Test Lab
Cert 2951.01

TEST REPORT

Applicant:	SHUOYING INDUSTRIAL (SHENZHEN) CO.,LTD
Address:	Shuoying Road, Hebei Industry Area, Dalang, Longhua Town, Baoan, Shenzhen, China

Factory or Supplier:	SHUOYING INDUSTRIAL (SHENZHEN) CO.,LTD
Address:	UShuoying Road, Hebei Industry Area, Dalang, Longhua Town, Baoan, Shenzhen, China
Product:	MID
Brand Name:	N/A
Model:	PA0750
Additional Models & Model Difference:	See Section 2.1
Date of tests:	June 19 ~ July 18 , 2012

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

☒ **FCC Part 15, Subpart B, Class B**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Glyn He Project Engineer / EMC Department	Approved by Sam Tung Manager/ EMC Department
Glyn	Date: July 18, 2012

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	July 18, 2012

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart B			
Standard Section	**Test Item**	**Result**	**Remark**
15.107	Conducted Emission Test	PASS	Meet the requirement of limit. Minimum passing margin is -12.98dB at 0.18MHz.
15.109	Radiated Emission Test (30MHz ~ 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -3.91dB at 47.78MHz
	Radiated Emission Test (1GHz ~ 8GHz)	PASS	Meets Class B Limit Minimum passing margin is -15.0dB at 2785MHz

1.1 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	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz ~ 30MHz	+/-2.56 dB
Radiated emissions	30MHz ~ 1GHz	+/-3.58 dB

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	MID
MODEL NO.	PA0750, PA0751
FCC ID	XJN-PA0750X
POWER SUPPLY	DC 3.7V By Battery or DC 5V From USB
I/O PORTS	USB Port
DATA CABLE SUPPLIED	USB Cable: Shielded, Undetachable, has a core, 1.5m
THE HIGHEST OPERATING FREQUENCY	1.6GHz(CPU)

NOTE:

1 Additional model PA0751 is identical with the test model PA0750 except the model number for marketing purpose.

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

3 For the test results, the EUT had been tested with all conditions. But only the worst case was showed in test report.

2.2 DESCRIPTION OF TEST MODES

The EUT was tested under the following mode.

For all tests:

Playing
Charging
Data transmiting+ Charging

2.3 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-0XM006-48643-81U-2610	N/A
2	TF Card	Kingston	K00124	KT02628	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Cable: Unshielded, Detachable, 1.5m

3 EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1.The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations 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.

3.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
EMI Test Receiver Rohde&Schwarz	ESU 26	100005	May 15,12	May 14,13
Artificial Mains Network Rohde&Schwarz	ENV216	101173	May 15,12	May 14,13
Artificial Mains Network Rohde&Schwarz	ESH2-Z5	100071	May 15,12	May 14,13
Test software	ADT_Cond_V7.3.7	N/A	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA

2. The test was performed in Dongguan Shielded Room 553.

3.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

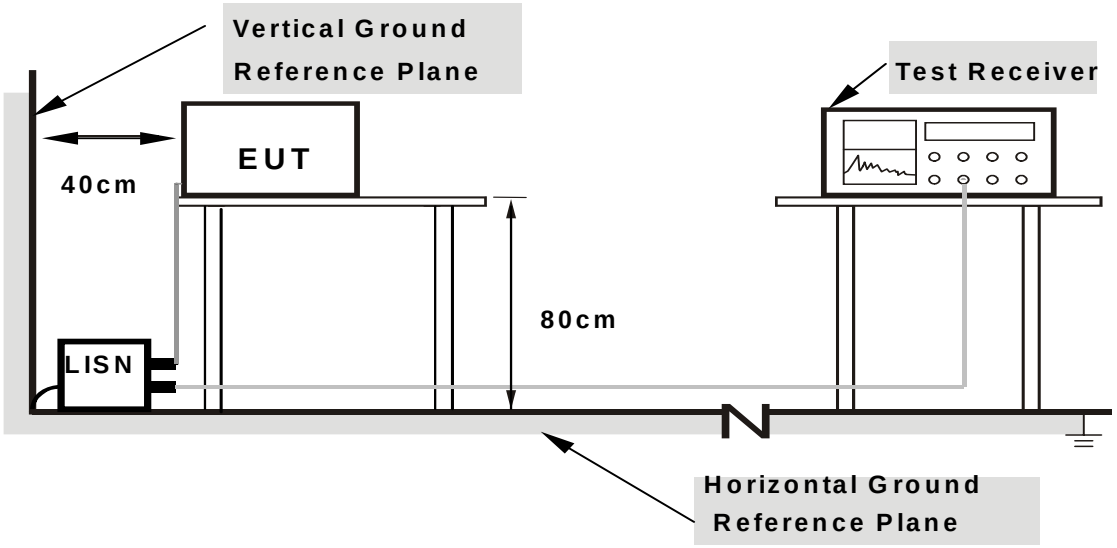
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.

