APPLICATION CERTIFICATION
On Behalf of
ACCO Brands, Inc.

KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD
Model No.: M01180

FCC ID: GV3M01180

Prepared for	:	ACCO Brands, Inc.
Address	:	333 Twin Dolphin Drive, 6th Floor, Redwood Shores, California, United States
Prepared by	:	ACCURATE TECHNOLOGY CO. LTD
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China
		Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number	:	ATE20121813
Date of Test	:	July 30-August 17, 2012
Date of Report	:	August 17, 2012

TABLE OF CONTENTS

Description Page

Test Report Certification

Applicant **:** ACCO Brands, Inc.

Manufacturer **:** Shenzhen Doking Electronic Technology Co., Ltd.

EUT Description **:** KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD

(A) MODEL NO.: M01180

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 3.7V(Li-ion battery 1×)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2003

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

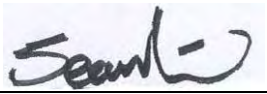
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : July 30-August 17, 2012

Prepared by :

(Engineer)

Approved & Authorized Signer :



(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD
Model Number	:	M01180
Frequency Band	:	2402MHz-2480MHz
Number of Channels	:	79
Antenna Gain	:	0dBi
Power Supply	:	DC 3.7V(Li-ion battery 1×)
Applicant	:	ACCO Brands, Inc.
Address	:	333 Twin Dolphin Drive, 6th Floor, Redwood Shores, California, United States
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.
Address	:	Dingfeng Hi-tech Estate, Shapu, Songgang Town, Baoan District, Shenzhen, Guangdong, China
Date of sample received	:	July 30, 2012
Date of Test	:	July 30-August 17, 2012

1.2. Accessory and Auxiliary Equipment

Notebook PC	:	Manufacturer: LENOVO M/N: 4290-RT8 S/N: R9-FW93G 11/08

1.3.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen Listed by FCC The Registration Number is 752051 Listed by Industry Canada The Registration Number is 5077A-2 Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.4.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated date	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 8, 2012	Jan. 7, 2013
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 8, 2012	Jan. 7, 2013
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 8, 2012	Jan. 7, 2013
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 8, 2012	Jan. 7, 2013
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 8, 2012	Jan. 7, 2013
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 8, 2012	Jan. 7, 2013
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 8, 2012	Jan. 7, 2013
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 8, 2012	Jan. 7, 2013
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 8, 2012	Jan. 7, 2013
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 8, 2012	Jan. 7, 2013

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: Transmitting mode
Low Channel: 2402MHz
Middle Channel: 2441MHz
High Channel: 2480MHz
Hopping
Charging (Connect to PC)

3.2.Configuration and peripherals

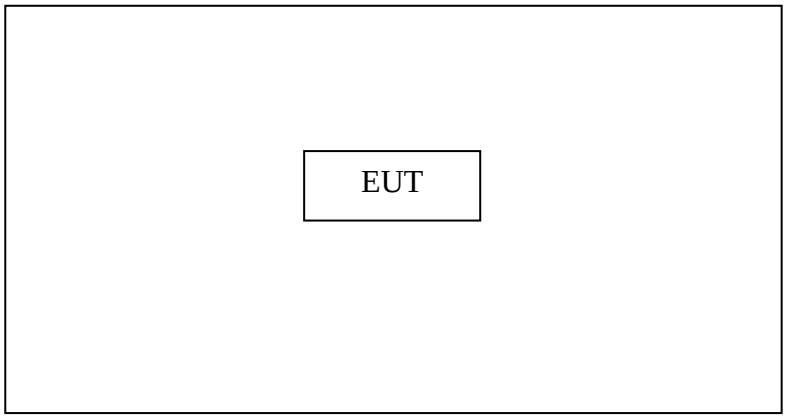


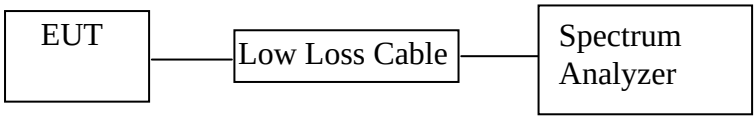
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(1)	20dB Bandwidth Test	Compliant
Section 15.247(a)(1)	Carrier Frequency Separation Test	Compliant
Section 15.247(a)(1)(iii)	Number Of Hopping Frequency Test	Compliant
Section 15.247(a)(1)(iii)	Dwell Time Test	Compliant
Section 15.247(b)(1)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. 20DB BANDWIDTH TEST

5.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

5.2.The Requirement For Section 15.247(a)(1)

Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

5.3.EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	**:**	M01180
Serial Number	**:**	N/A
Manufacturer	**:**	Shenzhen Doking Electronic Technology Co., Ltd.

5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX(Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

5.5. Test Procedure

5.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

5.5.2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.

5.5.3. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

5.6. Test Result

PASS.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX	Test Engineer:	Kai

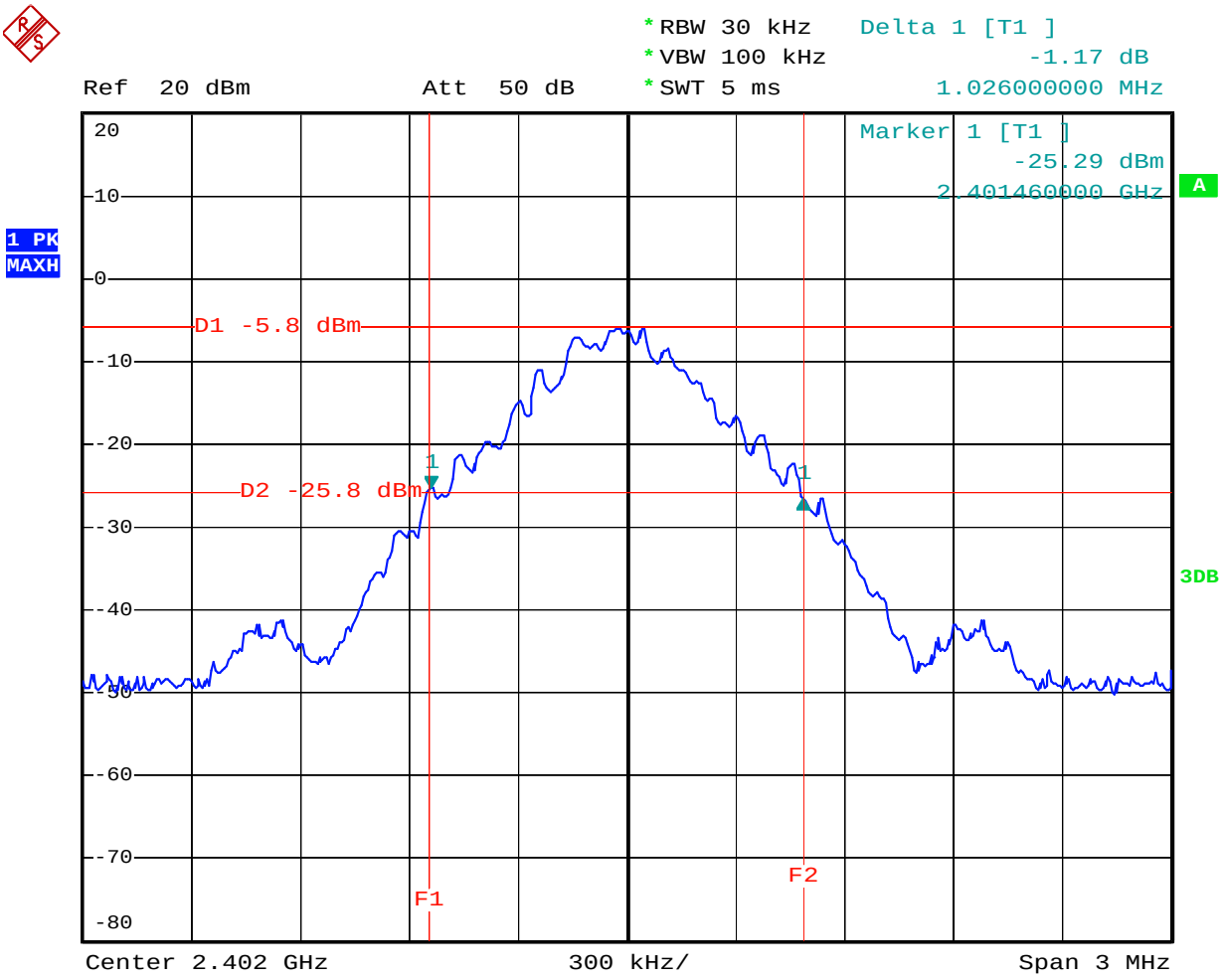
Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	1.026	N/A
Middle	2441	1.026	N/A
High	2480	1.032	N/A

Note: N/A: 1) The 20 dB bandwidth of the hopping channel is not limit.

2) The data of 20 dB bandwidth of the hopping channel is limit of carrier frequencies separated

The spectrum analyzer plots are attached as below.

"Spectrum analyzer" is R/S



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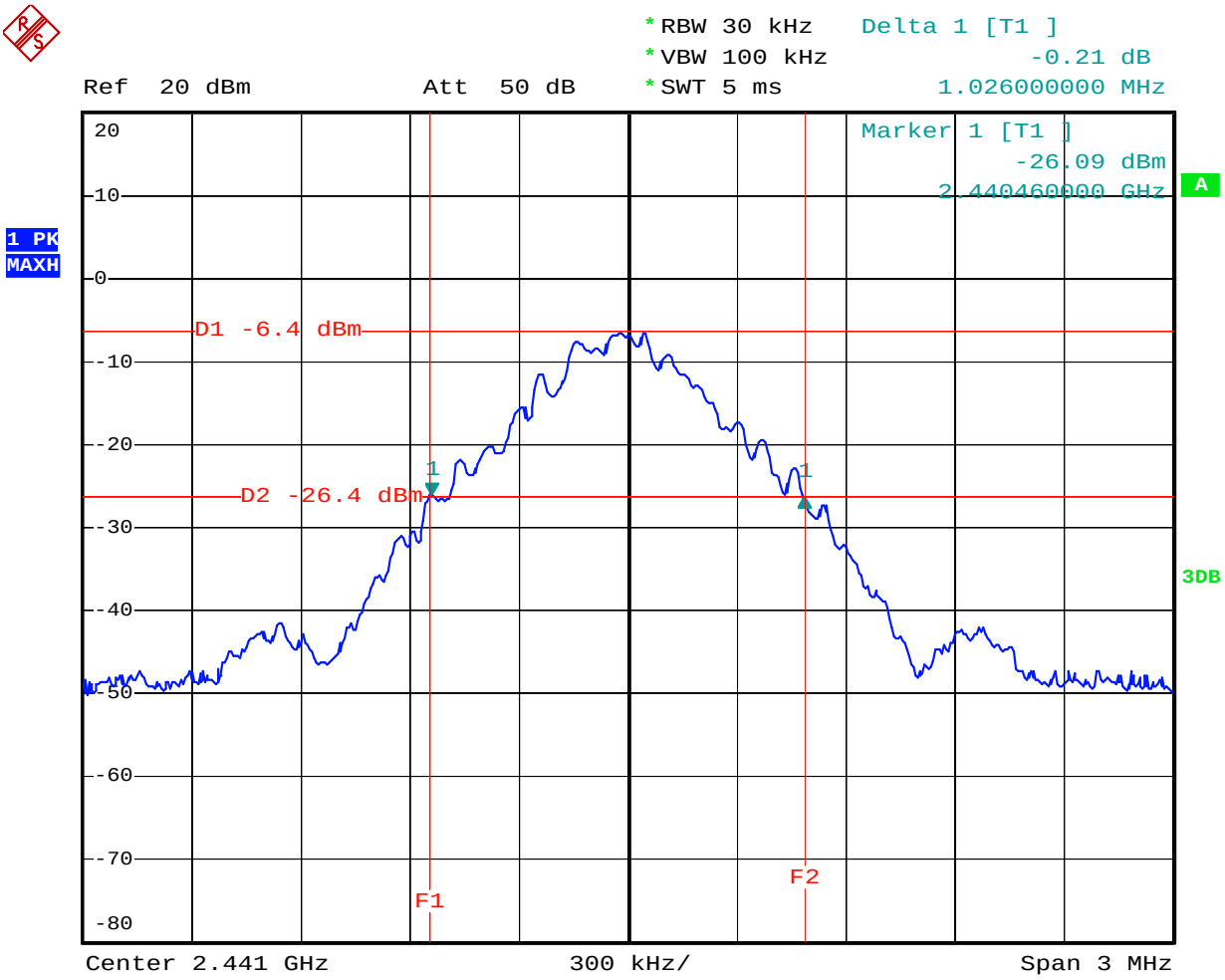

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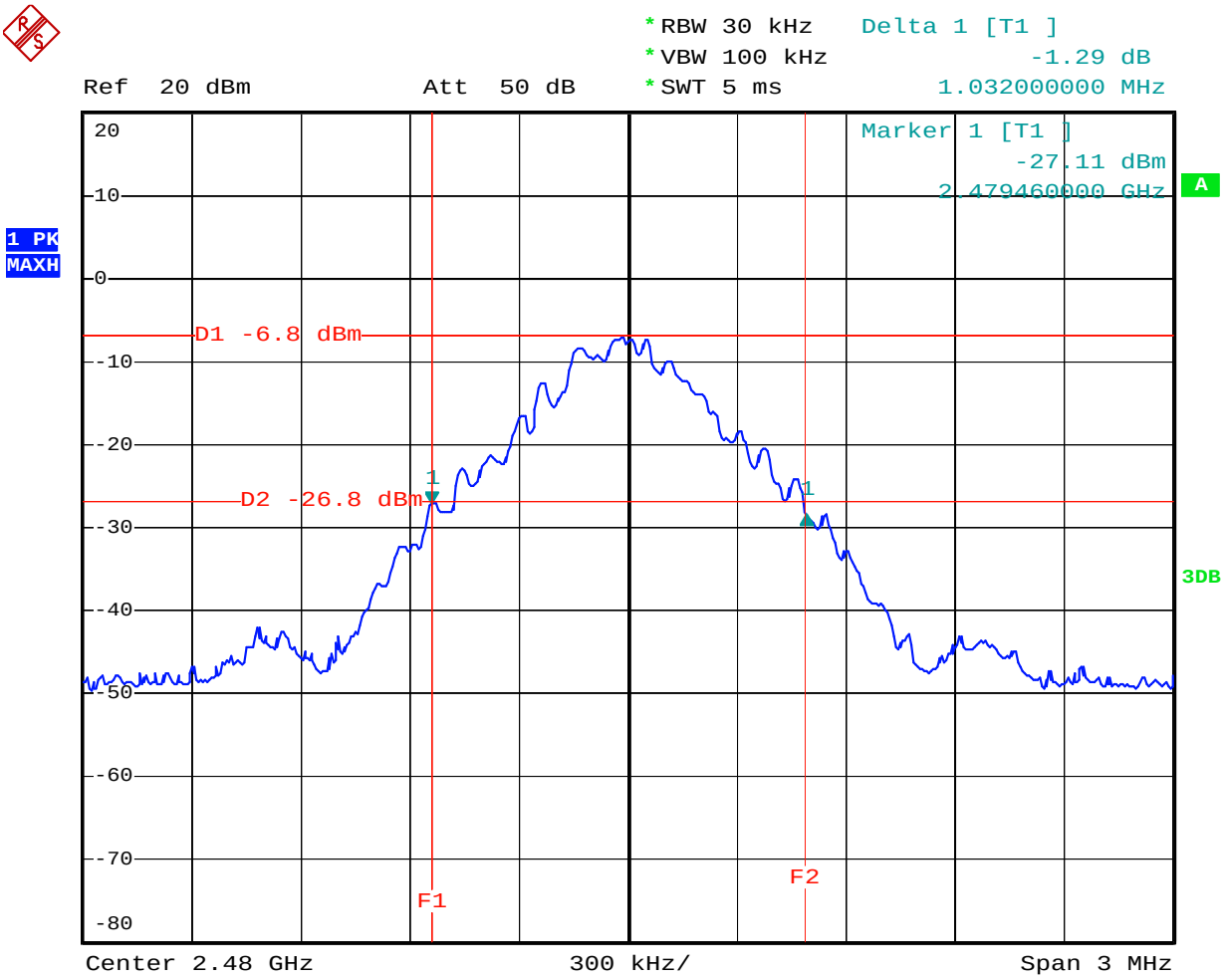

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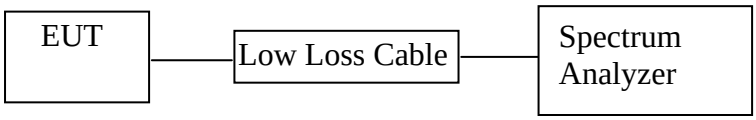
6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

6.2.The Requirement For Section 15.247(a)(1)

Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

6.3.EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	**:**	M01180
Serial Number	**:**	N/A
Manufacturer	**:**	Shenzhen Doking Electronic Technology Co., Ltd.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

6.5. Test Procedure

6.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz. Adjust Span to 3 MHz.

6.5.3. Set the adjacent channel of the EUT maxhold another trace.

6.5.4. Measurement the channel separation

6.6. Test Result

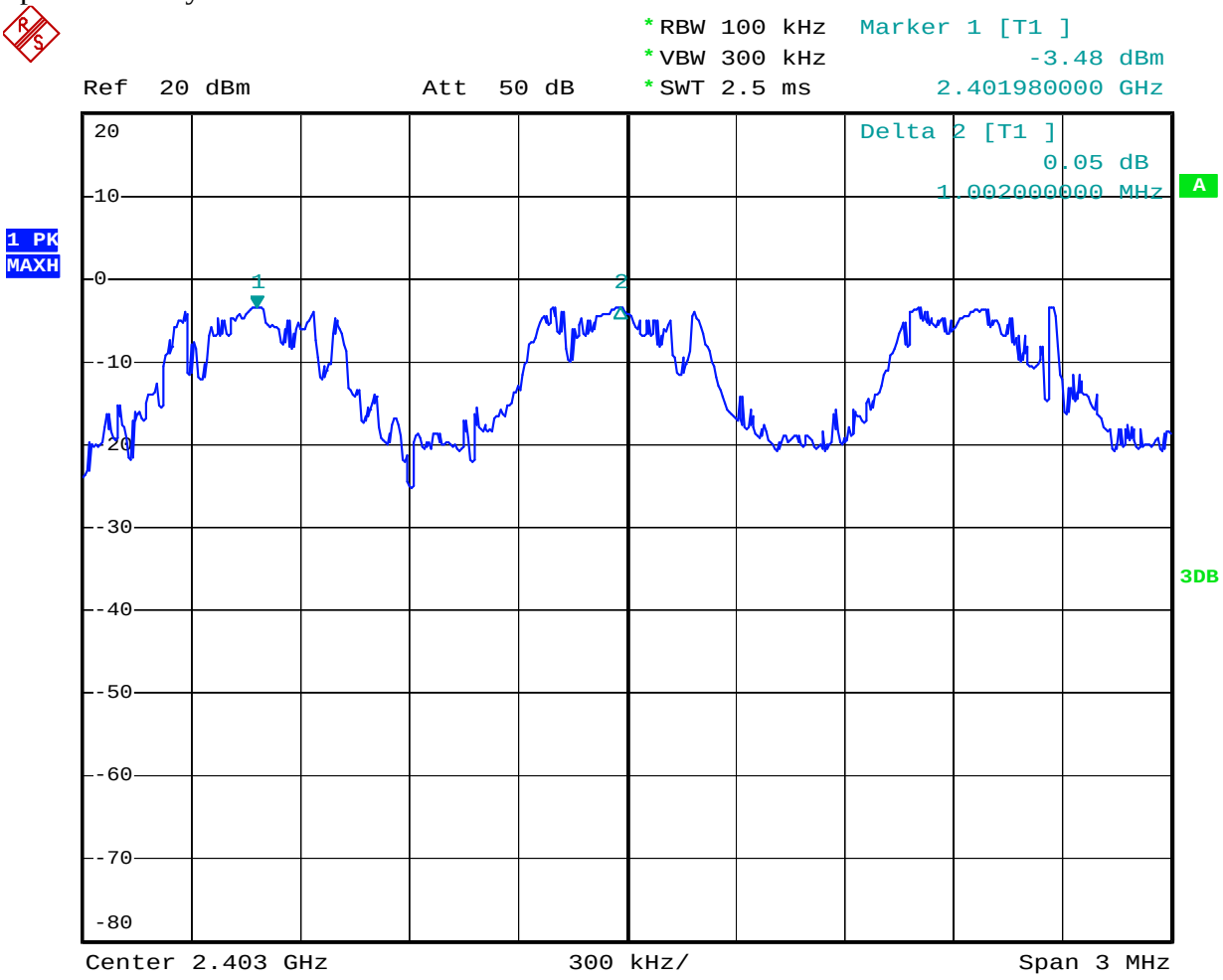
PASS.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	Hopping	Test Engineer:	Kai

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit
Low	2402	1.002	> two-thirds of the 20 dB bandwidth (0.684MHz) or 25kHz (whichever is greater)
Middle	2441	1.008	> two-thirds of the 20 dB bandwidth (0.684MHz) or 25kHz (whichever is greater)
High	2480	1.002	> two-thirds of the 20 dB bandwidth (0.688MHz) or 25kHz (whichever is greater)

The spectrum analyzer plots are attached as below.

