

APPLICATION CERTIFICATION

On Behalf of
Freedom Input UK Limited

Expression Slim

Model No.: DOK-K7132B, DOK-K7157B, DOK-K7158B, DOK-K7159B, DOK-K7160B,
DOK-K7161B, DOK-K7162B, DOK-K7163B

FCC ID: OD8DOK-K7132B

Prepared for : Freedom Input UK Limited
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Report Number : ATE20121387
Date of Test : June 23-July 13, 2012
Date of Report : July 14, 2012

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Test Report Certification

Applicant : Freedom Input UK Limited
Manufacturer : Shenzhen Doking Electronic Technology Co., Ltd.
EUT Description : Expression Slim
(A) MODEL NO.: DOK-K7132B, DOK-K7157B, DOK-K7158B,
DOK-K7159B, DOK-K7160B, DOK-K7161B,
DOK-K7162B, DOK-K7163B
(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 : June 23-July 13, 2012

Prepared by : APPLE
(Engineer)

Approved & Authorized Signer : Heungh
(Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Expression Slim
Model Number	:	DOK-K7132B, DOK-K7157B, DOK-K7158B, DOK-K7159B, DOK-K7160B, DOK-K7161B, DOK-K7162B, DOK-K7163B (Note: These samples are identical, except the appearance is difference. Therefore only model DOK-K7132B is test.)
Frequency Band	:	2402MHz-2480MHz
Number of Channels	:	79
Antenna Gain	:	0dBi
Power Supply	:	DC 3.7V (Li-ion battery 1×)
Applicant	:	Freedom Input UK Limited
Address	:	65 Salisbury Road, Dover, CT161EY, United Kingdom
Manufacturer	:	Shenzhen Doking Electronic Technology Co., Ltd.
Address	:	Dingfeng Hi-tech Estate, Shapu, Songgang Town, Baoan District, Shenzhen, Guangdong, China
Date of sample received	:	June 23, 2012
Date of Test	:	June 23-July 13, 2012

1.2. Special Accessory and Auxiliary Equipment

Notebook PC	:	Manufacturer: Lenovo Model No.: 4290-RT8 Serial No.: R9-FW93G 11/08
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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 = 3.08dB, k=2
(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2
(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2
(Above 1GHz)

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	CBLU118354 0-01	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

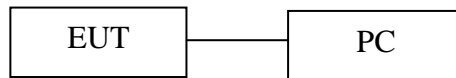
Charging

3.2. Configuration and peripherals



Setup: Transmitting mode

(EUT: Expression Slim)



Setup: Charging mode

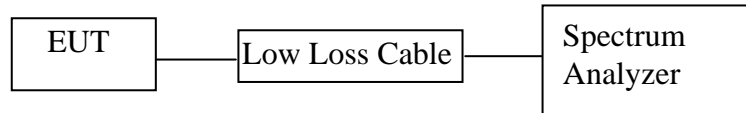
(EUT: Expression Slim)

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: Expression Slim)

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. Expression Slim (EUT)

Model Number : DOK-K7132B
 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:	<u>July 2, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX</u>	Test Engineer:	<u>Apple</u>

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	1.032	N/A
Middle	2441	1.038	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



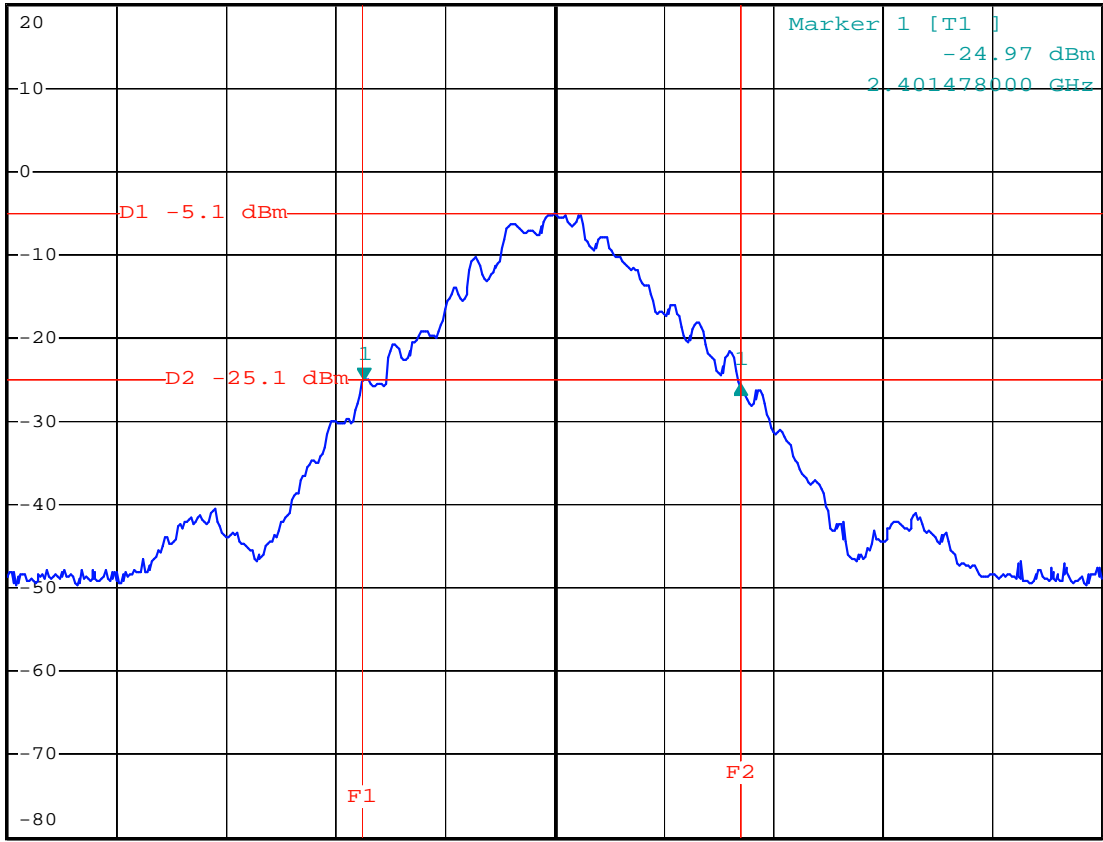
*RBW 30 kHz Delta 1 [T1]
*VBW 100 kHz -0.46 dB
*SWT 5 ms 1.032000000 MHz

