

TEST REPORT

Applicant: Foshan Topday Optoelectronics Technology Co., Ltd

Address of Applicant: Huansheng Heng Road, Guicheng Eastern Industrial Zone B, Sanshan Nanhai District, FOSHAN Guangdong 528200, China

Manufacturer/Factory: Dongguan Qinbo Electronics Co., Ltd

Address of Manufacturer/Factory: Floor 3, Qinbo, No. 32, Xinglong 1st Road, miaobianwang village, Shipai town, Dongguan City, Guangdong Province, China

Equipment Under Test (EUT)

Product Name: 2.4GRemote control

Model No.: QB122-24TX-01

FCC ID: 2AZRK-BL-CM360W1400

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.249

Date of sample receipt: August 19, 2022

Date of Test: August 19-29, 2022

Date of report issued: August 29, 2022

Test Result : PASS *

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

Authorized Signature:



Robinson Luo

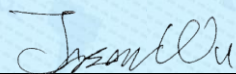
Laboratory Manager

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	August 29, 2022	Original

Prepared By:

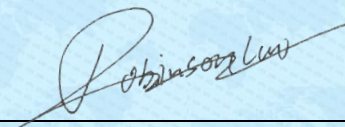


Date:

August 29, 2022

Project Engineer

Check By:



Date:

August 29, 2022

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	6
5.3 DESCRIPTION OF SUPPORT UNITS	6
5.4 DEVIATION FROM STANDARDS.....	6
5.5 ABNORMALITIES FROM STANDARD CONDITIONS.....	6
5.6 TEST FACILITY.....	6
5.7 TEST LOCATION	6
5.8 ADDITIONAL INSTRUCTIONS.....	6
6 TEST INSTRUMENTS LIST	7
7 TEST RESULTS AND MEASUREMENT DATA.....	9
7.1 ANTENNA REQUIREMENT.....	9
7.2 RADIATED EMISSION METHOD.....	10
7.2.1 <i>Field Strength of The Fundamental Signal</i>	12
7.2.2 <i>Spurious emissions</i>	13
7.2.3 <i>Bandedge emissions</i>	18
7.3 20dB OCCUPY BANDWIDTH.....	19
8 TEST SETUP PHOTO	21
9 EUT CONSTRUCTIONAL DETAILS	21

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:	2.4GRemote control
Model No.:	QB122-24TX-01
Serial No.:	N/A
Test sample(s) ID:	GTS202208000199-1
Sample(s) Status	Engineered sample
Operation Frequency:	2435MHz, 2445MHz, 2455MHz
Channel numbers:	3
Modulation type:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	-7.05dBi (declare by Applicant)
Power supply:	DC 3.0V(2*1.5V Size“AAA” Battery)

The test frequencies are below:

Channel	Frequency
The lowest channel	2435MHz
The middle channel	2445MHz
The Highest channel	2455MHz

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)	76.34	77.83	75.16

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● 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. ● IC —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 Industry Canada 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:
<p>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</p>

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	July 02, 2020	July 01, 2025
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 22, 2022	April 21, 2023
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 21, 2022	March 20, 2023
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June 12, 2022	June 11, 2023
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 23, 2022	June 22, 2023
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	April 22, 2022	April 21, 2023
9	Coaxial Cable	GTS	N/A	GTS211	April 22, 2022	April 21, 2023
10	Coaxial cable	GTS	N/A	GTS210	April 22, 2022	April 21, 2023
11	Coaxial Cable	GTS	N/A	GTS212	April 22, 2022	April 21, 2023
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	April 22, 2022	April 21, 2023
13	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 23, 2022	June 22, 2023
14	Band filter	Amindeon	82346	GTS219	June 23, 2022	June 22, 2023
15	Power Meter	Anritsu	ML2495A	GTS540	June 23, 2022	June 22, 2023
16	Power Sensor	Anritsu	MA2411B	GTS541	June 23, 2022	June 22, 2023
17	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 22, 2022	April 21, 2023
18	Splitter	Agilent	11636B	GTS237	June 23, 2022	June 22, 2023
19	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 30, 2021	Nov. 29, 2022
20	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 22, 2022	April 21, 2023
21	Breitband hornantenna	SCHWARZBECK	BBHA 9170	GTS579	Oct. 17, 2021	Oct. 16, 2022
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 17, 2021	Oct. 16, 2022
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 17, 2021	Oct. 16, 2022
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June 23, 2022	June 22, 2023
25	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 22, 2022	April 21, 2023

