FCC RF TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

CUBE Environmental Sensor

ISSUED TO
HANGZHOU LIFESMART TECHNOLOGY Co., LTD.

1785 Jianghan Road, Building 2, Unit 3, 9th Floor, Binjiang District, Hangzhou, Zhejiang, CHN

Prepared by: Cao Shaodong (Engineer)
Date Sep. 28, 2016

Approved by: Liao Jianming (Technical Director)
Date Sep. 28. 2016

Report No.:	BL-SZ1680417-601
EUT Type:	CUBE Environmental Sensor
Model Name:	LS063WH
Brand Name:	LifeSmart
Test Standard:	47 CFR Part 15 Subpart C
FCC ID:	2AJMI-00LS063
Test conclusion:	Pass
Test Date:	Sep. 14, 2016 ~ Sep. 21, 2016
Date of Issue:	Sep. 28, 2016

Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
TEL: +86-755-66850100, FAX: +86-755-61824271
Email: info@baluntek.com
www.baluntek.com

Revision History

Version	Issue Date	Revisions
Rev. 01	Sep. 28, 2016	Initial Issue

TABLE OF CONTENTS

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 Announce

(1) The test report reference to the report template version v4.2.

(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

Applicant	HANGZHOU LIFESMART TECHNOLOGY CO., LTD..
Address	1785 Jianghan Road, Building 2, Unit 3, 9th Floor, Binjiang District, Hangzhou, Zhejiang, CHN

2.2 Manufacturer

Manufacturer	Shenzhen Longtech Electronics Co., Ltd
Address	Zhengfeng Industrial Area, No. 148, donghuan Road, huangpu Village, Shajing Town, Baoan District, Shenzhen, PRC

2.3 Factory Information

Manufacturer	Shenzhen Longtech Electronics Co., Ltd
Address	Zhengfeng Industrial Area, No. 148, donghuan Road, huangpu Village, Shajing Town, Baoan District, Shenzhen, PRC

2.4 General Description for Equipment under Test (EUT)

EUT Type	CUBE Environmental Sensor
Model Name	LS063WH
Hardware Version	N/A
Software Version	N/A
Network and Wireless connectivity	433 MHz
About the Product	The equipment is CUBE Environmental Sensor, operating at 433 MHz.

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	MALAK
	Model No.	CR2450
	Serial No.	N/A
	Capacitance	350 mAh
	Rated Voltage	3.0 V
	Limit Charge Voltage	N/A

2.6 Technical Information

Modulation Type	ASK
Frequency Range	The frequency range used is 433 MHz to 434.75 MHz.
Number of channel	3
Tested Channel	0 (433.05 MHz), 1 (433.92 MHz), 3 (434.75 MHz)
Antenna Type	PCB Antenna
Antenna Gain	0 dBi

All channel was listed on the following table:

Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)
0	**433.05**	-	-	-	-	-	-
1	433.92	-	-	-	-	-	-
2	434.75	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Note: The above EUT information in section 2.4 and 2.6 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.7 Additional Instructions

EUT Software Settings:

Mode	☒ The EUT could work continuously at specific channel frequencies individually when the EUT was power on.

Power level setup in software		
Test Software Version	Accept the signal by electricity	
Mode	Channel	Soft Set
DH5	ALL	TX LEVEL is built-in set parameters and cannot be changed and selected.
2DH5	ALL	
3DH5	ALL	

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (10-1-15 Edition)	Intentional Radiators
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	Note 1	Pass
2	Conducted Emission	15.207	ANNEX A.1	N/A Note 2
3	20 dB Bandwidth	15.231(c)	ANNEX A.2	Pass
4	Duty Cycle	15.35	ANNEX A.3	Pass
5	Field Strength of Fundamental Emissions	15.231(b)	ANNEX A.4	Pass
6	Radiated Emissions	15.209 15.231(b)	ANNEX A.5	Pass
7	Transmitting Time	15.231(a)	ANNEX A.6	Pass
Note 1: Please refer to section 5.1 Note 2: The EUT is supply by battery, so it doesn't test the Conducted Emission.				

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)	+22℃ to +25℃
Working Voltage of the EUT	NV (Normal Voltage)	3.0 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2016.07.13	2017.07.12
Vector Signal Generator	ROHDE&SCHWARZ	SMBV100A	177746	2016.07.13	2017.07.12
Signal Generator	ROHDE&SCHWARZ	SMB100A	260592	2016.07.13	2017.07.12
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2016.07.13	2017.07.12
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2015.10.15	2016.10.14
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2016.07.05	2017.07.04
LISN	SCHWARZBECK	NSLK 8127	8127-687	2016.07.05	2017.07.04
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2016.07.13	2017.07.12
Power Splitter	KMW	DCPD-LDC	1305003215	--	--
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2016.07.13	2017.07.12
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2016.07.13	2017.07.12
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2016.07.13	2017.07.12
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
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2015.02.28	2017.02.27
Shielded Enclosure	ChangNing	CN-130701	130703	--	--

4.3 Measurement Uncertainty

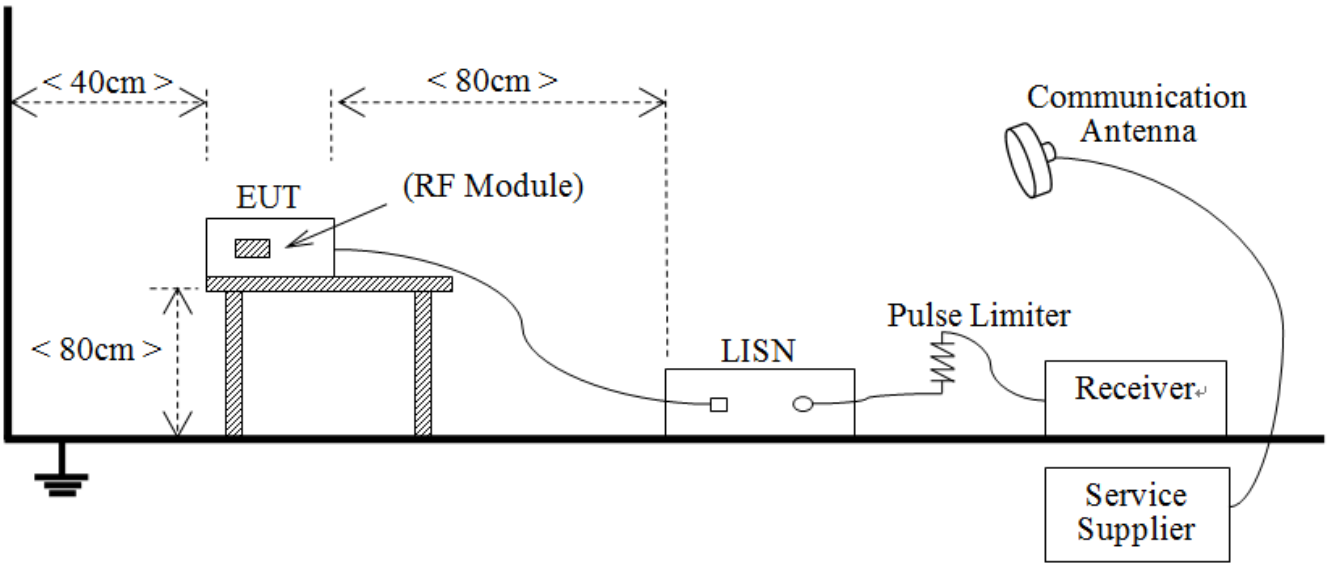
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Occupied Channel Bandwidth	±4%
RF output power, conducted	±1.4 dB
Power Spectral Density, conducted	±2.5 dB
Unwanted Emissions, conducted	±2.8 dB
All emissions, radiated	±5.4 dB
Temperature	±1°C
Humidity	±4%

