

FCC

RF

TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
GHOSTDRONE

ISSUED TO

Guangzhou EHang Intelligent Technology Co., Ltd.

Room 402, 4th Floor, 11 Aoti Road, Tianhe District, Guangzhou, China



Tested by:

Cao Shaodong

(Engineer)

Date Dec. 18, 2015

Approved by:

Wei Yanquan

(Chief Engineer)

Date Dec. 18, 2015

Report No.: BL-SZ15A0135-601

EUT Type: GHOSTDRONE

Model Name: GCP-200

Brand Name: EHANG

Test Standard: 47 CFR Part 15 Subpart C

FCC ID: 2ADPF-GCP-200

Test conclusion: Pass

Test Date: Dec. 4, 2015 ~ Dec. 11, 2015

Date of Issue: Dec. 18, 2015

NOTE: This test report can be duplicated completely for the legal use with the approval of the applicant; it shall not be reproduced except in full, without the written approval of Shenzhen BALUN Technology Co., Ltd. BALUN Laboratory. Any objections should be raised within thirty days from the date of issue. To validate the report, please visit BALUN website.

Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions</u>
Rev. 01	Dec. 16, 2015	Initial Issue
Rev. 02	Dec. 18, 2015	Add the test data and the test equipment
_____	_____	_____

TABLE OF CONTENTS

1	ADMINISTRATIVE DATA (GENERAL INFORMATION)	5
1.1	Identification of the Testing Laboratory	5
1.2	Identification of the Responsible Testing Location	5
1.3	Laboratory Condition	5
1.4	Announce	5
2	PRODUCT INFORMATION	7
2.1	Applicant Information	7
2.2	Manufacturer Information	7
2.3	Factory Information	7
2.4	General Description for Equipment under Test (EUT)	7
2.5	Ancillary Equipment	8
2.6	Technical Information	8
3	SUMMARY OF TEST RESULTS	9
3.1	Test Standards	9
3.2	Verdict	9
4	GENERAL TEST CONFIGURATIONS	10
4.1	Test Environments	10
4.2	Test Equipment List	10
4.3	Test Configurations	11
4.4	Description of Test Setup	11
4.4.1	For Antenna Port Test	11
4.4.2	For AC Power Supply Port Test	11
4.4.3	For Radiated Test (Below 30 MHz)	12

4.4.4	For Radiated Test (30 MHz-1 GHz)	12
4.4.5	For Radiated Test (Above 1 GHz)	13
4.5	Test Conditions	14
5	TEST ITEMS	15
5.1	Antenna Requirements	15
5.1.1	Standard Applicable	15
5.1.2	Antenna Anti-Replacement Construction	15
5.1.3	Antenna Gain	15
5.2	20 dB Bandwidth	16
5.2.1	Limit	16
5.2.2	Test Setups	16
5.2.3	Test Procedure	16
5.2.4	Test Result	16
5.3	Conducted Emission	17
5.3.1	Limit	17
5.3.2	Test Setups	17
5.3.3	Test Procedure	17
5.3.4	Test Result	17
5.4	Radiated Spurious Emission	18
5.4.1	Limit	18
5.4.2	Test Setups	18
5.4.3	Test Procedure	18
5.4.4	Test Result	19
5.5	Band Edge	20
5.5.1	Limit	20
5.5.2	Test Setups	20
5.5.3	Test Procedure	20
5.5.4	Test Result	20
ANNEX A	TEST RESULT	21
A.1	20dB bandwidth	21

A.2	Conducted Emission	23
A.3	Radiated Emission	24
A.4	Band Edge	32
ANNEX B	TEST SETUP PHOTOS	34
ANNEX C	EUT EXTERNAL PHOTO	34
ANNEX D	EUT INTERNAL PHOTOS	34

1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory has been listed by US Federal Communications Commission to perform electromagnetic emission measurements. The recognition numbers of test site are 832625. The laboratory has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005. The accreditation certificate number is TL-588. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20 to 25°C
Ambient Relative Humidity	45% - 55%
Ambient Pressure	100 kPa - 102 kPa

1.4 Announce

- (1) The test report reference to the report template version v2.1.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.

- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Guangzhou EHang Intelligent Technology Co.,Ltd.
Address	Room 402, 4th Floor, 11 Aoti Road, Tianhe District, Guangzhou, China

2.2 Manufacturer Information

Manufacturer	Guangzhou EHang Intelligent Technology Co.,Ltd.
Address	Room 402, 4th Floor, 11 Aoti Road, Tianhe District, Guangzhou, China

2.3 Factory Information

Factory	Guangzhou EHang Intelligent Technology Co.,Ltd.
Address	Buliding #3, No.72, 2nd Nanxiang Road, Science City, Huangpu Development Zone, Guangzhou, China

2.4 General Description for Equipment under Test (EUT)

EUT Type	GHOSTDRONE
Under Test Model Name	GCP-200
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V2.0
Software Version	V2.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
Network and Wireless connectivity	5.8 G FM, 2.4G ISM Band (GFSK modulation)

2.5 Ancillary Equipment

Ancillary Equipment 1	The Battery	
	Brand Name	EHANG
	Model No.	GBT-200
	Serial No.	N/A
	Capacitance	4500 mAh
	Rated Voltage	14.8 V
	Limit Charge Voltage	16.8 V
Ancillary Equipment 2	The AC/DC ADAPTER	
	Brand Name	EHANG
	Model No.	GAT-200
	Serial No.	N/A
	Rated Input	100-240 V~, 2 A, 50-60 Hz
	Rated Output	16.8 V=, 3.5 A

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	5.725 GHz – 5.850 GHz
Test Channel	1 (5.7325 GHz), 3 (5.7825 GHz), 5 (5.8325 GHz)
Modulation Type	GFSK
Transfer Rate (Mbps)	1.5 Mbps
Antenna Type	Dipole Antenna
Antenna Gain	1.1 dBi (All involve the antenna gain test item, has been included in the final results)
Adaptive or Non-Adaptive	Non-Adaptive
The Max RF Output power	5.54 dBm
About the Product	The equipment is GHOSTDRONE, it contains RF modules operating at 2.4 GHz and 5.8 GHz ISM band. Only the 5.8 G FM (operation on the 5.725 GHz ~ 5.85 GHz frequency band) was tested in this report.

Channel List:

Channel No.	Frequency(GHz)
1	5.7325
2	5.7575
3	5.7825
4	5.8075
5	5.8325
Note: The low channel frequency is 5.7325 GHz; the middle channel frequency is 5.7825 GHz; the high channel frequency is 5.8325 GHz	

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (10-1-14 Edition)	Intentional Radiators
3	ANSI C63.4-2014	American National Standard for Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
4	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Antenna Requirement	15.203 15.249(b)	--	Pass ^{Note1}
2	20 dB Bandwidth	15.215(c)	ANNEX A.1	Pass
3	Conducted Emission	15.207	ANNEX A.2	N/A ^{Note2}
4	Radiated Spurious Emission	15.249(a)	ANNEX A.3	Pass
5	Band Edge	15.249(a)	ANNEX A.4	Pass

Note 1: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note 2: The EUT only can be powered by battery. The adapter only alone to recharge the battery, when the battery charge by the adapter, the battery must be removed from the EUT.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	45% - 55%	
Atmospheric Pressure	100 kPa - 102 kPa	
Temperature	NT (Normal Temperature)	-10°C to +40°C
Working Voltage of the EUT	NV (Normal Voltage)	14.8 V/DC

4.2 Test Equipment List

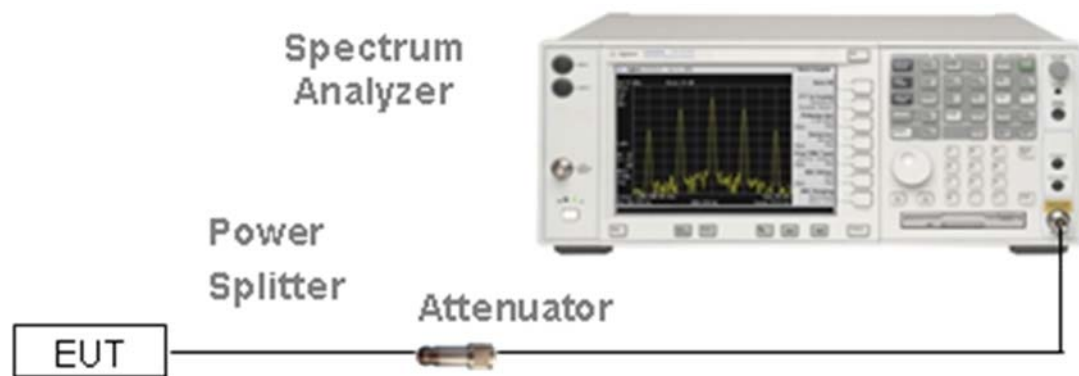
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2015.07.16	2016.07.15
Vector Signal Generator	ROHDE&SCHWARZ	SMBV100A	177746	2015.07.16	2016.07.15
Signal Generator	ROHDE&SCHWARZ	SMB100A	260592	2015.07.01	2016.06.30
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2015.07.16	2016.07.15
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2015.10.18	2016.10.17
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2015.07.14	2016.07.13
LISN	SCHWARZBECK	NSLK 8127	8127-687	2015.07.14	2016.07.13
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2015.07.16	2016.07.15
Power Splitter	KMW	DCPD-LDC	1305003215	2015.07.01	2016.06.30
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2015.07.21	2016.07.20
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2015.07.17	2016.07.16
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2015.08.07	2016.08.06
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2015.07.22	2017.07.21
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2015.07.22	2017.07.21
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2015.07.22	2017.07.21
Test Antenna-Horn(15-26.5 GHz)	SCHWARZBECK	BBHA 9170	9170-305	2015.07.22	2017.07.21
Test Antenna-Horn(18-40 GHz)	SCHWARZBECK	BBHA 9170	9170-1025	2015.07.22	2017.07.21
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2015.02.28	2016.02.27
Shielded Enclosure	ChangNing	CN-130701	130703	--	--

