FCC REPORT

Applicant:	Maker Works Technology INC
Address of Applicant:	Building C3, Floor 4th, Zhiyuan, Xili, Nanshan District, ShenZhen 518057 China

Equipment Under Test (EUT)

Product Name:	2.4G Wireless Serial-module
Model No.:	MBK-2.4G-module
FCC ID:	2ACWW1300303M
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249
Date of sample receipt:	11 May 2015
Date of Test:	12 May to 16 Jun., 2015
Date of report issued:	16 Jun., 2015
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

2 Version

Version No.	Date	Description
00	*16 Jun., 2015*	*Original*

Prepared By: Sera Xiang ***Date:*** *16 Jun., 2015*

Project Engineer

Check By: Gavin Liu ***Date:*** *16 Jun., 2015*

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Conducted Emission	15.207	Pass
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

Pass: The EUT comply with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	Maker Works Technology INC
Address of Applicant:	Building C3, Floor 4th, Zhiyuan, Xili, Nanshan District, ShenZhen 518057 China
Manufacturer/Factory:	Maker Works Technology INC
Address of Manufacturer/ Factory:	Building C3, Floor 4th, Zhiyuan, Xili, Nanshan District, ShenZhen 518057 China

5.2 General Description of E.U.T.

Product Name:	2.4G Wireless Serial-module
Model No.:	MBK-2.4G-module
Operation Frequency:	2404MHz to 2480MHz
Channel numbers:	47
Modulation type:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	-3dBi
Power supply:	DC 5V

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation.

Pre-Test Mode: (lowest channel=2404MHz)

CCIS has 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)	84.59	83.68	85.91

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”:
Z axis (see the test setup photo)

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	Printer	CB495A	05257893	DoC

5.5 Laboratory Facility

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

● **FCC - Registration No.: 817957**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. 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 out files. Registration 817957, February 27, 2012.

● **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing.The Registration No. is CNAS L6048.

5.6 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District,Shenzhen, Guangdong,China
Tel: +86-755-23118282
Fax: +86-755-23116366

5.7 Test Instruments list

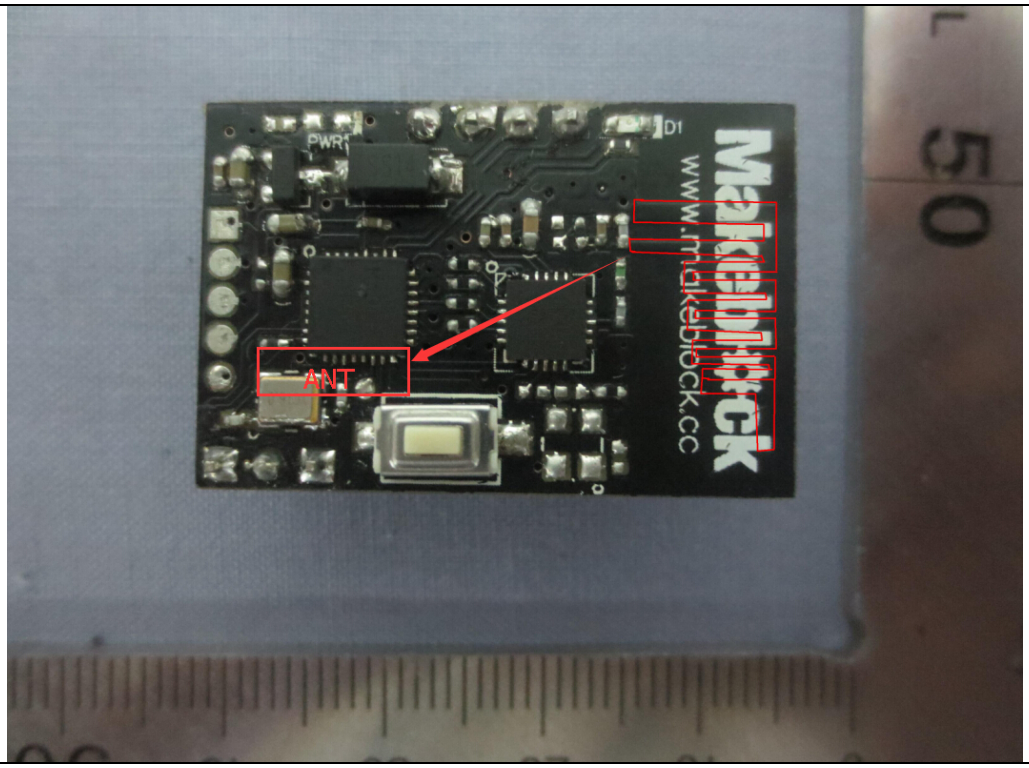
Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	03-28-2015	03-28-2016
2	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	03-28-2015	03-28-2016
3	Amplifier (10KHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2015	03-31-2016
4	Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2015	03-31-2016
5	Spectrum analyzer	Rohde & Schwarz	FSP	CCIS0023	03-28-2015	03-28-2016
6	EMI Test Receiver	Rohde & Schwarz	ECSI	CCIS0002	03-28-2015	03-28-2016
7	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	04-01-2015	03-31-2016
8	Horn Antenna	ETS-LINDGREN	3160	GTS217	04-01-2015	03-31-2016

