

FCC TEST REPORT
for
Z-Wave Europe GmbH

Z-Wave Transceiver daughterboard
Model No.: ZMEURAZ

Prepared for : Z-Wave Europe GmbH
Address : Antonstr. 3, Hohenstein-Ernstthal, 09337, Germany

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited
Address : 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road,
Nanshan District, Shenzhen, Guangdong, China
Tel: (86) 755-26066544
Fax: (86) 755-26014772

Report Number : R011510092I
Date of Test : Oct. 14~ Nov. 30, 2015
Date of Report : Dec. 01, 2015

TABLE OF CONTENTS

Description

Page

Test Report

1. GENERAL INFORMATION.....	4
1.1. Description of Device (EUT).....	4
1.2. Auxiliary Equipment Used during Test.....	5
1.3. Description of Test Facility.....	5
1.4. Measurement Uncertainty.....	5
2. TEST PROCEDURE.....	6
3. Conducted Emission Test.....	7
3.1. Block Diagram of Test Setup.....	7
3.2. Power Line Conducted Emission Measurement Limits (15.207).....	7
3.3. Configuration of EUT on Measurement.....	7
3.4. Operating Condition of EUT.....	7
3.5. Test Procedure.....	8
3.6. Test equipment.....	8
3.7. Power Line Conducted Emission Measurement Results.....	8
4. RADIATION INTERFERENCE.....	13
4.1. Requirements (15.249, 15.209).....	13
4.2. Test Procedure.....	13
4.3. Test Results.....	14
5. OCCUPIED BANDWIDTH.....	18
5.1. Requirements (15.249).....	18
5.2. Test Procedure.....	18
5.3. Test Configuration.....	19
5.4. Test Results.....	19
6. ANTENNA APPLICATION.....	21
6.1. Antenna requirement.....	21
6.2. Result.....	21
7. PHOTOGRAPH.....	22
7.1. Photo of Conducted Emission Measurement.....	22
7.2. Photo of Radiated Emission Test.....	22
APPENDIX I (EXTERNAL PHOTOS).....	24
APPENDIX II(INTERNAL PHOTOS).....	27

TEST REPORT

Applicant : Z-Wave Europe GmbH
Manufacturer : Airline Mechanical Company Ltd.
EUT : Z-Wave Transceiver daughterboard
Model No. : ZMEURAZ
Serial No. : N/A
Trade Mark : N/A
Rating : DC 3.3V, 35mA

Measurement Procedure Used:

FCC Part15 Subpart C, Paragraph 15.207, 15.249 & 15.209

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited.

Date of Test : Oct. 14~ Nov. 30, 2015

Prepared by :

Kebo Zhang

(Tested Engineer / Kebo Zhang)

Reviewer :

Amy Ding

(Project Manager / Amy Ding)

Approved & Authorized Signer :

Tom Chen

(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Z-Wave Transceiver daughterboard

Model Number : ZMEURAZ

Test Power Supply : AC 120V, 60Hz and AC 240V, 60Hz for adapter

Adapter : Model: LJS-186
Input: AC 100-240V, 50/60Hz, 0.3A
Output: DC 5V, 2A

Frequency : 908.40MHz

Antenna Specification : PCB Antenna:-3 dBi

Applicant : Z-Wave Europe GmbH
Address : Antonstr. 3, Hohenstein-Ernstthal, 09337, Germany

Manufacturer : Airline Mechanical Company Ltd.
Address : 20/F, Kam Man Fung Factory Building, 6 Hong Man Street, Chai Wan, Hongkong

Factory : Airline Mechanical Company Ltd.
Address : 20/F, Kam Man Fung Factory Building, 6 Hong Man Street, Chai Wan, Hongkong

Date of receiver : Oct. 13, 2015

Date of Test : Oct. 14~ Nov. 30, 2015

1.2. Auxiliary Equipment Used during Test

N/A

1.3. Description of Test Facility

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

CNAS - LAB Code: L3503

Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 10, 2013.

IC-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, February 22, 2013.

Test Location

All Emissions tests were performed at
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

1.4. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1 dB (Horizontal) Ur = 4.3 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4dB

2. Test Procedure

GENERAL: This report shall NOT be reproduced except in full without the written approval of Shenzhen Anbotek Compliance Laboratory Limited. The EUT was transmitting a test signal during the testing.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.10-2013 using a spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the EUT was 74.3oF with a humidity of 69%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Preselector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF = FS
20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

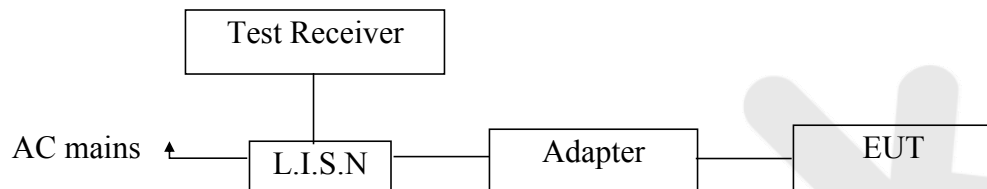
ANSI STANDARD C63.10-2013 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

3. Conducted Emission Test

3.1. Block Diagram of Test Setup

3.1.1. Block diagram of connection between the EUT and simulators



3.2. Power Line Conducted Emission Measurement Limits (15.207)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4. Operating Condition of EUT

- 3.4.1. Setup the EUT and simulator as shown as Section 3.1.
- 3.4.2. Turn on the power of all equipment.
- 3.4.3. Let the EUT work in test mode (On) and measure it.

3.5. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 3.6.

3.6. Test equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Apr. 17, 2015	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 17, 2015	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 17, 2015	1 Year

3.7. Power Line Conducted Emission Measurement Results

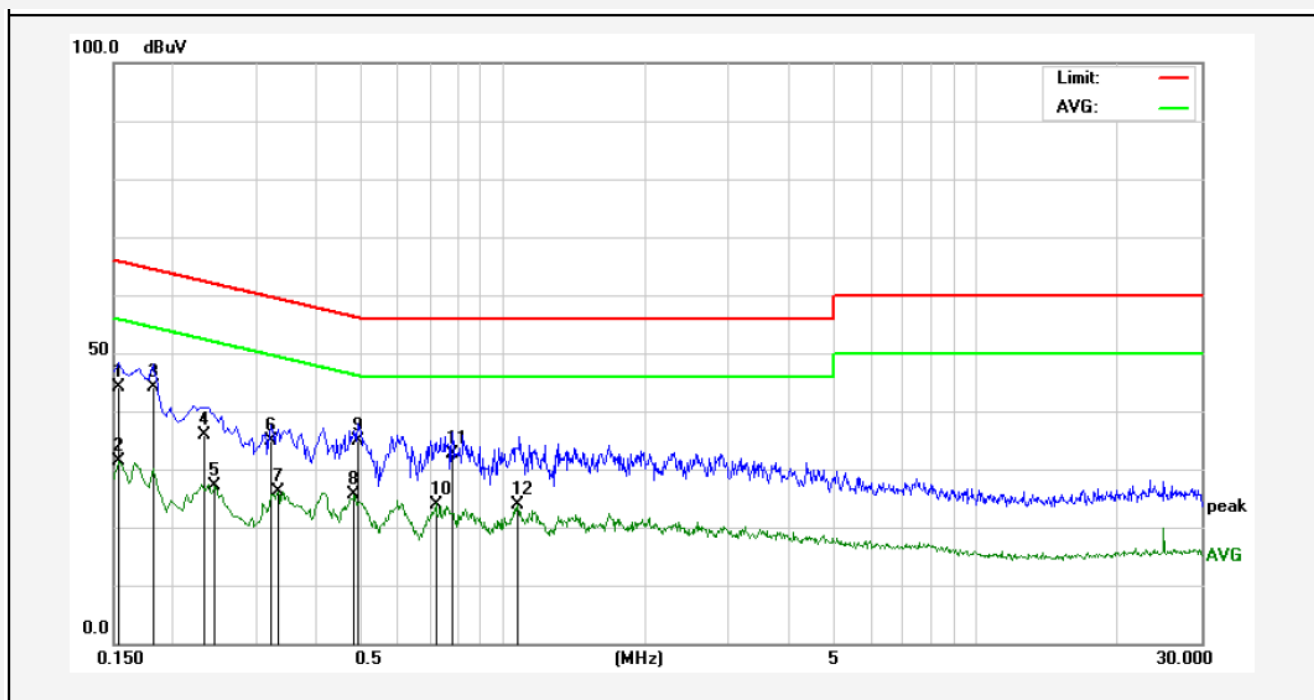
PASS.

