

FCC Report

Applicant: Computime Limited

Address of Applicant: 17/F, Great Eagle Centre, 23 Harbour Road, Wanchai, Hong Kong

Equipment Under Test (EUT)

Product Name: ZigBee Module

Model No.: CTL3579, CTL3576, CTL3577, CTL3578

FCC ID: DI2-CTL3579A

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247:2010

Date of sample receipt: Mar. 06, 2012

Date of Test: Apr. 27-28, 2012

Date of report issued: Apr. 28, 2012

Test Result : PASS *

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

Authorized Signature:



Robinson Lo
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 GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	Apr. 28, 2012	Original

Prepared By:

Oscar. Li

Date:

Apr. 28, 2012

Project Engineer

Check By:

Hans. Hu

Date:

Apr. 28, 2012

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	NA
Conducted Peak Output Power	15.247 (b)(3)	Pass
Emission Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

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

NA: Not applicable

5 General Information

5.1 Client Information

Applicant:	Computime Limited
Address of Applicant:	17/F, Great Eagle Centre, 23 Harbour Road, Wanchai, Hong Kong
Manufacturer:	Computime Limited
Address of Manufacturer/	17/F, Great Eagle Centre, 23 Harbour Road, Wanchai, Hong Kong
Factory:	Computime Electronics(Shenzhen) Company Limited
Address of Factory:	Computime Technology Park, DanZhuTou Cun, Buji, Longgang Region, Shenzhen, China

5.2 General Description of E.U.T.

Product Name:	High power ZigBee Module
Model No.:	CTL3579, CTL3576, CTL3577, CTL3578
Operation Frequency:	2405MHz~2480MHz
Channel numbers:	16
Channel separation:	5MHz
Modulation technology:	QPSK
Antenna Type:	Integral
Antenna gain:	-0.32dBi(declare by Applicant)
Power supply:	DC 3V (2* 1.5V('AAA' Size battery))

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
11	2405MHz	15	2425MHz	19	2445MHz	23	2465MHz
12	2410MHz	16	2430MHz	20	2450MHz	24	2470MHz
13	2415MHz	17	2435MHz	21	2455MHz	25	2475MHz
14	2420MHz	18	2440MHz	22	2460MHz	26	2480MHz

Note:

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

Channel	Frequency
The lowest channel	2405MHz
The middle channel	2440MHz
The Highest channel	2480MHz

5.3 Test mode

Transmitting mode	Keep the EUT in transmitting with modulation.
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5.4 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.: 600491 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 out files. Registration 600491, July 20, 2010. • Industry Canada (IC) 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 with Registration No.: 9079A-1.

5.5 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China Tel: 0755-27798480 Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

5.7 Description of Support Units


None.

5.8 Test Instruments list

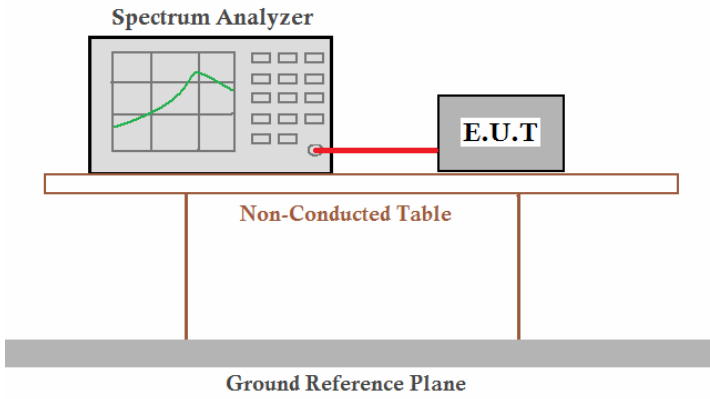
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 04 2011	Jul. 03 2012
4	Spectrum	Agilent	E4440A	GTS205	Jul. 04 2011	Jul. 03 2012
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Mar. 10 2012	Mar. 09 2013
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	Mar. 10 2012	Mar. 09 2013
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 10 2012	Mar. 09 2013
8	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 04 2011	Jul. 03 2012
9	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 04 2011	Jul. 03 2012
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Jul. 04 2011	Jul. 03 2012
11	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
12	Coaxial cable	GTS	N/A	GTS210	Jul. 04 2011	Jul. 03 2012
13	Coaxial Cable	GTS	N/A	GTS211	Jul. 04 2011	Jul. 03 2012
14	Thermo meter	KTJ	TA328	GTS256	Jul. 07 2011	Jul. 06 2012
15	Band filter	Amideon	82346	GTS219	June 30 2011	June 29 2012

6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement:</p> <p>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.</p> <p>15.247(c) (1)(i) requirement:</p> <p>(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.</p>	
E.U.T Antenna:	
<p><i>The antenna is Integral antenna, the best case gain of the antenna is -0.32dBi</i></p> 	

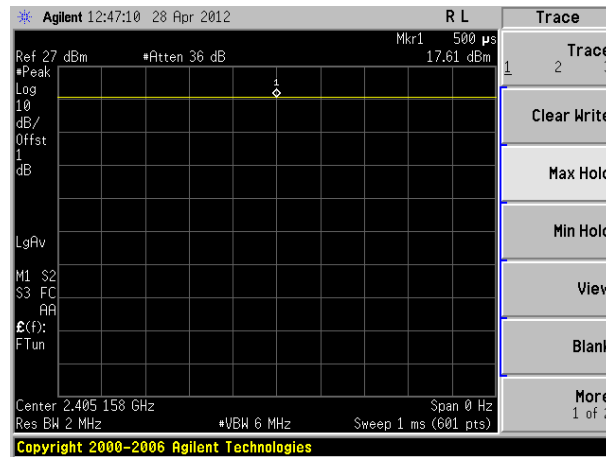
6.2 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	30dBm
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 is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

