

# **FCC TEST REPORT**

REPORT NO.: RF110530C13
MODEL NO.: IBMM-001R

FCC ID: PYQIBMM001-R

**RECEIVED:** May 30, 2011

**TESTED:** Jun. 08 ~ Jun. 15, 2011

ISSUED: Jun. 22, 2011

APPLICANT: Excelpoint Systems (Pte) Ltd

ADDRESS: 15 Changi Business Park Central 1 #06-00

Singapore 486057

**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.)

Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang,

Taipei Hsien 244, Taiwan, R.O.C.

**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei

Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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# **RELEASE CONTROL RECORD**

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	NA	Jun. 22, 2011



#### 1 CERTIFICATION

**PRODUCT:** Intelligent Baby Monitoring Mat (Parent Control Unit)

**MODEL:** IBMM-001R

APPLICANT: Excelpoint Systems (Pte) Ltd

**TESTED:** Jun. 08 ~ Jun. 15, 2011

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart C (Section 15.231)

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (model: IBMM-001R) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : DATE:

Ivy Lin / Specialist

APPROVED BY : . DATE: Jun. 22, 2011

Gary Chang / Assistant Manager



### **2 SUMMARY OF TEST RESULTS**

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.231)						
STANDARD SECTION	TEST TYPE AND LIMIT RESULT REMARK					
15.207	AC Power Conducted Emission	I NA	Power supply is 3Vdc from battery.			
15.209 15.231(b)	Radiated Emission Test		Meet the requirement of limit. Minimum passing margin is –15.7dB at 433.47MHz.			
15.231(c)	Emission Bandwidth Measurement	PASS	Meet the requirement of limit.			
15.231(d)	Transmission And Silent Time	PASS	Meet the requirement of limit.			

#### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
	30MHz ~ 200MHz	3.34 dB
Radiated emissions	200MHz ~1000MHz	3.35 dB
Radiated efflissions	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



### **3 GENERAL INFORMATION**

### 3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Intelligent Baby Monitoring Mat (Parent Control Unit)
MODEL NO.	IBMM-001R
FCC ID	PYQIBMM001-R
POWER SUPPLY	3Vdc (AAA battery *2)
MODULATION TYPE	FSK
DATA RATE	9.1kbps
CARRIER FREQUENCY	433.47MHz
NUMBER OF CHANNEL	1
ANTENNA TYPE	Helical wire spring antenna with 2.15dBi gain
ANTENNA CONNECTOR	PCB direct solder
DATA CABLE	NA
I/O PORTS	NA
ACCESSORY DEVICES	NA

**NOTE:** The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

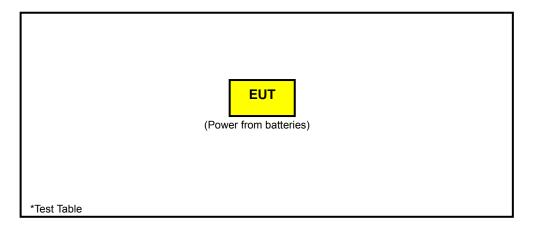


### 3.2 DESCRIPTION OF TEST MODES

One channel was provided to this EUT.

CHANNEL	FREQUENCY	
1	433.47MHz	

### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





#### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE		AF	PLICABLE	го		DESCRIPTION
MODE	RE≥1G	RE < 1G	PLC	EB	DT	DECORII TION
-	V	V	NOTE	$\checkmark$	√	-

Where **RE ≥ 1G:** Radiated Emission above 1GHz

RE < 1G: Radiated Emission below 1GHz

**PLC:** Power Line Conducted Emission

EB: 20dB Bandwidth measurement

DT: Deactivation Time measurement

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

#### **RADIATED EMISSION TEST (ABOVE 1 GHz):**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and XYZ axis.

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
1	1	FSK	Х

#### **RADIATED EMISSION TEST (BELOW 1 GHz):**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and XYZ axis.

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL TESTED CHANNEL		MODULATION TYPE	AXIS
1	1	FSK	Х

#### **EMISSION BANDWIDTH MEASUREMENT:**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1	1	FSK

#### **DEACTIVATION TIME MEASUREMENT:**

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1	1	FSK



#### **TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 60%RH, 1003 hPa	3Vdc	Mitch Jen
RE<1G	25deg. C, 60%RH, 1003 hPa	3Vdc	Mitch Jen
EB	25deg. C, 68%RH, 1003 hPa	3Vdc	David Huang
DT	25deg. C, 68%RH, 1003 hPa	3Vdc	David Huang

#### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.231) ANSI C63.4-2003 ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.



#### 4 TEST PROCEDURE AND RESULT

#### 4.1 RADIATED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to 15.231 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental	Field Strength	of Fundamental	Field Strength of Spurious		
Frequency (MHz)	uV/meter	dBuV/meter	uV/meter	dBuV/meter	
40.66 ~ 40.70	2250	67.04	225	48.04	
70 ~ 130	1250	61.94	125	41.94	
130 ~ 174	1250 ~ 3750	61.94 ~ 71.48	125 ~ 375	41.94 ~ 51.48	
174 ~ 260	3750	71.48	75	37.50	
260 ~ 470	3750 ~ 12500	71.48 ~ 81.94	375 ~ 1250	51.48 ~ 61.94	
Above 470	12500	81.94	1250	61.94	

#### NOTE:

- 1. Where F is the frequency in MHz, the formula for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, uV/m at 3 meters = 22.7272(F)-2454.545; for the band 260-470 MHz, uV/m at 3 meters = 16.6667(F)- 2833.3333. The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.
- 2. The above field strength limits are specified at a distance of 3meters. The tighter limits apply at the band edges.

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

#### NOTE:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



#### 4.1.2 TEST INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Jul. 22, 2010	Jul. 21, 2011
Spectrum Analyzer Agilent	E4446A	MY48250266	Aug. 11, 2010	Aug. 10, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 13, 2011	Apr. 12, 2012
HORN Antenna SCHWARZBECK	9120D	9120D-405	Feb. 08, 2011	Feb. 07, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8447D	2944A10633	Nov. 02, 2010	Nov. 01, 2011
Preamplifier Agilent	8449B	3008A01964	Nov. 02, 2010	Nov. 01, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295014/4	Sep 03, 2010	Sep 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	12738/6	Sep 03, 2010	Sep 02, 2011
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in HwaYa Chamber 3.
- 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 4. The FCC Site Registration No. is 988962.
- 5. The IC Site Registration No. is IC 7450F-3.



#### 4.1.3 TEST PROCEDURE

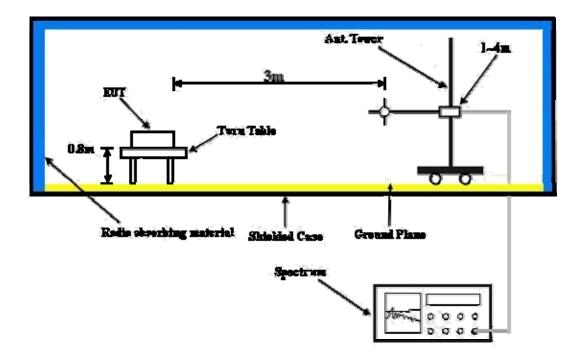
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on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

#### NOTE:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
- 3. All modes of operation were investigated and the worst-case emissions are reported.



### 4.1.4 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.1.5 EUT OPERATING CONDITION

Set the EUT under transmission condition continuously at specific channel frequency.



