



Produkte  
Products

<b>Prüfbericht - Nr.: 10033002 001</b> <i>Test Report No.:</i>		Seite 1 von 39 Page 1 of 39	
<b>Auftraggeber:</b> <i>Client:</i>		<b>Vencer Co., Ltd.</b> 20F-1, No.77, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, Taipei Hsien, Taiwan 22101, R.O.C.	
<b>Gegenstand der Prüfung:</b> Bluetooth Ultimate USB Adapter <i>Test item:</i>			
<b>Bezeichnung:</b> <i>Identification:</i>	VD-11x4	<b>Serien-Nr.:</b> <i>Serial No.:</i>	N/A
<b>Wareneingangs-Nr.:</b> <i>Receipt No.:</i>	TPE63996	<b>Eingangsdatum:</b> <i>Date of receipt:</i>	2011/06/10
<b>Prüfört:</b> <i>Testing location:</i>		<b>TÜV Rheinland Taiwan Ltd.</b> 11F., No.758, Sec. 4, Bade Rd., Songshan Dist., Taipei City 105 Taiwan FCC Registration No.: 365730	
<b>Prüfgrundlage:</b> <i>Test specification:</i>		FCC CFR47 Part 15: Subpart C Section 15.247 FCC CFR47 Part 15: Subpart C Section 15.209 FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.205	
<b>Prüfergebnis:</b> <i>Test Result:</i>		<b>Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).</b> <i>The test item passed the test specification(s).</i>	
<b>Prüflaboratorium:</b> <i>Testing Laboratory:</i>		<b>TÜV Rheinland Taiwan Ltd.</b>	
<b>geprüft/ tested by:</b>		<b>kontrolliert/ reviewed by:</b>	
			
2011-07-22	Arvin Ho/Project Manager	2011-08-03	Shawn Peng/Manager
<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>
<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges/ Other Aspects:</b>			
<b>Abkürzungen:</b> P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			
<b>Abbreviations:</b> P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested			
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>			

## TEST SUMMARY

**5.1.1 ANTENNA REQUIREMENT**

RESULT: Passed

**5.1.2 PEAK OUTPUT POWER**

RESULT: Passed

**5.1.3 20DB BANDWIDTH**

RESULT: Passed

**5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH**

RESULT: Passed

**5.1.5 RADIATED SPURIOUS EMISSION**

RESULT: Passed

**5.1.6 FREQUENCY SEPARATION**

RESULT: Passed

**5.1.7 NUMBER OF HOPPING FREQUENCY**

RESULT: Passed

**5.1.8 TIME OF OCCUPANCY**

RESULT: Passed

**6.1.1 ELECTROMAGNETIC FIELDS**

RESULT: Passed

## Contents

<b>1.</b>	<b>GENERAL REMARKS .....</b>	<b>4</b>
<b>1.1</b>	<b>COMPLEMENTARY MATERIALS .....</b>	<b>4</b>
<b>2.</b>	<b>TEST SITES .....</b>	<b>4</b>
<b>2.1</b>	<b>TEST FACILITIES .....</b>	<b>4</b>
<b>2.2</b>	<b>LIST OF TEST AND MEASUREMENT INSTRUMENTS.....</b>	<b>5</b>
<b>2.3</b>	<b>TRACEABILITY .....</b>	<b>6</b>
<b>2.4</b>	<b>CALIBRATION .....</b>	<b>6</b>
<b>2.5</b>	<b>MEASUREMENT UNCERTAINTY.....</b>	<b>6</b>
<b>3.</b>	<b>GENERAL PRODUCT INFORMATION .....</b>	<b>7</b>
<b>3.1</b>	<b>PRODUCT FUNCTION AND INTENDED USE.....</b>	<b>7</b>
<b>3.2</b>	<b>RATINGS AND SYSTEM DETAILS .....</b>	<b>7</b>
<b>3.3</b>	<b>INDEPENDENT OPERATION MODES .....</b>	<b>8</b>
<b>3.4</b>	<b>NOISE GENERATING AND NOISE SUPPRESSING PARTS .....</b>	<b>9</b>
<b>3.5</b>	<b>SUBMITTED DOCUMENTS .....</b>	<b>9</b>
<b>4.</b>	<b>TEST SET-UP AND OPERATION MODES .....</b>	<b>10</b>
<b>4.1</b>	<b>PRINCIPLE OF CONFIGURATION SELECTION.....</b>	<b>10</b>
<b>4.2</b>	<b>TEST OPERATION AND TEST SOFTWARE .....</b>	<b>10</b>
<b>4.3</b>	<b>SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT .....</b>	<b>10</b>
<b>4.4</b>	<b>COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....</b>	<b>11</b>
<b>4.5</b>	<b>TEST SETUP DIAGRAM .....</b>	<b>11</b>
<b>5.</b>	<b>TEST RESULTS .....</b>	<b>13</b>
<b>5.1</b>	<b>TRANSMITTER REQUIREMENT &amp; TEST SUITES .....</b>	<b>13</b>
5.1.1	<i>Antenna Requirement .....</i>	<i>13</i>
5.1.2	<i>Peak Output Power.....</i>	<i>14</i>
5.1.3	<i>20dB Bandwidth .....</i>	<i>15</i>
5.1.4	<i>Conducted spurious emissions measured in 100kHz Bandwidth.....</i>	<i>19</i>
5.1.5	<i>Spurious Emission .....</i>	<i>24</i>
5.1.6	<i>Frequency Separation.....</i>	<i>25</i>
5.1.7	<i>Number of hopping frequency.....</i>	<i>28</i>
5.1.8	<i>Time of Occupancy .....</i>	<i>30</i>
<b>6.</b>	<b>SAFETY HUMAN EXPOSURE .....</b>	<b>37</b>
<b>6.1</b>	<b>RADIO FREQUENCY EXPOSURE COMPLIANCE.....</b>	<b>37</b>
6.1.1	<i>Electromagnetic Fields.....</i>	<i>37</i>
<b>7.</b>	<b>PHOTOGRAPHS OF THE TEST SET-UP .....</b>	<b>38</b>
<b>8.</b>	<b>LIST OF TABLES .....</b>	<b>39</b>
<b>9.</b>	<b>LIST OF PHOTOGRAPHS .....</b>	<b>39</b>

## 1. General Remarks

### 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

**Appendix 1: Test Result of Radiated Emissions**  
(File:113146575-0707)

## 2. Test Sites

### 2.1 Test Facilities

TUV Rheinland Taiwan Ltd.

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.  
Taipei City 105  
Taiwan (R.O.C.)  
FCC Registration No.: 365730

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
EMI Test Receiver	R&S	ESCI 7	1166.5950K0 7-100797-Pt	Nov. 09, 2011
Bilog Antenna	TESEQ	CBL6111D	29802	Oct. 01, 2011
Pre-Amplifier	HP	8447F	2805A03335	Jan. 02, 2012
Spectrum Analyzer	R&S	FSV 40	100921	Oct. 12, 2012
Horn Antenna (1GHz~18GHz)	COM-POWER	AHA118	701101	Dec. 27, 2012
Horn Antenna (18GHz~25GHz)	COM-POWER	AH840	101031	Oct. 1, 2012
Power meter	R&S	NRVD	100439	Mar. 25, 2012
Power sensor	R&S	NRV-Z1	100013	Mar. 25, 2012
Temp. & Humid. Chamber	Giant Force	GCT-099-40-S	MAF0103-007	May. 13, 2013

## 2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are  $\pm 3\text{dB}$ .

### Emission Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF power, conducted	$\pm 1 \text{ dB}$
Adjacent channel power	$\pm 3 \text{ dB}$
Radiated emission of transmitter, valid up to 26 GHz	$\pm 6 \text{ dB}$
Radiated emission of receiver, valid up to 26 GHz	$\pm 6 \text{ dB}$
Temperature	$\pm 2 \text{ }^{\circ}\text{C}$
Humidity	$\pm 10 \text{ \%}$

### 3. General Product Information

#### 3.1 Product Function and Intended Use

Vencer Bluetooth Ultimate USB Adapter VD-11x4 enables wireless connectivity of an existing PC or notebook using the latest Bluetooth Technology.  
For details refer to the User Guide, Data Sheet and Circuit Diagram.

#### 3.2 Ratings and System Details

**Table 2: Rating of EUT**

Kind of Equipment:	Bluetooth Ultimate USB Adapter
Type Designation:	VD-11x4
FCC ID	VHVBTV D1104

**Table 3: Technical Specification of EUT**

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Channel separation	1MHz
Extreme Temperature Range	-20°C to +45°C
Operation Voltage	DC 5V (from USB port)
Modulation	FHSS, GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	-11.27 dBi
RF Output Power	0.0028 W (4.49 dBm)

**Table 4: Frequency hopping information**

Technical Specification	Description
Hopping Range	Vencer declares that the maximum frequency of this device is: 2402-2480MHz. This is according the Bluetooth Core Specification which will be operated in the USA.
Hopping Sequence	<p>Example of a 79 hopping sequence in data mode:</p> <p>33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73,07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56,69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43,15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47,</p>
Receiver input bandwidth	<p>The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master.</p> <p>Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.</p> <p>Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case.</p> <p>That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.</p>

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
  - 1. Low channel
  - 2. Middle channel
  - 3. High channel
- B. Receiving
- C. Standby
- D. Off



### **3.4 Noise Generating and Noise Suppressing Parts**

Refer to the Circuit Diagram and the Photo Documentation.

### **3.5 Submitted Documents**

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- Circuit Diagram
- Instruction Manual
- Rating Label

## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 6. All testing were performed according to the procedures in ANSI C63.4: 2003.

Full test was applied on all test modes and in X,Y and Z-orientation, but only worst case was shown.

### 4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories

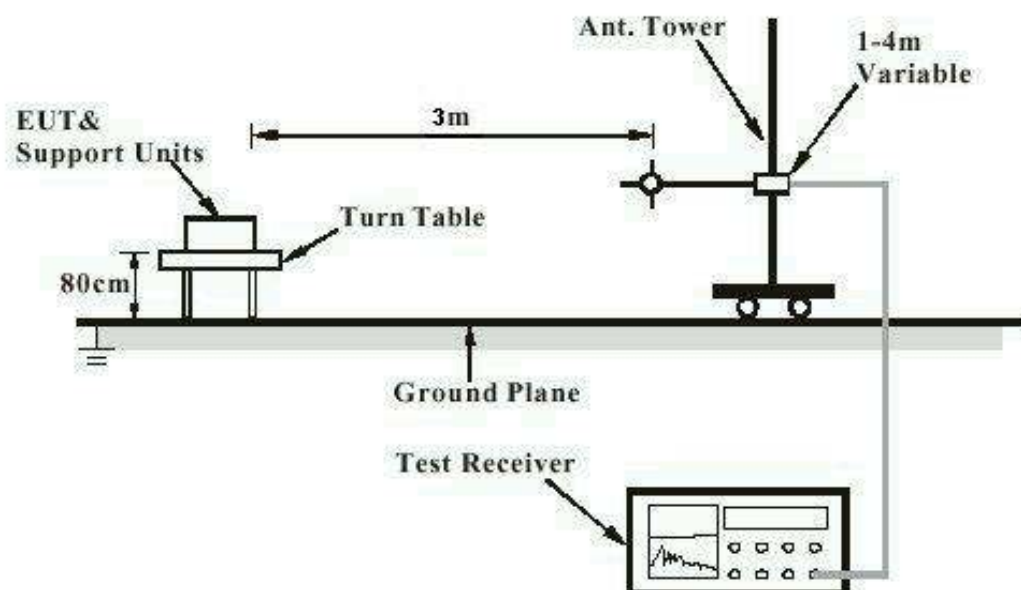
Kind of Equipment	Manufacturer	Model Name	S/N
Laptop	MSI	MSI4532 (CX420MX)	CX420 MX-233TWK 1008000096
Control SW	CSR	Bluesuite	n/a

## 4.4 Countermeasures to achieve EMC Compliance

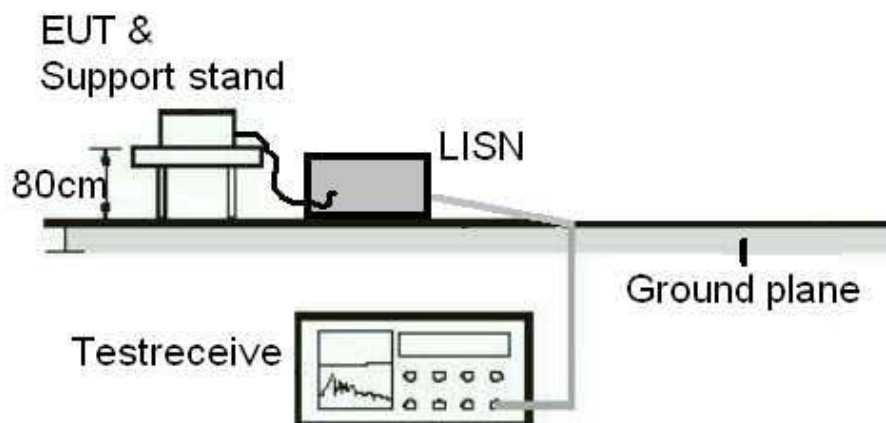
The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

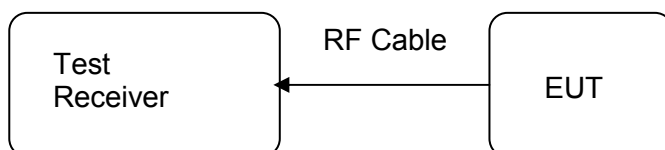
Diagram of Measurement Configuration for Radiation Test



### Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



### Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



## 5. Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**RESULT:****Passed**

Test date	:	2011-07-13
Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declaration, the EUT has an internal antenna with an directional gain of -11.27 dBi, and the antenna is a printed PCB trace with no possibility of replacement. Therefore, the EUT is considered to comply the provision.

Refer to EUT photo for details.

## 5.1.2 Peak Output Power

**RESULT:**
**Passed**

Test date : 2011-07-13  
 Test standard : FCC Part 15.247(b)(1)  
 Basic standard : ANSI C63.4: 2003  
 Limit : 1 Watt  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A  
 Ambient temperature : 24.3 °C  
 Relative humidity : 53 %  
 Atmospheric pressure : 101kPa

**Table 5: Test result of Peak Output Power, GFSK modulation**

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	2.65	0.00184	1
Middle Channel	2441	4.18	0.00262	1
High Channel	2480	4.49	0.00281	1

**Table 6: Test result of Peak Output Power, 8DPSK modulation**

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(dBm)	(W)	(W)
Low Channel	2402	0.6	0.00114	1
Middle Channel	2441	2.25	0.00167	1
High Channel	2480	2.68	0.00185	1

### 5.1.3 20dB Bandwidth

**RESULT:****Passed**

Date of testing : 2011-07-13  
Test standard : FCC Part 15.247(a)(1)  
Basic standard : ANSI C63.4: 2003  
Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : A  
Ambient temperature : 24.3°C  
Relative humidity : 53%  
Atmospheric pressure : 101kPa

**Table 7: Test result of 20dB Bandwidth, GFSK modulation**

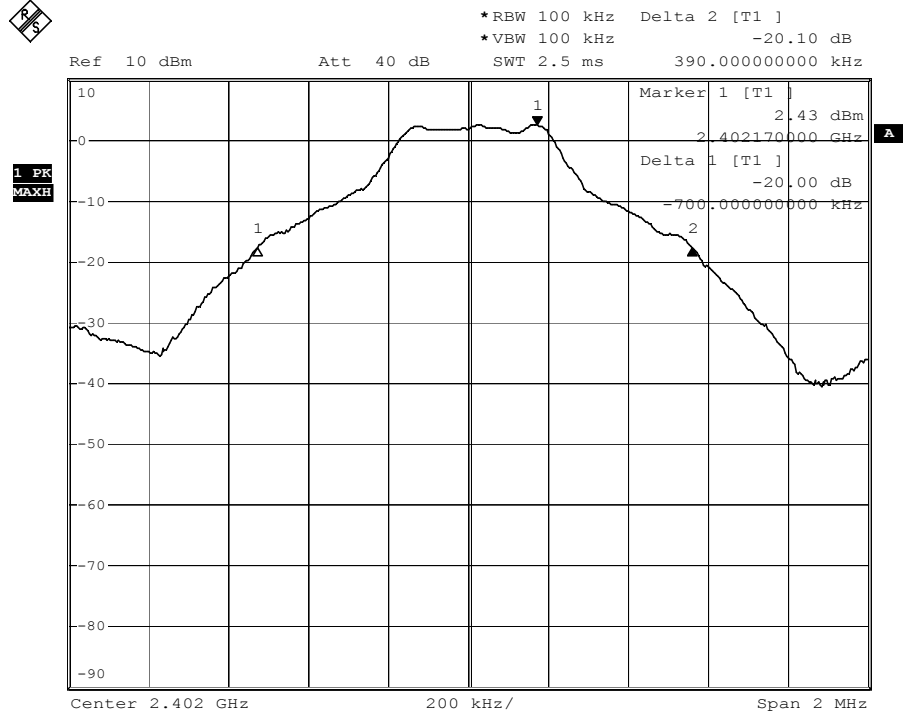
Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	1090	/	Pass
Mid Channel	2441	1072	/	Pass
High Channel	2480	1188	/	Pass

**Table 8: Test result of 20dB Bandwidth, 8DPSK modulation**

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.376	/	Pass
Mid Channel	2441	1.380	/	Pass
High Channel	2480	1.384	/	Pass

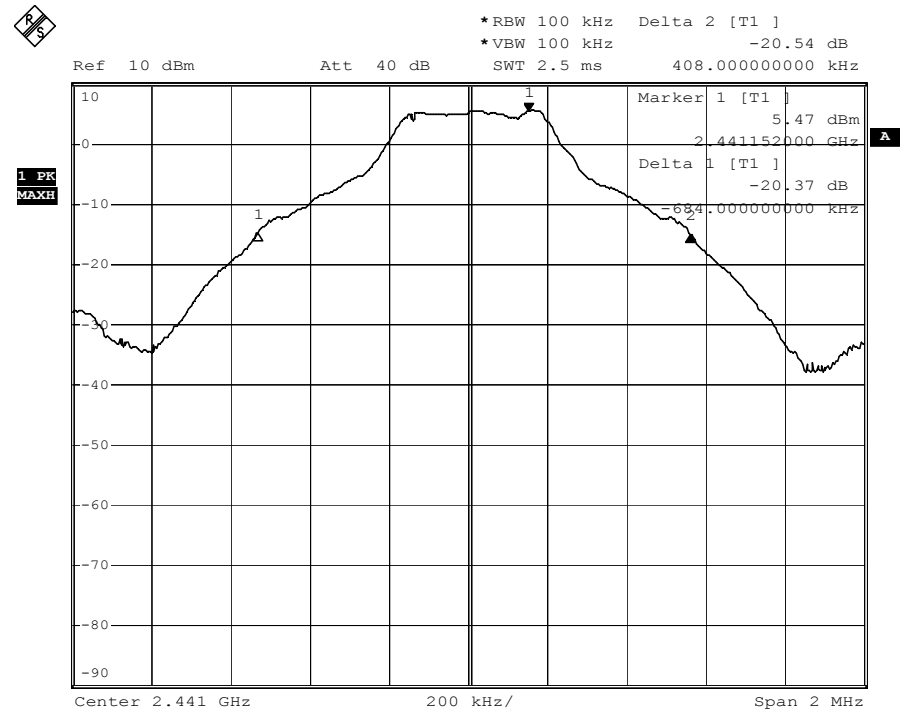
## Test Plot of 20dB Bandwidth, GFSK modulation

