FCC Test Report

Product Name	：	Baby Monitoring device
Trade Name	：	raybaby
Model No.	：	RYBBY01
FCC ID.	：	2AP3Y-RBY31012018

Applicant	：	RIOT SOLUTIONS, INC
Address	：	2711 Centerville Road, Suite 400, Wilmington, New Castle County, Delaware 19808,USA

Date of Receipt	：	Apr. 24, 2018
Issued Date	：	Jun. 08, 2018
Report No.	：	1840283R-RFUSP19V00
Report Version	：	V1.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Jun. 08, 2018
Report No. : 1840283R-RFUSP19V00

Product Name	:	Baby Monitoring device
Applicant	:	RIOT SOLUTIONS, INC
Address	:	2711 Centerville Road, Suite 400, Wilmington, New Castle County, Delaware 19808,USA
Manufacturer	:	RIOT SOLUTIONS, INC
Trade Name	:	raybaby
Model No.	:	RYBBY01
FCC ID.	:	2AP3Y-RBY31012018
EUT Voltage	:	AC 100-240V, 50/60Hz
Testing Voltage	:	AC 100-240V, 50/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart F: 2017 ANSI C63.10: 2013; ANSI C63.4: 2014
Laboratory Name	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By : Carol Tsai

(Carol Tsai / Senior Engineering Adm. Specialist)

Tested By : Mark Chang

(Mark Chang / Engineer)

Approved By : Roy Wang

(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1840283R-RFUSP19V00	V1.0	Initial issue of report	Jun. 08, 2018

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1. General Information

1.1. EUT Description

Product Name	Baby Monitoring device
Trade Name	raybaby
Model No.	RYBBY01
Frequency Range/Channel Number	6500-8000 MHz / 1 Channels

Antenna Information	
MFR. / Model No.	XETHRU/ X4A02
Antenna Type	PCB Antenna
Antenna Gain	5.9671

Accessories Information	
Power Adapter	XP, VER 12US050-JA I/P: 100-240V-0.3A 50/60Hz O/P: 5.0V ⎓ 2.1A Cable IN: Non-Shielded, 1.44m

Note:

1. This device is Baby Monitoring device support WiFi 2.4G & UWB transmitting and receiving function.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Test Mode	Mode 1: Transmit

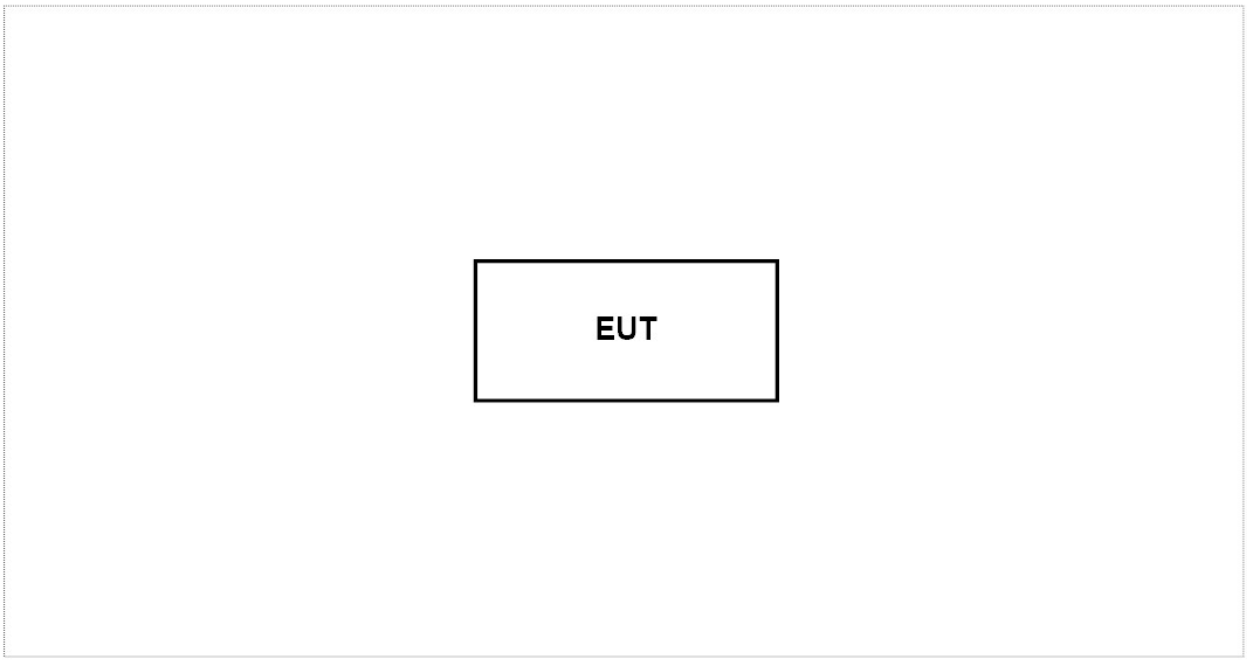
FCC Standard Section	Report Section	Test Items	Result
15.207(a)	2	Conducted Emission	Complies
15.517(c)	3	Radiated Emission	Complies
15.517(d)	4	Radiated Emission in GPS Band	Complies
15.503(a)	5	10dB Bandwidth	Complies
15.521(g)	6	EIRP	Complies
15.203	7	Antenna Requirement	--

1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
N/A					

1.4. Configuration of tested System

Connection Diagram


1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Turn on the power of all equipment and start to test

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual	Test Site
Temperature (°C)	FCC PART 15 F Conducted Emission	15 - 35	20	3
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 F Radiated Emission	15 - 35	24	2
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 F Radiated Emission in GPS Band	15 - 35	25	2
Humidity (%RH)		25 - 75	54	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 F 10dB Bandwidth	15 - 35	25	3
Humidity (%RH)		25 - 75	50	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 F EIRP	15 - 35	24	2/3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 F Antenna Requirement	15 - 35	24	--
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test site information refers to Laboratory Information.

USA : FCC, Registration Number: TW3024

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

1 No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan (R.O.C.)
TEL: +886-3-592-8858 / FAX: +886-3-592-8859 E-Mail : info.tw@dekra.com
2 No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com
3 No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
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1.7. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2018/01/22	2019/01/21
Test Receiver	R&S	ESCS 30	836858/022	2018/03/30	2019/03/29
LISN	R&S	ENV216	100092	2017/07/31	2018/07/30
Coaxial Cable	Harbour	RG-400	SR2-H	2017/08/15	2018/08/14

Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12
Band Reject Filter	Micro-Tronics	BRM50702	G192	2018/04/11	2019/04/10
Band Reject Filter	Micro-Tronics	BRM50716	G089	2018/04/11	2019/04/10
Cable	Suhner	SF104_SF104_SF104_SF104	A211	2017/8/28	2018/08/27
Cable	Suhner	SF104_SF104_SF104_SF102	A219	2017/8/15	2018/08/14

Radiated Emission in GPS Band / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12
Band Reject Filter	Micro-Tronics	BRM50702	G192	2018/04/11	2019/04/10
Band Reject Filter	Micro-Tronics	BRM50716	G089	2018/04/11	2019/04/10
Cable	Suhner	SF104_SF104 _ SF104_SF104	A211	2017/8/28	2018/08/27
Cable	Suhner	SF104_SF104 _ SF104_SF102	A219	2017/8/15	2018/08/14

10dB Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2017/06/13	2018/06/12
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/07/26	2018/07/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

EIRP / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

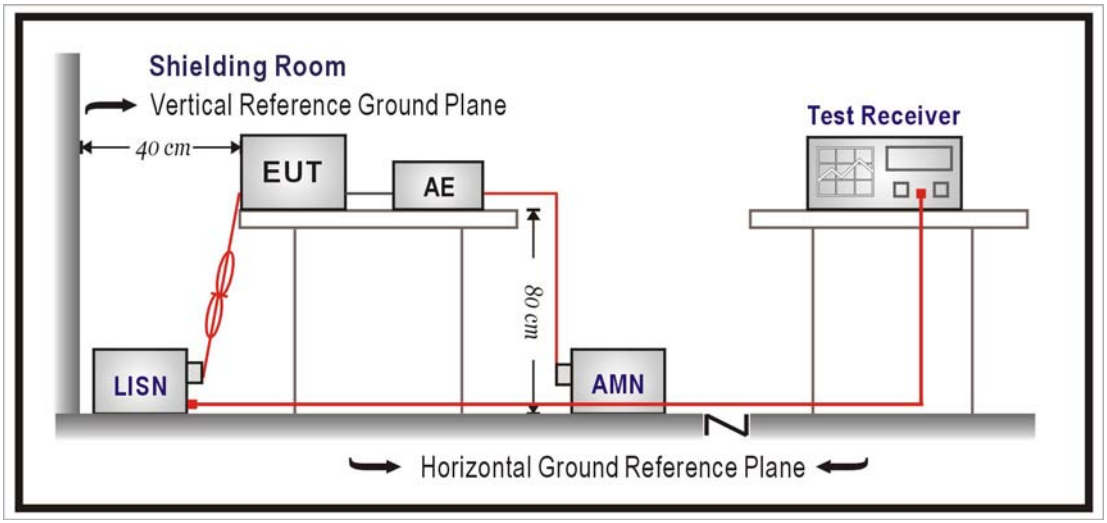
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

1.8. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26dB
Radiated Emission	Below 1G is defined as ± 3.8 dB Above 1G is defined as ± 3.9 dB
Radiated Emission in GPS Band	± 3.9 dB
10dB Bandwidth	± 50KHz
EIRP	± 3.9 dB

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the Radiated Emission Band Edges.