The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.

CONDUCTED EMISSION TEST DATA

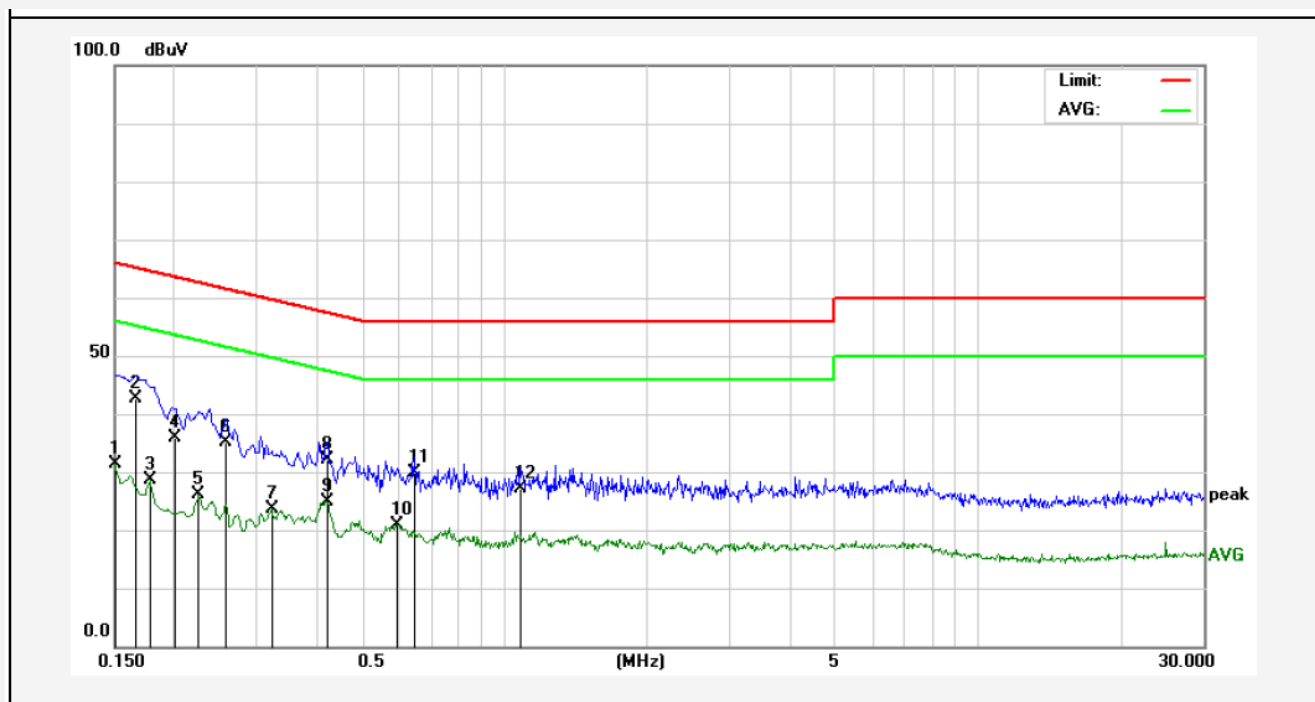
Test Site: 1# Shielded Room
Operating Condition: On
Test Specification: AC 120V, 60Hz for adapter
Comment: Live Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1539	24.21	20.00	44.21	65.78	-21.57	QP	
2	0.1539	11.48	20.00	31.48	55.78	-24.30	AVG	
3	0.1819	24.01	20.00	44.01	64.39	-20.38	QP	
4	0.2340	15.99	20.00	35.99	62.30	-26.31	QP	
5	0.2460	7.18	20.00	27.18	51.89	-24.71	AVG	
6	0.3220	15.00	20.00	35.00	59.65	-24.65	QP	
7	0.3339	6.02	20.00	26.02	49.35	-23.33	AVG	
8	0.4860	5.56	20.00	25.56	46.24	-20.68	AVG	
9	0.4940	14.89	20.00	34.89	56.10	-21.21	QP	
10	0.7220	4.00	20.00	24.00	46.00	-22.00	AVG	
11	0.7820	12.54	20.00	32.54	56.00	-23.46	QP	
12	1.0740	3.90	20.00	23.90	46.00	-22.10	AVG	

CONDUCTED EMISSION TEST DATA

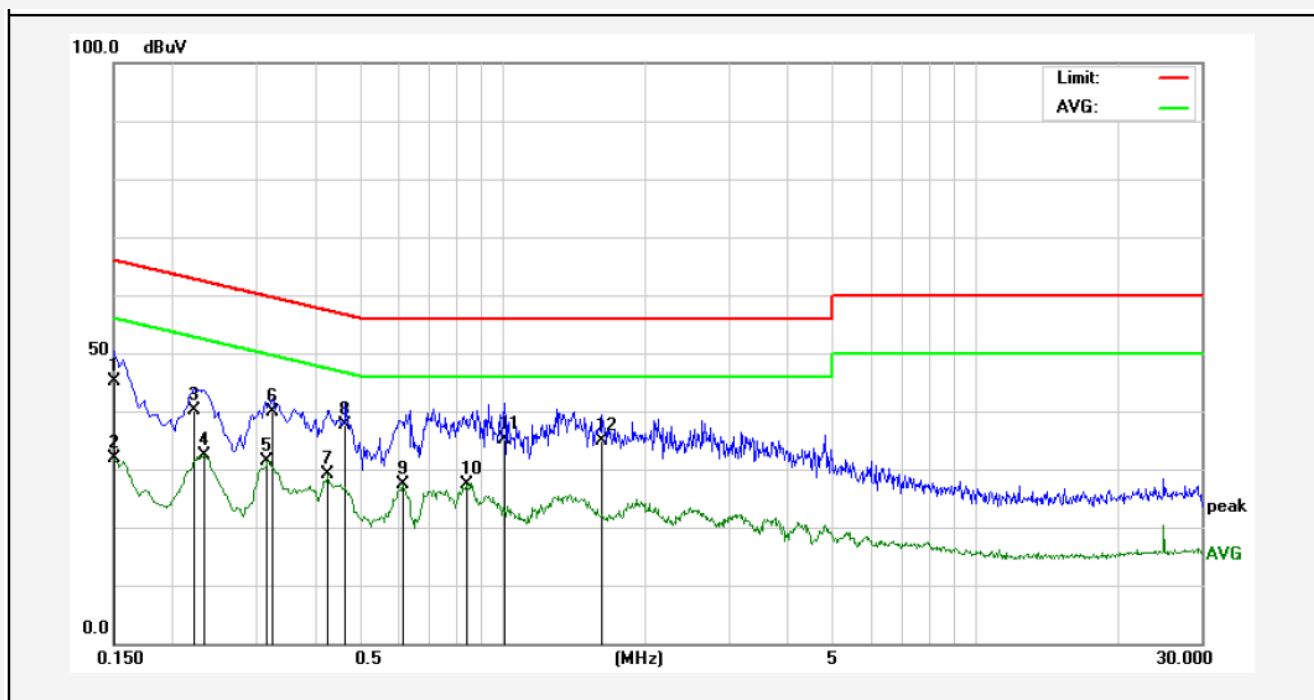
Test Site: 1# Shielded Room
Operating Condition: On
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	11.26	20.00	31.26	55.99	-24.73	AVG	
2	0.1660	22.65	20.00	42.65	65.15	-22.50	QP	
3	0.1780	8.74	20.00	28.74	54.57	-25.83	AVG	
4	0.2007	15.96	20.00	35.96	63.58	-27.62	QP	
5	0.2260	6.20	20.00	26.20	52.59	-26.39	AVG	
6	0.2580	15.24	20.00	35.24	61.49	-26.25	QP	
7	0.3220	3.52	20.00	23.52	49.65	-26.13	AVG	
8	0.4220	12.01	20.00	32.01	57.41	-25.40	QP	
9	0.4220	4.98	20.00	24.98	47.41	-22.43	AVG	
10	0.5899	0.96	20.00	20.96	46.00	-25.04	AVG	
11	0.6460	10.00	20.00	30.00	56.00	-26.00	QP	
12	1.0780	7.21	20.00	27.21	56.00	-28.79	QP	

