FCC 47 CFR PART 15 SUBPART B

TEST REPORT

For

Applicant:	**LINKUS GROUP CORP**
Address:	**25 WEST 27ST NEW YORK NEW YORK 10001 USA**
Product Name:	**MADISON PHONE**
Model Name:	**NEW MADISON**
Brand Name:	**LGG**
FCC ID:	**2AB5QLGG**
Report No.:	**STS140334F4**
Date of Issue:	**April 07,2014**

Issued by:	**Shenzhen Super Test Service Technology Co., Ltd.**
Address:	**No.5, Langshan 2nd Rd., North Hi-Tech Industrial park, Nanshan, Shenzhen, Guangdong, China**
Tel:	**86-755-2795 8522**
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1. VERIFICATION OF CONFORMITY

Equipment Under Test:	MADISON PHONE
Brand Name:	LGG
Model Number:	NEW MADISON
Series Model Name:	N/A
Series Model Difference description:	N/A
FCC ID:	2AB5QLGG
Applicant:	LINKUS GROUP CORP
	25 WEST 27ST NEW YORK NEW YORK 10001 USA
Manufacturer:	LINKUS GROUP CORP
	25 WEST 27ST NEW YORK NEW YORK 10001 USA
Technical Standards:	FCC Part 15 B
File Number:	STS140334F4
Date of test:	March 28,2014-April 07,2014
Deviation:	None
Condition of Test Sample:	Normal
Test Result:	PASS

The above equipment was tested by Shenzhen Super Test Service Technology Co., Ltd. for compliance with the requirements set forth in FCC Part 15 and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature): Petter Ping

Petter Ping April 07,2014

Review by (+ signature): July Wen

July Wen April 07,2014

Approved by (+ signature): Terry Yang

Terry Yang April 07,2014

2. GENERAL INFORMATION

2.1 PRODUCT INFORMATION

EUT1- Mobile Phone	
Description:	MADISON PHONE
Model Name:	NEW MADISON
Brand Name:	LGG
Frequency Range:	GSM 850: 824.2-848.8MHz GSM1900:1850.2-1909.8MHz WCDMA Band II:1852.4-1907.6MHz WCDMA BandV:826.4-846.6MHz Bluetooth:2402-2480MHz WIFI: 2412MHz – 2462MHz
Hardware Version:	E2709_V1.1
Software Version:	20140218_e2709_v82_jbla828_lgg_1
EUT2- Battery	
Description:	Lithium-ion Battery
Model Name:	NEW MADISON
Brand Name:	LGG
Manufacturer:	Shenzhen Guangxunlishen Technology Co.,Ltd
Capacitance:	3300 mAh
Rated Voltage:	3.7V
Charge Limit:	4.2V
EUT3 – Power Supply	
Description:	Travel Charger
Model Name:	NEW MADISON
Brand Name:	LGG
Manufacturer:	Shenzhen Jinliyuan Communications Co.,Ltd
Rated Input:	AC 100-240V, 50/60Hz, 0.15A
Rated Output:	DC 5V, 1.0A
Length of USB cable:	1.0m

NOTE:

1. The EUT is a model of Mobile Station (MS). It consists of **hand telephone set**, **Lithium battery, USB cable, headphone** and **Charger** as listed above.
2. Please refer to Appendix 2 for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

2.2 OBJECTIVE

Perform FCC Part 15 Subpart B tests for FCC Marking.

2.3 TEST STANDARDS AND RESULTS

Test items and the results are as bellow:

EMISSION				
Standard	**Item**		**Result**	**Remarks**
FCC 47 CFR Part 15 Subpart B (10-1-11 Edition)	§15.107	Conducted Emission	PASS	Meet Class B limit
	§15.109	Radiated Emission	PASS	Meet Class B limit

Note: 1. The test result judgment is decided by the limit of measurement standard
2. The information of measurement uncertainty is available upon the customer's request.

