

# **FCC TEST REPORT**

**for**

## **47 CFR Part 15 Subpart C**

**Equipment : GAMECUBE 2.4G Wireless Controller**

**Trade Name : Hip Gear**

**Model No. : LM610**

**FCC ID. : RNIC348610-H**

**Filing Type : Certification**

**Applicant : Esel International Co. Ltd.**  
Rm 15-17, 5/F, Cardinal Ind, Bldg. No. 17 On Lok Mun St.,  
Fanling, N.T., Hong Kong

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***SPORTON International Inc.***

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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## History of this test report

Original Report Issue Date: June 18, 2004

☒ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

# CERTIFICATE OF COMPLIANCE

for

## 47 CFR Part 15 Subpart C

**Equipment : GAMECUBE 2.4G Wireless Controller**

**Trade Name : Hip Gear**

**Model No. : LM610**

**FCC ID. : RNIC348610-H**

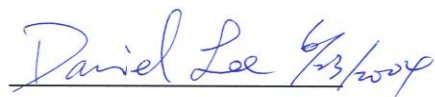
**Filing Type : Certification**

**Applicant : Esel International Co. Ltd.**

Rm 15-17, 5/F, Cardinal Ind, Bldg. No. 17 On Lok Mun St.,  
Fanling, N.T., Hong Kong

**I HEREBY CERTIFY THAT :**

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2001** and the equipment under test was **passed** all test items required in FCC Part 15 subpart C, relative to the equipment under test. Testing was carried out on June 15, 2004 at **SPORTON International Inc. LAB.**



Daniel Lee  
Manager

***SPORTON International Inc.***

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**SPORTON International Inc.**

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FCC ID. : RNIC348610-H  
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Issued Date : June 18, 2004

## **1. General Description of Equipment under Test**

### **1.1. Applicant**

**Esel International Co. Ltd.**

Rm 15-17, 5/F, Cardinal Ind, Bldg. No. 17 On Lok Mun St., Fanling, N.T., Hong Kong

### **1.2. Manufacturer**

**Eastern Sources Electronics Manufacturer**

Daji Industrial Zone, Hengshan District, Shipai Town, Dongguan City, Guangdong, China

### **1.3. Basic Description of Equipment under Test**

Equipment	: GAMECUBE 2.4G Wireless Controller
Trade Name	: Hip Gear
Model No.	: LM610
FCC ID	: RNIC348610-H
Power Supply Type	: DC 6V

**1.4. Feature of Equipment under Test**

Product Feature & Specification				
1. Type of Modulation	GFSK			
2. Frequency Band	2.400GHz ~ 2.4835GHz			
3. Carrier Frequency of each channel	2402MHz+n*MHz, n=0 ~ 79			
4. Bandwidth of each channel	1MHz			
5. Maximum Output Power to Antenna	4.82 dBm			
6. IF & L.O. frequency	N/A			
7. Type of Antenna Connector	On Board Antenna			
8. Antenna Type	PCB antenna			
9. Antenna Gain	-3 dBi			
10. Function Type	Transmitter		Transceiver	V
11. Power Rating (DC/AC , Voltage)	Host: DC 5V/3.5 V, Device: DC 4.4~6.0 V			
12. Temperature Range (Operating)	0°C to + 50°C			

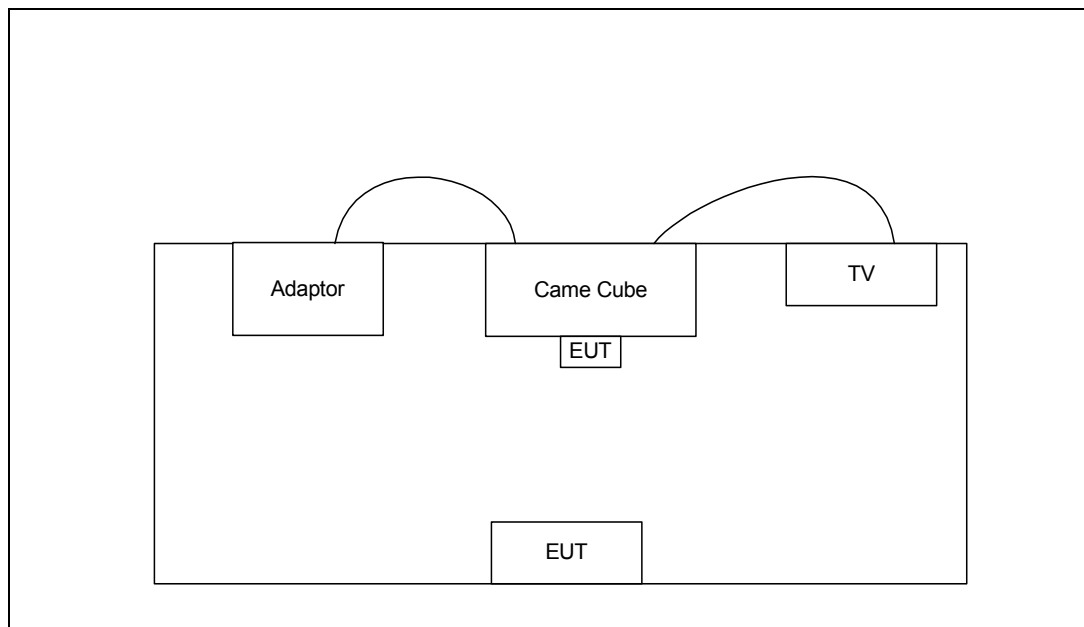
## **2. Test Configuration of Equipment under Test**

### **2.1. Test Manner**

- a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2001 and configuration operated in a manner, which tended to maximize its emission characteristics in a typical application.
- b. The complete test system included JVC TV EUT for EMI test.
- c. The following test modes were tested for conduction test:  
Mode 1: Operating
- d. The following test modes were tested for radiation test:  
Mode 1: Host TX 2402MHz (CH00)  
Mode 2: Host TX 2441MHz (CH39)  
Mode 3: Host TX 2480MHz (CH78)
- e. Frequency range investigated: conduction 150 KHz to 30 MHz, radiation 30 MHz to 25000MHz.

### **2.2. Description of Test System**

Item	Asset	Model Name	Power Cord	S/N
1.	TV (JVC)	TM-1700PN	N/A	SP0020

**2.3. Connection Diagram of Test System**



### **3. Operation of Equipment under Test**

The EUT is in Firmware controlled by Host (Transceiver).  
There is no other test software in the testing.

## **4. General Information of Test**

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,  
Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C.  
TEL : 886-3-327-3456  
FAX : 886-3-318-0055  
Test Site No : CO01-HY, 03CH03-HY

### **4.1. Test Voltage**

110V/60Hz

### **4.2. Standard for Methods of Measurement**

ANSI C63.4-2001

### **4.3. Test in Compliance with**

47 CFR Part 15 Subpart C

### **4.4. Frequency Range Investigated**

Conduction: from 150 KHz to 30 MHz  
Radiation: from 30 MHz to 25000MHz

### **4.5. Test Distance**

The test distance of radiated emission from antenna to EUT is 3 m.

## 5. Report of Measurements and Examinations

### 5.1. List of Measurements and Examinations

FCC Rule	Description of Test	Result
15.247(a)(1)	Hopping Channel Bandwidth	Pass
15.247(a)(1)	Hopping Channel Separation	Pass
15.247(a)(1)(iii)	Number of Hopping Frequency Used	Pass
15.247(a)(1)(iii)	Dwell Time of Each Frequency within a 30 Second Period	Pass
15.247(b)(1)	Output Power	Pass
15.247(c)	100KHz Bandwidth of Frequency Band Edges	Pass
15.207	Conducted Emission	Pass
15.209	Radiated Emission	Pass
15.203 15.247(B)(4)	Antenna Requirement	Pass
1.1307 2.1091	RF Exposure	Pass

## 5.2. Hopping Channel Separation

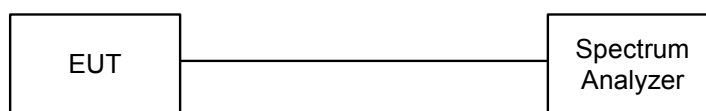
### 5.2.1. Measuring Instruments :

As described in chapter 8 of this test report.

### 5.2.2. Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

### 5.2.3. Test Setup Layout :



### 5.2.4. Test Result : The spectrum analyzer plots are attached as below

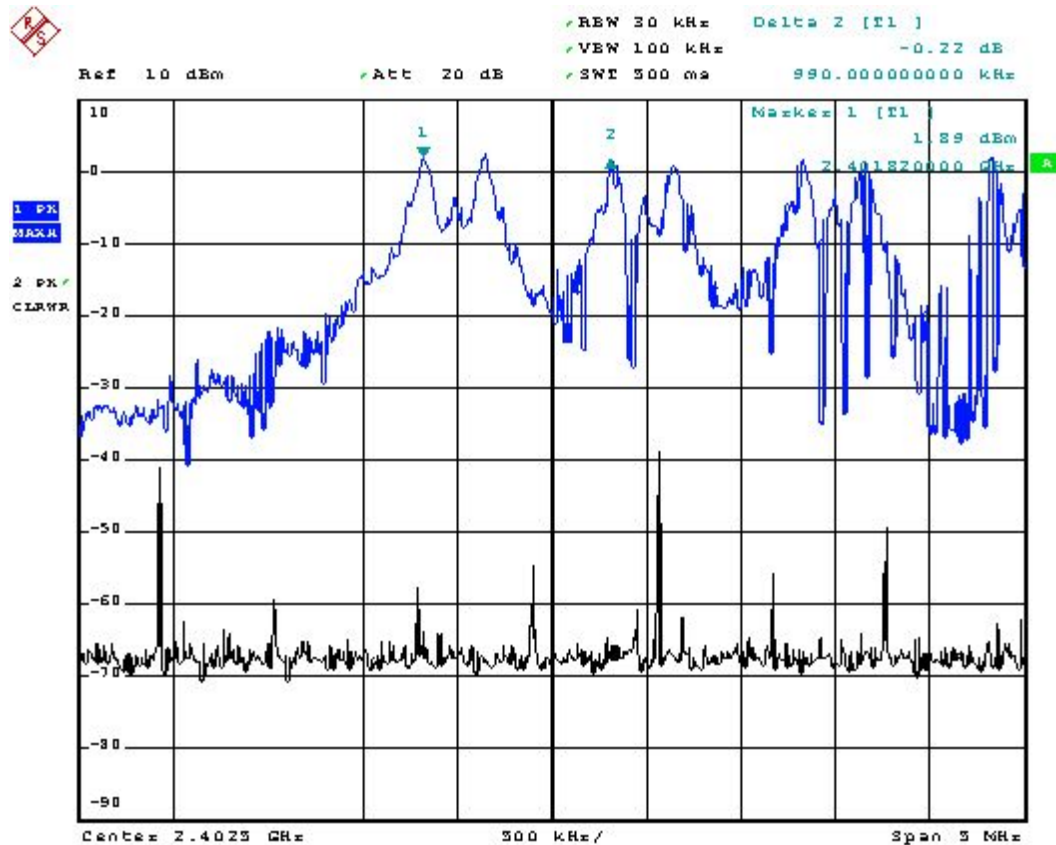
- Test Mode: Mode 1~Mode 3
- Temperature: 26°C
- Relative Humidity: 53%

Channel	Frequency	Hopping Channel Separation	Limits	Plot
	( MHz )	( MHz )	( MHz )	Ref. No.
00	2402	0.990	0.96	Mode 1
39	2441	1.010	0.97	Mode 2
78	2480	1.000	0.99	Mode 3