### Low Channel



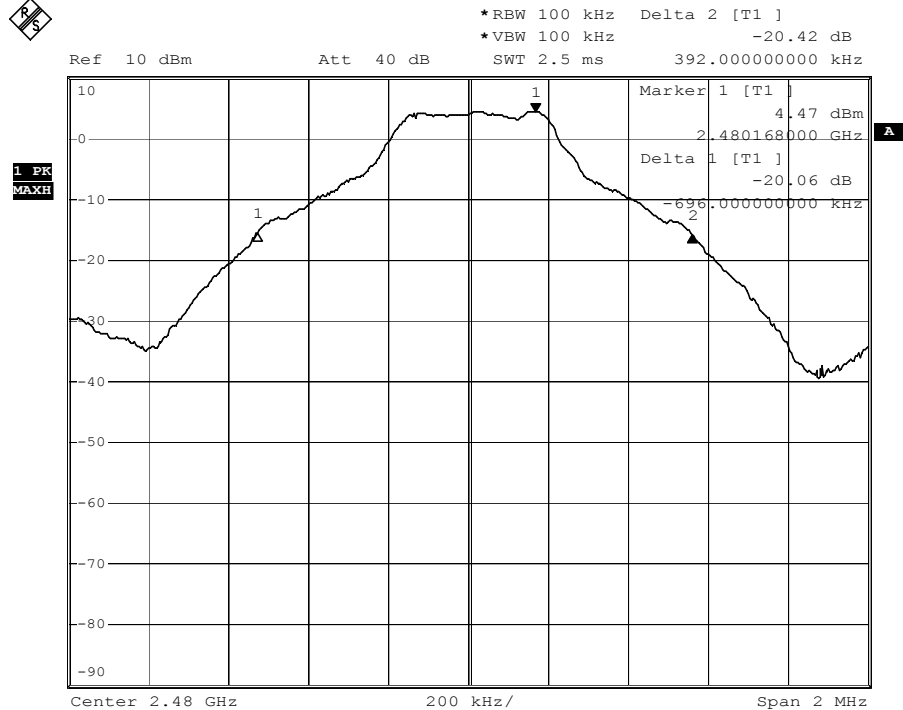
Date: 13.JUL.2011 17:50:54

### Middle Channel

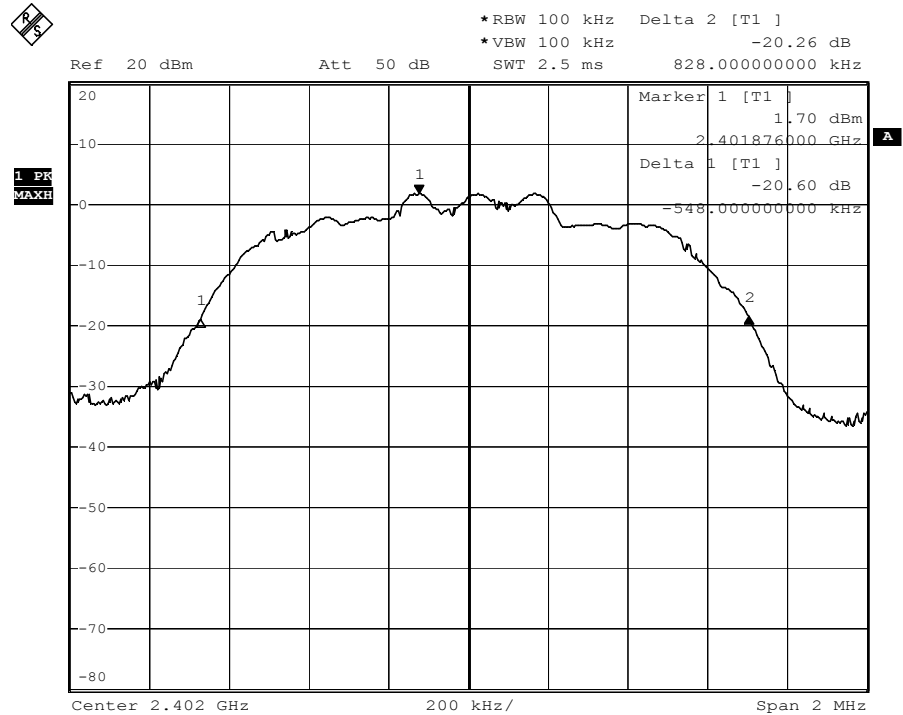


Date: 13.JUL.2011 17:51:56

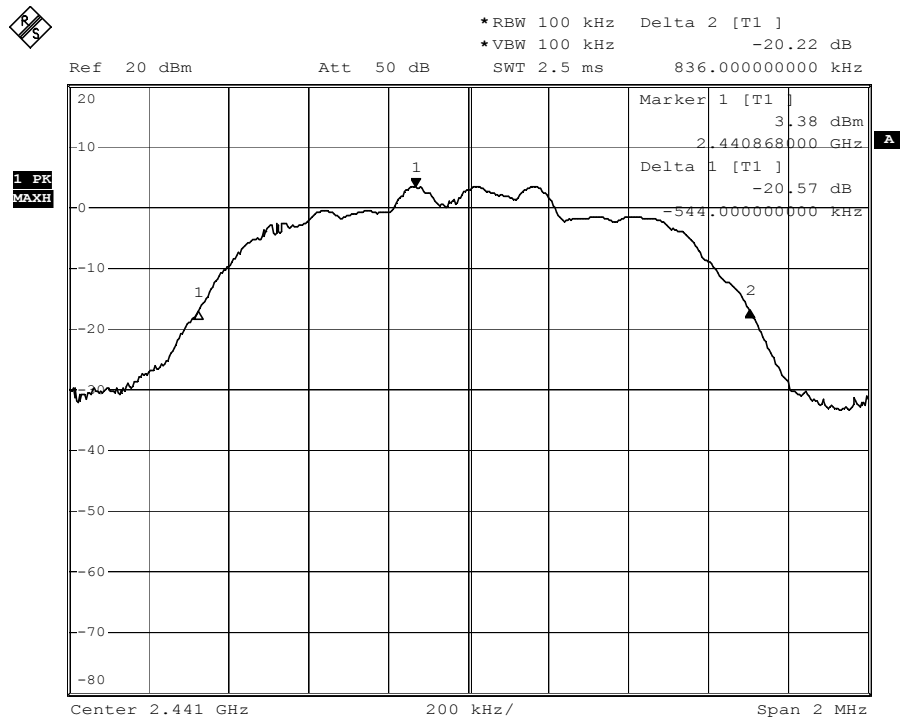


**High Channel**


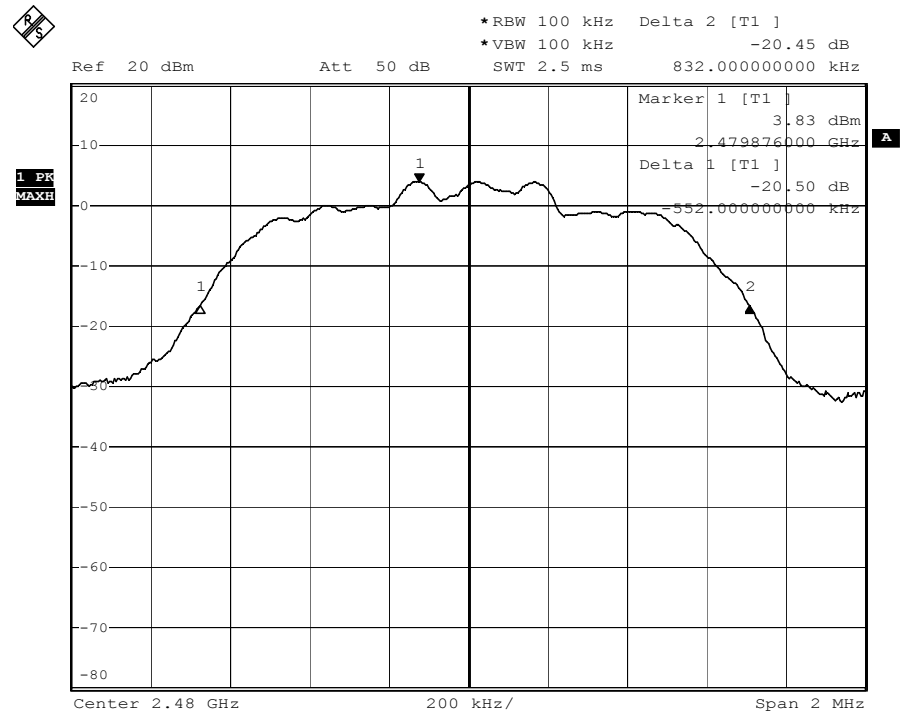
Date: 13.JUL.2011 17:53:55

**Test Plot of 20dB Bandwidth, 8DPSK modulation**
**Low Channel**


Date: 13.JUL.2011 18:00:38

**Middle Channel**


Date: 13.JUL.2011 17:59:36

**High Channel**


Date: 13.JUL.2011 17:58:38

### 5.1.4 Conducted spurious emissions measured in 100kHz Bandwidth

**RESULT:****Passed**

Date of testing	:	2011-07-13, 2011-07-22
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power)
Kind of test site	:	Shielded room

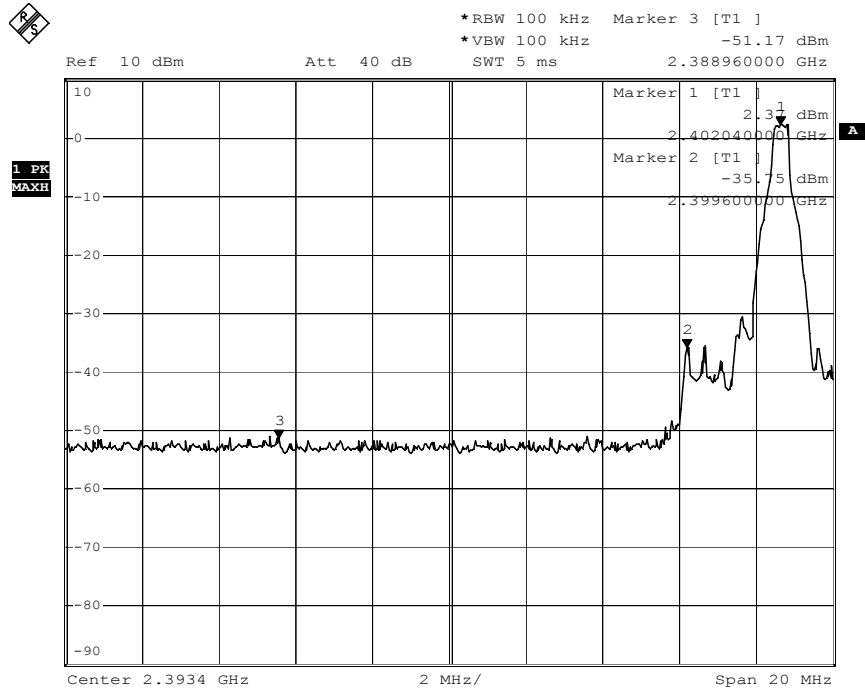
**Test setup**

Test Channel	:	Low/ High
Operation mode	:	A
Ambient temperature	:	24.3~24.7°C
Relative humidity	:	53~51%
Atmospheric pressure	:	101kPa

All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well.  
Due to the small size of the equipment, the frequency range starting from 30MHz was investigated.

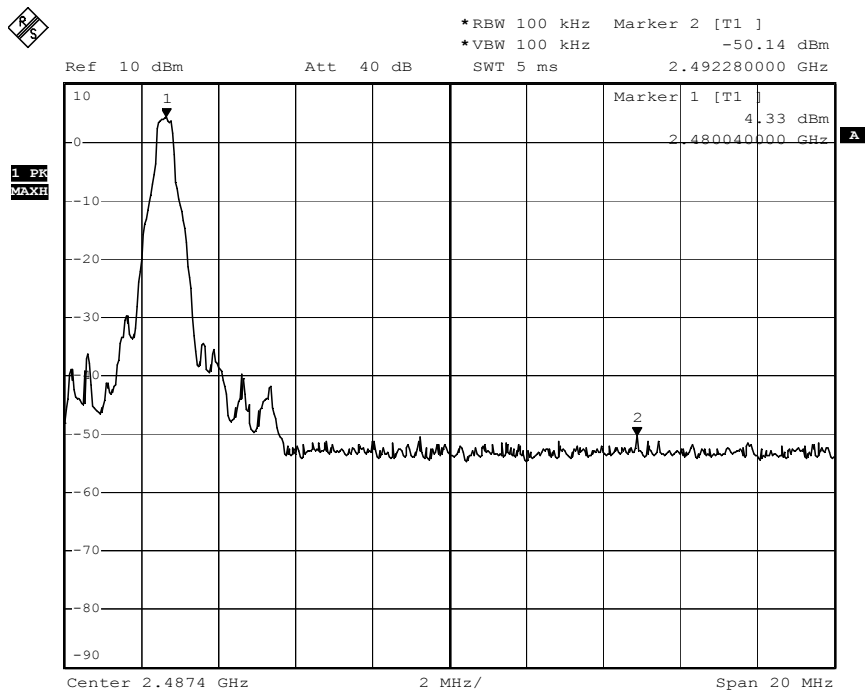
## Test Plot of 100kHz Bandwidth of Frequency Band Edge, GFSK modulation

### Low Channel



Date: 13.JUL.2011 17:24:01

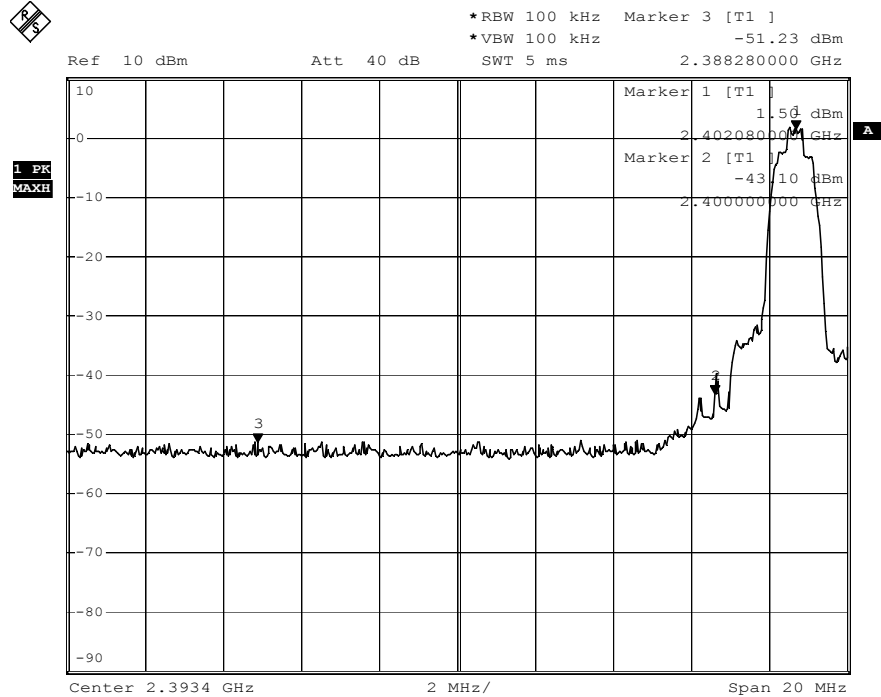
### High Channel



Date: 13.JUL.2011 17:29:10

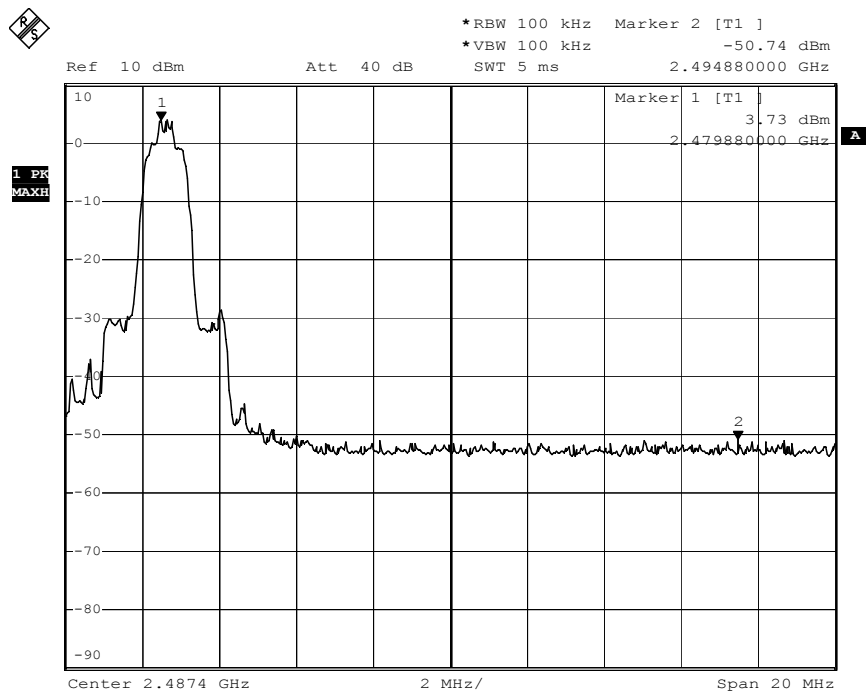
## Test Plot of 100kHz Bandwidth of Frequency Band Edge, 8DPSK modulation

### Low Channel



Date: 13.JUL.2011 17:25:38

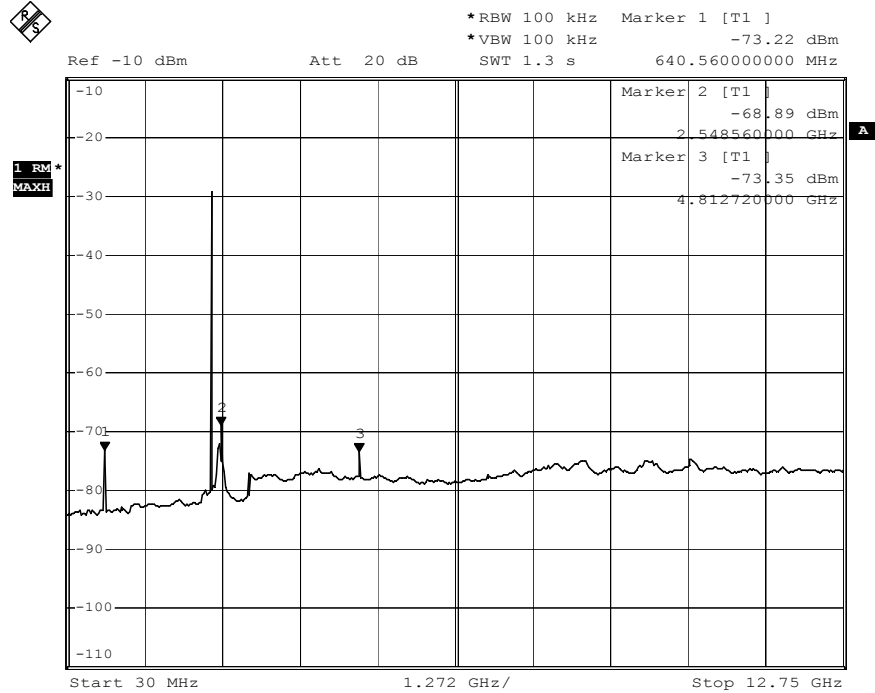
### High Channel



Date: 13.JUL.2011 17:28:03

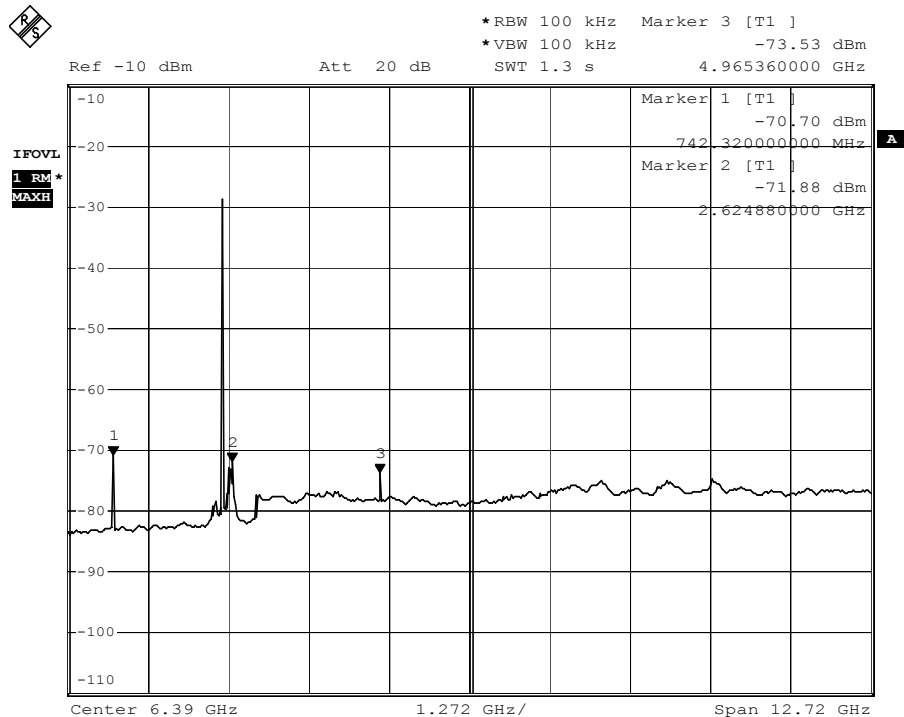
## Test Plot of 100kHz Bandwidth of Conducted Spurious Emission, GFSK modulation