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 22, 2022	April 21, 2023
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 22, 2022	April 21, 2023
3	Spectrum Analyzer	Agilent	E4440A	GTS536	April 22, 2022	April 21, 2023
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 22, 2022	April 21, 2023
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 22, 2022	April 21, 2023
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 22, 2022	April 21, 2023
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 22, 2022	April 21, 2023
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 22, 2022	April 21, 2023

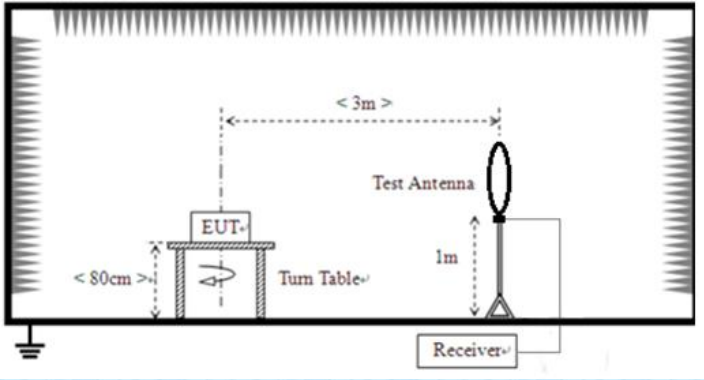
General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	April 25, 2022	April 24, 2023
2	Barometer	KUMAO	SF132	GTS647	July 26, 2022	July 25, 2023

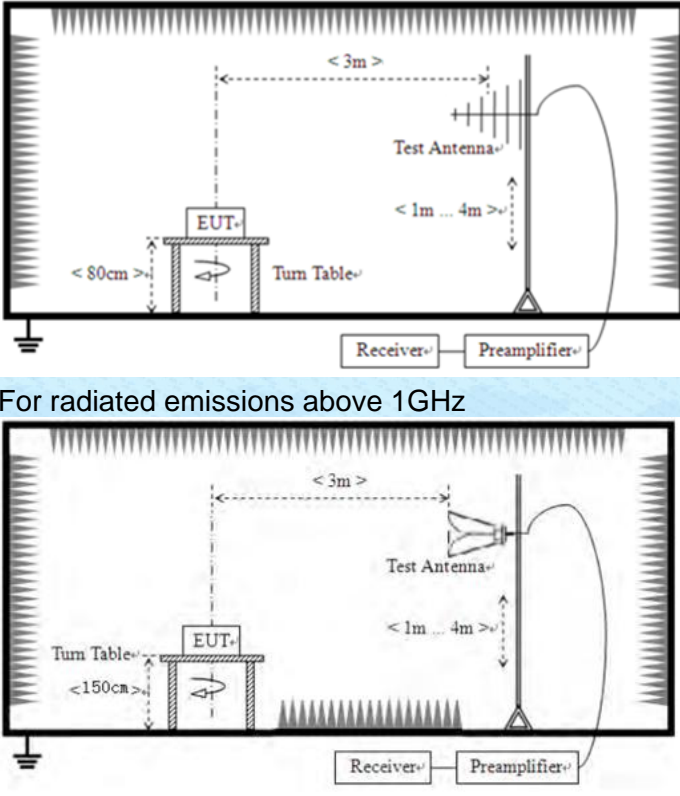
7 Test results and Measurement Data

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 PCB 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:	<p>For radiated emissions from 9kHz to 30MHz</p>  <p>For radiated emissions from 30MHz to 1GHz</p>				

	 <p>For radiated emissions above 1GHz</p>						
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 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. 						
<p>Test Instruments:</p>	<p>Refer to section 6.0 for details</p>						
<p>Test mode:</p>	<p>Refer to section 5.2 for details</p>						
<p>Test environment:</p>	<table border="1"> <tr> <td>Temp.:</td> <td>25 °C</td> <td>Humid.:</td> <td>52%</td> <td>Press.:</td> <td>1012mbar</td> </tr> </table>	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar		
<p>Test voltage:</p>	<p>DC 3.0V</p>						
<p>Test results:</p>	<p>Pass</p>						

