

FCC 47 CFR PART 15 SUBPART C

Product Type : BT module
Applicant : Acer Incorporated
Address : 8F, 88, Sec 1, Hsin Tai Wu Rd ,Hsichih, Taipei Hsien ,Taiwan 221
Trade Name : Acer Incorporated
Model Number : H7550ST Extension Board
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2009
Receive Date : May 06, 2015
Test Period : Apr. 27 ~ May 15, 2015
Issue Date : Jun. 12, 2015

Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jun. 12, 2015	Initial Issue	

Verification of Compliance

Issued Date: 06/12/2015

Product Type : BT module
Applicant : Acer Incorporated
Address : 8F, 88, Sec 1, Hsin Tai Wu Rd ,Hsichih, Taipei Hsien ,Taiwan 221
Trade Name : Acer Incorporated
Model Number : H7550ST Extension Board
FCC ID : HLZQBT1
EUT Rated Voltage : DC 5.0V
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2014
ANSI C63.10:2009
Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>



A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By
(Manager)

: Fly Lu
(Fly Lu)

Reviewed By

(Testing Engineer)

: Eric Ou Yang
(Eric Ou Yang)

TABLE OF CONTENTS

1	General Information.....	5
1.1.	Summary of Test Result.....	5
1.2.	Measurement Uncertainty.....	5
2	EUT Description.....	6
3	Test Methodology	7
3.1.	Mode of Operation	7
3.2.	EUT Exercise Software.....	7
3.3.	Configuration of Test System Details	8
3.4.	Test Site Environment.....	9
4	Conducted Emission Measurement	10
4.1.	Limit	10
4.2.	Test Instruments	10
4.3.	Test Setup.....	10
4.4.	Test Procedure.....	11
4.5.	Test Result	12
5	Radiated Interference Measurement	14
5.1.	Limit	14
5.2.	Test Instruments	14
5.3.	Setup	15
5.4.	Test Procedure.....	17
5.5.	Test Result	18
6	Band Edges Measurement.....	22
6.1.	Limit	22
6.2.	Test Setup.....	22
6.3.	Test Instruments	22
6.4.	Test Procedure.....	23
6.5.	Test Result	24
7	Antenna Measurement	27
7.1.	Limit	27
7.2.	Antenna Connector Construction.....	27

1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
15.247			
15.207	AC Power Conducted Emission	PASS	-----
Standard	Item	Result	Remark
15.247			
15.247(b)(1)	Max. Output Power	N/A	-----
15.247(d)	Transmitter Radiated Emissions	PASS	-----
15.247(a)(1)	20dB RF Bandwidth	N/A	-----
15.247(a)(1)	Carrier Frequency Separation	N/A	-----
15.247(a)(1)(iii)	Number of Hopping	N/A	-----
15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	N/A	-----
15.247(d)	Out of Band Conducted Spurious Emission	N/A	-----
15.247(d)	Band Edge Measurement	PASS	-----
-	Occupied Bandwidth Measurement	N/A	-----
15.203	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

Note: The device is module: H7550ST Extension Board add host to do Class II Permissive Change report so it only test Conducted Emission, Transmitter Radiated Emissions and Band Edge Measurement.

1.2. Measurement Uncertainty

Test Item	Frequency Range		Uncertainty (dB)
Conducted Emission	9kHz ~ 30MHz		± 2.02
Radiated Emission	30MHz ~ 1000MHz	Horizontal	± 3.98
		Vertical	± 3.62
	1000MHz ~ 18000MHz	Horizontal	± 3.11
		Vertical	± 3.07
	18000MHz ~ 40000MHz	Horizontal	± 3.66
		Vertical	± 3.54

2 EUT Description

Product	BT module		
Trade Name	Acer Incorporated		
Model Number	H7550ST Extension Board		
Applicant	Acer Incorporated 8F, 88, Sec 1, Hsin Tai Wu Rd ,Hsichih, Taipei Hsien ,Taiwan 221		
Manufacturer	Qisda Corporation No. 157, Shan-Ying Road, Gueishan, Taoyuan 333, Taiwan		
FCC ID	HLZQBT1		
Frequency Range	2402 ~ 2480 MHz		
Modulation Type	GFSK for 1Mbps		
	$\pi/4$ -DQPSK for 2Mbps		
	8DPSK for 3Mbps		
Antenna Type	PCB Antenna		
Antenna Gain	2.7 dBi		
RF Output Power (Conducted)	GFSK for 1Mbps	0.68 dBm /	0.001 W
	$\pi/4$ -DQPSK for 2Mbps	0.63 dBm /	0.001 W
	8DPSK for 3Mbps	0.78 dBm /	0.001 W
Host Information	Trade Name: acer Model Number: H6518BD, E341D, HE-813J, H1P1418 (*H6518BD/E341D/HE-813J/H1P1418 are the same product with different marketing purposes.)		
Host Reference Number	TL-18677		

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode
Mode 1: Normal Operation Mode
Mode 2: GFSK Link Mode
Mode 3: $\pi/4$ -DQPSK Link Mode
Mode 4: 8DPSK Link Mode

Final-Test Mode
Mode 1: Normal Operation Mode
Mode 2: GFSK Link Mode
Mode 4: 8DPSK Link Mode

Description of Test Modes

Preliminary tests were performed in different modulation to find the worst case. The modulation has shown the worst-case in section 4.5. Investigation has been done on all the possible configurations for searching the worst cases.

