

APPLICATION FOR CERTIFICATION

On Behalf of

Creative Technology Ltd.

Wireless Dongle

Model No. : GH0130A

FCC ID : IBAAVPGH0130A

IC: 2315A-AVPGH0130A

Prepared for : Creative Technology Ltd.
31 international Business Park, Creative
Resource, Singapore

Prepared by : AUDIX Technology Corporation
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TEST REPORT CERTIFICATION

Applicant : Creative Technology Ltd.
Manufacturer : Fujikon Industrial Co., Ltd.
EUT Description : Wireless Dongle
FCC ID : IBAAVPGH0130A
IC : 2315A-AVPGH0130A
(A) Model No. : GH0130A
(B) Serial No. : N/A
(C) Power Supply : DC 5V
(D) Test Voltage : AC 120V/60Hz (Via Desktop Computer
or Notebook PC)

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, October 2010
(FCC CFR 47 Part 15C, §15.207, §15.249, §15.209)

Industry Canada Rules and Regulations RSS-Gen (Issue 3), December 2010 and
RSS-210 (Issue 8), December 2010

(Canada RSS-210 §Annex A2.9)

AND ANSI C63.4/2003

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C and Canada RSS-Gen, RSS-210 limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the requirements of FCC and Industry Canada RSS-Gen, RSS-210 standards.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test : Aug. 09 ~ 11, 2011 Date of Report : Aug. 11, 2011

Producer : Tina Huang
(Tina Huang/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Wireless Dongle
FCC ID	:	IBAAVPGH0130A
IC	:	2315A-AVPGH0130A
Model Number	:	GH0130A
Applicant	:	Creative Technology Ltd. 31 international Business Park, Creative Resource, Singapore
Manufacturer	:	Fujikon Industrial Co., Ltd. 16/F., Tower 1, Grand Central Plaza, 138 Shatin Rural Committee Road, Shatin, N.T. Hong Kong
USB Cable	:	Non-Shielded, Detachable, 0.2m
Audio Cable	:	Non-Shielded, Detachable, 1.8m
Fundamental Range	:	2405MHz ~ 2477MHz
Frequency Channel	:	37 channels
Radio Technology	:	$\pi/4$ DQPSK Modulation
Antenna Gain	:	3.0dBi (Peak)
Date of Receipt of Sample	:	Aug. 05, 2011
Date of Test	:	Aug. 09 ~ 11, 2011

Remark:

This device with 2 antennas and will be selected for using by which one sense well signal. All test results in this report are performed at Ant. 1 with a worse performance.

1.2. Tested Supporting System Details

【ONLY FOR CONDUCTED EMISSION MEASUREMENT】

1.2.1. WALKMAN #1 (LINK TO EUT)

Model Number : RQ-P35LT-K
Serial Number : HA08623
Manufacturer : Panasonic
Audio Cable : Non-Shielded, Detachable, 1.8m

1.2.2. WALKMAN #2

Model Number : RQ-P35LT-K
Serial Number : HA08474
Manufacturer : Panasonic

1.2.3. DVD PLAYER (LINK TO EUT)

Model Number : DV-410V-S
Serial Number : HDKD000810LS
BSMI ID : R31271-ETC
Manufacturer : Pioneer (Brand: Pioneer)
Power Cord : Non-Shielded, Detachable, 1.5m

1.2.4. DESKTOP COMPUTER (LINK TO EUT)

Model Number : INSPIRON 530
Serial Number : 29824470928
FCC ID : By DoC
BSMI ID : R33002
Manufacturer : DELL (Brand: DELL)
Power Cord : Non-Shielded, Detachable, 1.8m

1.2.5. LCD MONITOR

Model Number : VE228
Serial Number : N/A
FCC ID : By DoC
BSMI ID : R31018
Brand : ASUS
D-Sub Cable : Shielded, Detachable, 1.8m
Bonded two ferrite cores
Power Cord : Non-Shielded, Detachable, 1.8m

1.2.6. LASER MATRIX PRINTER

Model Number : ML-1630
Serial Number : 4561B1CP600023X
BSMI ID : R33475
Manufacturer : SAMSUNG
USB Cable : Shielded, Detachable, 1.8m
Power Cord : Non-Shielded, Detachable, 1.8m

1.2.7. USB KEYBOARD

Model Number : SK-8115
 Serial Number : CN-ONM433-71616-7C5-0A4Y
 FCC ID : By DoC
 BSMI ID : T3A002
 Manufacturer : DELL (Brand: DELL)
 USB Cable : Shielded, Undetachable, 2.0m
 Bonded one ferrite core

1.2.8. USB MOUSE

Model Number : MOC5UO
 Serial Number : J0M02XB4
 FCC ID : By DoC
 BSMI ID : R41108
 Manufacturer : DELL (Brand: DELL)
 USB Cable : Shielded, Undetachable, 1.8m

1.2.9. USB 2.0 STORAGE MEDIA

Model Number : USM128U2
 Serial Number : N/A
 FCC ID : By DoC
 BSMI ID : D33021
 Manufacturer : SONY (Brand: MICRO VAULT)
 Data Cable : Shielded, Detachable, 1.8m

1.2.10. WIRELESS HEADSET

Model Number : GH0130B
 Serial Number : N/A
 Manufacturer : Creative
 FCC ID : IBAAVPGH0130B
 IC : 2315A-AVPGH0130B
 Volume Control : Audio Cable*2: Non-Shielded, Detachable, 1.0m
 USB Cable : Non-Shielded, Detachable, 1.8m
 Microphone : Non-Shielded, Detachable, 0.15m

**【ONLY FOR RADIATED EMISSION & OCCUPIED BANDWIDTH 99%
POWER MEASUREMENT】**

1.2.11. NOTEBOOK PC

Model Number : PP2170
 Serial Number : N/A
 FCC ID : By DoC
 BSMI ID : 33001
 Brand : hp
 AC Adapter : COMPAQ, M/N:Series PPP009L
 FCC By DoC
 DC Cord: Non-Shielded, Undetachable, 1.8m
 Power Cord : Non-Shielded, Detachable, 1.8m

1.3. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
EMC Department
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien, Taiwan.

Test Facility & Location : **No. 3 Shielded Room &**
 (C3/AC) No. 67-4, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien, Taiwan.

Semi-Anechoic Chamber
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien, Taiwan.
 Renewal on May 14, 2009
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

1.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conduction Test	150kHz~30MHz	$\pm 1.73\text{dB}$
Radiation Test (Distance: 3m)	30MHz~300MHz	$\pm 2.91\text{dB}$
	300MHz~1000MHz	$\pm 2.94\text{dB}$
	Above 1GHz	$\pm 5.02\text{dB}$

Remark : Uncertainty = $ku_c(y)$

Test Item	Uncertainty
Occupied Bandwidth 99% Power	$\pm 1\text{kHz}$

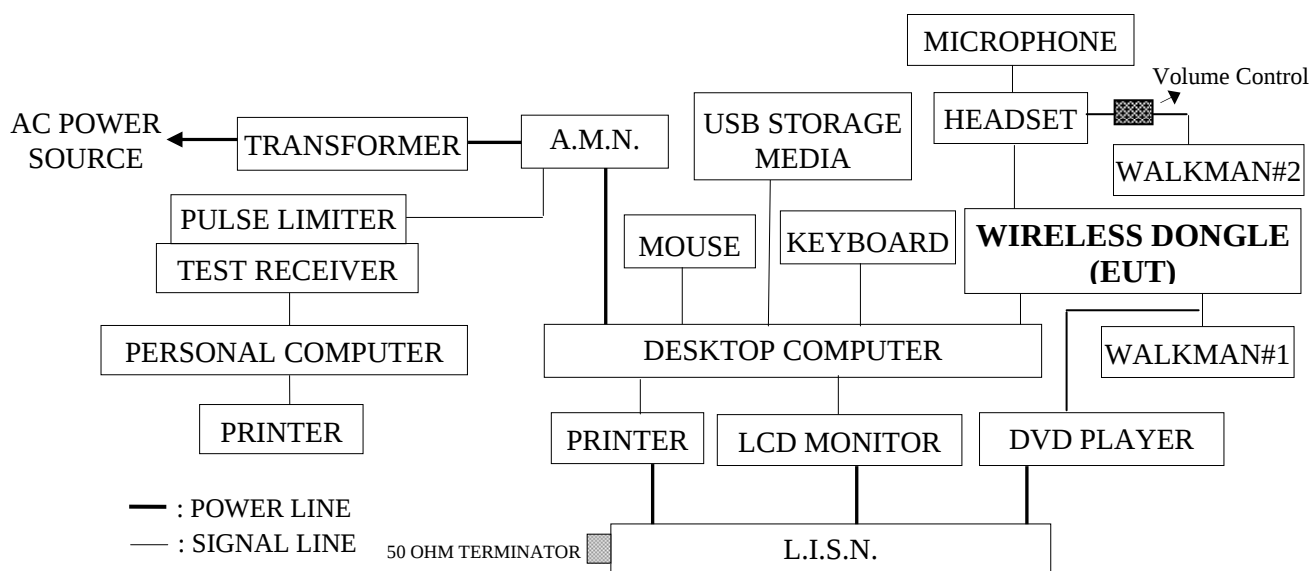
2. POWERLINE CONDUCTED EMISSION MEASUREMENT

2.1. Test Equipment

The following test equipment was used during the conducted emission measurement :
(No. 3 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100337	Apr. 11, 11'	Apr. 10, 12'
2.	A.M.N.	Kyoritsu	KNW-244C	8-1373-5	Jul. 14, 11'	Jul. 13, 12'
3.	L.I.S.N.	Kyoritsu	KNW-407	8-1370-9	Jun. 09, 11'	Jun. 08, 12'
4.	Pulse Limiter	R & S	ESH3Z2	100041	Feb. 01, 11'	Jan. 31, 12'

2.2. Block Diagram of Test Setup



2.3. Powerline Conducted Emission Limit (§15.207, RSS-Gen §7.2.2/Table 2)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark1.: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.: The lower limit applies at the band edges.

2.4. Operating Condition of EUT

- 2.4.1. Setup the **EUT (Wireless Dongle)** as shown on 2.2.
- 2.4.2. Turn on the power of all equipment.
- 2.4.3. The **EUT (Wireless Dongle)** was on transmitting function at work during all testing.

2.5. Test Procedure

The EUT (Linked Desktop Computer) was put on table which was above the ground by 80cm and Desktop Computer's power cord was connected to power mains through an Artificial Mains Network (A.M.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.) Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to ANSI C63.4-2003, RSS-Gen and RSS-210 during conducted measurement.

The bandwidth of the R & S Test Receiver ESCS 30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

2.6. Powerline Conducted Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

The EUT was measured during this section testing and all the test results are listed in next pages.

The dongle provides an USB port for headset charging use, thus we performed AC conduction test with headset as the worst case.