Spectrum analyzer" is R/S



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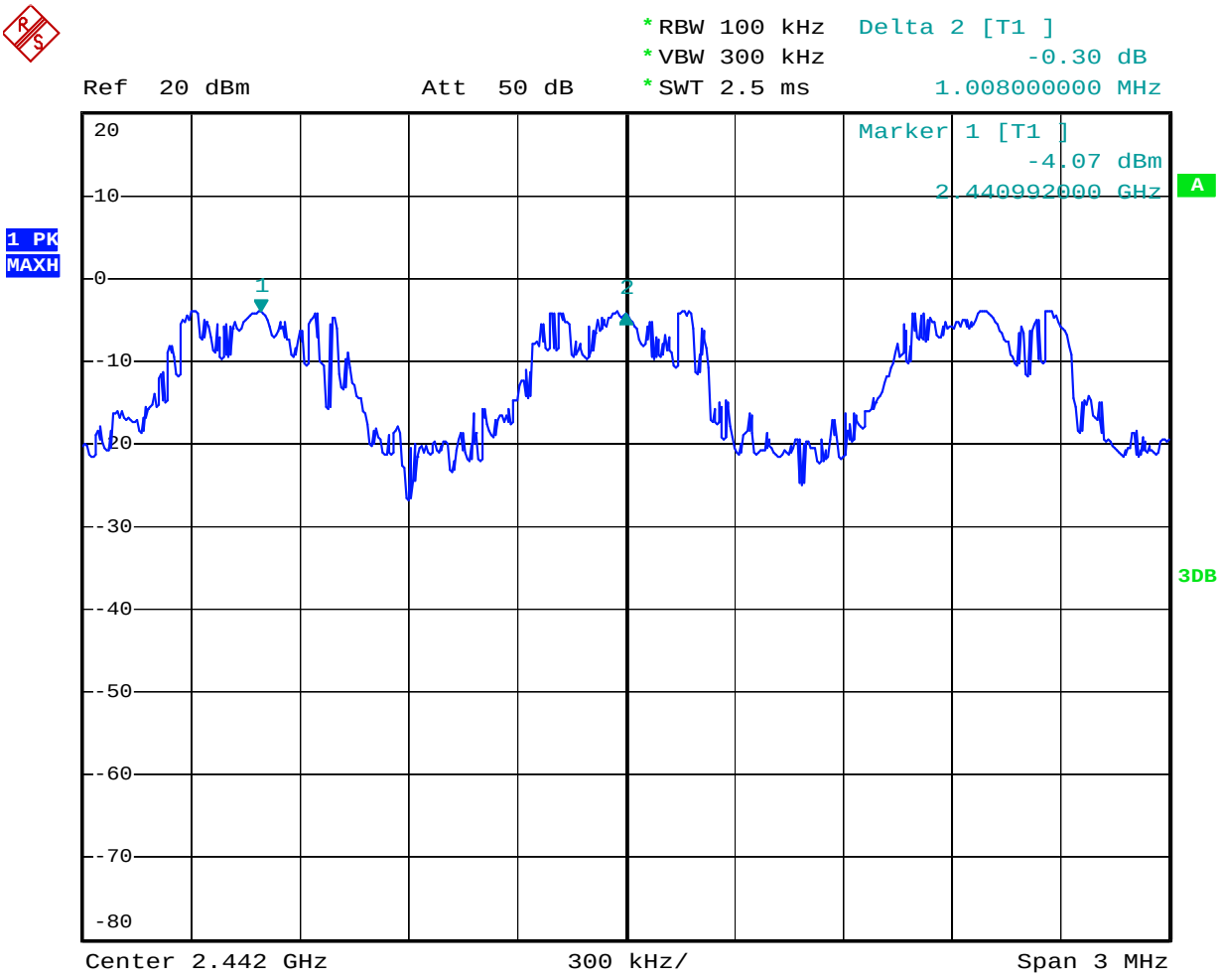

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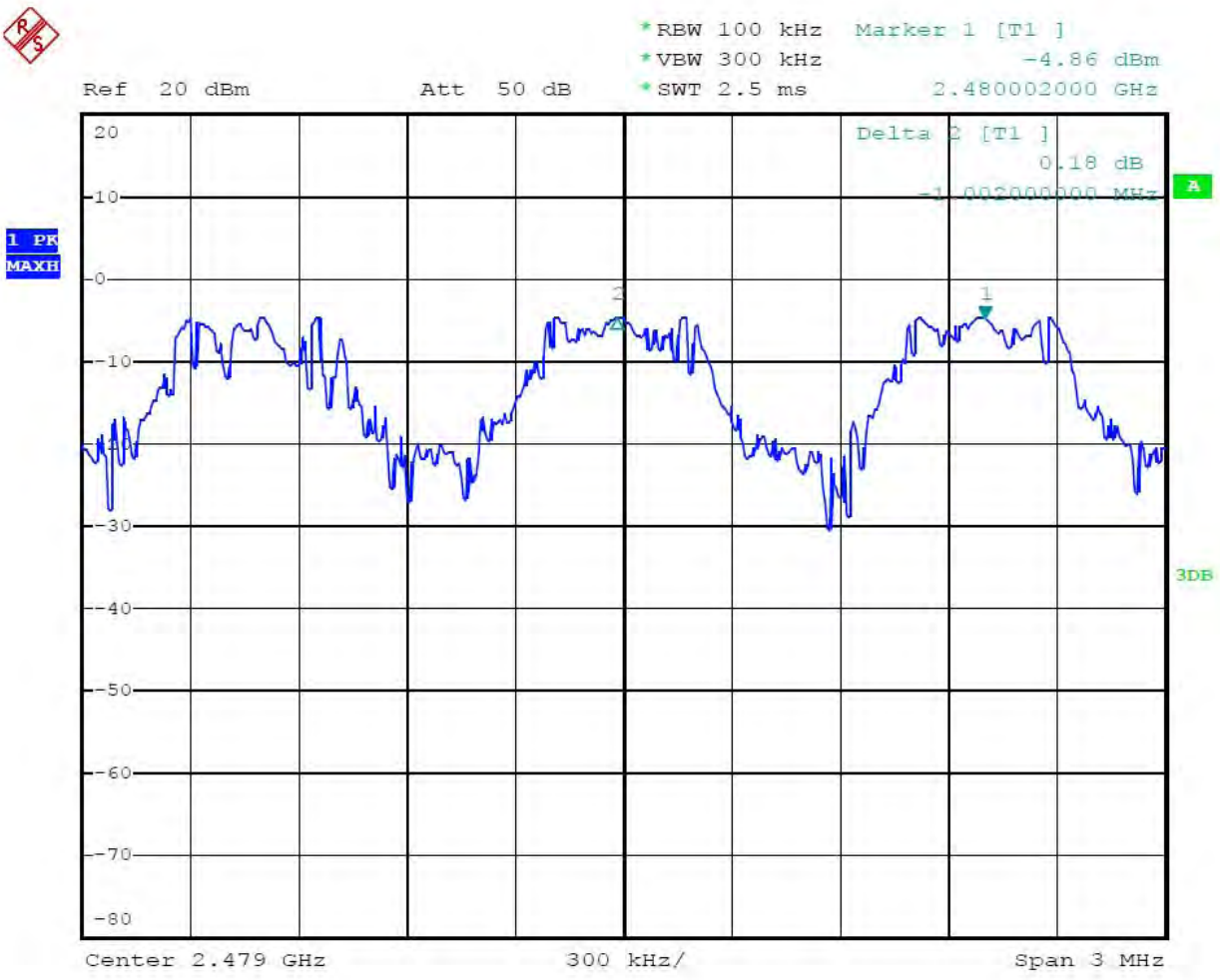

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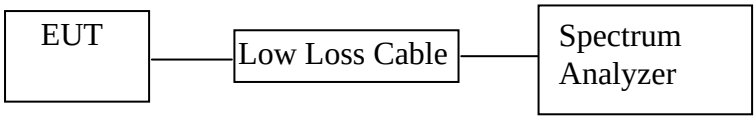
7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

7.2.The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

7.3.EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	:	M01180
Serial Number	:	N/A
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.

7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX (Hopping on) modes measure it.

7.5. Test Procedure

7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2. Set the spectrum analyzer as Span=30MHz, RBW=300kHz, VBW=300kHz.

7.5.3. Max hold, view and count how many channel in the band.

7.6. Test Result

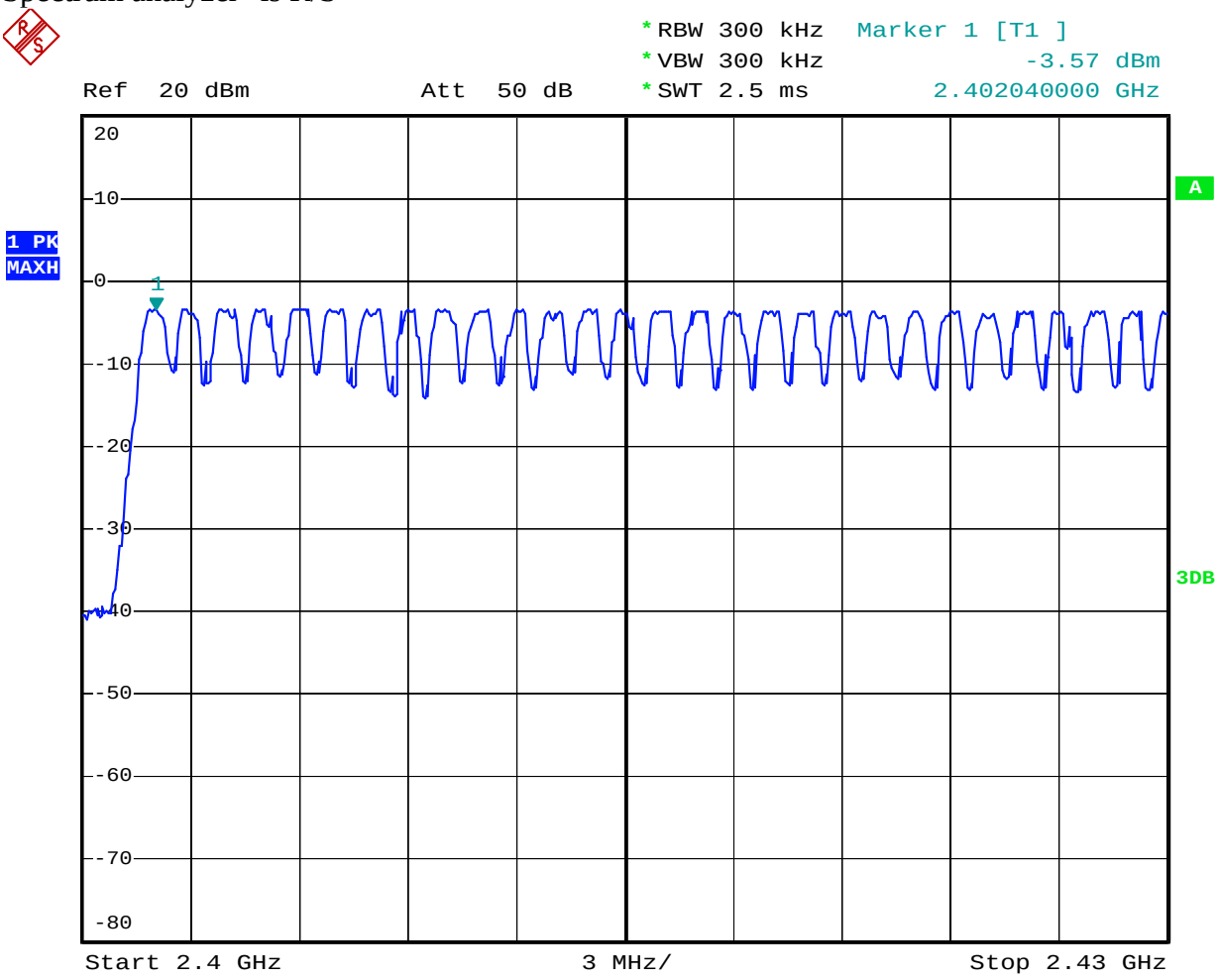
PASS.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	Hopping	Test Engineer:	Kai

	Measurement result (CH)	Limit (CH)
Total number of hopping channel	79	>15

The spectrum analyzer plots are attached as below.

Spectrum analyzer" is R/S



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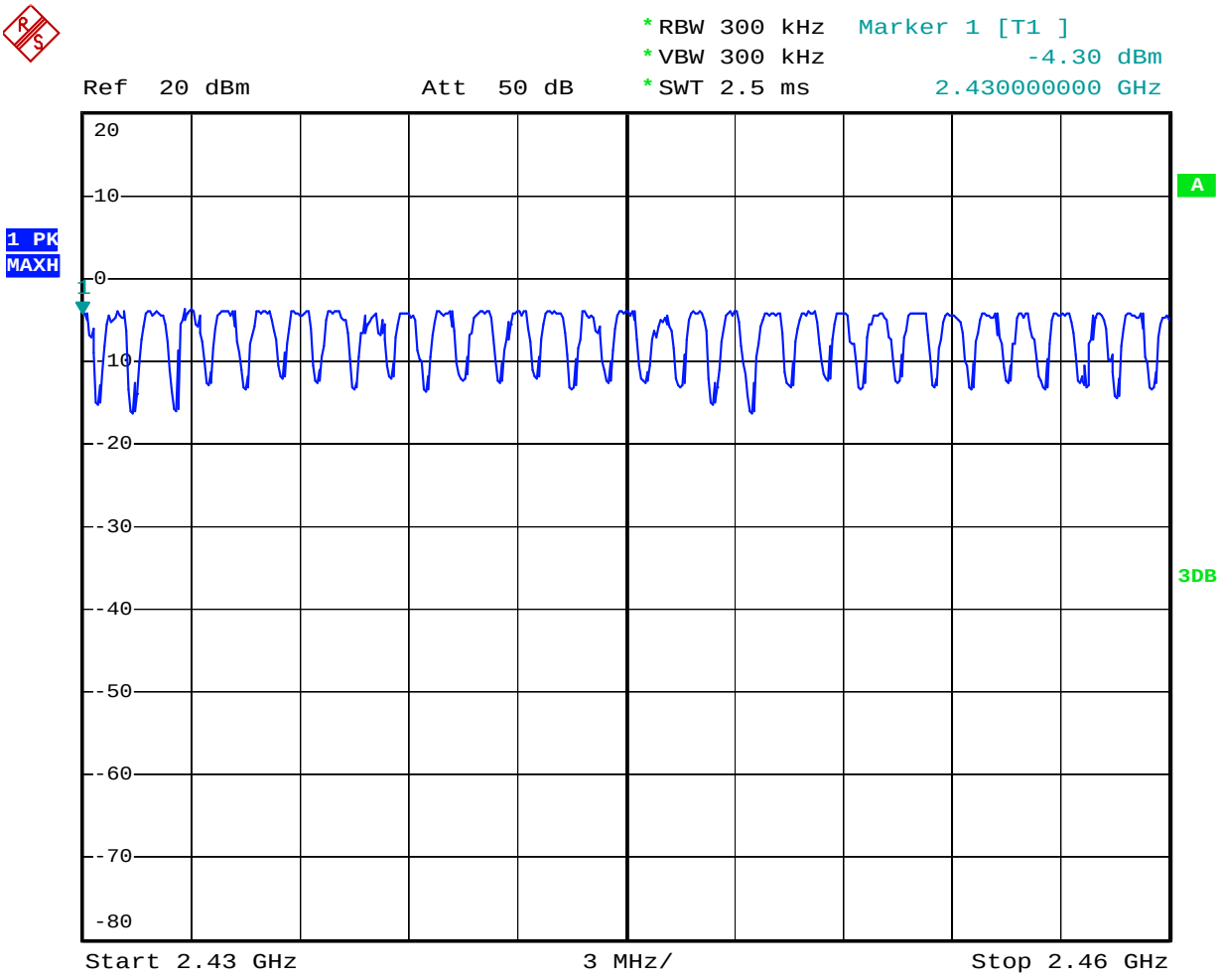

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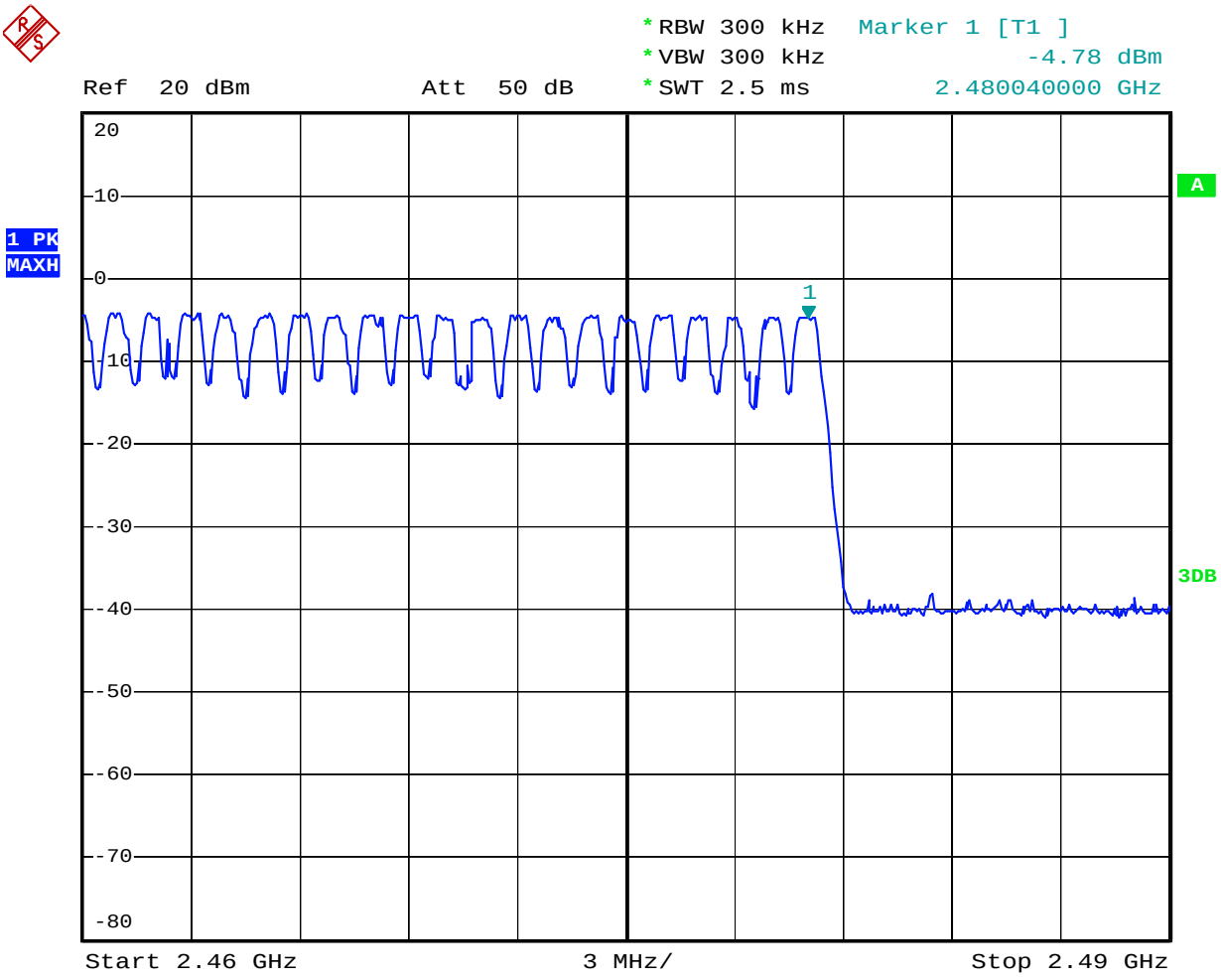

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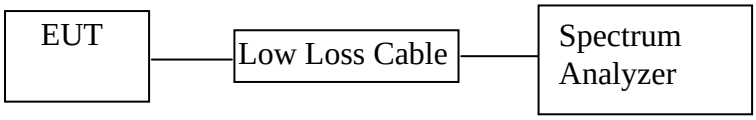
8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

8.2.The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

8.3.EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	:	M01180
Serial Number	:	N/A
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.

8.4.Operating Condition of EUT

8.4.1.Setup the EUT and simulator as shown as Section 8.1.

8.4.2.Turn on the power of all equipment.

8.4.3.Let the EUT work in TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

8.5. Test Procedure

8.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.2. Set center frequency of spectrum analyzer = operating frequency.

8.5.3. Set the spectrum analyzer as RBW=100kHz, VBW=300kHz, Span=0Hz, Adjust Sweep=31.6s. Get the burst (in 31.6s.).

8.5.4. Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=5ms. Get the pulse time.

8.5.5. Repeat above procedures until all frequency measured were complete.

8.6. Test Result

PASS.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	Hopping	Test Engineer:	Kai

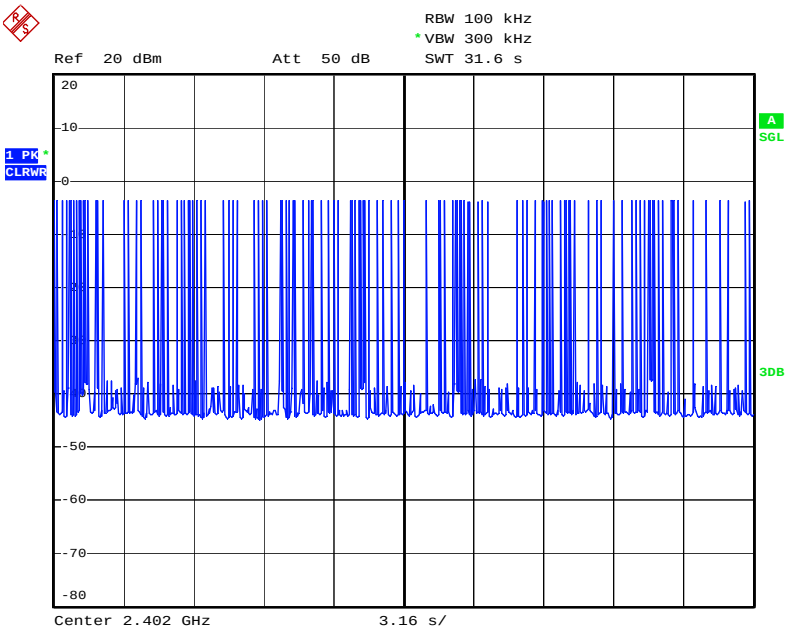
A period transmit time = 0.4 × 79 = 31.6

Dwell time = pulse time × burst (in 31.6 sec.)