CONDUCTED EMISSION TEST DATA

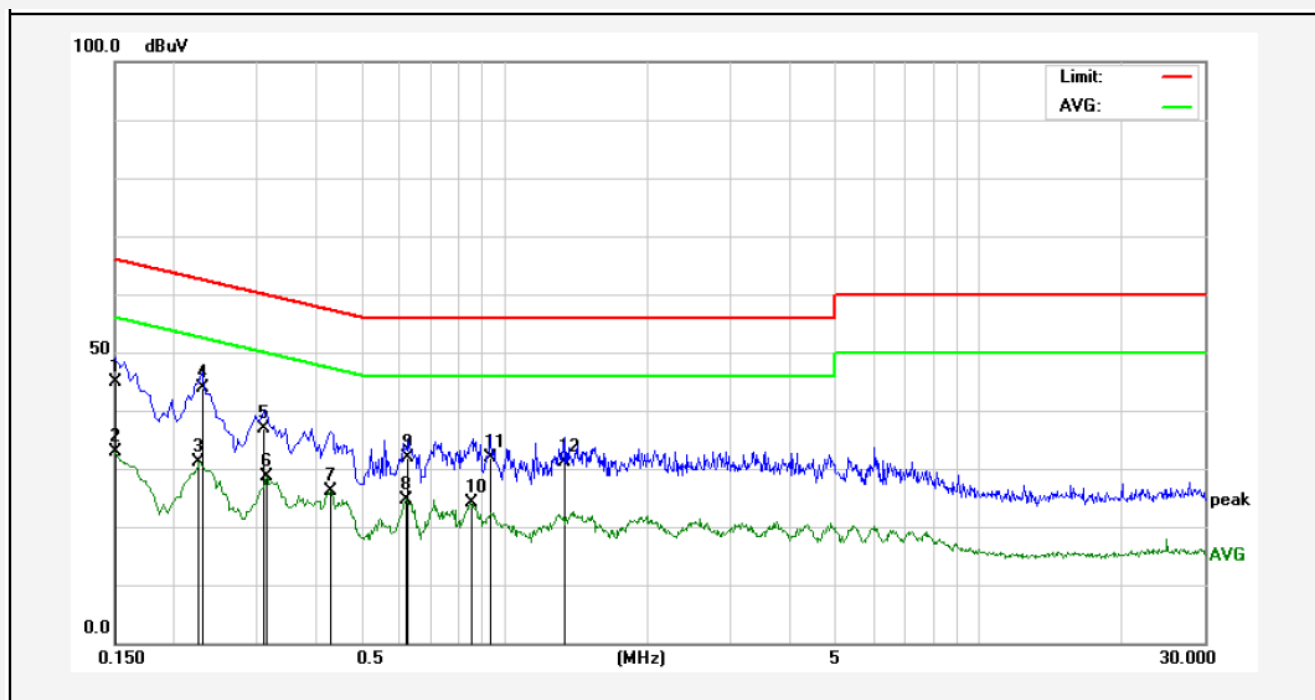
Test Site: 1# Shielded Room
Operating Condition: On
Test Specification: AC 240V, 60Hz for adapter
Comment: Live Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	25.21	20.00	45.21	65.99	-20.78	QP	
2	0.1500	11.89	20.00	31.89	55.99	-24.10	AVG	
3	0.2220	20.21	20.00	40.21	62.74	-22.53	QP	
4	0.2340	12.39	20.00	32.39	52.30	-19.91	AVG	
5	0.3180	11.43	20.00	31.43	49.76	-18.33	AVG	
6	0.3260	20.00	20.00	40.00	59.55	-19.55	QP	
7	0.4260	9.22	20.00	29.22	47.33	-18.11	AVG	
8	0.4660	17.65	20.00	37.65	56.58	-18.93	QP	
9	0.6140	7.37	20.00	27.37	46.00	-18.63	AVG	
10	0.8380	7.38	20.00	27.38	46.00	-18.62	AVG	
11	1.0060	15.21	20.00	35.21	56.00	-20.79	QP	
12	1.6260	14.99	20.00	34.99	56.00	-21.01	QP	

CONDUCTED EMISSION TEST DATA

Test Site: 1# Shielded Room
Operating Condition: On
Test Specification: AC 240V, 60Hz for adapter
Comment: Neutral Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	24.96	20.00	44.96	65.99	-21.03	QP	
2	0.1500	12.83	20.00	32.83	55.99	-23.16	AVG	
3	0.2260	11.22	20.00	31.22	52.59	-21.37	AVG	
4	0.2300	24.00	20.00	44.00	62.45	-18.45	QP	
5	0.3100	17.00	20.00	37.00	59.97	-22.97	QP	
6	0.3140	8.62	20.00	28.62	49.86	-21.24	AVG	
7	0.4300	6.09	20.00	26.09	47.25	-21.16	AVG	
8	0.6180	4.75	20.00	24.75	46.00	-21.25	AVG	
9	0.6260	11.87	20.00	31.87	56.00	-24.13	QP	
10	0.8460	4.08	20.00	24.08	46.00	-21.92	AVG	
11	0.9300	12.00	20.00	32.00	56.00	-24.00	QP	
12	1.3380	11.25	20.00	31.25	56.00	-24.75	QP	

4. Radiation Interference

4.1. Requirements (15.249, 15.209):

FIELD STRENGTH of Fundamental: @3M	FIELD STRENGTH of Harmonics	S15.209	
902-928 MHz		30 - 88 MHz	40 dBuV/m
2.4-2.4835 GHz		88 - 216 MHz	43.5
94 dBuV/m @3m	54 dBuV/m @3m	216 - 960 MHz	46
		ABOVE 960 MHz	54dBuV/m

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.

4.2. Test Procedure

For below 1GHz, the EUT is placed on a turn table which is 0.8 meter high above the ground. For above 1GHz, the EUT is placed on a turn table which is 1.5 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All reading are above 1GHz, peak & average values with a resolution bandwidth of 1MHz. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation. The test results are listed in Section 4.3.

