80, H81, H82, H83, H84, H85, H86, H87, H88, H89, H90, H91, H92, H93, H94, H95, H96, H97, H98, H99, H100, TY1, TY2, TY3, TY4, TY5, TY6, TY7, TY8, TY9, TY10, TY11, TY12, TY13, TY14, TY15, TY16, TY17, TY18, TY19, TY20, TY21, TY22, TY23, TY24, TY25, TY26, TY27, TY28, TY29, TY30, TY31, TY32, TY33, TY34, TY35, TY36, TY37, TY38, TY39, TY40, TY41, TY42, TY43, TY44, TY45, TY46, TY47, TY48, TY49, TY50, HG1, HG2, HG3, HG4, HG5, HG6, HG7, HG8, HG9, HG10, HG11, HG12, HG13, HG14, HG15, HG16, HG17, HG18, HG19, HG20, E58, E68, E88, E99, H150, H158, H168, H188, H198, H805, H809, H905, H908
Test Model No.:	H15
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are appearance color and model name for commercial purpose.	
Serial No.:	0072785739187
Test sample(s) ID:	GTS2023070064-1
Sample(s) Status	Engineered sample
Operation Frequency:	2420MHz~2460MHz
Channel numbers:	15
Modulation type:	GFSK
Antenna Type:	Integral antenna
Antenna gain:	2dBi(Declared by applicant)
Power supply:	TX: DC 4.5V (3*1.5V Size “AA” Battery)

Remark:
1. Antenna gain information provided by the customer
2. The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.
3. The report is for TX device only.

Operation Frequency each of channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2420.0	5	2432.0	9	2446.0	13	2454.0
2	2426.0	6	2434.0	10	2448.0	14	2456.0
3	2428.0	7	2438.0	11	2450.0	15	2460.0
4	2430.0	8	2440.0	12	2452.0		

The test frequencies are below:

Channel	Frequency
The lowest channel	2420MHz
The middle channel	2440MHz
The Highest channel	2460MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: New battery is used during all test.	

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	78.21	79.96	77.14

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

● **FCC—Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **ISED—Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 23, 2021	June 22, 2024
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 14, 2023	April 13, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS213	April 21, 2023	April 20, 2024
8	Coaxial Cable	GTS	N/A	GTS211	April 21, 2023	April 20, 2024
9	Coaxial cable	GTS	N/A	GTS210	April 21, 2023	April 20, 2024
10	Coaxial Cable	GTS	N/A	GTS212	April 21, 2023	April 20, 2024
11	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 14, 2023	April 13, 2024
12	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
13	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 14, 2023	April 13, 2024
14	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 14, 2023	April 13, 2024
15	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 30, 2022	Oct. 29, 2023
16	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 30, 2022	Oct. 29, 2023
17	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 13, 2023	March 12, 2024
18	Amplifier	/	LNA-1000-30S	GTS650	April 14, 2023	April 13, 2024
19	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS668	Dec. 20, 2022	Dec.19, 2023
20	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 19, 2023	April 18, 2024

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 14, 2023	April 13, 2024
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 14, 2023	April 13, 2024
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 14, 2023	April 13, 2024
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 14, 2023	April 13, 2024
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 14, 2023	April 13, 2024
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 14, 2023	April 13, 2024
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 14, 2023	April 13, 2024
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 19, 2023	April 18, 2024

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	KUMAO	SF132	GTS647	April 19, 2023	April 18, 2024

7 Test results and Measurement Data

7.1 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. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is integral antenna, reference to the appendix II for details.	

7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test site:	Measurement Distance: 3m

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
150kHz-30MHz	Quasi-peak	9kHz	10kHz	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:
(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
2400MHz-2483.5MHz	94.00	Average Value
	114.00	Peak Value

Limit:
(Spurious Emissions)