Channel	Channel Frequency (MHz)	Pulse Time (ms)	Burst (in 31.6 sec.)	Dwell Time (ms)	Limit (ms)
Low	2402	0.26	124	32.24	400
Middle	2441	0.27	92	24.84	400
High	2480	0.25	102	25.50	400

The spectrum analyzer plots are attached as below.

"Spectrum analyzer" is R/S



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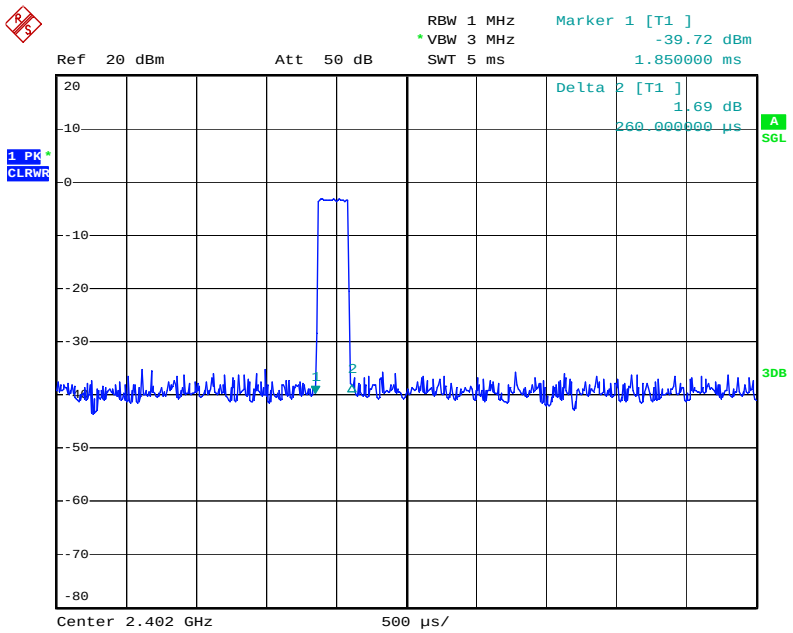

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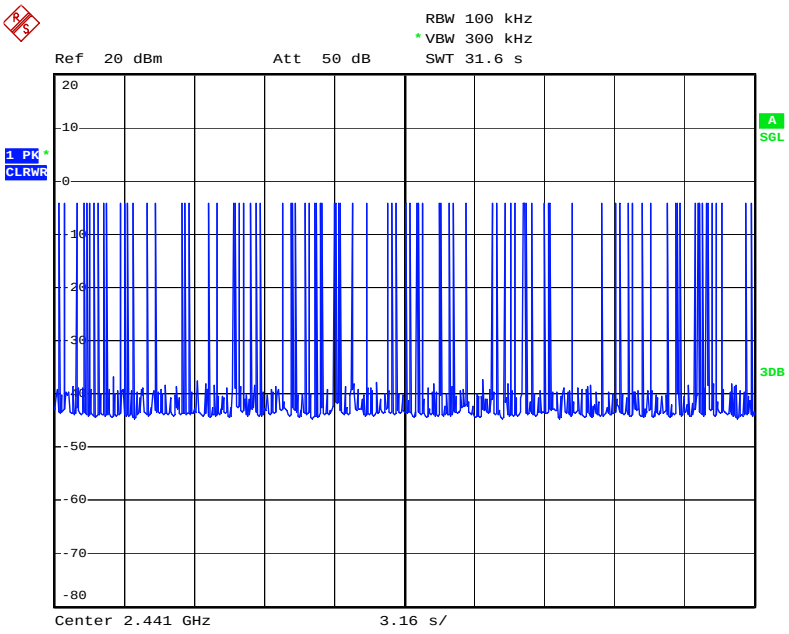

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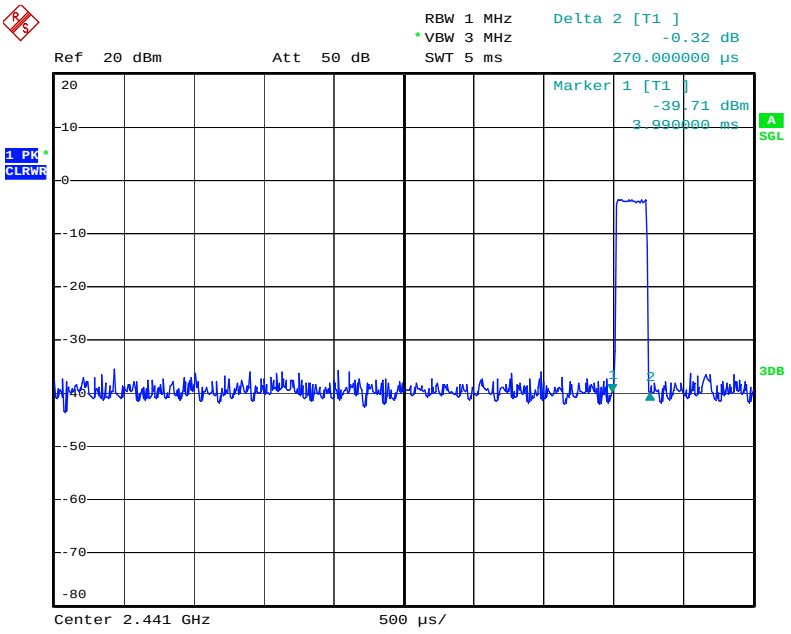

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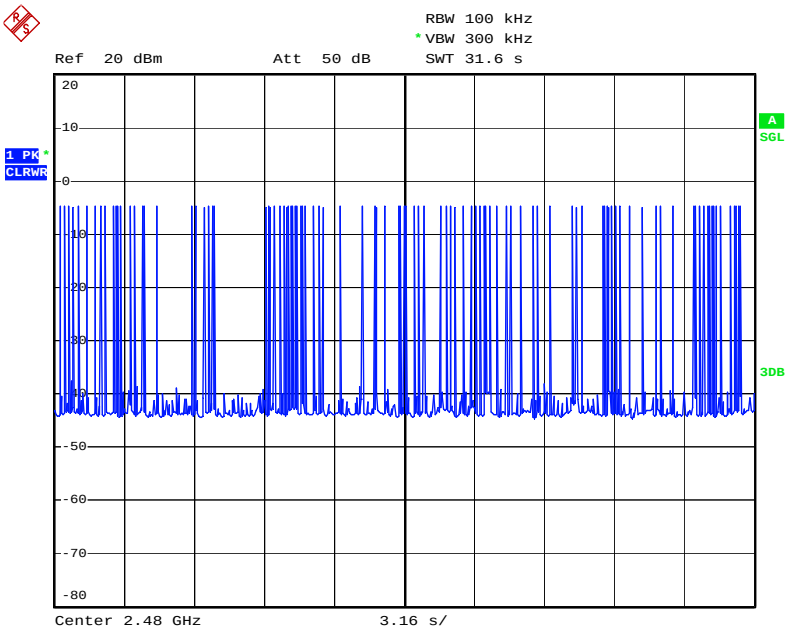

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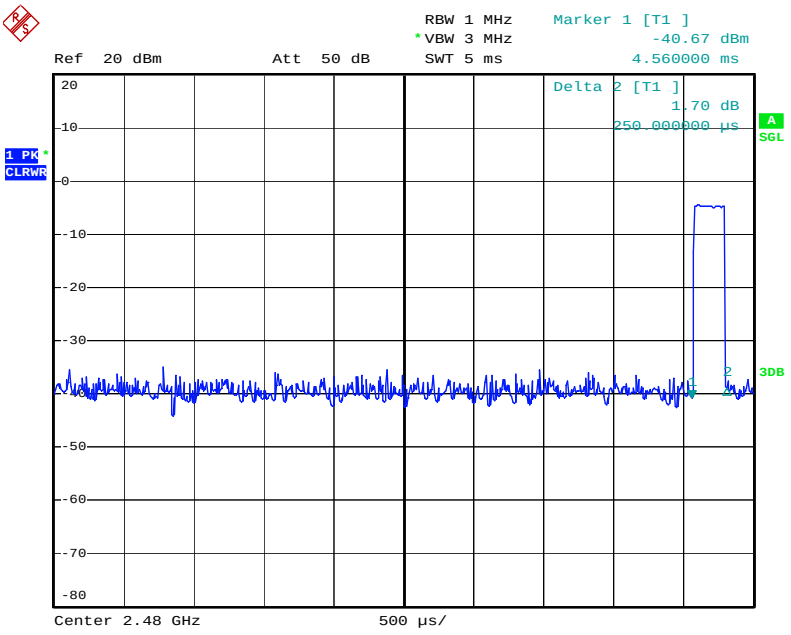

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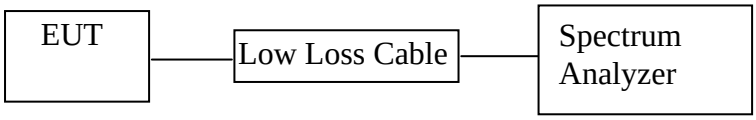
9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

9.2.The Requirement For Section 15.247(b)(1)

Section 15.247(b)(1): For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	**:**	M01180
Serial Number	**:**	N/A
Manufacturer	**:**	Shenzhen Doking Electronic Technology Co., Ltd.

9.4.Operating Condition of EUT

9.4.1.Setup the EUT and simulator as shown as Section 9.1.

9.4.2.Turn on the power of all equipment.

9.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

9.5. Test Procedure

9.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

9.5.2. Set RBW of spectrum analyzer to 3MHz and VBW to 10MHz.

9.5.3. Measurement the maximum peak output power.

9.6. Test Result

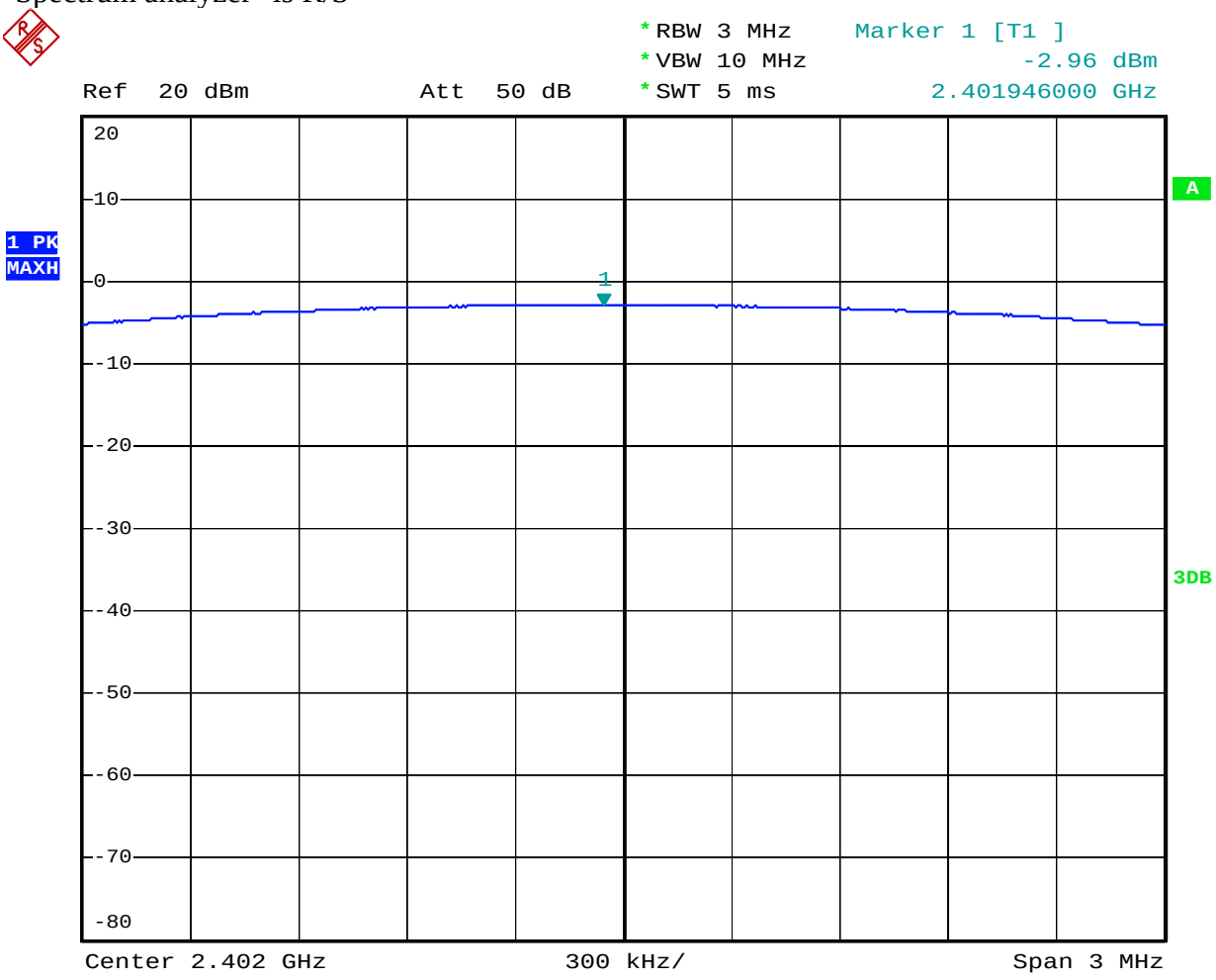
PASS.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX	Test Engineer:	Kai

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	-2.96	0.506	21 dBm / 0.125 W
Middle	2441	-3.51	0.446	21 dBm / 0.125 W
High	2480	-4.24	0.377	21 dBm / 0.125 W

The spectrum analyzer plots are attached as below.

"Spectrum analyzer" is R/S



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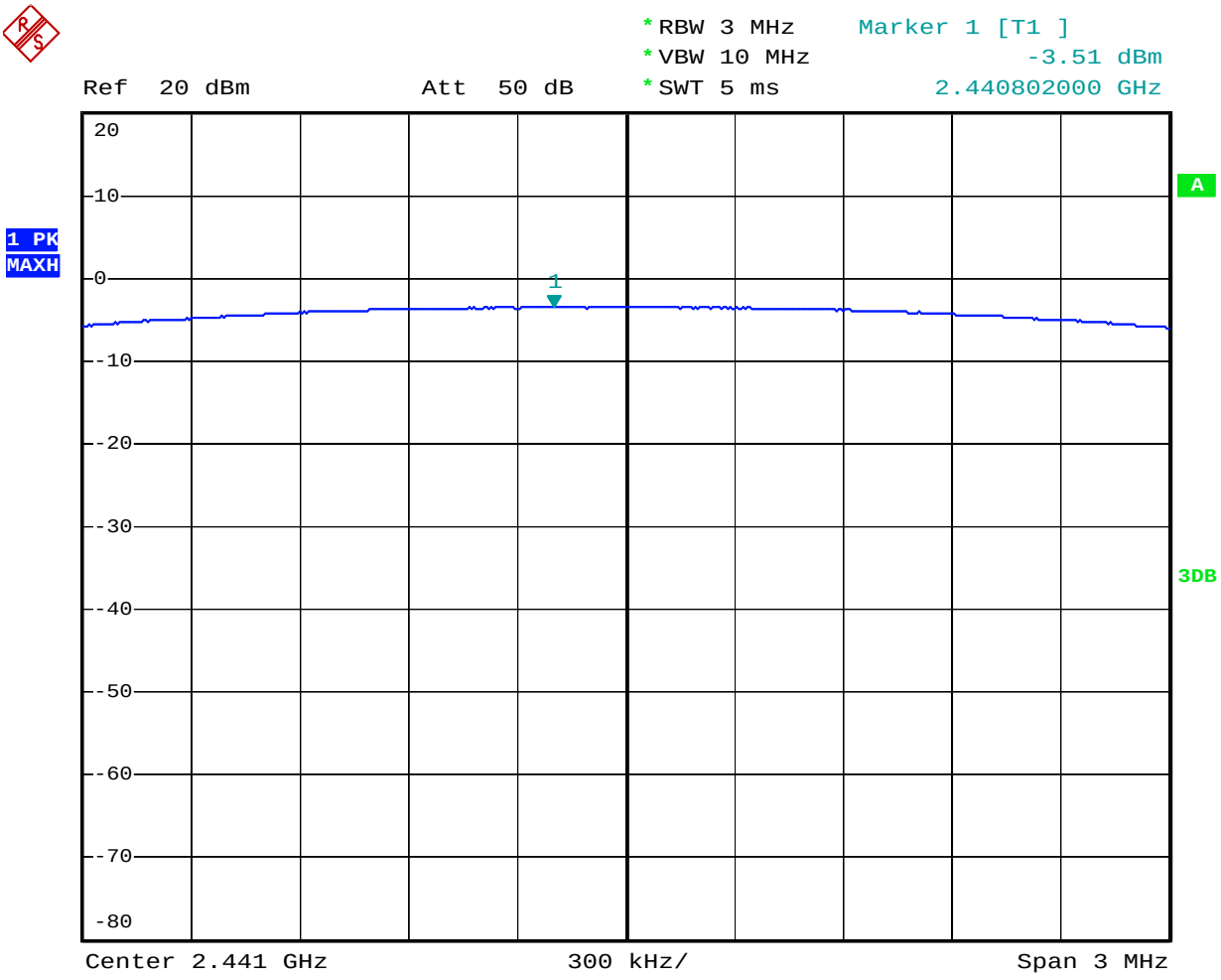

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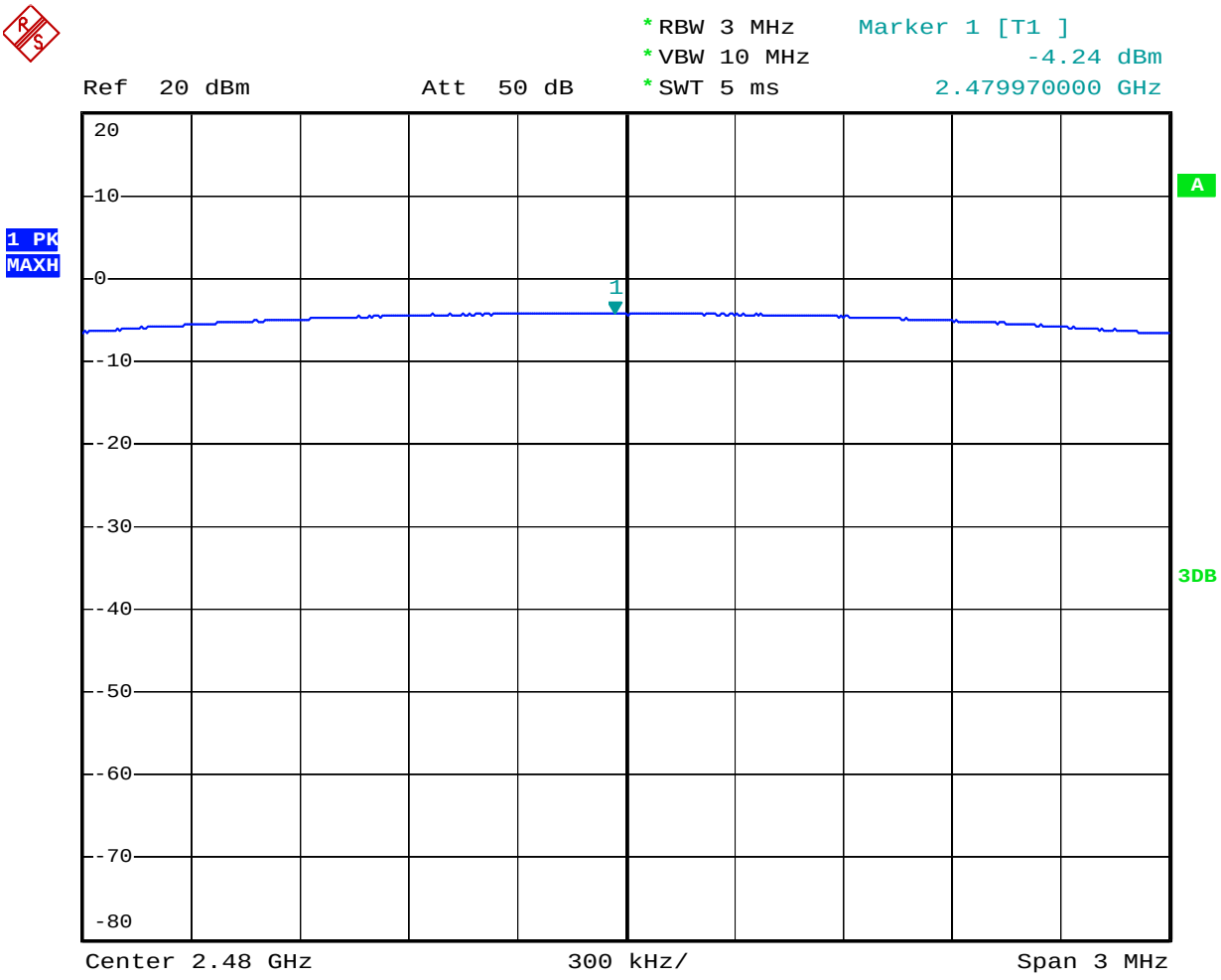
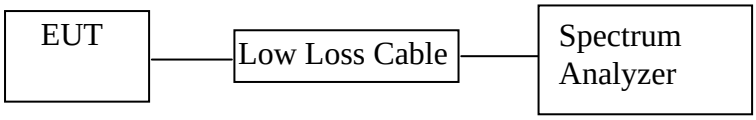


Date: 2.AUG.2012 18:07:43

10.BAND EDGE COMPLIANCE TEST

10.1.Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

10.2.The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

10.3.EUT Configuration on Measurement

The following equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	:	M01180
Serial Number	:	N/A
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.