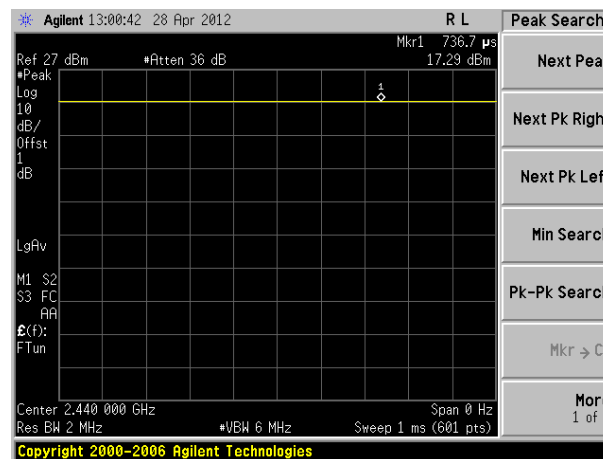
Measurement Data

Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	17.61	30.00	Pass
Middle	17.29		
Highest	5.91		

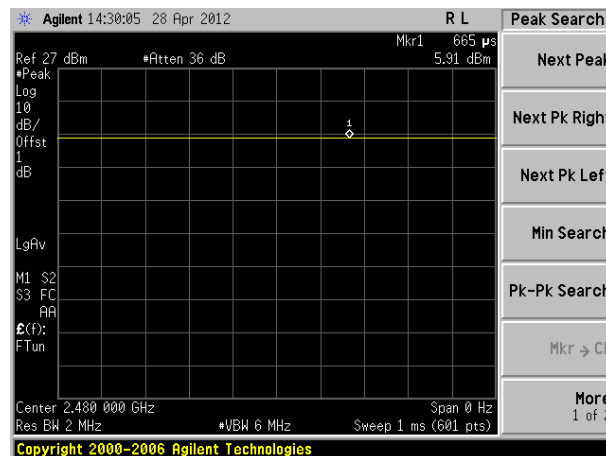
Test plot as follows:



Lowest channel

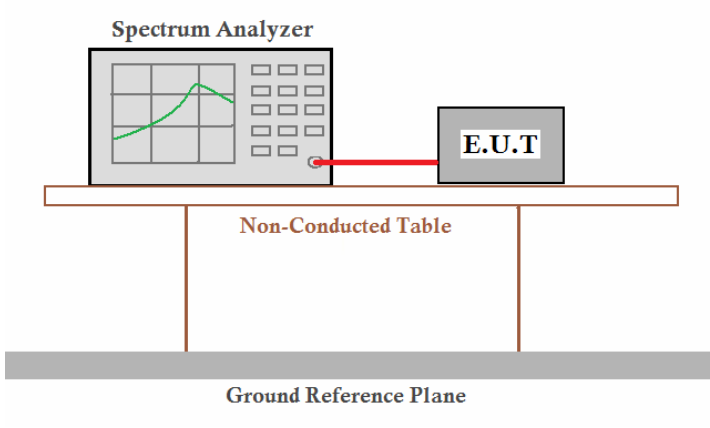


Middle channel



Highest channel

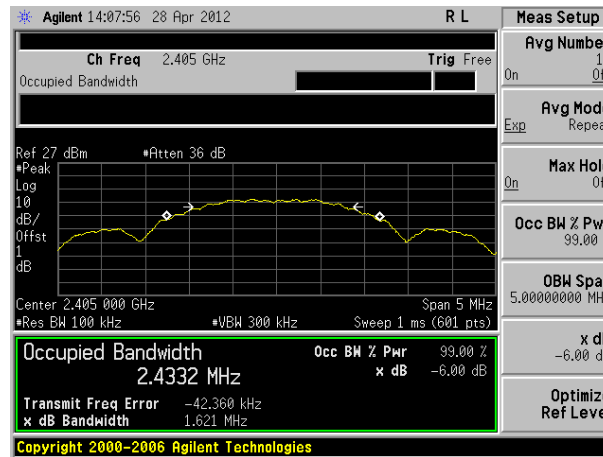
6.3 Emission Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	>500KHz
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

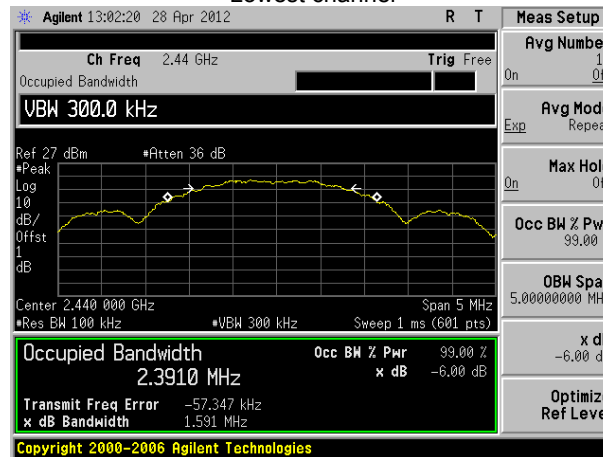
Measurement Data

Test channel	Emission Bandwidth (MHz)	Limit(KHz)	Result
Lowest	1.621	>500	Pass
Middle	1.591		
Highest	1.582		

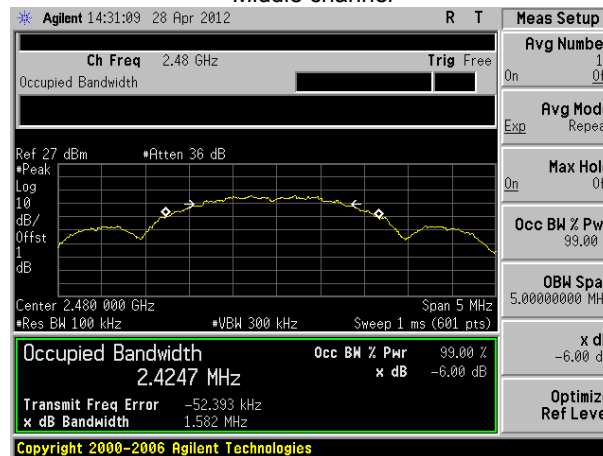
Test plot as follows:



Lowest channel

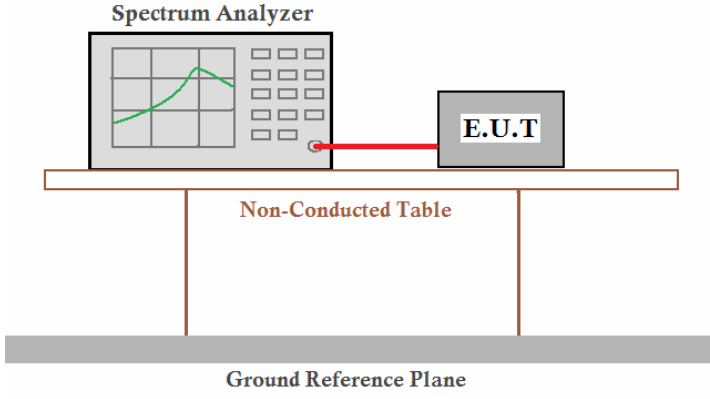


Middle channel



Highest channel

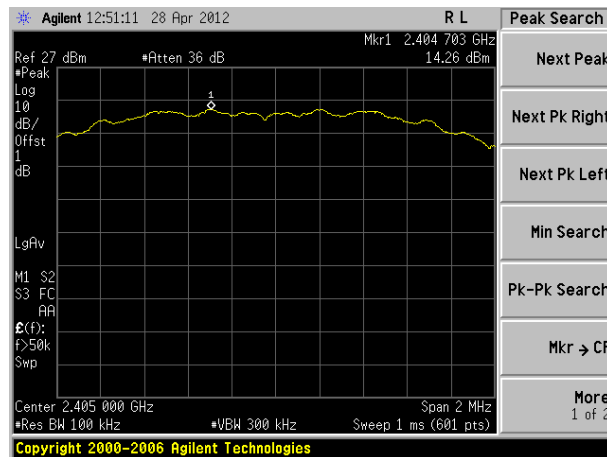
6.4 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	8dBm
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 is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

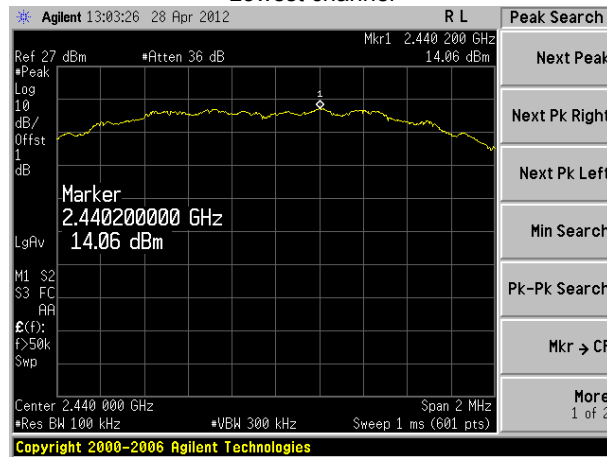
Measurement Data

Test channel	Power Spectral Density (dBm@100KHz)	BWCF (dB)	Power Spectral Density (dBm@3KHz)	Limit(dBm))	Result
Lowest	14.26	-15.20	-0.94	8.00	Pass
Middle	14.06	-15.20	-1.14		
Highest	2.79	-15.20	-12.41		

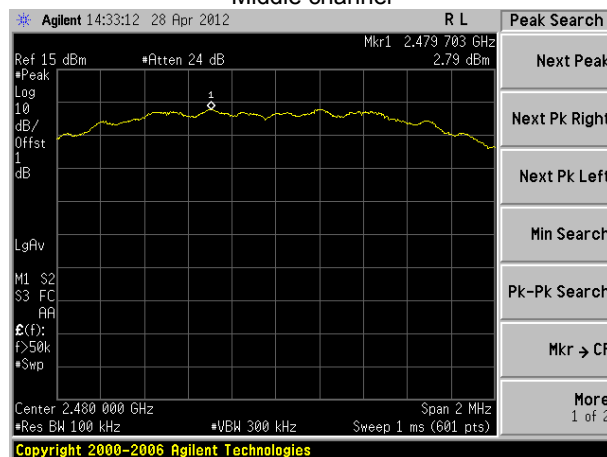
Test plot as follows:



Lowest channel



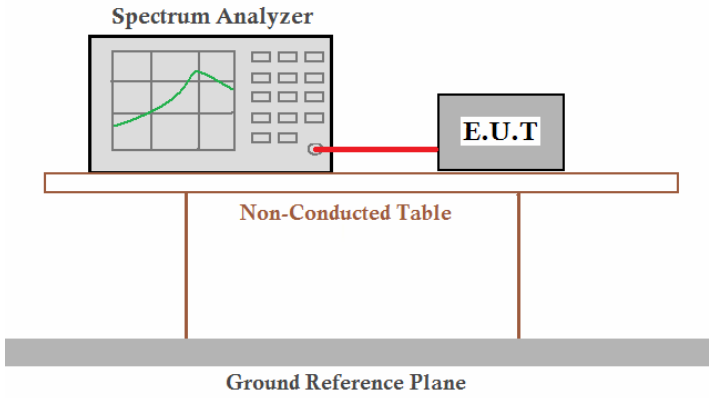
Middle channel



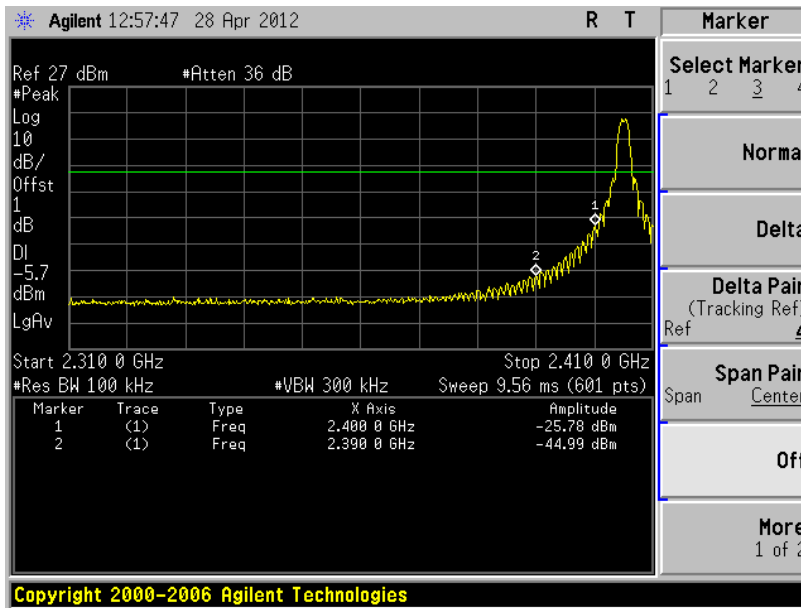
Highest channel

6.5 Band edges

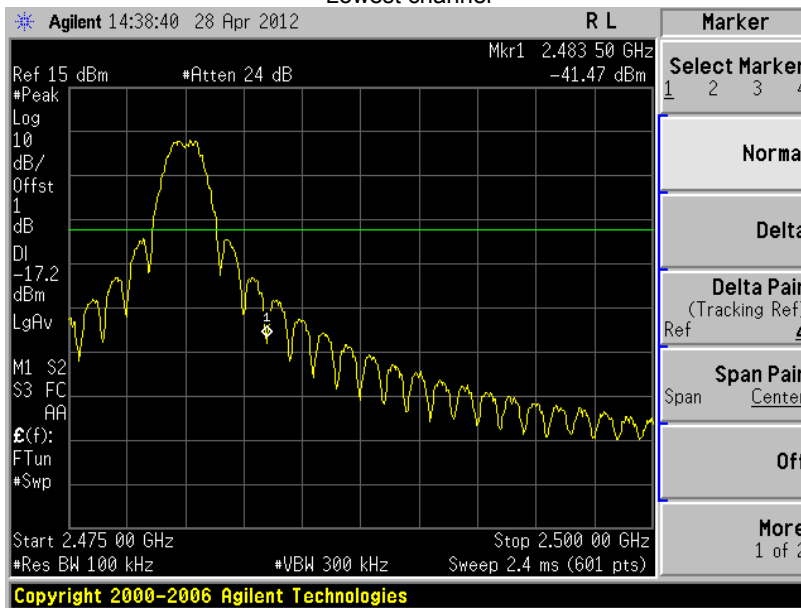
6.5.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer and an E.U.T (Equipment Under Test) are positioned on a Non-Conducted Table. A red cable connects the Spectrum Analyzer to the E.U.T. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Test plot as follows:



Lowest channel



Highest channel

6.5.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.4: 2003				
Test Frequency Range:	2.3GHz to 2.5GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	Above 1GHz		54.00		Average Value
			74.00		Peak Value
Test setup:					
Test Procedure:	<ol style="list-style-type: none"> 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 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 5.8 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Pass				

Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

Test channel:	Lowest
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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	48.11	27.43	2.75	30.16	48.13	74.00	-25.87	Horizontal
2390.00	53.46	27.59	2.82	30.10	53.77	74.00	-20.23	Horizontal
2310.00	45.34	27.43	2.75	30.16	45.36	74.00	-28.64	Vertical
2390.00	49.95	27.59	2.82	30.10	50.26	74.00	-23.74	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	37.81	27.43	2.75	30.16	37.83	54.00	-16.17	Horizontal
2390.00	41.36	27.59	2.82	30.10	41.67	54.00	-12.33	Horizontal
2310.00	35.38	27.43	2.75	30.16	35.40	54.00	-18.60	Vertical
2390.00	37.94	27.59	2.82	30.10	38.25	54.00	-15.75	Vertical

Test channel:	Highest
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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	58.37	27.53	2.88	29.93	58.85	74.00	-15.15	Horizontal
2500.00	50.82	27.55	2.90	30.70	50.57	74.00	-23.43	Horizontal
2483.50	54.38	27.53	2.88	29.93	54.86	74.00	-19.14	Vertical
2500.00	49.86	27.55	2.90	30.70	49.61	74.00	-24.39	Vertical

Average value:

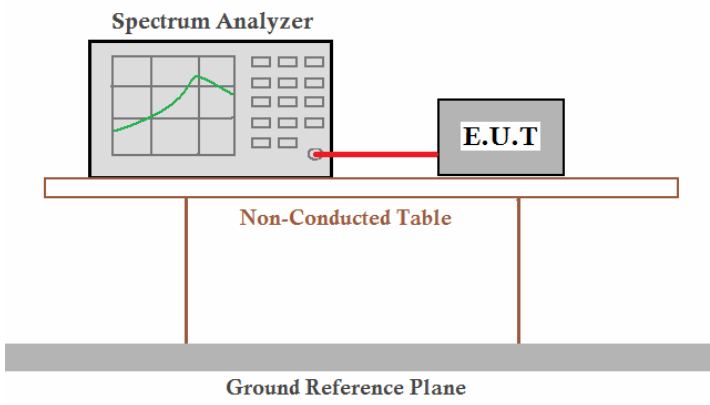
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	45.09	27.53	2.88	29.93	45.57	54.00	-8.43	Horizontal
2500.00	38.97	27.55	2.90	30.70	38.72	54.00	-15.28	Horizontal
2483.50	40.17	27.53	2.88	29.93	40.65	54.00	-13.35	Vertical
2500.00	36.85	27.55	2.90	30.70	36.60	54.00	-17.40	Vertical

Remark:

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.