Test Equipment

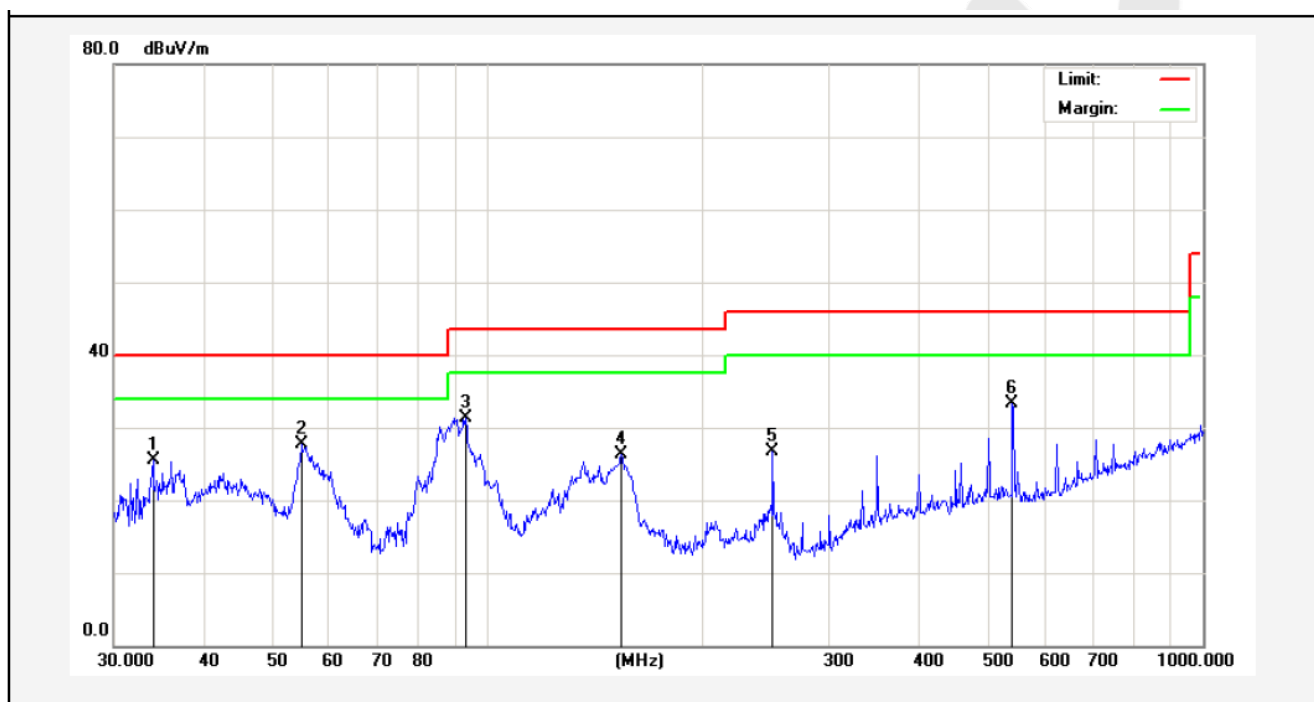
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Apr. 17, 2015	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Apr. 17, 2015	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 17, 2015	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 20, 2015	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 20, 2015	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Apr. 17, 2015	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
8	Power Sensor	DAER	RPR3006W	15I00041SN046	Jun 30, 2015	1 Year
9	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Jun 30, 2015	1 Year
10	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Jun 30, 2015	1 Year
11	Signal Generator	Agilent	E4421B	MY41000743	Jun 30, 2015	1 Year
12	DC Power supply	IV	IV-8080	YQSB0096	Jun 30, 2015	1 Year
13	TEMP&HUMI PROGRAMMABLE CHAMBER	Bell Group	BE-THK-150M8	SE-0137	Mar 16, 2015	1 Year

4.3. Test Results

PASS.

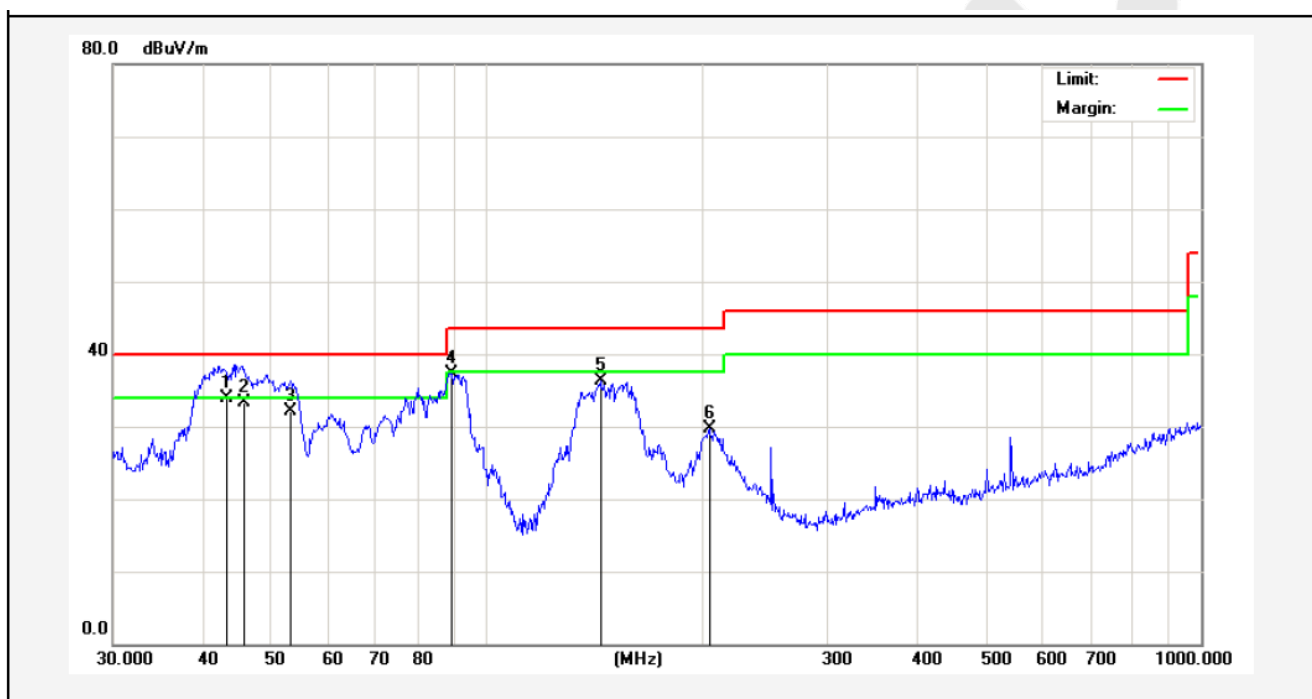
Please refer the following pages. Only the worst case (x orientation).

Job No.:	011510092I	Polarization:	Horizontal
Standard:	(RE)FCC PART15 C _3m	Power Source:	AC 120V, 60Hz for adapter
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3(C)/55%RH
Mode:	On	Distance:	3m
Note:	30-1000MHz		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	34.0365	40.22	-14.80	25.42	40.00	-14.58	peak			
2	54.8348	42.61	-14.91	27.70	40.00	-12.30	peak			
3	93.1132	53.01	-21.72	31.29	43.50	-12.21	peak			
4	153.7385	49.45	-23.17	26.28	43.50	-17.22	peak			
5	250.3012	45.35	-18.56	26.79	46.00	-19.21	peak			
6	541.3725	44.44	-11.07	33.37	46.00	-12.63	peak			

Job No.: 011510092I Polarization: Vertical
Standard: (RE)FCC PART15 C _3m Power Source: AC 120V, 60Hz for adapter
Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3(C)/55%RH
Mode: On Distance: 3m
Note: 30-1000MHz



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	43.2341	45.56	-11.63	33.93	40.00	-6.07	QP	100	0	
2	45.8553	45.96	-12.71	33.25	40.00	-6.75	QP	100	360	
3	53.1313	46.80	-14.79	32.01	40.00	-7.99	QP	100	0	
4	89.2764	55.30	-17.95	37.35	43.50	-6.15	peak			
5	144.3348	54.79	-18.43	36.36	43.50	-7.14	peak			
6	204.9551	45.34	-15.68	29.66	43.50	-13.84	peak			

Data: (Frequency=908.40MHz)

Horizontal Frequency MHz	Cable Loss dB	Ant Factor dB/m	Preamp Factor dB	Read Level dBμV	Level dBμV/m	Limit dBμV/m	Over Limit dB	Remark
908.40	1.51	29	38.52	106.58	98.57	114	-15.43	Peak
908.40	1.51	29	38.52	93.55	85.54	94	-8.46	AV
1,815.20	1.82	28.02	39.21	69.61	60.24	74	-13.76	Peak
1,815.20	1.82	28.02	39.21	54.64	45.27	54	-8.73	AV
2,724.40	2.28	33.16	35.16	59.56	59.84	74	-14.16	Peak
2,724.40	2.28	33.16	35.16	43.51	43.79	54	-10.21	AV
3,632.80	2.5	33.31	35.02	49.16	49.95	74	-24.05	Peak
3,632.80	2.5	33.31	35.02	40.86	41.65	54	-12.35	AV
4,541.00	2.65	34.4	34.77	53.36	55.64	74	-18.36	Peak
4,541.00	2.65	34.4	34.77	37.19	39.47	54	-14.53	AV
5,451.02	---	---	---	---	---	---	---	---
6,358.50	---	---	---	---	---	---	---	---
7,266.90	---	---	---	---	---	---	---	---