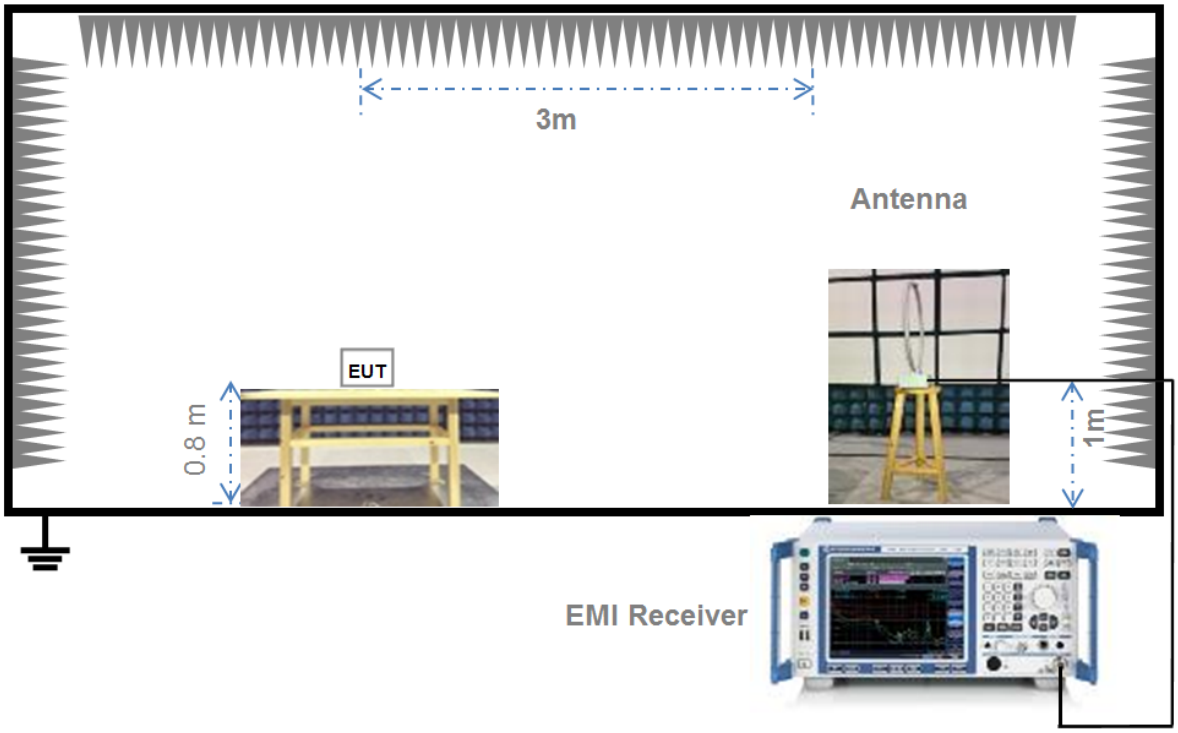
4.4 Description of Test Setup

4.4.1 For AC Power Supply Port Test



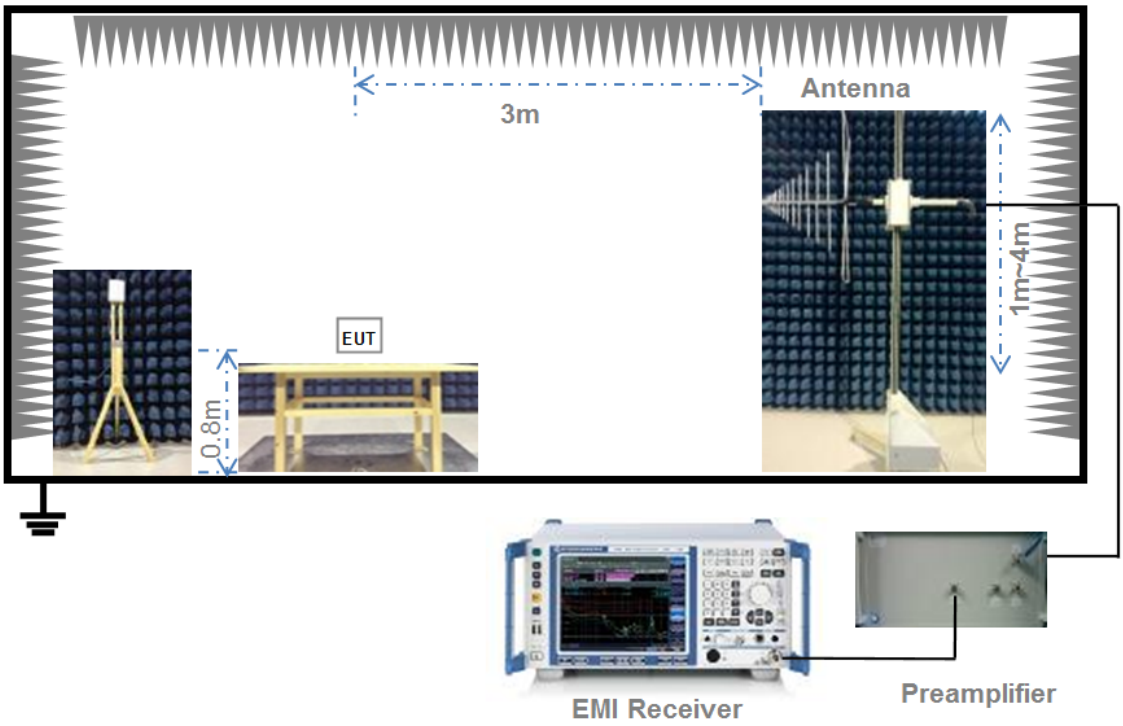
(Diagram 1)

4.4.2 For Radiated Test (Below 30 MHz)



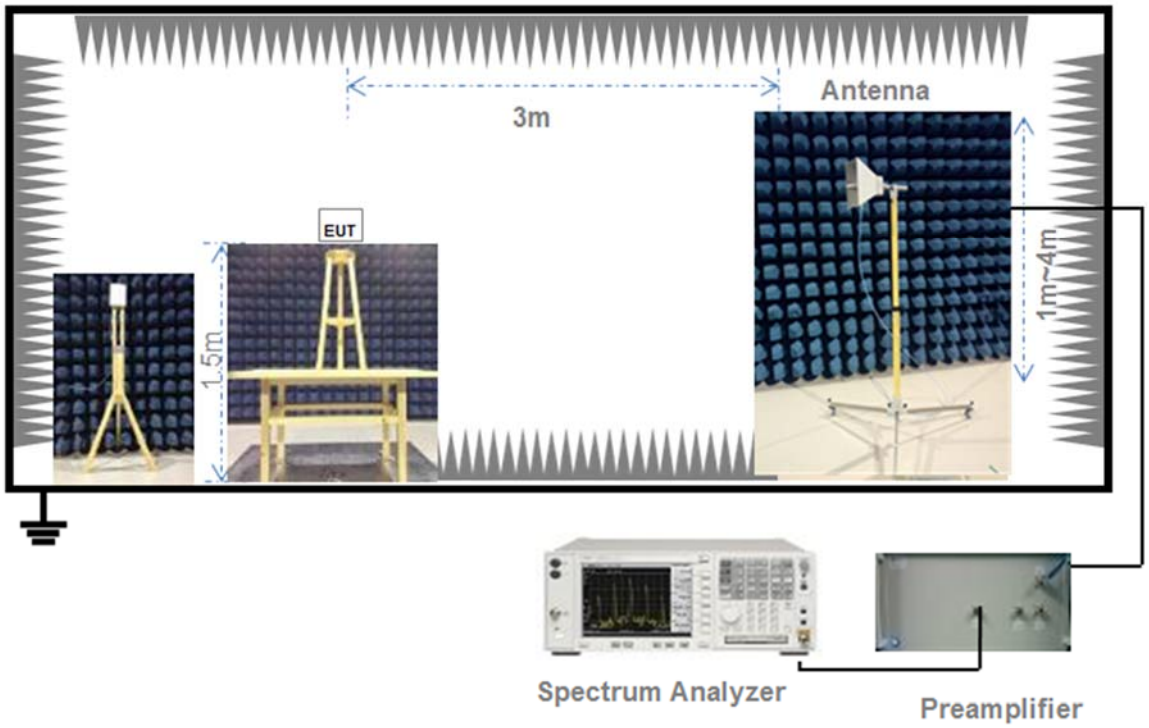
(Diagram 2)

4.4.3 For Radiated Test (30 MHz-1 GHz)



(Diagram 3)

4.4.4 For Radiated Test (Above 1 GHz)



(Diagram 4)

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Standard Applicable

FCC §15.203 & 15.247(b)

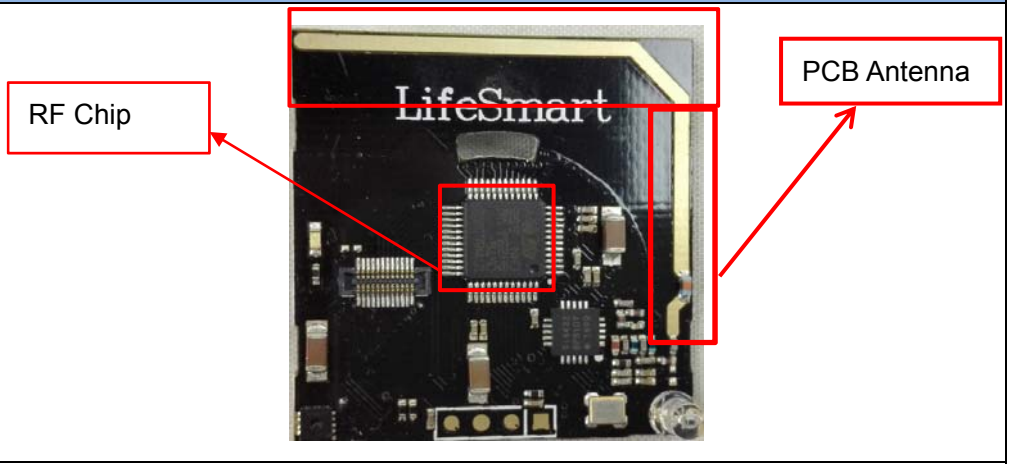
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply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

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

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
Photo	

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Conducted Emission

5.2.1 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 50μH/50Ω line impedance stabilization network (LISN).