Ref 20 dBm

Att 50 dB

1.032000000 MHz

1 PK
MAXH



Center 2.402 GHz

300 kHz/

Span 3 MHz

Date: 2.JUL.2012 15:32:15

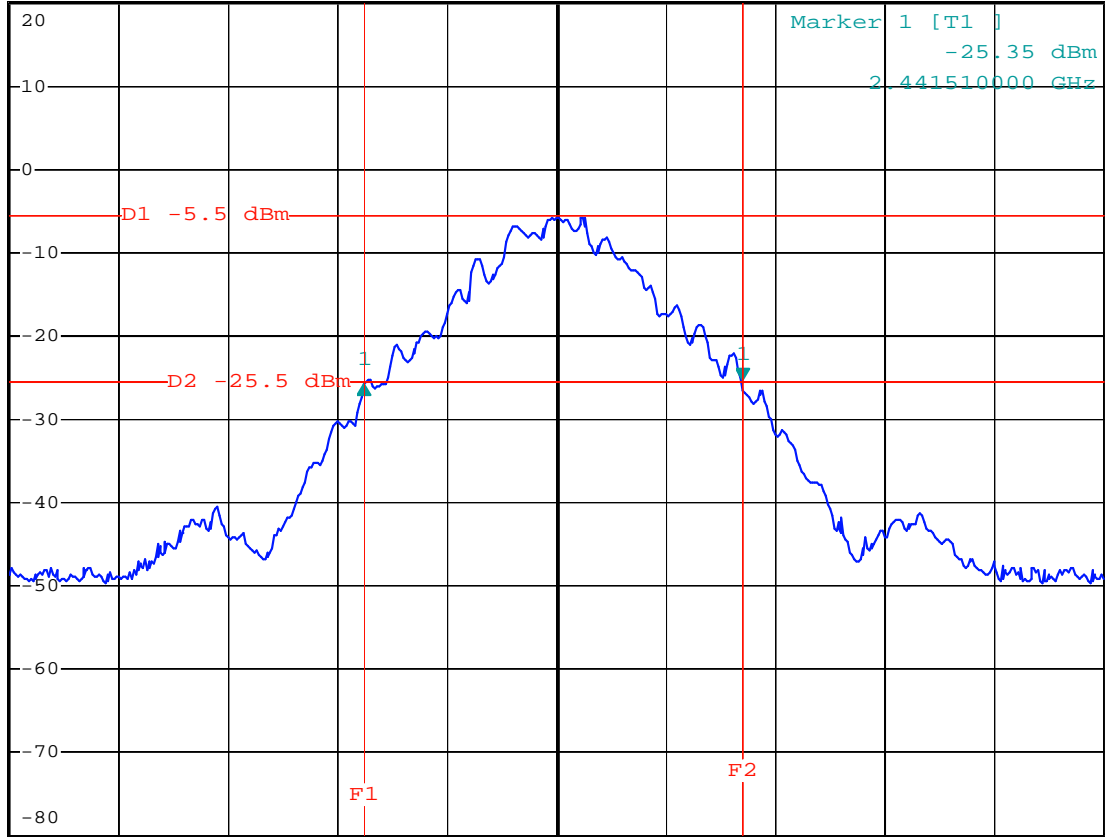


*RBW 30 kHz Delta 1 [T1]
*VBW 100 kHz -0.50 dB
*SWT 5 ms -1.038000000 MHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Center 2.441 GHz