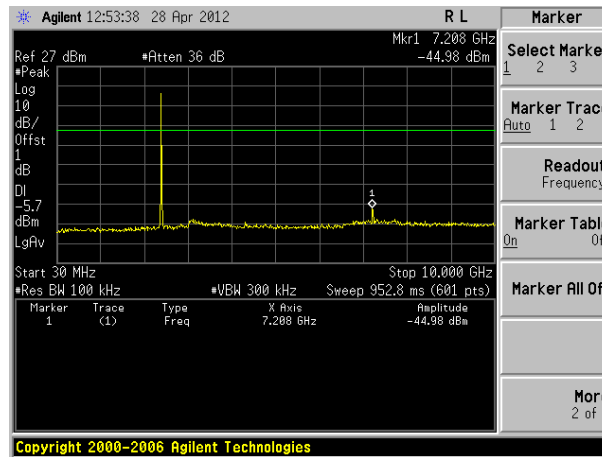
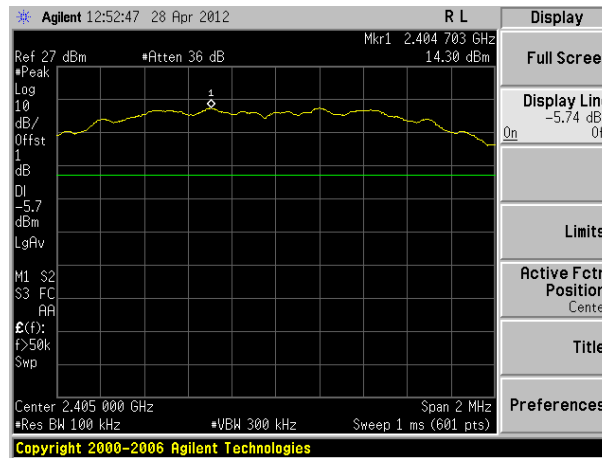
6.6 Spurious Emission

6.6.1 Conducted Emission Method

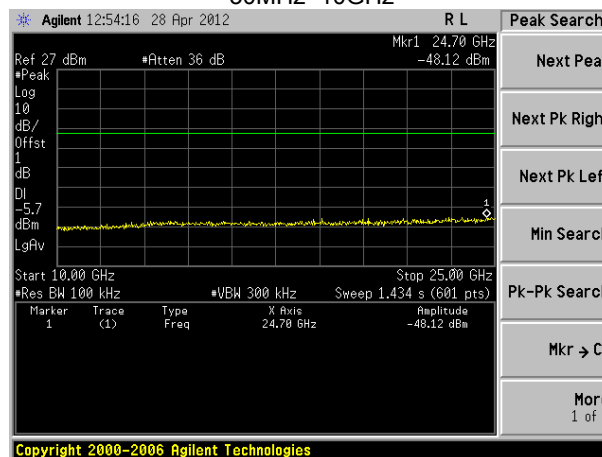
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
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 is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Test plot as follows:

Lowest channel

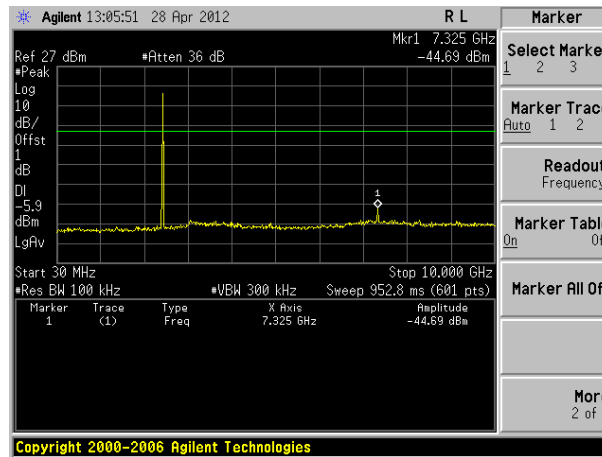
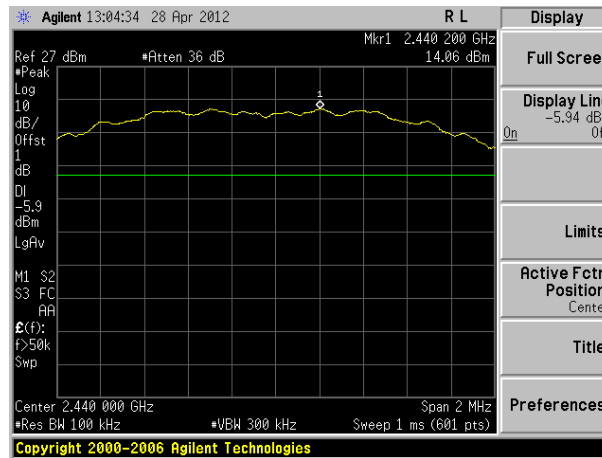


