FCC ID
TEST REPORT

for

BLUETOOTH KEYBOARD

MODEL: BL-BKB80B

Trade Mark: R&Y

FCC ID: X9PBKB80

Test Report Number: WSCT12090665E

Issued Date: September 20, 2012

Issued for

Shenzhen Paoluy Silicone Technology Co., Ltd.
No.31, Furong Road, Gushu Village Xixiang Town, Baoan Distric, Shenzhen, China

Issued By:

WORLD STANDARDIZATION CERTIFICATION & TESTING CO., LTD.
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Revision History Of Report

Rev.	Issue No.	Revisions	Effect Page	Revised By
00	WSCT12090665E	Initial Issue	ALL	Kallen Wang

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1 TEST CERTIFICATION

Product:	BLUETOOTH KEYBOARD
Model:	BL-BKB80B
Trade Mark	R&Y
Applicant:	**Shenzhen Paoluy Silicone Technology Co., Ltd.** No.31, Furong Road, Gushu Village Xixiang Town, Baoan Distric, Shenzhen, China
Factory:	**Shenzhen Paoluy Silicone Technology Co., Ltd.** No.31, Furong Road, Gushu Village Xixiang Town, Baoan Distric, Shenzhen, China
Tested:	September 14, 2012~ September 20, 2012
Test Voltage:	AC 120V/60Hz
Applicable Standards:	FCC Part 15 Subpart C: 2011 ANSI C63.4:2003

The above equipment has been tested by World Standardization Certification & Testing Co., Ltd., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By: _____ ***Date:*** ***September 20, 2012***

(Jack Ma)

Approved By: _____ ***Date:*** ***September 20, 2012***

(Kallen Wang)

2 TEST RESULT SUMMARY

Standard	Item	Result
FCC Part 15 Subpart C: Clause 15.249	Conducted emission Test	PASS
	Radiation Emission Test	PASS
	Band Edge Test	PASS

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

3 EUT DESCRIPTION

Product	BLUETOOTH KEYBOARD
Trade Mark	R&Y
Model	BL-BKB80B
Applicant	Shenzhen Paoluy Silicone Technology Co., Ltd.
Serial Number	N/A
Antenna Type	SMD ANTENNA
EUT Power Rating	DC 5V
Battery Power Rating	DC3.7V
Adapter Power Rating	AC100-240V 50/60Hz
Test Voltage	AC120V/60Hz
Temperature Range(Operating)	-20 ~ +55℃
Operating Frequency (Bluetooth)	2402MHz ~ 2480MHz
Number of Channels	79 Channels
USB Line	Unshielded: 1m

Note: N/A stand for no applicable.

Models difference
N/A

4 TEST METHODOLOGY

4.1. DECISION OF FINAL TEST MODE

The EUT was tested together with the below additional components, and configuration, which produced the worst emission levels, was selected and recorded in this report.

The measurement was performed at 3 axis for lie orientation, side orientation and stand orientation. The lie orientation is the worst mode, so only the worst mode test data was reported.

The following test mode was recorder in this report.

Test item	Test mode
Conducted Emission Test	Charging & Transmitting
Radiation Emission Test	CH1, CH40, CH79
Band Edge Test	CH1, CH79,

4.2. EUT SYSTEM OPERATION

1. Set up EUT with the support equipments.
2. Make sure the EUT transmitting continuously during the test.

4.3. Configuration of Test Setup

Evaluation for “xyz” 3 directions.



5 SETUP OF EQUIPMENT UNDER TEST

5.1. 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.

Manufacturer	Description	Model	Serial Number	FCC
MLF	Adapter	IMU13	N/A	--

Note:

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

5.2. CONFIGURATION OF SYSTEM UNDER TEST

(BLUETOOTH KEYBOARD)

6 FACILITIES AND ACCREDITATIONS

6.1. FACILITIES

All measurement facilities used to collect the measurement data are located at

World Standardization Certification & Testing CO., LTD.

Building A, Baoshi Road, Baoshi Science & Technology Park, Bao'an District, Shenzhen, Guangdong, China

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	**FCC (The certificate registration number is 131628)**
	TIMCO (The certificate registration number is Q2012033001)
Japan	**VCCI (The certificate registration number is C-4128, R-2662)**
Canada	**INDUSTRY CANADA (The certificated registration number is 7700A-1)**
Germany	**TUV (The certificate registration number is UA50138086-0001,UA50138086-0002)**
	EMCC (The certificated registration number is #080380)
	PHOENIX(The certificated registration number is 702777a)
China	**CNAS (The certificated registration number is L3732)**

Copies of granted accreditation certificates are available for downloading from our web site, http://www.wsct-cert.org

6.3. 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
Conducted emissions	150kHz~30MHz		+/- 3.59dB
Radiated emissions	Horizontal	30MHz ~ 200MHz	+/- 4.77dB
		200MHz ~1000MHz	+/- 4.93dB
		1000MHz~25000 MHz	+/- 5.01dB
	Vertical	30MHz ~ 200MHz	+/- 5.04dB
		200MHz ~1000MHz	+/- 4.93dB
		1000MHz~25000 MHz	+/- 5.01dB

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

7 TEST REQUIREMENTS

7.1. CONDUCTED EMISSION MEASUREMENT

7.1.1. LIMITS

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	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 0.50 MHz.
(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.

