

FCC TEST REPORT

FOR

Embed International Pty Ltd

smartTouch Swipe

Test Model: STS-001

Prepared for : Embed International Pty Ltd
Address : 2 Neil Street, Osborne Park Perth, Western Australia 6017
Australia

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,
Bao'an District, Shenzhen, Guangdong, China

Tel : (+86)755-82591330
Fax : (+86)755-82591332
Web : www.LCS-cert.com
Mail : webmaster@LCS-cert.com

Date of receipt of test sample : April 06, 2016
Number of tested samples : 1
Sample number : Prototype
Date of Test : April 06, 2016 - April 11, 2016, 2016
Date of Report : April 12, 2016

FCC TEST REPORT
FCC CFR 47 PART 15 C (15.225)-2015

Report Reference No. : LCS1604110777E

Date of Issue : April 13, 2016

Testing Laboratory Name : Shenzhen LCS Compliance Testing Laboratory Ltd.

Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure : Full application of Harmonised standards [checked]
Partial application of Harmonised standards [unchecked]
Other standard testing method [unchecked]

Applicant's Name : Embed International Pty Ltd

Address : 2 Neil Street, Osborne Park Perth, Western Australia 6017 Australia

Test Specification

Standard : FCC CFR 47 PART 15 C(15.225)-2015

Test Report Form No. : LCSEMC-1.0

TRF Originator : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen LCS Compliance Testing Laboratory Ltd. is acknowledged as copyright owner and source of the material. Shenzhen LCS Compliance Testing Laboratory Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test Item Description. : smartTouch Swipe

Trade Mark : smartTouch™

Test Model : STS-001

Ratings : DC 12V/1A

Result : Positive

Compiled by:

Calvin Weng

Supervised by:

Glin Lu

Approved by:

Gavin Liang

Calvin Weng/ File administrators

Glin Lu/ Technique principal

Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1604110777E	<u>April 12, 2016</u> Date of issue
---	--

Test Model..... : STS-001 EUT..... : smartTouch Swipe
Applicant..... : Embed International Pty Ltd Address..... : 2 Neil Street, Osborne Park Perth, Western Australia 6017 Australia Telephone..... : / Fax..... : /
Manufacturer..... : Embed International Pty Ltd Address..... : 2 Neil Street, Osborne Park Perth, Western Australia 6017 Australia Telephone..... : / Fax..... : /
Factory..... : Embed International Pty Ltd Address..... : 2 Neil Street, Osborne Park Perth, Western Australia 6017 Australia Telephone..... : / Fax..... : /

Test Result	Positive
--------------------	-----------------

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
00	2016-04-12	Initial Issue	Gavin Liang

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	6
1.1 Description of Device (EUT)	6
1.2 Support Equipment List.....	7
1.3 External I/O	7
1.4 Description of Test Facility	7
1.5 List Of Measuring Equipments.....	8
1.6 Statement of The Measurement Uncertainty	8
1.7 Measurement Uncertainty.....	9
1.8 Description Of Test Modes	9
1.9 Summary Of Test Result	9
2. TEST METHODOLOGY	10
2.1 EUT Configuration	10
2.2 EUT Exercise.....	10
2.3 General Test Procedures.....	10
3. SYSTEM TEST CONFIGURATION.....	11
3.1 Justification	11
3.2 EUT Exercise Software	11
3.3 Special Accessories	11
3.4 Block Diagram/Schematics	11
3.5 Equipment Modifications	11
3.6 Test Setup.....	11
4. RADIATED MEASUREMENT	12
4.1 Radiated Emission	12
4.2 Field Strength of Fundamental Emissions and Mask Measurement	17
5. BANDWIDTH OF THE OPERATING FREQUENCY	21
5.1 Standard Applicable	21
5.2 Test Result	21
6. FREQUENCY STABILITY MEASUREMENT	22
6.1 Standard Applicable	22
6.2 Test Result	22
7. LINE CONDUCTED EMISSIONS.....	23
7.1 Standard Applicable	23
7.2 Block Diagram of Test Setup	23
7.3 Test Results	23
8. ANTENNA REQUIREMENT	25
8.1 Standard Applicable	25
8.2 Antenna Connected Construction.....	25

1. GENERAL INFORMATION

1.1 Description of Device (EUT)

EUT	: smartTouch Swipe
Test Model	: STS-001
Hardware Version	: 5.0
Software Version	: 1.0
Power Supply	: DC12V/1A
EUT Supports	: 2.4GHz WIFI/RFID(13.56MHz)
Radios Application	
RFID Technology	:
Operating Frequency	: 13.56MHz
Channel Number	: 1
Modulation Type	: ASK
Antenna Description	: Loop Antenna, 2.0dBi(Max.)
WIFI(2.4GHz Band)	:
Operating Frequency	: 2412-2462MHz
Channel Spacing	: 5MHz
Channel Number	: 11 Channel for 20MHz bandwidth(2412~2462MHz) 7 channels for 40MHz bandwidth(2422~2452MHz)
Modulation Type	: 802.11b: DSSS; 802.11g/n: OFDM
Antenna Description	: PCB Antenna, 2.0dBi(Max.)

1.2 Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate
MEAN WELL ENTERPRISES CO LTD	Adapter	GS18B12	/	VOC

1.3 External I/O

I/O Port Description	Quantity	Cable
Connector J7 – IO Redemption	1	0.8m, unshielded
Connector J9 – IO Expansion	1	N/A
Connector J8 – USB Power Port	1	N/A

1.4 Description of Test Facility

CNAS Registration Number. is L4595.

FCC Registration Number. is 899208.

Industry Canada Registration Number. is 9642A-1.

VCCI Registration Number. is C-4260 and R-3804.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

There is one 3m semi-anechoic chamber and one line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.10: 2013 and CISPR 22/EN 55022/ CISPR 16-1-4:2010 SVSWR requirements.

