

Test Report

FCC Part15 Subpart C

Product Name : XMSR REMOTE CONTROL
Model No. : XMSR
FCC ID : 2A12WXMS

Applicant : Bowens Studio Lighting Technology (Suzhou) Co., Ltd.
Address : 1F,Block7,158# QiMing RD,IFTZ,Suzhou Industrial
Park, Jiangsu Province,215121,P.R.China

Date of Receipt : Nov. 03, 2016
Test Date : Nov. 03, 2016~ Nov. 21, 2016
Issued Date : Nov. 28, 2016
Report No. : 16B2050R-RF-US-P06V01
Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by CNAS,TAF or any agency of the government.

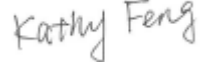


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Test Report Certification

Issued Date : Nov. 28, 2016
Report No. : 16B2050R-RF-US-P06V01



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Applicant : Bowens Studio Lighting Technology (Suzhou) Co., Ltd.
Address : 1F,Block7,158# QiMing RD,IFTZ,Suzhou Industrial Park,
Jiangsu Province,215121,P.R.China
Manufacturer : Bowens Studio Lighting Technology (Suzhou) Co., Ltd.
Address : 1F,Block7,158# QiMing RD,IFTZ,Suzhou Industrial Park,
Jiangsu Province,215121,P.R.China
Model No. : XMSR
FCC ID : 2A12WXMS
EUT Voltage : DC 3V
Brand Name : BOWENS XMSR
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C
ANSI C63.4:2014; ANSI C63.10:2013;
KDB 558074 D01v03r05
Test Result : Complied
Performed Location : Quietek Corporation - Suzhou EMC Laboratory
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TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

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Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC, TAF
USA	:	FCC
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/english/about/certificates.aspx?bval=5>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
16B2050R-RF-US-P06V01	V1.0	Initial Issued Report	Nov. 21, 2016
16B2050R-RF-US-P06V01	V1.1	Modified the device position use at P21/28/33/45/50/54	Nov. 28, 2016

1. General Information

1.1. EUT Description

Product Name	XMSR REMOTE CONTROL
Brand Name	BOWENS XMSR
Model No.	XMSR
EUT Voltage	DC 3V
Frequency Range	2401-2463MHz
Channel Number	16
Type of Modulation	GPSK
Data Rate	1 Mbps
Channel Control	Auto

1.2. Working Frequency of Each Channel:

Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2401 MHz	02	2406 MHz	03	2410 MHz	04	2414MHz
05	2418MHz	06	2422 MHz	07	2427 MHz	08	2431 MHz
09	2435 MHz	10	2439 MHz	11	2443MHz	12	2447MHz
13	2451MHz	14	2455MHz	15	2459MHz	16	2463MHz

1.3. Antenna information

Model No.	N/A					
Antenna manufacturer	N/A					
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX	<input type="checkbox"/>	2*TX+2*RX	<input type="checkbox"/>	3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/>	SISO				
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic		
			<input type="checkbox"/>	CDD		
			<input type="checkbox"/>	Sectorized		
			<input type="checkbox"/>	Beam-forming		
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole		
			<input type="checkbox"/>	Sectorized		
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA		
			<input type="checkbox"/>	PCB		
			<input type="checkbox"/>	Ceramic Chip Antenna		
			<input checked="" type="checkbox"/>	linear pol		
Ant Gain(dBi)	1.8dBi					

1.4. Mode of Operation

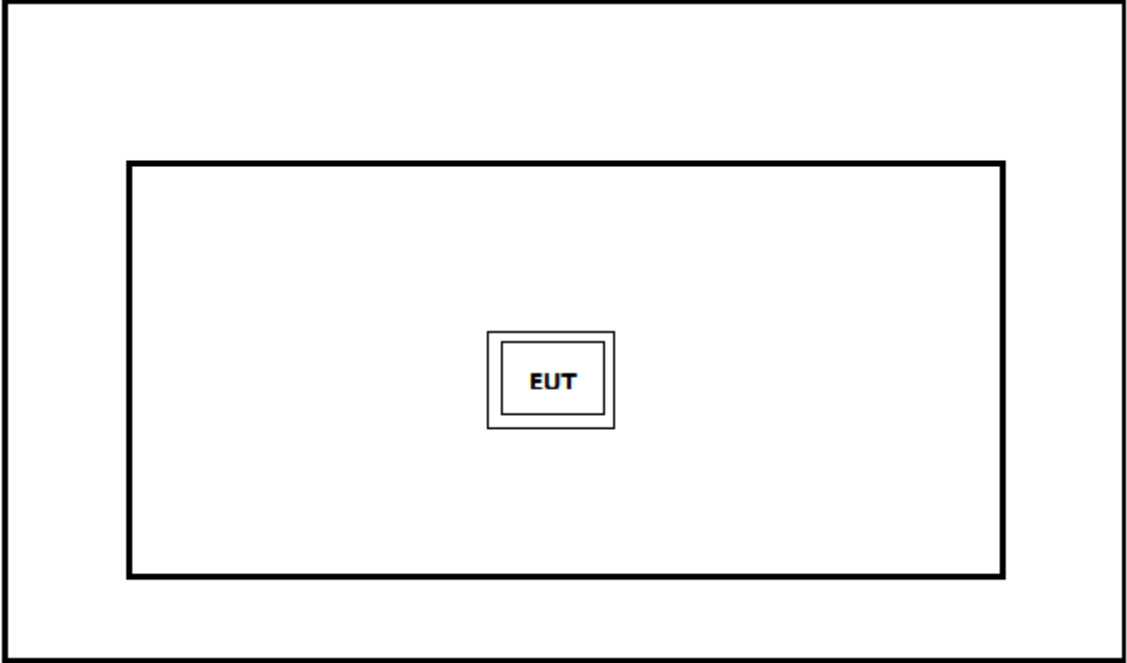
Test Modes List
Mode 1: Transmit

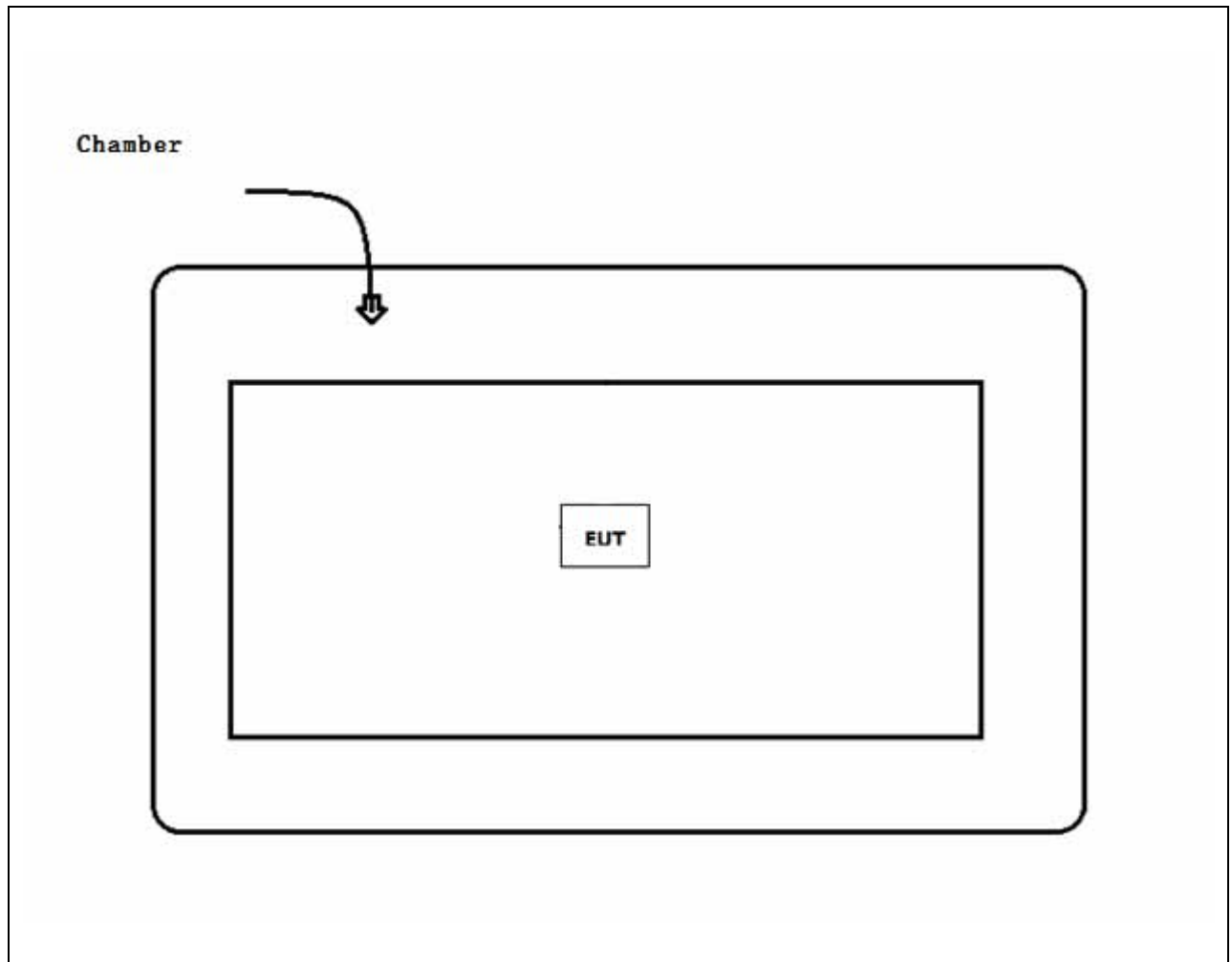
1.5. Tested System Details

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

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	N/A	N/A	N/A	N/A	N/A

1.6. Configuration of Tested System

Test setup Diagram- Conducted Emission

Test setup Diagram- Radiated Emission



2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Limit	Result
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.207	FCC 15.207	N/A
Emissions in restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.209	FCC 15.209	PASS
Emissions in non-restricted frequency bands	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(d)	$\geq 20\text{dBc}$	PASS
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2015 15.247(d)	FCC 15.209	PASS
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(a)(2)	$\geq 500\text{kHz}$	PASS
Fundamental emission output power	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(b)(3)	$\leq 30\text{dBm}$	PASS
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.247(e)	$\leq 8\text{dBm/3kHz}$	PASS
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C: 2015 Section 15.203	FCC 15.203	PASS

2.2. Test Frequency configuration:

Modulation Mode	Channel	Frequency	Channel	Frequency	Channel	Frequency
Mode 1	01	2401 MHz	08	2431 MHz	16	2463 MHz

