Report No.: GTS16000434E01

FCC Report

Applicant:	Shenzhen Flypro Aerospace Tech Co., Ltd.
Address of Applicant:	No.15 Bldg. No.1201 Liuxian Ave. Nanshan District Shenzhen China

Equipment Under Test (EUT)

Product Name:	XEagle
Model No.:	XWatch
Trade Mark:	FLYPRO
FCC ID:	2AHXGXWATCH
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2014
Date of sample receipt:	April 06, 2016
Date of Test:	April 06-08, 2016
Date of report issued:	April 11, 2016
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*April 11, 2016*	*Original*

Prepared By: Sam.Gao ***Date:*** *April 11, 2016*

Project Engineer

Check By: hank.yan ***Date:*** *April 11, 2016*

Reviewer

3 Contents

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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	Pass
Conducted Peak Output Power	15.247 (b)(2)	Pass
20dB Occupied Bandwidth	15.247 (a)(i)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (a)(i)	Pass
Dwell Time	15.247 (a)(i)	Pass
Pseudorandom Frequency Hopping Sequence	15.247(b)(2)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass

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

N/A : Not applicable

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(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 Client Information

Applicant:	Shenzhen Flypro Aerospace Tech Co., Ltd.
Address of Applicant:	No.15 Bldg. No.1201 Liuxian Ave. Nanshan District Shenzhen China
Manufacturer/Factory:	Shenzhen Flypro Aerospace Tech Co., Ltd.
Address of Manufacturer/Factory:	No.15 Bldg. No.1201 Liuxian Ave. Nanshan District Shenzhen China

5.2 General Description of EUT

Product Name:	XEagle
Model No.:	XWatch
Operation Frequency:	906MHz~924MHz
Channel numbers:	25
Channel separation:	750KHz
Modulation type:	GFSK
Antenna Type:	Integral antenna
Antenna gain:	2dBi (declare by Applicant)
Power supply:	Wall Charger Factory model no.:BX-0501000 Input:100-240VAC50/60Hzo.15A Output:5V,1000mA DC DC 3.7V Li-ion Battery 450mAh

Operation Frequency each of channel									
Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	906.00	6	909.75	11	913.50	16	917.25	21	921.00
2	906.75	7	910.50	12	914.25	17	918.00	22	921.75
3	907.50	8	911.25	13	915.00	18	918.75	23	922.50
4	908.25	9	912.00	14	915.75	19	919.50	24	923.25
5	909.00	10	912.75	15	916.50	20	920.25	25	924.00

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	906MHz
The middle channel	915MHz
The Highest channel	924MHz

5.3 Test mode

Transmitter mode	Keep the in transmitter mode

5.4 Test Facility

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

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

● **Industry Canada (IC) —Registration No.: 9079A-2**

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-2, June 26, 2013.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrrial Zone,
Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

5.7 Description of Support Units

None.

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	9.0(L)*6.0(W)* 6.0(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	Jun. 30 2015	Jun. 29 2016
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jun. 30 2015	Jun. 29 2016
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Jun. 30 2015	Jun. 29 2016
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	Jun. 26 2015	Jun. 25 2016
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 26 2016	Mar. 25 2017
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	Mar. 27 2016	Mar. 26 2017
10	Coaxial Cable	GTS	N/A	GTS211	Mar. 27 2016	Mar. 26 2017
11	Coaxial cable	GTS	N/A	GTS210	Mar. 27 2016	Mar. 26 2017
12	Coaxial Cable	GTS	N/A	GTS212	Mar. 27 2016	Mar. 26 2017
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jun. 30 2015	Jun. 29 2016
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jun. 30 2015	Jun. 29 2016
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Jun. 26 2015	Jun. 25 2016
16	Band filter	Amindeon	82346	GTS219	Mar. 27 2016	Mar. 26 2017

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	July 07 2015	July 06 2016

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

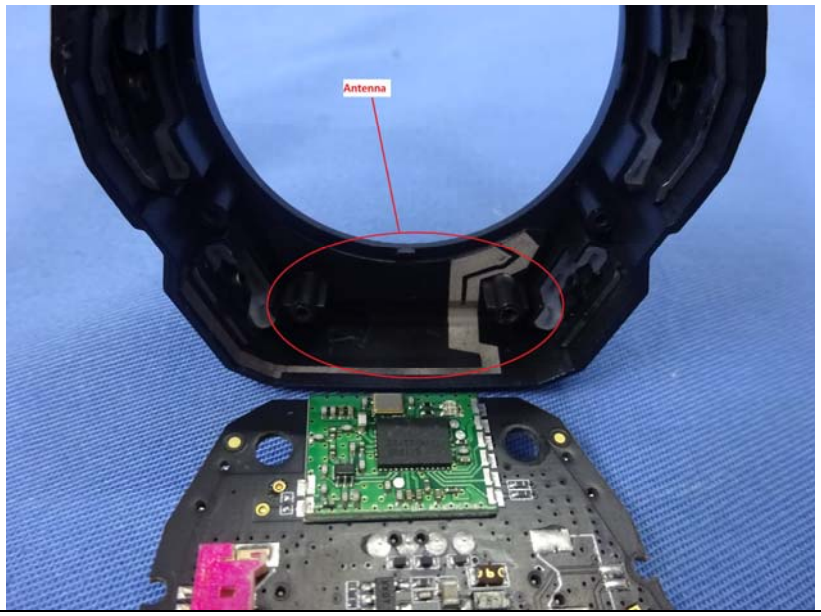
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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:

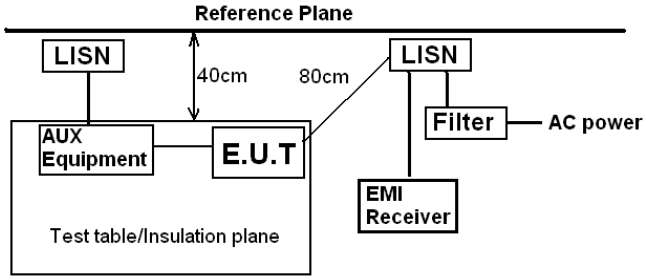
(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

EUT Antenna:

The antenna is integral antenna, the best case gain of the antenna is 2dBi



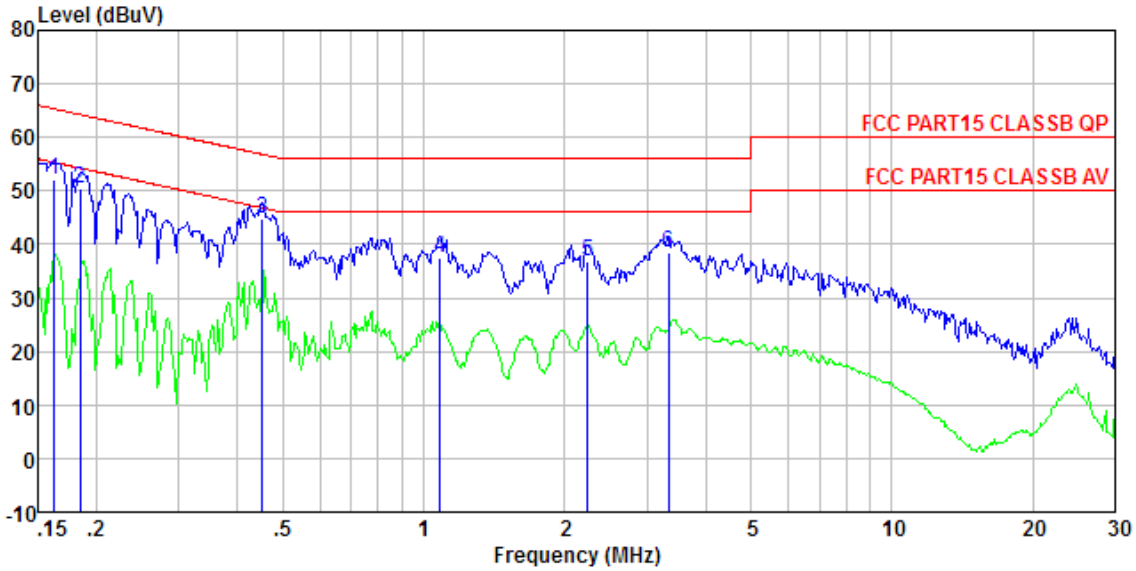
7.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150KHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td>Class B</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9KHz, VBW=30KHz, Sweep time=auto</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test setup:</td><td>


Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m
</td></tr>
<tr><td>Test procedure:</td><td>1. The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6.0 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

Measurement data

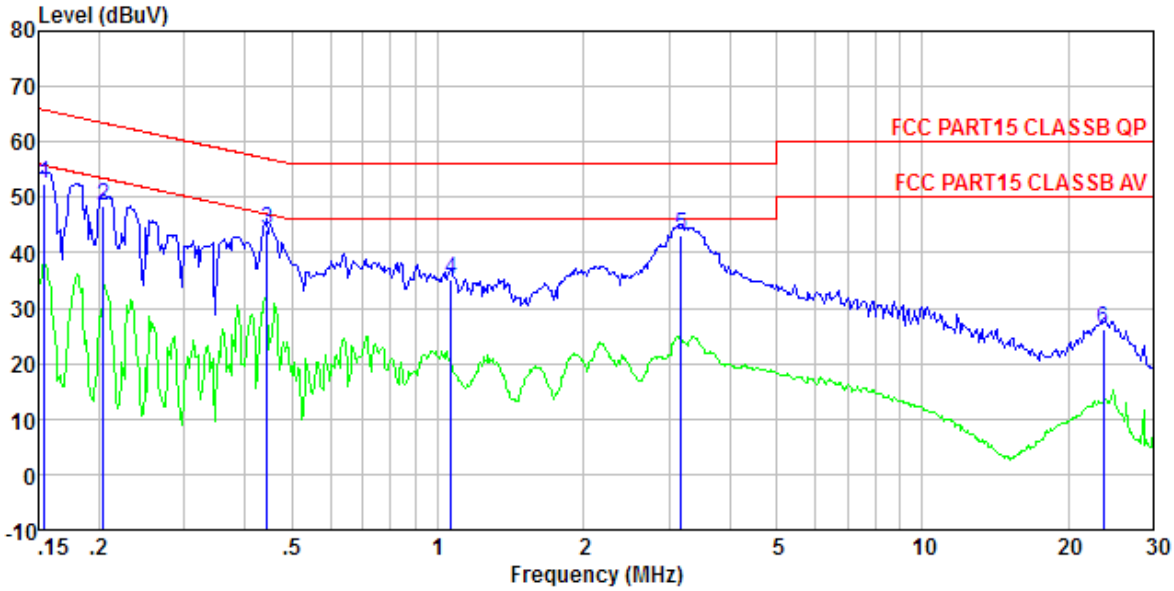
Line:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2013 LINE
Job No. : 434
Test mode : Transmitter mode
Test Engineer: Sky