Note: The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Tested System Details

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

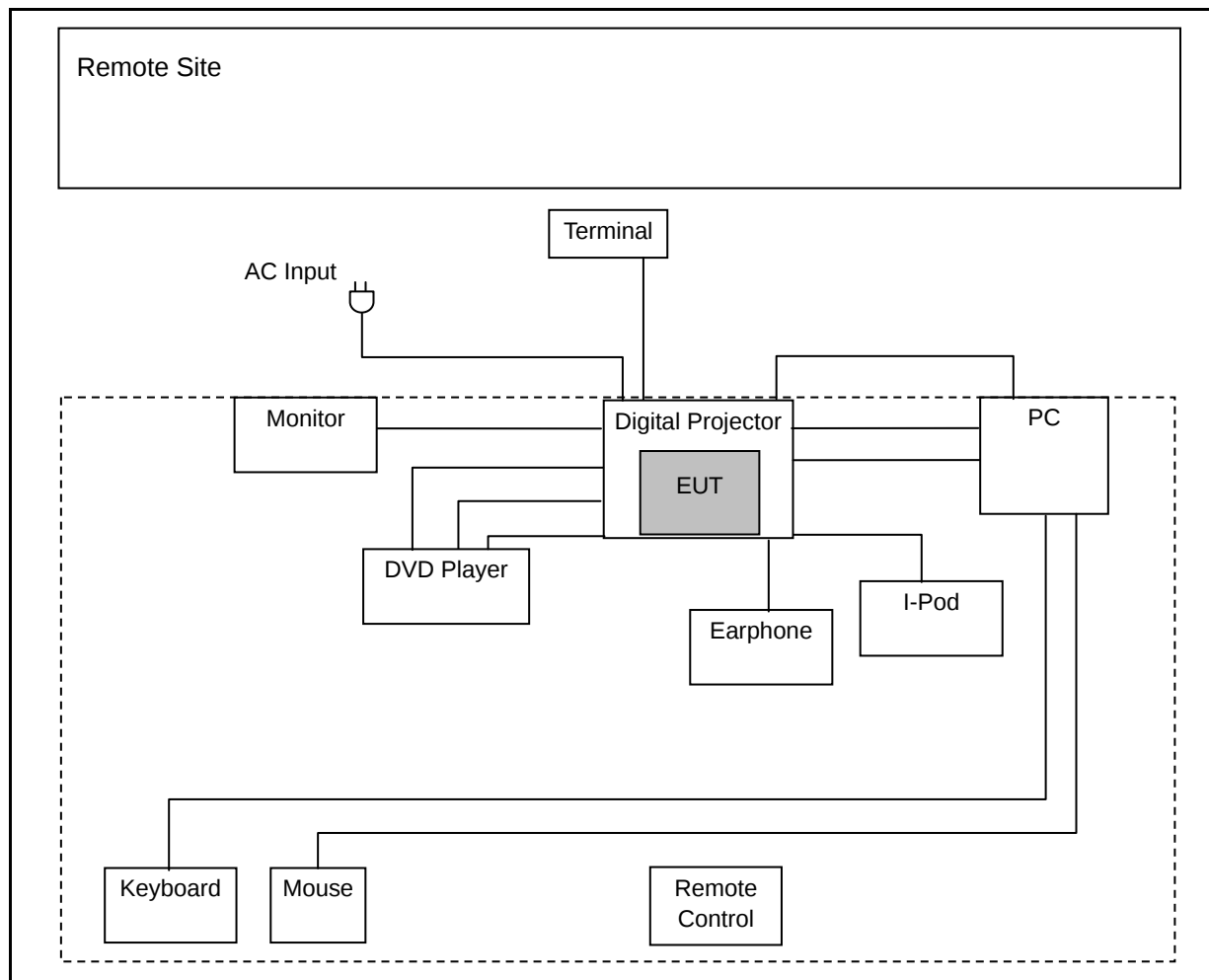
	Product	Manufacturer	Model Number	Serial Number	Power Cord
1.	Bluetooth Tester	R & S	CBT	100350	NA