Vertical Frequency MHz	Cable Loss dB	Ant Factor dB/m	Preamp Factor dB	Read Level dBμV	Level dBμV/m	Limit dBμV/m	Over Limit dB	Remark
908.40	1.51	29	38.52	106.58	100.54	114	-13.46	Peak
908.40	1.51	29	38.52	93.55	82.45	94	-11.55	AV
1,816.80	1.82	28.02	39.21	69.61	56.75	74	-17.25	Peak
1,816.80	1.82	28.02	39.21	54.64	44.57	54	-9.43	AV
2,725.20	2.28	33.16	35.16	59.56	56.85	74	-17.15	Peak
2,725.20	2.28	33.16	35.16	43.51	43.52	54	-10.48	AV
3,633.60	2.5	33.31	35.02	49.16	46.27	74	-27.73	Peak
3,633.60	2.5	33.31	35.02	40.86	38.57	54	-15.43	AV
4,542.00	2.65	34.4	34.77	53.36	49.68	74	-24.32	Peak
4,542.00	2.65	34.4	34.77	37.19	35.88	54	-18.12	AV
5,450.40	---	---	---	---	---	---	---	---
6,358.80	---	---	---	---	---	---	---	---
7,267.20	---	---	---	---	---	---	---	---

NOTE: “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

5. Occupied Bandwidth

5.1. Requirements (15.249):

The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

5.2. Test Procedure

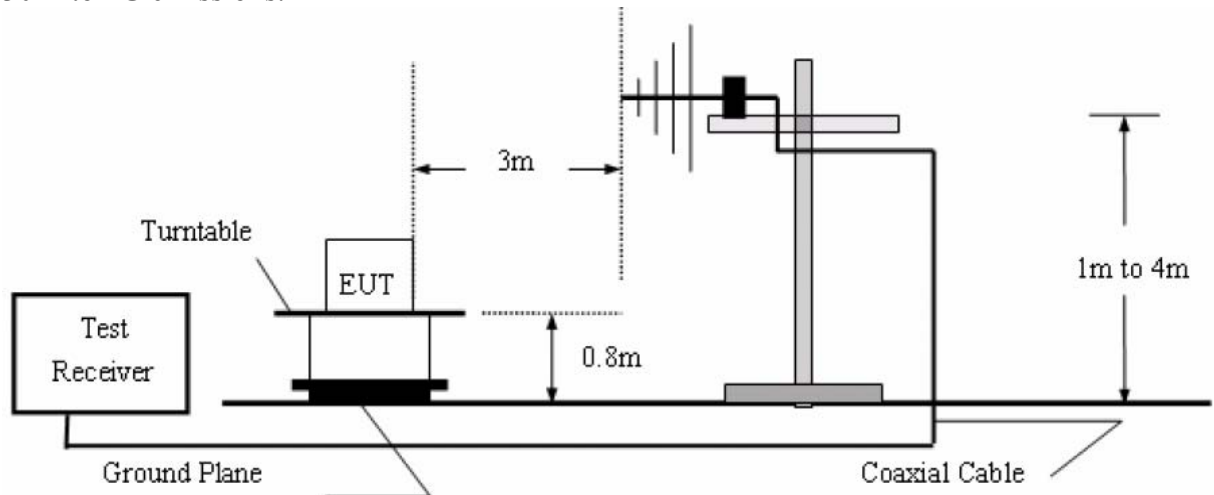
The EUT is placed on a turn table which is 1.5 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Test Equipment

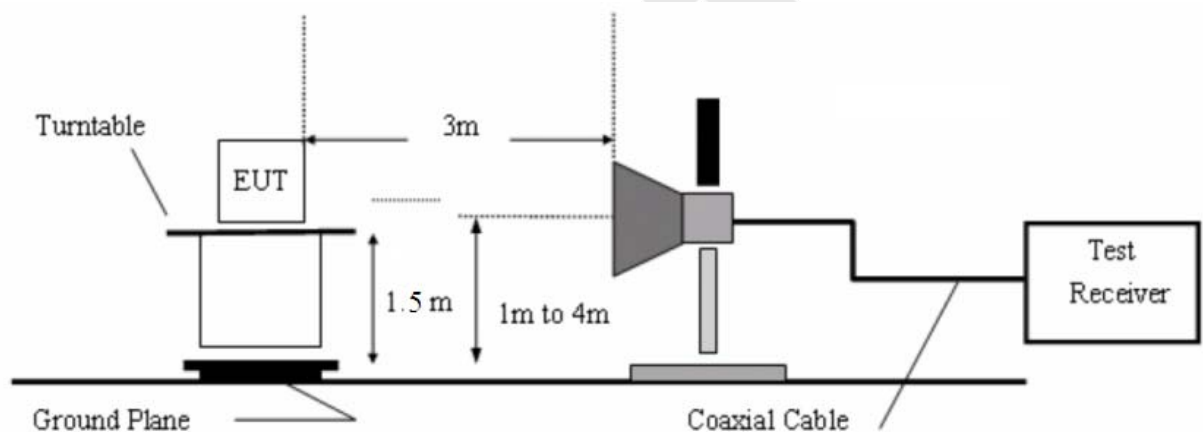
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Apr. 17, 2015	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Apr. 17, 2015	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 17, 2015	1 Year
4.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Apr. 20, 2015	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 20, 2015	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Apr. 17, 2015	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
8	Power Sensor	DAER	RPR3006W	15I00041SN046	Jun 30, 2015	1 Year
9	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Jun 30, 2015	1 Year
10	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Jun 30, 2015	1 Year
11	Signal Generator	Agilent	E4421B	MY41000743	Jun 30, 2015	1 Year
12	DC Power supply	IV	IV-8080	YQSB0096	Jun 30, 2015	1 Year
13	TEMP&HUMI PROGRAMMABLE CHAMBER	Bell Group	BE-THK-150M8	SE-0137	Mar 16, 2015	1 Year

5.3. Test Configuration:

30M to 1G emissions:



1G to 40G emissions:

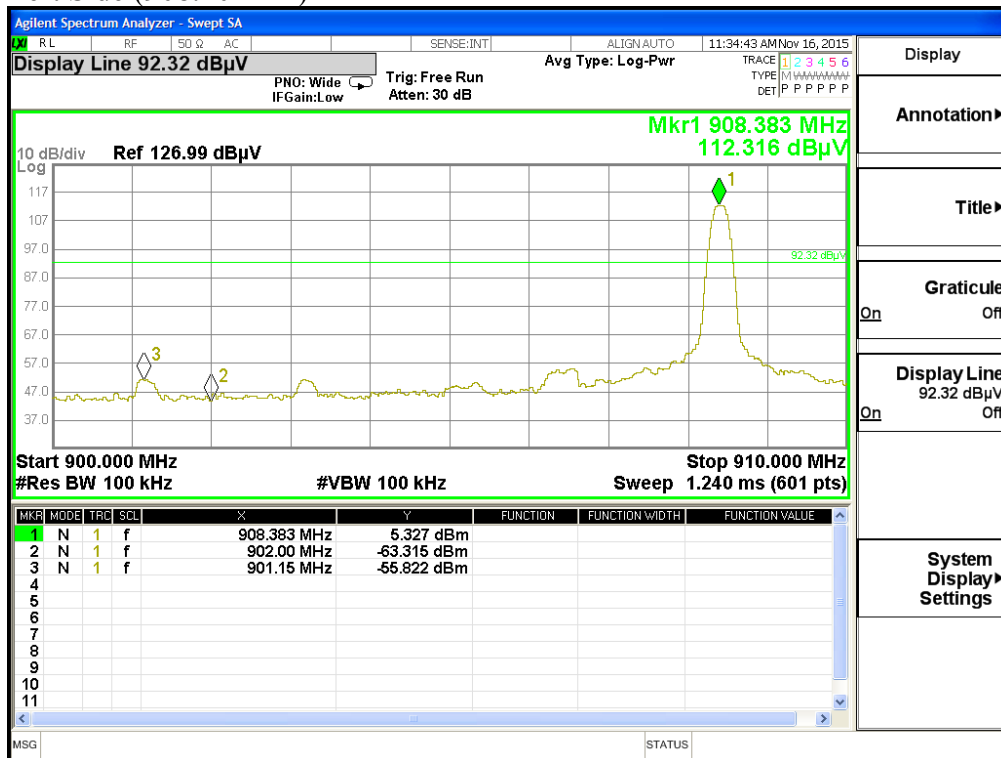


5.4. Test Results

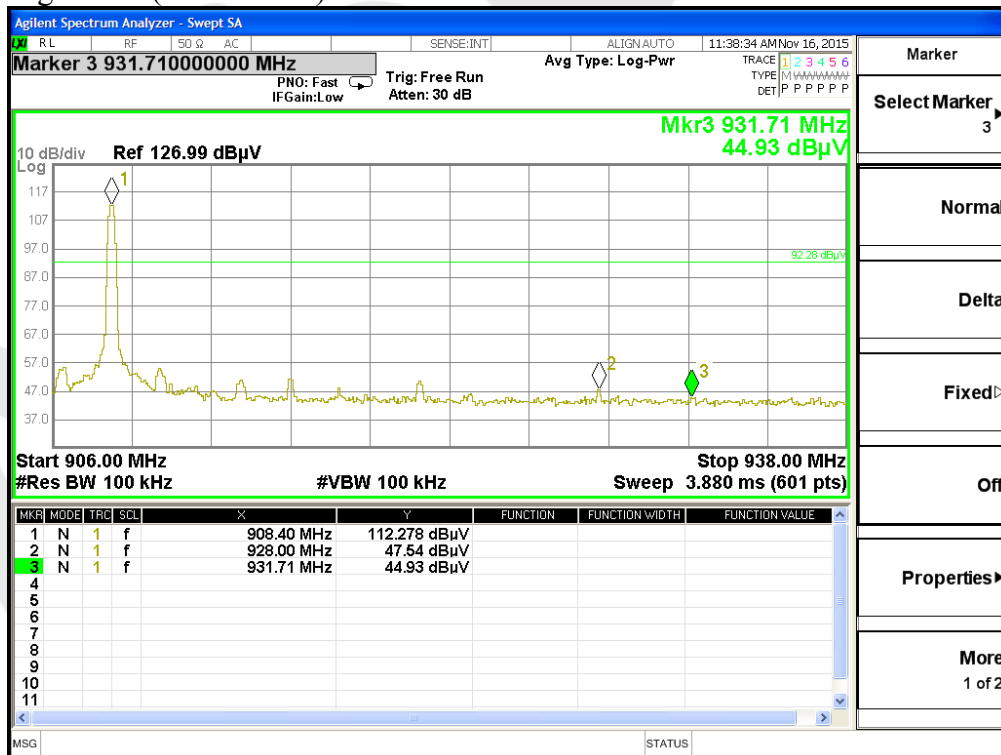
Pass.

Please refer the following plot. Only the worst case (x orientation)

Left Side (908.40MHz)



Right Side (908.40MHz)



6. ANTENNA APPLICATION

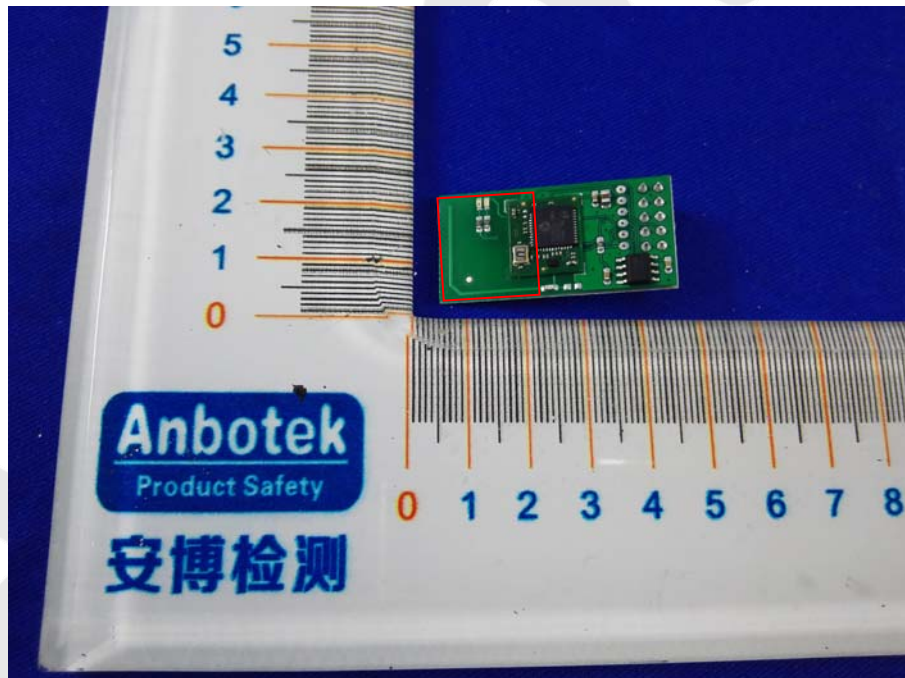
6.1. Antenna requirement

The EUT'S antenna is met the requirement of FCC part 15C section 15.203.

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.

6.2. Result

The EUT's antenna used a PCB antenna which is permanently attached, The antenna's gain is -3dBi and meets the requirement.

