

FCC TEST REPORT (BLUETOOTH LE)

REPORT NO.: RF141104C08A-1

MODEL NO.: M2 AEBT, M2 OEBT
(Refer to item 3.1 for more details)

FCC ID: DMOM2AEBT

RECEIVED: Jun. 05, 2015

TESTED: Jun. 05 ~ Jun. 06, 2015

ISSUED: Jun. 22, 2015

APPLICANT: Sennheiser electronic GmbH & Co.KG

ADDRESS: Am Labor 1 D-30900 Wedemark, Germany

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.

TEST LOCATION: No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei
Shan Dist., Taoyuan City 33383, TAIWAN
(R.O.C.)

This report should not be used by the client to claim
product certification, approval, or endorsement by
TAF or any government agencies.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

Table of Contents

RELEASE CONTROL RECORD	3
1. CERTIFICATION.....	4
2. SUMMARY OF TEST RESULTS	5
2.1 MEASUREMENT UNCERTAINTY	5
3. GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 DESCRIPTION OF TEST MODES	8
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	9
3.3 DESCRIPTION OF SUPPORT UNITS	10
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	10
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	11
4. TEST TYPES AND RESULTS	12
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	12
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	12
4.1.2 TEST INSTRUMENTS.....	13
4.1.3 TEST PROCEDURES	14
4.1.4 DEVIATION FROM TEST STANDARD.....	14
4.1.5 TEST SETUP	15
4.1.6 EUT OPERATING CONDITIONS	15
4.1.7 TEST RESULTS	16
5. PHOTOGRAPHS OF THE TEST CONFIGURATION.....	20
6. INFORMATION ON THE TESTING LABORATORIES	21
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	22



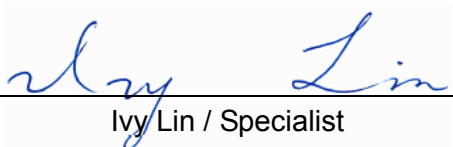
RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF141104C08-1	Original release.	Dec. 12, 2014
RF141104C08A-1	Original release. (Prepared for FCC class II permissive change)	Jun. 22, 2015

1. CERTIFICATION

PRODUCT: Bluetooth Headphone with NFC
MODEL NO.: M2 AEBT, M2 OEBT (Refer to item 3.1 for more details)
BRAND: Sennheiser
APPLICANT: Sennheiser electronic GmbH & Co.KG
TESTED: Jun. 05 ~ Jun. 06, 2015
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: FCC Part 15, Subpart C (Section 15.247)

This report is issued as a supplementary report of RF141104C08-1. This report shall be used combined together with its original report.

PREPARED BY :  , **DATE :** Jun. 22, 2015
Ivy Lin / Specialist

APPROVED BY :  , **DATE :** Jun. 22, 2015
Ken Liu / Senior Manager

NOTE: The radiated emission test was performed for the addendum. Refer to original report for the other test data.

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	N/A	Refer to Note
15.205 & 209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -6.7dB at 2483.50MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -6.7dB at 2483.50MHz.
15.247(d)	Antenna Port Emission	N/A	Refer to Note
15.247(a)(2)	6dB bandwidth	N/A	Refer to Note
15.247(b)	Conducted power	N/A	Refer to Note
15.247(e)	Power Spectral Density	N/A	Refer to Note
15.203	Antenna Requirement	N/A	Refer to Note

NOTE: The radiated emission test was performed for the addendum. Refer to original report for the other test data.

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
Radiated emissions	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 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

EUT	Bluetooth Headphone with NFC
MODEL NO.	M2 AEBT, M2 OEBT (Refer to Note for more details)
POWER SUPPLY	3.7Vdc (Battery) 5Vdc (Host equipment)
MODULATION TYPE	GFSK
TRANSFER RATE	1Mbps
OPERATING FREQUENCY	2402 ~ 2480MHz
NUMBER OF CHANNEL	40
CHANNEL SPACING	2MHz
OUTPUT POWER	3.873mW
ANTENNA TYPE	Refer to Note for more details
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note for more details
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note for more details

NOTE:

- This report is prepared for FCC class II permissive change.
- This report is issued as a supplementary report of BV ADT report no.: RF141104C08-1. This report shall be used combined together with its original report. The differences compared with the original report are PCB enlarged and some changes as below in components and re-position but this change is not affecting the RF portion of this product. Therefore, radiated emission test is re-tested in the test report.
 - C19 changed to 4u7 (applicable to both AEBT & OEBT)
 - C192 changed to DNI (Do not Install) (applicable to both AEBT & OEBT)
 - R264 new component: 2R2 (applicable to both AEBT & OEBT)
 - R55 changed to 2K55 (Change of value applicable to OEBT). R55 in AEBT is 3K
 - R64 changed to 7K15 (Change of value applicable to OEBT). R64 in AEBT is 6K65
 - Test points AT14, AT15, AT16 moved (applicable to both AEBT & OEBT)

3. All models are listed as below. The model: M2 AEBT is for final test

Brand	Model	Similarities	Differences
Sennheiser	M2 AEBT	- Main PCB - ANC PCB - Transducer - Headband structure - Bluetooth functionality - NFC functionality	- 3 way switch control (AUX PCB) - filter's components (Resistors and Capacitors value)
Sennheiser	M2 OEBT	- Main PCB - ANC PCB - Transducer - Headband structure - Bluetooth functionality - NFC functionality	- 3 way switch control (AUX PCB) - Smaller earcup - filter's components (Resistors and Capacitors value)

- The filter is of passive type. For more detail please refer to the schematic and block diagram.
- The 3 way switch is for "volume" and "play" control not affecting RF. For more detail please refer to the schematic.
- The feed-forward passive AF (Audio Frequency) filter is to cancel / reduce external noise to the mic (in the headphone) typically in the frequency 2 - 3 kHz.
- The feed-back passive AF (Audio Frequency) filter is to cancel / reduce internal noise to the mic (in the headphone) typically in the frequency 20Hz - 1 kHz.

4. The EUT use the following antenna.

Brand	Model	Antenna Type	Antenna Gain (dBi)	Antenna Connector
Sennheiser	M2 AEBT	PCB	1.8	N/A
Sennheiser	M2 OEBT	PCB	1.5	N/A

5. The EUT contains the following accessories.

No.	Product	Description
1	Audio cable	1.4mm non-shield cable with 3.5mm Angled plug
2	USB Cable	1.2m shielded cable
3	Inflight adapter	-

6. The EUT consumes power from the following battery.

BRAND	SYNergy
MODEL	AHB622540PCT-02
RATING	3.7Vdc

7. 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

40 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO		DESCRIPTION
	RE $\geq$ 1G	RE<1G	
-	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane.

RADIATED EMISSION TEST (ABOVE 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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	DATA RATE (Mbps)
-	0 to 39	0, 19, 39	GFSK	1.0

RADIATED EMISSION TEST (BELOW 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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	DATA RATE (Mbps)
-	0 to 39	39	GFSK	1.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE $\geq$ 1G	17deg. C, 70%RH	120Vac, 60Hz	Nick Hsu
RE<1G	17deg. C, 70%RH	120Vac, 60Hz	Nick Hsu

3.3 DESCRIPTION OF SUPPORT UNITS

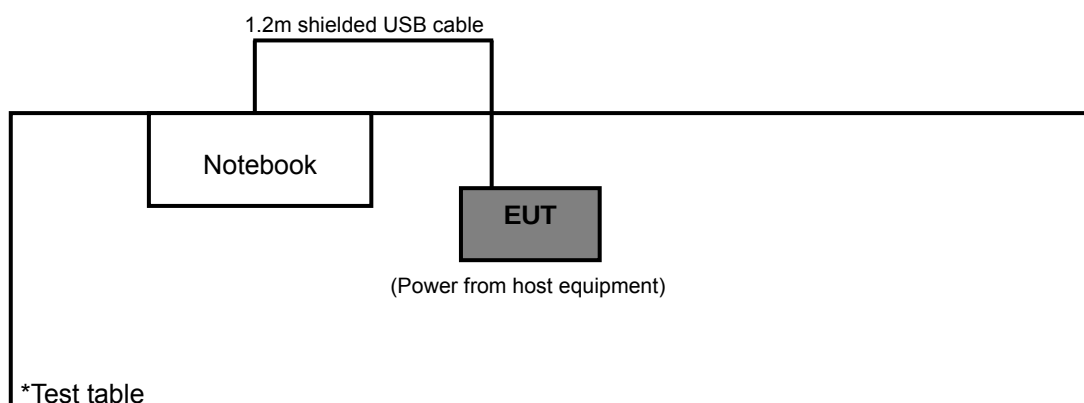
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	DELL	D531	CN-0XM006-486 43-81U-2973	QDS-BRCM1020

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.2m shielded USB cable (Accessory)

NOTE: All power cords of the above support units are non-shielded (1.8m).