2.3. Test Procedure

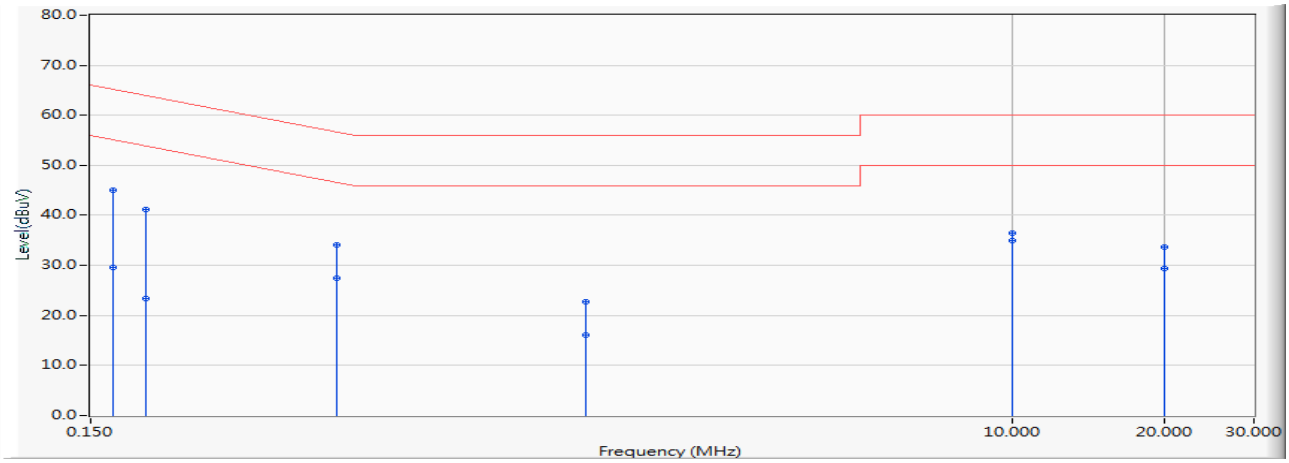
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)
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: 2014 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9KHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2017

2.5. Test Result

Site : SR2-H	**Time : 2018/05/28**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2-H_LISN(16A)-7_0731 - Line1	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**

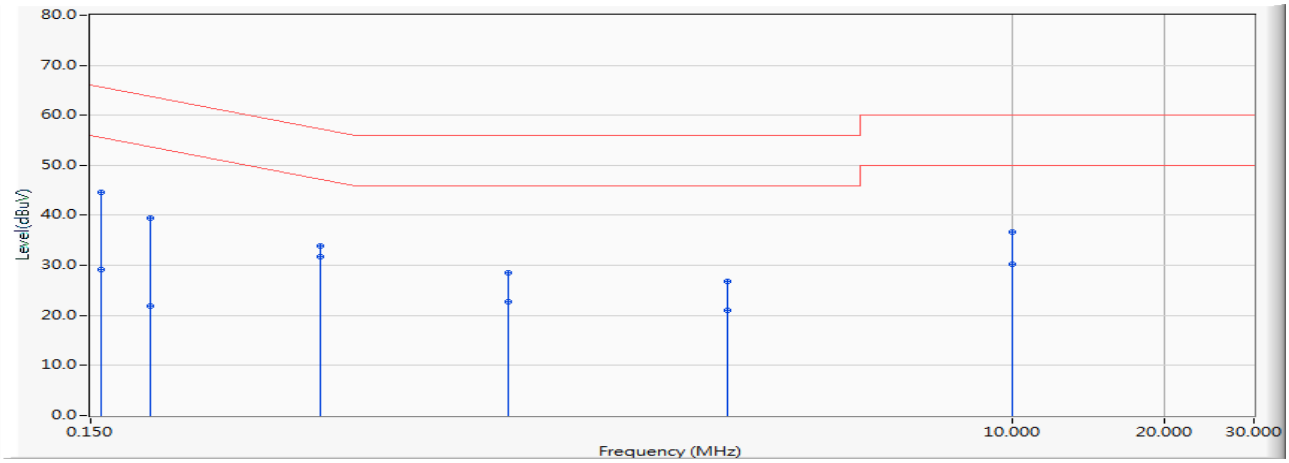


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.166	9.690	35.390	45.080	-20.097	65.177	QUASIPEAK
2		0.166	9.690	19.930	29.620	-25.557	55.177	AVERAGE
3		0.193	9.690	31.410	41.100	-22.808	63.908	QUASIPEAK
4		0.193	9.690	13.720	23.410	-30.498	53.908	AVERAGE
5		0.459	9.691	24.350	34.041	-22.677	56.718	QUASIPEAK
6		0.459	9.691	17.770	27.461	-19.257	46.718	AVERAGE
7		1.427	9.804	12.900	22.704	-33.296	56.000	QUASIPEAK
8		1.427	9.804	6.360	16.164	-29.836	46.000	AVERAGE
9		9.998	10.070	26.310	36.380	-23.620	60.000	QUASIPEAK
10	*	9.998	10.070	24.970	35.040	-14.960	50.000	AVERAGE
11		20.002	10.290	23.290	33.580	-26.420	60.000	QUASIPEAK
12		20.002	10.290	19.190	29.480	-20.520	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2-H	**Time : 2018/05/28**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2-H_LISN(16A)-7_0731 - Line2	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.158	9.677	35.040	44.717	-20.861	65.578	QUASIPEAK
2		0.158	9.677	19.410	29.087	-26.491	55.578	AVERAGE
3		0.197	9.680	29.740	39.420	-24.321	63.741	QUASIPEAK
4		0.197	9.680	12.100	21.780	-31.961	53.741	AVERAGE
5		0.427	9.680	24.270	33.950	-23.354	57.304	QUASIPEAK
6	*	0.427	9.680	22.030	31.710	-15.594	47.304	AVERAGE
7		1.002	9.790	18.780	28.570	-27.430	56.000	QUASIPEAK
8		1.002	9.790	13.010	22.800	-23.200	46.000	AVERAGE
9		2.728	9.804	16.910	26.714	-29.286	56.000	QUASIPEAK
10		2.728	9.804	11.190	20.994	-25.006	46.000	AVERAGE
11		10.002	10.090	26.670	36.760	-23.240	60.000	QUASIPEAK
12		10.002	10.090	20.060	30.150	-19.850	50.000	AVERAGE