2.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35ºC
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3. TEST FACILITY

3.1TEST FACILITY

Test Site:	Compliance Certification Services Inc. (Kun shan) Laboratory
Location:	No.10 Weiye Rd, Innovation park, Eco&Tec,Development Zone, Kunshan City, Jiangsu, China
Description:	There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4 and CISPR 16 requirements. The FCC Registration Number is **238958.** The **CNAS** Registration Number is **CNAS L4354.**
Site Filing:	The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4:2009 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

3.2 GENERAL TEST PROCEDURES

During all testing, EUT is in data transmitting with the notebook by the USB cable. The radiated emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is doing the charger model and data transmitter model to find out the worst emission. And the conducted emission measurements were carried out the shielding-room, and EUT is doing the charger model and data transmitter model to find out the worst emission.

About the detail test procedures description was display on the radiated and conducted emission test items.

4. TEST EQUIPMENT LIST

4.1 SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
Micro SD CARD	Kingston	1G	0907T139090	N/A	
Charger	Jinliyuan	NEW MADISON	N/A	N/A	
Notebook	DELL	E4446A	E5430	Sheild 1.5m	

Remark:

All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at CCS for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due	calibration interval
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-5-12	1 year
EMI Test Receiver	R&S	ESCI	1166.5950.03	2014-8-13	1 year
Pre-Amplfier	Miteq	NSP4000-NF	870629	2014-5-12	1 year
Bilog Antenna	Sunol	JB1	A110204-2	2014-5-12	1 year
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2014-6-07	1 year
Horn-antenna	SCHWARZBECK	BBHA9170	D:171	2014-4-28	1 year
Loop-antenna	ZHINAN	ZN30900A	N/A	2014-6-07	1 year
Turn Table	CT	CT123	4165	N.C.R	1 year
Antenna Tower	CT	CTERG23	3256	N.C.R	1 year
Controller	CT	CT1OO	95637	N.C.R	1 year
EMI TEST RECEIVER	R&S	ESCI	100781	2015-3-14	1 year
V (V-LISN)	R&S	ENV216	101604	2014-5-21	1 year
Pulse Limiter	R&S	ESH3-Z2	100524	2014-9-24	1 year
Temperature Chamber	Guangzhou Gongwen	GDS-250	N/A	2014-9-24	1 year
Test Software	EZ-EMC				

NOTE: *Equipments listed above have been calibrated and are in the period of validation.*

5. 47 CFR PART 15B REQUIREMENTS

5.1 GENERAL INFORMATION

EUT Function and Test Mode

Mode 1: Idle Mode

The MS was registered to the base station simulator but no call was set up.

The EUT configuration of the emission test was **MS + Battery+ Charger.**

Mode 2: USB Mode

During the test, the MS was connected with the notebook and made the data transmission function continuously.

The EUT configuration of the emission test was **MS + Battery+ USB Cable+ Notebook.**

Note: Due to the different configuration and test, in this list only some worse mode. The worst test data of the worse mode is reported by this report.

6. LINE CONDUCTED EMISSION TEST

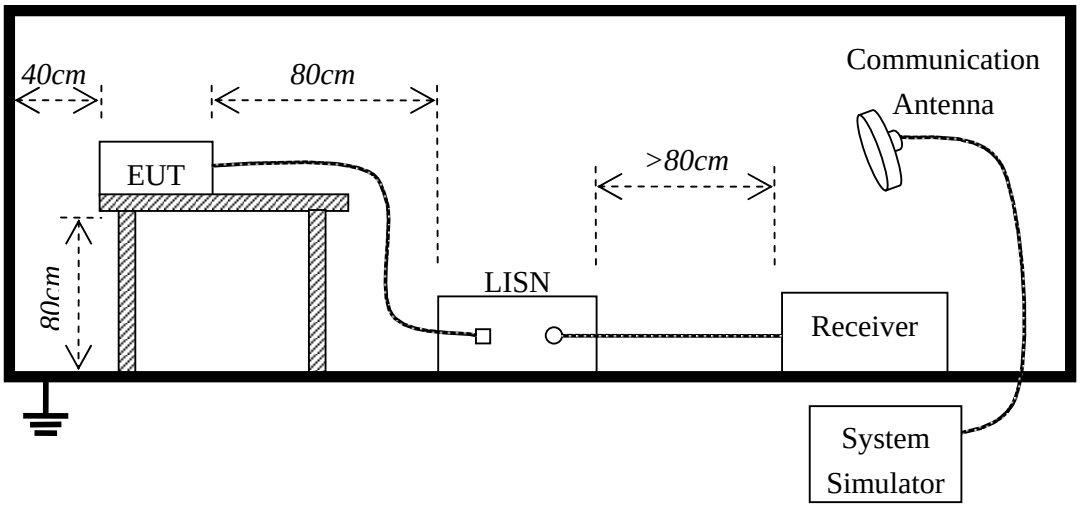
6.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