7.1.2. TEST INSTRUMENTS

Conducted Emission Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI	100005	12/16/2012
LISN	LS	LS16	16010222119	12/16/2012
LISN(EUT)	Mestec	AN3016	04/10040	12/22/2012

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).
2. N.C.R = No Calibration Request.

7.1.3. TEST PROCEDURES

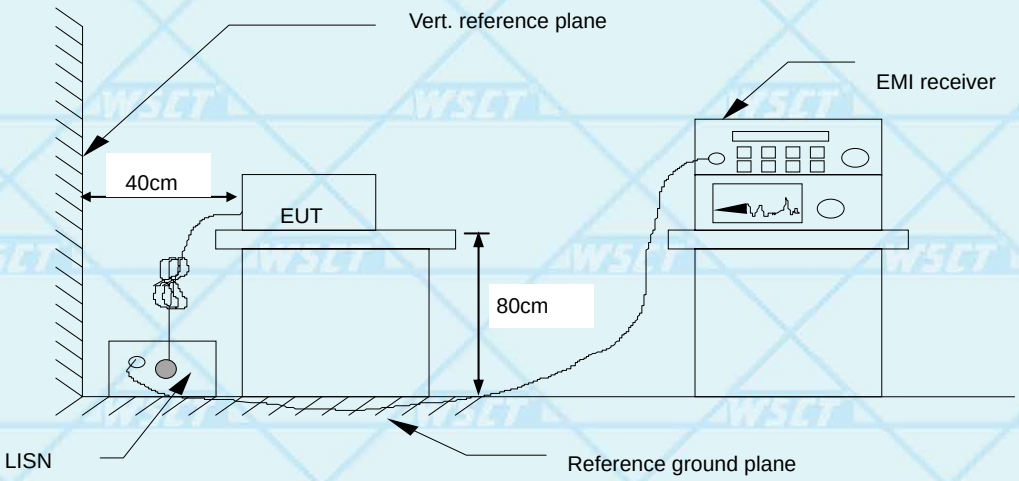
The EUT was put on a wooden table which was 0.8metre high above the ground and connected to the AC mains through a Artificial Mains Network (A.M.N). The mains lead in excess of 1 m separating the EUT from the AMN was folded back and forth parallel to the lead so as to form a bundle with a length of 0.3m to 0.4m. The EUT was kept 0.4m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during conducted emission test.

The bandwidth of the test receiver (ESCI) was set at 9KHz.

The frequency range from 150 KHz to 30 MHz was investigated.

The test data of the worst-case condition(s) was recorded.

7.1.4. TEST SETUP



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

7.1.5. Test Result

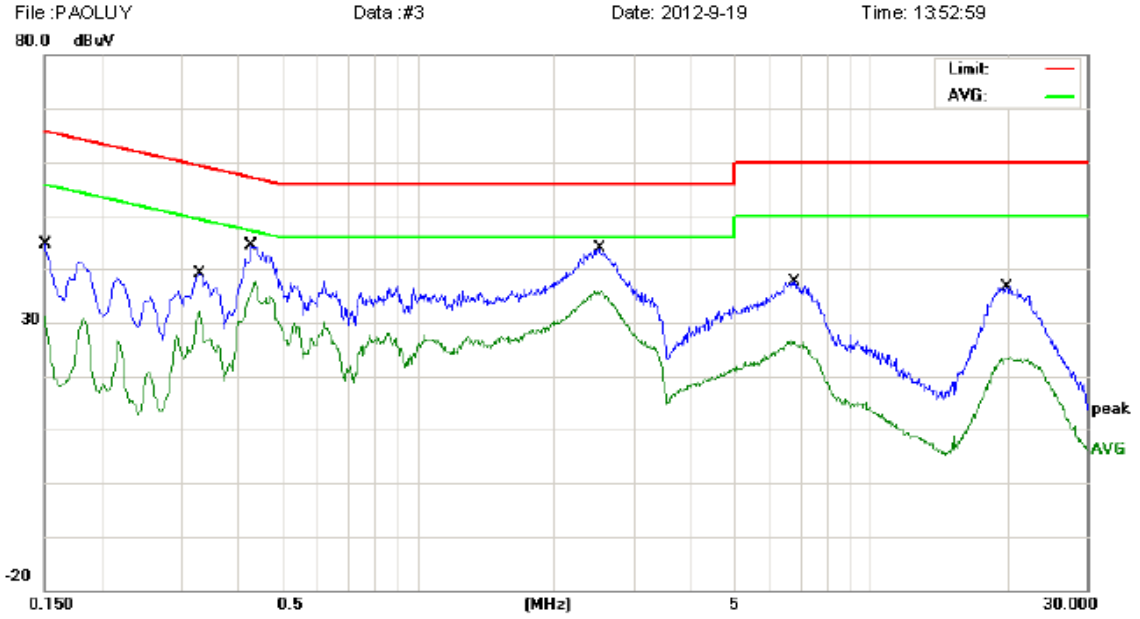
Model No.	BL-BKB80B	**6dB Bandwidth**	120 KHz
Environmental Conditions	26°C, 60% RH	**Test Mode**	Charging & Transmitting
Detector Function	Peak / Quasi-peak/AV	**Test Result**	Pass
Test By	Jack Ma		

