FCC 15B TEST REPORT

REPORT NO.: DRE-12NO0102VNTY-A4

MODEL NO.: iwi666, iwi666-B

RECEIVED: Dec. 11, 2012

ISSUED: Jan. 24, 2013

APPLICANT: Shanghai DareGlobal Technologies Co., Ltd.

ADDRESS: 22F, Building A, No.1555, Kongjiang Road, Shanghai, 200092, China

ISSUED BY: BUREAU VERITAS ADT (Shanghai) Corporation

LAB LOCATION: 2F, Building C, No.1618, Yishan rd., 201103, Shanghai, China

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1 CERTIFICATION

PRODUCT:	Linking mobile mate
MODEL NO.:	iwi666, iwi666-B
TEST ITEM:	ENGINEERING SAMPLE
APPLICANT:	Shanghai DareGlobal Technologies Co., Ltd.
TESTED:	Dec. 18, 2012
STANDARDS:	CFR 47 FCC Part 15: 2009 ANSI C63.4-2003

We, BUREAU VERITAS ADT (Shanghai) Corporation, declare that the equipment above has been tested in our facility and found compliance with the requirement limits of applicable standards, except for Radiated Emission test, which was subcontracted to IAC. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate under the standards herein specified.

PREPARED BY : Kevin Jiang , **DATE:** Jan. 24, 2013
Kevin Jiang
Engineer

TECHNICAL ACCEPTANCE : Joy Zhu , **DATE:** Jan. 24, 2013
Joy Zhu
Lab Manager

APPROVED BY : , **DATE:** Jan. 24, 2013
Zhaoqian Yu
Director of Operations

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Remarks
FCC Part 15: 2009, Subpart B, Class B	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is **-19.38**dB at **0.15000**MHz.
	Radiated Test	PASS	Meets Class B Limit Minimum passing margin is **-6.25**dB at **10263.84**MHz.

Note1: 10m radiated emission done in this report is subcontracted to IAC Compliance Laboratory, which is accredited by TAF under number"1943".

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 Ed 1.0.

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

This lab's measurement uncertainty U_{Lab}, is low than U_{Cispr} , Table 1 – Values of U_{Cispr} of CISPR 16-4-2 Ed. 1.0, therefore compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

Measurement	Value
Conducted emissions	2.55 dB
Radiated emissions	3.22 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Linking mobile mate
MODEL NO.	iwi666, iwi666-B
POWER SUPPLY	100-240VAC 50/60Hz
DATA CABLE SUPPLIED	N/A

Notes:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

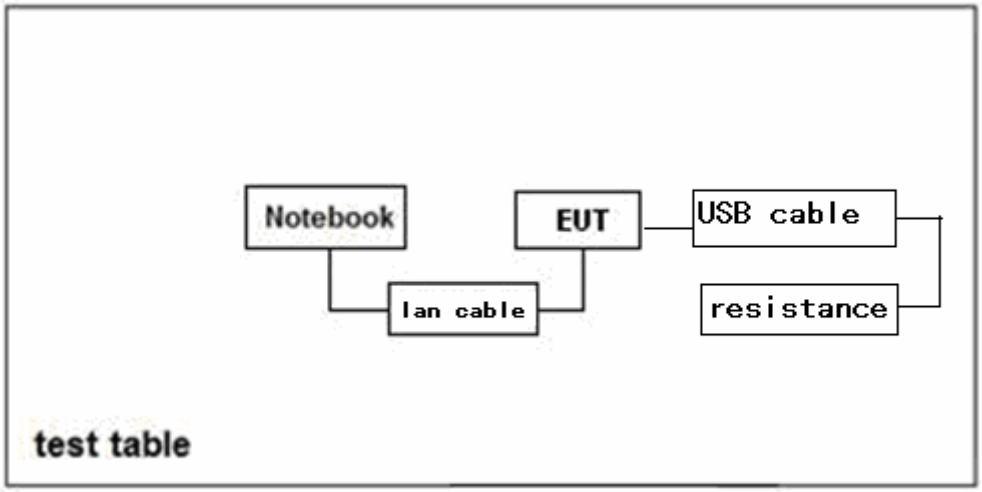
3.2 DESCRIPTION OF TEST MODES

Test Item	Test Mode	Description
Emission	1	Normal work status

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit during the tests.

