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Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594 Report No.: SZEM130100012302

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# **FCC REPORT**

**Application No:** SZEM1301000123RF **Applicant:** RM Acquisition LLC

Manufacturer: ELECTRONICS TECHNOLOGY (DONGGUAN) COMPANY LIMITED ELECTRONICS TECHNOLOGY (DONGGUAN) COMPANY LIMITED

Product Name: GPS

Model No.(EUT): TND 520
Add Model No.: RVND 5520
FCC ID: A4C-10002A

Standards: 47 CFR Part 15, Subpart C (2011)

**Date of Receipt:** 2013-01-09

**Date of Test:** 2013-01-17 to 2013-02-20

**Date of Issue:** 2013-02-28

Test Result: PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

#### Authorized Signature:



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



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# 2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section	ANSI C63.10 2009	PASS
	15.203/15.247 (c)	7 11 10 1 0 0 0 1 1 0 2 0 0 0	. 7.00
AC Power Line	47 CFR Part 15, Subpart C Section		
Conducted	15.207	ANSI C63.10 2009	PASS
Emission	10.207		
Conducted Peak Output	47 CFR Part 15, Subpart C Section	KDB558074 D01	PASS
Power	15.247 (b)(3)	KDB336074 D01	PASS
6dB Occupied	47 CFR Part 15, Subpart C Section	KDB558074 D01	PASS
Bandwidth	15.247 (a)(2)	KDB336074 D01	FASS
Power Spectral Density	47 CFR Part 15, Subpart C Section 15.247 (e)	KDB558074 D01	PASS
Band-edge for RF	47 CFR Part 15, Subpart C Section	KDB558074 D01	PASS
Conducted Emissions	15.247(d)	KDB558074 D01	PASS
RF Conducted Spurious	47 CFR Part 15, Subpart C Section	KDB558074 D01	PASS
Emissions	15.247(d)	KDB336074 D01	FASS
Radiated Spurious	47 CFR Part 15, Subpart C Section	ANSI C62 10 2000	DACC
Emissions	15.205/15.209	ANSI C63.10 2009	PASS
Band Edge (Radiated	47 CFR Part 15, Subpart C Section	ANSI C63.10 2009	PASS
Emission)	15.205/15.209	ANSI 003.10 2009	rass

Remark:

Model No.: TND 520, RVND 5520

Only the Model TND 520 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models. Only different on model No. and appearance.



# SGS

# SGS-CSTC Standards Technical Services Ltd.

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# 4 General Information

# 4.1 Client Information

Applicant:	RM Acquisition LLC
Address of Applicant:	9855 Woods Drive Skokie. IL 60077 U.S.A
Manufacturer:	ELECTRONICS TECHNOLOGY (DONGGUAN) COMPANY LIMITED
Address of Manufacturer:	No. 161, Xin Min Road, Tong Luo Wei Industrial Zone, Jin Xia, Chang
	An Town, Dong Guan City, Guang Dong Province, China
Factory:	ELECTRONICS TECHNOLOGY (DONGGUAN) COMPANY LIMITED
Address of Factory:	No. 161, Xin Min Road, Tong Luo Wei Industrial Zone, Jin Xia, Chang
	An Town, Dong Guan City, Guang Dong Province, China

# 4.2 General Description of EUT

Product Name:	GPS		
Model No.:	TND 520, RVND 5520		
Operation Frequency:	IEEE 802.11b/g:	2412MHz to 2462MHz	
Channel Numbers:	IEEE 802.11b/g:	11 Channels	
Channel Separation:	5MHz		
Type of Modulation:	IEEE for 802.11	b: DSSS(CCK,DQPSK,DBPSK)	
	IEEE for 802.11	g : OFDM(64QAM, 16QAM, QPSK, BPSK)	
Sample Type:	Portable product	iion	
Test Power Grade:	15dBm (manufa	cturer declare)	
Test Software of EUT:	Labtool (manufa	cturer declare)	
Antenna Type:	Integral		
Antenna Gain:	0dBi		
Power Supply:	AC/DC Adapter:	MODEL: 5 INCH (A)	
		INPUT: AC 100-240V 50/60Hz 0.35A	
		OUTPUT: DC 5V 1500mA	
	Vehicle Adapter	Model: SW-87180500150A	
		Input: DC 12/24V	
		Output: DC 5V/1.5A	
	Battery:	3.7V 950mAh rechargeable battery	
	USB charge		
USB Charging Cable:	100cm		
AC Cable:	150cm		
Vehicle Cable:	250cm		
Test Voltage:	AC 120V 60Hz		



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Operation Frequency each of channel(802.11b/g)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

#### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

#### For 802.11b/g:

Channel	Frequency
The Lowest channel	2412MHz
The Middle channel	2437MHz
The Highest channel	2462MHz



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# 4.3 Test Environment and Mode

Operating Environment:	Operating Environment:				
Temperature:	23.0 °C				
Humidity:	48 % RH				
Atmospheric Pressure:	1020 mbar				
Test mode:					
Transmitting mode:	Keep the EUT transmitting with modulation.				
PC Charge + transmitting mode:	Keep the EUT charging by PC and transmitting with modulation.				
AC Charge + transmitting mode:	Keep the EUT charging by AC adapter and transmitting with				
	Modulation.				
Vehicle Charge + transmitting	Keep the EUT charging by Vehicle adapter and transmitting				
mode:	with modulation.				

# 4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Earphone	N/A	N/A
PC	DELL	DCSM
LCD-displaying	DELL	SP2208WFPt
KEYBOARD	DELL	SK-8115
MOUSE	Lenovo	MO28UOL
PC	IBM	8172
LCD-displaying	Lenovo	L1711pC
KEYBOARD	IBM	SK-8115
MOUSE	Lenovo	MO28UOA
printer	HengTong ELECTRON	HT4000
coded	Canon	BJC-1000SP
DC Power	ZHAOXIN	RXN-305D

#### 4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



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# 4.6 Test Facility

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

#### CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### VCCI

The 3m Semi-anechoic chamber, Full-anechoic Chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197, G-416, T-1153 and C-2383 respectively.

#### FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

### Industry Canada (IC)

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

# 4.7 Deviation from Standards

None.

# 4.8 Abnormalities from Standard Conditions

None

# 4.9 Other Information Requested by the Customer

None.



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# 4.10Equipment List

Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2013-06-10
2	LISN	Rohde & Schwarz	ENV216	SEL0152	2013-10-24
3	LISN	ETS-LINDGREN	3816/2	SEL0021	2013-05-17
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T8-02	SEL0162	2013-11-10
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T4-02	SEL0163	2013-11-10
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T2-02	SEL0164	2013-11-10
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2013-05-17
8	Coaxial Cable	SGS	N/A	SEL0025	2013-05-29
9	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
10	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2013-10-24
11	Barometer	Chang Chun	DYM3	SEL0088	2013-05-24



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	RE in Chamber				
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2013-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2013-05-17
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2013-10-24
5	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2013-10-24
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2013-10-24
7	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2013-05-17
8	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2013-10-24
9	Coaxial cable	SGS	N/A	SEL0027	2013-05-59
10	Coaxial cable	SGS	N/A	SEL0189	2013-05-29
11	Coaxial cable	SGS	N/A	SEL0121	2013-05-29
12	Coaxial cable	SGS	N/A	SEL0178	2013-05-29
13	Band filter	Amindeon	82346	SEL0094	2013-05-17
14	Barometer	Chang Chun	DYM3	SEL0088	2013-05-24
15	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
16	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2013-10-24
17	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2013-05-17
18	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2013-10-24
19	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2013-06-04



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	RF connected test				
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2013-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2013-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2013-05-29
5	Coaxial cable	SGS	N/A	SEL0179	2013-05-29
6	Barometer	ChangChun	DYM3	SEL0088	2013-05-24
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2013-05-17
8	Band filter	amideon	82346	SEL0094	2013-05-17
9	POWER METER	R&S	NRVS	SEL0144	2013-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2013-05-17
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2013-10-24

Note: The calibration interval is one year, all the instruments are valid.



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# 5 Test results and Measurement Data

# 5.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

15.203 requirement:

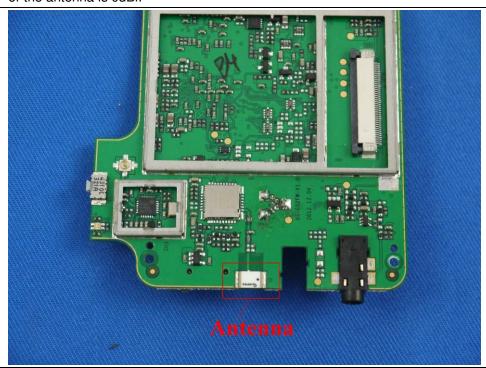
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **EUT Antenna:**

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.





