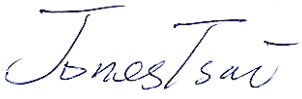
FCC RF Test Report

APPLICANT	:	Realtek Semiconductor Corp.
EQUIPMENT	:	802.11b/g/n RTL8192EE Combo module
BRAND NAME	:	Realtek
MODEL NAME	:	RTL8192EEBT
FCC ID	:	TX2RTL8192EEBT
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DSS) Spread Spectrum Transmitter

This is a partial report which is included the conducted power, radiated band edges, and spurious emission measurement test items. The product was received on Feb. 26, 2014 and testing was completed on Mar. 27, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR421460-01A	Rev. 01	Initial issue of report	Apr. 24, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 7.63 dB at 424.600 MHz
3.2	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300 Taiwan (R.O.C.)

1.2 Manufacturer

Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300 Taiwan (R.O.C.)

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	802.11b/g/n RTL8192EE Combo module
Brand Name	Realtek
Model Name	RTL8192EEBT
FCC ID	TX2RTL8192EEBT
Installed into the host 1	Equipment Name: Notebook Band Name: lenovo Model Name: TP00066A Host with Antenna 1
Installed into the host 2	Equipment Name: Notebook Band Name: lenovo Model Name: TP00066A Host with Antenna 2
EUT supports Radios application	WLAN 11b/g/n HT20/HT40 Bluetooth v 4.0 EDR/LE
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Antenna Information for Host			
Antenna 1 (WNC)	Manufacturer	WNC	
	P/N	Main:DQ6G15G8100	Aux:DQ6G15G8000
	Antenna Type	Main:PIFA Antenna	Aux:PIFA Antenna
	Peak gain	Main Antenna : WLAN: 0.12 dBi	Aux Antenna : Bluetooth: -2.16dBi WLAN: -2.16 dBi
Antenna 2 (Tongda)	Manufacturer	Tongda	
	P/N	Main:DQ690210201	Aux:DQ690210200
	Antenna Type	Main:PIFA Antenna	Aux:PIFA Antenna
	Peak gain	Main Antenna : WLAN: 0.79dBi	Aux Antenna : Bluetooth: -1.57dBi WLAN: -1.57dBi

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	79
Carrier Frequency of Each Channel	2402+n*1 MHz; n=0~78
Maximum (Average) Output Power to Antenna	Bluetooth BR(1Mbps) : 3.02 dBm (0.0020 W) Bluetooth EDR (2Mbps) : 2.50 dBm (0.0018 W) Bluetooth EDR (3Mbps) : 2.52 dBm (0.0018 W)
Type of Modulation	Bluetooth BR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π /4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	**Sporton Site No.**		**FCC/IC Registration No.**
	TH02-HY	03CH06-HY	722060/4086B-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC Public Notice DA 00-705
- ANSI C63.4-2003

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Descriptions of Test Mode

Preliminary tests were performed in different data rates and recorded the RF output power in the following table:

Channel	Frequency	Bluetooth RF Output Power (Average Power)		
		Data Rate / Modulation		
		1Mbps / GFSK	2Mbps / π/4-DQPSK	3Mbps / 8-DPSK
		Duty Cycle (%)		
		64.34	65.75	65.54
Ch00	2402MHz	1.87 dBm	1.35 dBm	1.39 dBm
Ch39	2441MHz	2.92 dBm	2.40 dBm	2.43 dBm
Ch78	2480MHz	**3.02 dBm**	2.50 dBm	2.52 dBm

Remark:

1. All the test data for each data rate were verified, but only the worst case was reported.
2. The data rate was set in 1Mbps for all the test items due to the highest RF output power.

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). The worst mode of radiated spurious emissions is Bluetooth 1Mbps mode, and recorded in this report.