### Low Channel



Date: 22.JUL.2011 16:04:58

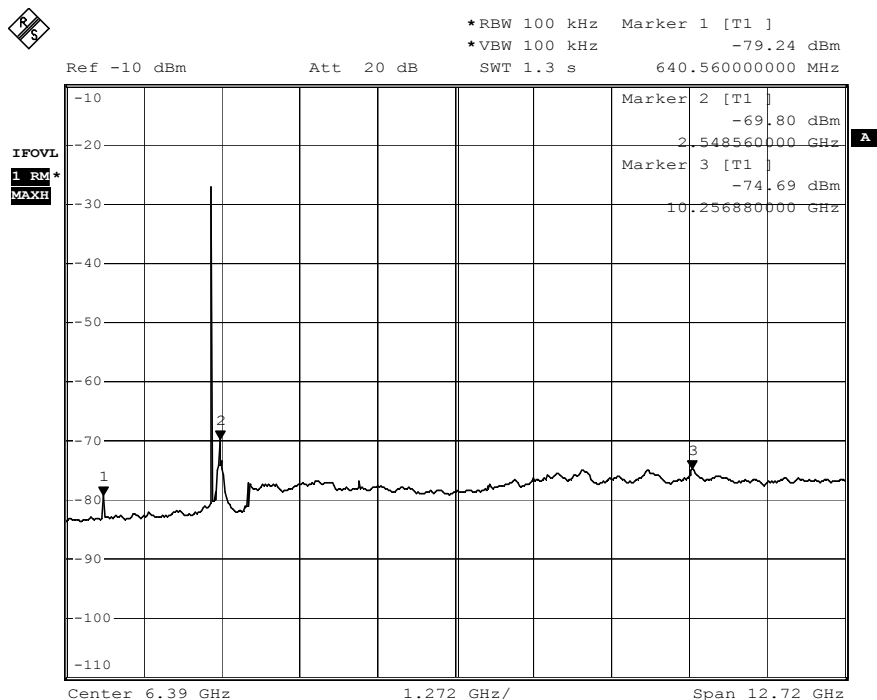
### High Channel



Date: 22.JUL.2011 16:06:27

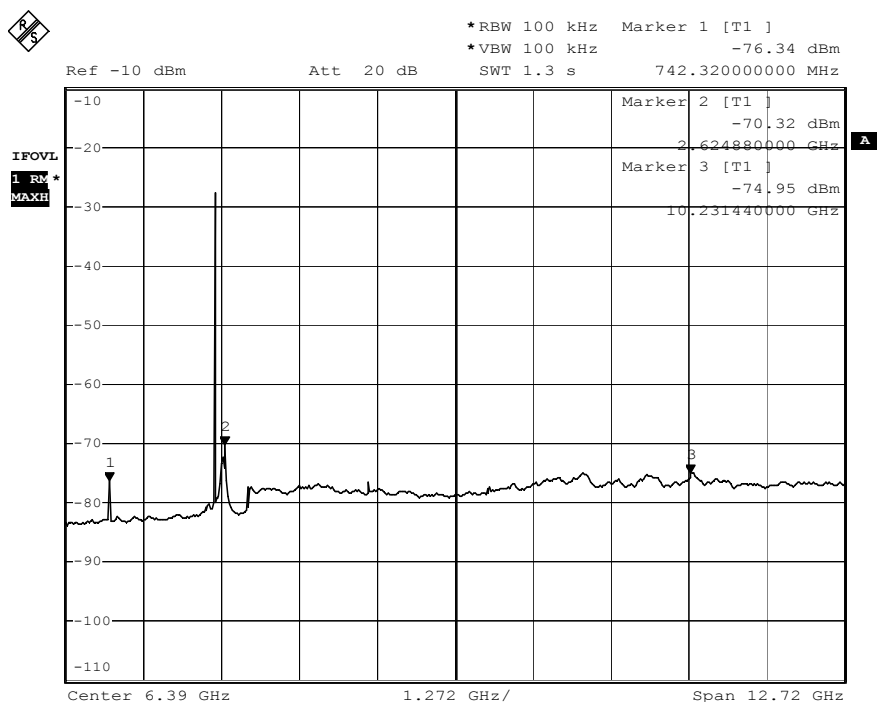
## Test Plot of 100kHz Bandwidth of Conducted Spurious Emission, 8DPSK modulation

### Low Channel



Date: 22.JUL.2011 16:08:38

### High Channel



Date: 22.JUL.2011 16:10:36

## 5.1.5 Radiated Spurious Emission

**RESULT:****Passed**

Date of testing	:	2011-07-14
Test standard	:	FCC part 15.247(d)
Basic standard	:	ANSI C63.4: 2003
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	3m Semi-Anechoic Chamber

**Test setup**

Test Channel	:	Low/ Middle/ High
Operation mode	:	A, C
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101 kPa

Remark: Testing was carried out within frequency range 9 kHz to the tenth harmonic. For details refer to Appendix 1. The Radiated Emissions testing was performed in the X, Y and Z axis mode. The X Axis mode is the worst-case recorded in this test report.



## 5.1.6 Frequency Separation

**RESULT:****Passed**

Date of testing : 2011-07-13  
Test standard : FCC part 15.247(a)(1)  
Basic standard : ANSI C63.4: 2003  
Limit :  $\geq 25\text{kHz}$  or  $2/3$  of  $20\text{dB}$  bandwidth, whichever is greater

**Test setup**

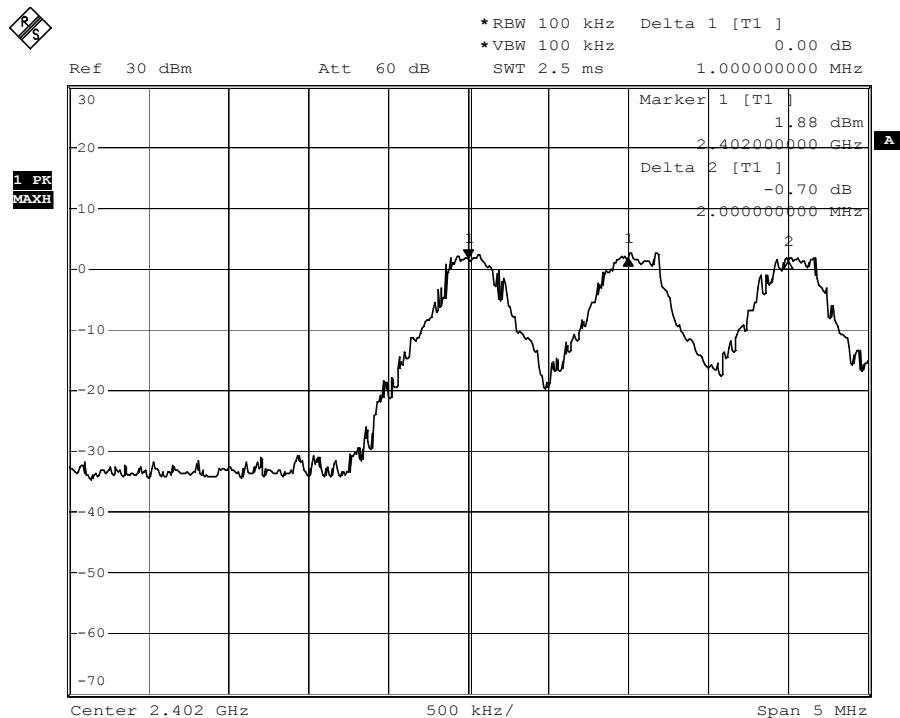
Test Channel : Low/ Middle/ High  
Operation Mode : A  
Ambient temperature :  $24.3^{\circ}\text{C}$   
Relative humidity : 53%  
Atmospheric pressure : 101kPa

**Table 9: Test result of Frequency Separation**

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or $2/3$ of $20\text{dB}$ bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of $20\text{dB}$ bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq 25\text{kHz}$ or $2/3$ of $20\text{dB}$ bandwidth	Pass
Adjacency Channel	2479			

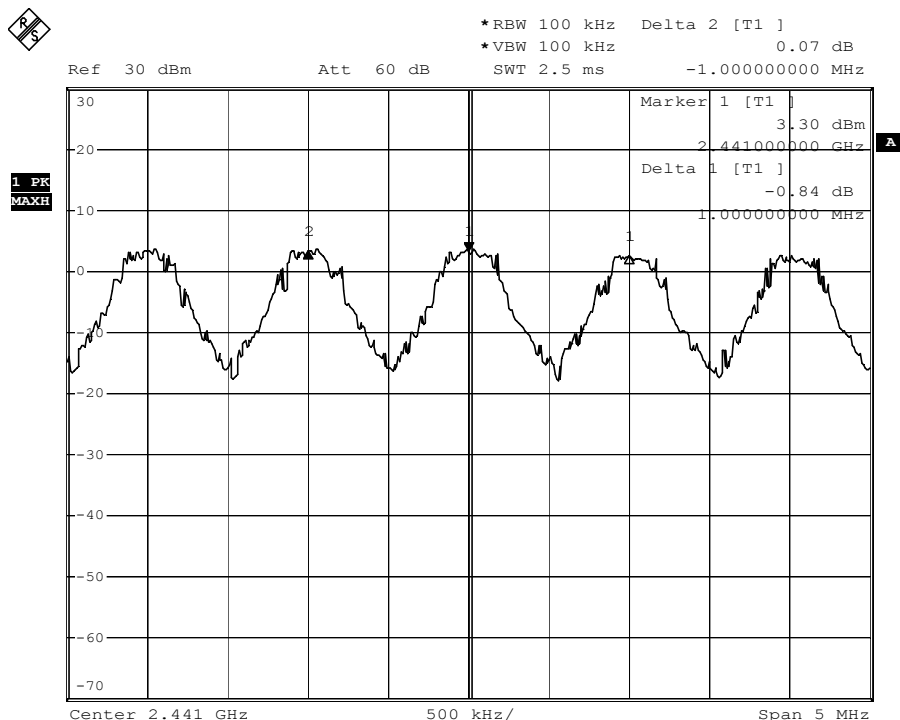
## Test Plot of Frequency Separation

### Low Channel



Date: 13.JUL.2011 17:44:37

### Middle Channel

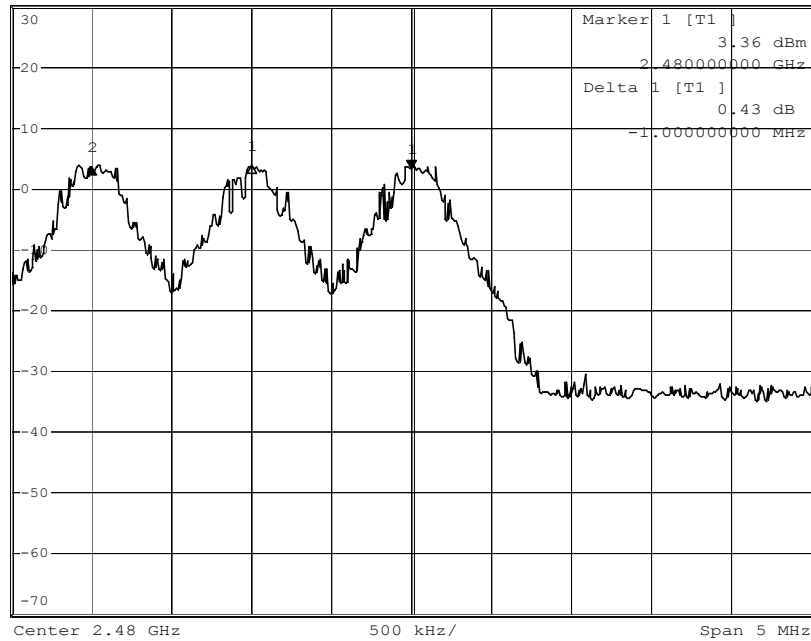


Date: 13.JUL.2011 17:45:43

**High Channel**


\*RBW 100 kHz Delta 2 [T1 ]  
 \*VBW 100 kHz 0.33 dB  
 Ref 30 dBm Att 60 dB SWT 2.5 ms -2.000000000 MHz

1 PK  
MAXH



Date: 13.JUL.2011 17:47:27

### 5.1.7 Number of hopping frequency

**RESULT:****Passed**

Date of testing : 2011-07-13  
Test standard : FCC part 15.247(a)(1)(iii)  
Basic standard : ANSI C63.4: 2003  
Limits :  $\geq 15$  non-overlapping channels  
Kind of test site : Shield room

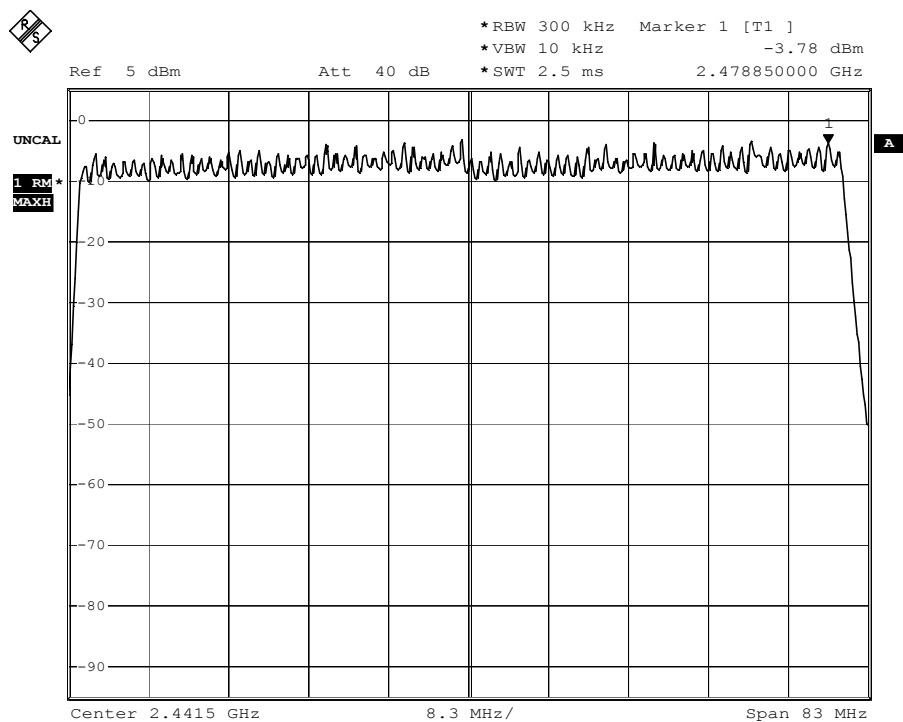
**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : A  
Ambient temperature : 24.3°C  
Relative humidity : 53%  
Atmospheric pressure : 101kPa

**Table 10: Test result of Number of hopping frequency**

Frequency Range	Measured Quantity of Hopping Channels	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	$\geq 15$	Pass

## Test Plot of Number of hopping frequencies



Date: 13.JUL.2011 18:13:08

## 5.1.8 Time of Occupancy

**RESULT:**
**Passed**

Date of testing : 2011-07-13  
 Test standard : FCC part 15.247(a)(1)(iii)  
 Basic standard : ANSI C63.4: 2003  
 Limits : 0.4s  
 Kind of test site : Shield room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A  
 Ambient temperature : 24.3°C  
 Relative humidity : 53%  
 Atmospheric pressure : 101kPa

**Table 11: Test result of Time of Occupancy**

Channel	Data Mode	Captured Burst (s)	Dwell time (s)	Limit (s)	Result
Low Channel	DH5	0.00289	0.36992	0.4	Pass
	3-DH5	0.0029	0.3712	0.4	Pass
Mid Channel	DH5	0.00289	0.36992	0.4	Pass
	3-DH5	0.0029	0.3712	0.4	Pass
High Channel	DH5	0.00289	0.36992	0.4	Pass
	3-DH5	0.0029	0.3712	0.4	Pass