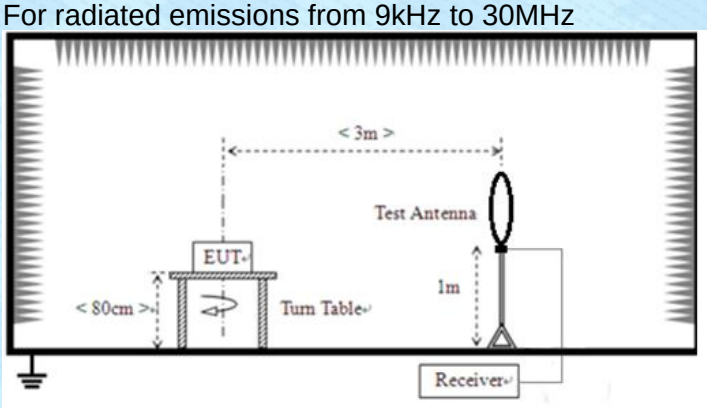
Frequency	Limit (uV/m)	Remark
0.009MHz-0.490MHz	2400/F(kHz) @300m	Quasi-peak Value
0.490MHz-1.705MHz	24000/F(kHz) @30m	Quasi-peak Value
1.705MHz-30.0MHz	30 @30m	Quasi-peak Value
30MHz-88MHz	100 @3m	Quasi-peak Value
88MHz-216MHz	150 @3m	Quasi-peak Value
216MHz-960MHz	200 @3m	Quasi-peak Value
960MHz-1GHz	500 @3m	Quasi-peak Value
Above 1GHz	500 @3m	Average Value
	5000 @3m	Peak Value

Limit:
(band edge)

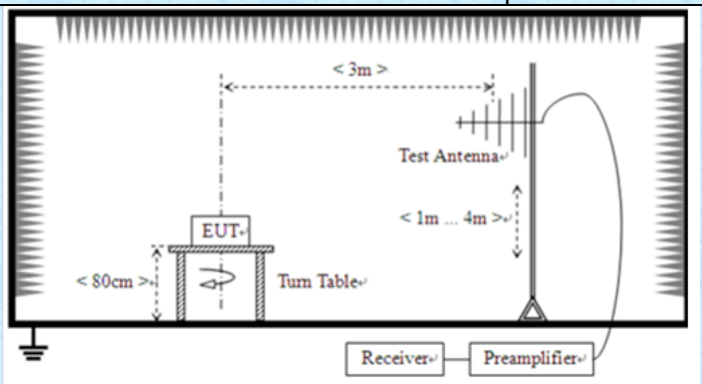
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Test setup:

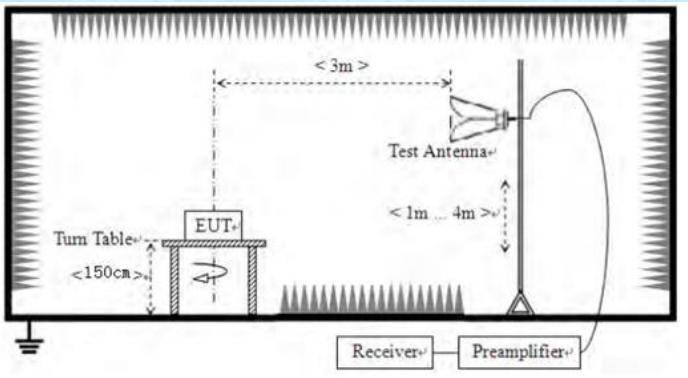
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) 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 Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	DC 4.5V					
Test results:	Pass					

Measurement data:

7.2.1 Field Strength of The Fundamental Signal

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2420.00	85.21	27.43	2.93	38.88	76.69	114.00	-37.31	Vertical
2420.00	82.18	27.43	2.93	38.88	73.66	114.00	-40.34	Horizontal
2440.00	88.43	27.55	2.96	38.98	79.96	114.00	-34.04	Vertical
2440.00	82.90	27.55	2.96	38.98	74.43	114.00	-39.57	Horizontal
2460.00	87.06	27.64	2.99	39.05	78.64	114.00	-35.36	Vertical
2460.00	79.68	27.64	2.99	39.05	71.26	114.00	-42.74	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2420.00	72.58	27.43	2.93	38.88	64.06	94.00	-29.94	Vertical
2420.00	70.48	27.43	2.93	38.88	61.96	94.00	-32.04	Horizontal
2440.00	74.22	27.55	2.96	38.98	65.75	94.00	-28.25	Vertical
2440.00	71.00	27.55	2.96	38.98	62.53	94.00	-31.47	Horizontal
2460.00	73.18	27.64	2.99	39.05	64.76	94.00	-29.24	Vertical
2460.00	72.00	27.64	2.99	39.05	63.58	94.00	-30.42	Horizontal

Note: RBW>20dB BW, VBW> RBW, PK detector is for PK value, AV detector is for AV value .