2.3. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

2.4. Measurement Uncertainty

Test Items	Uncertainty
AC Power Line Conducted Emission	$\pm 2.02\text{dB}$
Radiated Emission	Below 1GHz $\pm 3.8\text{ dB}$
	Above 1GHz $\pm 3.9\text{ dB}$
RF Antenna Port Conducted Emission	$\pm 1.27\text{dB}$
Radiated Emission Band Edge	$\pm 3.9\text{dB}$
Occupied Bandwidth	$\pm 1\text{kHz}$
Power Spectral Density	$\pm 1.27\text{dB}$

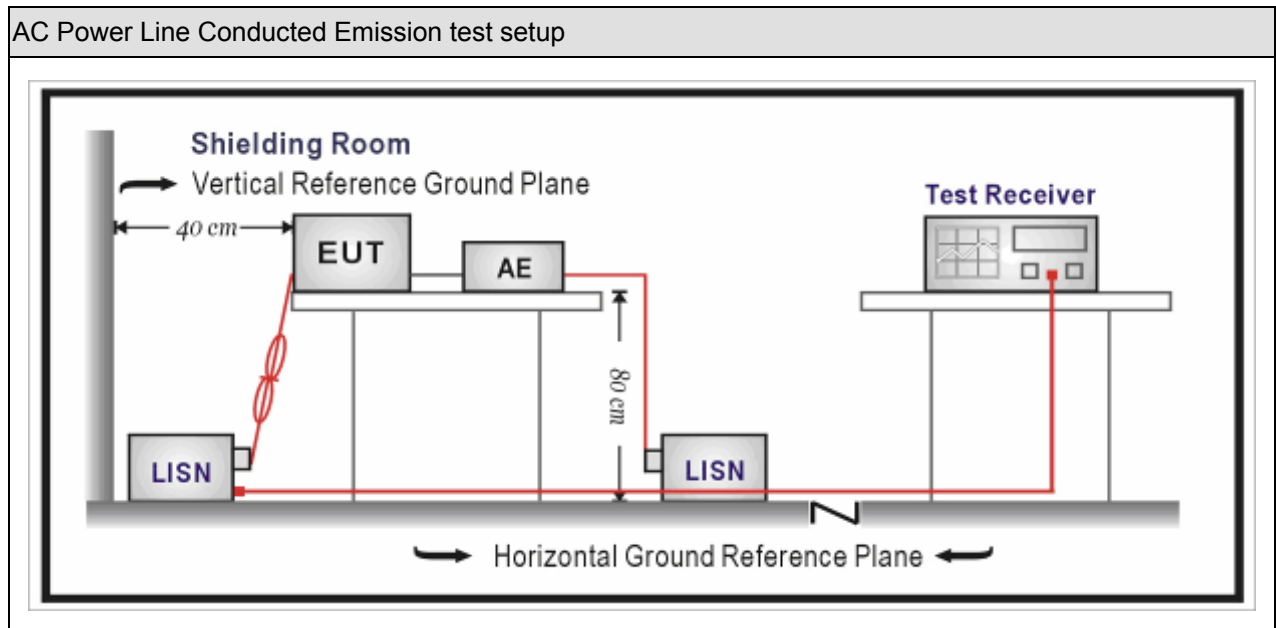
3. AC Power Line Conducted Emission

3.1. Test Equipment

AC Power Line Conducted Emission / TR-1					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2016.03.05	2017.03.05
Two-Line V-Network	R&S	ENV 216	101189	2016.07.16	2017.07.16
Two-Line V-Network	R&S	ENV 216	101044	2016.09.16	2017.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
50ohm Termination	SHX	TF2	07081402	2016.09.16	2017.09.16
Temperature/Humidity Meter	Zhichen	ZC1-2	TR1-TH	2016.01.05	2017.01.05

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

Frequency of Emission (MHz)	Conducted Limit	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Note 1: The lower limit shall apply at the transition frequencies.		
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

3.4. Test Procedure

Test Method			
	References Rule	Chapter	Item
<input checked="" type="checkbox"/>	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices
<input checked="" type="checkbox"/>	ANSI C63.4-2014	7	AC power-line conducted emission measurements

3.5. Test Result

The EUT is powered by battery, so this item is not application.

4. Emissions in restricted frequency bands

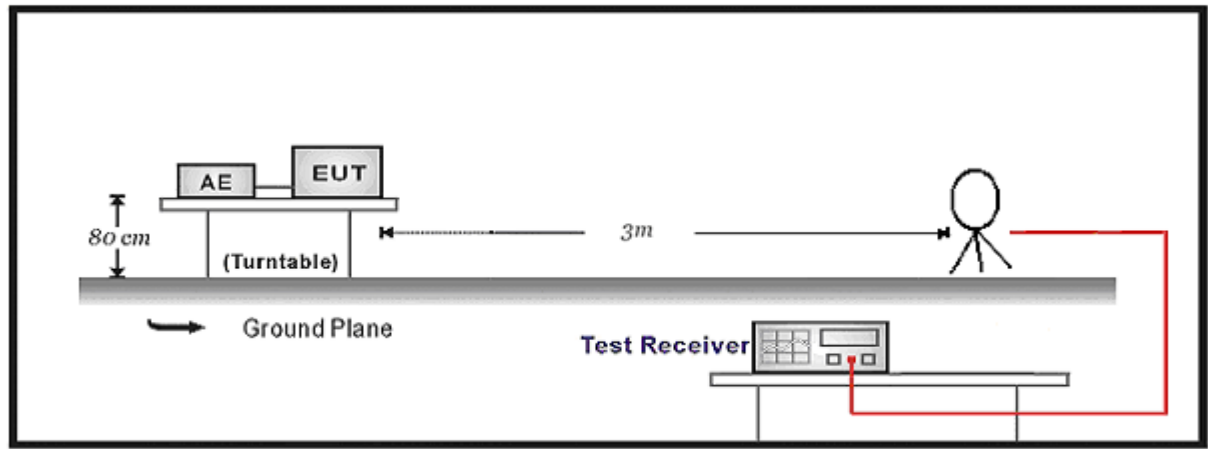
4.1. Test Equipment

Radiated Emission(Below 1GHz) / AC-2					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.29	2017.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2016.11.16	2017.11.17
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2016.10.16	2017.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.02	2017.03.01
Temperature/Humidity Meter	Zhichen	ZC1-2	AC2-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

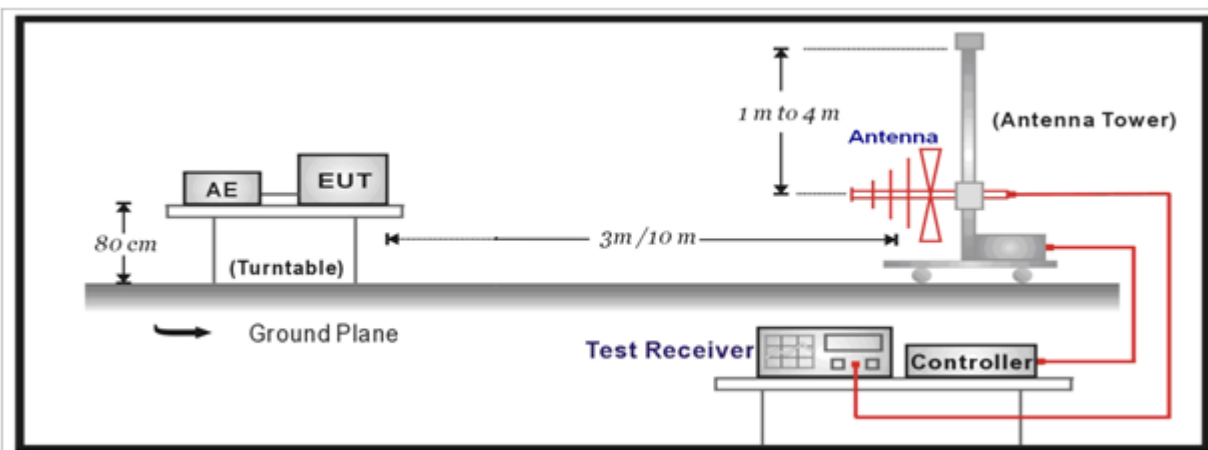
Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.03
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.06	2017.05.05
Preamplifier	QuieTek	AP-040G	CHM-0906001	2016.05.06	2017.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.22	2017.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.11.25	2017.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.02	2017.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.02	2017.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.10	2017.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.04	2017.01.03
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

4.2. Test Setup

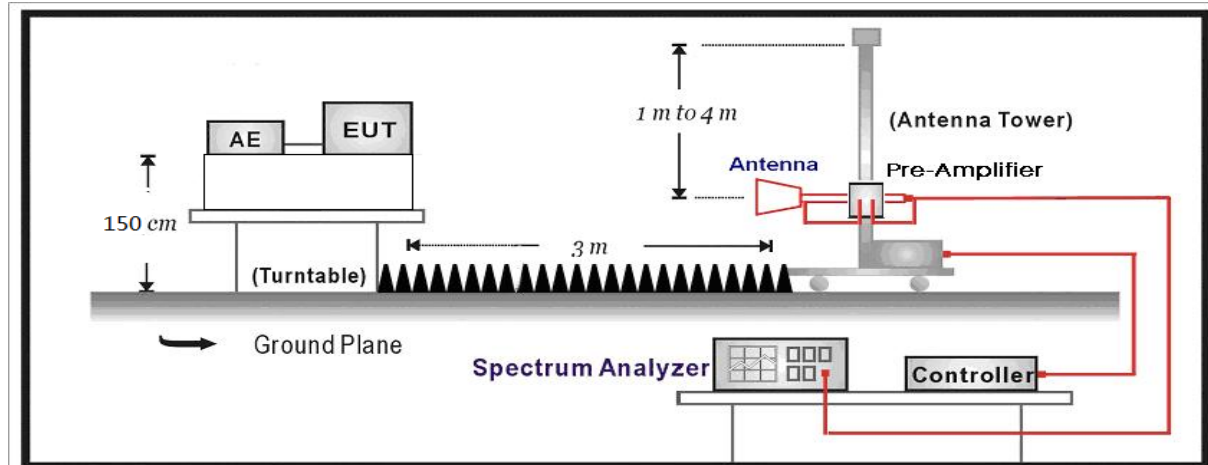
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

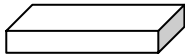
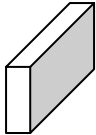
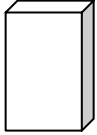



Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
<input type="checkbox"/>	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	<input type="checkbox"/>	ANSI C63.10	11.11.2	Reference level measurement
	<input type="checkbox"/>	ANSI C63.10	11.11.3	Emission level measurement
<input checked="" type="checkbox"/>	ANSI C63.10		11.12	Emissions in restricted frequency bands
	<input checked="" type="checkbox"/>	ANSI C63.10	11.12.1	Radiated emission measurements
	<input checked="" type="checkbox"/>	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	<input checked="" type="checkbox"/>	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	<input type="checkbox"/>	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		ANSI C63.10	11.12.2.4	Peak power measurement procedure
		ANSI C63.10	11.12.2.5	Average power measurement procedures
	<input type="checkbox"/>	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		<input checked="" type="checkbox"/> ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