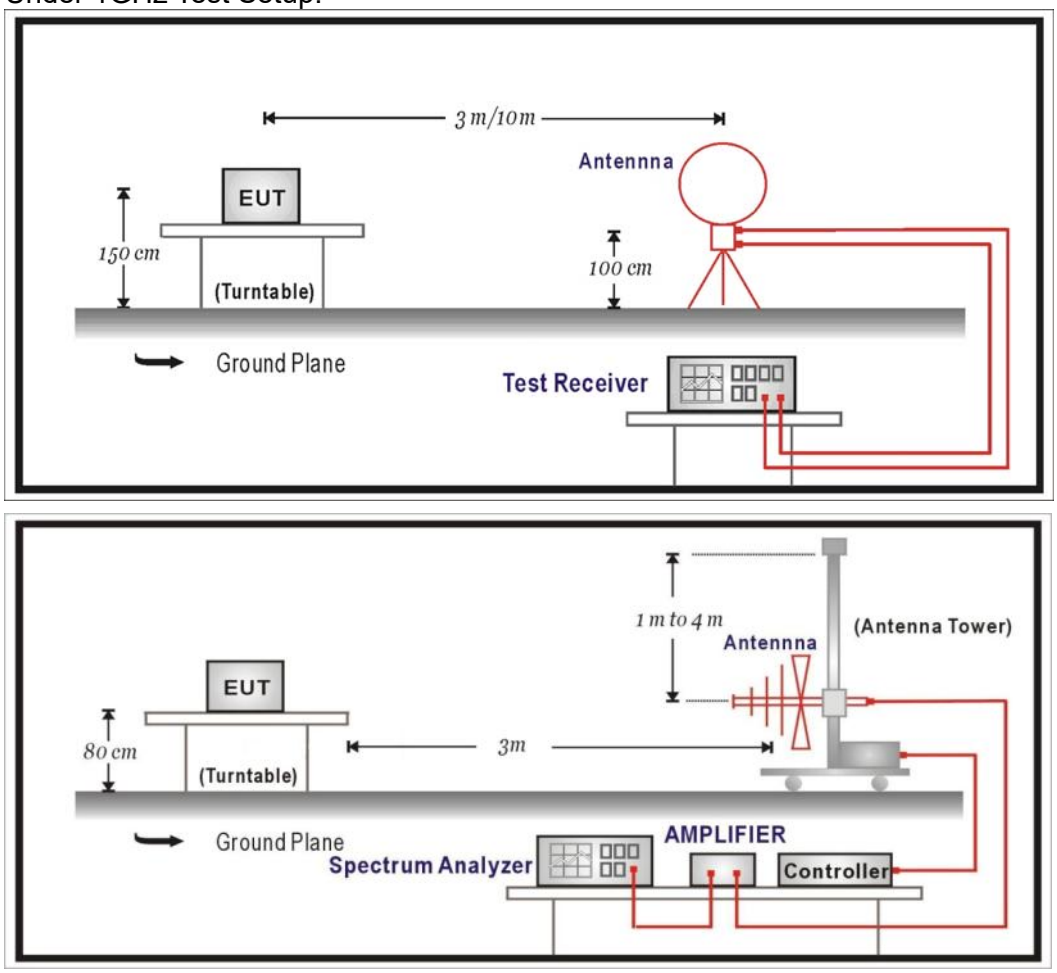
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

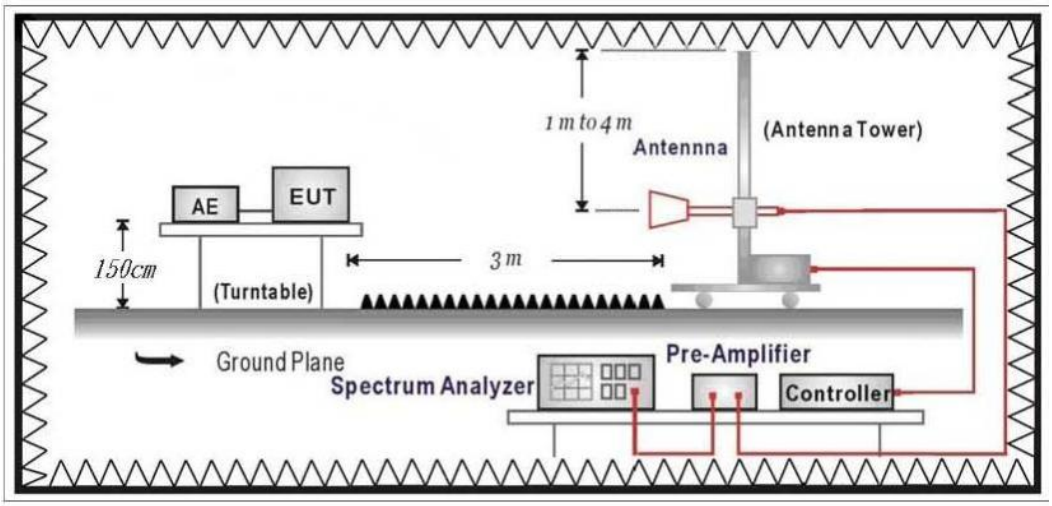
3. Radiated Emission

3.1. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



3.2. Limits

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the

closed point of any part of the device or system.

Note 3: E field strength (dBμV/m) = 20 log E field strength (μV/m)

Note 4: E field strength (dBμV/m) = EIRP (dBm) + 95.2

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency MHz	EIRP in dBm
960-1610	-75.3
1610-1990	-53.3
1990-3100	-51.3
3100-10600	-41.3
Above 10600	-51.3

3.3. Test Procedure

The EUT was setup according to ANSI C63.4: 2014 & ANSI C63.10: 2013 for compliance to FCC 47CFR 15.517 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground for below 1GHz and 1.5 meter above ground for above 1GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2014 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz. The video bandwidth are normally three times of resolution bandwidth. The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

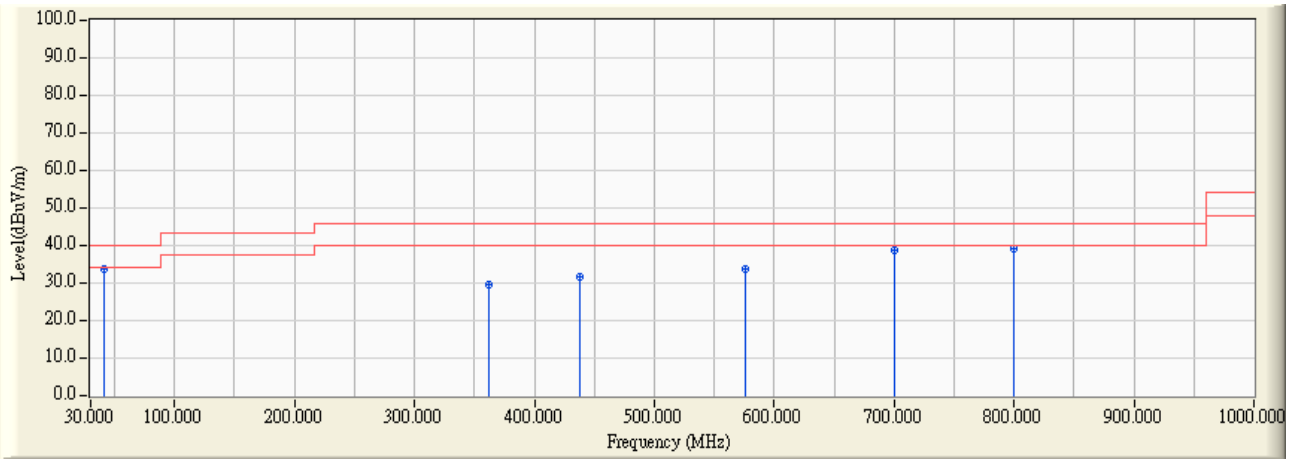
3.4. Test Specification

According to FCC CFR Title 47 Part 15 Subpart F: 2017

3.5. Test Result

30MHz-1GHz Spurious

Site : CB4-H	**Time : 2018/05/25**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4-H_CE_Sub_S2_30M-1GHz_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**

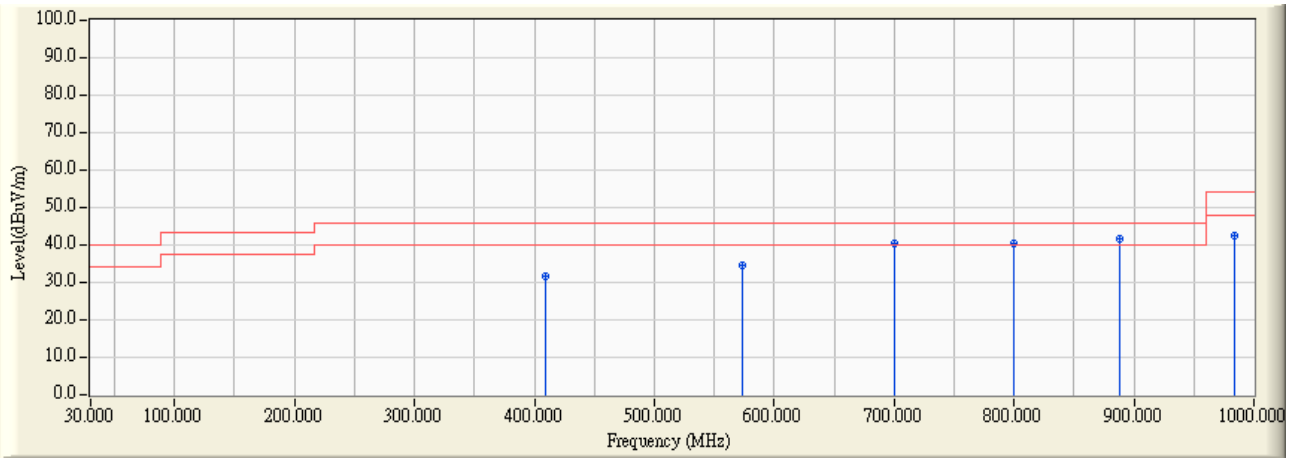


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	40.767	-19.507	53.385	33.879	-6.121	40.000	QUASIPEAK
2		362.225	-17.898	47.288	29.390	-16.610	46.000	QUASIPEAK
3		438.079	-15.657	47.132	31.475	-14.525	46.000	QUASIPEAK
4		576.207	-13.239	47.118	33.880	-12.120	46.000	QUASIPEAK
5		700.076	-12.211	50.842	38.632	-7.368	46.000	QUASIPEAK
6		800.083	-10.087	49.245	39.158	-6.842	46.000	QUASIPEAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	**Time : 2018/05/25**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4-H_CE_Sub_S2_30M-1GHz_1116 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**