300 kHz/

Span 3 MHz

Date: 2.JUL.2012 15:34:12

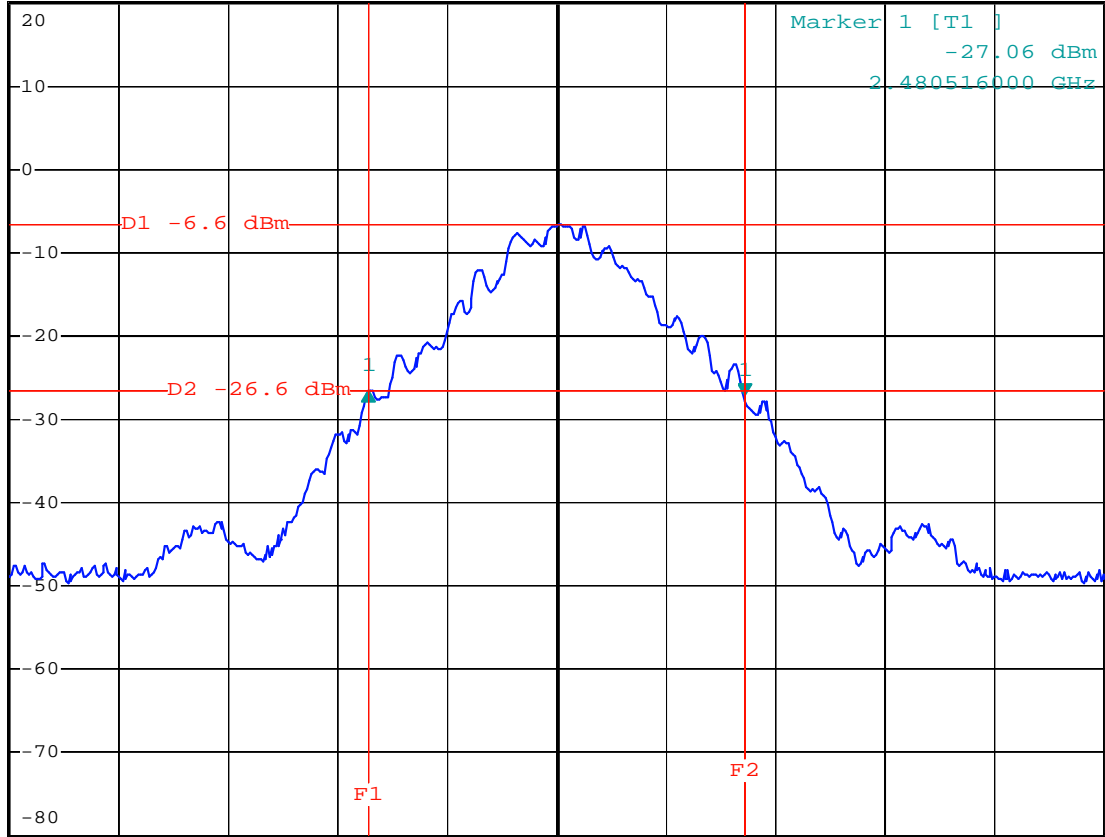


*RBW 30 kHz Delta 1 [T1]
*VBW 100 kHz 0.52 dB
*SWT 5 ms -1.03200000 MHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Center 2.48 GHz

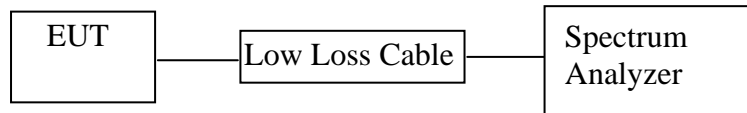
300 kHz/

Span 3 MHz

Date: 2.JUL.2012 15:37:21

6. CARRIER FREQUENCY SEPARATION TEST

6.1. Block Diagram of Test Setup



(EUT: Expression Slim)

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. Expression Slim (EUT)

Model Number : DOK-K7132B
 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:	<u>July 3, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>Hopping</u>	Test Engineer:	<u>Apple</u>

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit
Low	2402	1.002	> two-thirds of the 20 dB bandwidth (0.688MHz) or 25kHz (whichever is greater)
Middle	2441	1.008	> two-thirds of the 20 dB bandwidth (0.692MHz) 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



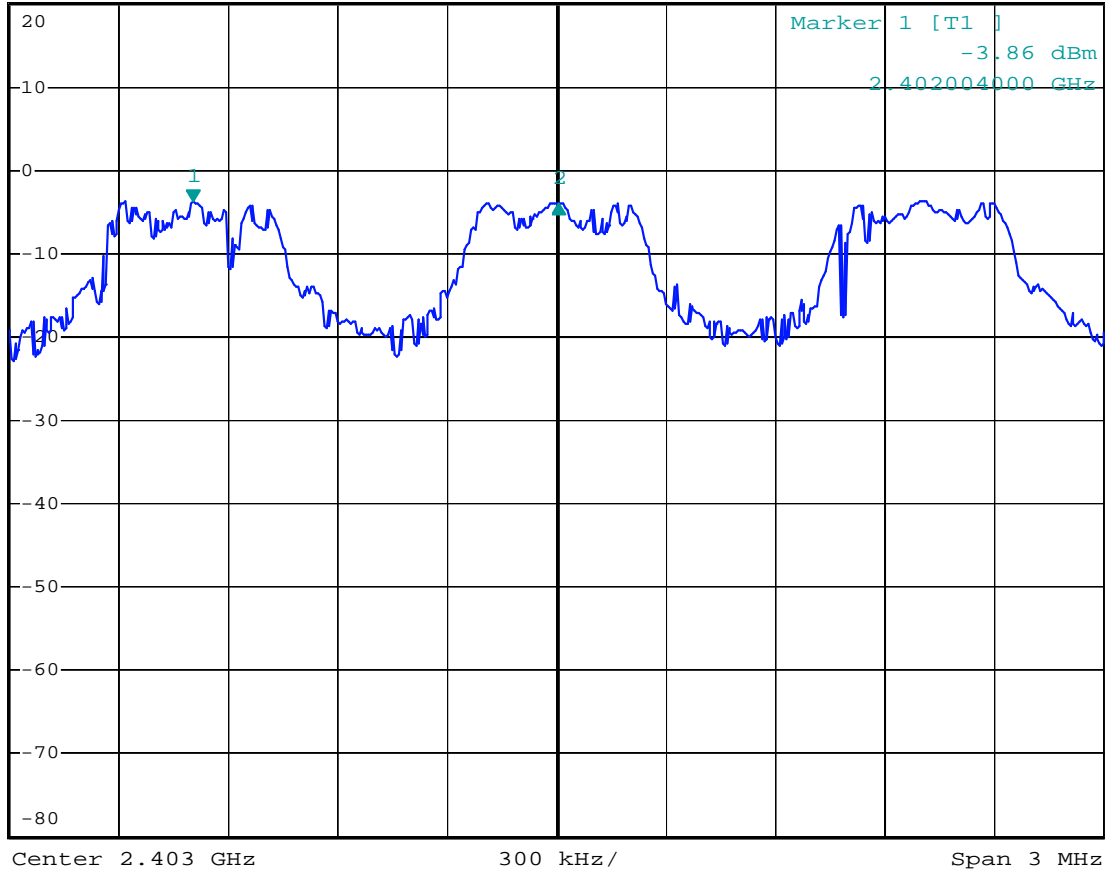
*RBW 100 kHz Delta 2 [T1]
*VBW 300 kHz -0.12 dB
*SWT 2.5 ms 1.002000000 MHz