1.5 List Of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal Date	Due Date
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	June 18,2015	June 17,2016
Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	9kHz~40GHz	July 16,2015	July 15,2016
LISN	MESS Tec	NNB-2/16Z	99079	9KHz-30MHz	June 18,2015	June 17,2016
LISN (Support Unit)	EMCO	3819/2NM	9703-1839	9KHz-30MHz	June 18,2015	June 17,2016
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9KHz-30MHz	June 18,2015	June 17,2016
ISN	SCHAFFNER	ISN ST08	21653	9KHz-30MHz	June 18,2015	June 17,2016
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30M-1GHz 3m	June 18,2015	June 17,2016
Amplifier	SCHAFFNER	COA9231A	18667	9kHz-2GHz	June 18,2015	June 17,2016
Amplifier	Agilent	8449B	3008A02120	1GHz-26.5GHz	July 16,2015	July 15,2016
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5GHz-40GHz	July 16,2015	July 15,2016
Spectrum Analyzer	Agilent	E4407B	MY41440292	9k-26.5GHz	July 16,2015	July 15,2016
MAX Signal Analyzer	Agilent	N9020A	MY50510140	20Hz~26.5GHz	Oct. 27, 2015	Oct. 26, 2016
Loop Antenna	R&S	HFH2-Z2	860004/001	9k-30MHz	June 18,2015	June 17,2016
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	30MHz-1GHz	June 10,2015	June 09,2016
Horn Antenna	EMCO	3115	6741	1GHz-18GHz	June 10,2015	June 09,2016
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz-40GHz	June 10,2015	June 09,2016
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz-1GHz	June 18,2015	June 17,2016
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz-40GHz	June 18,2015	June 17,2016
Power Meter	R&S	NRVS	100444	DC-40GHz	June 18,2015	June 17,2016
Power Sensor	R&S	NRV-Z51	100458	DC-30GHz	June 18,2015	June 17,2016
Power Sensor	R&S	NRV-Z32	10057	30MHz-6GHz	June 18,2015	June 17,2016
RF CABLE-1m	JYE Bao	RG142	CB034-1m	20MHz-7GHz	June 18,2015	June 17,2016
RF CABLE-2m	JYE Bao	RG142	CB035-2m	20MHz-1GHz	June 18,2015	June 17,2016
DC power Source	GW	GPC-6030D	C671845	/	June 18,2015	June 17,2016
Temperature & Humidity Chamber	Wuhuan	HTP205	/	/	June 18,2015	June 17,2016

Note: All equipment through GRGT EST calibration

1.6 Statement of The Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.7 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Radiation Uncertainty	9KHz~30MHz	3.10dB	(1)
	30MHz~200MHz	2.96dB	(1)
	200MHz~1000MHz	3.10dB	(1)
	1GHz~26.5GHz	3.80dB	(1)
	26.5GHz~40GHz	3.90dB	(1)
Conduction Uncertainty	150kHz~30MHz	1.63dB	(1)
Power disturbance	30MHz~300MHz	1.60dB	(1)

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

1.8 Description Of Test Modes

For pre-testing, when performed power line conducted emission measurement, the input Voltage/Frequency AC 120V/60Hz and AC 240V/60Hz were used. Only recorded the worst case in this report.

The EUT was operated in the engineering mode. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.

1.9 Summary Of Test Result

Test Items	FCC Rules	Result
Line Conducted Emissions	15.207	PASS
Field Strength of Fundamental Emissions	15.225(a)(b)(c)	PASS
Radiated Emissions	15.225(d) & 15.209	PASS
20dB Bandwidth	2.1049	PASS
Frequency Stability	15.225(e)	PASS
Antenna Requirement	15.203	PASS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013, FCC CFR PART 15C 15.225.

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.225 under the FCC Rules Part 15 Subpart C.

2.3 General Test Procedures

2.3.1 Conducted Emissions

According to the requirements in Section 6.2 of ANSI C63.10: 2013, AC power-line conducted emissions shall be measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table and the turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 6.3 of ANSI C63.10: 2013

3. SYSTEM TEST CONFIGURATION

3.1 Justification

N/A.

3.2 EUT Exercise Software

N/A.

3.3 Special Accessories

N/A.

3.4 Block Diagram/Schematics

Please refer to the report.