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
2435.00	82.88	27.43	2.93	38.88	74.36	114.00	-39.64	Vertical
2435.00	80.61	27.43	2.93	38.88	72.09	114.00	-41.91	Horizontal
2445.00	86.30	27.55	2.96	38.98	77.83	114.00	-36.17	Vertical
2445.00	80.91	27.55	2.96	38.98	72.44	114.00	-41.56	Horizontal
2455.00	85.41	27.64	2.99	39.05	76.99	114.00	-37.01	Vertical
2455.00	78.14	27.64	2.99	39.05	69.72	114.00	-44.28	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
2435.00	70.67	27.43	2.93	38.88	62.15	94.00	-31.85	Vertical
2435.00	68.77	27.43	2.93	38.88	60.25	94.00	-33.75	Horizontal
2445.00	71.92	27.55	2.96	38.98	63.45	94.00	-30.55	Vertical
2445.00	68.95	27.55	2.96	38.98	60.48	94.00	-33.52	Horizontal
2455.00	70.79	27.64	2.99	39.05	62.37	94.00	-31.63	Vertical
2455.00	69.84	27.64	2.99	39.05	61.42	94.00	-32.58	Horizontal

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

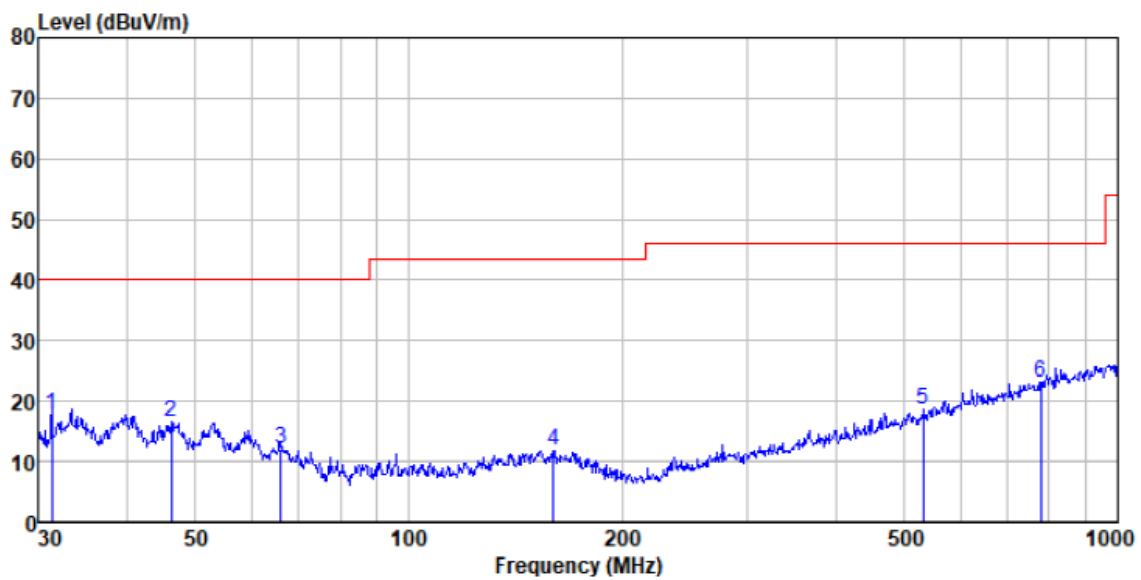
7.2.2 Spurious emissions

■ 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.