Ref 20 dBm

Att 50 dB

1.002000000 MHz

1 PK
MAXH



Date: 3.JUL.2012 14:04:49



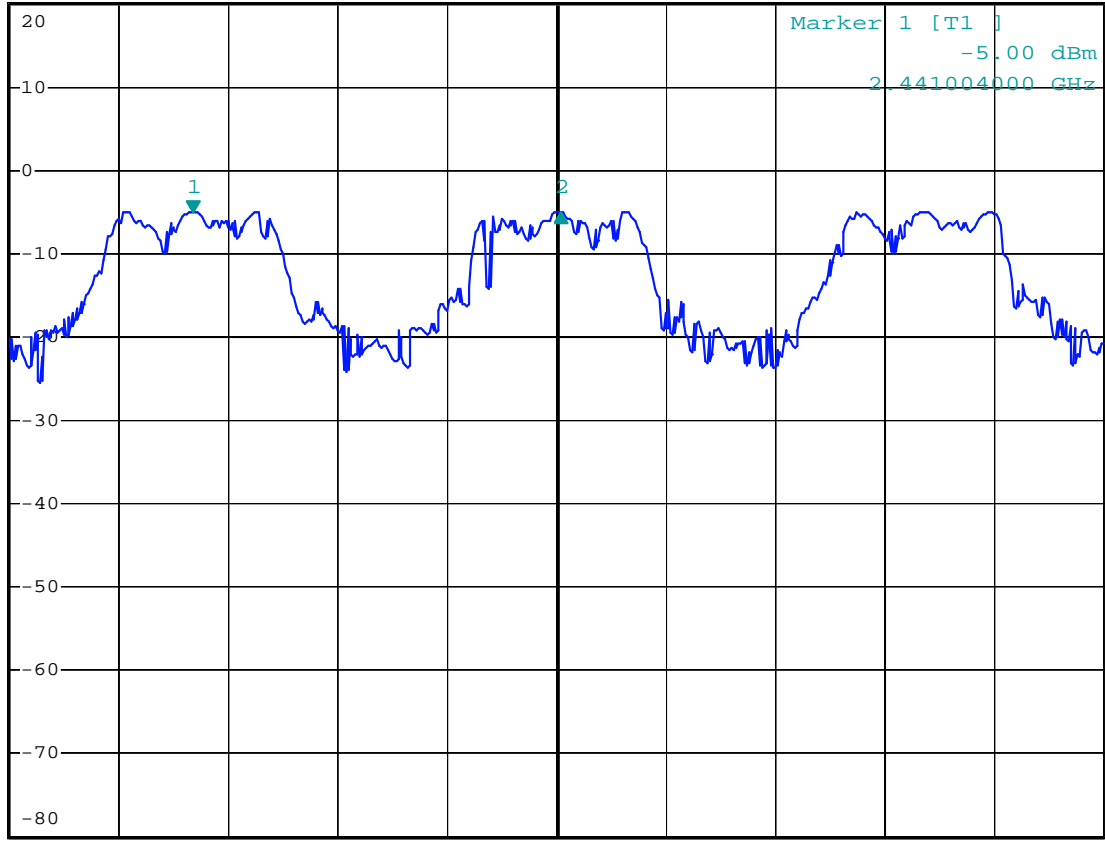
*RBW 100 kHz Delta 2 [T1]
*VBW 300 kHz -0.05 dB
*SWT 2.5 ms 1.008000000 MHz