TEST CONFIGURATION



4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD:

CFR 47 FCC Part 15: 2009, Subpart B (Section: 15.107)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1002	May. 10, 2013
LISN ROHDE & SCHWARZ	ENV216	E1L1011	Oct. 09, 2013
RF signal cable Woken	RG-58	E1CBL09	Mar. 31, 2013
Software ADT	ADT_Cond_ V7.3.0	N/A	N/A

NOTE:

1. Test Site: SR1

4.1.3 TEST PROCEDURE

a. Refer ANSI C63.4-2003 Clause 7.2

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP

Refer ANSI C63.4-2003 Figure 10a,

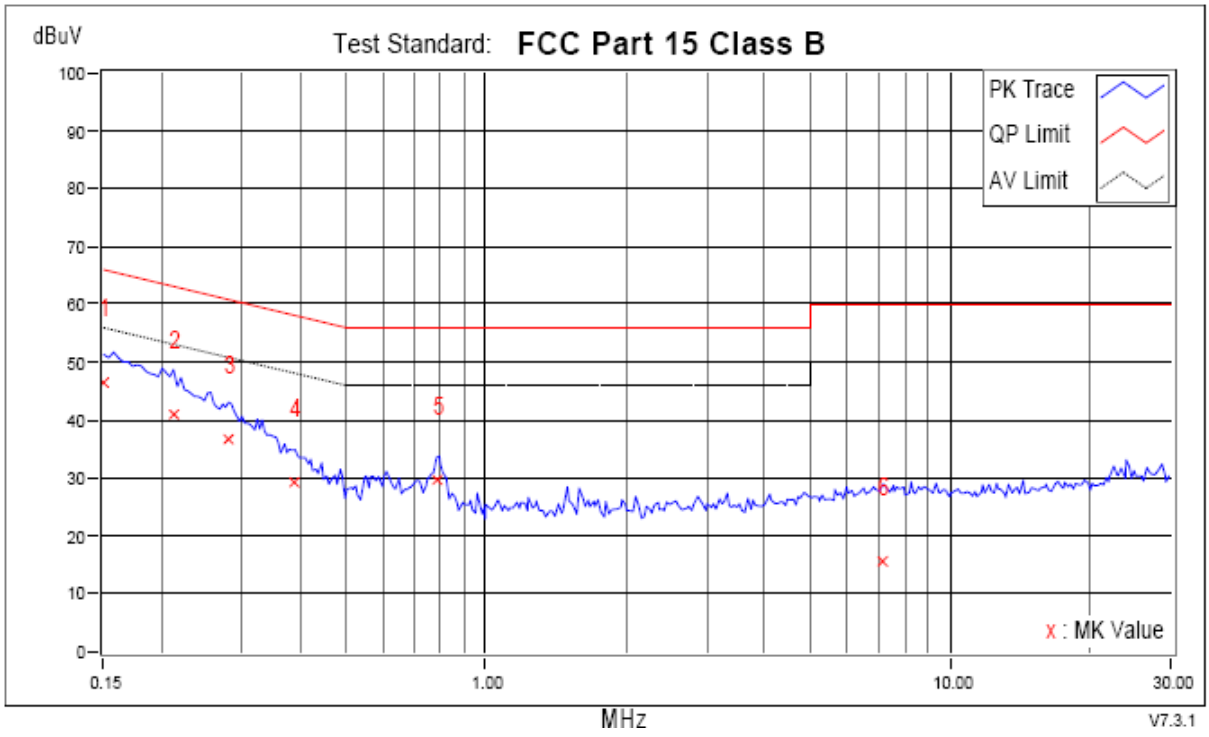
For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 TEST RESULTS