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# 5.2 Conducted Emissions

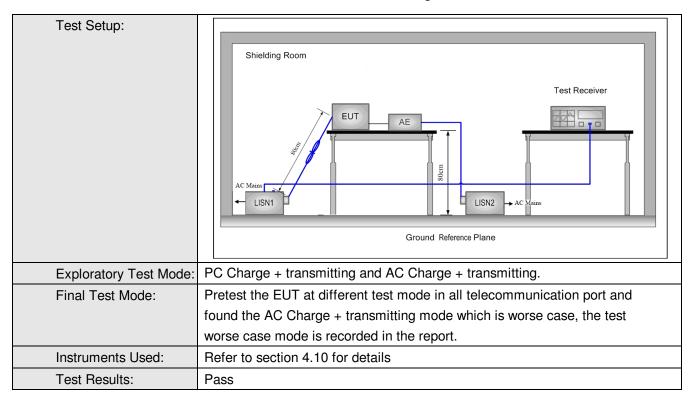
Test Requirement:	47 CFR Part 15C Section 15.2	207		
Test Method:	ANSI C63.10: 2009			
Test Frequency Range:	150kHz to 30MHz			
Limit:	- (AUL)	Limit (dBuV)		
	Frequency range (MHz)	Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	56	46	
	5-30	60	50	
	* Decreases with the logarithn	of the frequency.		
Test Procedure:				





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#### **Measurement Data**

An initial pre-scan was performed on the live and neutral lines with peak detector.

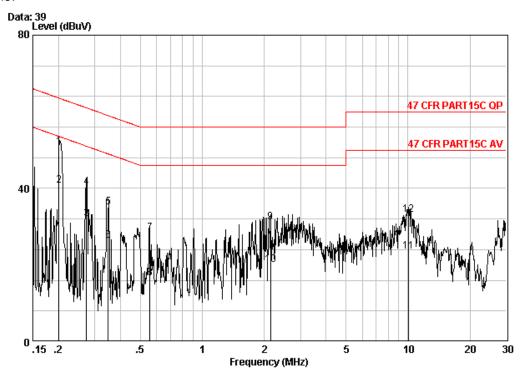
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



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#### Live Line:



Site : Shielding Room

Condition : 47 CFR PART15C QP CE LINE

Job No. : 0123RF

Mode : AC charge + Transmitting

	Ü	Cable	LISN	Read		Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 0	0.20075	0.02	9.70	41.03	50.75	63.58	-12.83	QP
2 0	0.20075	0.02	9.70	31.08	40.80	53.58	-12.78	Average
3	0.27297	0.01	9.70	22.35	32.06	51.03	-18.96	Average
4	0.27297	0.01	9.70	30.71	40.43	61.03	-20.60	QP
5	0.34830	0.01	9.75	25.41	35.17	59.00	-23.83	QP
6	0.34830	0.01	9.75	16.68	26.44	49.00	-22.56	Average
7	0.55520	0.01	9.80	18.47	28.28	56.00	-27.72	QP
8	0.55520	0.01	9.80	6.73	16.54	46.00	-29.46	Average
9	2.144	0.02	9.81	21.30	31.13	56.00	-24.87	QP
10	2.144	0.02	9.81	10.29	20.12	46.00	-25.88	Average
11	10.019	0.01	9.90	13.68	23.59	50.00	-26.41	Average
12	10.019	0.01	9.90	23.12	33.03	60.00	-26.97	QP

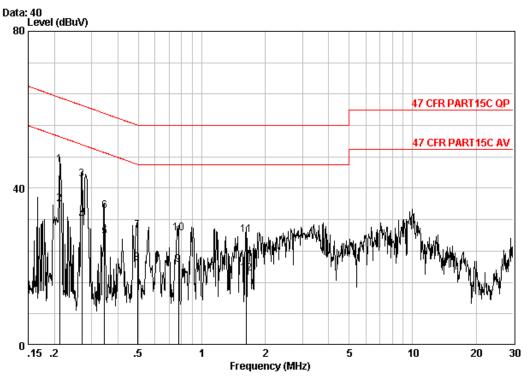
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#### Neutral Line:



Site : Shielding Room

Condition : 47 CFR PART15C QP CE NEUTRAL

Job No. : 0123RF

Mode : AC charge + Transmitting

		Cable	LISN	Read		Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
_								
1 0	0.21167	0.02	9.70	36.31	46.02	63.14	-17.12	QP
2	0.21167	0.02	9.70	26.17	35.89	53.14	-17.25	Average
3	0.27009	0.01	9.70	32.56	42.27	61.12	-18.84	QP
4	0.27009	0.01	9.70	22.14	31.85	51.12	-19.26	Average
5	0.34463	0.01	9.75	17.97	27.73	49.09	-21.36	Average
6	0.34463	0.01	9.75	24.41	34.17	59.09	-24.92	QP
7	0.49411	0.01	9.80	19.39	29.20	56.10	-26.90	QP
8	0.49411	0.01	9.80	11.06	20.87	46.10	-25.23	Average
9	0.77519	0.02	9.80	10.62	20.44	46.00	-25.56	Average
10	0.77519	0.02	9.80	18.74	28.56	56.00	-27.44	QP
11	1.628	0.02	9.80	18.32	28.14	56.00	-27.86	QP
12	1.628	0.02	9.80	8.48	18.30	46.00	-27.70	Average

#### Notes:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.



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# 5.3 Conducted Peak Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)				
Test Method:	KDB558074 D01				
Test Setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane  Remark:  Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Test Instruments:	Refer to section 4.10 for details				
Exploratory Test Mode:	Transmitting mode				
Final Test Mode:	Through Pre-scan, find the 11Mbps of rate is the worst case of 802.11b;				
	54Mbps of rate is the worst case of 802.11g.				
Limit:	30dBm				
Test Results:	Pass				



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Pre-scan und	ler all rate at	lowest cha	annel 1					
Mode		802	.11b			_		
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
Power (dBm)	15.85	16.43	16.57	17.02				
Mode				802	2.11g			
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power (dBm)	17.92	18.42	18.53	17.85	18.05	18.39	18.50	18.61

Through Pre-scan, 11Mbps of rate is the worst case of 802.11b; 54Mbps of rate is the worst case of 802.11g

#### **Measurement Data**

	measurement bata								
	802.11b mode								
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result						
Lowest	17.02	30.00	Pass						
Middle	Middle 17.59		Pass						
Highest 16.95		30.00	Pass						
	802.11g mo	de							
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result						
Lowest	18.61	30.00	Pass						
Middle 19.19		30.00	Pass						
Highest	19.26	30.00	Pass						

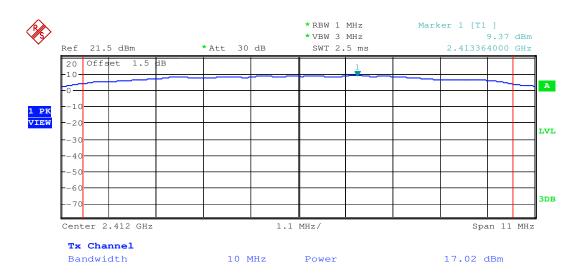


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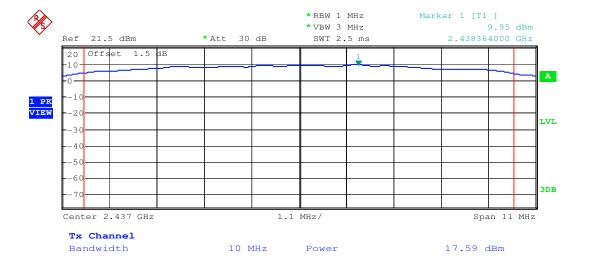
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## T est plot as follows:

Test mode: 802.11b Test channel: Lowest



Test mode: 802.11b Test channel: Middle

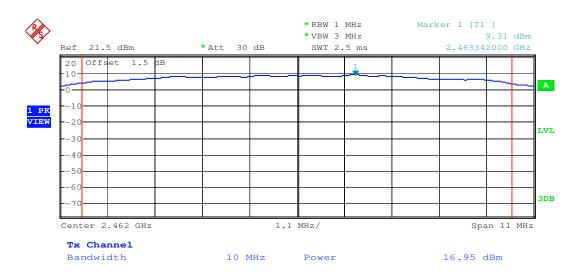




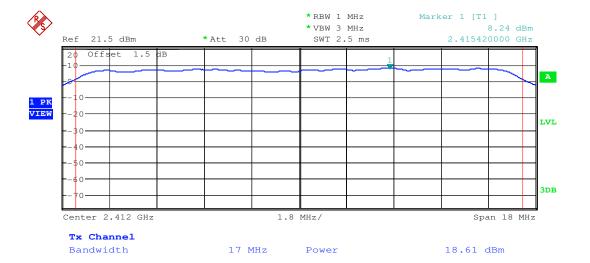
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Test mode: 802.11b Test channel: Highest