4.3 Test Configurations

Test Configurations (TC) NO.	Description	
	Signal Description	Operating Frequency
Transmitter		
TC01	GFSK modulation	5725 - 5850 MHz

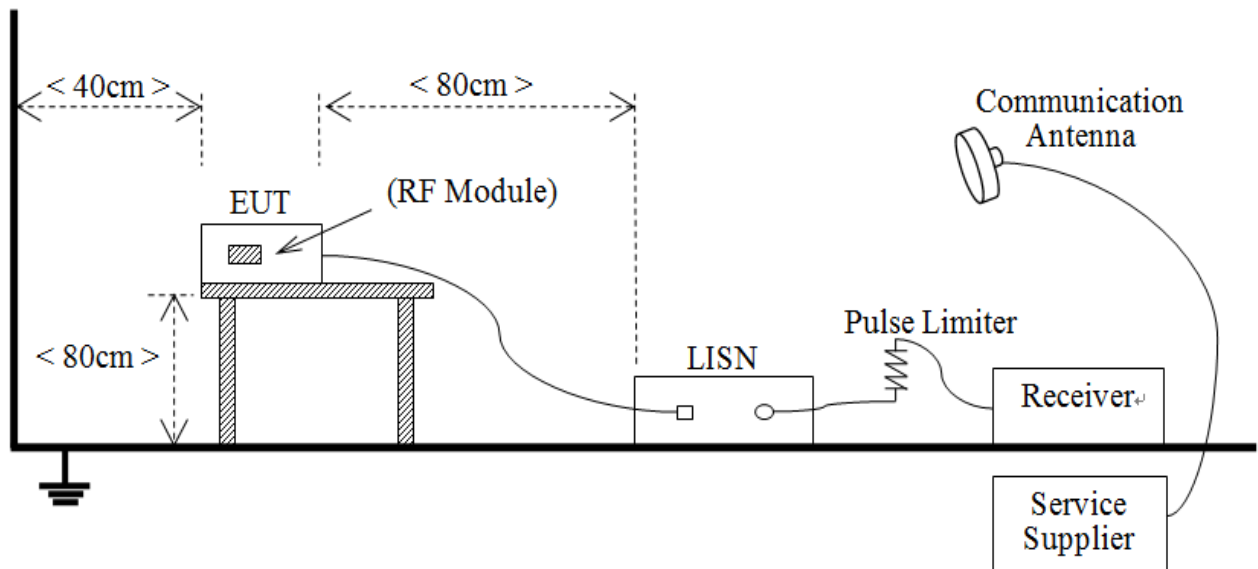
4.4 Description of Test Setup

4.4.1 For Antenna Port Test



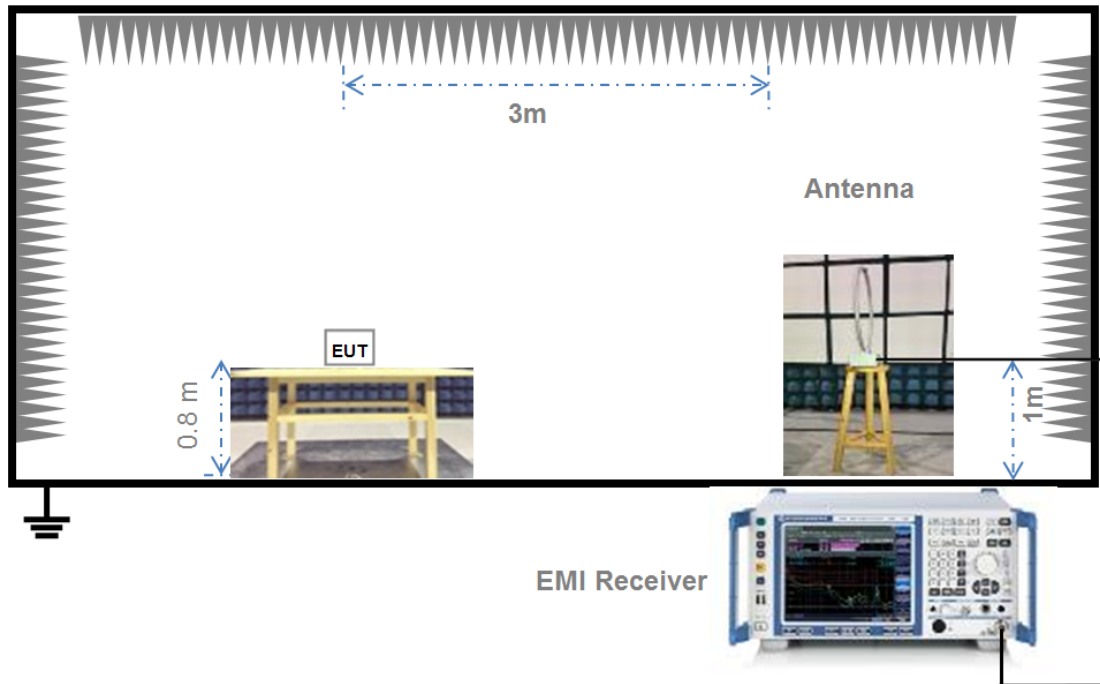
(Diagram 1)

4.4.2 For AC Power Supply Port Test



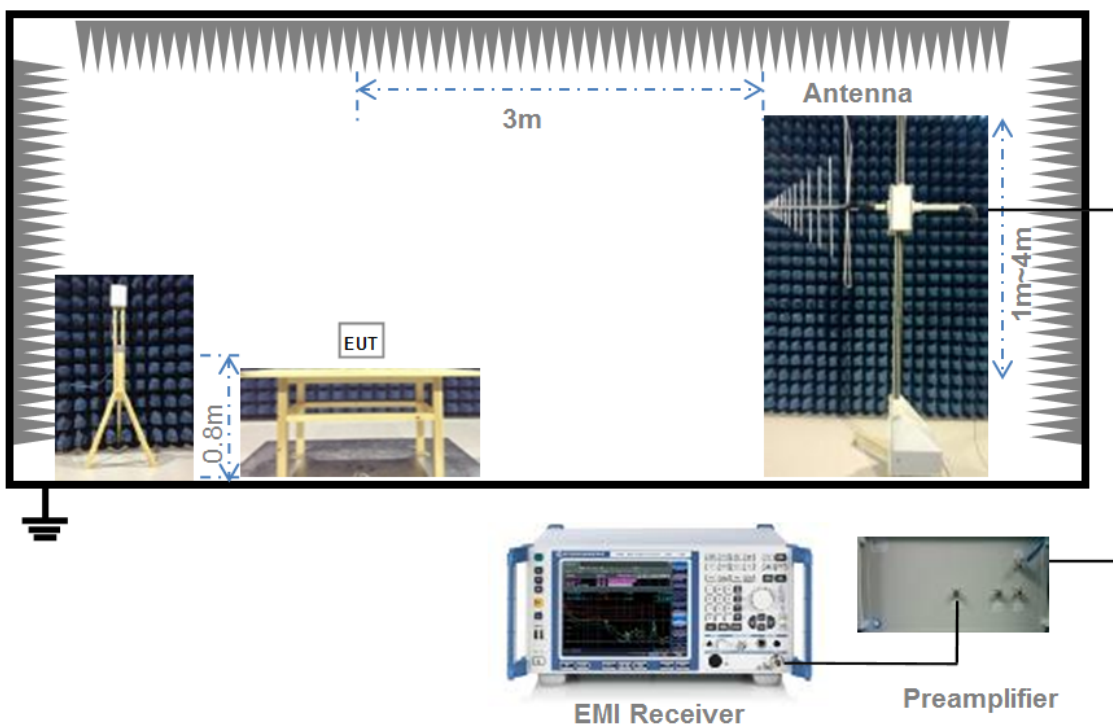
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)