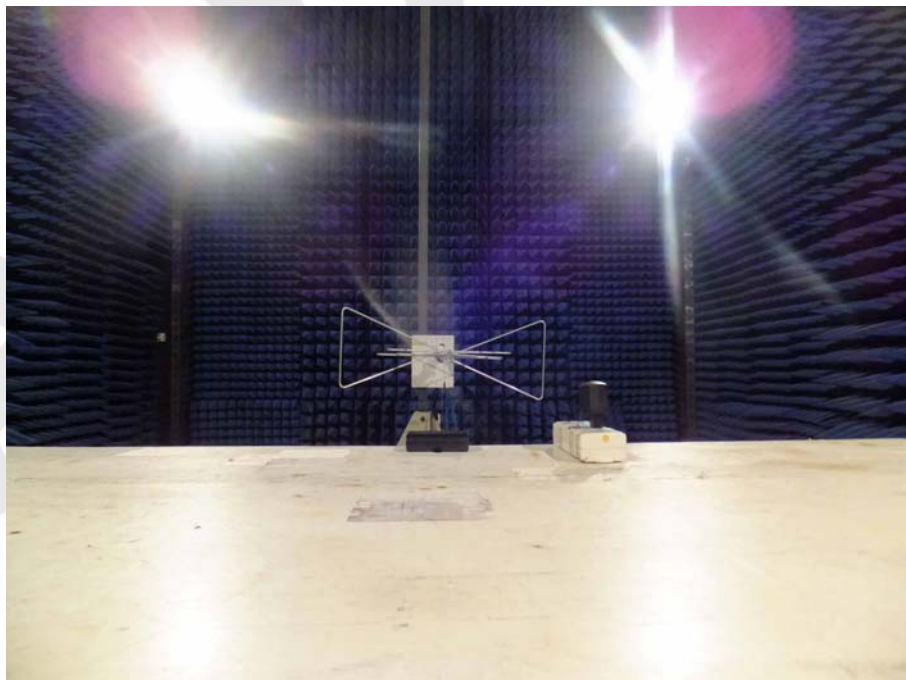


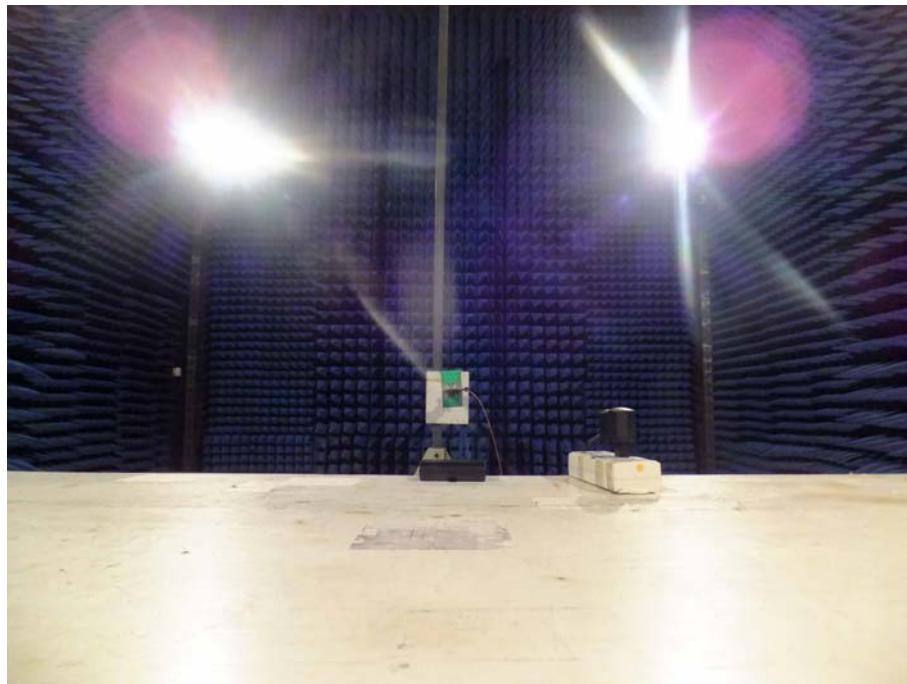
7. PHOTOGRAPH

7.1. Photo of Conducted Emission Measurement



7.2. Photo of Radiated Emission Test





APPENDIX I (EXTERNAL PHOTOS)

Figure 1
The Host-Overall View



Figure 2
The Host-Front View

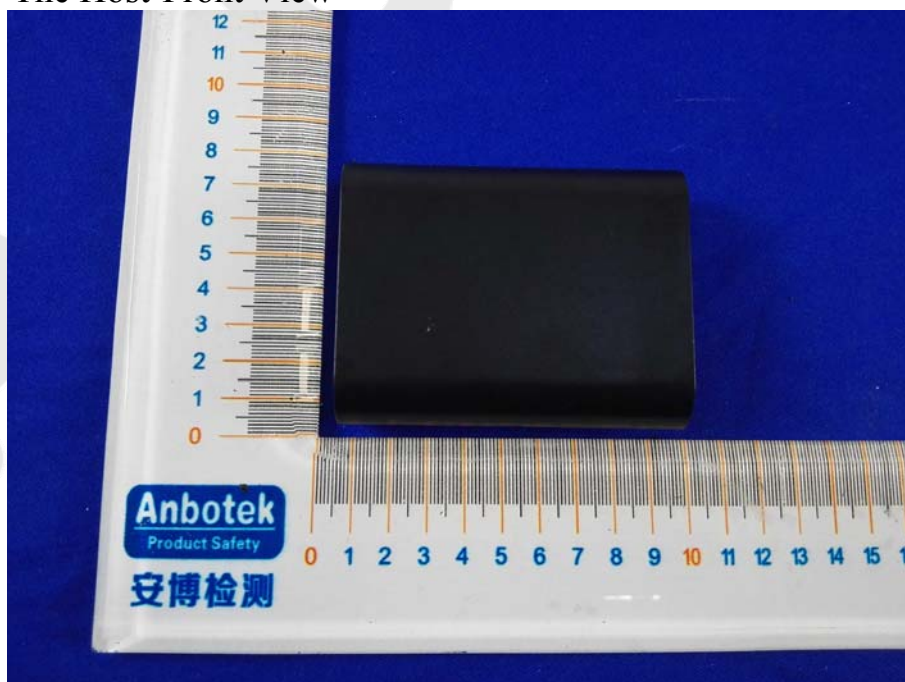


Figure 3
The Host-Back View

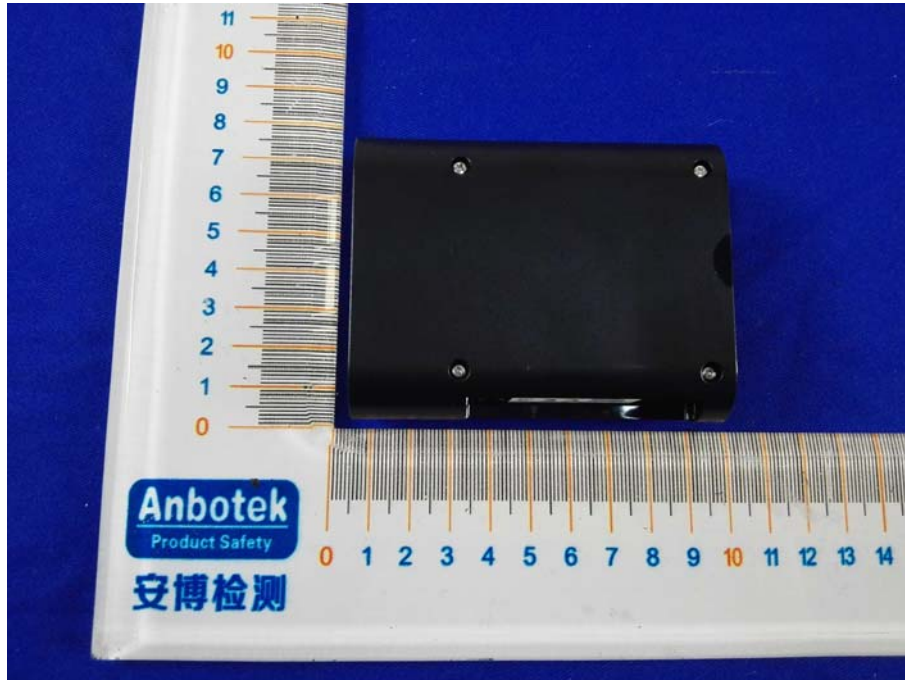
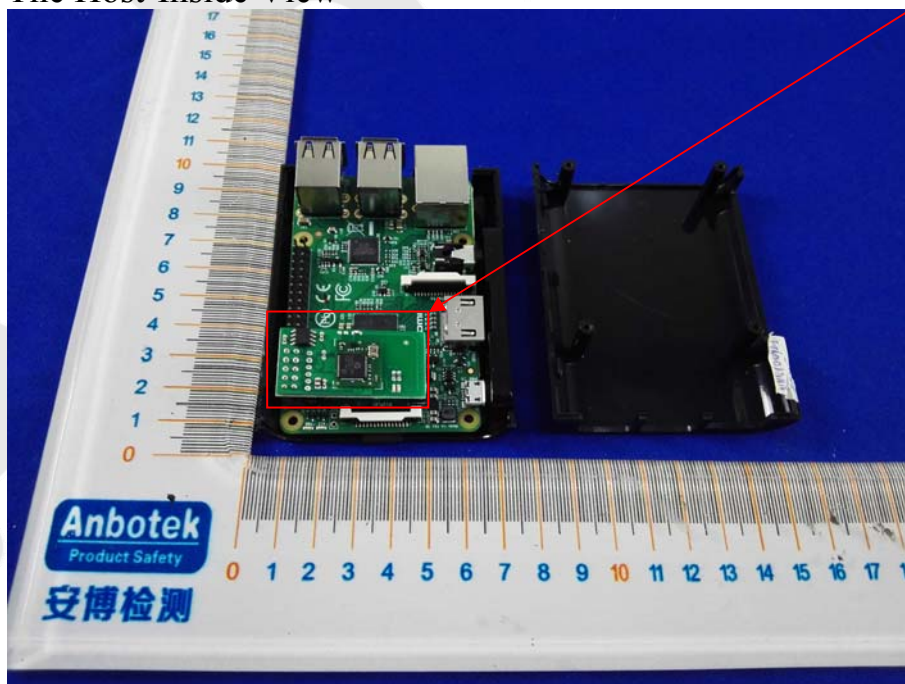