TEST MODE	Mode 1	6dB BANDWIDTH	9 kHz
INPUT POWER	120Vac, 60Hz	PHASE	Line (L1)
ENVIRONMENTAL CONDITIONS	24.5deg. C, 38.9 RH, 101kPa	TESTED BY: Kevin JIANG	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15000**	**9.75**	**36.87**	**17.95**	**46.62**	**27.70**	**66.00**	**56.00**	**-19.38**	**-28.30**
2	0.21256	9.61	31.44	13.94	41.05	23.55	63.10	53.10	-22.05	-29.55
3	0.27903	9.61	26.98	10.10	36.59	19.71	60.84	50.84	-24.25	-31.13
4	0.38851	9.62	19.54	3.73	29.16	13.35	58.10	48.10	-28.94	-34.75
5	0.78342	9.60	19.94	14.83	29.54	24.43	56.00	46.00	-26.46	-21.57
6	7.19735	9.65	6.08	0.58	15.73	10.23	60.00	50.00	-44.27	-39.77

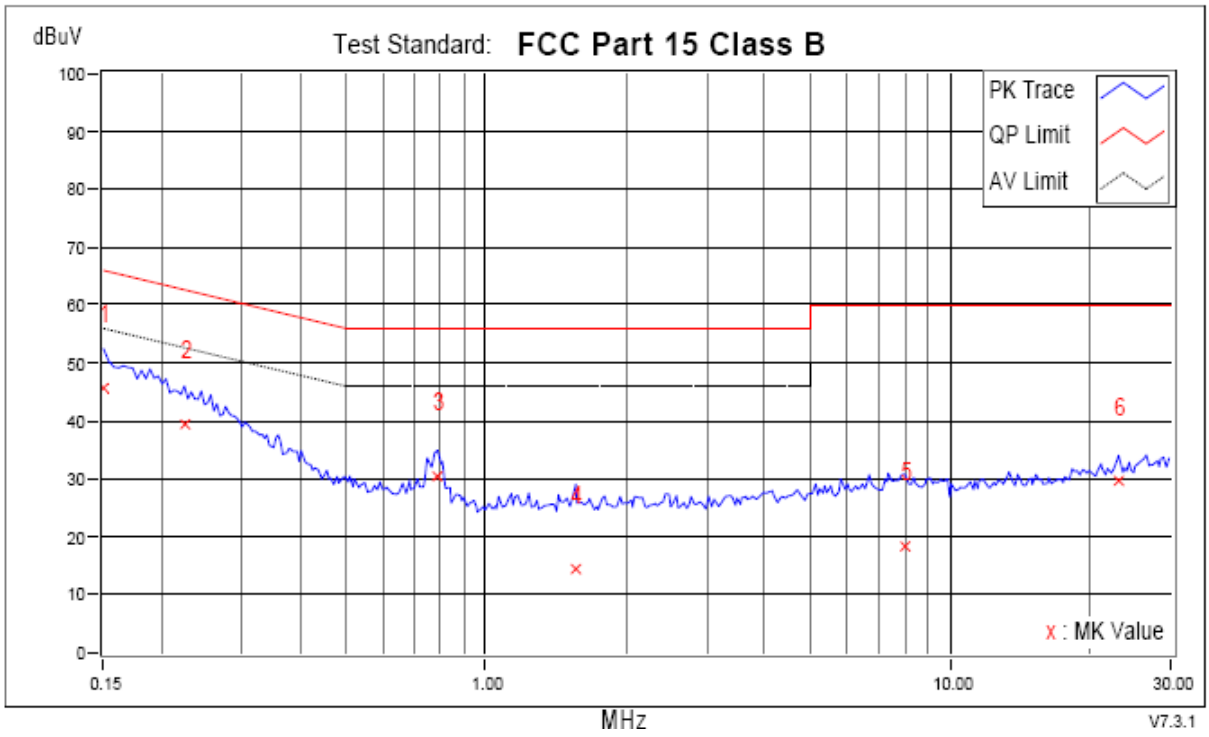
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



TEST MODE	Mode 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24.5deg. C, 38.9 RH, 101kPa	**TESTED BY**: Kevin JIANG	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.72	35.79	16.80	45.51	26.52	66.00	56.00	-20.49	-29.48
2	0.22429	9.62	29.99	11.54	39.61	21.16	62.66	52.66	-23.05	-31.50
3	0.78733	9.64	20.71	9.42	30.35	19.06	56.00	46.00	-25.65	-26.94
4	1.56304	9.63	4.93	-3.10	14.56	6.53	56.00	46.00	-41.44	-39.47
5	8.00672	9.70	8.55	0.86	18.25	10.56	60.00	50.00	-41.75	-39.44
6	23.12587	9.89	19.66	12.70	29.55	22.59	60.00	50.00	-30.45	-27.41