4.5. EUT test Axis definition

Item	Emissions in restricted frequency bands			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input checked="" type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input checked="" type="checkbox"/>
	<input type="checkbox"/>	Conducted		
	<input type="checkbox"/>	Chain 1		
				
	<input type="checkbox"/>	Chain 1	Chain 2	
				
	<input type="checkbox"/>	Chain 1	Chain 2	Chain 3
				

4.6. Test Result

Product Name	:	XMSR REMOTE CONTROL	Power	:	Battery
Test Mode	:	Mode 1	Test Site	:	AC-5
Test Date	:	2016.11.18			

CH	Antenna Polarity	Frequency (MHz)	Reading Level (dB μ V)	Factor (dB)	Measured Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector
1	H	4802	49.473	-8.901	40.571	54(note3)	13.429	PK
	H	7203	48.255	-5.457	42.797	54(note3)	11.203	PK
	H	9604	45.279	-2.093	43.187	54(note3)	10.813	PK
	V	4802	49.672	-8.901	40.771	54(note3)	13.229	PK
	V	7203	47.496	-5.457	42.038	54(note3)	11.962	PK
	V	9604	45.587	-2.093	43.495	54(note3)	10.505	PK
8	H	4862	49.212	-8.859	40.353	54(note3)	13.647	PK
	H	7293	46.87	-5.124	41.745	54(note3)	12.255	PK
	H	9724	45.061	-2.165	42.897	54(note3)	11.103	PK
	V	4862	49.898	-8.859	41.039	54(note3)	12.961	PK
	V	7293	46.605	-5.124	41.481	54(note3)	12.519	PK
	V	9724	44.676	-2.165	42.512	54(note3)	11.488	PK
16	H	4926	49.033	-8.815	40.218	54(note3)	13.782	PK
	H	7389	47.272	-5.025	42.248	54(note3)	11.752	PK
	H	9852	44.678	-2.142	42.536	54(note3)	11.464	PK
	V	4926	49.525	-8.815	40.71	54(note3)	13.29	PK
	V	7389	47.223	-5.025	42.199	54(note3)	11.801	PK
	V	9852	45.306	-2.142	43.164	54(note3)	10.836	PK

Note: 1. Measure Level = Reading Level + Factor.

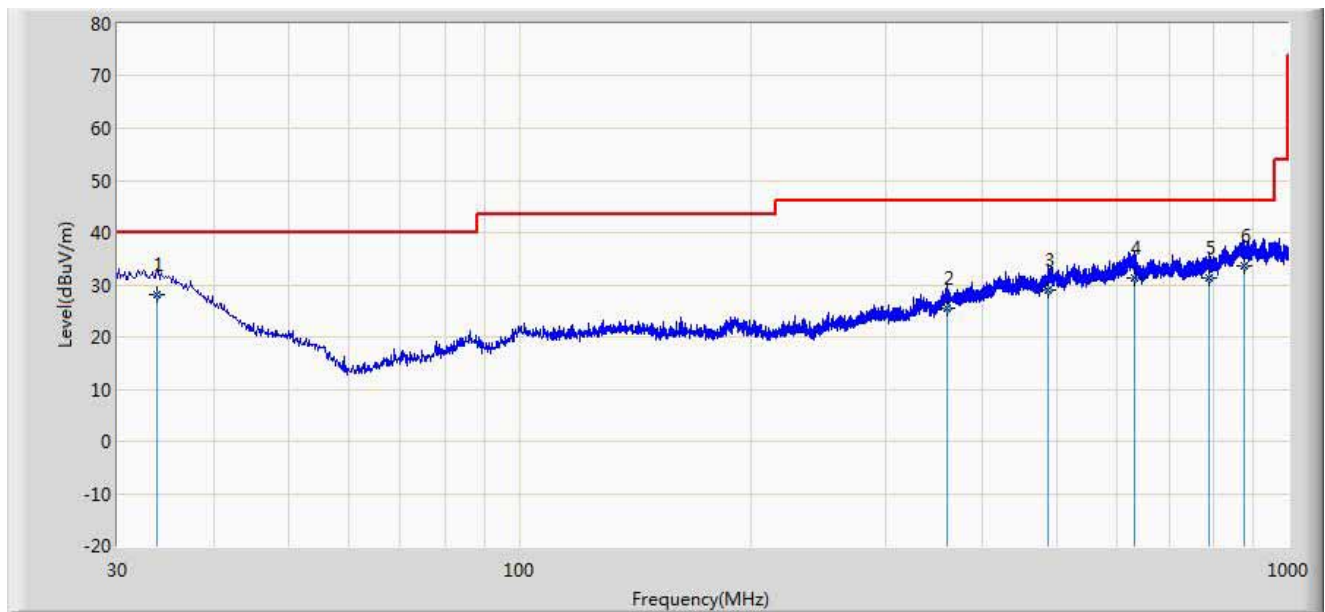
Note: 2. The test frequency range, 9kHz~30MHz, 18GHz~25GHz, both of the worst case are at least 6dB below the limits, therefore no data appear in the report.

Note: 3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Note: 4. The VBW setting for average testing, see Clause 6.6.

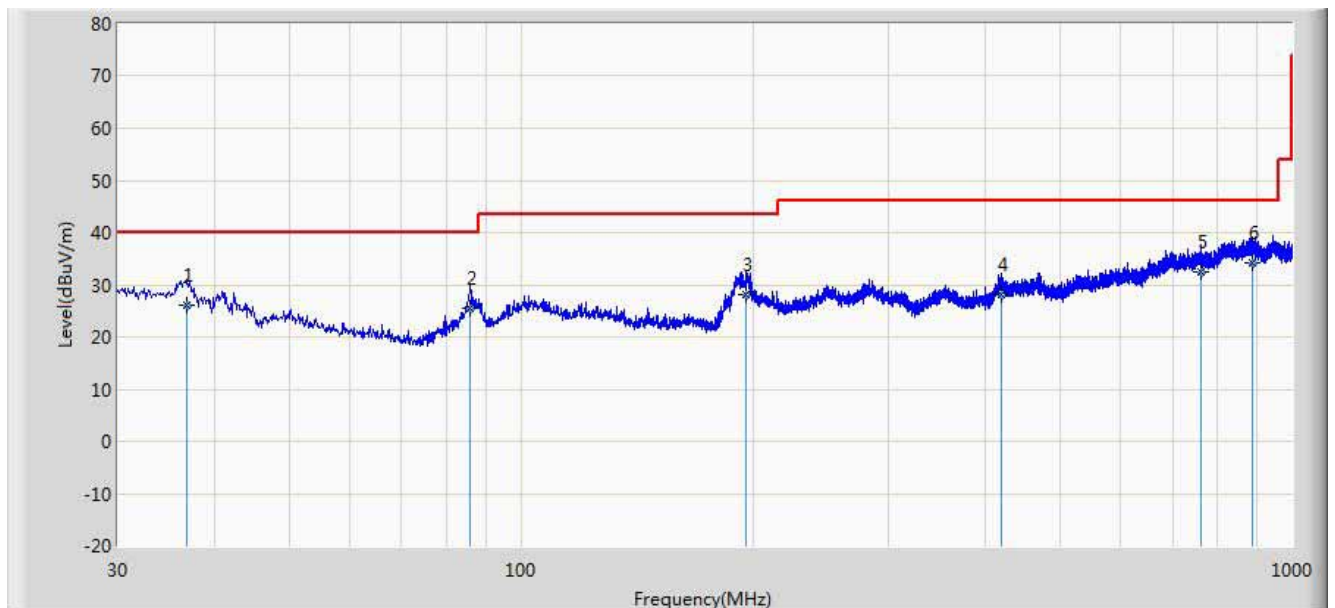
The worst case of Radiated Emission below 1GHz:

Engineer: Simon	
Site: AC2	Time: 2016/11/18
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Horizontal
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	33.745	28.025	0.663	-11.975	40.000	20.704	6.659	0.000	200	329	QP
2		360.042	25.367	1.004	-20.633	46.000	16.545	7.818	0.000	200	346	QP
3		486.870	28.939	1.136	-17.061	46.000	19.775	8.028	0.000	200	184	QP
4		630.305	31.383	1.118	-14.617	46.000	21.684	8.582	0.000	100	35	QP
5		787.935	31.360	0.762	-14.640	46.000	21.619	8.978	0.000	200	196	QP
6		876.045	33.541	1.041	-12.459	46.000	23.307	9.192	0.000	100	157	QP

Engineer: Simon	
Site: AC2	Time: 2016/11/18
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: AC2_3M(30-1000M)	Polarity: Vertical
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		36.910	25.986	4.510	-14.014	40.000	14.849	6.628	0.000	100	210	QP
2		85.869	25.618	9.120	-14.382	40.000	9.792	6.706	0.000	200	59	QP
3		195.746	28.119	5.610	-15.381	43.500	15.178	7.332	0.000	100	1	QP
4		420.415	28.044	1.301	-17.956	46.000	18.776	7.967	0.000	200	217	QP
5		761.125	32.577	1.275	-13.423	46.000	22.394	8.908	0.000	200	182	QP
6	*	887.125	34.236	1.089	-11.764	46.000	23.928	9.219	0.000	100	196	QP

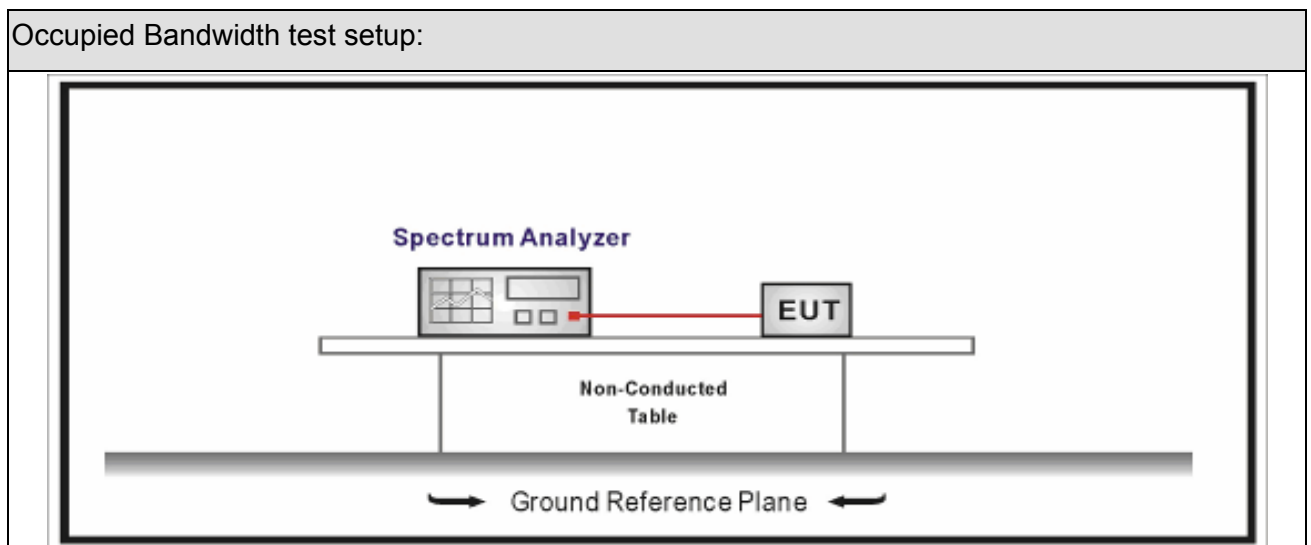
5. Emissions in non-restricted frequency bands