3.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

3.1.6 EUT OPERATING CONDITIONS

a. Set the EUT under full load condition and placed them on a testing table.

b. The EUT was exercised program during the test. The test software, provided by the customer, is started while the EUT is on to simulate the normal work. under the Windows XP terminal.

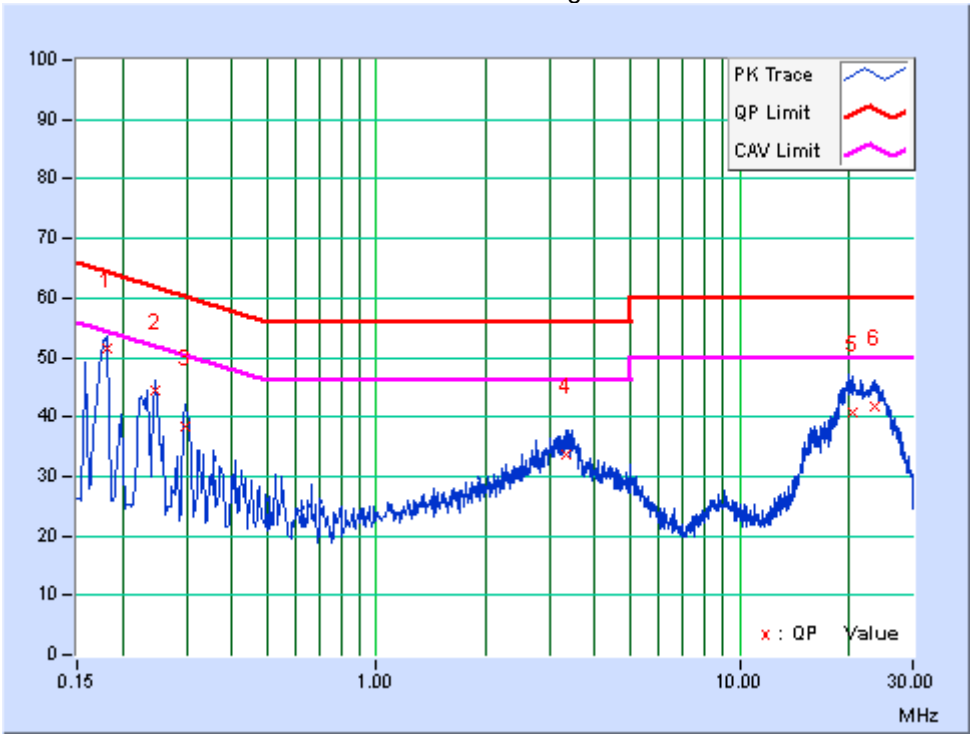
3.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.18**	**9.78**	**41.65**	**26.04**	**51.43**	**35.82**	**64.40**	**54.40**	**-12.98**	**-18.59**
2	0.25	9.75	34.57	17.04	44.32	26.79	61.89	51.89	-17.56	-25.09
3	0.30	9.75	28.64	14.22	38.39	23.97	60.29	50.29	-21.90	-26.32
4	3.33	9.84	23.92	17.87	33.76	27.71	56.00	46.00	-22.24	-18.29
5	20.61	10.04	30.62	22.99	40.66	33.03	60.00	50.00	-19.34	-16.97
6	23.60	10.07	31.58	24.27	41.65	34.34	60.00	50.00	-18.35	-15.66