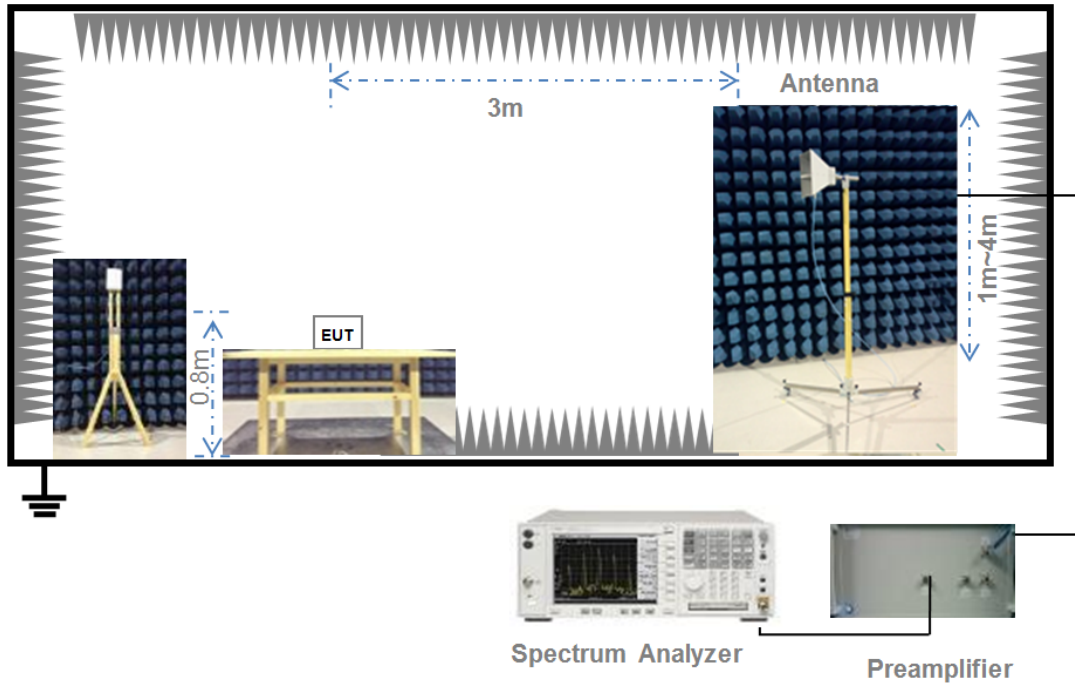
(Diagram 3)

4.4.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.5 Test Conditions

Test Case	Test Conditions		
	Test Env.	Test Setup ^{Note 1}	Test Configuration ^{Note 2}
20dB Bandwidth	NTNV	Test Setup 1	TC01
Conducted Emission	N/A	N/A	N/A
Radiated Emission	NTNV	Test Setup 3 Test Setup 4 Test Setup 5	TC01
Band Edge	NTNV	Test Setup 5	TC01
Note: 1. Please refer to section 4.4 for test setup details. 2. Please refer to section 4.3 for test configuration details.			

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Standard Applicable

FCC §15.203 & 15.249(b)

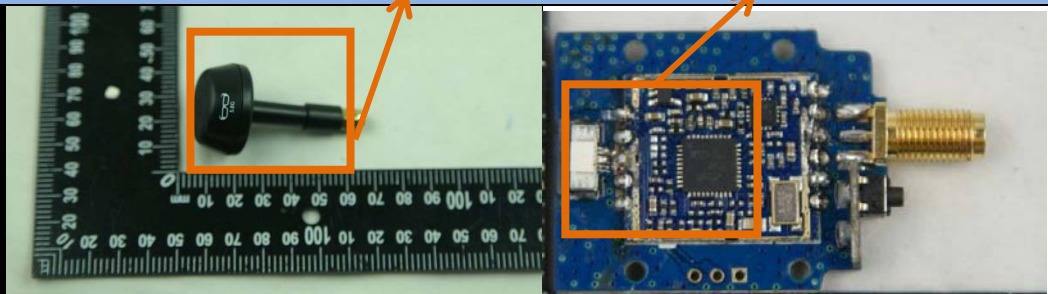
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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.

Antenna gain must be at least 33 dBi. Alternatively, the main lobe beamwidth must not exceed 3.5 degrees. The beamwidth limit shall apply to both the azimuth and elevation planes. At antenna gains over 33 dBi or beamwidths narrower than 3.5 degrees, power must be reduced to ensure that the field strength does not exceed 2500 millivolts/meter.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is An embedded-in	An embedded-in antenna design is used.

Reference Documents	Item	DIPOLE Antenna	5GHz Module
Photo			

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 33 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 20 dB Bandwidth

5.2.1 Limit

FCC §15.215(c)

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.2.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW $\geq$ 1% of the 20 dB bandwidth

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Conducted Emission

5.3.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.3.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Note: this device powered by battery, conducted emission at main port is not request.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Radiated Spurious Emission

5.4.1 Limit

FCC §15.249(a)

Except as provided in paragraph (a) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (μV/m)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

- For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
- For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.4.2 Test Setups

See section 4.1.2-4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented. The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Band Edge

5.5.1 Limit

FCC §15.249(a)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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.

5.5.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation

RBW $\geq$ 1% of the span

VBW $\geq$ RBW

Sweep = auto

Detector function = peak /AV

Trace = max hold

Allow the trace to stabilize.

$E \text{ [dB}\mu\text{V/m]} = UR + AT + A\text{Factor [dB]}; AT = LCable \text{ loss [dB]} - G\text{preamp [dB]}$

AT: Total correction Factor except Antenna

UR: Receiver Reading

Gpreamp: Preamplifier Gain

AFactor: Antenna Factor at 3m

5.5.4 Test Result

Please refer to ANNEX A.4.