7.2.2 Spurious emissions

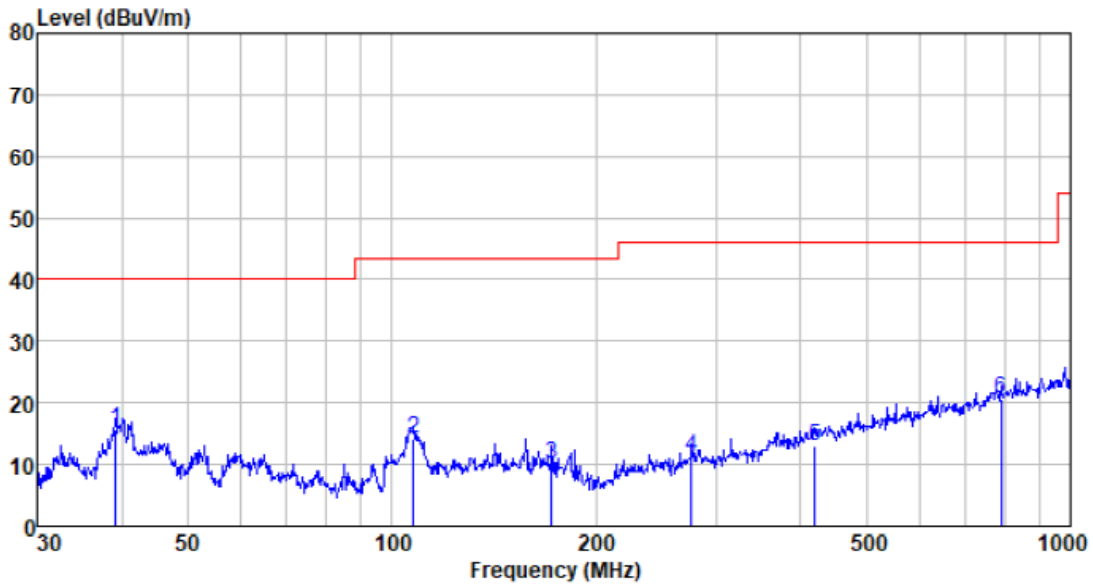
■ **Below 30MHz**

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

■ **Below 1GHz**

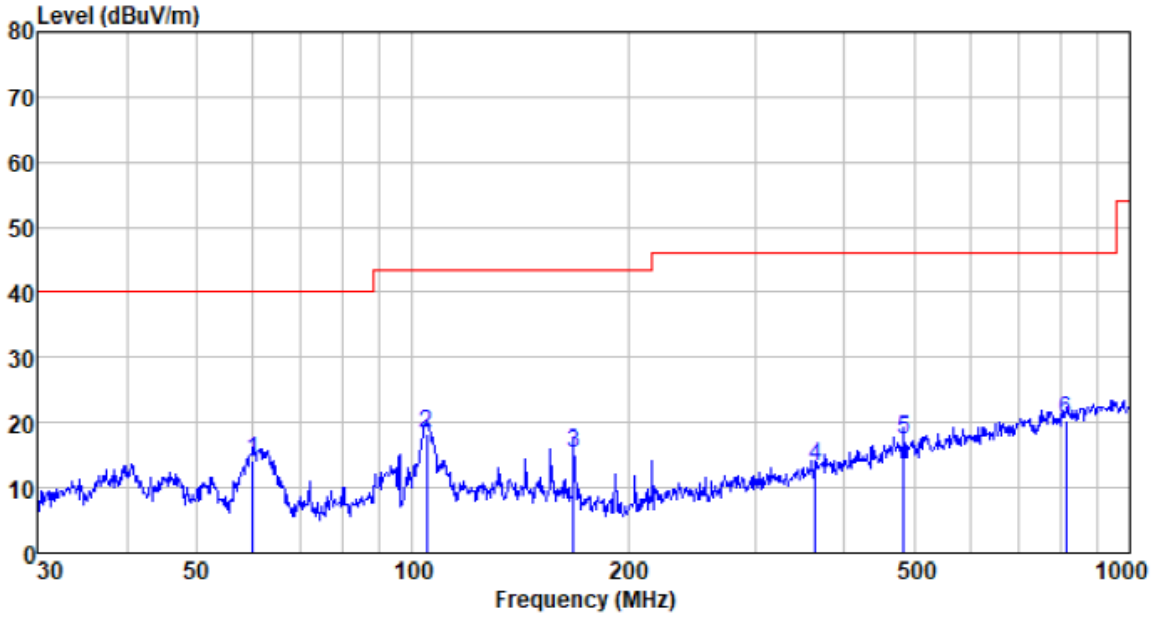
Pre-scan all test modes, found worst case at 2420MHz, and so only show the test result of it