Test mode:	802.11g	Test channel:	Lowest
1000111000.	1 002.119	i cot oriariror.	2011001

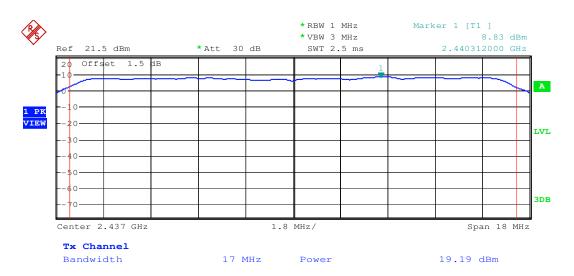




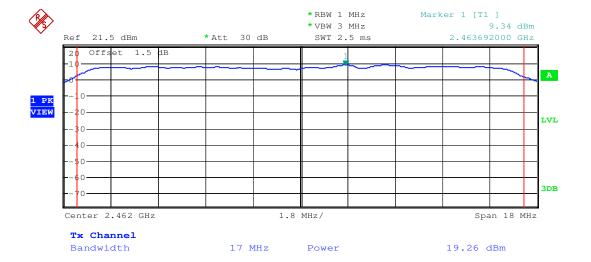
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Test mode: 802.11g Test channel: Middle



Test mode: 802.11g Test channel: Highest

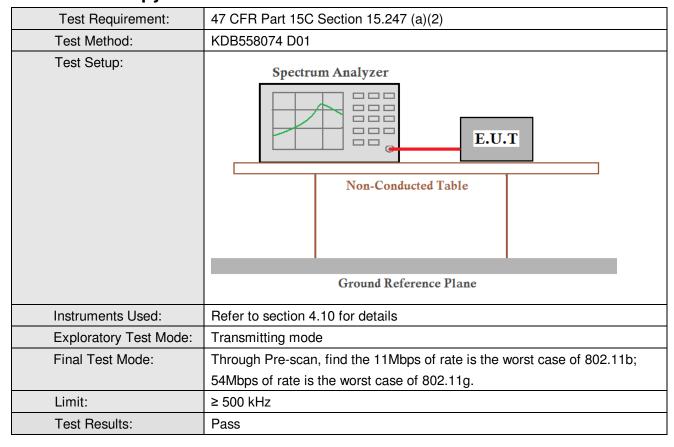




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# 5.4 6dB Occupy Bandwidth



#### **Measurement Data**

moderation but							
802.11b mode							
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result				
Lowest	9.60	≥500	Pass				
Middle	9.66	≥500	Pass				
Highest	9.60	≥500	Pass				
	802.11g mode						
Test channel 6dB Occupy Bandwidth (MHz)		Limit (kHz)	Result				
Lowest	Lowest 16.68		Pass				
Middle 16.68		≥500	Pass				
Highest 16.68		≥500	Pass				

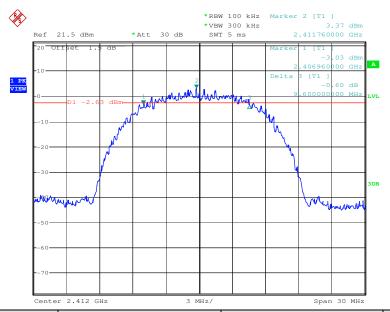


Report No.: SZEM130100012302

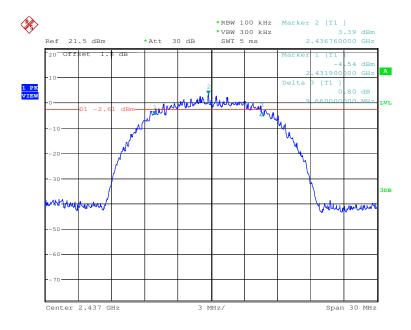
Page: 22 of 62

Test plot as follows:

Test mode: 802.11b Test channel: Lowest



Test mode: 802.11b Test channel: Middle



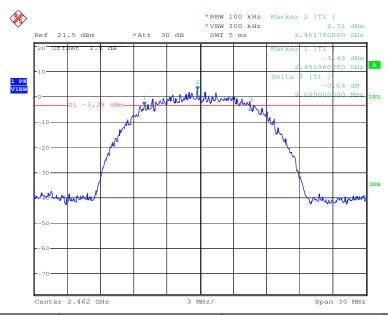




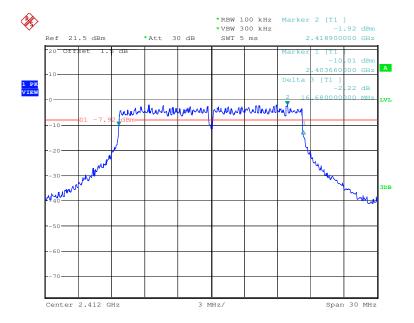
Report No.: SZEM130100012302

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Test mode: 802.11b Test channel: Highest



Test mode: 802.11g Test channel: Lowest



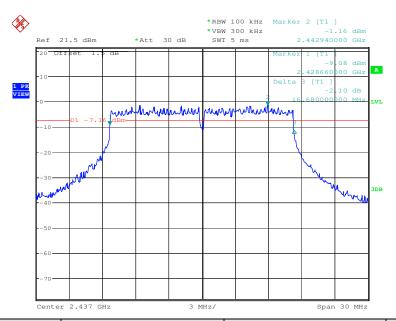
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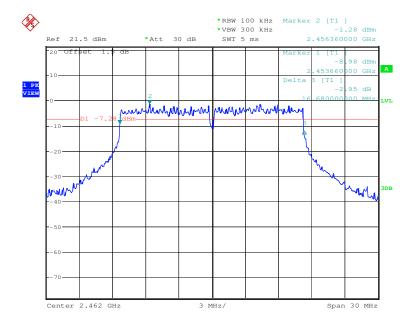
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Test mode: 802.11g Test channel: Middle



Test mode: 802.11g Test channel: Highest



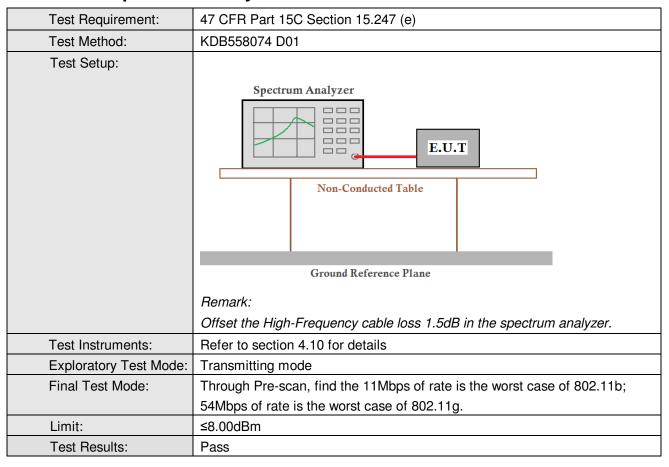
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# 5.5 Power Spectral Density



#### **Measurement Data**

	802.11b mode							
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result					
Lowest	-11.87	≤8.00	Pass					
Middle	-11.08	≤8.00	Pass					
Highest	-11.69	≤8.00	Pass					
	802.11g mode							
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result					
Lowest	Lowest -15.80		Pass					
Middle	-15.19	≤8.00	Pass					
Highest	-15.18	≤8.00	Pass					

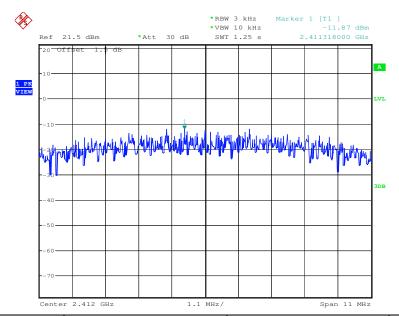


Report No.: SZEM130100012302

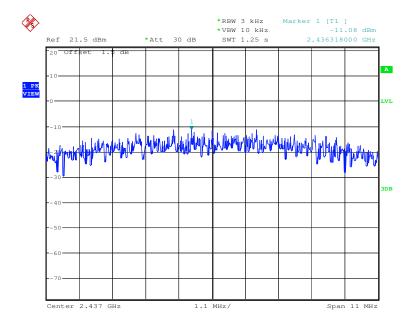
Page: 26 of 62

# Test plot as follows:

Test mode: 802.11b Test channel: Lowest



Test mode: 802.11b Test channel: Middle

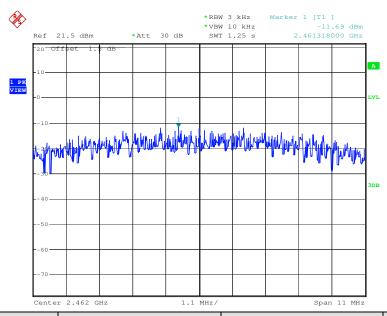




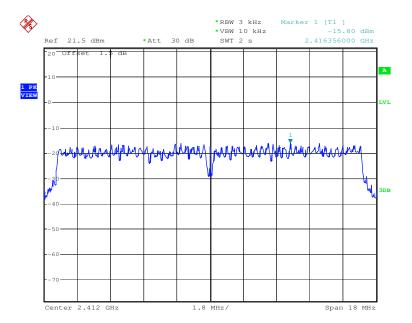
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Test mode: 802.11b Test channel: Highest