5.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.02.04	2017.02.04
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.09
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.09
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



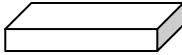
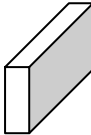
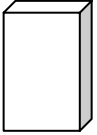
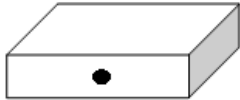

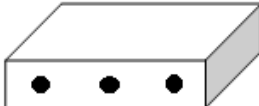
5.3. Limit

Un-Restricted Band Emissions Limit	
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30c(Note1)
RF Output power(PK detector)	20c(Note2)
<p>Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).</p> <p>Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).</p>	

5.4. Test Procedure

Test Method				
	References Rule		Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10		11.11	Emissions in non-restricted frequency bands
	<input checked="" type="checkbox"/>	ANSI C63.10	11.11.2	Reference level measurement
	<input checked="" type="checkbox"/>	ANSI C63.10	11.11.3	Emission level measurement
<input type="checkbox"/>	ANSI C63.10		11.12	Emissions in restricted frequency bands
	<input type="checkbox"/>	ANSI C63.10	11.12.1	Radiated emission measurements
	<input type="checkbox"/>	ANSI C63.10	11.12.2.7	Radiated spurious emission test
<input type="checkbox"/>	ANSI C63.10		6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
<input type="checkbox"/>	ANSI C63.10		6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
<input checked="" type="checkbox"/>	ANSI C63.10		6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
	<input checked="" type="checkbox"/>	ANSI C63.10	11.12.2	Antenna-port conducted measurements
	<input type="checkbox"/>	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure
		<input checked="" type="checkbox"/>	ANSI C63.10	Peak power measurement procedure
		<input type="checkbox"/>	ANSI C63.10	Average power measurement procedures
	<input type="checkbox"/>	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
		ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
		ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

5.5. EUT test Axis definition

Item	Emissions in non-restricted frequency bands			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>
	<input checked="" type="checkbox"/>	Conducted		
	<input checked="" type="checkbox"/>	Chain 0		
				
	<input type="checkbox"/>	Chain 0	Chain 1	
				
	<input type="checkbox"/>	Chain 0	Chain 1	Chain 2
				

5.6. Test Result

Product Name	: XMSR REMOTE CONTROL	Power	: Battery
Test Mode	: Mode1	Test Site	: TR8
Test Date	: 2016.11.18		

Mode	Channel	Test Frequency (MHz)	In-Band PSD[a] (dBm/100kHz)	Frequency (MHz)	Out-Band PSD[b] (dBm/100kHz)	[a]-[b] (dB)	Limit (dB)	Result
1	01	2401	8.42	2400	-26.357	34.777	>20	Pass
1	16	2463	6.79	2483.5	-30.006	36.796	>20	Pass

Mode 1 CH01(2401MHz)



Note: The worst data was showed above.

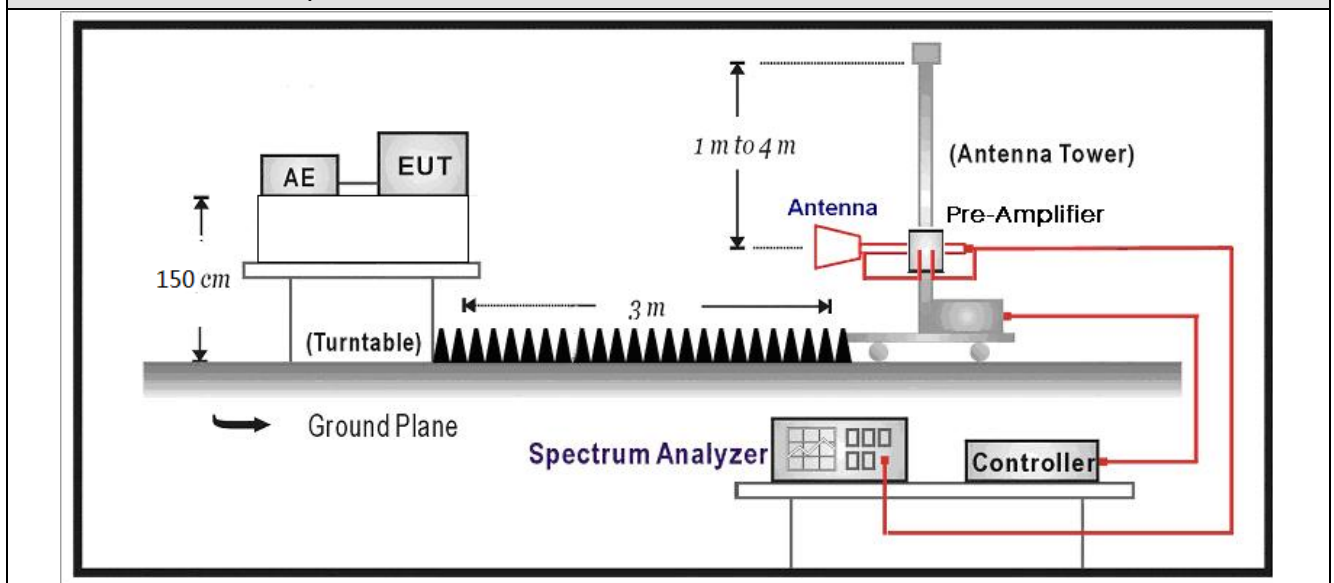
6. Radiated Emission Band Edge

6.1. Test Equipment

Radiated Emission(Above 1GHz) / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2016.07.16	2017.07.16
Pre-Amplifier	Miteq	NSP1800-25	1364185	2016.05.03	2017.05.03
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2016.07.12	2017.07.12
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.09.18	2017.09.18
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.02.28	2017.02.28
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.02.28	2017.02.28
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.05	2017.01.05
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

6.2. Test Setup

Above 1GHz Test Setup:



6.3. Limit

Band edge Limit

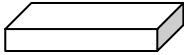
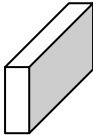
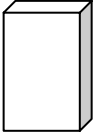
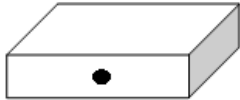

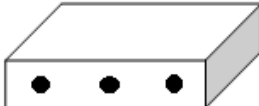
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

6.4. Test Procedure

Test Method						
	References Rule			Chapter	Description	
<input checked="" type="checkbox"/>	ANSI C63.10			6.10	Band-edge testing	
	<input checked="" type="checkbox"/>	ANSI C63.10		6.10.5	Restricted-band band-edge measurements	
	<input type="checkbox"/>	ANSI C63.10		6.10.6	Marker-delta method	
<input checked="" type="checkbox"/>	ANSI C63.10			11.12	Emissions in restricted frequency bands	
	<input checked="" type="checkbox"/>	ANSI C63.10		11.12.1	Radiated emission measurements	
	<input checked="" type="checkbox"/>	ANSI C63.10		11.12.2.7	Radiated spurious emission test	
<input type="checkbox"/>	ANSI C63.10			6.4	Radiated emissions from unlicensed wireless devices below 30 MHz	
<input type="checkbox"/>	ANSI C63.10			6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz	
<input checked="" type="checkbox"/>	ANSI C63.10			6.6	Radiated emissions from unlicensed wireless devices above 1 GHz	
		<input type="checkbox"/>	ANSI C63.10	11.12.2.3	Quasi-peak measurement procedure	
		<input checked="" type="checkbox"/>	ANSI C63.10	11.12.2.4	Peak power measurement procedure	
		<input checked="" type="checkbox"/>	ANSI C63.10	11.12.2.5	Average power measurement procedures	
			<input type="checkbox"/>	ANSI C63.10	11.12.2.5.1	Trace averaging with continuous EUT transmission at full power
			<input type="checkbox"/>	ANSI C63.10	11.12.2.5.2	Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction
			<input checked="" type="checkbox"/>	ANSI C63.10	11.12.2.5.3	Reduced VBW averaging across ON and OFF times of the EUT transmissions with max hold

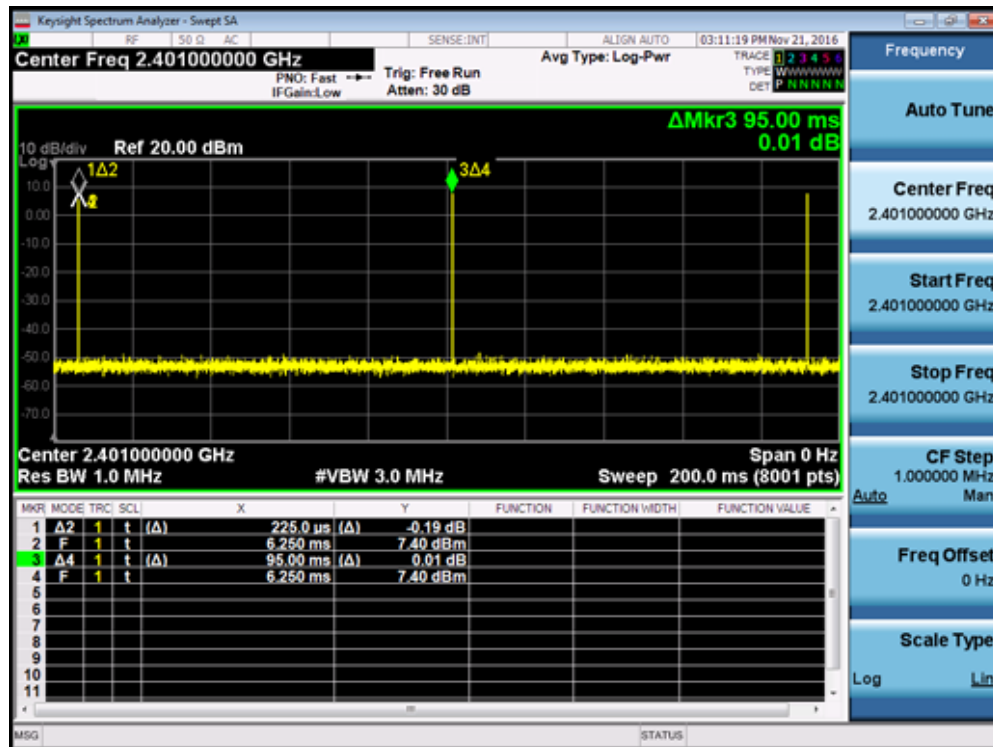
6.5. EUT test definition

Item	Emissions in non-restricted frequency bands			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input checked="" type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input checked="" type="checkbox"/>
	<input type="checkbox"/>	Conducted		
	<input type="checkbox"/>	Chain 0		
				