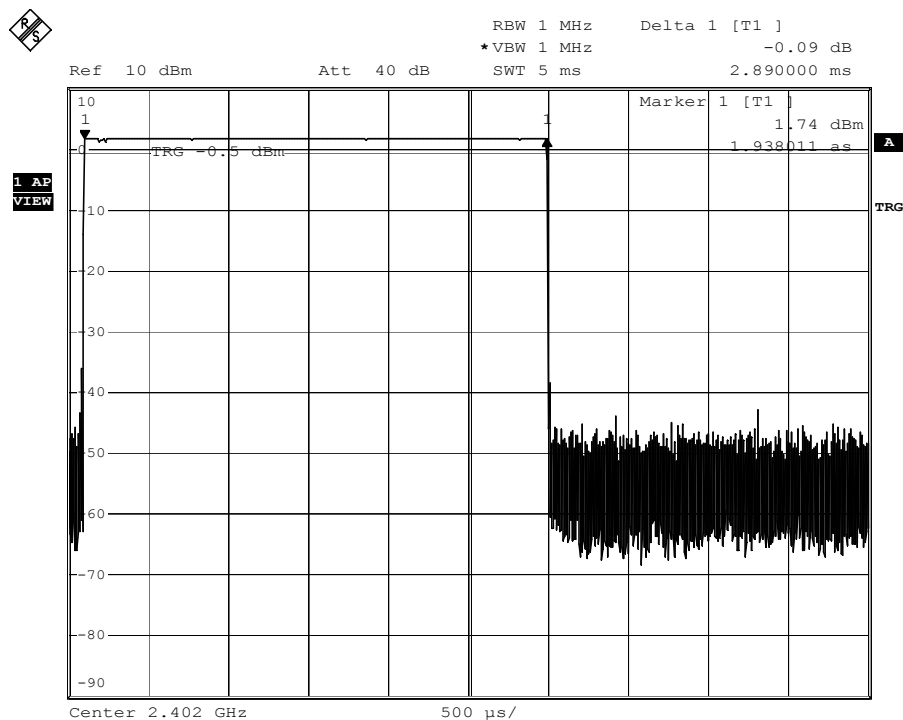
**Note:**

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

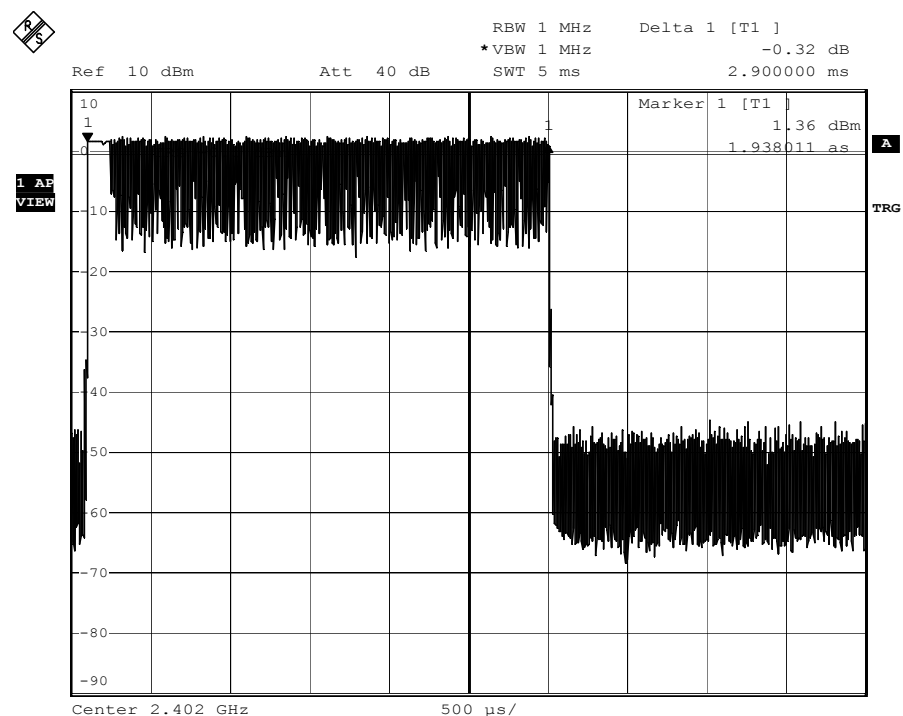
## Test Plot of Time of Occupancy

### Low Channel- DH5

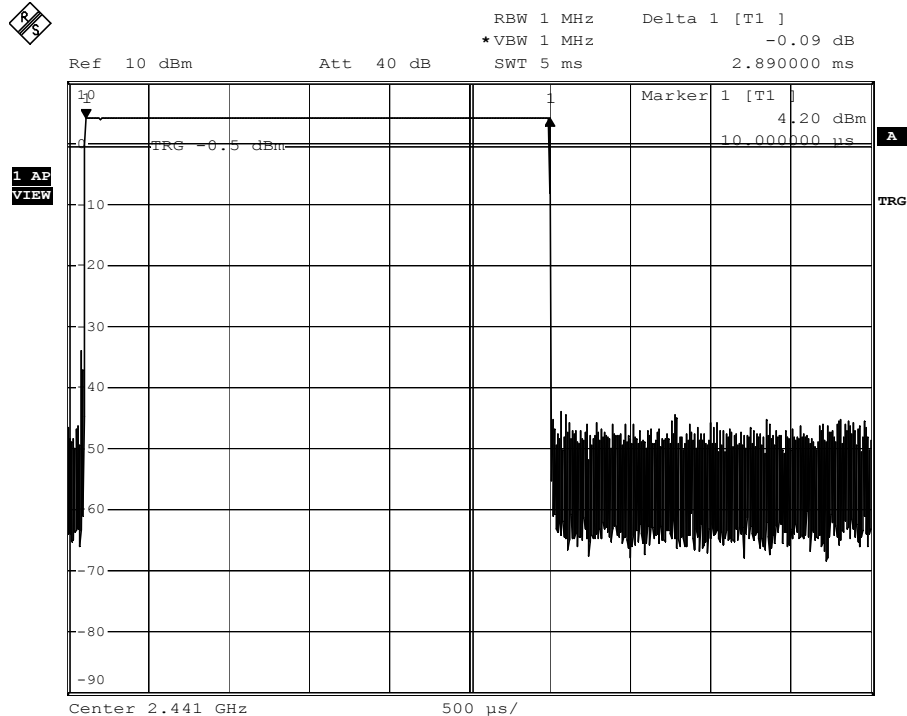


Date: 13.JUL.2011 17:40:30

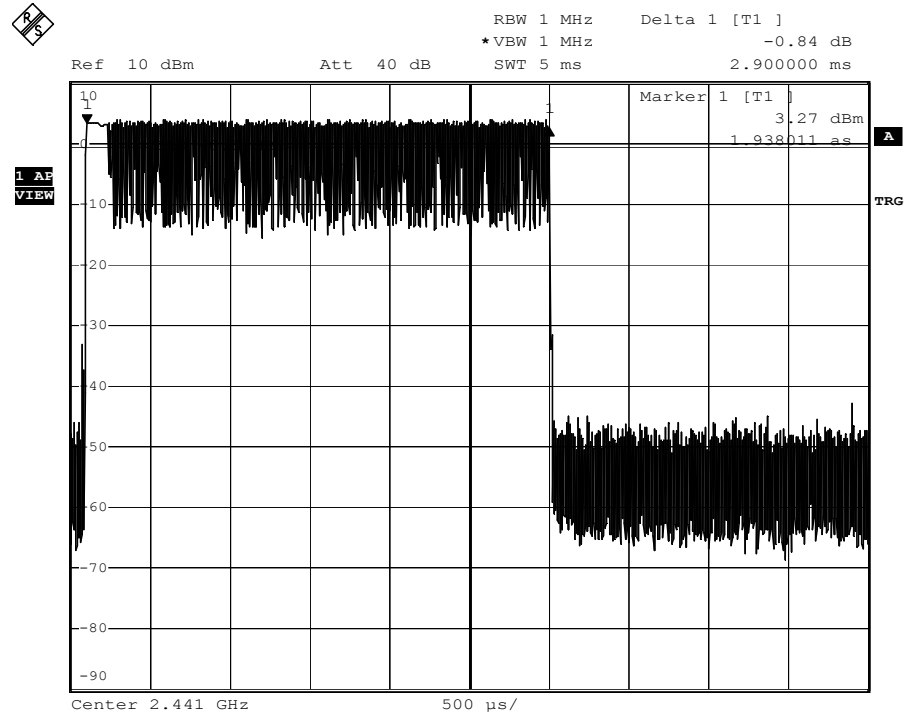
### Low Channel- 3DH5



Date: 13.JUL.2011 17:38:57

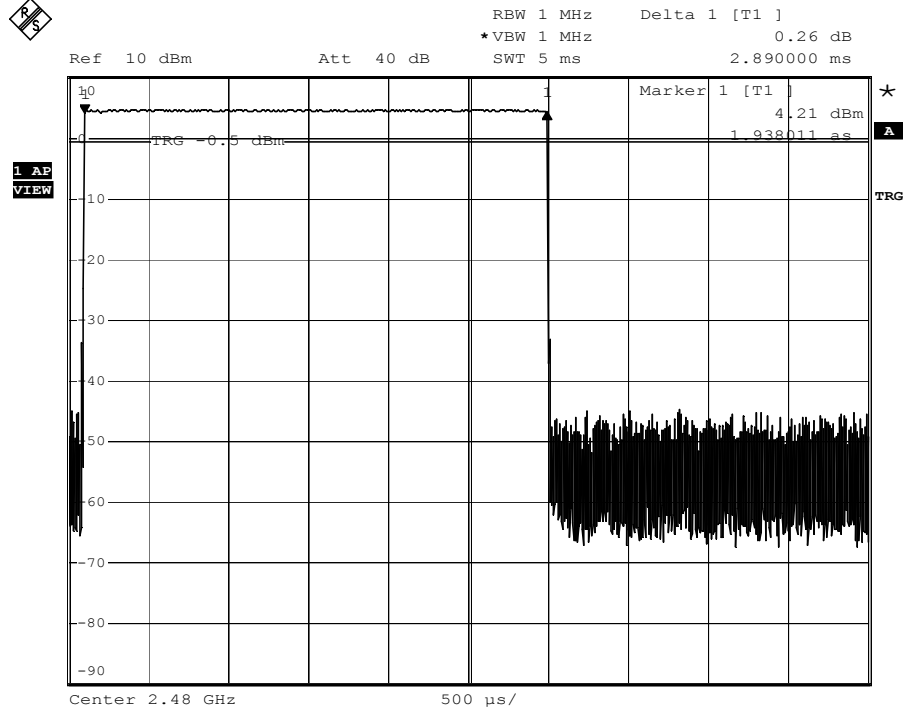
**Middle Channel- DH5**


Date: 13.JUL.2011 17:41:19

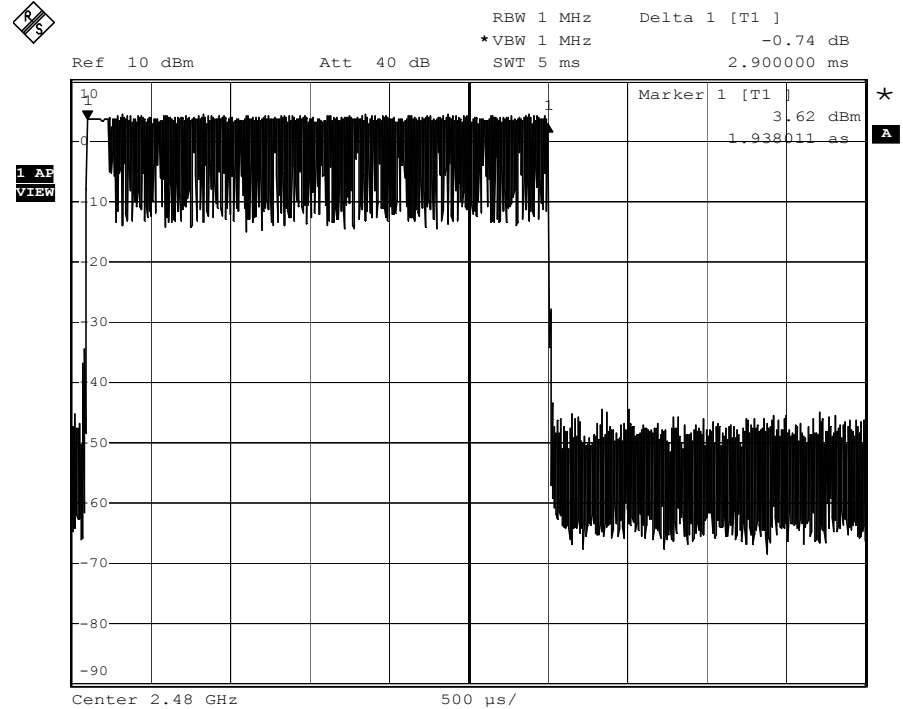
**Middle Channel- 3DH5**


Date: 13.JUL.2011 17:37:38



**High Channel- DH5**


Date: 13.JUL.2011 17:41:46

**High Channel- 3DH5**


Date: 13.JUL.2011 17:36:35

**Prüfbericht - Nr.: 10033002 001***Test Report No.***Seite 34 von 39***Page 34 of 39***5.1.9 Conducted Emission****RESULT:****Passed**

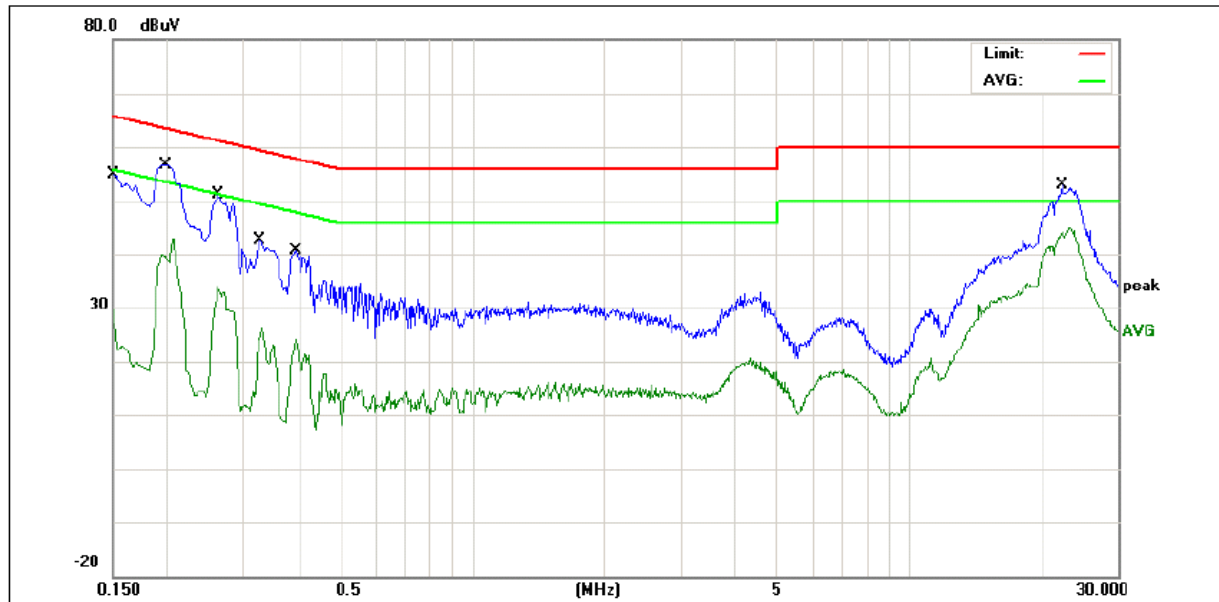
Date of testing : 2011-07-25  
Test standard : FCC part 15.207(a)  
Basic standard : ANSI C63.4: 2003  
Limits : Refer to 15.207(a)  
Kind of test site : Shield room

**Test setup**

Test Channel : Hopping  
Operation mode : A  
Ambient temperature : 26°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa  
Input Voltage : DC 5V from USB of the Host PC

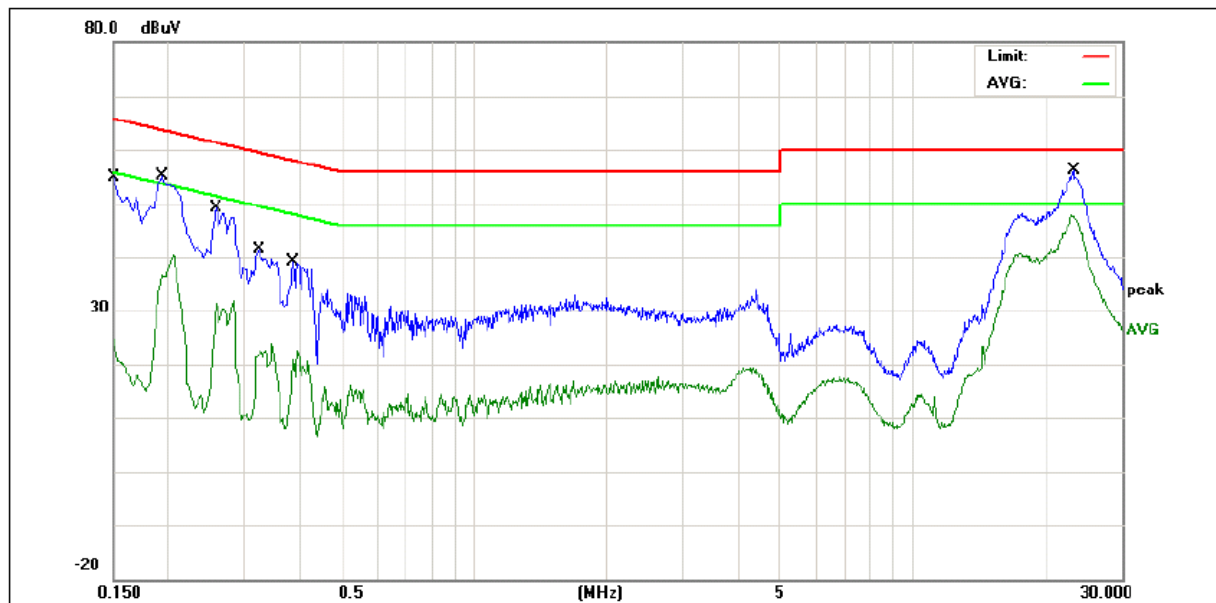
## Test Result

### L1



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	9.55	37.71	47.26	65.99	-18.73	QP	P	
2	0.1500	9.55	15.69	25.24	55.99	-30.75	AVG	P	
3	0.1980	9.66	42.82	52.48	63.69	-11.21	QP	P	
4	0.1980	9.66	27.58	37.24	53.69	-16.45	AVG	P	
5	0.2620	9.64	36.54	46.18	61.36	-15.18	QP	P	
6	0.2620	9.64	20.03	29.67	51.36	-21.69	AVG	P	
7	0.3260	9.62	28.38	38.00	59.55	-21.55	QP	P	
8	0.3260	9.62	10.91	20.53	49.55	-29.02	AVG	P	
9	0.3940	9.61	25.81	35.42	57.98	-22.56	QP	P	
10	0.3940	9.61	9.67	19.28	47.98	-28.70	AVG	P	
11	22.4020	9.85	37.86	47.71	60.00	-12.29	QP	P	
12	22.4020	9.85	33.11	42.96	50.00	-7.04	AVG	P	

## L2



No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	9.65	36.52	46.17	65.99	-19.82	QP	P	
2	0.1500	9.65	14.79	24.44	55.99	-31.55	AVG	P	
3	0.1940	9.68	42.03	51.71	63.86	-12.15	QP	P	
4	0.1940	9.68	25.52	35.20	53.86	-18.66	AVG	P	
5	0.2580	9.66	35.67	45.33	61.49	-16.16	QP	P	
6	0.2580	9.66	18.05	27.71	51.49	-23.78	AVG	P	
7	0.3220	9.65	27.76	37.41	59.65	-22.24	QP	P	
8	0.3220	9.65	10.42	20.07	49.65	-29.58	AVG	P	
9	0.3860	9.64	25.12	34.76	58.15	-23.39	QP	P	
10	0.3860	9.64	8.70	18.34	48.15	-29.81	AVG	P	
11	23.3300	9.95	40.84	50.79	60.00	-9.21	QP	P	
12	23.3300	9.95	36.08	46.03	50.00	-3.97	AVG	P	

## 6. Safety Human exposure

### 6.1 Radio Frequency Exposure Compliance

#### 6.1.1 Electromagnetic Fields

**RESULT:****Passed**

Test standard : FCC KDB Publication 447498

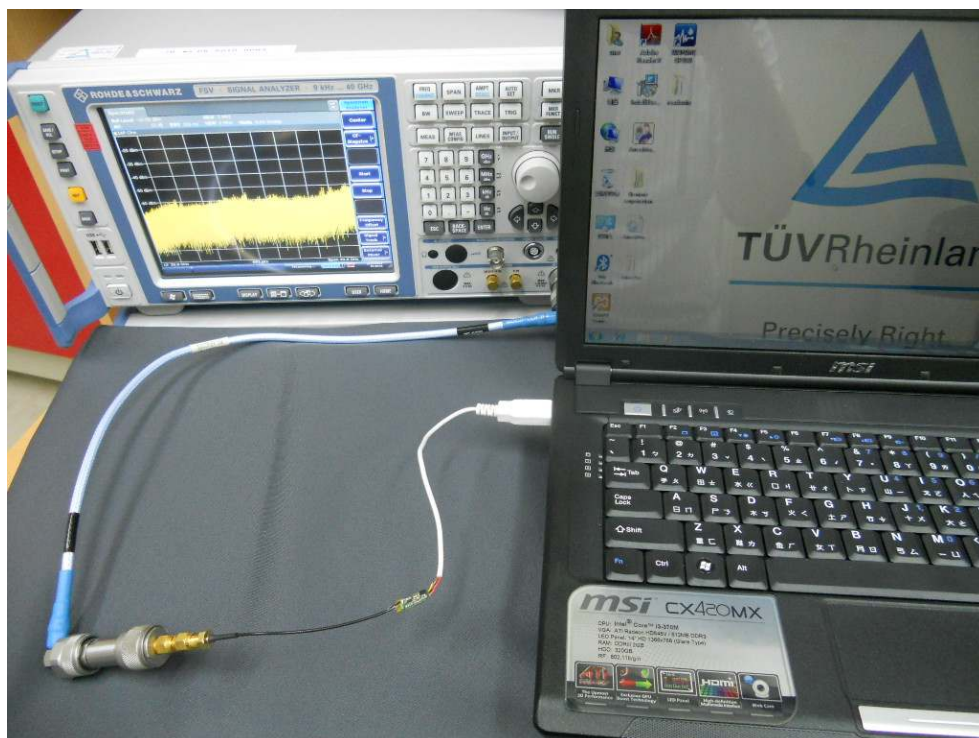
Since maximum peak output power of the transmitter is  $<60/f(\text{GHz})\text{mW}$ , i.e.  
 $0.0028\text{mW} < 25(=60/2.4)\text{mW}$ , hence the EUT is excluded from SAR evaluation according to  
FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

## 7. Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Spurious Emissions



Photograph 2: Set-up for Conducted Transmitter Measurement



## 8. List of Tables

Table 1: List of Test and Measurement Equipment .....	5
Table 2: Rating of EUT .....	7
Table 3: Technical Specification of EUT .....	7
Table 4: Frequency hopping information .....	8
Table 5: Test result of Peak Output Power, GFSK modulation .....	14
Table 6: Test result of Peak Output Power, 8DPSK modulation .....	14
Table 7: Test result of 20dB Bandwidth, GFSK modulation .....	15
Table 8: Test result of 20dB Bandwidth, 8DPSK modulation .....	15
Table 9: Test result of Frequency Separation .....	25
Table 10: Test result of Number of hopping frequency .....	28
Table 11: Test result of Time of Occupancy .....	30

