

	FCC Test Report
Report No.:	RF181002D10
FCC ID:	E8HMG-1823
Test Model:	MG-1823
Received Date:	Oct. 2, 2018
Test Date:	Oct. 12 ~ 16, 2018
Issued Date:	Oct. 18, 2018
Applicant	Chicony Electronics Co., Ltd.
	No.69, Sec. 2, Guangfu Rd., Sanchong Dist., New Taipei City 241,
Auress.	Taiwan(R.O.C.)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
FCC Registration / Designation Number:	198487 / TW2021
	Testing Laboratory 2021
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unless specifically and expressly noted. provided to us. You have 60 days from	e of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product Our report includes all of the tests requested by you and the results thereof based upon the information that you date of issuance of this report to notify us of any material error or omission caused by our negligence, provided,
shall constitute your unqualified acceptant	ing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time ice of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific thas been explicitly taken into account to declare the compliance or non-compliance to the specification. The report
	oduct certification, approval, or endorsement by TAF or any government agencies.



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### **Release Control Record**

Issue No.	Description	Date Issued
RF181002D10	Original release.	Oct. 18, 2018



#### **Certificate of Conformity** 1

Product:	Wireless Mouse		
Brand:	Chicony		
Test Model:	MG-1823		
Sample Status:	Engineering sample		
Applicant:	Chicony Electronics Co., Ltd.		
Test Date:	Oct. 12 ~ 16, 2018		
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.249		
	ANSI C63.10: 2013		

The above equipment 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 RF characteristics under the conditions specified in this report.

Prepared by :

 Mile
 Mang
 ,
 Date:
 Oct. 18, 2018

 Chang / Senior Specialist

Annie Chang / Senior Specialist

Approved by :

**Date:** Oct. 18, 2018

Rex Lai / Associate Technical Manager



### 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (SECTION 15.249)						
FCC Clause	Test Item	Result	Remarks			
15.207	AC Power Conducted Emission	N/A	Power supply is 3Vdc from batteries			
15.215	Channel Bandwidth Measurement	-				
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -2.05dB at 2474.00MHz.			
15.203	Antenna Requirement	PASS	No antenna connector is used.			

## 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	Expanded Uncertainty (k=2) (±)
Padiated Emissions up to 1 CHz	9kHz ~ 30MHz	2.38 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1000MHz	5.54 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.48 dB

### 2.2 Modification Record

There were no modifications required for compliance.



## 3 General Information

### 3.1 General Description of EUT

Product	Wireless Mouse
Brand	Chicony
Test Model	MG-1823
Status of EUT	Engineering sample
Power Supply Rating	3.0Vdc from batteries
Modulation Type	GFSK
Operating Frequency	2405MHz ~2474MHz
Number of Channel	12
Antenna Type	Printed antenna with 2.17dBi gain
Antenna Connector	N/A
Accessory Device	N/A
Data Cable Supplied	N/A

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

12 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
1	2405	4	2426	7	2442	10	2469
2	2407	5	2430	8	2447	11	2471
3	2418	6	2437	9	2458	12	2474



### 3.2.1 Test Mode Applicability and Tested Channel Detail

	EUT Configure Mode		Applica	able To	Description		
		RE≥1G	RE<1G	PLC	APCM	Description	
	-	$\checkmark$	$\checkmark$	Note	$\checkmark$	-	
	BE>1G: Radiated Emission above 1GHz &						

Where RE≥1G: Radiated Emission above 1GHZ & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

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

#### Radiated Emission Test (Above 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type
-	1 to 12	1, 7, 12	GFSK

### Radiated Emission Test (Below 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type
-	1 to 12	1	GFSK

### Antenna Port Conducted Measurement:

This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type
-	1 to 12	1, 7, 12	GFSK

### Test Condition:

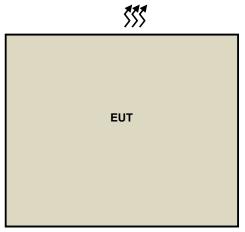
Applicable To Environmental Conditions		Input Power	Tested By
RE≥1G	25deg. C, 73%RH	3.0Vdc	Dalen Dai
RE<1G	25deg. C, 73%RH	3.0Vdc	Dalen Dai
APCM	25deg. C, 76%RH	3.0Vdc	Saxon Lee



### 3.3 Description of Support Units

The EUT has been tested as an independent unit without any necessary accessories or support units.