NOTE: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).
2. "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

Freq. = Emission frequency in MHz
Reading level(dBuV) = Receiver reading
Corr. Factor (dB) = Attenuator Factor+ Cable loss
Level (dBuV) = Reading level(dBuV) + Corr. Factor (dB)
Limit (dBuV) = Limit stated in standard
Margin (dB) = Level (dBuV) – Limits (dBuV)
Q.P.=Quasi-Peak

Please refer to following diagram for individual

Conducted Emission Measurement

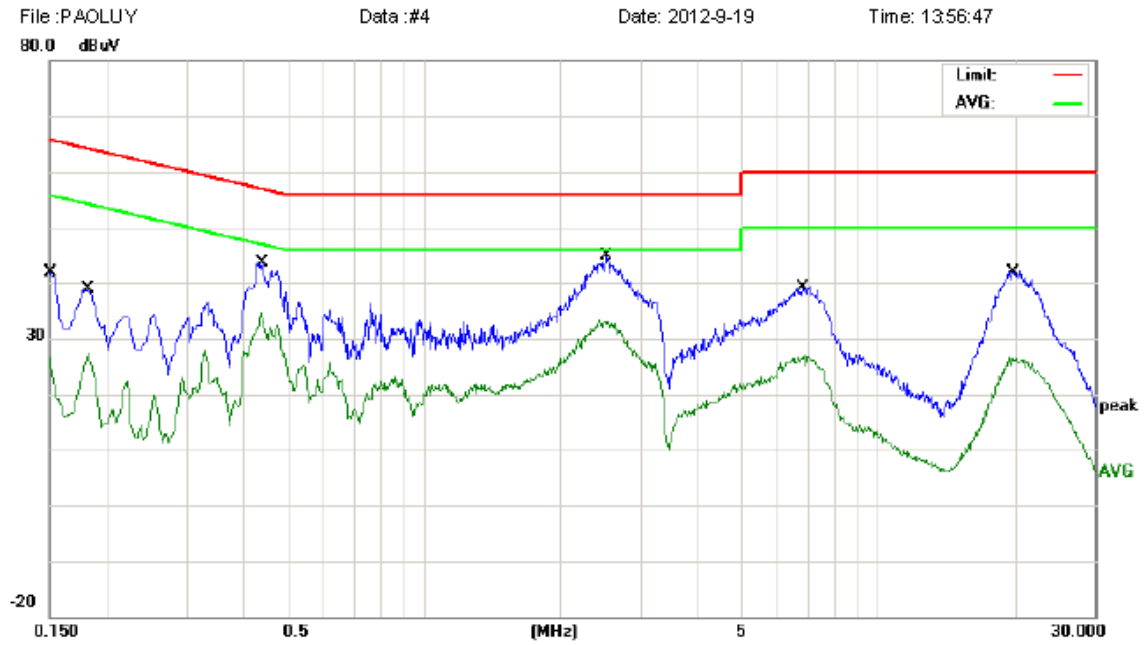


Site 843 Shielded Room Phase: L1 Temperature: 26
Limit: FCC Part15 B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
EUT: BLUETOOTH KEYBOARD
M/N: BL-BKB80B
Mode: Charging & Transmitting
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	34.14	10.45	44.59	65.99	-21.40	QP	
2		0.1500	20.79	10.45	31.24	55.99	-24.75	AVG	
3		0.3303	28.32	10.60	38.92	59.44	-20.52	QP	
4		0.3303	21.26	10.60	31.86	49.44	-17.58	AVG	
5		0.4305	33.71	10.47	44.18	57.24	-13.06	QP	
6		0.4305	25.33	10.47	35.80	47.24	-11.44	AVG	
7		2.4900	33.16	10.54	43.70	56.00	-12.30	QP	
8	*	2.4900	24.91	10.54	35.45	46.00	-10.55	AVG	
9		6.7140	26.59	10.53	37.12	60.00	-22.88	QP	
10		6.7140	14.99	10.53	25.52	50.00	-24.48	AVG	
11		19.7780	25.03	10.50	35.53	60.00	-24.47	QP	
12		19.7780	12.38	10.50	22.88	50.00	-27.12	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only

Conducted Emission Measurement



Site 843 Shielded Room Phase: N Temperature: 26
Limit: FCC Part15 B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
EUT: BLUETOOTH KEYBOARD
M/N: BL-BKB80B
Mode: Charging & Transmitting
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1516	30.92	10.44	41.36	65.91	-24.55	QP	
2		0.1516	13.37	10.44	23.81	55.91	-32.10	AVG	
3		0.1806	28.35	10.36	38.71	64.45	-25.74	QP	
4		0.1806	16.00	10.36	26.36	54.45	-28.09	AVG	
5		0.4420	33.28	10.46	43.74	57.02	-13.28	QP	
6		0.4420	22.76	10.46	33.22	47.02	-13.80	AVG	
7	*	2.5300	34.26	10.54	44.80	56.00	-11.20	QP	
8		2.5300	22.60	10.54	33.14	46.00	-12.86	AVG	
9		6.8500	28.23	10.53	38.76	60.00	-21.24	QP	
10		6.8500	16.37	10.53	26.90	50.00	-23.10	AVG	
11		19.7500	31.22	10.50	41.72	60.00	-18.28	QP	
12		19.7500	14.79	10.50	25.29	50.00	-24.71	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only

7.2. Radiation Emission Test

7.2.1. Limits

According to 15.249 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental Frequency	Field Strength of Fundamental		Field Strength of Spurious	
	mV/meter	dBuV/meter	uV/meter	dBuV/meter
902-928MHz	50	94	500	54
2400-2483.5MHz	50	94	500	54
5725-5875MHz	50	94	500	54
24.0-24.25GHz	250	108	2500	68

The above field strength limits are specified at a distance of 3 meters. Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength uV/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.