10.4.Operating Condition of EUT

10.4.1.Setup the EUT and simulator as shown as Section 10.1.

10.4.2.Turn on the power of all equipment.

10.4.3.Let the EUT work in TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

10.5.Test Procedure

Conducted Band Edge:

10.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

10.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.

Radiate Band Edge:

10.5.3.The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

10.5.4.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

10.5.5.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

10.5.6.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

10.5.7.The band edges was measured and recorded.

10.6.Test Result

Pass

Conducted test

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (Hopping off)	Test Engineer:	Kai

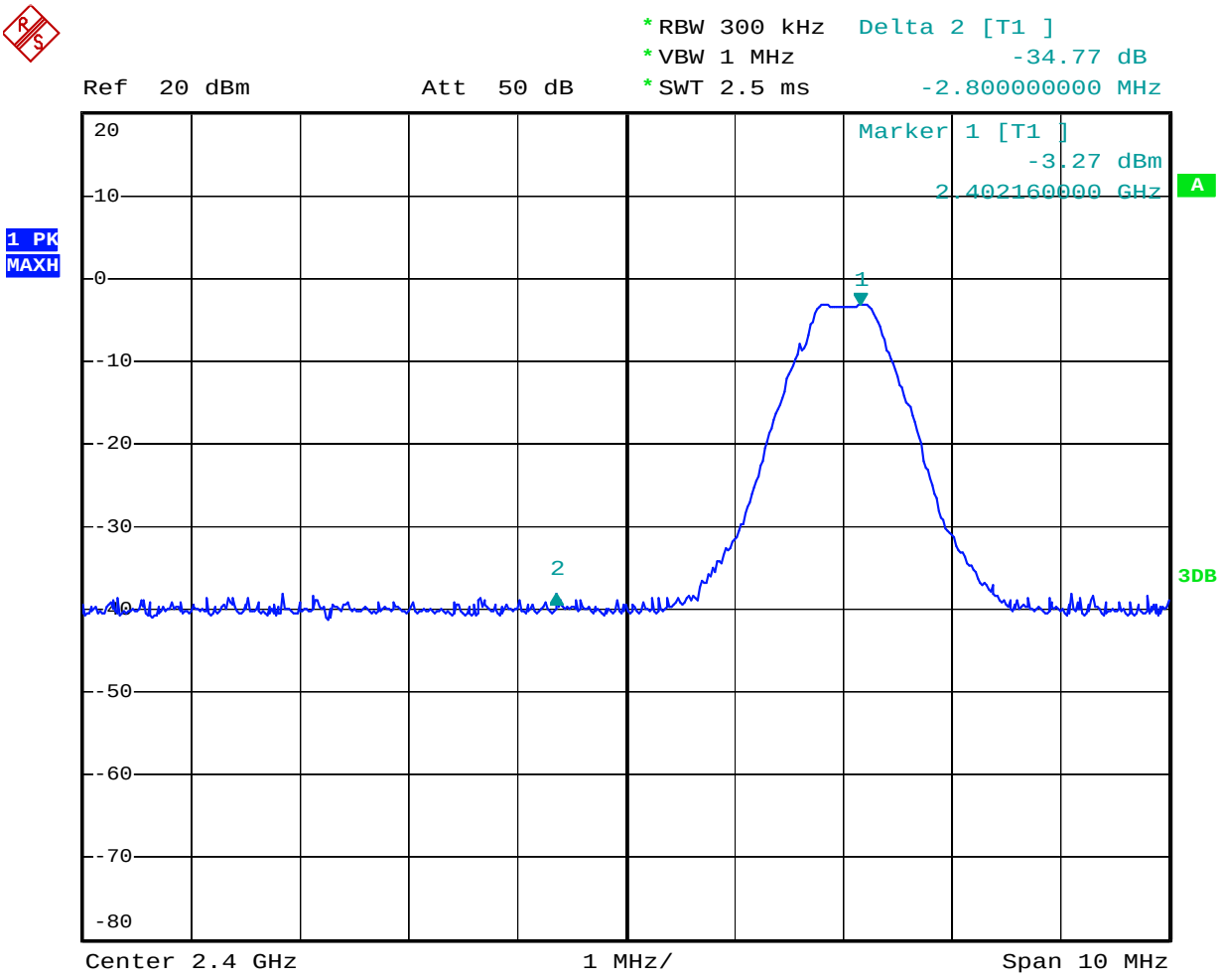
Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	34.77	> 20dBc
2480	32.73	> 20dBc

Date of Test:	August 17, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (Hopping on)	Test Engineer:	Kai

Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	33.81	> 20dBc
2480	33.25	> 20dBc



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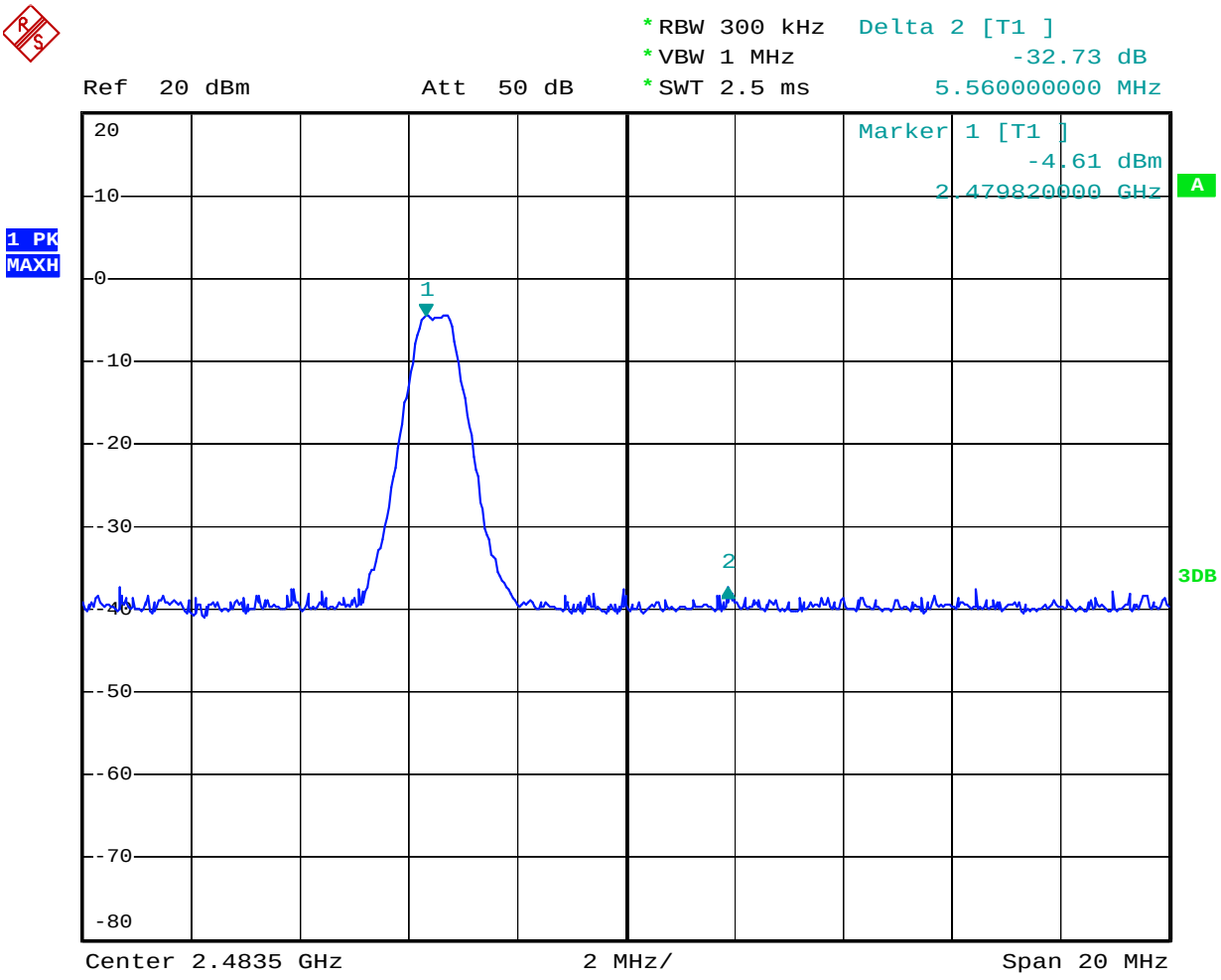

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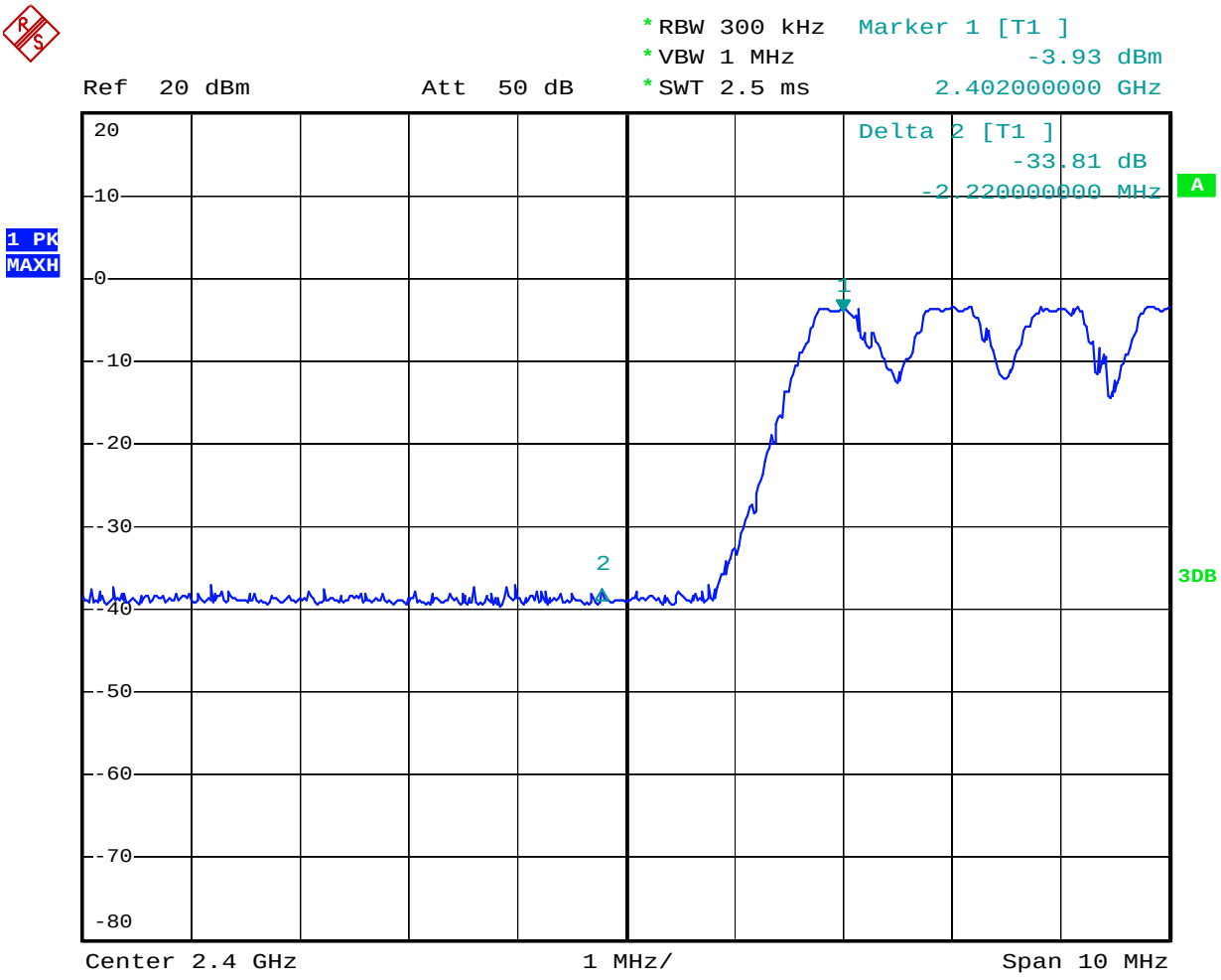

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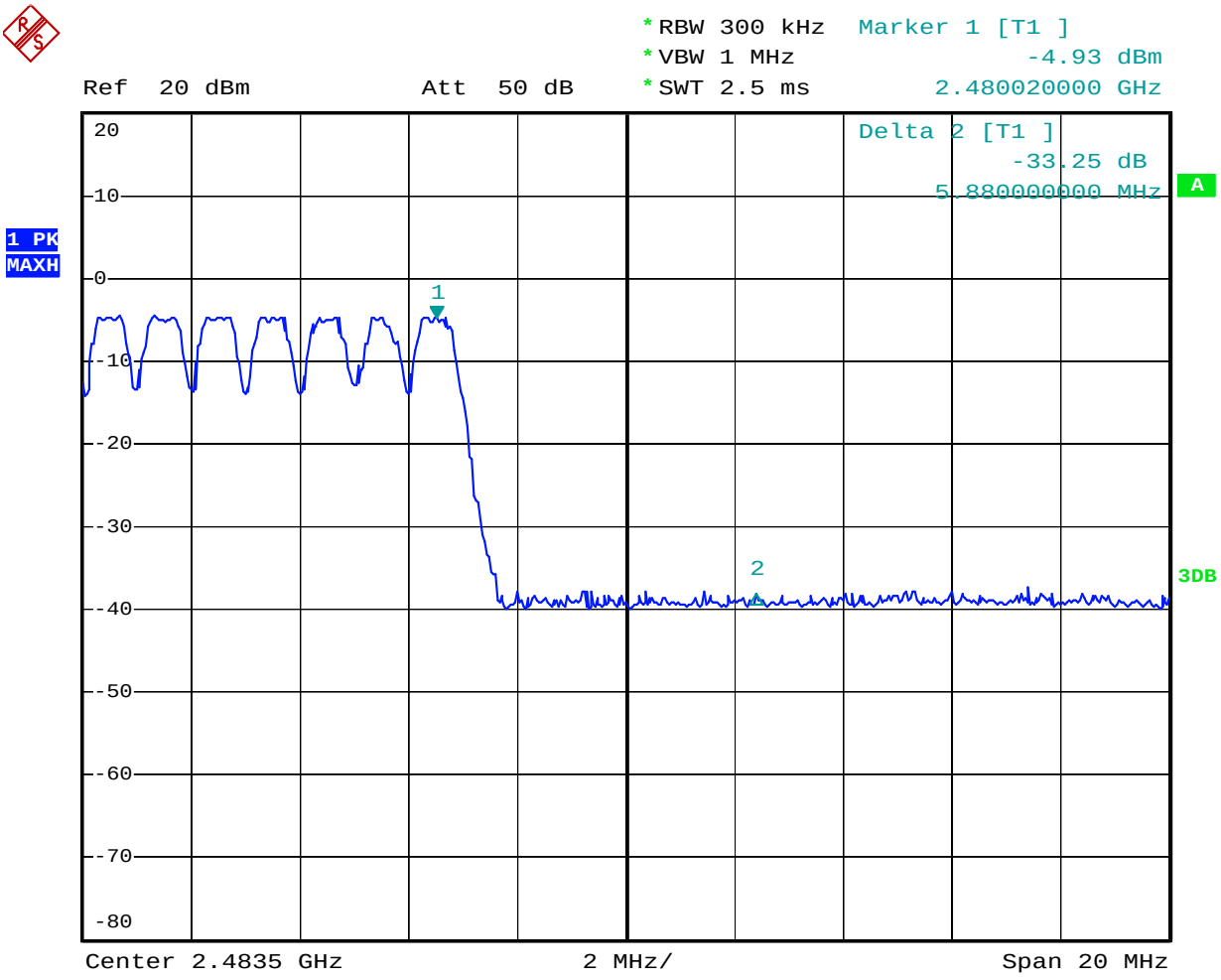


Date: 17.AUG.2012 05:58:07

Radiated Band Edge Result

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (2402MHz)	Test Engineer:	Kai

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2310.000	36.83	45.22	-7.81	29.02	37.41	54	74	-24.98	-36.59	Vertical
2399.971	38.14	47.09	-7.80	30.34	39.29	54	74	-23.66	-34.71	Vertical
2390.000	35.13	44.54	-7.53	27.60	37.01	54	74	-26.40	-36.99	Vertical
2310.000	31.28	43.98	-7.81	23.47	36.17	54	74	-30.53	-37.83	Horizontal
2375.708	36.18	47.72	-7.62	28.56	40.10	54	74	-25.44	-33.90	Horizontal
2390.000	33.58	44.28	-7.53	26.05	36.75	54	74	-27.95	-37.25	Horizontal

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (2480MHz)	Test Engineer:	Kai

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	34.14	45.73	-7.37	26.77	38.36	54	74	-27.23	-35.64	Vertical
2493.689	35.25	45.56	-7.39	27.86	38.17	54	74	-26.14	-35.83	Vertical
2500.000	32.58	43.92	-7.40	25.18	36.52	54	74	-28.82	-37.48	Vertical
2483.500	36.89	46.09	-7.37	29.52	38.72	54	74	-24.48	-35.28	Horizontal
2493.054	35.18	46.12	-7.39	27.79	38.73	54	74	-26.21	-35.27	Horizontal
2500.000	34.04	44.30	-7.40	26.64	36.90	54	74	-27.36	-37.10	Horizontal

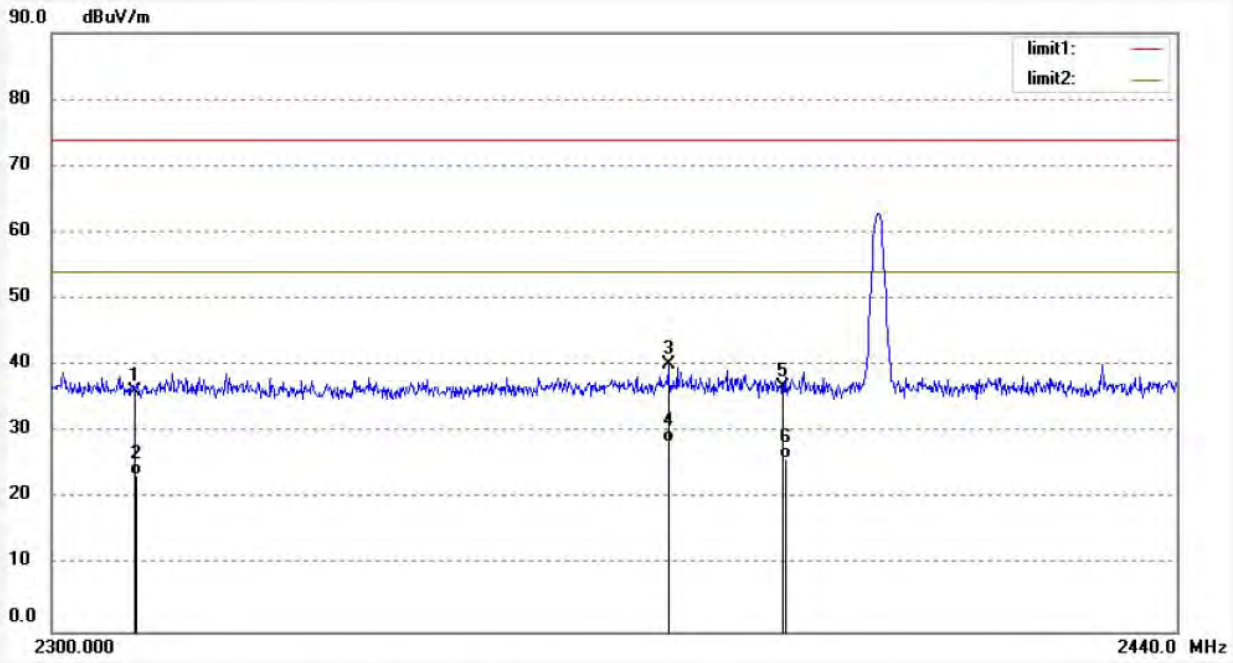
Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1905	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/5
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:44:11
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	43.98	-7.81	36.17	74.00	-37.83	peak			
2	2310.000	31.28	-7.81	23.47	54.00	-30.53	AVG			
3	2375.708	47.72	-7.62	40.10	74.00	-33.90	peak			
4	2375.708	36.18	-7.62	28.56	54.00	-25.44	AVG			
5	2390.000	44.28	-7.53	36.75	74.00	-37.25	peak			
6	2390.000	33.58	-7.53	26.05	54.00	-27.95	AVG			

