



FCC TEST REPORT

REPORT NO.: RF111117E01A
MODEL NO.: RU-827, RU-827-10X
(X :0~9 , A~Z , Configuration Code)
FCC ID: MAD-RU-827
RECEIVED: Dec. 09, 2011
TESTED: Dec. 16 to 19, 2011
TESTED: Dec. 27, 2011

APPLICANT: Microelectronics Technology Inc.

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ISSUED BY : Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

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Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF111117E01A	Original release	Dec. 27, 2011



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1 CERTIFICATION

PRODUCT : RFID UHF 827 SERIES WITH AMS 3992 READER
BRAND NAME : MTI
MODEL NO. : RU-827, RU-827-10X
(X :0~9 , A~Z , Configuration Code)
APPLICANT : Microelectronics Technology Inc.
TESTED DATE: Dec. 16 to 19, 2011
TEST SAMPLE : ENGINEERING SAMPLE
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247)
ANSI C63.4: 2003
ANSI C63.10-2009

The above equipment (Model: RU-827) 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 : Midoli Peng, **DATE:** Dec. 27, 2011
(Midoli Peng, Specialist)

APPROVED BY : May Chen, **DATE:** Dec. 27, 2011
(May Chen, Deputy Manager)



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2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.247(b)(2)	Maximum Peak Output Power Spec.: max. 24dBm	PASS	Meet the requirement of limit
15.247(d)	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -4.2dB at 830.89MHz

NOTE: This report is prepared for FCC class II change. Only radiated emission and maximum peak output power were presented in this test report.



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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:

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

Measurement	Value
Radiated emissions (30MHz-1GHz)	3.81 dB
Radiated emissions (1GHz ~18GHz)	2.19 dB
Radiated emissions (18GHz ~40GHz)	2.56 dB



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3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	RFID UHF 827 SERIES WITH AMS 3992 READER
MODEL NO.	RU-827, RU-827-10X (X :0~9 , A~Z , Configuration Code)
FCC ID	MAD-RU-827
POWER SUPPLY	DC 5V from host equipment
MODULATION TYPE	ASK
MODULATION TECHNOLOGY	FHSS
FREQUENCY RANGE	902.75MHz ~ 927.25MHz
NUMBER OF CHANNEL	50
OUTPUT POWER	64.6mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report design is as the following information:

- u Changed the Transmitter from modular to non-modular
- u Changed the product name & model name as below table :

Original			
Brand	Product name	Model No.	Difference
MTI	RFID UHF 827 SERIES WITH AMS 3992 MODULE	RU-827	For marketing requirement
		RU-827-00X (X : 0~9 , A~Z , Configuration Code)	
Newly			
Brand	Product name	Model No.	Difference
MTI	RFID UHF 827 SERIES WITH AMS 3992 READER	RU-827	For marketing requirement
		RU-827-10X (X : 0~9 , A~Z , Configuration Code)	



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2. There is one antenna provided to this EUT, please refer to the following table:

Antenna Type	Gain(dBi) Include cable loss	Frequency range (MHz to MHz)
Reverse- F	-0.51	902~928

3. The above EUT information was 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

Fifty channels are provided to this EUT.

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	902.75	21	913.25	42	923.75
1	903.25	22	913.75	43	924.25
2	903.75	23	914.25	44	924.75
3	904.25	24	914.75	45	925.25
4	904.75	25	915.25	46	925.75
5	905.25	26	915.75	47	926.25
6	905.75	27	916.25	48	926.75
7	906.25	28	916.75	49	927.25
8	906.75	29	917.25		
9	907.25	30	917.75		
10	907.75	31	918.25		
11	908.25	32	918.75		
12	908.75	33	919.25		
13	909.25	34	919.75		
14	909.75	35	920.25		
15	910.25	36	920.75		
16	910.75	37	921.25		
17	911.25	38	921.75		
18	911.75	39	922.25		
19	912.25	40	922.75		
20	912.75	41	923.25		



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3.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	-

Where **RE < 1G**: Radiated Emission below 1GHz **RE ≥ 1G**: Radiated Emission above 1GHz
APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Below 1 GHz):

- 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.

Available Channel	Tested Channel	Modulation Technology	Modulation Type
0 to 49	0, 49	FHSS	ASK

Radiated Emission Test (Above 1 GHz):

- 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.