Frequency Range of Radiated Measurement

According to 15.33(a), the intentional radiator operates below 10GHz,must be measured up to the tenth harmonic of the highest fundamental frequency or 40GHz,whichever is lower

7.2.2. TEST INSTRUMENT

966 Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI	100005	12/16/2012
Spectrum Analyzer	R&S	FSU	100114	12/14/2012
Pre Amplifier	H.P.	HP8447E	2945A02715	12/16/2012
Pre-Amplifier	Compliance	PAM0118	1360976	12/16/2012
Bilog Antenna	SUNOL Sciences	JB3	A021907	12/10/2012
Horn Antenna	Compliance	CE18000	001	12/10/2012
Loop Antenna	Schwarzbeck	FESP5132	RS101	12/23/2012
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	12/09/2012
Cable	TIME MICROWAVE	--	--	12/09/2012
System-Controller	CCS	N/A	N/A	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).
2. N.C.R = No Calibration Request.

7.2.3. Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency band of 30MHz to 1GHz, The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna. At the frequency band of 1GHz to 25GHz, The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was used as a receiving antenna.

The resolution bandwidth and video bandwidth of the test receiver was 120 KHz and 300KHz for Quasi-peak detection at frequency below 1GHz.

The resolution bandwidth and video bandwidth of the test receiver was1MHz and 3MHz for Peak emission measurement above 1GHz.

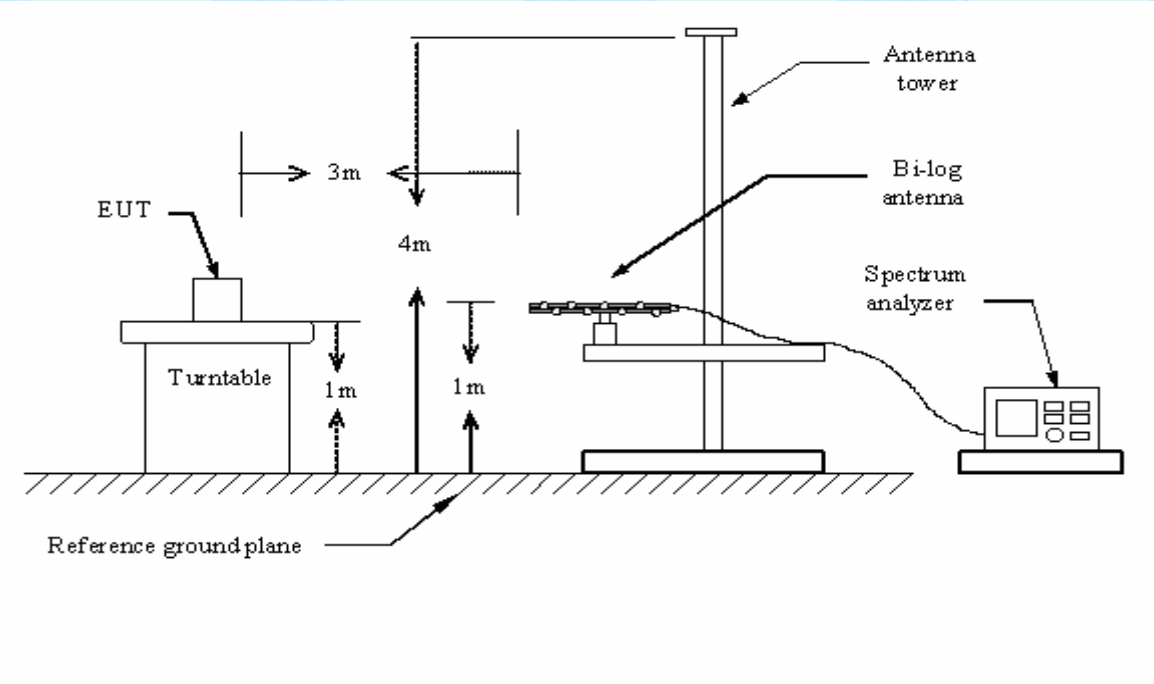
For Average emission above 1GHz, the resolution bandwidth and video bandwidth of the test receiver was1MHz and 10Hz.

The EUT was tested in Chamber Site.