Conducted Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	03-28-2015	03-28-2016
2	LISN	CHASE	MN2050D	CCIS0074	03-28-2015	03-28-2016
3	Coaxial Cable	CCIS	N/A	CCIS0086	04-01-2015	03-31-2016
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

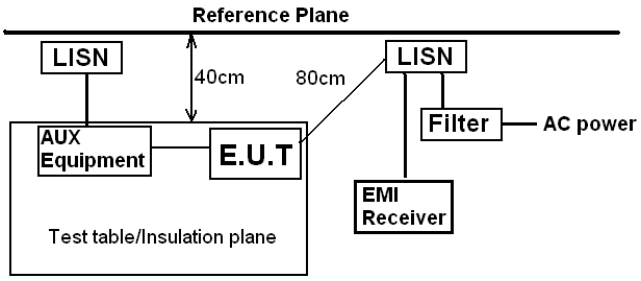
6 Test results and Measurement Data

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 antenna is monopole antenna which cannot detachable . The best case gain of the antenna is -3dBi.	

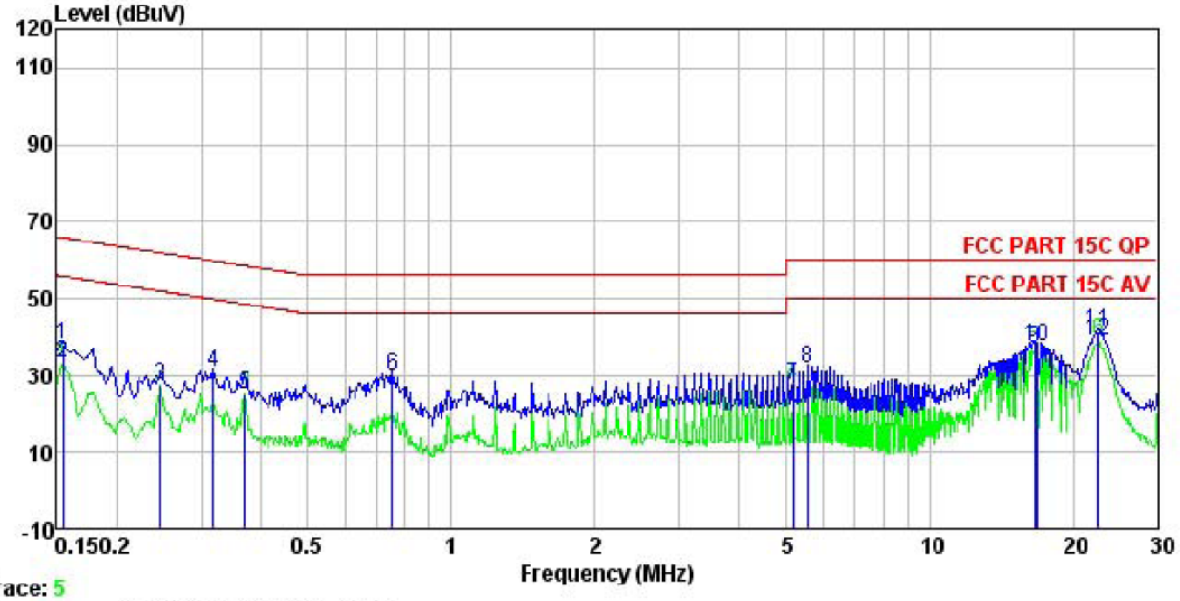


6.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.249 and 15.209		
Test Method:	ANSI C63.4:2009		
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto		
Limit:	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
	* Decreases with the logarithm of the frequency.		
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*		
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 C63.4: 2009 on conducted measurement.		
Test Instruments:	Refer to section 5.7 for details		
Test mode:	Transmitting mode		
Test results:	Pass		

Measurement Data

Line:

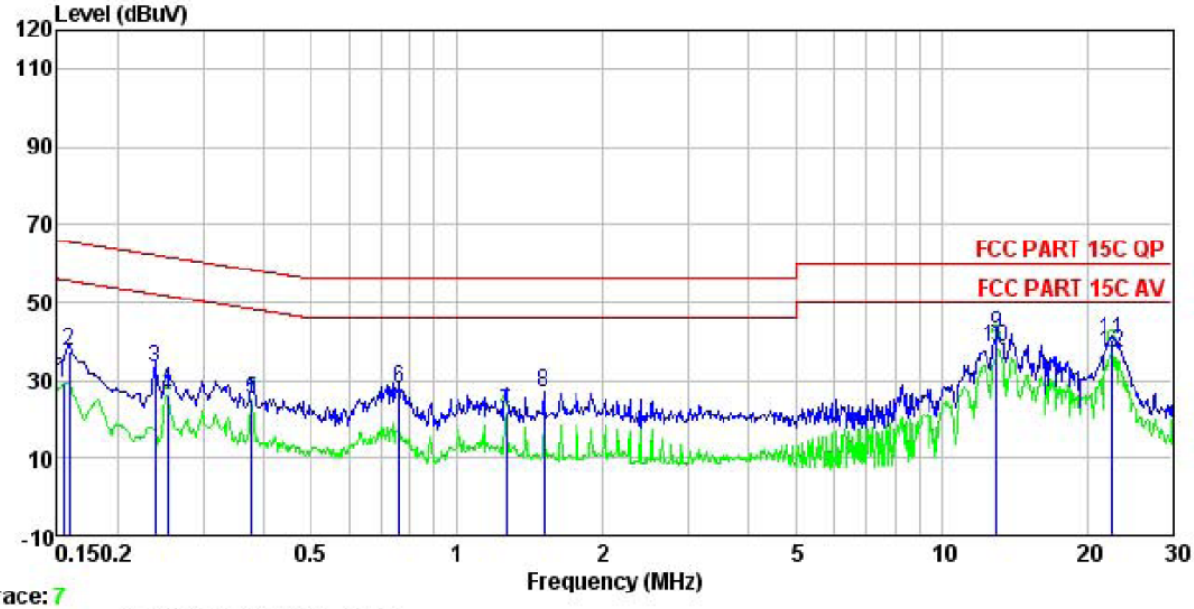


Trace: 5

Site : CCIS Shielding Room
Condition : FCC PART 15C QP LISN LINE
EUT : 2.4G Wireless Serial-module
Model : MBK-2.4G-module
Test Mode : ON mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 ℃ Huni:56% Atmos:101KPa
Test Engineer: GAREN
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	27.11	0.27	10.78	38.16	65.78	-27.62	QP
2	0.154	22.21	0.27	10.78	33.26	55.78	-22.52	Average
3	0.246	16.42	0.27	10.75	27.44	51.91	-24.47	Average
4	0.318	19.70	0.26	10.74	30.70	59.75	-29.05	QP
5	0.369	13.99	0.27	10.73	24.99	48.52	-23.53	Average
6	0.751	19.01	0.23	10.79	30.03	56.00	-25.97	QP
7	5.194	16.24	0.30	10.84	27.38	50.00	-22.62	Average
8	5.564	20.38	0.30	10.83	31.51	60.00	-28.49	QP
9	16.573	25.59	0.33	10.91	36.83	50.00	-13.17	Average
10	16.750	26.39	0.33	10.91	37.63	60.00	-22.37	QP
11	22.416	29.77	0.43	10.90	41.10	60.00	-18.90	QP
12	22.535	27.63	0.44	10.89	38.96	50.00	-11.04	Average

Neutral:



Trace: 7

Site : CCIS Shielding Room
