FCC Test Report

for

Vehicle Remote

Main Model No. : 341-FD4BA
Series Model No.: 341-FD3BA
FCC ID : R89341FDA
Report Number : RF-A340-1210-302
Date of Receipt : November 16, 2012
Date of Report : December 12, 2012

Prepared for

JUOKU TECHNOLOGY CO.,LTD.

NO.1, WUGONG 5TH ROAD, XINZHUANG DISTRICT, NEW TAIPEI CITY, TAIWAN 24890

Prepared by

Central Research Technology Co.

EMC Test Laboratory

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NVLAP LAB CODE 200575-0

Certification

Equipment Under Test	:	Vehicle Remote
Main Model No.	:	341-FD4BA
Series Model No.	:	341-FD3BA
FCC ID	:	R89341FDA
Applicant	:	JUOKU TECHNOLOGY CO.,LTD.
Address	:	NO.1, WUGONG 5TH ROAD, XINZHUANG DISTRICT, NEW TAIPEI CITY, TAIWAN 24890
Applicable Standards	:	**FCC Part 15, Subpart C**
Date of Testing	:	November 16 ~ 20, 2012
Deviation	:	N/A
Condition of Test Sample	:	Mass Production

We, **Central Research Technology Co**., hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's RF characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Cathy Chen , **DATE :** Dec. 12, 2012
(Cathy Chen/ Technical Manager)

APPROVED BY : T. Y. Shih , **DATE :** Dec. 12, 2012
(Tsun-Yu Shih/General Manager)

Contents

1. General Description

1.1 General Description of EUT

Equipment Under Test	:	Vehicle Remote
Main Model No.	:	341-FD4BA
Series Model No.	:	341-FD3BA
Power in	:	6Vdc
Test Voltage	:	6Vdc by batteries
Frequency Range	:	315MHz
Channel Numbers	:	1
Function Modulation	:	FSK
Function Description	:	

The EUT is used to transmit command only. Please refer to the user's manual for the details.

Since the EUT is considered a potable unit, it was pre-tested on the each positioned of 3 axis. Therefor only the test data of the worst case- Z axiz was used for Radiated test.

1.2 Test Methodology

For this E.U.T., the radiated emissions and conducted emission measurement performed according to the procedures illustrated in ANSI C63.4:2003 and other required are illustrated in separate sections of this test report for detail.

1.3 Applied standards

(1) Radiated Emission Requirement

According 15.231(b), in addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolts/meter)	Field Strength of Spurious Emissions (microvolts/meter)
40.66 - 40.70	2,250	225
70 - 130	1,250	125
130 - 174	1,250 to 3,750 **	125 to 375 **
174 - 260	3,750	375
260 – 470	3,750 to 12,500 **	375 to 1,250 **
Above 470	12,500	1,250

** linear interpolations

[Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, uV/m at 3 meters = 56.81818(F) - 6136.3636; for the band 260-470 MHz, uV/m at 3 meters = 41.6667(F) - 7083.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.]

(2) Bandwidth

According 15.231(c),The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

(3) Dwell Time

According 15.231(a)(1), a transmitter activated automatically shall cease transmission within 5 seconds after activation.

(4) Radiated emission limits, general requirements.

According to 15.209, except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

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

(5) Restricted Band

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
[2]1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)
13.36 - 13.41			

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

[2] Above 38.6

(6) Antenna 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 shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

1.4 The Support Units

No.	Unit	Model No.	FCC ID	Trade Name	Power Cord	Supported by lab.
N/A	*	*	*	*	*	*

1.5 Layout of Setup

Connecting Cables :

No.	Cable	Length	Shielded	Core	Shielded Backshell	Supported by lab.
N/A	*	*	*	*	*	*

Justification:

For both conducted and radiated emission below 1GHz, the system was configured for typical fashion as a customer could use it normally.

For radiated emission, measurement of radiated emission from digital circuit is performed with normal transmitting.

1.6 Test Capability

Test Facility

The test facility used for evaluating the conformance of the EUT with each standard in the present report meets what required in CISPR16-1-4, CISPR16-2-3 and ANSI C63.4: 2003.

Test Room	Type of Test Room	Descriptions
TR1	10m semi-anechoic chamber (23m×14m×9m)	Complying with the NSA requirements set in documents CISPR 22 and ANSI C63.4:2003. For the radiated emission measurement.
TR11	3m semi-anechoic chamber (9m × 6m × 6m)	
TR13	Test site	For the RF conducted emission measurement.
TR5	Shielding Room (8m×5m×4m)	For the conducted emission measurement.

Test Laboratory Competence Information

Central Research Technology Co. has been accredited / filed / authorized by the agencies listed in the following table.

Certificate	Nation	Agency	Code	Mark
Accreditation Certificate	USA	NVLAP	200575-0	ISO/IEC 17025
	R.O.C. (Taiwan)	TAF	0905	ISO/IEC 17025
	R.O.C. (Taiwan)	BSMI	SL2-IN-E-0033, SL2-IS-E-0033, SL2-R1/R2-E-0033, SL2-A1-E-0033 SL2-L1-E-0033	ISO/IEC 17025
Site Filing Document	USA	FCC	474046,TW1053	Test facility list & NSA Data
	Canada	IC	4699A-1,-3	Test facility list & NSA Data
	Japan	VCCI	R-1527,C-1609,T-1441,G-10, C-4400, G-614, T-1334	Test facility list & NSA Data
Authorization Certificate	Germany	TUV	10021687	ISO/IEC 17025
	Norway	Nemko	ELA 212	ISO/IEC 17025

The copy of each certificate can be downloaded from our web site: www.crc-lab.com

1.7 Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2.

Test Item	Measurement Uncertainty	
Frequency error	4.2Hz	
Radiated Emission: (30MHz~200MHz)	Horizontal: 3.5dB；Vertical: 3.8dB	
Radiated Emission: (200MHz~1GHz)	Horizontal: 3.9dB；Vertical: 3.9dB	
Conducted Emission	ESH2-Z5	3.1dB
	ENV 4200	2.8dB

2. Radiated Emission Measurement

Test Result : PASS

2.1 Applied Standard

According to 15.231(b), In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundament (uV/m)	Field Strength of Spurious Emission (uV/m)
40.66 - 40.70	2250	225
70 – 130	1250	125
130 – 174	1250 to 3750**	125 to 375**
174 – 260	3750	375
260 – 470	3750 to 12500**	375 to 1250**
Above 470	12500	1250

** linear interpolations

The formula for calculating the limit of field strength of fundament is 41.6667*315-7083.3333=6041.68uV/m= 75.6dBuV/m, the limit of spurious emission is 55.6dBuV/m

Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in Section 15.209, whichever limit permits a higher field strength.