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.162	51.92	52.19	0.15	0.12	65.34	-13.15	QP
2	0.184	50.06	50.33	0.14	0.13	64.28	-13.95	QP
3	0.452	44.58	44.81	0.12	0.11	56.85	-12.04	QP
4	1.082	37.14	37.40	0.13	0.13	56.00	-18.60	QP
5	2.237	36.58	36.86	0.13	0.15	56.00	-19.14	QP
6	3.328	38.04	38.37	0.18	0.15	56.00	-17.63	QP

Neutral:



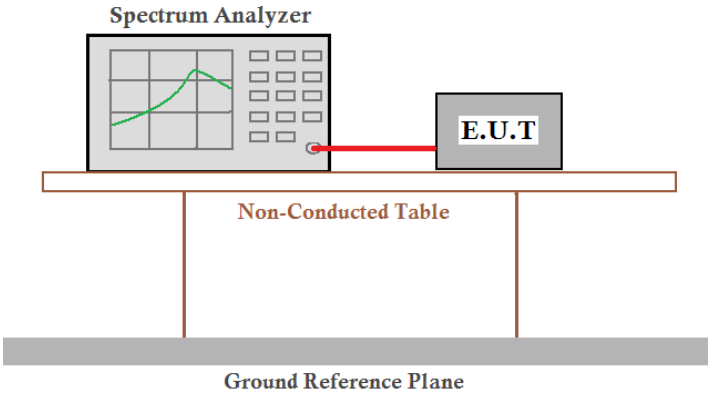
Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2013 NEUTRAL
Job No. : 434
Test mode : Transmitter mode
Test Engineer: Sky

	Freq	Read Level	LISN Level	Factor	Cable Loss	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1	0.154	52.34	52.53	0.07	0.12	65.78	-13.25	QP
2	0.204	48.24	48.44	0.07	0.13	63.45	-15.01	QP
3	0.444	44.01	44.18	0.06	0.11	56.98	-12.80	QP
4	1.065	35.03	35.23	0.07	0.13	56.00	-20.77	QP
5	3.173	42.98	43.25	0.12	0.15	56.00	-12.75	QP
6	23.636	25.05	26.23	0.95	0.23	60.00	-33.77	QP

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
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

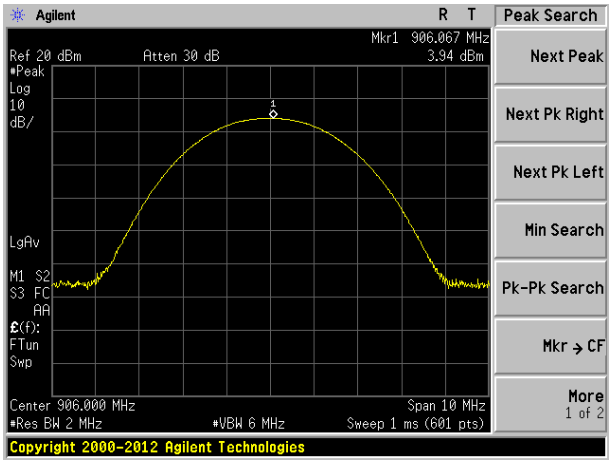
7.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(2)
Test Method:	ANSI C63.10:2013
Limit:	23.98dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

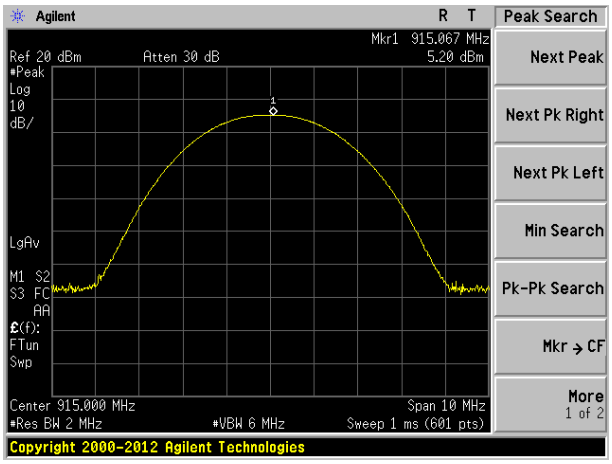
Measurement Data

Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	3.94	23.98	Pass
Middle	5.20		
Highest	4.40		

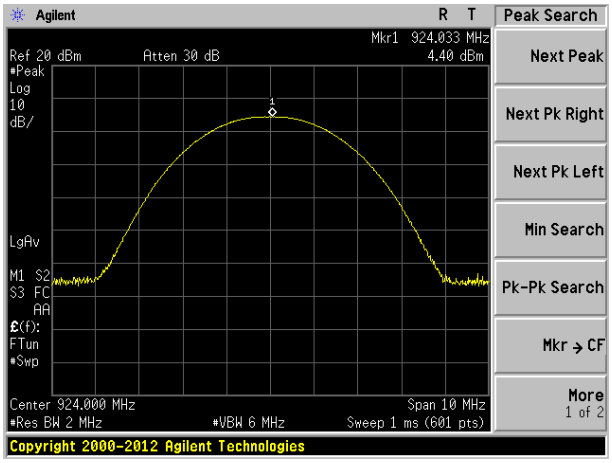
Test plot as follows:



Lowest channel

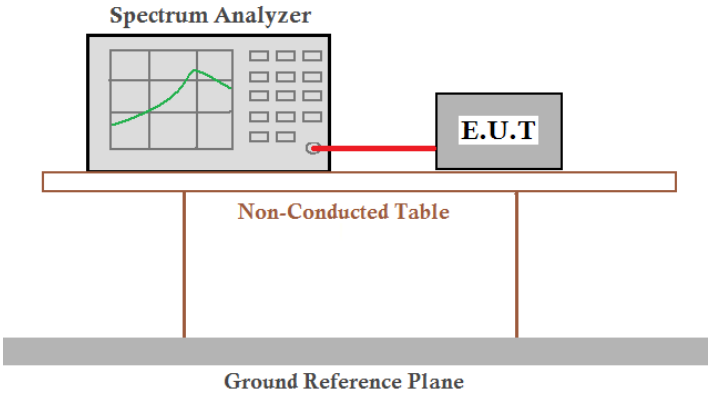


Middle channel



Highest channel

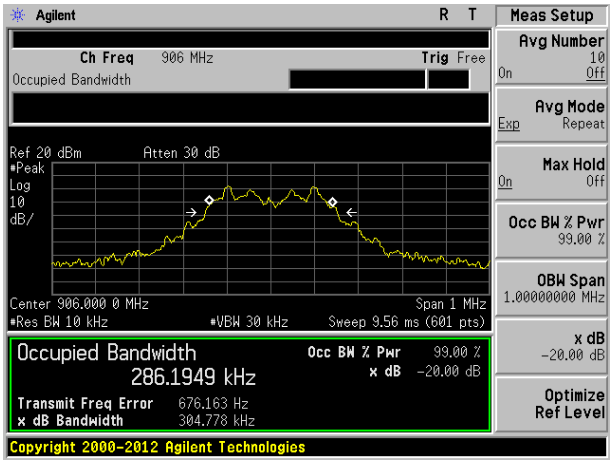
7.4 20dB Emission Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(i)
Test Method:	ANSI C63.10:2013
Limit:	less than or equal to 500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

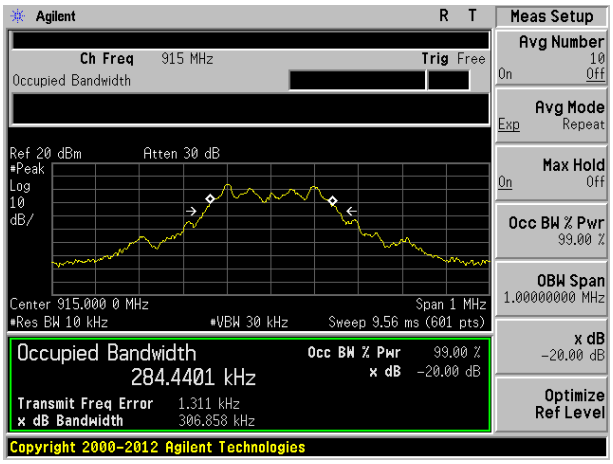
Measurement Data

Test channel	20dB Emission Bandwidth (KHz)	Result
Lowest	304.78	Pass
Middle	306.86	
Highest	311.77	