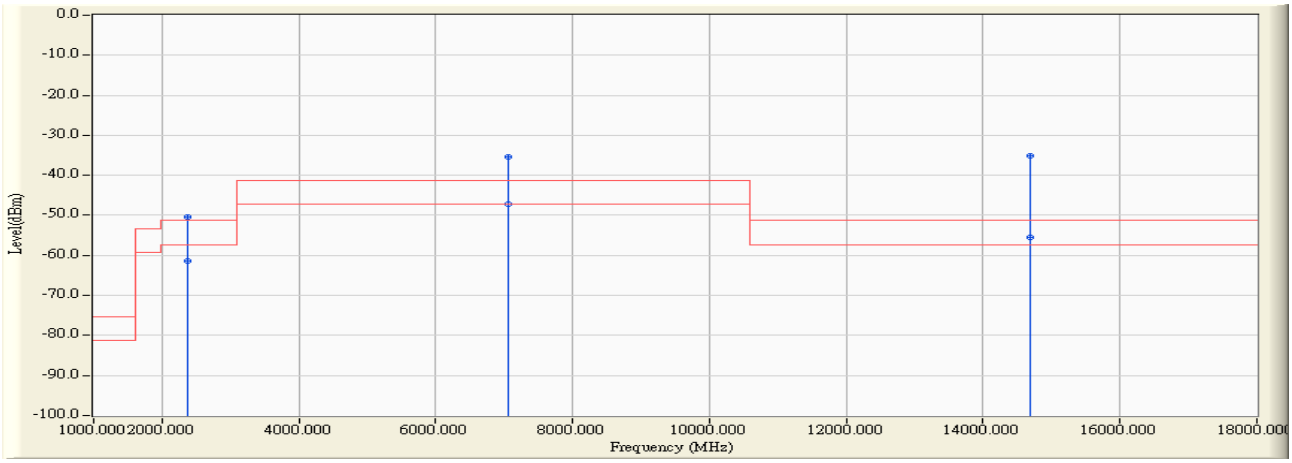
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		409.852	-16.181	47.881	31.699	-14.301	46.000	QUASIPEAK
2		573.200	-12.509	46.999	34.490	-11.510	46.000	QUASIPEAK
3		700.076	-11.817	52.329	40.513	-5.487	46.000	QUASIPEAK
4		800.083	-9.819	50.106	40.286	-5.714	46.000	QUASIPEAK
5	*	888.062	-8.239	49.959	41.720	-4.280	46.000	QUASIPEAK
6		983.995	-8.376	50.957	42.580	-11.420	54.000	QUASIPEAK

Note:

1. All Reading Levels is Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The Emission under 30MHz were not included is because their levels are lower than 20dB away from limit.

Harmonic & Spurious:

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517_(Indoor_UWB)_00M_AV	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_1-18G**

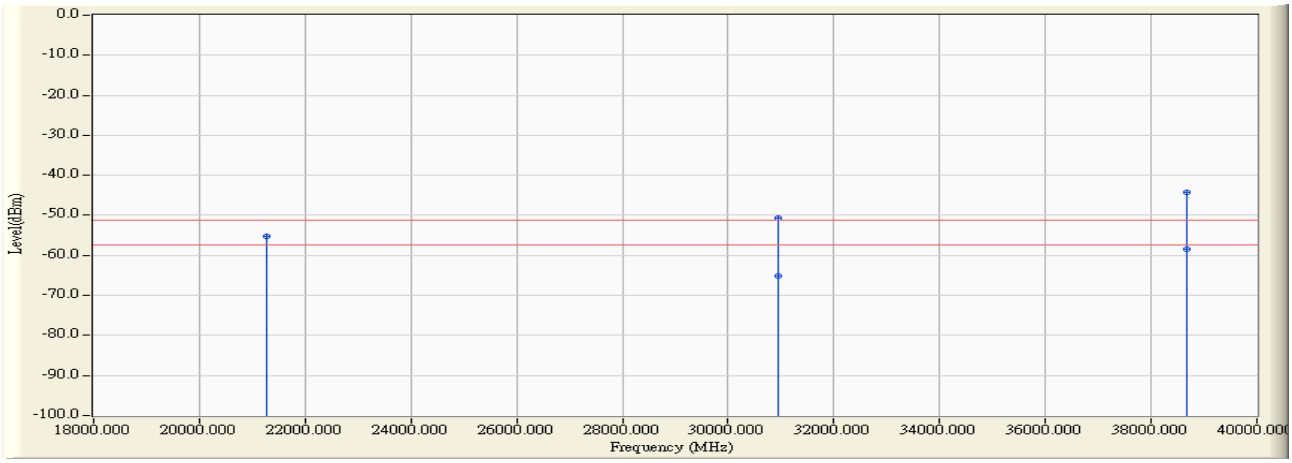


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		2377.610	9.476	-70.870	-61.394	-10.094	-51.300	AVERAGE
2		2377.610	9.476	-59.920	-50.444	-19.144	-31.300	PEAK
3		7054.620	19.270	-66.370	-47.099	-5.799	-41.300	AVERAGE
4		7054.620	19.270	-54.630	-35.359	-14.059	-21.300	PEAK
5	*	14690.000	32.125	-67.120	-34.995	-3.695	-31.300	PEAK
6		14690.780	32.128	-87.540	-55.412	-4.112	-51.300	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	**Time : 2018/06/07**
Limit : FCC_15.517(UWB_Indoor)_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_A117_18-40GHz_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_18-40G**

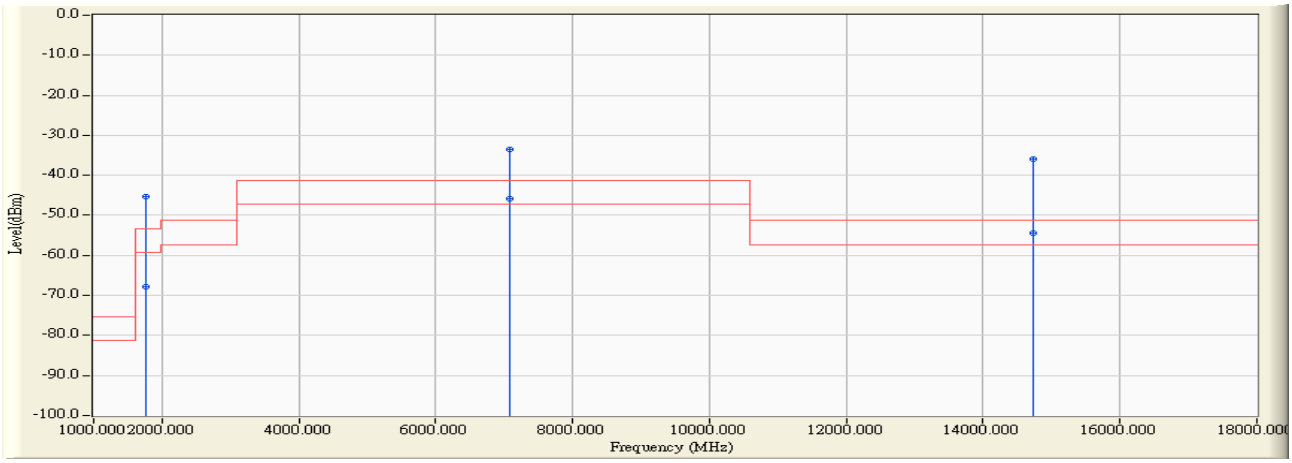


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		21278.000	13.720	-69.079	-55.360	-24.060	-31.300	PEAK
2		30936.000	23.534	-74.315	-50.780	-19.480	-31.300	PEAK
3		30936.000	23.534	-88.645	-65.110	-13.810	-51.300	AVERAGE
4	*	38680.000	29.797	-74.027	-44.230	-12.93	-31.300	PEAK
5		38680.000	29.797	-88.367	-58.570	-7.270	-51.300	AVERAGE

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average..
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517_(Indoor_UWB)_00M_AV	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_1-18G**