Condition : FCC PART 15C QP LISN NEUTRAL
EUT : 2.4G Wireless Serial-module
Model : MBK-2.4G-module
Test Mode : ON mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: GAREN
Remark :

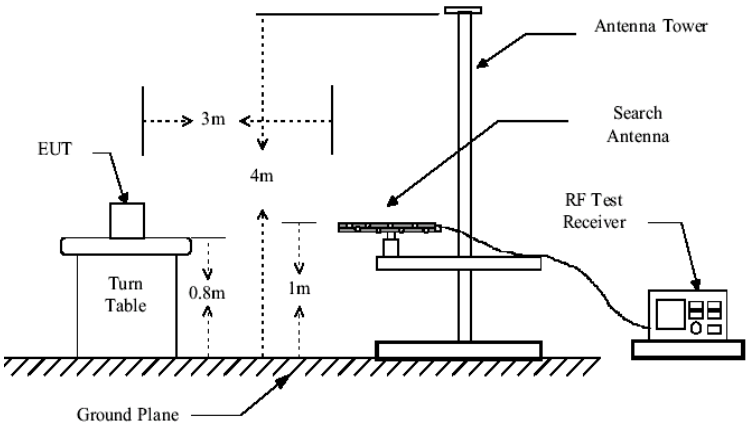
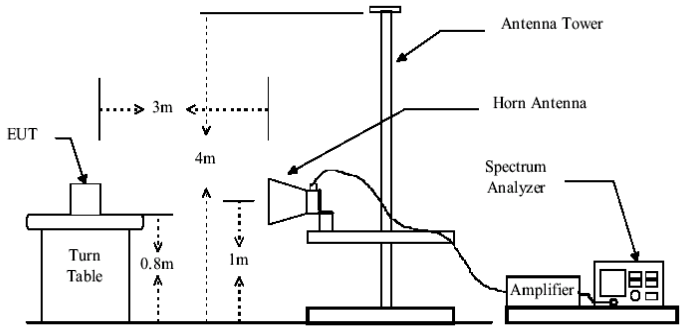
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	18.52	0.25	10.78	29.55	55.78	-26.23	Average
2	0.158	26.44	0.25	10.78	37.47	65.56	-28.09	QP
3	0.238	22.38	0.25	10.75	33.38	62.17	-28.79	QP
4	0.253	15.17	0.26	10.75	26.18	51.64	-25.46	Average
5	0.377	14.17	0.25	10.72	25.14	48.34	-23.20	Average
6	0.759	16.71	0.19	10.80	27.70	56.00	-28.30	QP
7	1.262	10.46	0.24	10.90	21.60	46.00	-24.40	Average
8	1.511	15.76	0.26	10.92	26.94	56.00	-29.06	QP
9	12.988	30.87	0.25	10.91	42.03	60.00	-17.97	QP
10	12.988	27.10	0.25	10.91	38.26	50.00	-11.74	Average
11	22.416	28.88	0.37	10.90	40.15	60.00	-19.85	QP
12	22.535	25.84	0.38	10.89	37.11	50.00	-12.89	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss

6.3 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part15 C Section 15.249 and 15.209</td></tr>
<tr><td>Test Method:</td><td colspan="5">ANSI C63.4:2009</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">30MHz to 25000MHz</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td></td><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td></td><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
<tr><td>Limit:
(Field strength of the fundamental signal)</td><td colspan="2">Frequency</td><td colspan="2">Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td></td><td colspan="2" rowspan="2">2400MHz-2483.5MHz</td><td colspan="2">94.00</td><td>Average Value</td></tr>
<tr><td></td><td colspan="2">114.00</td><td>Peak Value</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td colspan="2">Frequency</td><td colspan="2">Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td></td><td colspan="2">30MHz-88MHz</td><td colspan="2">40.00</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">88MHz-216MHz</td><td colspan="2">43.50</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">216MHz-960MHz</td><td colspan="2">46.00</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2">960MHz-1GHz</td><td colspan="2">54.00</td><td>Quasi-peak Value</td></tr>
<tr><td></td><td colspan="2" rowspan="2">Above 1GHz</td><td colspan="2">54.00</td><td>Average Value</td></tr>
<tr><td></td><td colspan="2">74.00</td><td>Peak Value</td></tr>
<tr><td>Limit:
(band edge)</td><td colspan="5">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 colspan="5">1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable 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.</td></tr>
</table>

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.7
Test mode:	Refer to section 5.3
Test results:	Passed

6.3.1 Field Strength Of The Fundamental Signal

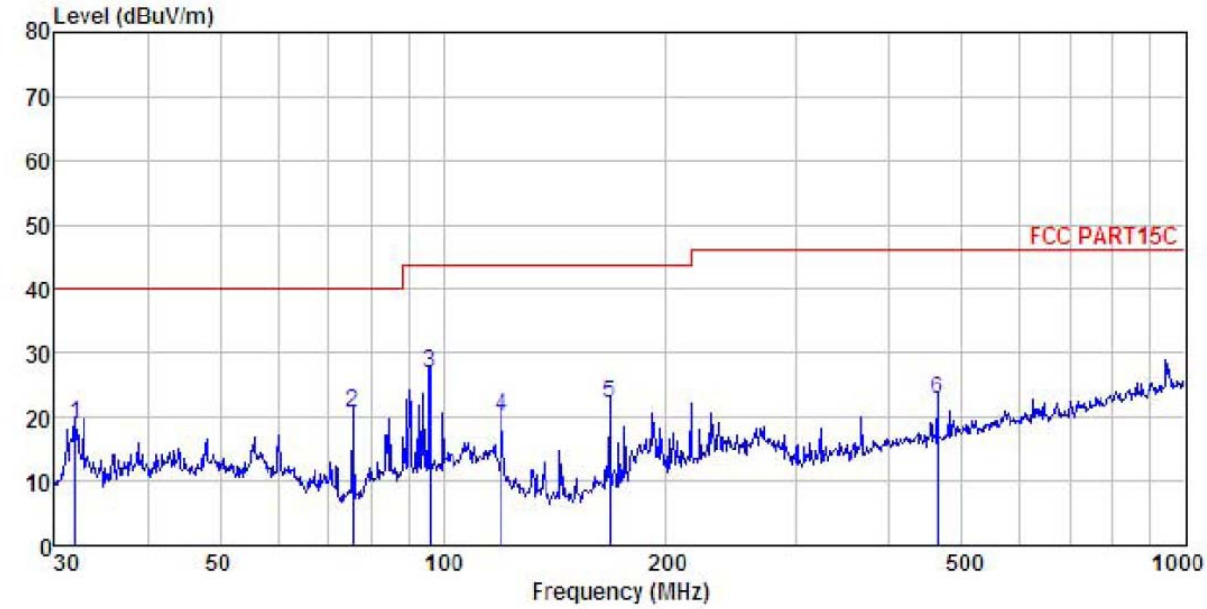
Peak value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2404.00	49.10	27.54	6.66	83.30	114.00	-30.70	Horizontal
2404.00	50.90	27.54	6.66	85.10	114.00	-28.90	Vertical
2440.00	51.46	27.46	6.76	85.57	114.00	-28.43	Horizontal
2440.00	51.69	27.46	6.76	85.91	114.00	-28.09	Vertical
2480.00	46.35	27.52	6.83	80.70	114.00	-33.30	Horizontal
2480.00	51.06	27.52	6.83	85.41	114.00	-28.59	Vertical