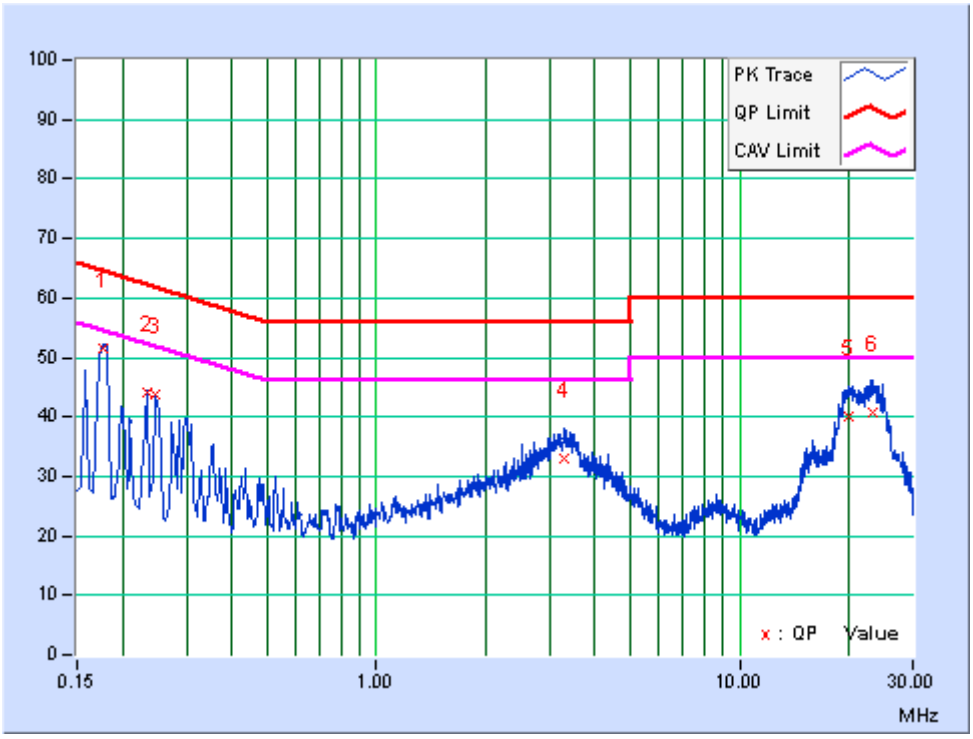
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Neutral	6dB BANDWIDTH	9kHz

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18	9.84	41.76	24.12	51.60	33.96	64.64	54.64	-13.05	-20.69
2	0.23	9.77	34.28	16.11	44.05	25.88	62.31	52.31	-18.26	-26.43
3	0.25	9.77	34.08	16.82	43.85	26.59	61.89	51.89	-18.03	-25.29
4	3.29	9.83	23.05	16.88	32.88	26.71	56.00	46.00	-23.12	-19.29
5	20.06	10.16	29.93	23.54	40.09	33.70	60.00	50.00	-19.91	-16.30
6	23.25	10.16	30.70	23.77	40.86	33.93	60.00	50.00	-19.14	-16.07

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.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

FREQUENCY RANGE OF RADIATED MEASUREMENT
(For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

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.

3.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Spectrum Analyzer ROHDE & SCHWARZ	E4446A	MY46180622	May 02, 12	May 01, 13
Test Receiver ROHDE & SCHWARZ	ESVD	847398/003	May 15,12	May 14,13
Bilog Antenna TESEQ	CBL 6111D	27089	July 16,12	July 15,13
Horn Antenna EMCO	3117	00062558	Nov.07,11	Nov.07,12
10m Semi-anechoic Chamber ETS-LINDGREN	21.4m*12.1m*8.8m	NSEMC006	Mar 24,12	Mar 23,13
RF Cable IMRO	IMRO-400	10m Cable 1#10m	May 16,12	May 15,13
RF Cable IMRO	IMRO-400	10m Cable 2#3m	May 16,12	May 15,13
Signal Amplifier SONOMA	310N	186955	Mar. 14,12	Mar. 13,13
Signal Amplifier HP	8449B	3008A00409	May 31,12	May 30,13
RF Cable DRAKA	M06/25-RG102	10m Cable 2#	May 16,12	May 15,13
Test software ADT	ADT_Radiated_V7.6.15	N/A	N/A	N/A

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA.

2. The test was performed in Dongguan Chamber 10m.

3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.

3.2.3 TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.4:2009 (section 12).

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meters Semi-anechoic 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 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.