EUT : Wireless Dongle Model No. : GH0130A

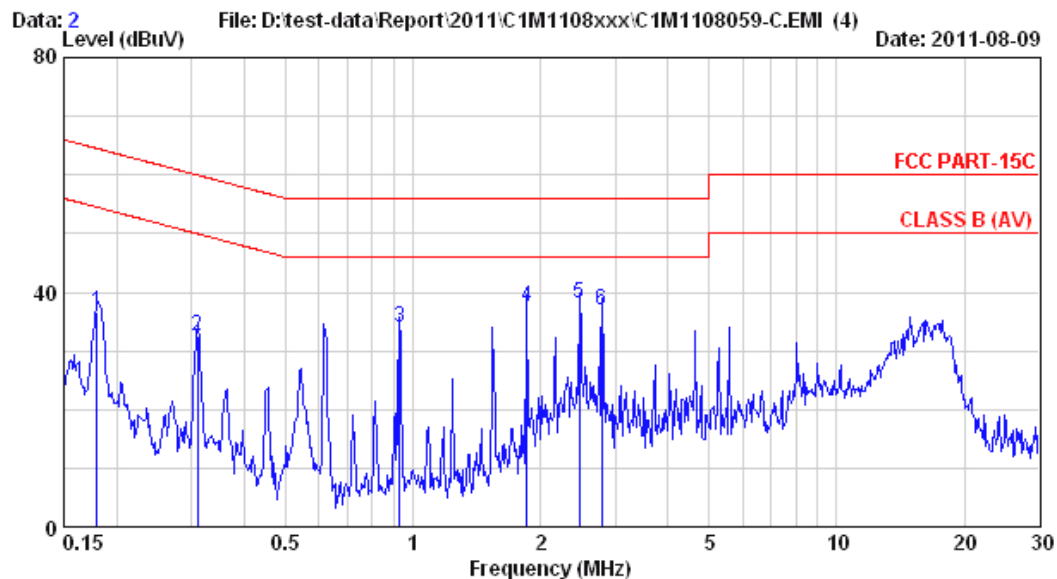
Test Date : Aug. 09, 2011 Temperature : 25°C Humidity : 52%

The details are as follows :

Mode	Reference Test Data	
	Neutral	Line
1.	# 2	# 1



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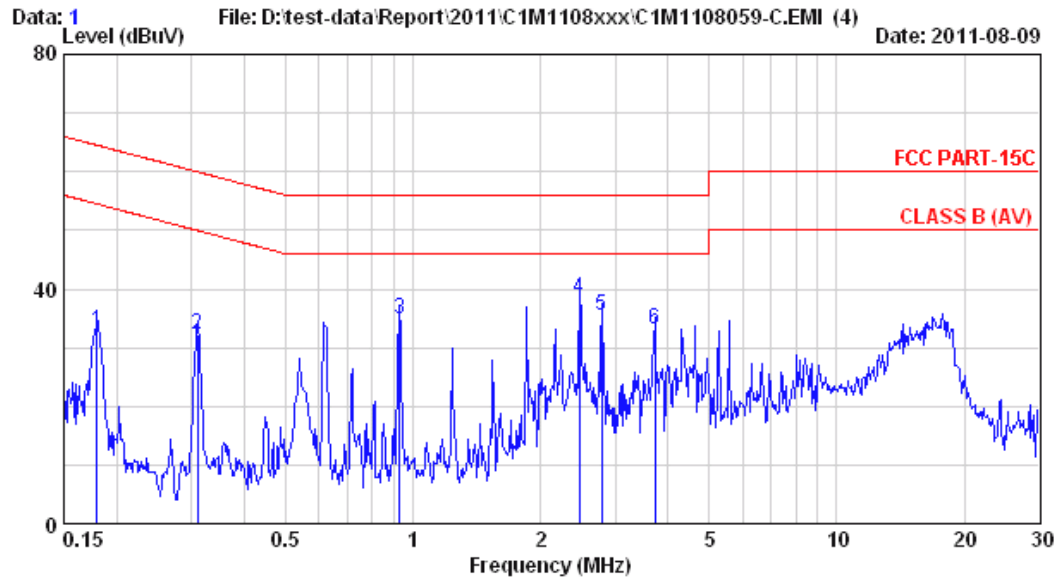
Site : No.3 Shielded Room Data : 2
Condition : KNW-244C Phase : NEUTRAL
Limit : FCC PART-15C
Env. / Ins. : 25°C / 52% ESCS 30 (337) Engineer: Edward
EUT M/N : GH0130A
Power Rating : 120Vac / 60Hz
Test Mode : Operating

	Freq.	AMN	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.180	0.12	0.20	36.18	36.50	64.50	28.01	QP
2	0.310	0.10	0.20	32.13	32.43	59.97	27.54	QP
3	0.928	0.10	0.20	33.58	33.88	56.00	22.12	QP
4	1.858	0.19	0.40	37.03	37.62	56.00	18.38	QP
5	2.474	0.20	0.40	37.35	37.95	56.00	18.05	QP
6	2.794	0.20	0.40	36.42	37.02	56.00	18.98	QP

Remarks: 1.Emission Level= AMN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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 Email:emc@audixtech.com



Site : No.3 Shielded Room Data : 1
 Condition : FCC PART-15C Phase : LINE
 Limit : FCC PART-15C
 Env. / Ins. : 25°C / 52% ESCS 30 (337) Engineer: Edward
 EUT M/N : GH0130A
 Power Rating : 120Vac / 60Hz
 Test Mode : Operating

		AMN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.180	0.12	0.20	32.37	32.69	64.50	31.82	QP
2	0.310	0.10	0.20	31.91	32.21	59.97	27.76	QP
3	0.928	0.10	0.20	34.57	34.87	56.00	21.13	QP
4	2.474	0.13	0.40	37.83	38.36	56.00	17.64	QP
5	2.794	0.15	0.40	34.92	35.47	56.00	20.53	QP
6	3.720	0.19	0.40	32.50	33.09	56.00	22.91	QP

Remarks: 1.Emission Level= AMN Factor + Cable Loss + Reading.
 2.If the average limit is met when using a quasi-peak detector
 ,the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

3.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

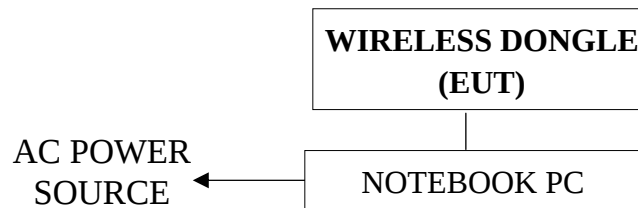
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 10'	Aug. 03, 11'
2.	Test Receiver	R & S	ESCS30	100265	Sep. 01, 10'	Aug. 31, 11'
3.	Pre-Amplifier	HP	8447D	2944A06305	Feb. 10, 11'	Feb. 09, 12'
4.	Biconical Antenna	CHASE	VBA6106A	1264	Mar. 08, 11'	Mar. 07, 12'
5.	Log Periodic Antenna	Schwarzbeck	UHALP9108-A	0810	Mar. 08, 11'	Mar. 07, 12'

3.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

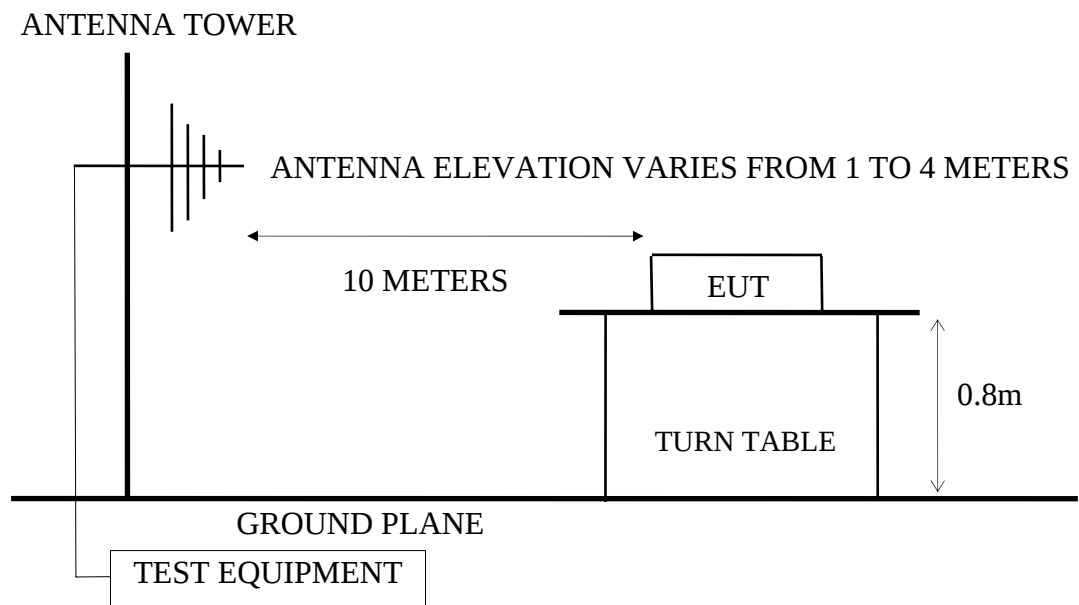
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Aug. 04, 10'	Aug. 03, 11'
2.	Pre-Amplifier	HP	8449B	3008A00529	Dec. 10, 10'	Dec. 09, 11'
5.	Horn Antenna	EMCO	3115	9112-3775	May 09, 11'	May 08, 12'

3.2. Block Diagram of Test Setup

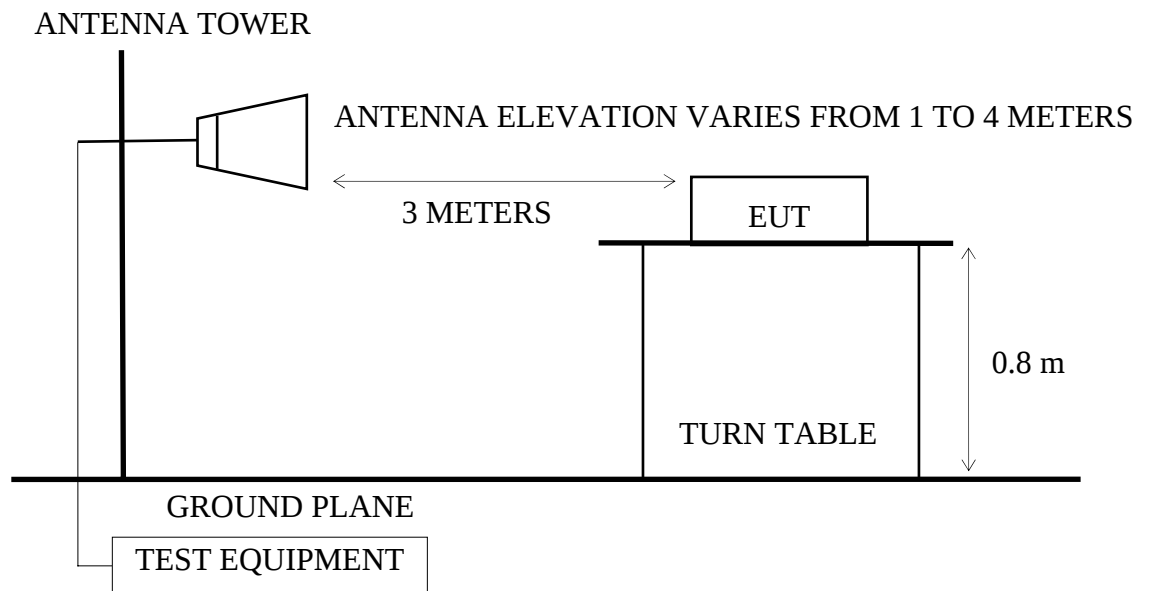
3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Area Test Site (10m) Setup Diagram for 30-1000MHz



3.2.3. Open Area Test Site (3m) Setup Diagram for above 1GHz



3.3. Radiated Emission Limits (§15.209, RSS-210 §2.7/Table 2)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	

Remark : (1) Emission level ($\text{dB}\mu\text{V/m}$) = $20 \log$ Emission level ($\mu\text{V/m}$)

(2) The tighter limit applies at the edge between two frequency bands.

(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

(4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).

(5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

3.4. Fundamental Frequency Limits [§15.249(a), RSS 210 A2.9 (a)]

FUNDAMENTAL FREQUENCY MHZ	LIMITS
2400-2485	114 $\text{dB}\mu\text{V/m}$ (Peak)
	94 $\text{dB}\mu\text{V/m}$ (Average)

3.5. Operating Condition of EUT

3.5.1. Setup the **EUT (Wireless Dongle)** as shown on 3.2.

3.5.2. Turn on the power of all equipment.

3.5.3. The EUT was set the Notebook PC using test program “WM4G test V1.2.19”.

3.5.4. Transmit Mode: The EUT was set to continuously transmit signals at 2405Hz、2441MHz and 2447MHz during testing.

3.5.5. Receive Mode: The EUT was set to continuously receive signals at 2441MHz during testing.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set to 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003, RSS-Gen and RSS-210 regulation.

The bandwidth of the R & S Test Receiver ESCS 30 was set at 120kHz.
 (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked.

Above 1GHz was measured with peak and average detector. For frequency from 2.68GHz to 25GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist

3.7. Radiated Emission Measurement Test Results

PASSED. All emissions not reported below are too low against the prescribed limits.

EUT : Wireless Dongle Model No. : GH0130A

Test Date : Aug. 11, 2011 Temperature : 25°C Humidity : 51%

For Frequency Range 30MHz~1000MHz:

The EUT was measured during this section testing and all the test results are listed in section 3.7.1.

Mode	Channel	Frequency	Test Mode	Reference Test Data	
				Horizontal	Vertical
1.	02	2405MHz	Transmit	# 6	# 5
2.	20	2441MHz		# 6	# 5
3.	38	2477MHz		# 6	# 5
4.	20	2441MHz	Receive	# 2	# 1

* Above all final readings were measured with Quasi-Peak detector.

For Frequency above 1GHz:

The EUT was measured during this section testing and all the test results are listed in section 3.7.2.