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

5.2.2 Test Setup

See section 4.4.1 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.2.3 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. Refer to recorded points and plots below.
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 20 dB Bandwidth

5.3.1 Limit

FCC §15.231

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

5.3.2 Test Setup

See section 4.4.3 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth

RBW = 100 kHz

VBW ≥ 300 kHz

Sweep = auto

Detector function = peak

Trace = max hold

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Field Strength of Fundamental Emissions and Radiated Emissions

5.4.1 Limit

FCC §15.231 & §15.209

According to FCC section 15.231(b), In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750	125 to 375
174-260	3750	375
260-470	3750 to 12500	375 to 1250
Above 470	12500	1250

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)
0.009 - 0.490	2400/F(kHz)
0.490 - 1.705	24000/F(kHz)
1.705 - 30.0	30
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

Note:

1. 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.

2. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.4.2 Test Setup

See section 4.4.2 to 4.4.4 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 30 MHz 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 ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.4.4 Test Result

Please refer to ANNEX A.4 & A.5.

5.5 Transmitting Time

5.5.1 Limit

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

5.5.2 Test Setup

See section 4.4.3 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The EUT transmitter was activated, the spectrum analyzer single sweep was triggered while a command on the EUT was activated and plots were captured

5.5.4 Test Result

Please refer to ANNEX A.6.

ANNEX A TEST RESULT

A.1 Conducted Emission

N/A

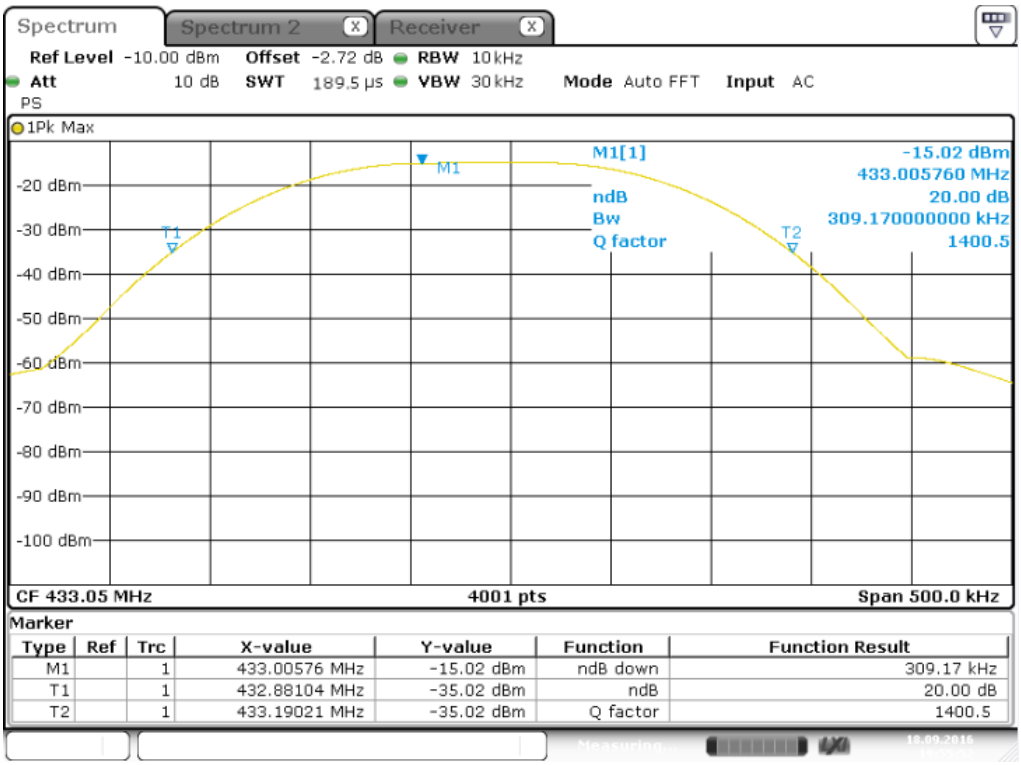
A.2 20 dB Bandwidth

Test Data

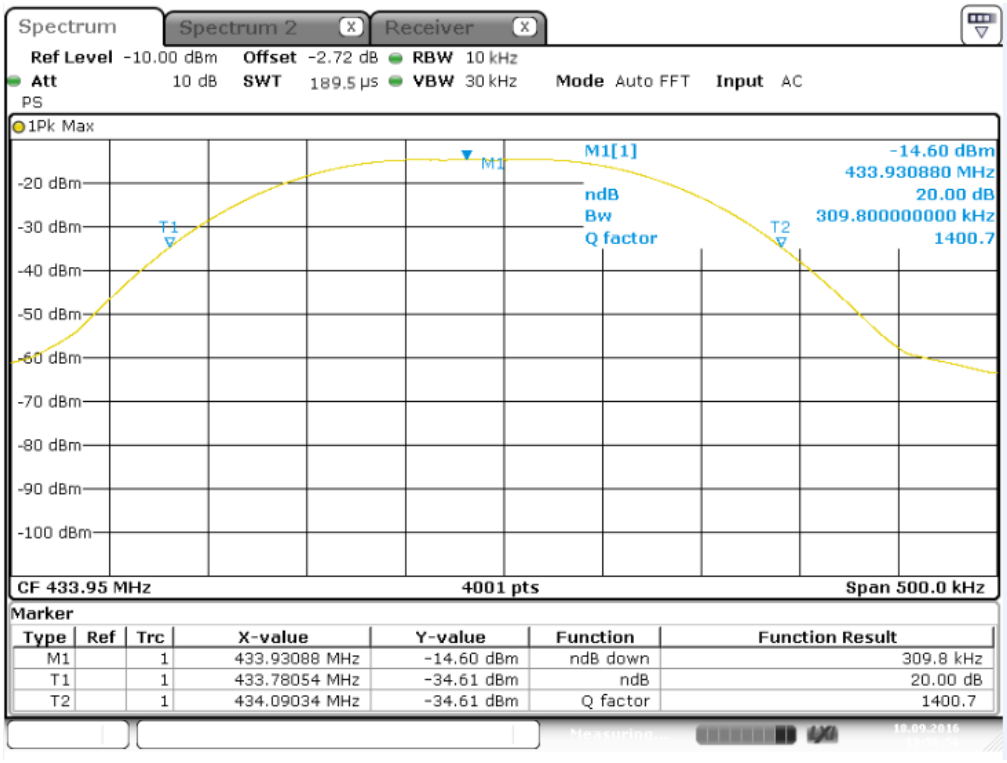
Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)	Verdict
433.05	0.3091	1.0826	Pass
433.92	0.3090	1.0848	Pass
434.75	0.2508	1.0868	Pass