2.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESCI/ 100019	June 6, 2012	June 6, 2013
Spectrum Analyzer	Agilent	E4407B/ MY45106795	May 4, 2012	May 4, 2013
Bi-Log Antenna	EMCO	3142C/ 52088	May 22, 2012	May 22, 2013
Antenna	EMCO	3117/ 00082847	March 1, 2012	March 1, 2013
Pre-Amplifier	Mini-circuit	ZKL-2/ 004	Aug. 6, 2012	Feb. 6, 2013
Pre-Amplifier	MITEQ	JS4-00101800-28 -10P/1498979	Dec. 21, 2011	Dec. 21, 2012
Pre-Amplifier	MITEQ	JS4-00101800-28 -10P/742309	Dec. 14, 2011	Dec. 14, 2012
RF Cable	N/A	N/A/ C0080	Aug. 5, 2012	Feb. 5, 2013
RF Cable	N/A	N/A/ C0081	Oct. 15, 2012	April 15, 2013
TR11 Semi - anechoic Chamber	ETS. LINDGREN	TR11/ 906-A	April 22, 2012	April 22, 2013

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR:No Calibration Required.
3. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

Instrument Setting

RBW	VBW	Detector	Trace	Comment
100KHz	N/A	Peak/Average	Maxhold	Field Strength of Fundament
120kHz	N/A	Quasi-Peak	Maxhold	Below 1GHz
1MHz	1MHz/100Hz	Peak/Average	Maxhold	Above 1GHz Peak

Climatic Condition

Ambient Temperature：26°C; Relative Humidity ：66%

2.3 Measurement Procedure

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. A software provided by client enabled the EUT to transmit and receive data at specified channel frequencies individually.

c. If the EUT is tabletop equipment, it was placed on a non-conducted table with a height of 0.8 meters above the reference ground plane in the semi-anechoic chamber. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 12 millimeters above the reference ground plane in the semi-anechoic chamber.

d. The EUT is set at 3m away from the interference receiving antenna.

e. Rapidly sweep the signal in the test frequency range by using the spectrum through the Maximum-peak detector.

f. Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4 meters above the reference ground plane continuously to determine the fundament and at least six frequencies associated with higher emission levels and record them.

g. For measurement of frequency above 1000MHz, the beamwidth of receiving horn antenna should keep covering EUT when the receiving horn antenna height varied.

h. Then measure each frequency found from step e. by using the spectrum with rotating the EUT and positioning the receiving antenna height to determine the maximum level.

i. Finely tune the antenna and turntable around the recorded position of each frequency found from step g.

j. For measurement of frequency below 1000MHz, set the receiver detector to be Quasi-Peak per CISPR 16-1 to find out the maximum level occurred.

k. For measurement of frequency above 1000MHz, set the spectrum detector to be Peak or Average to find out the maximum level occurred, if any.

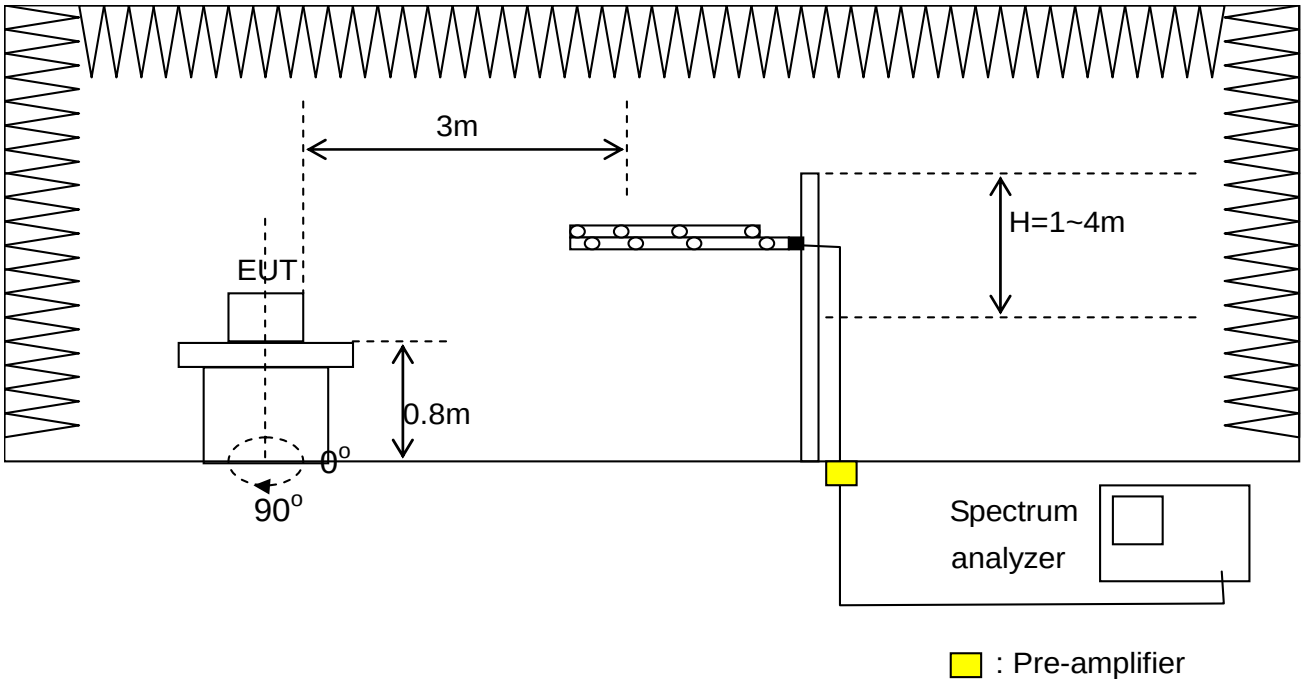
l. Record frequency, azimuth angle of the turntable, height, and polarization of the receiving antenna and compare the maximum level with the required limit.

m. Change the receiving antenna to another polarization to measure radiated emission by following step e. to l. again.