Mode	Channel	Frequency	Test Mode	Reference Test Data	
				Horizontal	Vertical
1.	02	2405MHz	Transmit	# 2	# 1
2.	20	2441MHz		# 2	# 1
3.	38	2477MHz		# 2	# 1

Note: 1. Above all final readings were measured with Peak detector.

2. For measurements above 1GHz to 2.68GHz, the peak measured value complies with the average limit, it is unnecessary to perform an average measurement. (According to ANSI C63.4-2003 section 8.3.1.2)

3. For Receive mode: There is no noise emission and harmonic be found.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 3.7.3. (The restricted bands defined in part 15.205(a))

Mode	Channel	Frequency	Test Mode	Reference Test Data	
				Horizontal	Vertical
1.	02	2405MHz	Transmit	# 2, # 3	# 1, #4
2.	38	2477MHz		# 6, # 7	# 5, #8

For Fundamental Frequency:

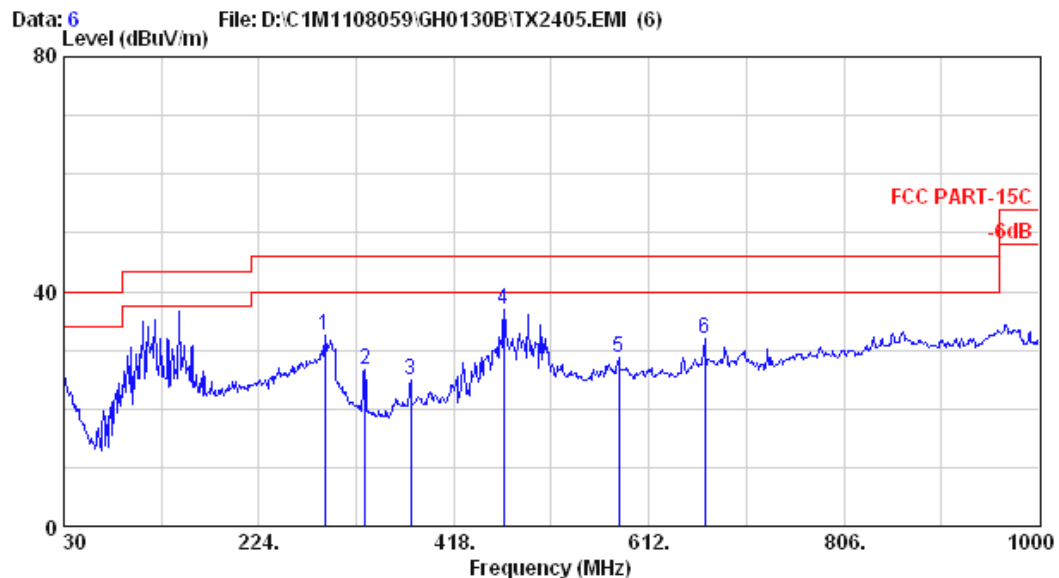
The EUT was measured during this section testing and all the test results are listed in section 3.7.4.

Mode	Channel	Frequency	Test Mode	Reference Test Data
1.	02	2405MHz	Transmit	# 1
2.	20	2441MHz		# 2
3.	38	2477MHz		# 3

3.7.1. Frequency Range 30-1000MHz



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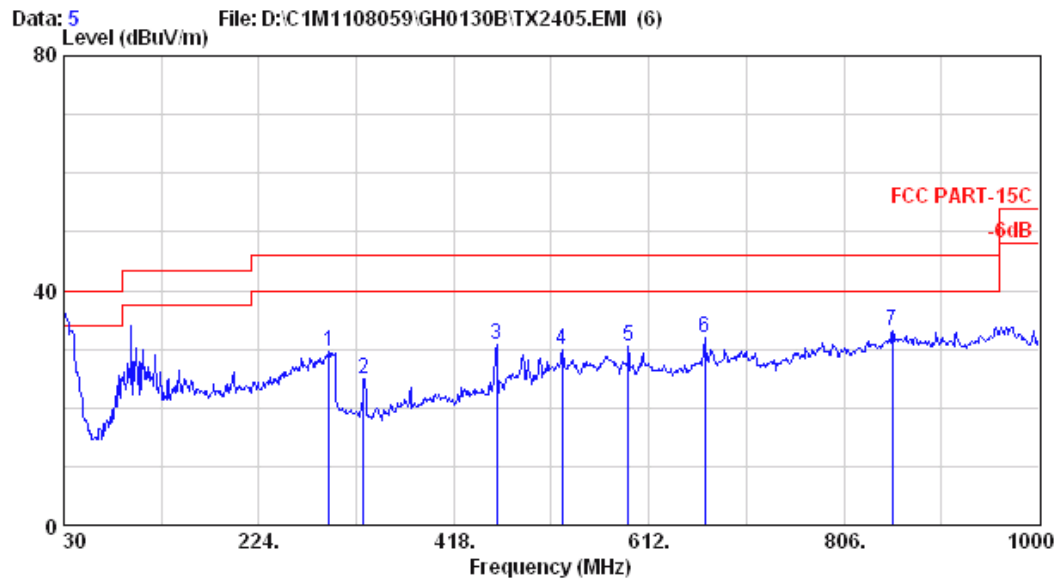
Site no. : A/C Chamber Data no. : 6
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	289.960	26.08	3.80	2.76	32.64	46.00	13.36	
2	329.730	15.36	4.14	7.29	26.79	46.00	19.21	
3	375.320	17.15	4.60	3.16	24.91	46.00	21.09	
4	467.470	18.21	5.80	12.98	36.99	46.00	9.01	
5	581.930	20.91	6.30	1.46	28.67	46.00	17.33	
6	667.290	22.80	6.40	2.87	32.07	46.00	13.93	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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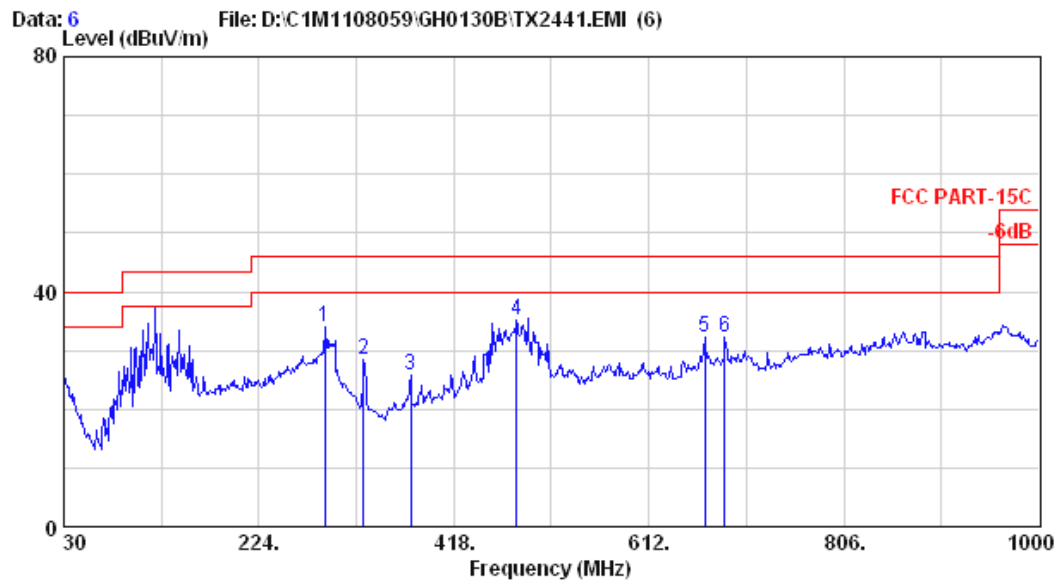
Site no. : A/C Chamber Data no. : 5
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
 EUT : GH0130A
 Power Rating : 120Vac/60Hz
 Test Mode : TX2405

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	293.840	26.33	3.96	-0.55	29.74	46.00	16.26	
2	327.790	15.28	4.10	5.64	25.02	46.00	20.98	
3	460.680	17.93	5.70	7.02	30.65	46.00	15.35	
4	525.670	19.66	6.90	3.47	30.03	46.00	15.97	
5	591.630	20.98	6.20	3.29	30.47	46.00	15.53	
6	667.290	22.80	6.40	2.73	31.93	46.00	14.07	
7	854.500	25.81	7.10	0.21	33.12	46.00	12.88	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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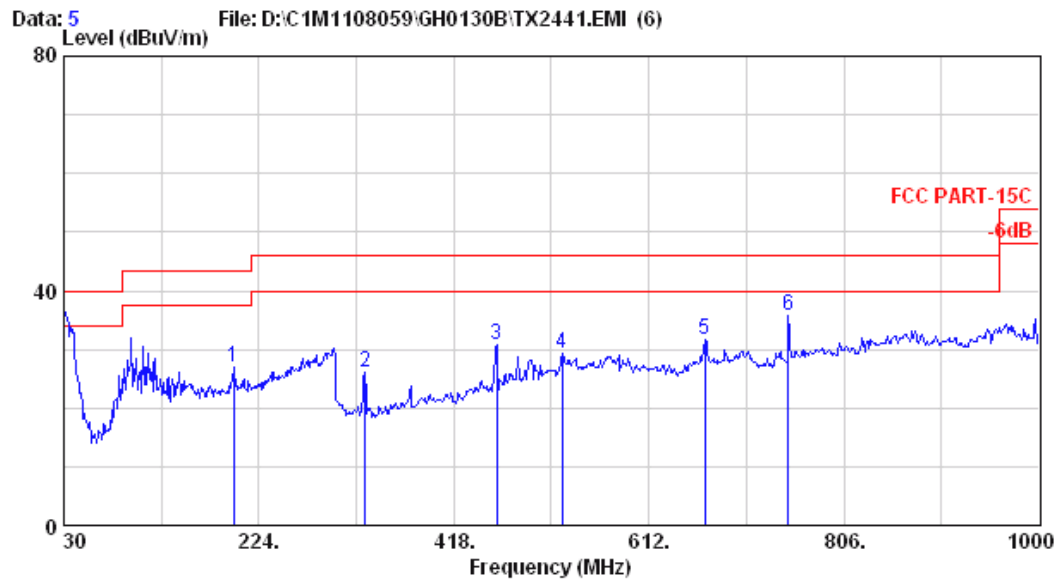
Site no. : A/C Chamber Data no. : 6
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2441

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	289.960	26.08	3.80	4.07	33.95	46.00	12.05	
2	327.790	15.28	4.10	9.02	28.40	46.00	17.60	
3	375.320	17.15	4.60	3.98	25.73	46.00	20.27	
4	480.080	18.68	6.05	10.54	35.27	46.00	10.73	
5	667.290	22.80	6.40	2.93	32.13	46.00	13.87	
6	687.660	23.26	6.50	2.51	32.27	46.00	13.73	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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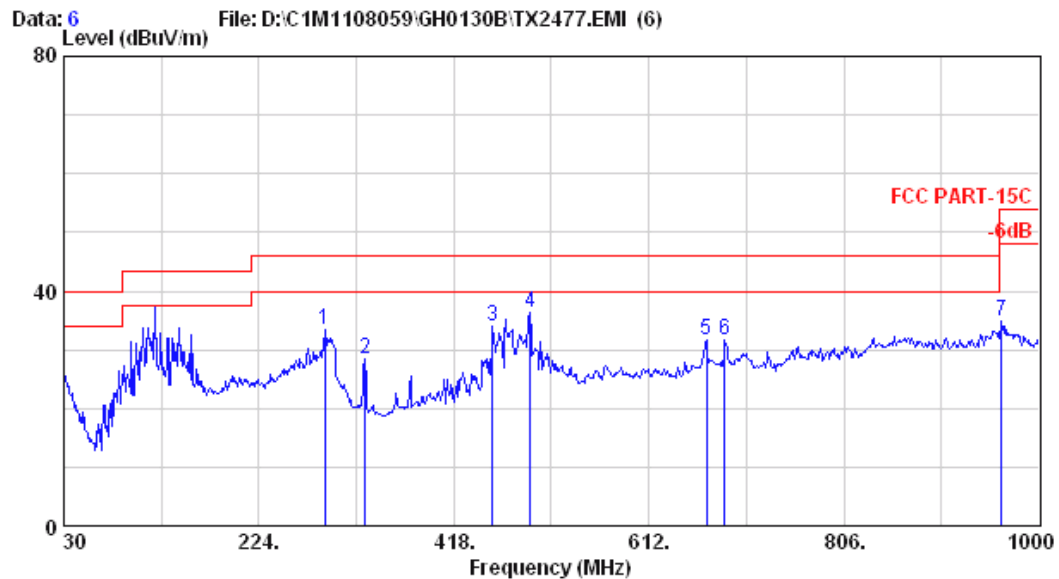
Site no. : A/C Chamber Data no. : 5
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2441