2.2 Test Mode

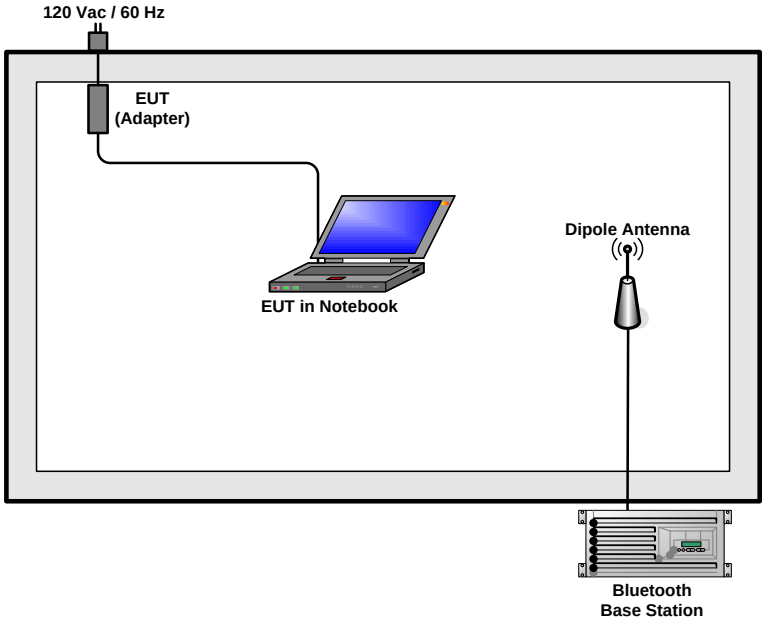
The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
	Bluetooth BR 1Mbps GFSK
Radiated Test Cases	Mode 1: CH00_2402 MHz Mode 2: CH39_2441 MHz Mode 3: CH78_2480 MHz

Remark:

1. For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate has the highest RF output power at preliminary tests
2. All the radiated test cases were performed with host 2, adapter 1, and battery 1.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Base Station	R&S	CBT32	N/A	N/A	Unshielded, 1.8 m

2.5 EUT Operation Test Setup

For Bluetooth function, the RF utility, “MP Tool ” was installed in notebook which was programmed in order to make the notebook get into the engineering modes to contact with Bluetooth base station for continuous transmitting and receiving signals.

3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

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

3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

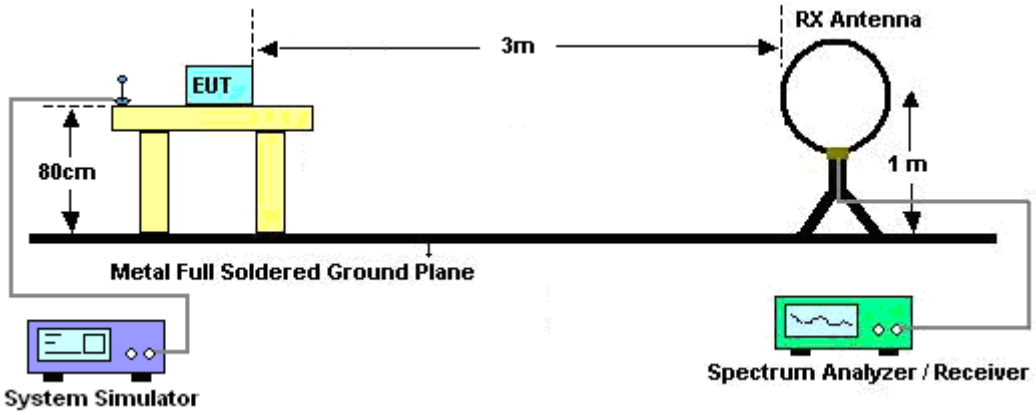
3.1.3 Test Procedures

1. The testing follows the guidelines in Spurious Radiated Emissions of FCC Public Notice DA 00-705 Measurement Guidelines.
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
   (3) For average measurement: use duty cycle correction factor method per 15.35(c).
   Duty cycle = On time/100 milliseconds
   On time = $N_1*L_1+N_2*L_2+...+N_{n-1}*LN_{n-1}+N_n*L_n$
   Where N_1 is number of type 1 pulses, L_1 is length of type 1 pulses, etc.
   Average Emission Level = Peak Emission Level + 20*log(Duty cycle)
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