Ref 20 dBm

Att 50 dB

Marker 1 [T1]
-5.00 dBm
2.441004000 GHz

1 PK
MAXH



Center 2.442 GHz

300 kHz/

Span 3 MHz

3DB

Date: 3.JUL.2012 14:12:43

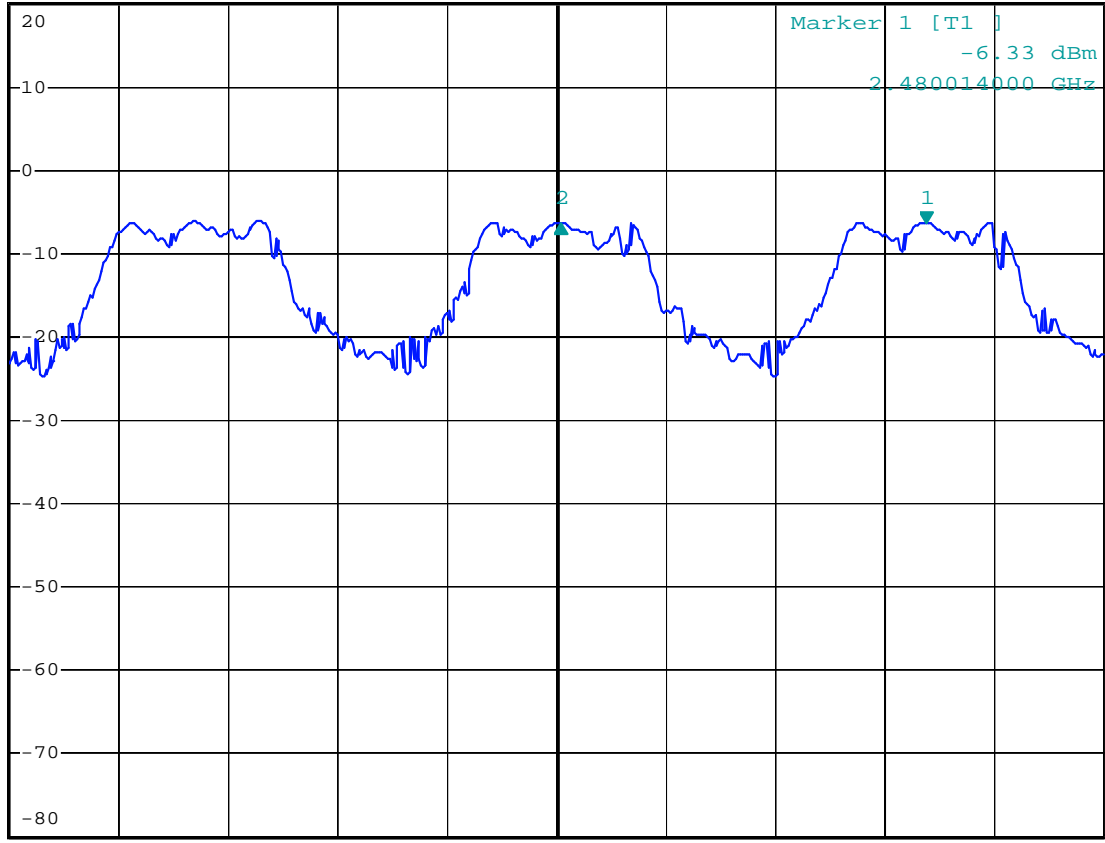


*RBW 100 kHz Delta 2 [T1]
*VBW 300 kHz 0.08 dB
*SWT 2.5 ms -1.002000000 MHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



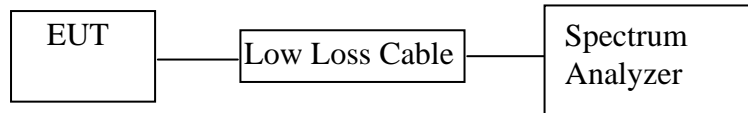
Center 2.479 GHz 300 kHz/ Span 3 MHz

3DB

Date: 3.JUL.2012 14:27:54

7. NUMBER OF HOPPING FREQUENCY TEST

7.1. Block Diagram of Test Setup



(EUT: Expression Slim)

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. Expression Slim (EUT)

Model Number	:	DOK-K7132B
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:	<u>June 30, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>Hopping</u>	Test Engineer:	<u>Apple</u>

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

The spectrum analyzer plots are attached as below.

"Spectrum analyzer" is R/S

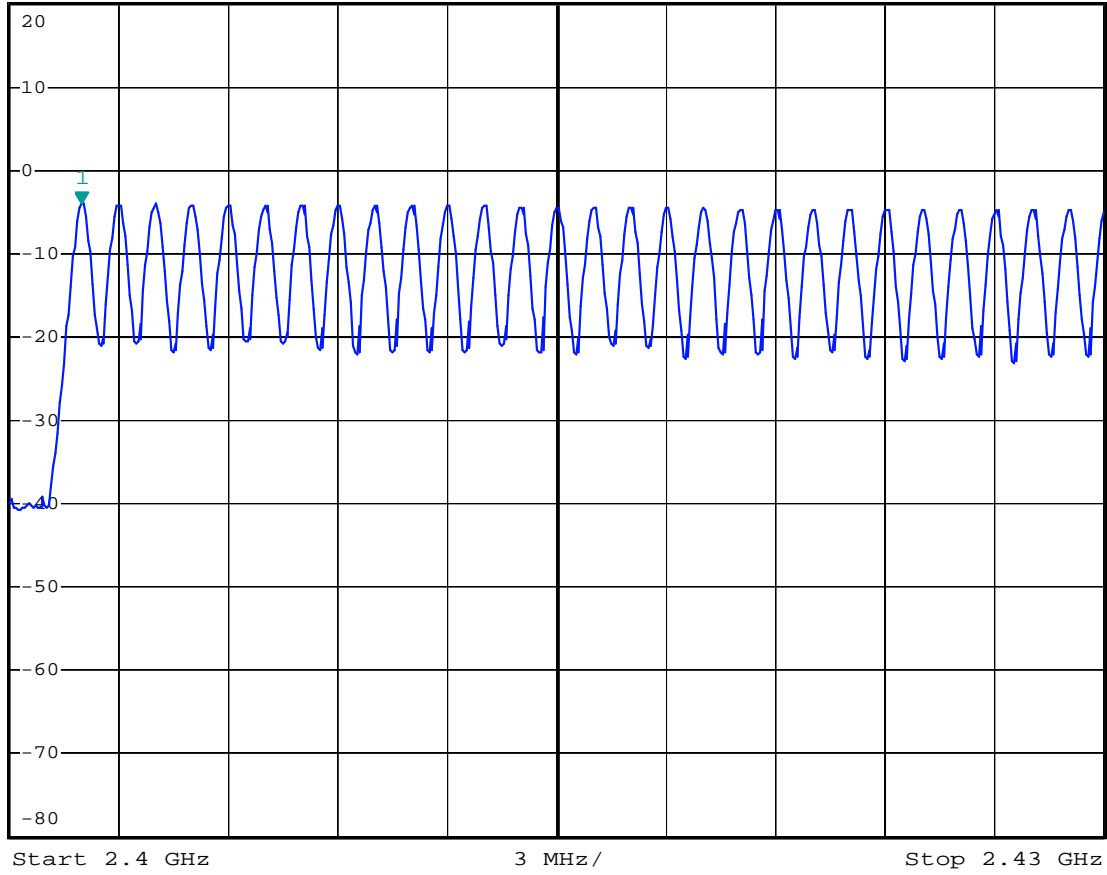


*RBW 300 kHz Marker 1 [T1]
*VBW 300 kHz -4.14 dBm
*SWT 2.5 ms 2.401980000 GHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Date: 30.JUN.2012 09:54:43