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	198.780	22.07	3.00	1.87	26.94	43.50	16.56	
2	329.730	15.36	4.14	6.70	26.20	46.00	19.80	
3	460.680	17.93	5.70	7.00	30.63	46.00	15.37	
4	525.670	19.66	6.90	2.85	29.41	46.00	16.59	
5	667.290	22.80	6.40	2.45	31.65	46.00	14.35	
6	750.710	23.35	6.70	5.66	35.71	46.00	10.29	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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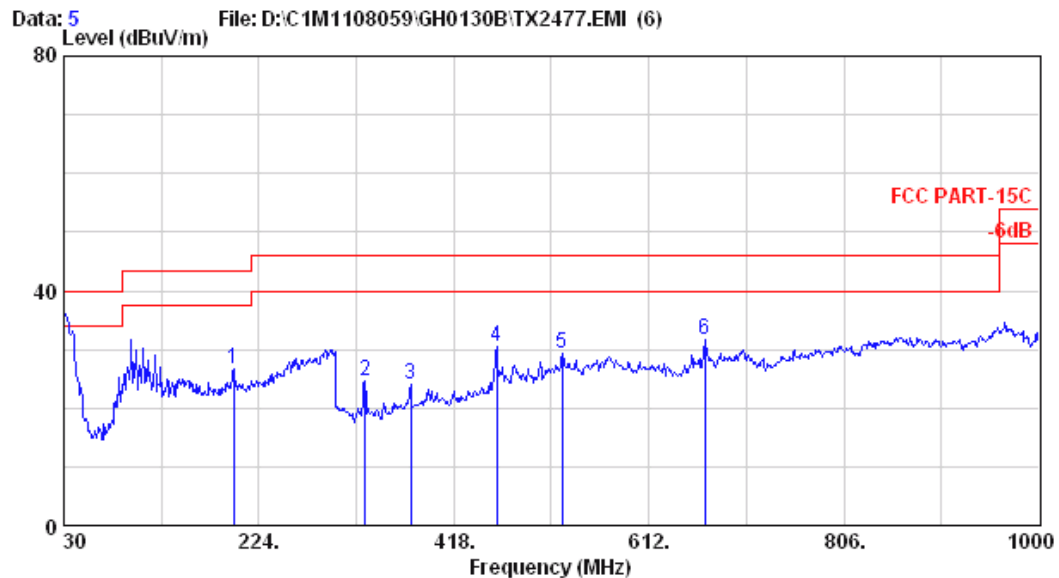
Site no. : A/C Chamber Data no. : 6
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	289.960	26.08	3.80	3.52	33.40	46.00	12.60	
2	329.730	15.36	4.14	8.95	28.45	46.00	17.55	
3	456.800	17.77	5.52	10.83	34.11	46.00	11.89	
4	493.660	18.67	6.40	11.25	36.32	46.00	9.68	
5	669.230	22.82	6.40	2.49	31.71	46.00	14.29	
6	687.660	23.26	6.50	1.94	31.70	46.00	14.30	
7	963.140	26.63	7.60	0.71	34.94	54.00	19.06	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 5
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

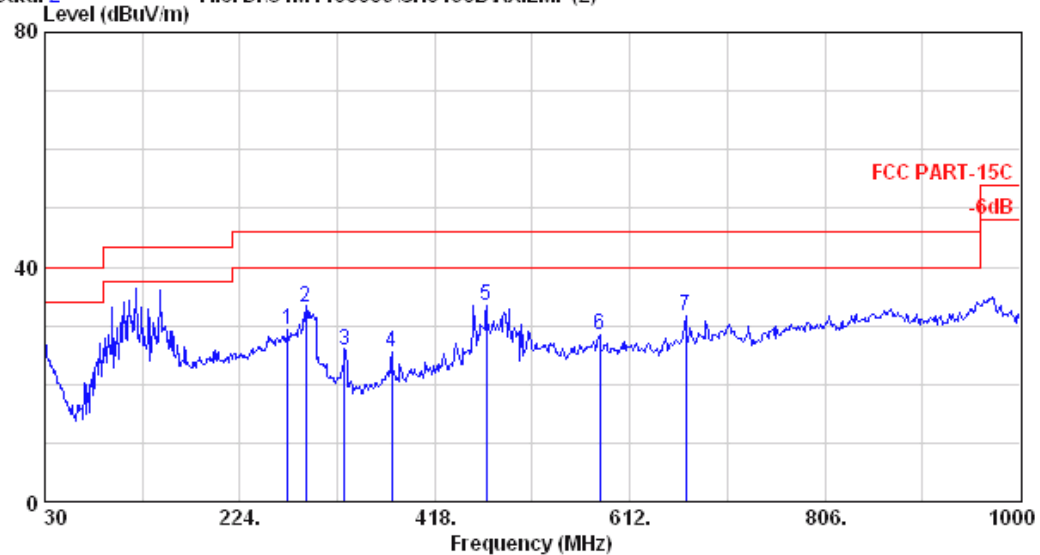
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	198.780	22.07	3.00	1.53	26.60	43.50	16.90	
2	329.730	15.36	4.14	5.01	24.51	46.00	21.49	
3	375.320	17.15	4.60	2.36	24.11	46.00	21.89	
4	460.680	17.93	5.70	6.93	30.56	46.00	15.44	
5	525.670	19.66	6.90	2.64	29.20	46.00	16.80	
6	667.290	22.80	6.40	2.33	31.53	46.00	14.47	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Data: 2 File: D:\C1M1108059\GH0130B\RX.EMI (2)



Site no. : A/C Chamber Data no. : 2
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : RX2441

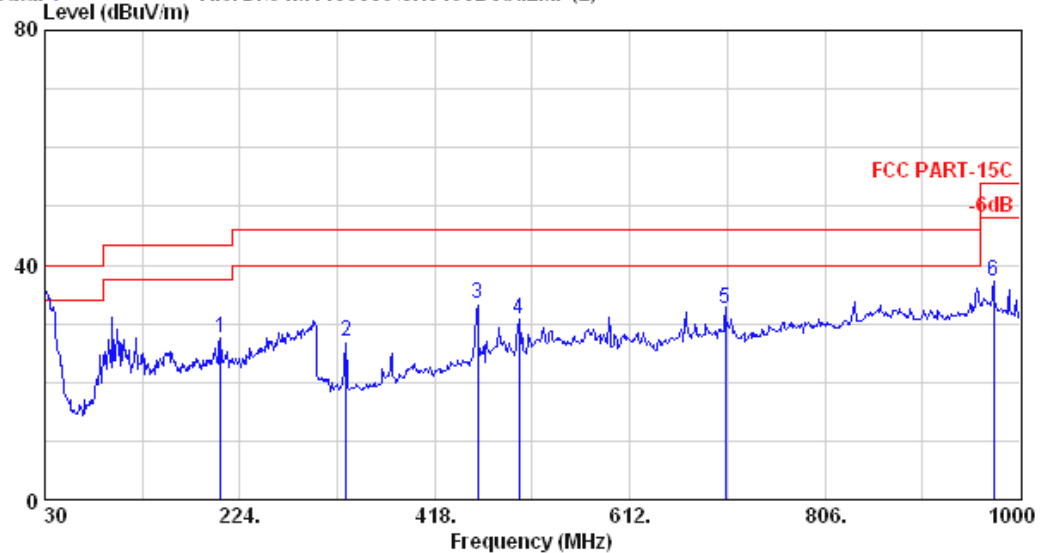
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	271.530	25.06	3.70	0.68	29.44	46.00	16.56	
2	289.960	26.08	3.80	3.16	33.04	46.00	12.96	
3	327.790	15.28	4.10	6.52	25.90	46.00	20.10	
4	375.320	17.15	4.60	3.71	25.46	46.00	20.54	
5	469.410	18.29	5.80	9.31	33.40	46.00	12.60	
6	581.930	20.91	6.30	1.19	28.40	46.00	17.60	
7	667.290	22.80	6.40	2.54	31.74	46.00	14.26	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Data: 1 File: D:\C1M1108059\GH0130B\RX.EMI (2)



Site no. : A/C Chamber Data no. : 1
Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
Limit : FCC PART-15C
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : RX2441

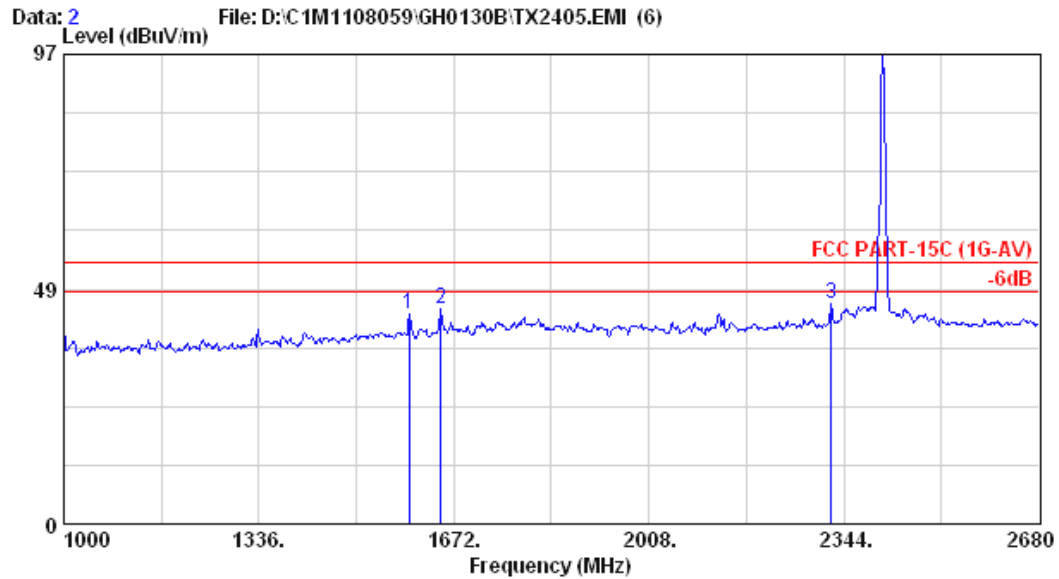
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	204.600	21.97	3.10	2.38	27.45	43.50	16.05	
2	329.730	15.36	4.14	7.35	26.85	46.00	19.15	
3	460.680	17.93	5.70	9.78	33.41	46.00	12.59	
4	501.420	18.95	6.52	5.17	30.65	46.00	15.35	
5	707.060	23.55	6.60	2.26	32.41	46.00	13.59	
6	973.810	26.64	7.70	2.80	37.15	54.00	16.86	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

3.7.2. Frequency Range Above 1GHz



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Site no. : A/C Chamber
 Dis. / Ant. : 3m 3115(3775)
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E4446A 25°C/51%
 EUT : GH0130A
 Power Rating : 120Vac/60Hz
 Test Mode : TX2405

Data no. : 2
 Ant. pol. : HORIZONTAL

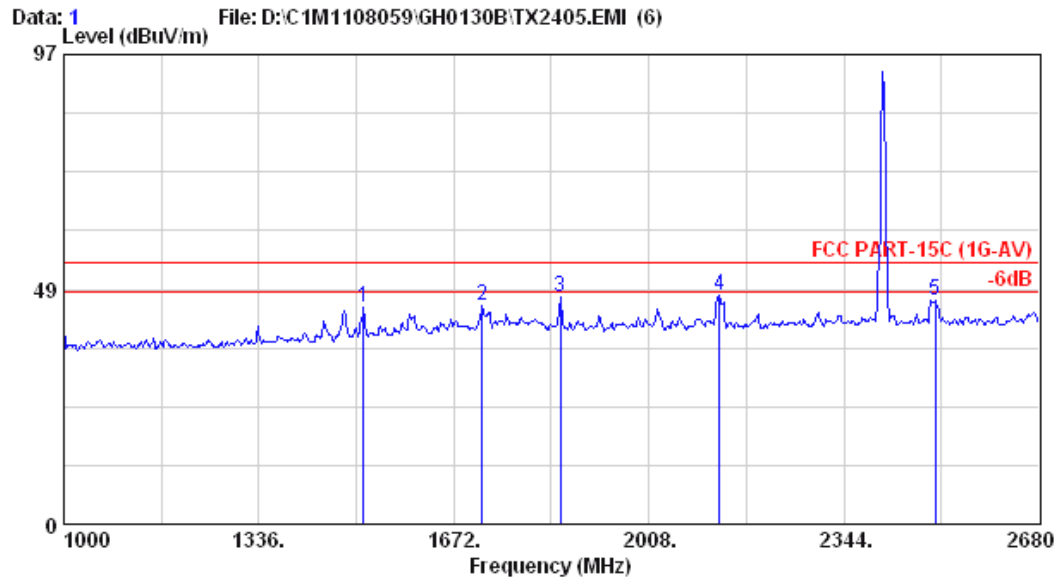
□Jarwei Wang

	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBμV)	(dBμV/m)	(dBμV/m)	(dB)	
1	1594.720	26.10	6.12	45.60	43.46	54.00	10.54	Peak
2	1650.160	26.30	6.49	45.97	44.42	54.00	9.58	Peak
3	2322.160	28.03	6.25	45.30	45.31	54.00	8.69	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