3.2. EUT Exercise Software

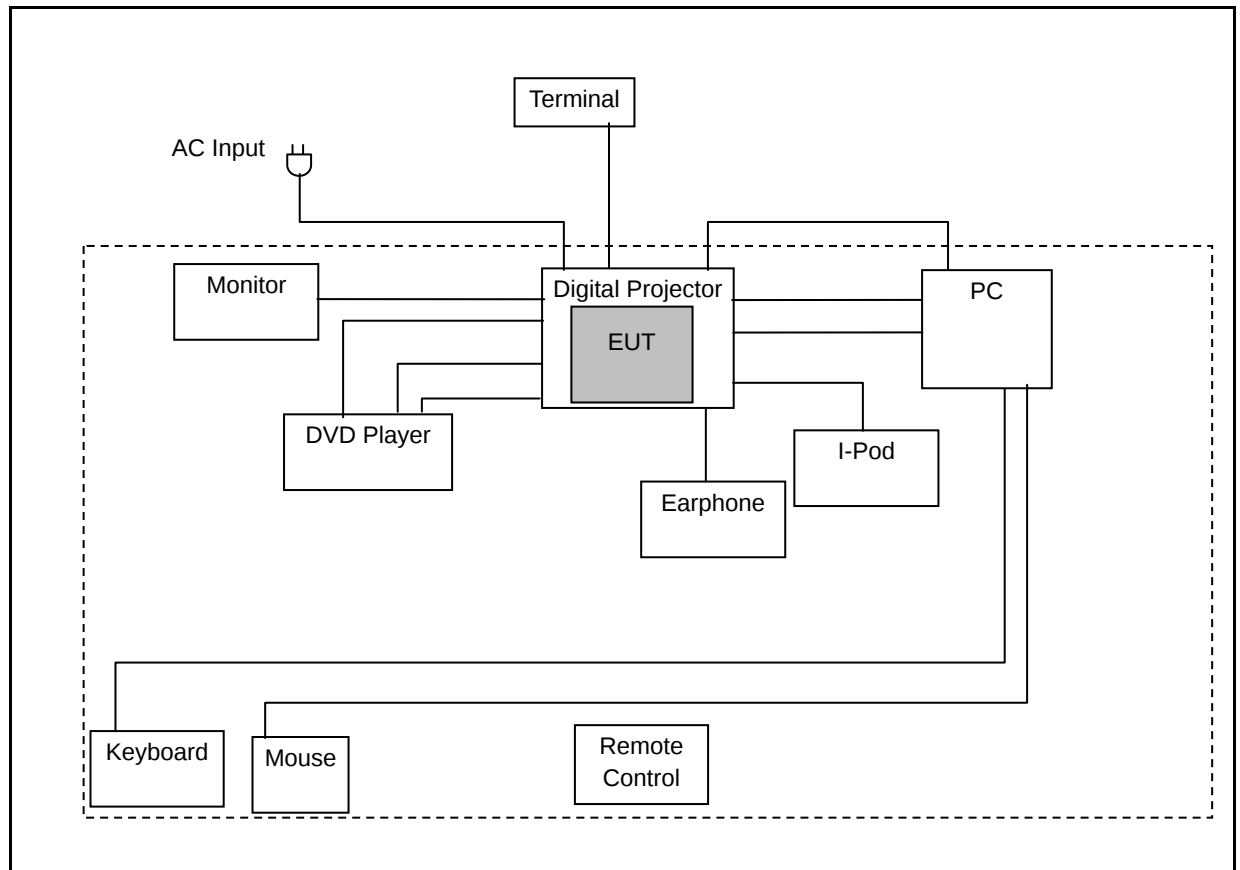
1	Setup the EUT and Bluetooth Tester (CBT) as shown on 3.3.
2	Turn on the power of all equipment.
3	EUT run test program.
4	Open Bluetooth function link to CBT.

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emissions



3.4. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 Conducted Emission Measurement

4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

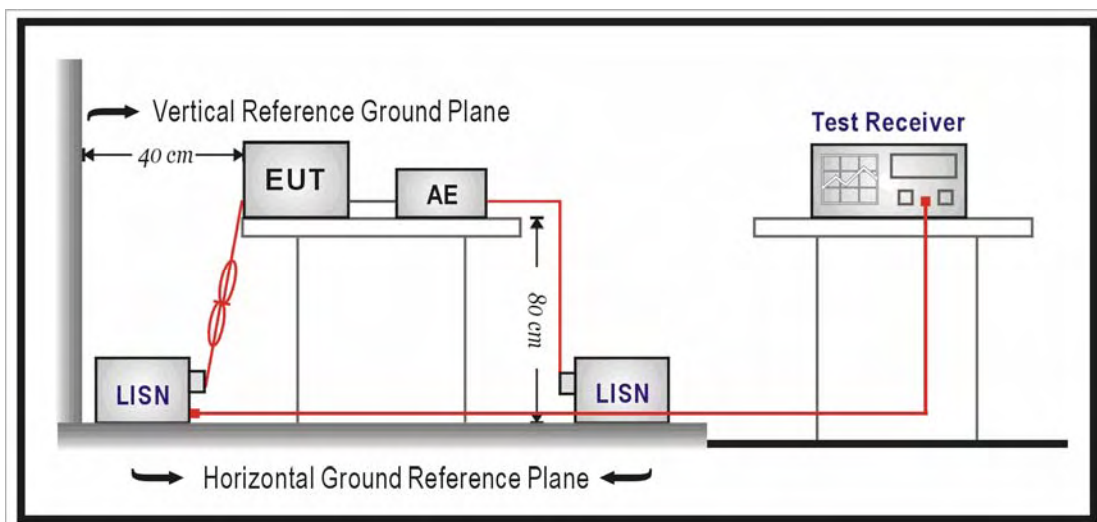
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/12/2014	(1)
LISN	R&S	ENV216	101040	03/10/2015	(1)
LISN	R&S	ENV216	101041	03/06/2015	(1)
RF Cable	EMCI	RG 214/U	TE-02	06/30/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year.