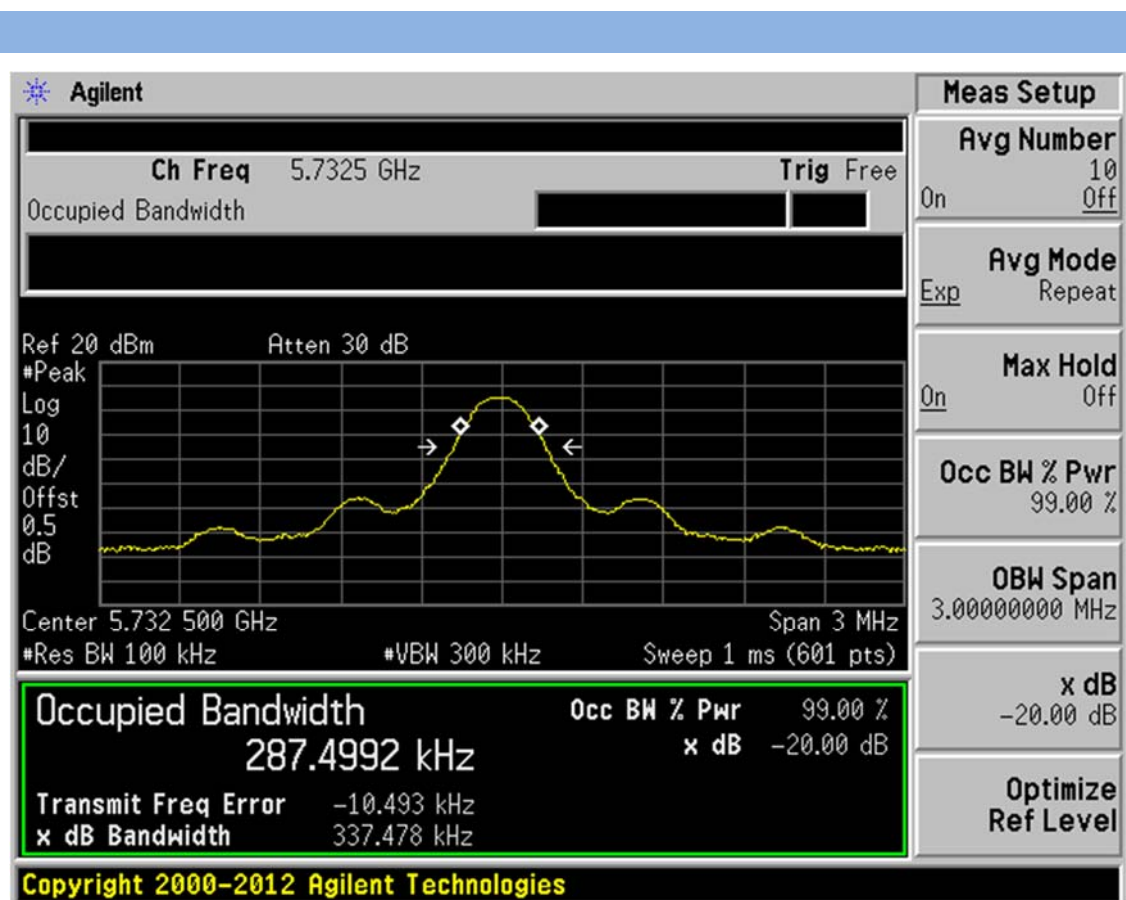
ANNEX A TEST RESULT

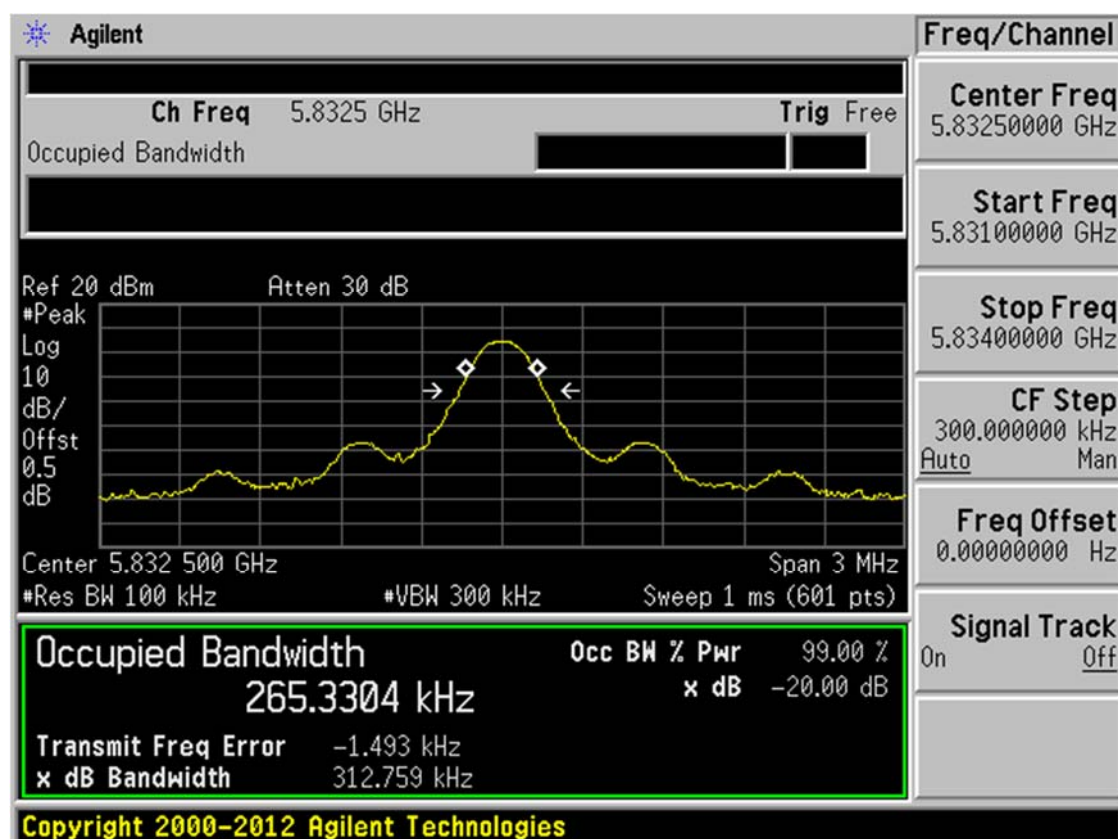
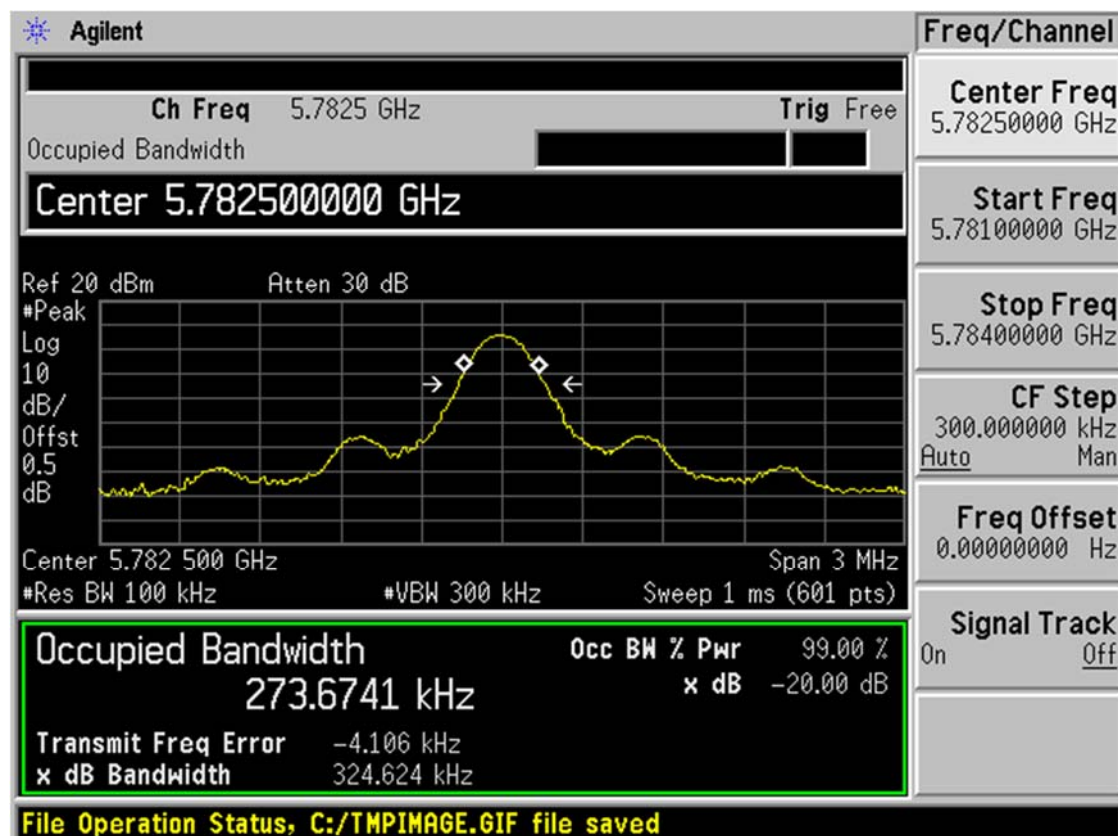
A.1 20dB bandwidth

Test Data

Channel	20 dB Bandwidth (MHz)
Low	0.337478
Middle	0.324624
High	0.312759

Test plots





A.2 Conducted Emission

N/A

A.3 Radiated Emission

Note 1: The symbol of “--” in the table which means not application.

Note 2: Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency (the upper frequency to 40 GHz).

Note 3: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.

Note 4: Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20 dB from the applicable limit) and considered that's already beyond the background noise floor.

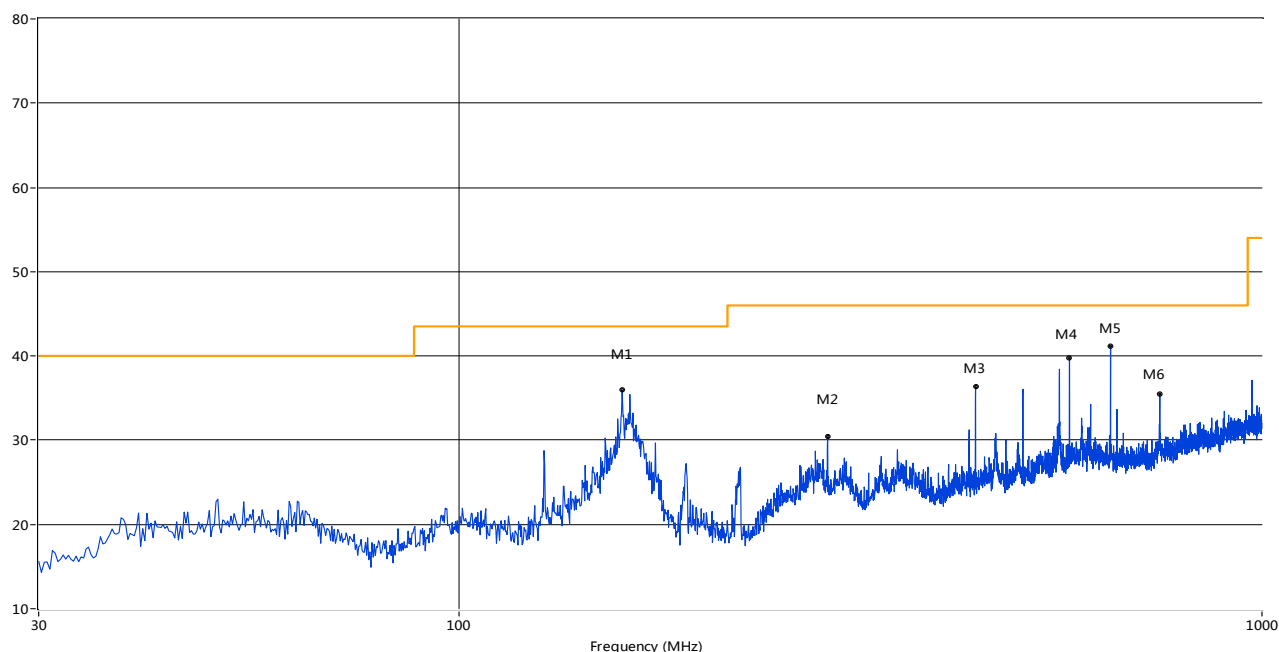
Test Data and Plots (Below 1GHz)

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

The frequency which started from 30 MHz to 1 GHz All configurations have been tested, only the worst configuration (High Channel) shown here.