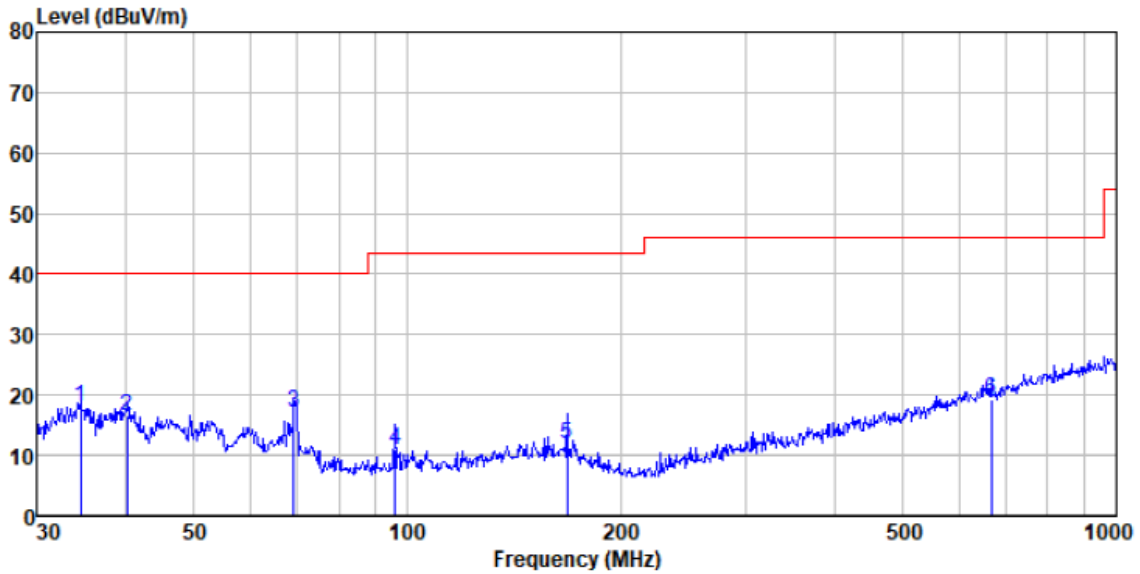
■ Below 1GHz

Pre-scan all test modes, found worst case at 2435MHz, and so only show the test result of 2435MHz
Horizontal:



	ReadAntenna	Preamp	Cable	Limit	Over	Remark			
Freq	Level	Factor	Loss	Line	Limit				
MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB			
1	31.399	40.12	12.26	35.11	0.57	17.84	40.00	-22.16	QP
2	46.178	38.70	12.98	36.00	0.73	16.41	40.00	-23.59	QP
3	66.034	36.45	11.28	36.40	0.91	12.24	40.00	-27.76	QP
4	159.784	34.49	12.76	37.13	1.63	11.75	43.50	-31.75	QP
5	531.964	35.37	17.41	37.52	3.45	18.71	46.00	-27.29	QP
6	779.607	34.41	21.96	37.62	4.38	23.13	46.00	-22.87	QP

Vertical:



	Freq	ReadLevel	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	34.639	40.08	12.66	35.33	0.61	18.02	40.00	-21.98	QP
2	40.276	38.01	13.49	35.68	0.66	16.48	40.00	-23.52	QP
3	69.114	42.09	10.67	36.43	0.93	17.26	40.00	-22.74	QP
4	96.099	37.28	9.28	36.69	1.16	11.03	43.50	-32.47	QP
5	167.824	35.64	11.67	37.18	1.67	11.80	43.50	-31.70	QP
6	665.804	32.65	20.31	37.60	3.97	19.33	46.00	-26.67	QP

■ Above 1GHz

Test channel:	Lowest
---------------	--------

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
4870.00	34.88	31.22	4.63	37.68	33.05	74.00	-40.95	Vertical
7305.00	30.22	36.25	6.52	37.81	35.18	74.00	-38.82	Vertical
9740.00	30.04	37.97	7.98	37.93	38.06	74.00	-35.94	Vertical
12175.00	*					74.00		Vertical
14610.00	*					74.00		Vertical
4870.00	38.68	31.22	4.63	37.68	36.85	74.00	-37.15	Horizontal
7305.00	31.77	36.25	6.52	37.81	36.73	74.00	-37.27	Horizontal
9740.00	29.23	37.97	7.98	37.93	37.25	74.00	-36.75	Horizontal
12175.00	*					74.00		Horizontal
14610.00	*					74.00		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
4870.00	24.16	31.22	4.63	37.68	22.33	54.00	-31.67	Vertical
7305.00	19.18	36.25	6.52	37.81	24.14	54.00	-29.86	Vertical
9740.00	18.41	37.97	7.98	37.93	26.43	54.00	-27.57	Vertical
12175.00	*					54.00		Vertical
14610.00	*					54.00		Vertical
4870.00	28.12	31.22	4.63	37.68	26.29	54.00	-27.71	Horizontal
7305.00	21.20	36.25	6.52	37.81	26.16	54.00	-27.84	Horizontal
9740.00	17.94	37.97	7.98	37.93	25.96	54.00	-28.04	Horizontal
12175.00	*					54.00		Horizontal
14610.00	*					54.00		Horizontal