NOTE: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

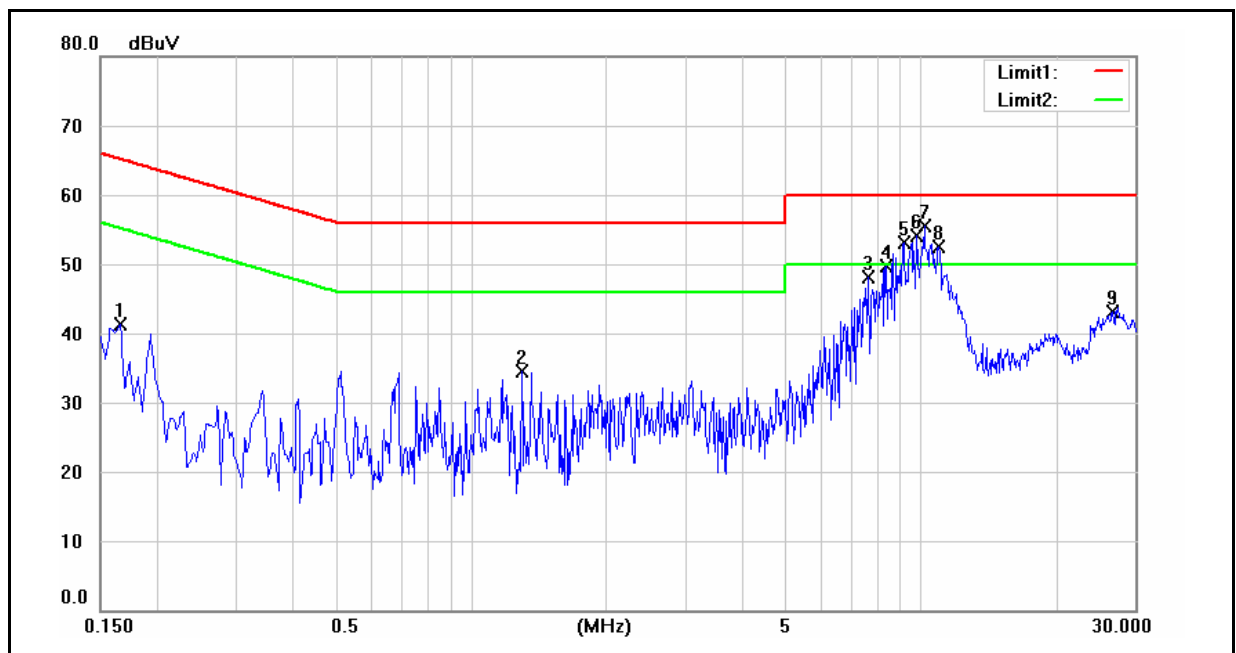
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

4.5. Test Result

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	05/15/2015
		Test By:	Eric Ou Yang
Description:	Host: H6518BD		