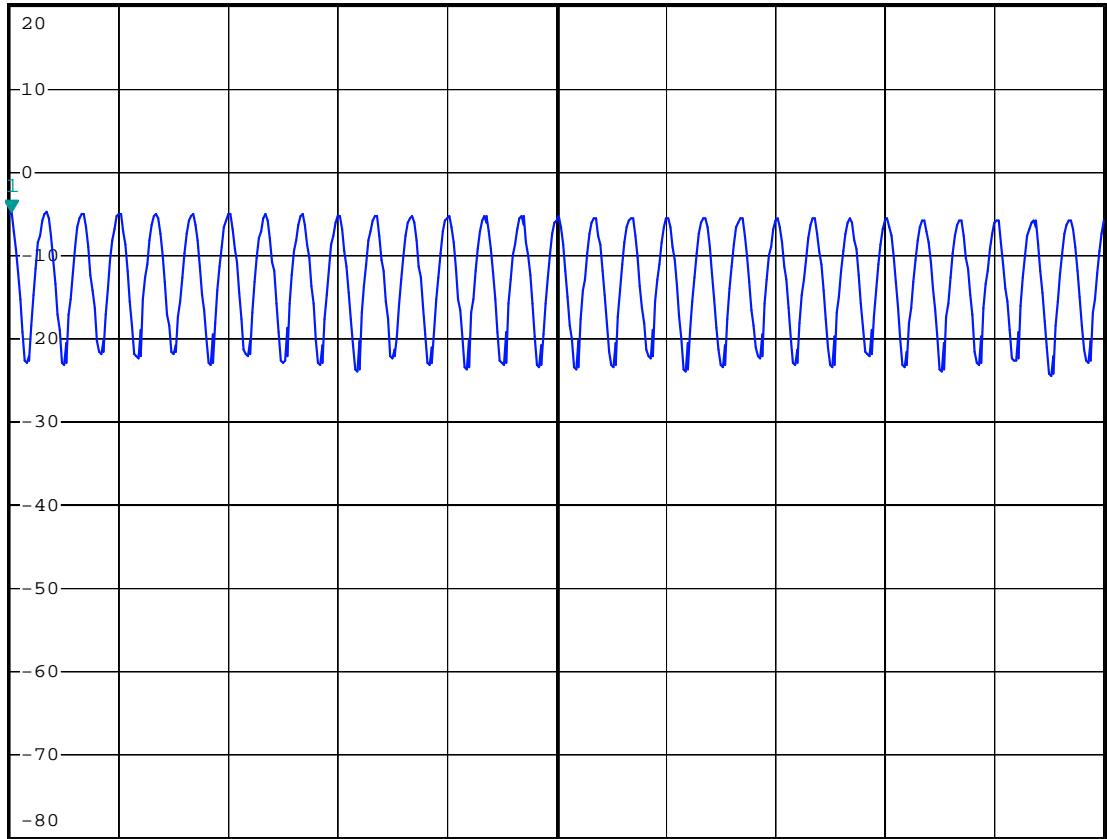


*RBW 300 kHz Marker 1 [T1]
*VBW 300 kHz -4.89 dBm
*SWT 2.5 ms 2.430060000 GHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Start 2.43 GHz

3 MHz/

Stop 2.46 GHz

Date: 30.JUN.2012 09:57:17

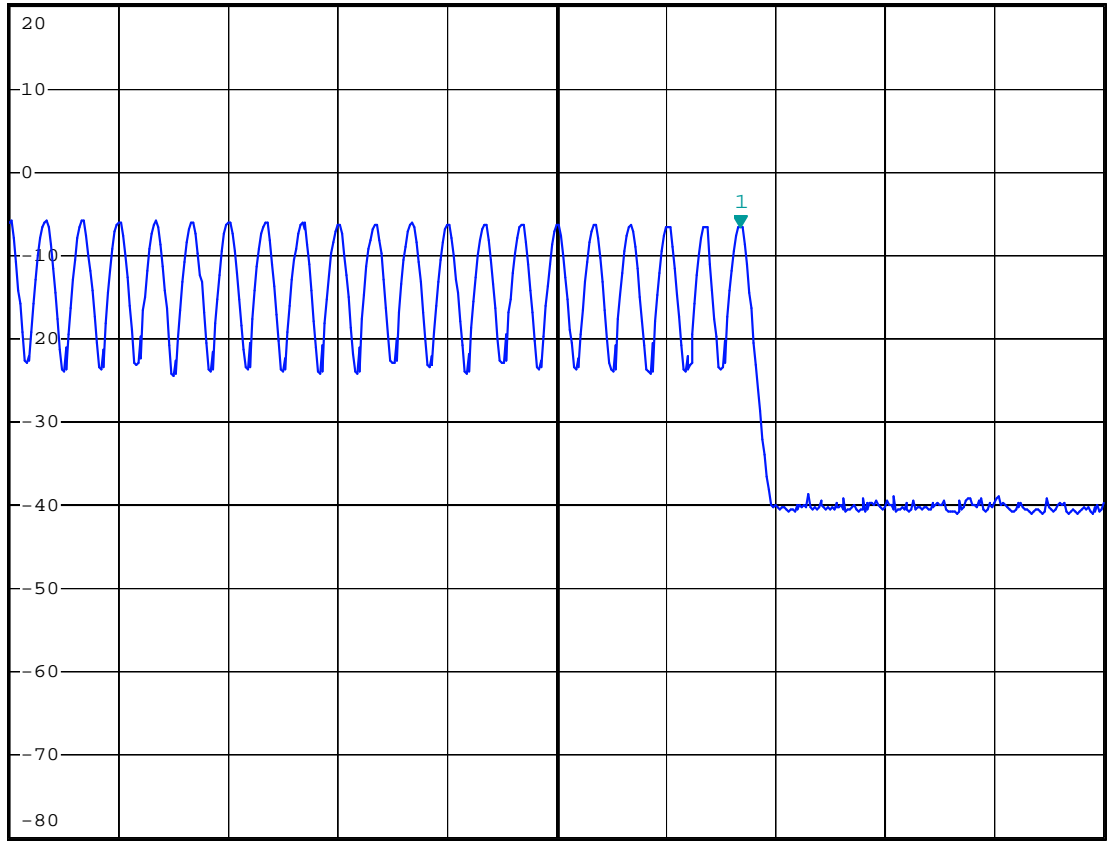


*RBW 300 kHz Marker 1 [T1]
*VBW 300 kHz -6.62 dBm
*SWT 2.5 ms 2.480040000 GHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Start 2.46 GHz