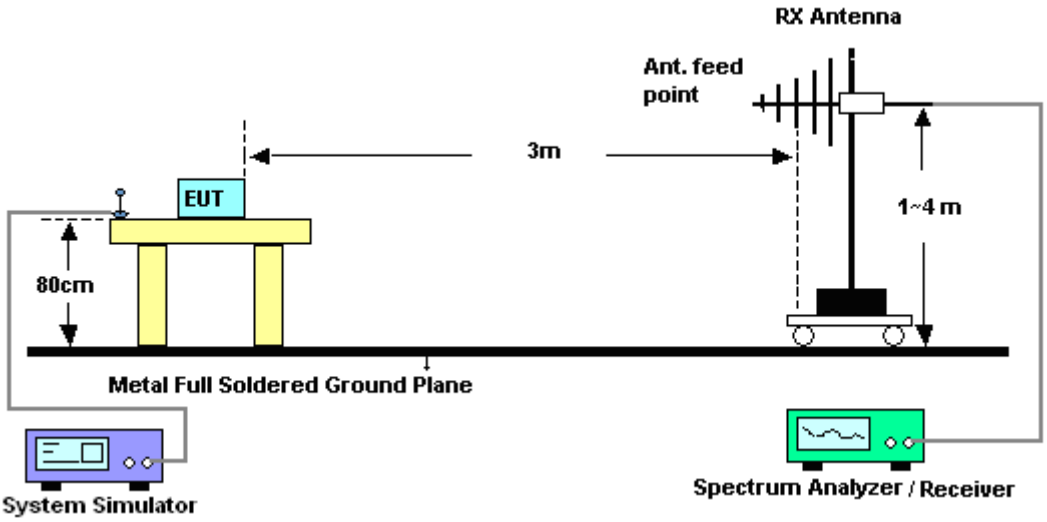
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (-24.73dB) derived from 20log (dwell time/100ms). This correction is only for signals that hop with the fundamental signal, such as band-edge and harmonic. Other spurious signals that are independent of the hopping signal would not use this correction.

3.1.4 Test Setup

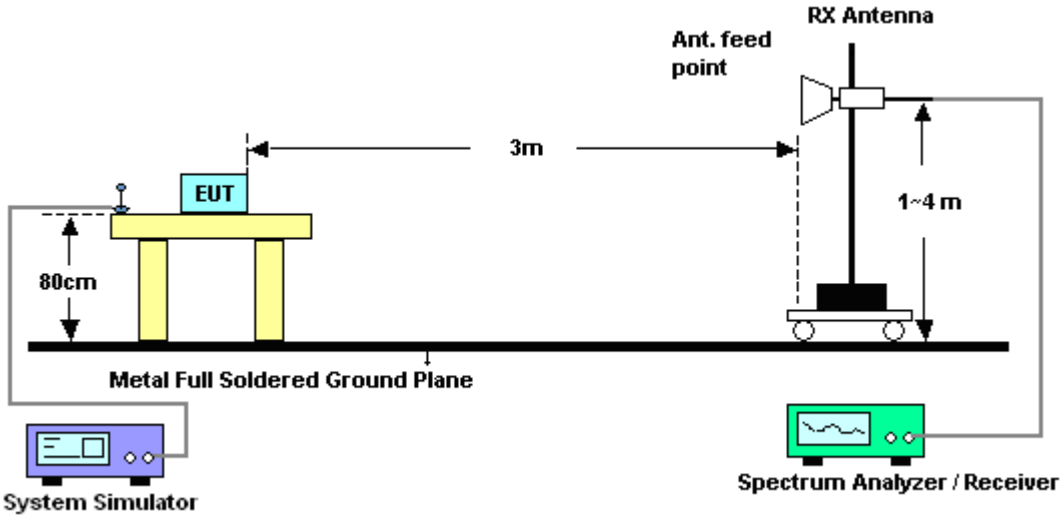
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

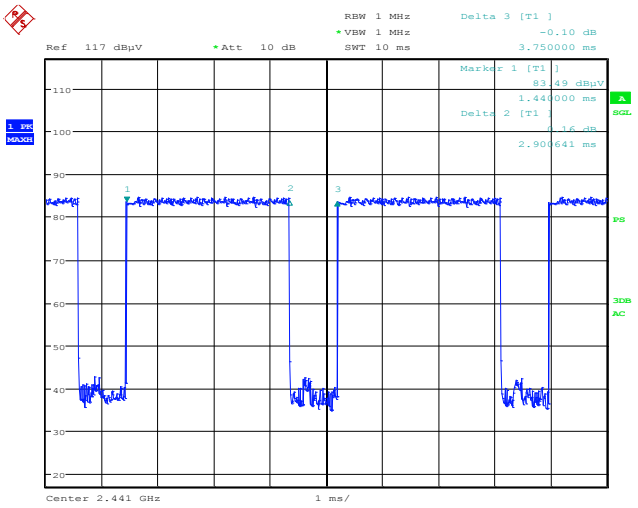


3.1.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

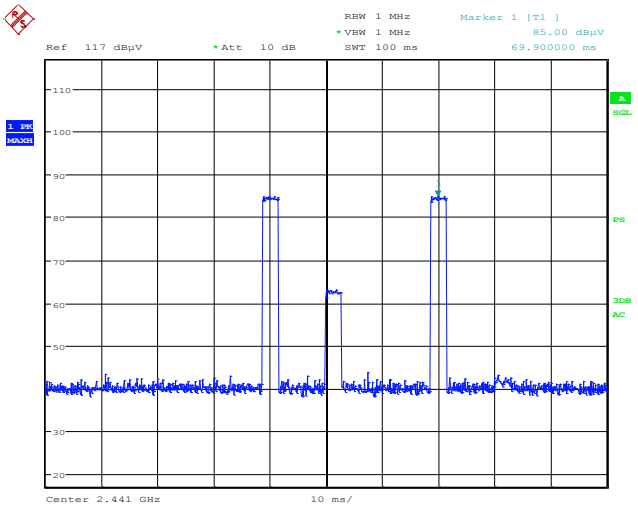
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.1.6 Duty cycle correction factor for average measurement