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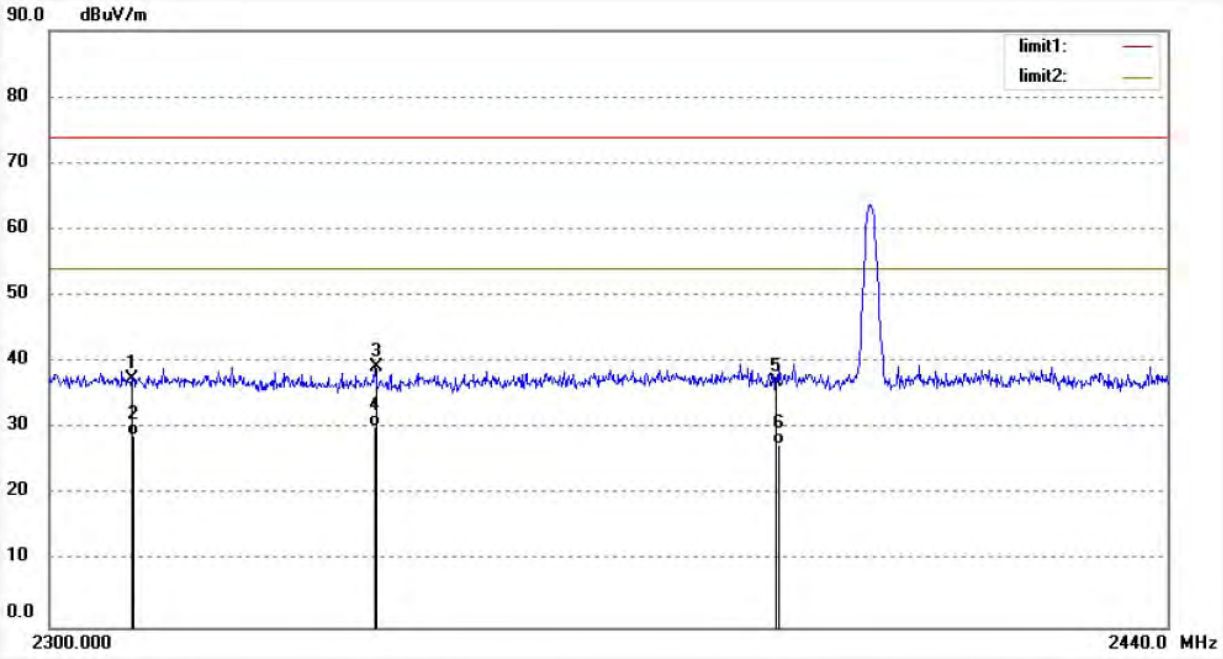
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1906
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD
Mode: TX 2402MHz
Model: M01180
Manufacturer: Doking

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/08/5
Time: 19:46:54
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	45.22	-7.81	37.41	74.00	-36.59	peak			
2	2310.000	36.83	-7.81	29.02	54.00	-24.98	AVG			
3	2339.971	47.09	-7.80	39.29	74.00	-34.71	peak			
4	2339.971	38.14	-7.80	30.34	54.00	-23.66	AVG			
5	2390.000	44.54	-7.53	37.01	74.00	-36.99	peak			
6	2390.000	35.13	-7.53	27.60	54.00	-26.40	AVG			

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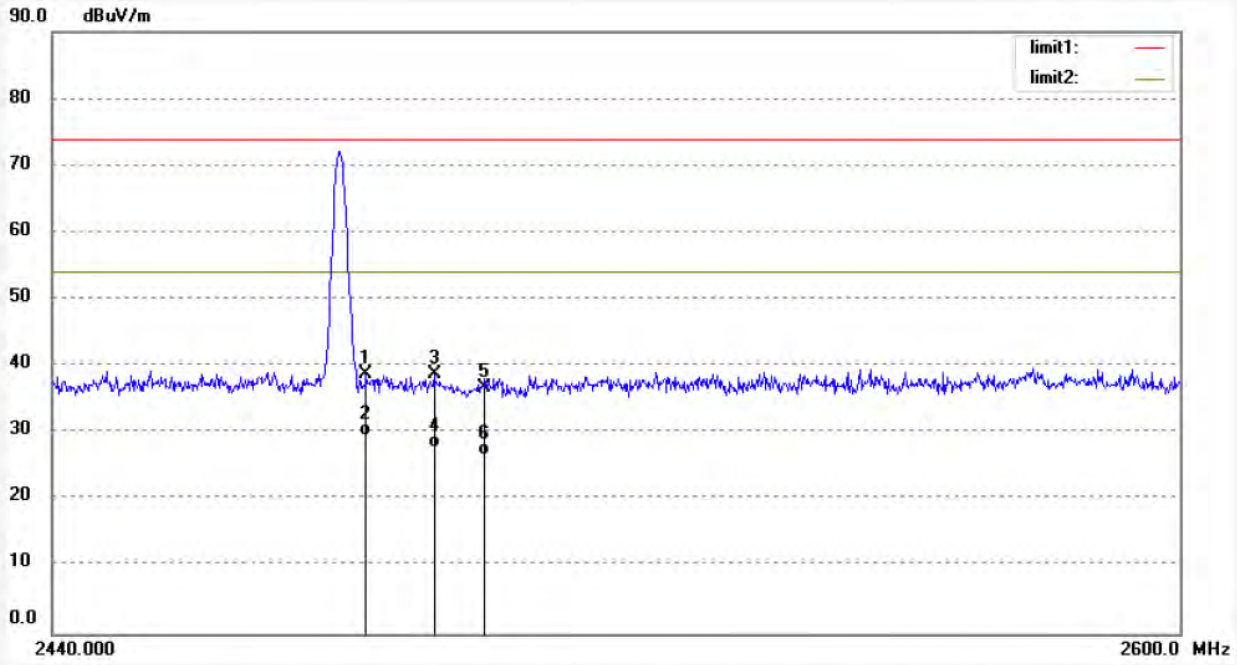
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1908	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/5
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:51:29
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	46.09	-7.37	38.72	74.00	-35.28	peak			
2	2483.500	36.89	-7.37	29.52	54.00	-24.48	AVG			
3	2493.054	46.12	-7.39	38.73	74.00	-35.27	peak			
4	2493.054	35.18	-7.39	27.79	54.00	-26.21	AVG			
5	2500.000	44.30	-7.40	36.90	74.00	-37.10	peak			
6	2500.000	34.04	-7.40	26.64	54.00	-27.36	AVG			

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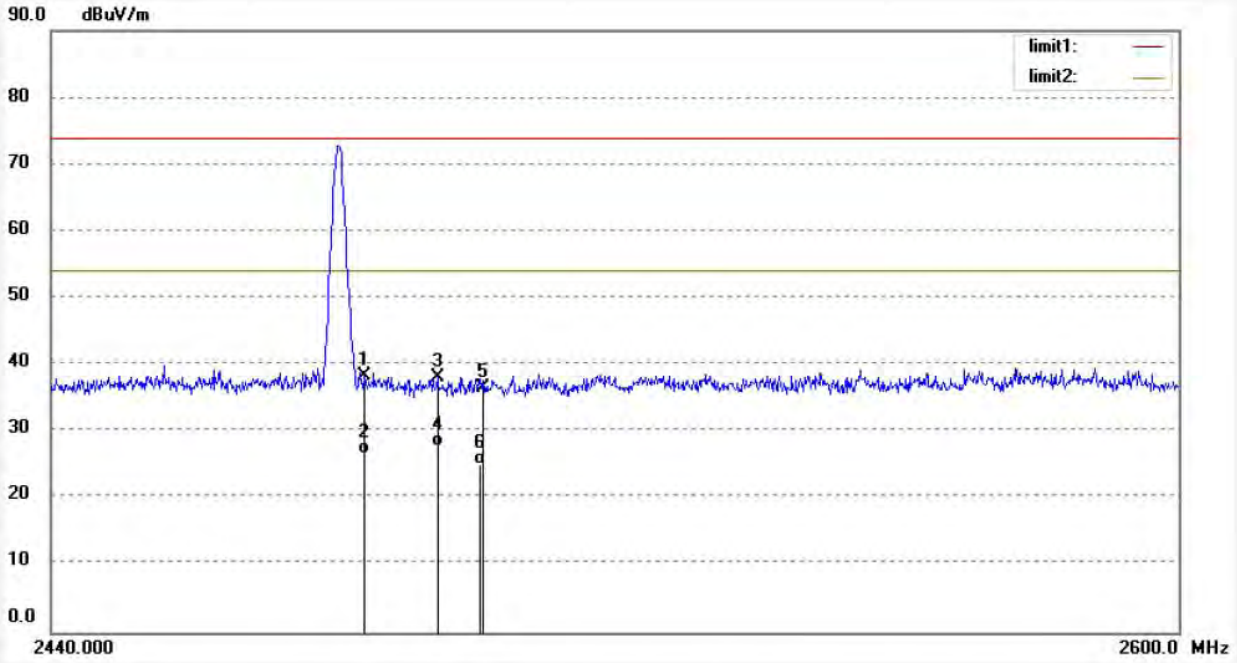
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1907
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD
Mode: TX 2480MHz
Model: M01180
Manufacturer: Doking

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/08/5
Time: 19:49:32
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20121813

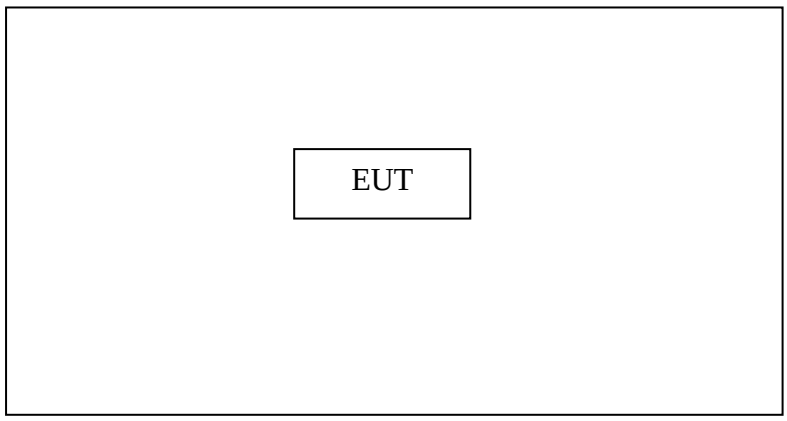


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.73	-7.37	38.36	74.00	-35.64	peak			
2	2483.500	34.14	-7.37	26.77	54.00	-27.23	AVG			
3	2493.689	45.56	-7.39	38.17	74.00	-35.83	peak			
4	2493.689	35.25	-7.39	27.86	54.00	-26.14	AVG			
5	2500.000	43.92	-7.40	36.52	74.00	-37.48	peak			
6	2500.000	32.58	-7.40	25.18	54.00	-28.82	AVG			

11.RADIATED SPURIOUS EMISSION TEST

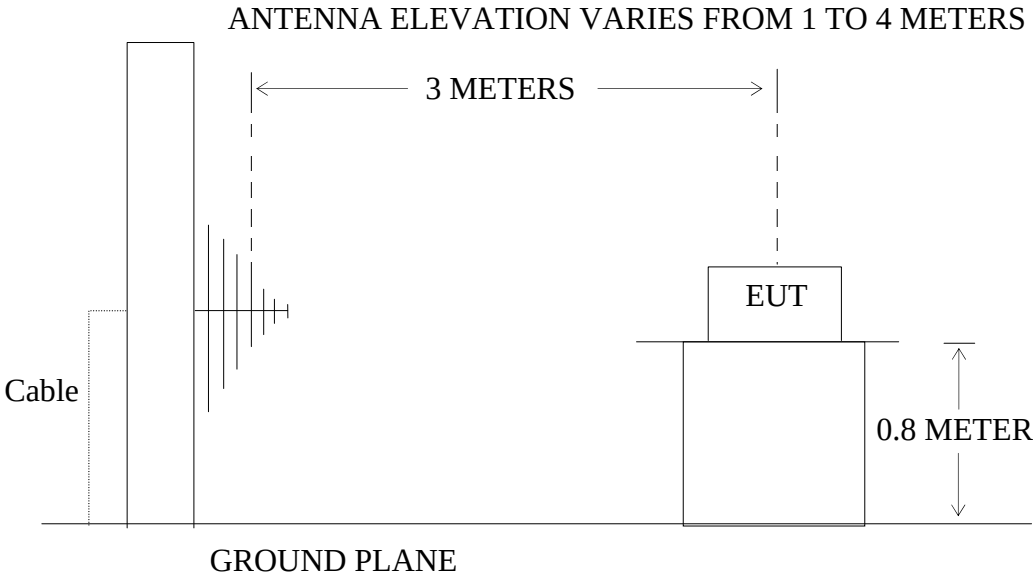
11.1.Block Diagram of Test Setup

11.1.1.Block diagram of connection between the EUT and simulators



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

11.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

11.2.The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

11.3.Restricted bands of operation

11.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510

[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

11.4.Configuration of EUT on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	**:**	M01180
Serial Number	**:**	N/A
Manufacturer	**:**	Shenzhen Doking Electronic Technology Co., Ltd.

11.5.Operating Condition of EUT

11.5.1.Setup the EUT and simulator as shown as Section 11.1.

11.5.2.Turn on the power of all equipment.

11.5.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

11.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9kHz to 25GHz is checked.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.
The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

11.7.The Field Strength of Radiation Emission Measurement Results

PASS.

Date of Test:	August 5, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (2402MHz)	Test Engineer:	Kai

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
102.9728	3.36	13.95	17.31	43.50	-26.19	Vertical
219.1785	2.17	15.49	17.66	46.00	-28.34	
357.1923	8.99	21.17	30.16	46.00	-15.84	
95.6484	14.26	14.09	28.35	43.50	-15.15	Horizontal
259.4433	13.05	18.52	31.57	46.00	-14.43	
285.2611	18.41	18.46	36.87	46.00	-9.13	

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

Date of Test:	August 5, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (2441MHz)	Test Engineer:	Kai

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
46.5439	3.41	14.45	17.86	40.00	-22.14	Vertical
103.3353	3.93	13.94	17.87	43.50	-25.63	
285.2611	3.25	18.46	21.71	46.00	-24.29	
95.6484	15.20	14.09	29.29	43.50	-14.21	Horizontal
259.4433	13.28	18.52	31.80	46.00	-14.20	
285.2611	18.88	18.46	37.34	46.00	-8.66	

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

Date of Test:	August 5, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	DC 3.7V
Test Mode:	TX (2480MHz)	Test Engineer:	Kai

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
34.4059	2.59	15.75	18.34	40.00	-21.66	Vertical
40.0172	3.45	14.55	18.00	40.00	-22.00	
357.1923	9.44	21.17	30.61	46.00	-15.39	
189.1075	12.21	13.86	26.07	43.50	-17.43	Horizontal
236.7927	14.44	16.80	31.24	46.00	-14.76	
285.2611	18.79	18.46	37.25	46.00	-8.75	

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

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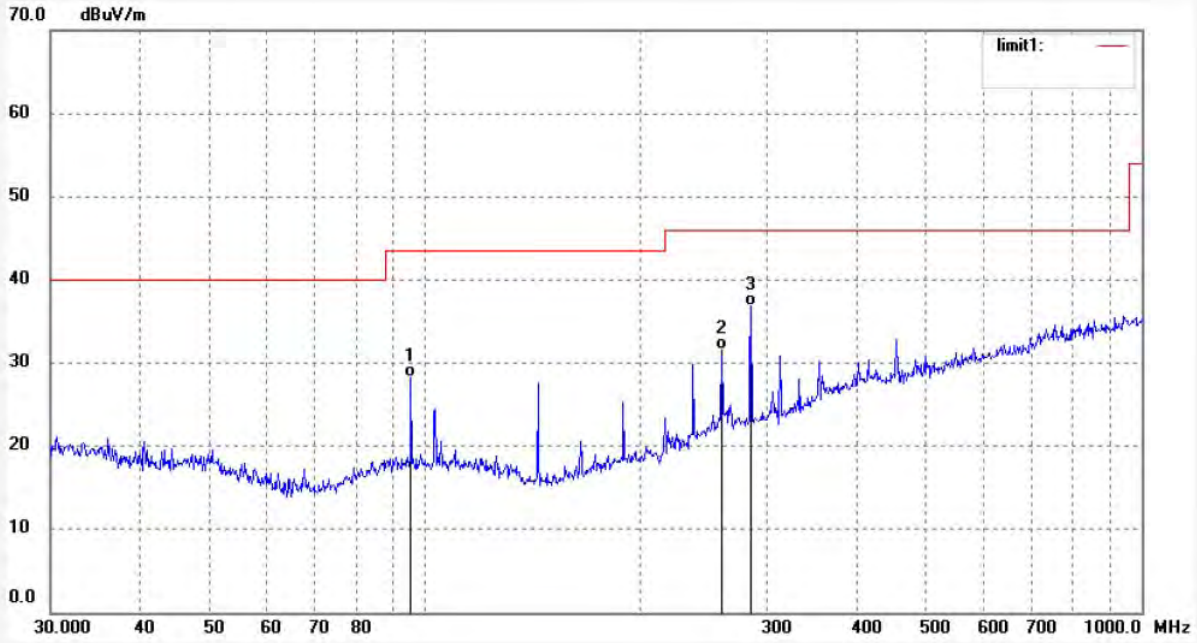
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1909	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 20:21:04
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	95.6484	14.26	14.09	28.35	43.50	-15.15	QP			
2	259.4433	13.05	18.52	31.57	46.00	-14.43	QP			
3	285.2611	18.41	18.46	36.87	46.00	-9.13	QP			

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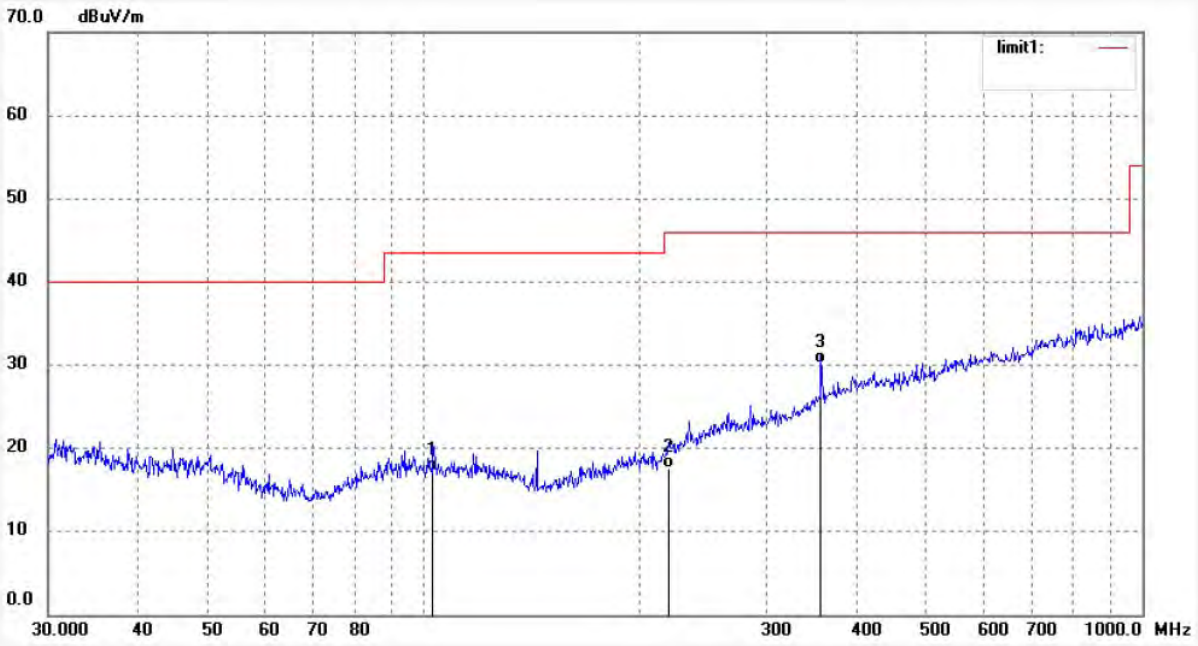
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1910	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 20:21:57
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.9728	3.36	13.95	17.31	43.50	-26.19	QP			
2	219.1785	2.17	15.49	17.66	46.00	-28.34	QP			
3	357.1923	8.99	21.17	30.16	46.00	-15.84	QP			

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Site: 966 chamber
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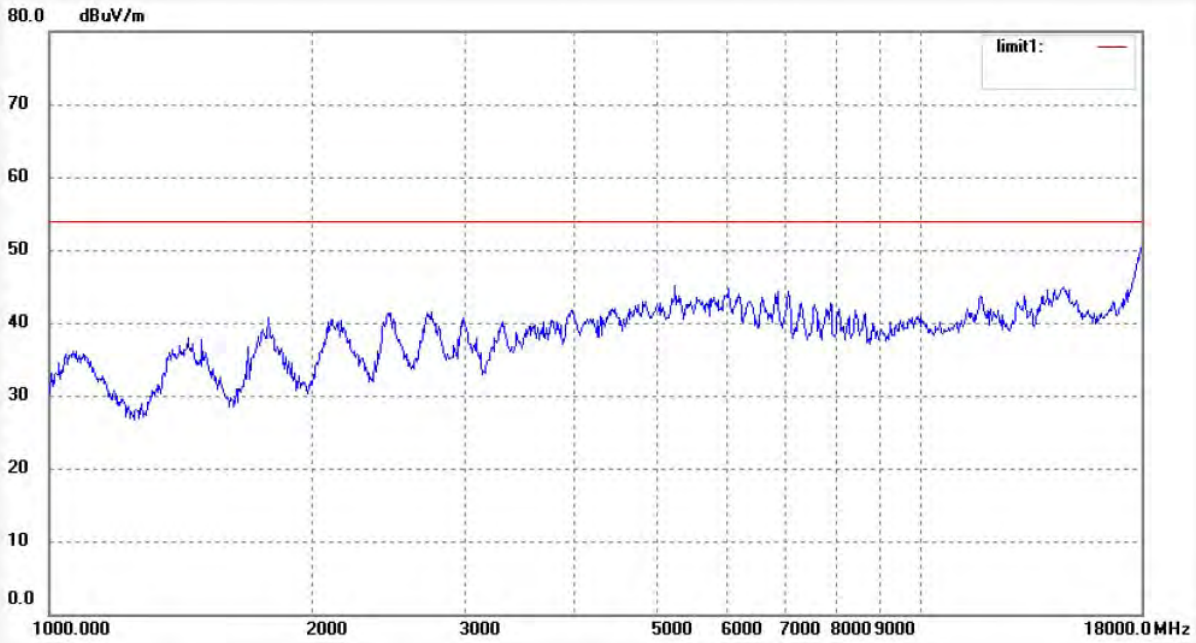
Fax:+86-0755-26503396