Test mode: 802.11g Test channel: Lowest



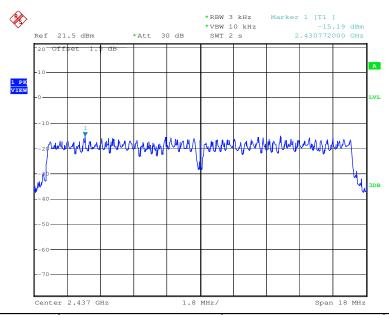
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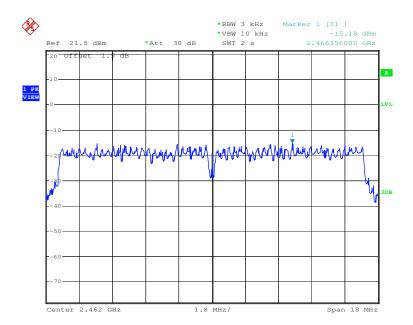
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Test mode: 802.11g Test channel: Middle



Test mode: 802.11g Test channel: Highest



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# 5.6 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)				
Test Method:	KDB558074 D01				
Test Setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane  Remark:  Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Exploratory Test Mode:	Transmitting mode				
Final Test Mode:	Through Pre-scan, find the 11Mbps of rate is the worst case of 802.11b; 54Mbps of rate is the worst case of 802.11g.				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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, based on either an RF conducted or a radiated measurement.				
Instruments Used:	Refer to section 4.10 for details				
Test Results:	Pass				

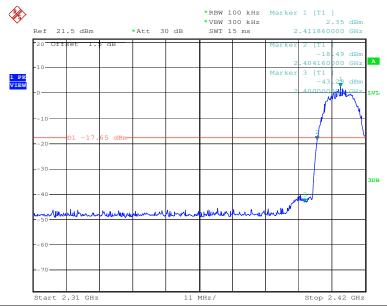


Report No.: SZEM130100012302

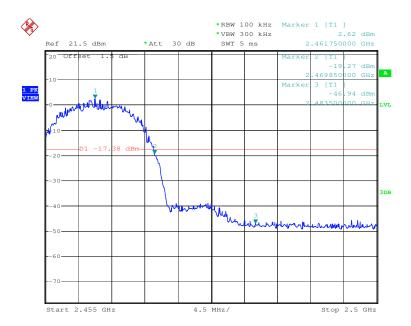
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# Test plot as follows:

Test mode: 802.11b Test channel: Lowest



Test mode: 802.11b Test channel: Highest

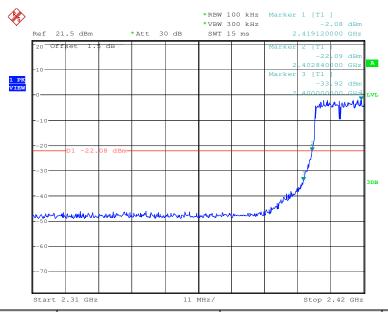




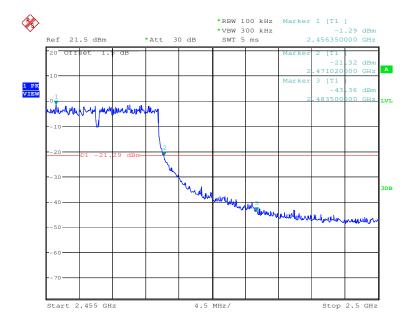
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Test mode: 802.11g Test channel: Lowest



Test mode: 802.11g Test channel: Highest



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# 5.7 RF Conducted Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)				
Test Method:	KDB558074 D01				
Test Setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane  Remark:				
Exploratory Test Mode:	Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.  Transmitting mode				
Final Test Mode:	Through Pre-scan, find the 11Mbps of rate is the worst case of 802.11b;				
	54Mbps of rate is the worst case of 802.11g.				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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, based on either an RF conducted or a radiated measurement.				
Instruments Used:	Refer to section 4.10 for details				
Test Results:	Pass				



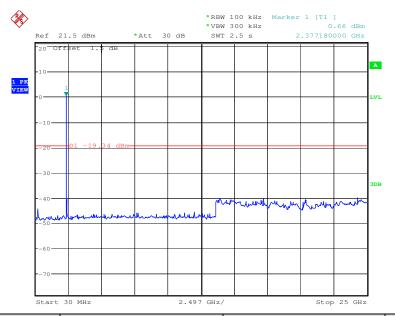


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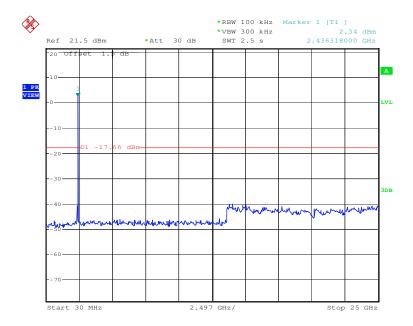
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# Test plot as follows:

Test mode: 802.11b Test channel: Lowest



Test mode: 802.11b Test channel: Middle

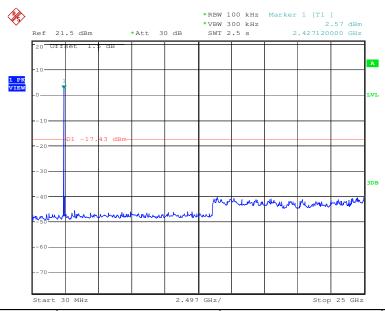




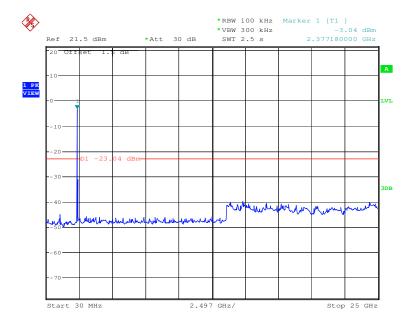
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Test mode: 802.11b Test channel: Highest



Test mode: 802.11g Test channel: Lowest



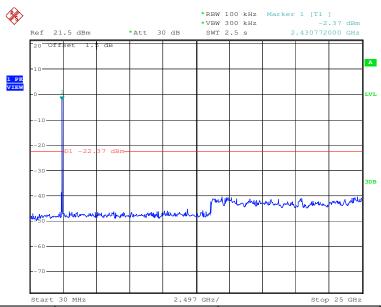
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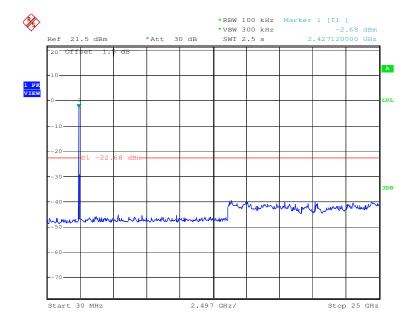
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Test mode: 802.11g Test channel: Middle



Test mode: 802.11g Test channel: Highest



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# 5.8 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205								
Test Method:	ANSI C63.10 2009								
Test Site:	Measurement Distance:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark				
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak				
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average				
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak				
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak				
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average				
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak				
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak				
	Above 1GHz	Peak	1MHz	3MHz	Peak				
	Above IGHZ	Peak	1MHz	10Hz	Average				
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)				
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300				
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30				
	1.705MHz-30MHz	30	-	-	30				
	30MHz-88MHz	100	40.0	Quasi-peak	3				
	88MHz-216MHz	150	43.5	Quasi-peak	3				
	216MHz-960MHz	200	46.0	Quasi-peak	3				
	960MHz-1GHz	500	54.0	Quasi-peak	3				
	Above 1GHz	500	54.0	Average	3				
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency								
	emissions is 20dB above the maximum permitted average emission limit								
	applicable to the equipment under test. This peak limit applies to the t peak								
	emission level rad	emission level radiated by the device.							