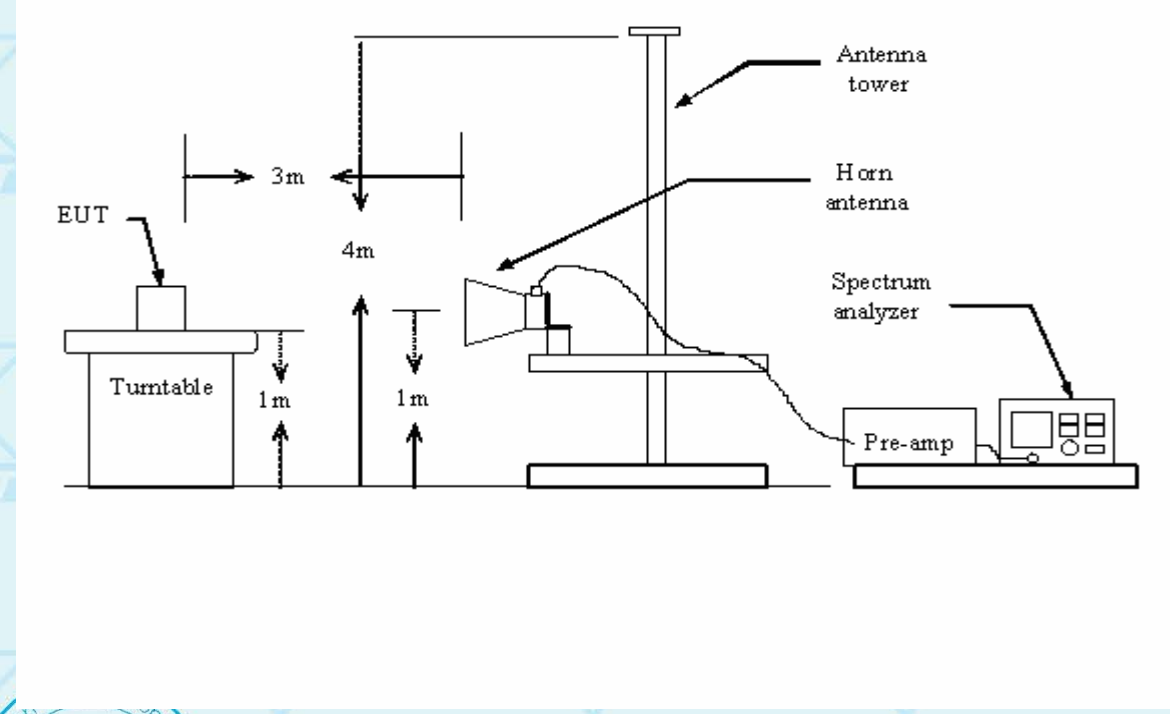
The test data of the worst case condition(s) was reported on the following pages.

7.2.4 Test setup diagram

Below 1GHz



Above 1GHz



7.2.5.Test Result

A. Fundamental Radiated Emission Data

Product:	BLUETOOTH KEYBOARD	Test mode:	CH Low～CH High
Test Item:	Fundamental Radiated Emission Data	Temperature:	25℃
Test Voltage:	AC 120V	Humidity:	56%RH
Test Result:	PASS		

CH Low

Freq. (MHz)	Emission(dBμV/m) Peak Detector/ AV	HORIZ/ VERT	Limits(dBμV/m) Peak/Average	Margin (dB)
2402.00	91.5/ 73.3	HORIZ	114/94	22.5/20.7
2402.00	94.5 / 76.4	VERT	114/94	19.5/17.6

CH Middle

Freq. (MHz)	Emission(dBμV/m) Peak Detector/ AV	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
2441.00	92.7/73.8	HORIZ	114/94	21.3/20.2
2441.00	93.6/74.1	VERT	114/94	20.4/19.9

CH High

Freq. (MHz)	Emission(dBμV/m) Peak Detector/ AV	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
2480.0	92.9/75.4	HORIZ	114/94	21.1/18.6
2480.0	94.3/77.2	VERT	114/94	19.7/16.8

B. Harmonics Radiated Emission Data

Product:	BLUETOOTH KEYBOARD	Test mode:	CH Low～CH High
Test Item:	Radiated Emission Data	Temperature:	25℃
Test Voltage:	AC 120V	Humidity:	56%RH
Test Result:	PASS		

CH Low

Freq. (MHz)	Emission(dBuV/m) Peak Detector	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
4804.12	49.2/33.2	H/V	74.0/54.0	24.8/20.8
7206.18	49.2/33.9	H/V	74.0/54.0	24.8/20.1
9608.24	48.7/33.2	H/V	74.0/54.0	25.3/20.8
12010.3	48.3/32.8	H/V	74.0/54.0	25.7/21.2
14412.36	48.5/33.2	H/V	74.0/54.0	25.5/20.8
16814.42	49.6/33.5	H/V	74.0/54.0	24.4/20.5
19216.48	48.6/32.7	H/V	74.0/54.0	25.4/21.3
21618.54	48.0/32.8	H/V	74.0/54.0	26.0/21.2
24020.6	47.9/32.9	H/V	74.0/54.0	26.1/22.1

CH Middle

Freq. (MHz)	Emission(dBμV/m) Peak Detector	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
4882.18	49.2/33.8	H/V	74.0/54.0	24.8/20.2
7323.27	49.6/33.7	H/V	74.0/54.0	24.4/20.3
9764.36	49.7/33.4	H/V	74.0/54.0	24.3/20.6
12205.45	48.3/32.8	H/V	74.0/54.0	25.7/21.2
14646.54	48.5/33.3	H/V	74.0/54.0	25.5/20.7
17087.63	48.4/32.2	H/V	74.0/54.0	25.6/21.8
19528.72	48.6/32.7	H/V	74.0/54.0	25.4/21.3
21969.81	48.0/32.2	H/V	74.0/54.0	26.0/21.8
24410.9	48.9/32.6	H/V	74.0/54.0	25.1/21.4