### 3.3.1 Configuration of System under Test



<sup>(</sup>Powered from batteries)

### 3.4 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 (15.249)

ANSI C63.10-2013

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



### 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902 ~ 928 MHz	50	500
2400 ~ 2483.5 MHz	50	500
5725 ~ 5875 MHz	50	500
24 ~ 24.25 GHz	250	2500

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits as below table, whichever is the lesser attenuation

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. 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 Instruments

DESCRIPTION &	MODEL NO.	SERIAL NO.		DUE DATE OF
MANUFACTURER			CALIBRATION	CALIBRATION
HP Preamplifier	8447D	2432A03504	Feb. 21, 2018	Feb. 20, 2019
HP Preamplifier	8449B	3008A01201	Feb. 22, 2018	Feb. 21, 2019
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 21, 2018	Feb. 20, 2019
Agilent TEST RECEIVER	N9038A	MY51210129	Feb. 6, 2018	Feb. 5, 2019
Schwarzbeck Antenna	VULB 9168	139	Nov. 29, 2017	Nov. 28, 2018
Schwarzbeck Antenna	VHBA 9123	480	May 19, 2017	May 18, 2019
Schwarzbeck Horn Antenna	BBHA-9170	212	Dec. 1, 2017	Nov. 30, 2018
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Dec. 1, 2017	Nov. 30, 2018
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Aug. 13, 2018	Aug. 12, 2019
SUHNER RF cable With 3/4dB PAD	SF102	Cable-CH8-3.6m	Aug. 13, 2018	Aug. 12, 2019
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 4, 2018	Jun. 3, 2019
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Aug. 3, 2018	Aug. 2, 2019
Loop Antenna EMCI	LPA600	270	Aug. 11, 2017	Aug. 10, 2019
EMCO Horn Antenna	3115	00028257	Nov. 30, 2017	Nov. 29, 2018
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 27, 2018	Sep. 26, 2019
Anritsu Power Sensor	MA2411B	0738404	Apr. 26, 2018	Apr. 25, 2019
Anritsu Power Meter	ML2495A	0842014	Apr. 26, 2018	Apr. 25, 2019

**NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.

2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in Chamber No. 6.

4. The Industry Canada Reference No. IC 7450E-6.



#### 4.1.3 Test Procedures

#### For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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 Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

#### NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

#### For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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 height of antenna 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

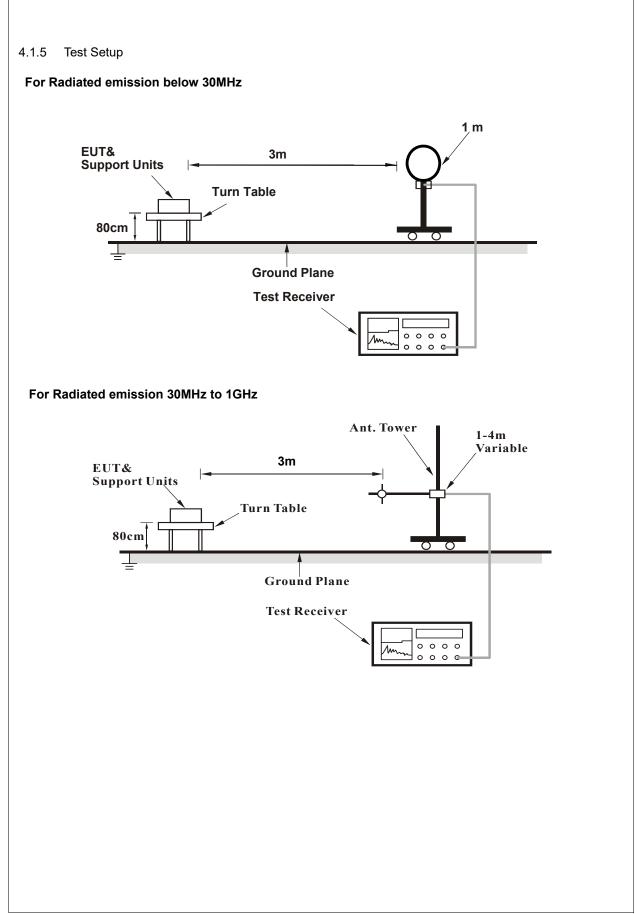
#### Note:

- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
- 4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

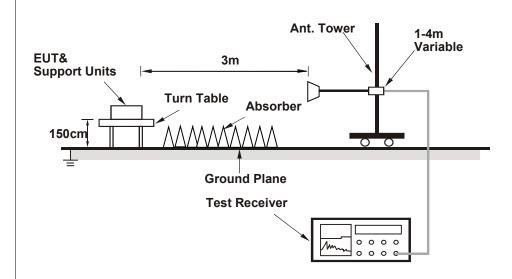
No deviation.