***Note:** 1. the lower limit shall apply at the transition frequency.*

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

6.2. BLOCK DIAGRAM OF TEST SETUP



6.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2) Support equipment, if needed, was placed as per FCC Part 15.
3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
4) The EUT received DC 5V by AC/DC adapter or USB port of notebook which through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
8) During the above scans, the emissions were maximized by cable manipulation.
9) The following test mode(s) were scanned during the preliminary test:

Preliminary Conducted Emission Test				
Frequency Range Investigated		**150KHz TO 30 MHz**		
Mode of operation	**Date**	**Report No.**	**Data#**	**Worst Mode**
Idle Mode	2014-04-2	STS140334F4	1_(L, N)	☐
USB Mode	2014-04-2	STS140334F4	2_(L, N)	☒

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

6.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

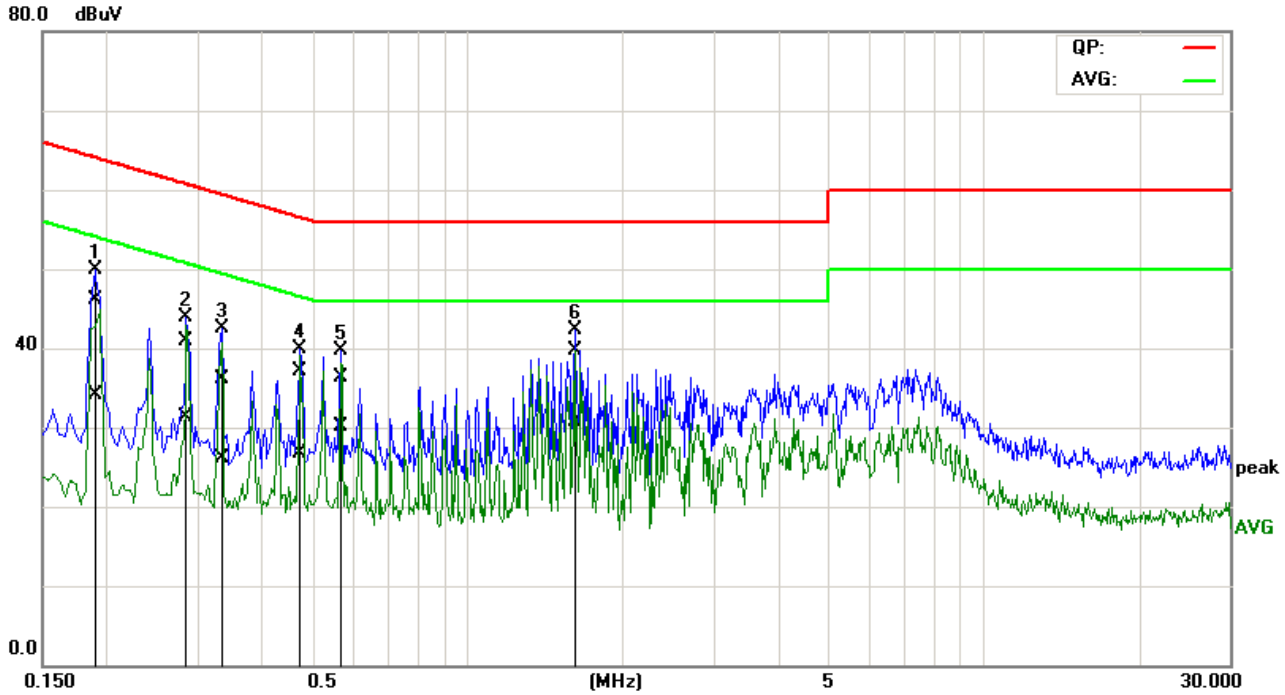
EUT and support equipment was set up on the test bench as per step 9 of the preliminary test.