CH High

Freq. (MHz)	Emission(dBμV/m) Peak Detector	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
4960.26	49.1/33.9	H/V	74.0/54.0	24.9/20.1
7440.39	48.9/33.2	H/V	74.0/54.0	25.1/20.8
9920.52	48.7/33.5	H/V	74.0/54.0	25.3/20.5
12400.65	48.3/32.8	H/V	74.0/54.0	25.7/21.2
14880.78	49.5/32.7	H/V	74.0/54.0	24.5/21.3
17360.91	48.4/32.5	H/V	74.0/54.0	25.6/21.5
19841.04	47.6/32.7	H/V	74.0/54.0	26.4/21.3
22321.17	48.0/32.2	H/V	74.0/54.0	26.0/21.8
24801.3	48.9/33.7	H/V	74.0/54.0	25.1/20.4

Note: - means the emission is too low at least 20dB to the limit.

C. General Radiated Emission Data

Product:	BLUETOOTH KEYBOARD	Test mode:	transmitting
Test Item:	Radiated Emission Data	Temperature:	25℃
Test Voltage:	AC 120V	Humidity:	56%RH
Test Result:	PASS		

Freq. (MHz)	Emission(dBμV/m) Peak Detector	HORIZ/ VERT	Limits(dBμV/m) Peak/ Average	Margin (dB)
96.82	30.2	HORIZ	43.5	13.3
96.82	32.7	VERT	43.5	10.8
195.53	27.5	HORIZ	43.5	16.0
195.53	30.7	VERT	43.5	12.8
432.43	29.7	HORIZ	46	16.3
432.43	32.5	VERT	46	13.5

NOTE:9KHz-30MHz the measurements were greater than 20dB below the limit.

7.3. Band edge test

7.3.1. Limits

According 15.249(d), Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in section 15.209, whichever is the lesser attenuation.

7.3.2. TEST INSTRUMENT

Same as 7.2.2

7.3.3. Test procedure

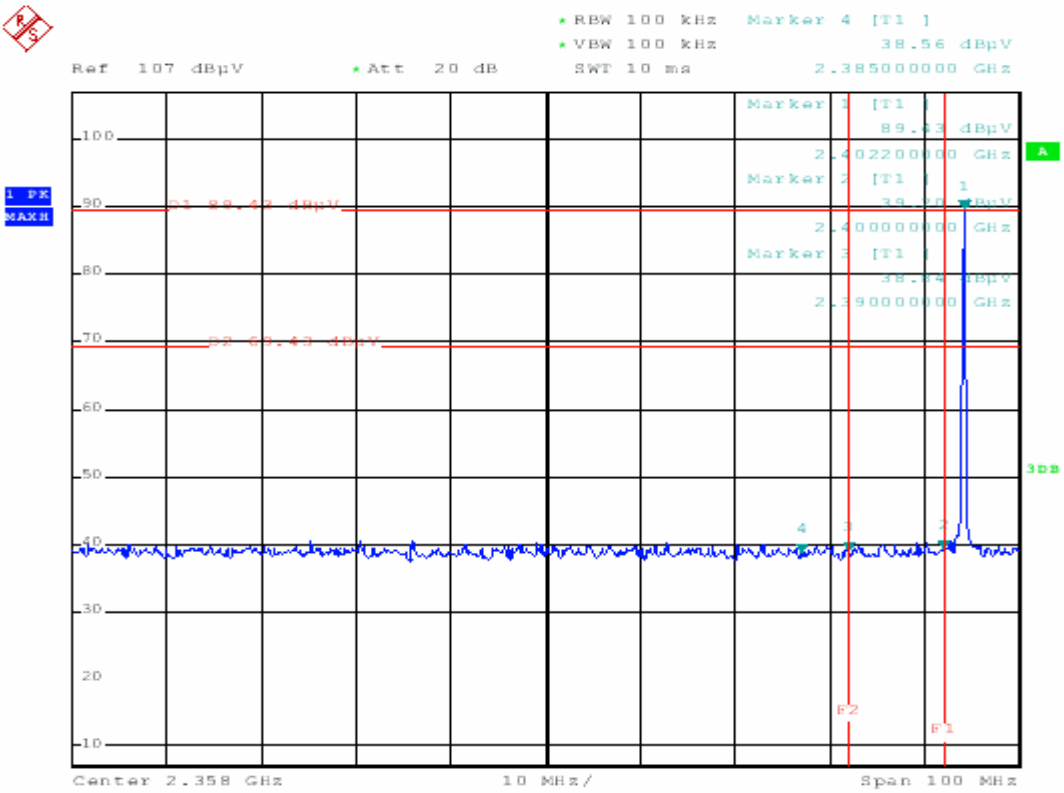
1. The EUT was placed on a turntable which is 0.8m above ground plane.
2. Set EUT as continuous transmitting mode.
3. Set the EUT work on the CH1, CH79 individually.
4. Set SPA Frequency = Operation frequency, for PK: RBW =1MHz, VBW=3MHz
5. Set SPA trace max hold, then view.