Test plots

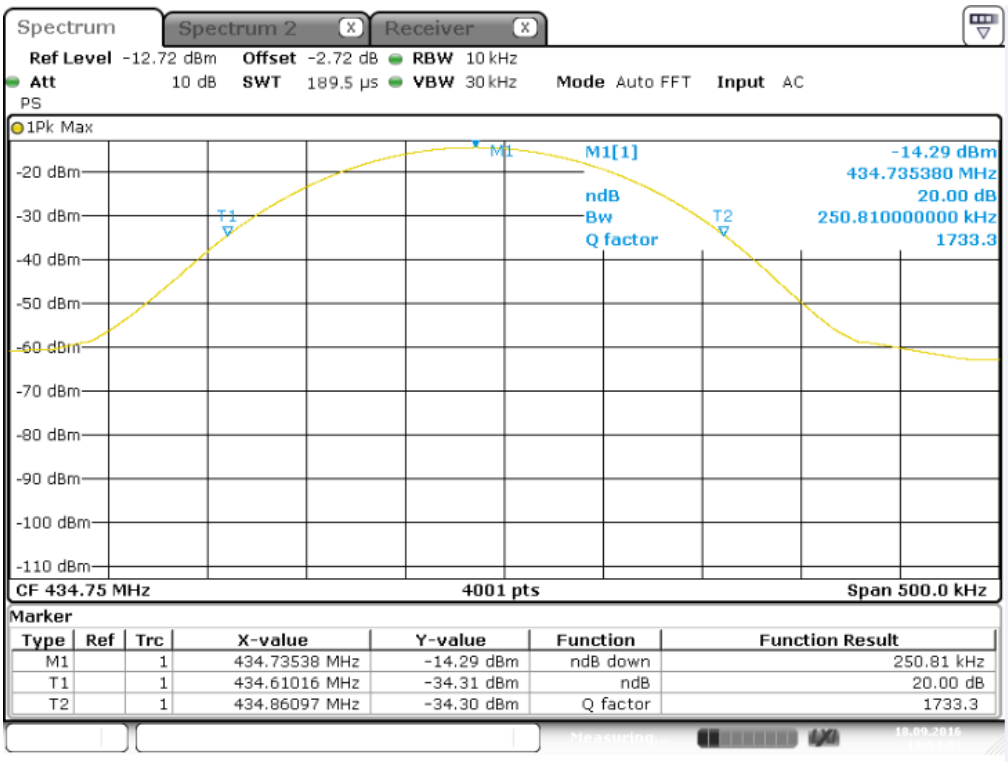
433.05 MHz



433.92 MHz



433.75 MHz

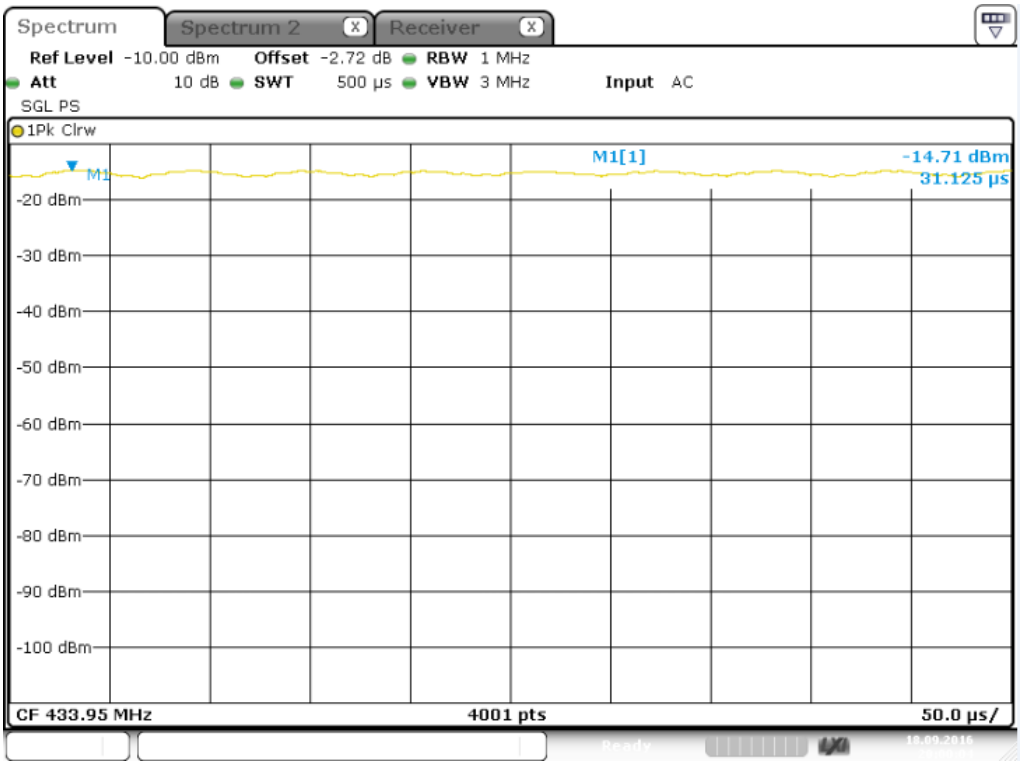


A.3 Duty cycle

Test Data and Plot

Band	On Time (ms)	On+Off Time (ms)	Duty Cycle(%)	T(ms)	1/T(kHz)
GFSK	0.0311	0.0311	100	0.0311	32.1285

Duty Cycle100%



A.4 Field Strength of Fundamental Emissions

Note: According the ANSI C63.10-2013, 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.

Test Data

Low Channel					
Field Strength of Fundamental Emissions and Field strength of spurious emissions Value					
Frequency (MHz)	Field Strength (dBuV/m)	Detector	Limit @3m (dBuV/m)	Margin (dB)	Antenna
433.05	65.44	PEAK	100.8	35.36	Vertical
	80.11	PEAK	100.8	20.69	Horizontal
	--	AVERAGE	80.8	--	Vertical
	--	AVERAGE	80.8	--	Horizontal

Middle Channel					
Field Strength of Fundamental Emissions and Field strength of spurious emissions Value					
Frequency (MHz)	Field Strength (dBuV/m)	Detector	Limit @3m (dBuV/m)	Margin (dB)	Antenna
433.92	65.69	PEAK	100.8	35.11	Vertical
	80.32	PEAK	100.8	20.48	Horizontal
	--	AVERAGE	80.8	--	Vertical
	--	AVERAGE	80.8	--	Horizontal

High Channel					
Field Strength of Fundamental Emissions and Field strength of spurious emissions Value					
Frequency (MHz)	Field Strength (dBuV/m)	Detector	Limit @3m (dBuV/m)	Margin (dB)	Antenna
434.75	66.04	PEAK	100.8	34.76	Vertical
	80.07	PEAK	100.8	20.73	Horizontal
	--	AVERAGE	80.8	--	Vertical
	--	AVERAGE	80.8	--	Horizontal

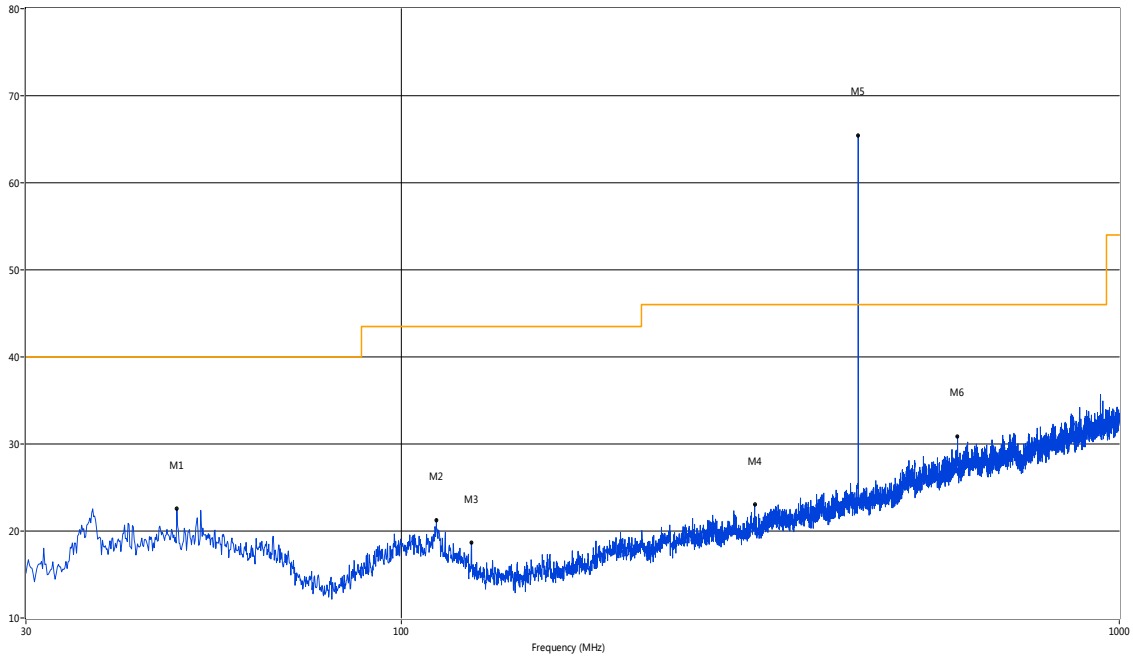
A.5 Radiated Emissions

Note 1: 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.

Note 2: The verdict please refer to the A.3 field strength of fundamental emissions and field strength of spurious emissions value.

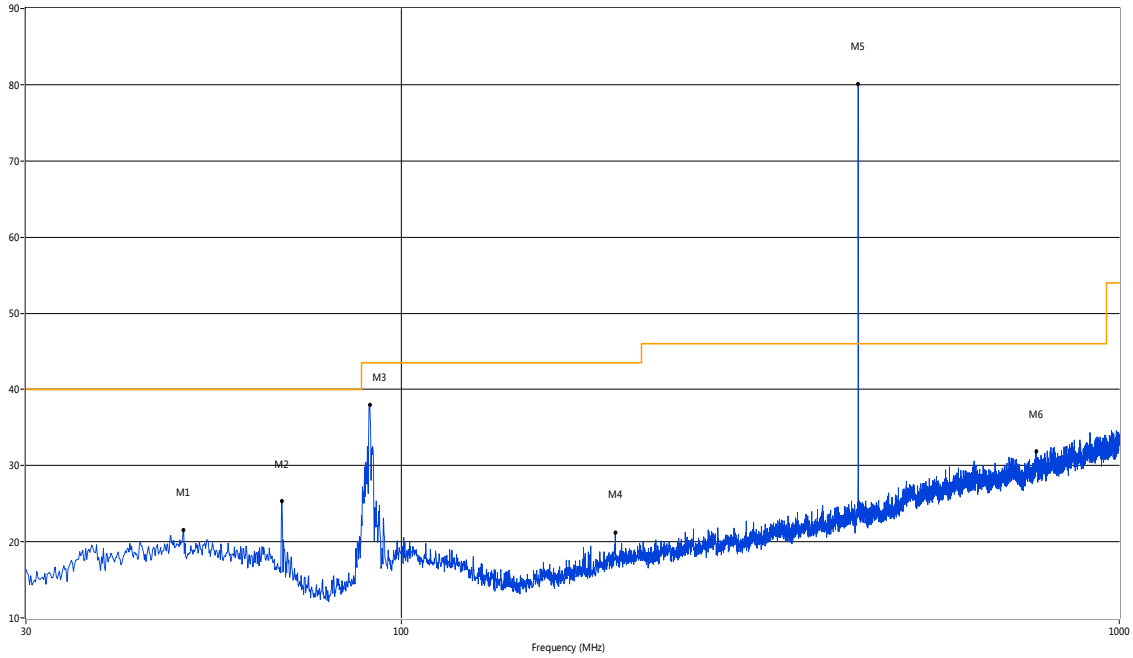
Test Data and Plots (30 MHz ~ 10th Harmonic)