30 MHz to 1 GHz, ANT V

RE Test case_FCC 15B 30MHz-1GHz

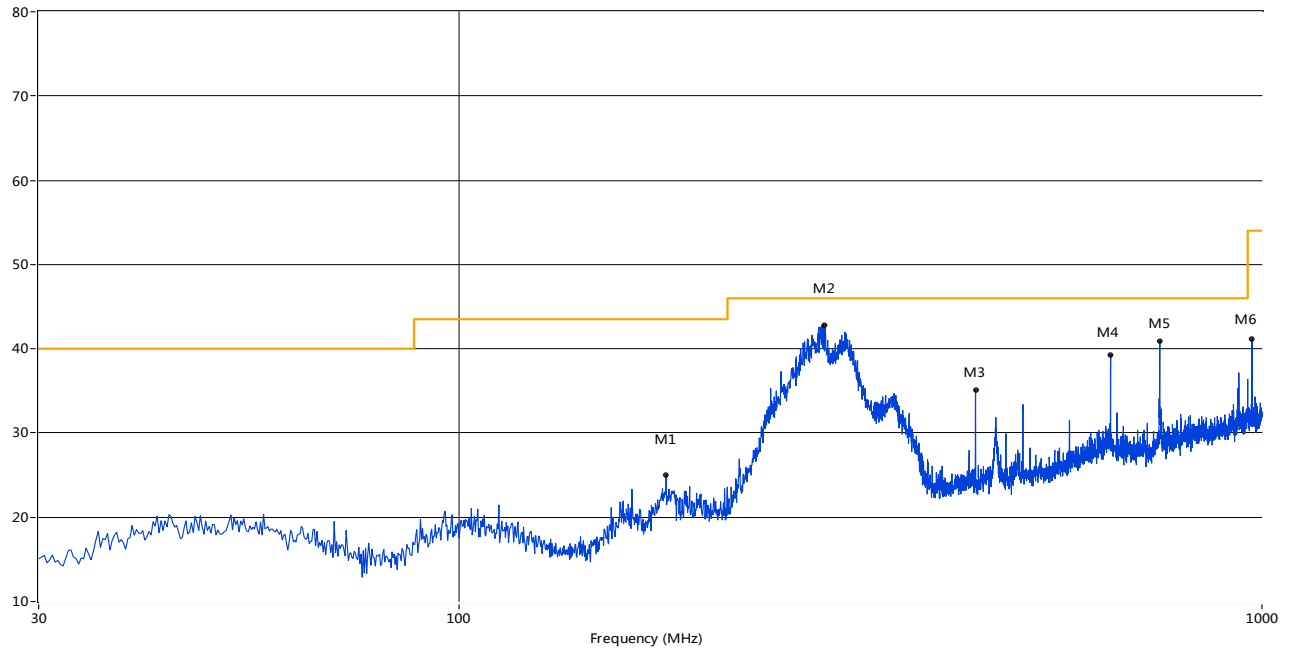


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	159.71	35.92	-23.01	43.5	7.58	Peak	218.00	100	Vertical	Pass

2	287.96	30.39	-18.11	46.0	15.61	Peak	311.90	100	Vertical	Pass
3	439.96	35.13	-14.50	46.0	10.87	Peak	244.60	100	Vertical	Pass
4	575.97	39.78	-11.64	46.0	6.22	Peak	60.40	100	Vertical	Pass
5	647.74	41.13	-10.20	46.0	4.87	Peak	120.00	100	Vertical	Pass
6	745.92	35.54	-8.64	46.0	10.46	Peak	164.00	100	Vertical	Pass

30 MHz to 1 GHz, ANT H

RE Test case_FCC 15B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	181.28	25.01	-22.02	43.5	18.49	Peak	174.20	100	Horizontal	Pass
2	284.80	42.80	-18.19	46.0	3.20	Peak	358.80	100	Horizontal	Pass
3	439.96	35.13	-14.50	46.0	10.87	Peak	244.60	100	Horizontal	Pass
4	647.98	39.23	-10.20	46.0	6.77	Peak	67.60	100	Horizontal	Pass
5	745.92	40.93	-8.64	46.0	5.07	Peak	67.60	100	Horizontal	Pass
6	971.88	41.12	-4.77	54.0	12.88	Peak	72.80	100	Horizontal	Pass

Test Data (1 GHz ~ 12.75 GHz)

Test Channel: Low Channel

Fre. (MHz)		Pk (dBuV/m)	AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Degree	Antenna	Verdict
Fundamental	5723.19	88.32	--	114.0	94.0	326.00	Vertical	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Vertical	--
	N/A	--	--	74.0	54.0	--	Vertical	--
Spurious	1279.30	43.82	--	74.0	54.0	326.00	Vertical	Pass
	2331.67	46.95	--	74.0	54.0	306.00	Vertical	Pass
	2750.62	50.53	--	74.0	54.0	60.00	Vertical	Pass
	7329.80	47.44	--	74.0	54.0	218.00	Vertical	Pass
	11504.36	50.21	--	74.0	54.0	357.00	Vertical	Pass
Fundamental	5820.45	88.28	--	114.0	94.0	144.00	Horizontal	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Horizontal	--
	N/A	--	--	74.0	54.0	--	Horizontal	--
Spurious	1244.39	44.39	--	74.0	54.0	122.00	Horizontal	Pass
	2127.18	48.32	--	74.0	54.0	19.00	Horizontal	Pass
	2935.16	51.71	--	74.0	54.0	77.00	Horizontal	Pass
	7211.97	48.45	--	74.0	54.0	326.00	Horizontal	Pass
	9972.57	49.84	--	74.0	54.0	16.00	Horizontal	Pass

Test Channel: Middle Channel

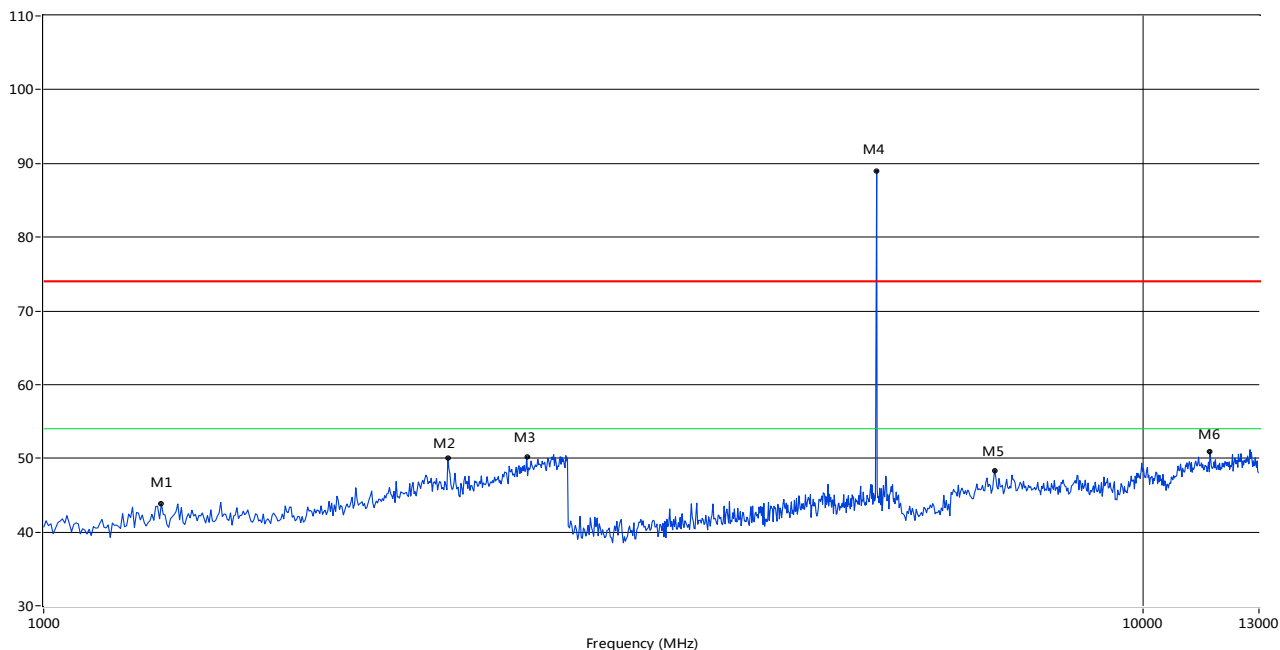
Fre. (MHz)		Pk (dBuV/m)	AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Degree	Antenna	Verdict
Fundamental	5723.19	88.59	--	114.0	94.0	157.00	Vertical	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Vertical	--
	N/A	--	--	74.0	54.0	--	Vertical	--
Spurious	1169.58	43.48	--	74.0	54.0	43.00	Vertical	Pass
	1778.06	45.17	--	74.0	54.0	7.00	Vertical	Pass
	2755.61	50.90	--	74.0	54.0	287.00	Vertical	Pass
	7195.14	47.93	--	74.0	54.0	356.00	Vertical	Pass
	11655.86	51.05	--	74.0	54.0	165.00	Vertical	Pass
Fundamental	5827.93	88.47	--	114.0	94.0	159.00	Horizontal	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Horizontal	--
	N/A	--	--	74.0	54.0	--	Horizontal	--
Spurious	1169.58	43.48	--	74.0	54.0	43.00	Horizontal	Pass
	1778.06	45.17	--	74.0	54.0	7.00	Horizontal	Pass
	2755.61	50.90	--	74.0	54.0	287.00	Horizontal	Pass
	7195.14	47.93	--	74.0	54.0	356.00	Horizontal	Pass
	11655.86	51.05	--	74.0	54.0	165.00	Horizontal	Pass

Test Channel: High Channel

Fre. (MHz)		Pk (dBuV/m)	AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Degree	Antenna	Verdict
Fundamental	5820.45	88.88	--	114.0	94.0	134.00	Vertical	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Vertical	--
	N/A	--	--	74.0	54.0	--	Vertical	--
Spurious	1264.34	43.39	--	74.0	54.0	247.00	Vertical	Pass
	1877.81	45.57	--	74.0	54.0	255.00	Vertical	Pass
	2870.32	51.39	--	74.0	54.0	114.00	Vertical	Pass
	7565.46	47.40	--	74.0	54.0	227.00	Vertical	Pass
	11453.86	50.75	--	74.0	54.0	58.00	Vertical	Pass
Fundamental	5820.45	89.73	--	114.0	94.0	144.00	Horizontal	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Horizontal	--
	N/A	--	--	74.0	54.0	--	Horizontal	--
Spurious	1244.39	44.39	--	74.0	54.0	346.00	Horizontal	Pass
	2127.18	48.32	--	74.0	54.0	51.00	Horizontal	Pass
	2935.16	51.71	--	74.0	54.0	183.00	Horizontal	Pass
	7211.97	48.45	--	74.0	54.0	268.00	Horizontal	Pass
	11457.98	50.88	--	74.0	54.0	134.00	Horizontal	Pass