Data no. : 1
Ant. pol. : VERTICAL

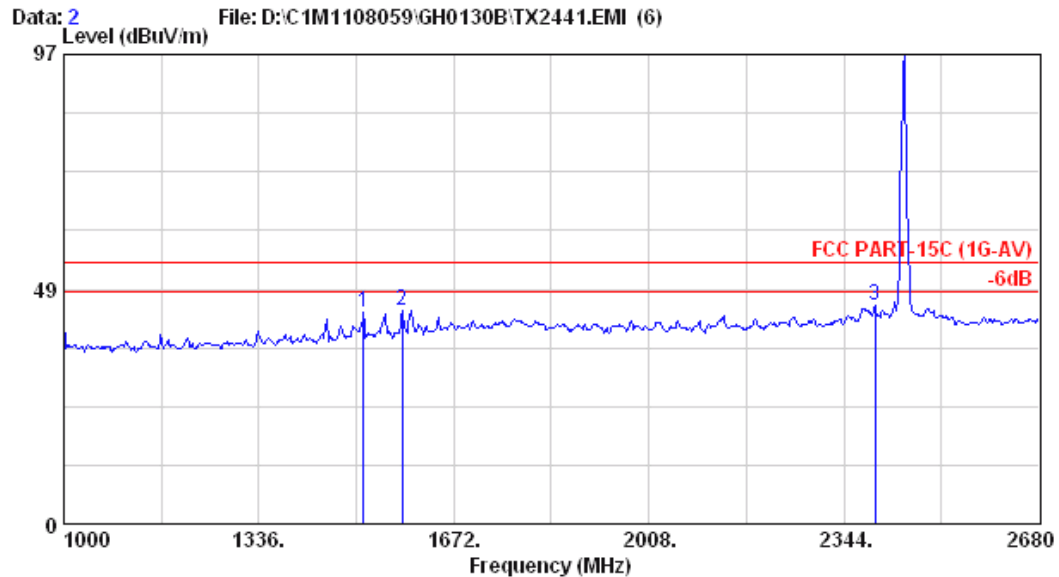
□Jarwei Wang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1515.760	25.77	5.54	13.32	44.63	54.00	9.37	Peak
2	1720.720	26.57	6.96	11.62	45.15	54.00	8.85	Peak
3	1855.120	27.10	6.62	13.22	46.95	54.00	7.05	Peak
4	2128.960	27.82	6.02	13.49	47.34	54.00	6.66	Peak
5	2501.920	28.20	6.47	11.37	46.04	54.00	7.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2441

Data no. : 2
Ant. pol. : HORIZONTAL

□Jarwei Wang

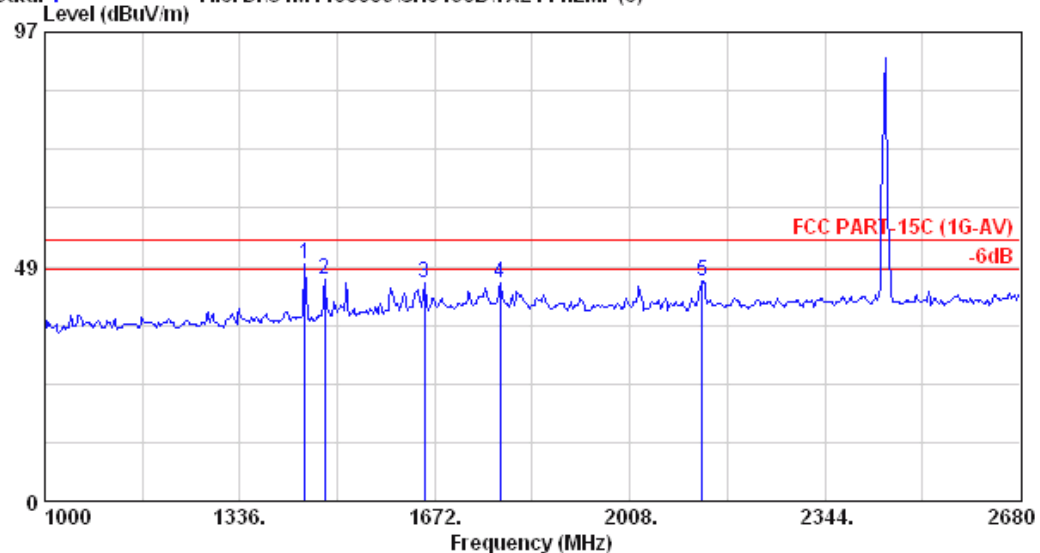
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1515.760	25.77	5.54	12.30	43.61	54.00	10.39	Peak
2	1582.960	26.03	6.01	12.17	44.22	54.00	9.78	Peak
3	2397.760	28.10	6.35	10.67	45.12	54.00	8.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Data: 1 File: D:\C1M1108059\GH0130B\TX2441.EMI (6)



Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2441

Data no. : 1
Ant. pol. : VERTICAL

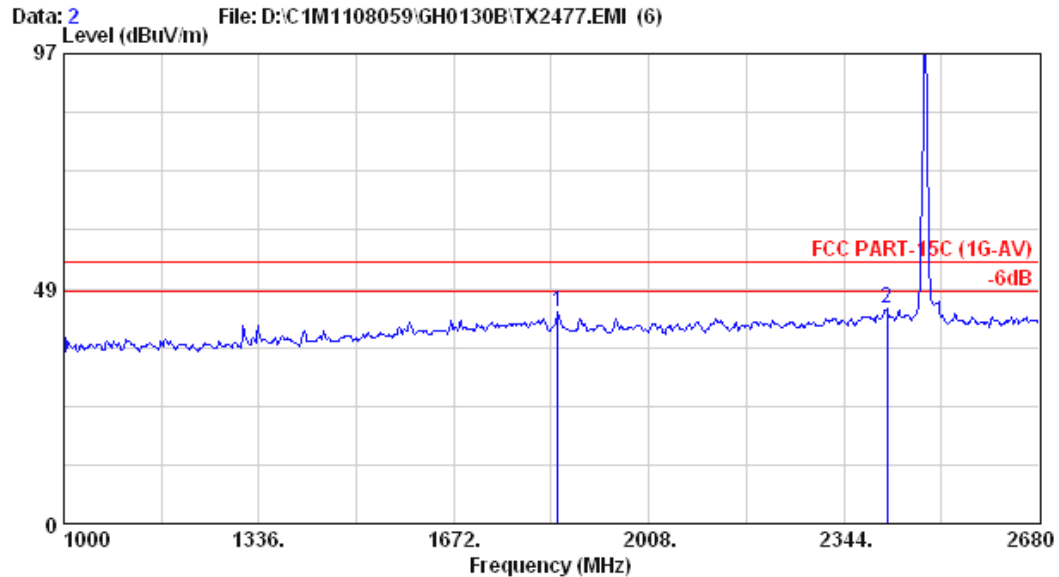
□Jarwei Wang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	1448.560	25.56	5.28	18.33	49.17	54.00	4.83	Peak
2	1482.160	25.65	5.37	14.80	45.82	54.00	8.18	Peak
3	1653.520	26.30	6.52	12.42	45.24	54.00	8.76	Peak
4	1784.560	26.83	7.01	11.23	45.08	54.00	8.92	Peak
5	2132.320	27.84	6.03	11.78	45.64	54.00	8.36	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

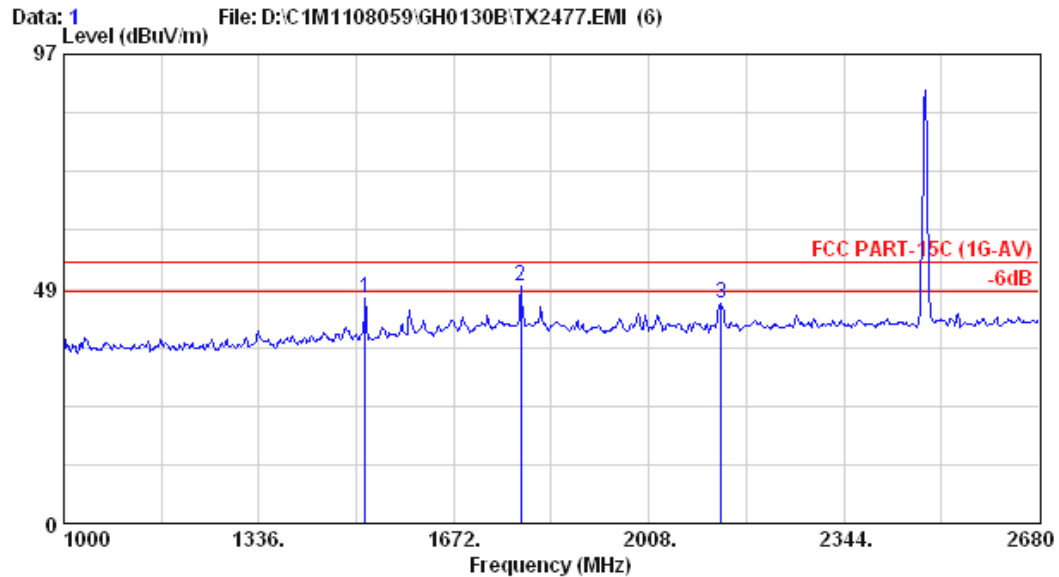
Data no. : 2
Ant. pol. : HORIZONTAL
□Jarwei Wang

	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1851.760	27.10	6.62	9.88	43.60	54.00	10.40	Peak
2	2417.920	28.11	6.37	9.79	44.28	54.00	9.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

Data no. : 1
Ant. pol. : VERTICAL

□Jarwei Wang

	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	1519.120	25.83	5.58	15.23	46.64	54.00	7.36	Peak
2	1787.920	26.83	6.97	15.23	49.04	54.00	4.96	Peak
3	2132.320	27.84	6.03	11.55	45.41	54.00	8.59	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

3.7.3. Restricted Bands Measurement Results

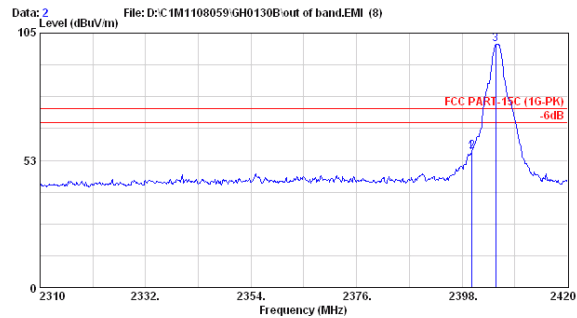
Date of Test : Aug. 11, 2011 Temperature : 25°C

EUT : Wireless Dongle Humidity : 51%

Test Mode : Transmit, Channel: 02, Frequency: 2405MHz



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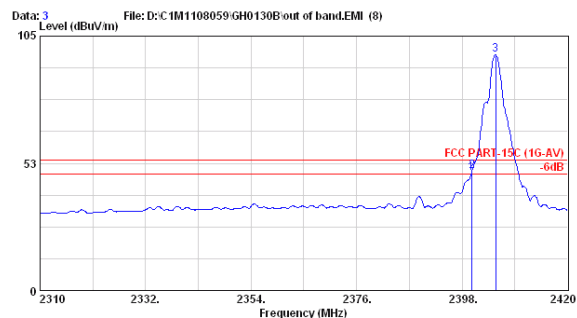
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Dis. / Ant. : 3m 3115 (3775) Ant. pol. : HORIZONTAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2399.980	28.10	6.35	21.22	55.66	74.00	18.34	Peak
2 2400.090	28.10	6.35	21.59	56.04	74.00	17.96	Peak
3 2405.040	28.11	6.36	66.02	100.50	74.00	-26.50	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 3
Dis. / Ant. : 3m 3115 (3775) Ant. pol. : HORIZONTAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2399.980	28.10	6.35	14.04	48.48	54.00	5.52	Average
2 2400.090	28.10	6.35	14.94	49.39	54.00	4.61	Average
3 2405.040	28.11	6.36	62.77	97.25	54.00	-43.25	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