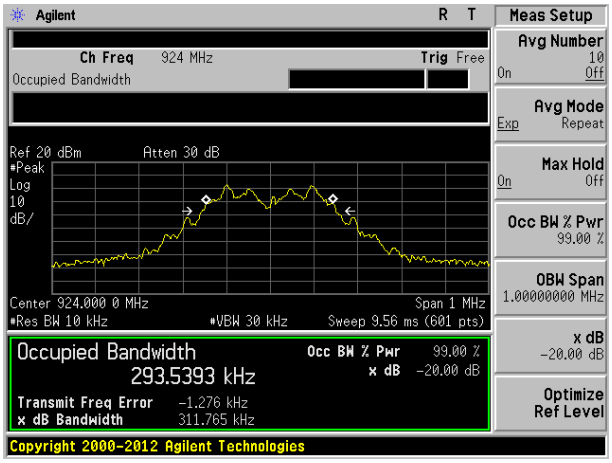
Test plot as follows:



Lowest channel

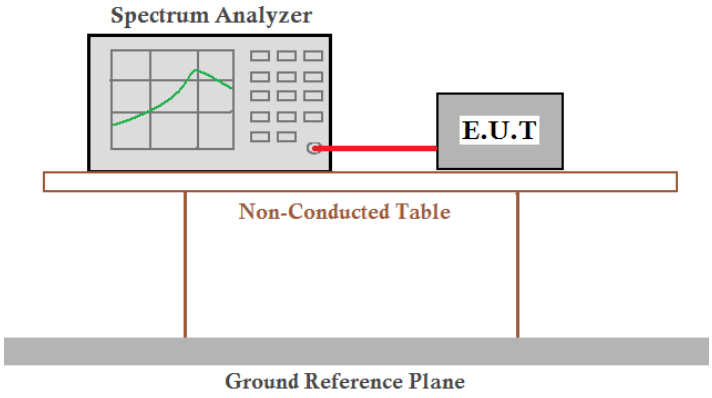


Middle channel



Highest channel

7.5 Carrier Frequencies Separation

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100KHz, VBW=300KHz, detector=Peak
Limit:	0.025MHz or of the 20dB bandwidth (whichever is greater)
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

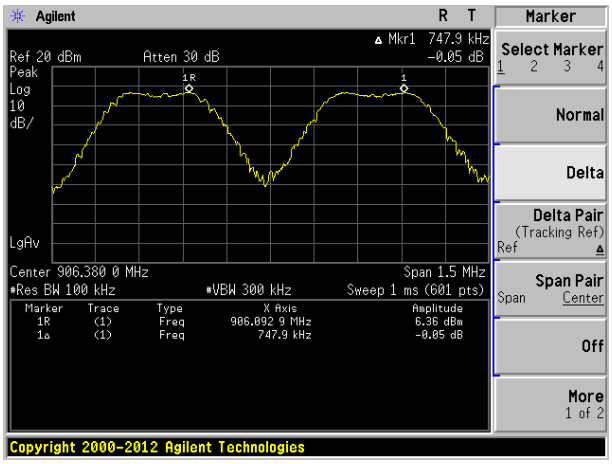
Measurement Data

Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result
Lowest	747.90	311.77	Pass
Middle	749.50	311.77	Pass
Highest	744.90	311.77	Pass

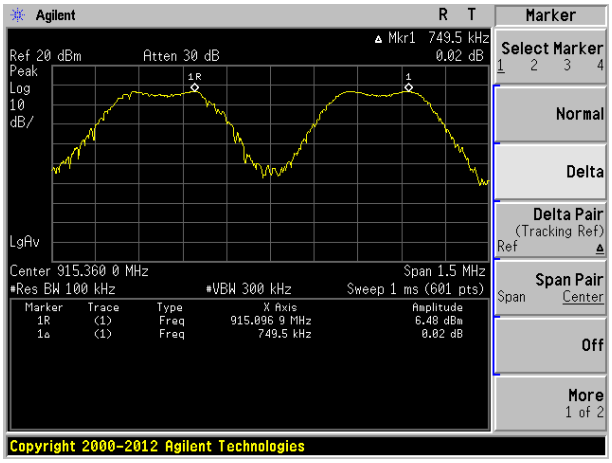
Note: According to section 7.3

Mode	*20dB bandwidth (kHz) (worse case)*	*Limit (kHz) (Carrier Frequencies Separation)*
GFSK	311.77	311.77

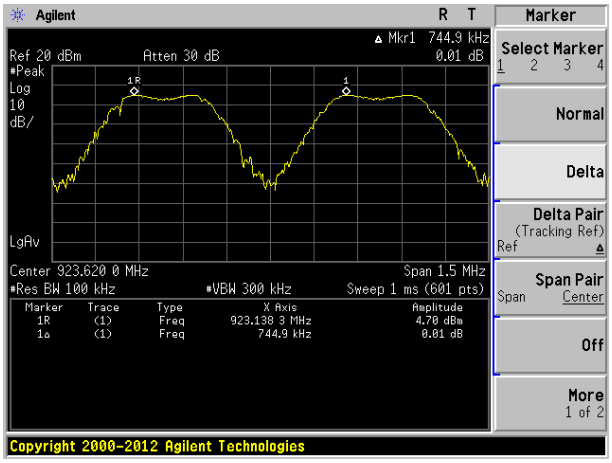
Test plot as follows:



Lowest channel

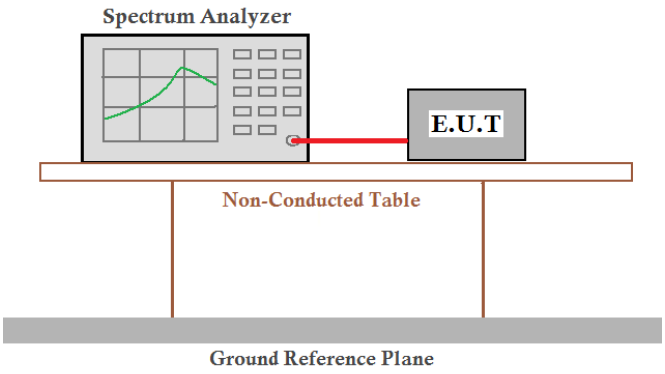


Middle channel



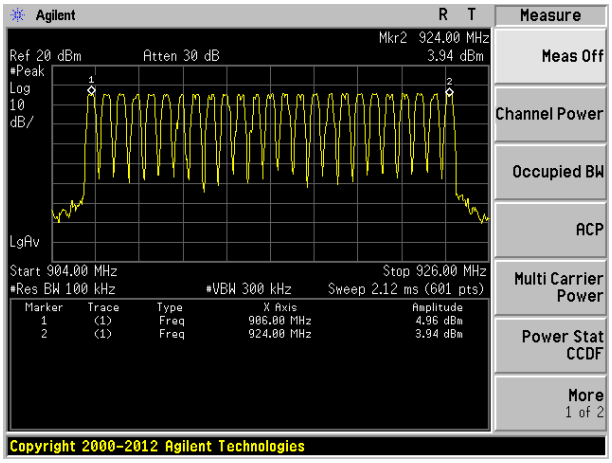
Highest channel

7.6 Hopping Channel Number

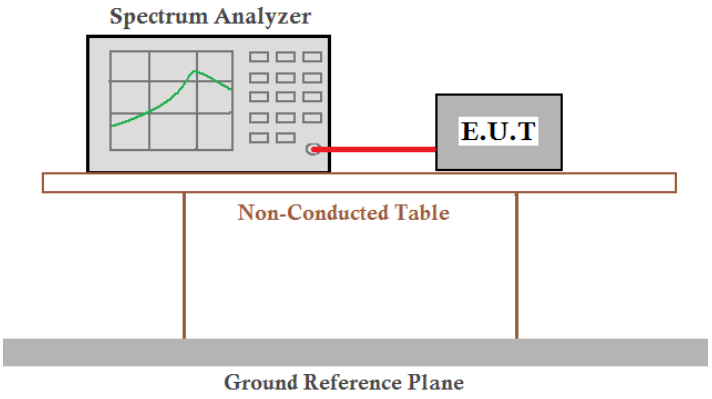
Test Requirement:	FCC Part15 C Section 15.247 (a)(i)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100kHz, VBW=300kHz, Detector=Peak
Limit:	25 channels
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:

Hopping channel numbers	Limit	Result
25	25	Pass



7.7 Dwell Time

Test Requirement:	FCC Part15 C Section 15.247 (a)(i)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=1MHz, VBW=1MHz, Span=0Hz, Detector=Peak
Limit:	0.4 Second
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

Frequency	Ton (ms)	Dwell time(ms)	Limit(ms)	Result
906.00MHz	2.117	169.36	400	Pass
915.00MHz	2.117	169.36	400	Pass
924.00MHz	2.117	169.36	400	Pass

The formula as below:

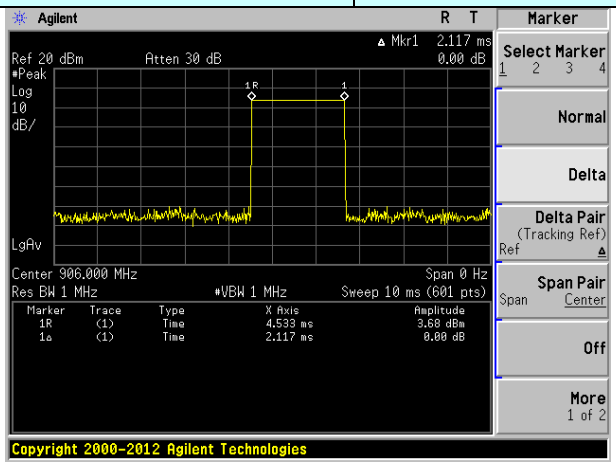
906.00MHz: Dwell time = Ton * Ton times in 1s *10s =2.117ms*8*10=169.36ms