3.5 Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

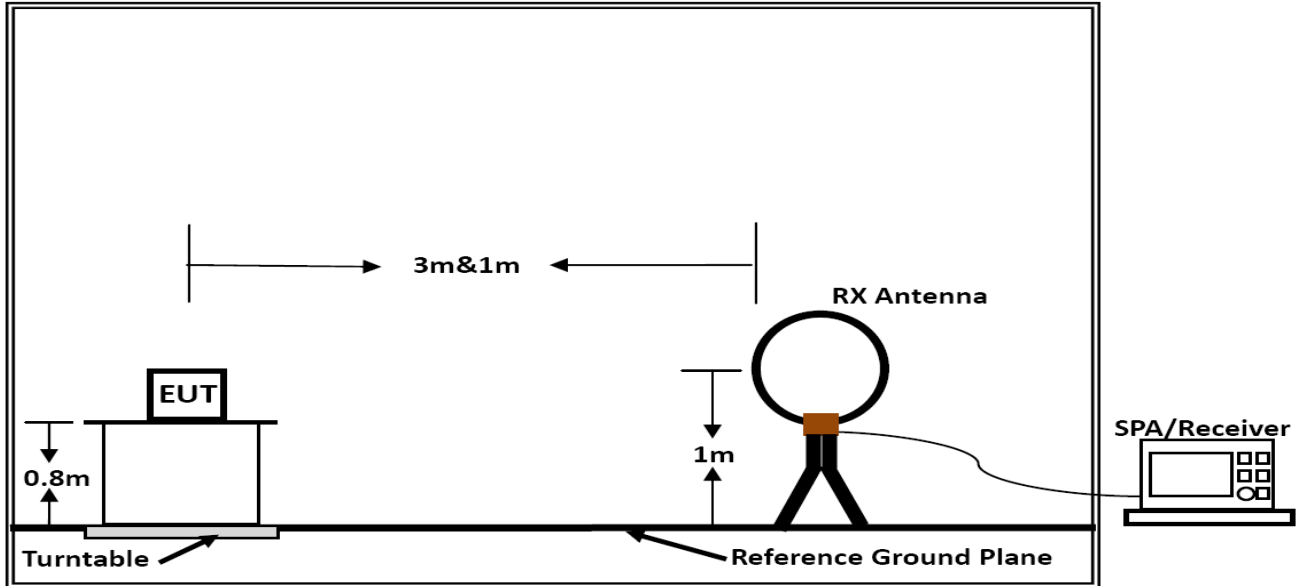
3.6 Test Setup

Please refer to the test setup photo.

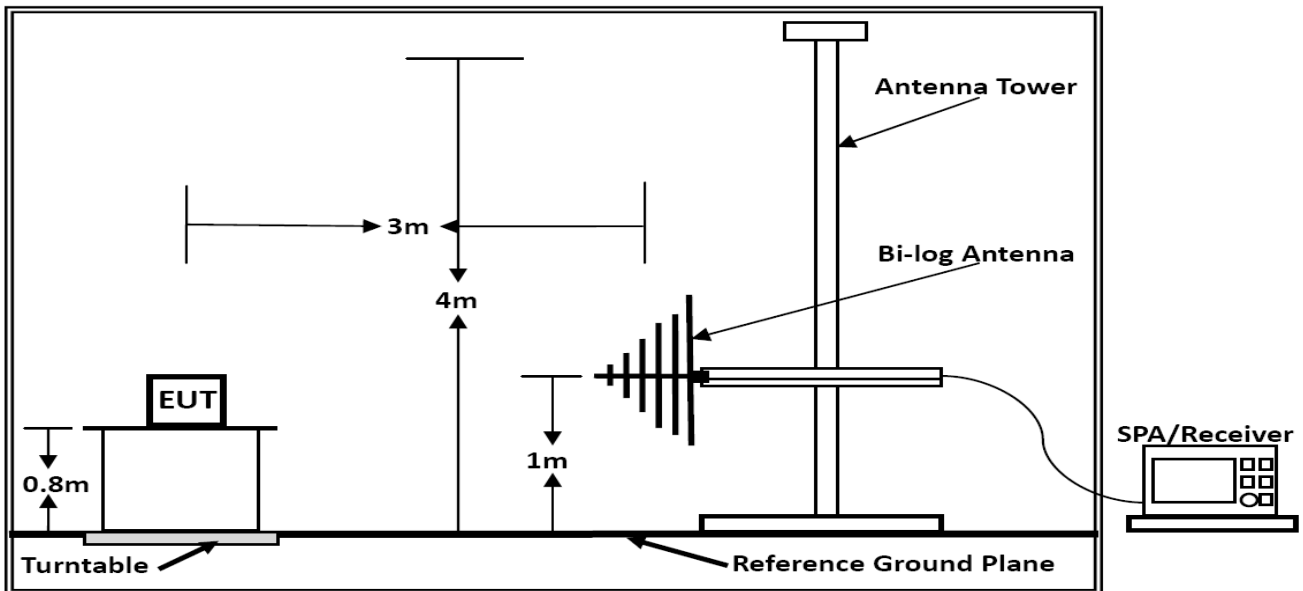
4. RADIATED MEASUREMENT

4.1 Radiated Emission

4.1.1 Block Diagram of Test Setup



Below 30MHz



Below 1GHz

4.1.2 Radiated Emission Limit

15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\1\ 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
8.41425-8.41475	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	(\2)
13.36-13.41			

\1\ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

\2\ Above 38.6

Part 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector.

According to Part 15.225 (a), the field strength of any emissions which appear outside of 13.553 ~ 13.567MHz band shall not exceed the general radiated emissions limits.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
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

Limit calculation and transfer to 3m distance as showed in the following table:

Frequency (MHz)	Limit (dBuV/m)	Distance (m)
0.009-0.490	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	3
0.490-1.705	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

4.1.3 Test Results

PASS.

The test data please refer to following page:

9KHz ~ 30MHz

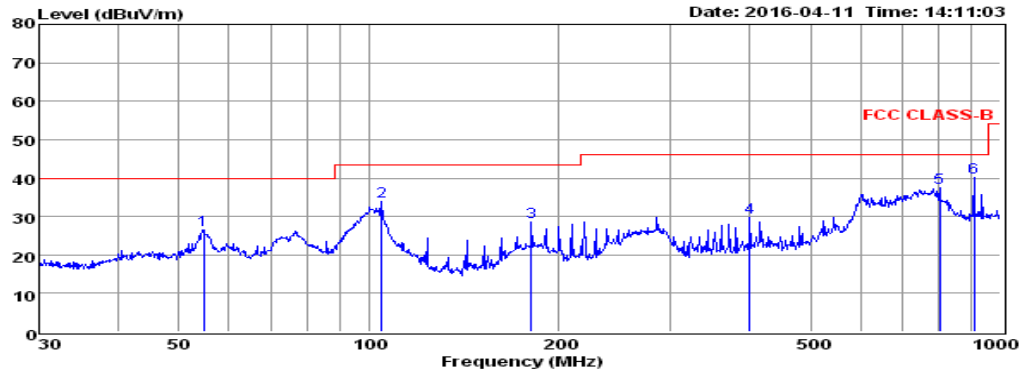
Note: Only recorded the worst test result.