	<input type="checkbox"/>	Chain 0	Chain 1	
				
	<input type="checkbox"/>	Chain 0	Chain 1	Chain 2
				

6.6. Duty Cycle

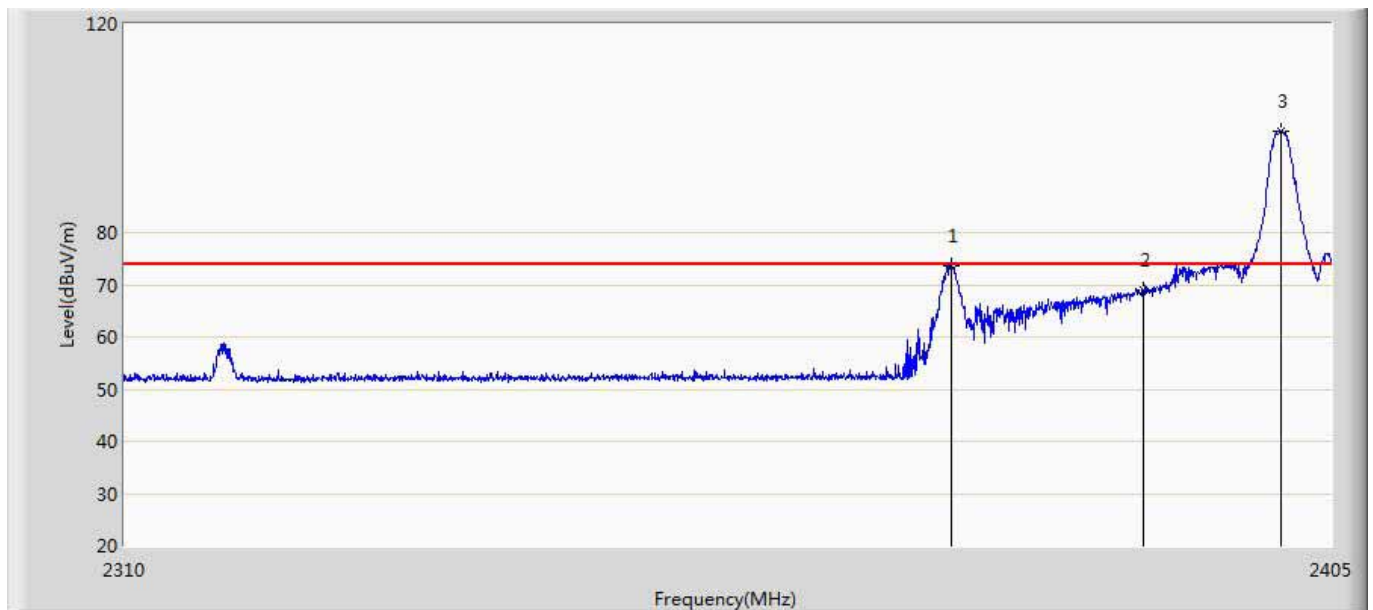
Test Mode	Tx On (ms)	Tx Off (ms)	VBW	Tx On + Tx Off (ms)	Duty Cycle
1	0.225	94.775	5.1kHz	95	0.24%

Mode 1



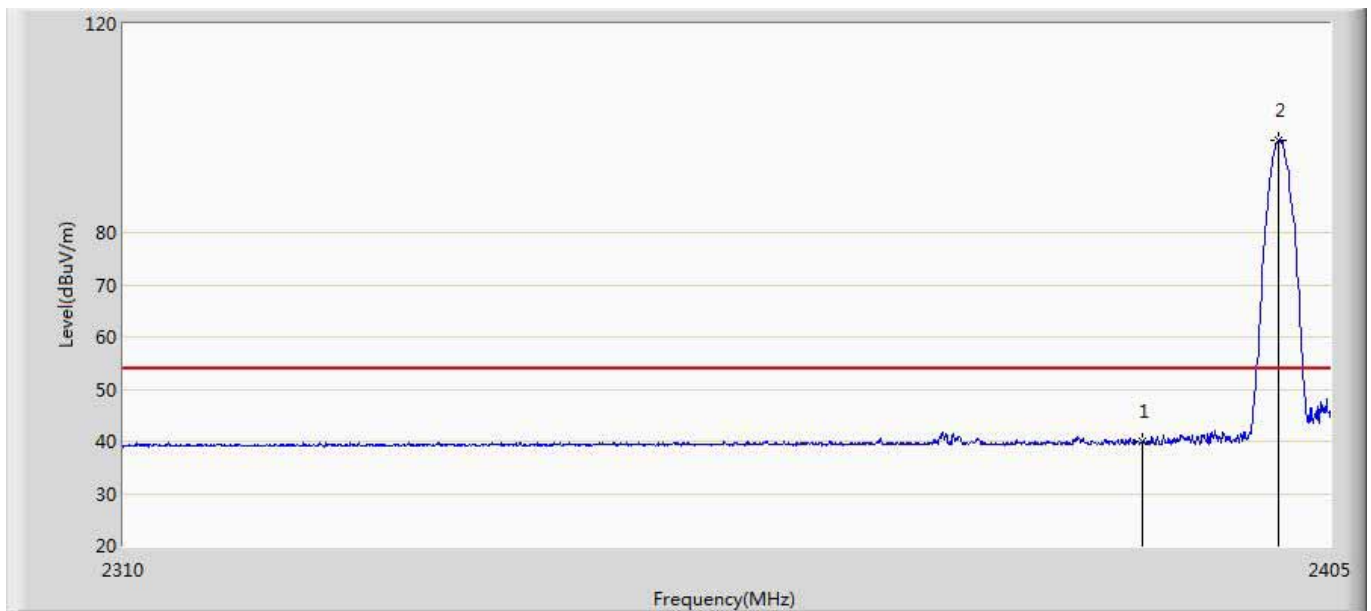
6.7. Test Result

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 09:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH01	



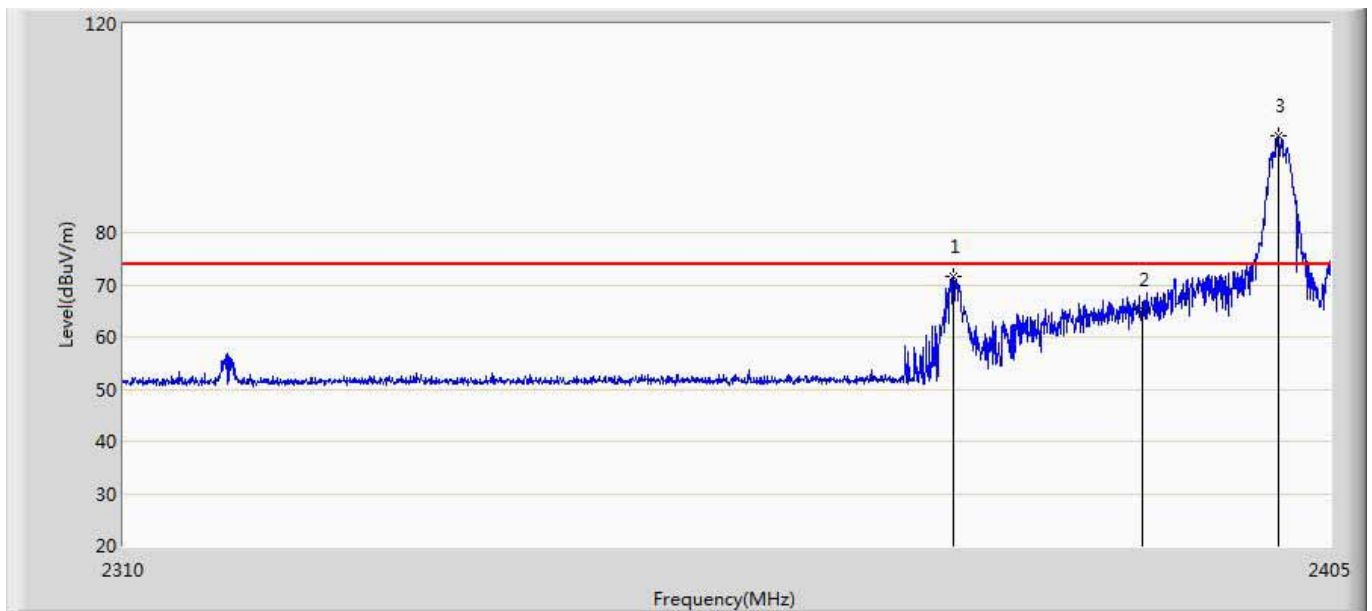
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2374.695	73.739	38.092	-0.261	74.000	35.647	PK
2		2390.000	69.042	33.360	-4.958	74.000	35.682	PK
3	*	2401.010	99.497	63.787	25.497	74.000	35.710	PK

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH01	



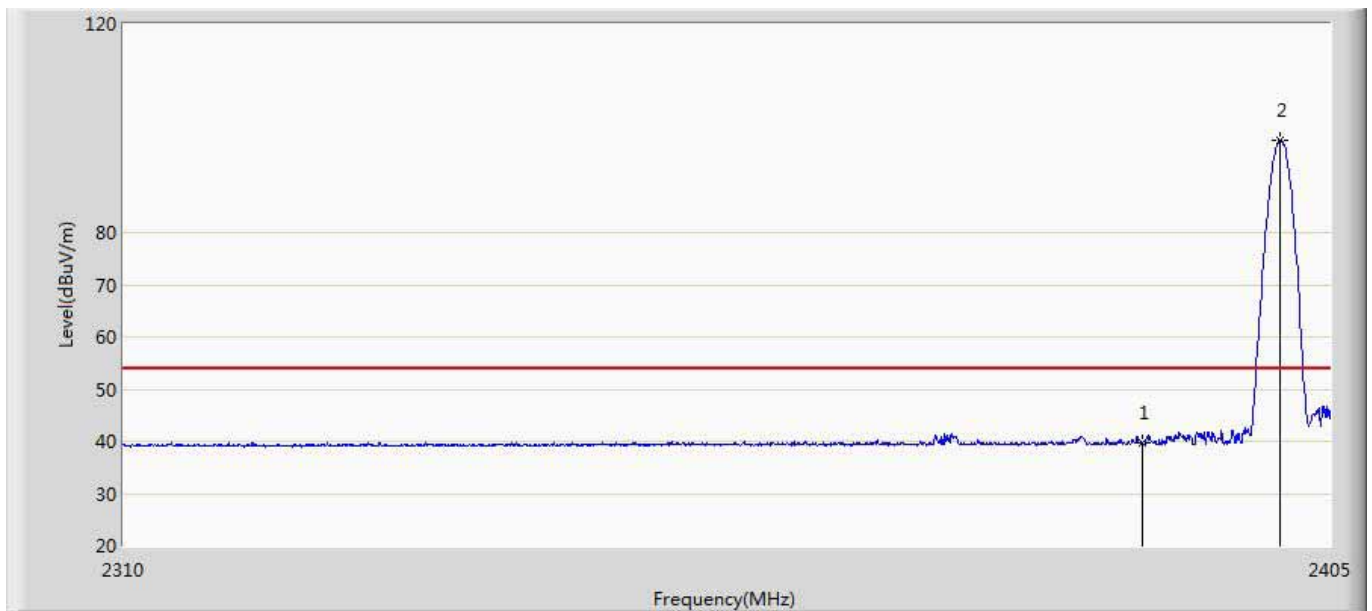
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.883	4.201	-14.117	54.000	35.682	AV
2	*	2400.915	97.798	62.088	43.798	54.000	35.710	AV