30MHz~10GHz

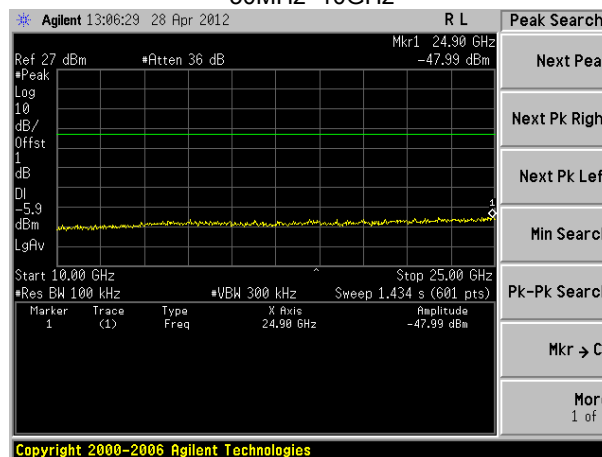


10GHz~25GHz

Middle channel

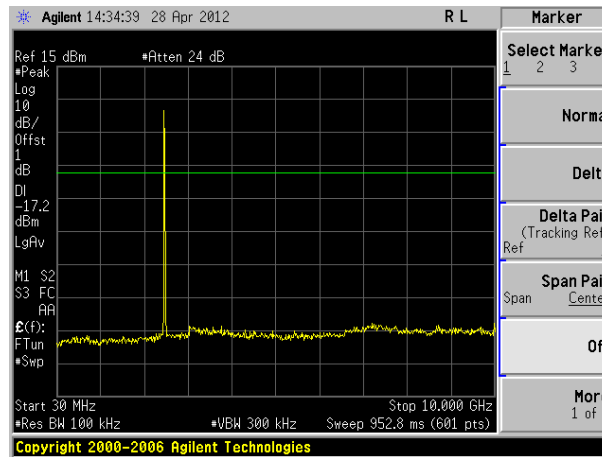
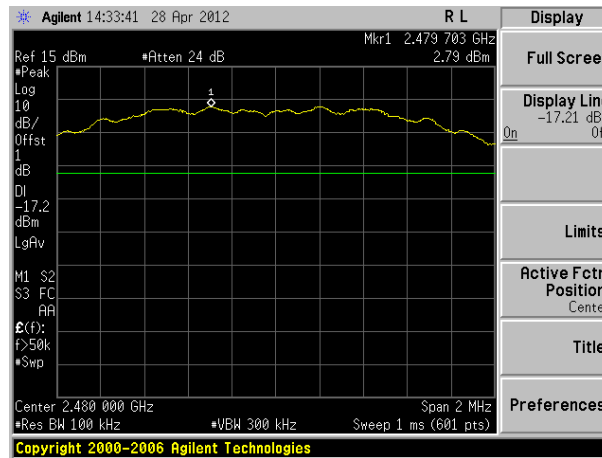


30MHz~10GHz

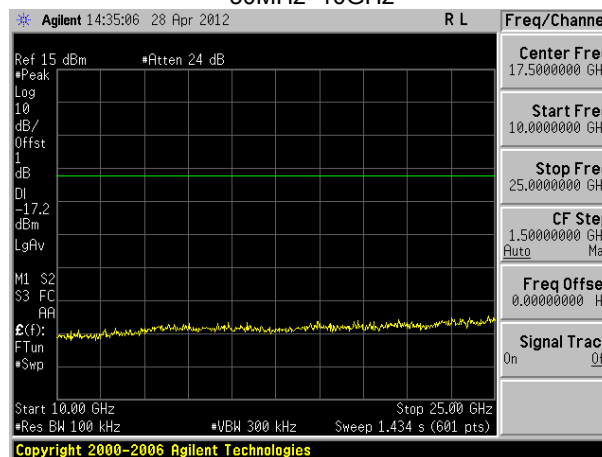


10GHz~25GHz

Highest channel



30MHz~10GHz



10GHz~25GHz

6.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.4: 2003				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
		74.0		Peak Value	
Test setup:	Below 1GHz				
Test setup:	Above 1GHz				
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the				

	<p>position of the highest radiation.</p> <ol style="list-style-type: none"> 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 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

■ **Below 1GHz**

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
46.34	25.92	16.03	0.30	27.10	15.15	40.00	-24.85	Vertical
60.28	27.98	15.59	0.36	27.10	16.83	40.00	-23.17	Vertical
108.65	29.50	12.39	0.51	27.04	15.36	43.50	-28.14	Vertical
248.55	28.66	12.07	0.90	26.44	15.19	46.00	-30.81	Vertical
455.91	27.92	15.57	1.37	27.49	17.37	46.00	-28.63	Vertical
909.67	27.11	21.12	2.17	27.37	23.03	46.00	-22.97	Vertical
49.53	26.45	16.29	0.31	27.10	15.95	40.00	-24.05	Horizontal
60.70	26.20	15.43	0.36	27.09	14.90	40.00	-25.10	Horizontal
111.74	29.09	11.91	0.51	27.02	14.49	43.50	-29.01	Horizontal
315.48	25.76	13.34	1.11	26.46	13.75	46.00	-32.25	Horizontal
508.26	27.10	16.74	1.48	27.71	17.61	46.00	-28.39	Horizontal
893.86	27.97	21.00	2.15	27.41	23.71	46.00	-22.29	Horizontal

■ Above 1GHz

Test channel:	Lowest
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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
4810.00	48.17	31.78	4.44	24.09	60.30	74.00	-13.70	Vertical
7215.00	42.69	36.15	6.05	26.41	58.48	74.00	-15.52	Vertical
9620.00	34.74	38.01	7.65	25.38	55.02	74.00	-18.98	Vertical
12025.00	*					74.00		Vertical
14430.00	*					74.00		Vertical
16835.00	*					74.00		Vertical
4810.00	45.39	31.78	4.44	24.09	57.52	74.00	-16.48	Horizontal
7215.00	39.31	36.15	6.05	26.41	55.10	74.00	-18.90	Horizontal
9620.00	31.73	38.01	7.65	25.38	52.01	74.00	-21.99	Horizontal
12025.00	*					74.00		Horizontal
14430.00	*					74.00		Horizontal
16835.00	*					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
4810.00	31.77	31.78	4.44	24.09	43.90	54.00	-10.10	Vertical
7215.00	28.62	36.15	6.05	26.41	44.41	54.00	-9.59	Vertical
9620.00	20.74	38.01	7.65	25.38	41.02	54.00	-12.98	Vertical
12025.00	*					54.00		Vertical
14430.00	*					54.00		Vertical
16835.00	*					54.00		Vertical
4810.00	29.18	31.78	4.44	24.09	41.31	54.00	-12.69	Horizontal
7215.00	25.37	36.15	6.05	26.41	41.16	54.00	-12.84	Horizontal
9620.00	19.48	38.01	7.65	25.38	39.76	54.00	-14.24	Horizontal
12025.00	*					54.00		Horizontal
14430.00	*					54.00		Horizontal
16835.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. “*”, means this data is too weak instrument of signal is unable to test.