#### 4.1.6 TEST RESULTS

#### **ABOVE 1GHz DATA**

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 5GHz	
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH 1003 hPa	TESTED BY	Mitch Jen	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1300.30	42.2 PK	74.0	-31.8	1.13 H	61	14.50	27.70
2	1300.30	24.1 AV	54.0	-29.9	1.13 H	61	-3.60	27.70
3	1733.78	39.9 PK	74.0	-34.1	1.11 H	234	11.20	28.70
4	1733.78	21.8 AV	54.0	-32.2	1.11 H	234	-6.90	28.70
5	2601.40	41.8 PK	74.0	-32.2	1.04 H	30	10.50	31.30
6	2601.40	23.7 AV	54.0	-30.3	1.04 H	30	-7.60	31.30
	Α	NTENNA POL	ARITY &	TEST DIS	TANCE: V	'ERTICAL	AT 3 M	
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1300.30	39.7 PK	74.0	-34.3	1.36 V	112	12.00	27.70
2	1300.30	21.6 AV	54.0	-32.4	1.36 V	112	-6.10	27.70
3	1733.88	38.6 PK	74.0	-35.4	1.00 V	289	9.90	28.70
4	1733.88	20.5 AV	54.0	-33.5	1.00 V	289	-8.20	28.70
5	2601.00	39.5 PK	74.0	-34.5	1.00 V	108	8.20	31.30
6	2601.00	21.4 AV	54.0	-32.6	1.00 V	108	-9.90	31.30

**REMARKS:** 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.
- 5. The average value = peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:

20 log (Duty cycle) = 20 log (12.4 ms / 100 ms) = -18.1 dB

Please see page 17 for plotted duty.



#### **BELOW 1GHz WORST-CASE DATA**

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz	
INPUT POWER	3Vdc	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH 1003 hPa	TESTED BY	David Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*433.47	75.2 PK	92.8	-17.6	2.24 H	76	56.9	18.3
2	*433.47	57.1 AV	72.8	-15.7	2.24 H	76	38.8	18.3
3	866.94	43.7 PK	72.8	-29.1	1.59 H	11	17.3	26.4
4	866.94	25.6 AV	52.8	-27.2	1.59 H	11	-0.8	26.4
		ANTENNA	A POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M	
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*433.47	67.2 PK	92.8	-25.6	2.36 V	5	48.9	18.3
2	*433.47	49.1 AV	72.8	-23.7	2.36 V	5	30.8	18.3
3	866.94	33.9 PK	72.8	-38.9	1.59 V	11	7.5	26.4
J	000.94	33.9 F IX	72.0	00.0				

**REMARKS:** 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.
- 5. The average value = peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:

 $20 \log (Duty cycle) = 20 \log (12.4 \text{ ms} / 100 \text{ ms}) = -18.1 \text{ dB}$ 

Please see page 17 for plotted duty.