Available Channel	Tested Channel	Modulation Technology	Modulation Type
0 to 49	0, 49	FHSS	ASK

Antenna Port Conducted Measurement:

- 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.

Available Channel	Tested Channel	Modulation Technology	Modulation Type
0 to 49	0, 24, 49	FHSS	ASK

※ TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE [≥] 1G	22deg. C, 71%RH	120Vac, 60Hz	Evan Huang
RE<1G	23deg. C, 73%RH	120Vac, 60Hz	Evan Huang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Evan Huang



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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:

47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4 : 2003
ANSI C63.10-2009

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.5 DESCRIPTION OF SUPPORT UNITS

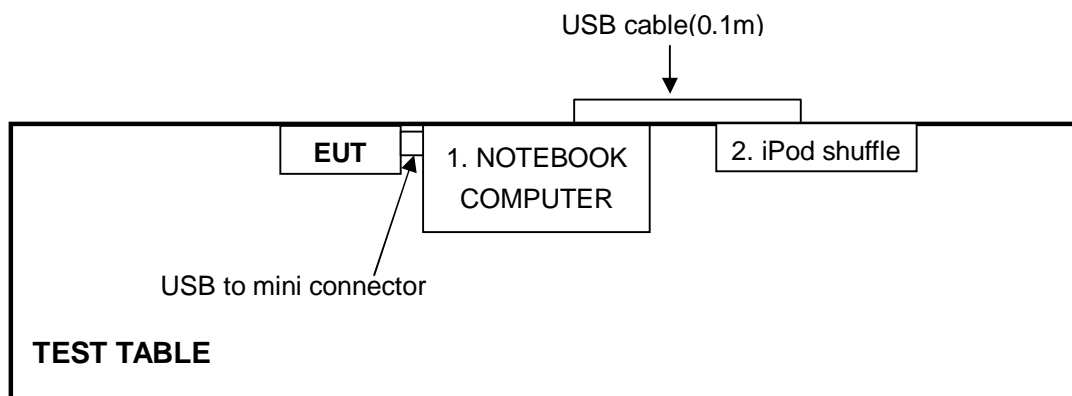
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	iPod shuffle	Apple	MC749TA/A	CC4DM9M8DFDM	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	USB cable(0.1m)

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST PROCEDURES AND RESULTS

4.1 MAXIMUM PEAK OUTPUT POWER

4.1.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 250mW.

4.1.2 INSTRUMENTS

Test date: Dec. 19, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100060	May 11, 2011	May 10, 2012

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

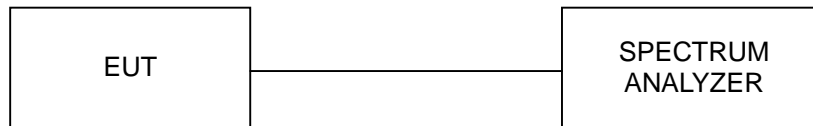
4.1.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. 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.
3. The center frequency of the spectrum analyzer is set to the fundamental frequency and using 3 MHz RBW and 10 MHz VBW.
4. Measure the captured power within the band and recording the plot.
5. Repeat above procedures until all frequencies measured were complete.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITION

The software (MTI RFID ME HW GUI Setup v1.0.6.exe) provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

4.1.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (mW)	PASS/FAIL
0	902.75	18.1	64.6	250	PASS
24	914.75	17.6	57.5	250	PASS
49	927.25	17.8	60.3	250	PASS

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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.



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4.2.2 TEST INSTRUMENTS

Test date: Dec. 16, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012
Agilent Pre-Selector	N9039A	MY46520311	July 12, 2011	July 11, 2012
Agilent Signal Generator	N5181A	MY49060517	July 12, 2011	July 11, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02578	July 04, 2011	July 03, 2012
SPACEK LABS	SLKka-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 27, 2010	Dec. 26, 2011
RF Cable	NA	CHGCAB_001	Oct. 07, 2011	Oct. 06, 2012
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in 966 Chamber No. G.

4. The FCC Site Registration No. is 966073.

5. The VCCI Site Registration No. is G-137.

6. The CANADA Site Registration No. is IC 7450H-2.

4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters 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. 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, quasi-peak and average 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.