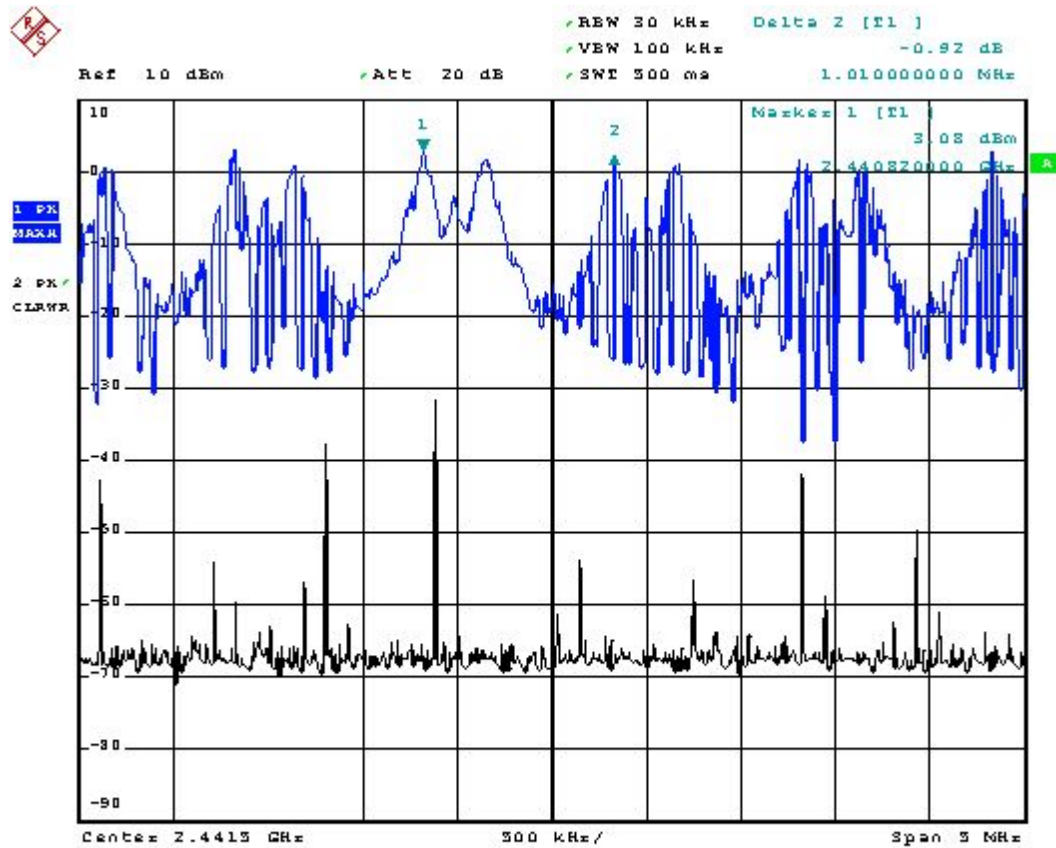
Remark: Limit is the greater one of 25kHz or the 20dB bandwidth of the hopping channel.

## 5.2.5 Hopping Channel Separation

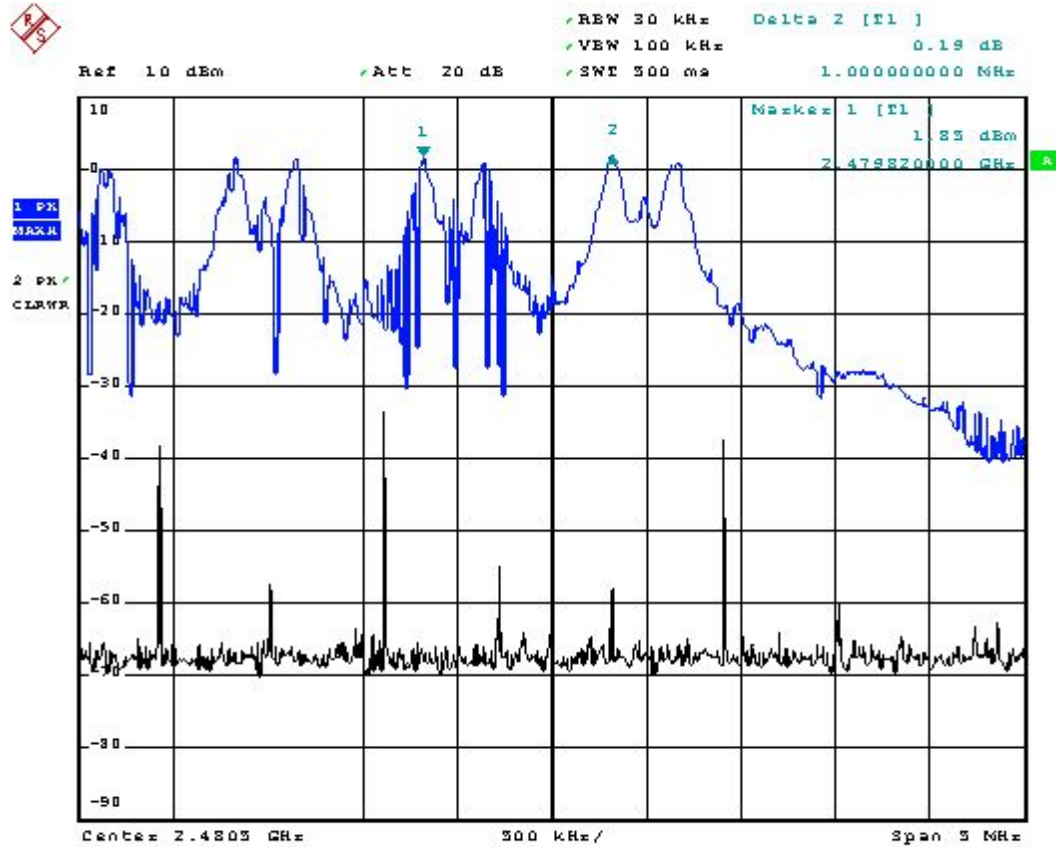
## Mode 1: CH00 (2402MHz)



### Mode 2: CH39 (2441MHz)



## Mode 3: CH78 (2480MHz)



### 5.3. Number of Hopping Frequency

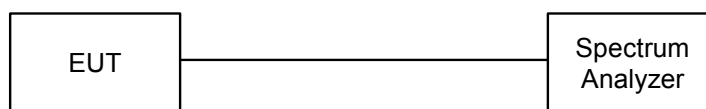
#### 5.3.1. Measuring Instruments :

As described in chapter 8 of this test report.

#### 5.3.2. Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The number of hopping frequency used is defined as the device has the numbers of total channel.

#### 5.3.3. Test Setup Layout :



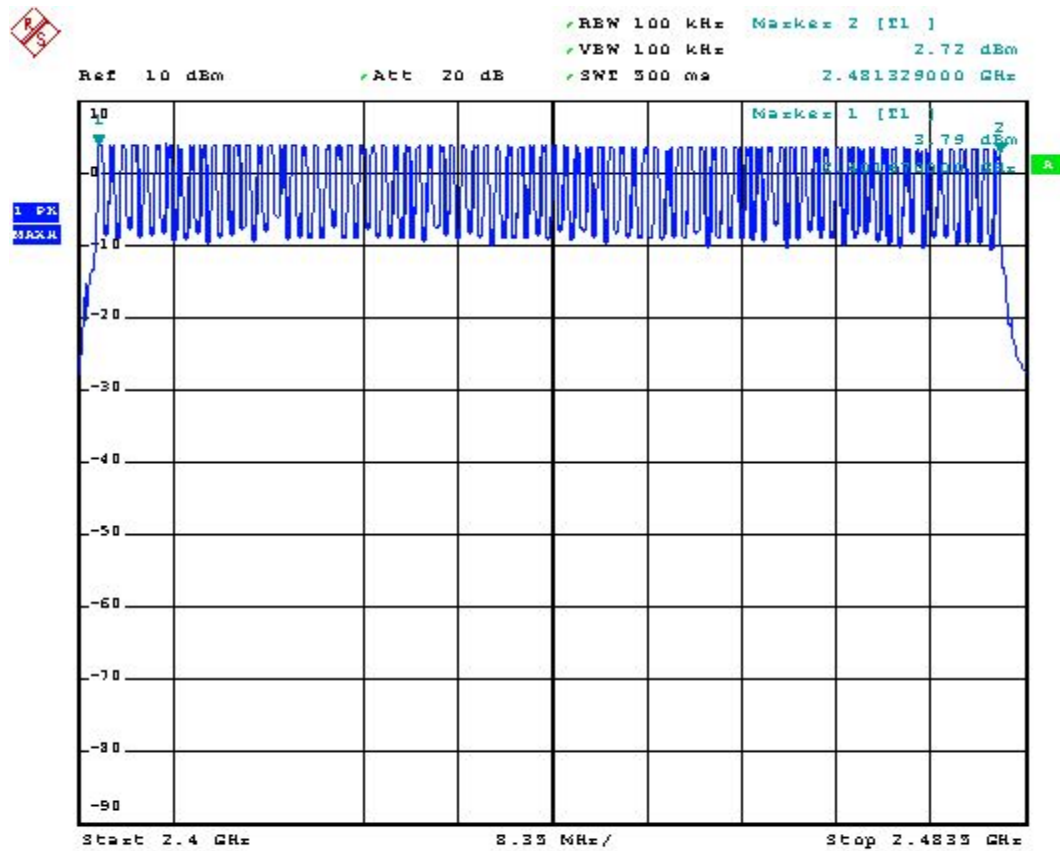
#### 5.3.4. Test Result : See spectrum analyzer plots below

- Temperature: 26°C
- Relative Humidity: 53%

Number of Hopping Frequency (Channel)	Limits (Channel)
79	75



## 5.3.5 Number of Hopping Frequency



## 5.4 Hopping Channel Bandwidth

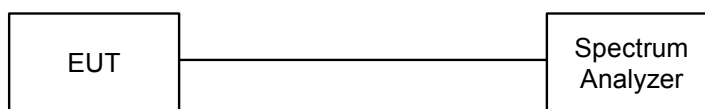
### 5.4.1 Measuring Instruments :

As described in chapter 8 of this test report.

### 5.4.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.
3. The Hopping Channel bandwidth is defined as the frequency range where the power is higher than peak power minus 20dB.

### 5.4.3 Test Setup Layout :



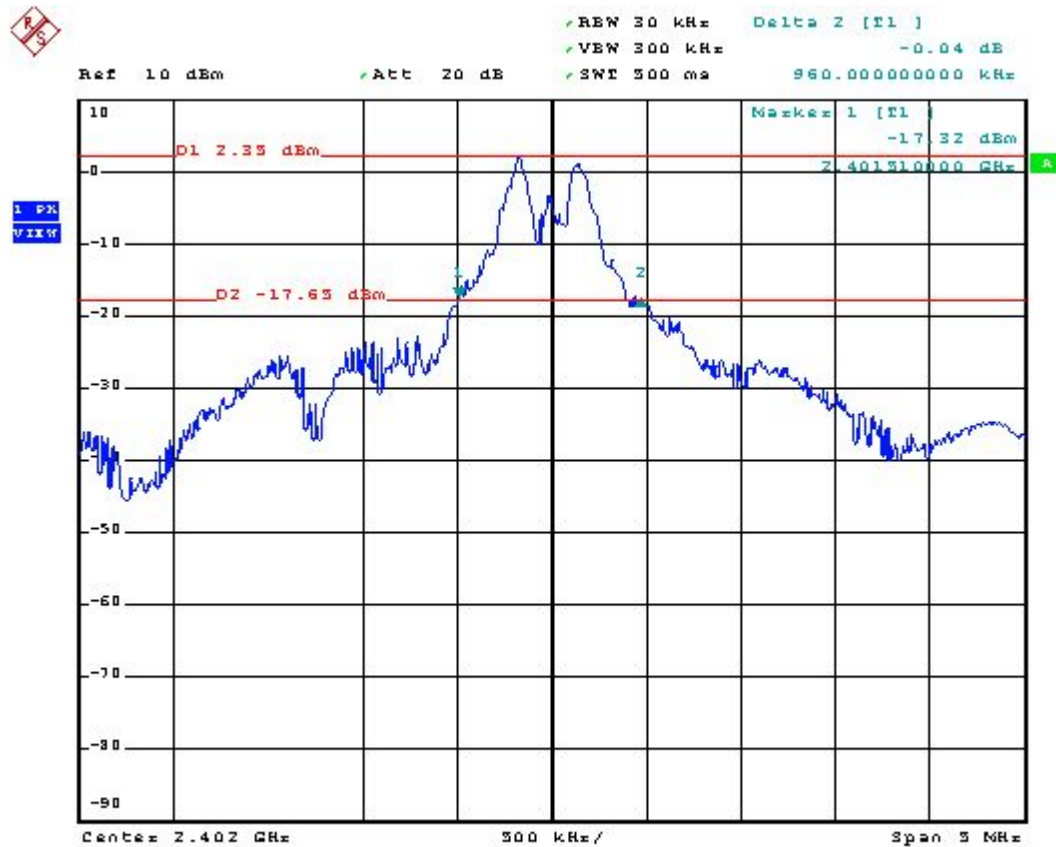
### 5.4.4 Test Result : See spectrum analyzer plots below