915.00MHz: Dwell time = Ton * Ton times in 1s * 10s =2.117ms*8*10=169.36ms

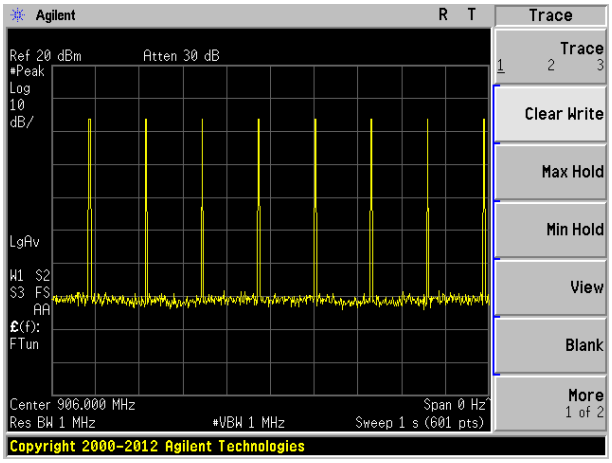
924.00MHz: Dwell time = Ton * Ton times in 1s * 10s =2.117ms*8*10=169.36ms

Test plot as follows:

Frequency:	906.00MHz

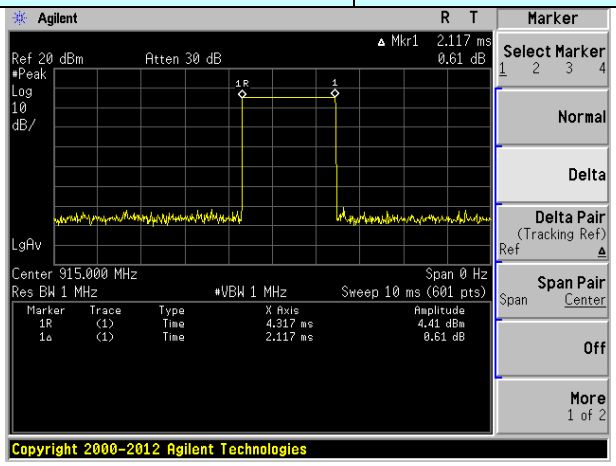


Ton

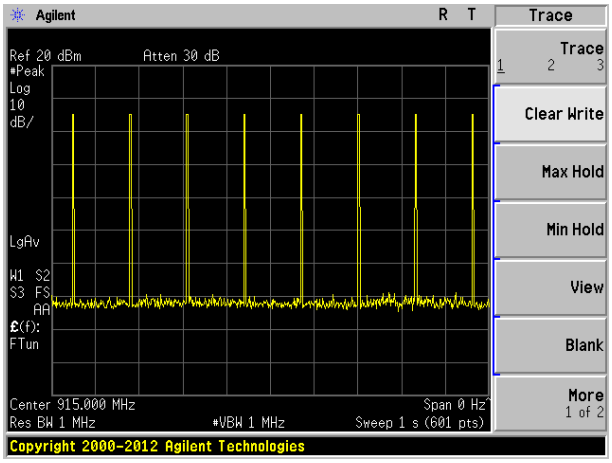


Ton times in 1s

Frequency:	915.00MHz

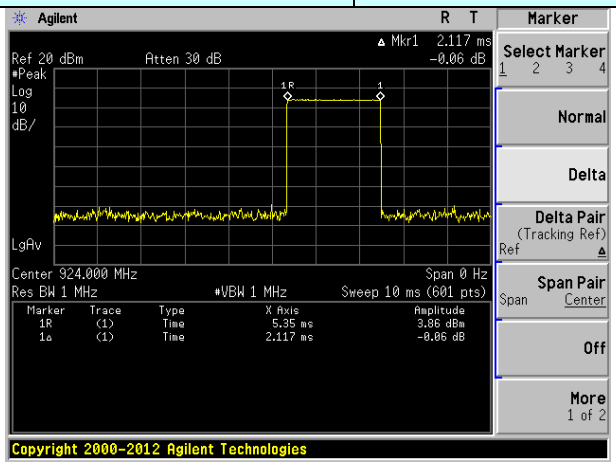


Ton

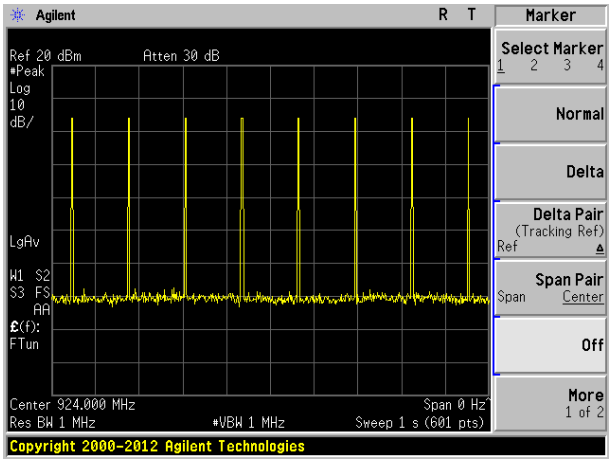


Ton times in 1s

Frequency:	924.00MHz



Ton



Ton times in 1s

7.8 Pseudorandom Frequency Hopping Sequence

Test Requirement:	FCC Part15 C Section 15.247 (a)(1) requirement:

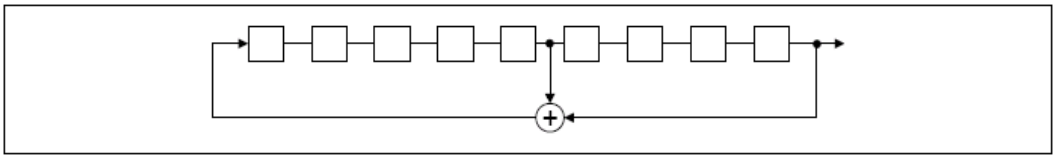
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

EUT Pseudorandom Frequency Hopping Sequence

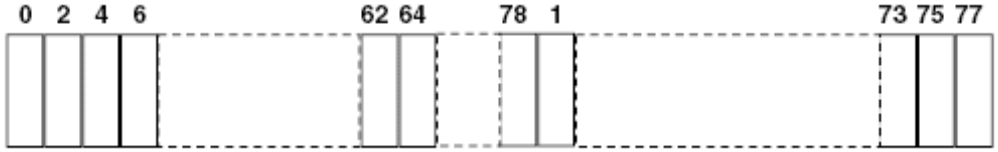
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- *Number of shift register stages: 9*
- *Length of pseudo-random sequence: 2^9 -1 = 511 bits*
- *Longest sequence of zeros: 8 (non-inverted signal)*



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:

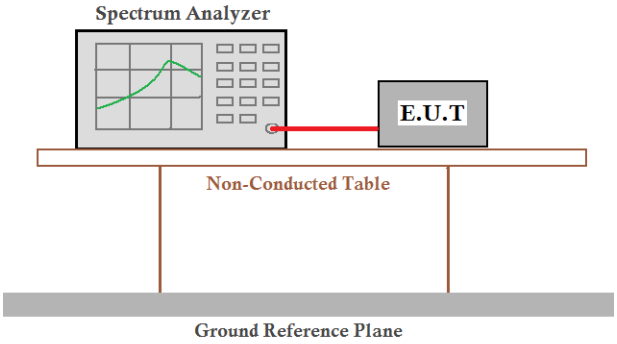


Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

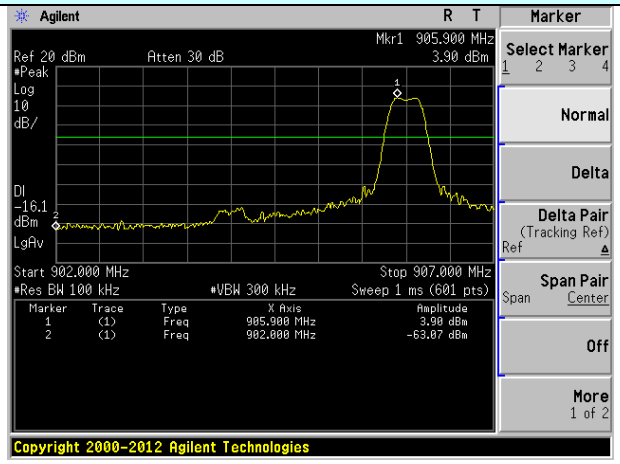
7.9 Band Edge

7.9.1 Conducted Emission Method

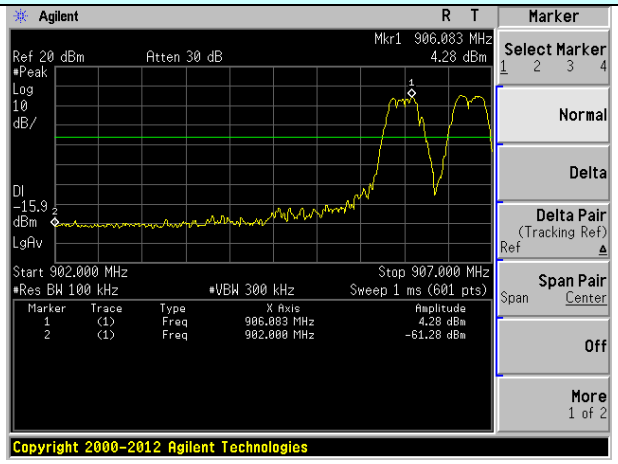
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=100kHz, VBW=300kHz, Detector=Peak
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by 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:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Test plot as follows:

Test channel:	Lowest channel

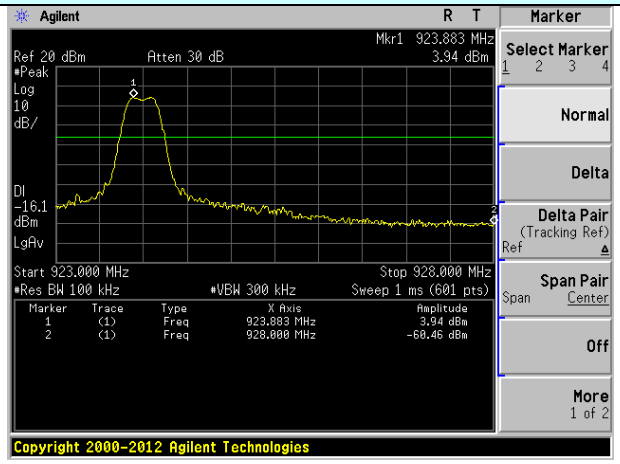


No-hopping mode

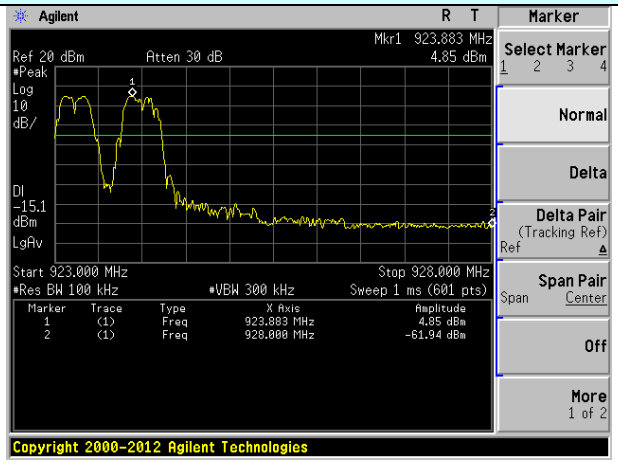


Hopping mode

Test channel:	Highest channel



No-hopping mode



Hopping mode

7.9.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205
Test Method:	ANSI C63.4:2014
Test Frequency Range:	All restriction band have been tested, and 2.3GHz to 2.5GHz band is the worse case
Test site:	Measurement Distance: 3m

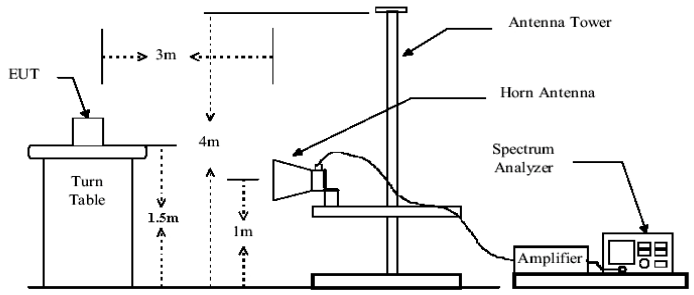
Receiver setup:

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:

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 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Remark:

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

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
902.00	31.89	23.12	4.87	29.10	30.78	46.00	-15.22	Horizontal
928.00	31.49	23.28	4.96	29.10	30.63	46.00	-15.37	Horizontal
902.00	30.45	23.12	4.87	29.10	29.34	46.00	-16.66	Vertical
928.00	29.50	23.28	4.96	29.10	28.64	46.00	-17.36	Vertical

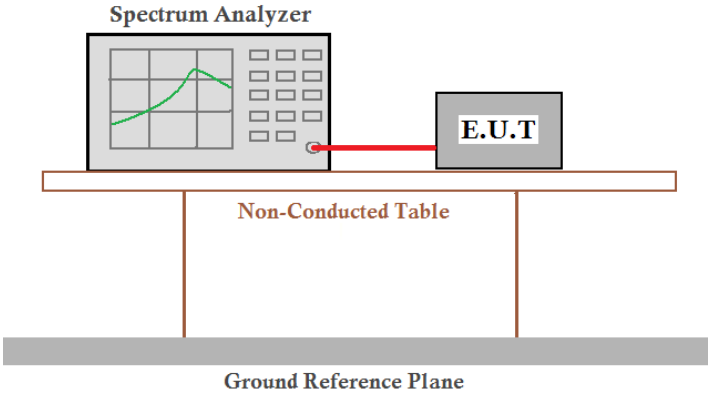
Remark:

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.

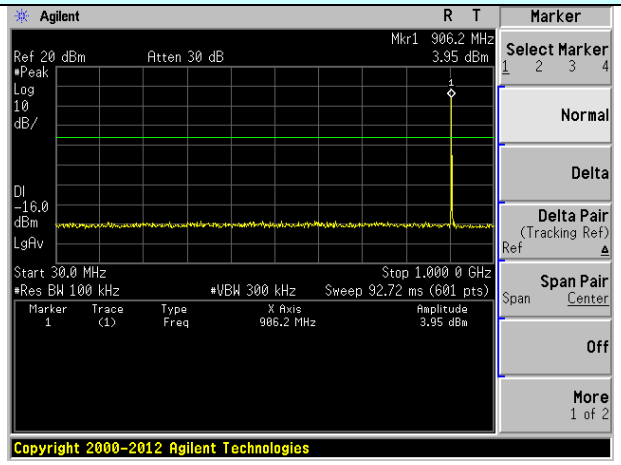
7.10 Spurious Emission

7.10.1 Conducted Emission Method

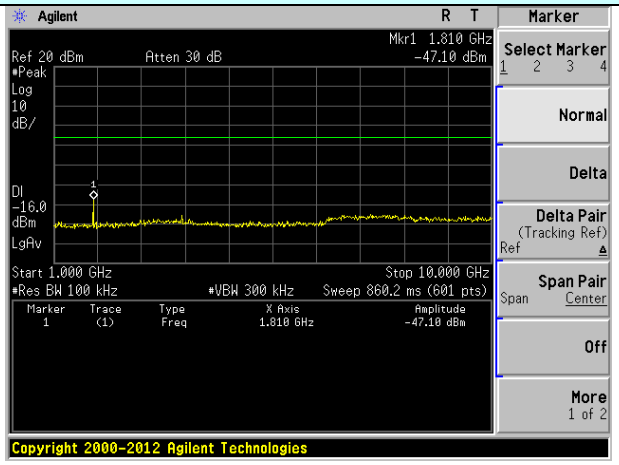
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 Meas Guidance
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Test plot as follows:

Test channel:	Lowest channel

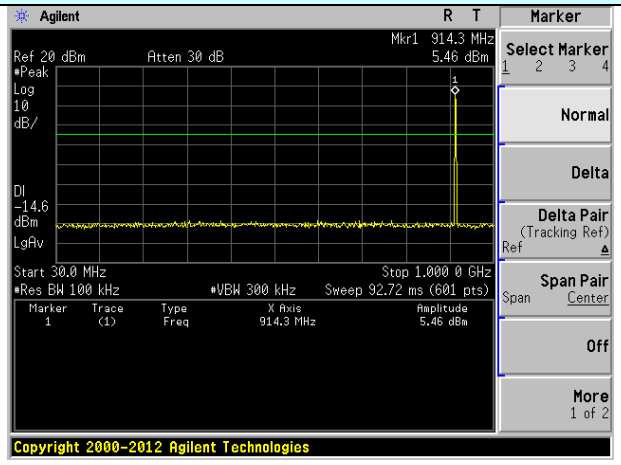


30MHz~1GHz

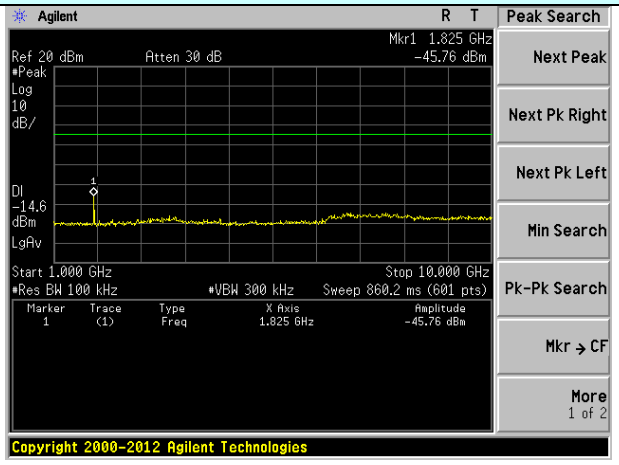


1GHz~10GHz

Test channel:	Middle channel

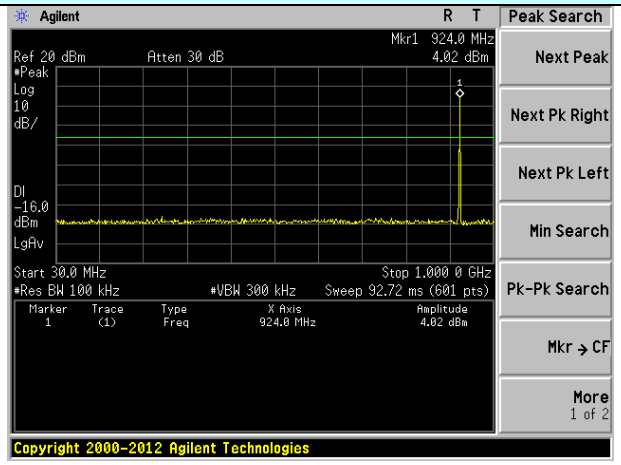


30MHz~1GHz

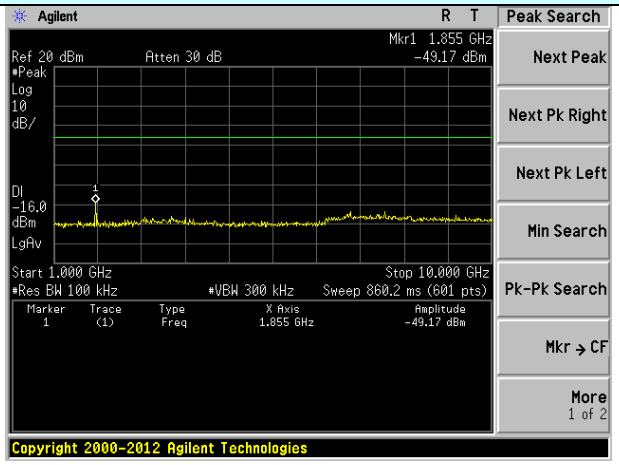


1GHz~10GHz

Test channel:	Highest channel



30MHz~1GHz



1GHz~10GHz

7.10.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.4:2014
Test Frequency Range:	30MHz to 25GHz
Test site:	Measurement Distance: 3m