A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

6.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

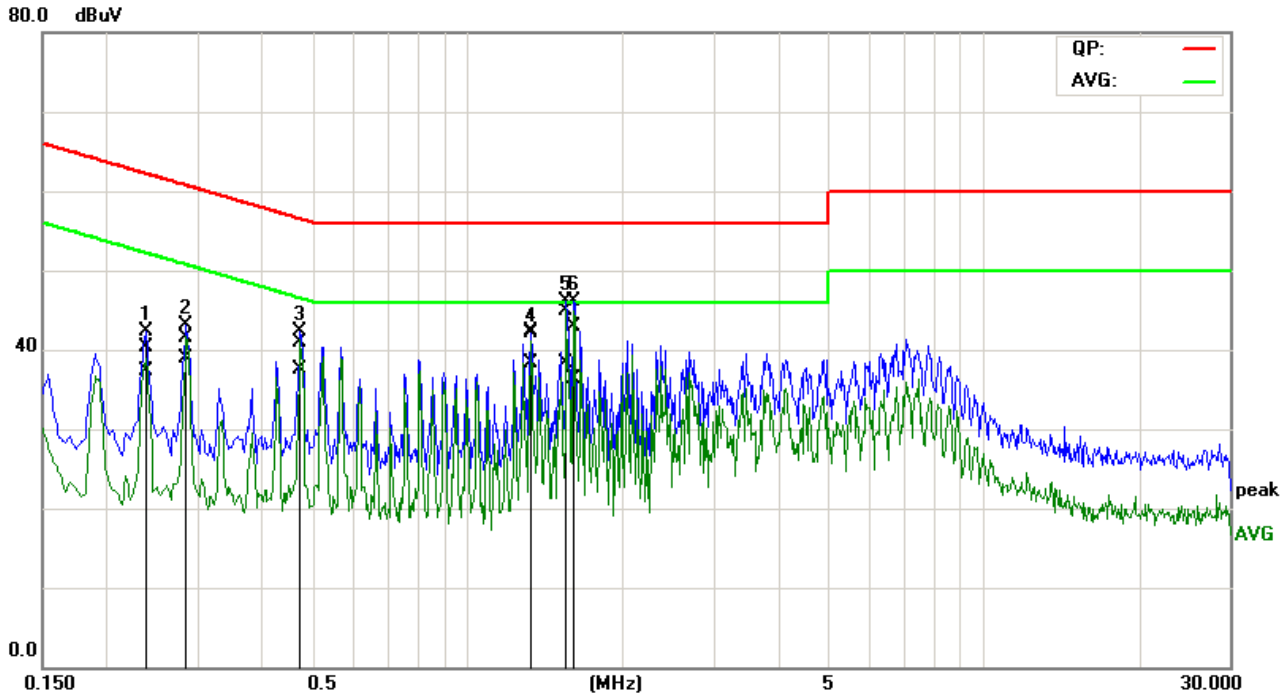
Job No.:	**C140327S03**	**Date:**	**2014-4-2**
Company:	**LINKUS**	**Time:**	**15:39:53**
Standard:	**FCC Class B Conduction(QP)**	**Temp.(C)/Hum.(%):**	**22(C)/48%**
Test item:	**Conduction test**	**Test By:**	**Vincant.Peng**
Line:	**L1**	**Test Voltage:**	**AC 120V/60Hz**
Model:	**NEW MADISON**		
Description:			



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1903	26.39	14.47	19.64	46.03	34.11	64.02	54.02	-17.99	-19.91	Pass
2	0.2854	21.26	11.68	19.67	40.93	31.35	60.66	50.66	-19.73	-19.31	Pass
3	0.3340	16.38	6.48	19.70	36.08	26.18	59.35	49.35	-23.27	-23.17	Pass
4	0.4749	17.31	6.83	19.81	37.12	26.64	56.43	46.43	-19.31	-19.79	Pass
5	0.5709	16.46	10.30	19.83	36.29	30.13	56.00	46.00	-19.71	-15.87	Pass
6*	1.6166	19.79	10.85	19.90	39.69	30.75	56.00	46.00	-16.31	-15.25	Pass