- Test Mode: Mode 1~Mode 3
- Temperature: 26°C
- Relative Humidity: 53%

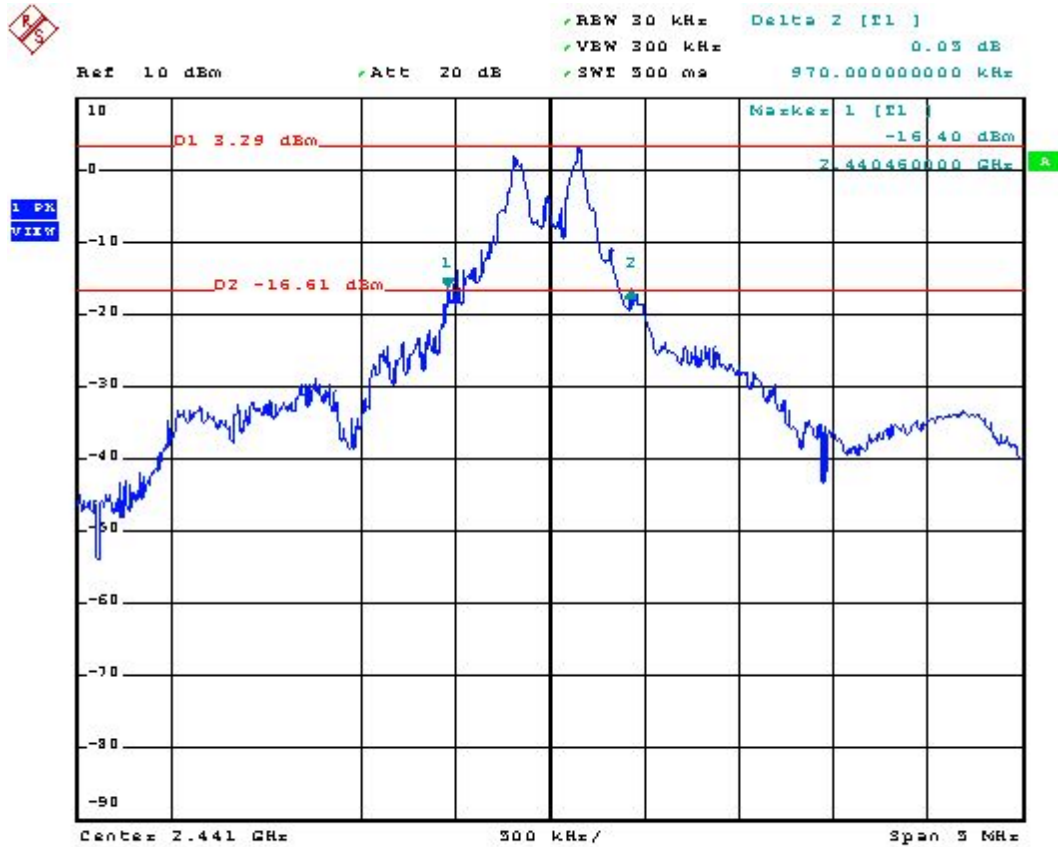
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.960	1.0	Mode 1
39	2441	0.970	1.0	Mode 2
78	2480	0.990	1.0	Mode 3

## 5.4.5 Hopping Channel Bandwidth

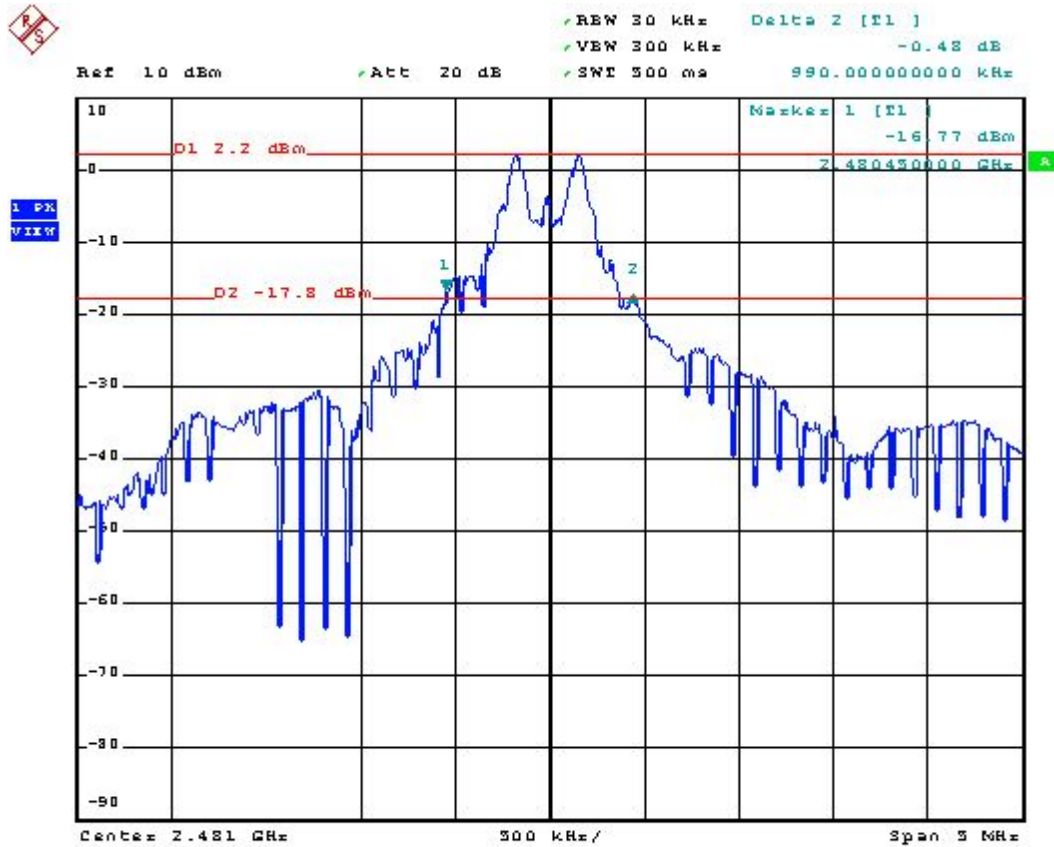
## Mode 1: CH00 (2402MHz)



## Mode 2: CH39 (2441MHz)



## Mode 3: CH78 (2480MHz)



## 5.5 Dwell Time of Each Frequency within a 30 Seconds Period

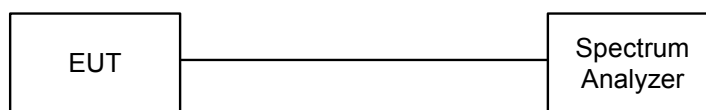
### 5.5.1 Measuring Instruments :

As described in chapter 8 of this test report.

### 5.5.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measured and set the frequency span to zero span.
4. The calculate  $= 0.4 * 79 * ((1/0.12)/80) * t$  (t = the time duration of one single pulse )

### 5.5.3 Test Setup Layout :



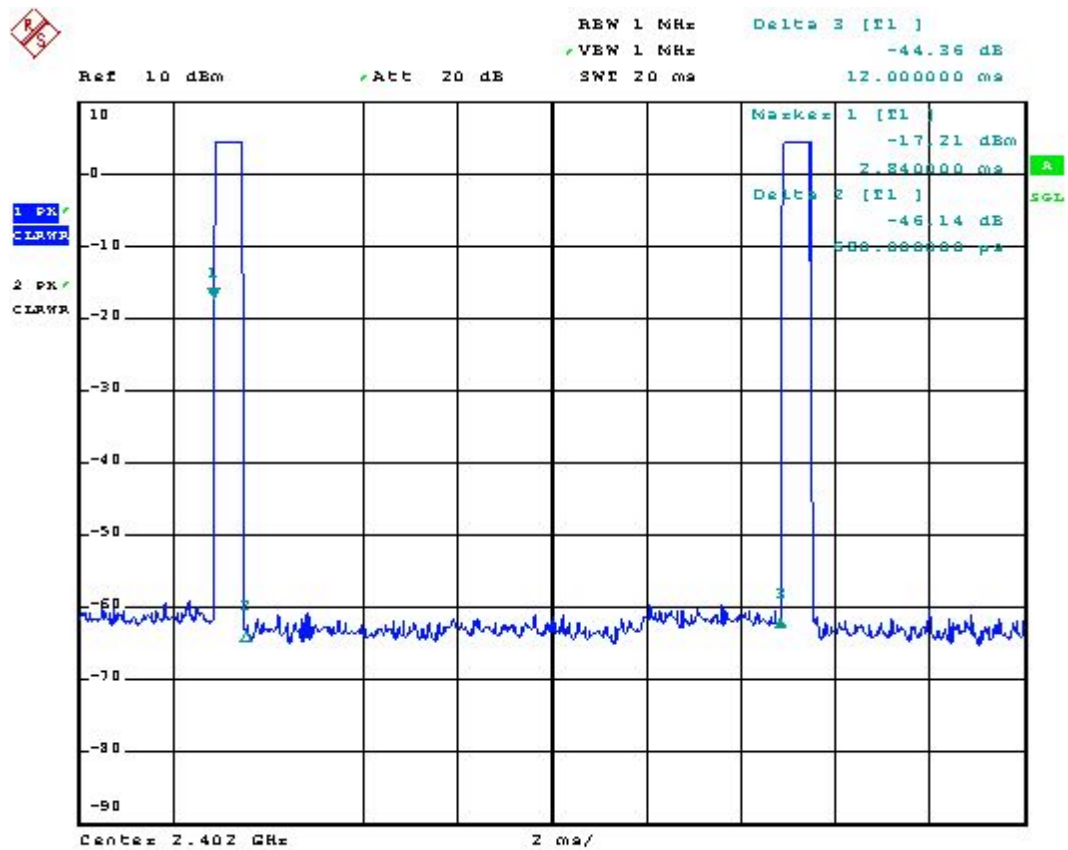
### 5.5.4 Test Result : See spectrum analyzer plots below

- Test Mode: Mode 1~Mode 3
- Temperature: 26°C
- Relative Humidity: 53%

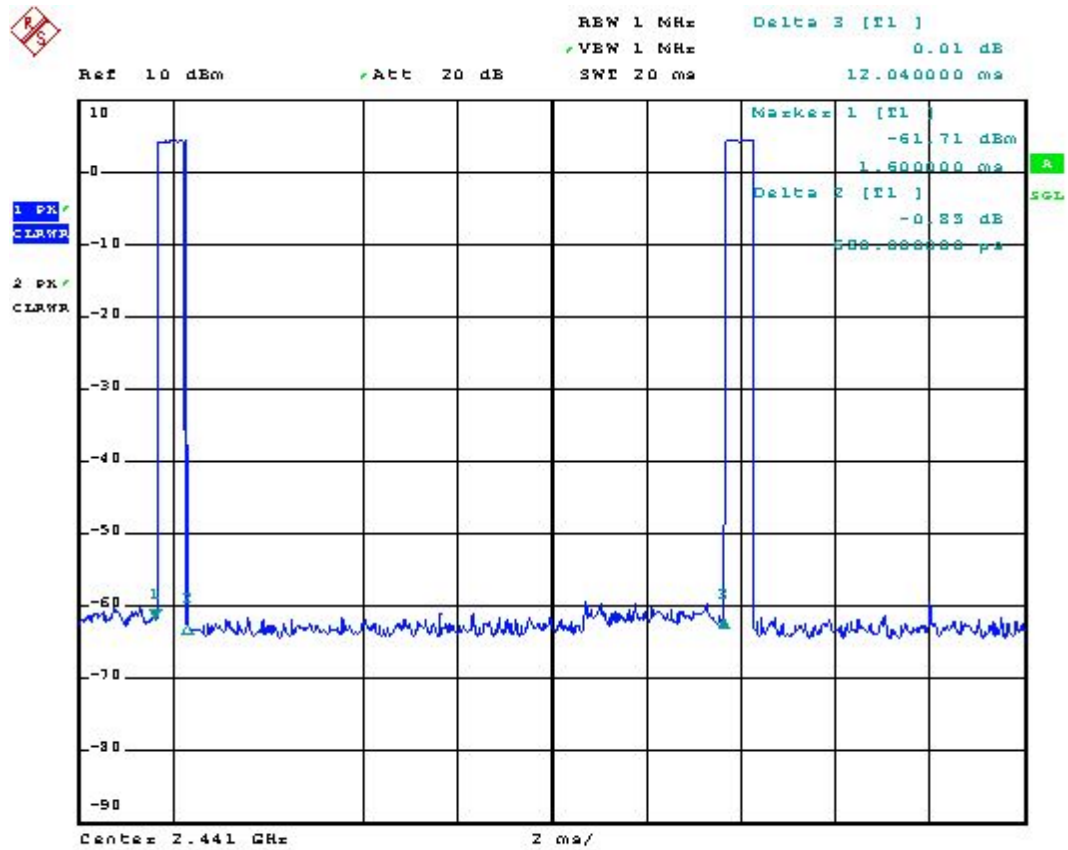
Channel	Frequency (MHz)	Dwell Time (s)	Limits (s)	Plot Ref. No.
00	2402	0.002238333	0.4	Mode 1
39	2441	0.002238333	0.4	Mode 2
78	2480	0.00237	0.4	Mode 3