Average value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2404.00	41.65	27.54	6.66	75.85	94.00	-18.15	Horizontal
2404.00	42.15	27.54	6.66	76.35	94.00	-17.65	Vertical
2440.00	43.54	27.46	6.76	77.76	94.00	-16.24	Horizontal
2440.00	43.87	27.46	6.76	78.09	94.00	-15.91	Vertical
2480.00	38.47	27.52	6.83	72.82	94.00	-21.18	Horizontal
2480.00	42.22	27.52	6.83	76.57	94.00	-17.43	Vertical

6.3.2 Spurious Emissions

Below 1GHz

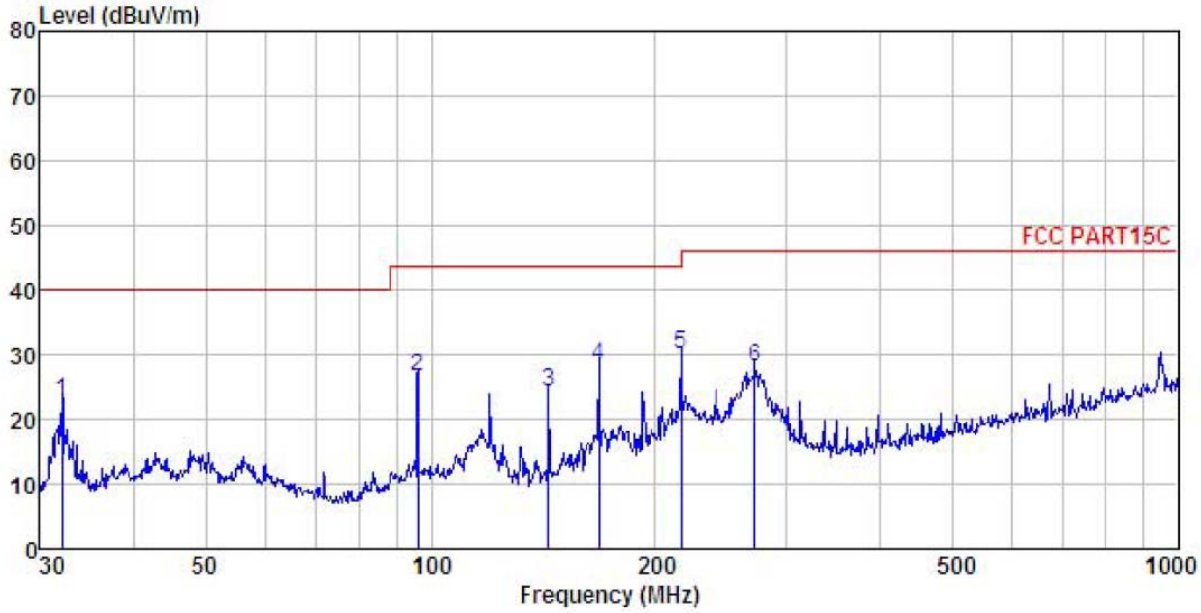
Vertical:



Site : 3m chamber
Condition : FCC PART15C 3m VULB9163(30M1G) VERTICAL
EUT : 2.4G Wireless Serial-module
Model : MBK-2.4G-module
Test mode : ON Mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: Garen
REMARK :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	31.955	36.24	12.32	0.45	29.97	19.04	40.00	-20.96	QP
2	75.446	41.64	7.91	0.82	29.68	20.69	40.00	-19.31	QP
3	96.099	42.63	12.90	0.94	29.55	26.92	43.60	-16.68	QP
4	119.856	37.77	10.48	1.12	29.39	19.98	43.60	-23.62	QP
5	167.824	40.87	8.90	1.34	29.07	22.04	43.60	-21.56	QP
6	463.970	33.61	15.71	2.30	28.89	22.73	46.00	-23.27	QP