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



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 (15.247)

558074 D01 DTS Meas Guidance v03r02

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.

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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 & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 10, 2015	Apr. 09, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Aug. 29, 2014	Aug. 28, 2015
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Feb. 05, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	9120D	209	Feb. 09, 2015	Feb. 08, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2014	Oct. 17, 2015
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2014	Aug. 21, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	214378/4	Aug. 22, 2014	Aug. 21, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6 +309224/4	Aug. 22, 2014	Aug. 21, 2015
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	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 PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

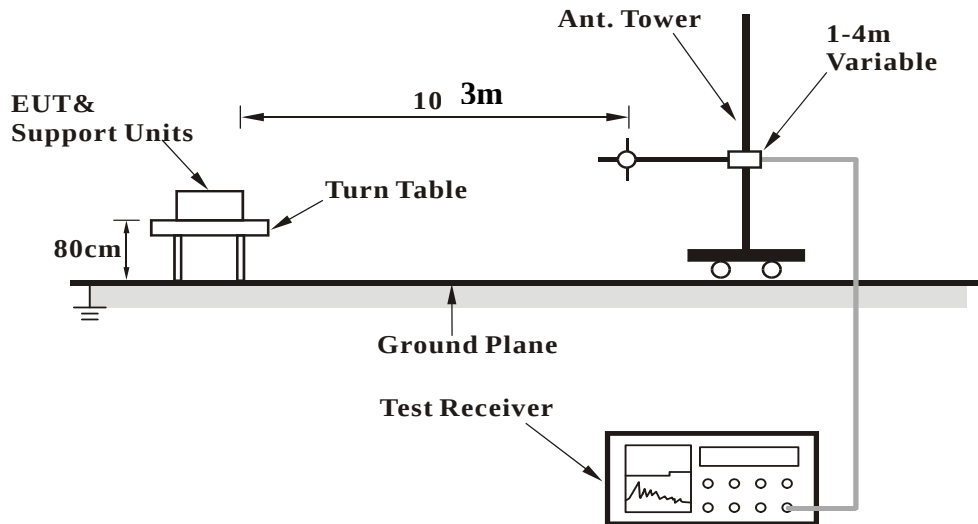
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

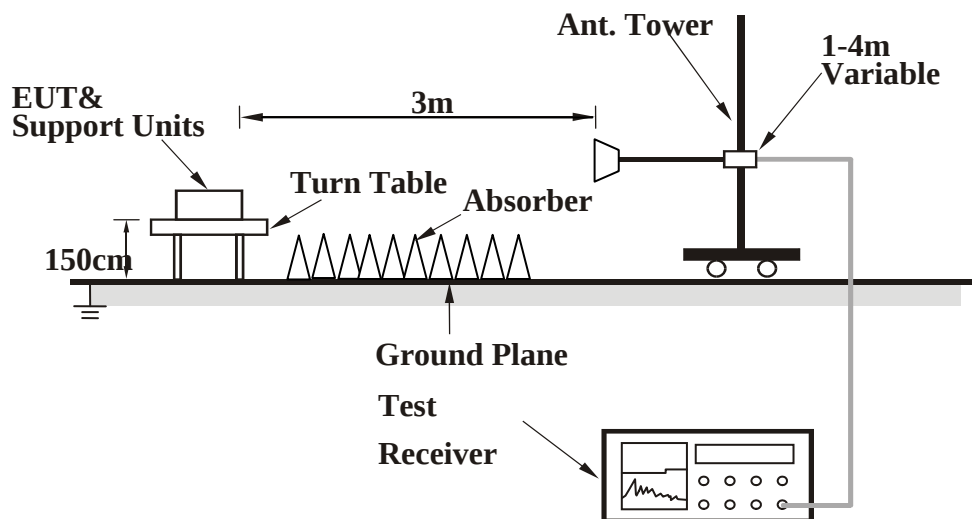
No deviation.