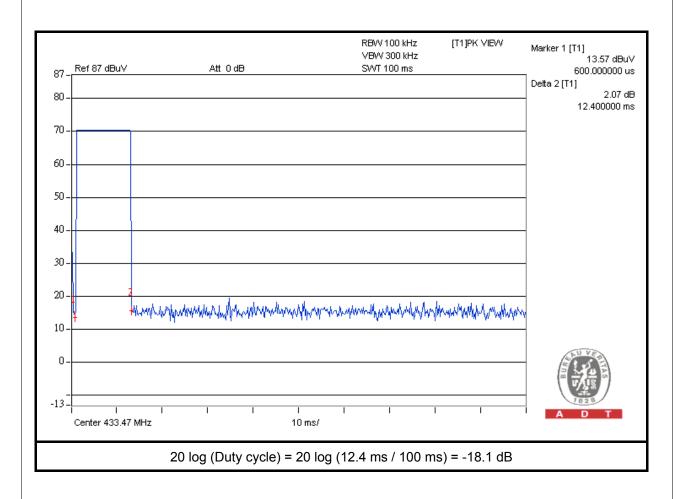
EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz	
INPUT POWER	3Vdc	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH 1003 hPa	TESTED BY	Mitch Jen	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
1	154.41	13.4 QP	43.5	-30.1	1.50 H	220	-1.20	14.60	
2	335.19	14.2 QP	46.0	-31.8	1.50 H	10	-1.60	15.80	
3	424.61	25.6 QP	46.0	-20.4	1.00 H	10	7.50	18.10	
4	617.05	21.2 QP	46.0	-24.8	1.50 H	205	-1.50	22.70	
5	774.51	23.8 QP	46.0	-22.2	2.00 H	112	-1.10	24.90	
6	980.56	25.9 QP	54.0	-28.1	1.00 H	10	-2.00	27.90	
	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
		ANICININA	APULARII	I & IESI DI	STANCE: V	ERTICAL A	ISIVI		
NO.	FREQ. (MHz)	EMISSION	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
<b>NO</b> .	FREQ. (MHz) 150.52	EMISSION LEVEL	LIMIT		ANTENNA	TABLE ANGLE	RAW VALUE	FACTOR	
	` ,	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	FACTOR (dB/m)	
1	150.52	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m) 43.5	<b>MARGIN (dB)</b> -29.7	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	<b>FACTOR</b> (dB/m) 14.50	
1 2	150.52 354.63	EMISSION LEVEL (dBuV/m) 13.8 QP 14.5 QP	LIMIT (dBuV/m) 43.5 46.0	-29.7 -31.5	ANTENNA HEIGHT (m) 1.00 V 1.25 V	TABLE ANGLE (Degree) 10	RAW VALUE (dBuV) -0.70 -1.80	FACTOR (dB/m) 14.50 16.30	
1 2 3	150.52 354.63 514.03	EMISSION LEVEL (dBuV/m) 13.8 QP 14.5 QP 19.6 QP	LIMIT (dBuV/m) 43.5 46.0 46.0	-29.7 -31.5 -26.4	ANTENNA HEIGHT (m) 1.00 V 1.25 V 2.00 V	TABLE ANGLE (Degree) 10 10	RAW VALUE (dBuV)  -0.70 -1.80 -0.90	FACTOR (dB/m) 14.50 16.30 20.50	

**REMARKS:** 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

- 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission level Limit value.







#### 4.2 20dB OCCUPIED BANDWIDTH MEASUREMENT

#### 4.2.1 LIMITS OF EMISSION BANDWIDTH MEASUREMENT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for device operating above 70 MHz and below 900 MHz.

FUNDAMENTAL FREQUENCY (MHz)	LIMIT OF EMISSION BANDWIDTH (kHz)
433.47	1083.675

#### 4.2.2 TEST INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100040	Jul. 17, 2010	Jul. 16, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.2.3 TEST PROCEDURE

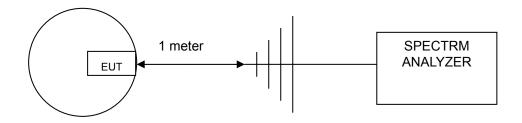
- a. The EUT was placed on the turn table.
- b. The signal was coupled to the spectrum analyzer through an antenna.
- c. Set the resolution bandwidth to 10 kHz and video bandwidth to 30 kHz then select Peak function to scan the channel frequency.
- d. The emission bandwidth was measured and recorded.



### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

### 4.2.5 TEST SETUP

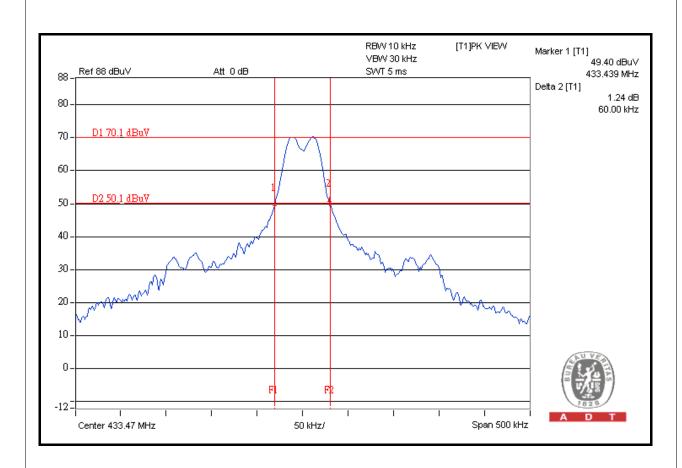


### 4.2.6 TEST RESULTS

FREQUENCY (MHz)	20dB BANDWIDTH (kHz)	MAXIMUM LIMIT (kHz)	PASS/FAIL
433.47	60.00	1083.675	PASS

The plot of test result is attached as below.