## 5.5.5 Dwell Time of Each Frequency

## Mode 1: CH00 (2402MHz)



## Mode 2: CH39 (2441MHz)

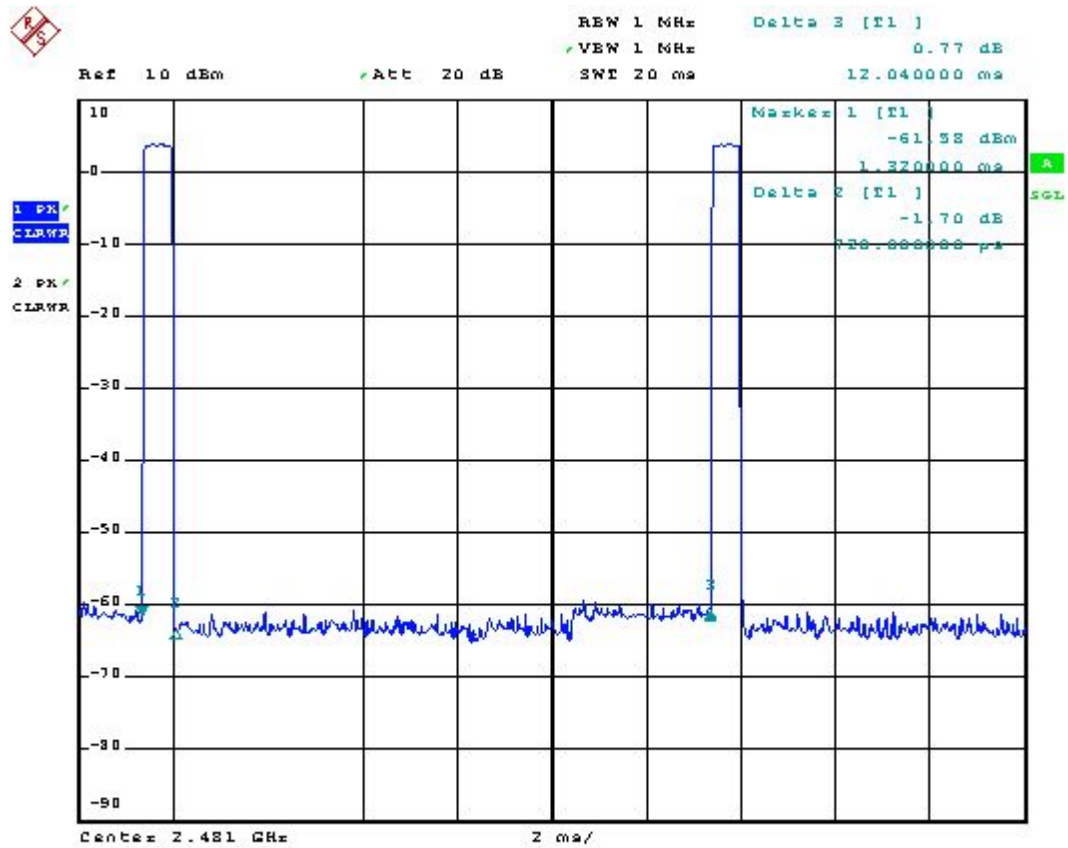




# FCC TEST REPORT

Report No. : F460202-A

## Mode 3: CH78 (2480MHz)



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## 5.6 Output Power

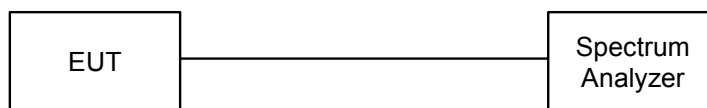
### 5.6.1 Measuring Instruments :

As described in chapter 8 of this test report.

### 5.6.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. The center frequency of the spectrum analyzer was set to the fundamental frequency and set RBW to 3MHz and VBW to 3MHz.

### 5.6.3 Test Setup Layout :



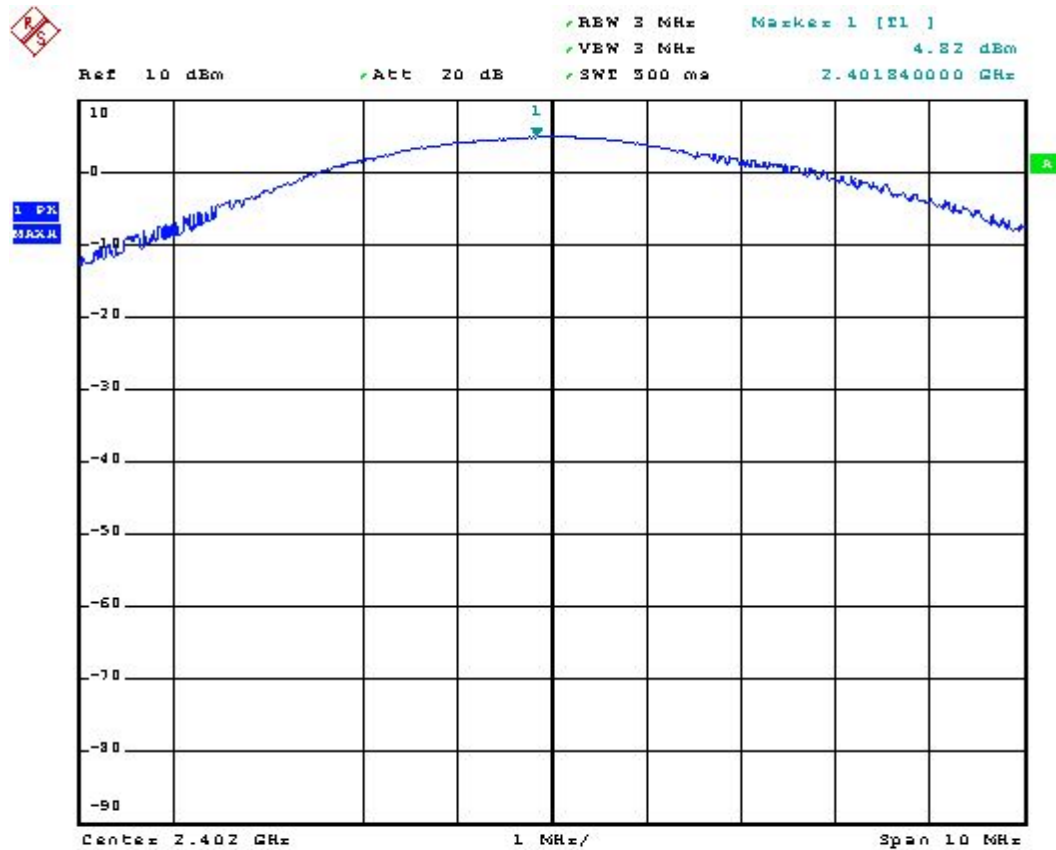
### 5.6.4 Test Result : See spectrum analyzer plots below

- Test Mode: Mode 1~Mode 3
- Temperature: 26°C
- Relative Humidity: 53%

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm )	Plot Ref. No.
00	2402	4.82	1W/30 dBm	Mode 1
39	2441	4.76	1W/30 dBm	Mode 2
78	2480	4.26	1W/30 dBm	Mode 3

## 5.6.5 Output Power

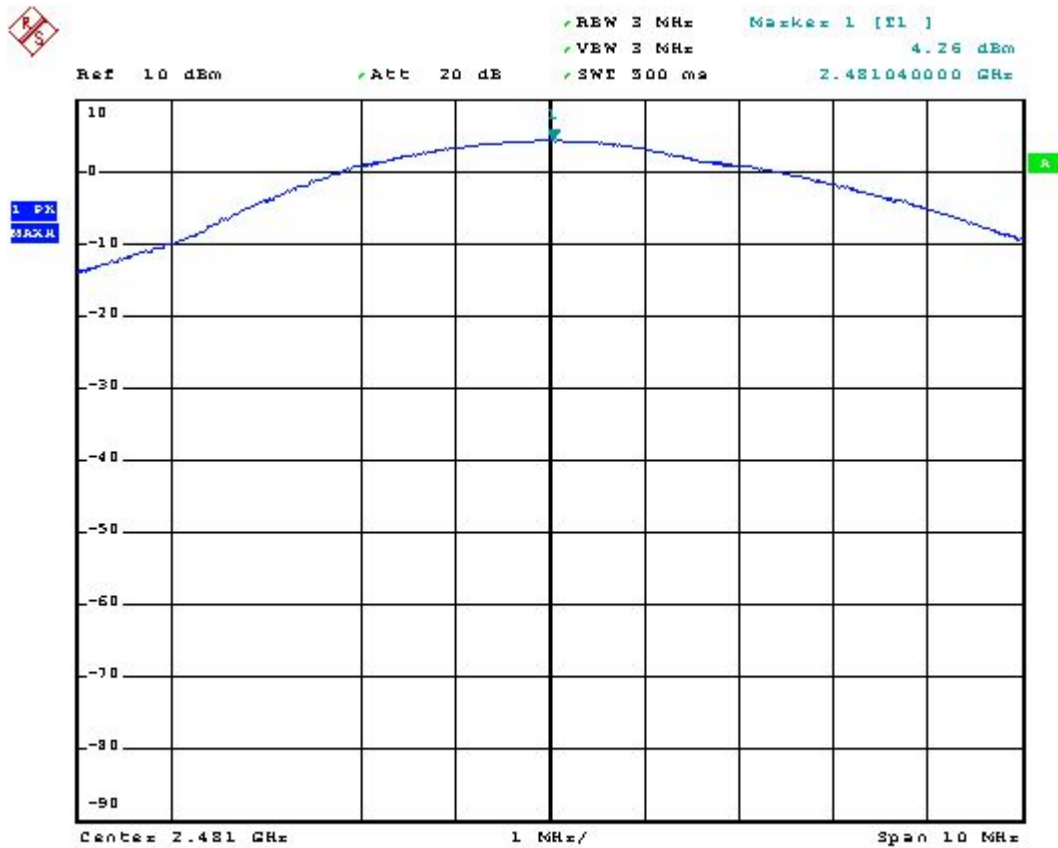
## Mode 1: CH00 (2402MHz)



## Mode 2: CH39 (2441MHz)



## Mode 3: CH78 (2480MHz)



## **5.7 100KHz Bandwidth of Frequency Band Edges**

### **5.7.1 Measuring Instruments :**

As described in chapter 10 of this test report.

### **5.7.2 Test Procedure :**

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 KHz bandwidth from band edge.
3. The band edges was measured and recorded.