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



NOTE： According to the standard, the test is on DC power supplied, the results is according to the manufacturer requirement.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD:
CFR 47 FCC Part 15: 2009, Subpart B (Section: 15.109)

FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
30 – 88	90	39.1	100	40.0
88 – 216	150	43.5	150	43.5
216 – 960	210	46.4	200	46.0
960 – 1000	300	49.5	500	54.0

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

Note: (1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Spectrum Agilent	E4403B	E1S1001	Sep. 10, 2013
Receiver R&S	ESCS30	E1R1001	May. 10, 2013
Trilog Broadband Antenna Schwarzbeck	VULB 9168	E1A1001	Apr. 26, 2014
Preamplifier Agilent	HP 8447D-CFG001	E1A2001	Dec. 25, 2012
Software ADT	ADT_Radiated_V7.5	N/A	N/A

NOTE:

1. The test was performed in SAC I

4.2.3 TEST PROCEDURE

a. Refer to ANSI C 63.4 Clause 8.3

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP

Refer to ANSI C 63.4 Figure 11a

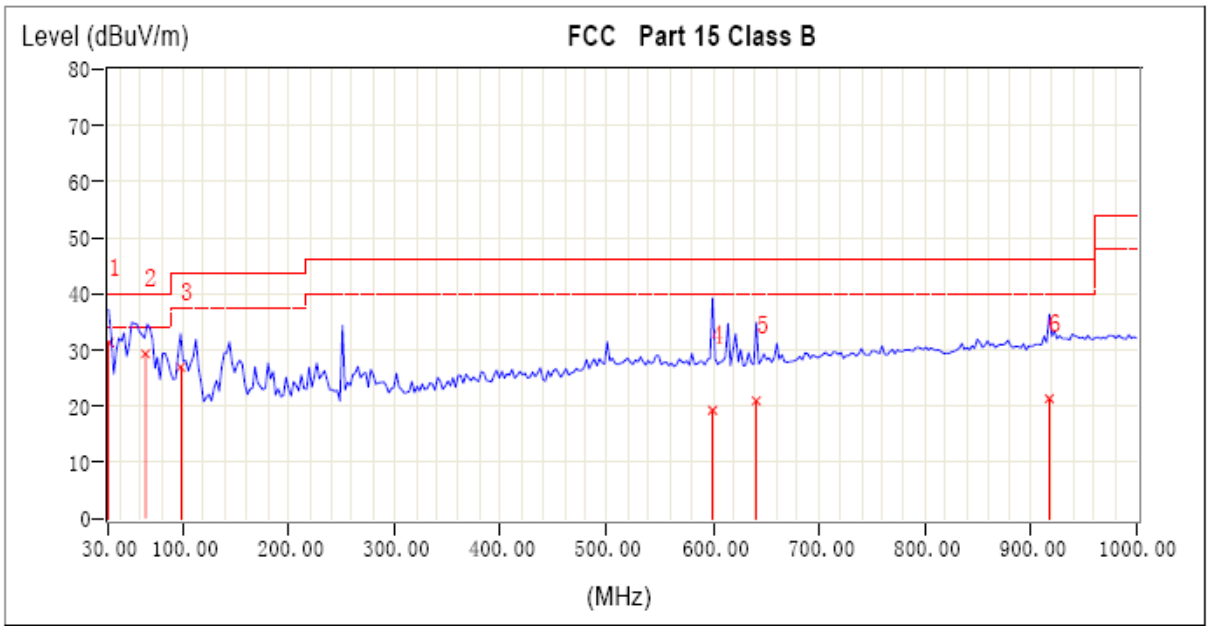
For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 TEST RESULTS

TEST MODE	Mode 1	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	24.0deg. C, 39.2 RH, 101IkPa	**TESTED BY**: Kevin JIANG	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	30.00	14.89	16.39	31.28	40.00	-8.72	100	0
2	64.78	13.75	15.53	29.28	40.00	-10.72	100	247
3	97.90	12.23	14.66	26.90	43.50	-16.60	100	0
4	599.87	22.88	-3.65	19.23	46.00	-26.77	100	0
5	641.10	23.50	-2.58	20.92	46.00	-25.08	100	0
6	917.55	26.88	-5.57	21.31	46.00	-24.69	100	0