## 9. List of Photographs

Photograph 1: Set-up for Radiated Spurious Emissions .....	38
Photograph 2: Set-up for Conducted Transmitter Measurement .....	38

Test Report No. 10033002 001

Appendix 1: Test Result of Radiated Emissions

(File:113146575-0707)





Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product: Bluetooth Dongle

Model No.: VD-11x4

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

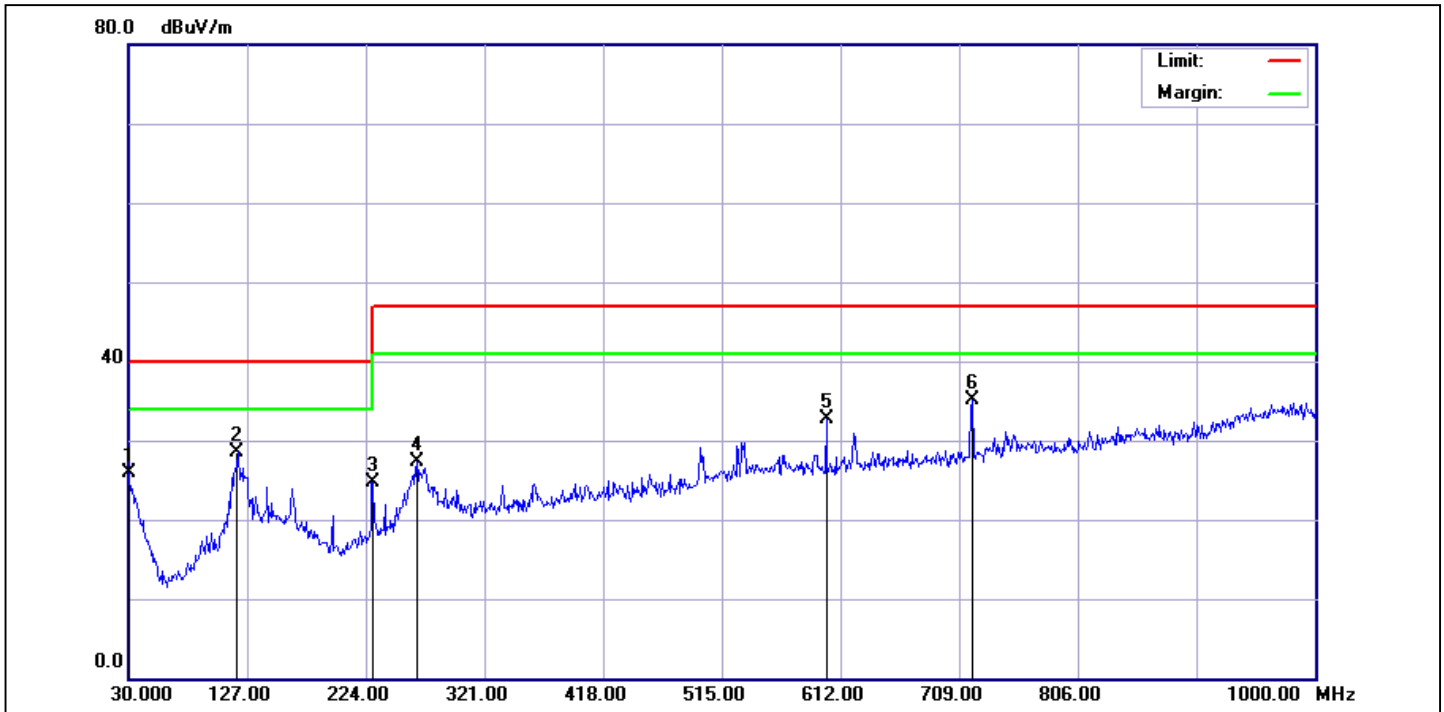
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	228.8499	-14.81	46.32	31.51	40.00	-8.49	QP	100	179	P	
2	262.8000	-11.37	44.56	33.19	47.00	-13.81	QP	100	162	P	
3	335.5500	-10.65	42.83	32.18	47.00	-14.82	QP	100	188	P	
4	361.7400	-10.05	39.04	28.99	47.00	-18.01	QP	200	63	P	
5	497.5400	-7.54	41.47	33.93	47.00	-13.07	QP	200	115	P	
6	548.9500	-5.91	41.78	35.87	47.00	-11.13	QP	200	0	P	


**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test Distance:** 3m

**Test item:** Radiation Emission

**Ant. Polarization:** Vertical

**Applicant:** Vencer

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

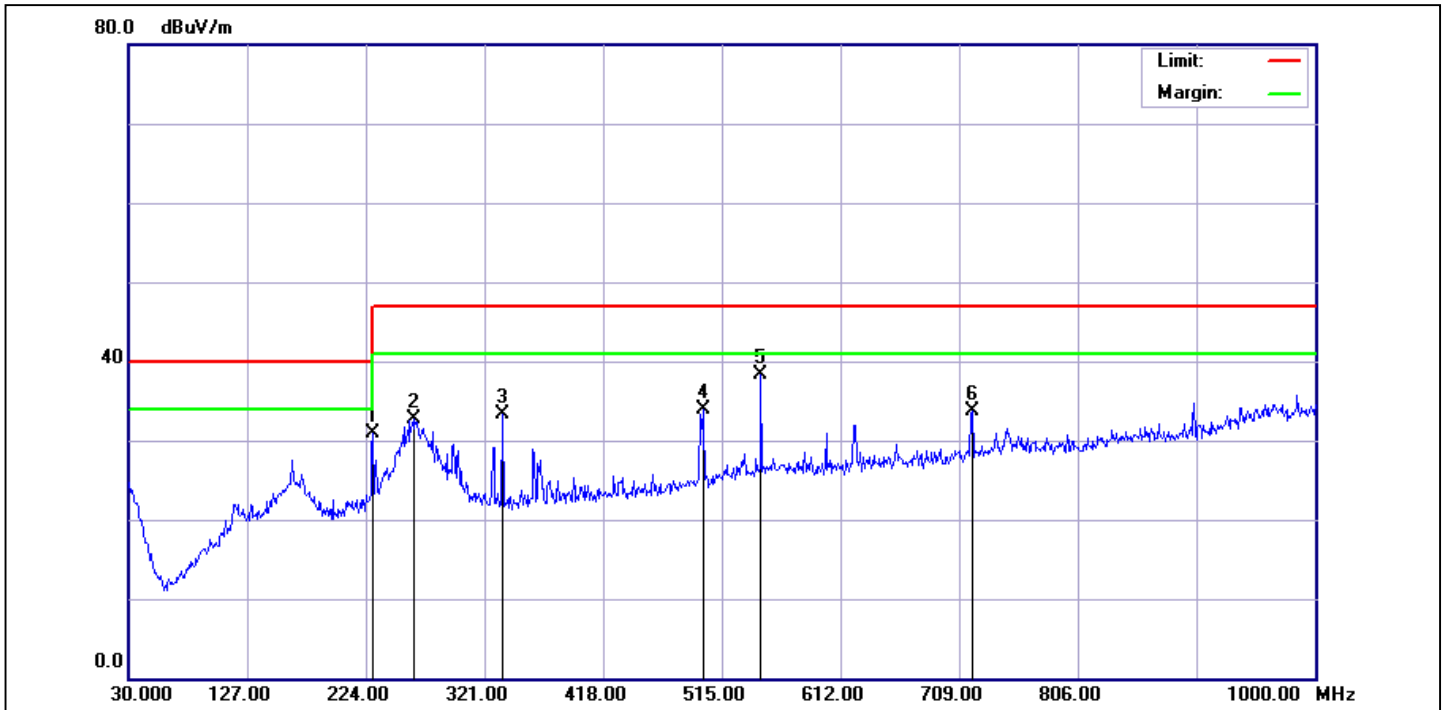
**Product:** Bluetooth Dongle

**Test Rating:**
**Model No.:** VD-11x4

**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** TX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	30.0000	-7.76	33.74	25.98	40.00	-14.02	QP	100	0	P	
2	119.2399	-14.21	42.66	28.45	40.00	-11.55	QP	100	205	P	
3	229.8199	-14.75	39.50	24.75	40.00	-15.25	QP	100	182	P	
4	265.7099	-11.48	38.69	27.21	47.00	-19.79	QP	200	332	P	
5	600.3600	-5.95	38.74	32.79	47.00	-14.21	QP	100	165	P	
6	719.6699	-4.09	39.19	35.10	47.00	-11.90	QP	100	245	P	



Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

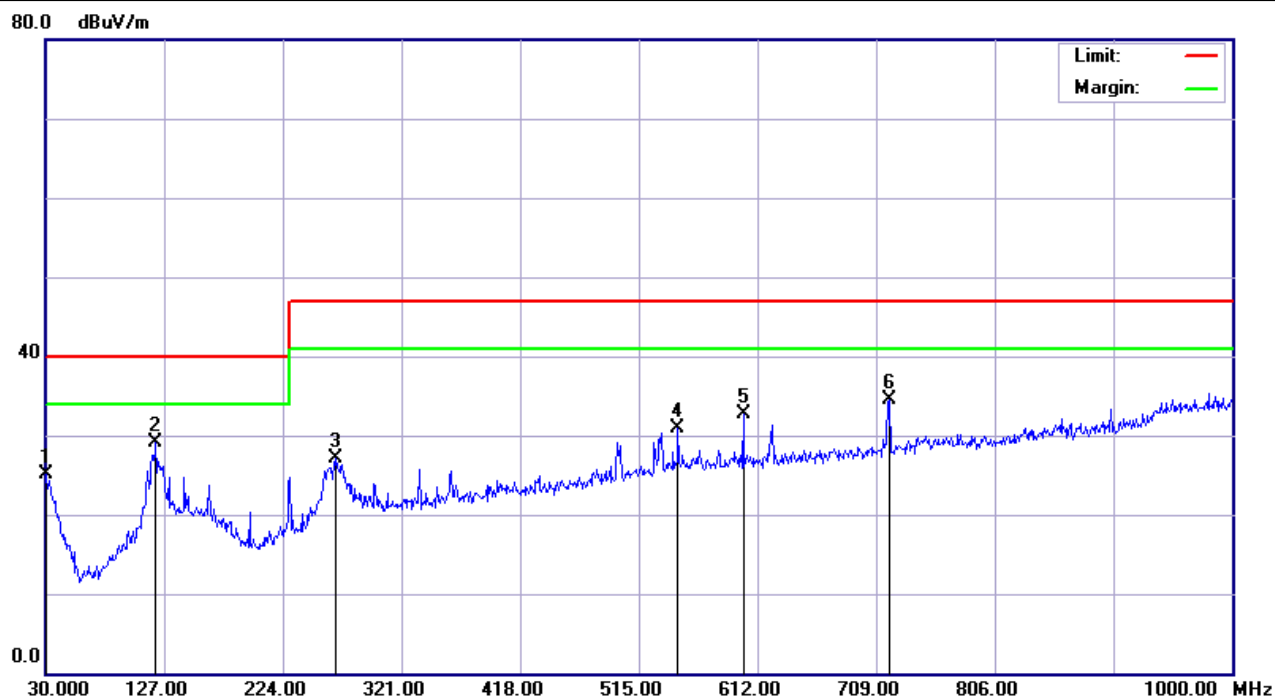
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	229.8199	-14.75	45.73	30.98	40.00	-9.02	QP	100	175	P	
2	263.7699	-11.41	44.06	32.65	47.00	-14.35	QP	200	0	P	
3	335.5500	-10.65	43.90	33.25	47.00	-13.75	QP	100	148	P	
4	499.4800	-7.49	41.49	34.00	47.00	-13.00	QP	200	122	P	
5	547.0099	-5.96	44.19	38.23	47.00	-8.77	QP	200	0	P	
6	719.6699	-4.09	37.80	33.71	47.00	-13.29	QP	100	135	P	


**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

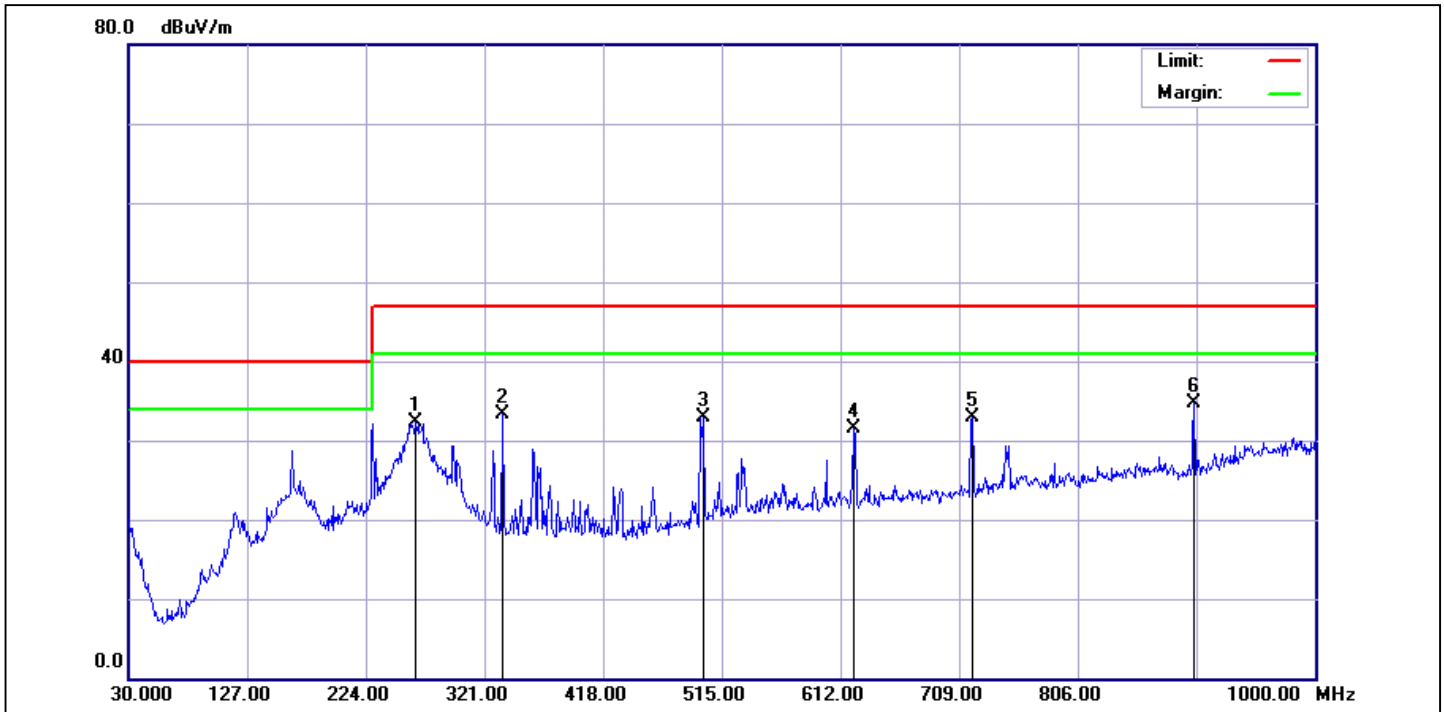
**Ant. Polarization:** Vertical

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** TX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	30.0000	-7.76	32.87	25.11	40.00	-14.89	QP	100	158	P	
2	120.2100	-14.13	43.17	29.04	40.00	-10.96	QP	100	162	P	
3	267.6500	-11.54	38.57	27.03	47.00	-19.97	QP	200	308	P	
4	547.0100	-5.96	36.82	30.86	47.00	-16.14	QP	300	215	P	
5	600.3600	-5.95	38.73	32.78	47.00	-14.22	QP	100	152	P	
6	719.6700	-4.09	38.58	34.49	47.00	-12.51	QP	100	165	P	



Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

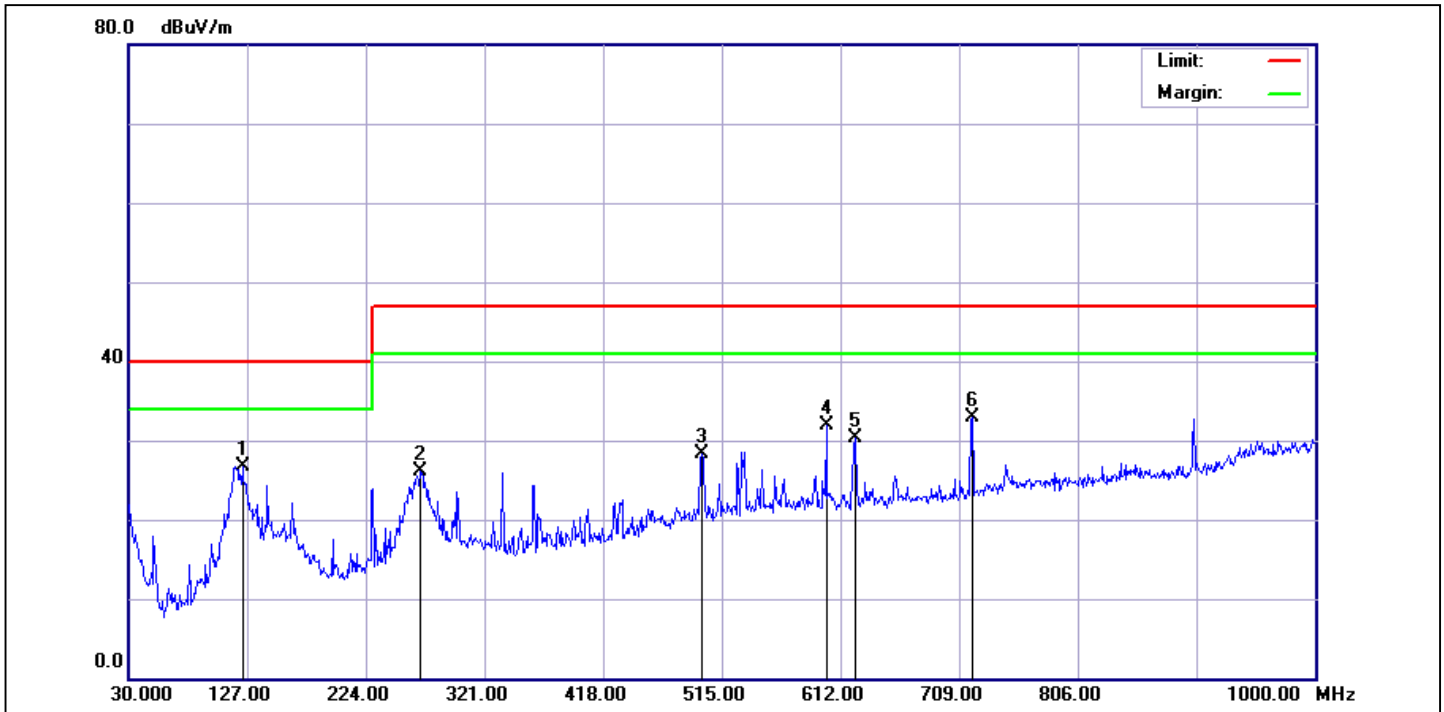
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	264.7400	-11.44	43.82	32.38	47.00	-14.62	QP	100	32	P	
2	335.5500	-10.65	43.95	33.30	47.00	-13.70	QP	100	178	P	
3	499.4800	-7.49	40.47	32.98	47.00	-14.02	QP	200	125	P	
4	622.6699	-5.59	37.18	31.59	47.00	-15.41	QP	300	54	P	
5	719.6699	-4.09	37.07	32.98	47.00	-14.02	QP	100	149	P	
6	901.0599	-1.61	36.29	34.68	47.00	-12.32	QP	100	282	P	


