

FCC 47 CFR PART 15 SUBPART C

Product Type : 802.11b/g/n RTL8191SE miniCard
Applicant : Realtek Semiconductor Corp.
Address : No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu
300, Taiwan
Trade Name : Realtek
Model Number : RTL8191SE
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2009
Canada RSS-210 ISSUE 8: Dec., 2010
Canada RSS-Gen ISSUE 3: Dec., 2010
ANSI C63.4-2003
Issue Date : Feb. 16, 2011

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Feb. 16, 2011	Initial Issue	

Verification

Issued Date: 2011/02/16

Product Type : 802.11b/g/n RTL8191SE miniCard
Applicant : Realtek Semiconductor Corp.
Address : No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu
300, Taiwan
Trade Name : Realtek
Model Number : RTL8191SE
FCC ID : TX2-RTL8191SE
EUT Rated Voltage : DC 5.0V
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2009
Canada RSS-210 ISSUE 8: Dec., 2010
Canada RSS-Gen ISSUE 3: Dec., 2010
ANSI C63.4-2003

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.

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Taoyuan County 334, Taiwan R.O.C.

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1330



<http://www.atl-lab.com.tw/e-index.htm>

The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2003 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 .

The test results of this report relate only to the tested sample identified in this report.

Approved By :

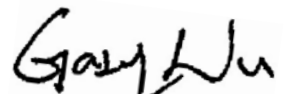
(Manager)



(Miller Lee)

Reviewed By :

(Testing Engineer)



(Gary Wu)

TABLE OF CONTENTS

1 General Information.....	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.....	8
4 Conducted Emission Measurement.....	9
4.1. Limit	9
4.2. Test Instruments.....	9
4.3. Test Setup	9
4.4. Test Procedure.....	10
4.5. Test Result	11
5 Radiated Interference Measurement	15
5.1. Limit	15
5.2. Test Instruments.....	15
5.3. Setup.....	16
5.4. Test Procedure.....	16
5.5. Test Result	18
6 Maximum Conducted Output Power Measurement	28
6.1. Limit	28
6.2. Test Setup	28
6.3. Test Instruments.....	28
6.4. Test Procedure.....	28
6.5. Test Result	29
7 Band Edges Measurement.....	30
7.1. Limit	30
7.2. Test Setup	30
7.3. Test Instruments.....	30
7.4. Test Procedure.....	31
7.5. Test Result	32

1 General Information

1.1 Summary of Test Result

Standard		Item	Result	Remark
15.247	RSS-GEN			
15.207	7.2.2	AC Power Conducted Emission	PASS	-----
-----	6	Receiver Radiated Emissions	PASS	-----
Standard		Item	Result	Remark
15.247	RSS-210			
15.247(d)	A8.5	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	A8.4	Max. Output Power	PASS	-----
15.247(d)	A8.5	Band Edge Measurement	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.

1.2 Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.24 dB.

Radiated Emission

The measurement uncertainty of 30 MHz - 1GHz is evaluated as ± 3.072 dB.

2 EUT Description

Product	:	802.11b/g/n RTL8191SE miniCard
Trade Name	:	Realtek
Model No.	:	RTL8191SE
Applicant	:	Realtek Semiconductor Corp. No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan
Manufacturer	:	Realtek Semiconductor Corp. No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan
FCC ID	:	TX2-RTL8191SE
Frequency Range	:	2412 ~ 2462 MHz
Modulation Type	:	IEEE 802.11b:DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g:DSSS(CCK, DQPSK, DBPSK)+ OFDM(QPSK, BPSK, 16-QAM, 64-QAM) draft 802.11n Standard-20MHz channel mode: OFDM(6.5,7.2, 13,14.4, 14.44, 19.5,217,26,28.89,28.9,39.43.3,43.33,52,57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67,104,115.56,117,130 and 144.44 Mbps) draft 802.11n Wide-40MHz channel mode: OFDM(13.5,15,27,30,40.5, 45,54,60,81,90,108,120, 121.5,135,150,162,180,216,240,243,270 and 300 Mbps)
Hardware Version	:	2.0
Software Version	:	1.3
Antenna Type	:	PIFA Type
Antenna Gain	:	-3.54 dBi
Host Laptop PC	:	Trade Name: NTV00, Model Number: NTV00
RF Output Power	:	IEEE 802.11b: 0.0665 W / 18.23 dBm IEEE 802.11g: 0.045 W / 16.58 dBm draft 802.11n Standard-20MHz: 0.0452 W / 16.55 dBm draft 802.11n Wide-40MHz: 0.0441 W / 16.44 dBm

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:

Test Mode
Mode 1: IDLE Mode
Mode 2: Normal Operation Mode
Mode 3: IEEE 802.11b Link Mode
Mode 4: IEEE 802.11g Link Mode
Mode 5: draft 802.11n Standard-20MHz Link Mode
Mode 6: draft 802.11n Wide-40MHz Link Mode
Mode 7: Receiver Mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

IEEE 802.11b mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate were chosen for full testing.

IEEE 802.11g mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing.

draft 802.11n Standard-20 MHz Channel mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6.5Mbps data rate were chosen for full testing.

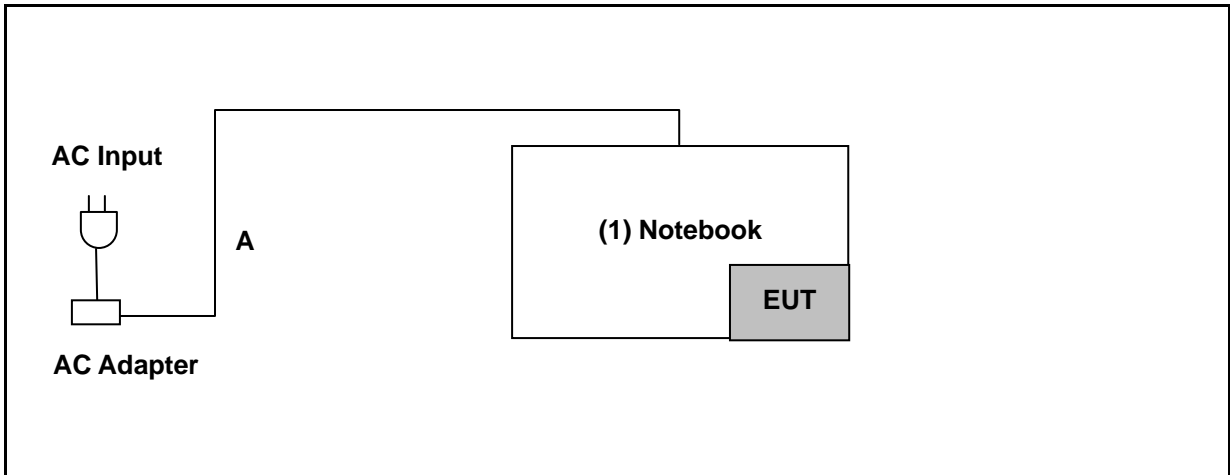
draft 802.11n Wide-40 MHz Channel mode:

Channel Low (2422MHz), Channel Mid (2437MHz) and Channel High (2452MHz) with 13.5Mbps data rate were chosen for full testing.

3.2. EUT Exercise Software

1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	Turn on Wi-Fi function link to AP.
4.	EUT run test program.

3.3. Configuration of Test System Details



Signal Cable Type		Signal Cable Description
A	DC Power Cable	Non-Shielded, 2.5 m

Devices Description				
Product	Manufacturer	Model Number	Serial Number	Power Cord
1.	Notebook	NTV00	NTV00	----- Non-Shielded, 2.5 m

3.4. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	25
Humidity (%RH)	25-75	50
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

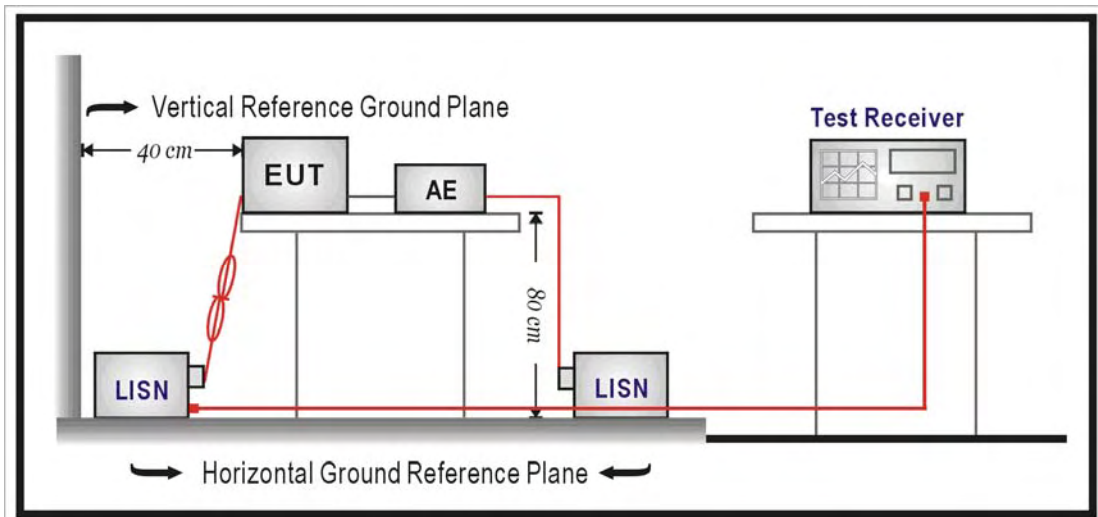
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	07/01/2010	(1)
LISN	R&S	ENV216	101040	03/02/2010	(1)
LISN	R&S	ENV216	101041	03/02/2010	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

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

4.3. Test Setup



4.4. Test Procedure

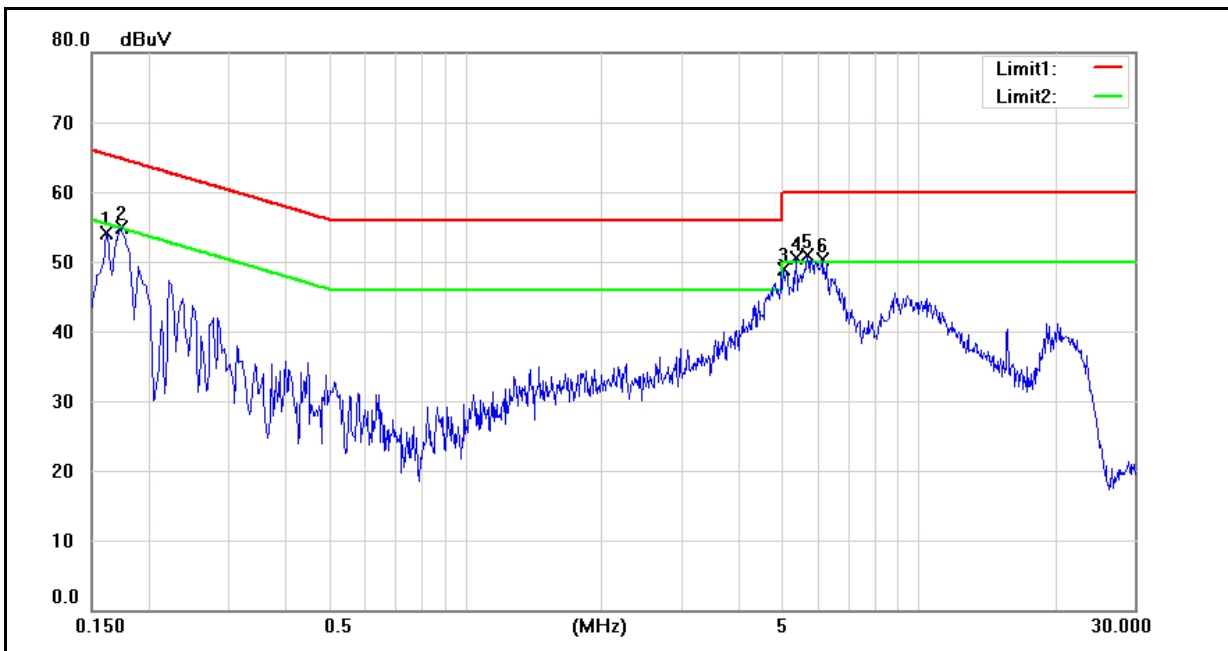
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

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.