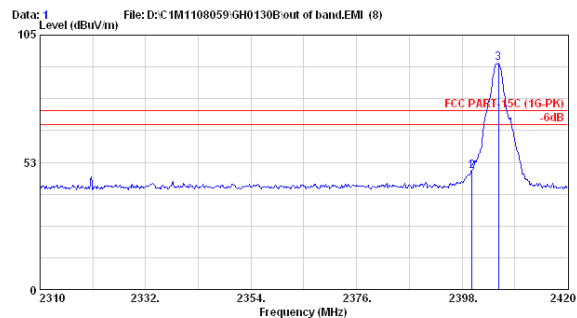
Date of Test : Aug. 11, 2011 Temperature : 25°C

EUT : Wireless Dongle Humidity : 51%

Test Mode : Transmit, Channel: 02, Frequency: 2405MHz



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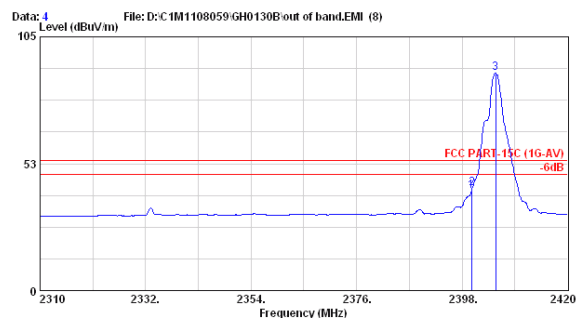
Site no. : A/C Chamber Data no. : 1
Dis. / Ant. : 3m 3115(3775) Ant. pol. : VERTICAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2399.980	28.10	6.35	14.41	48.86	74.00	25.14	Peak
2	2400.090	28.10	6.35	14.59	49.04	74.00	24.96	Peak
3	2405.590	28.11	6.36	58.94	93.42	74.00	-19.42	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 4
Dis. / Ant. : 3m 3115(3775) Ant. pol. : VERTICAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2399.980	28.10	6.35	6.88	41.33	54.00	12.67	Average
2	2400.090	28.10	6.35	7.75	42.20	54.00	11.80	Average
3	2405.040	28.11	6.36	55.54	90.02	54.00	-36.02	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

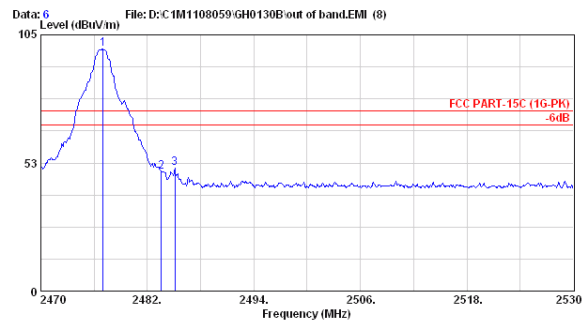
Date of Test : Aug. 11, 2011 Temperature : 25°C

EUT : Wireless Dongle Humidity : 51%

Test Mode : Transmit, Channel: 38, Frequency: 2477MHz



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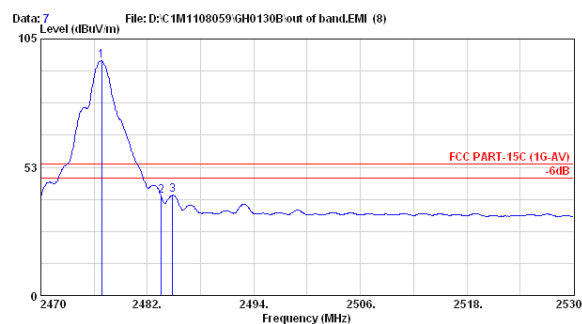
Site no. : A/C Chamber Data no. : 6
Dis. / Ant. : 3m 3115 (3775) Ant. pol. : HORIZONTAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2477.020	28.18	6.44	64.52	99.15	74.00	-25.15	Peak
2	2483.560	28.18	6.45	14.37	49.01	74.00	24.99	Peak
3	2485.120	28.18	6.45	15.63	50.27	74.00	23.73	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 7
Dis. / Ant. : 3m 3115 (3775) Ant. pol. : HORIZONTAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2476.040	28.18	6.44	61.48	96.11	54.00	-42.11	Average
2	2483.560	28.18	6.45	6.04	40.67	54.00	13.33	Average
3	2484.020	28.18	6.45	6.38	41.01	54.00	12.99	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

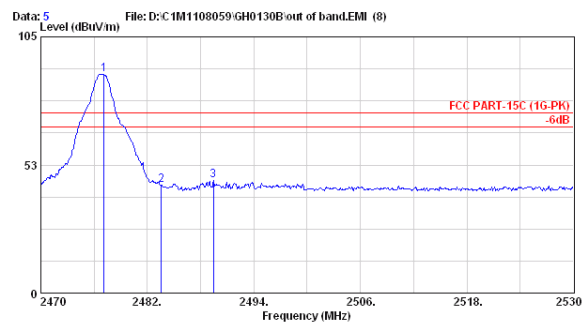
Date of Test : Aug. 11, 2011 Temperature : 25°C

EUT : Wireless Dongle Humidity : 51%

Test Mode : Transmit, Channel: 38, Frequency: 2477MHz



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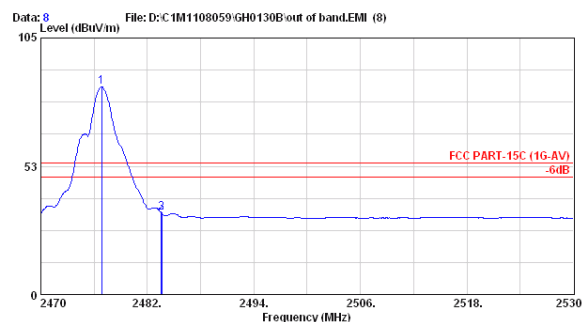
Site no. : A/C Chamber Data no. : 5
Dis. / Ant. : 3m 3115(3775) Ant. pol. : VERTICAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2477.140	28.18	6.44	54.94	89.57	74.00	-15.57	Peak
2 2483.560	28.18	6.45	9.74	44.37	74.00	29.63	Peak
3 2489.440	28.20	6.45	11.53	46.18	74.00	27.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 8
Dis. / Ant. : 3m 3115(3775) Ant. pol. : VERTICAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E4446A 25°C/51% □Jarwei Wang
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

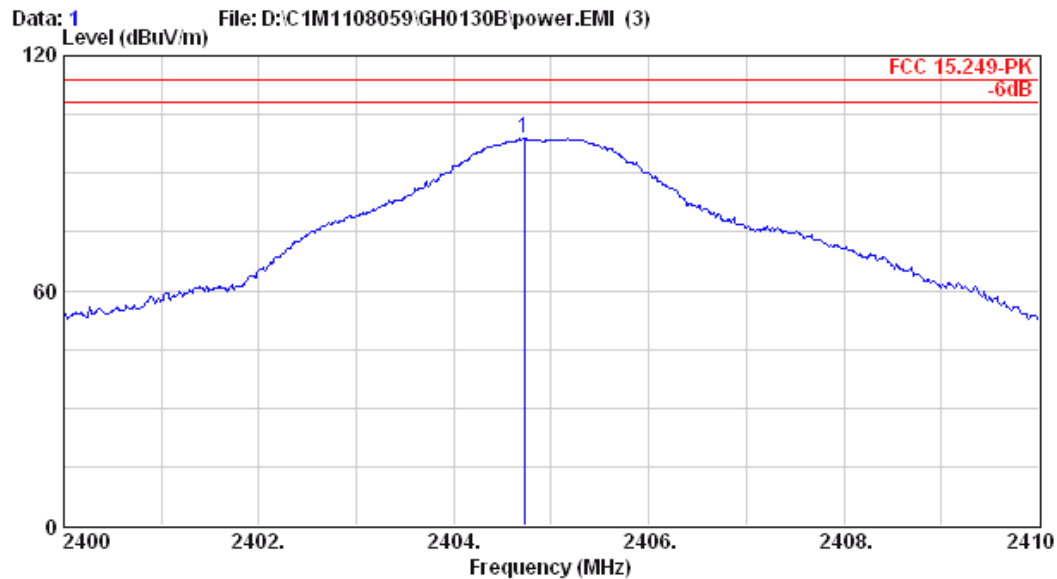
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2476.840	28.18	6.44	50.30	84.93	54.00	-30.93	Average
2 2483.560	28.18	6.45	-1.16	33.48	54.00	20.52	Average
3 2483.620	28.18	6.45	-1.36	33.27	54.00	20.73	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

3.7.4. Fundamental Frequency



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115 (3775)
Limit : FCC 15.249-PK
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2405

Data no. : 1
Ant. pol. : HORIZONTAL

□Jarwei Wang

		Ant.	Cable		Emission			
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark	
(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)		
1 2404.720	28.11	6.36	64.36	98.83	114.00	15.17	Peak	

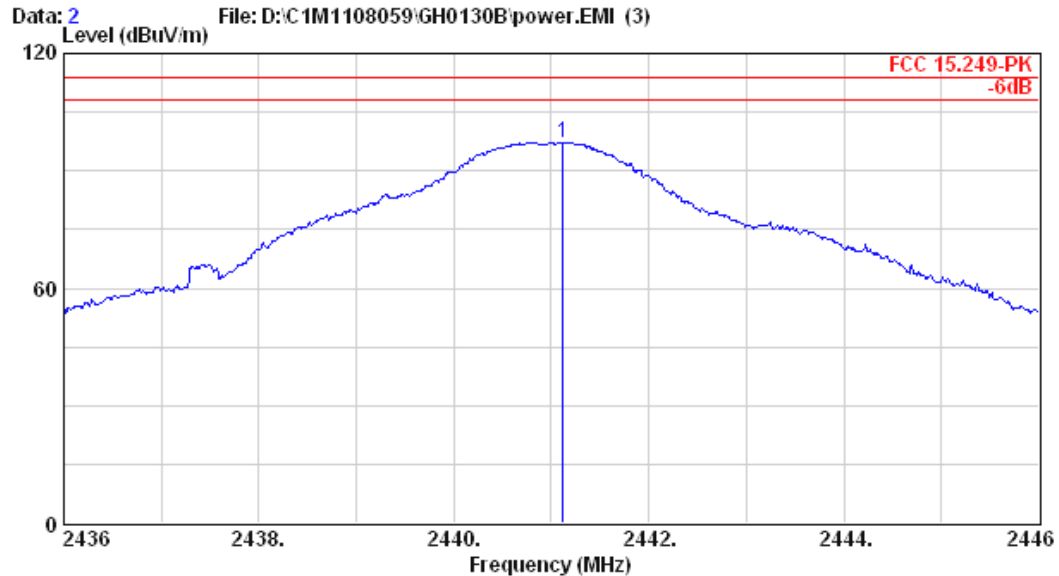
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency	Peak Value	Duty Cycle	Average Value	Limit	Margin
(MHz)	(dB/m)	Factor	Horizontal	(dBuV/m)	(dB)
2405.00	98.83	-28.93	69.90	94.00	24.10

Remarks: 1. Duty Cycle Factor=20log(dwell time/100ms)=20log(3.575ms/100ms)=-28.93
(Please refer to section 4)
2. Average value=Peak value+ Duty Cycle Factor
3. All final readings of measurement were with Average values.
4. Horizontal is the worst polarization, thus we don't list vertical result.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC 15.249-PK
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2441

Data no. : 2
Ant. pol. : HORIZONTAL

□Jarwei Wang

	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2441.120	28.15	6.40	62.73	97.28	114.00	16.72	Peak

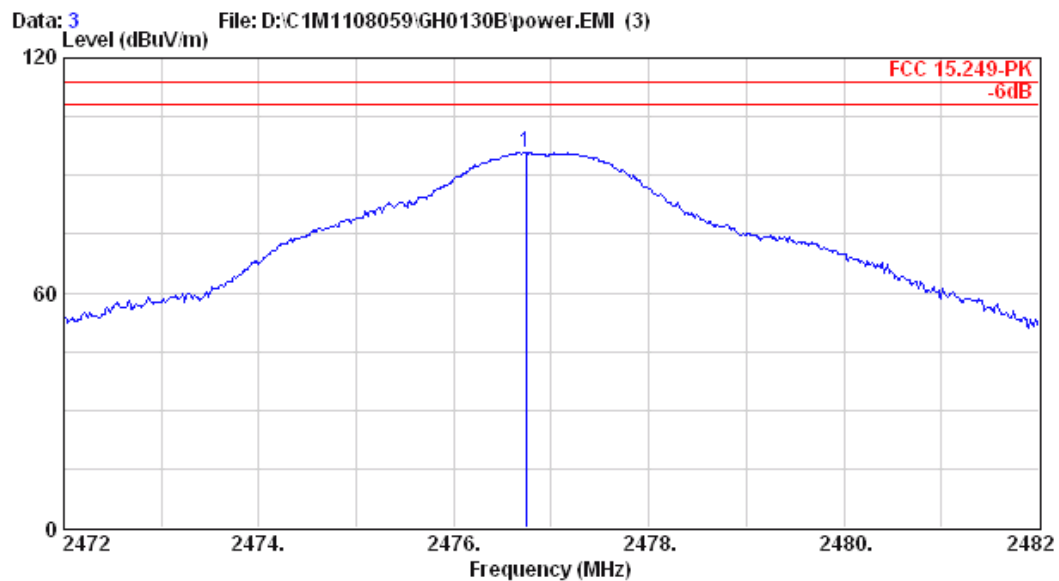
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency	Peak Value	Duty Cycle	Average Value	Limit	Margin
(MHz)	(dB/m)	Factor	Horizontal	(dBuV/m)	(dB)
2441.00	97.28	-28.93	68.35	94.00	25.65

Remarks: 1. Duty Cycle Factor=20log(dwell time/100ms)=20log(3.575ms/100ms)=-28.93
(Please refer to section 4)
2. Average value=Peak value+ Duty Cycle Factor
3. All final readings of measurement were with Average values.
4. Horizontal is the worst polarization, thus we don't list vertical result.