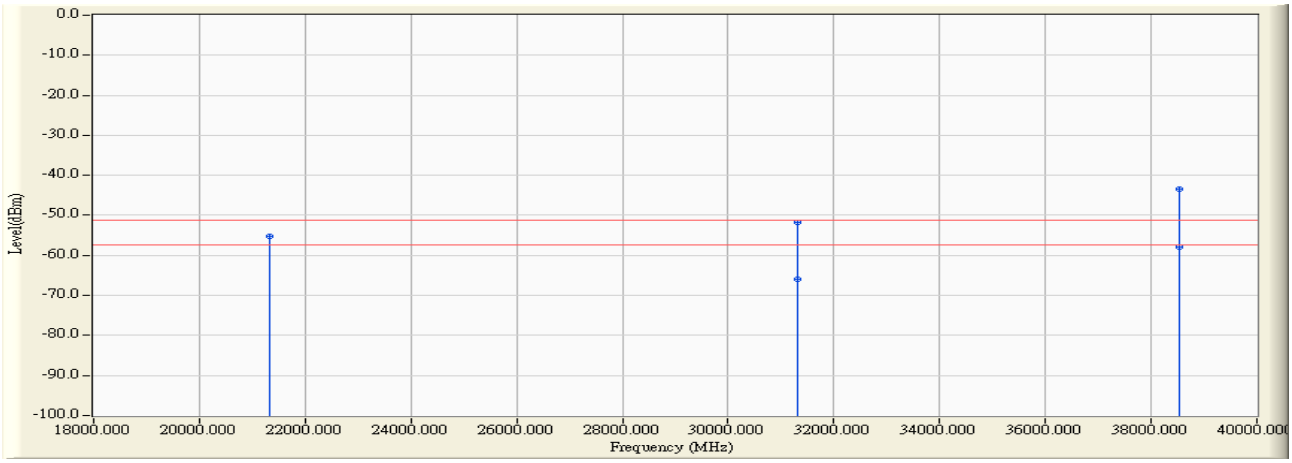


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		1761.770	4.893	-72.800	-67.908	-14.608	-53.300	AVERAGE
2		1761.770	4.893	-50.260	-45.368	-12.068	-33.300	PEAK
3		7085.020	18.396	-64.280	-45.885	-4.585	-41.300	AVERAGE
4		7085.020	18.396	-51.950	-33.555	-12.255	-21.300	PEAK
5		14739.000	30.312	-84.650	-54.338	-3.038	-51.300	AVERAGE
6	*	14739.000	30.312	-66.210	-35.898	-4.598	-31.300	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

Site : CB4-H	**Time : 2018/06/07**
Limit : FCC_15.517(UWB_Indoor)_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_A117_18-40GHz_1116 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_18-40G**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		21322.000	13.812	-69.002	-55.190	-23.890	-31.300	PEAK
2		31310.000	23.370	-75.020	-51.650	-20.350	-31.300	PEAK
3		31310.000	23.370	-89.310	-65.940	-14.640	-51.300	AVERAGE
4	*	38540.000	28.719	-72.169	-43.450	-12.15	-31.300	PEAK
5		38540.000	28.719	-86.669	-57.950	-6.650	-51.300	AVERAGE

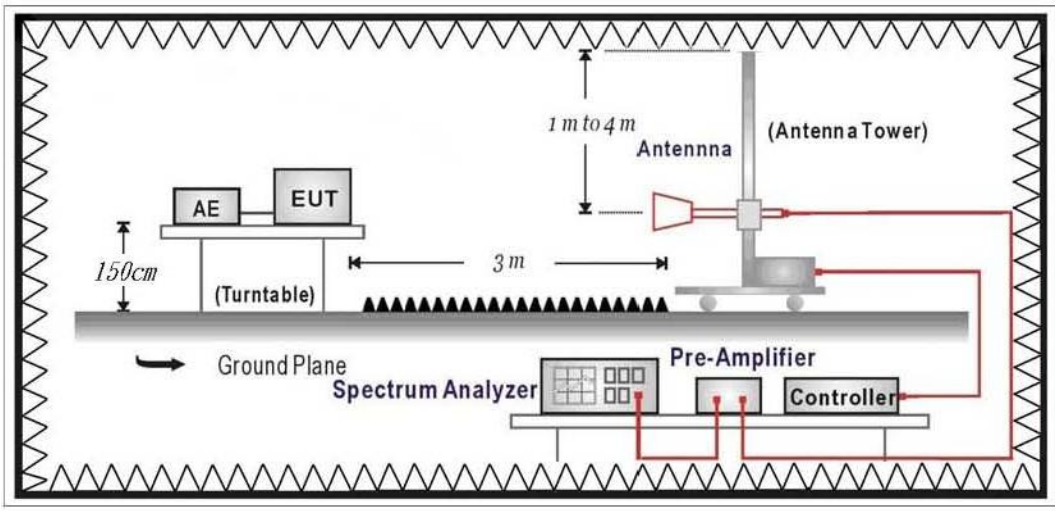
Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.
5. The Emission above 13GHz were not included is because their levels are lower than 20dB away from limit.

4. Radiated Emission in GPS Band

4.1. Test Setup

RF Radiated Measurement:



4.2. Limits

In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency MHz	EIRP in dBm
1164-1240	-85.3
1559-1610	-85.3

4.3. Test Procedure

The EUT was setup according to ANSI C63.4: 2014 & ANSI C63.10: 2013 for compliance to FCC 47CFR 15.519 requirements.

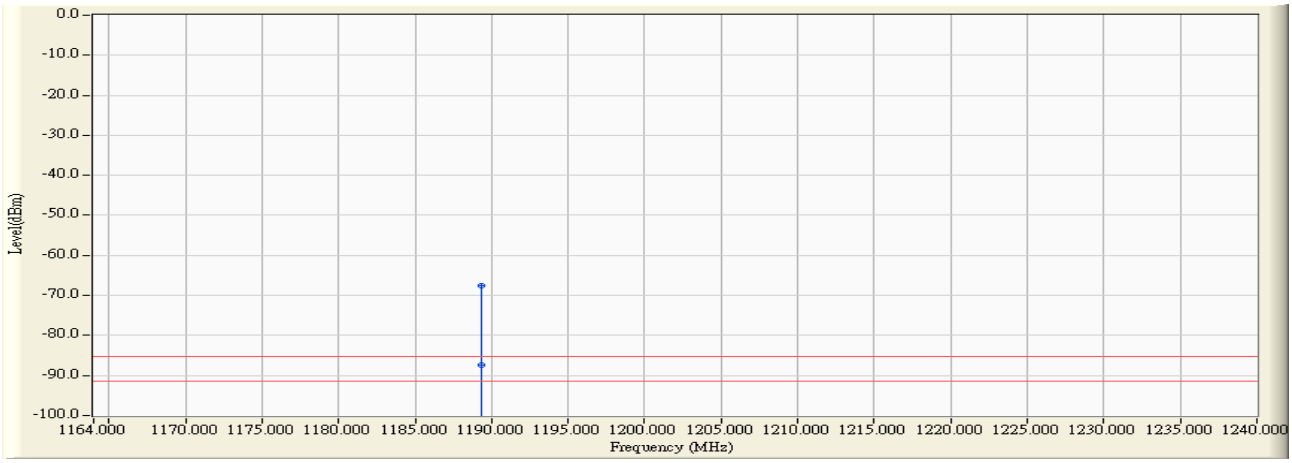
The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2014 on radiated measurement.
The resolution bandwidth is 1kHz. The video bandwidth are normally three times of resolution bandwidth.
The frequency range from 1164-1240MHz & 1559-1610MHz is checked.
Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

4.4. Test Specification

According to FCC CFR Title 47 Part 15 Subpart F: 2017

4.5. Test Result

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517(UWB_1KHz-1)_00M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_GPS Band -1**

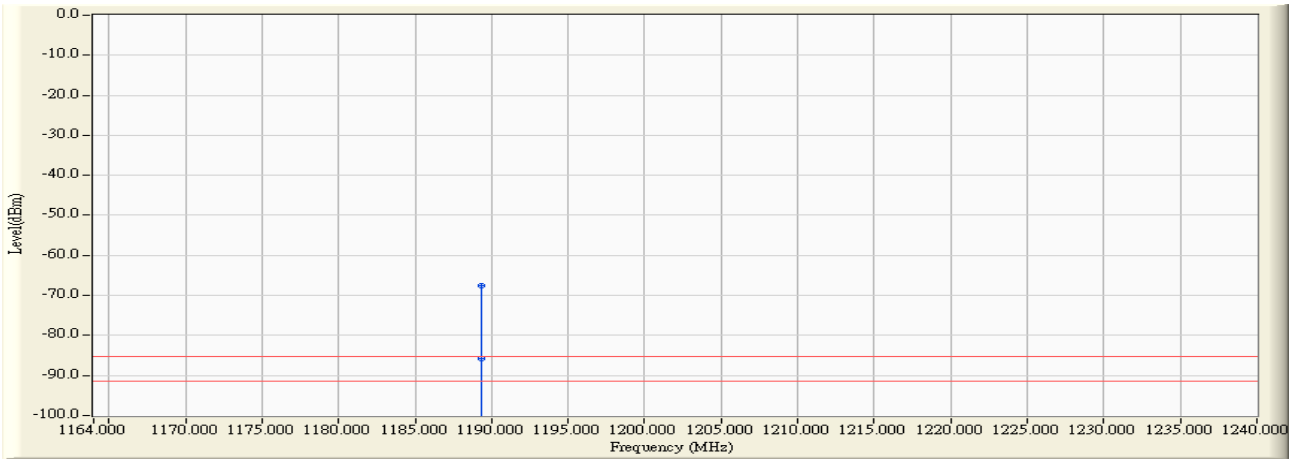


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		1189.320	4.806	-92.330	-87.524	-2.224	-85.300	AVERAGE
2	*	1189.320	4.806	-72.320	-67.514	-2.214	-65.300	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517(UWB_1KHz-1)_00M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_GPS Band -1**