3DH5 on time (One Pulse) Plot on Channel 39



3DH5 on time (Count Pulses) Plot on Channel 39



Note:

1. Worst case Duty cycle = on time/100 milliseconds = 2 * 2.90 / 100 = 5.80 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -24.73 dB
3. 3DH5 has the highest duty cycle worst case and is reported.

Duty Cycle Correction Factor Consideration for AFH mode:

Bluetooth normal hopping rate is 1600Hz and reduced to 800Hz in AFH mode; due to the reduced number of hopping frequencies, with the same packet configuration the dwell time in each channel frequency within 100msec period is longer in AFH mode than normal mode.

In AFH mode, the minimum hopping frequencies are 20, to get the longest dwell time DH5 packet is observed; the period to have DH5 packet completing one hopping sequence is

2.90 ms x 20 channels = 58.0 ms

There cannot be 2 complete hopping sequences within 100ms period, considering the random hopping behavior, maximum 2 hops can be possibly observed within the period. [100ms / 57.6ms] = 2 hops

Thus, the maximum possible ON time:

2.90 ms x 2 = 5.80 ms

Worst case Duty Cycle Correction factor, which is derived from the maximum possible ON time,

20 x log(5.80 ms/100ms) = -24.73 dB

3.1.7 Test Result of Radiated Spurious at Band Edges

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	00	Relative Humidity :	47~49%
		Test Engineer :	Marlboro Hsu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2361.93	49.67	-24.33	74	45.7	31.89	6.42	34.34	169	207	Peak
2361.93	24.94	-29.06	54	-	-	-	-	-	-	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2361.66	48.8	-25.2	74	44.83	31.89	6.42	34.34	165	270	Peak
2361.66	24.07	-29.93	54	-	-	-	-	-	-	Average

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	78	Relative Humidity :	47~49%
		Test Engineer :	Marlboro Hsu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.74	50.02	-23.98	74	45.74	31.99	6.59	34.3	161	199	Peak
2483.74	25.29	-28.71	54	-	-	-	-	-	-	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2497.78	47.74	-26.26	74	43.44	32	6.59	34.29	100	17	Peak
2497.78	23.01	-30.99	54	-	-	-	-	-	-	Average

Note: Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73dB)

3.1.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

Test Mode :	1Mbps	**Temperature :**	22~24°C
Test Channel :	00	**Relative Humidity :**	47~49%
Test Engineer :	Marlboro Hsu	**Polarization :**	Horizontal
Remark :	2402 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2402	89.77	-	-	85.73	31.92	6.45	34.33	169	207	Peak
2402	65.04	-	-	-	-	-	-	-	-	Average
4803	45.1	-28.9	74	56.09	34.41	10.16	55.56	100	0	Peak
4803	20.37	-33.63	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