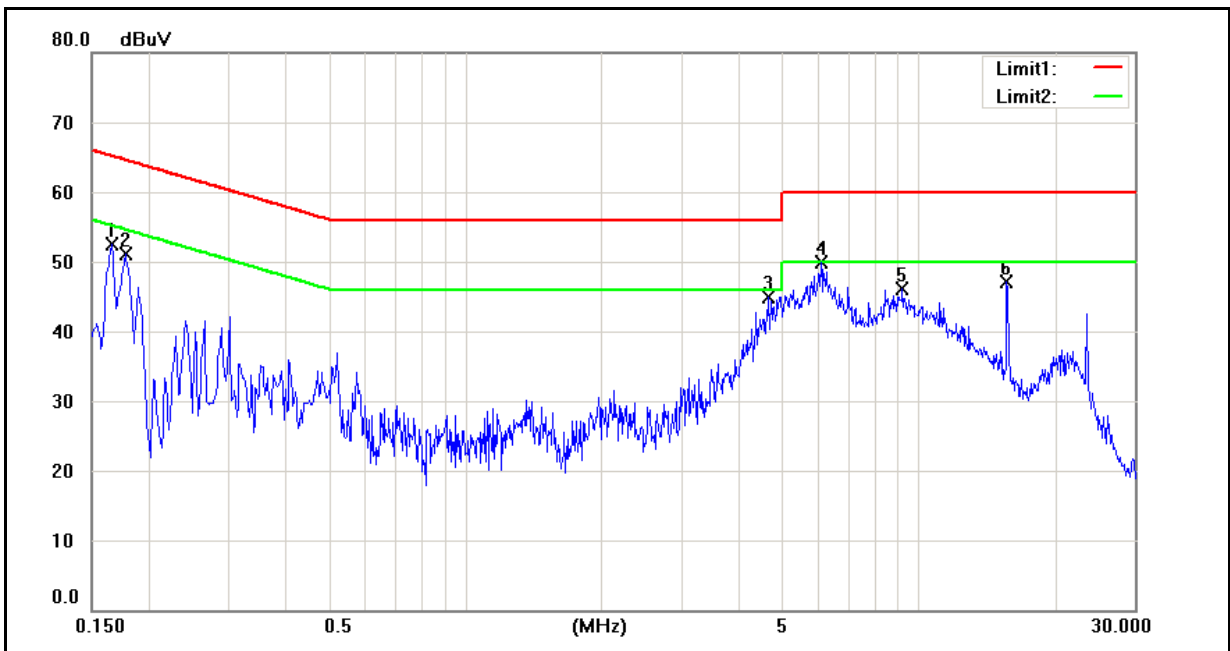
4.5. Test Result

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	2010/02/10
		Test By:	Gary Wu
Description:			



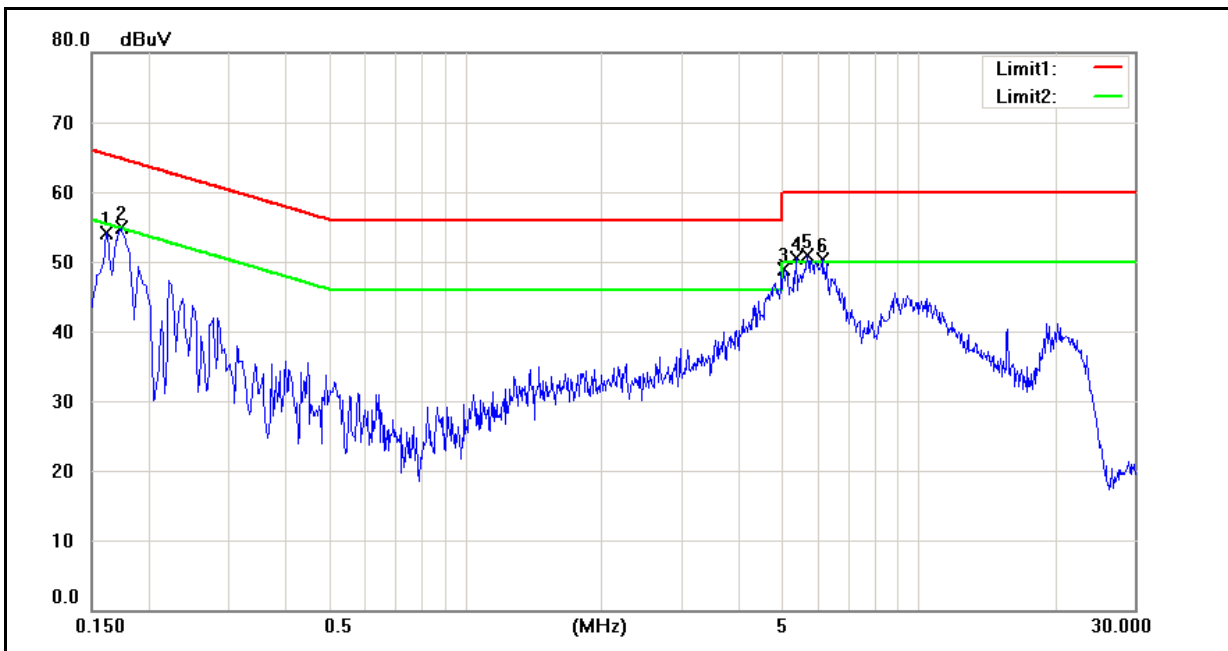
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	39.58	19.86	10.11	49.69	29.97	65.36	55.36	-15.67	-25.39	Pass
2	0.1740	41.59	25.72	10.10	51.69	35.82	64.77	54.77	-13.08	-18.95	Pass
3	4.9820	32.00	24.27	9.84	41.84	34.11	56.00	46.00	-14.16	-11.89	Pass
4	5.3820	32.95	26.69	9.83	42.78	36.52	60.00	50.00	-17.22	-13.48	Pass
5	5.6980	34.51	28.24	9.83	44.34	38.07	60.00	50.00	-15.66	-11.93	Pass
6	6.1460	34.17	27.29	9.84	44.01	37.13	60.00	50.00	-15.99	-12.87	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	2010/02/10
		Test By:	Gary Wu
Description:			



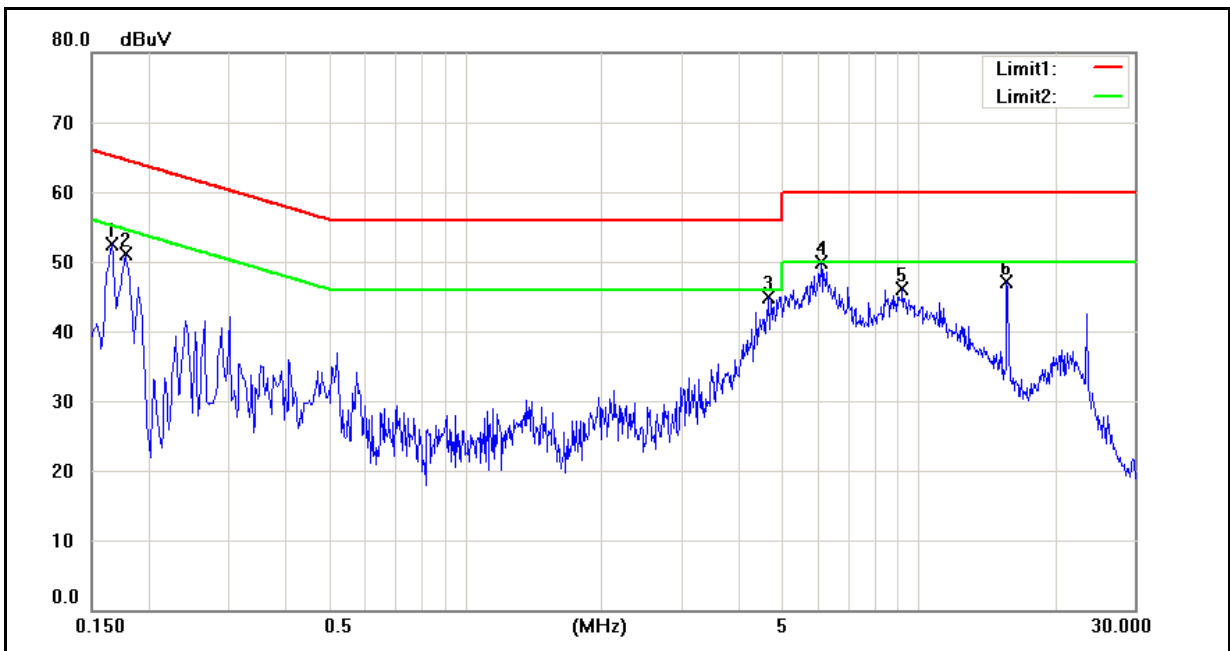
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1660	37.75	19.86	10.10	47.85	29.96	65.16	55.16	-17.31	-25.20	Pass
2	0.1780	38.12	22.84	10.08	48.20	32.92	64.58	54.58	-16.38	-21.66	Pass
3	4.6900	27.65	19.31	9.84	37.49	29.15	56.00	46.00	-18.51	-16.85	Pass
4	6.1100	33.02	25.86	9.83	42.85	35.69	60.00	50.00	-17.15	-14.31	Pass
5	9.2380	29.03	23.04	10.13	39.16	33.17	60.00	50.00	-20.84	-16.83	Pass
6	15.6980	35.92	27.89	10.29	46.21	38.18	60.00	50.00	-13.79	-11.82	Pass

Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2010/02/10
		Test By:	Gary Wu
Description:			



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	0.1620	39.58	19.86	10.11	49.69	29.97	65.36	55.36	-15.67	-25.39	Pass
2	0.1740	41.59	25.72	10.10	51.69	35.82	64.77	54.77	-13.08	-18.95	Pass
3	4.9820	32.00	24.27	9.84	41.84	34.11	56.00	46.00	-14.16	-11.89	Pass
4	5.3820	32.95	26.69	9.83	42.78	36.52	60.00	50.00	-17.22	-13.48	Pass
5	5.6980	34.51	28.24	9.83	44.34	38.07	60.00	50.00	-15.66	-11.93	Pass
6	6.1460	34.17	27.29	9.84	44.01	37.13	60.00	50.00	-15.99	-12.87	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2010/02/10
		Test By:	Gary Wu
Description:			



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	37.75	19.86	10.10	47.85	29.96	65.16	55.16	-17.31	-25.20	Pass
2	0.1780	38.12	22.84	10.08	48.20	32.92	64.58	54.58	-16.38	-21.66	Pass
3	4.6900	27.65	19.31	9.84	37.49	29.15	56.00	46.00	-18.51	-16.85	Pass
4	6.1100	33.02	25.86	9.83	42.85	35.69	60.00	50.00	-17.15	-14.31	Pass
5	9.2380	29.03	23.04	10.13	39.16	33.17	60.00	50.00	-20.84	-16.83	Pass
6	15.6980	35.92	27.89	10.29	46.21	38.18	60.00	50.00	-13.79	-11.82	Pass

5 Radiated Interference Measurement

5.1. Limit

Frequency Range (MHz)	Peak (dBuV)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960	54