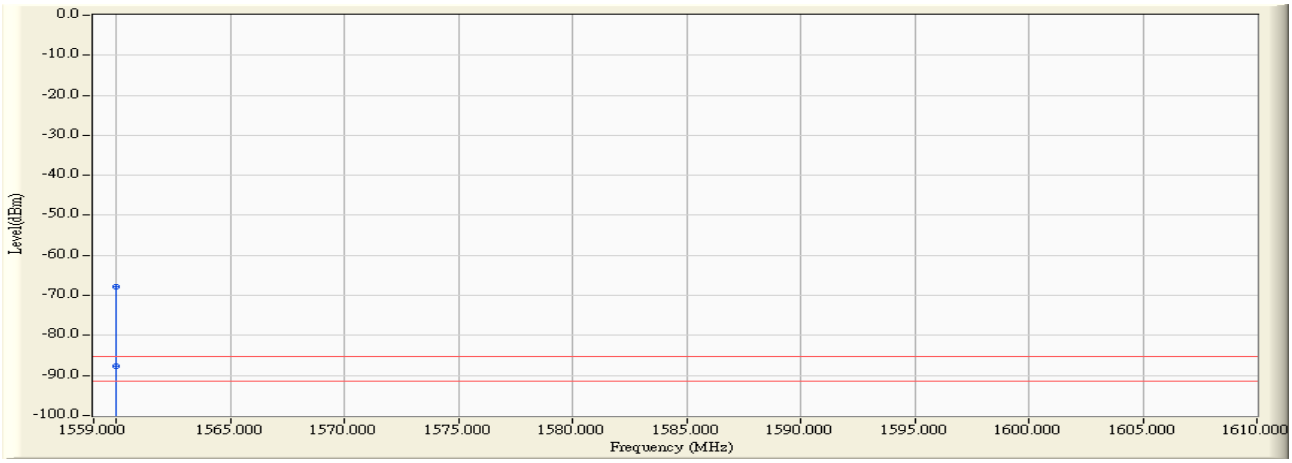


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		1189.320	4.767	-90.610	-85.843	-0.543	-85.300	AVERAGE
2	*	1189.320	4.767	-72.430	-67.663	-2.363	-65.300	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517(UWB_1KHZ-2)_00M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_GPS Band -2**

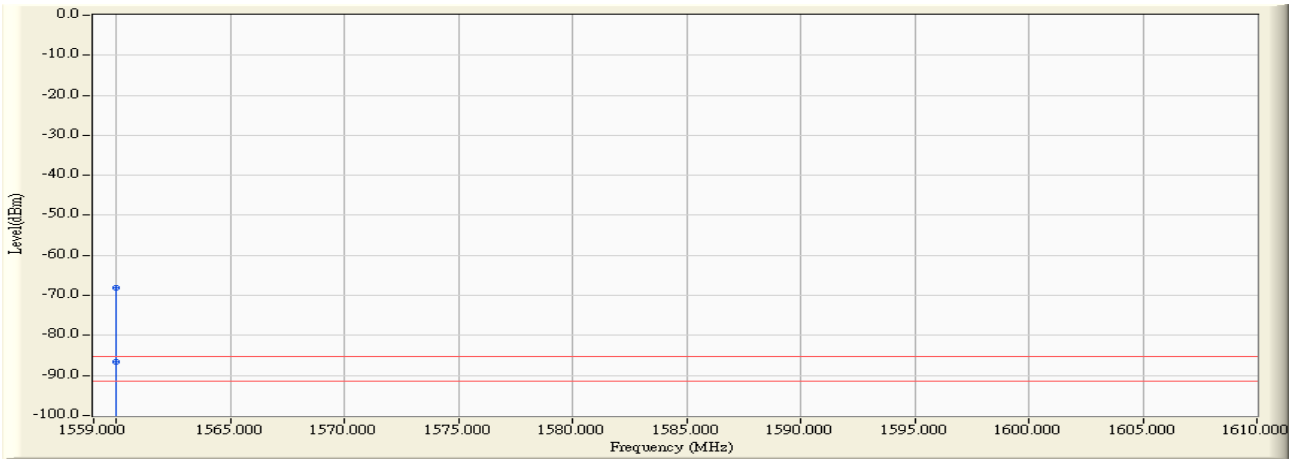


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		1559.990	4.510	-92.210	-87.700	-2.400	-85.300	AVERAGE
2	*	1559.990	4.510	-72.330	-67.820	-2.520	-65.300	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.

Site : CB4-H	**Time : 2018/06/06**
Limit : FCC_15.517(UWB_1KHZ-2)_00M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz_GPS Band -2**



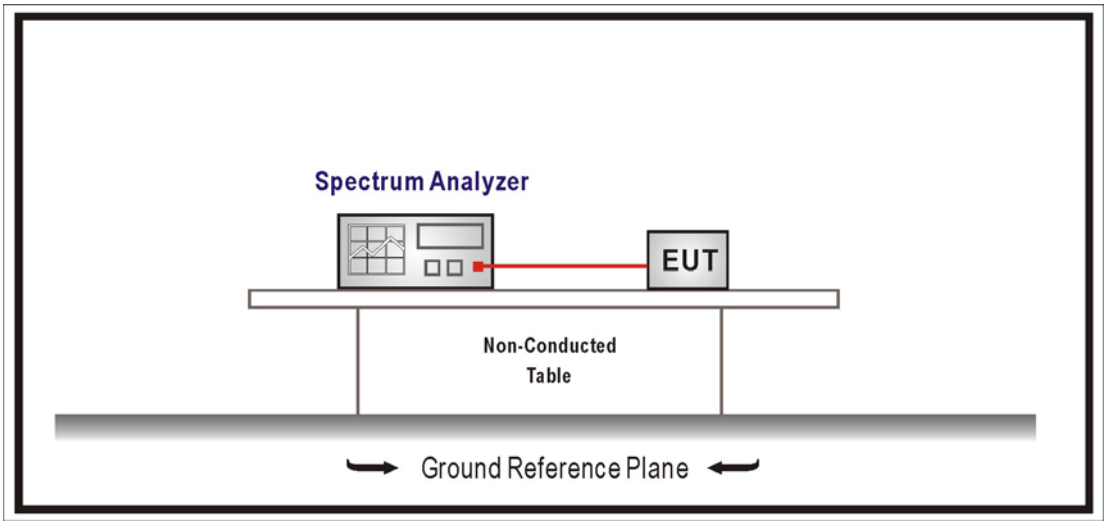
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		1559.990	4.868	-91.540	-86.673	-1.373	-85.300	AVERAGE
2	*	1559.990	4.868	-72.840	-67.973	-2.673	-65.300	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The limit is for average.

5. 10dB Bandwidth

5.1. Test Setup



5.2. Limits

Ultra-wideband (UWB) transmitter. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

5.3. Test Procedures

The EUT was tested according to ANSI C63.10: 2013 for compliance to FCC 47CFR 15.503(a) requirements. Set RBW = 1 MHz, VBW = 3 MHz, Span = 2.5 GHz, use 10dB bandwidth function to test the result.