Job No.: STAR #1881	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:05:19
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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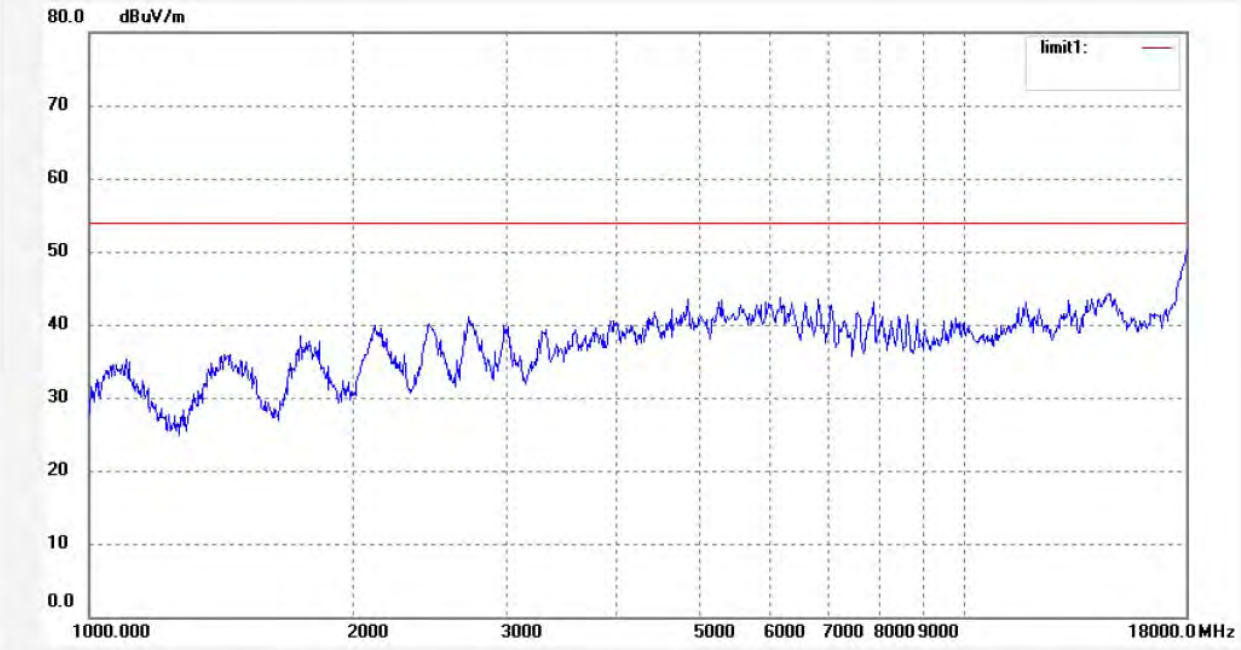
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1882	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:05:49
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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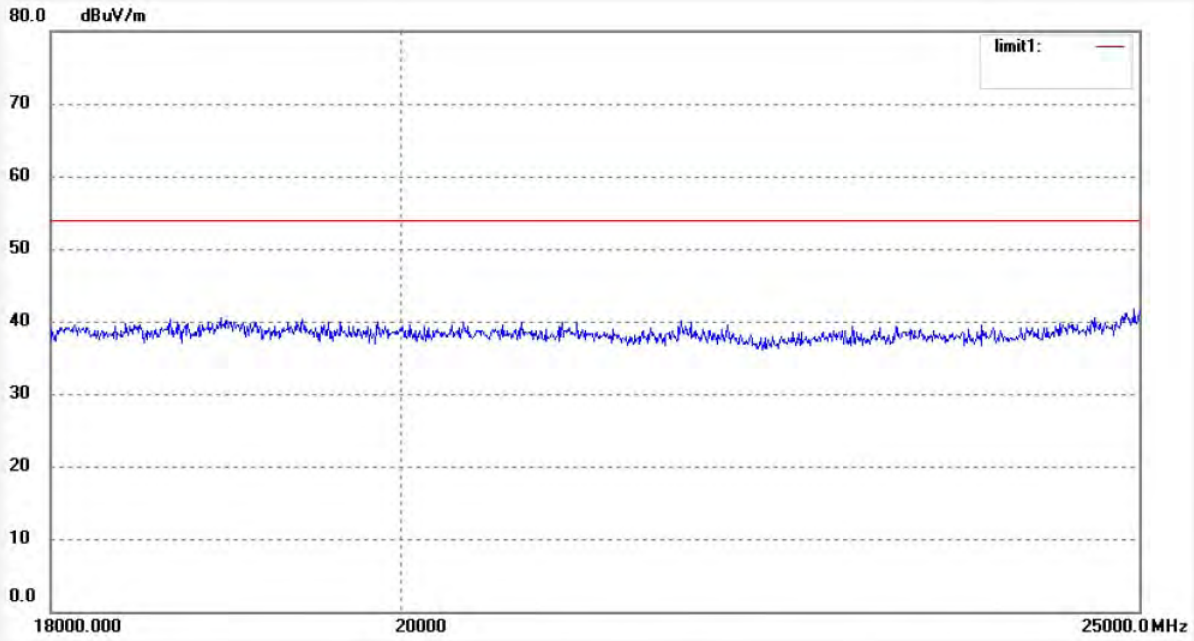
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1892	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:14:09
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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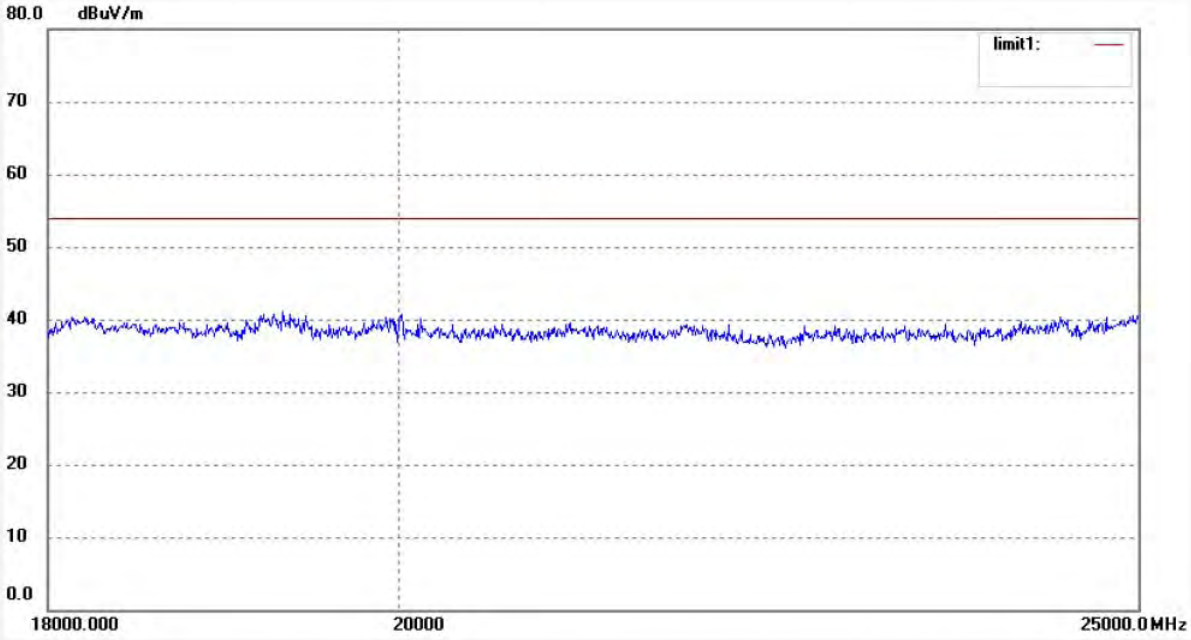
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1891	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:13:02
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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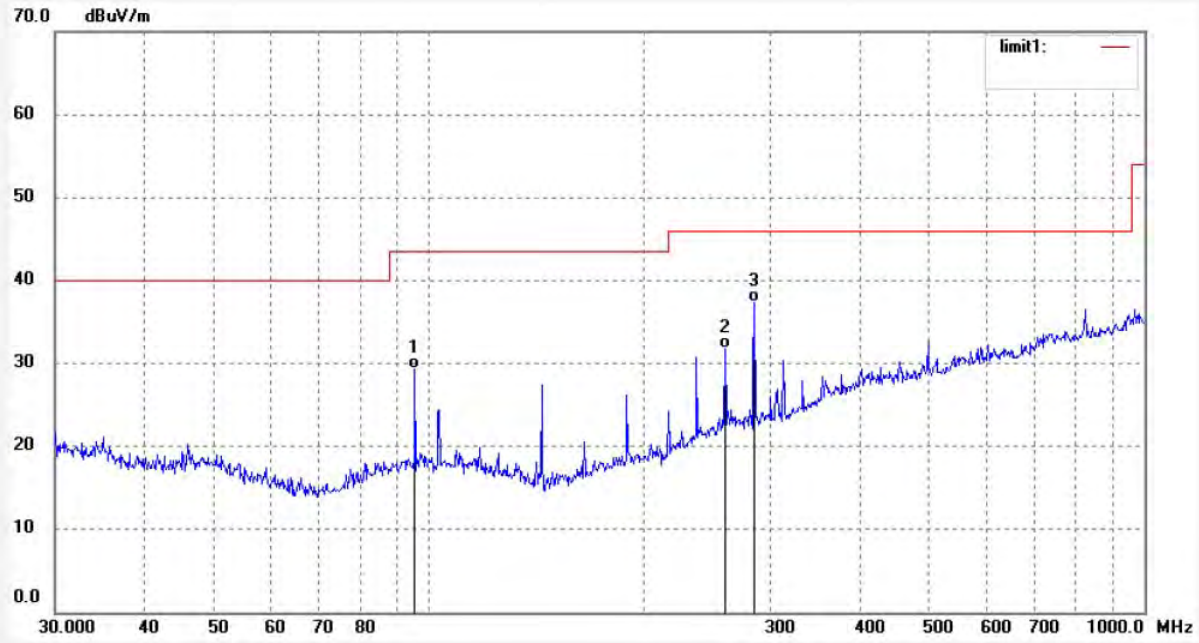
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1912	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 20:24:42
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	95.6484	15.20	14.09	29.29	43.50	-14.21	QP			
2	259.4433	13.28	18.52	31.80	46.00	-14.20	QP			
3	285.2611	18.88	18.46	37.34	46.00	-8.66	QP			

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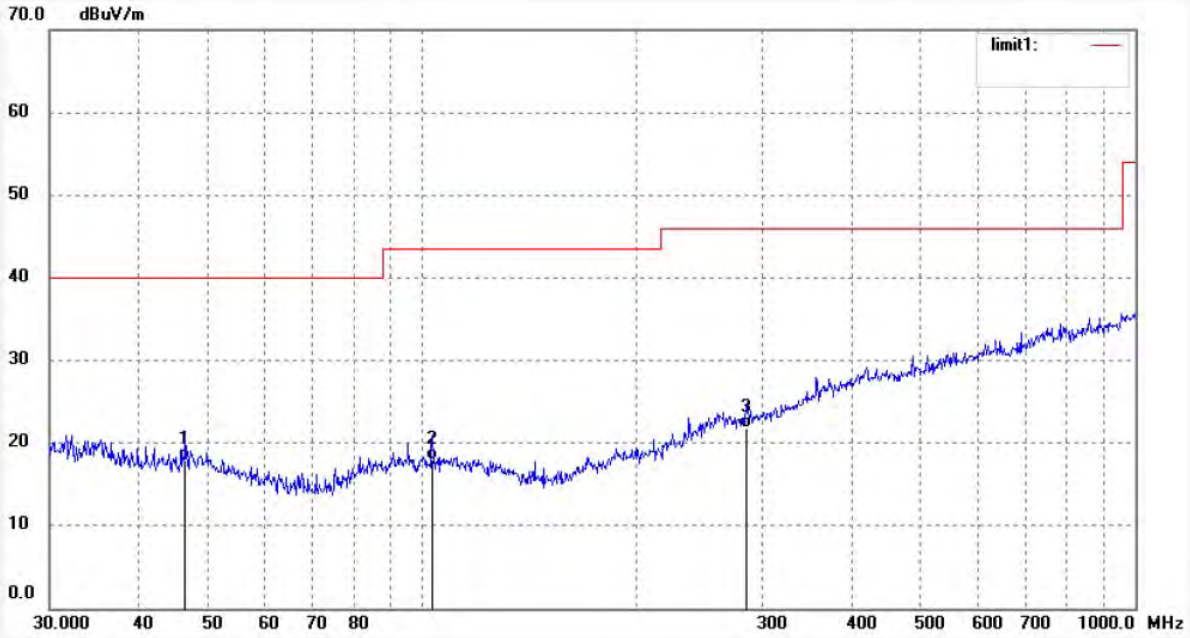
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1911
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD
Mode: TX 2441MHz
Model: M01180
Manufacturer: Doking

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/08/05
Time: 20:22:48
Engineer Signature:
Distance: 3m

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	46.5439	3.41	14.45	17.86	40.00	-22.14	QP			
2	103.3353	3.93	13.94	17.87	43.50	-25.63	QP			
3	285.2611	3.25	18.46	21.71	46.00	-24.29	QP			

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Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
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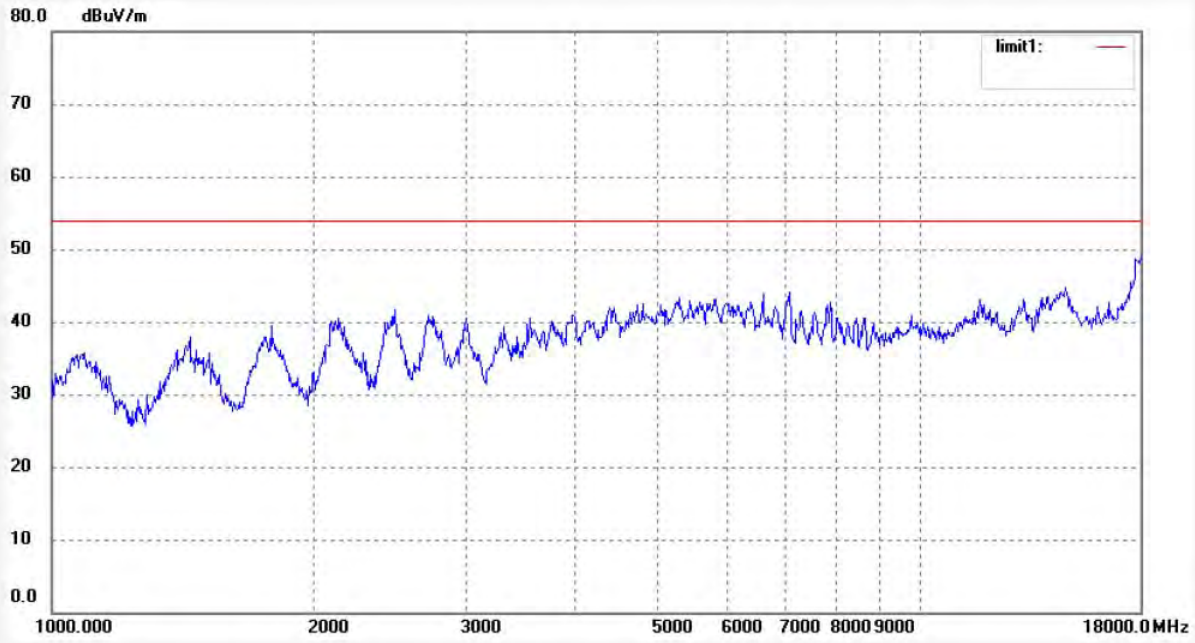
Fax:+86-0755-26503396

Job No.: STAR #1884	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:06:45
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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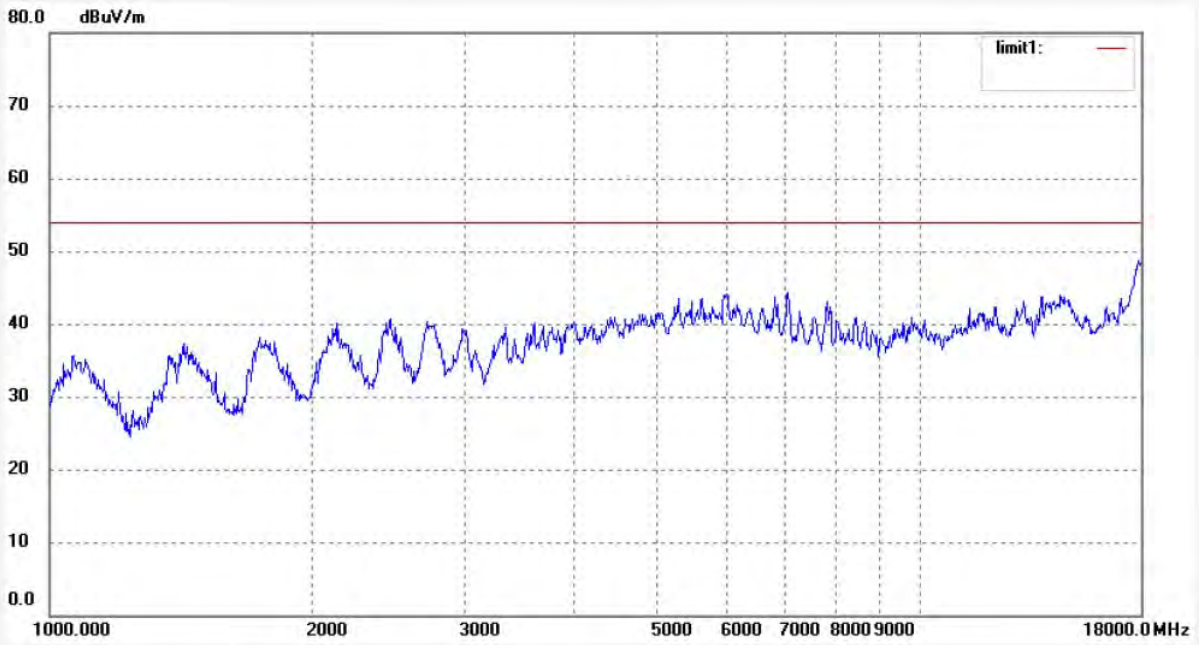
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1883	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:06:10
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
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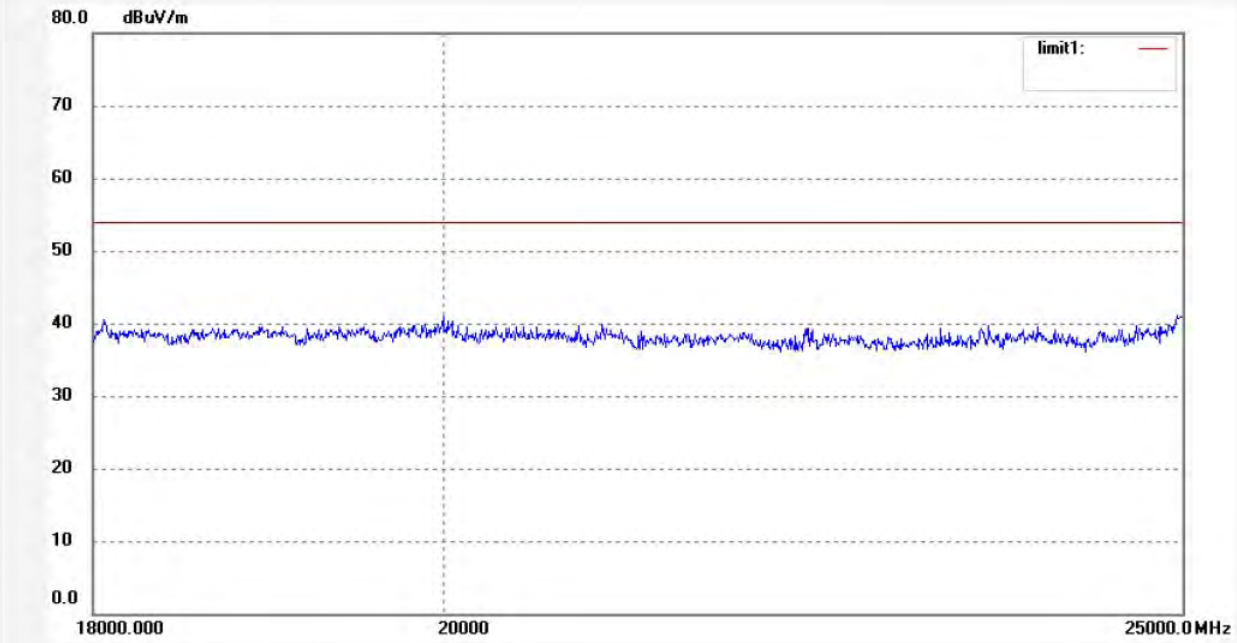
Fax:+86-0755-26503396