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH01	



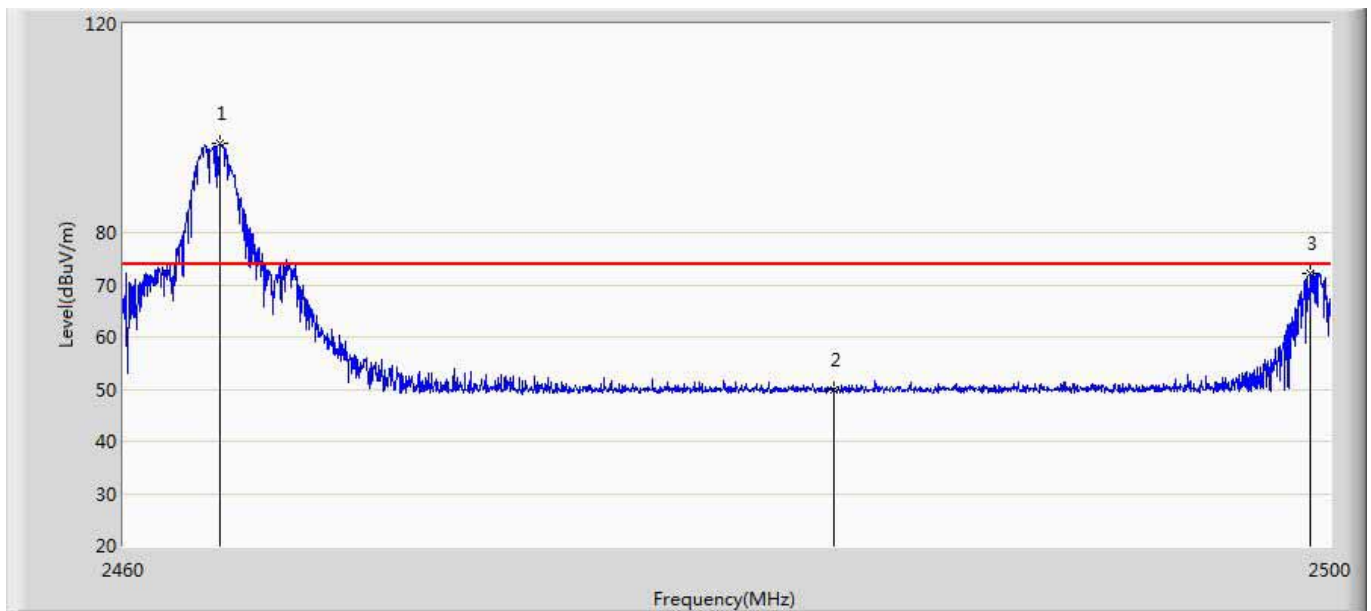
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2374.933	71.645	35.997	-2.355	74.000	35.648	PK
2		2390.000	65.081	29.399	-8.919	74.000	35.682	PK
3	*	2400.820	98.455	62.746	24.455	74.000	35.709	PK

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH01	



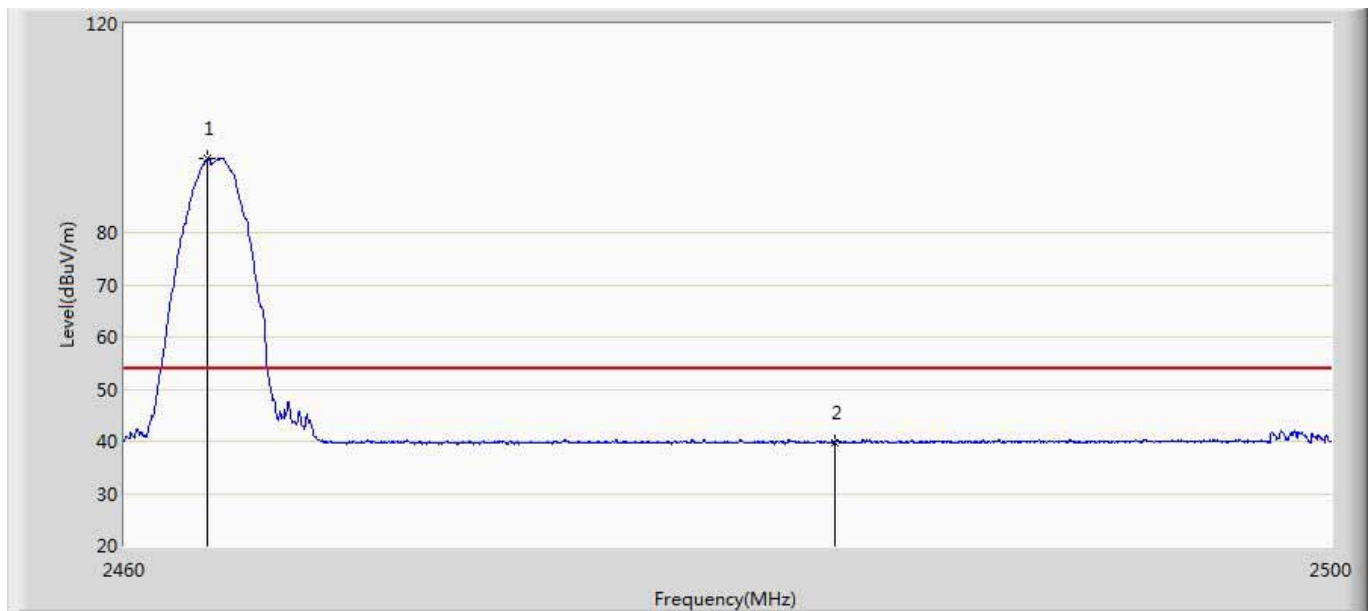
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	39.719	4.037	-14.281	54.000	35.682	AV
2	*	2401.010	97.818	62.108	43.818	54.000	35.710	AV

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH16	



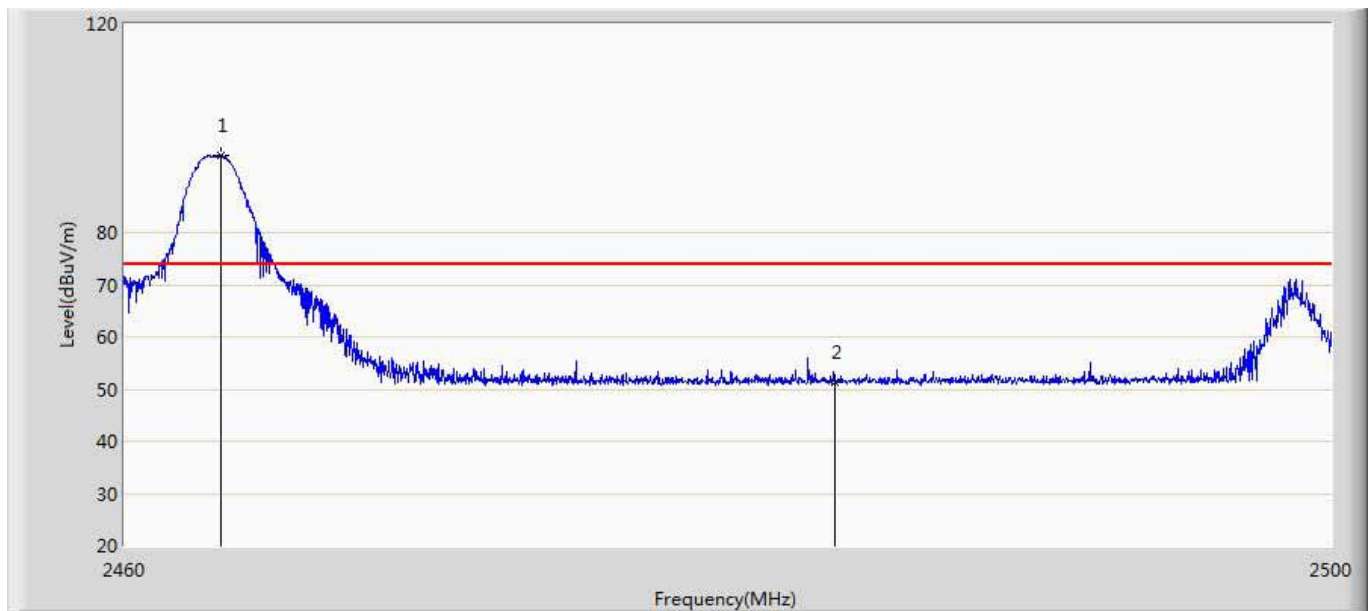
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.200	97.228	61.352	23.228	74.000	35.876	PK
2		2483.500	49.864	13.973	-24.136	74.000	35.891	PK
3		2499.360	72.153	36.183	-1.847	74.000	35.970	PK