Receiver setup:

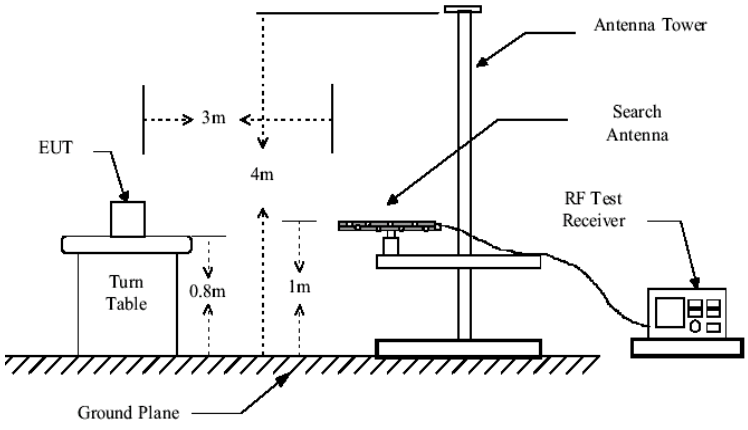
Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Peak	1MHz	10Hz	Average Value

Limit:

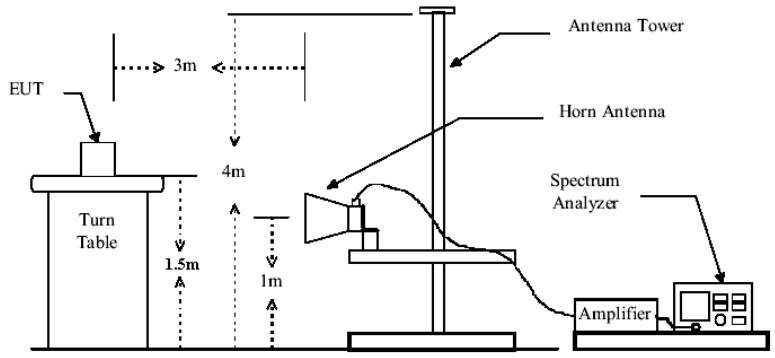
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test setup:

Below 1GHz



Above 1GHz

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8 meters below 1G and 1.5 meters above 1G) 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 5.3 for details
Test results:	Pass

Measurement data:

■ **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
34.04	47.34	14.31	0.60	30.08	32.17	40.00	-7.83	Vertical
54.84	42.42	15.02	0.82	29.96	28.30	40.00	-11.70	Vertical
97.46	42.34	15.00	1.17	29.71	28.80	43.50	-14.70	Vertical
180.65	40.10	11.76	1.74	29.27	24.33	43.50	-19.17	Vertical
321.06	33.02	15.40	2.47	29.88	21.01	46.00	-24.99	Vertical
622.89	23.51	20.54	3.81	29.28	18.58	46.00	-27.42	Vertical
40.28	38.40	15.58	0.66	30.04	24.60	40.00	-15.40	Horizontal
55.81	39.23	14.97	0.82	29.95	25.07	40.00	-14.93	Horizontal
88.03	45.98	13.32	1.09	29.76	30.63	43.50	-12.87	Horizontal
115.32	47.25	13.31	1.32	29.60	32.28	43.50	-11.22	Horizontal
216.78	38.79	13.10	1.94	29.36	24.47	46.00	-21.53	Horizontal
487.32	24.08	18.26	3.25	29.33	16.26	46.00	-29.74	Horizontal

■ **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
1812.00	44.52	25.31	4.86	34.14	40.55	74.00	-33.45	Vertical
2718.00	34.45	28.18	5.68	33.64	34.67	74.00	-39.33	Vertical
3624.00	47.36	29.15	7.19	32.62	51.08	74.00	-22.92	Vertical
4530.00	38.97	31.37	8.36	31.95	46.75	74.00	-27.25	Vertical
5436.00	34.17	31.86	9.40	32.39	43.04	74.00	-30.96	Vertical
6342.00	34.22	33.33	10.65	32.06	46.14	74.00	-27.86	Vertical
7248.00	33.99	36.19	11.68	31.97	49.89	74.00	-24.11	Vertical
8154.00	33.33	37.12	12.32	31.53	51.24	74.00	-22.76	Vertical
1812.00	49.25	25.31	4.86	34.14	45.28	74.00	-28.72	Vertical
2718.00	39.51	28.18	5.68	33.64	39.73	74.00	-34.27	Horizontal
3624.00	48.77	29.15	7.19	32.62	52.49	74.00	-21.51	Horizontal
4530.00	33.45	31.37	8.36	31.95	41.23	74.00	-32.77	Horizontal
5436.00	33.17	31.84	9.40	32.39	42.02	74.00	-31.98	Horizontal
6342.00	33.90	33.33	10.65	32.06	45.82	74.00	-28.18	Horizontal
7248.00	33.67	36.19	11.68	31.97	49.57	74.00	-24.43	Horizontal
8154.00	33.73	37.12	12.32	31.53	51.64	74.00	-22.36	Horizontal
9060.00	32.03	37.20	13.69	32.27	50.65	74.00	-23.35	Horizontal
1812.00	49.25	25.31	4.86	34.14	45.28	74.00	-28.72	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
1812.00	34.44	25.31	4.86	34.14	30.47	54.00	-23.53	Vertical
2718.00	24.39	28.18	5.68	33.64	24.61	54.00	-29.39	Vertical
3624.00	37.83	29.15	7.19	32.62	41.55	54.00	-12.45	Vertical
4530.00	28.49	31.37	8.36	31.95	36.27	54.00	-17.73	Vertical
5436.00	24.49	31.86	9.40	32.39	33.36	54.00	-20.64	Vertical
6342.00	23.92	33.33	10.65	32.06	35.84	54.00	-18.16	Vertical
7248.00	24.55	36.19	11.68	31.97	40.45	54.00	-13.55	Vertical
8154.00	23.20	37.12	12.32	31.53	41.11	54.00	-12.89	Vertical
9060.00	24.15	37.20	13.69	32.27	42.77	54.00	-11.23	Vertical
1812.00	38.91	25.31	4.86	34.14	34.94	54.00	-19.06	Horizontal
2718.00	28.76	28.18	5.68	33.64	28.98	54.00	-25.02	Horizontal
3624.00	37.98	29.15	7.19	32.62	41.70	54.00	-12.30	Horizontal
4530.00	23.57	31.37	8.36	31.95	31.35	54.00	-22.65	Horizontal
5436.00	23.48	31.84	9.40	32.39	32.33	54.00	-21.67	Horizontal
6342.00	24.19	33.33	10.65	32.06	36.11	54.00	-17.89	Horizontal
7248.00	23.22	36.19	11.68	31.97	39.12	54.00	-14.88	Horizontal
8154.00	23.44	37.12	12.32	31.53	41.35	54.00	-12.65	Horizontal
9060.00	21.76	37.20	13.69	32.27	40.38	54.00	-13.62	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.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

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
1830.00	42.26	25.42	4.87	34.17	38.38	74.00	-35.62	Vertical
2745.00	35.32	28.24	5.71	33.61	35.66	74.00	-38.34	Vertical
3660.00	44.27	29.20	7.27	32.58	48.16	74.00	-25.84	Vertical
4575.00	35.84	31.47	8.40	31.97	43.74	74.00	-30.26	Vertical
5490.00	32.86	31.98	9.49	32.42	41.91	74.00	-32.09	Vertical
6405.00	34.58	33.46	10.78	32.11	46.71	74.00	-27.29	Vertical
7320.00	32.68	36.37	11.72	31.89	48.88	74.00	-25.12	Vertical
8235.00	32.89	36.76	12.47	31.73	50.39	74.00	-23.61	Vertical
9150.00	33.40	37.31	13.78	32.15	52.34	74.00	-21.66	Vertical
1830.00	49.94	25.42	4.87	34.17	46.06	74.00	-27.94	Horizontal
2745.00	35.60	28.24	5.71	33.61	35.94	74.00	-38.06	Horizontal
3660.00	49.15	29.20	7.27	32.58	53.04	74.00	-20.96	Horizontal
4575.00	34.59	31.47	8.40	31.97	42.49	74.00	-31.51	Horizontal
5490.00	33.16	31.98	9.49	32.42	42.21	74.00	-31.79	Horizontal
6405.00	34.19	33.46	10.78	32.11	46.32	74.00	-27.68	Horizontal
7320.00	33.24	36.37	11.72	31.89	49.44	74.00	-24.56	Horizontal
8235.00	33.62	36.76	12.47	31.73	51.12	74.00	-22.88	Horizontal
9150.00	35.48	37.31	13.78	32.15	54.42	74.00	-19.58	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
1830.00	32.44	25.42	4.87	34.17	28.56	54.00	-25.44	Vertical
2745.00	25.08	28.24	5.71	33.61	25.42	54.00	-28.58	Vertical
3660.00	34.86	29.20	7.27	32.58	38.75	54.00	-15.25	Vertical
4575.00	25.89	31.47	8.40	31.97	33.79	54.00	-20.21	Vertical
5490.00	22.30	31.98	9.49	32.42	31.35	54.00	-22.65	Vertical
6405.00	24.56	33.46	10.78	32.11	36.69	54.00	-17.31	Vertical
7320.00	22.21	36.37	11.72	31.89	38.41	54.00	-15.59	Vertical
8235.00	22.69	36.76	12.47	31.73	40.19	54.00	-13.81	Vertical
9150.00	23.64	37.31	13.78	32.15	42.58	54.00	-11.42	Vertical
1830.00	40.03	25.42	4.87	34.17	36.15	54.00	-17.85	Horizontal
2745.00	25.26	28.24	5.71	33.61	25.60	54.00	-28.40	Horizontal
3660.00	38.85	29.20	7.27	32.58	42.74	54.00	-11.26	Horizontal
4575.00	24.89	31.47	8.40	31.97	32.79	54.00	-21.21	Horizontal
5490.00	23.41	31.98	9.49	32.42	32.46	54.00	-21.54	Horizontal
6405.00	24.02	33.46	10.78	32.11	36.15	54.00	-17.85	Horizontal
7320.00	23.45	36.37	11.72	31.89	39.65	54.00	-14.35	Horizontal
8235.00	23.09	36.76	12.47	31.73	40.59	54.00	-13.41	Horizontal
9150.00	25.74	37.31	13.78	32.15	44.68	54.00	-9.32	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.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