### For Radiated emission above 1GHz



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

### 4.1.6 EUT Operating Conditions

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



### 4.1.7 Test Results

### Above 1GHz Data :

CHANNEL	TX Channel 1	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

	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	2390.00	53.87 PK	74.00	-20.13	1.47 H	70	55.37	-1.50
2	2390.00	30.77 AV	54.00	-23.23	1.47 H	70	32.27	-1.50
3	2400.00	71.94 PK	74.00	-2.06	1.47 H	70	73.51	-1.57
4	2400.00	33.59 AV	54.00	-20.41	1.47 H	70	35.16	-1.57
5	*2405.00	99.28 PK	114.00	-14.72	1.47 H	70	100.87	-1.59
6	*2405.00	91.12 AV	94.00	-2.88	1.47 H	70	92.71	-1.59
7	4810.00	52.41 PK	74.00	-21.59	2.61 H	352	47.66	4.75
8	4810.00	44.25 AV	54.00	-9.75	2.61 H	352	39.50	4.75
		ANTENNA	POLARITY	& TEST DI	STANCE: V	ERTICAL A	Т 3 М	
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	2390.00	50.12 PK	74.00	-23.88	3.54 V	176	51.62	-1.50
2	2390.00	29.52 AV	54.00	-24.48	3.54 V	176	31.02	-1.50
3	2400.00	65.06 PK	74.00	-8.94	3.54 V	176	66.63	-1.57
4	2400.00	31.67 AV	54.00	-22.33	3.54 V	176	33.24	-1.57
5	*2405.00	92.99 PK	114.00	-21.01	3.54 V	176	94.58	-1.59
6	*2405.00	84.83 AV	94.00	-9.17	3.54 V	176	86.42	-1.59
7	4810.00	50.67 PK	74.00	-23.33	1.84 V	279	45.92	4.75
8	4810.00	42.51 AV	54.00	-11.49	1.84 V	279	37.76	4.75

#### **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) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission Level – Limit value

5. " \* ": Fundamental frequency.

							BU	
	ТΧ	Channel 7		DETECTOR FUNCTION		Peak (PK)		
ANGE	1G	Hz ~ 25GHz				Average (A)		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								1
EMISSIC LEVEL (dBuV/r	L	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
98.48 P	ΡK	114.00	-15.52	1.37 H	76	100.25	-1.77	]

1.37 H

2.54 H

2.54 H

ANTENNA

HEIGHT

(m)

3.60 V

3.60 V

1.77 V

1.77 V

76

357

357

TABLE

ANGLE

(Degree)

181

181

261

261

92.09

47.59

39.43

RAW

VALUE

(dBuV)

94.70

86.54

45.78

37.62

-1.77

4.86

4.86

CORRECTION

FACTOR

(dB/m)

-1.77

-1.77

4.86

4.86

REM	ARKS:

CHANNEL

NO.

1

2

3

4

NO.

1

2

3

4

**FREQUENCY RA** 

FREQ.

(MHz) \*2442.00

\*2442.00

4884.00

4884.00

FREQ.

(MHz)

\*2442.00

\*2442.00

4884.00

4884.00

90.32 AV

52.45 PK

44.29 AV

EMISSION

LEVEL

(dBuV/m)

92.93 PK

84.77 AV

50.64 PK

42.48 AV

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

94.00

74.00

54.00

LIMIT

(dBuV/m)

114.00

94.00

74.00

54.00

-3.68

-21.55

-9.71

MARGIN

(dB)

-21.07

-9.23

-23.36

-11.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

4. Margin value = Emission Level – Limit value

5. " \* ": Fundamental frequency.

CHANNEL		TX Channel 12	2	DETECTOR		Peak (PK)		
FRE		ANGE	1GHz ~ 25GH:	z	FUNCTION		Average (A	V)
		ANTEN		& TEST D	ISTANCE: HO	RIZONTAL	. AT 3 M	
NO.	FREQ. (MHz)	EMISSIC LEVEI (dBuV/r	LIMIT	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2474.00	100.11 F	PK 114.00	-13.89	1.27 H	19	101.56	-1.45
2	*2474.00	91.95 A	V 94.00	-2.05	1.27 H	19	93.40	-1.45
3	2483.50	62.66 P	PK 74.00	-11.34	1.27 H	19	63.98	-1.32
4	2483.50	31.36 A	V 54.00	-22.64	1.27 H	19	32.68	-1.32
5	4948.00	52.54 P	PK 74.00	-21.46	2.68 H	343	47.81	4.73
6	4948.00	44.38 A	V 54.00	-9.62	2.68 H	343	39.65	4.73
		ANTE	NNA POLARIT	Y & TEST	DISTANCE: V	ERTICAL	AT 3 M	
NO.	FREQ. (MHz)	EMISSIC LEVEI (dBuV/r	LIMIT	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2474.00	94.35 P	РК 114.00	-19.65	3.52 V	171	95.80	-1.45
2	*2474.00	86.19 A	V 94.00	-7.81	3.52 V	171	87.64	-1.45
3	2483.50	59.93 P	РК 74.00	-14.07	3.52 V	171	61.25	-1.32
4	2483.50	29.86 A	V 54.00	-24.14	3.52 V	171	31.18	-1.32
5	4948.00	50.69 P	РК 74.00	-23.31	1.80 V	293	45.96	4.73
6	4948.00	42.53 A	V 54.00	-11.47	1.80 V	293	37.80	4.73