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
39.162	31.50	13.37	0.65	30.00	15.52	40.00	-24.48	QP
107.510	32.73	10.30	1.26	30.00	14.29	43.50	-29.21	QP
171.995	27.13	11.19	1.70	30.00	10.02	43.50	-33.48	QP
276.124	26.29	12.60	2.25	30.00	11.14	46.00	-34.86	QP
420.580	24.00	16.13	2.95	30.00	13.08	46.00	-32.92	QP
790.619	23.70	22.53	4.42	30.00	20.65	46.00	-25.35	QP

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
59.859	30.82	12.61	0.86	30.00	14.29	40.00	-25.71	QP
104.536	37.00	10.06	1.23	30.00	18.29	43.50	-25.21	QP
167.824	31.98	11.67	1.67	30.00	15.32	43.50	-28.18	QP
364.260	25.96	14.63	2.69	30.00	13.28	46.00	-32.72	QP
483.910	26.72	17.32	3.23	30.00	17.27	46.00	-28.73	QP
815.968	22.93	22.90	4.52	30.00	20.35	46.00	-25.65	QP

■ **Above 1GHz**

Test channel:	Lowest channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4840.00	34.91	31.22	4.63	37.68	33.08	74.00	-40.92	Vertical
7260.00	30.24	36.25	6.52	37.81	35.20	74.00	-38.80	Vertical
9680.00	30.06	37.97	7.98	37.93	38.08	74.00	-35.92	Vertical
4840.00	38.71	31.22	4.63	37.68	36.88	74.00	-37.12	Horizontal
7260.00	31.79	36.25	6.52	37.81	36.75	74.00	-37.25	Horizontal
9680.00	29.25	37.97	7.98	37.93	37.27	74.00	-36.73	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4840.00	24.18	31.22	4.63	37.68	22.35	54.00	-31.65	Vertical
7260.00	19.20	36.25	6.52	37.81	24.16	54.00	-29.84	Vertical
9680.00	18.43	37.97	7.98	37.93	26.45	54.00	-27.55	Vertical
4840.00	28.14	31.22	4.63	37.68	26.31	54.00	-27.69	Horizontal
7260.00	21.22	36.25	6.52	37.81	26.18	54.00	-27.82	Horizontal
9680.00	17.96	37.97	7.98	37.93	25.98	54.00	-28.02	Horizontal

Test channel:	Middle channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	35.49	31.33	4.69	37.62	33.89	74.00	-40.11	Vertical
7320.00	30.62	36.43	6.63	37.77	35.91	74.00	-38.09	Vertical
9760.00	30.39	38.10	8.03	37.95	38.57	74.00	-35.43	Vertical
4880.00	39.40	31.33	4.69	37.62	37.80	74.00	-36.20	Horizontal
7320.00	32.22	36.43	6.63	37.77	37.51	74.00	-36.49	Horizontal
9760.00	29.64	38.10	8.03	37.95	37.82	74.00	-36.18	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	24.65	31.33	4.69	37.62	23.05	54.00	-30.95	Vertical
7320.00	19.52	36.43	6.63	37.77	24.81	54.00	-29.19	Vertical
9760.00	18.71	38.10	8.03	37.95	26.89	54.00	-27.11	Vertical
4880.00	28.68	31.33	4.69	37.62	27.08	54.00	-26.92	Horizontal
7320.00	21.57	36.43	6.63	37.77	26.86	54.00	-27.14	Horizontal
9760.00	18.29	38.10	8.03	37.95	26.47	54.00	-27.53	Horizontal

Test channel:	Highest channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	35.58	31.41	4.77	37.56	34.20	74.00	-39.80	Vertical
7380.00	30.68	36.62	6.73	37.73	36.30	74.00	-37.70	Vertical
9840.00	30.45	38.27	8.08	37.98	38.82	74.00	-35.18	Vertical
4920.00	39.51	31.41	4.77	37.56	38.13	74.00	-35.87	Horizontal
7380.00	32.29	36.62	6.73	37.73	37.91	74.00	-36.09	Horizontal
9840.00	29.71	38.27	8.08	37.98	38.08	74.00	-35.92	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4920.00	24.75	31.41	4.77	37.56	23.37	54.00	-30.63	Vertical
7380.00	19.59	36.62	6.73	37.73	25.21	54.00	-28.79	Vertical
9840.00	18.77	38.27	8.08	37.98	27.14	54.00	-26.86	Vertical
4920.00	28.79	31.41	4.77	37.56	27.41	54.00	-26.59	Horizontal
7380.00	21.65	36.62	6.73	37.73	27.27	54.00	-26.73	Horizontal
9840.00	18.36	38.27	8.08	37.98	26.73	54.00	-27.27	Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *For above 18GHz, no emission found.*