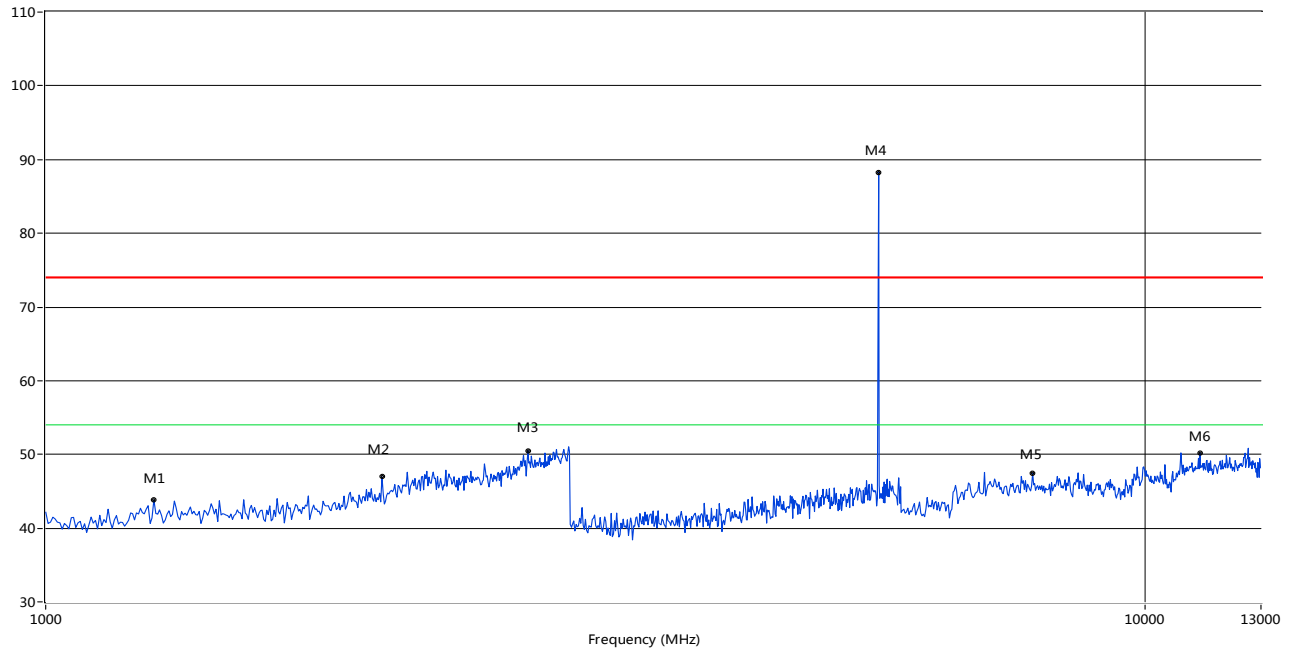
LOW CHANNEL 1 GHz to 12.75 GHz, ANT V

RE Test case_FCC 15C_SA 1GHz-12.75GHz



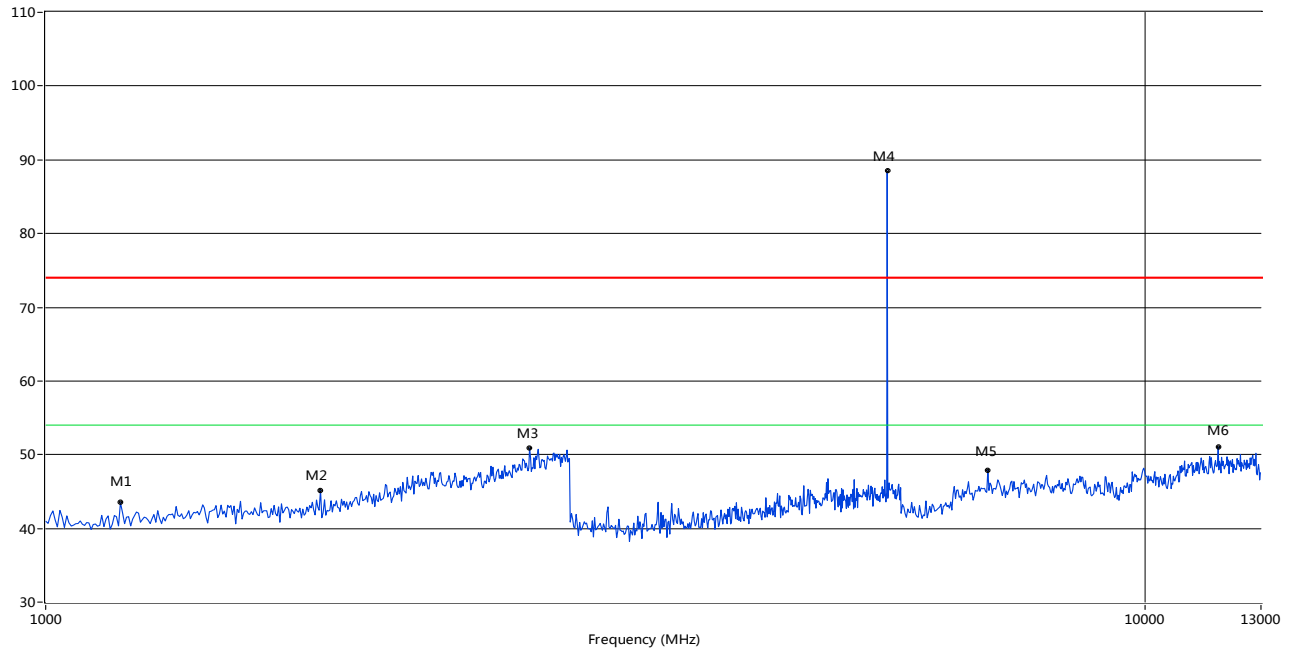
LOW CHANNEL 1 GHz to 12.75 GHz, ANT H

RE Test case_FCC 15C_SA 1GHz-12.75GHz



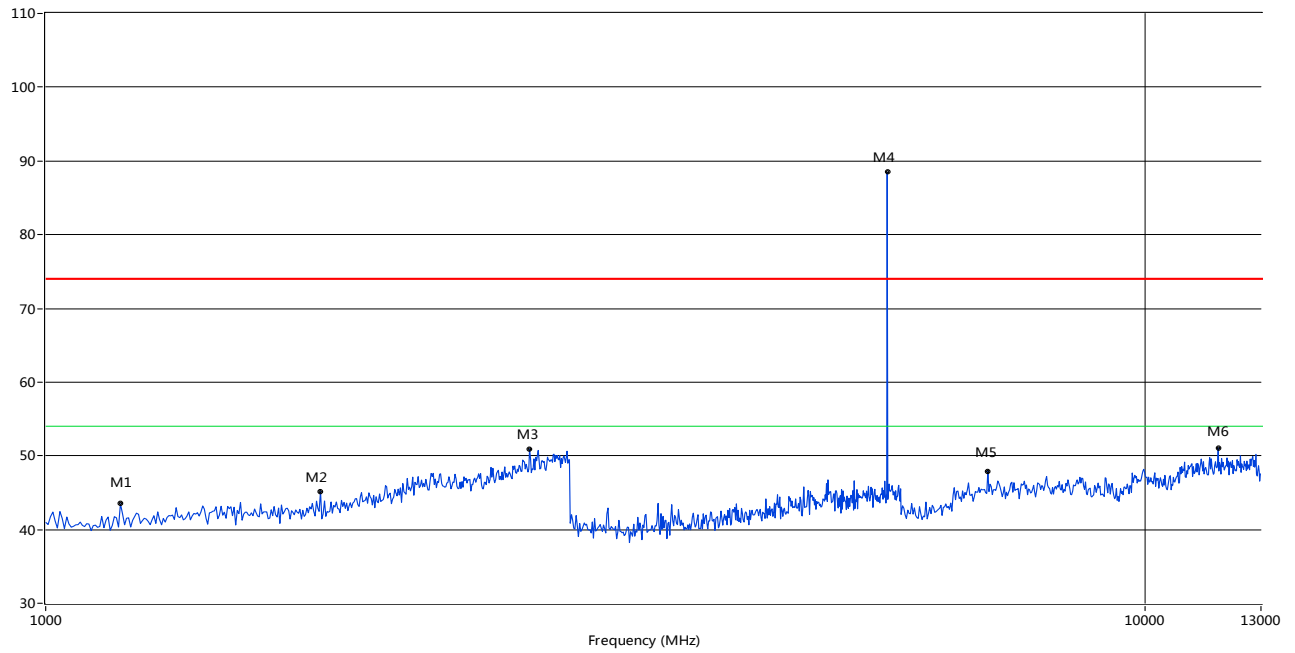
MIDDLE CHANNEL 1 GHz to 12.75 GHz, ANT V