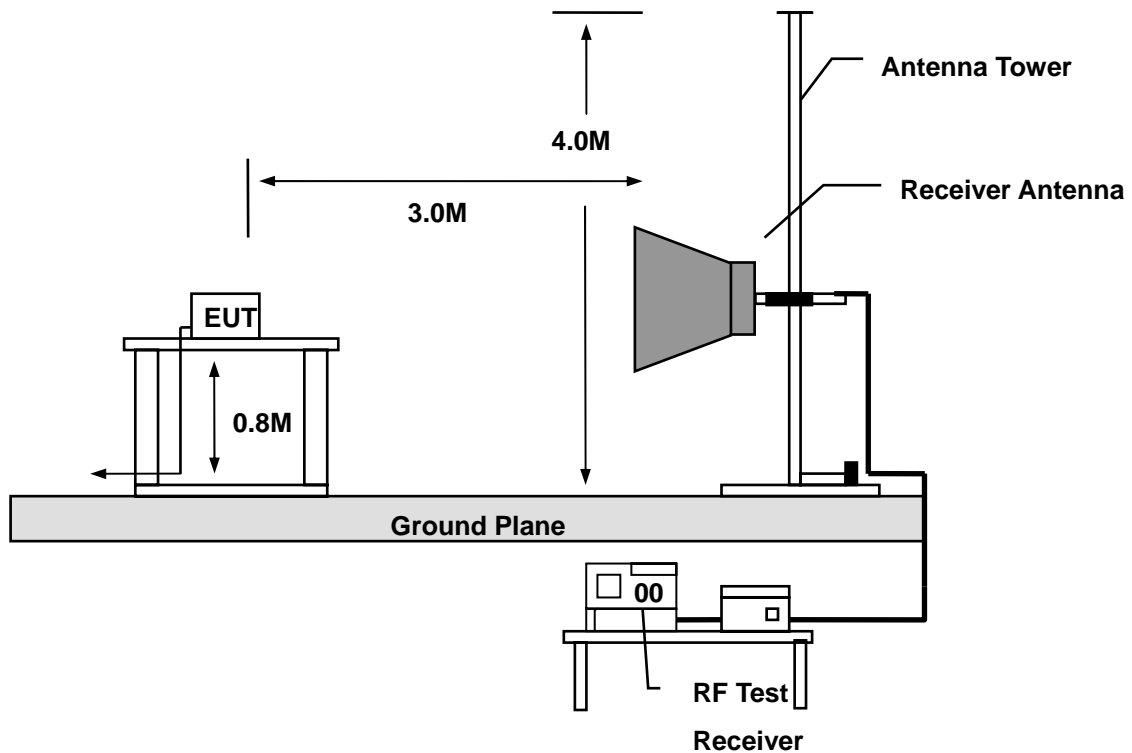
5.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/18/2011	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	02/24/2010	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2010	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2010	(1)
Bi-log Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/02/2010	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/29/2010	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/29/2010	(1)
Test Site	ATL	TE01	888001	07/30/2010	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

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

5.3. Setup



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 30 MHz 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 pre 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:

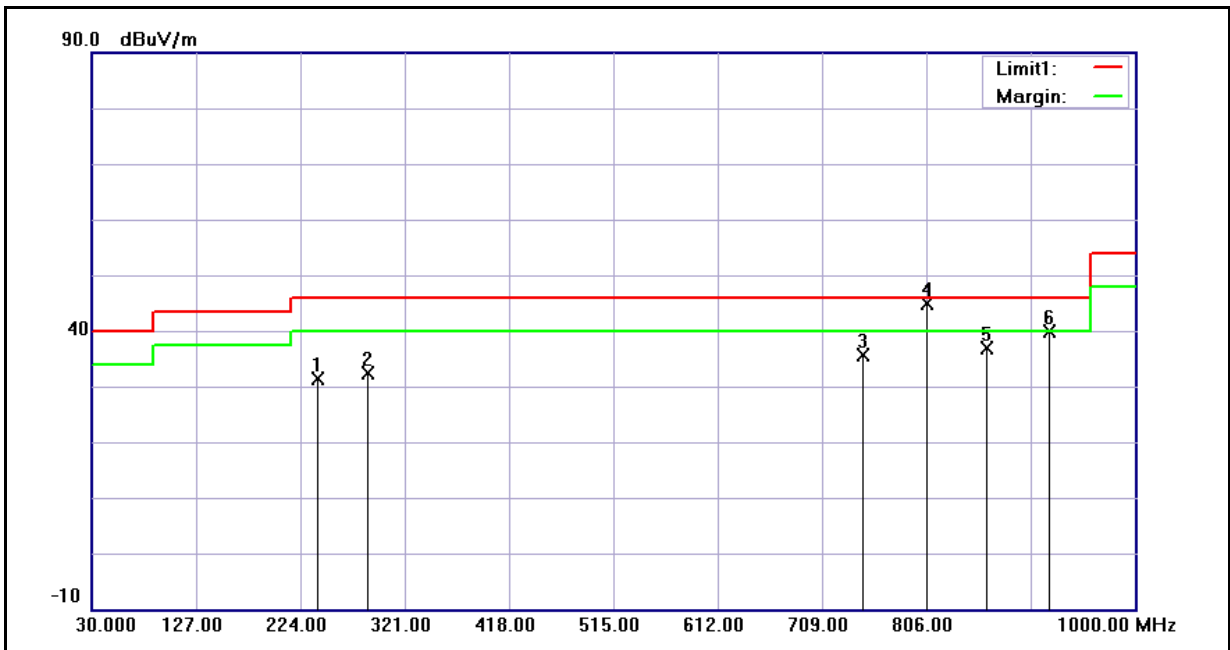
(a) For fundamental frequency : Transmitter Output < +30dBm

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

5.5. Test Result

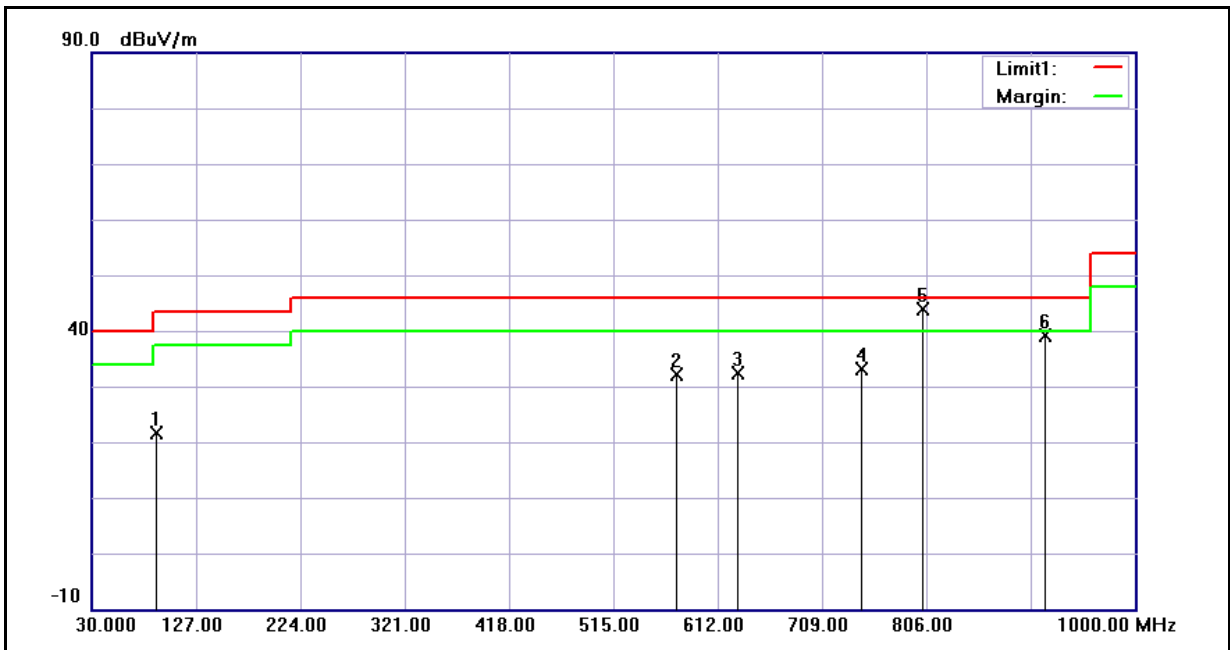
Below 1GHz

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2010/02/01
Ant.Polar.:	Horizontal	Test By:	Gary Wu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	240.0000	43.64	-12.15	31.49	46.00	-14.51	QP
2	287.5000	43.23	-10.86	32.37	46.00	-13.63	QP
3	747.5000	37.84	-2.23	35.61	46.00	-10.39	QP
4	806.0000	46.18	-1.30	44.88	46.00	-1.12	QP
5	863.0000	37.44	-0.66	36.78	46.00	-9.22	QP
6	921.0000	39.33	0.57	39.90	46.00	-6.10	QP

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2010/02/01
Ant.Polar.:	Vertical	Test By:	Gary Wu



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	91.0000	37.29	-15.59	21.70	43.50	-21.80	QP
2	573.5000	37.70	-5.60	32.10	46.00	-13.90	QP
3	630.5000	36.84	-4.34	32.50	46.00	-13.50	QP
4	746.0000	35.39	-2.27	33.12	46.00	-12.88	QP
5	802.5000	45.17	-1.33	43.84	46.00	-2.16	QP
6	917.0000	38.53	0.50	39.03	46.00	-6.97	QP

Above 1GHz

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	2010/01/31		
Frequency:	2412MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	50.35	-5.22	45.13	74.00	-28.87	peak	H
1609.000	45.46	-3.17	42.29	74.00	-31.71	peak	H
4824.000	35.46	7.92	43.38	74.00	-30.62	peak	H
7236.000	35.89	15.03	50.92	74.00	-23.08	peak	H
1210.000	55.22	-5.18	50.04	74.00	-23.96	peak	V
1609.000	52.37	-3.17	49.20	74.00	-24.80	peak	V
4824.000	40.89	7.92	48.81	74.00	-25.19	peak	V
7236.000	35.29	15.03	50.32	74.00	-23.68	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 3			Date:	2010/01/31		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	50.61	-5.22	45.39	74.00	-28.61	peak	H
1609.000	45.35	-3.17	42.18	74.00	-31.82	peak	H
4874.000	35.70	8.09	43.79	74.00	-30.21	peak	H
7311.000	35.42	15.23	50.65	74.00	-23.35	peak	H
1203.000	53.30	-5.22	48.08	74.00	-25.92	peak	V
1609.000	51.13	-3.17	47.96	74.00	-26.04	peak	V
4874.000	37.36	8.09	45.45	74.00	-28.55	peak	V
7311.000	33.98	15.23	49.21	74.00	-24.79	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	2010/01/31
Frequency:	2462MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	51.44	-5.22	46.22	74.00	-27.78	peak	H
1609.000	45.32	-3.17	42.15	74.00	-31.85	peak	H
4924.000	36.17	8.25	44.42	74.00	-29.58	peak	H
7386.000	33.83	15.42	49.25	74.00	-24.75	peak	H
1210.000	54.02	-5.18	48.84	74.00	-25.16	peak	V
1609.000	52.93	-3.17	49.76	74.00	-24.24	peak	V
4924.000	38.99	8.25	47.24	74.00	-26.76	peak	V
7386.000	36.06	15.42	51.48	74.00	-22.52	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	2010/01/31		
Frequency:	2412MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1210.000	51.03	-5.18	45.85	74.00	-28.15	peak	H
1609.000	45.67	-3.17	42.50	74.00	-31.50	peak	H
4824.000	34.98	7.92	42.90	74.00	-31.10	peak	H
7236.000	35.48	15.03	50.51	74.00	-23.49	peak	H
1203.000	55.88	-5.22	50.66	74.00	-23.34	peak	V
1609.000	50.70	-3.17	47.53	74.00	-26.47	peak	V
4824.000	34.58	7.92	42.50	74.00	-31.50	peak	V
7236.000	34.82	15.03	49.85	74.00	-24.15	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 4			Date:	2010/01/31		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	50.39	-5.22	45.17	74.00	-28.83	peak	H
4874.000	35.78	8.09	43.87	74.00	-30.13	peak	H
7311.000	33.71	15.23	48.94	74.00	-25.06	peak	H
1210.000	53.21	-5.18	48.03	74.00	-25.97	peak	V
1609.000	50.30	-3.17	47.13	74.00	-26.87	peak	V
4874.000	35.67	8.09	43.76	74.00	-30.24	peak	V
7311.000	35.36	15.23	50.59	74.00	-23.41	peak	V