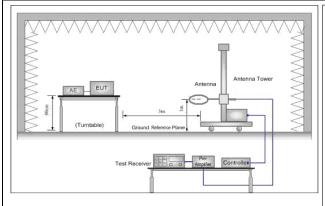
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#### Test Setup:



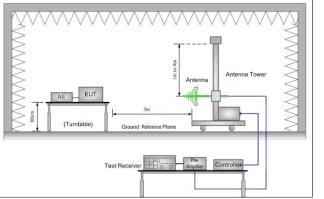


Figure 1. Below 30MHz

Figure 2. 30MHz to 1GHz

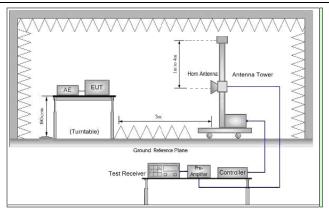


Figure 3. Above 1 GHz

#### Test Procedure:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters(for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average

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	method as specified and then reported in a data sheet.					
	g. Test the EUT in the lowest channel ,the middle channel ,the Highest channel					
	h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.					
	i. Repeat above procedures until all frequencies measured was complete.					
Exploratory Test	Transmitting mode, PC Charge + transmitting mode,					
Mode:	AC Charge + transmitting mode and Vehicle Charge + transmitting mode.					
Final Test Mode:	Pretest the EUT at different test mode in all telecommunication port and					
	found the AC Charge + transmitting mode which is worst case, the test worst					
	case mode is recorded in the report.					
Instruments Used:	Refer to section 4.10 for details					
Test Results:	Pass					

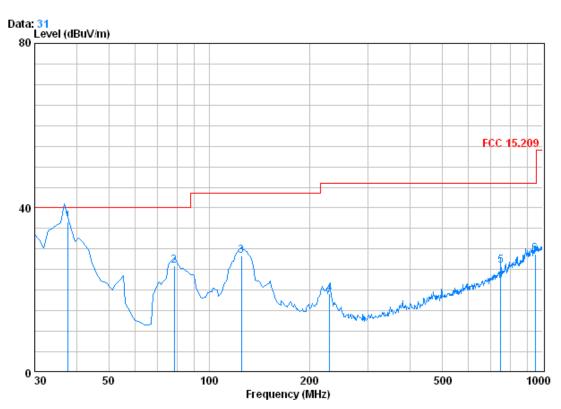


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#### 5.8.1 Radiated emission below 1GHz

30MHz~1GHz (QP)		
Test mode:	Transmitting	Vertical



Condition : FCC 15.209 3m 3142C NEW VERTICAL

Job No. : 0123RF

Mode : AC charge + transmitting

1040	. 110 criarge - mansion	···						
		Cablei	Antenna	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 0	37.775	0.60	11.87	27.33	51.40	36.55	40.00	-3.45
2	78.500	1.05	4.99	27.23	47.12	25.93	40.00	-14.07
3	125.060	1.26	7.90	27.04	46.31	28.43	43.50	-15.07
4	229.820	1.57	8.02	26.59	36.14	19.14	46.00	-26.86
5	749.740	3.06	17.30	27.35	32.85	25.85	46.00	-20.15
6	951.500	3.65	21.30	26.54	30.40	28.81	46.00	-17.19

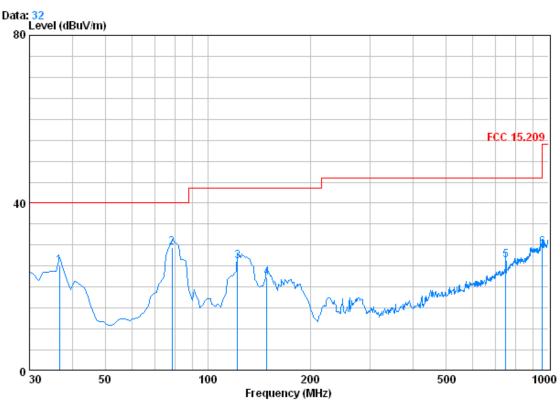
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Test mode:	Transmitting	Horizontal



Condition : FCC 15.209 3m 3142C NEW HORIZONTAL

Job No. : 0123RF

Mode : AC charge + transmitting

		Cable	intenna	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	36.790	0.60	12.48	27.33	39.23	24.98	40.00	-15.02
2 @	78.500	1.05	4.99	27.23	50.64	29.45	40.00	-10.55
3	122.150	1.26	7.79	27.06	44.09	26.08	43.50	-17.42
4	149.310	1.32	9.23	26.91	38.68	22.32	43.50	-21.18
5	749.740	3.06	17.30	27.35	33.38	26.38	46.00	-19.62
6	960.230	3.66	21.10	26.51	31.08	29.34	54.00	-24.66

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#### 5.8.2 Transmitter emission above 1GHz

Test mode:	802.	11b	Test cha	ınnel:	Lowest	Remark:	F	Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4821.757	4.70	34.68	41.64	49.89	47.63	74	-26.37	Vertical
6428.771	5.24	36.20	40.55	48.65	49.54	74	-24.46	Vertical
7624.250	6.23	36.00	39.51	48.83	51.55	74	-22.45	Vertical
9465.979	6.02	37.16	37.91	46.63	51.90	74	-22.10	Vertical
11112.520	6.25	38.48	37.91	46.15	52.97	74	-21.03	Vertical
12429.540	6.58	39.33	38.46	45.93	53.38	74	-20.62	Vertical
4821.757	4.70	34.68	41.64	49.62	47.36	74	-26.64	Horizontal
6412.427	5.23	36.18	40.56	48.70	49.55	74	-24.45	Horizontal
7470.558	6.08	35.99	39.64	48.59	51.02	74	-22.98	Horizontal
9538.543	6.00	37.23	37.86	45.64	51.01	74	-22.99	Horizontal
10999.950	6.22	38.50	37.86	45.53	52.39	74	-21.61	Horizontal
12334.980	6.55	39.24	38.42	45.62	52.99	74	-21.01	Horizontal

Test mode:	802	.11b	Test ch	annel:	Middle	Remark	:	Peak	
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarizatio n	
4871.103	4.72	34.59	41.68	49.00	46.63	74	-27.37	Vertical	
6494.564	5.26	36.28	40.50	48.22	49.26	74	-24.74	Vertical	
7800.936	6.22	36.00	39.36	47.38	50.24	74	-23.76	Vertical	
9370.083	6.05	37.03	37.99	46.00	51.09	74	-22.91	Vertical	
10480.590	6.09	38.28	37.65	46.07	52.79	74	-21.21	Vertical	
12461.220	6.59	39.37	38.47	45.51	53.00	74	-21.00	Vertical	
4871.103	4.72	34.59	41.68	49.45	47.08	74	-26.92	Horizontal	
5910.798	5.09	35.56	41.01	49.42	49.06	74	-24.94	Horizontal	
7319.964	5.92	35.93	39.77	49.81	51.89	74	-22.11	Horizontal	
9441.913	6.03	37.14	37.94	46.65	51.88	74	-22.12	Horizontal	
11112.520	6.25	38.48	37.91	46.11	52.93	74	-21.07	Horizontal	
12556.750	6.61	39.43	38.50	45.46	53.00	74	-21.00	Horizontal	

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Test mode:	802.	11b	Test cha	nnel:	Highest	Remark:	ı	Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4547.561	4.53	35.12	41.44	47.89	46.10	74	-27.90	Vertical
5986.509	5.12	35.67	40.94	48.97	48.82	74	-25.18	Vertical
7470.558	6.08	35.99	39.64	47.85	50.28	74	-23.72	Vertical
9465.979	6.02	37.16	37.91	45.94	51.21	74	-22.79	Vertical
11112.520	6.25	38.48	37.91	46.06	52.88	74	-21.12	Vertical
12556.750	6.61	39.43	38.50	46.09	53.63	74	-20.37	Vertical
4536.000	4.52	35.14	41.43	49.21	47.44	74	-26.56	Horizontal
5806.408	5.06	35.40	41.09	49.41	48.78	74	-25.22	Horizontal
7394.878	6.00	35.96	39.71	49.04	51.29	74	-22.71	Horizontal
8441.459	6.18	36.18	38.80	47.64	51.20	74	-22.80	Horizontal
10139.450	6.01	37.88	37.51	46.63	53.01	74	-20.99	Horizontal
12429.540	6.58	39.33	38.46	45.25	52.70	74	-21.30	Horizontal