### **5.7.3 Test Result :**

- Test Mode: Mode 1 and Mode 3
- Temperature: 26°C
- Relative Humidity: 53%

Test Result in lower band (Channel 00) : PASS

Test Result in higher band(Channel 78) : PASS

**5.7.4 Note on Band edge Emission**

The band edge emission shows 30.54 dB delta between carrier maximum power and local maximum emission in the restricted band (2.390GHz).

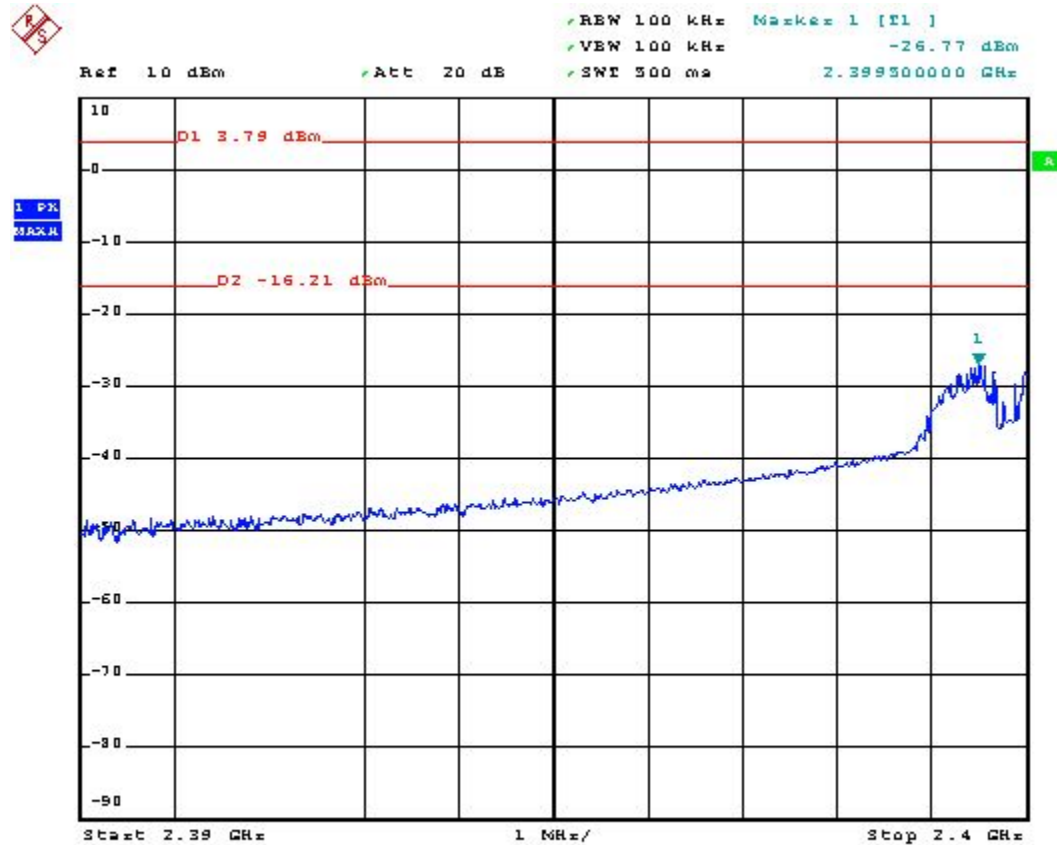
The band edge emission shows 34.27 dB delta between carrier maximum power and local maximum emission in the restricted band (2.4835GHz)

Channel	Polarity	The emission of carrier power strength	Frequency	The maximum field strength in band edge	Limit	Margin	Remark	Result
		(dB $\mu$ V/m)	(GHz)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)		
00	H	88.88	2.39944	58.34	74	-15.66	Peak	Pass
	H	66.68	2.39944	36.14	54	-17.86	Average	Pass
	V	95.57	2.39944	65.03	74	-8.97	Peak	Pass
	V	72.63	2.39944	42.09	54	-11.91	Average	Pass
78	H	90.47	2.4835	56.2	74	-17.8	Peak	Pass
	H	69.17	2.4835	34.9	54	-19.1	Average	Pass
	V	91.57	2.4835	57.3	74	-16.7	Peak	Pass
	V	70.4	2.4835	36.13	54	-17.87	Average	Pass

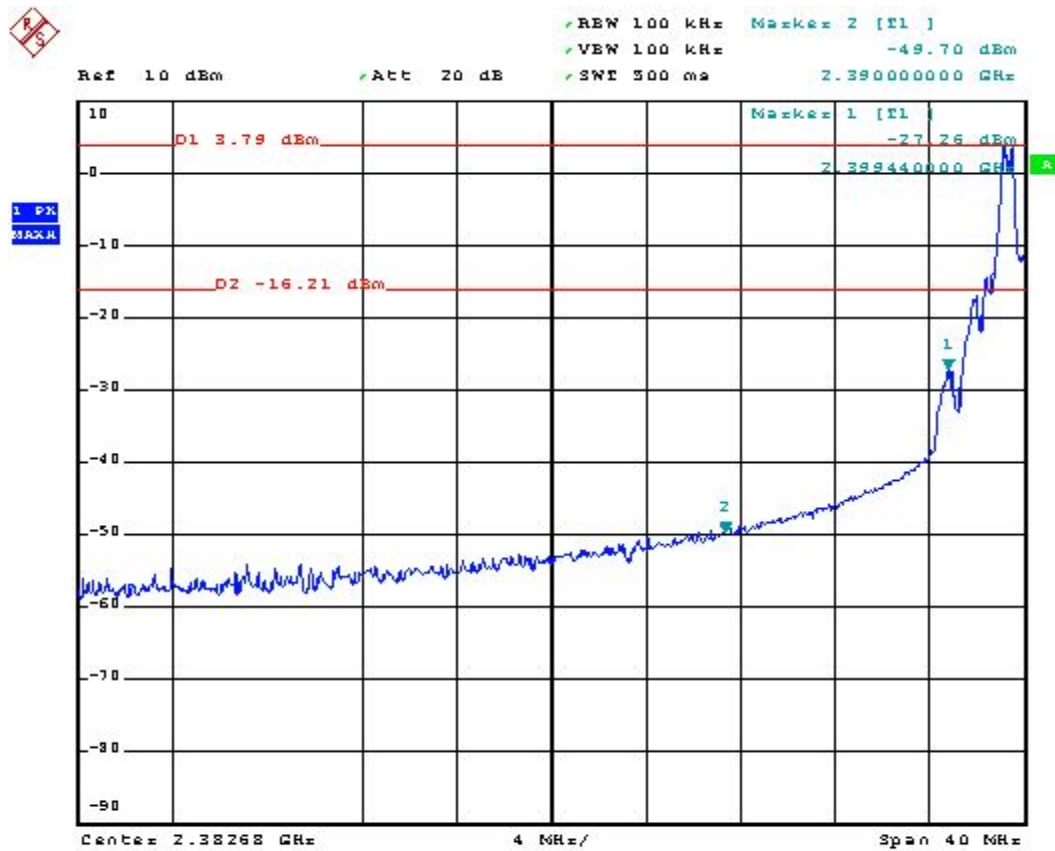
\*Remark: The data above can refer to radiated emission in section 5.9.

## 5.7.5 Frequency Band Edge

## Mode 1: CH00 (2402 MHz)

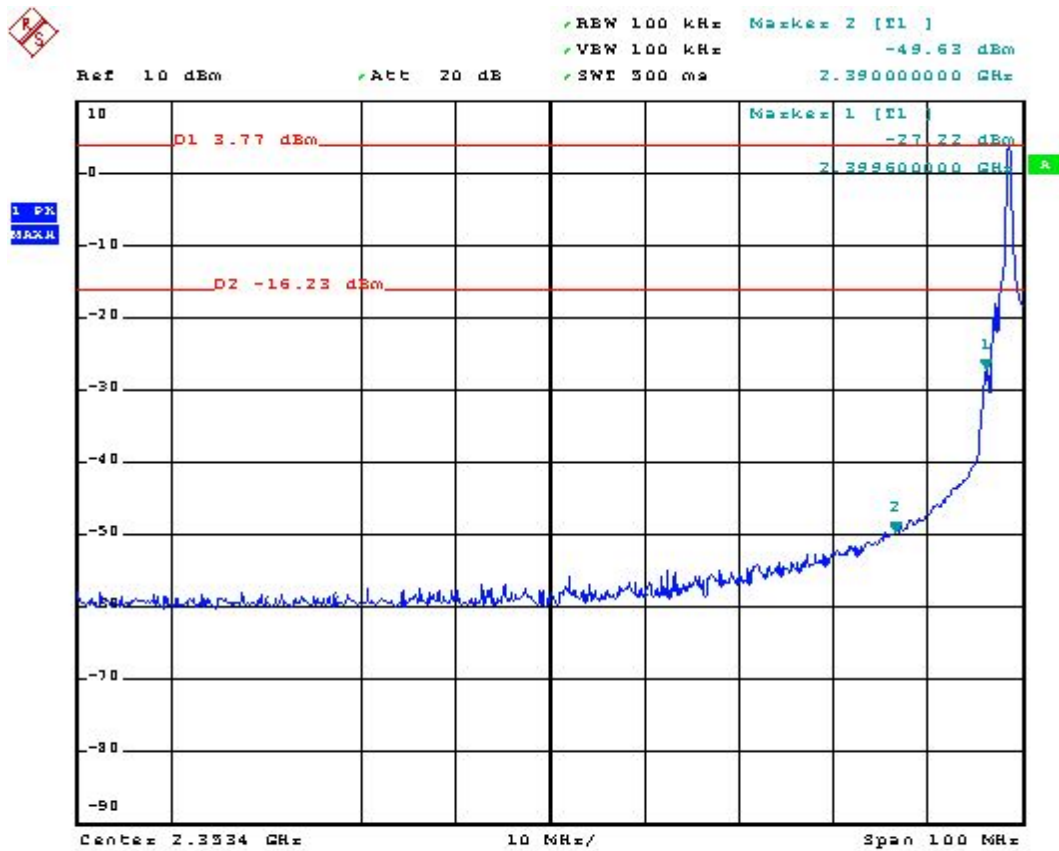






# FCC TEST REPORT

Report No. : F460202-A



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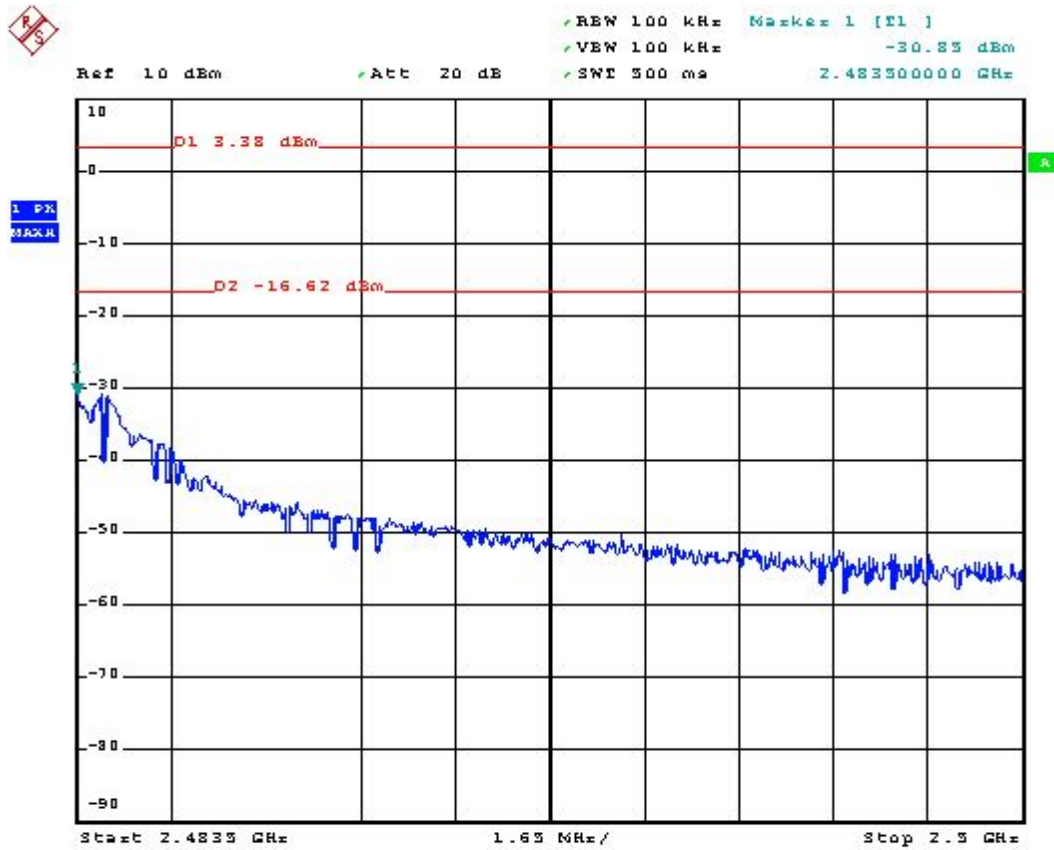
FAX : 886-2-2696-2255