#### 4.3 TRANSMISSION AND SILENT TIME

#### 4.3.1 LIMITS OF DEACTIVATION TIME MEASUREMENT

Devices shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds

#### 4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100040	Jul. 17, 2010	Jul. 16, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

#### 4.3.3 TEST PROCEDURES

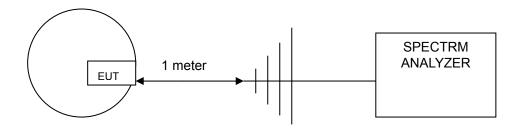
- a. The EUT was placed on the turning table.
- b. The signal was coupled to the spectrum analyzer through an antenna.
- c. Set the resolution bandwidth to 100kHz and video bandwidth to 300kHz. The spectrum analyser was turned to the centre frequency of the transmitter's and the analyser's marker function was used to determine the duration of transmission.
- d. The transmission duration was measured and recorded.

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation.



### 4.3.5 TEST SETUP

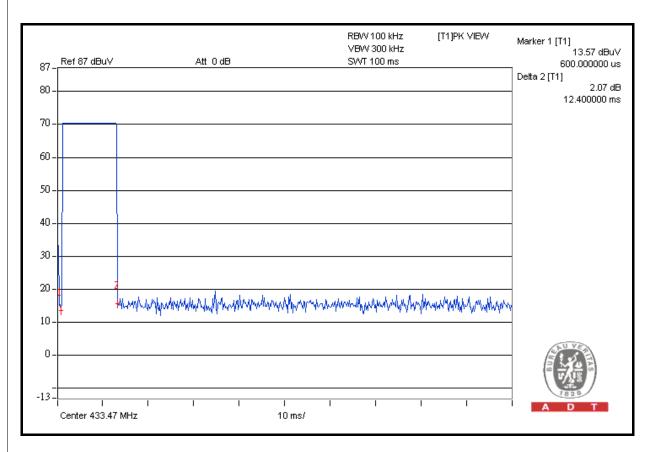


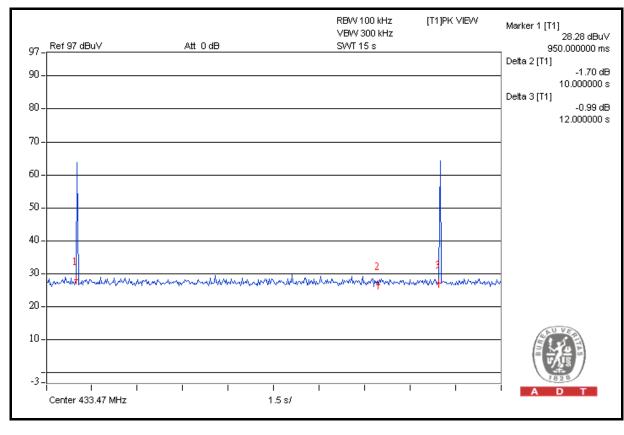
### 4.3.6 TEST RESULTS

FREQUENCY (MHz)	TRANSMISSION TIME (ms)	30 TIMES THE DURATION OF THE RANSMISSION (ms)	SILENT TIME(S)
433.47	12.4	372	11.9876

**Note:** Silent time=12s-(12.4ms /1000)=11.9876 s









5 PHOTOGRAPHS OF THE TEST CONFIGURATION				
Please refer to the attached file (Test Setup Photo).				



#### 6 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: <a href="www.adt.com.tw/index.5.phtml">www.adt.com.tw/index.5.phtml</a>. If you have any comments, please feel free to contact us at the following:

Hsin Chu EMC/RF Lab

Linko EMC/RF Lab

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Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



# 7 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

--- END ---