30 MHz to 1 GHz, Low Channel, ANT V



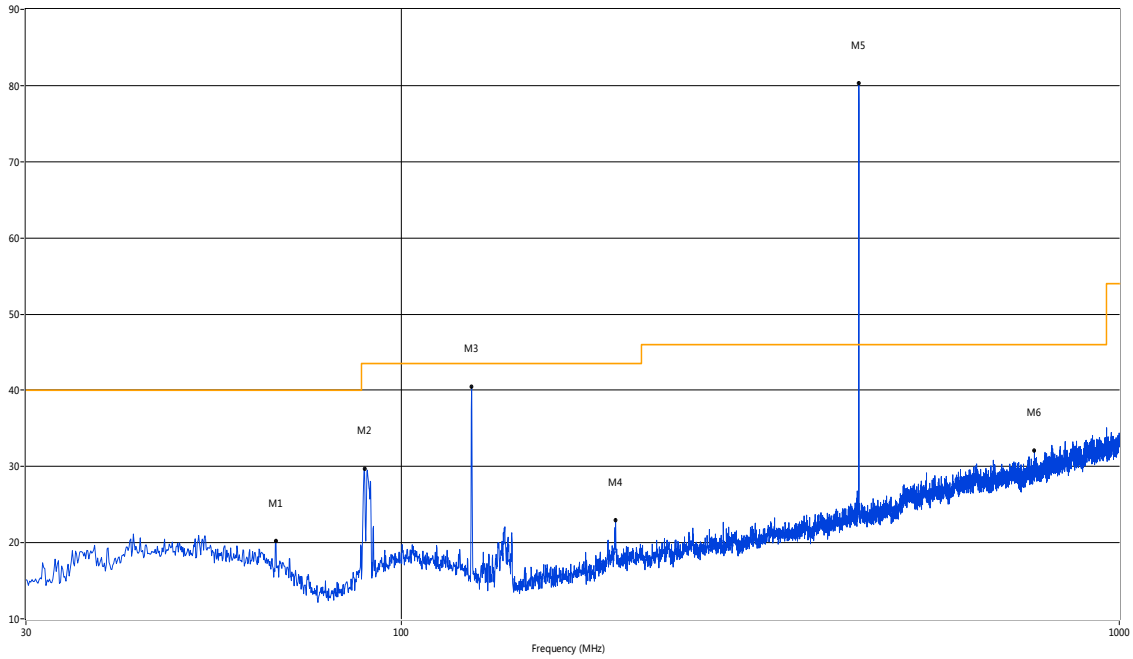
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	48.68	22.52	-18.57	40.0	17.48	Peak	123.80	100	Vertical	Pass
2	111.88	21.24	-20.50	43.5	22.26	Peak	198.60	100	Vertical	Pass
3	125.15	18.69	-22.50	43.5	24.81	Peak	114.10	100	Vertical	Pass
4	310.64	23.03	-17.39	46.0	22.97	Peak	278.00	100	Vertical	Pass
5	432.92	65.44	-14.57	100.8	35.36	Peak	348.30	100	Vertical	Pass
6	595.48	30.86	-10.25	46.0	15.14	Peak	0.50	100	Vertical	Pass

30 MHz to 1 GHz, Low Channel, ANT H



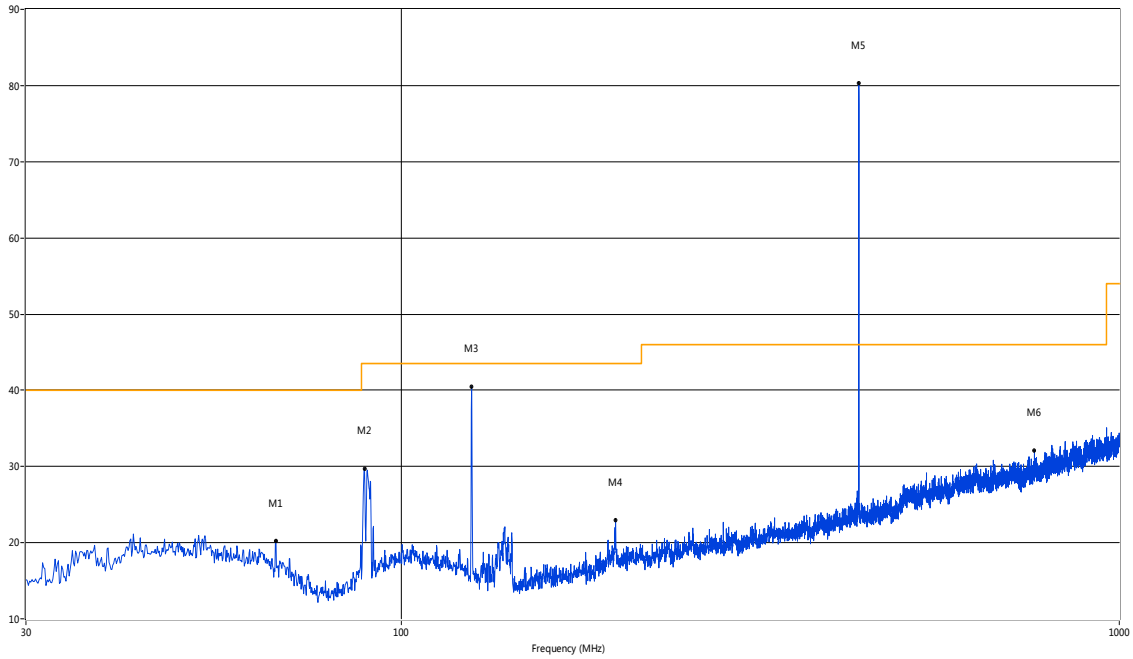
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	49.74	21.53	-18.68	40.0	18.47	Peak	2.00	100	Horizontal	Pass
2	68.18	25.29	-21.90	40.0	14.71	Peak	146.60	100	Horizontal	Pass
3	90.38	38.02	-21.81	43.5	5.48	Peak	179.30	100	Horizontal	Pass
4	198.57	21.23	-20.32	43.5	22.27	Peak	343.10	100	Horizontal	Pass
5	432.92	80.11	-14.57	100.8	20.69	Peak	273.00	100	Horizontal	Pass
5*	432.92	78.16	-14.57	80.8	2.64	AV	273.00	100	Horizontal	Pass
6	766.43	31.83	-7.66	46.0	14.17	Peak	310.10	100	Horizontal	Pass

30 MHz to 1 GHz, Middle Channel, ANT V



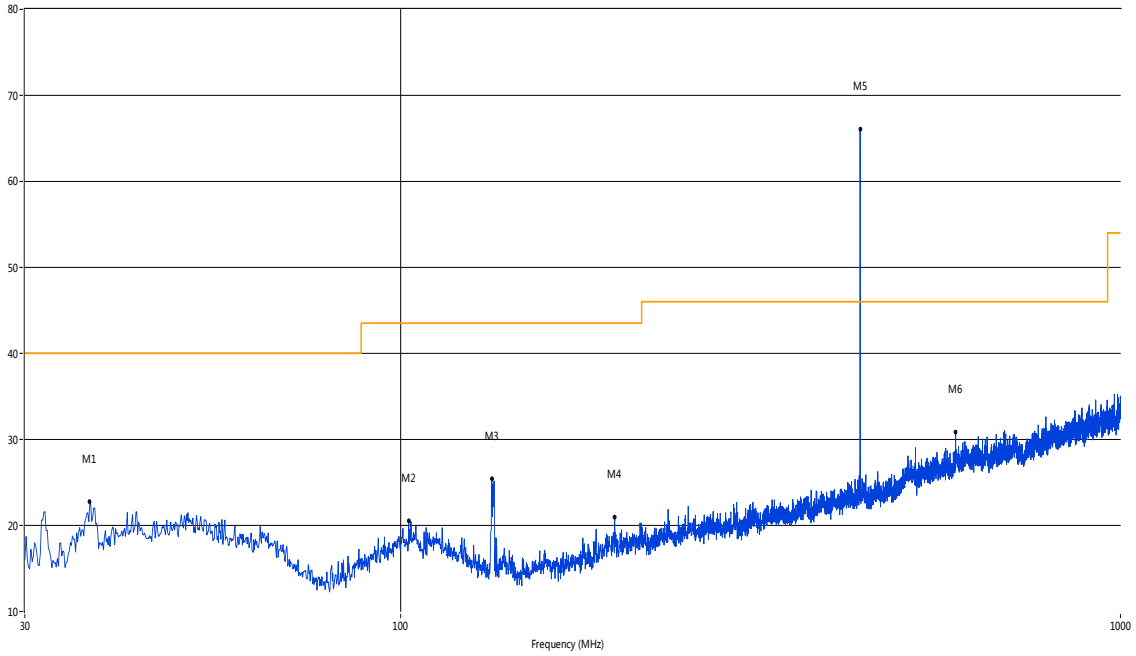
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	37.17	21.77	-20.54	40.0	18.23	Peak	210.00	100	Vertical	Pass
2	110.70	25.32	-20.30	43.5	18.18	Peak	337.20	100	Vertical	Pass
3	116.58	24.02	-21.22	43.5	19.48	Peak	337.20	100	Vertical	Pass
4	231.70	21.34	-19.54	46.0	24.66	Peak	357.80	100	Vertical	Pass
5	433.86	65.69	-14.65	100.8	35.11	Peak	346.40	100	Vertical	Pass
6	713.20	31.51	-8.40	46.0	14.49	Peak	356.40	100	Vertical	Pass