7.3.4. Test setup diagram

Same as 7.2.4

7.3.5. Test result

Product:	BLUETOOTH KEYBOARD	Test mode:	CH Low, CH High
Test Item:	Band edge	Temperature:	25℃
Test Voltage:	AC 120V	Humidity:	56%RH
Test Result:	PASS		

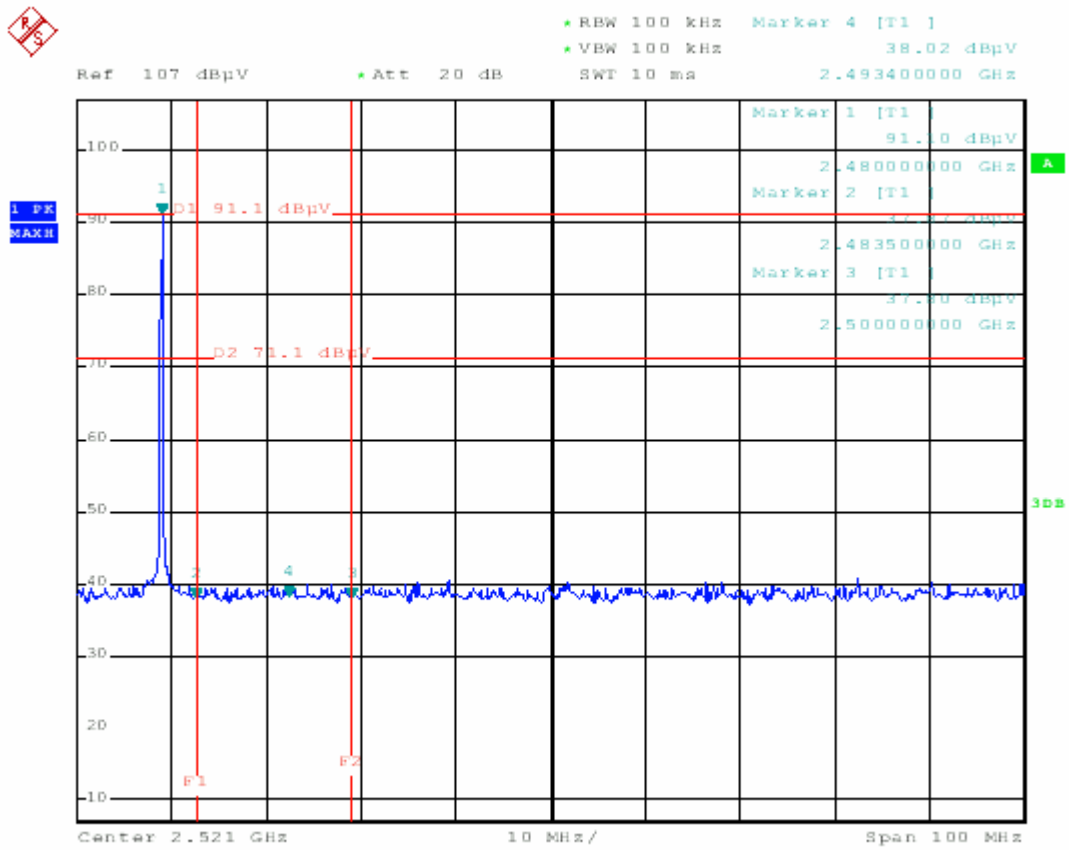


Emission in the Restricted Bands

Frequency [MHz]	dBc [dB]	**PK** [dBµV/m]	Polarity (H/V)	AV limit [dBµV/m]
2310	-	**34.6**	V	54
2385	-	**34.7**	V	54
2390	-	**34.8**	V	54

The above field strength levels were measured in Vertical polarity which is the worst case.

The PK value is already under the AV limit, then AV value is not required.



Emission in the Restricted Bands

Frequency [MHz]	dBc [dB]	**PK** [dBµV/m]	Polarity (H/V)	AV limit [dBµV/m]
2483.5	-	**32.87**	V	54
2493.4	-	**33.08**	V	54
2500	-	**33.83**	V	54

The above field strength levels were measured in Vertical polarity which is the worst case.

The PK value is already under the AV limit, then AV value is not required.