**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test Distance:** 3m

**Test item:** Radiation Emission

**Ant. Polarization:** Vertical

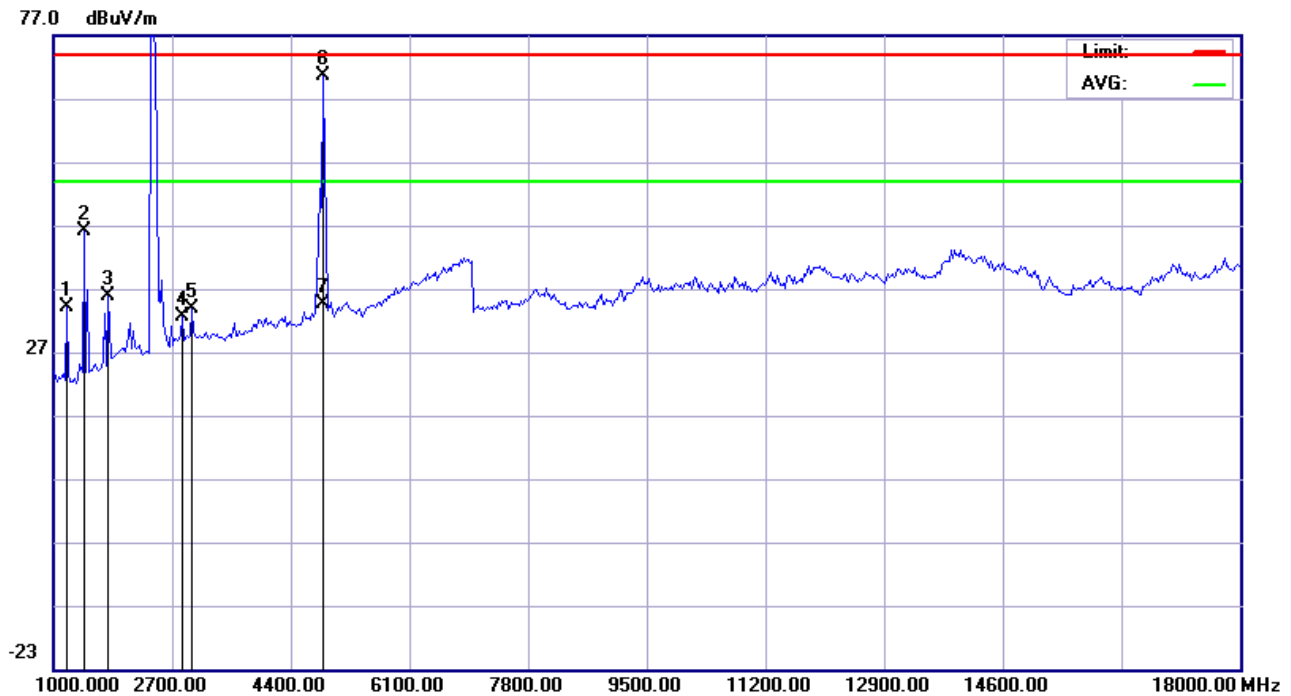
**Applicant:** Vencer

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Product:**
**Test Rating:**
**Model No.:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** TX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	123.1200	-14.05	40.77	26.72	40.00	-13.28	QP	100	189	P	
2	268.6200	-11.58	37.66	26.08	47.00	-20.92	QP	200	322	P	
3	498.5100	-7.52	35.75	28.23	47.00	-18.77	QP	100	58	P	
4	600.3600	-5.95	37.90	31.95	47.00	-15.05	QP	100	121	P	
5	624.6100	-5.57	35.79	30.22	47.00	-16.78	QP	100	299	P	
6	719.6700	-4.09	37.05	32.96	47.00	-14.04	QP	100	276	P	



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

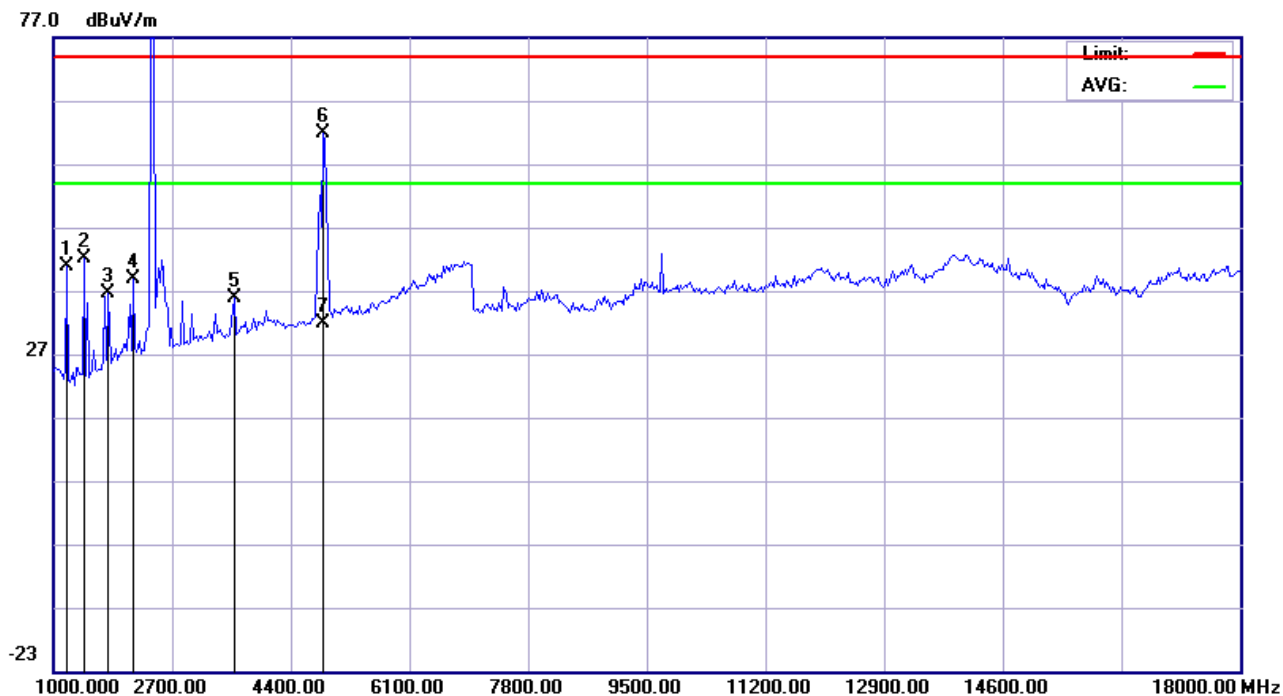
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1190.705	1.08	33.05	34.13	74.00	-39.87	peak	100	199	P	
2	1435.897	1.26	44.96	46.22	74.00	-27.78	peak	100	330	P	
3	1790.064	3.82	32.07	35.89	74.00	-38.11	peak	100	330	P	
4	2852.564	6.82	25.86	32.68	74.00	-41.32	peak	100	100	P	
5	2988.782	7.35	26.60	33.95	74.00	-40.05	peak	100	276	P	
6	4868.590	10.49	60.10	70.59	74.00	-3.41	peak	100	298	P	
7	4868.590	10.49	24.13	34.62	54.00	-19.38	AVG	100	124	P	



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Vertical

Temp.(°C)/Hum.(%): 25(°C) / 53 %

Test Rating:

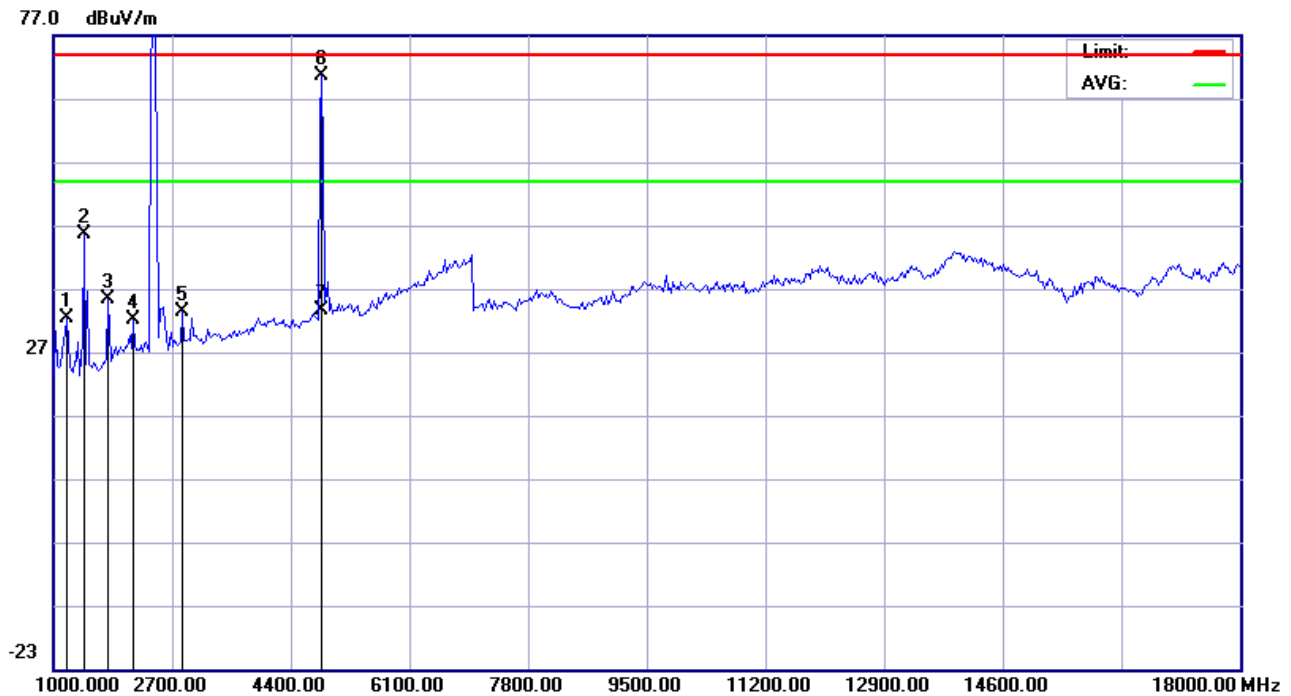
Test Engineer: Howard Lin

Test Mode:

Remark: TX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1190.705	1.08	39.90	40.98	74.00	-33.02	peak	100	284	P	
2	1435.897	1.26	40.81	42.07	74.00	-31.93	peak	100	0	P	
3	1790.064	3.82	32.80	36.62	74.00	-37.38	peak	100	358	P	
4	2144.231	5.58	33.22	38.80	74.00	-35.20	peak	100	75	P	
5	3588.141	7.65	28.25	35.90	74.00	-38.10	peak	100	159	P	
6	4868.590	10.49	51.27	61.76	74.00	-12.24	peak	100	8	P	
7	4868.590	10.49	21.36	31.85	54.00	-22.15	AVG	100	320	P	





Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

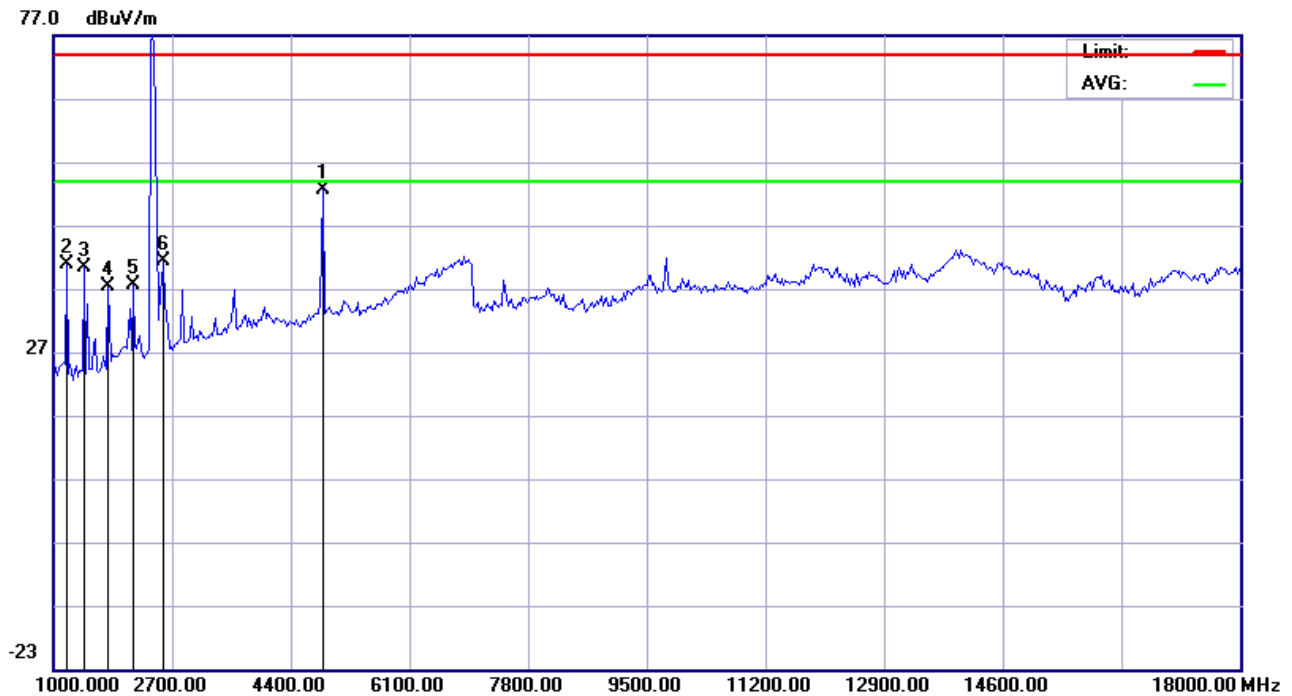
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1190.705	1.08	31.31	32.39	74.00	-41.61	peak	100	259	P	
2	1435.897	1.26	44.31	45.57	74.00	-28.43	peak	100	330	P	
3	1790.064	3.82	31.58	35.40	74.00	-38.60	peak	100	323	P	
4	2144.231	5.58	26.56	32.14	74.00	-41.86	peak	100	124	P	
5	2852.564	6.82	26.44	33.26	74.00	-40.74	peak	100	124	P	
6	4841.346	10.39	60.22	70.61	74.00	-3.39	peak	100	314	P	
7	4841.346	10.39	23.13	33.52	54.00	-20.48	AVG	100	200	P	


**Service No.:** 113146575-0707

**Test Standard:** FCC above 1G PEAK

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

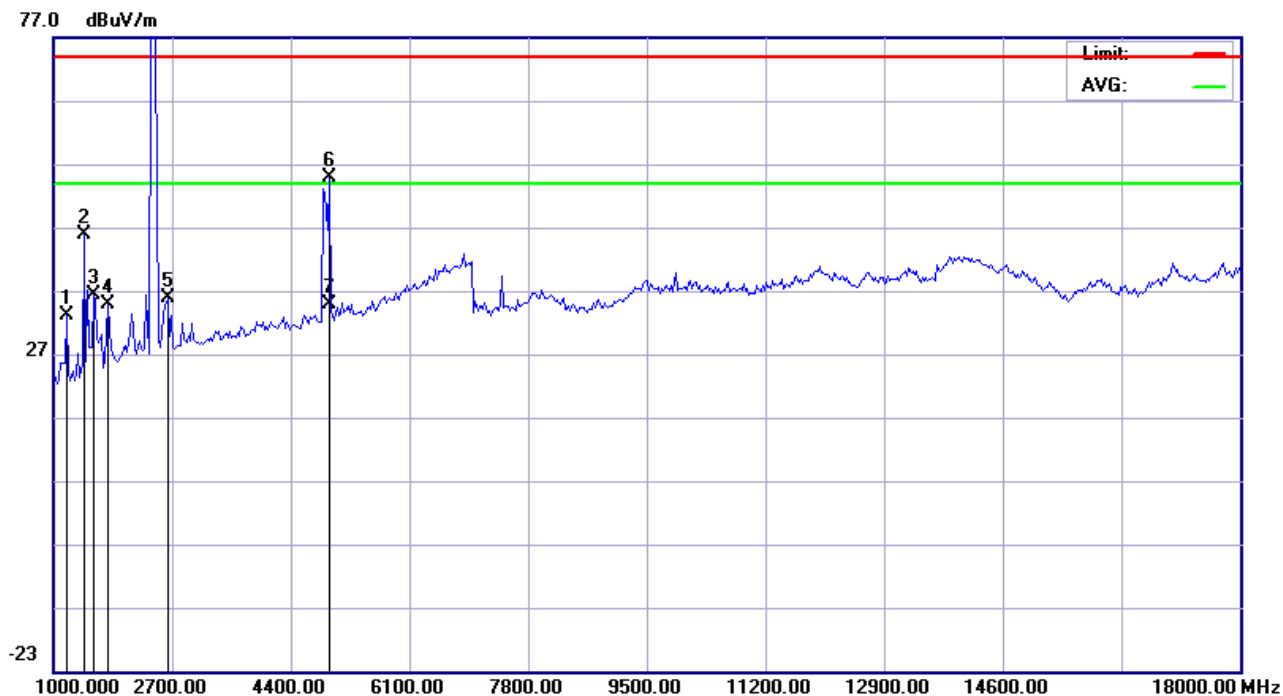
**Ant. Polarization:** Vertical

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** TX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	4868.590	10.49	42.26	52.75	74.00	-21.25	peak	108	94	P	
2	1190.705	1.08	39.81	40.89	74.00	-33.11	peak	108	248	P	
3	1435.897	1.26	39.03	40.29	74.00	-33.71	peak	108	0	P	
4	1790.064	3.82	33.48	37.30	74.00	-36.70	peak	108	351	P	
5	2144.231	5.58	32.12	37.70	74.00	-36.30	peak	108	78	P	
6	2580.128	5.75	35.53	41.28	74.00	-32.72	peak	108	101	P	



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 25(°C) / 53 %

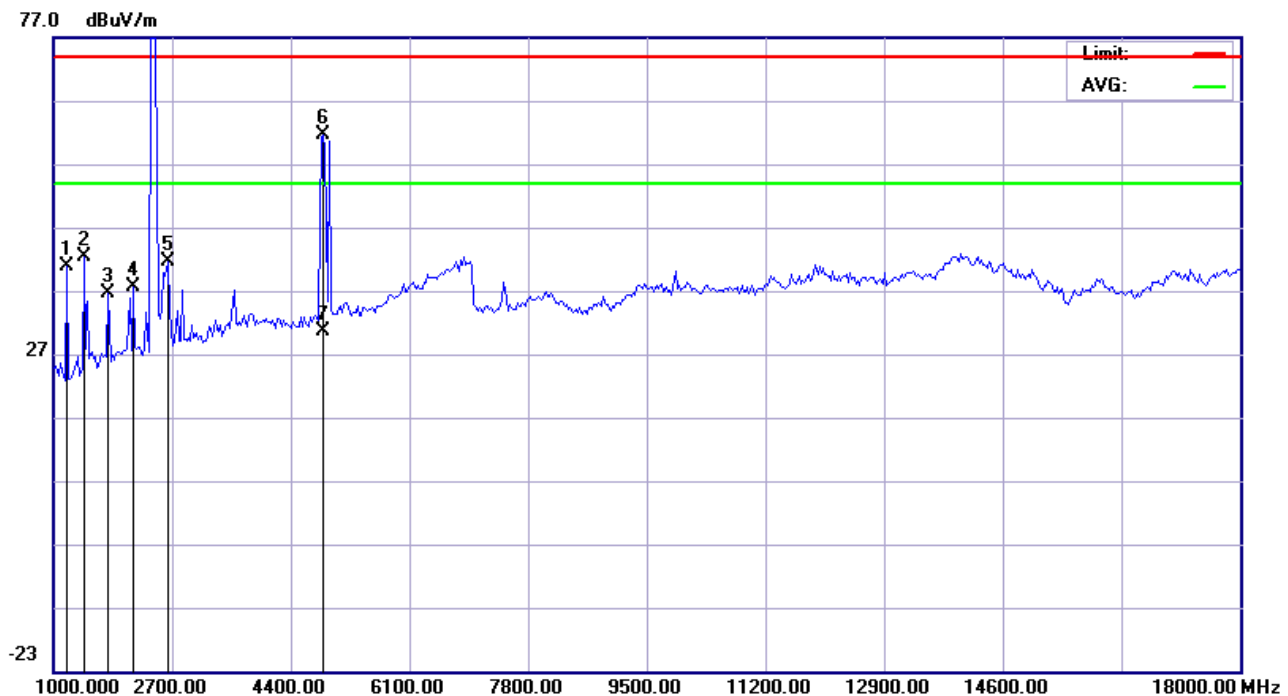
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: TX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1190.705	1.08	32.10	33.18	74.00	-40.82	peak	100	197	P	
2	1435.897	1.26	44.61	45.87	74.00	-28.13	peak	100	329	P	
3	1572.115	1.93	34.47	36.40	74.00	-37.60	peak	100	107	P	
4	1790.064	3.82	31.18	35.00	74.00	-39.00	peak	100	329	P	
5	2634.615	5.96	29.89	35.85	74.00	-38.15	peak	101	344	P	
6	4950.320	10.75	44.20	54.95	74.00	-19.05	peak	100	335	P	
7	4950.320	10.75	24.13	34.88	54.00	-19.12	AVG	100	124	P	