30 MHz to 1 GHz, Middle Channel, ANT H



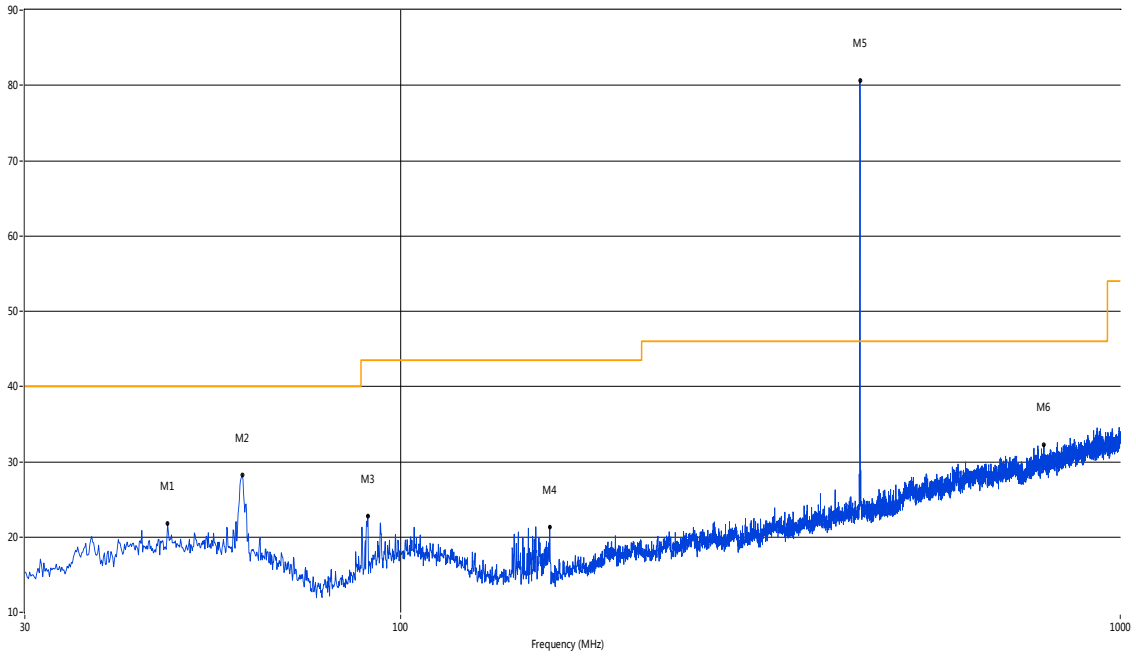
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	36.93	22.77	-20.71	40.0	17.23	Peak	345.70	100	Horizontal	PASS
2	102.48	20.50	-20.25	43.5	23.00	Peak	336.10	100	Horizontal	PASS
3	133.73	25.44	-23.46	43.5	18.06	Peak	129.10	100	Horizontal	PASS
4	198.22	21.00	-20.37	43.5	22.50	Peak	353.80	100	Horizontal	N/A Note 2
5	434.69	66.04	-14.57	100.8	34.76	Peak	358.50	100	Horizontal	PASS
6	590.23	30.82	-10.51	46.0	15.18	Peak	223.10	100	Horizontal	N/A Note 2

30 MHz to 1 GHz, High Channel, ANT V



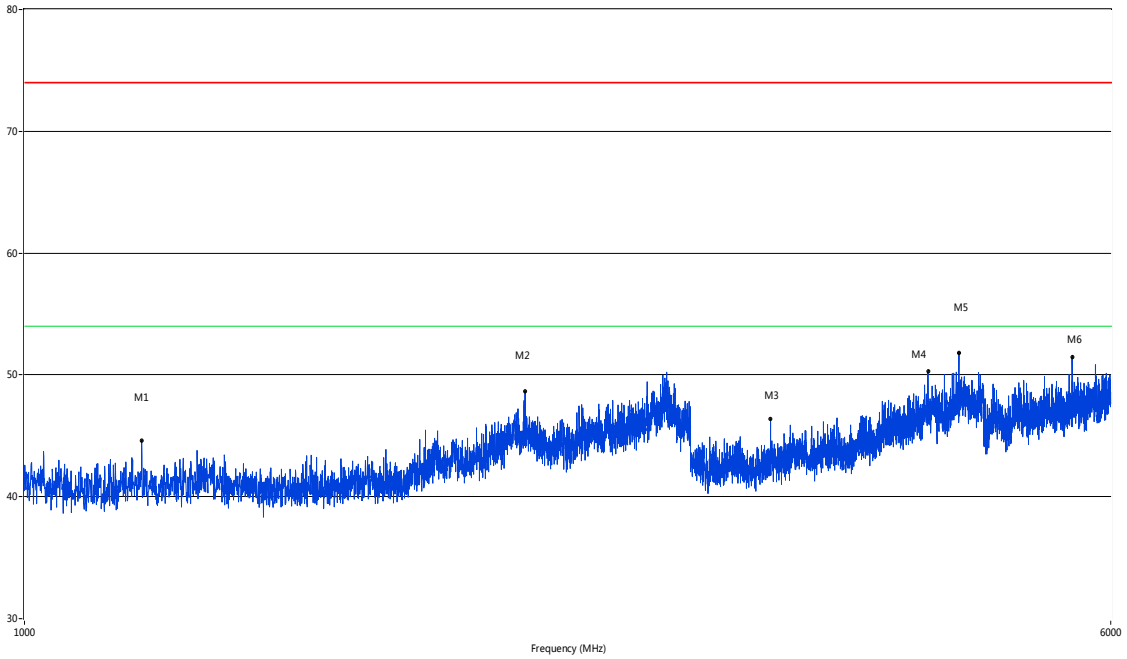
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	36.93	22.77	-20.71	40.0	17.23	Peak	345.70	100	Vertical	Pass
2	102.48	20.50	-20.25	43.5	23.00	Peak	336.10	100	Vertical	Pass
3	133.73	25.44	-23.46	43.5	18.06	Peak	129.10	100	Vertical	Pass
4	198.22	21.00	-20.37	43.5	22.50	Peak	353.80	100	Vertical	Pass
5	434.69	66.04	-14.57	100.8	34.76	Peak	358.50	100	Vertical	Pass
6	590.23	30.82	-10.51	46.0	15.18	Peak	223.10	100	Vertical	Pass

30 MHz to 1 GHz, High Channel, ANT H



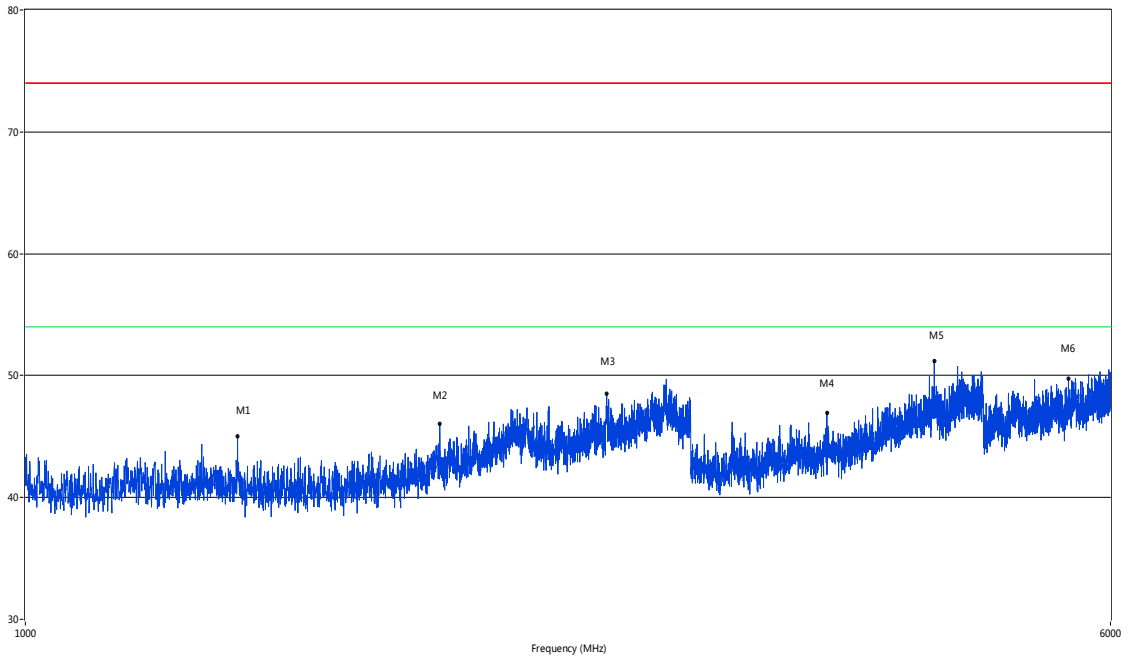
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	47.39	21.77	-18.73	40.0	18.23	Peak	56.70	100	Horizontal	Pass
2	60.19	28.20	-20.05	40.0	11.80	Peak	18.90	100	Horizontal	Pass
3	89.91	22.74	-22.00	43.5	20.76	Peak	117.50	100	Horizontal	Pass
4	161.10	21.31	-23.10	43.5	22.19	Peak	42.60	100	Horizontal	Pass
5	434.69	80.70	-14.57	100.8	20.1	Peak	273.10	100	Horizontal	Pass
5*	434.69	77.94	-14.57	80.8	2.86	AV	273.10	100	Horizontal	Pass
6	783.30	32.27	-7.25	46.0	13.73	Peak	360.20	100	Horizontal	Pass