Job No.:	**C140327S03**	**Date:**	**2014-4-2**
Company:	**LINKUS**	**Time:**	**15:44:49**
Standard:	**FCC Class B Conduction(QP)**	**Temp.(C)/Hum.(%):**	**22(C)/48%**
Test item:	**Conduction test**	**Test By:**	**Vincant.Peng**
Line:	**L2**	**Test Voltage:**	**AC 120V/60Hz**
Model:	**NEW MADISON**		

Description:



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2384	20.60	17.66	19.67	40.27	37.33	62.15	52.15	-21.88	-14.82	Pass
2	0.2857	21.74	19.23	19.70	41.44	38.93	60.65	50.65	-19.21	-11.72	Pass
3	0.4770	20.99	17.73	19.83	40.82	37.56	56.39	46.39	-15.57	-8.83	Pass
4	1.3322	22.51	18.36	19.87	42.38	38.23	56.00	46.00	-13.62	-7.77	Pass
5*	1.5678	24.97	18.36	19.91	44.88	38.27	56.00	46.00	-11.12	-7.73	Pass
6	1.6100	23.07	16.45	19.91	42.98	36.36	56.00	46.00	-13.02	-9.64	Pass

7. RADIATED EMISSION TEST

7.1. LIMITS OF RADIATED DISTURBANCES AT 3M DISTANCES FOR CLASS B

According to FCC section 15.109, except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

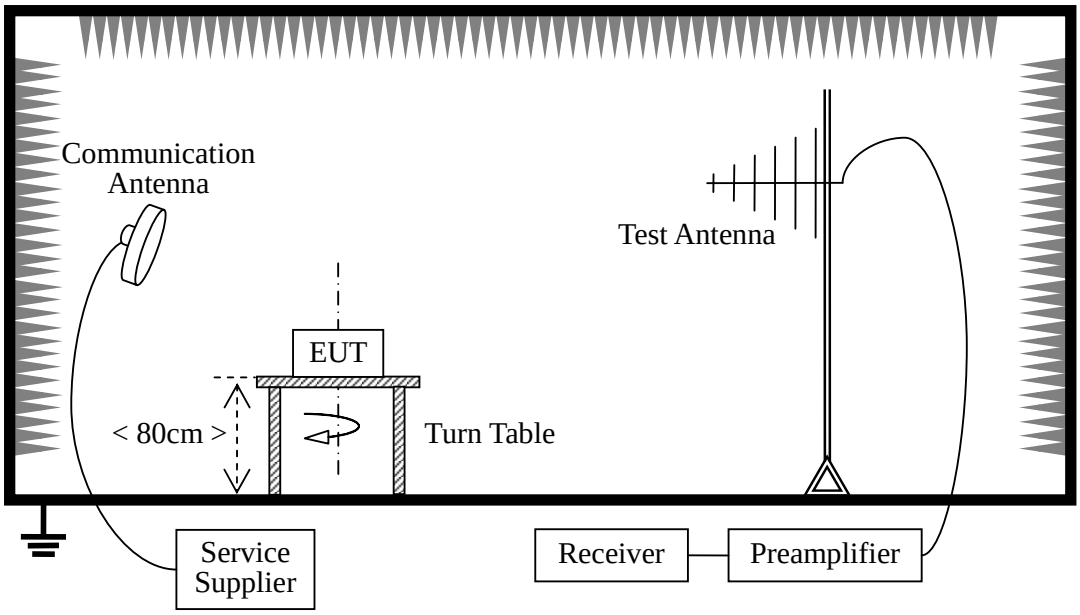
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

NOTE:

1. Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].
2. In the emission tables above, the tighter limit applies at the band edges.

7.2 TEST DESCRIPTION

Test Setup:



The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading. During the measurement, the EUT is activated and transmitting with the other Bluetooth device (Supply by the Applicant) during the test.