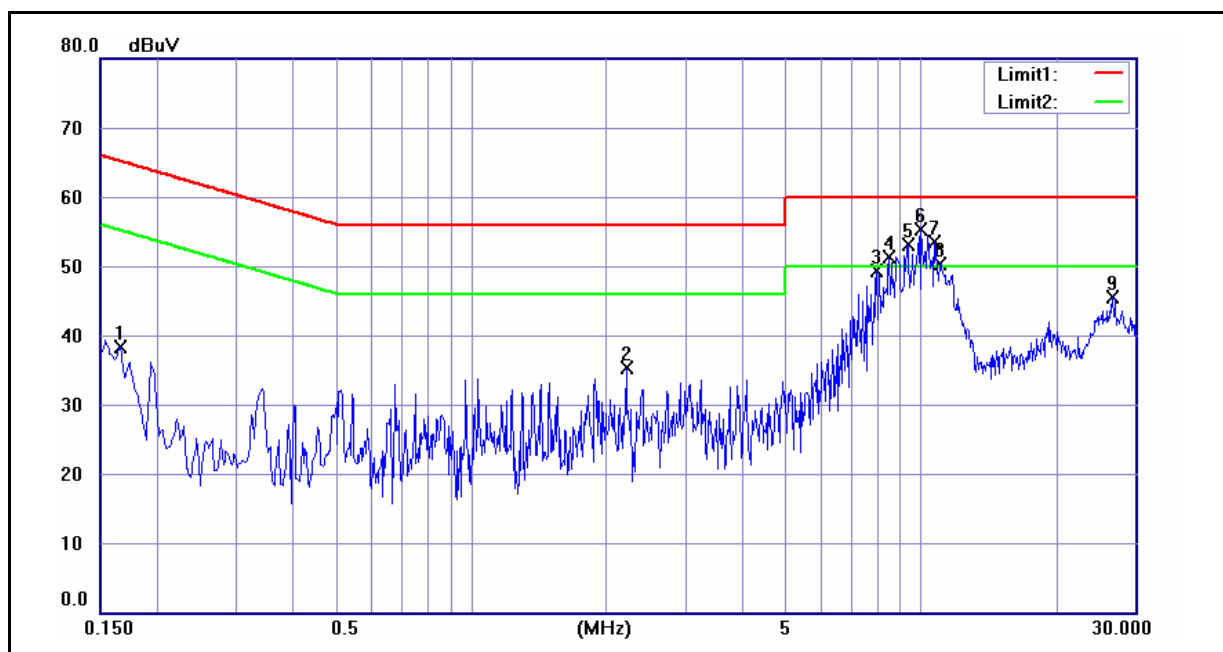


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1660	25.17	18.04	9.60	34.77	27.64	65.16	55.16	-30.39	-27.52	Pass
2	1.3020	22.48	16.47	9.66	32.14	26.13	56.00	46.00	-23.86	-19.87	Pass
3	7.6780	34.85	28.09	9.88	44.73	37.97	60.00	50.00	-15.27	-12.03	Pass
4	8.3980	37.76	31.18	9.90	47.66	41.08	60.00	50.00	-12.34	-8.92	Pass
5	9.1780	40.28	33.93	9.93	50.21	43.86	60.00	50.00	-9.79	-6.14	Pass
6	9.8300	40.95	35.35	9.95	50.90	45.30	60.00	50.00	-9.10	-4.70	Pass
7	10.2180	41.50	35.89	9.95	51.45	45.84	60.00	50.00	-8.55	-4.16	Pass
8	10.9980	39.24	34.02	9.98	49.22	44.00	60.00	50.00	-10.78	-6.00	Pass
9	26.8340	28.81	22.74	10.28	39.09	33.02	60.00	50.00	-20.91	-16.98	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	05/15/2015
		Test By:	Eric Ou Yang
Description:	Host: H6518BD		



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1660	25.44	18.14	9.60	35.04	27.74	65.16	55.16	-30.12	-27.42	Pass
2	2.2140	20.52	14.53	9.71	30.23	24.24	56.00	46.00	-25.77	-21.76	Pass
3	8.0020	34.61	28.39	9.90	44.51	38.29	60.00	50.00	-15.49	-11.71	Pass
4	8.5260	38.83	32.14	9.93	48.76	42.07	60.00	50.00	-11.24	-7.93	Pass
5	9.3740	40.55	34.25	9.95	50.50	44.20	60.00	50.00	-9.50	-5.80	Pass
6	10.0260	41.34	34.61	9.97	51.31	44.58	60.00	50.00	-8.69	-5.42	Pass
7	10.7380	40.66	35.08	9.99	50.65	45.07	60.00	50.00	-9.35	-4.93	Pass
8	11.0620	38.40	33.07	9.99	48.39	43.06	60.00	50.00	-11.61	-6.94	Pass
9	26.7540	30.02	23.09	10.33	40.35	33.42	60.00	50.00	-19.65	-16.58	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

5 Radiated Interference Measurement

5.1. Limit

According to §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 ($\mu\text{V/m}$ at 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

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

5.2. Test Instruments

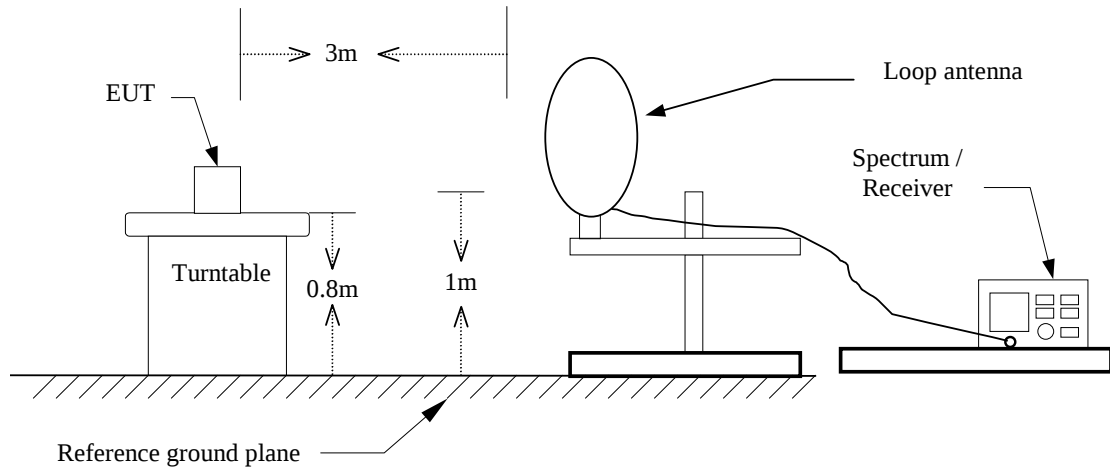
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	(1)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/22/2014	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/11/2014	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/02/2014	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	02/02/2015	(1)
Microwave Cable	EMCI	EMC104-SM-S M-14000	140202	02/24/2015	(1)
Microwave Cable	EMCI	EMC104-SM-S M-600	140301	02/24/2015	(1)
Test Site	ATL	TE01	888001	08/28/2014	(1)

Remark: (1) Calibration period 1 year.