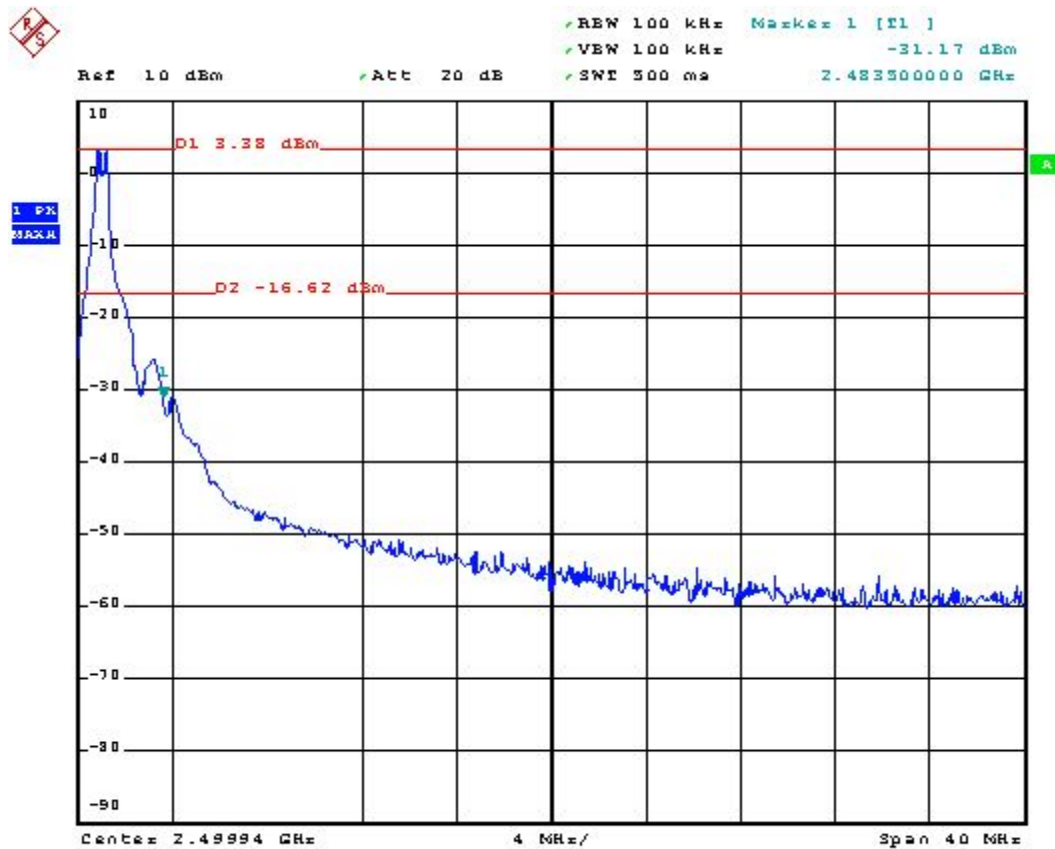
FCC ID. : RNIC348610-H

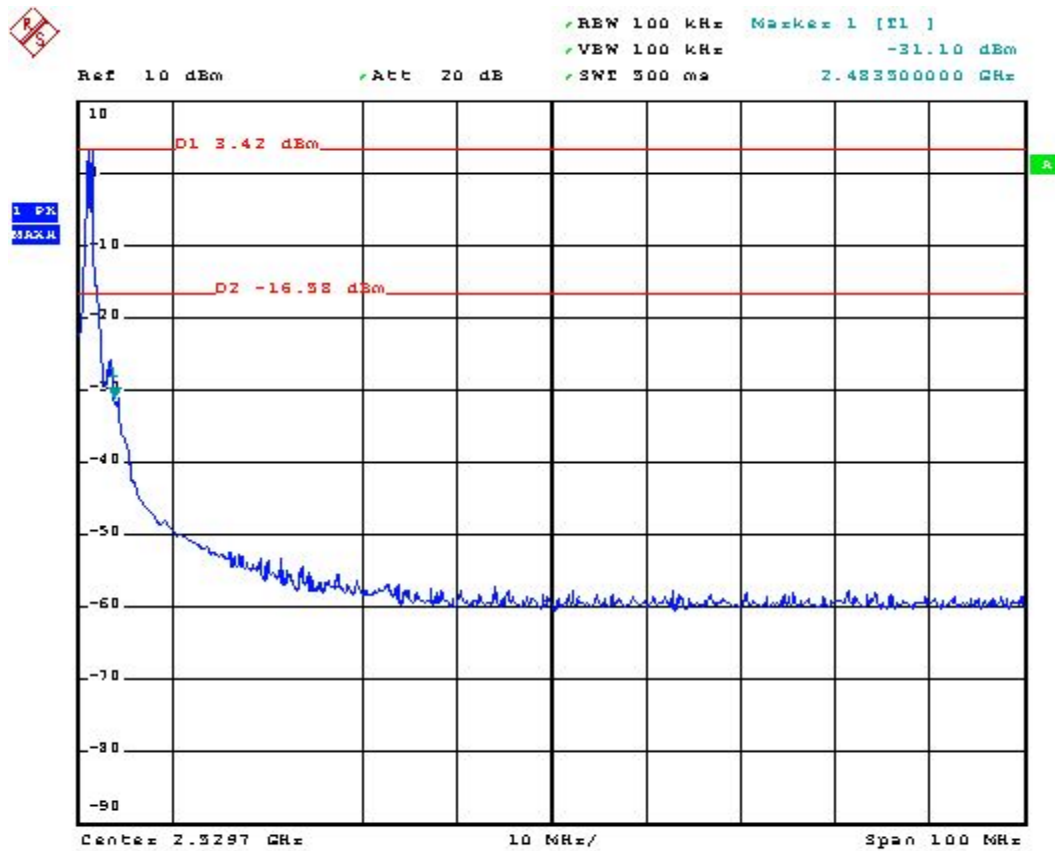
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## Mode 3: CH78 (2480 MHz)







## 5.8 Test of Conducted Emission

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4-2001 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

### 5.8.1 Major Measuring Instruments :

• Test Receiver	(R&S ESCS 30)
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

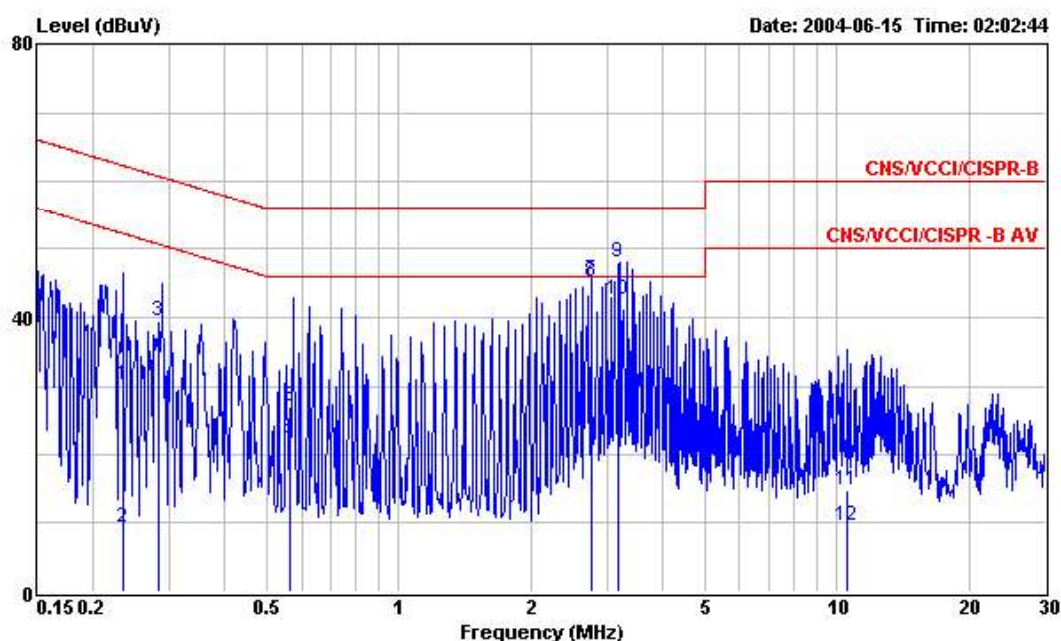
### 5.8.2 Test Procedures :

- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of a line impedance stabilization network (LISN).
- c. All the support units are connected to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 KHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

## 5.8.3 Test Result of Conducted Emission :

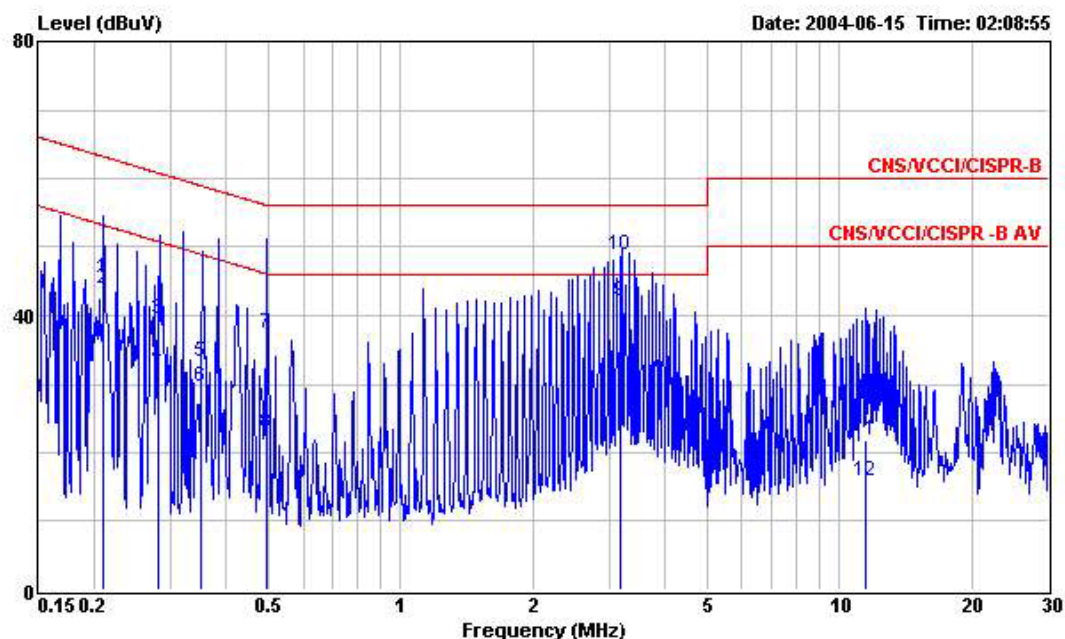
- Test Mode: Mode 1
- Frequency Range of Test: from 150KHz to 30 MHz
- Temperature: 26°C
- Relative Humidity: 53%
- Test Date: June 15, 2004

■ The test that passed at the minimum margin was marked by a frame in the following data



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE  
 EUT : 2.4G HOPPING HOST  
 Power : 120Vac/50Hz  
 Model : LM610  
 Memo : Normal Mode  
 : Power Level  
 : Power-4dB