For the Test Antenna:

(a) In the frequency range of 9 kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
(b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

Preliminary Radiated Emission Test				
Frequency Range Investigated			**30 MHz TO 1000 MHz**	
Mode of operation	**Date**	**Report No.**	**Data#**	**Worst Mode**
Idle Mode	2014-04-2	STS140334F4	1_(H, V)	☐
USB Mode	2014-04-2	STS140334F4	2_(H, V)	☒

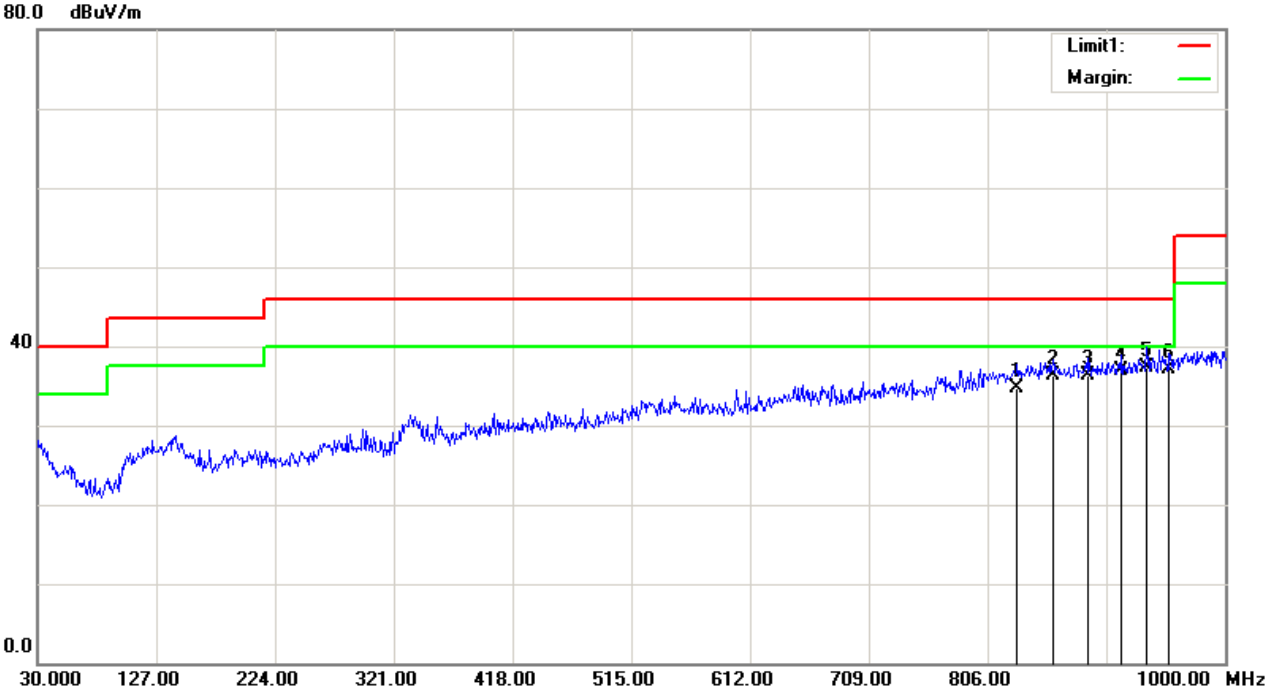
7.3 TEST RESULT

Form 9KHz to 30MHz:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

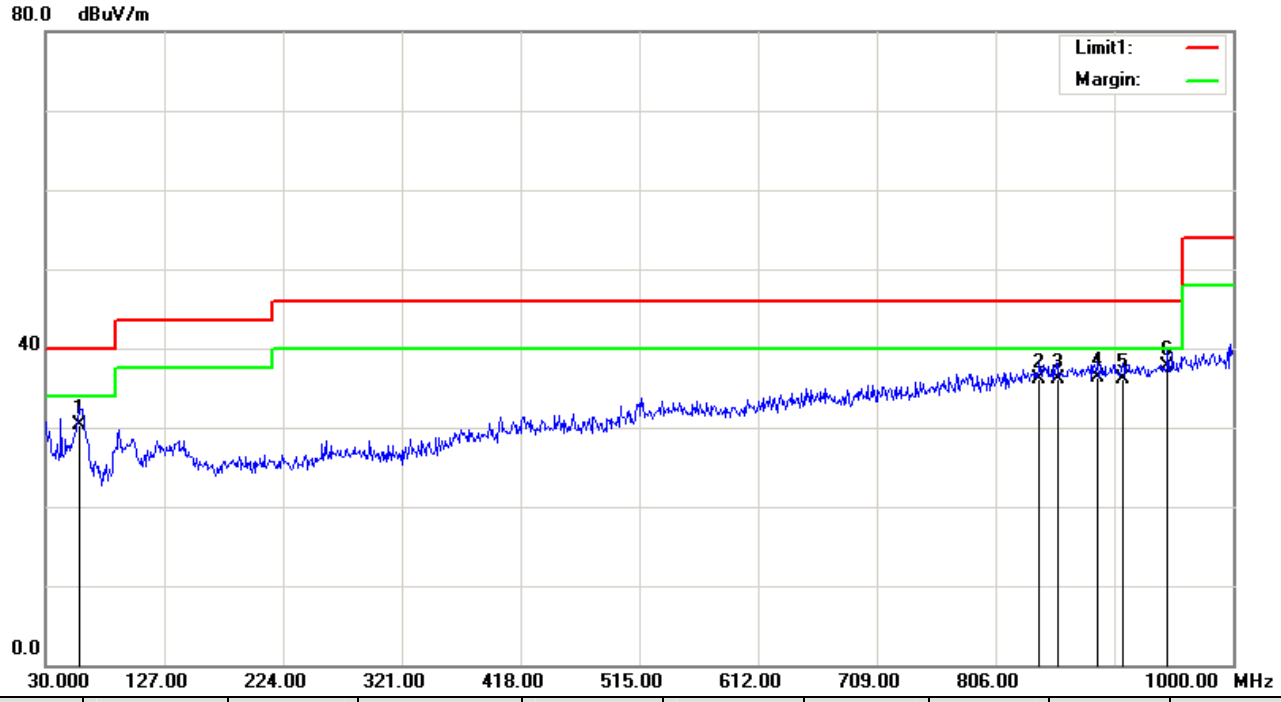
Form 30MHz to 1000MHz:

Job No.:	**C140327S03**	**Ant.Polar.:**	**Horizontal**
Standard:	**FCC Class B 3M Radiation**	**Test Distance:**	**3m**
Test item:	**Radiation Test**	**Power:**	**AC 120V/60Hz**
Temp.(C)/Hum.(%RH):	**25(C)/40%RH**	**Date:2014-4-2**	**Time:17:35:01**
Company:	**LINKUS**	**Test By:**	**Fengwu.zhu**
Model:	**NEW MADISON**		
Description:			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	830.2500	9.90	24.76	34.66	46.00	-11.34	100	141	QP
2	859.3500	10.77	25.44	36.21	46.00	-9.79	200	152	QP