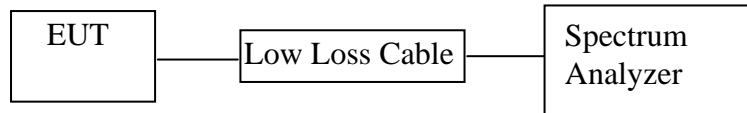
3 MHz/

Stop 2.49 GHz

Date: 30.JUN.2012 09:59:47

8. DWELL TIME TEST

8.1. Block Diagram of Test Setup



(EUT: Expression Slim)

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. Expression Slim (EUT)

Model Number	:	DOK-K7132B
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

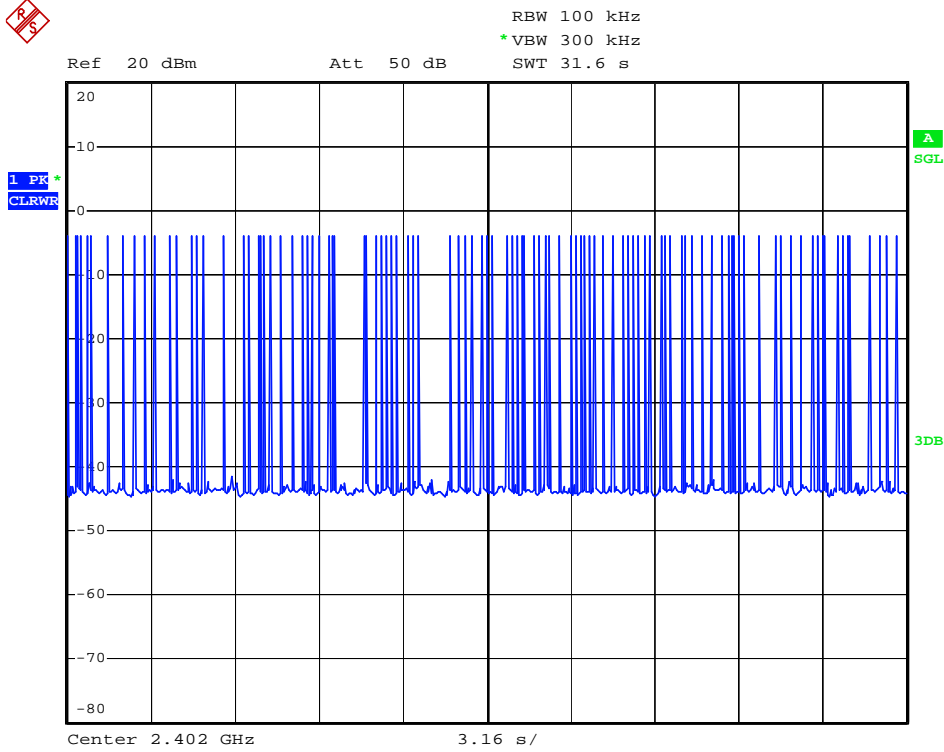
PASS.

Date of Test:	<u>July 3, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>Hopping</u>	Test Engineer:	<u>Apple</u>

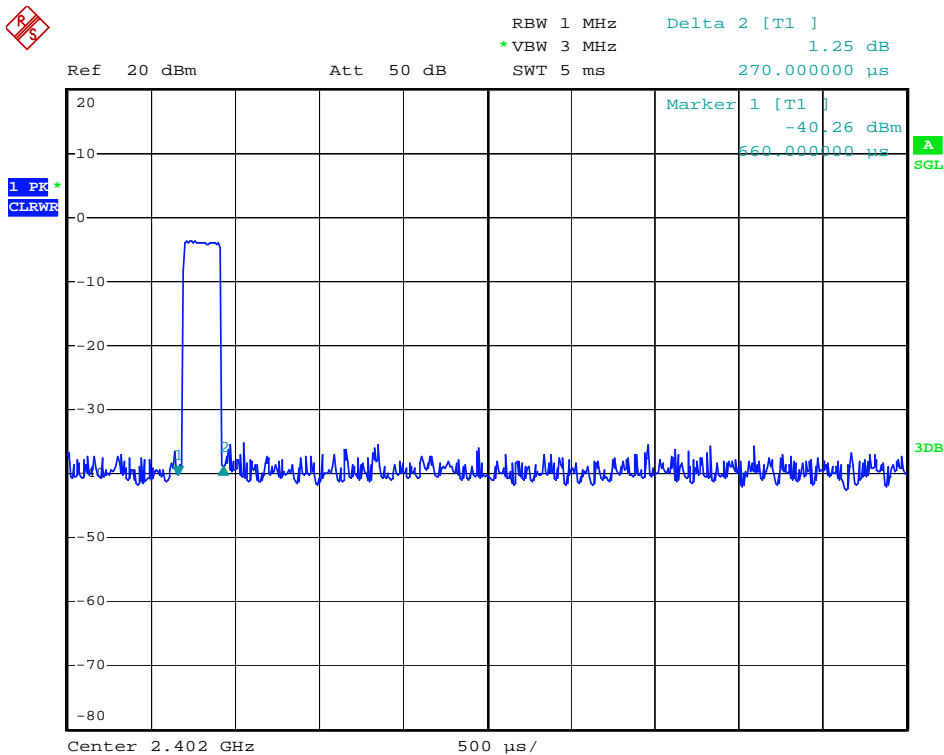
A period transmit time = $0.4 \times 79 = 31.6$					
Dwell time = pulse time \times burst (in 31.6 sec.)					
Channel	Channel Frequency (MHz)	Pulse Time (ms)	Burst (in 31.6 sec.)	Dwell Time (ms)	Limit (ms)
Low	2402	0.27	104	28.08	400
Middle	2441	0.27	109	29.43	400
High	2480	0.31	103	31.93	400