Test mode:	802.	11g	Test cha	ınnel:	Lowest	Remark:	F	eak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4490.048	4.48	35.15	41.40	47.91	46.14	74	-27.86	Vertical
5865.832	5.08	35.48	41.04	49.18	48.70	74	-25.30	Vertical
7470.558	6.08	35.99	39.64	48.51	50.94	74	-23.06	Vertical
9346.262	6.06	37.01	38.03	46.39	51.43	74	-22.57	Vertical
11027.980	6.23	38.49	37.88	45.89	52.73	74	-21.27	Vertical
11963.890	6.46	38.87	38.26	46.55	53.62	74	-20.38	Vertical
4547.561	4.53	35.12	41.44	48.86	47.07	74	-26.93	Horizontal
5732.974	5.03	35.26	41.15	48.68	47.82	74	-26.18	Horizontal
7547.013	6.17	36.00	39.57	48.27	50.87	74	-23.13	Horizontal
9465.979	6.02	37.16	37.91	46.50	51.77	74	-22.23	Horizontal
11027.980	6.23	38.49	37.88	45.47	52.31	74	-21.69	Horizontal
12303.620	6.55	39.21	38.40	45.86	53.22	74	-20.78	Horizontal



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Test mode:		802.	11g	Test cha	ınnel:	Mi	ddle	Remark:		P	eak
Frequency (MHz)	Cab Los (dE	SS	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	)	Level (dBuV/m)	Limit Line (dBuV/m)	Ov Lim (dE	nit	Polarization
4871.103	4.7	2	34.59	41.68	49.33		46.96	74	-27.	04	Vertical
6428.771	5.2	24	36.20	40.55	48.27		49.16	74	-24.	84	Vertical
7643.683	6.2	23	36.00	39.49	48.16		50.90	74	-23.	10	Vertical
9370.083	6.0	)5	37.03	37.99	46.10		51.19	74	-22.	81	Vertical
11027.980	6.2	23	38.49	37.88	45.99		52.83	74	-21.	17	Vertical
12556.750	6.6	31	39.43	38.50	45.12		52.66	74	-21.	34	Vertical
4871.103	4.7	2	34.59	41.68	49.98		47.61	74	-26.	39	Horizontal
6478.053	5.2	25	36.26	40.51	47.53		48.53	74	-25.	47	Horizontal
7376.078	5.9	8	35.95	39.72	48.03		50.24	74	-23.	76	Horizontal
9562.854	6.0	00	37.27	37.83	45.20		50.64	74	-23.	36	Horizontal
11341.140	6.3	80	38.43	38.00	45.24		51.97	74	-22.	03	Horizontal
12334.980	6.5	55	39.24	38.42	45.43		52.80	74	-21.	20	Horizontal

Test mode:	802.	11g	Test cha	ınnel:	Highest	Remark:	F	Peak
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4920.955	4.74	34.51	41.71	50.34	47.88	74	-26.12	Vertical
6283.164	5.20	36.04	40.68	47.90	48.46	74	-25.54	Vertical
7451.566	6.06	35.99	39.66	47.86	50.25	74	-23.75	Vertical
9370.083	6.05	37.03	37.99	45.30	50.39	74	-23.61	Vertical
10453.950	6.09	38.24	37.64	45.24	51.93	74	-22.07	Vertical
12055.600	6.48	38.95	38.30	45.77	52.90	74	-21.10	Vertical
4920.955	4.74	34.51	41.71	49.25	46.79	74	-27.21	Horizontal
6156.505	5.17	35.88	40.79	48.96	49.22	74	-24.78	Horizontal
7624.250	6.23	36.00	39.51	48.05	50.77	74	-23.23	Horizontal
9157.857	6.11	36.79	38.19	46.63	51.34	74	-22.66	Horizontal
10453.950	6.09	38.24	37.64	45.89	52.58	74	-21.42	Horizontal
12178.980	6.52	39.09	38.35	45.82	53.08	74	-20.92	Horizontal

#### Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
  - Final Test Level = Receiver Reading + Antenna Factor + Cable Factor Preamplifier Factor
- 2) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

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3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

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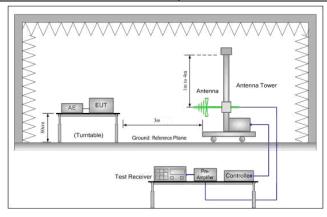


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# 5.9 Band Edge (Radiated Emission)

Test Requirement:	47 CFR Part 15C Section	47 CFR Part 15C Section 15.209 and 15.205									
Test Method:	ANSI C63.10 2009	ANSI C63.10 2009									
Test Site:	Measurement Distance: 3r	Measurement Distance: 3m (Semi-Anechoic Chamber)									
Limit:	Frequency	Limit (dBuV/m @3m)	Remark								
	30MHz-88MHz	40.0	Quasi-peak Value								
	88MHz-216MHz	43.5	Quasi-peak Value								
	216MHz-960MHz	46.0	Quasi-peak Value								
	960MHz-1GHz	54.0	Quasi-peak Value								
	Above 1CUz	54.0	Average Value								
	Above IGHZ	Above 1GHz 74.0 Peak Value									
Test Setup:											



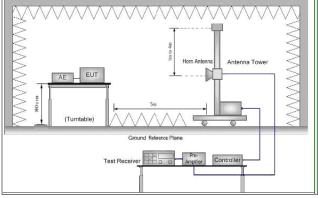


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

#### Test Procedure:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for

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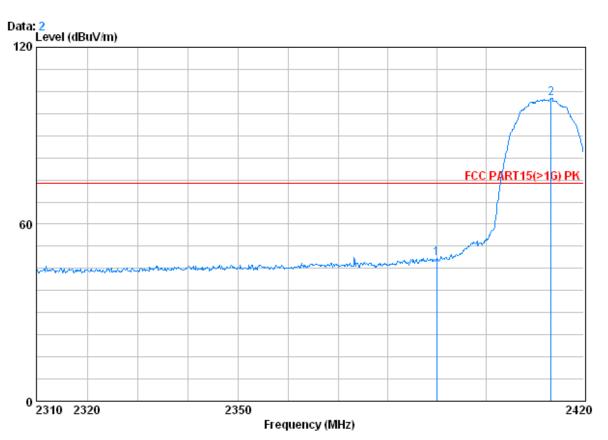
	each power and modulation for lowest and highest channel
	g. Test the EUT in the lowest channel, the Highest channel
	h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
	<ol> <li>Repeat above procedures until all frequencies measured was complete.</li> </ol>
Exploratory Test Mode:	Transmitting mode
Final Test Mode:	Through Pre-scan, find the 11Mbps of rate is the worst case of 802.11b;
	54Mbps of rate is the worst case of 802.11g.
Instruments Used:	Refer to section 4.10 for details
Test Results:	Pass



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Test mode: 802.11b Test channel: Lowest Remark: Peak Vertical



Condition : FCC PART15(>1G) PK 3m VERTICAL

Job No. : 0123RF

Mode : b 2412 Bandedge

			Cable.	Antenna	Preamp	Read		Limit	Over
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
				-1.27					
1		2390.000	2 98	32.51	30 85	52 71	48 35	74 00	-25 65
_		2090.000	2.50	32.31	39.03	52.11	10.55	14.00	-23.03
2	X	2413.290	2.99	32.54	39.86	107.11	102.78	74.00	28.78

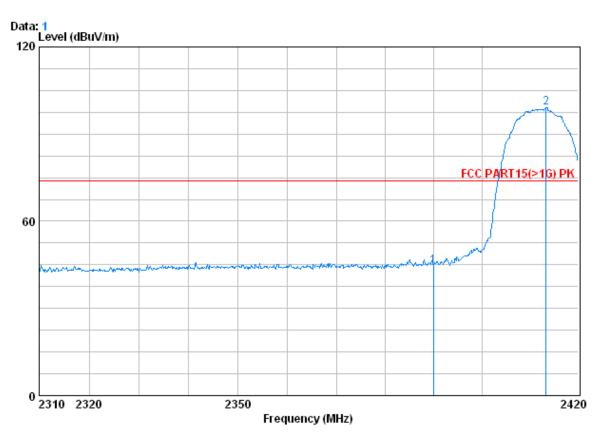
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Test mode: 802.11b Test channel: Lowest Remark: Peak Horizontal



Condition : FCC PART15(>1G) PK 3m HORIZONTAL

Job No. : 0123RF

	Freq			•	Read Level			Over Limit
	MHz	dB	dB/m	——dB	dBuV	dBuV/m	dBuV/m	dB
1 2 X	2390.000 2413.290				48.89 103.46			

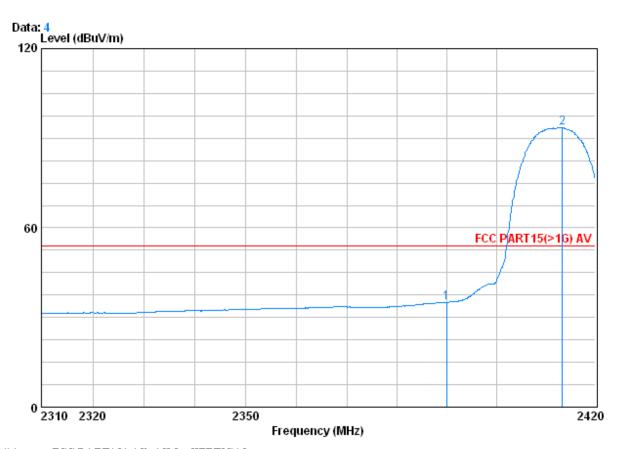
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Test mode:	802.11b	Test channel:	Lowest	Remark:	Average	Vertical
Test mode.	002.110	1631 GHAIHEL.	LUWESI	Heman.	Average	v Gi ticai