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2010/01/31
Frequency:	2462MHz	Test By:	Gary Wu

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	49.60	-5.22	44.38	74.00	-29.62	peak	H
1609.000	45.26	-3.17	42.09	74.00	-31.91	peak	H
4924.000	36.96	8.25	45.21	74.00	-28.79	peak	H
7386.000	34.42	15.42	49.84	74.00	-24.16	peak	H
1203.000	56.10	-5.22	50.88	74.00	-23.12	peak	V
1609.000	51.50	-3.17	48.33	74.00	-25.67	peak	V
4924.000	38.33	8.25	46.58	74.00	-27.42	peak	V
7386.000	34.66	15.42	50.08	74.00	-23.92	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	2010/01/31		
Frequency:	2412MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1210.000	53.28	-5.18	48.10	74.00	-25.90	peak	H
1609.000	47.08	-3.17	43.91	74.00	-30.09	peak	H
4824.000	34.84	7.92	42.76	74.00	-31.24	peak	H
7236.000	34.76	15.03	49.79	74.00	-24.21	peak	H
1203.000	54.85	-5.22	49.63	74.00	-24.37	peak	V
1497.000	51.85	-3.58	48.27	74.00	-25.73	peak	V
4824.000	35.78	7.92	43.70	74.00	-30.30	peak	V
7236.000	34.06	15.03	49.09	74.00	-24.91	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 5			Date:	2010/01/31		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	53.19	-5.22	47.97	74.00	-26.03	peak	H
4874.000	35.39	8.09	43.48	74.00	-30.52	peak	H
7311.000	33.65	15.23	48.88	74.00	-25.12	peak	H
1210.000	54.51	-5.18	49.33	74.00	-24.67	peak	V
1602.000	53.52	-3.20	50.32	74.00	-23.68	peak	V
4874.000	37.57	8.09	45.66	74.00	-28.34	peak	V
7311.000	34.39	15.23	49.62	74.00	-24.38	peak	V

Standard:	FCC Part 15C	Test Distance:	3m				
Test item:	Radiated Emission	Power:	AC 120V/60Hz				
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH				
Mode:	Mode 5	Date:	2010/01/31				
Frequency:	2462MHz	Test By:	Gary Wu				
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	49.99	-5.22	44.77	74.00	-29.23	peak	H
4924.000	36.59	8.25	44.84	74.00	-29.16	peak	H
7386.000	34.86	15.42	50.28	74.00	-23.72	peak	H
1210.000	54.03	-5.18	48.85	74.00	-25.15	peak	V
1609.000	51.24	-3.17	48.07	74.00	-25.93	peak	V
4924.000	39.63	8.25	47.88	74.00	-26.12	peak	V
7386.000	34.41	15.42	49.83	74.00	-24.17	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 6			Date:	2010/01/31		
Frequency:	2422MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	52.67	-5.22	47.45	74.00	-26.55	peak	H
4844.000	34.88	7.99	42.87	74.00	-31.13	peak	H
7266.000	34.51	15.11	49.62	74.00	-24.38	peak	H
1210.000	53.55	-5.18	48.37	74.00	-25.63	peak	V
1609.000	50.20	-3.17	47.03	74.00	-26.97	peak	V
4844.000	35.61	7.99	43.60	74.00	-30.40	peak	V
7266.000	34.02	15.11	49.13	74.00	-24.87	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 6			Date:	2010/01/31		
Frequency:	2437MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	51.56	-5.22	46.34	74.00	-27.66	peak	H
4874.000	35.33	8.09	43.42	74.00	-30.58	peak	H
7311.000	33.39	15.23	48.62	74.00	-25.38	peak	H
1210.000	55.99	-5.18	50.81	74.00	-23.19	peak	V
1609.000	50.05	-3.17	46.88	74.00	-27.12	peak	V
4874.000	36.36	8.09	44.45	74.00	-29.55	peak	V
7311.000	33.47	15.23	48.70	74.00	-25.30	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	Mode 6			Date:	2010/01/31		
Frequency:	2452MHz			Test By:	Gary Wu		
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	50.02	-5.22	44.80	74.00	-29.20	peak	H
4904.000	36.00	8.18	44.18	74.00	-29.82	peak	H
7356.000	34.62	15.35	49.97	74.00	-24.03	peak	H
1203.000	54.30	-5.22	49.08	74.00	-24.92	peak	V
1609.000	50.74	-3.17	47.57	74.00	-26.43	peak	V
4904.000	39.39	8.18	47.57	74.00	-26.43	peak	V
7356.000	33.98	15.35	49.33	74.00	-24.67	peak	V

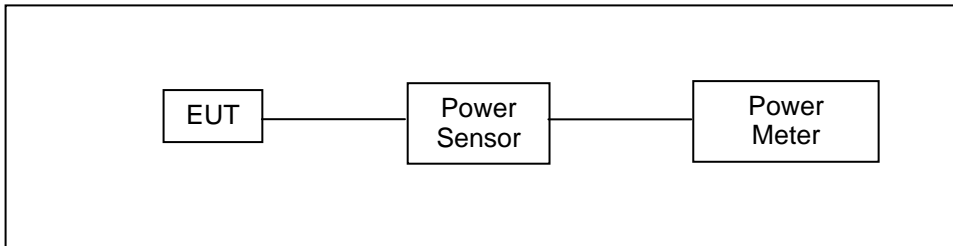
Standard:	FCC Part 15B			Test Distance:	3m			
Test item:	Radiated Emission			Power:	AC 120V/60Hz			
Model Number:	RTL8191SE			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH			
Mode:	Mode 7			Date:	2010/01/31			
Modulation Type:	IEEE 802.11b			Test By:	Gary Wu			
Frequency:	2437MHz							
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Peak Limit (dBuV/m)	AVG. Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
1203.000	52.81	-5.22	47.59	74.00	54.00	-26.41	peak	H
1609.000	45.07	-3.17	41.90	74.00	54.00	-32.10	peak	H
7006.000	37.20	14.43	51.63	74.00	54.00	-22.37	peak	H
1203.000	54.02	-5.22	48.80	74.00	54.00	-25.20	peak	V
1497.000	52.23	-3.58	48.65	74.00	54.00	-25.35	peak	V
1609.000	50.08	-3.17	46.91	74.00	54.00	-27.09	peak	V

6 Maximum Conducted Output Power Measurement

6.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm.

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	07/19/2010	(1)
Wideband Power Meter	Agilent	N1921A	MY45241957	07/19/2010	(1)
Test Site	ATL	TE06	TE06	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

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

6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to $(\text{GAIN} - 6)/3$ dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

6.5. Test Result

Model Number	RTL8191SE			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 3: IEEE 802.11b Link Mode			
Date of Test	01/31/2011		Test Site	TE06
Frequency (MHz)	Data Rate	Peak Power		Limit (dBm)
		(dBm)	(W)	
2412	1 M	18.23	0.0665	< 30
2437		17.73	0.0593	< 30
2462		17.69	0.0587	< 30

Model Number	RTL8191SE			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 4: IEEE 802.11g Link Mode			
Date of Test	01/31/2011		Test Site	TE06
Frequency (MHz)	Data Rate	Peak Power		Limit (dBm)
		(dBm)	(W)	
2412	6 M	16.58	0.0455	< 30
2437		16.57	0.0454	< 30
2462		16.13	0.0410	< 30

Model Number	RTL8191SE			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 5: draft 802.11n Standard-20MHz Link Mode			
Date of Test	01/31/2011		Test Site	TE06
Frequency (MHz)	Data Rate	Peak Power		Limit (dBm)
		(dBm)	(W)	
2412	6.5 M	16.34	0.0431	< 30
2437		16.55	0.0452	< 30
2462		15.10	0.0324	< 30

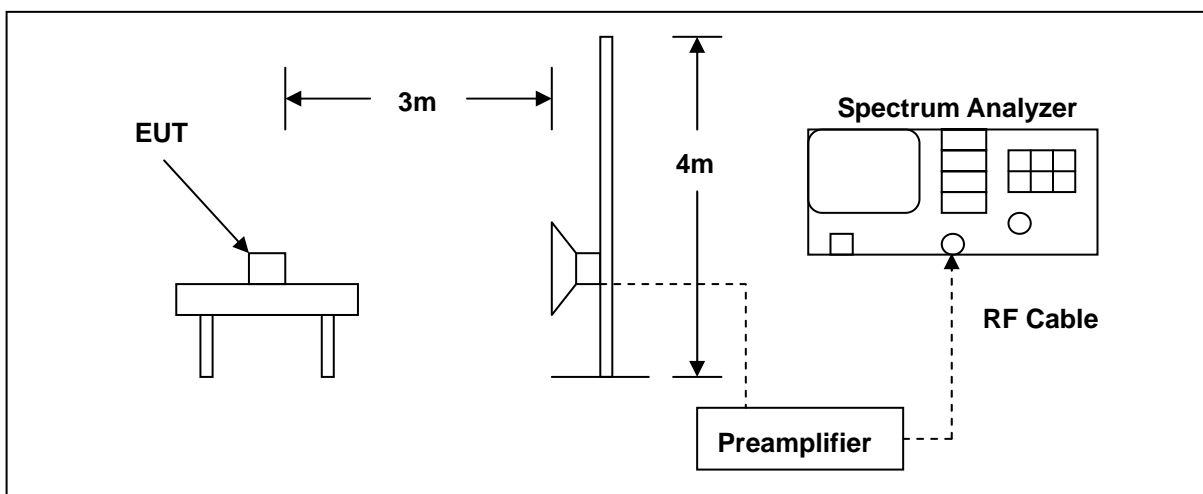
Model Number	RTL8191SE			
Test Item	Maximum Conducted Output Power			
Test Mode	Mode 6: draft 802.11n Wide-40MHz Link Mode			
Date of Test	01/31/2011		Test Site	TE06
Frequency (MHz)	Data Rate	Peak Power		Limit (dBm)
		(dBm)	(W)	
2422	13.5 M	16.41	0.0438	< 30
2437		16.44	0.0441	< 30
2452		15.43	0.0349	< 30

7 Band Edges Measurement

7.1. Limit

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	06/24/2010	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2010	(1)
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9120D	9120D-550	06/29/2010	(1)
Test Site	ATL	TE06	TE06	N.C.R.	-----

Remark: ⁽¹⁾ Calibration period 1 year. ⁽²⁾ Calibration period 2 years.

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

7.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

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.