RE Test case_FCC 15C_SA 1GHz-12.75GHz



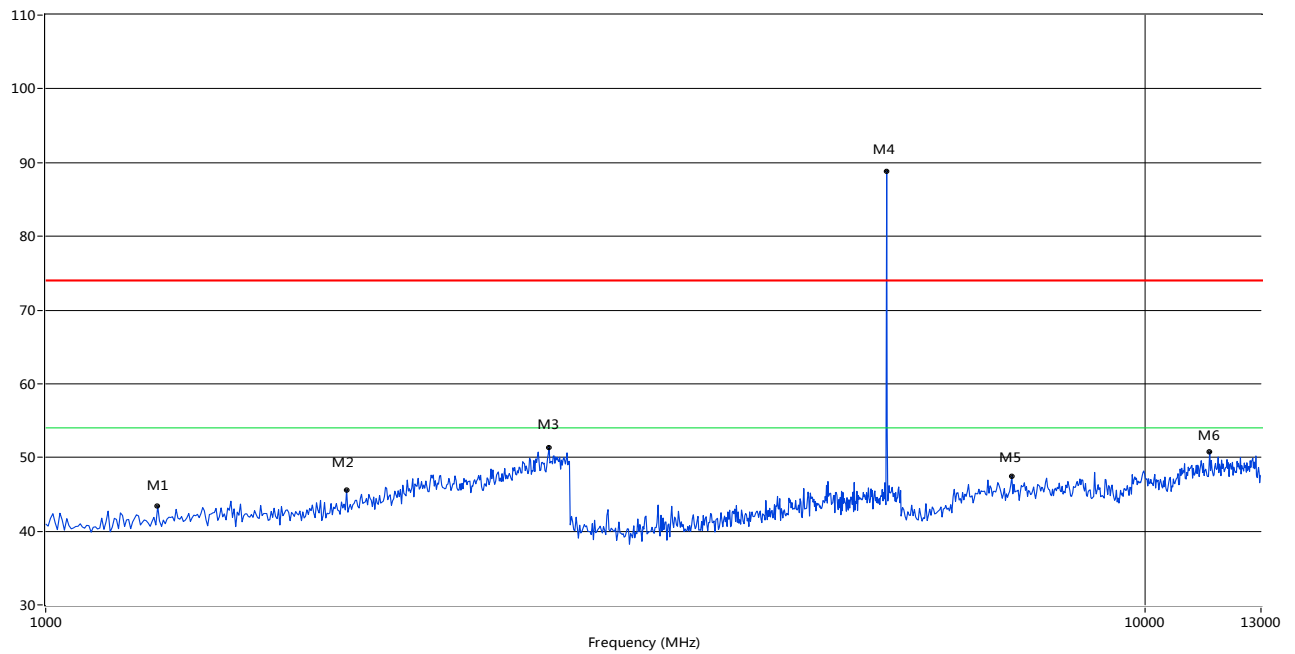
MIDDLE CHANNEL 1 GHz to 12.75 GHz, ANT H

RE Test case_FCC 15C_SA 1GHz-12.75GHz



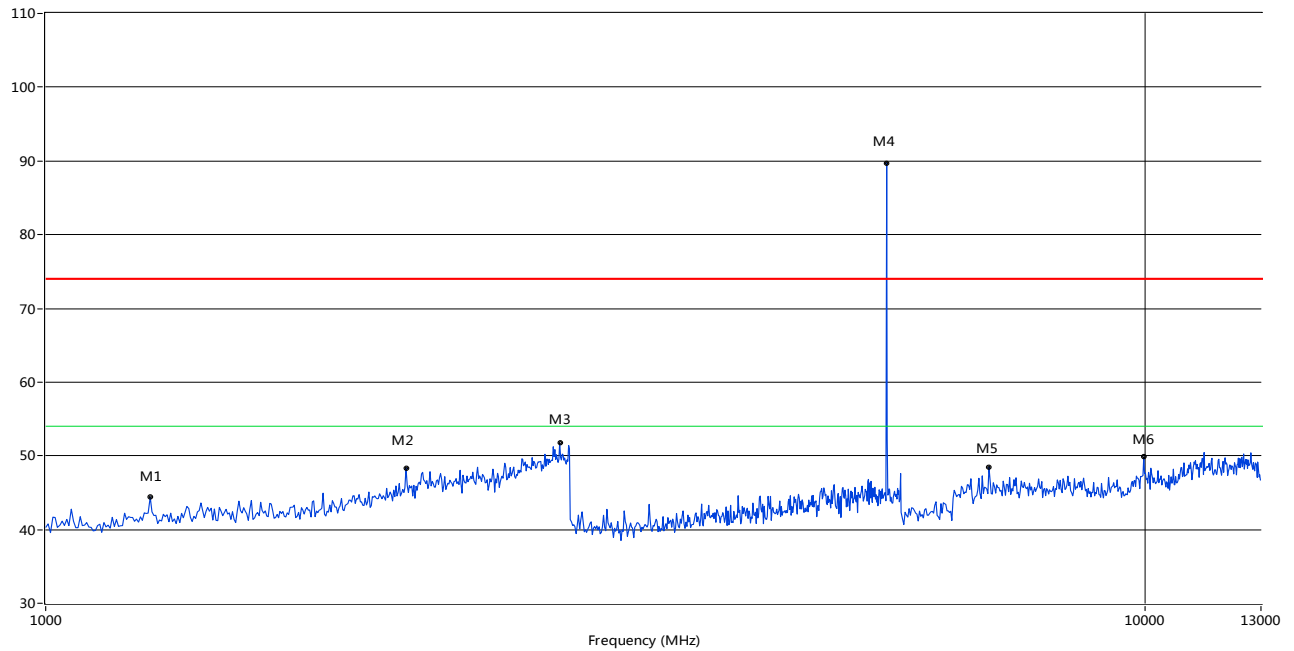
HIGH CHANNEL 1 GHz to 12.75 GHz, ANT V

RE Test case_FCC 15C_SA 1GHz-12.75GHz



HIGH CHANNEL 1 GHz to 12.75 GHz, ANT H

RE Test case_FCC 15C_SA 1GHz-12.75GHz



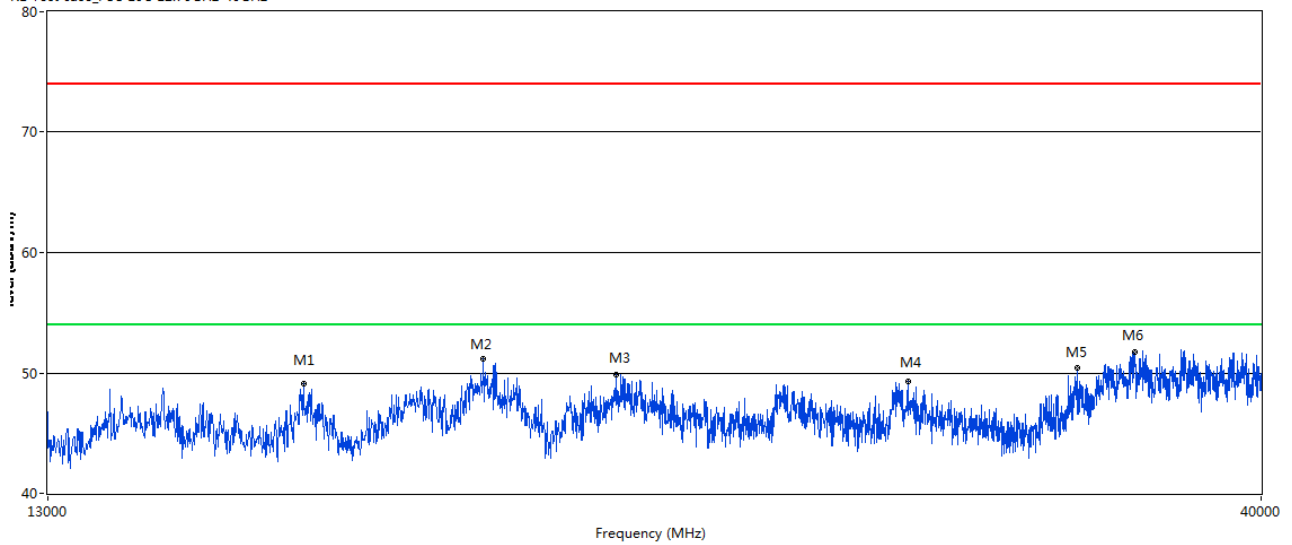
Test Data (12.75 GHz ~ 40 GHz)

The frequency which started from 12.75 GHz to 40 GHz All configurations have been tested, only the worst configuration (High Channel) shown here.