Condition : FCC PART15(>1G) AV 3m VERTICAL

Job No. : 0123RF

loue	. 0 2412 Danueuge Freq			Preamp Factor	Read Level		Limit Line	
	MHz	dB	dB/m	——dB	—dBuV	dBuV/m	dBuV/m	dB
1 2 0	2390.000 2413.290			39.85 39.86				

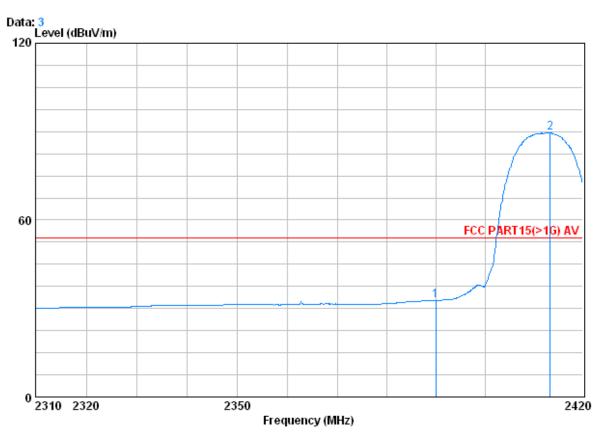
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Test mode: 802.11b Test channel: Lowest Remark: Average Horizontal



Condition : FCC PART15(>1G) AV 3m HORIZONTAL

Job No. : 0123RF

			Cablei	Antenna	Preamp	Read		Limit	Over
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1		2390.000	2.98	32.51	39.85	37.11	32.76	54.00	-21.24
2	X	2413.290	2.99	32.54	39.86	93.91	89.59	54.00	35.59

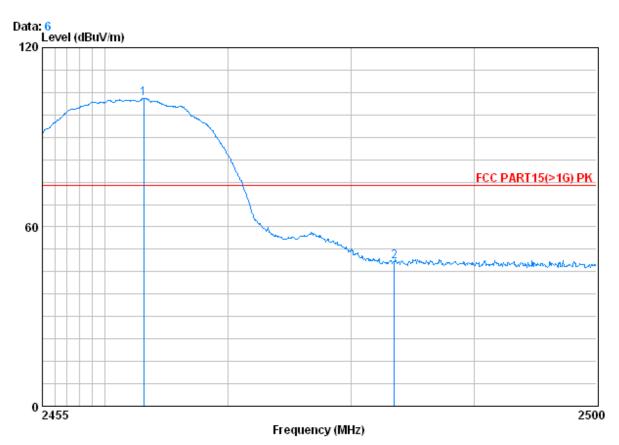
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Test mode:	802.11b	Test channel:	Highest	Remark:	Peak	Vertical
TOST HIDGE.	002.110	rost orialino.	riigiicat	riomain.	i can	v Ci ticai



Condition : FCC PART15(>1G) PK 3m VERTICAL

Job No. : 0123RF

1046	Freq						Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 X	2463.190 2483.500							29.10 -25.65

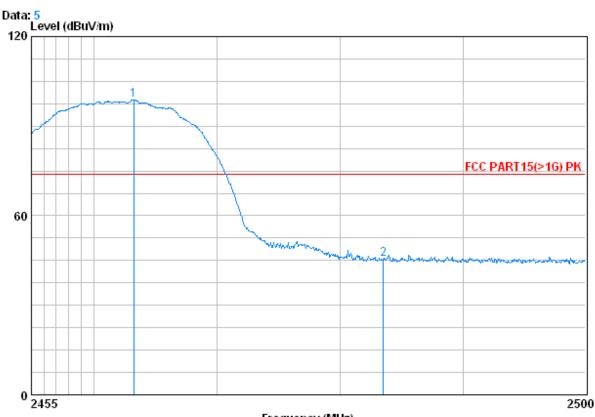
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Test mode:	802.11b	Test channel:	Highest	Remark:	Peak	Horizontal



Frequency (MHz)

: FCC PART15(>1G) PK 3m HORIZONTAL Condition

:0123RF Job No.

: b 2462 Bandedge Mode

		Freq			-	Read Level			Over Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	X	2463.235	3.02	32.64	39.91	103.12	98.87	74.00	24.87
2		2483.500	3.03	32.67	39.92	49.51	45.29	74.00	-28.71



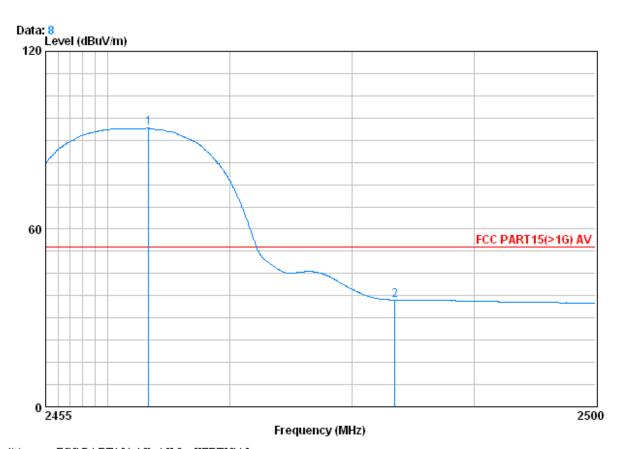
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Test mode:	802.11b	Test channel:	Highest	Remark:	Average	Vertical	l
							1



Condition : FCC PART15(>1G) AV 3m VERTICAL

Job No. : 0123RF

	Freq		CableAntenna Loss Factor					
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 0	2463.370	3.02	32.64	39.91	98.28	94.04	54.00	40.04
2	2483.500	3.03	32.67	39.92	40.31	36.09	54.00	-17.91

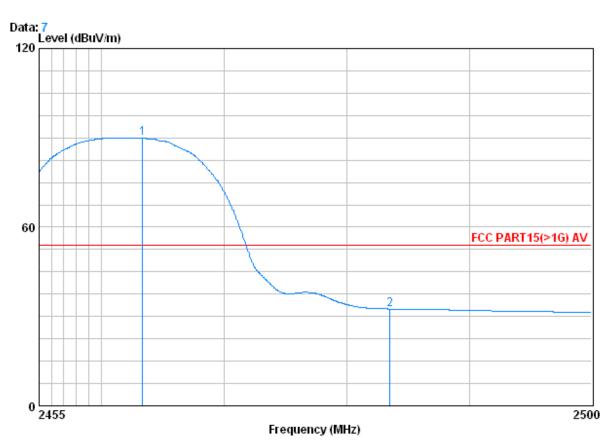
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Test mode: 802.11b Test channel: Highest Remark: Average Horizontal



Condition : FCC PART15(>1G) AV 3m HORIZONTAL

Job No. : 0123RF

Mode: b 2462 Bandedge

			Cablei	Antenna	Preamp	Read		Limit	Over
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	X	2463.370	3.02	32.64	39.91	94.29	90.05	54.00	36.05
2		2483.500	3.03	32.67	39.92	36.72	32.50	54.00	-21.50

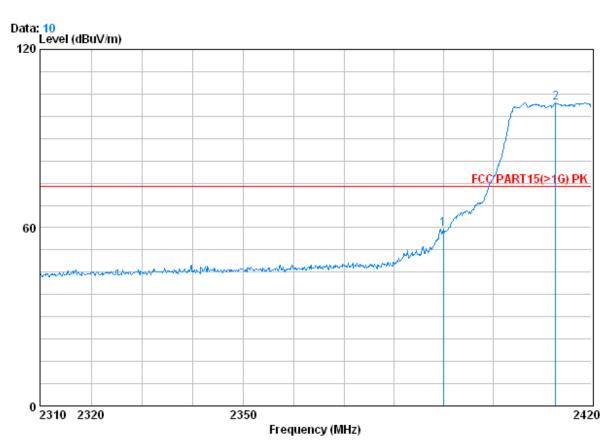
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Test mode:	802.11g	Test channel:	Lowest	Remark:	Peak	Vertical
TEST HIDGE.	002.11g	i est channel.	LUWESI	nemark.	I Can	v <del>C</del> i liCai



Condition : FCC PART15(>1G) PK 3m VERTICAL

Job No. : 0123RF

	Freq			•			Limit Line	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 2 X	2390.000 2412.740						74.00 74.00	