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Site no. : A/C Chamber
Dis. / Ant. : 3m 3115(3775)
Limit : FCC 15.249-PK
Env. / Ins. : E4446A 25°C/51%
EUT : GH0130A
Power Rating : 120Vac/60Hz
Test Mode : TX2477

Data no. : 3
Ant. pol. : HORIZONTAL

□Jarwei Wang

	Ant.	Cable		Emission			
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dBμV)	(dBμV/m)	(dBμV/m)	(dB)	
1 2476.740	28.18	6.44	61.13	95.75	114.00	18.25	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Emission Frequency	Peak Value	Duty Cycle	Average Value	Limit	Margin
(MHz)	(dB/m)	Factor	Horizontal	(dBμV/m)	(dB)
2447.00	95.75	-28.93	66.82	94.00	27.18

Remarks: 1. Duty Cycle Factor=20log(dwell time/100ms)=20log(3.575ms/100ms)=-28.93
(Please refer to section 4)

2. Average value=Peak value+ Duty Cycle Factor

3. All final readings of measurement were with Average values.

4. Horizontal is the worst polarization, thus we don't list vertical result.

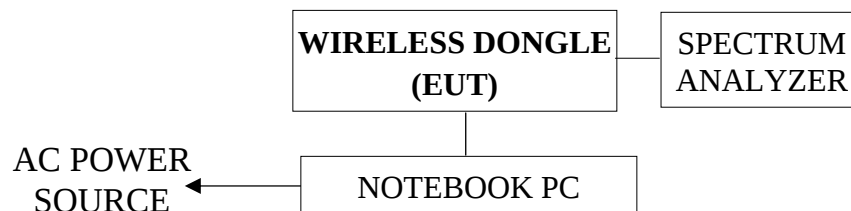
4. DUTY CYCLE FACTOR

4.1. Test Equipment

The following test equipment was used during the occupied bandwidth 99% power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A-507	MY49061167	Feb. 24, 11'	Feb. 23, 12'

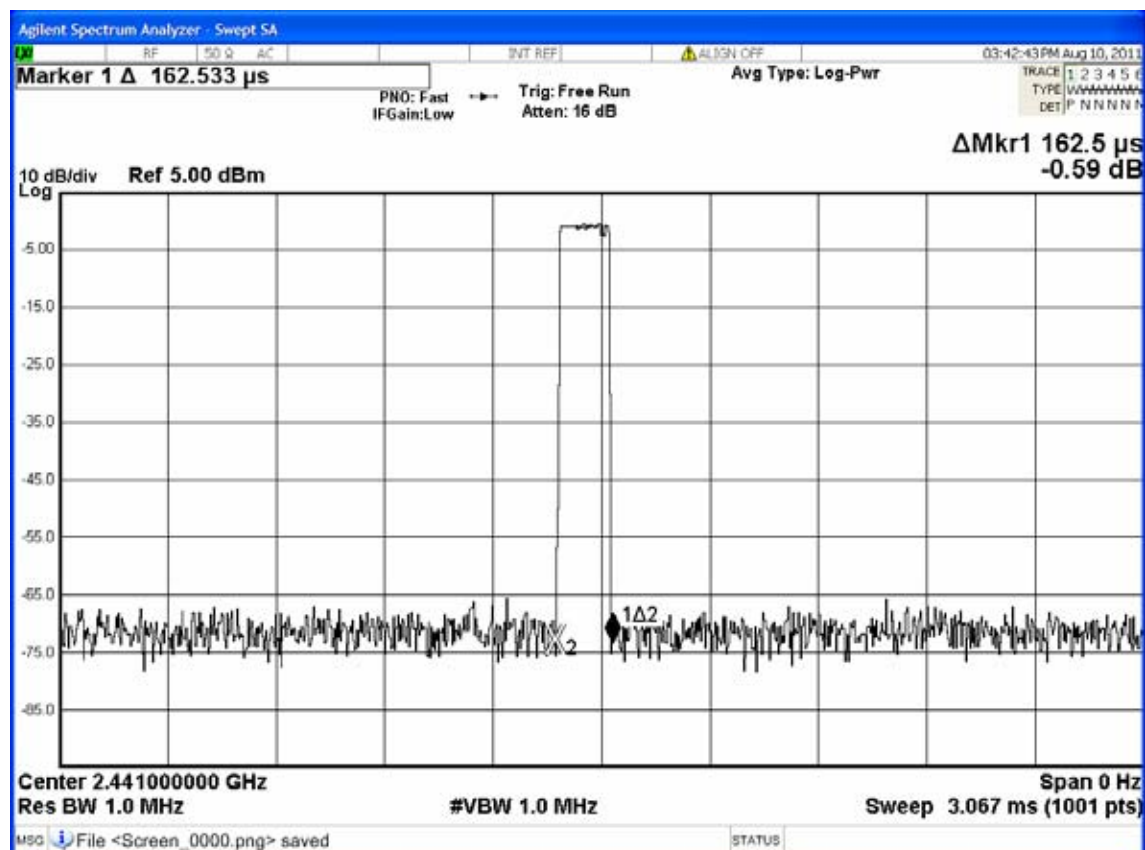
4.2. Block Diagram of Test Setup

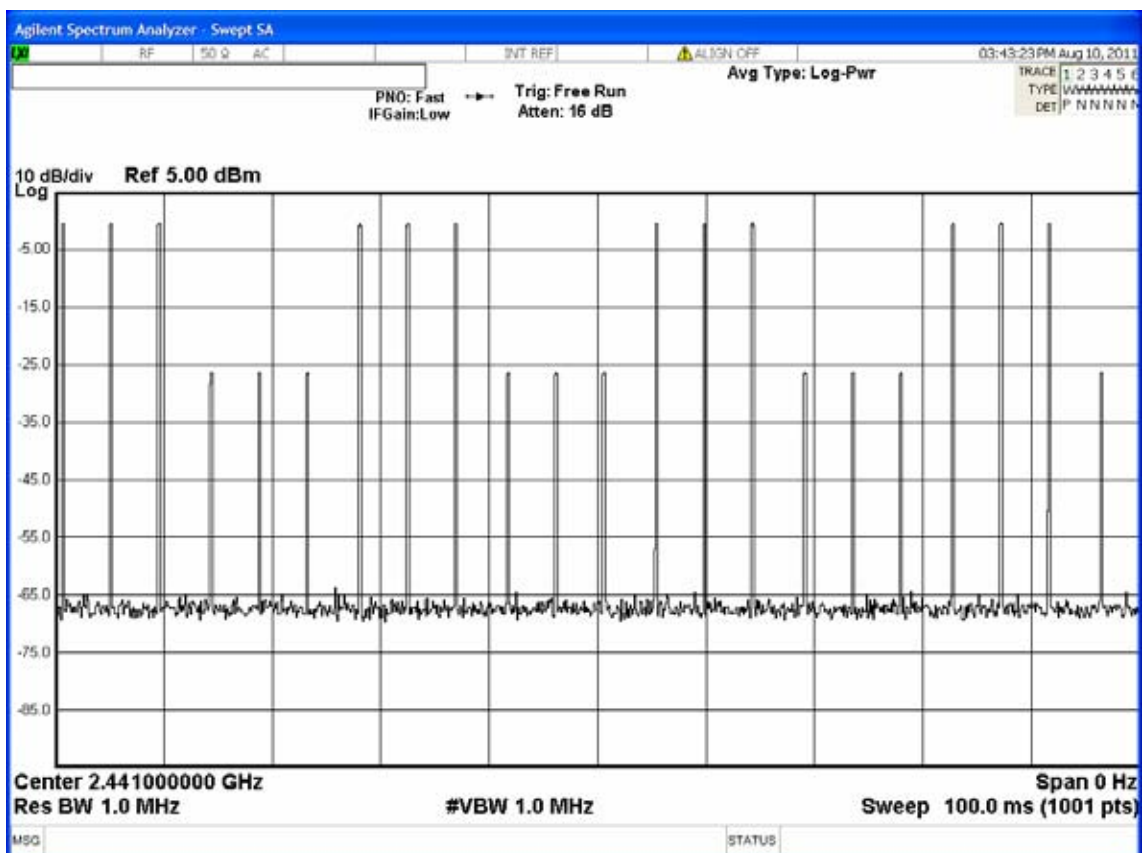
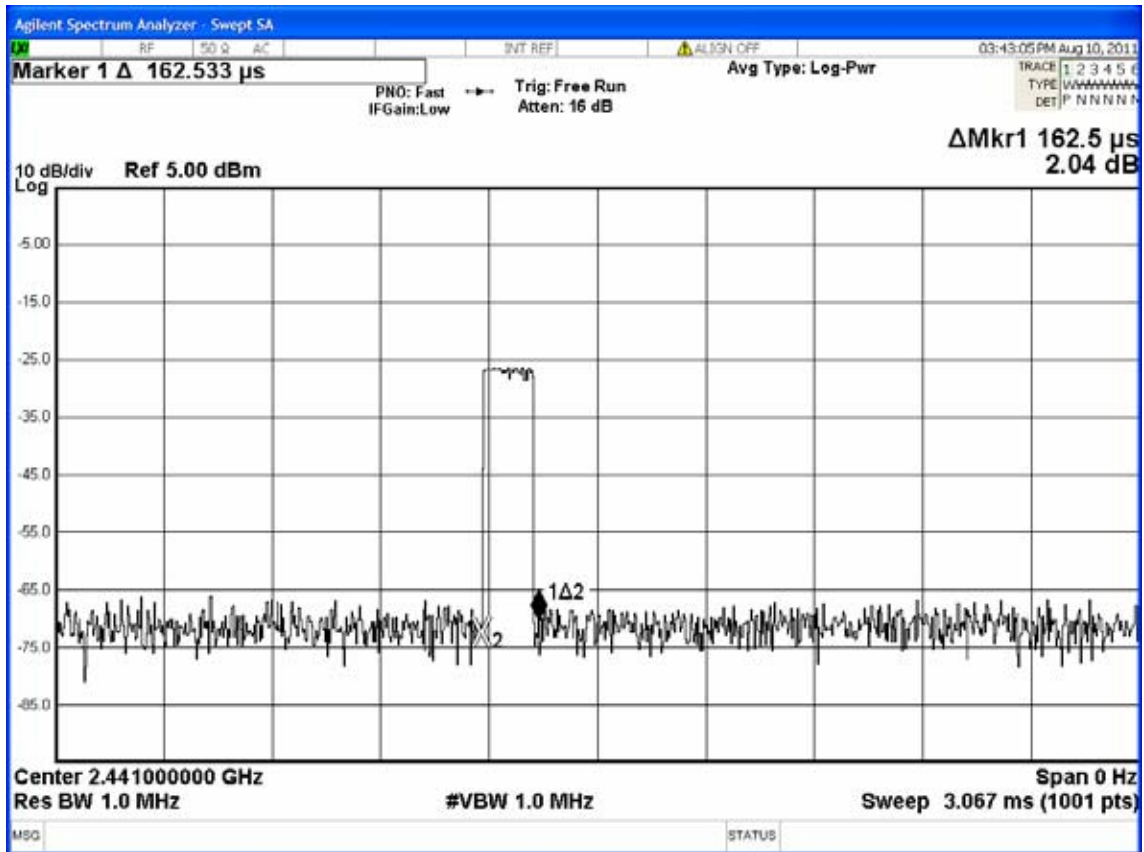


4.3. Test Results

PASSED. All the test results are attached in next pages.