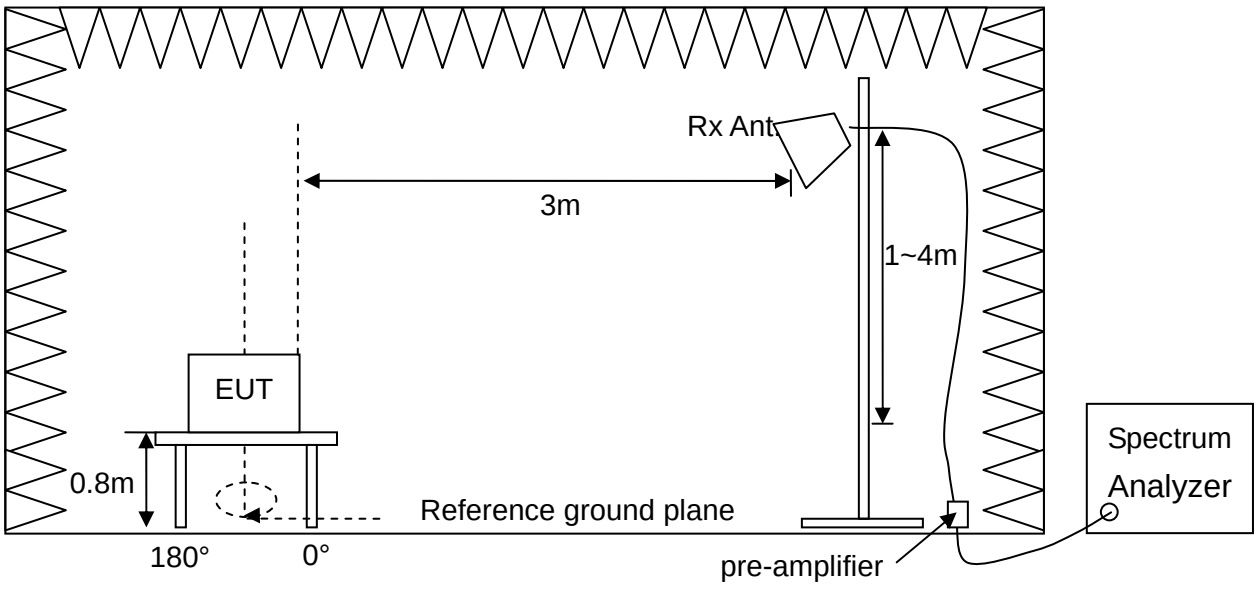
n. If the peak emission level measured from step e. is 4dB lower than the limit specified, then the emission values presented will be the peak value only. Otherwise, accurate Q.P. value will be measured and presented.

2.4 Test Configuration

Below 1GHz



Above 1GHz



2.5 Test Results

Field strength of fundamental

Test Mode : Continuous Transmitting

Tester : Liu

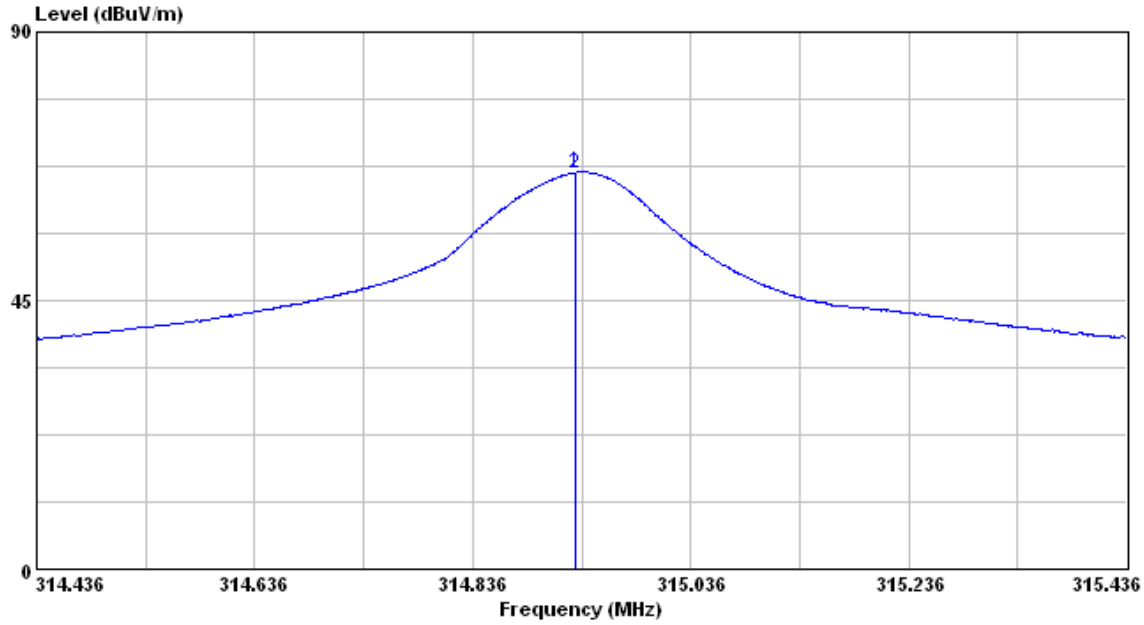
Frequency (MHz)	Polarization	Reading Data (dBuV)		Correction Factor (dB/m)	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV		PK	AV	PK	AV	PK	AV
314.93	H	77.95	N/A	-11.44	66.51	54.89	95.6	75.6	29.09	20.71
314.94	V	57.43	N/A	-11.44	45.99	34.37	95.6	75.6	49.61	41.23

Note：

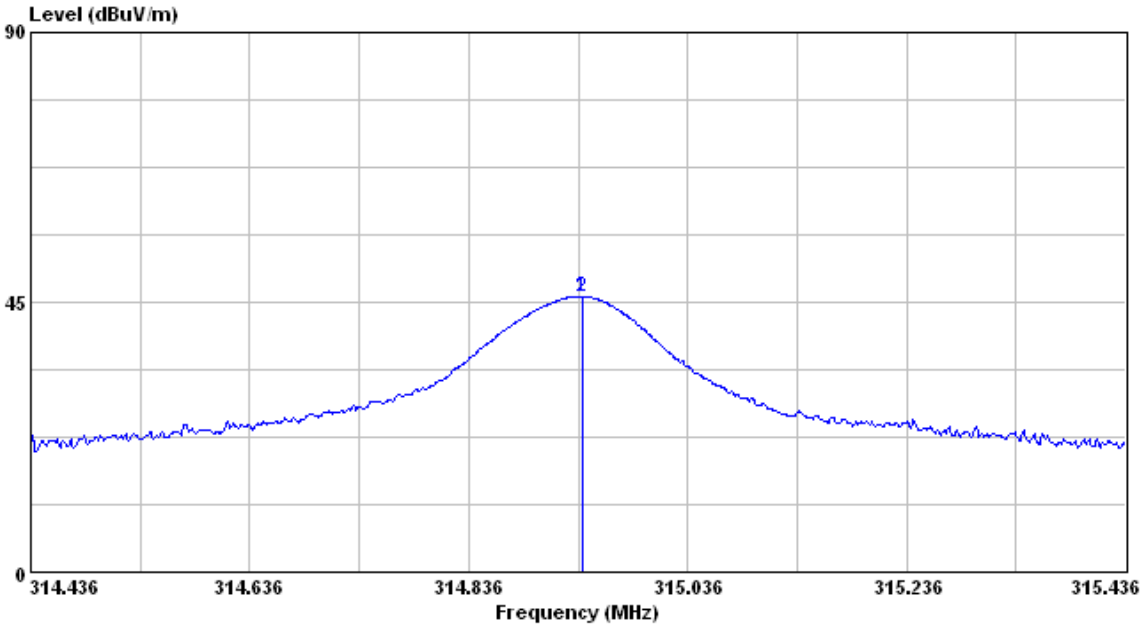
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Pre-amplifier
2. Output Field Strength (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Output Field Strength
4. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle)
   Where the duty factor is calculated from following formula:

   20log(Duty cycle) = 20log $\frac{0.4*63}{96}$ =-11.62 dB

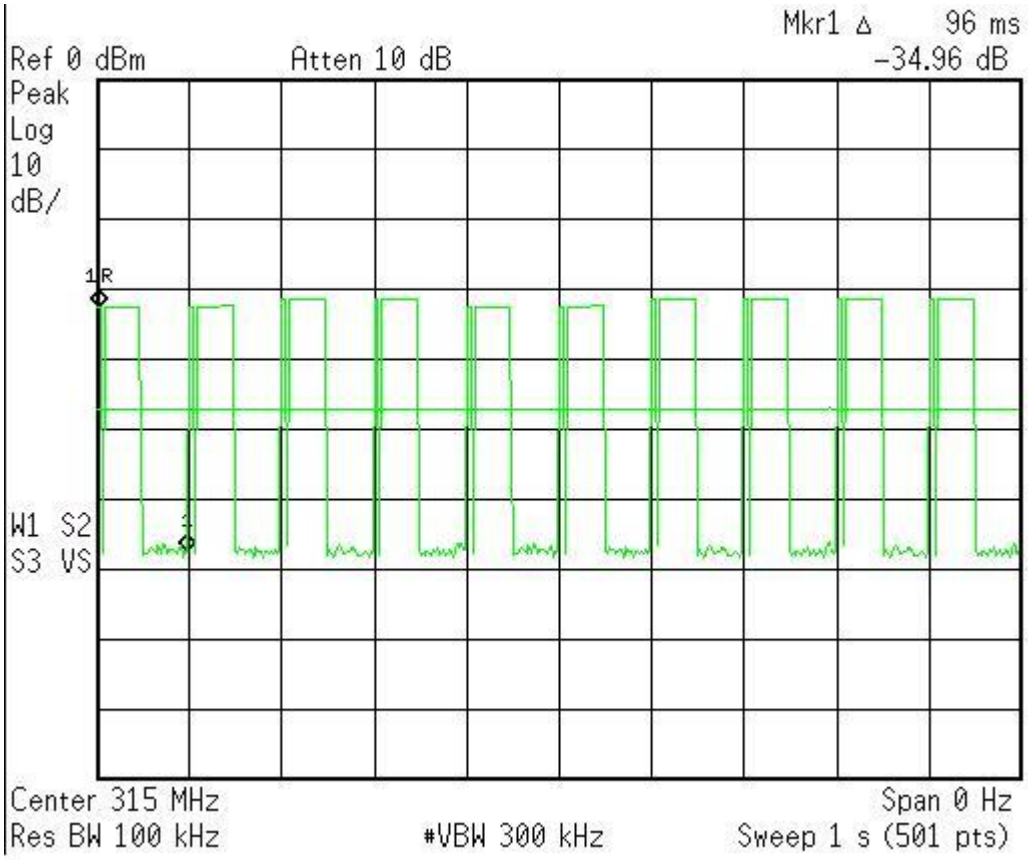
H Polarization

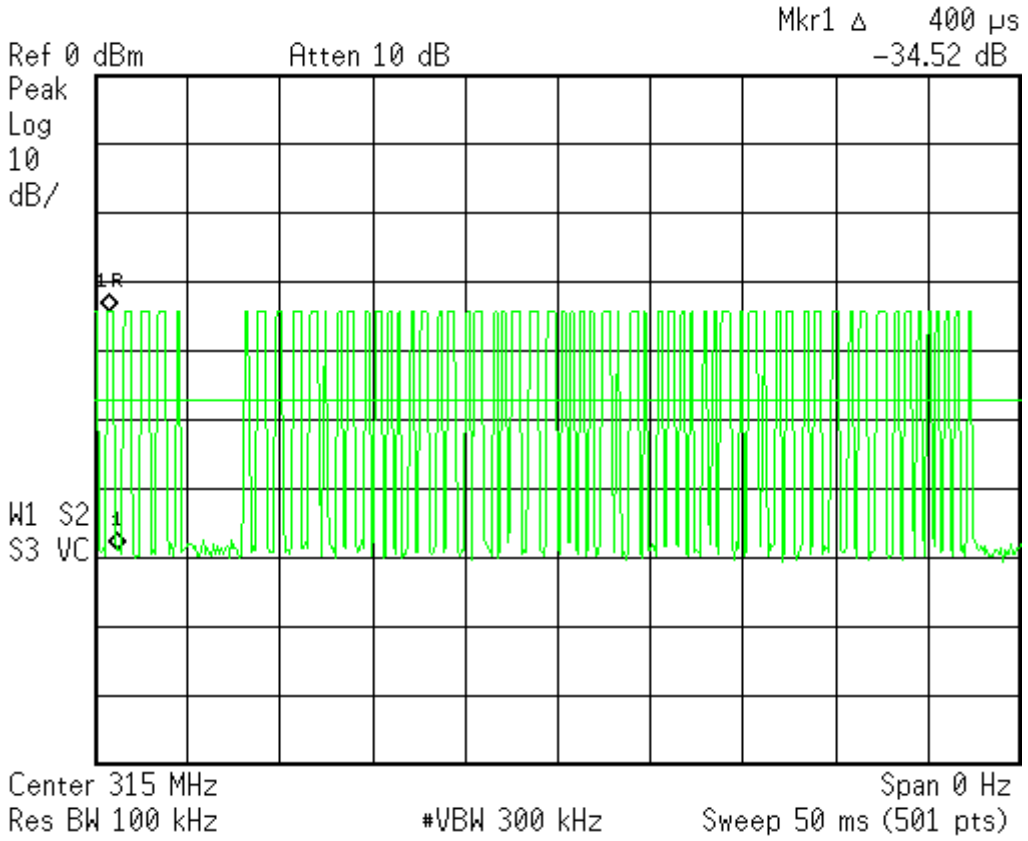


V Polarization



Duty cycle


Mkr1 Δ 96 ms
Ref 0 dBm
Atten 10 dB
-34.96 dB
Peak
Log
10
dB/
1R
W1 S2
S3 VS
Center 315 MHz
Span 0 Hz
Res BW 100 kHz
#VBW 300 kHz
Sweep 1 s (501 pts)