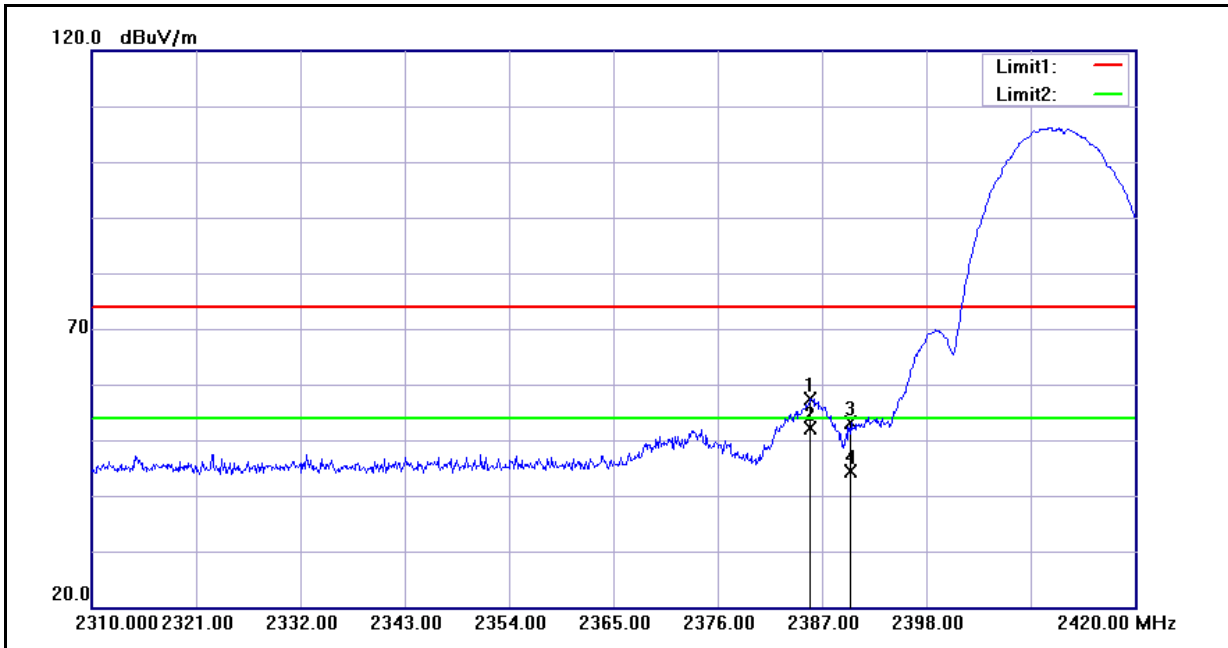
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

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.

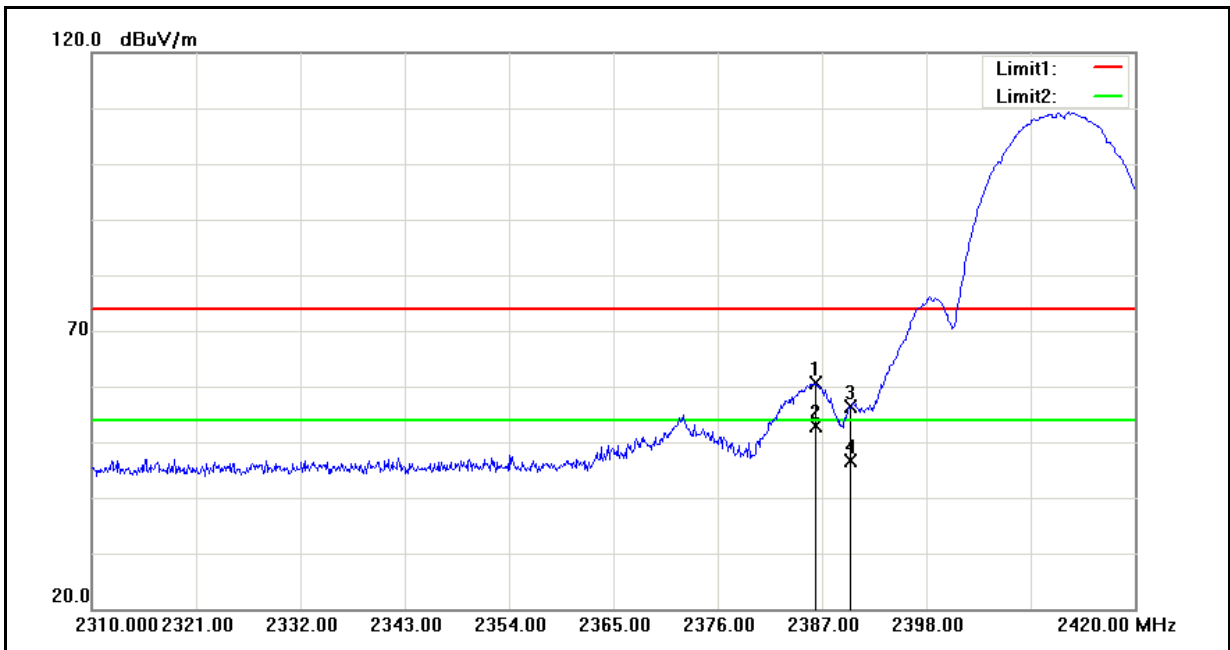
7.5. Test Result

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



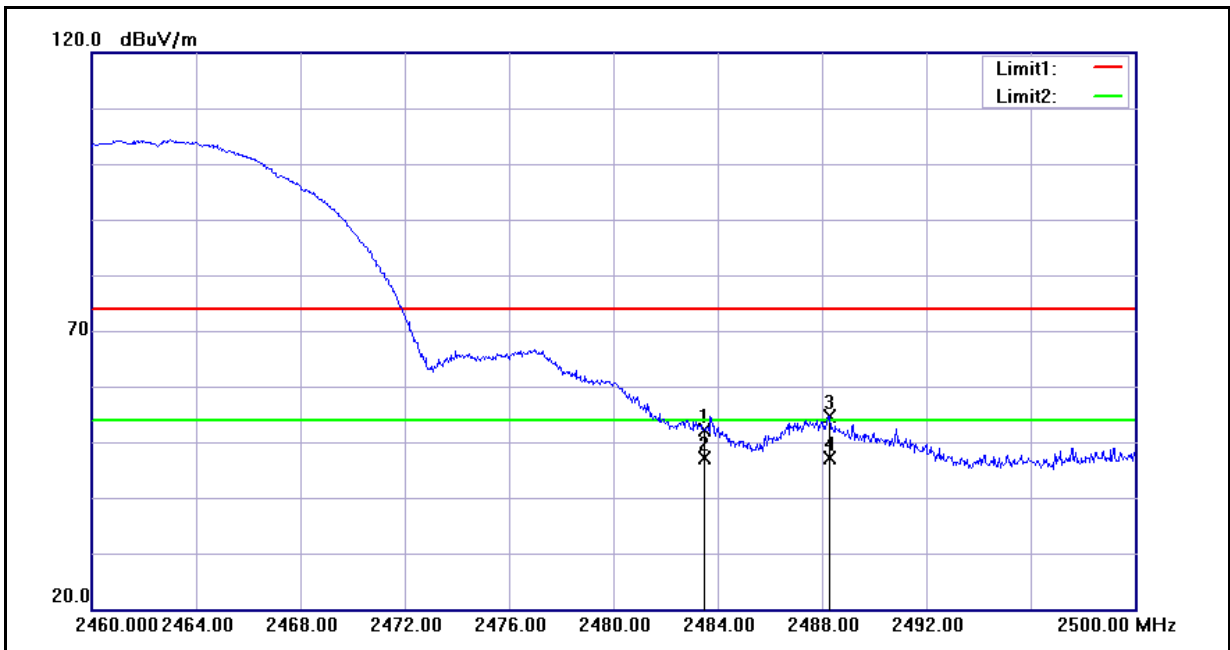
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.790	57.71	-0.24	57.47	74.00	-16.53	peak
2	2385.790	52.44	-0.24	52.20	54.00	-1.80	AVG
3	2390.000	53.38	-0.22	53.16	74.00	-20.84	peak
4	2390.000	44.49	-0.22	44.27	54.00	-9.73	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



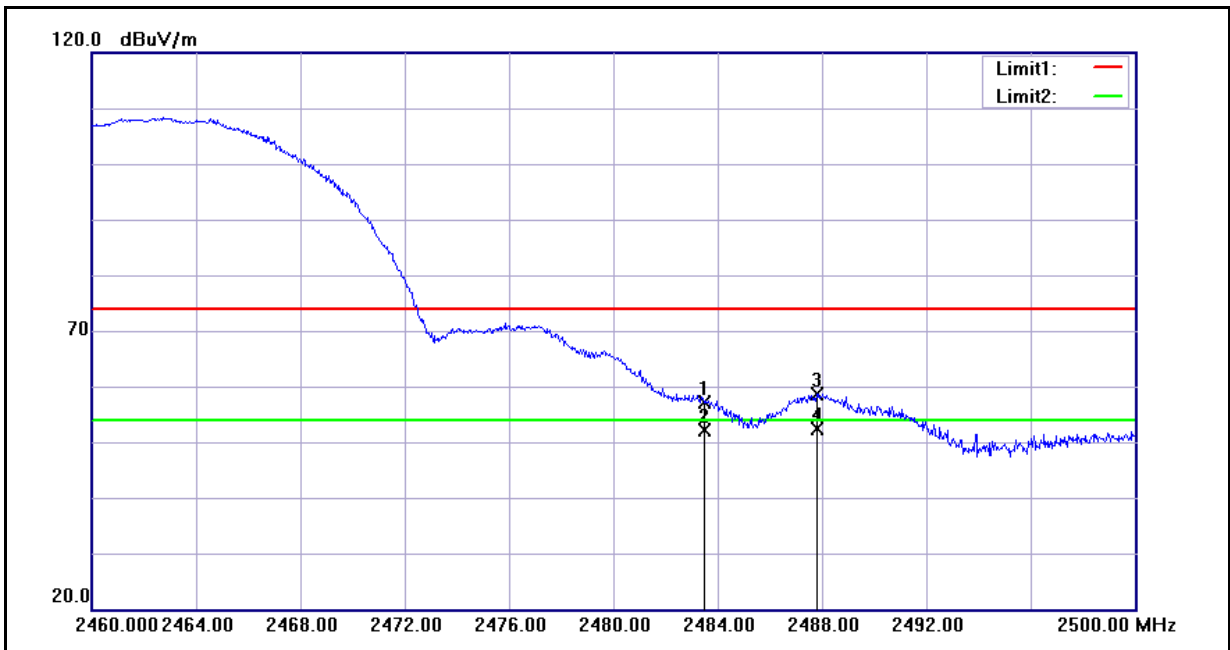
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.340	60.97	-0.24	60.73	74.00	-13.27	peak
2	2386.340	53.10	-0.24	52.86	54.00	-1.14	AVG
3	2390.000	56.67	-0.22	56.45	74.00	-17.55	peak
4	2390.000	46.74	-0.22	46.52	54.00	-7.48	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