5.4. Test Specification

According to FCC CFR Title 47 Part 15 Subpart F: 2015

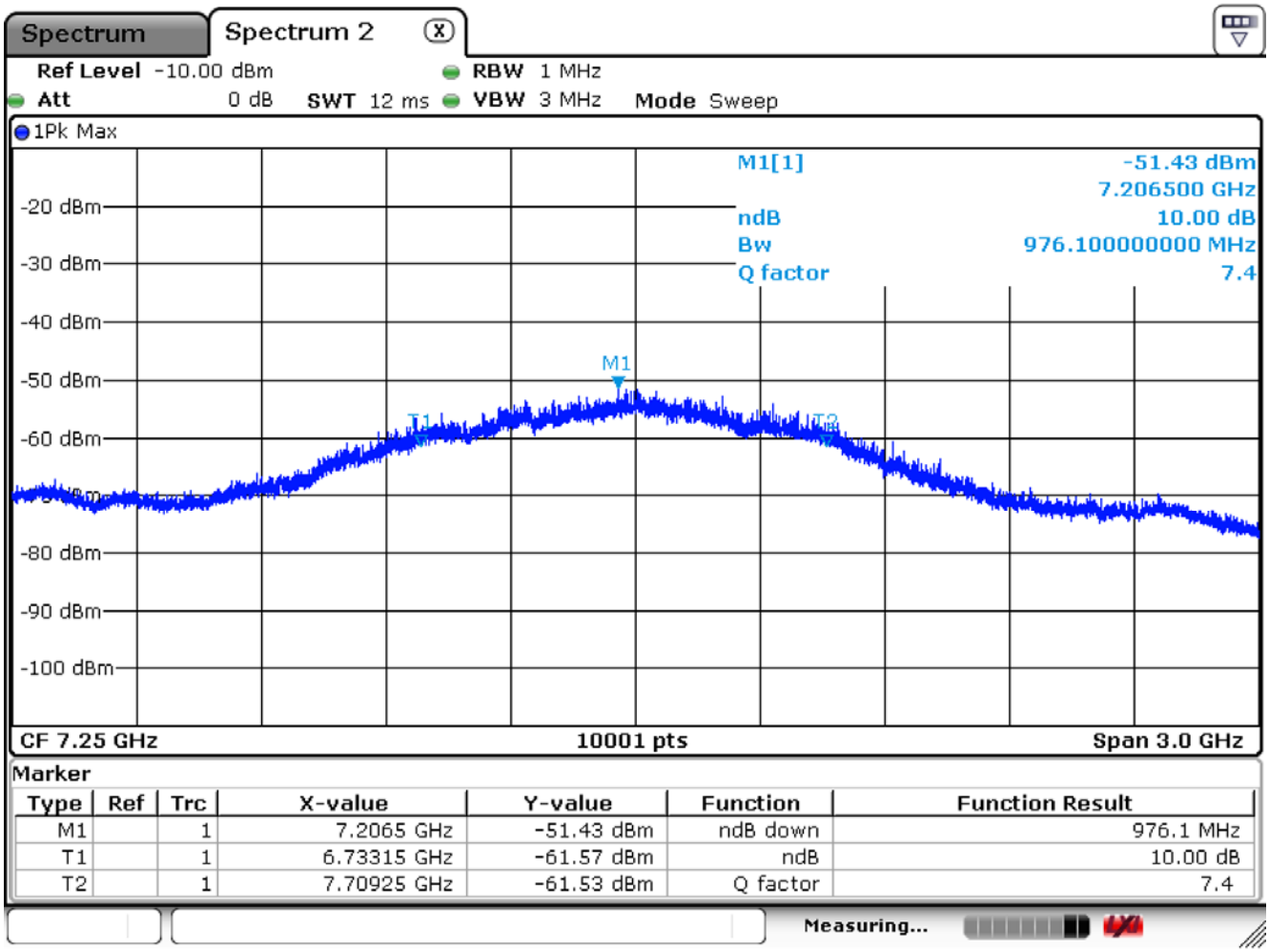
5.5. Test Result

Product	Baby Monitoring device		
Test Item	10dB Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2018/05/22	Test Site	SR10-H

Frequency (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	Limit (MHz)		Result
			Lower Frequency	Upper Frequency	
7250	6733.15	7709.25	3100	10600	Pass

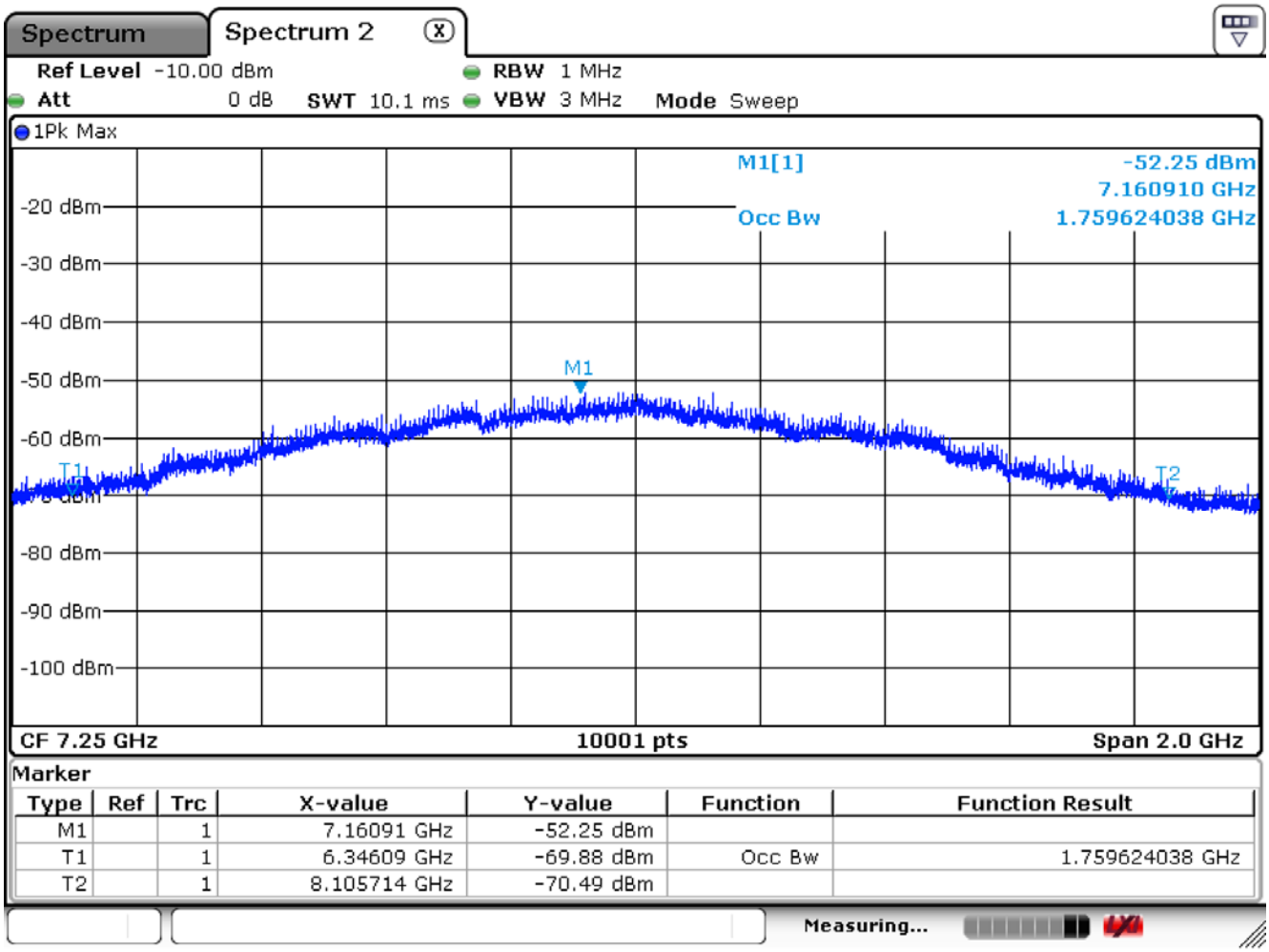
Frequency (MHz)	10 dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
7250	976.100	1759.624	500	Pass