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.234	30.22	-32.08	62.30	30.11	0.10	0.01	QP
2	0.234	9.41	-42.89	52.30	9.30	0.10	0.01	Average
3	0.282	39.41	-21.33	60.74	39.28	0.10	0.03	QP
4	0.282	34.25	-16.49	50.74	34.12	0.10	0.03	Average
5	0.566	26.89	-29.11	56.00	26.72	0.10	0.07	QP
6	0.566	22.44	-23.56	46.00	22.27	0.10	0.07	Average
7	2.757	45.53	-10.47	56.00	45.34	0.10	0.09	QP
8	2.757	45.12	-0.88	46.00	44.93	0.10	0.09	Average
9	3.180	48.05	-7.95	56.00	47.86	0.10	0.09	QP
10	3.180	42.58	-3.42	46.00	42.39	0.10	0.09	Average
11	10.563	14.84	-45.16	60.00	14.49	0.20	0.15	QP
12	10.563	9.50	-40.50	50.00	9.15	0.20	0.15	Average



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL  
 EUT : 2.4G HOPPING HOST  
 Power : 120Vac/50Hz  
 Model : LM610  
 Memo : Normal Mode  
 : Power Level  
 : Power-4dB

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.210	45.34	-17.87	63.21	45.24	0.10	0.00	QP
2	0.210	43.83	-9.38	53.21	43.73	0.10	0.00	Average
3	0.281	39.53	-21.26	60.79	39.40	0.10	0.03	QP
4	0.281	32.71	-18.08	50.79	32.58	0.10	0.03	Average
5	0.352	33.15	-25.77	58.92	33.00	0.10	0.05	QP
6	0.352	29.68	-19.24	48.92	29.53	0.10	0.05	Average
7	0.493	37.32	-18.79	56.11	37.16	0.10	0.06	QP
8	0.493	22.98	-23.13	46.11	22.82	0.10	0.06	Average
9	3.180	42.15	-3.85	46.00	41.89	0.17	0.09	Average
10	3.180	48.82	-7.18	56.00	48.56	0.17	0.09	QP
11	11.504	21.78	-38.22	60.00	21.39	0.23	0.16	QP
12	11.504	15.76	-34.24	50.00	15.37	0.23	0.16	Average

Test Engineer: \_\_\_\_\_

Jay



## 5.9 Test of Radiated Emission

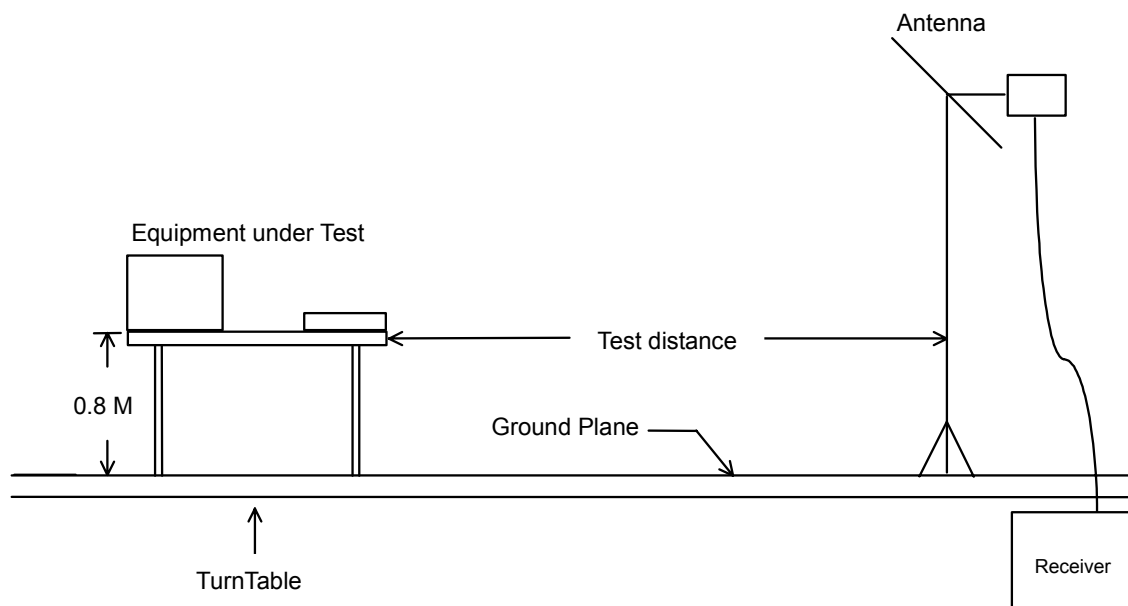
Radiated emissions from 30 MHz to 26.5 GHz were measured according to the methods defined in ANSI C63.4-2001. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane, as shown in section 5.9.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

### 5.9.1 Major Measuring Instruments

- |                      |                     |
|----------------------|---------------------|
| ● Amplifier          | (MITEQ AFS44)       |
| RF Gain              | 40 dB               |
| Signal Input         | 100 MHz to 26.5 GHz |
| ● Amplifier          | (HP 8447D)          |
| RF Gain              | 30 dB               |
| Signal Input         | 100 kHz to 1.3 GHz  |
| ● Spectrum analyzer  | (R&S FSP40)         |
| Attenuation          | 10 dB               |
| Start Frequency      | 1 GHz               |
| Stop Frequency       | 24 GHz              |
| Resolution Bandwidth | 1 MHz               |
| Video Bandwidth      | 1 MHz               |
| Signal Input         | 9 kHz to 40 GHz     |

**5.9.2 Test Procedures**

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.

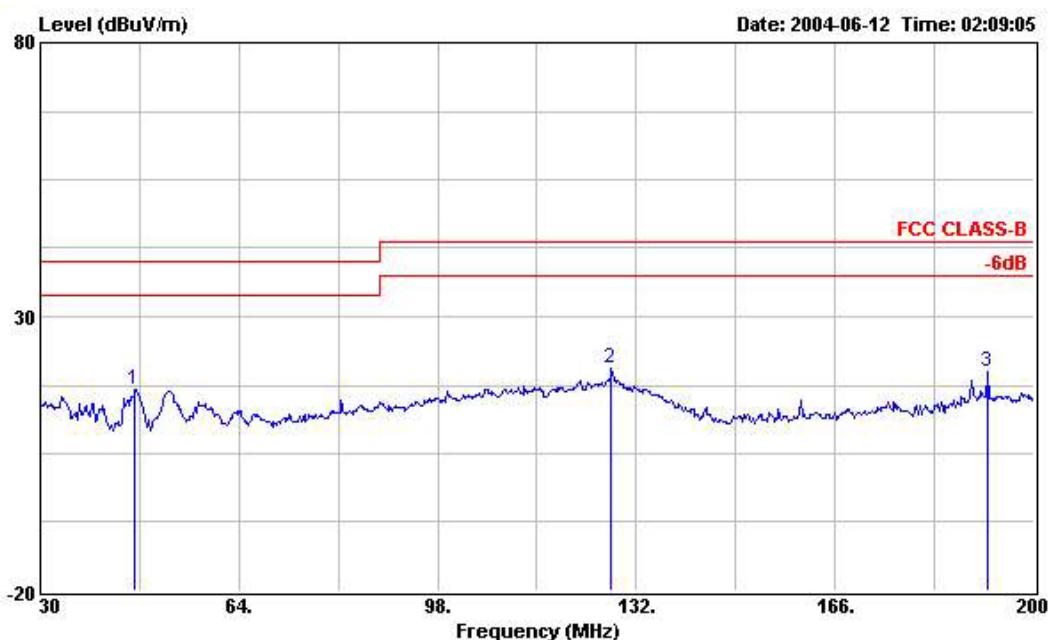
**5.9.3 Typical Test Setup Layout of Radiated Emission**

## 5.9.4 Test Result of Radiated Emission

- Test Mode: Mode 1
- Test Distance: 3 m
- Temperature: 26°C
- Relative Humidity: 53%
- Test Date: June 15, 2004
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

■ The test that passed at the minimum margin was marked by the frame in the following test record

- Spurious Emission

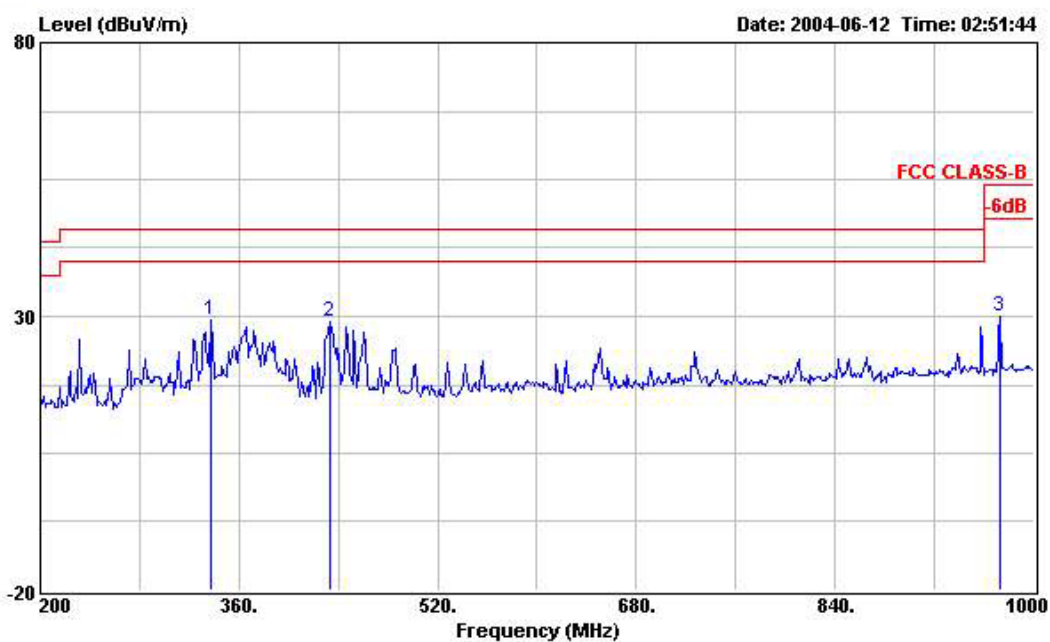


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m BIC-9124--301 HORIZONTAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 Host TX 2402MHz (CH:00)

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	46.150	16.82	-23.18	40.00	34.15	10.47	0.21	28.01	Peak	---	---
2	127.750	20.55	-22.95	43.50	36.59	11.19	0.61	27.84	Peak	---	---
3	192.180	19.92	-23.58	43.50	32.30	14.62	0.71	27.71	Peak	---	---

# FCC TEST REPORT

Report No. : F460202-A

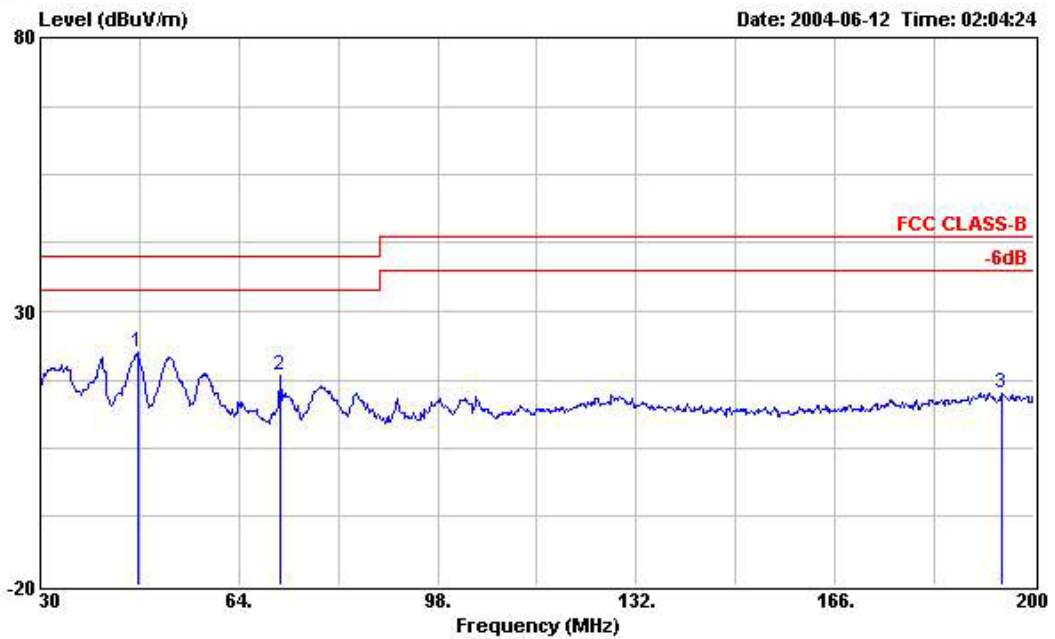


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m LOG-9111-221 HORIZONTAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 Host TX 2402MHz (CH:00)