Figure 4
The Host-Inside View



EUT

Figure 5
The EUT-Front View

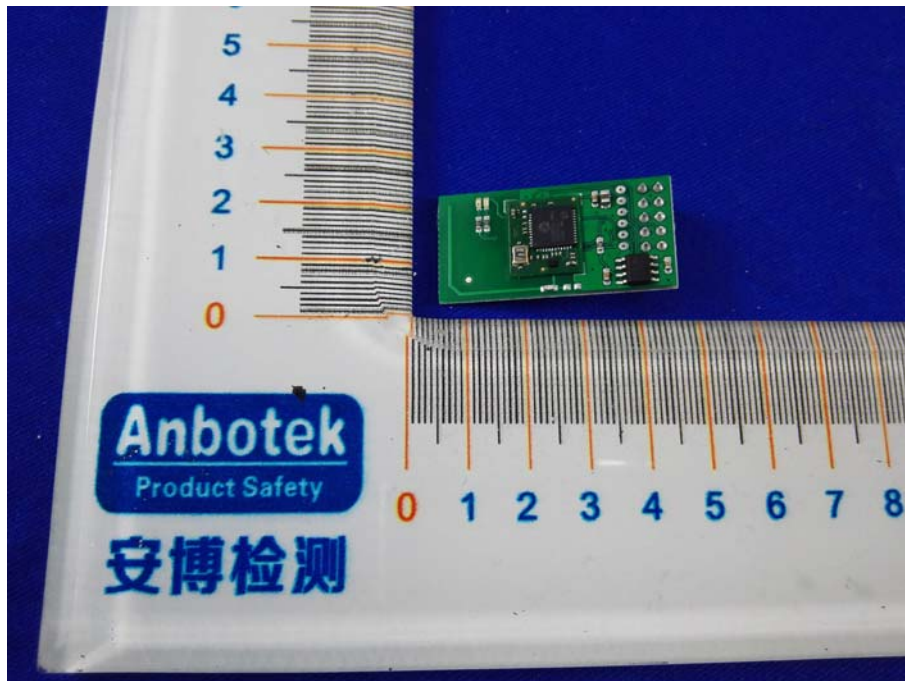
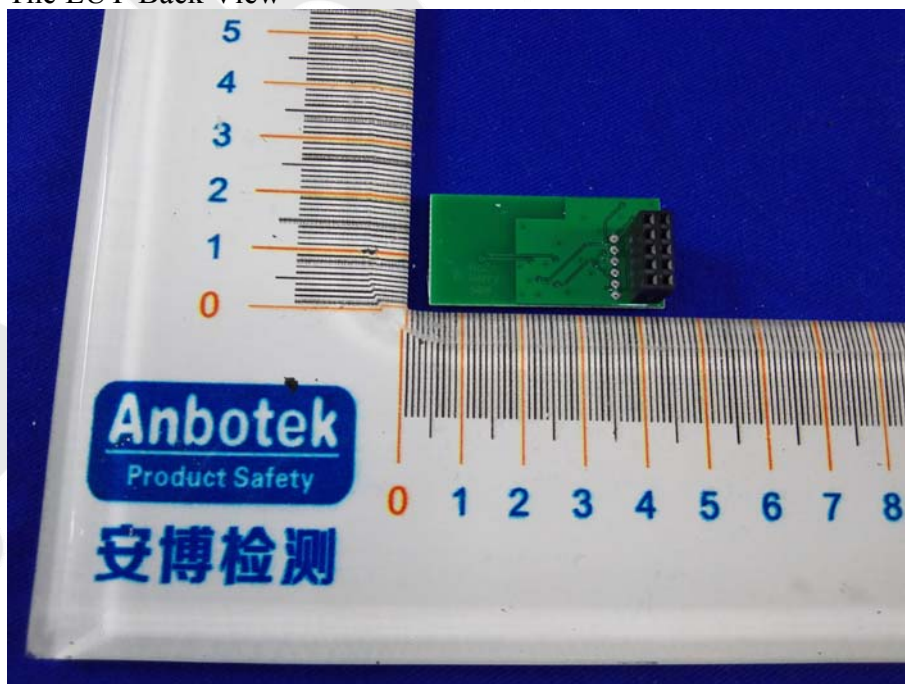


Figure 6
The EUT-Back View



APPENDIX II(INTERNAL PHOTOS)

Figure 7
The EUT-Inside View

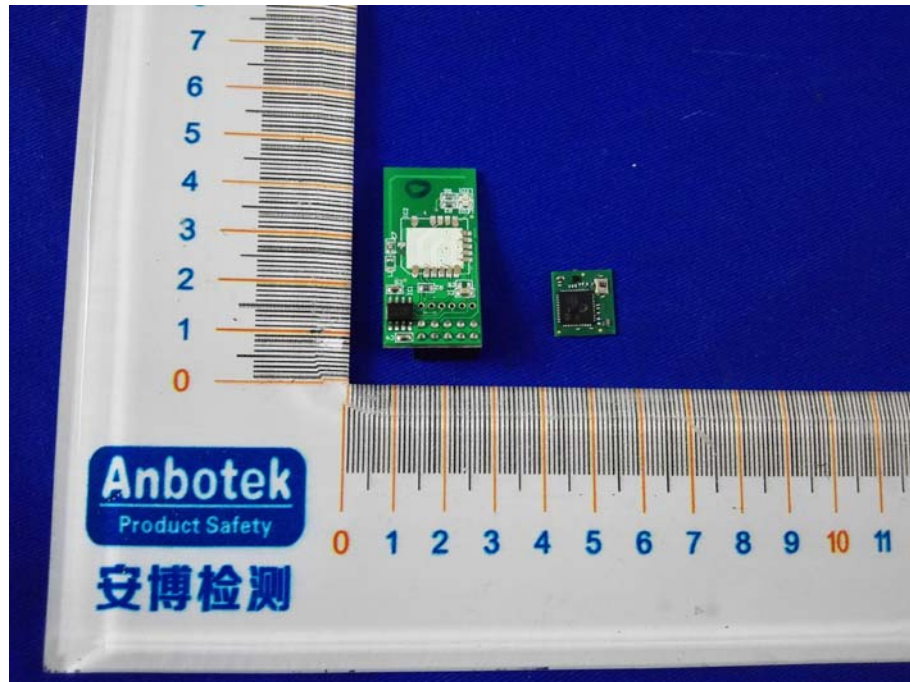


Figure 8
PCB of the EUT-Front View



Figure 9
PCB of the EUT-Back View



Figure 10
PCB of the EUT-Front View

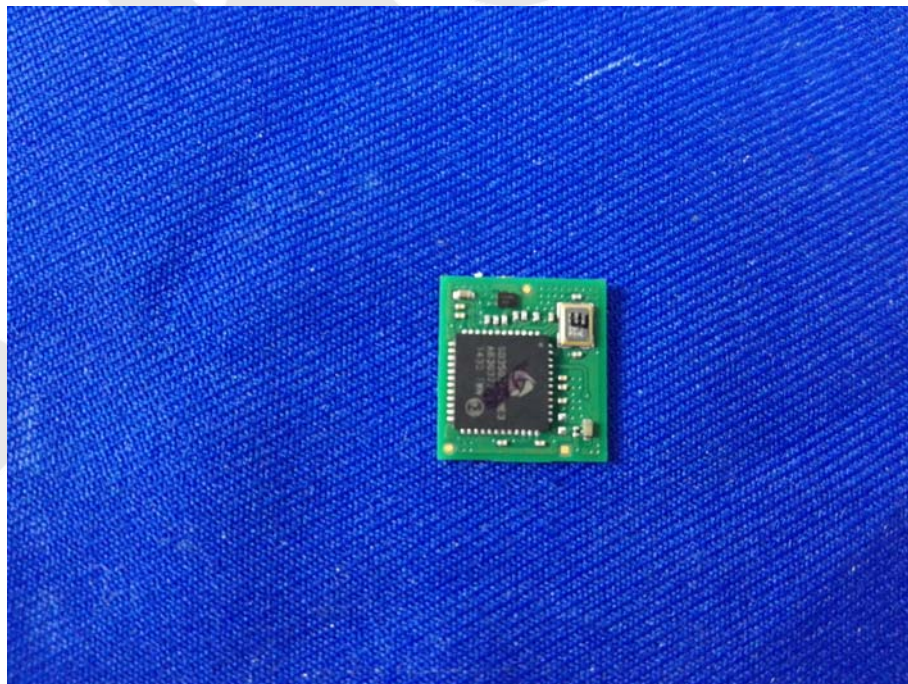


Figure 11
PCB of the EUT-Back View