10 dB Bandwidth



Date: 22.MAY.2018 21:33:03

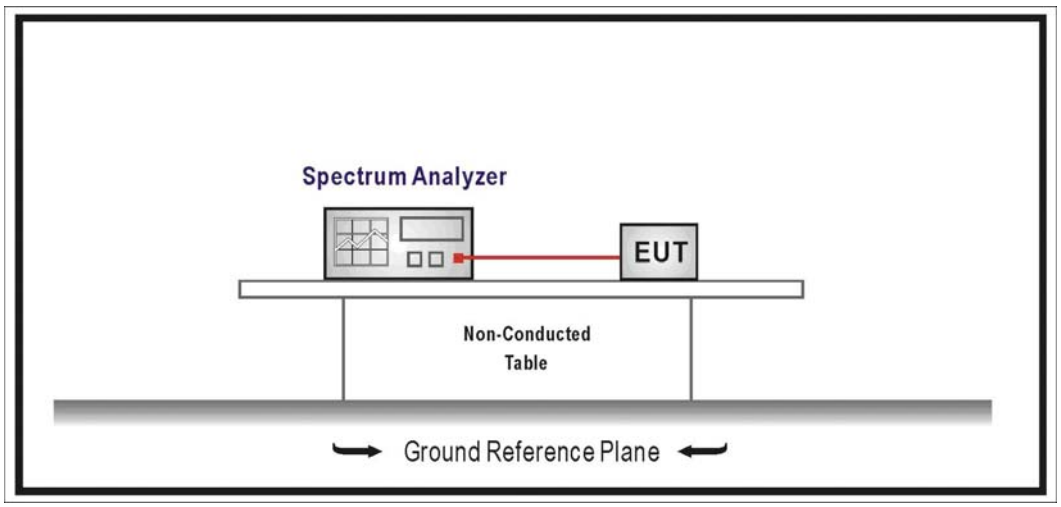
99% Bandwidth

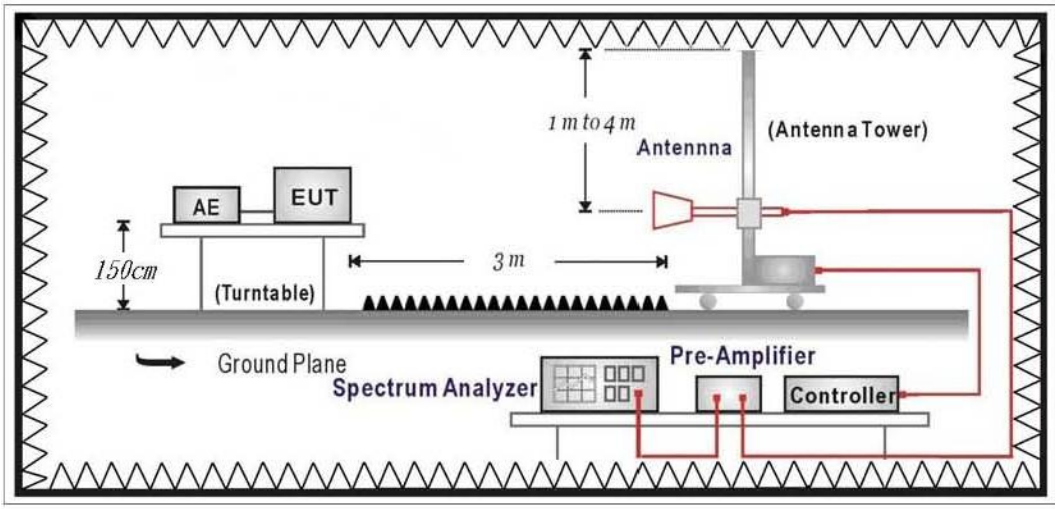


Date: 22.MAY.2018 21:37:06

6. EIRP

6.1. Test Setup





6.2. Limits

When a peak measurement is required, it is acceptable to use a resolution bandwidth other than the 50 MHz specified in this subpart. This resolution bandwidth shall not be lower than 1 MHz or greater than 50 MHz, and the measurement shall be centered on the frequency at which the highest radiated emission occurs, fM. If a resolution bandwidth other than 50 MHz is employed, the peak EIRP limit shall be 20 log (RBW/50) dBm where RBW is the resolution bandwidth in megahertz that is employed. This may be converted to a peak field strength level at 3 meters using E(dBuV/m) = P(dBm EIRP) + 95.2. If RBW is greater than 3 MHz, the application for certification filed with the Commission must contain a detailed description of the test procedure, calibration of the test setup, and the instrumentation employed in the testing.

6.3. Test Procedures

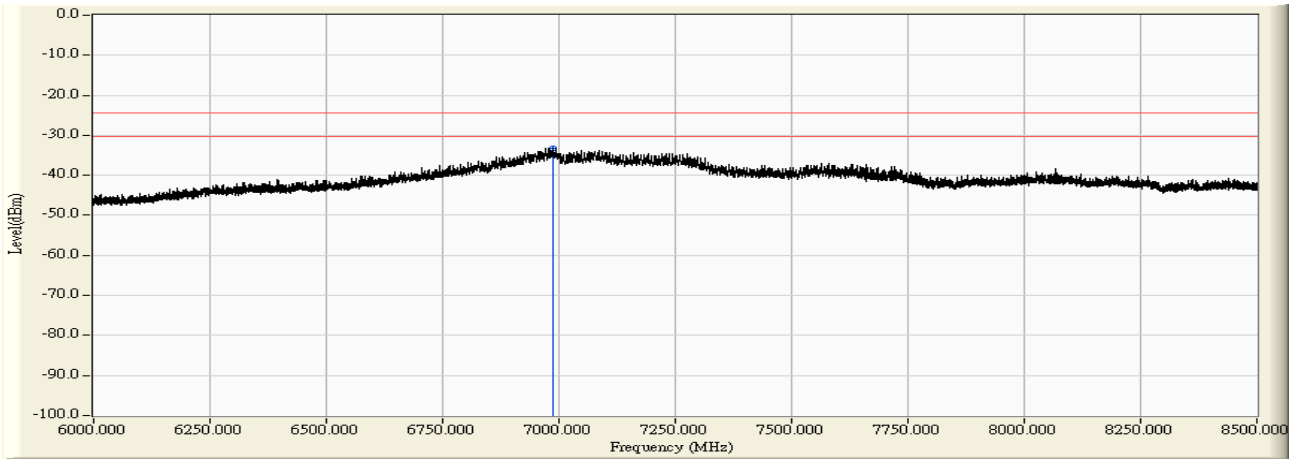
The EUT was setup according to ANSI C63.4: 2014 & ANSI C63.10: 2013 for compliance to FCC 47CFR 15.521(g) requirements. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2014 on radiated measurement. Note: The RBW = 3MHz, VBW = 3MHz, so the EIRP limit is 20 log (3/50) = -24.437 dBm.

6.4. Test Specification

According to FCC CFR Title 47 Part 15 Subpart F: 2015

6.5. Test Result

Site : CB4-H	**Time : 2018/05/24**
Limit : 15.517_RBW3M_03M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**

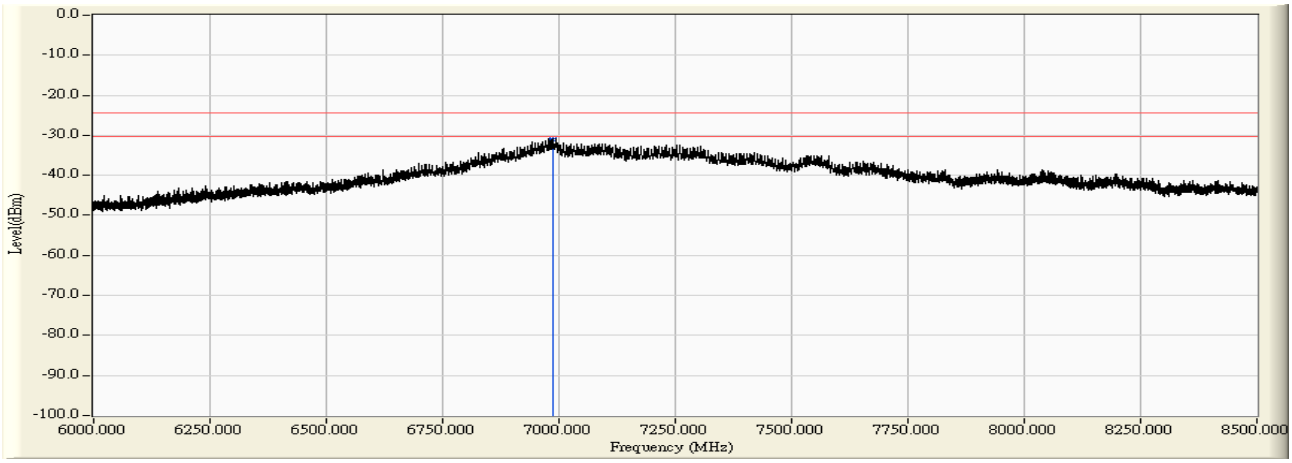


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	6986.750	19.608	-52.791	-33.182	-8.782	-24.400	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The fundamental for reference only, it’s not restricted by unwanted emission limit.

Site : CB4-H	**Time : 2018/05/24**
Limit : 15.517_RBW3M_03M_PK	**Margin : 6**
Probe : CB4-H_CE_Sub_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Baby Monitoring device	**Note : 7.25GHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	6987.000	19.601	-50.310	-30.709	-6.309	-24.400	PEAK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The fundamental for reference only, it’s not restricted by unwanted emission limit.

7. Antenna Requirement

7.1. Limits

Antenna Requirement Limit
An intentional radiator shall be designed to ensure that no antenna other than that furnished by theresponsible party shall be used with the device. The use of a permanently attached antenna or ofan antenna that uses a unique coupling to the intentional radiator shall be considered sufficient tocomply with the provisions of this section. The manufacturer may design the unit so that a brokenantenna can be replaced by the user, but the use of a standard antenna jack or electrical connectoris prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

7.2. Test Result

The EUT use permanently attached antennas and comply with FCC 15.203.
Please refer to the attached “Internal Photograph”.