4.1.5 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range 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 WORST-CASE DATA:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 70%RH	TESTED BY	Nick Hsu

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	56.2 PK	74.0	-17.8	1.04 H	218	23.70	32.50
2	2390.00	44.9 AV	54.0	-9.1	1.04 H	218	12.40	32.50
3	*2402.00	91.9 PK			1.53 H	291	59.30	32.60
4	*2402.00	90.2 AV			1.53 H	291	57.60	32.60
5	4804.00	50.0 PK	74.0	-24.0	1.50 H	240	44.10	5.90
6	4804.00	39.6 AV	54.0	-14.4	1.50 H	240	33.70	5.90
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	2390.00	55.4 PK	74.0	-18.6	1.79 V	359	22.90	32.50
2	2390.00	45.4 AV	54.0	-8.6	1.79 V	359	12.90	32.50
3	*2402.00	97.3 PK			1.78 V	352	64.70	32.60
4	*2402.00	95.9 AV			1.78 V	352	63.30	32.60
5	4804.00	50.0 PK	74.0	-24.0	1.24 V	43	44.10	5.90
6	4804.00	40.0 AV	54.0	-14.0	1.24 V	43	34.10	5.90

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 19	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 70%RH	TESTED BY	Nick Hsu

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	*2440.00	96.0 PK			1.03 H	230	63.30	32.70
2	*2440.00	94.3 AV			1.03 H	230	61.60	32.70
3	4880.00	50.8 PK	74.0	-23.2	1.78 H	251	44.90	5.90
4	4880.00	42.3 AV	54.0	-11.7	1.78 H	251	36.40	5.90
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	*2440.00	99.2 PK			1.42 V	356	66.50	32.70
2	*2440.00	97.7 AV			1.42 V	356	65.00	32.70
3	4880.00	51.0 PK	74.0	-23.0	1.74 V	171	45.10	5.90
4	4880.00	42.3 AV	54.0	-11.7	1.74 V	171	36.40	5.90

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 39	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 70%RH	TESTED BY	Nick Hsu

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	*2480.00	98.8 PK			1.01 H	232	66.10	32.70
2	*2480.00	97.2 AV			1.01 H	232	64.50	32.70
3	2483.50	56.5 PK	74.0	-17.5	1.00 H	238	23.80	32.70
4	2483.50	47.1 AV	54.0	-6.9	1.00 H	238	14.40	32.70
5	4960.00	50.5 PK	74.0	-23.5	1.00 H	13	44.40	6.10
6	4960.00	41.2 AV	54.0	-12.8	1.00 H	13	35.10	6.10
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	*2480.00	98.7 PK			1.57 V	3	66.00	32.70
2	*2480.00	97.0 AV			1.57 V	3	64.30	32.70
3	2483.50	59.0 PK	74.0	-15.0	1.58 V	1	26.30	32.70
4	2483.50	47.3 AV	54.0	-6.7	1.58 V	1	14.60	32.70
5	4960.00	50.7 PK	74.0	-23.3	1.40 V	233	44.60	6.10
6	4960.00	41.8 AV	54.0	-12.2	1.40 V	233	35.70	6.10

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 WORST-CASE DATA:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 39	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	17deg. C, 70%RH	TESTED BY	Nick Hsu

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	57.12	30.4 QP	40.0	-9.6	2.00 H	74	45.00	-14.60
2	70.73	20.1 QP	40.0	-19.9	1.51 H	7	36.30	-16.20
3	86.28	19.3 QP	40.0	-20.7	2.00 H	91	38.90	-19.60
4	111.56	16.6 QP	43.5	-26.9	2.00 H	241	33.90	-17.30
5	171.83	15.6 QP	43.5	-27.9	1.01 H	93	30.00	-14.40
6	307.93	21.4 QP	46.0	-24.6	1.01 H	288	33.70	-12.30
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	30.00	19.3 QP	40.0	-20.7	1.49 V	182	35.00	-15.70
2	49.34	21.1 QP	40.0	-18.9	1.00 V	109	35.50	-14.40
3	57.12	21.8 QP	40.0	-18.2	1.00 V	52	36.40	-14.60
4	111.56	18.5 QP	43.5	-25.0	1.00 V	185	35.80	-17.30
5	167.94	14.4 QP	43.5	-29.1	1.49 V	16	28.70	-14.30
6	304.04	15.2 QP	46.0	-30.8	1.00 V	314	27.60	-12.40

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. 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.

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

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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 modifications were made to the EUT by the lab during the test.

--- END ---