Test channel:	Middle
---------------	--------

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
4890.00	35.32	31.33	4.69	37.62	33.72	74.00	-40.28	Vertical
7335.00	30.51	36.43	6.63	37.77	35.80	74.00	-38.20	Vertical
9780.00	30.30	38.10	8.03	37.95	38.48	74.00	-35.52	Vertical
12225.00	*					74.00		Vertical
14670.00	*					74.00		Vertical
4890.00	39.20	31.33	4.69	37.62	37.60	74.00	-36.40	Horizontal
7335.00	32.09	36.43	6.63	37.77	37.38	74.00	-36.62	Horizontal
9780.00	29.53	38.10	8.03	37.95	37.71	74.00	-36.29	Horizontal
12225.00	*					74.00		Horizontal
14670.00	*					74.00		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
4890.00	24.51	31.33	4.69	37.62	22.91	54.00	-31.09	Vertical
7335.00	19.43	36.43	6.63	37.77	24.72	54.00	-29.28	Vertical
9780.00	18.63	38.10	8.03	37.95	26.81	54.00	-27.19	Vertical
12225.00	*					54.00		Vertical
14670.00	*					54.00		Vertical
4890.00	28.52	31.33	4.69	37.62	26.92	54.00	-27.08	Horizontal
7335.00	21.47	36.43	6.63	37.77	26.76	54.00	-27.24	Horizontal
9780.00	18.19	38.10	8.03	37.95	26.37	54.00	-27.63	Horizontal
12225.00	*					54.00		Horizontal
14670.00	*					54.00		Horizontal

Test channel:	Highest
---------------	---------

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
4910.00	35.73	31.41	4.77	37.56	34.35	74.00	-39.65	Vertical
7365.00	30.79	36.62	6.73	37.73	36.41	74.00	-37.59	Vertical
9820.00	30.54	38.27	8.08	37.98	38.91	74.00	-35.09	Vertical
12275.00	*					74.00		Vertical
14730.00	*					74.00		Vertical
4910.00	39.70	31.41	4.77	37.56	38.32	74.00	-35.68	Horizontal
7365.00	32.40	36.62	6.73	37.73	38.02	74.00	-35.98	Horizontal
9820.00	29.81	38.27	8.08	37.98	38.18	74.00	-35.82	Horizontal
12275.00	*					74.00		Horizontal
14730.00	*					74.00		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
4910.00	24.88	31.41	4.77	37.56	23.50	54.00	-30.50	Vertical
7365.00	19.68	36.62	6.73	37.73	25.30	54.00	-28.70	Vertical
9820.00	18.85	38.27	8.08	37.98	27.22	54.00	-26.78	Vertical
12275.00	*					54.00		Vertical
14730.00	*					54.00		Vertical
4910.00	28.94	31.41	4.77	37.56	27.56	54.00	-26.44	Horizontal
7365.00	21.75	36.62	6.73	37.73	27.37	54.00	-26.63	Horizontal
9820.00	18.45	38.27	8.08	37.98	26.82	54.00	-27.18	Horizontal
12275.00	*					54.00		Horizontal
14730.00	*					54.00		Horizontal

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier 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	43.97	27.14	2.81	38.64	35.28	74.00	-38.72	Horizontal
2390.00	47.91	27.37	2.91	38.84	39.35	74.00	-34.65	Horizontal
2400.00	49.63	27.41	2.92	38.86	41.10	74.00	-32.90	Horizontal
2310.00	44.62	27.14	2.81	38.64	35.93	74.00	-38.07	Vertical
2390.00	49.06	27.37	2.91	38.84	40.50	74.00	-33.50	Vertical
2400.00	50.51	27.41	2.92	38.86	41.98	74.00	-32.02	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	34.27	27.14	2.81	38.64	25.58	54.00	-28.42	Horizontal
2390.00	35.57	27.37	2.91	38.84	27.01	54.00	-26.99	Horizontal
2400.00	36.62	27.41	2.92	38.86	28.09	54.00	-25.91	Horizontal
2310.00	34.29	27.14	2.81	38.64	25.60	54.00	-28.40	Vertical
2390.00	36.32	27.37	2.91	38.84	27.76	54.00	-26.24	Vertical
2400.00	37.43	27.41	2.92	38.86	28.90	54.00	-25.10	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	46.20	27.82	2.99	39.05	37.96	74.00	-36.04	Horizontal
2500.00	45.16	27.70	3.01	39.10	36.77	74.00	-37.23	Horizontal
2483.50	47.22	27.82	2.99	39.05	38.98	74.00	-35.02	Vertical
2500.00	46.27	27.70	3.01	39.10	37.88	74.00	-36.12	Vertical