Freq. MHz	Antenna Pol.	Reading dBuV	Factor dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark
0.410	H	--	--	--	65	--	--
1.000	H	--	--	--	65	--	--
6.81	H	32.25	11.71	43.96	69.5	-25.54	Peak
10.15	H	21.42	11.04	32.46	69.5	-37.04	Peak
13.56	H	45.11	10.86	55.97	124	-68.03	Peak
16.94	H	15.25	10.54	25.79	69.5	-43.71	Peak
20.33	H	17.85	9.60	27.45	69.5	-42.05	Peak
27.12	H	15.65	8.91	24.56	69.5	-44.94	Peak
0.410	V	--	--	--	65	--	--
1.000	V	--	--	--	65	--	--
6.81	V	28.51	11.71	40.22	69.5	-29.28	Peak
10.15	V	20.55	11.04	31.59	69.5	-37.91	Peak
13.56	V	35.57	10.86	46.43	124	-77.57	Peak
16.94	V	15.75	10.54	26.29	69.5	-43.21	Peak
20.33	V	17.52	9.60	27.12	69.5	-42.38	Peak
27.12	V	13.24	8.91	22.15	69.5	-47.35	Peak

*Note: Factor= Antenna Gain + Cable Loss – Amplifier Gain;

“--” means noise floor.

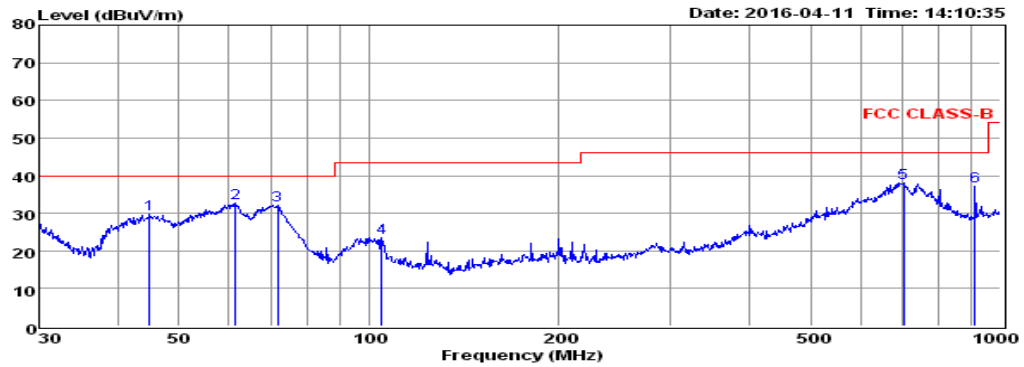
30MHz ~ 1GHz



Env./Ins: 24°C/56%
 EUT: Embed
 M/N:
 Power Rating: AC 240V/60Hz
 Test Mode: On
 Operator: Calvin
 Memo:
 pol: HORIZONTAL

	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Limit dBuV/m	Over dB	Remark
1	54.64	13.09	0.46	13.04	26.59	40.00	-13.41	QP
2	104.54	20.68	0.61	12.75	34.04	43.50	-9.46	QP
3	180.65	17.91	0.89	9.74	28.54	43.50	-14.96	QP
4	400.43	13.48	1.20	15.07	29.75	46.00	-16.25	QP
5	801.79	15.53	1.72	20.08	37.33	46.00	-8.67	QP
6	909.67	17.24	1.88	21.15	40.27	46.00	-5.73	QP

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that ate 20db blow the official limit are not reported



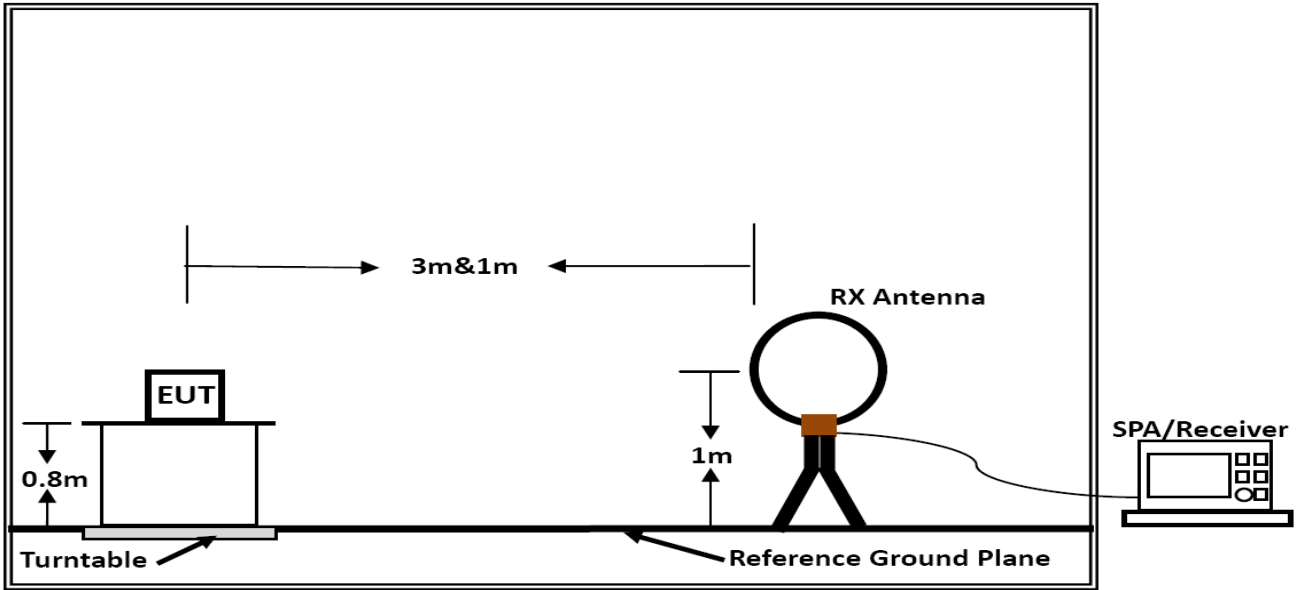
Env./Ins: 24°C/56%
 EUT: Embed
 M/N:
 Power Rating: AC 240V/60Hz
 Test Mode: On
 Operator: Calvin
 Memo:
 pol: VERTICAL