Job No.: STAR #1889	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:10:52
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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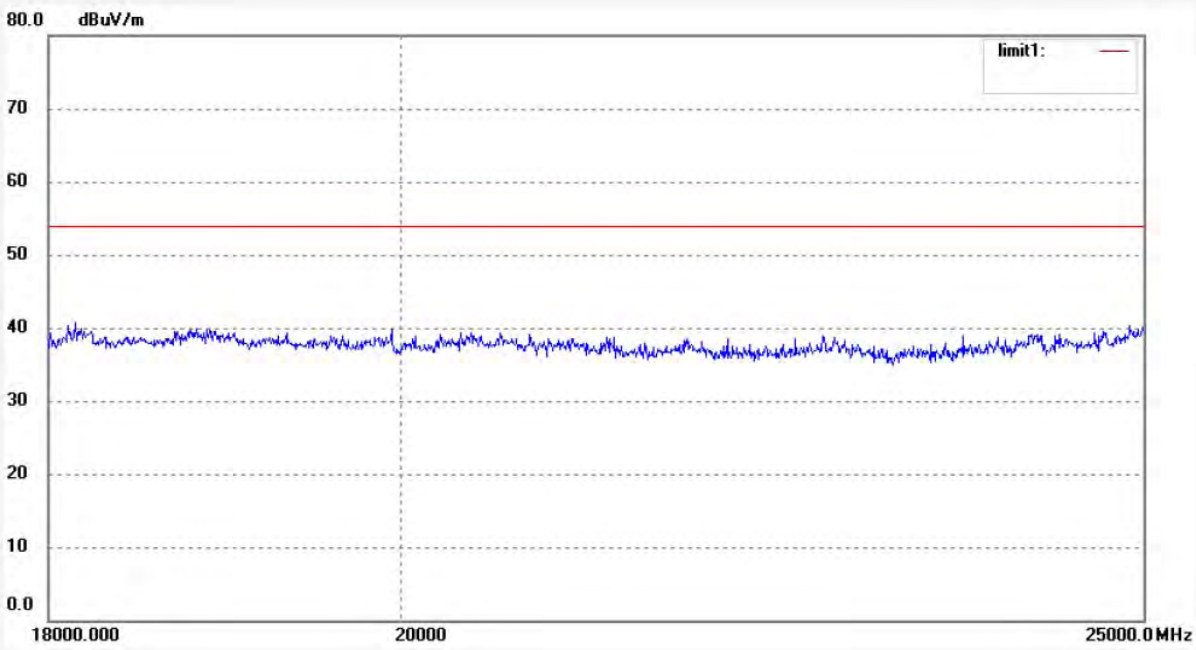
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1890	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:11:56
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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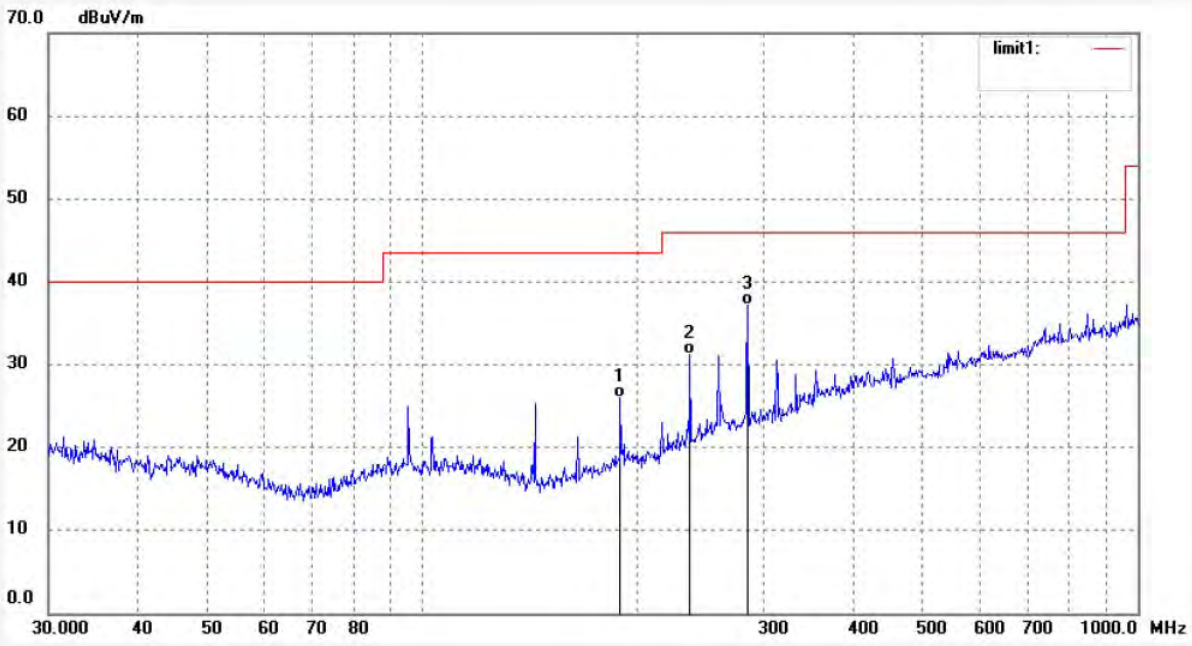
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1913	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 20:25:59
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	189.1075	12.21	13.86	26.07	43.50	-17.43	QP			
2	236.7927	14.44	16.80	31.24	46.00	-14.76	QP			
3	285.2611	18.79	18.46	37.25	46.00	-8.75	QP			

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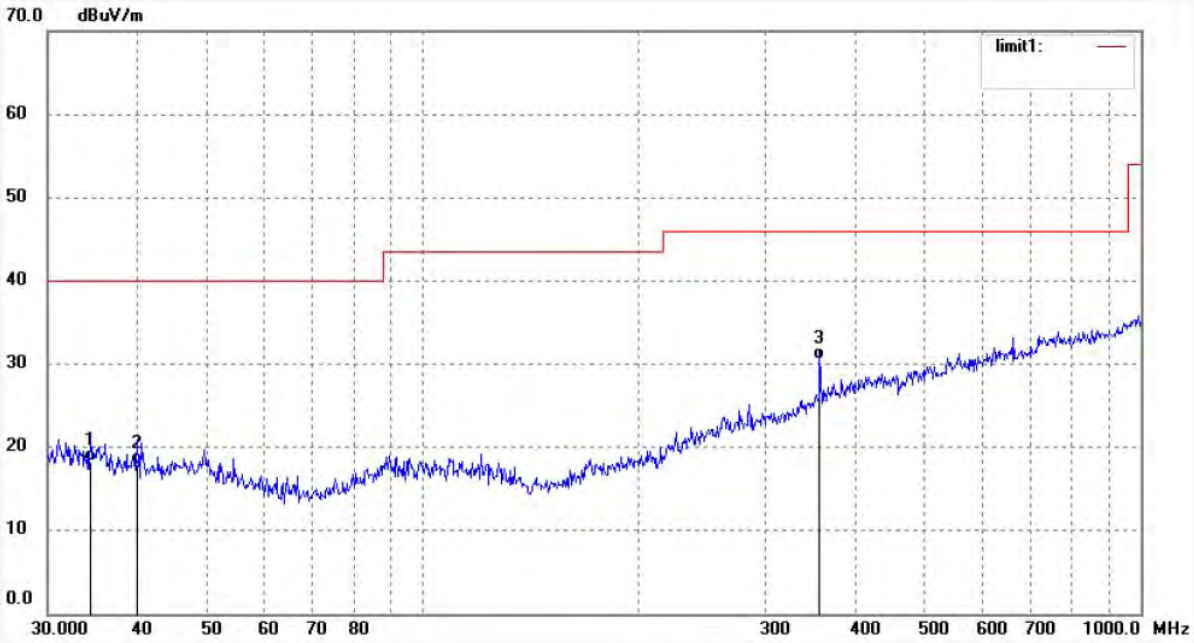
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #1914	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 20:26:52
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.4059	2.59	15.75	18.34	40.00	-21.66	QP			
2	40.0172	3.45	14.55	18.00	40.00	-22.00	QP			
3	357.1923	9.44	21.17	30.61	46.00	-15.39	QP			

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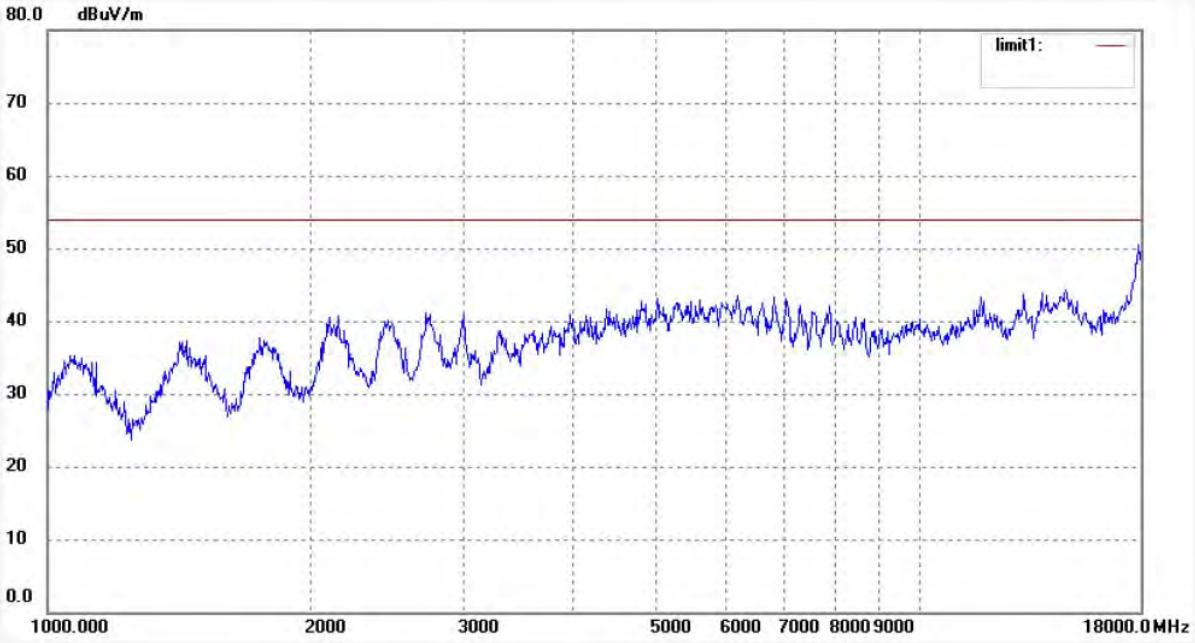
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1885	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:07:01
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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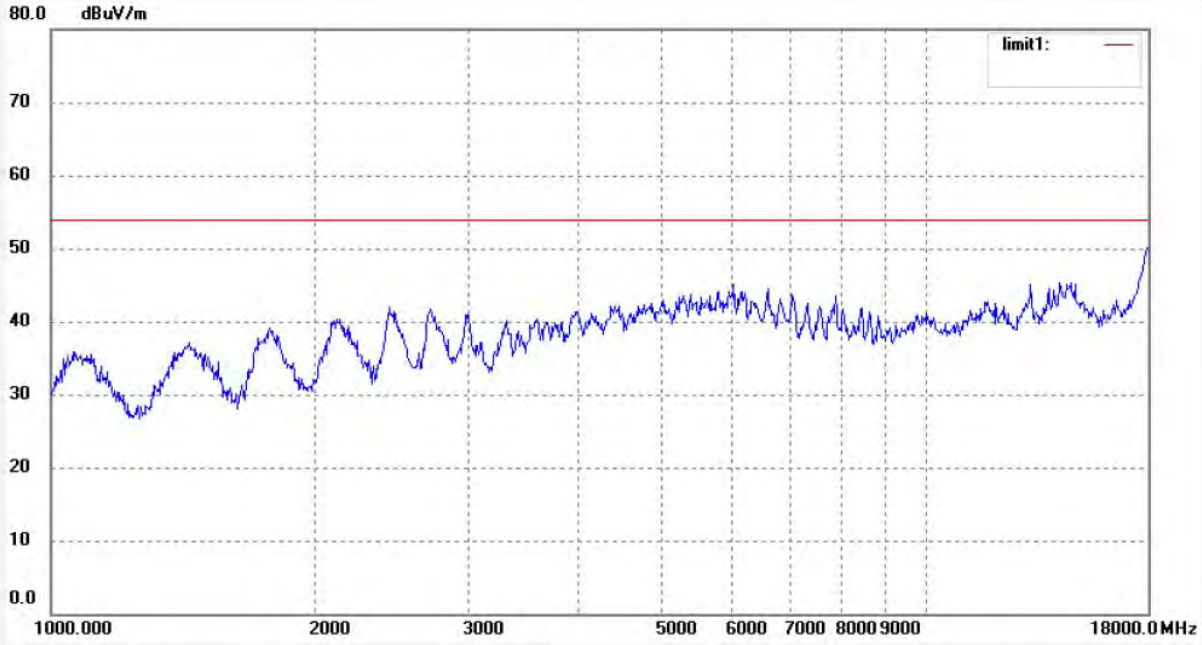
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1886	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:08:41
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813

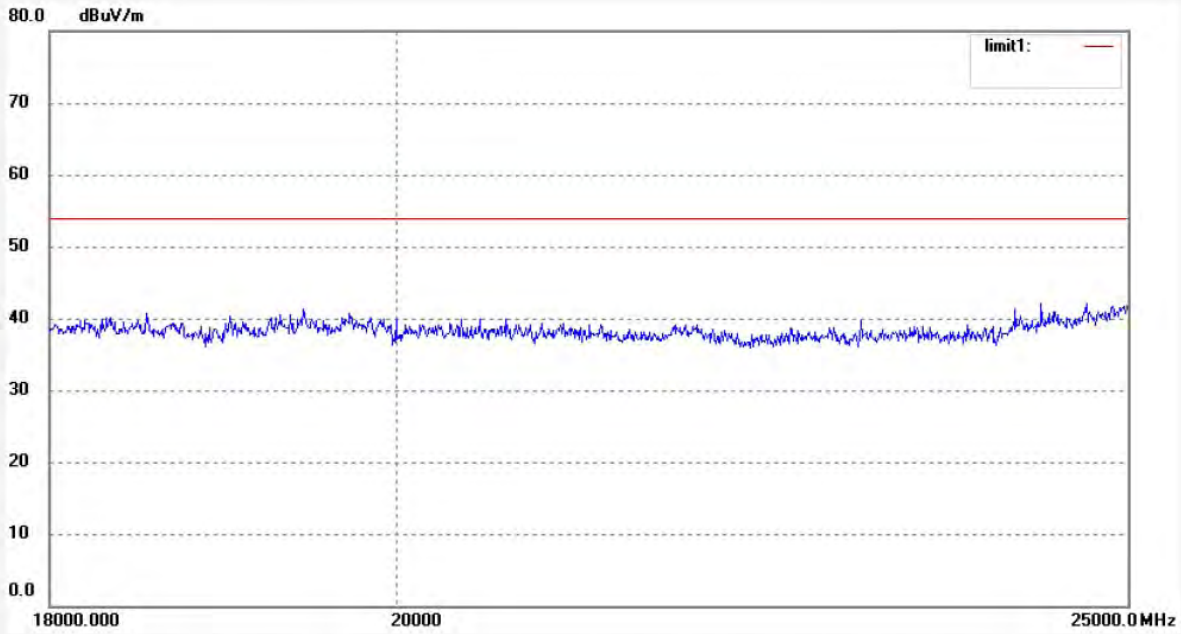


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1888	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:09:56
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

Note: Report No.:ATE20121813

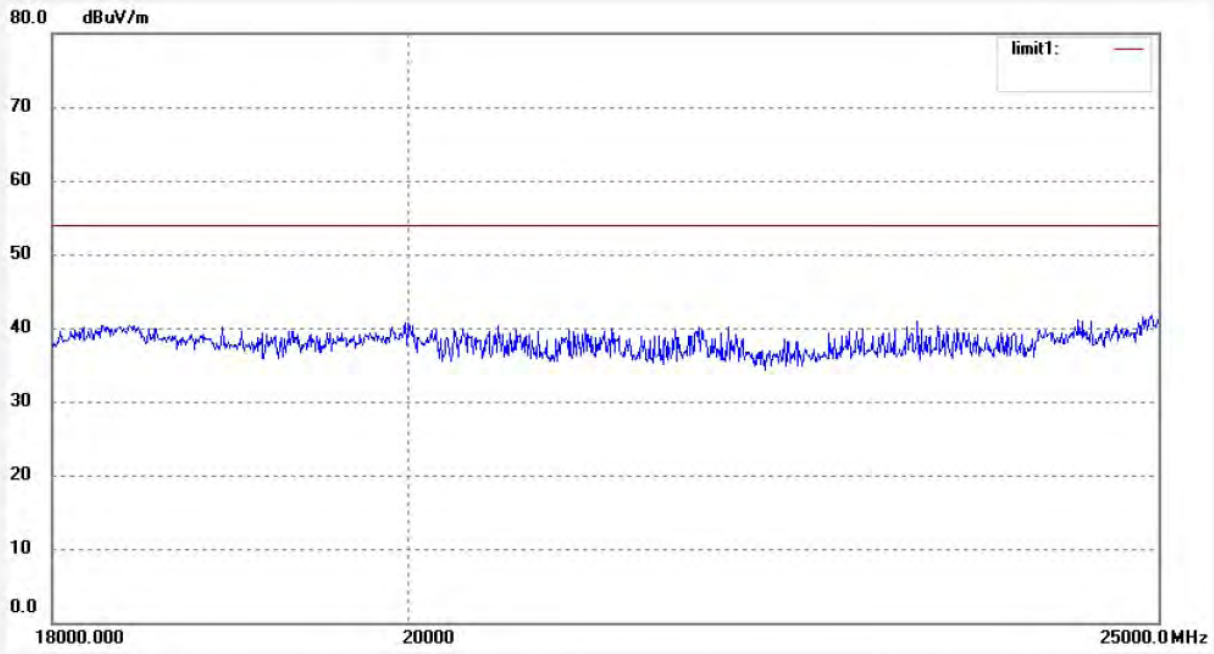


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1887	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/05
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:09:14
EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: M01180	
Manufacturer: Doking	

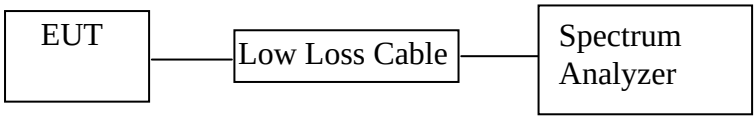
Note: Report No.:ATE20121813



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

12. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

12.1. Block Diagram of Test Setup



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

12.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

12.3. EUT Configuration on Measurement

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

12.3.1. KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	:	M01180
Serial Number	:	N/A
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.

12.4.Operating Condition of EUT

12.4.1.Setup the EUT and simulator as shown as Section 12.1.

12.4.2.Turn on the power of all equipment.

12.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

12.5.Test Procedure

12.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

12.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz (below 1GHz).

Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz (above 1GHz).

12.5.3.The Conducted Spurious Emission was measured and recorded.

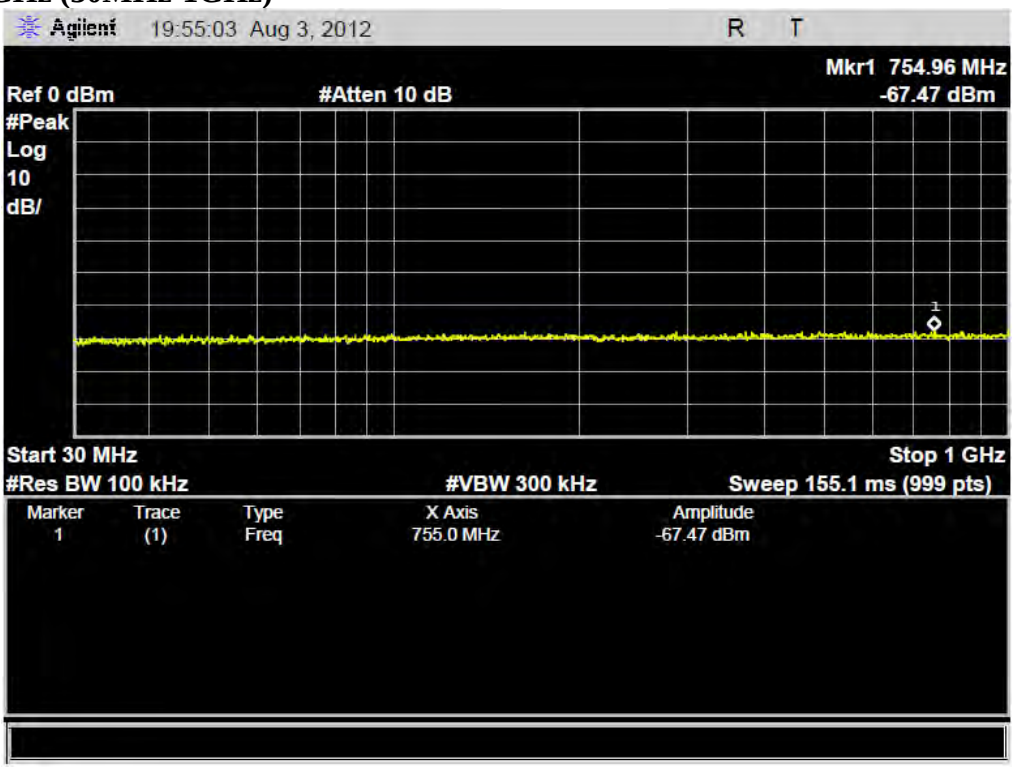
12.6.Test Result

Pass.