Fre. (MHz)		Pk (dBuV/m)	AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Degree	Antenna	Verdict
Harmonic	N/A	--	--	74.0	54.0	--	Vertical	--
	N/A	--	--	74.0	54.0	--	Vertical	--
Spurious	16223.38	49.14	--	74.0	54.0	216.00	Vertical	Pass
	19219.63	51.25	--	74.0	54.0	132.00	Vertical	Pass
	21775.37	49.88	--	74.0	54.0	153.00	Vertical	Pass
	28684.10	49.27	--	74.0	54.0	254.00	Vertical	Pass
	33626.18	50.14	--	74.0	54.0	179.00	Vertical	Pass
Harmonic	N/A	--	--	74.0	54.0	--	Horizontal	--
	N/A	--	--	74.0	54.0	--	Horizontal	--
Spurious	14216.31	49.56	--	74.0	54.0	54.00	Horizontal	Pass
	19449.63	50.95	--	74.0	54.0	188.00	Horizontal	Pass
	21445.14	50.91	--	74.0	54.0	125.00	Horizontal	Pass
	33047.50	51.47	--	74.0	54.0	340.00	Horizontal	Pass
	34364.59	51.74	--	74.0	54.0	12.00	Horizontal	Pass

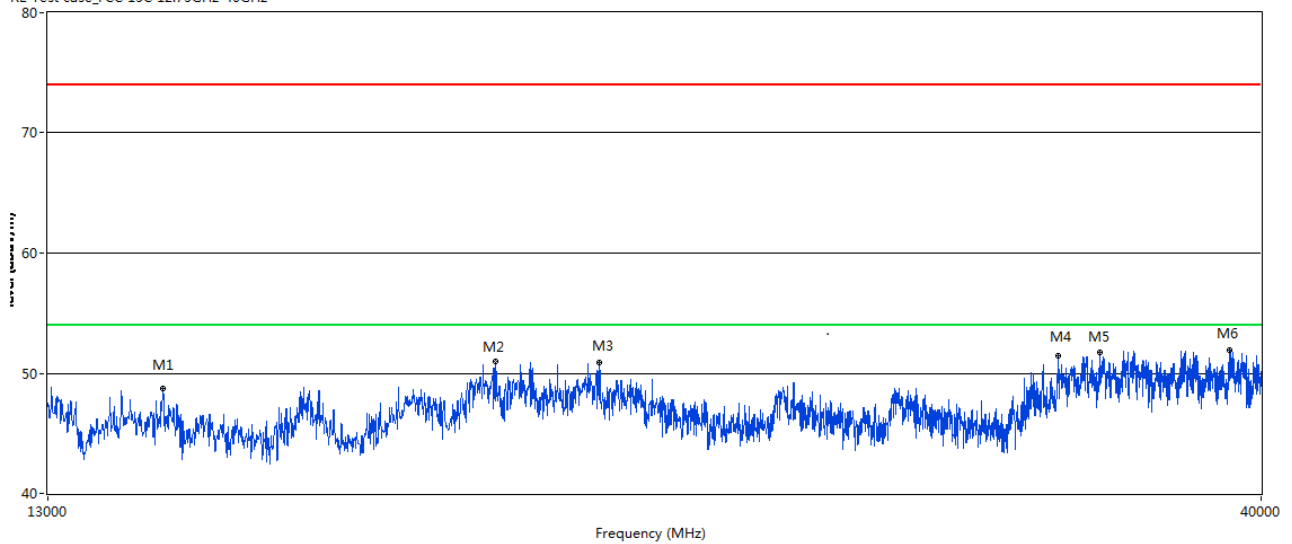
HIGH CHANNEL 12.75 GHz to 40 GHz, ANT V

RE Test case_FCC 15C 12.75GHz-40GHz



HIGH CHANNEL 12.75 GHz to 40 GHz, ANT H

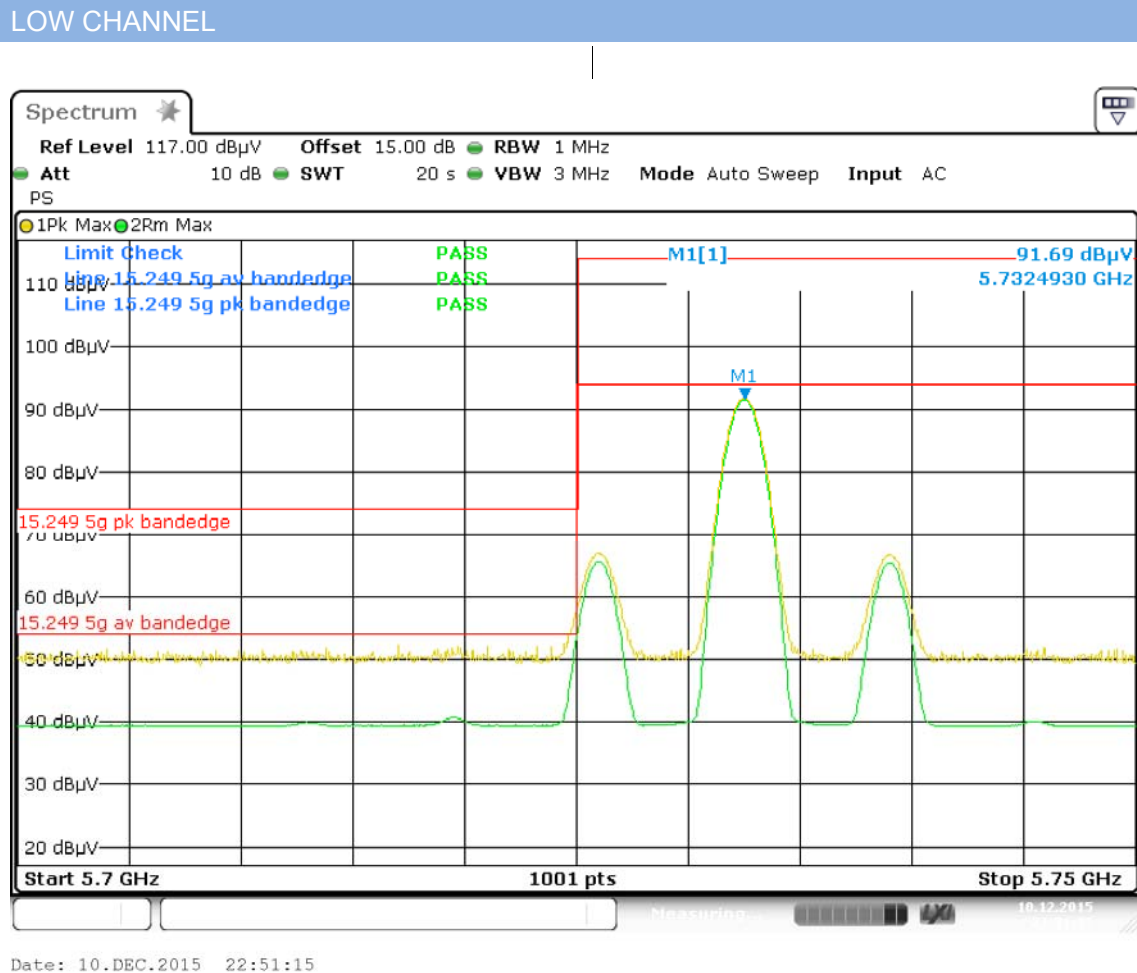
RE Test case_FCC 15C 12.75GHz-40GHz



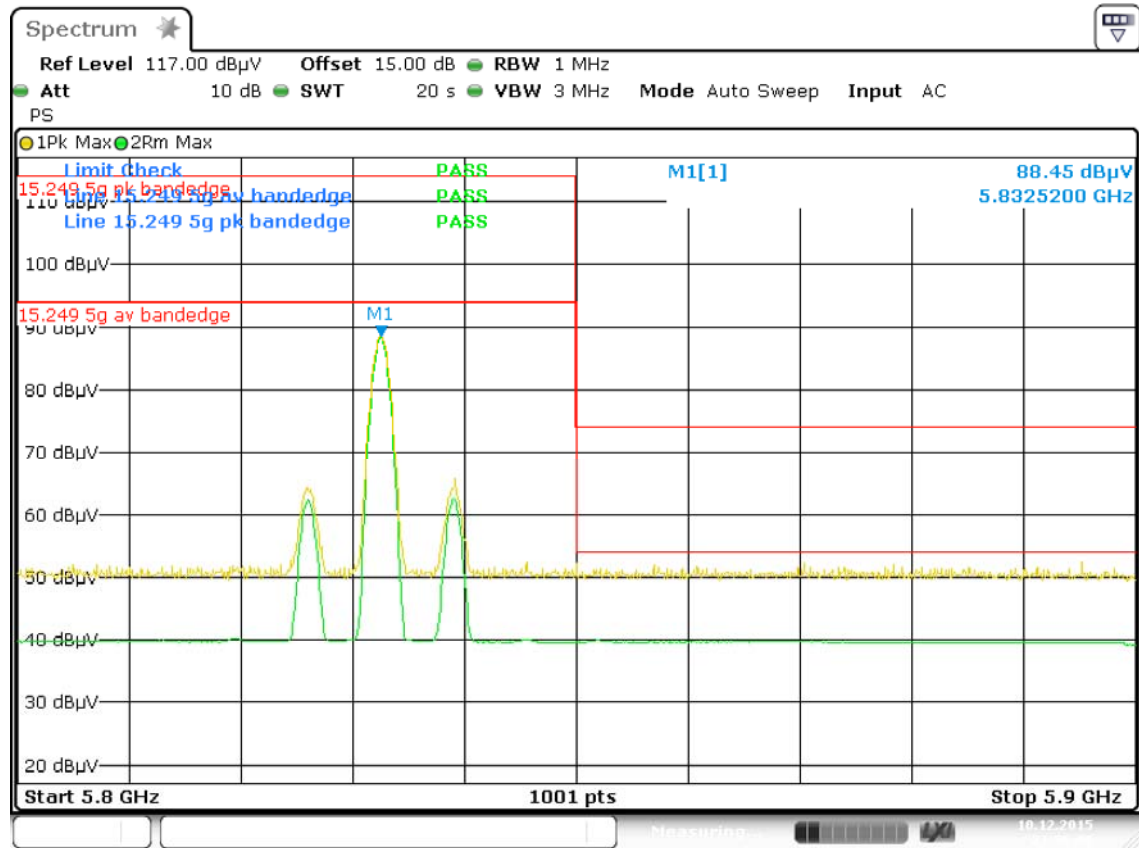
A.4 Band Edge

Test Data and Test Plots

Note 1: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.



HIGH CHANNEL



Date: 10.DEC.2015 22:56:08

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ15A0135-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTO

Please refer the document “BL-SZ15A0135-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ15A0135-AI.PDF”.

--END OF REPORT--