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	336.800	29.29	-16.71	46.00	40.52	15.16	1.09	27.48	Peak	---	---
2	432.800	29.10	-16.90	46.00	39.61	16.25	1.33	28.09	Peak	---	---
3	972.800	30.02	-23.98	54.00	34.38	22.02	1.85	28.23	Peak	---	---

# FCC TEST REPORT

Report No. : F460202-A

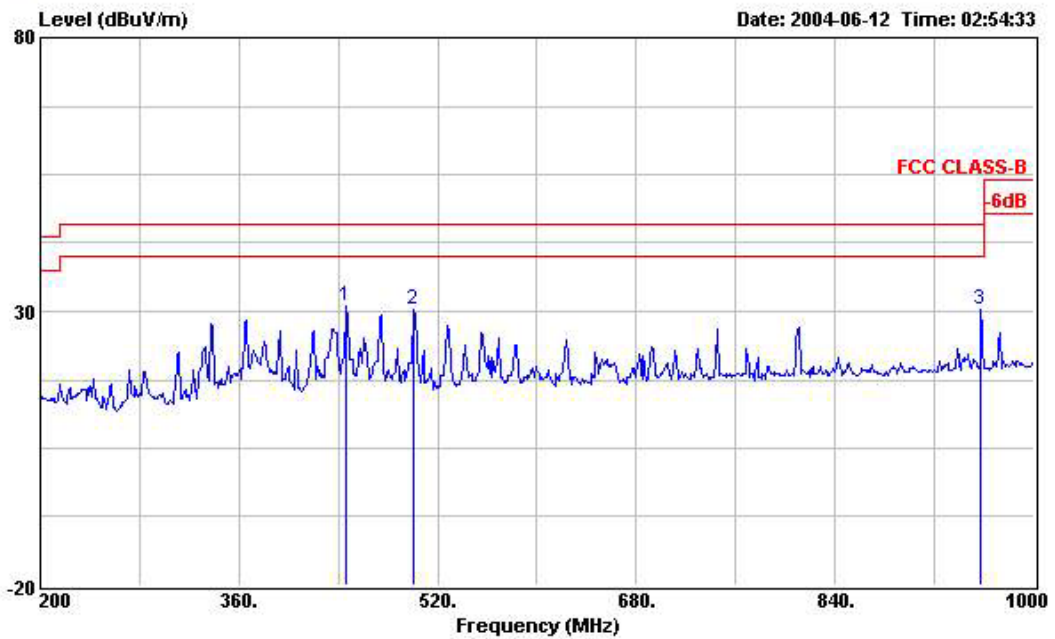


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m BIC-9124--301 VERTICAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 : Host TX 2402MHz (CH:00)

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	46.660	22.45	-17.55	40.00	39.80	10.40	0.26	28.01	Peak	---	---
2	71.140	18.41	-21.59	40.00	37.03	8.95	0.39	27.96	Peak	---	---
3	194.390	15.10	-28.40	43.50	27.32	14.67	0.82	27.71	Peak	---	---

# FCC TEST REPORT

Report No. : F460202-A

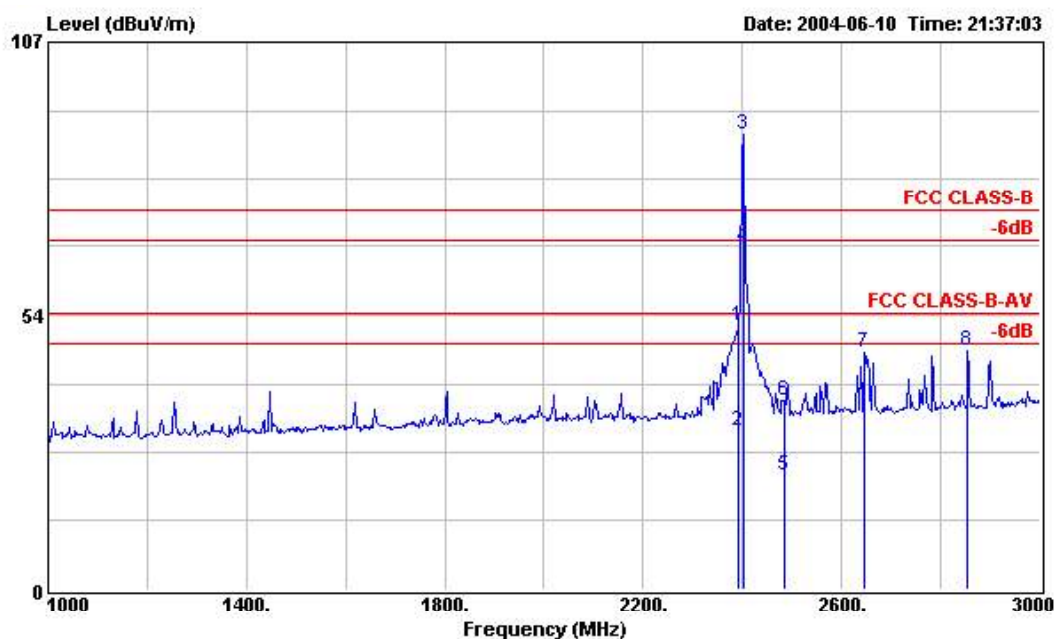


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m LOG-9111-221 VERTICAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 Host TX 2402MHz (CH:00)

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	445.600	30.96	-15.04	46.00	41.42	16.44	1.31	28.21	Peak	---	---
2	500.000	30.35	-15.65	46.00	40.34	17.35	1.36	28.70	Peak	---	---
3	957.600	30.24	-15.76	46.00	34.99	21.90	1.59	28.24	Peak	---	---

# FCC TEST REPORT

Report No. : F460202-A



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 Host TX 2402MHz (CH:00)

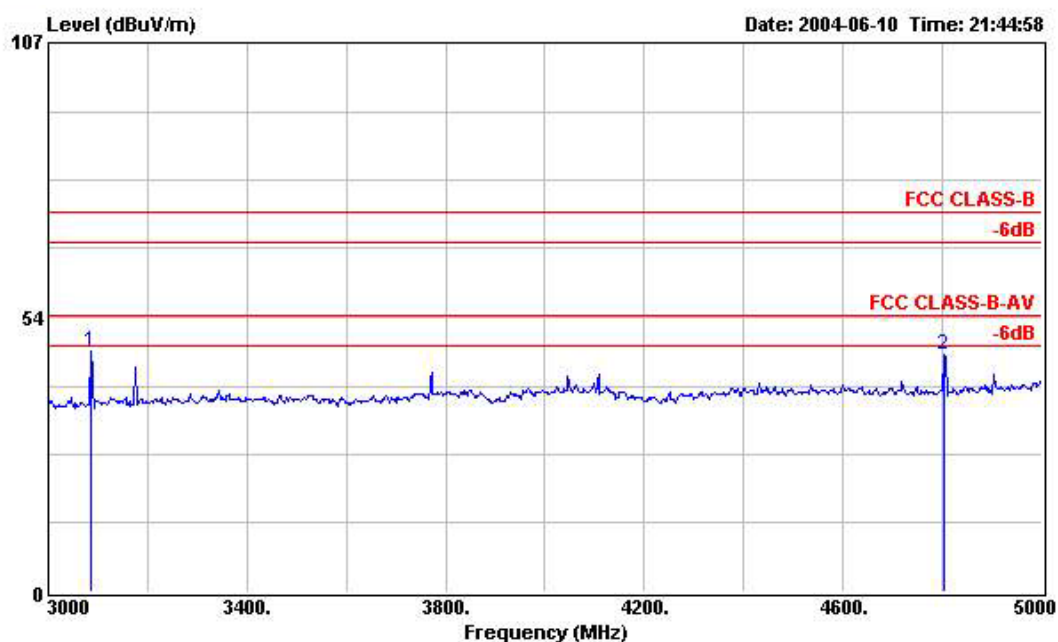
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	2390.000	51.28	-22.72	74.00	62.56	28.14	1.72	41.14	Peak	100	147
2	2390.000	30.91	-23.09	54.00	42.19	28.14	1.72	41.14	Average	100	147
3 X	2404.000	88.88			100.12	28.18	1.73	41.15	Peak	100	156
4 X	2404.000	66.68			77.92	28.18	1.73	41.15	Average	100	156
5	2484.000	22.13	-31.87	54.00	33.12	28.39	1.82	41.20	Average	100	147
6	2484.000	36.78	-37.22	74.00	47.77	28.39	1.82	41.20	Peak	100	147
7	2646.000	46.26	-27.74	74.00	56.55	28.95	1.96	41.20	Peak	---	---
8	2854.000	46.67	-27.33	74.00	56.23	29.69	1.95	41.20	Peak	---	---

Remark: The "X" represent a fundamental frequency.



# FCC TEST REPORT

Report No. : F460202-A

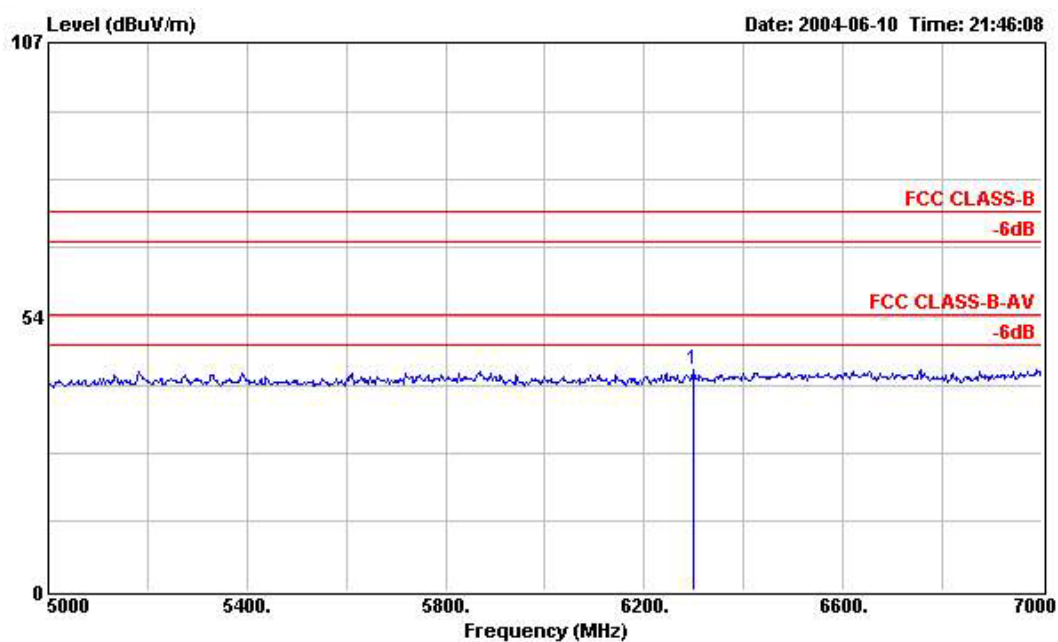


Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 : Host TX 2402MHz (CH:00)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	3086.000	47.07	-26.93	74.00	55.97	30.39	1.93	41.22	Peak	---	---
2	4804.000	46.15	-27.85	74.00	52.90	33.19	2.40	42.34	Peak	---	---

# FCC TEST REPORT

Report No. : F460202-A



Site : 03CH03-HY  
 Condition : FCC CLASS-B 3m HORN-ANT-6821 HORIZONTAL  
 EUT : 2.4G Hopping Host  
 Power : 120V/60Hz  
 Memo : LM610  
 : Host TX 2402MHz (CH:00)

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	6300.000	43.23	-30.77	74.00	48.96	34.60	2.97	43.30	Peak	---	---