3	888.4500	11.41	24.83	36.24	46.00	-9.76	100	134	QP
4	915.6100	11.40	25.42	36.82	46.00	-9.18	300	139	QP
5	935.9800	11.99	25.30	37.29	46.00	-8.71	100	139	QP
6	954.4100	11.02	26.14	37.16	46.00	-8.84	200	311	QP

Job No.:	**C140327S03**	**Ant.Polar.:**	**Vertical**
Standard:	**FCC Class B 3M Radiation**	**Test Distance:**	**3m**
Test item:	**Radiation Test**	**Power:**	**AC 120V/60Hz**
Temp.(C)/Hum.(%RH):	**25(C)/40%RH**	**Date:2014-4-2**	**Time:17:37:16**
Company:	**LINKUS**	**Test By:**	**Fengwu.zhu**
Model:	**NEW MADISON**		
Description:			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	58.1300	22.28	8.09	30.37	40.00	-9.63	103	0	QP
2	841.8900	11.05	25.14	36.19	46.00	-9.81	200	78	QP
3	856.4400	10.73	25.40	36.13	46.00	-9.87	100	167	QP
4	889.4200	11.43	24.87	36.30	46.00	-9.70	300	321	QP
5	909.7900	10.69	25.39	36.08	46.00	-9.92	100	67	QP
6	946.6500	11.98	25.66	37.64	46.00	-8.36	200	274	QP

Form 1000MHz to 6000MHz:

The low frequency, which started from 1000MHz to 6000MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

------END OF REPORT------