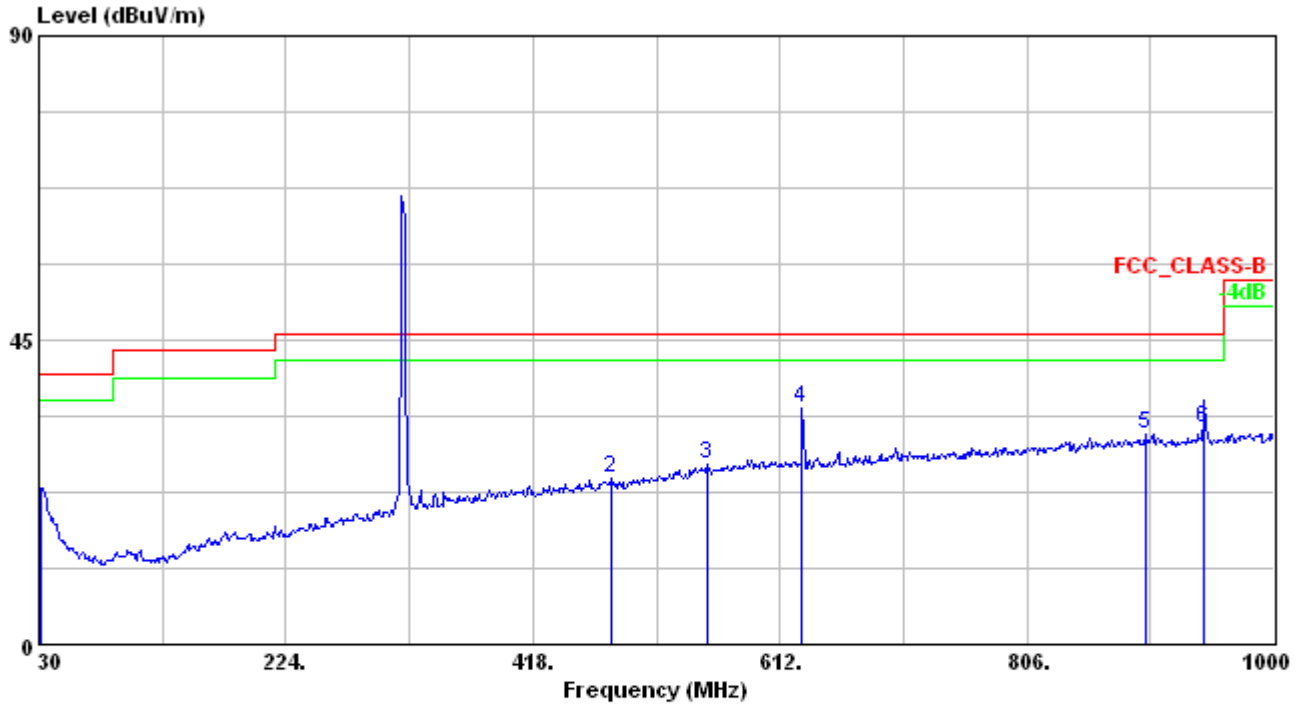

Mkr1 Δ 400 µs
Ref 0 dBm
Atten 10 dB
-34.52 dB
Peak
Log
10
dB/
1R
W1 S2
S3 VC
Center 315 MHz
Span 0 Hz
Res BW 100 kHz
#VBW 300 kHz
Sweep 50 ms (501 pts)

Radiated Emission Measurement below 1000MHz

Test Mode : **Continuous Transmitting**

Tester : Liu **Frequency Range** : 30MHz~1GHz

Polarization : **Horizontal**



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	32.280	23.09	32.49	-9.40	40.00	-16.91	---	---	HORIZONTAL	Peak
2	479.730	24.59	32.03	-7.44	46.00	-21.41	---	---	HORIZONTAL	Peak
3	555.540	26.63	31.94	-5.31	46.00	-19.37	---	---	HORIZONTAL	Peak
4 @	629.600	34.83	39.23	-4.40	46.00	-11.17	---	---	HORIZONTAL	Peak
5	899.600	31.20	31.75	-0.55	46.00	-14.80	---	---	HORIZONTAL	Peak
6	945.600	31.91	32.34	-0.43	46.00	-14.09	214	275	HORIZONTAL	QP