NOTE:

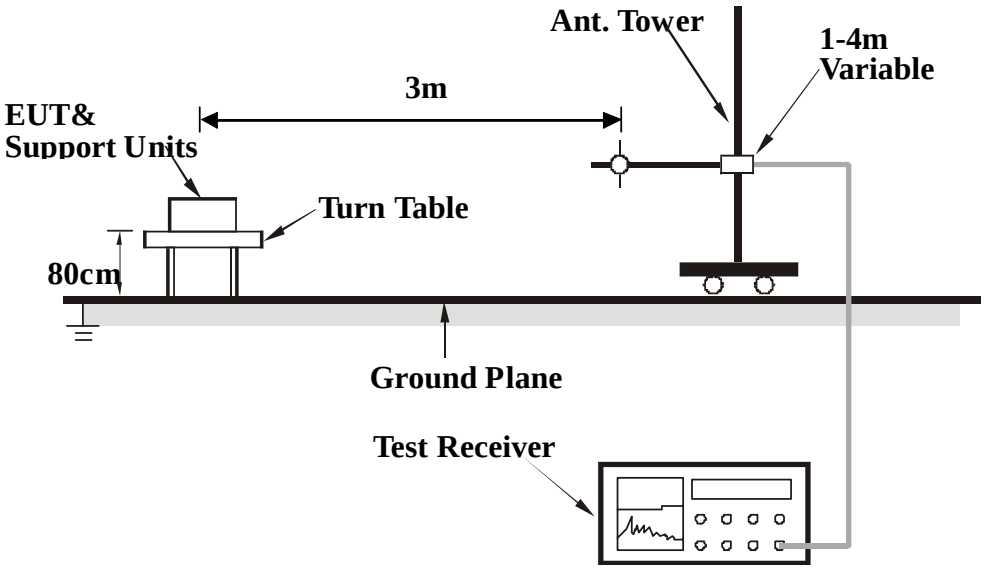
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.
4. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
5. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
6. Margin value = Emission level – Limit value.

3.2.4 DEVIATION FROM TEST STANDARD

No deviation

3.2.5 TEST SETUP

<Frequency Range below 1GHz>



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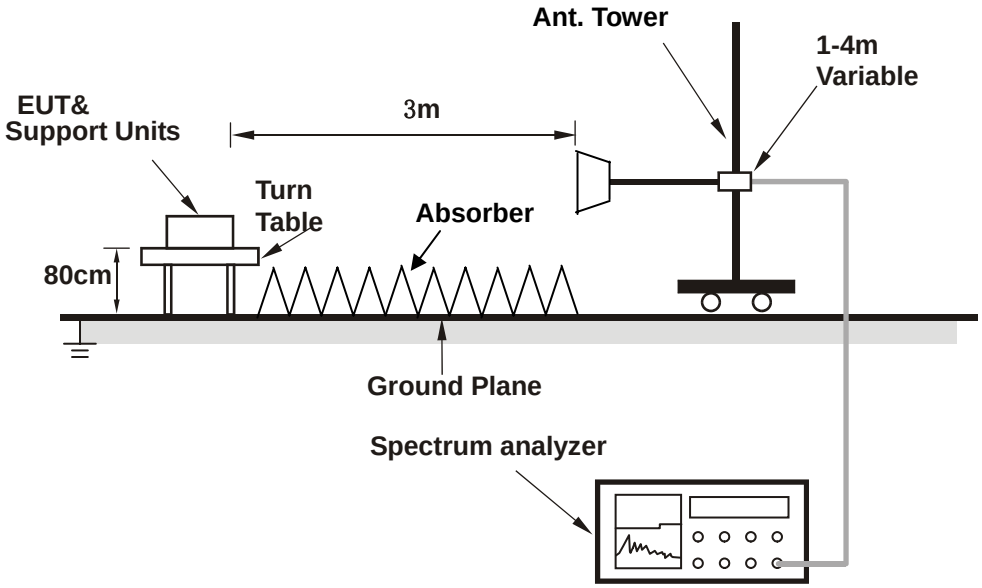