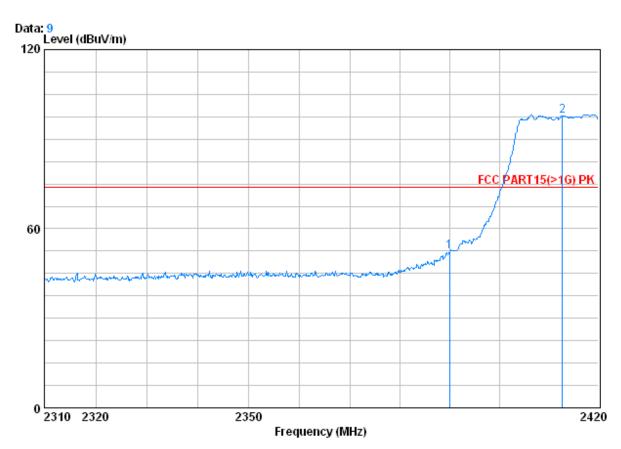
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Test mode: 802.11g Test channel: Lowest Ren	mark: Peak	Horizontal
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Condition : FCC PART15(>1G) PK 3m HORIZONTAL

Job No. : 0123RF

	Fre		Antenna Factor	•				
	MH	z dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 2 2	2390.000 4 2412.740							-21.81 23.91

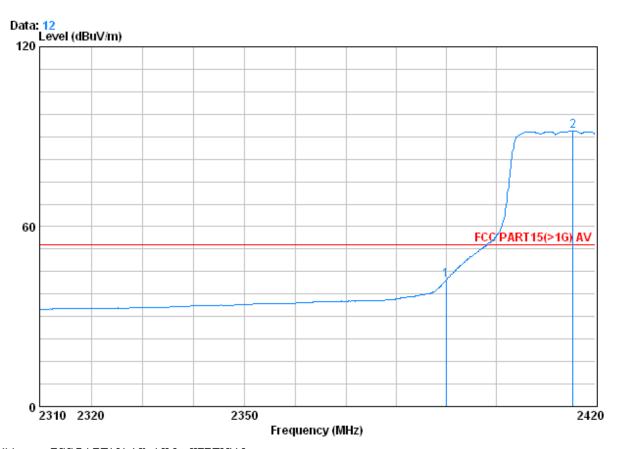
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Test mode: 802.11g Test channel: Lowest Remark: Average Vertical



Condition : FCC PART15(>1G) AV 3m VERTICAL

Job No. : 0123RF

	. 8	Ü			Preamp Factor				
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1		90.000 15.490			39.85 39.86				

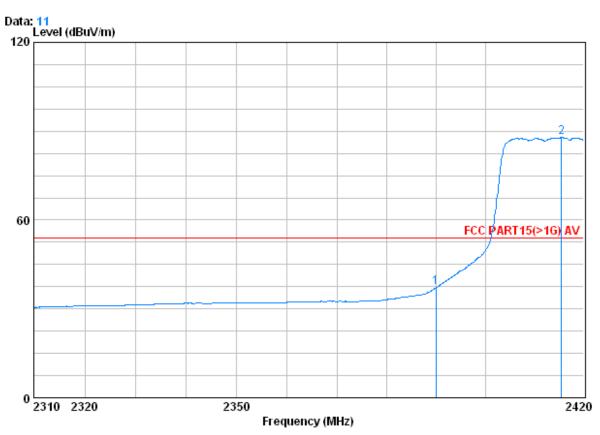
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Test mode: 802.11g Test channel: Lowest Remark: Average Horizontal



Condition : FCC PART15(>1G) AV 3m HORIZONTAL

Job No. : 0123RF

040	. 624121	Freq			Preamp Factor			Limit Line	
	_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1		2390.000 2415.490			39.85 39.86				

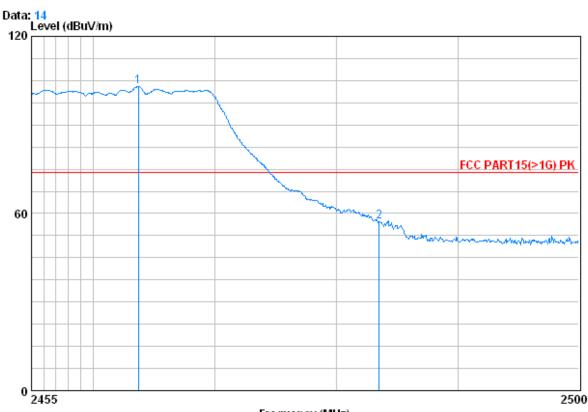
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Tost mode:	802.11g	Test channel:	Highoet	Remark:	Peak	Vertical
l est mode:	002.11g	rest channer.	Highest	nemain.	rean	Vertical



Frequency (MHz)

Condition : FCC PART15(>1G) PK 3m VERTICAL

Job No. : 0123RF

			Cable	Antenna	Preamp	Read		Limit	Over
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	X	2463.730	3.02	32.64	39.91	107.22	102.97	74.00	28.97
2		2483.500	3.03	32.67	39.92	61.29	57.07	74.00	-16.93

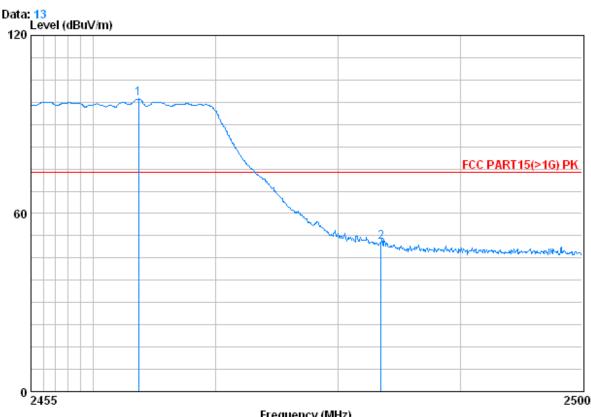
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Test mode: 802.11g Test channel: Highest Remark: Peak Horizontal



Frequency (MHz)

: FCC PART15(>1G) PK 3m HORIZONTAL Condition

Job No. :0123RF

Mode g 2462 Bandedge

	-	Freq			•		Level		
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	X	2463.730	3.02	32.64	39.91	102.85	98.60	74.00	24.60
2		2483.500	3.03	32.67	39.92	54.44	50.22	74.00	-23.78

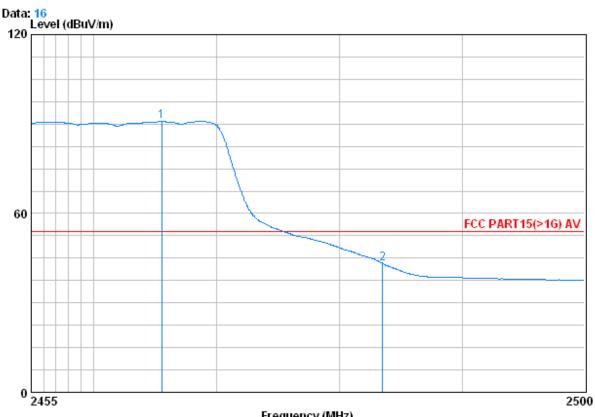
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Test mode:	802.11g	Test channel:	Highest	Remark:	Average	Vertical
			1 9			



Frequency (MHz)

: FCC PART15(>1G) AV 3m VERTICAL Condition

Job No. :0123RF

Ū	Freq			Preamp Factor			Limit Line	
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
	465.530 483.485			39.91 39.92				

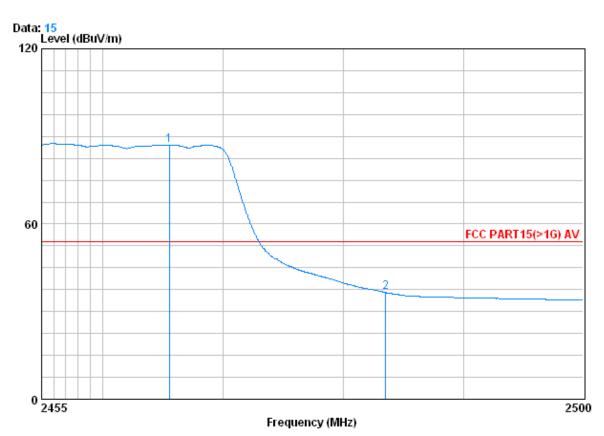
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Test mode: 802.11g Test channel: Highest Remark: Average Horizontal



Condition : FCC PART15(>1G) AV 3m HORIZONTAL

Job No. : 0123RF

Mode : g 2462 Bandedge

		CableAntenna		Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
. X	2465.530	3.02	32.64	39.91	91.35	87.10	54.00	33.10
:	2483.500	3.03	32.67	39.92	40.78	36.56	54.00	-17.44

#### Note:

1 2

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

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