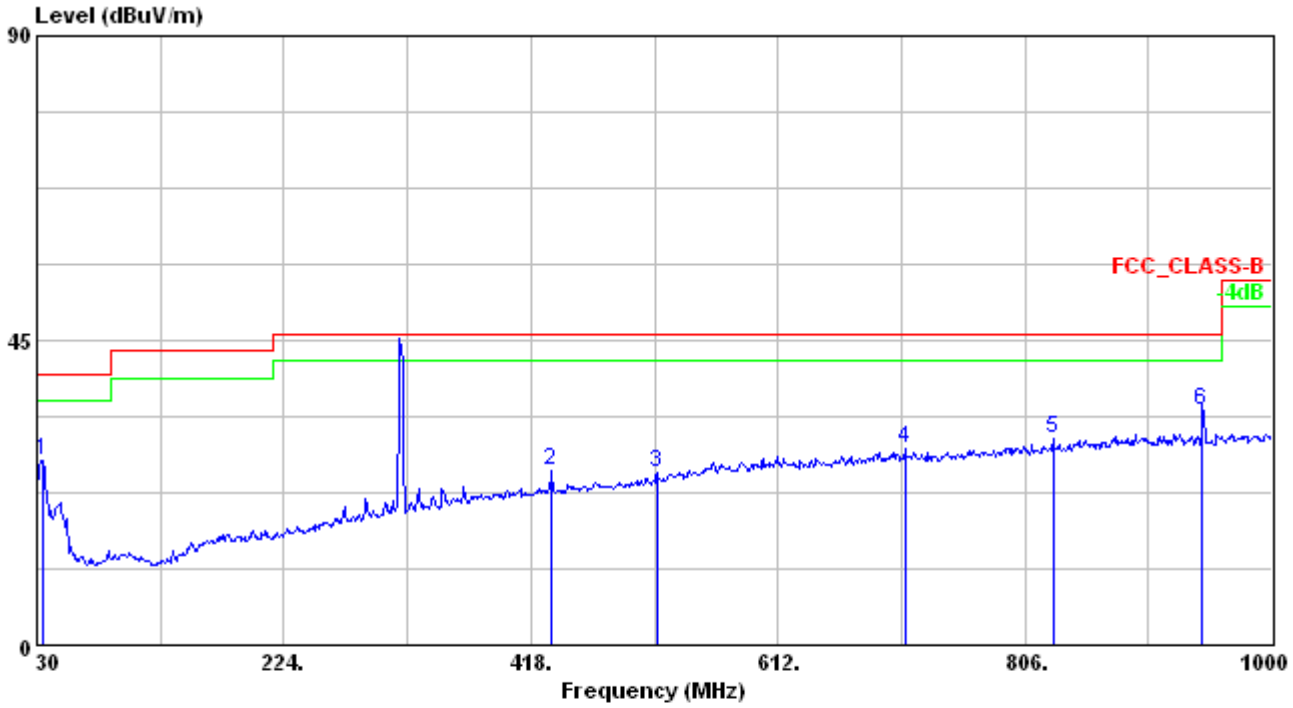
Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Test Mode : **Continuous Transmitting**

Tester : Liu **Frequency Range** : 30MHz~1GHz

Polarization : **Vertical**



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	33.990	27.37	37.82	-10.45	40.00	-12.63	---	---	VERTICAL	Peak
2	434.130	25.79	34.12	-8.33	46.00	-20.21	---	---	VERTICAL	Peak
3	516.780	25.36	31.87	-6.51	46.00	-20.64	---	---	VERTICAL	Peak
4	712.000	28.87	31.90	-3.03	46.00	-17.13	---	---	VERTICAL	Peak
5	828.400	30.35	32.08	-1.73	46.00	-15.65	---	---	VERTICAL	Peak
6 @	944.842	34.67	35.10	-0.43	46.00	-11.33	111	286	VERTICAL	QP

Note：

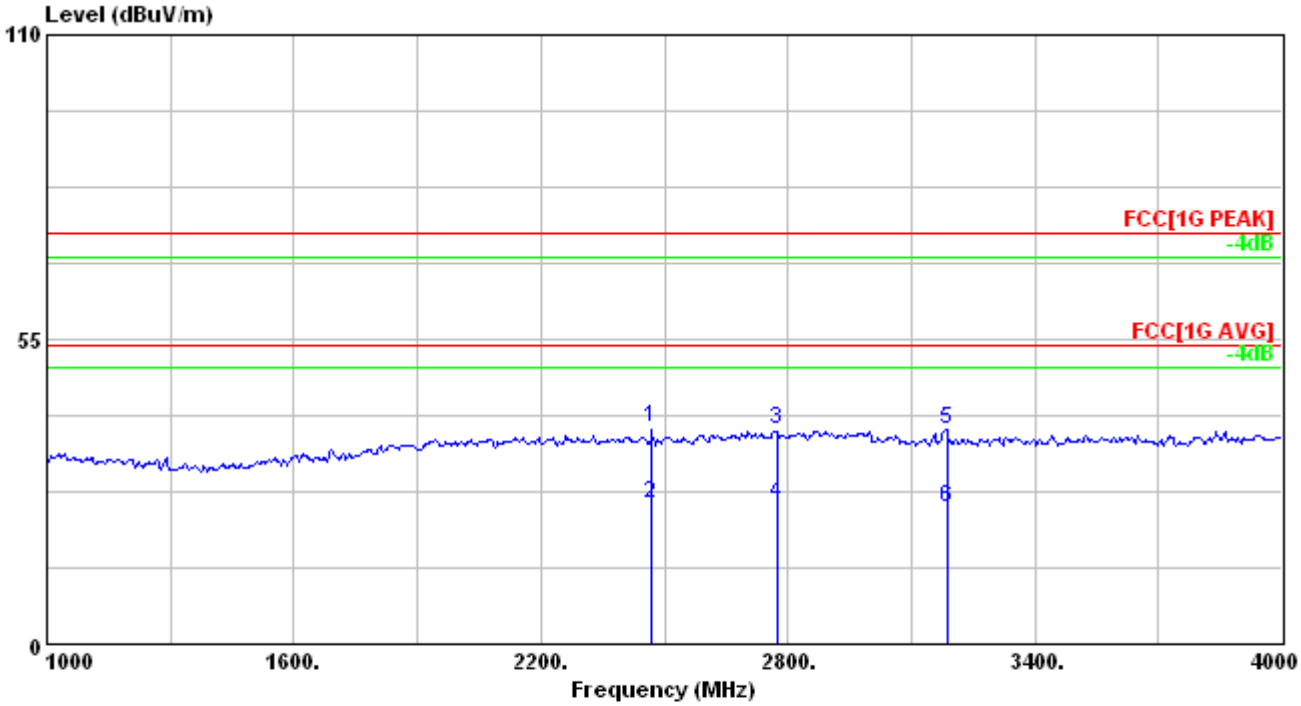
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Radiated Emission Measurement above 1000MHz

Test Mode : **Continuous Transmitting**

Tester : Liu **Frequency Range** : 1GHz~4GHz

Polarization : **Horizontal**



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2470.458	39.26	78.48	-39.22	74.00	-34.74	101	138	HORIZONTAL	Peak
2	2470.458	25.20	64.42	-39.22	54.00	-28.80	101	138	HORIZONTAL	Average
3	2772.790	38.89	77.48	-38.59	74.00	-35.11	101	165	HORIZONTAL	Peak
4	2772.790	25.37	63.96	-38.59	54.00	-28.63	101	165	HORIZONTAL	Average
5	3187.000	38.65	76.77	-38.12	74.00	-35.35	100	245	HORIZONTAL	Peak
6	3187.000	24.48	62.60	-38.12	54.00	-29.52	100	245	HORIZONTAL	Average