Horizontal:



Site : 3m chamber
Condition : FCC PART15C 3m VULB9163(30M1G) HORIZONTAL
EUT : 2.4G Wireless Serial-module
Model : MBK-2.4G-module
Test mode : ON Mode
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: Garen
REMARK :

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	32.067	40.06	12.32	0.45	29.97	22.86	40.00	-17.14	QP
2	96.099	42.28	12.90	0.94	29.55	26.57	43.60	-17.03	QP
3	143.830	43.82	8.22	1.28	29.25	24.07	43.60	-19.53	QP
4	167.824	47.30	8.90	1.34	29.07	28.47	43.60	-15.13	QP
5	216.024	46.24	11.07	1.46	28.73	30.04	46.00	-15.96	QP
6	271.325	42.30	12.42	1.69	28.50	27.91	46.00	-18.09	QP

Above 1GHz

Test channel:		Lowest			Level:		Peak	
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
4808.00	46.36	31.53	8.90	40.24	46.55	74.00	-27.45	Vertical
4808.00	45.41	31.53	8.90	40.24	45.60	74.00	-28.40	Horizontal

Test channel:		Lowest			Level:		Average	
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
4808.00	36.34	31.53	8.90	40.24	36.53	54.00	-17.47	Vertical
4808.00	36.26	31.53	8.90	40.24	36.45	54.00	-17.55	Horizontal

Test channel:		Middle			Level:		Peak	
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	43.61	31.58	8.98	40.15	44.02	74.00	-29.98	Vertical
4880.00	45.69	31.58	8.98	40.15	46.10	74.00	-27.90	Horizontal

Test channel:		Middle			Level:		Average	
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	35.02	31.58	8.98	40.15	35.43	54.00	-18.57	Vertical
4880.00	35.99	31.58	8.98	40.15	36.40	54.00	-17.60	Horizontal

Test channel:		Highest			Level:		Peak	
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
4960.00	46.06	31.69	9.08	40.03	46.80	74.00	-27.20	Vertical
4960.00	46.11	31.69	9.08	40.03	46.85	74.00	-27.15	Horizontal

Test channel:		Highest			Level:		Average	
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
4960.00	36.52	31.69	9.08	40.03	37.26	54.00	-16.74	Vertical
4960.00	36.60	31.69	9.08	40.03	37.34	54.00	-16.66	Horizontal

Remark:

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.*

6.3.3 Band edge (Radiated Emission)

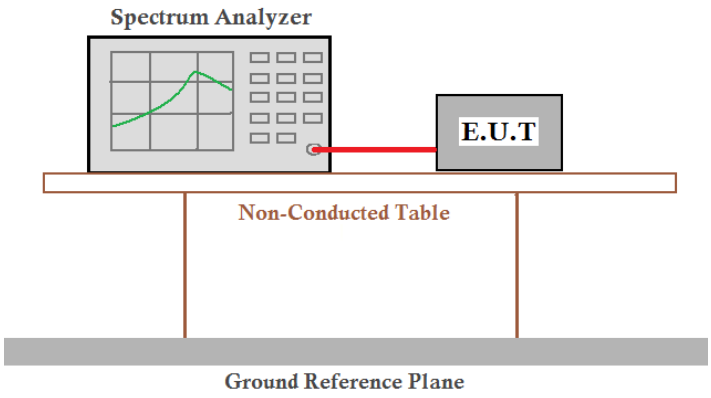
Test channel:			Lowest		Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2400.00	29.31	27.58	6.66	0.00	63.55	74.00	-10.45	Vertical
2400.00	28.88	27.58	6.66	0.00	63.12	74.00	-10.88	Horizontal

Test channel:			Lowest		Level:		Average	
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
2400.00	17.59	27.58	6.66	0.00	51.83	54.00	-2.17	Vertical
2400.00	17.45	27.58	6.66	0.00	51.69	54.00	-2.31	Horizontal