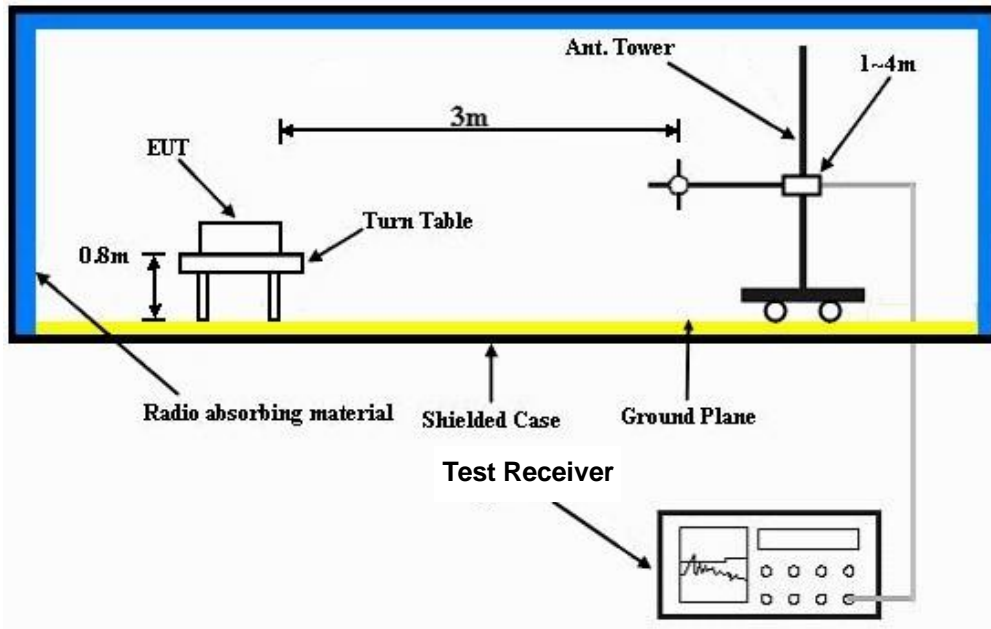
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz 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. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITION

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



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4.2.7 TEST RESULTS

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 73%RH	TESTED BY	Evan 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	43.00	28.0 QP	40.0	-12.0	1.49 H	243	13.85	14.18
2	55.46	31.1 QP	40.0	-8.9	1.51 H	211	17.11	13.98
3	81.40	32.9 QP	40.0	-7.1	1.98 H	7	23.21	9.73
4	153.04	37.9 QP	43.5	-5.6	1.98 H	346	23.26	14.68
5	221.49	33.7 QP	46.0	-12.3	1.49 H	317	21.46	12.23
6	847.00	33.6 QP	46.0	-12.4	1.48 H	251	7.00	26.60
7	#902.00	46.1 PK	90.3	-44.2	1.28 H	281	18.73	27.38
8	#902.00	34.0 AV	87.6	-53.6	1.28 H	281	6.62	27.38
9	*902.75	110.3 PK	-	-	1.28 H	281	82.96	27.38
10	*902.75	107.6 AV	-	-	1.28 H	281	80.22	27.38

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	55.30	35.6 QP	40.0	-4.4	1.00 V	54	21.57	13.99
2	82.93	33.4 QP	40.0	-6.6	1.49 V	211	23.83	9.53
3	153.04	38.6 QP	43.5	-4.9	1.02 V	264	23.91	14.68
4	167.37	38.5 QP	43.5	-5.0	1.02 V	143	24.38	14.12
5	830.89	41.8 QP	46.0	-4.2	1.98 V	135	15.49	26.35
6	941.97	34.6 QP	46.0	-11.4	1.50 V	152	6.89	27.70
7	#902.00	42.9 PK	90.4	-47.5	1.09 V	255	15.52	27.38
8	#902.00	31.3 AV	87.6	-56.3	1.09 V	255	3.90	27.38
9	*902.75	110.4 PK	-	-	1.09 V	255	83.02	27.38
10	*902.75	107.5 AV	-	-	1.09 V	255	80.18	27.38