7.2.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channel:	Lowest channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	44.24	27.14	2.81	38.64	35.55	74.00	-38.45	Horizontal
2390.00	48.23	27.37	2.91	38.84	39.67	74.00	-34.33	Horizontal
2400.00	49.95	27.41	2.92	38.86	41.42	74.00	-32.58	Horizontal
2310.00	44.92	27.14	2.81	38.64	36.23	74.00	-37.77	Vertical
2390.00	49.41	27.37	2.91	38.84	40.85	74.00	-33.15	Vertical
2400.00	50.88	27.41	2.92	38.86	42.35	74.00	-31.65	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	34.48	27.14	2.81	38.64	25.79	54.00	-28.21	Horizontal
2390.00	35.80	27.37	2.91	38.84	27.24	54.00	-26.76	Horizontal
2400.00	36.90	27.41	2.92	38.86	28.37	54.00	-25.63	Horizontal
2310.00	34.53	27.14	2.81	38.64	25.84	54.00	-28.16	Vertical
2390.00	36.58	27.37	2.91	38.84	28.02	54.00	-25.98	Vertical
2400.00	37.68	27.41	2.92	38.86	29.15	54.00	-24.85	Vertical

Test channel:	Highest channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	46.51	27.82	2.99	39.05	38.27	74.00	-35.73	Horizontal
2500.00	45.42	27.70	3.01	39.10	37.03	74.00	-36.97	Horizontal
2483.50	47.58	27.82	2.99	39.05	39.34	74.00	-34.66	Vertical
2500.00	46.55	27.70	3.01	39.10	38.16	74.00	-35.84	Vertical

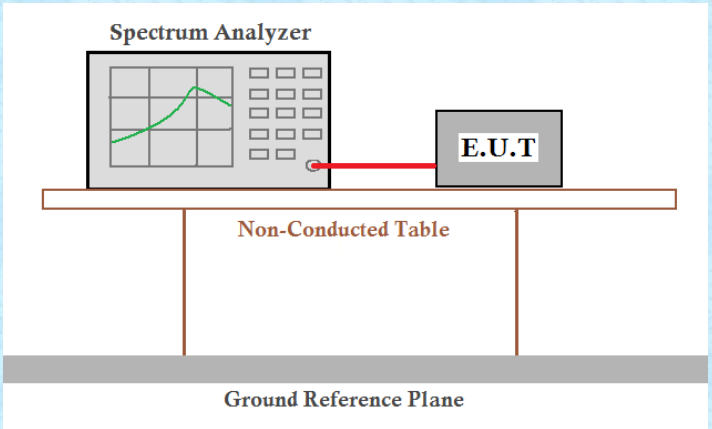
Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	35.33	27.82	2.99	39.05	27.09	54.00	-26.91	Horizontal
2500.00	35.13	27.70	3.01	39.10	26.74	54.00	-27.26	Horizontal
2483.50	35.64	27.82	2.99	39.05	27.40	54.00	-26.60	Vertical
2500.00	35.17	27.70	3.01	39.10	26.78	54.00	-27.22	Vertical

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*

7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

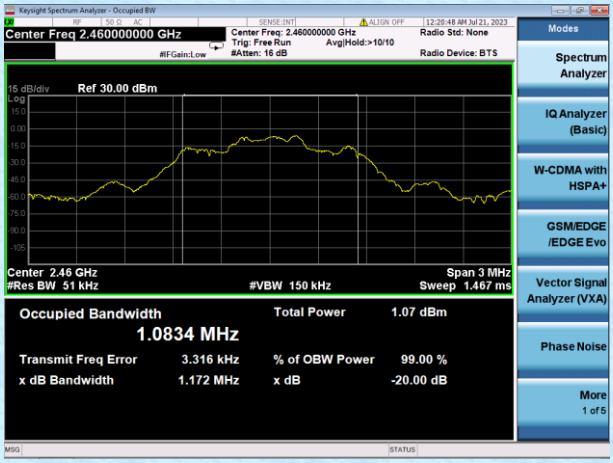
Measurement Data

Test channel	20dB bandwidth(MHz)	Result
Lowest	1.181	Pass
Middle	1.178	Pass
Highest	1.172	Pass

Test plot as follows:

Lowest channel

Middle channel



Highest channel

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

------End------