	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Limit dBuV/m	Over dB	Remark
1	44.90	15.89	0.41	13.55	29.85	40.00	-10.15	QP
2	61.35	19.94	0.48	12.16	32.58	40.00	-7.42	QP
3	71.58	23.18	0.55	8.38	32.11	40.00	-7.89	QP
4	104.54	10.12	0.61	12.75	23.48	43.50	-20.02	QP
5	701.76	17.63	1.70	18.83	38.16	46.00	-7.84	QP
6	912.86	14.23	1.86	21.17	37.26	46.00	-8.74	QP

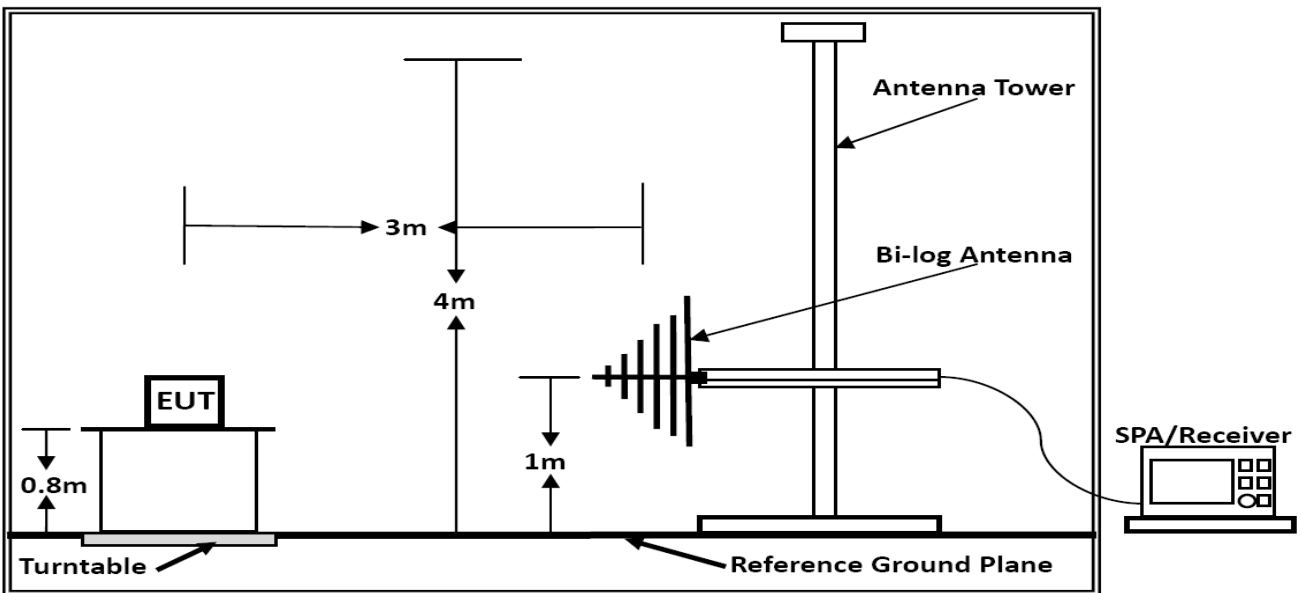
Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that ate 20db blow the official limit are not reported

4.2 Field Strength of Fundamental Emissions and Mask Measurement

4.2.1 Block Diagram of Test Setup



Below 30MHz



Below 1GHz

4.2.2 Field strength of fundamental emissions limit and Mask limit

The field strength of fundamental emissions shall not exceed 15848 microvolts/meter at 30 meters. The emissions limit in this paragraph is based on measurement instrumentation employing a QP detector.

Frequencies (MHz)	Field Strength (microvolts/meter)	Field Strength (dB μ V/m) at 10m	Field Strength (dB μ V/m) at 3m
13.553 ~ 13.567MHz	15848 at 30m	103.08 (QP)	124 (QP)