Test channel:			Highest		Level:		Peak	
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	30.66	27.52	6.85	0.00	65.03	74.00	-8.97	Vertical
2483.50	30.57	27.52	6.85	0.00	64.94	74.00	-9.06	Horizontal

Test channel:			Highest		Level:		Average	
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	17.05	27.52	6.85	0.00	51.42	54.00	-2.58	Vertical
2483.50	17.21	27.52	6.85	0.00	51.58	54.00	-2.42	Horizontal

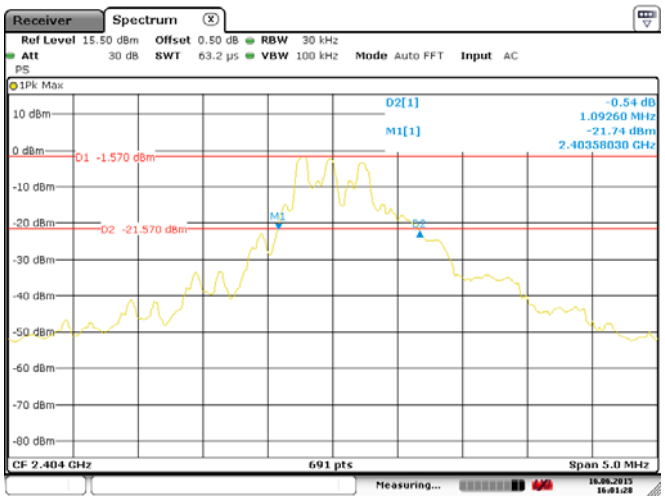
6.4 20dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2009
Receiver setup:	RBW ≥1% of the 20 dB bandwidth, VBW ≥ VBW, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Passed

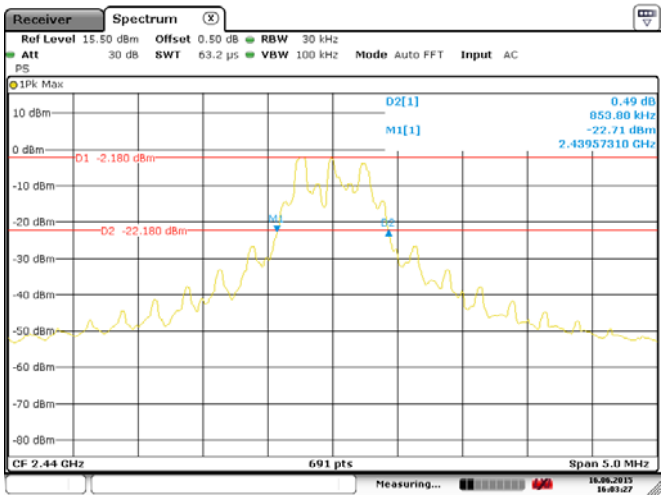
Measurement Data

Test channel	20dB bandwidth (MHz)	Results
Lowest	1.09	Pass
Middle	0.85	Pass
Highest	1.01	Pass

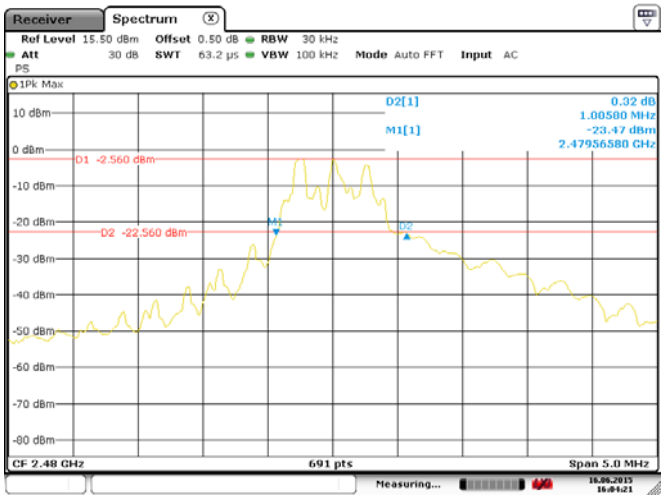
Test plot as follows:



Lowest channel



Middle channel



Highest channel