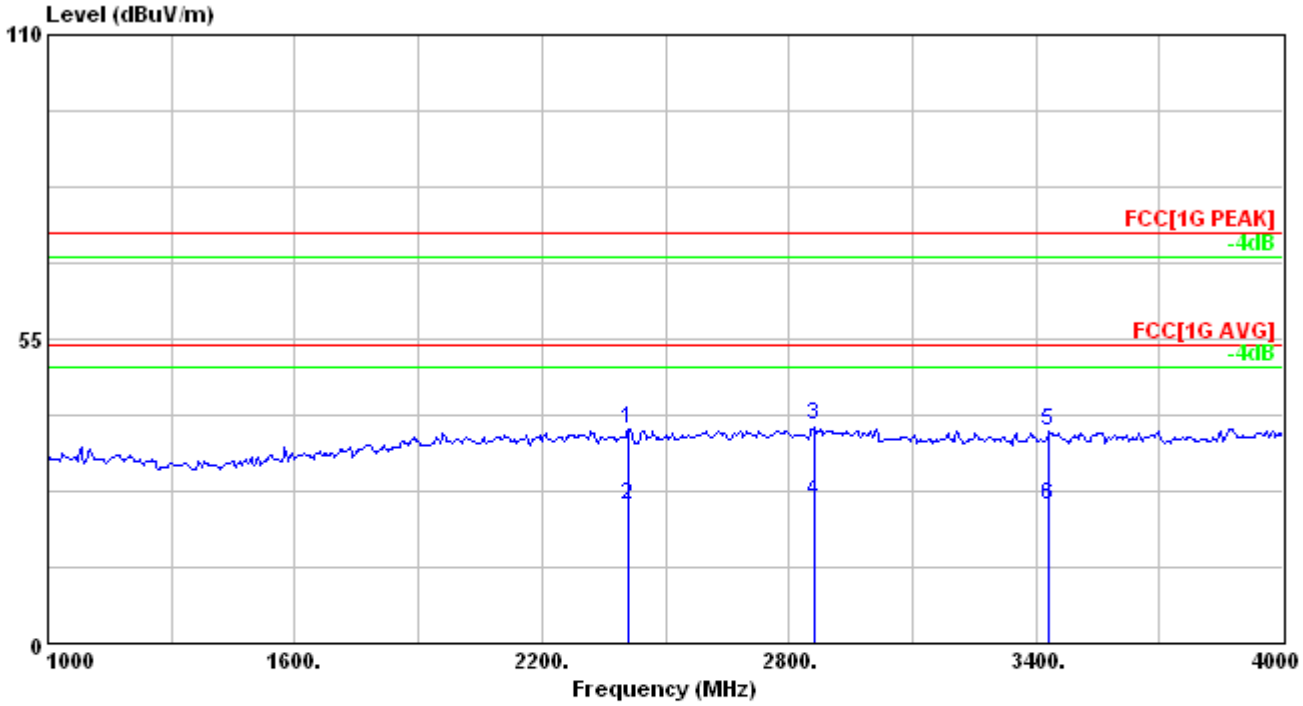
Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Test Mode : **Continuous Transmitting**

Tester : Liu **Frequency Range** : 1GHz~4GHz

Polarization : **Vertical**



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	2409.942	38.62	77.94	-39.32	74.00	-35.38	101	17	VERTICAL	Peak
2	2409.942	24.94	64.26	-39.32	54.00	-29.06	101	17	VERTICAL	Average
3	2862.835	39.27	77.71	-38.44	74.00	-34.73	101	55	VERTICAL	Peak
4	2862.835	25.68	64.12	-38.44	54.00	-28.32	101	55	VERTICAL	Average
5	3433.450	38.53	76.63	-38.10	74.00	-35.47	101	95	VERTICAL	Peak
6	3433.450	24.92	63.02	-38.10	54.00	-29.08	101	95	VERTICAL	Average

Note：

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

3. Dwell Time

Test Result : PASS

3.1 Applied Standard

According to 15.231(a), A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

3.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Spectrum Analyzer	Agilent	E4405B/ MY45106706	March 29, 2012	March 29, 2013
Test Site	N.A.	TR13	NCR	NCR

Note:

1.The calibrations are traceable to NML/ROC.

2.NCR : No Calibration Required.

Instrument Setting

RBW	VBW	Detector	Trace	Comment
100kHz	300kHz	Peak	Maxhold	

Climatic Condition

Ambient Temperature：24°C; Relative Humidity ：55%

3.3 Measurement Procedure

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage described in the user's manual supported by the manufacturer in test site TR13.

b. Measure the Dwell time by using the spectrum analyzer and following the test conditions described in FCC 15.231.

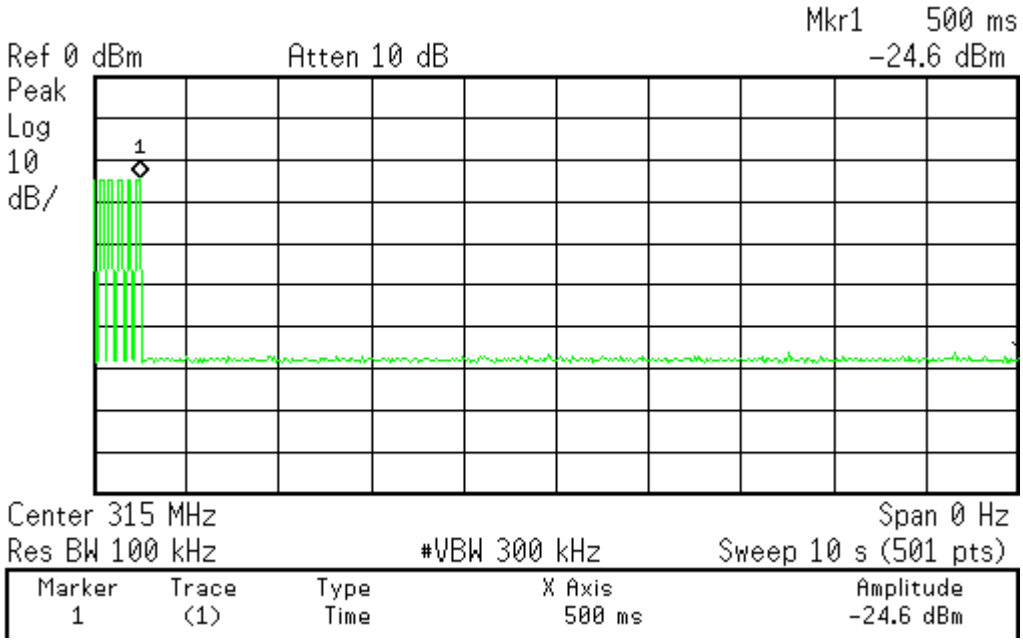
c. Record the value and compare with the required limit.