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH16	



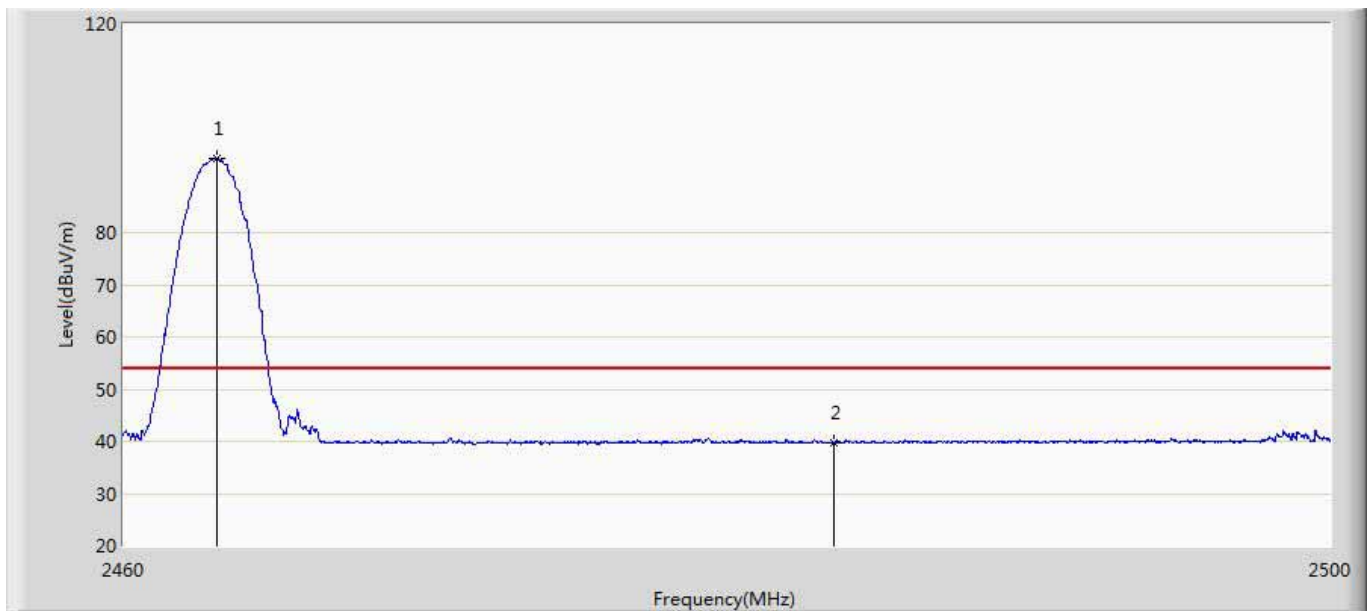
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.740	94.070	58.192	40.070	54.000	35.878	AV
2		2483.500	39.815	3.924	-14.185	54.000	35.891	AV

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH16	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.200	94.698	58.822	20.698	74.000	35.876	PK
2		2483.500	51.412	15.521	-22.588	74.000	35.891	PK

Engineer: Simon	
Site: AC5	Time: 2016/11/18 - 15:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: XMSR REMOTE CONTROL	Power: Battery
Note: Mode 1:Transmit at CH16	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.080	94.272	58.395	40.272	54.000	35.877	AV
2		2483.500	39.809	3.918	-14.191	54.000	35.891	AV

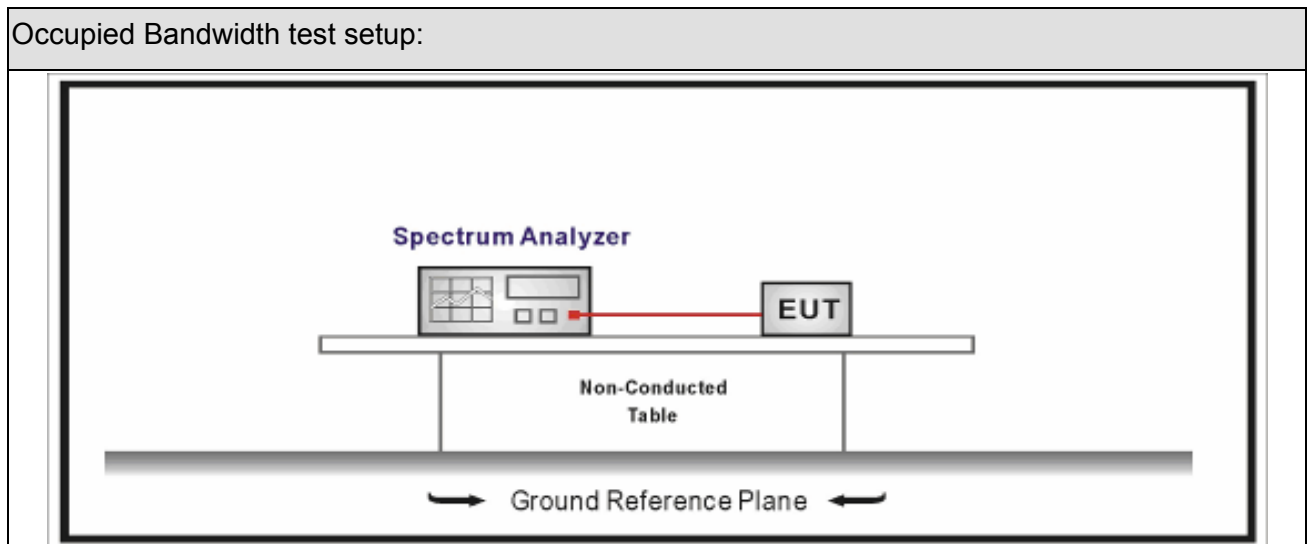
7. Occupied Bandwidth

7.1. Test Equipment

Occupied Bandwidth / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.02.04	2017.02.04
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.09
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.09
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



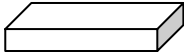
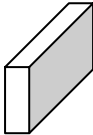
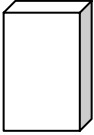
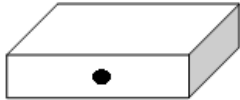

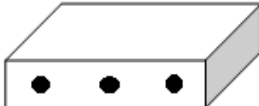
7.3. Limit

Occupied Bandwidth
Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

7.4. Test Procedure

Test Method				
	Reference Rule		Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10		11.8	DTS bandwidth
	<input type="checkbox"/>	ANSI C63.10	11.8.1	Option 1
	<input checked="" type="checkbox"/>	ANSI C63.10	11.8.2	Option 2

7.5. EUT test definition

Item	Occupied Bandwidth			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>
	<input checked="" type="checkbox"/>	Conducted		
	<input checked="" type="checkbox"/>	Chain 0		
				
	<input type="checkbox"/>	Chain 0	Chain 1	
				
	<input type="checkbox"/>	Chain 0	Chain 1	Chain 2
				

7.6. Test Result

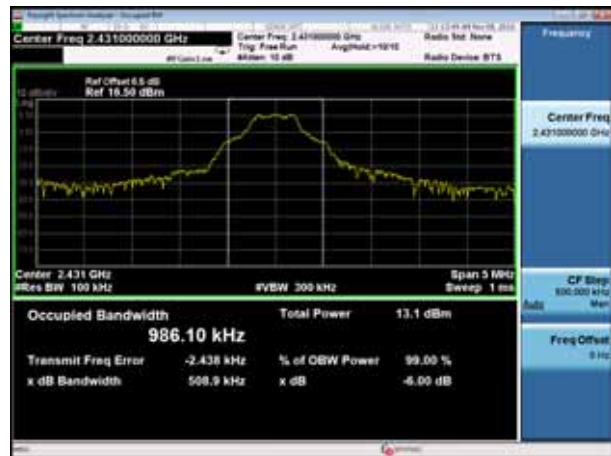
Product Name	: XMSR REMOTE CONTROL	Power	: Battery
Test Mode	: Mode1	Test Site	: TR8
Test Date	: 2016.11.18		

Mode	CH.	Test Freq. (MHz)	99% Occupied Bandwidth (kHz)	6dB Occupied Bandwidth (kHz)	Limit (kHz)	Result
1	01	2401	988.13	511.4	>500	Pass
1	08	2431	986.10	508.9	>500	Pass
1	16	2463	991.67	508.7	>500	Pass

Mode 1 CH01 (2401MHz)



Mode 1 CH08 (2431MHz)



Mode 1 CH16 (2463MHz)



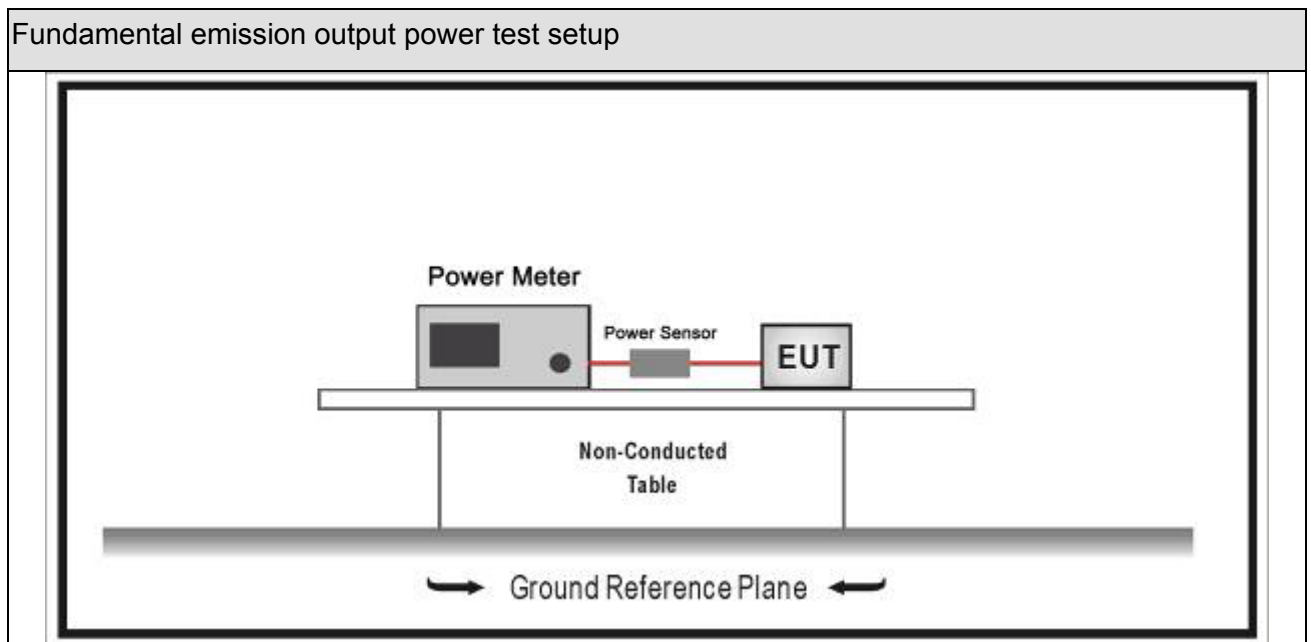
8. Fundamental emission output power

8.1. Test Equipment

Fundamental emission output power/ TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.04	2017.01.04
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.02.04	2017.02.04
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2016.10.14	2017.10.14
Power Sensor	Anritsu	MA2411B	0846014	2016.10.14	2017.10.14
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.10	2017.04.10

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



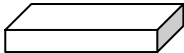
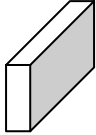
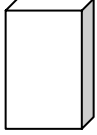

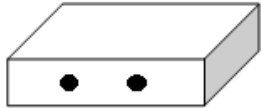

8.3. Limit

Fundamental emission output power Limit		
<input checked="" type="checkbox"/>	$G_{TX} < 6\text{dBi}$	$P_{out} \leq 30\text{dBm}$
<input type="checkbox"/>	$G_{TX} > 6\text{dBi}$	
<input type="checkbox"/>	Non-Fix point-point	$P_{out} \leq 30 - (G_{TX} - 6)$
<input type="checkbox"/>	Fix point-point	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
<input type="checkbox"/>	Point-to-multipoint	$P_{out} \leq 30 - (G_{TX} - 6)$
<input type="checkbox"/>	Overlap Beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
<input type="checkbox"/>	Aggregate power transmitted simultaneously on all beams	$P_{out} \leq 30 - [(G_{TX} - 6)]/3$
<input type="checkbox"/>	single directional beam	$P_{out} \leq 30 - [(G_{TX} - 6)]/3 + 8\text{dB}$
Note 1 : G_{TX} directional gain of transmitting antennas. Note 2 : P_{out} is maximum peak conducted output power .		