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1GHz ~10GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 71%RH	TESTED BY	Evan 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	2709.20	43.8 PK	74.0	-30.2	1.12 H	359	11.43	32.37
2	2709.20	31.6 AV	54.0	-22.4	1.12 H	359	-0.77	32.37
3	3612.00	44.4 PK	74.0	-29.6	1.02 H	252	9.80	34.60
4	3612.00	32.6 AV	54.0	-21.4	1.02 H	252	-2.03	34.60
5	4513.50	44.6 PK	74.0	-29.4	1.03 H	354	6.75	37.85
6	4513.50	35.2 AV	54.0	-18.8	1.03 H	354	-2.65	37.85

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	2708.30	45.2 PK	74.0	-28.8	1.05 V	310	12.84	32.36
2	2708.30	32.3 AV	54.0	-21.7	1.05 V	310	-0.06	32.36
3	3612.00	45.3 PK	74.0	-28.7	1.13 V	311	10.70	34.60
4	3612.00	32.7 AV	54.0	-21.4	1.13 V	311	-1.95	34.60
5	4513.50	45.4 PK	74.0	-28.6	1.01 V	321	7.54	37.85
6	4513.50	35.1 AV	54.0	-18.9	1.01 V	321	-2.73	37.85

- 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 49	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 73%RH	TESTED BY	Evan 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	41.84	28.1 QP	40.0	-11.9	1.50 H	244	14.01	14.13
2	55.46	31.2 QP	40.0	-8.8	1.50 H	213	17.25	13.98
3	81.40	33.1 QP	40.0	-6.9	2.00 H	8	23.36	9.73
4	153.04	37.7 QP	43.5	-5.8	2.00 H	349	23.03	14.68
5	221.49	33.5 QP	46.0	-12.5	1.50 H	320	21.29	12.23
6	847.00	33.8 QP	46.0	-12.2	1.50 H	254	7.21	26.60
7	*927.27	107.5 PK			1.35 H	288	79.91	27.58
8	*927.27	105.3 AV			1.35 H	288	77.68	27.58
9	#928.03	46.1 PK	87.5	-41.4	1.35 H	288	18.50	27.59
10	#928.03	33.2 AV	85.3	-52.1	1.35 H	288	5.61	27.59

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	55.46	35.7 QP	40.0	-4.4	1.00 V	55	21.67	13.98
2	82.93	33.5 QP	40.0	-6.5	1.50 V	212	23.95	9.53
3	153.04	38.7 QP	43.5	-4.8	1.00 V	263	24.00	14.68
4	167.37	38.7 QP	43.5	-4.8	1.00 V	141	24.55	14.12
5	830.89	41.7 QP	46.0	-4.3	2.00 V	136	15.33	26.35
6	941.97	34.8 QP	46.0	-11.2	1.50 V	151	7.07	27.70
7	*927.27	108.0 PK			1.08 V	255	80.46	27.58
8	*927.27	105.5 AV			1.08 V	255	77.94	27.58
9	#928.04	49.7 PK	88.0	-38.3	1.08 V	255	22.11	27.59
10	#928.04	33.1 AV	85.5	-52.4	1.08 V	255	5.50	27.59

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 49	FREQUENCY RANGE	1GHz ~10GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 71%RH	TESTED BY	Evan 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	2781.90	44.9 PK	74.0	-29.1	1.15 H	255	12.40	32.50
2	2781.90	33.4 AV	54.0	-20.7	1.15 H	255	0.85	32.50
3	3708.20	45.1 PK	74.0	-28.9	1.29 H	324	10.14	34.96
4	3708.20	34.0 AV	54.0	-20.1	1.29 H	324	-1.01	34.96
5	4631.00	45.9 PK	74.0	-28.1	1.00 H	101	7.55	38.35
6	4631.00	37.2 AV	54.0	-16.8	1.00 H	101	-1.15	38.35

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	2781.80	46.9 PK	74.0	-27.1	1.13 V	214	14.40	32.50
2	2781.80	34.1 AV	54.0	-19.9	1.13 V	214	1.60	32.50
3	3709.20	45.9 PK	74.0	-28.1	1.05 V	65	10.94	34.96
4	3709.20	33.1 AV	54.0	-20.9	1.05 V	65	-1.86	34.96
5	4632.00	46.9 PK	74.0	-27.1	1.21 V	333	8.54	38.36
6	4632.00	37.0 AV	54.0	-17.0	1.21 V	333	-1.36	38.36

- 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 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 and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5.phtml.

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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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6 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.

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