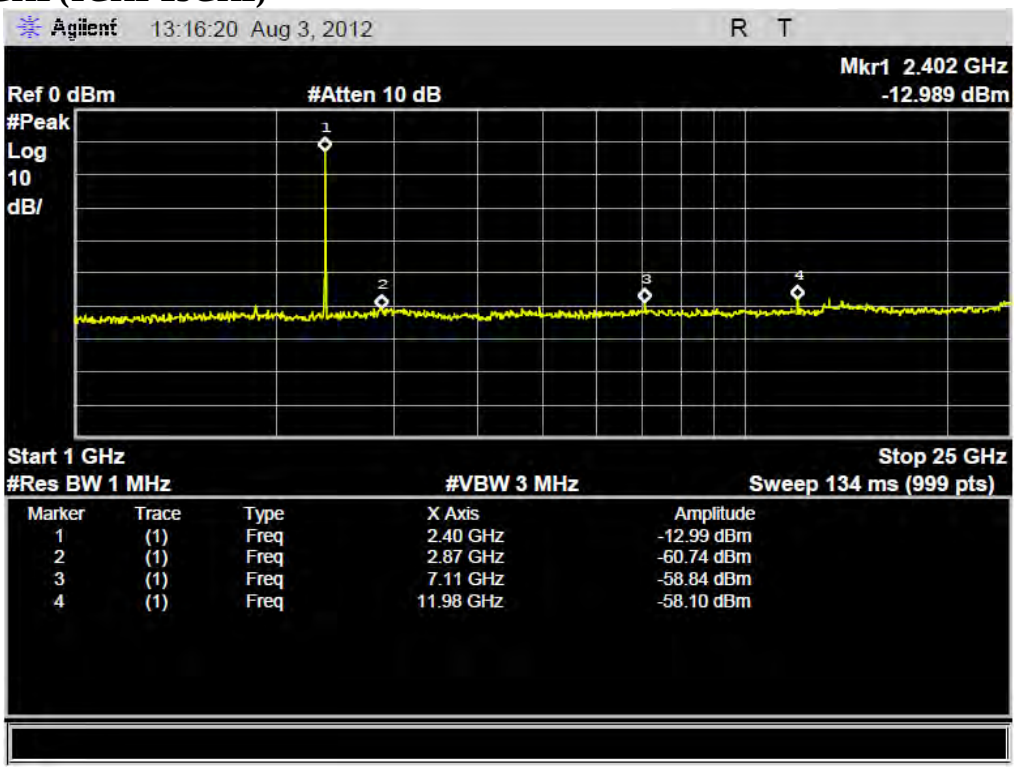
The spectrum analyzer plots are attached as below.

"Spectrum analyzer" is Agilent

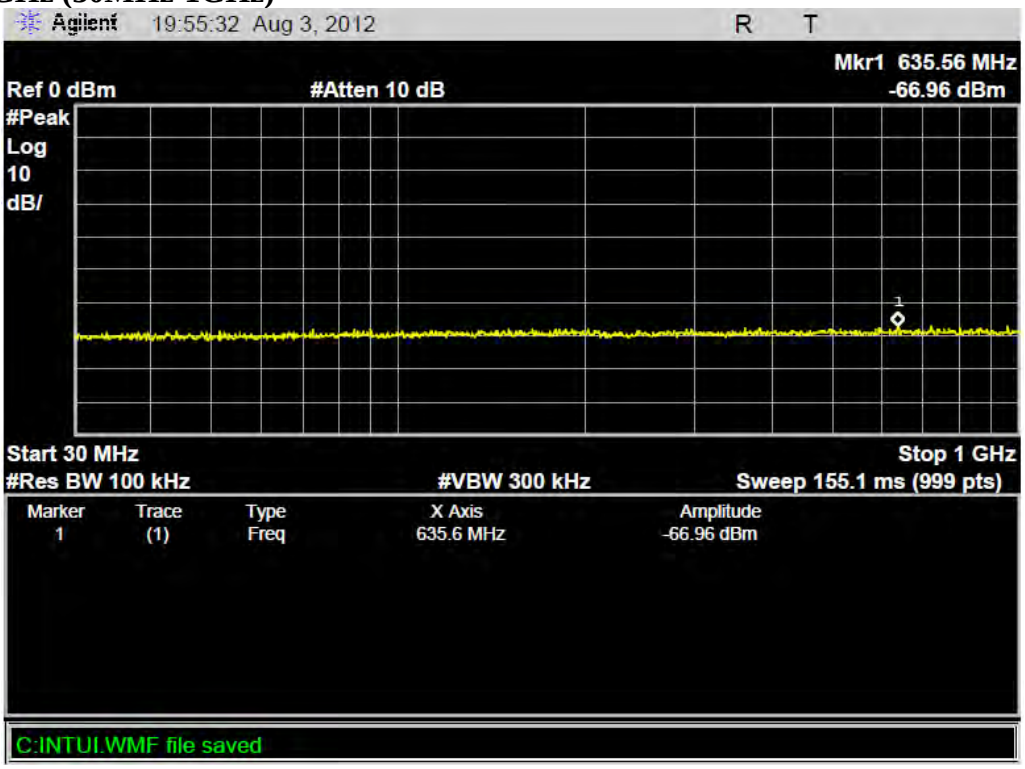
TX 2402GHz (30MHz-1GHz)



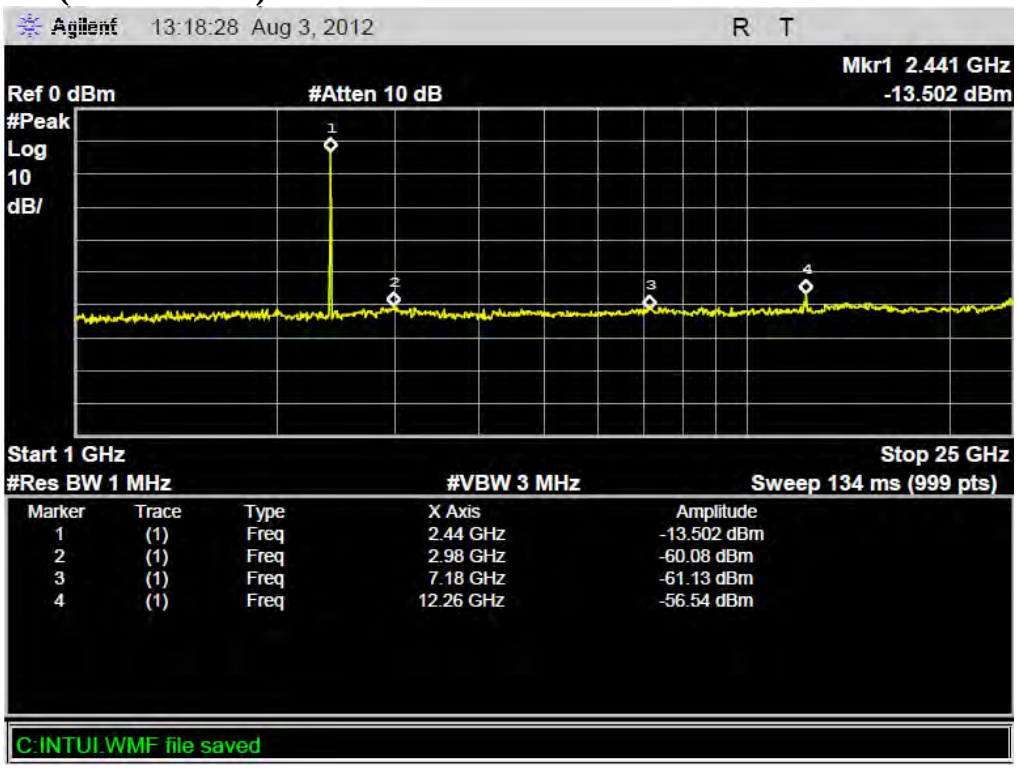
TX 2402GHz (1GHz-25GHz)



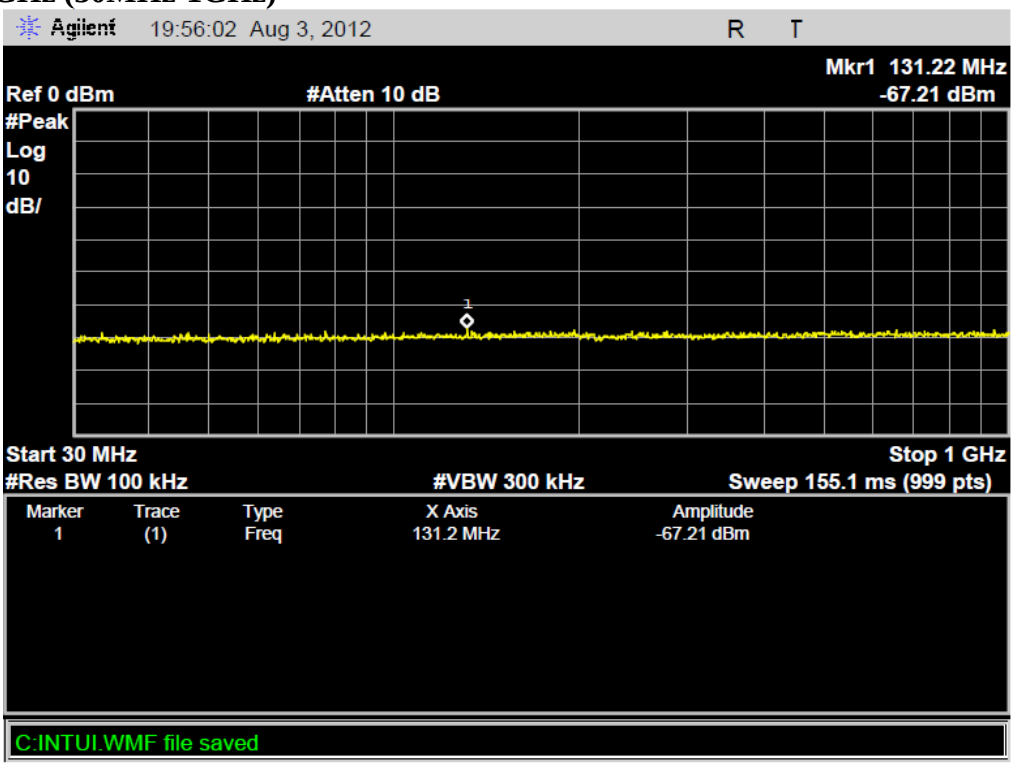
TX 2441GHz (30MHz-1GHz)



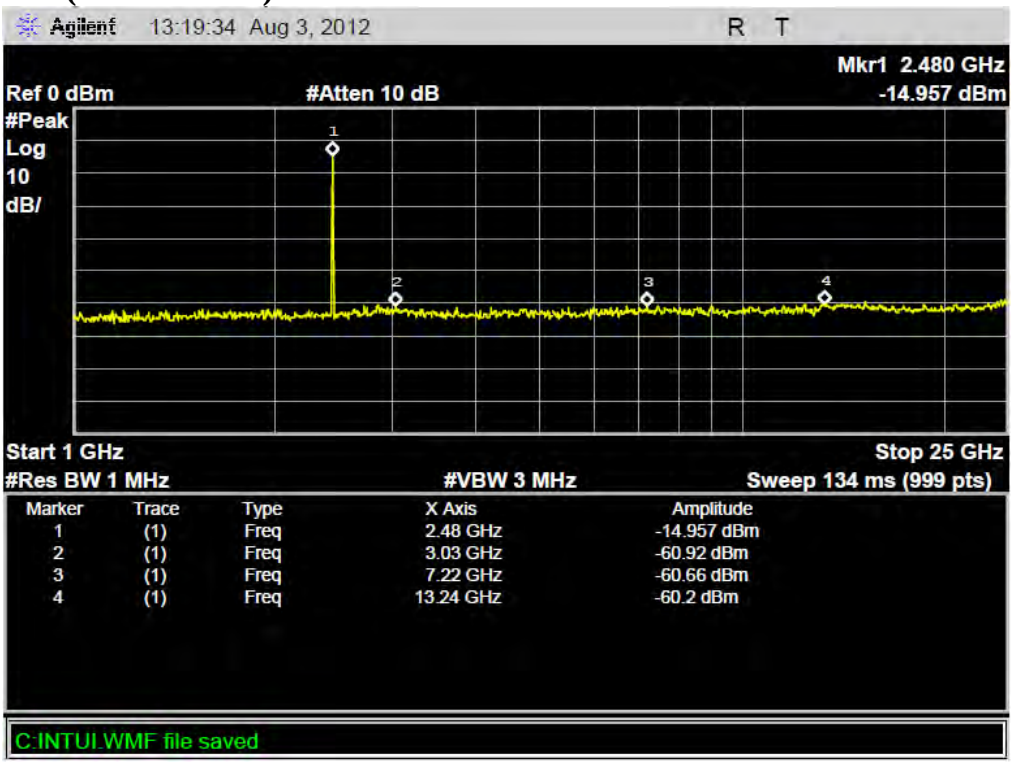
TX 2441GHz (1GHz-25GHz)



TX 2480GHz (30MHz-1GHz)



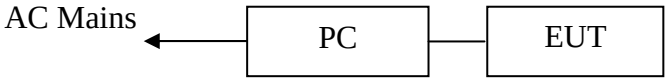
TX 2480GHz (1GHz-25GHz)



13. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

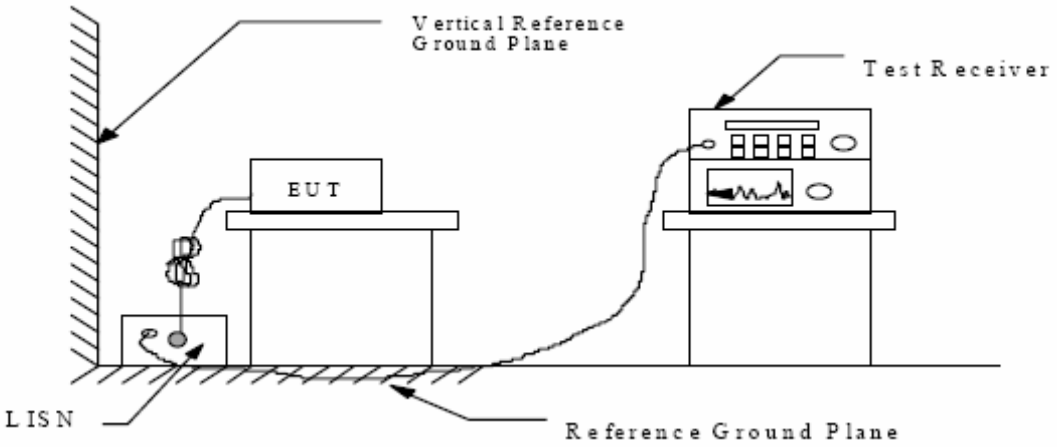
13.1. Block Diagram of Test Setup

13.1.1. Block diagram of connection between the EUT and simulators



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

13.1.2. Shielding Room Test Setup Diagram



(EUT: KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD)

13.2. The Emission Limit

13.2.1. Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

* Decreases with the logarithm of the frequency.

13.3.Configuration of EUT on Measurement

The following equipment are installed on the Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

13.3.1.KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD (EUT)

Model Number	**:**	M01180
Serial Number	**:**	N/A
Manufacturer	**:**	Shenzhen Doking Electronic Technology Co., Ltd.

13.4.Operating Condition of EUT

13.4.1.Setup the EUT and simulator as shown as Section 13.1.

13.4.2.Turn on the power of all equipment.

13.4.3.Let the EUT work in (Charging) mode measure it.

13.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

13.6.Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150kHz to 30MHz is checked.

Date of Test:	August 2, 2012	Temperature:	25°C
EUT:	KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD	Humidity:	50%
Model No.:	M01180	Power Supply:	AC 120V/ 60Hz
Test Mode:	Charging	Test Engineer:	Kai

Frequency (MHz)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector	Line
0.157990	44.10	66	-21.5	QP	Neutral
0.222704	41.20	63	-21.5	QP	
0.262308	37.30	61	-24.1	QP	
0.157990	40.00	56	-15.6	AV	
0.223595	39.00	53	-13.7	AV	
0.262308	35.50	51	-15.9	AV	
0.157990	43.90	66	-21.7	QP	Live
0.223595	40.70	63	-22.0	QP	
0.261263	36.70	61	-24.7	QP	
0.157990	39.60	56	-16.0	AV	
0.223595	38.50	53	-14.2	AV	
0.261263	32.55	51	-16.4	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported.
The spectral diagrams are attached as below.

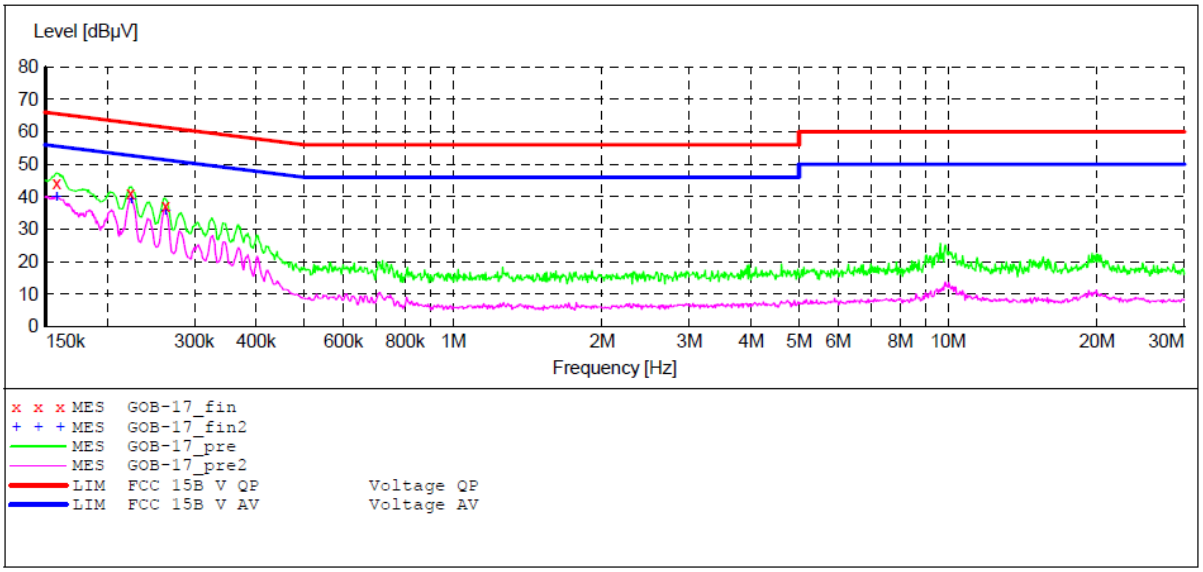
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                    KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD  M/N:M01180
Manufacturer:           Doking
Operating Condition:    Charging
Test Site:              1#Shielding Room
Operator:               STAR
Test Specification:     N  120V/60Hz
Comment:                Report No.:ATE20121813
Start of Test:          8/2/2012 / 12:03:58AM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:                 _SUB_STD_VTERM2 1.70
  Start      Stop       Step         Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width                  Time      Bandw.
  150.0 kHz  30.0 MHz   0.8 %        QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                     Average
```



MEASUREMENT RESULT: "GOB-17_fin"

8/2/2012 12:06AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.157990	44.10	11.0	66	21.5	QP	N	GND
0.222704	41.20	11.3	63	21.5	QP	N	GND
0.262308	37.30	11.5	61	24.1	QP	N	GND

MEASUREMENT RESULT: "GOB-17_fin2"

8/2/2012 12:06AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.157990	40.00	11.0	56	15.6	AV	N	GND
0.223595	39.00	11.3	53	13.7	AV	N	GND
0.262308	35.50	11.5	51	15.9	AV	N	GND

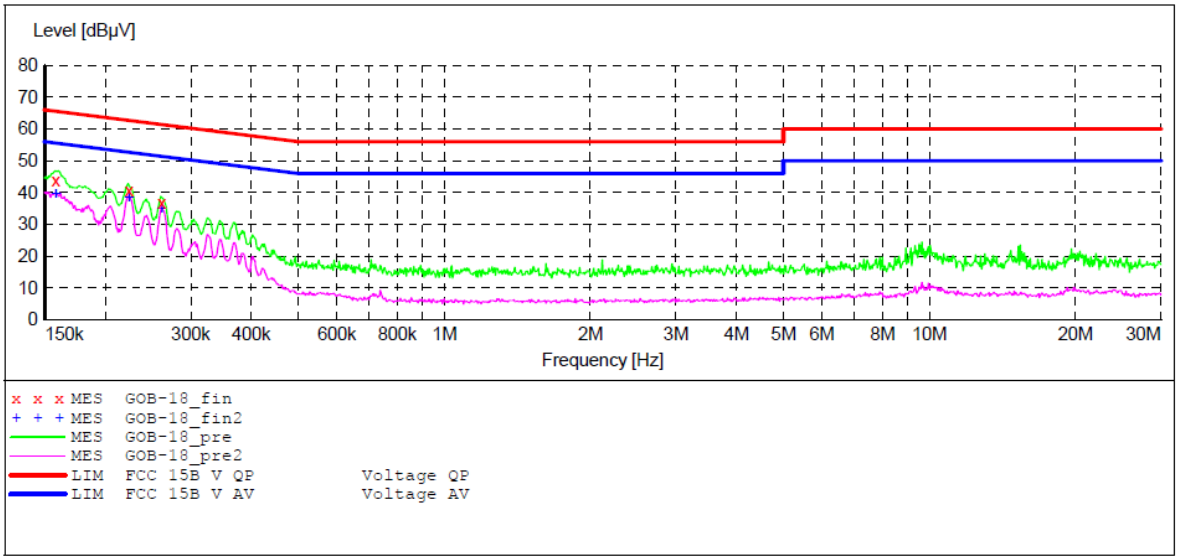
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  KEYFOLIO SECUREBACK BLUETOOTH KEYBOARD   M/N:M01180
Manufacturer:         Doking
Operating Condition:  Charging
Test Site:            1#Shielding Room
Operator:             STAR
Test Specification:   L  120V/60Hz
Comment:              Report No.:ATE20121813
Start of Test:        8/1/2012 / 12:08:43AM
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:              _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF       Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   0.8 %     QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "GOB-18_fin"

8/1/2012 12:10AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.157990	43.90	11.0	66	21.7	QP	L1	GND
0.223595	40.70	11.3	63	22.0	QP	L1	GND
0.261263	36.70	11.5	61	24.7	QP	L1	GND

MEASUREMENT RESULT: "GOB-18_fin2"

8/1/2012 12:10AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.157990	39.60	11.0	56	16.0	AV	L1	GND
0.223595	38.50	11.3	53	14.2	AV	L1	GND
0.261263	35.00	11.5	51	16.4	AV	L1	GND

14. ANTENNA REQUIREMENT

14.1. The Requirement

According to 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.

14.2. Antenna Construction

Antenna is formed by a copper trace on the PCB. Therefore, the equipment complies with the antenna requirement of Section 15.203.