Test Mode :	1Mbps	**Temperature :**	22~24°C
Test Channel :	00	**Relative Humidity :**	47~49%
Test Engineer :	Marlboro Hsu	**Polarization :**	Vertical
Remark :	2402 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2402	86.89	-	-	82.85	31.92	6.45	34.33	165	270	Peak
2402	62.16	-	-	-	-	-	-	-	-	Average
4803	44.96	-29.04	74	55.95	34.41	10.16	55.56	100	0	Peak
4803	20.23	-33.77	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	39	Relative Humidity :	47~49%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	2441 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2441	90.15	-	-	85.98	31.96	6.52	34.31	164	195	Peak
2441	65.42	-	-	-	-	-	-	-	-	Average
4881	45.05	-28.95	74	56.17	34.37	10.19	55.68	100	0	Peak
4881	20.32	-33.68	54	-	-	-	-	-	-	Average
7323	45.9	-28.1	74	55.6	35.6	10.94	56.24	100	0	Peak
7323	21.17	-32.83	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	39	Relative Humidity :	47~49%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	2442 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2442	87.03	-	-	82.86	31.96	6.52	34.31	100	20	Peak
2442	62.3	-	-	-	-	-	-	-	-	Average
4881	44.94	-29.06	74	56.06	34.37	10.19	55.68	100	0	Peak
4881	20.21	-33.79	54	-	-	-	-	-	-	Average
7323	45.9	-28.1	74	55.6	35.6	10.94	56.24	100	0	Peak
7323	21.17	-32.83	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	78	Relative Humidity :	47~49%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	2480 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
200.64	26.14	-17.36	43.5	47.16	9.19	1.54	31.75	-	-	Peak
240.06	30.75	-15.25	46	49.31	11.49	1.69	31.74	-	-	Peak
290.55	28.95	-17.05	46	45.78	13.02	1.87	31.72	-	-	Peak
300	32.12	-13.88	46	48.73	13.2	1.91	31.72	-	-	Peak
394.5	32.37	-13.63	46	46.35	15.65	2.18	31.81	-	-	Peak
424.6	38.37	-7.63	46	51.17	16.8	2.25	31.85	100	11	Peak
2480	90.02	-	-	85.74	31.99	6.59	34.3	161	199	Peak
2480	65.29	-	-	-	-	-	-	-	-	Average
4959	45.02	-28.98	74	56.33	34.32	10.21	55.84	100	0	Peak
4959	20.29	-33.71	54	-	-	-	-	-	-	Average
7440	46.06	-27.94	74	55.63	35.53	10.9	56	100	0	Peak
7440	21.33	-32.67	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

Test Mode :	1Mbps	Temperature :	22~24°C
Test Channel :	78	Relative Humidity :	47~49%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	2480 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.66	15.98	-24.02	40	37.61	9.38	0.77	31.78	-	-	Peak
205.5	25.73	-17.77	43.5	46.77	9.15	1.56	31.75	-	-	Peak
275.7	26.12	-19.88	46	43.13	12.89	1.83	31.73	-	-	Peak
350.4	25.34	-20.66	46	40.56	14.5	2.05	31.77	-	-	Peak
513.5	33.29	-12.71	46	44.81	17.93	2.5	31.95	-	-	Peak
601	34.24	-11.76	46	44.12	19.41	2.77	32.06	100	69	Peak
2480	87	-	-	82.72	31.99	6.59	34.3	100	17	Peak
2480	62.27	-	-	-	-	-	-	-	-	Average
4959	44.97	-29.03	74	56.28	34.32	10.21	55.84	100	0	Peak
4959	20.24	-33.76	54	-	-	-	-	-	-	Average
7440	45.61	-28.39	74	55.18	35.53	10.9	56	100	0	Peak
7440	20.88	-33.12	54	-	-	-	-	-	-	Average

Note: 1. Other harmonics are lower than background noise.

2. Average Emission Level = Peak Emission Level + duty cycle correction factor(-24.73)

3.2 Antenna Requirements

3.2.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 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.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Agilent	E4416A	GB41292344	300MHz~40GHz	Jan. 28, 2014	Mar. 06, 2014	Jan. 27, 2015	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	300MHz~40GHz	Jan. 28, 2014	Mar. 06, 2014	Jan. 27, 2015	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP30	101067	9kHz ~ 30GHz	Nov. 20, 2013	Mar. 27, 2014	Nov. 19, 2014	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9kHz ~ 26.5GHz	Dec. 02, 2013	Mar. 27, 2014	Dec. 01, 2014	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/0003	20MHz ~ 1000MHz	May 06, 2013	Mar. 27, 2014	May 05, 2014	Radiation (03CH06-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9kHz ~ 30MHz	Jul. 03, 2012	Mar. 27, 2014	Jul. 02, 2014	Radiation (03CH06-HY)
Bilog Antenna	Schaffner	CBL6112B	2885	30MHz ~ 2GHz	Oct. 10, 2013	Mar. 27, 2014	Oct. 09, 2014	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 02, 2013	Mar. 27, 2014	Aug. 01, 2014	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9kHz ~ 1GHz	Apr. 12, 2013	Mar. 27, 2014	Apr. 11, 2014	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 18, 2013	Mar. 27, 2014	Jul. 17, 2014	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Oct. 03, 2013	Mar. 27, 2014	Oct. 02, 2014	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz ~ 26.5GHz	Apr. 12, 2013	Mar. 27, 2014	Apr. 11, 2014	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0 ~ 360 degree	N/A	Mar. 27, 2014	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1 m ~ 4 m	N/A	Mar. 27, 2014	N/A	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.50**