1 GHz to 6 GHz, Low Channel, ANT V



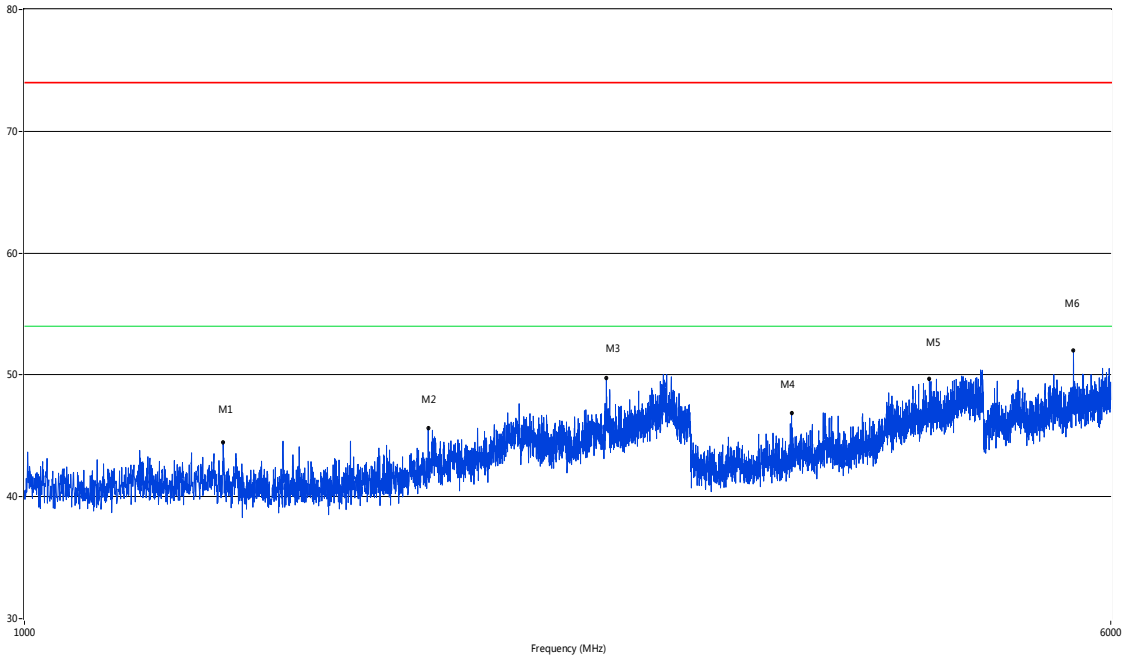
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1213.447	44.62	-3.34	74.0	29.38	Peak	150.40	150	Vertical	Pass
2	2283.179	48.66	2.48	74.0	25.34	Peak	3.70	150	Vertical	Pass
3	3423.644	46.37	9.26	74.0	27.63	Peak	8.70	150	Vertical	Pass
4	4438.140	50.27	12.47	74.0	23.73	Peak	357.00	150	Vertical	Pass
5	4670.582	51.84	13.09	74.0	22.16	Peak	358.80	150	Vertical	Pass
6	5628.843	51.46	15.39	74.0	22.54	Peak	218.60	150	Vertical	Pass

1 GHz to 6 GHz, Low Channel, ANT H



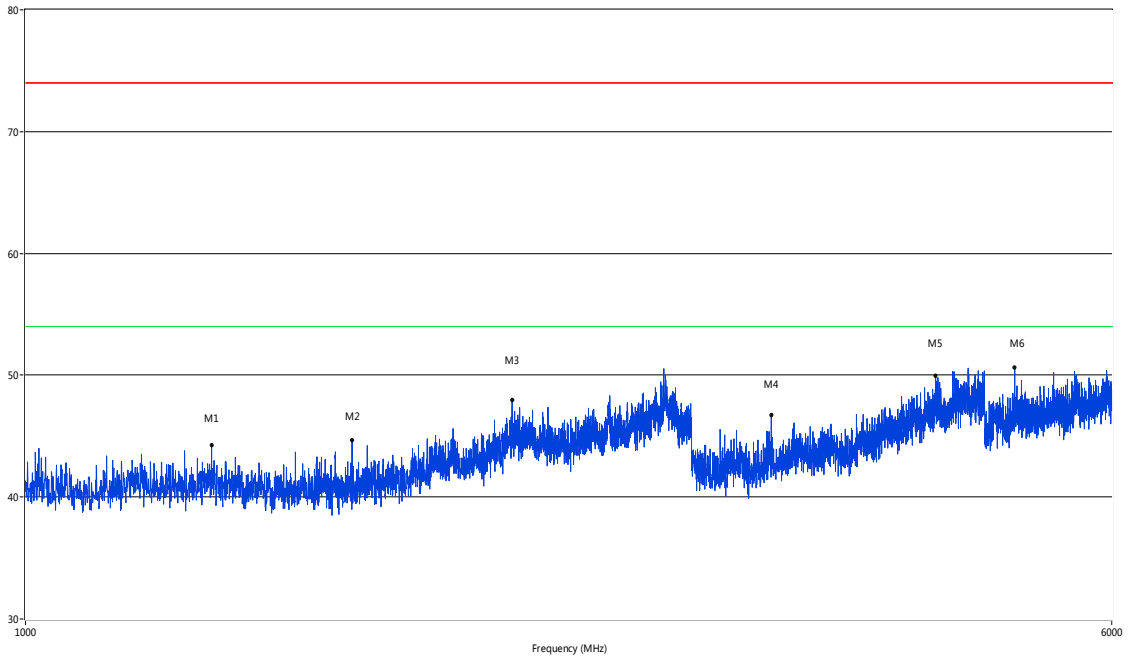
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1419.395	45.04	-2.66	74.0	28.96	Peak	155.00	150	Horizontal	Pass
2	1982.254	46.03	0.31	74.0	27.97	Peak	23.50	150	Horizontal	Pass
3	2611.597	48.51	4.50	74.0	25.49	Peak	177.10	150	Horizontal	Pass
4	3755.811	46.97	10.49	74.0	27.03	Peak	57.50	150	Horizontal	Pass
5	4484.629	51.21	12.65	74.0	22.79	Peak	351.20	150	Horizontal	Pass
6	5597.351	49.77	15.31	74.0	24.23	Peak	0.00	150	Horizontal	Pass