Test channel:	Middle
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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	49.38	31.85	4.49	24.01	61.71	74.00	-12.29	Vertical
7320.00	45.75	36.37	6.11	26.62	61.61	74.00	-12.39	Vertical
9760.00	34.83	38.35	7.74	25.30	55.62	74.00	-18.38	Vertical
12200.00	*					74.00		Vertical
14640.00	*					74.00		Vertical
17080.00	*					74.00		Vertical
4880.00	45.46	31.85	4.49	24.01	57.79	74.00	-16.21	Horizontal
7320.00	40.84	36.37	6.11	26.62	56.70	74.00	-17.30	Horizontal
9760.00	32.82	38.35	7.74	25.30	53.61	74.00	-20.39	Horizontal
12200.00	*					74.00		Horizontal
14640.00	*					74.00		Horizontal
17080.00	*					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
4880.00	31.52	31.85	4.49	24.01	43.85	54.00	-10.15	Vertical
7320.00	28.96	36.37	6.11	26.62	44.82	54.00	-9.18	Vertical
9760.00	25.17	38.35	7.74	25.30	45.96	54.00	-8.04	Vertical
12200.00	*					54.00		Vertical
14640.00	*					54.00		Vertical
17080.00	*					54.00		Vertical
4880.00	29.26	31.85	4.49	24.01	41.59	54.00	-12.41	Horizontal
7320.00	26.84	36.37	6.11	26.62	42.70	54.00	-11.30	Horizontal
9760.00	21.06	38.35	7.74	25.30	41.85	54.00	-12.15	Horizontal
12200.00	*					54.00		Horizontal
14640.00	*					54.00		Horizontal
17080.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor*
2. *“*” , means this data is the too weak instrument of signal is unable to test.*

Test channel:	Highest
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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
4960.00	44.95	31.93	4.54	23.93	57.49	74.00	-16.51	Vertical
7440.00	43.17	36.59	6.20	26.95	59.01	74.00	-14.99	Vertical
9920.00	35.81	38.81	7.85	25.22	57.25	74.00	-16.75	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
17360.00	*					74.00		Vertical
4960.00	42.02	31.93	4.54	23.93	54.56	74.00	-19.44	Horizontal
7440.00	41.13	36.59	6.20	26.95	56.97	74.00	-17.03	Horizontal
9920.00	32.45	38.81	7.85	25.22	53.89	74.00	-20.11	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal
17360.00	*					74.00		Horizontal

Average value:

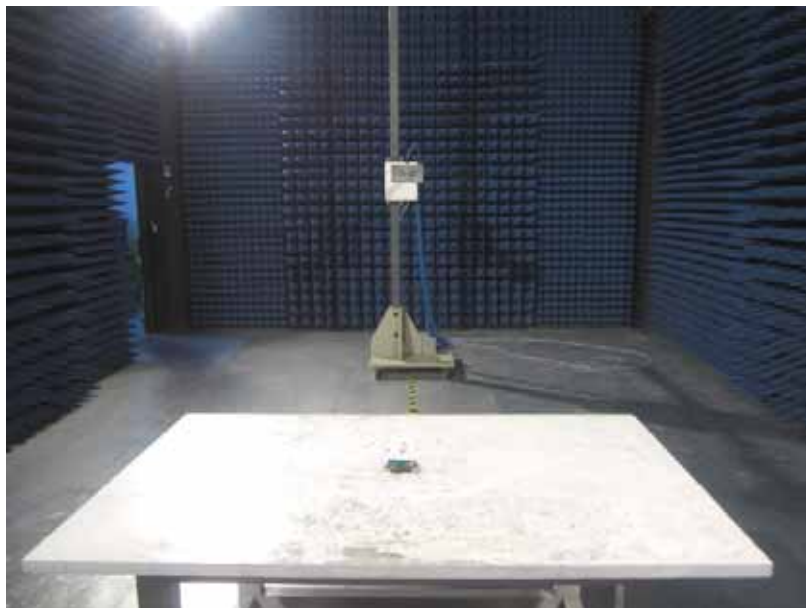
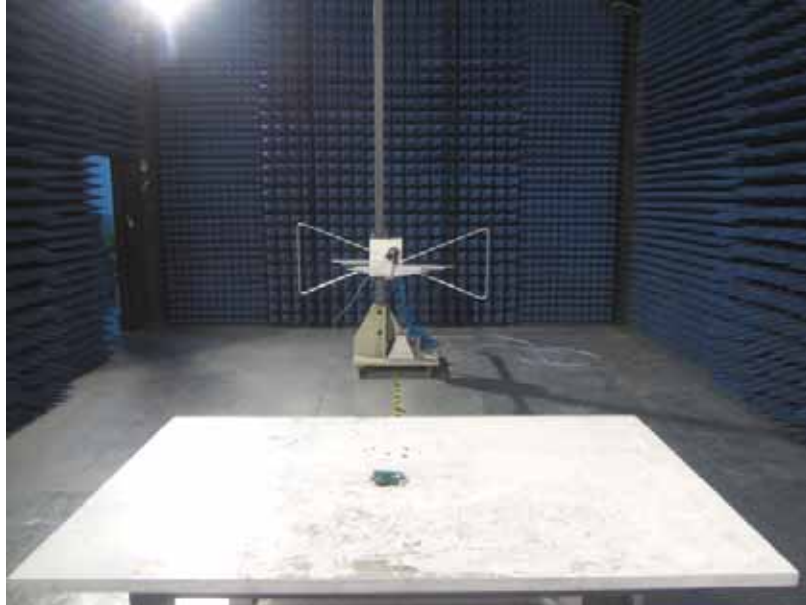
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	30.13	31.93	4.54	23.93	42.67	54.00	-11.33	Vertical
7440.00	25.17	36.59	6.20	26.95	41.01	54.00	-12.99	Vertical
9920.00	22.32	38.81	7.85	25.22	43.76	54.00	-10.24	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
17360.00	*					54.00		Vertical
4960.00	26.54	31.93	4.54	23.93	39.08	54.00	-14.92	Horizontal
7440.00	20.43	36.59	6.20	26.95	36.27	54.00	-17.73	Horizontal
9920.00	17.57	38.81	7.85	25.22	39.01	54.00	-14.99	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal
17360.00	*					54.00		Horizontal