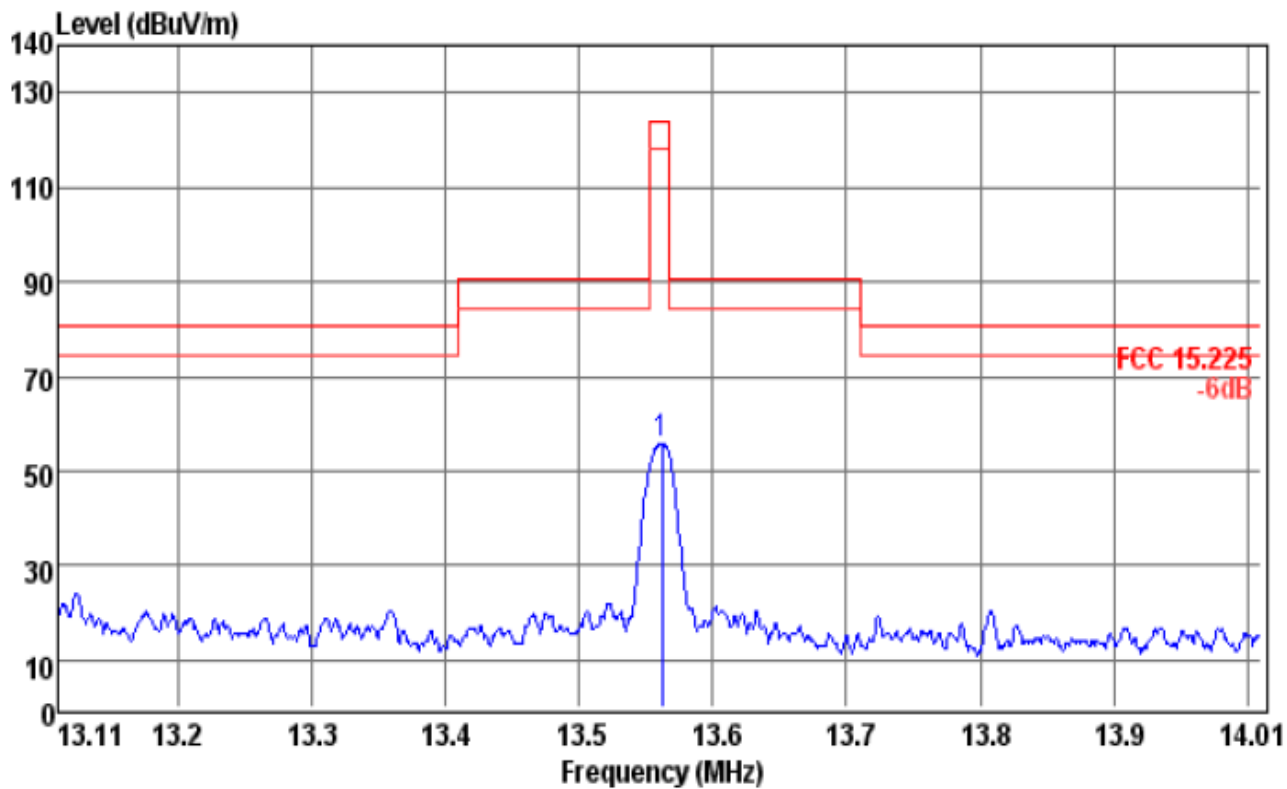
Mask Limit:

Frequency (MHz)	Limit (dB μ V/m)	Distance (m)
1.705-13.110	69.5	3
13.110-13.410	80.5	3
13.410-13.553	90.5	3
13.553-13.567	124.0	3
13.567-13.710	90.5	3
13.710-14.010	80.5	3
14.010-30.000	69.5	3

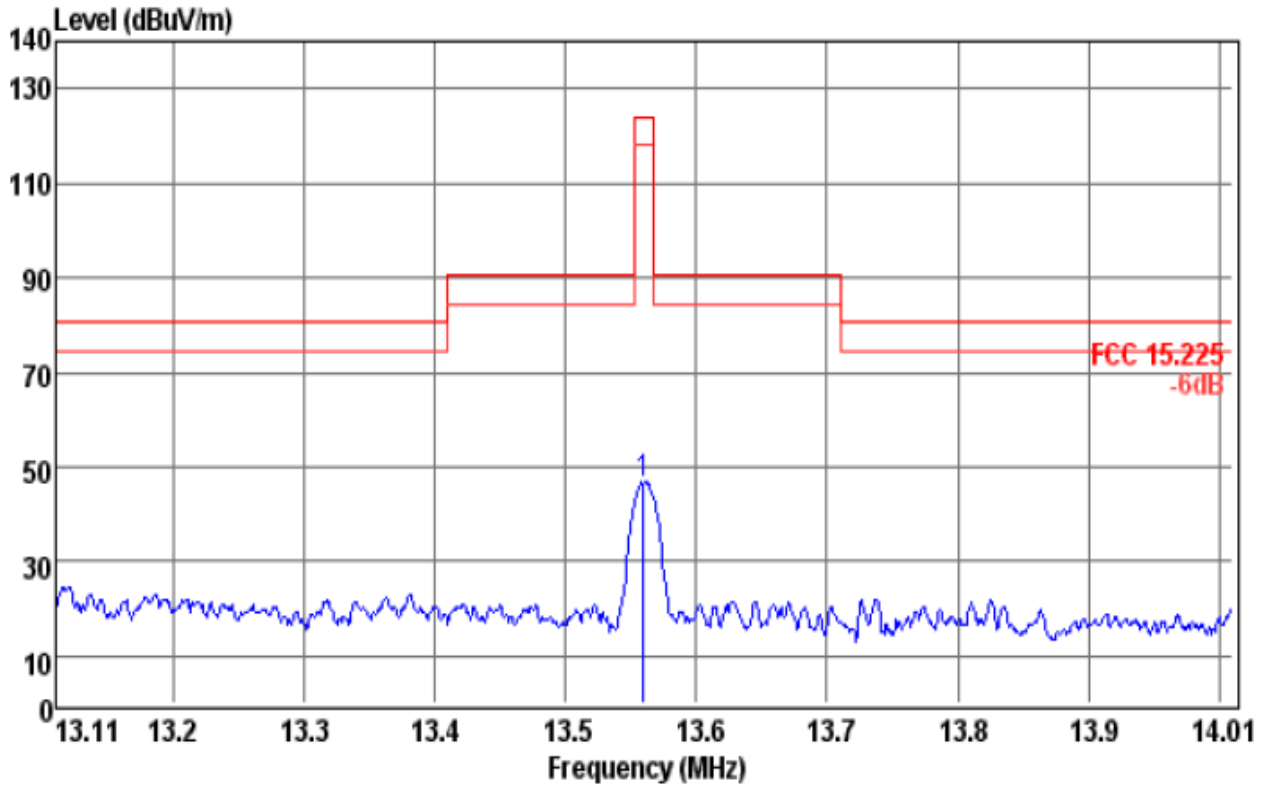
4.2.3 Test Results

PASS.

The test data please refer to following page:



	Freq.(MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Pol.	Remark
1	13.56	45.11	10.86	55.97	124	H	QP



	Freq.(MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Pol.	Remark
1	13.56	35.57	10.86	46.43	124	V	QP

*Note: Factor= Antenna Gain + Cable Loss – Amplifier Gain

Emission level (dB μ V/m) = 20 log Emission level (μ V/m).

Measured distance is 3m.