**Service No.:** 113146575-0707

**Test Standard:** FCC above 1G PEAK

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

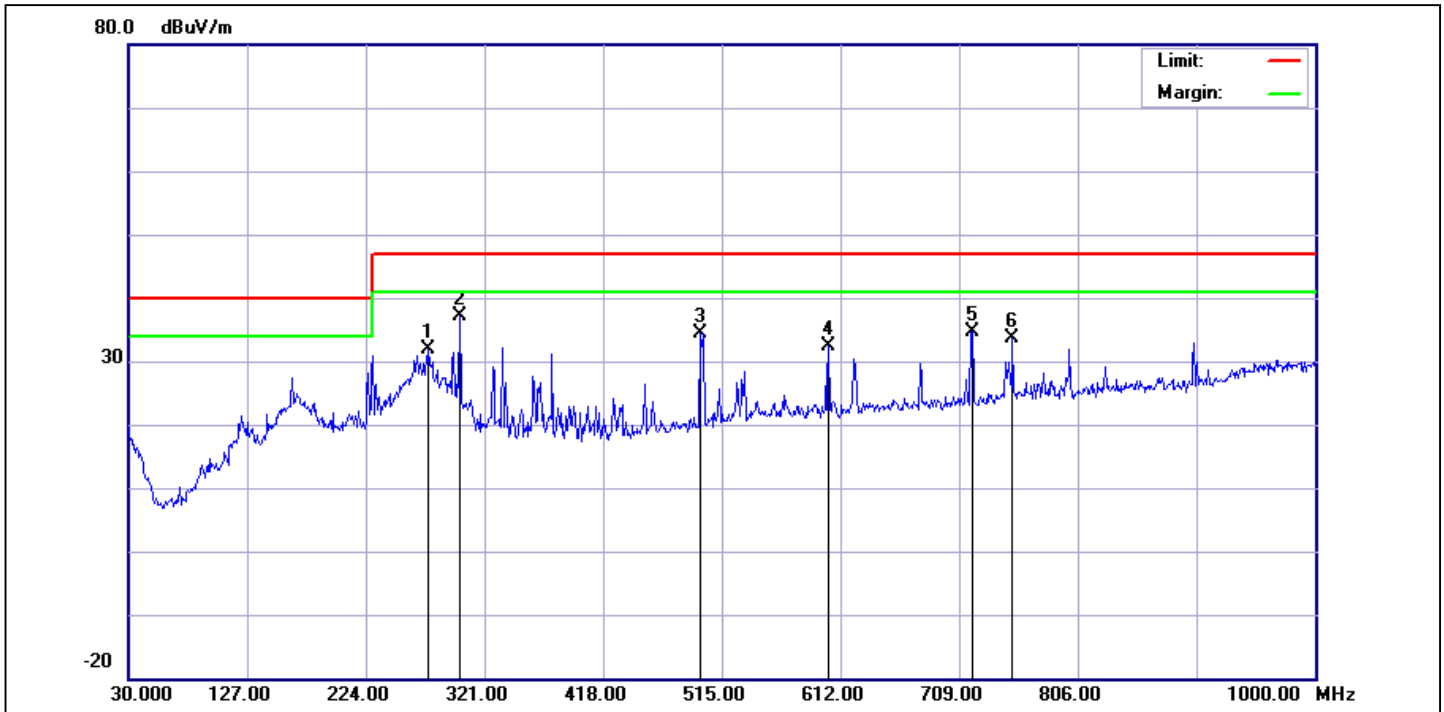
**Ant. Polarization:** Vertical

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** TX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1190.705	1.08	39.68	40.76	74.00	-33.24	peak	100	253	P	
2	1435.897	1.26	41.17	42.43	74.00	-31.57	peak	100	360	P	
3	1790.064	3.82	32.91	36.73	74.00	-37.27	peak	100	352	P	
4	2144.231	5.58	31.95	37.53	74.00	-36.47	peak	100	79	P	
5	2634.615	5.96	35.63	41.59	74.00	-32.41	peak	100	102	P	
6	4868.590	10.49	51.22	61.71	74.00	-12.29	peak	100	224	P	
7	4868.590	10.49	20.13	30.62	54.00	-23.38	AVG	100	322	P	


**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

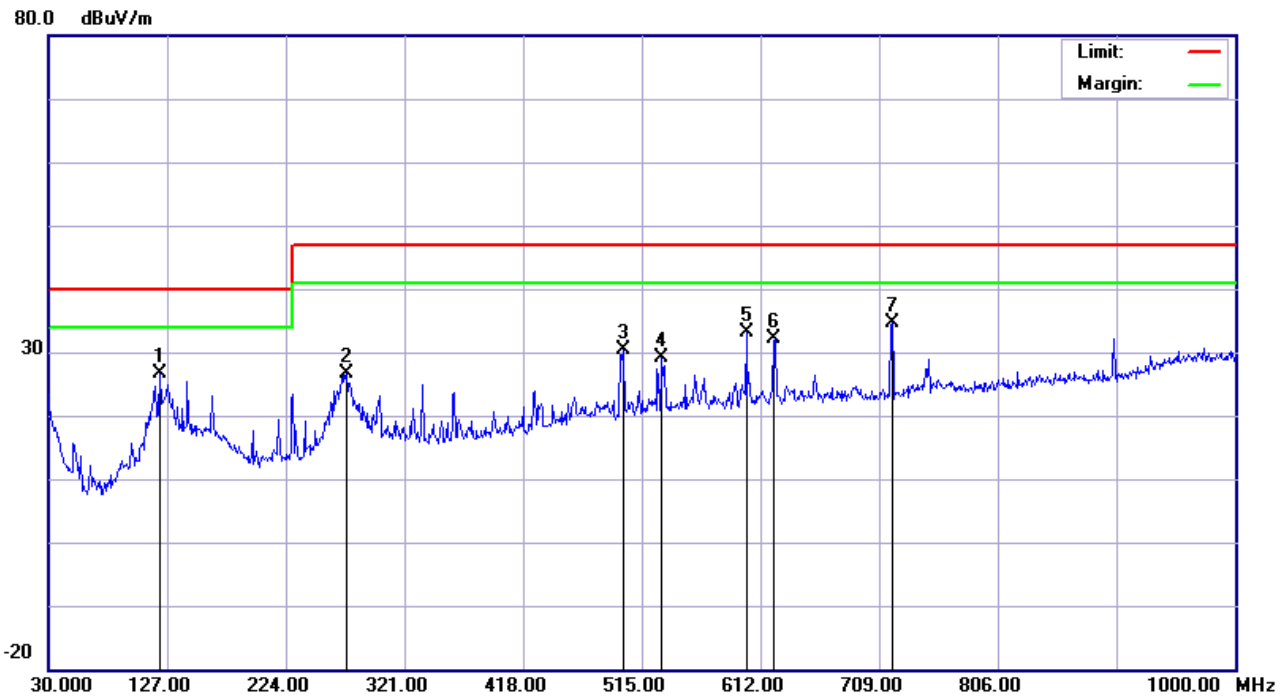
**Ant. Polarization:** Horizontal

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** RX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	275.4100	-11.82	43.61	31.79	47.00	-15.21	QP	100	8	P	
2	300.6298	-11.39	48.53	37.14	47.00	-9.86	QP	100	137	P	
3	497.5400	-7.54	41.89	34.35	47.00	-12.65	QP	200	106	P	
4	602.2999	-5.91	38.35	32.44	47.00	-14.56	QP	200	120	P	
5	719.6699	-4.09	38.77	34.68	47.00	-12.32	QP	100	74	P	
6	752.6499	-3.25	36.97	33.72	47.00	-13.28	QP	200	40	P	



Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Vertical

Temp.(°C)/Hum.(%): 25(°C) / 53 %

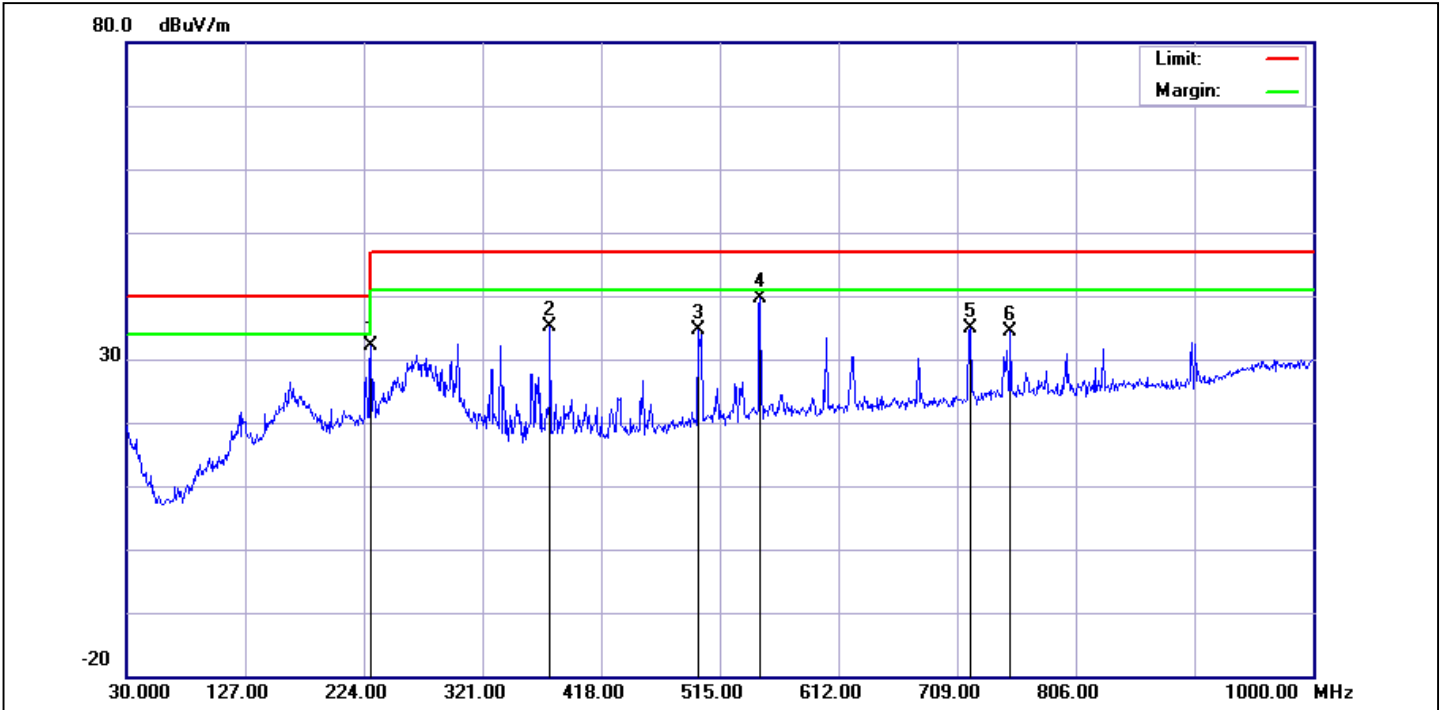
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: RX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	121.1800	-14.11	40.68	26.57	40.00	-13.43	QP	100	1	P	
2	273.4700	-11.74	38.28	26.54	47.00	-20.46	QP	200	300	P	
3	499.4800	-7.49	37.90	30.41	47.00	-16.59	QP	100	246	P	
4	531.4900	-6.47	35.70	29.23	47.00	-17.77	QP	100	360	P	
5	600.3600	-5.95	39.14	33.19	47.00	-13.81	QP	100	123	P	
6	623.6399	-5.58	37.66	32.08	47.00	-14.92	QP	100	279	P	
7	719.6699	-4.09	38.79	34.70	47.00	-12.30	QP	100	199	P	


**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test Distance:** 3m

**Test item:** Radiation Emission

**Ant. Polarization:** Horizontal

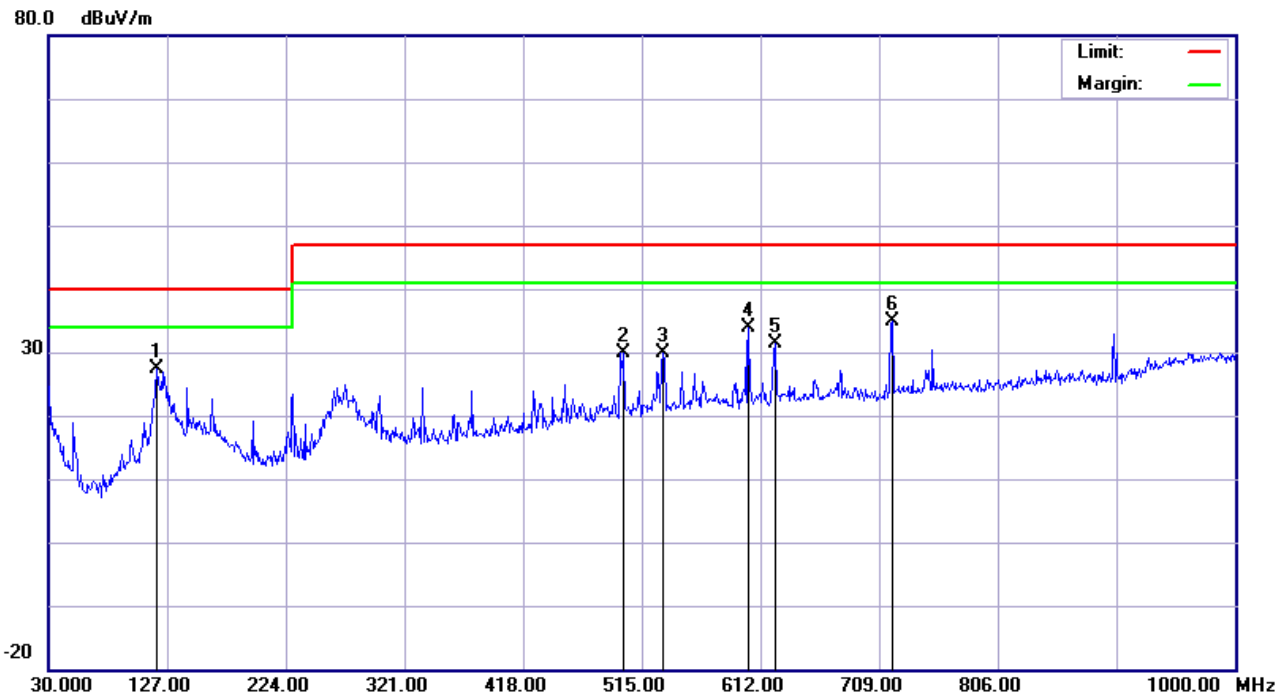
**Applicant:** Vencer

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Product:**
**Test Rating:**
**Model No.:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** RX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	229.8199	-14.75	46.99	32.24	40.00	-7.76	QP	100	174	P	
2	376.2900	-9.70	44.73	35.03	47.00	-11.97	QP	100	327	P	
3	497.5400	-7.54	42.17	34.63	47.00	-12.37	QP	200	90	P	
4	547.9800	-5.93	45.52	39.59	47.00	-7.41	QP	300	78	P	
5	719.6699	-4.09	38.98	34.89	47.00	-12.11	QP	100	71	P	
6	752.6499	-3.25	37.53	34.28	47.00	-12.72	QP	300	68	P	



Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Vertical

Temp.(°C)/Hum.(%): 25(°C) / 53 %

Test Rating:

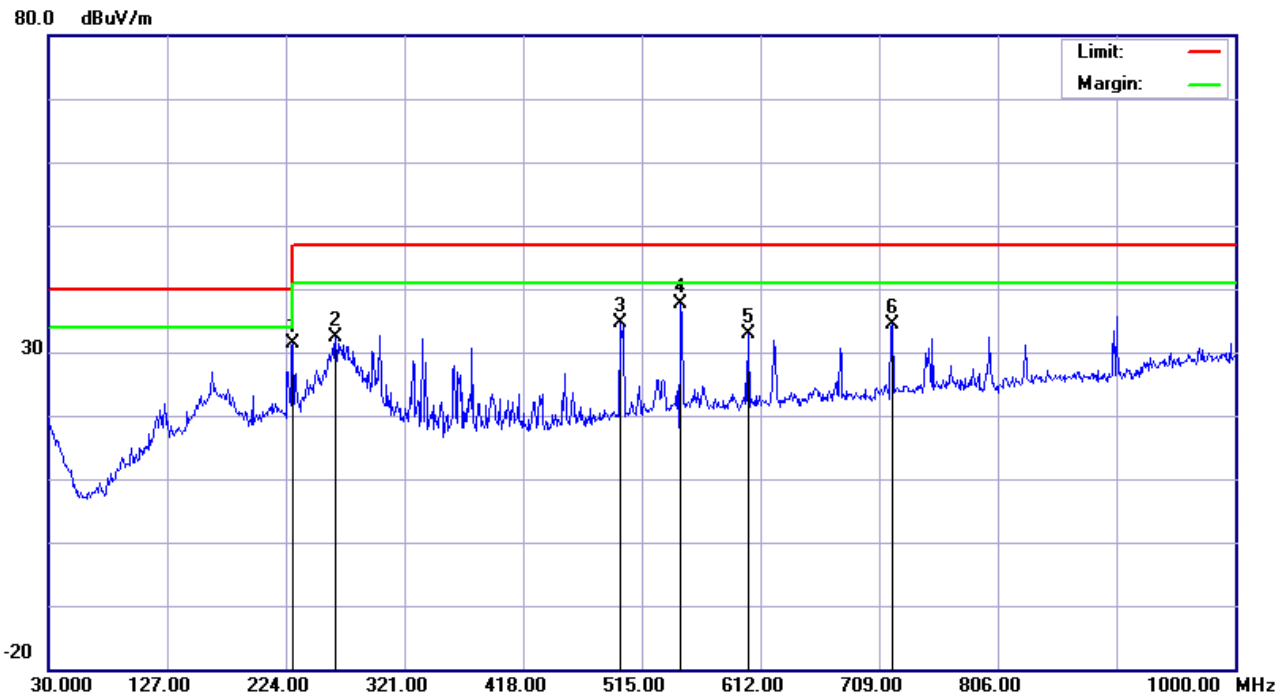
Test Engineer: Howard Lin

Test Mode:

Remark: RX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	118.2700	-14.29	41.76	27.47	40.00	-12.53	QP	100	213	P	
2	499.4800	-7.49	37.37	29.88	47.00	-17.12	QP	100	239	P	
3	532.4600	-6.43	36.34	29.91	47.00	-17.09	QP	100	360	P	
4	602.3000	-5.91	39.88	33.97	47.00	-13.03	QP	100	119	P	
5	624.6100	-5.56	36.87	31.31	47.00	-15.69	QP	100	242	P	
6	719.6700	-4.09	39.05	34.96	47.00	-12.04	QP	100	196	P	