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
1848.00	49.56	25.52	4.88	34.20	45.76	74.00	-28.24	Vertical
2772.00	38.33	28.34	5.73	33.59	38.81	74.00	-35.19	Vertical
3696.00	46.73	29.25	7.34	32.52	50.80	74.00	-23.20	Vertical
4620.00	35.63	31.55	8.45	32.01	43.62	74.00	-30.38	Vertical
5544.00	34.43	32.13	9.58	32.40	43.74	74.00	-30.26	Vertical
6468.00	31.91	33.64	10.88	32.14	44.29	74.00	-29.71	Vertical
7392.00	31.23	36.52	11.77	31.81	47.71	74.00	-26.29	Vertical
8316.00	30.72	36.50	12.66	31.90	47.98	74.00	-26.02	Vertical
9240.00	29.10	37.44	13.86	32.01	48.39	74.00	-25.61	Vertical
1848.00	48.17	25.52	4.88	34.20	44.37	74.00	-29.63	Horizontal
2772.00	36.24	28.34	5.73	33.57	36.74	74.00	-37.26	Horizontal
3696.00	45.20	29.25	7.34	32.52	49.27	74.00	-24.73	Horizontal
4620.00	34.61	31.55	8.45	32.01	42.60	74.00	-31.40	Horizontal
5544.00	33.72	32.13	9.58	32.40	43.03	74.00	-30.97	Horizontal
6468.00	34.34	33.64	10.88	32.14	46.72	74.00	-27.28	Horizontal
7392.00	33.35	36.52	11.77	31.81	49.83	74.00	-24.17	Horizontal
8316.00	34.64	36.50	12.66	31.90	51.90	74.00	-22.10	Horizontal
9240.00	33.55	37.44	13.86	32.01	52.84	74.00	-21.16	Horizontal

Average value:

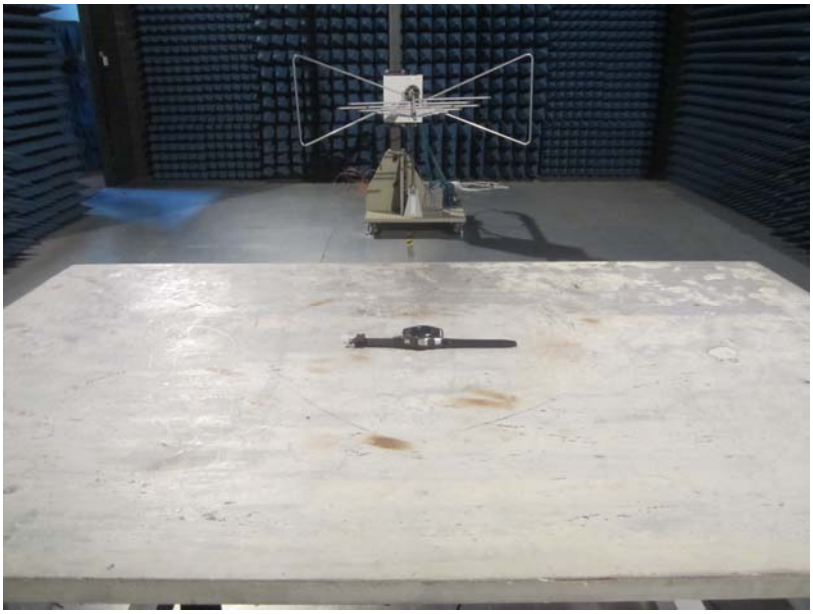
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1848.00	36.30	25.52	4.88	34.20	32.50	54.00	-21.50	Vertical
2772.00	28.27	28.34	5.73	33.59	28.75	54.00	-25.25	Vertical
3696.00	32.98	29.25	7.34	32.52	37.05	54.00	-16.95	Vertical
4620.00	24.72	31.55	8.45	32.01	32.71	54.00	-21.29	Vertical
5544.00	24.53	32.13	9.58	32.40	33.84	54.00	-20.16	Vertical
6468.00	22.91	33.64	10.88	32.14	35.29	54.00	-18.71	Vertical
7392.00	22.55	36.52	11.77	31.81	39.03	54.00	-14.97	Vertical
8316.00	20.90	36.50	12.66	31.90	38.16	54.00	-15.84	Vertical
9240.00	20.08	37.44	13.86	32.01	39.37	54.00	-14.63	Vertical
1848.00	37.80	25.52	4.88	34.20	34.00	54.00	-20.00	Horizontal
2772.00	26.11	28.34	5.73	33.57	26.61	54.00	-27.39	Horizontal
3696.00	35.66	29.25	7.34	32.52	39.73	54.00	-14.27	Horizontal
4620.00	24.63	31.55	8.45	32.01	32.62	54.00	-21.38	Horizontal
5544.00	23.64	32.13	9.58	32.40	32.95	54.00	-21.05	Horizontal
6468.00	24.86	33.64	10.88	32.14	37.24	54.00	-16.76	Horizontal
7392.00	23.35	36.52	11.77	31.81	39.83	54.00	-14.17	Horizontal
8316.00	24.09	36.50	12.66	31.90	41.35	54.00	-12.65	Horizontal
9240.00	23.33	37.44	13.86	32.01	42.62	54.00	-11.38	Horizontal

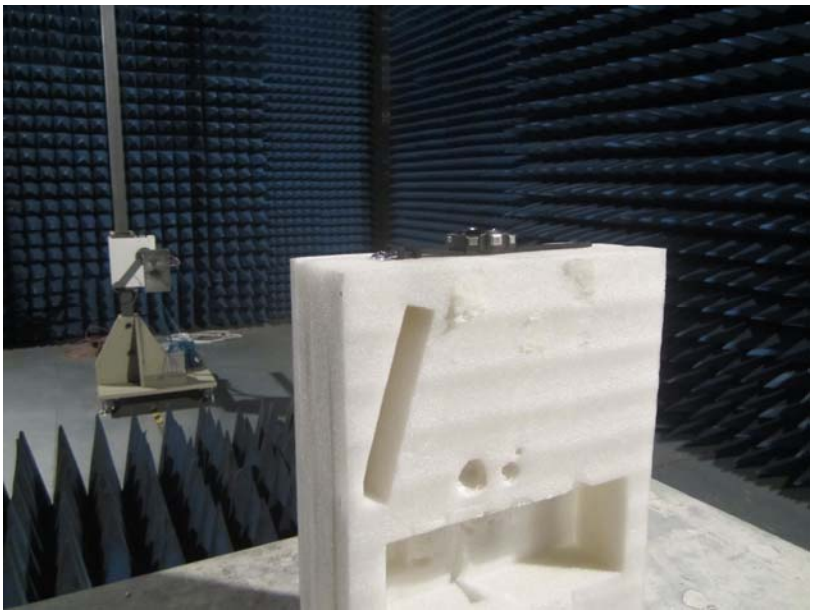
Remark:

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.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