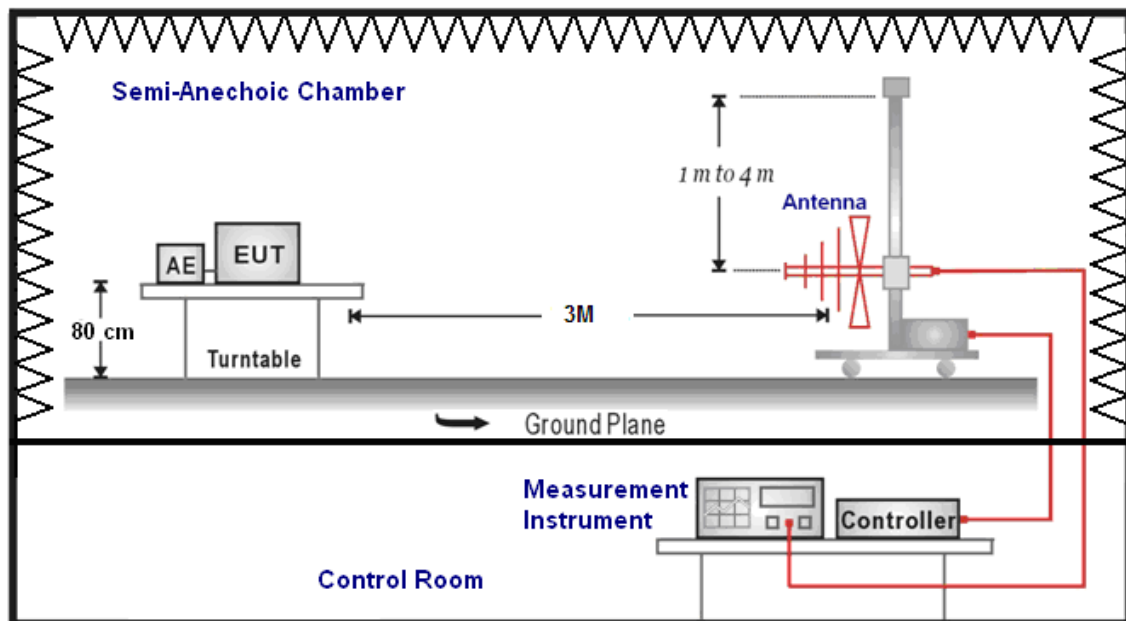
NOTE: N.C.R. = No Calibration Request.

5.3. Setup

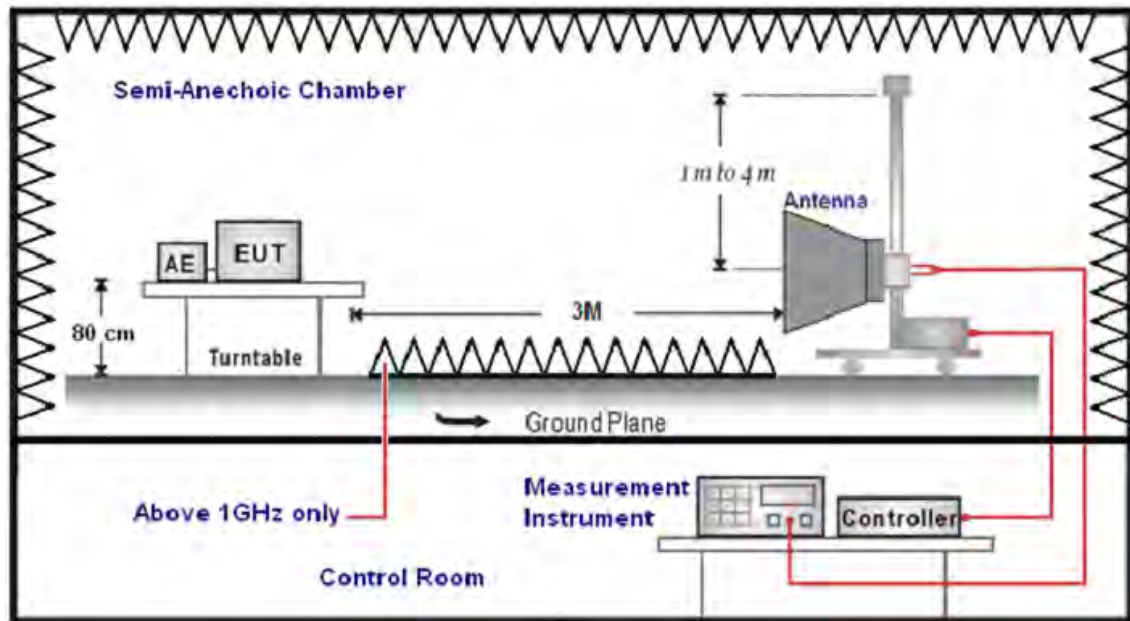
9kHz ~ 30MHz



Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (model VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) + AF (dBuV) + CL (dBuV) - Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

$$(2) \text{ Actual Amplitude (dBuV/m) = Amplitude (dBuV) - Dis(dB)}$$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark 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.