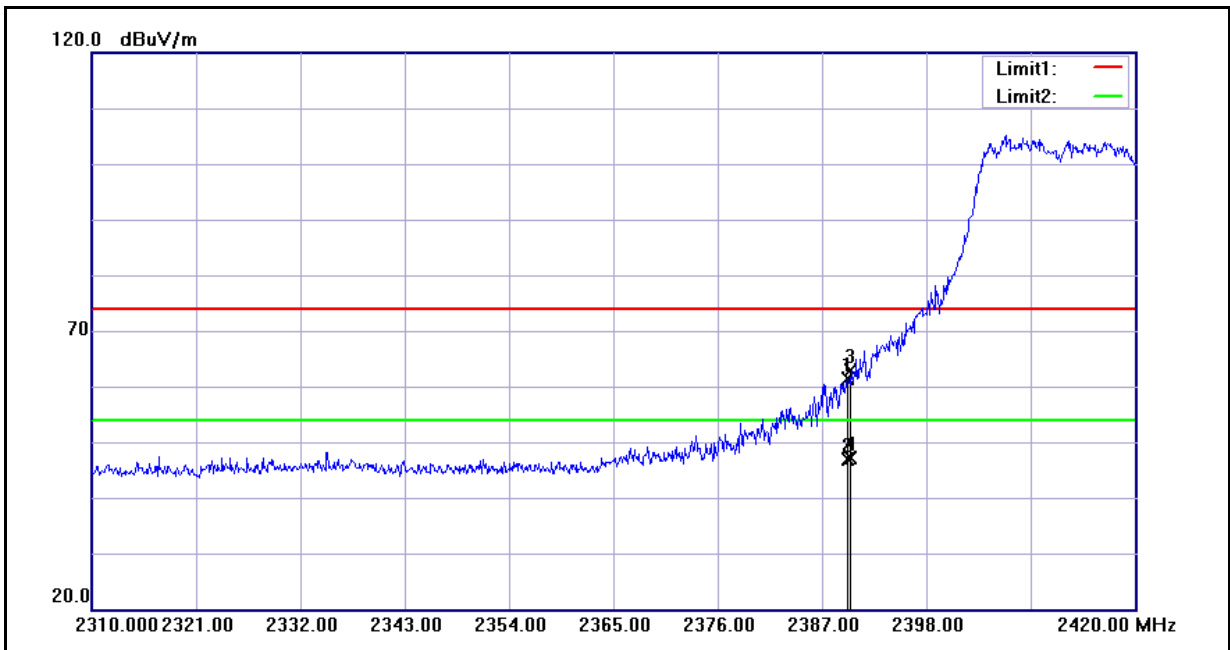
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.09	0.16	52.25	74.00	-21.75	peak
2	2483.500	47.03	0.16	47.19	54.00	-6.81	AVG
3	2488.280	54.55	0.18	54.73	74.00	-19.27	peak
4	2488.280	46.99	0.18	47.17	54.00	-6.83	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



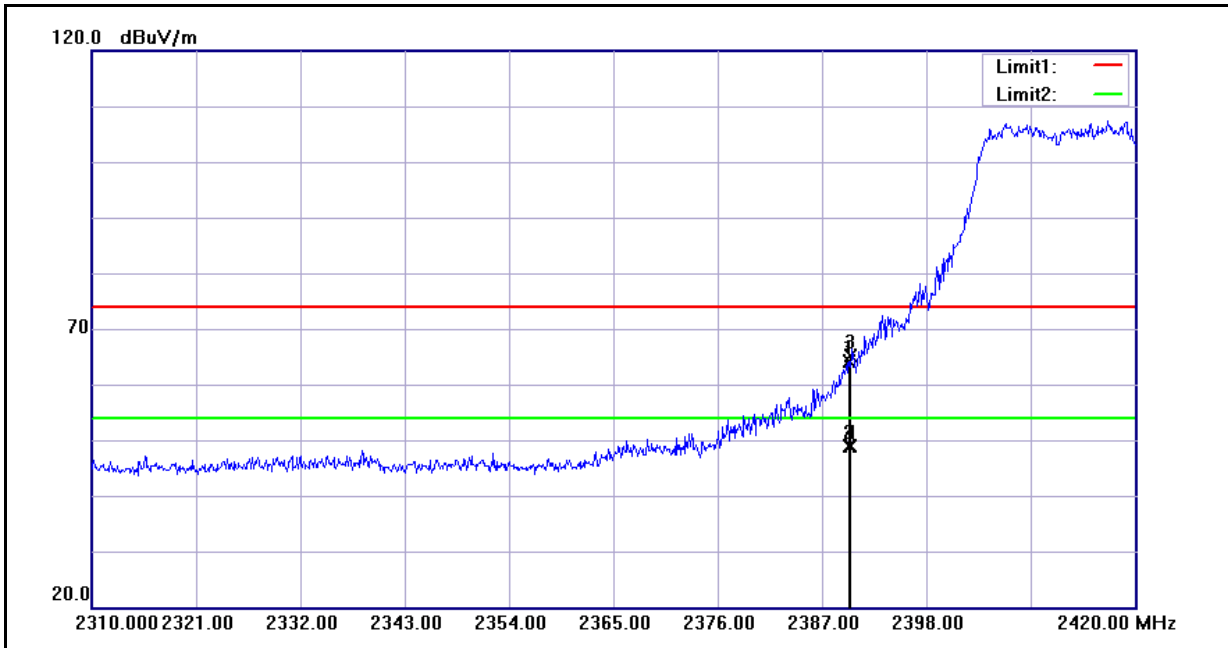
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	57.08	0.16	57.24	74.00	-16.76	peak
2	2483.500	52.06	0.16	52.22	54.00	-1.78	AVG
3	2487.800	58.40	0.18	58.58	74.00	-15.42	peak
4	2487.800	52.18	0.18	52.36	54.00	-1.64	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



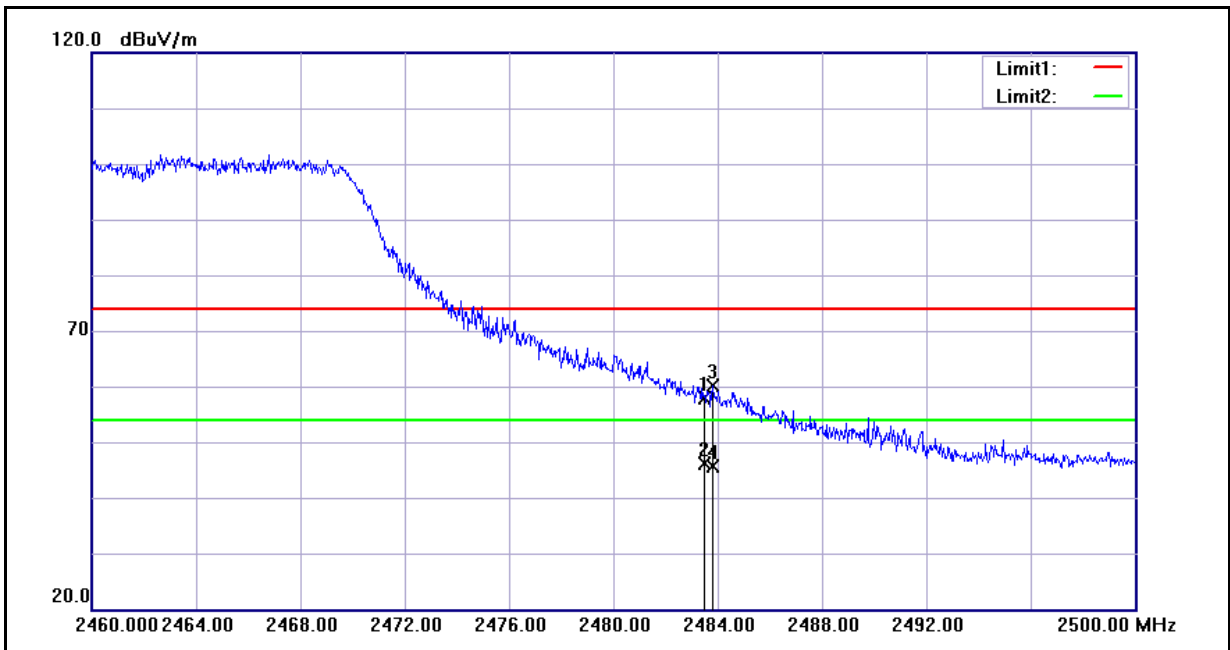
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.750	61.61	-0.22	61.39	74.00	-12.61	peak
2	2389.750	47.16	-0.22	46.94	54.00	-7.06	AVG
3	2390.000	63.11	-0.22	62.89	74.00	-11.11	peak
4	2390.000	47.35	-0.22	47.13	54.00	-6.87	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



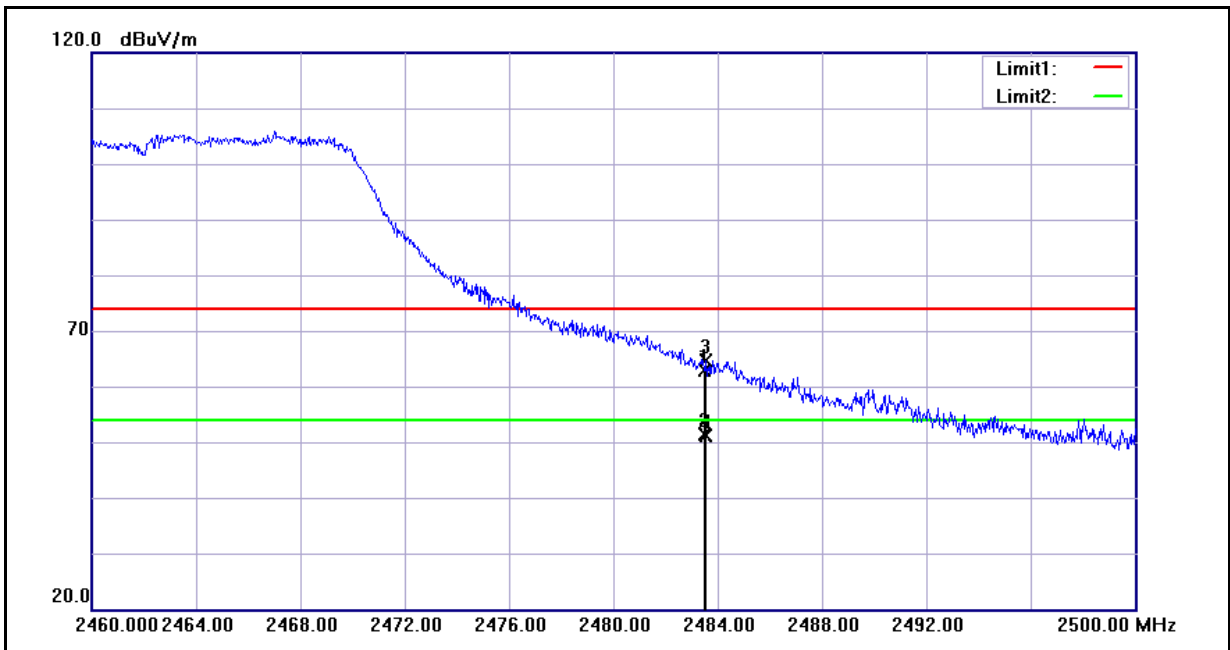
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.860	64.31	-0.22	64.09	74.00	-9.91	peak
2	2389.860	48.98	-0.22	48.76	54.00	-5.24	AVG
3	2390.000	65.47	-0.22	65.25	74.00	-8.75	peak
4	2390.000	49.09	-0.22	48.87	54.00	-5.13	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