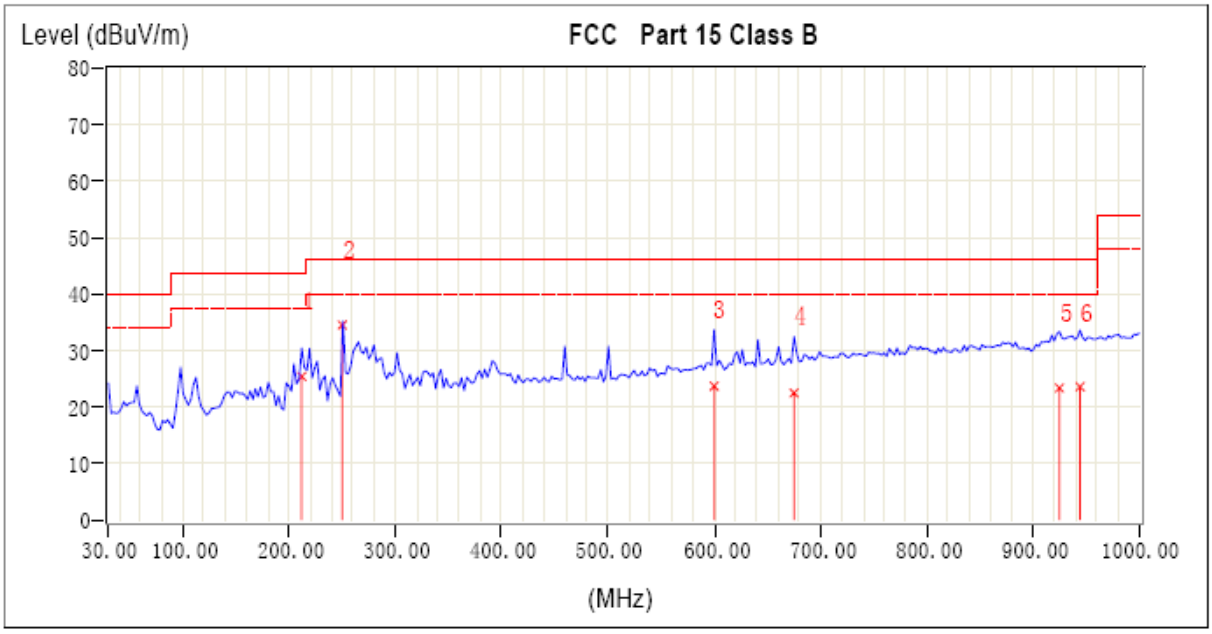
REMARKS: 1. Emission level (dBuV/m) =Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



TEST MODE	Mode 1	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	24.0deg. C, 39.2 RH, 101kPa	**TESTED BY**: Kevin JIANG	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	211.87	13.05	12.36	25.41	43.50	-18.09	145	100
2	250.00	14.48	20.03	34.51	46.00	-11.49	127	106
3	599.87	22.88	0.79	23.67	46.00	-22.33	200	0
4	675.05	23.93	-1.47	22.46	46.00	-23.54	200	0
5	924.83	27.26	-3.91	23.35	46.00	-22.65	200	0
6	944.23	27.39	-3.81	23.58	46.00	-22.42	200	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.



TEST MODE	Mode 1	**FREQUENCY RANGE**	1000-18000 MHz
INPUT POWER	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak, 1MHz
ENVIRONMENTAL CONDITIONS	24.0deg. C, 39.2 RH, 101IkPa	**TESTED BY**: Kevin JIANG	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	1403.04	30.14	12.97	43.11	74.00	-30.89	100	0
2	5220.00	38.30	11.26	49.56	74.00	-24.44	100	0
3	7332.96	44.08	10.62	54.70	74.00	-19.30	100	0
4	8525.76	45.02	11.15	56.17	74.00	-17.83	100	0
5	9820.80	46.74	11.82	58.56	74.00	-15.44	100	0

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	3720.48	34.92	11.81	46.73	74.00	-27.27	100	0
2	4947.36	37.98	11.10	49.08	74.00	-24.92	100	0
3	7298.88	44.05	11.12	55.17	74.00	-18.83	100	0
4	9684.48	46.53	12.30	58.83	74.00	-15.17	100	0
5	11661.12	48.35	12.59	60.94	74.00	-13.06	100	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.