5.5. Test Result

Below 1GHz

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		H7550ST Extension Board		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		Mode 1		Date:		04/28/2015	
Host:		H6518BD		Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBUV)	Correct Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark	Ant.Polar. H / V
107.5000	45.85	-15.43	30.42	43.50	-13.08	QP	H
299.0000	39.14	-9.45	29.69	46.00	-16.31	QP	H
390.0000	37.08	-7.57	29.51	46.00	-16.49	QP	H
524.5000	28.18	-4.96	23.22	46.00	-22.78	QP	H
780.0000	37.07	0.16	37.23	46.00	-8.77	QP	H
925.0000	26.84	2.93	29.77	46.00	-16.23	QP	H
169.0000	42.41	-11.57	30.84	43.50	-12.66	QP	V
229.5000	37.39	-12.57	24.82	46.00	-21.18	QP	V
482.5000	31.93	-5.73	26.20	46.00	-19.80	QP	V
624.0000	26.76	-2.87	23.89	46.00	-22.11	QP	V
780.0000	32.27	0.16	32.43	46.00	-13.57	QP	V
914.5000	24.42	2.83	27.25	46.00	-18.75	QP	V

Note: No emission found between lowest internal used/generated frequencies to 30MHz (9 kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	H7550ST Extension Board			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Mode:	Mode 2			Date:	04/28/2015		
Frequency:	2402 MHz			Test By:	Eric Ou Yang		
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3009.000	36.26	1.75	38.01	74.00	-35.99	peak	H
4563.000	33.13	6.66	39.79	74.00	-34.21	peak	H
6719.000	33.03	12.08	45.11	74.00	-28.89	peak	H
3037.000	37.77	1.87	39.64	74.00	-34.36	peak	V
4619.000	34.51	6.83	41.34	74.00	-32.66	peak	V
6670.000	34.62	11.96	46.58	74.00	-27.42	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	H7550ST Extension Board			Temp.(℃)/Hum.(%RH):	26(℃)/60%RH		
Mode:	Mode 2			Date:	04/28/2015		
Frequency:	2441 MHz			Test By:	Eric Ou Yang		
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	36.45	1.81	38.26	74.00	-35.74	peak	H
4577.000	34.34	6.69	41.03	74.00	-32.97	peak	H
6670.000	33.77	11.96	45.73	74.00	-28.27	peak	H
2995.000	40.15	1.70	41.85	74.00	-32.15	peak	V
4605.000	34.56	6.79	41.35	74.00	-32.65	peak	V
6719.000	33.36	12.08	45.44	74.00	-28.56	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	H7550ST Extension Board			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 2			Date:	04/28/2015		
Frequency:	2480 MHz			Test By:	Eric Ou Yang		
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3051.000	37.86	1.94	39.80	74.00	-34.20	peak	H
4570.000	34.32	6.68	41.00	74.00	-33.00	peak	H
6642.000	33.50	11.89	45.39	74.00	-28.61	peak	H
3030.000	37.28	1.85	39.13	74.00	-34.87	peak	V
4570.000	33.67	6.68	40.35	74.00	-33.65	peak	V
6663.000	32.98	11.94	44.92	74.00	-29.08	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/28/2015
Frequency:	2402 MHz	Test By:	Eric Ou Yang
Host:	H6518BD		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3065.000	37.79	2.00	39.79	74.00	-34.21	peak	H
4542.000	34.08	6.59	40.67	74.00	-33.33	peak	H
6698.000	33.63	12.03	45.66	74.00	-28.34	peak	H
3030.000	36.88	1.85	38.73	74.00	-35.27	peak	V
4605.000	35.22	6.79	42.01	74.00	-31.99	peak	V
6649.000	33.09	11.91	45.00	74.00	-29.00	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	H7550ST Extension Board			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	04/28/2015		
Frequency:	2441 MHz			Test By:	Eric Ou Yang		
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3051.000	38.12	1.94	40.06	74.00	-33.94	peak	H
4577.000	34.27	6.69	40.96	74.00	-33.04	peak	H
6635.000	33.85	11.88	45.73	74.00	-28.27	peak	H
3009.000	37.12	1.75	38.87	74.00	-35.13	peak	V
4626.000	34.03	6.85	40.88	74.00	-33.12	peak	V
6719.000	33.08	12.08	45.16	74.00	-28.84	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/28/2015
Frequency:	2480 MHz	Test By:	Eric Ou Yang
Host:	H6518BD		