Test Date: Aug. 10, 2011 Temperature : 23°C Humidity : 54 %





$$\begin{aligned} \text{Duty Cycle Factor} &= 20\log(\text{dwell time}/100\text{ms}) \\ &= 20\log(12 \times 0.1625 + 10 \times 0.1625\text{ms}/100\text{ms}) = -28.93 \end{aligned}$$

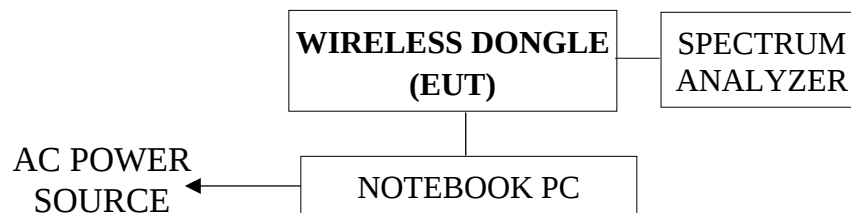
5. OCCUPIED BANDWIDTH 99% POWER MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the occupied bandwidth 99% power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9010A-507	MY49061167	Feb. 24, 11'	Feb. 23, 12'

5.2. Block Diagram of Test Setup



5.3. Specification (RSS-Gen §4.6.1)

The emission bandwidth may be taken as the bandwidth within which is 99% of the transmitter output power. The 20 dB bandwidth may also be used instead, when the spectral density has decreased by 20 dB from the in band spectral density. For the determination of the 20 dB bandwidth, the measurement bandwidth should be in the order of 1.0% of the emission bandwidth and VBW=3 times RBW.

5.4. Operating Condition of EUT

The test program “WM4G test V1.2.19” was used to enable the EUT to transmit data at different channel frequency individually.

5.5. Test Procedure

The RF output of EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer set span to encompass the entire emission bandwidth, RBW close to 1% of selected span, Vbw set to 3 times RBW and sample detector shall be used.

The measurement guideline was according to RSS-Gen.

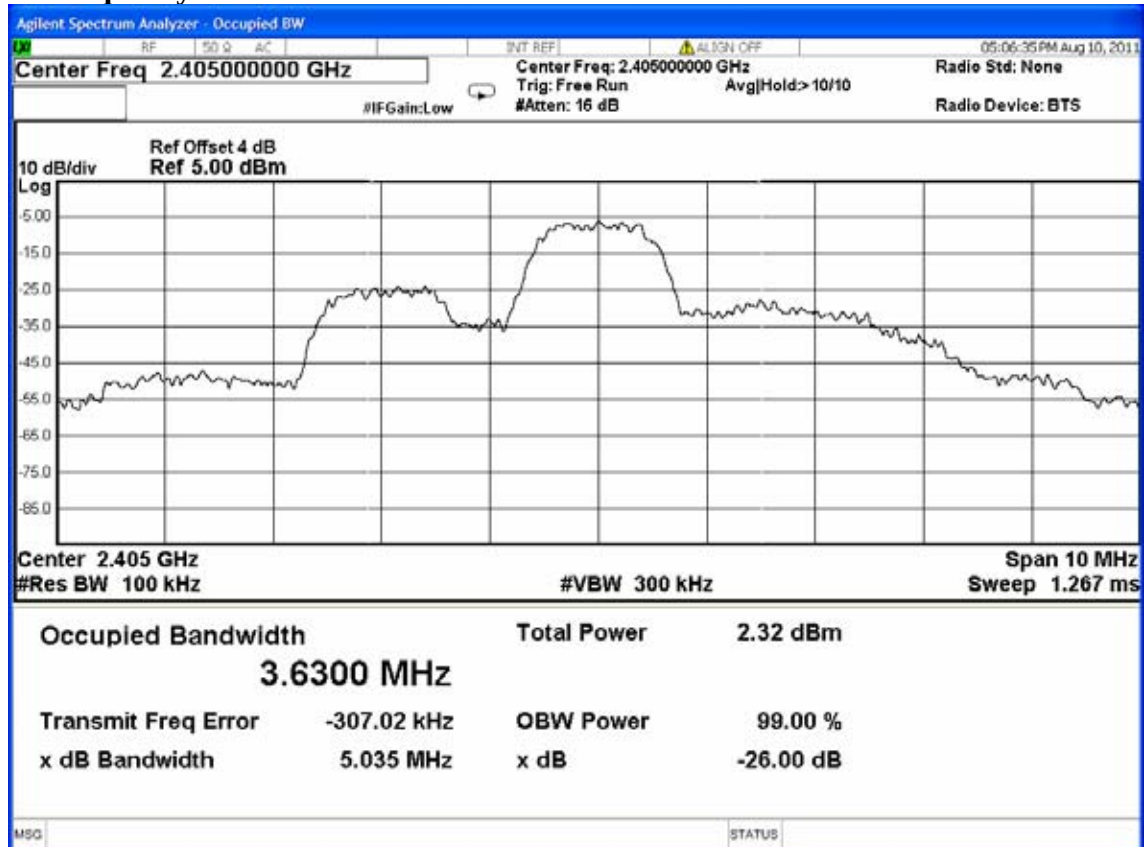
5.6. Test Results

PASSED. All the test results are attached in next pages.

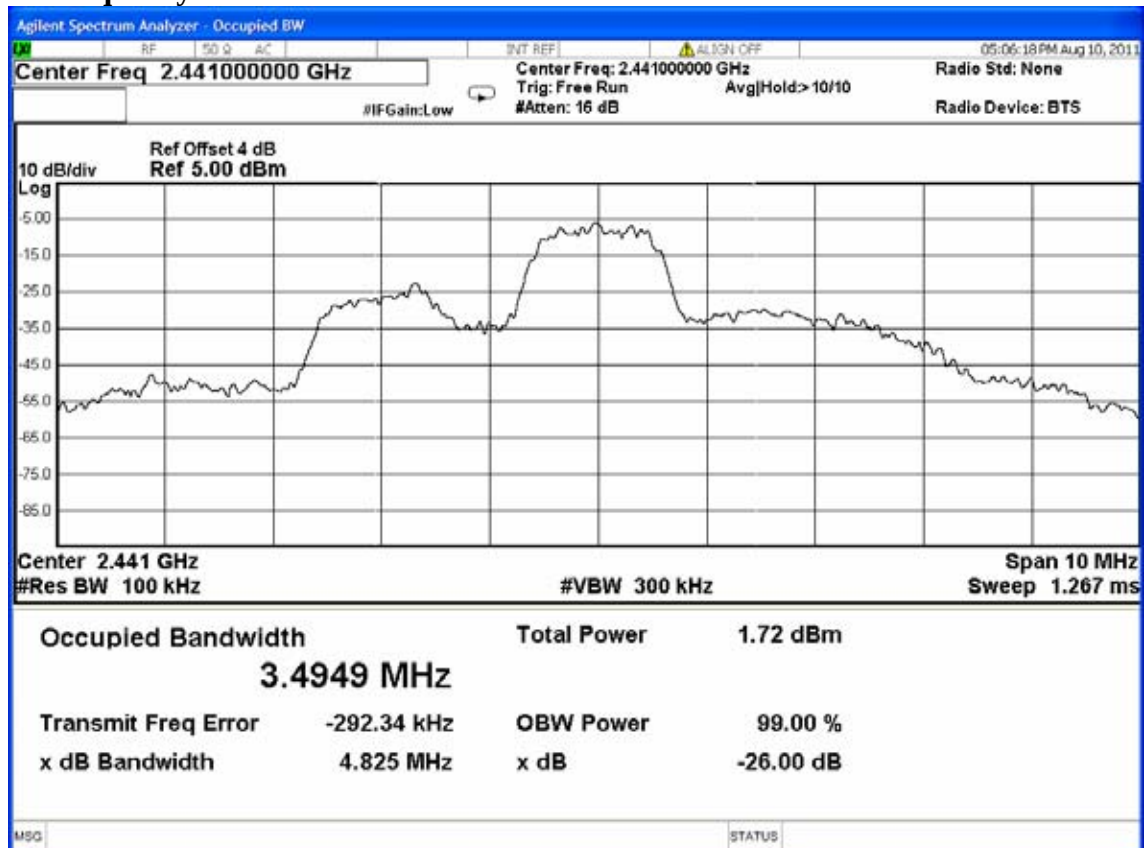
Test Date: Aug. 10, 2011 Temperature : 23°C Humidity : 54 %

Mode	Channel	Frequency	Occupied Bandwidth (MHz)
1.	02	2405MHz	3.6300MHz
2.	20	2441MHz	3.4949MHz
3.	38	2477MHz	3.4437MHz

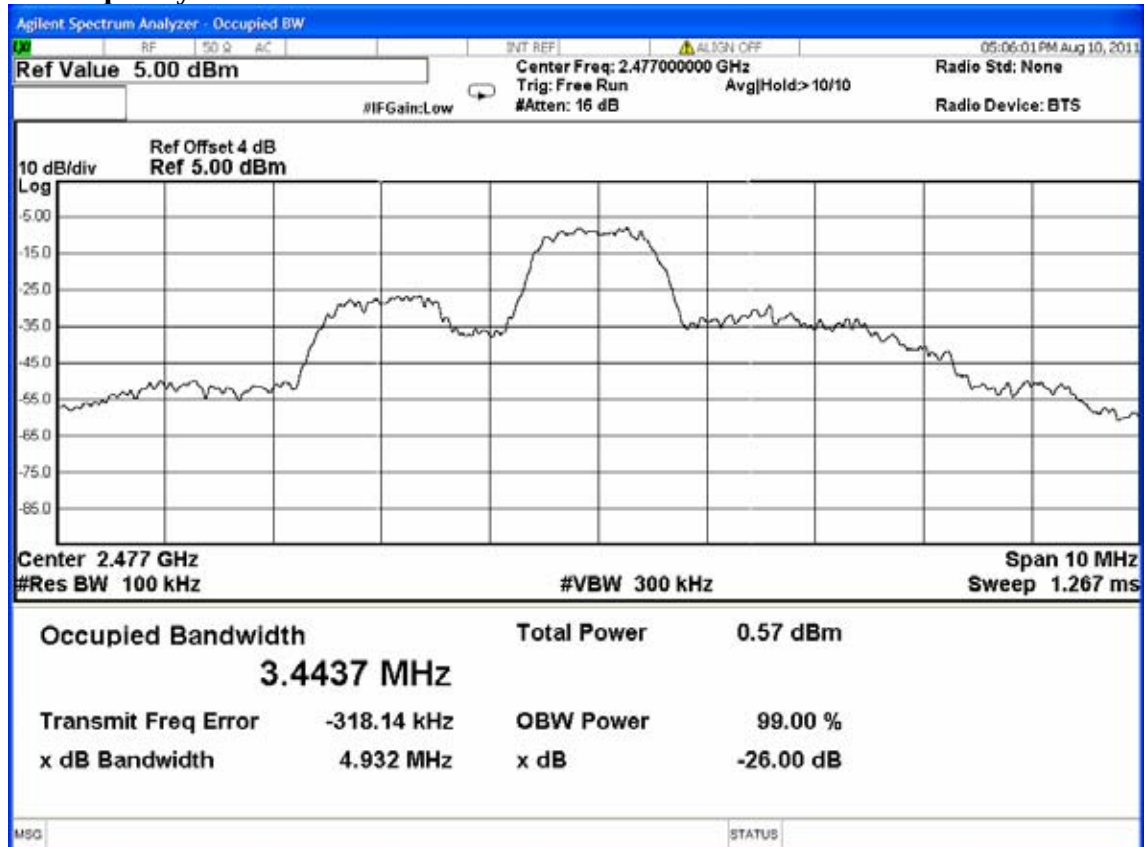
Frequency: 2405MHz



Frequency: 2441MHz



Frequency: 2477MHz



6. DEVIATION TO TEST SPECIFICATIONS

【NONE】