Remark:

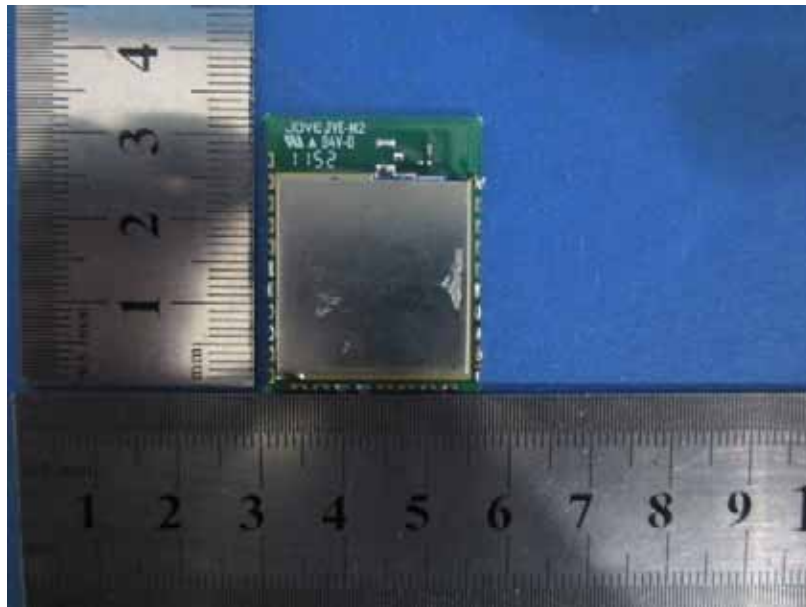
1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor*
2. *“*” , means this data is the too weak instrument of signal is unable to test.*

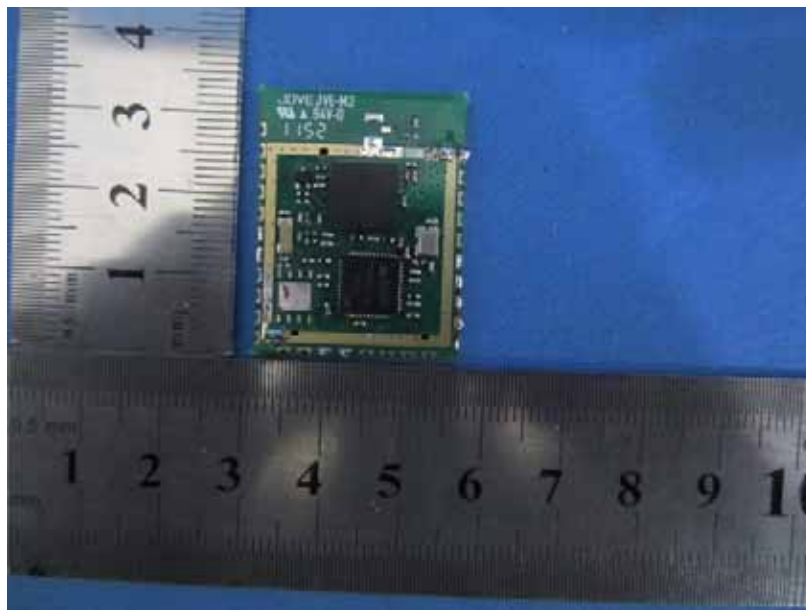
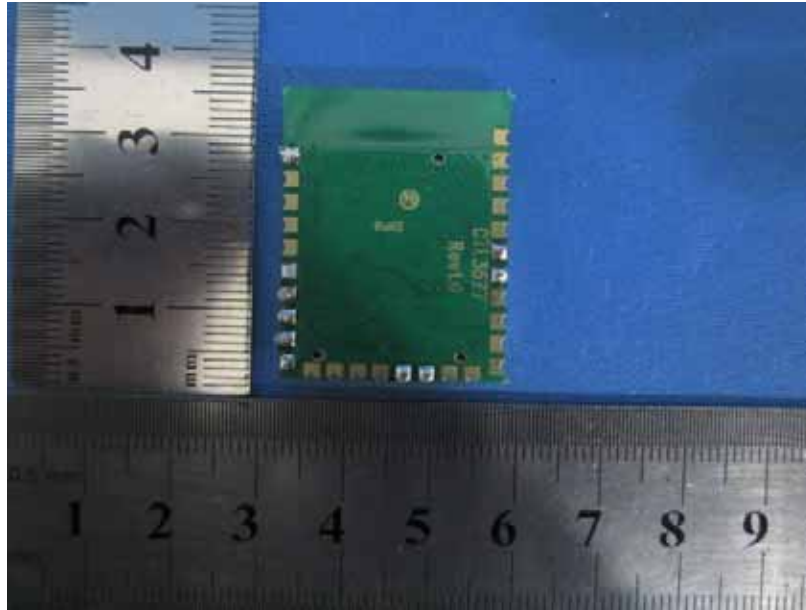
7 Test Setup Photo

Radiated Emission



8 EUT Constructional Details





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