All RFID's spurious emissions are below 20dB of limits.

5. BANDWIDTH OF THE OPERATING FREQUENCY

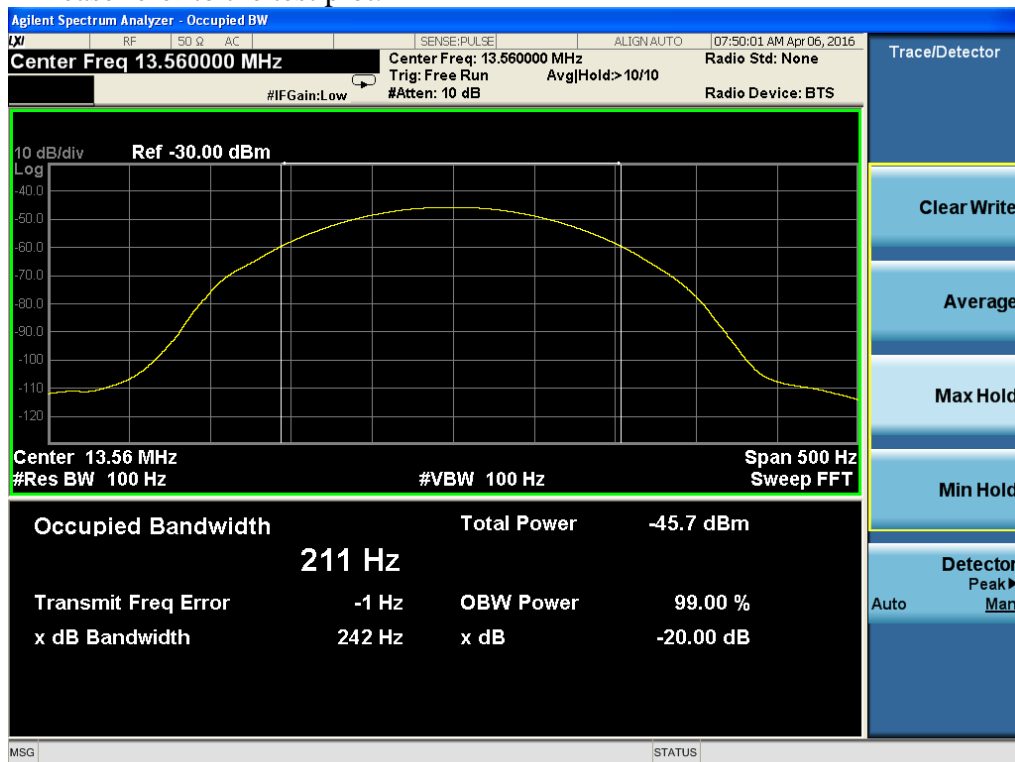
5.1 Standard Applicable

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emissions in the specific band (13.553 ~ 13.567MHz).

5.2 Test Result

EUT	smartTouch Swipe	
RBW	100Hz	
VBW	100Hz	
SPAN	500Hz	
Carrier Freq. (MHz)	20dB Bandwidth (KHz)	
13.56	0.242	

Please refer to the test plot:



6. FREQUENCY STABILITY MEASUREMENT

6.1 Standard Applicable

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% (100ppm) of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

6.2 Test Result

Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency (MHz)	Limit (ppm)
DC 10.8V	13.56018	± 100
DC 12.0V	13.56011	
DC 13.2V	13.56017	
Max. Deviation (MHz)	0.00018	
Max. Deviation (ppm)	13.2743	

Temperature vs. Frequency Stability

Temperature (°C)	Measurement Frequency (MHz)	Limit (ppm)
-20	13.56022	± 100
-10	13.56020	
0	13.56017	
10	13.56018	
20	13.56011	
30	13.56017	
40	13.56014	
50	13.56013	
Max. Deviation (MHz)	0.00022	
Max. Deviation (ppm)	16.2242	

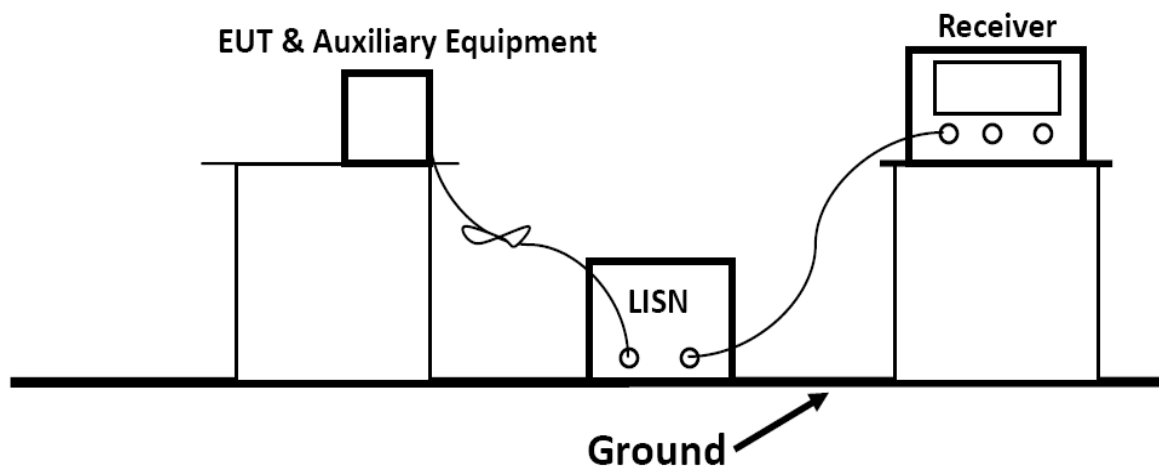
7. LINE CONDUCTED EMISSIONS

7.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which 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 or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