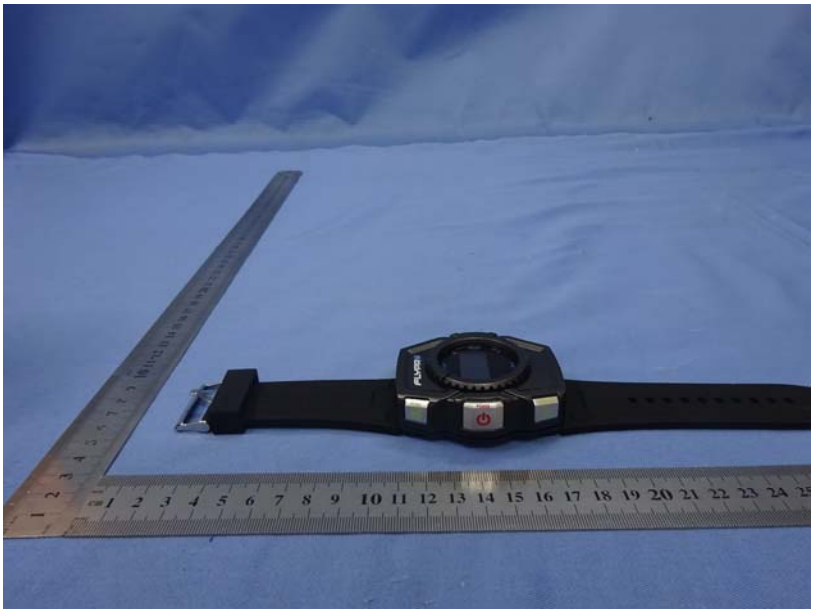
8 Test Setup Photo

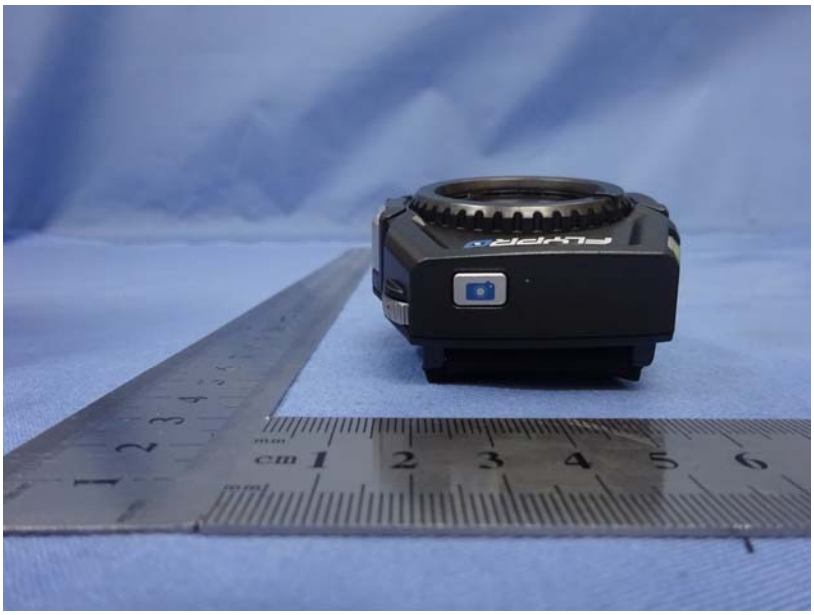
Radiated Emission

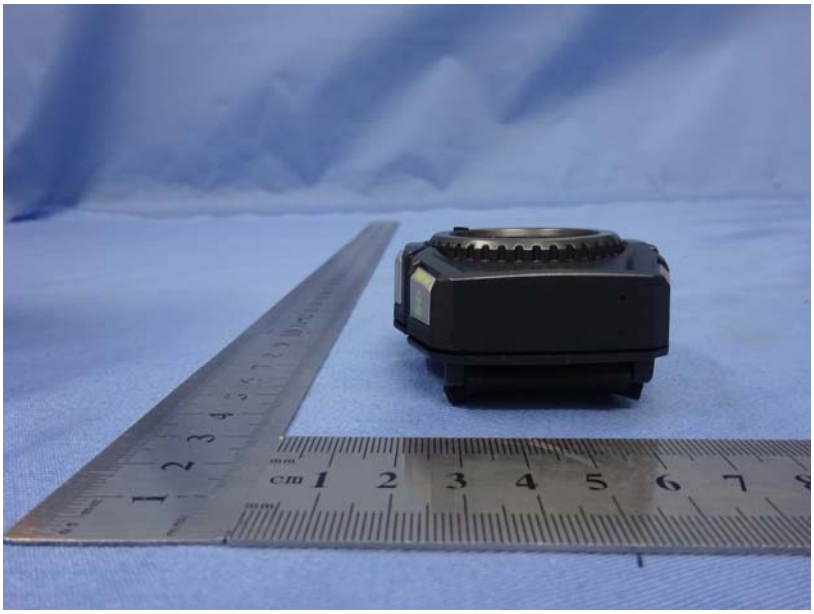


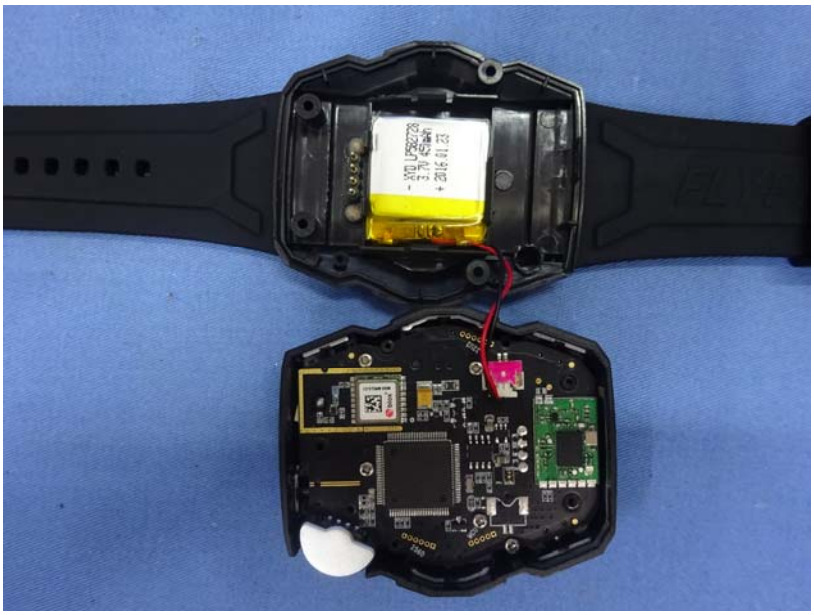


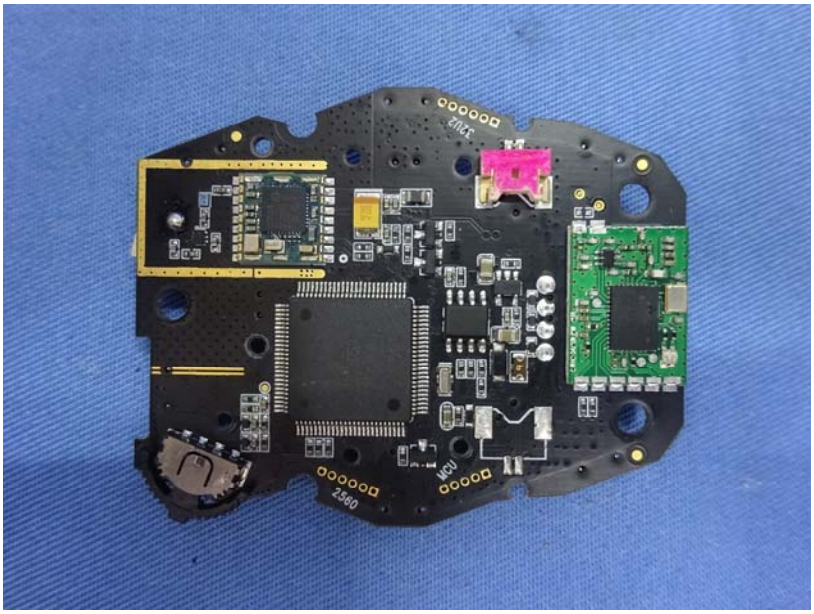
9 EUT Constructional Details









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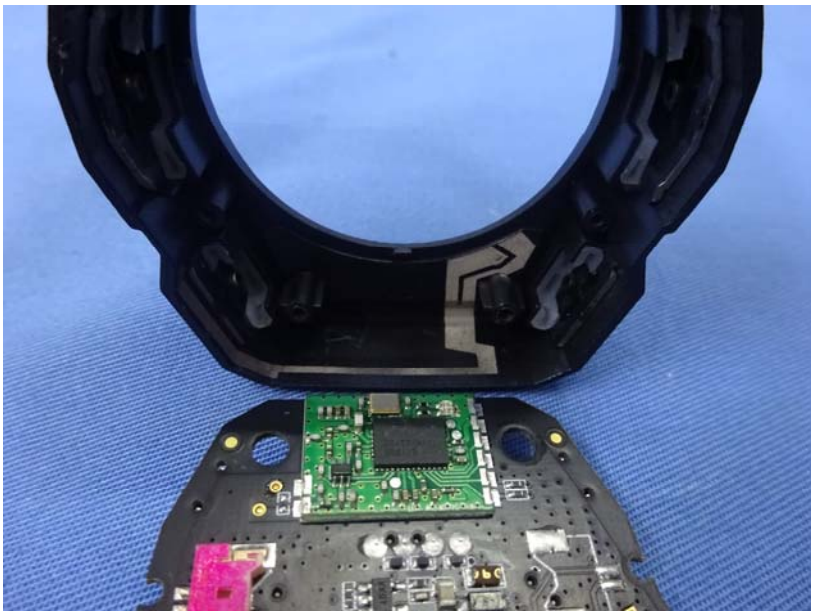

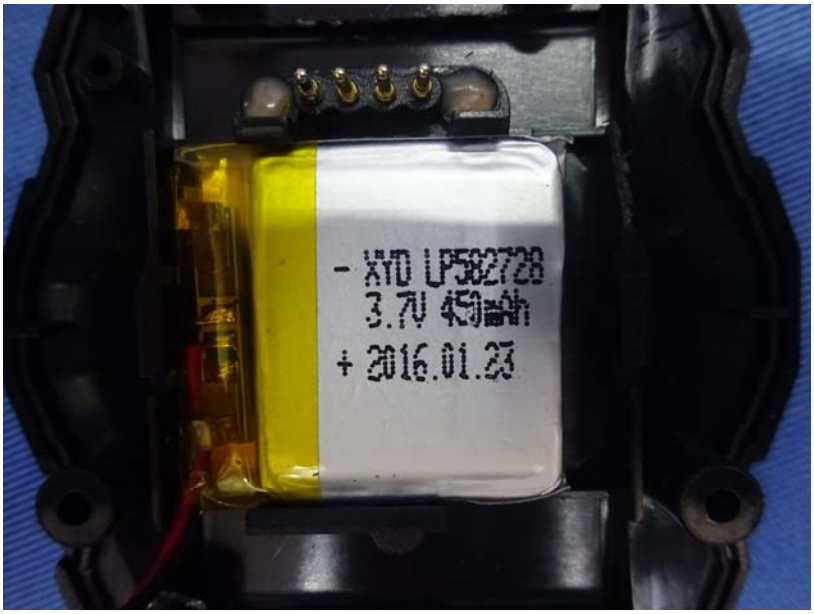
- XYD LP502728
3.7V 450mAh
+ 2016.01.23

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