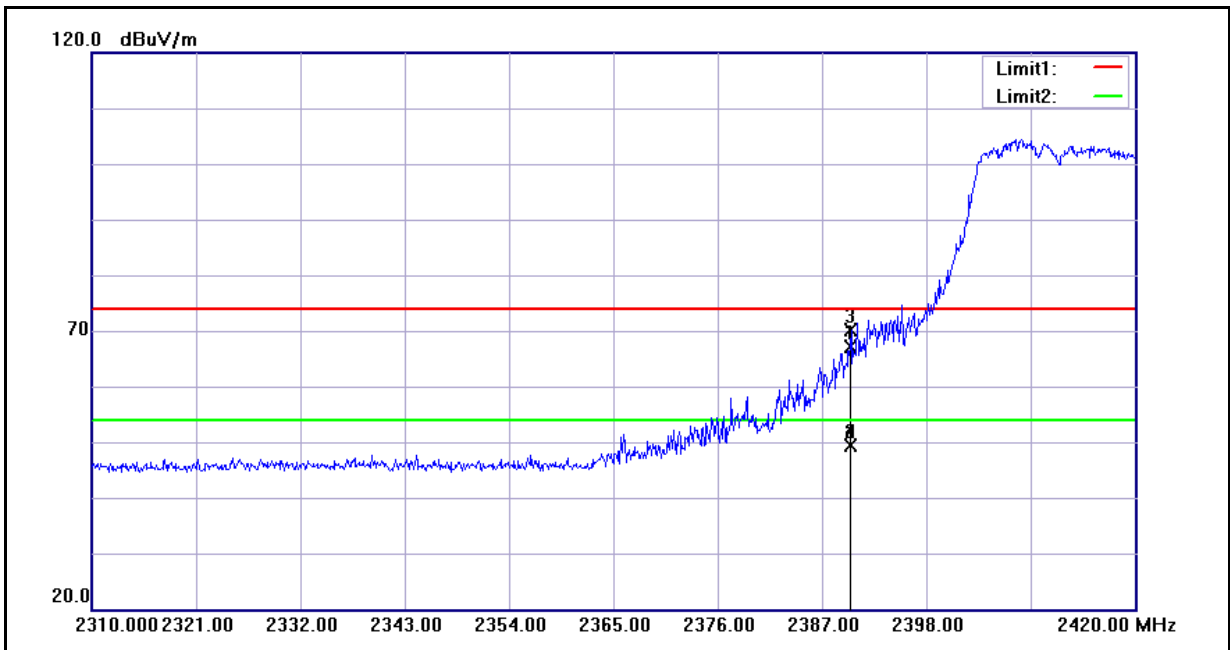
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	57.78	0.16	57.94	74.00	-16.06	peak
2	2483.500	46.03	0.16	46.19	54.00	-7.81	AVG
3	2483.800	59.93	0.16	60.09	74.00	-13.91	peak
4	2483.800	45.53	0.16	45.69	54.00	-8.31	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



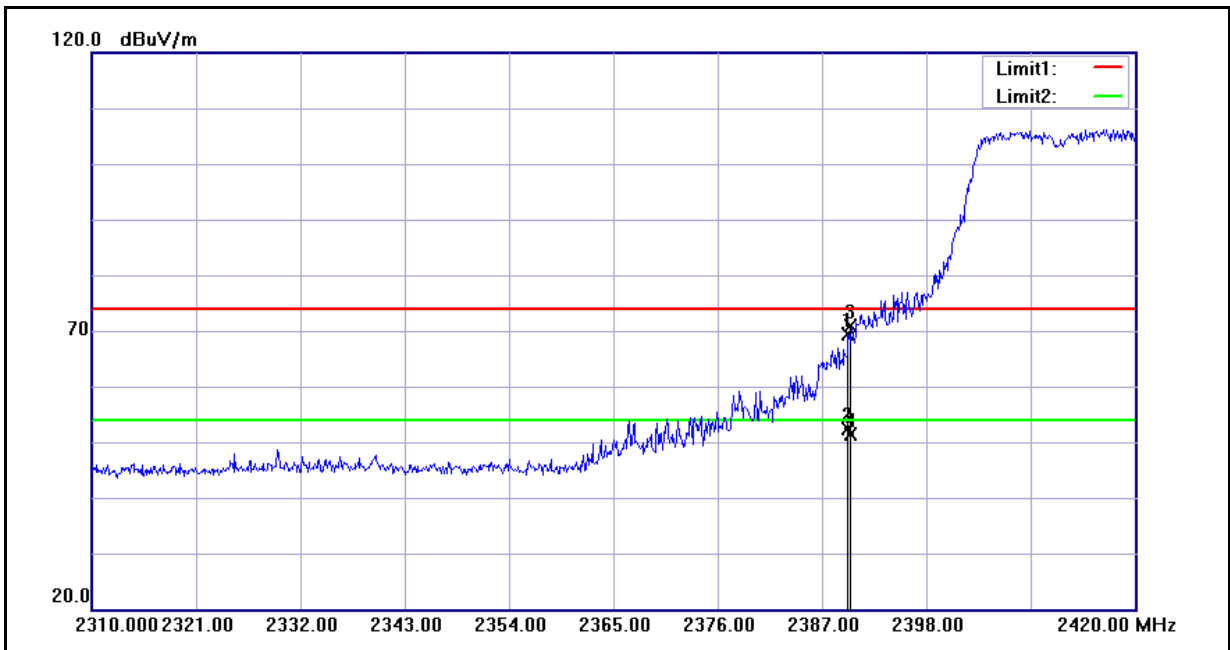
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	62.83	0.16	62.99	74.00	-11.01	peak
2	2483.500	51.13	0.16	51.29	54.00	-2.71	AVG
3	2483.560	64.43	0.16	64.59	74.00	-9.41	peak
4	2483.560	50.99	0.16	51.15	54.00	-2.85	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



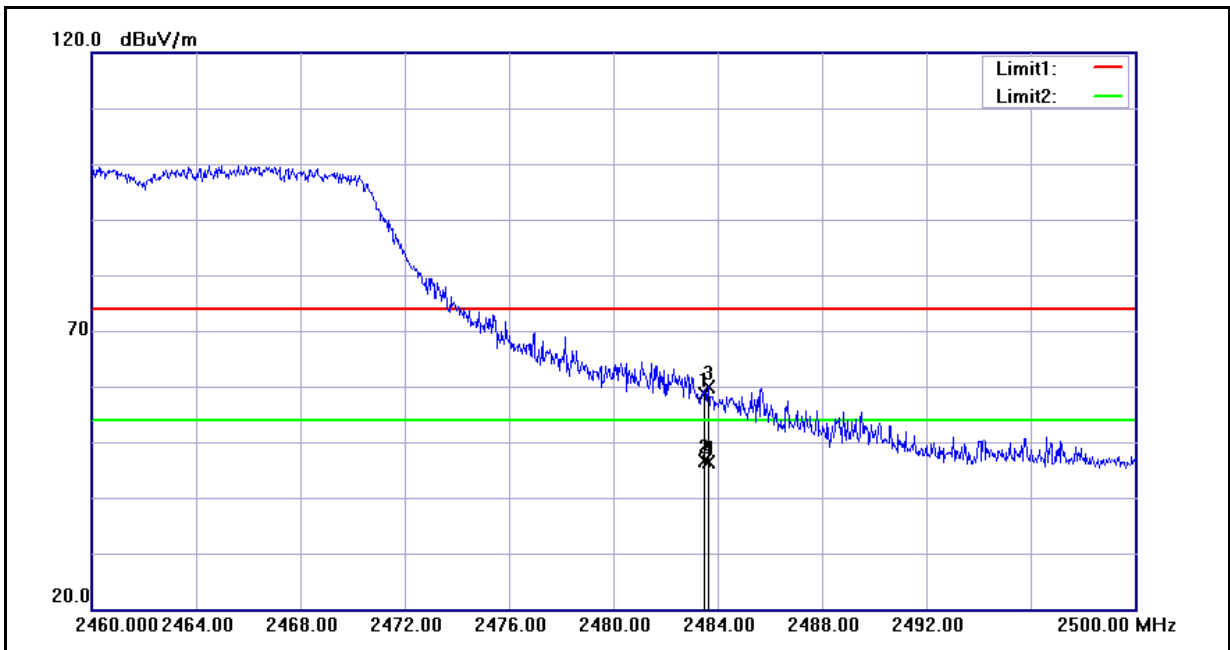
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.970	67.38	-0.22	67.16	74.00	-6.84	peak
2	2389.970	49.57	-0.22	49.35	54.00	-4.65	AVG
3	2390.000	70.39	-0.22	70.17	74.00	-3.83	peak
4	2390.000	49.61	-0.22	49.39	54.00	-4.61	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	2010/02/01
Frequency:	2412 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



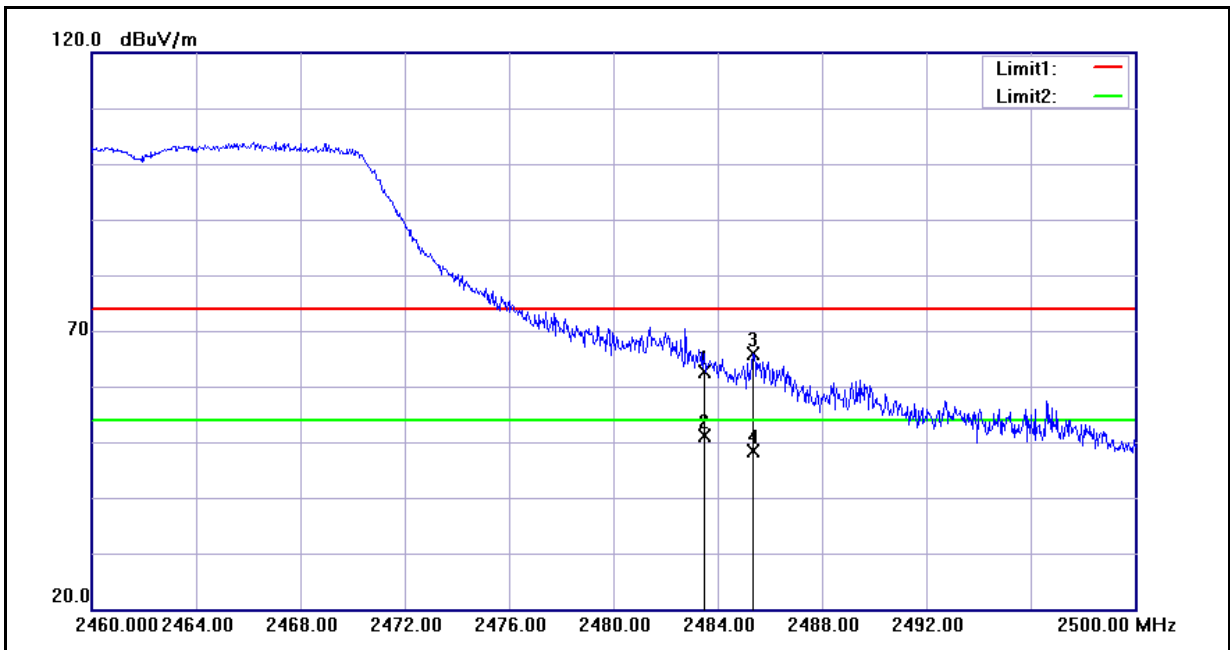
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.750	69.49	-0.22	69.27	74.00	-4.73	peak
2	2389.750	52.71	-0.22	52.49	54.00	-1.51	AVG
3	2390.000	71.12	-0.22	70.90	74.00	-3.10	peak
4	2390.000	51.69	-0.22	51.47	54.00	-2.53	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