#### **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) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission Level – Limit value

5. " \* ": Fundamental frequency.



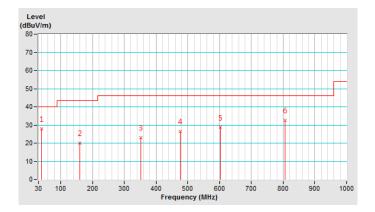
### Below 1GHz Data:

CHANNEL	TX Channel 1	DETECTOR	
FREQUENCY RANGE	9kHz ~ 1GHz	FUNCTION	Quasi-Peak (QP)

	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	40.09	27.74 QP	40.00	-12.26	1.38 H	40	35.50	-7.76	
2	159.40	19.95 QP	43.50	-23.55	1.65 H	360	26.76	-6.81	
3	352.19	23.08 QP	46.00	-22.92	1.93 H	32	27.42	-4.34	
4	476.98	26.57 QP	46.00	-19.43	1.74 H	247	28.19	-1.62	
5	602.30	28.71 QP	46.00	-17.29	2.07 H	19	27.85	0.86	
6	806.78	32.49 QP	46.00	-13.51	1.52 H	217	28.37	4.12	

### **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) Pre-Amplifier Factor(dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission Level Limit value
- 5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz :the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

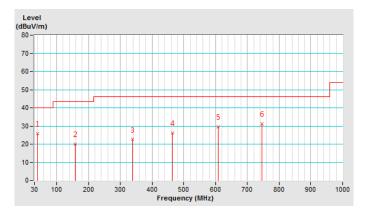


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL 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	39.70	25.88 QP	40.00	-14.12	1.65 V	126	33.70	-7.82	
2	158.91	20.11 QP	43.50	-23.39	1.42 V	282	26.90	-6.79	
3	339.33	22.61 QP	46.00	-23.39	1.58 V	197	27.15	-4.54	
4	464.95	26.22 QP	46.00	-19.78	1.96 V	95	28.12	-1.90	
5	608.90	29.59 QP	46.00	-16.41	2.27 V	242	28.62	0.97	
6	745.71	31.31 QP	46.00	-14.69	1.39 V	226	28.00	3.31	

### **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) Pre-Amplifier Factor(dB)
- 3. The other emission levels were very low against the limit.
- 4. Margin value = Emission Level Limit value
- 5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz :the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.





### 4.2 Channel Bandwidth

### 4.2.1 Test Setup



### 4.2.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.2.3 Test Procedure

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
- d. Repeat above procedures until all frequencies measured were complete.

### 4.2.4 Deviation from Test Standard

No deviation.

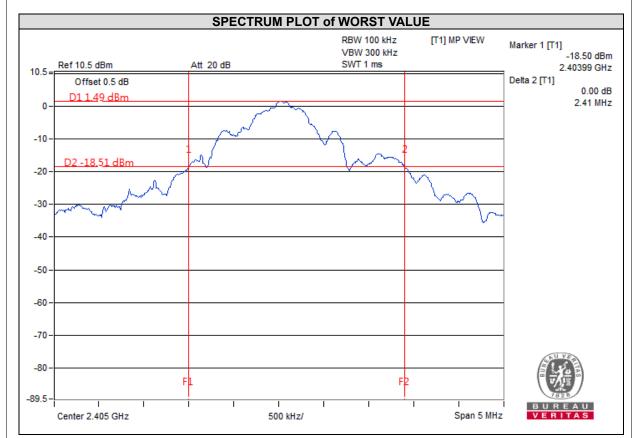
### 4.2.5 EUT Operating Condition

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.



### 4.2.6 Test Results

CHANNEL	FREQUENCY (MHz)	20dB BANDWIDTH (MHz)
1	2405	2.41
7	2442	1.82
12	2474	1.48





# 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).



### Appendix – 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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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

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