3.4 Test Configuration

3.5 Test Results

Test Mode : Continuous Transmitting

Tester : Jun



The transmitter will automatically deactivate within 0.5 second after release the button of the transmitter.

4. 20dB Bandwidth

Test Result : PASS

4.1 Applied Standard

According to 15.231(c), The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

4.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Spectrum Analyzer	Agilent	E4405B/ MY45106706	March 29, 2012	March 29, 2013
Test Site	N.A.	TR13	NCR	NCR

Note:

1.The calibrations are traceable to NML/ROC.

2.NCR : No Calibration Required.

Instrument Setting

RBW	VBW	Detector	Trace	Comment
10kHz	30kHz	Peak	Maxhold	

Climatic Condition

Ambient Temperature：24°C; Relative Humidity ：55%

4.3 Measurement Procedure

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage described in the user's manual supported by the manufacturer in test site TR13.

b. Measure the 20dB bandwidth by using the spectrum analyzer and following the test conditions described in FCC 15.231.

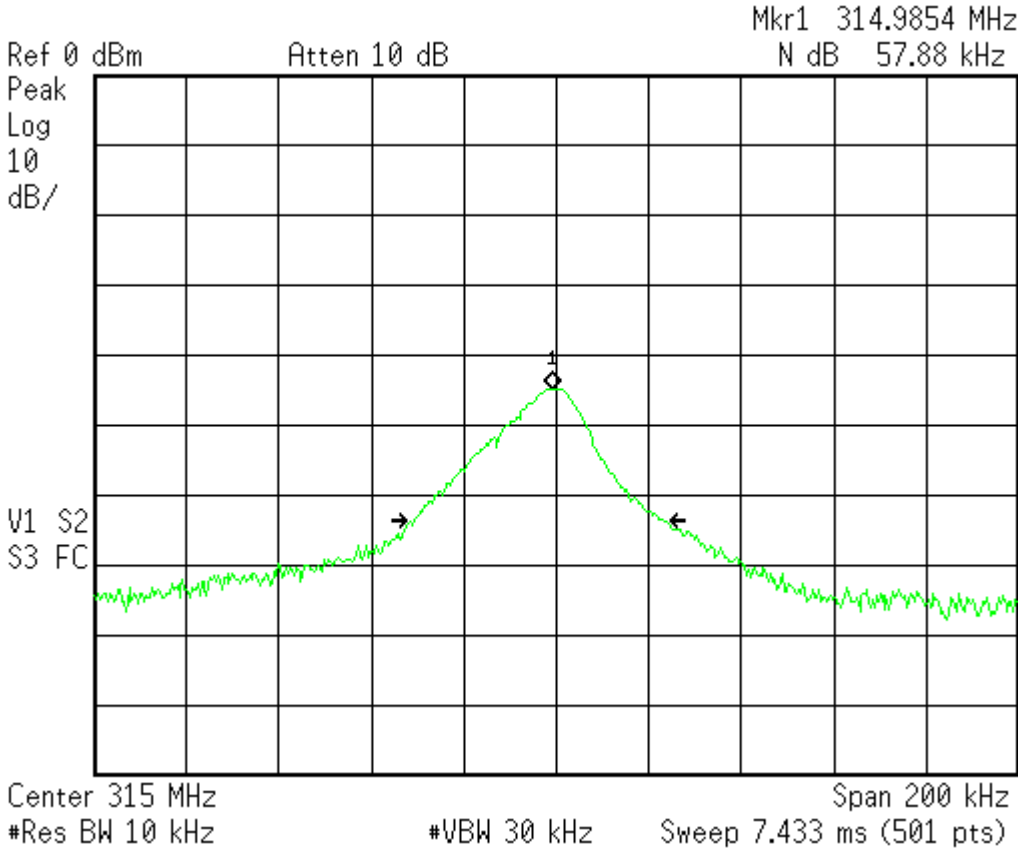
c. Record the frequency and compare with the required limit.

4.4 Test Configuration

4.5 Test Results

Test Mode : Continuous Transmitting

Tester : Jun



Measured 20dB bandwidth is 57.88kHz < 314.9466 MHzX0.25% = 787.3kHz.

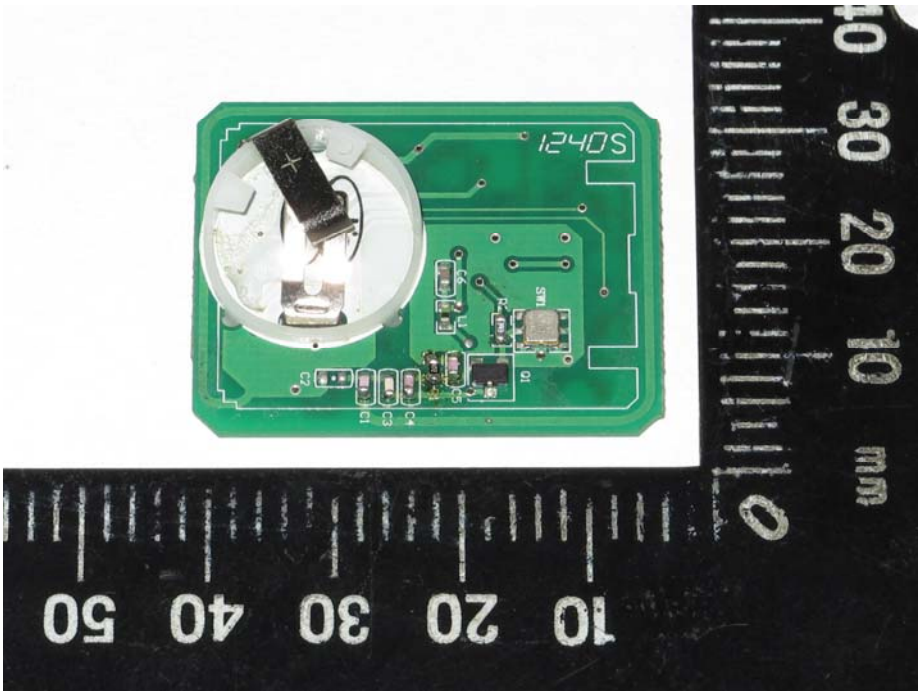
5. Antenna Requirement

5.1 Applied Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

5.2 Antenna Type

The EUT use a permanently attached antenna



5.3 Applicable Result

Comply the requirement.