3.2.6 EUT OPERATING CONDITIONS

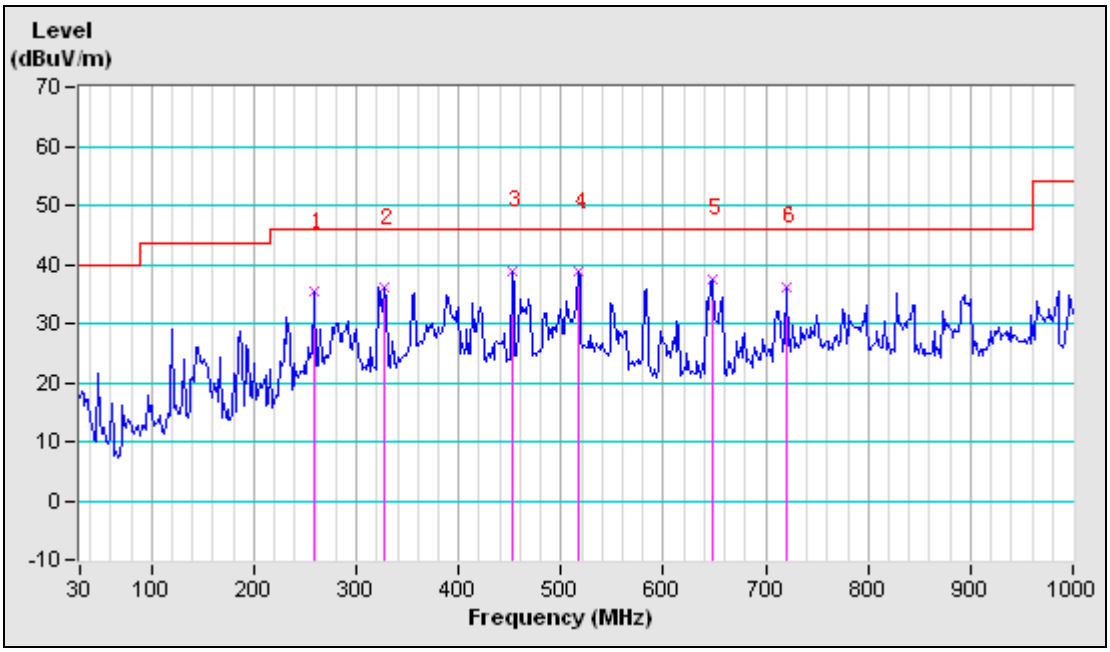
Same as item 3.1.6.

3.2.7 TEST RESULTS (BELOW 1GHz)

TEST MODE	Data transmitting+ Charging	**FREQUENCY RANGE**	30-1000MHz
TEST VOLTAGE	DC 5V By USB	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56% RH	**TESTED BY**: Glyn	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	259.57	14.68	20.58	35.26	46	-10.74	320	214
2	327.47	15.61	20.36	35.97	46	-10.03	301	234
3	451.95	19.11	19.69	38.8	46	-7.20	334	284
4	516.62	20.54	18.17	38.71	46	-7.29	362	323
5	647.57	23.25	14.32	37.57	46	-8.43	314	256
6	720.32	24.31	11.88	36.19	46	-9.81	300	197