TEST MODE	Mode 1	**FREQUENCY RANGE**	1000-18000 MHz
INPUT POWER	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Average, 1MHz
ENVIRONMENTAL CONDITIONS	24.0deg. C, 39.2 RH, 101IkPa	**TESTED BY**: Kevin JIANG	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	4095.36	35.97	0.09	36.07	54.00	-17.93	100	32
2	5356.32	38.40	-0.57	37.83	54.00	-16.17	100	8
3	6924.00	42.45	-0.52	41.93	54.00	-12.07	100	0
4	8287.20	44.59	-0.40	44.19	54.00	-9.81	100	0
5	9786.72	46.71	0.25	46.96	54.00	-7.04	100	0

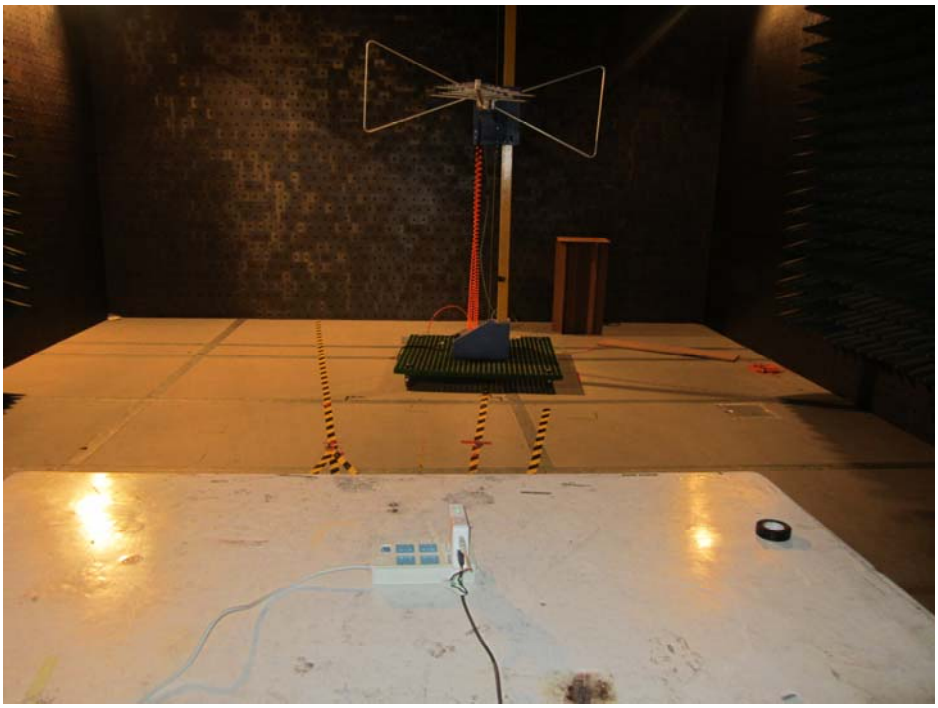
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB)	Reading (dBuV/m)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Tower cm	Table deg
1	4197.60	36.17	0.03	36.20	54.00	-17.80	100	193
2	5799.36	39.26	-0.53	38.73	54.00	-15.27	100	227
3	7367.04	44.10	-0.50	43.60	54.00	-10.40	100	251
4	8798.40	45.64	-0.12	45.52	54.00	-8.48	100	279
5	10263.84	47.33	0.43	47.75	54.00	-6.25	100	307

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 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST



6 PHOTOGRAPHS OF THE EUT

7 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, BUREAU VERITAS ADT (Shanghai) Corporation, were founded in 2004 to provide our best service in EMC, Radio and Vehicle consultation. Our laboratories are accredited by the following accreditation bodies according to ISO/IEC 17025 (2005) .

USA	A2LA
	Certificate No.: 2343.01
China	CNAS
	Certificate No.: L2810

Copies of accreditation certificates could be inquired from our office. If you have any comments, please feel free to contact us at the following:

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