**Service No.:** 113146575-0707

**Test Standard:** CISPR22 ClassB 3M Radiation

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

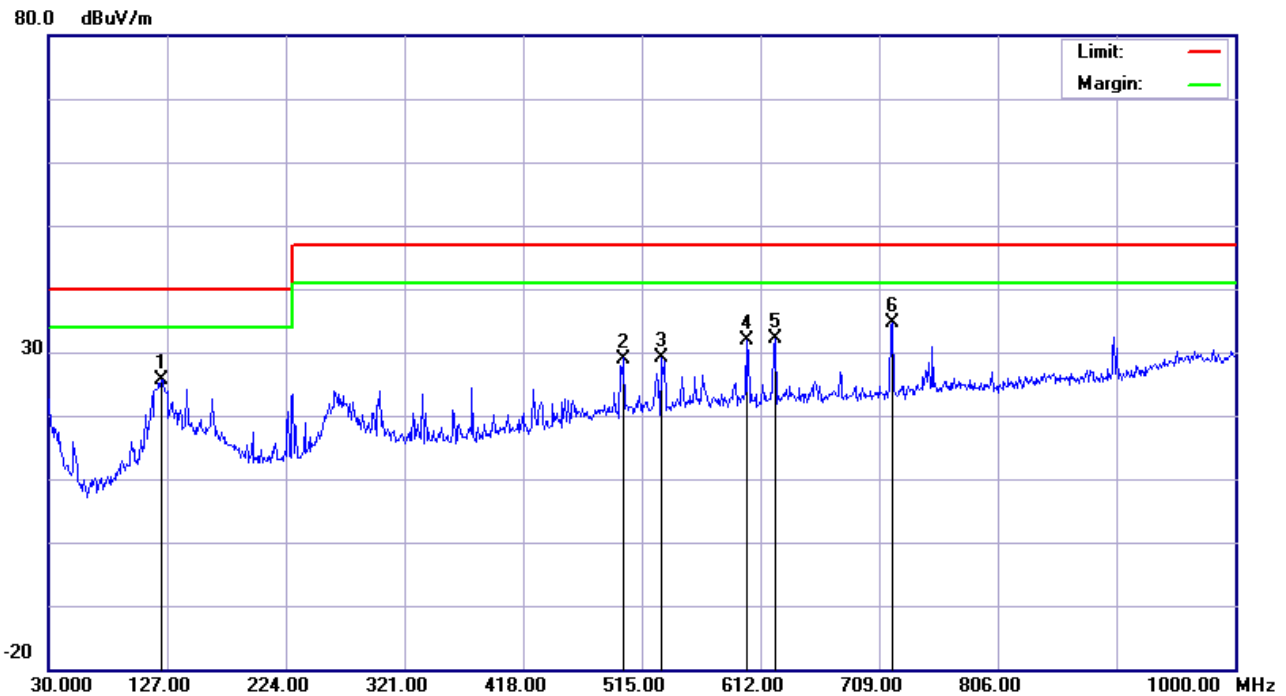
**Ant. Polarization:** Horizontal

**Temp.(°C)/Hum.(%):** 25(°C) / 53 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** RX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	229.8199	-14.75	46.11	31.36	40.00	-8.64	QP	100	147	P	
2	264.7400	-11.44	43.89	32.45	47.00	-14.55	QP	200	360	P	
3	497.5400	-7.54	42.21	34.67	47.00	-12.33	QP	200	90	P	
4	547.0099	-5.96	43.55	37.59	47.00	-9.41	QP	400	360	P	
5	602.2999	-5.91	38.82	32.91	47.00	-14.09	QP	200	306	P	
6	719.6699	-4.09	38.47	34.38	47.00	-12.62	QP	100	71	P	



Service No.: 113146575-0707

Test Standard: CISPR22 ClassB 3M Radiation

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Vertical

Temp.(°C)/Hum.(%): 25(°C) / 53 %

Test Rating:

Test Engineer: Howard Lin

Test Mode:

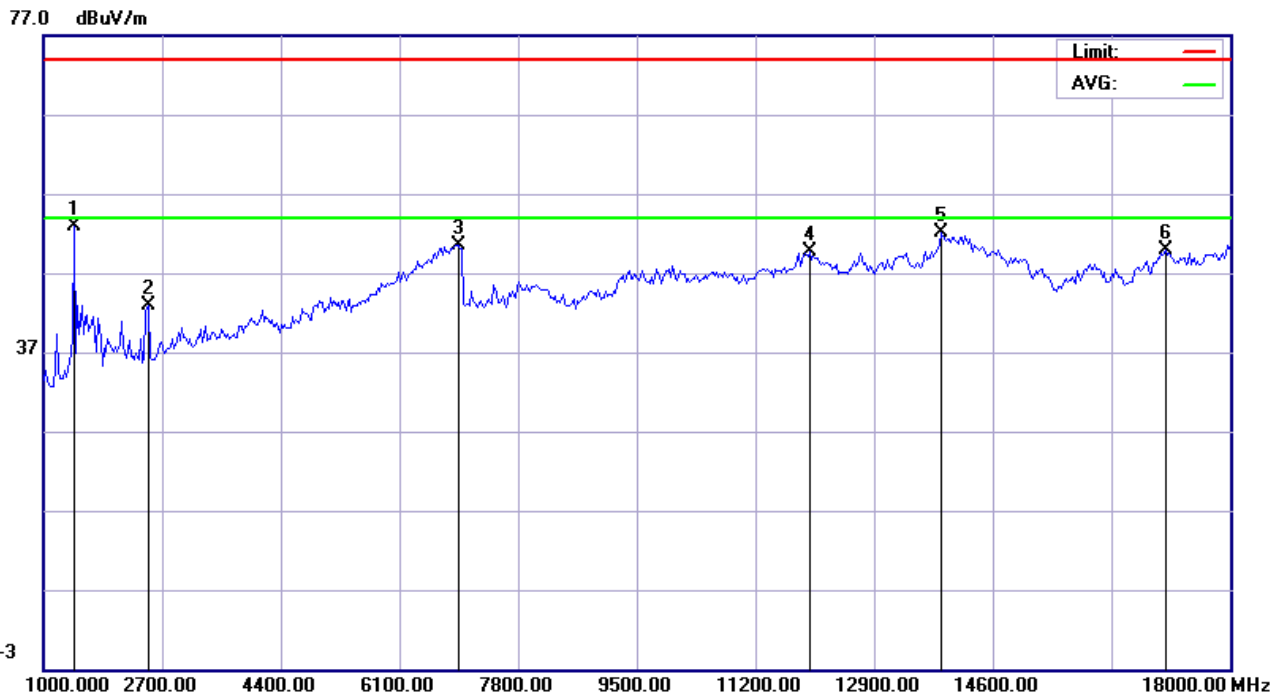
Remark: RX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	122.1500	-14.07	39.61	25.54	40.00	-14.46	QP	100	179	P	
2	500.4500	-7.46	36.46	29.00	47.00	-18.00	QP	100	170	P	
3	531.4900	-6.46	35.62	29.16	47.00	-17.84	QP	100	360	P	
4	600.3600	-5.95	37.84	31.89	47.00	-15.11	QP	100	143	P	
5	624.6100	-5.56	37.62	32.06	47.00	-14.94	QP	100	293	P	
6	719.6700	-4.09	38.70	34.61	47.00	-12.39	QP	100	196	P	

**77.0 dBuV/m**

**Service No.: 113146575-0707**
**Test Standard: FCC above 1G PEAK**
**Test item: Radiation Emission**
**Applicant: Vencer**
**Product:**
**Model No.:**
**Test Distance: 3m**
**Ant. Polarization: Vertical**
**Temp.(°C)/Hum.(%): 26(°C) / 58 %**
**Test Rating:**
**Test Engineer: Howard Lin**
**Test Mode:**
**Remark: RX 2402**

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	44.46	45.72	74.00	-28.28	peak	100	213	P	
2	2116.987	5.58	38.71	44.29	74.00	-29.71	peak	100	200	P	
3	3588.141	7.65	38.98	46.63	74.00	-27.37	peak	100	146	P	
4	7456.731	16.67	34.42	51.09	74.00	-22.91	peak	100	35	P	
5	12060.897	22.37	28.06	50.43	74.00	-23.57	peak	100	230	P	
6	13967.949	25.48	26.37	51.85	74.00	-22.15	peak	100	100	P	



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 26(°C) / 58 %

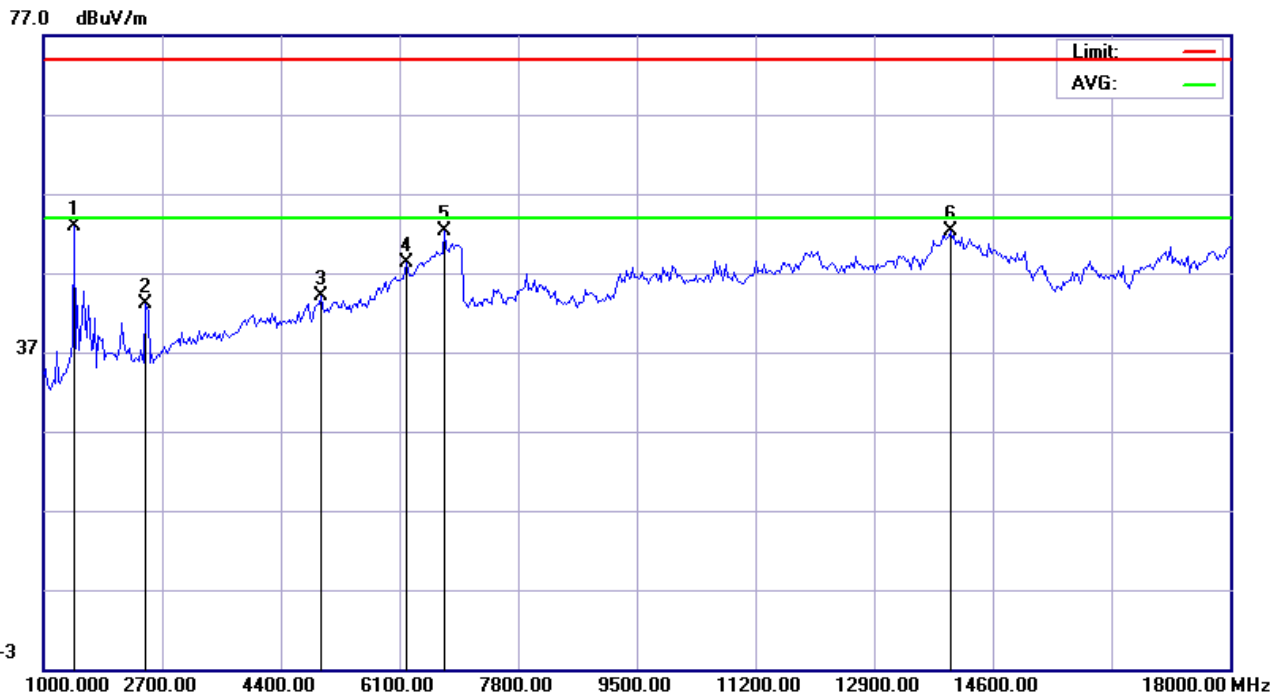
Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: RX 2402

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	51.72	52.98	74.00	-21.02	peak	100	145	P	
2	2498.397	5.44	37.49	42.93	74.00	-31.07	peak	100	100	P	
3	6939.103	16.52	33.93	50.45	74.00	-23.55	peak	100	120	P	
4	11979.167	22.34	27.46	49.80	74.00	-24.20	peak	100	325	P	
5	13858.974	24.79	27.31	52.10	74.00	-21.90	peak	100	170	P	
6	17073.718	23.64	26.21	49.85	74.00	-24.15	peak	100	230	P	


**Service No.:** 113146575-0707

**Test Standard:** FCC above 1G PEAK

**Test item:** Radiation Emission

**Applicant:** Vencer

**Product:**
**Model No.:**
**Test Distance:** 3m

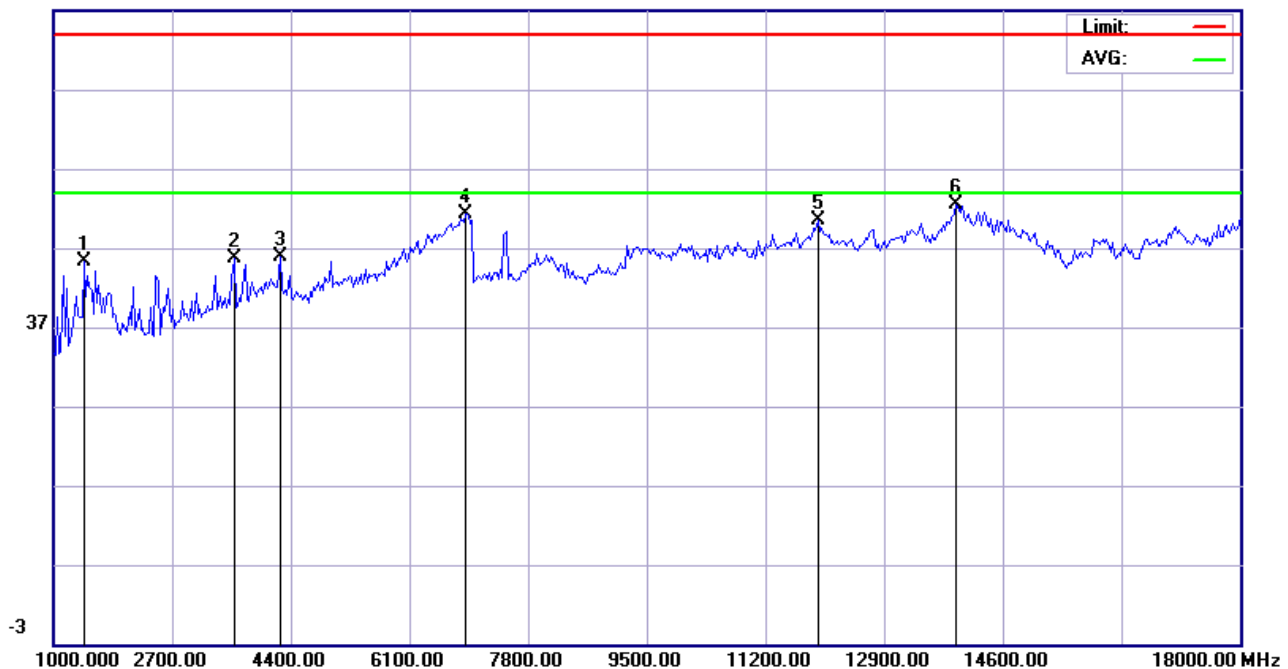
**Ant. Polarization:** Horizontal

**Temp.(°C)/Hum.(%):** 26(°C) / 58 %

**Test Rating:**
**Test Engineer:** Howard Lin

**Test Mode:**
**Remark:** RX 2441

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	51.68	52.94	74.00	-21.06	peak	100	120	P	
2	2471.154	5.45	37.58	43.03	74.00	-30.97	peak	100	116	P	
3	4977.564	10.83	33.22	44.05	74.00	-29.95	peak	100	33	P	
4	6203.526	14.78	33.53	48.31	74.00	-25.69	peak	100	174	P	
5	6748.397	16.31	35.96	52.27	74.00	-21.73	peak	100	265	P	
6	13995.192	25.65	26.64	52.29	74.00	-21.71	peak	100	241	P	

**77.0 dBuV/m**

**Service No.: 113146575-0707**
**Test Standard: FCC above 1G PEAK**
**Test item: Radiation Emission**
**Applicant: Vencer**
**Product:**
**Model No.:**
**Test Distance: 3m**
**Ant. Polarization: Vertical**
**Temp.(°C)/Hum.(%): 26(°C) / 58 %**
**Test Rating:**
**Test Engineer: Howard Lin**
**Test Mode:**
**Remark: RX 2441**

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	44.05	45.31	74.00	-28.69	peak	100	162	P	
2	3588.141	7.65	38.01	45.66	74.00	-28.34	peak	100	341	P	
3	4241.987	9.04	36.95	45.99	74.00	-28.01	peak	100	254	P	
4	6911.859	16.49	34.73	51.22	74.00	-22.78	peak	100	113	P	
5	11951.923	22.27	28.32	50.59	74.00	-23.41	peak	100	325	P	
6	13940.705	25.31	27.13	52.44	74.00	-21.56	peak	100	27	P	



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Vertical

Temp.(°C)/Hum.(%): 26(°C) / 58 %

Test Rating:

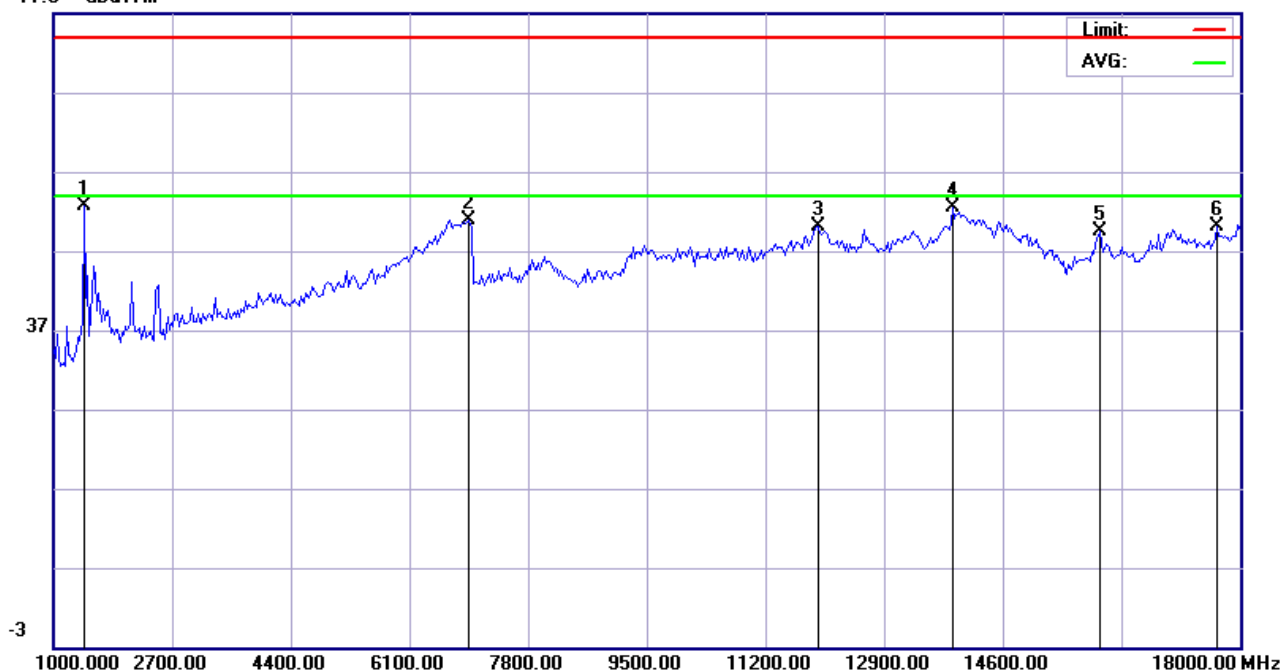
Test Engineer: Howard Lin

Test Mode:

Remark: RX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	44.01	45.27	74.00	-28.73	peak	100	261	P	
2	3588.141	7.65	38.19	45.84	74.00	-28.16	peak	100	244	P	
3	4241.987	9.04	38.99	48.03	74.00	-25.97	peak	100	135	P	
4	6911.859	16.49	34.18	50.67	74.00	-23.33	peak	100	172	P	
5	14022.436	25.64	26.48	52.12	74.00	-21.88	peak	100	281	P	
6	17019.231	23.72	26.25	49.97	74.00	-24.03	peak	100	311	P	

77.0 dBuV/m



Service No.: 113146575-0707

Test Standard: FCC above 1G PEAK

Test item: Radiation Emission

Applicant: Vencer

Product:

Model No.:

Test Distance: 3m

Ant. Polarization: Horizontal

Temp.(°C)/Hum.(%): 26(°C) / 58 %

Test Rating:

Test Engineer: Howard Lin

Test Mode:

Remark: RX 2480

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (°)	P/F	Remark
1	1435.897	1.26	51.45	52.71	74.00	-21.29	peak	100	240	P	
2	6939.103	16.52	34.43	50.95	74.00	-23.05	peak	100	331	P	
3	11951.923	22.27	27.79	50.06	74.00	-23.94	peak	100	247	P	
4	13886.218	24.97	27.58	52.55	74.00	-21.45	peak	100	165	P	
5	15983.974	21.13	28.28	49.41	74.00	-24.59	peak	100	164	P	
6	17673.077	23.11	27.07	50.18	74.00	-23.82	peak	100	105	P	