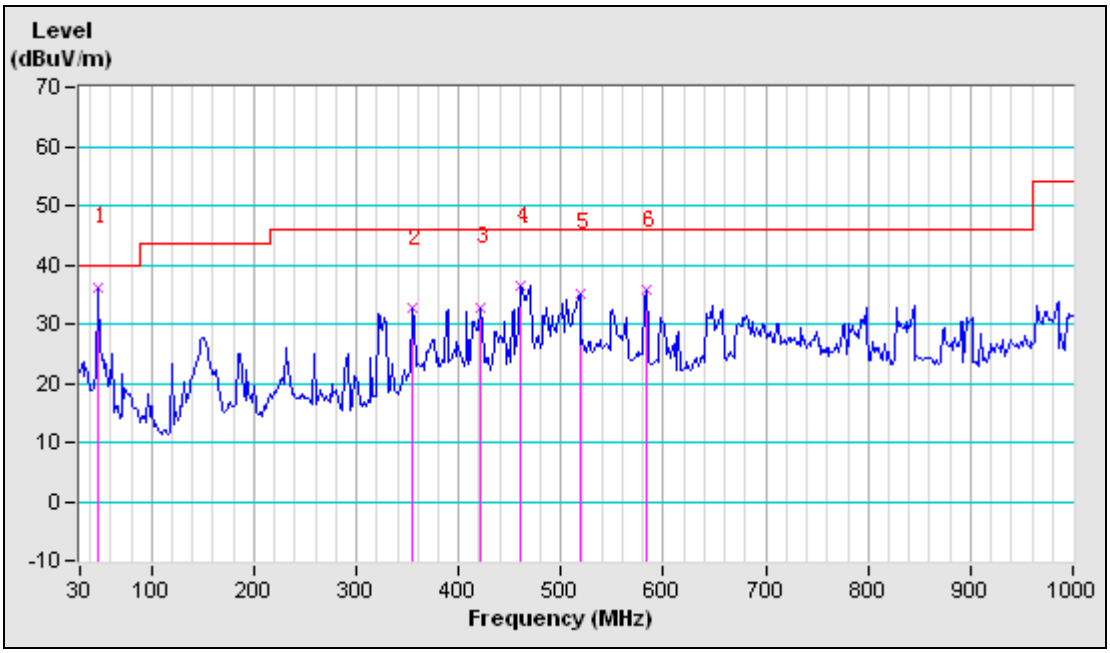
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	Data transmitting+ Charging	**FREQUENCY RANGE**	30-1000MHz
TEST VOLTAGE	DC 5V By USB	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56% RH	**TESTED BY**: Glyn	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	**47.78**	**10.8**	**25.29**	**36.09**	**40**	**-3.91**	**100**	**357**
2	354.95	16.49	16.08	32.57	46	-13.43	100	218
3	421.23	18.56	14.11	32.67	46	-13.33	100	184
4	460.03	19.37	16.92	36.29	46	-9.71	100	318
5	518.23	20.55	14.7	35.25	46	-10.75	100	248
6	582.9	22.35	13.3	35.65	46	-10.35	100	280

REMARKS: The emission levels of other frequencies were very low against the limit.