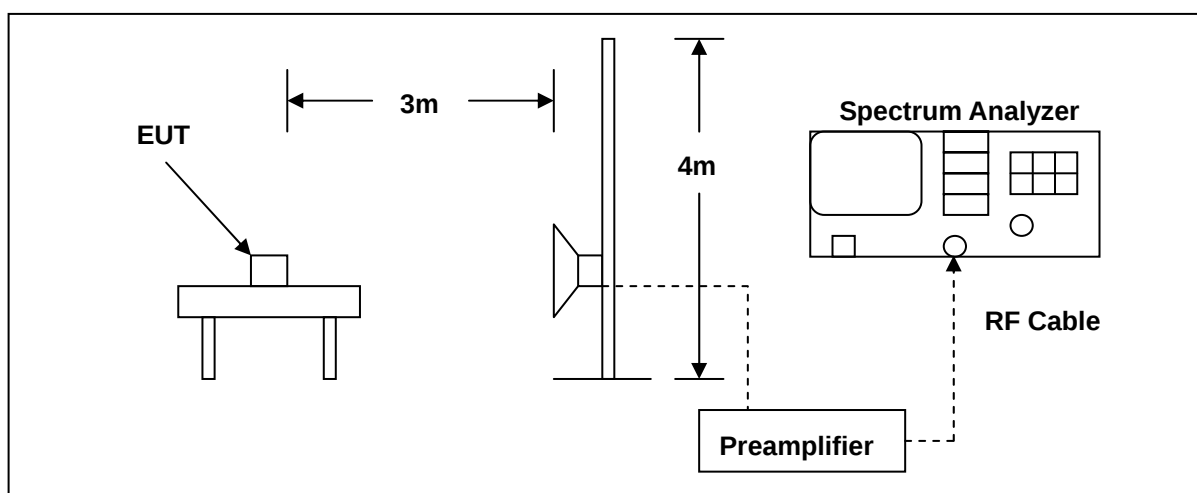
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3058.000	37.28	1.97	39.25	74.00	-34.75	peak	H
4605.000	34.03	6.79	40.82	74.00	-33.18	peak	H
6677.000	33.38	11.97	45.35	74.00	-28.65	peak	H
3037.000	36.23	1.87	38.10	74.00	-35.90	peak	V
4591.000	33.75	6.74	40.49	74.00	-33.51	peak	V
6698.000	33.02	12.03	45.05	74.00	-28.95	peak	V

6 Band Edges Measurement

6.1. Limit

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

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/24/2014	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9120D	9120D-550	06/11/2014	(1)
Microwave Cable	EMCI	EMC-104-SM-SM-1 4000	140202	02/24/2015	(1)
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	02/24/2015	(1)
Test Site	ATL	TE01	888001	08/28/2014	(1)

Remark: (1) Calibration period 1 year.

NOTE: N.C.R. = No Calibration Request.

6.4. Test Procedure

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

6.5. Test Result

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		H7550ST Extension Board		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		Mode 2		Date:		04/27/2015	
Frequency:		2402 MHz		Test By:		Eric Ou Yang	
Host:		H6518BD					
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2362.470	41.38	-0.59	40.79	74.00	-33.21	peak	H
2390.000	38.17	-0.46	37.71	74.00	-36.29	peak	H
2370.170	40.69	-0.55	40.14	74.00	-33.86	peak	V
2390.000	38.25	-0.46	37.79	74.00	-36.21	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 2	Date:	04/27/2015				
Frequency:	2480 MHz	Test By:	Eric Ou Yang				
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2483.500	44.48	-0.06	44.42	74.00	-29.58	peak	H
2484.160	49.97	-0.06	49.91	74.00	-24.09	peak	H
2483.500	54.24	-0.06	54.18	74.00	-19.82	peak	V
2483.500	33.55	-0.06	33.49	54.00	-20.51	AVG	V
2483.580	54.34	-0.06	54.28	74.00	-19.72	peak	V
2483.580	33.52	-0.06	33.46	54.00	-20.54	AVG	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	H7550ST Extension Board	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 4	Date:	04/27/2015				
Frequency:	2402 MHz	Test By:	Eric Ou Yang				
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2365.330	41.37	-0.57	40.80	74.00	-33.20	peak	H
2390.000	39.86	-0.46	39.40	74.00	-34.60	peak	H
2362.800	41.11	-0.59	40.52	74.00	-33.48	peak	V
2390.000	39.50	-0.46	39.04	74.00	-34.96	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	H7550ST Extension Board			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	04/27/2015		
Frequency:	2480 MHz			Test By:	Eric Ou Yang		
Host:	H6518BD						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2483.500	58.47	-0.06	58.41	74.00	-15.59	peak	H
2483.500	34.19	-0.06	34.13	54.00	-19.87	AVG	H
2483.560	60.13	-0.06	60.07	74.00	-13.93	peak	H
2483.560	34.15	-0.06	34.09	54.00	-19.91	AVG	H
2483.500	60.87	-0.06	60.81	74.00	-13.19	peak	V
2483.500	34.62	-0.06	34.56	54.00	-19.44	AVG	V
2483.600	61.79	-0.06	61.73	74.00	-12.27	peak	V
2483.600	34.56	-0.06	34.50	54.00	-19.50	AVG	V

Standard:		FCC Part 15C		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		H7550ST Extension Board		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		Hopping		Date:		04/27/2015	
Host:		H6518BD		Test By:		Eric Ou Yang	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2312.850	42.98	-0.80	42.18	74.00	-31.82	peak	H
2390.000	39.37	-0.46	38.91	74.00	-35.09	peak	H
2483.500	37.47	-0.06	37.41	74.00	-36.59	peak	H
2490.880	39.90	-0.03	39.87	74.00	-34.13	peak	H
2355.030	40.76	-0.62	40.14	74.00	-33.86	peak	V
2390.000	37.85	-0.46	37.39	74.00	-36.61	peak	V
2483.500	37.98	-0.06	37.92	74.00	-36.08	peak	V
2489.170	40.83	-0.04	40.79	74.00	-33.21	peak	V

7 Antenna Measurement

7.1. Limit

For intentional device, 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.

And According to 15.247 (b)(4), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

7.2. Antenna Connector Construction

The antenna used in this product is PCB Antenna. And the maximum Gain of this antenna is only 2.7 dBi.