8.4. Test Procedure

Fundamental emission output power Test Method						
	References Rule			Chapter	Description	
<input checked="" type="checkbox"/>	ANSI C63.10			11.9	Fundamental emission output power	
	<input checked="" type="checkbox"/>	ANSI C63.10		11.9.1	Maximum peak conducted output power	
		<input type="checkbox"/>	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth	
		<input type="checkbox"/>	ANSI C63.10	11.9.1.2	Integrated band power method	
		<input checked="" type="checkbox"/>	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method	
	<input type="checkbox"/>	ANSI C63.10		11.9.2	Maximum conducted (average) output power	
		<input type="checkbox"/>	ANSI C63.10		11.9.2.2	Measurement using a spectrum analyzer (SA)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle≥98%)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle≥98%)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle≤98%)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle≤98%)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.4	Method AVGSA-3
			<input type="checkbox"/>	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A
		<input type="checkbox"/>	ANSI C63.10		11.9.2.3	Measurement using a power meter (PM)
			<input type="checkbox"/>	ANSI C63.10	11.9.2.3.1	Method AVGPM
			<input type="checkbox"/>	ANSI C63.10	11.9.2.3.2	Method AVGPM-G

8.5. EUT test definition

Item	Fundamental emission output power			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>
	<input checked="" type="checkbox"/>	Conducted		
	<input checked="" type="checkbox"/>	Chain 0		
				
	<input type="checkbox"/>	Chain 0	Chain 1	
				
	<input type="checkbox"/>	Chain 0	Chain 1	Chain 2
				

8.6. Test Result

Product Name	:	XMSR REMOTE CONTROL	Power	:	Battery
Test Mode	:	Mode1	Test Site	:	TR8
Test Date	:	2016.11.18			

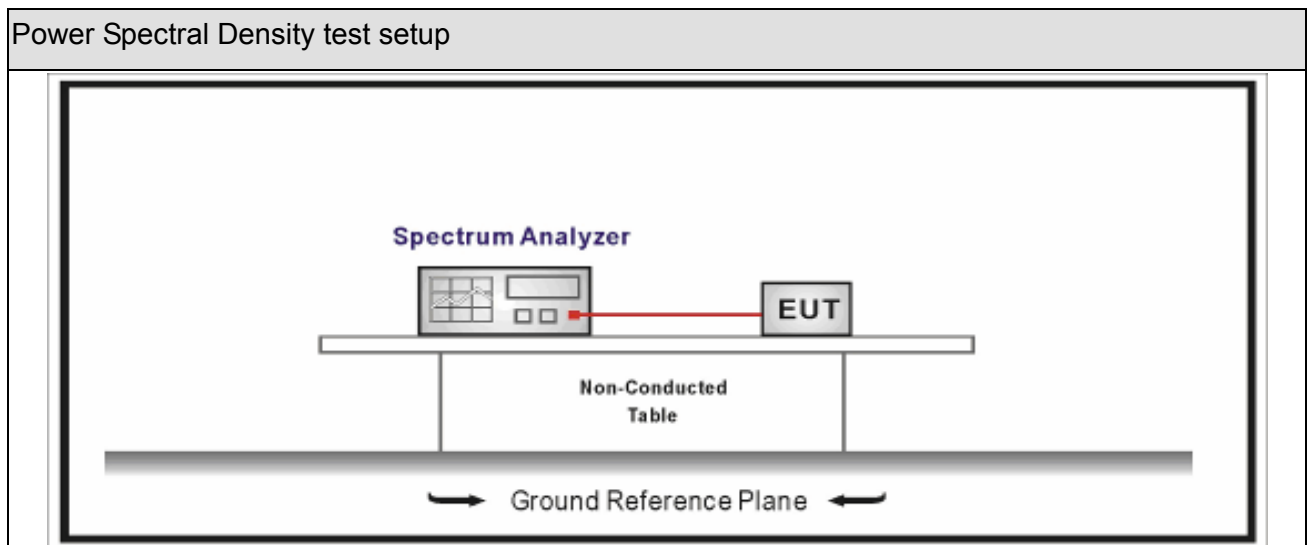
Mode	Channel	Test Frequency (MHz)	Peak Power Output (dBm)	Antenna Gain (dBi)	Limit (dBm)	Result
1	01	2401	8.14	1.8	30	Pass
1	08	2431	7.18	1.8	30	Pass
1	16	2463	6.98	1.8	30	Pass

9. Power Spectral Density

9.1. Test Equipment

Power Spectral Density / TR-8					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2016.02.04	2017.02.04
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2016.04.09	2017.04.09
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2016.04.09	2017.04.09
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.10	2017.04.10
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.					

9.2. Test Setup



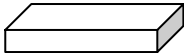
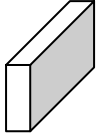
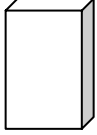

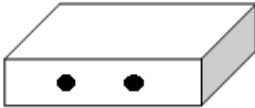

9.3. Limit

Power Spectral Density Limit
Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

9.4. Test Procedure

Power Spectral Density Test Method				
	References Rule		Chapter	Description
<input checked="" type="checkbox"/>	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	<input checked="" type="checkbox"/>	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	<input type="checkbox"/>	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle \geq 98%)
	<input type="checkbox"/>	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle \geq 98%)
	<input type="checkbox"/>	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $<$ 98%)
	<input type="checkbox"/>	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $<$ 98%)
	<input type="checkbox"/>	ANSI C63.10	11.10.7	Method AVGPSD-3
	<input type="checkbox"/>	ANSI C63.10	11.10.8	Method AVGPSD-3A

9.5. EUT test definition

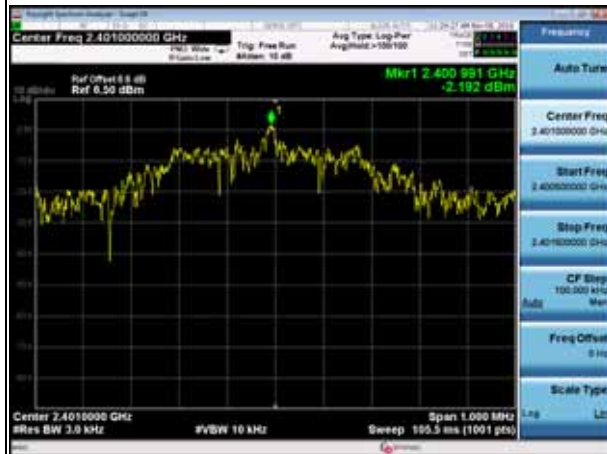
Item	Power Spectral Density Test Method			
Device Category	<input type="checkbox"/>	Fixed position use		
	<input type="checkbox"/>	Mobile position use		
	<input checked="" type="checkbox"/>	Portable use		
Test mode	Mode 1			
Test method	<input type="checkbox"/>	Radiated		
		X Axis	Y Axis	Z Axis
				
		Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>	Worst Axis <input type="checkbox"/>
	<input checked="" type="checkbox"/>	Conducted		
	<input checked="" type="checkbox"/>	Chain 0		
				
	<input type="checkbox"/>	Chain 0	Chain 1	
				
	<input type="checkbox"/>	Chain 0	Chain 1	Chain 2
				

9.6. Test Result

Product Name	: XMSR REMOTE CONTROL	Power	: Battery
Test Mode	: Mode1	Test Site	: TR8
Test Date	: 2016.11.18		

Mode	Channel	Test Frequency (MHz)	Measurement PSD (dBm/3kHz)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	01	2401	-2.192	1.8	8.0	Pass
1	08	2431	-3.339	1.8	8.0	Pass
1	16	2463	-2.038	1.8	8.0	Pass

Mode 1 CH01(2401MHz)



Mode 1 CH08(2431MHz)



Mode 1 CH16(2463MHz)



10. Antenna Requirement

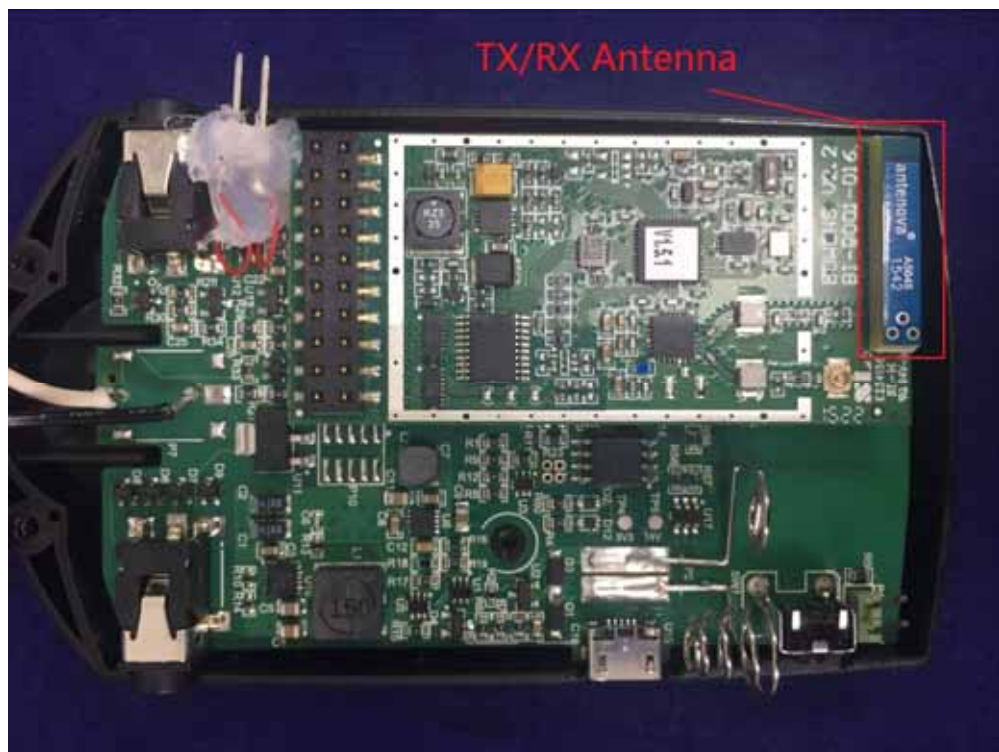
10.1. Limit

Antenna Requirement Limit

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 shall be considered sufficient to comply with the provisions of this section. 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. 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.

10.2. Antenna Connector Construction

The EUT use permanently attached antennas and comply with FCC 15.203.



The End