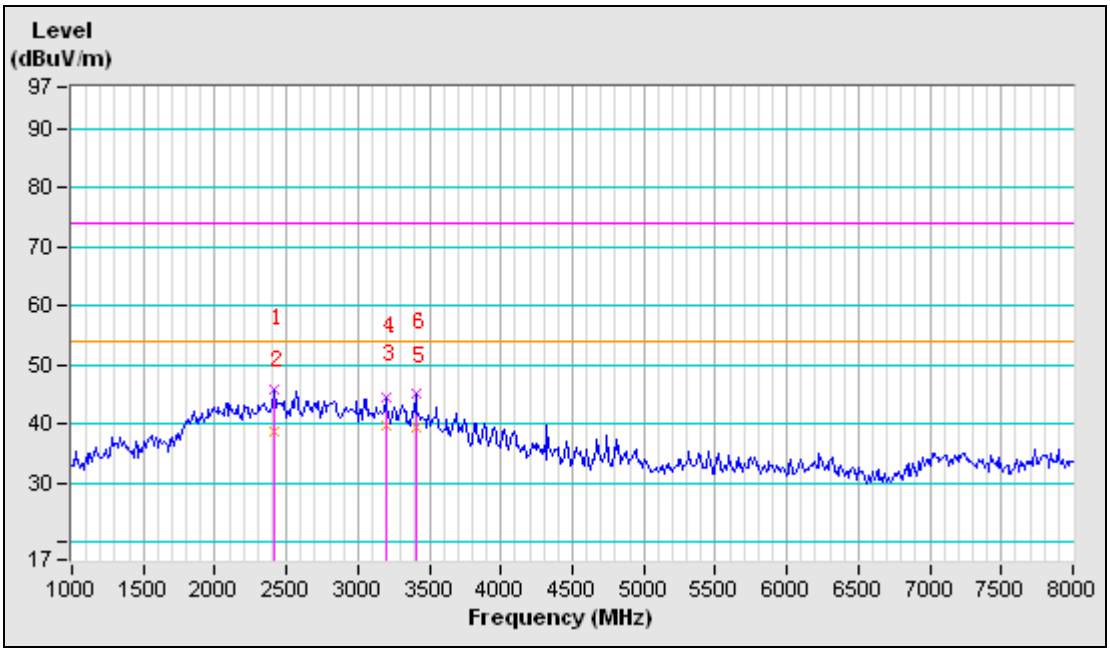


3.2.8 TEST RESULTS (ABOVE 1GHz)

TEST MODE	Data transmitting+ Charging	**FREQUENCY RANGE**	1000-8000MHz
TEST VOLTAGE	DC 5V By USB	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	AV/Peak, 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56% RH	**TESTED BY**: Glyn	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	2411.67(PK)	37.48	8.4	45.88	74	-28.12	364	26
2	2411.67(AV)	37.48	1.27	38.75	54	-15.25	364	27
3	3193.33(AV)	40.22	-2.58	37.64	54	-16.36	305	32
4	3193.33(PK)	40.22	2.39	42.61	74	-31.39	305	32
5	3403.33(AV)	41.63	-4.32	37.31	54	-16.69	335	15
6	3403.33(PK)	41.63	0.64	42.27	74	-31.73	335	15

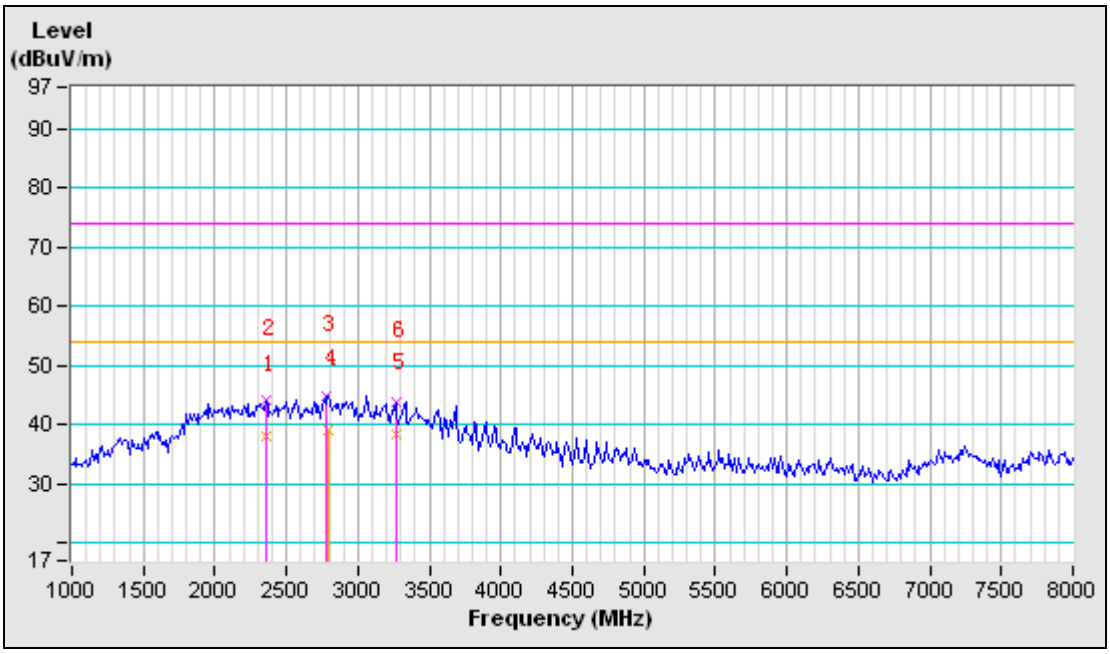
REMARKS: The emission levels of other frequencies were very low against the limit.



TEST MODE	Data transmitting+ Charging	**FREQUENCY RANGE**	1000-8000MHz
TEST VOLTAGE	DC 5V By USB	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	AV/Peak, 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56% RH	**TESTED BY**: Glyn	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
1	2353.33(AV)	36.12	1.99	38.11	54	-15.89	100	0
2	2353.33(PK)	36.12	7.99	44.11	74	-29.89	100	0
3	**2785.0(AV)**	**38.56**	**0.44**	**39.0**	**54**	**-15.0**	**100**	**184**
4	2785.0(PK)	38.56	6.25	44.81	74	-29.19	100	318
5	3263.33(AV)	40.89	-2.52	38.37	54	-15.63	100	248
6	3263.33(PK)	40.89	3.03	43.92	74	-30.08	100	280

REMARKS: The emission levels of other frequencies were very low against the limit.



4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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

---END---