1 GHz to 6 GHz, Middle Channel, ANT V



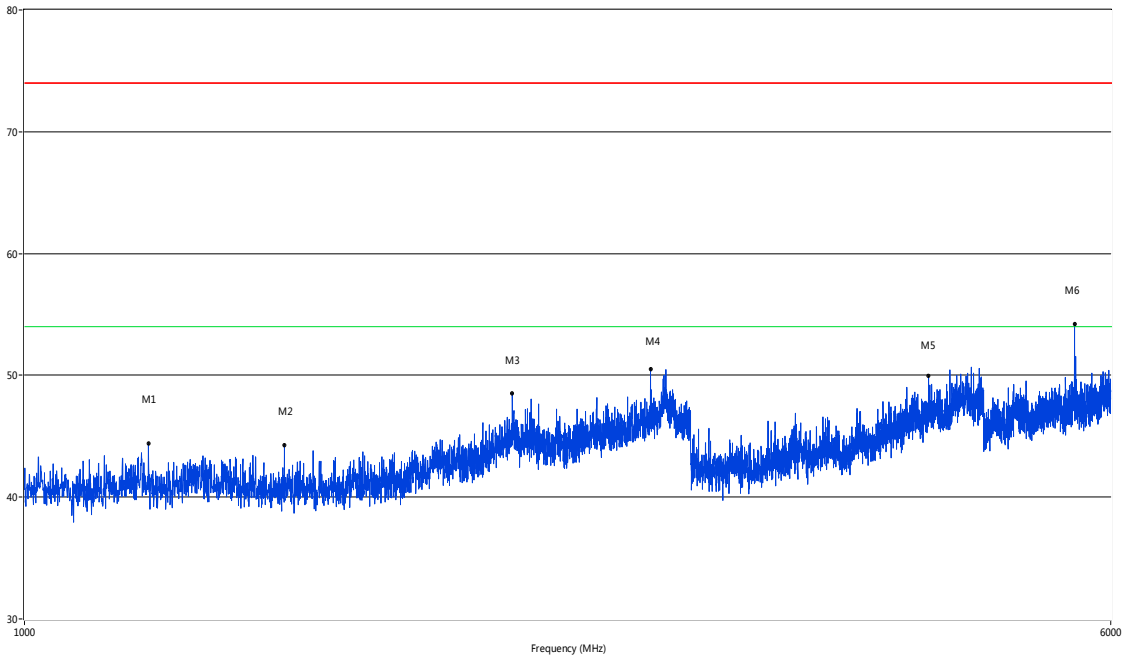
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1387.903	44.50	-2.74	74.0	29.50	Peak	145.90	150	Vertical	Pass
2	1946.263	45.63	-0.31	74.0	28.37	Peak	75.70	150	Vertical	Pass
3	2611.097	49.73	4.48	74.0	24.27	Peak	235.00	150	Vertical	Pass
4	3544.364	46.85	9.89	74.0	27.15	Peak	0.00	150	Vertical	Pass
5	4448.638	49.67	12.51	74.0	24.33	Peak	318.70	150	Vertical	Pass
6	5640.840	52.04	15.53	74.0	21.96	Peak	193.20	150	Vertical	N/A

1 GHz to 6 GHz, Middle Channel, ANT H



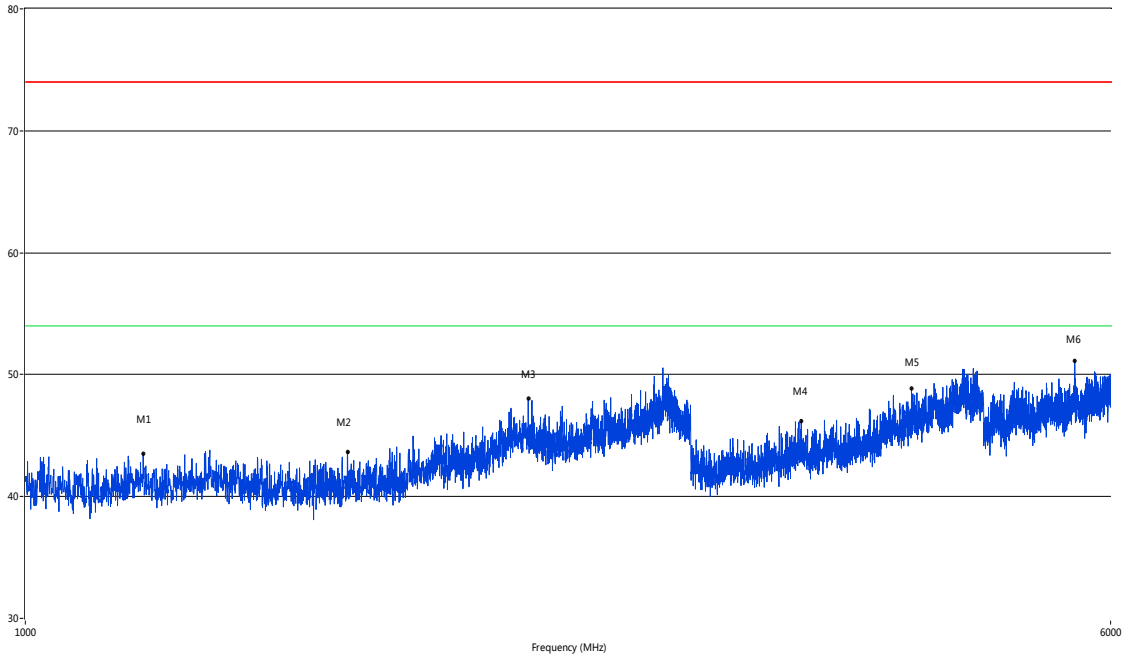
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1359.410	44.27	-2.43	74.0	29.73	Peak	32.80	150	Horizontal	Pass
2	1713.822	44.70	-1.19	74.0	29.30	Peak	4.60	150	Horizontal	Pass
3	2231.192	47.95	2.08	74.0	26.05	Peak	354.50	150	Horizontal	Pass
4	3421.395	46.72	9.31	74.0	27.28	Peak	61.20	150	Horizontal	Pass
5	4487.628	49.97	12.72	74.0	24.03	Peak	104.20	150	Horizontal	Pass
6	5112.972	50.64	15.12	74.0	23.36	Peak	37.80	150	Horizontal	Pass

1 GHz to 6 GHz, High Channel, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1226.943	44.42	-3.41	74.0	29.58	Peak	30.50	150	Vertical	Pass
2	1535.366	44.24	-2.46	74.0	29.76	Peak	169.40	150	Vertical	Pass
3	2235.691	48.50	2.19	74.0	25.50	Peak	121.20	150	Vertical	Pass
4	2808.548	50.47	5.28	74.0	23.53	Peak	82.70	150	Vertical	Pass
5	4442.639	49.94	12.51	74.0	24.06	Peak	0.90	150	Vertical	Pass
6	5651.337	54.19	15.70	80.8	26.61	Peak	234.40	150	Vertical	Pass

1 GHz to 6 GHz, High Channel, ANT H



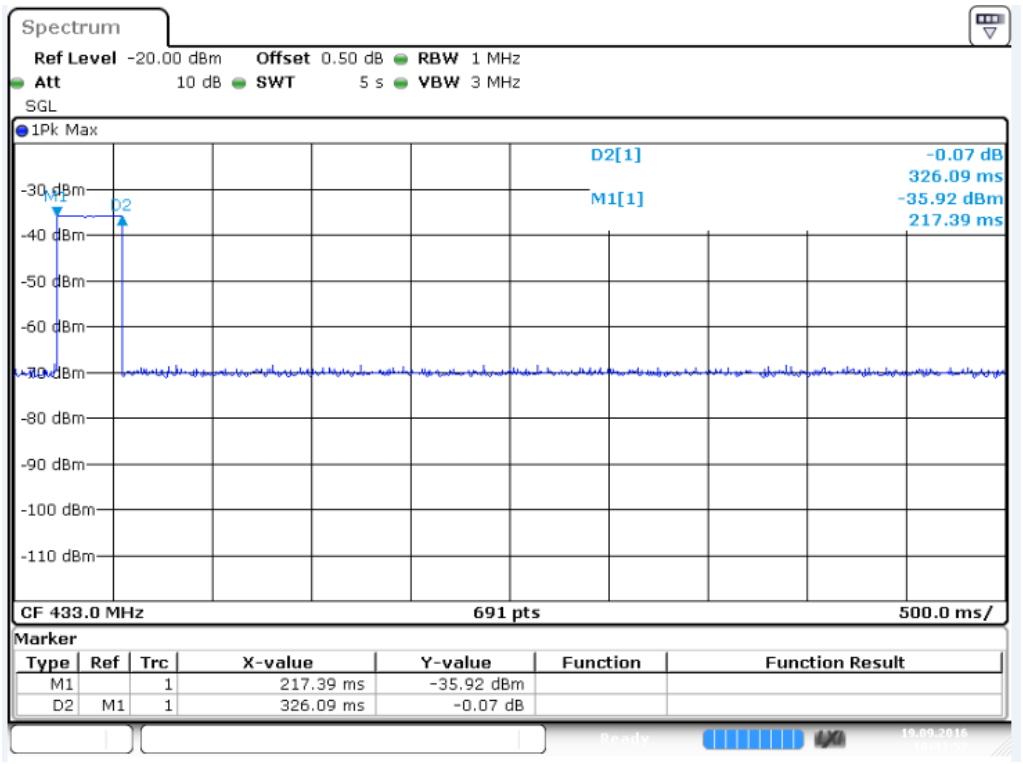
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1214.446	43.54	-3.33	74.0	30.46	Peak	23.90	150	Horizontal	Pass
2	1702.324	43.65	-1.23	74.0	30.35	Peak	50.50	150	Horizontal	Pass
3	2293.677	48.02	1.99	74.0	25.98	Peak	160.00	150	Horizontal	Pass
4	3599.850	46.17	9.91	74.0	27.83	Peak	218.80	150	Horizontal	Pass
5	4318.170	48.89	12.08	74.0	25.11	Peak	11.40	150	Horizontal	Pass
6	5655.086	51.15	15.59	74.0	22.85	Peak	0.50	150	Horizontal	N/A

A.6 Transmitter Time

Test Data and Plot

The active time is less than 1 seconds

Active time



ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ1680417-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ1680417-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ1680417-AI.PDF”.

--END OF REPORT--