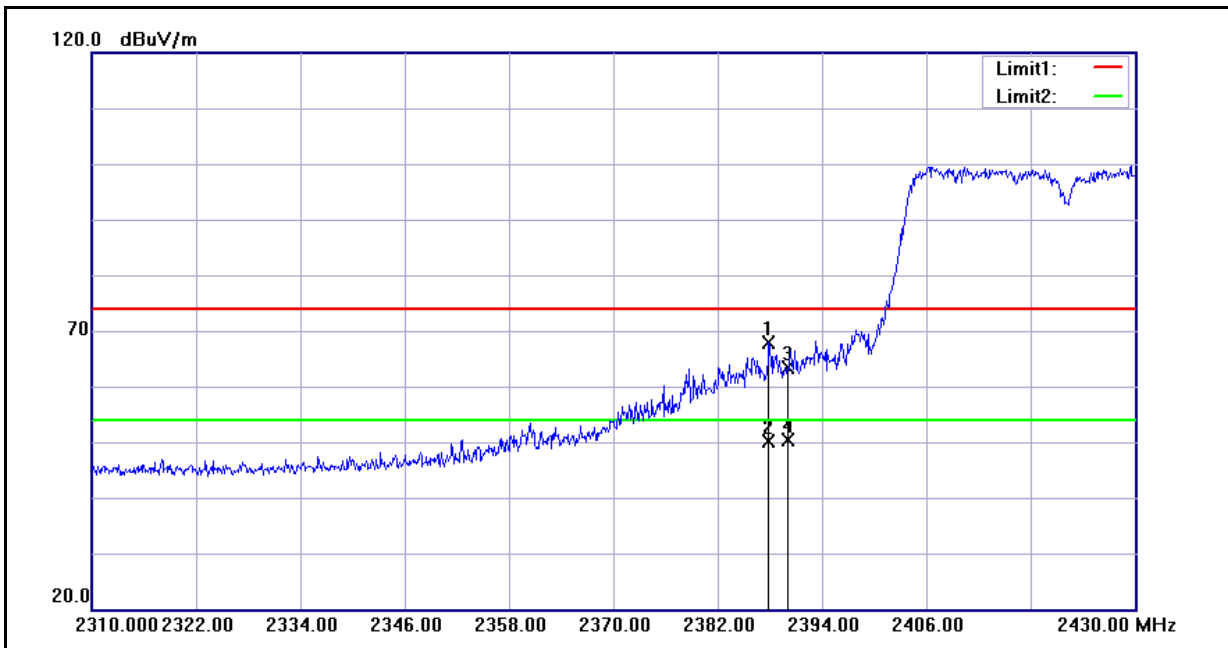
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	58.52	0.16	58.68	74.00	-15.32	peak
2	2483.500	46.35	0.16	46.51	54.00	-7.49	AVG
3	2483.640	59.83	0.16	59.99	74.00	-14.01	peak
4	2483.640	46.12	0.16	46.28	54.00	-7.72	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	2010/02/01
Frequency:	2462 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



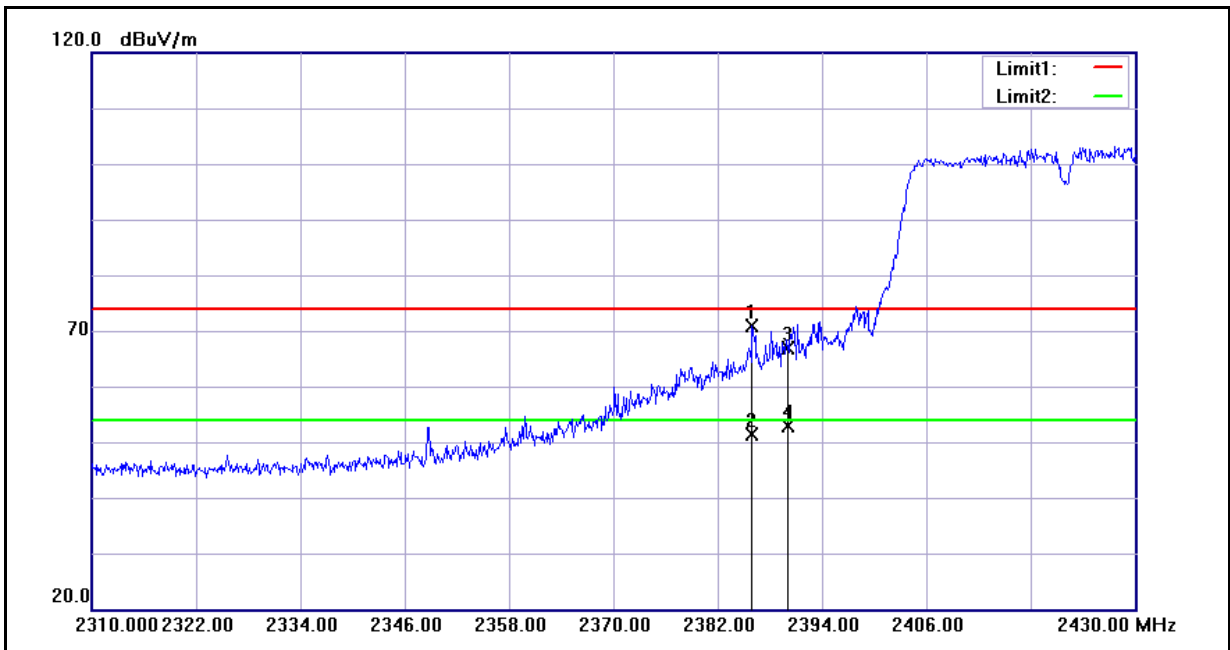
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	62.53	0.16	62.69	74.00	-11.31	peak
2	2483.500	50.87	0.16	51.03	54.00	-2.97	AVG
3	2485.360	65.70	0.16	65.86	74.00	-8.14	peak
4	2485.360	48.30	0.16	48.46	54.00	-5.54	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	2010/02/01
Frequency:	2422 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



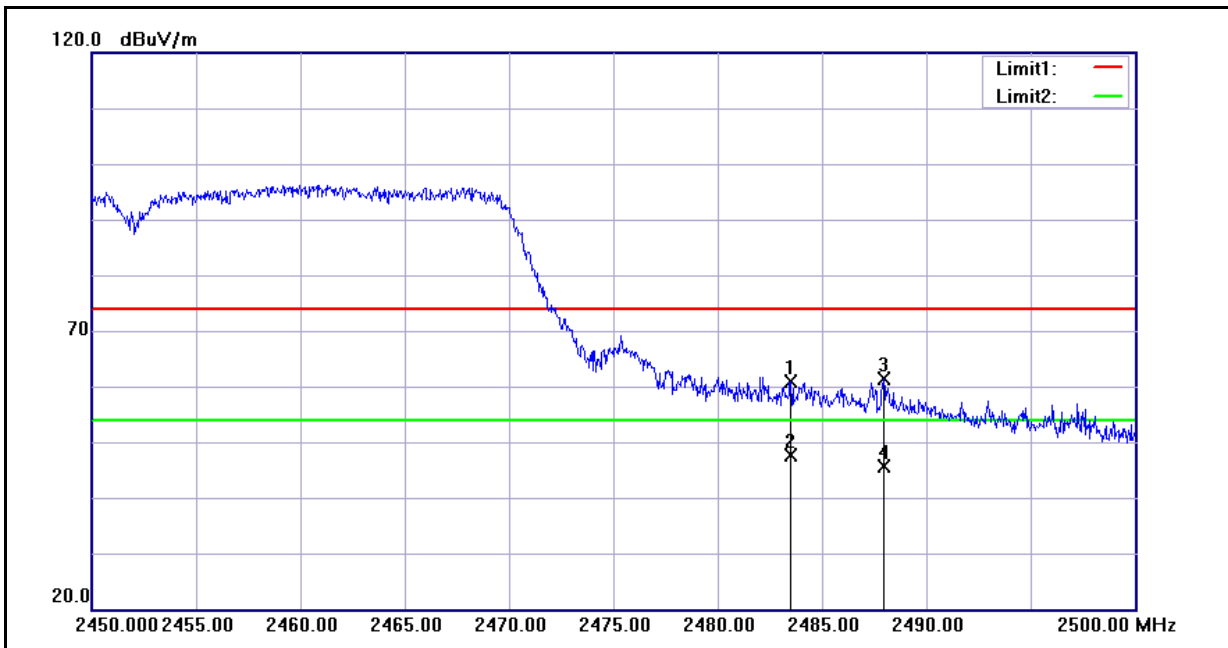
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.880	67.99	-0.22	67.77	74.00	-6.23	peak
2	2387.880	50.27	-0.22	50.05	54.00	-3.95	AVG
3	2390.000	63.53	-0.22	63.31	74.00	-10.69	peak
4	2390.000	50.54	-0.22	50.32	54.00	-3.68	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	2010/02/01
Frequency:	2422 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



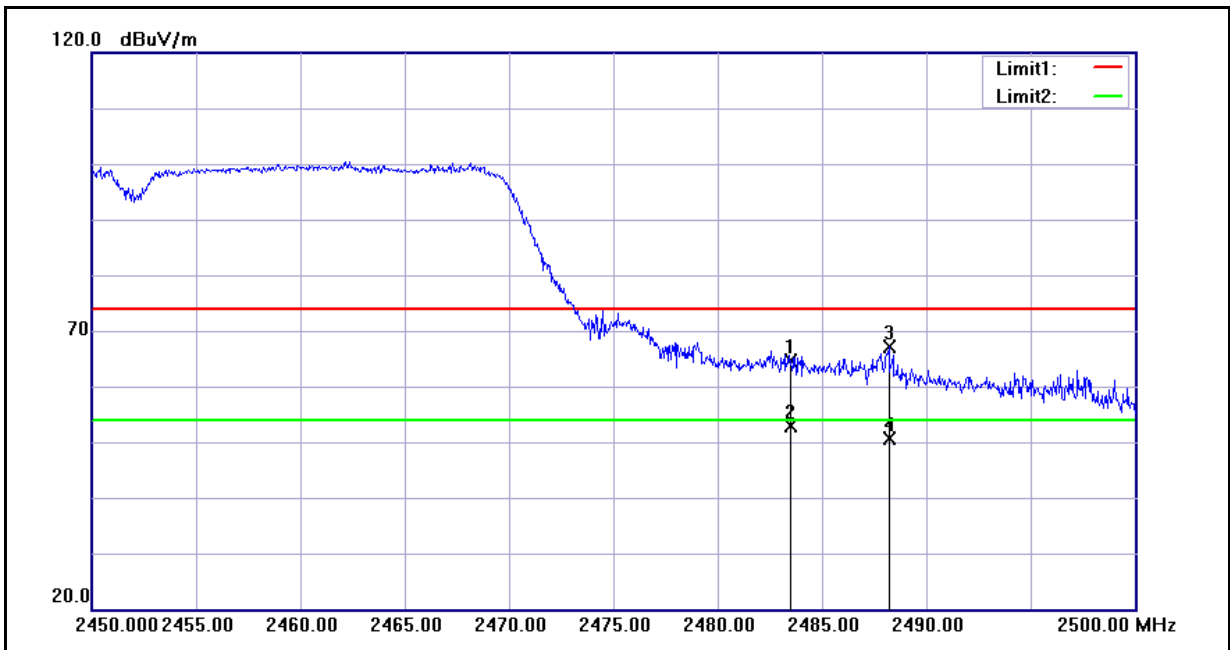
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.960	71.06	-0.24	70.82	74.00	-3.18	peak
2	2385.960	51.60	-0.24	51.36	54.00	-2.64	AVG
3	2390.000	67.07	-0.22	66.85	74.00	-7.15	peak
4	2390.000	53.01	-0.22	52.79	54.00	-1.21	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	2010/02/01
Frequency:	2452 MHz	Test By:	Gary Wu
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	60.76	0.16	60.92	74.00	-13.08	peak
2	2483.500	47.36	0.16	47.52	54.00	-6.48	AVG
3	2487.950	61.29	0.18	61.47	74.00	-12.53	peak
4	2487.950	45.52	0.18	45.70	54.00	-8.30	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	RTL8191SE	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	2010/02/01
Frequency:	2452 MHz	Test By:	Gary Wu
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	64.47	0.16	64.63	74.00	-9.37	peak
2	2483.500	52.65	0.16	52.81	54.00	-1.19	AVG
3	2488.200	66.94	0.18	67.12	74.00	-6.88	peak
4	2488.200	50.48	0.18	50.66	54.00	-3.34	AVG