Frequency Range(MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

7.2 Block Diagram of Test Setup

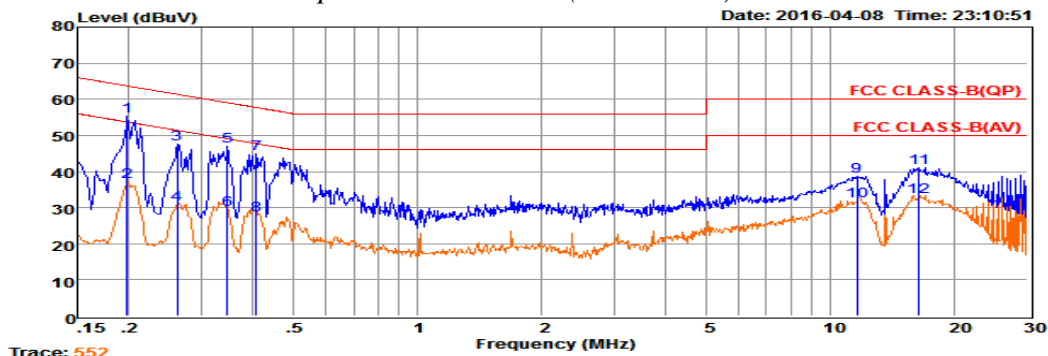


7.3 Test Results

PASS.

The test data please refer to following page.

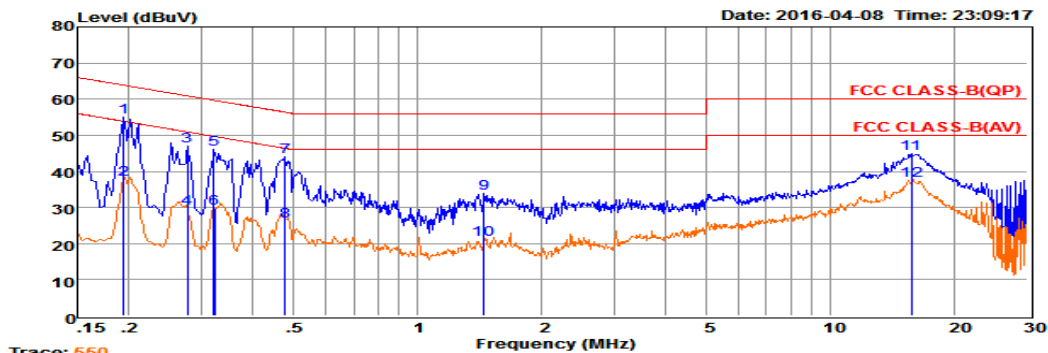
Test Result For Line Power Input AC 120V/60Hz (Worst Case)



Trace: 552
 Env. Ins: 24*/56%
 EUT: Embed
 M/N:
 Power Rating: AC 120V/60Hz
 Test Mode: On
 Operator: Calvin
 Memo:
 Pol: LINE

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19758	35.53	9.63	0.02	10.00	55.18	63.71	-8.53	QP
2	0.19768	17.63	9.63	0.02	10.00	37.28	53.71	-16.43	Average
3	0.26164	27.93	9.63	0.03	10.00	47.59	61.38	-13.79	QP
4	0.26174	11.37	9.63	0.03	10.00	31.03	51.38	-20.35	Average
5	0.34646	27.20	9.62	0.03	10.00	46.85	59.05	-12.20	QP
6	0.34656	9.77	9.62	0.03	10.00	29.42	49.04	-19.62	Average
7	0.40615	25.12	9.62	0.04	10.00	44.78	57.73	-12.95	QP
8	0.40625	8.38	9.62	0.04	10.00	28.04	47.72	-19.68	Average
9	1.62082	18.86	9.70	0.09	10.00	38.65	60.00	-21.35	QP
10	1.62182	12.06	9.70	0.09	10.00	31.85	50.00	-18.15	Average
11	1.39849	21.30	9.72	0.11	10.00	41.13	60.00	-18.87	QP
12	1.39949	13.05	9.72	0.11	10.00	32.88	50.00	-17.12	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
 2. The emission levels that are 20dB below the official limit are not reported.



Trace: 550
 Env. Ins: 24*/56%
 EUT: Embed
 M/N:
 Power Rating: AC 120V/60Hz
 Test Mode: On
 Operator: Calvin
 Memo:
 Pol: NEUTRAL

	Freq	Reading	LisnFac	CabLos	Atten_Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19447	35.46	9.60	0.02	10.00	55.08	63.84	-8.76	QP
2	0.19457	18.29	9.60	0.02	10.00	37.91	53.84	-15.93	Average
3	0.27734	27.35	9.60	0.03	10.00	46.98	60.90	-13.92	QP
4	0.27744	10.14	9.60	0.03	10.00	29.77	50.89	-21.12	Average
5	0.32169	26.32	9.61	0.03	10.00	45.96	59.66	-13.70	QP
6	0.32179	10.01	9.61	0.03	10.00	29.65	49.66	-20.01	Average
7	0.47865	24.26	9.62	0.04	10.00	43.92	56.36	-12.44	QP
8	0.47875	6.56	9.62	0.04	10.00	26.22	46.36	-20.14	Average
9	1.44855	14.25	9.63	0.05	10.00	33.93	56.00	-22.07	QP
10	1.44955	1.49	9.63	0.05	10.00	21.17	46.00	-24.83	Average
11	1.71794	25.03	9.75	0.10	10.00	44.88	60.00	-15.12	QP
12	1.71894	17.69	9.75	0.10	10.00	37.54	50.00	-12.46	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
 2. The emission levels that are 20dB below the official limit are not reported.

8. ANTENNA REQUIREMENT

8.1 Standard Applicable

According to § 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.

8.2 Antenna Connected Construction

The Loop antenna(2.0dBi Max.) used for transmitting is permanently attached and no consideration of replacement. Please see EUT photo for details.

-----THE END OF REPORT-----