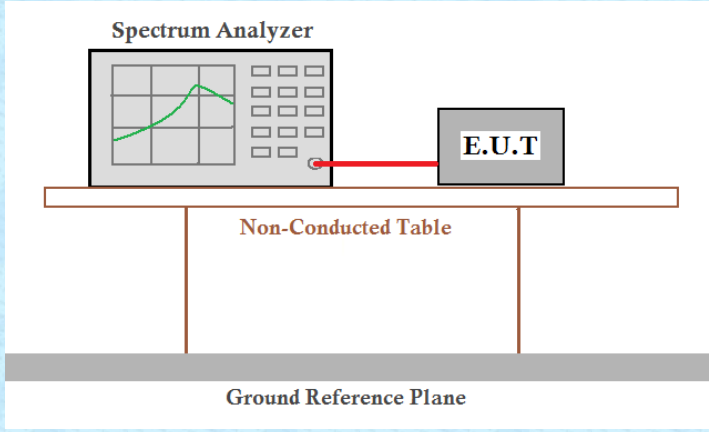
Average value:

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	35.11	27.82	2.99	39.05	26.87	54.00	-27.13	Horizontal
2500.00	34.96	27.70	3.01	39.10	26.57	54.00	-27.43	Horizontal
2483.50	35.50	27.82	2.99	39.05	27.26	54.00	-26.74	Vertical
2500.00	34.97	27.70	3.01	39.10	26.58	54.00	-27.42	Vertical

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

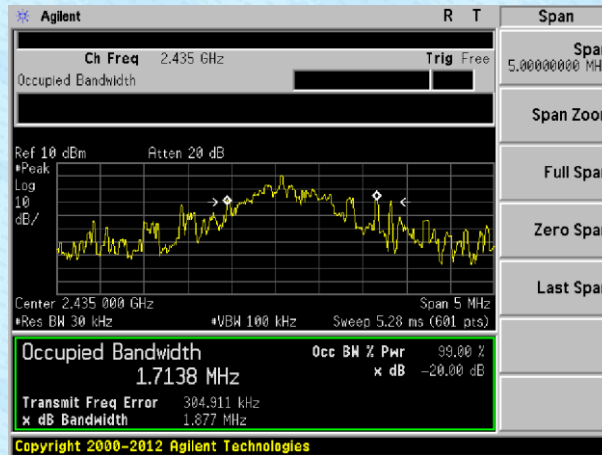
7.3 20dB Occupy Bandwidth

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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which sits on a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

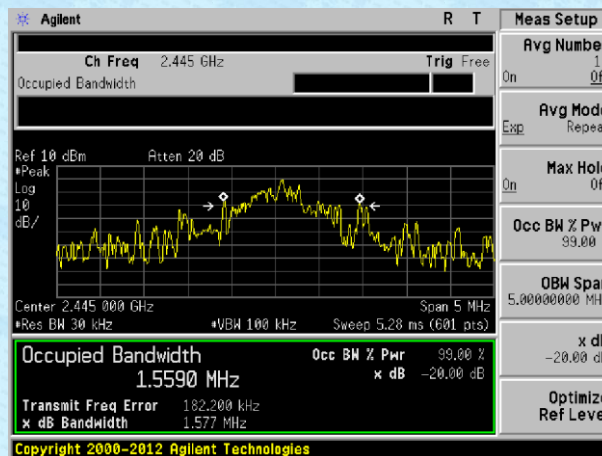
Measurement Data

Test channel	20dB bandwidth(MHz)	Result
Lowest	1.877	Pass
Middle	1.577	Pass
Highest	1.702	Pass

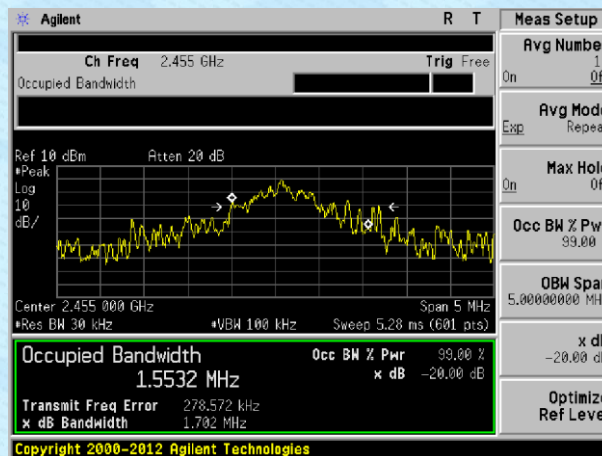
Test plot as follows:



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-----