8. ANTENNA REQUIREMENT

8.1. Standard applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

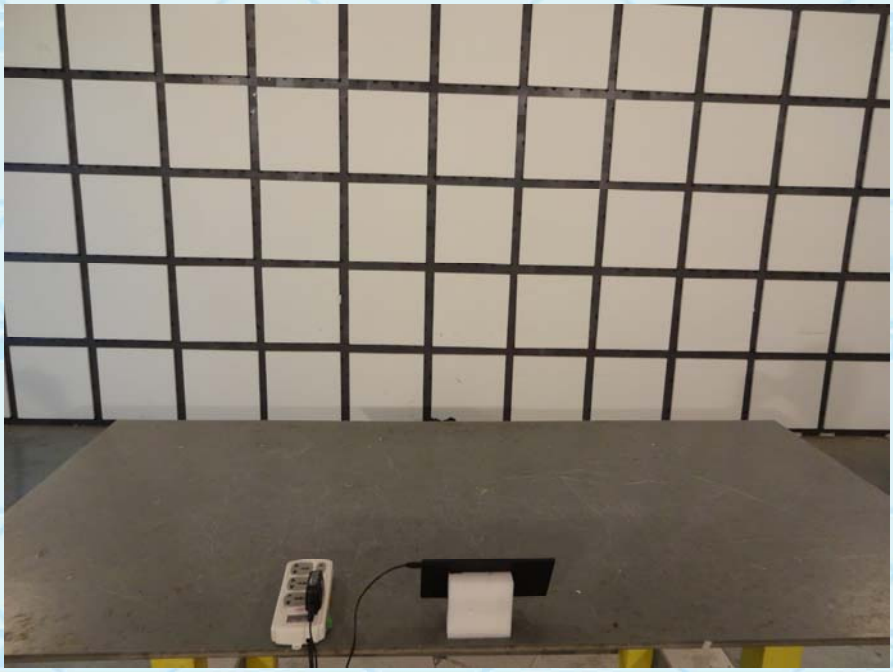
8.2. Antenna connected construction

The antenna used in this product is PCB ANTENNA and no consideration of replacement.

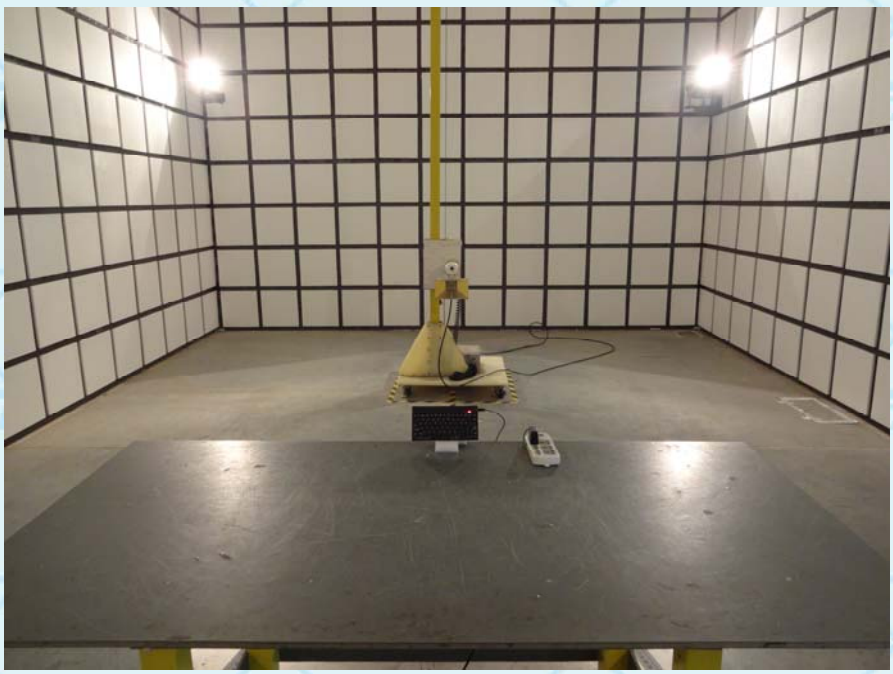
9 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST BELOW 1GHz



RADIATED EMISSION TEST ABOVE 1GHz



10 PHOTOGRAPHS OF EUT

Appearance photograph of EUT

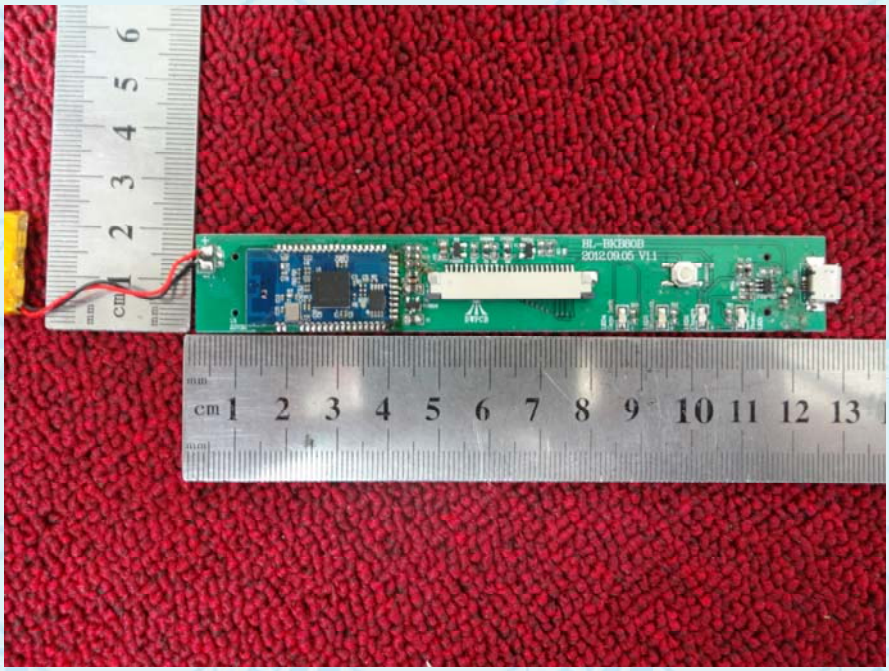
Appearance photograph of EUT

Appearance photograph of EUT

Appearance photograph of EUT

Internal photograph of EUT

PCB photograph of EUT



PCB photograph of EUT

PCB photograph of EUT