The spectrum analyzer plots are attached as below.

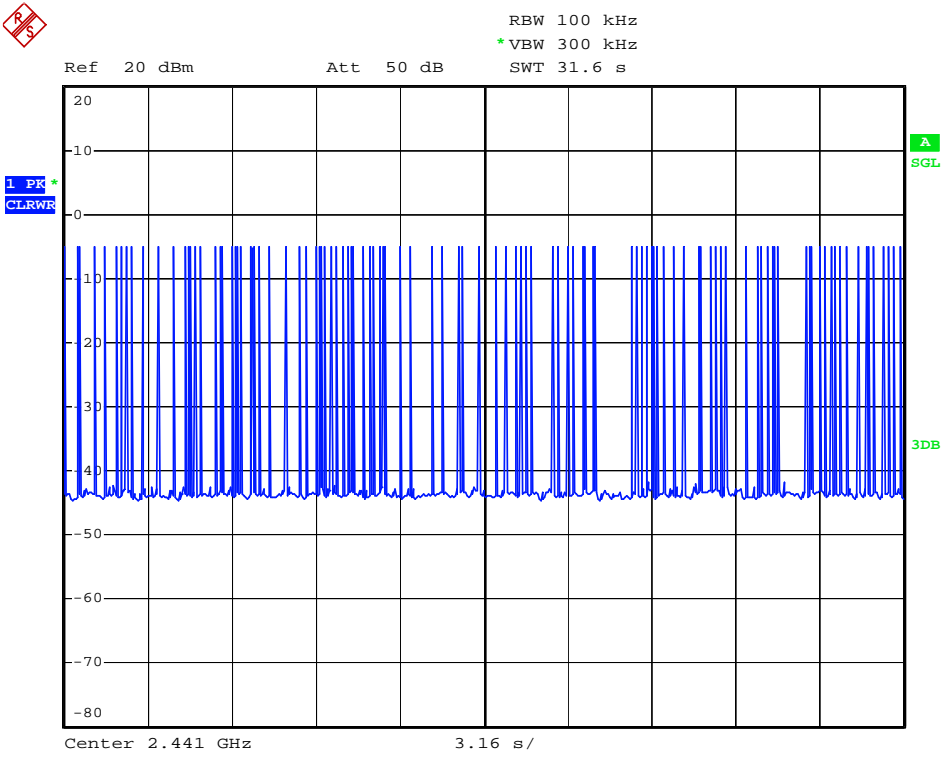
"Spectrum analyzer" is R/S



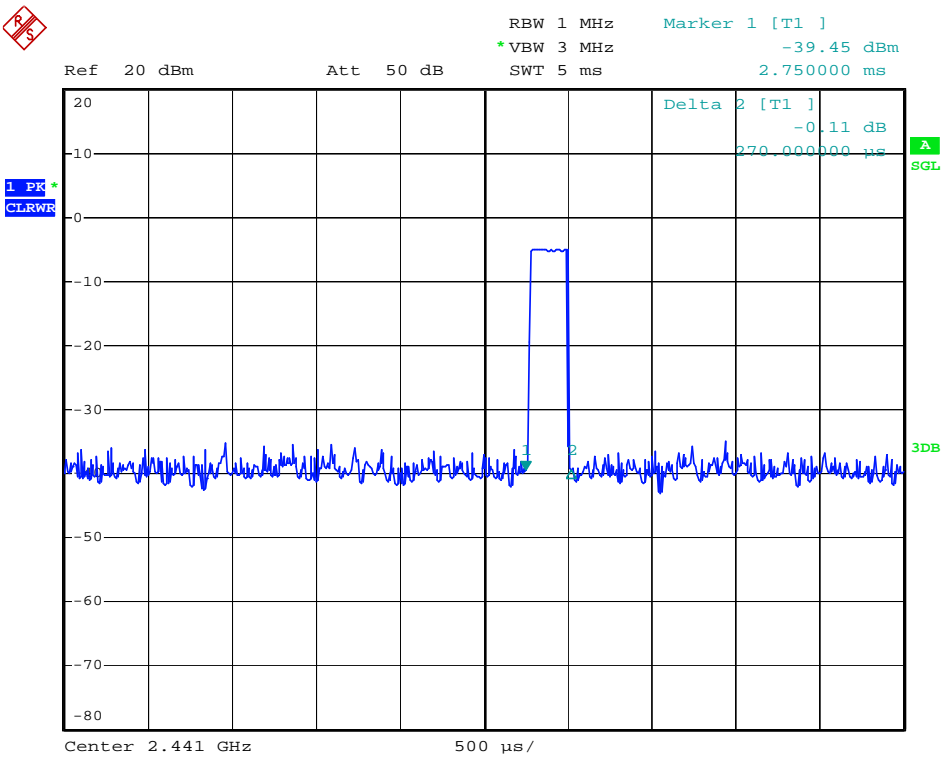
Date: 3.JUL.2012 10:39:30



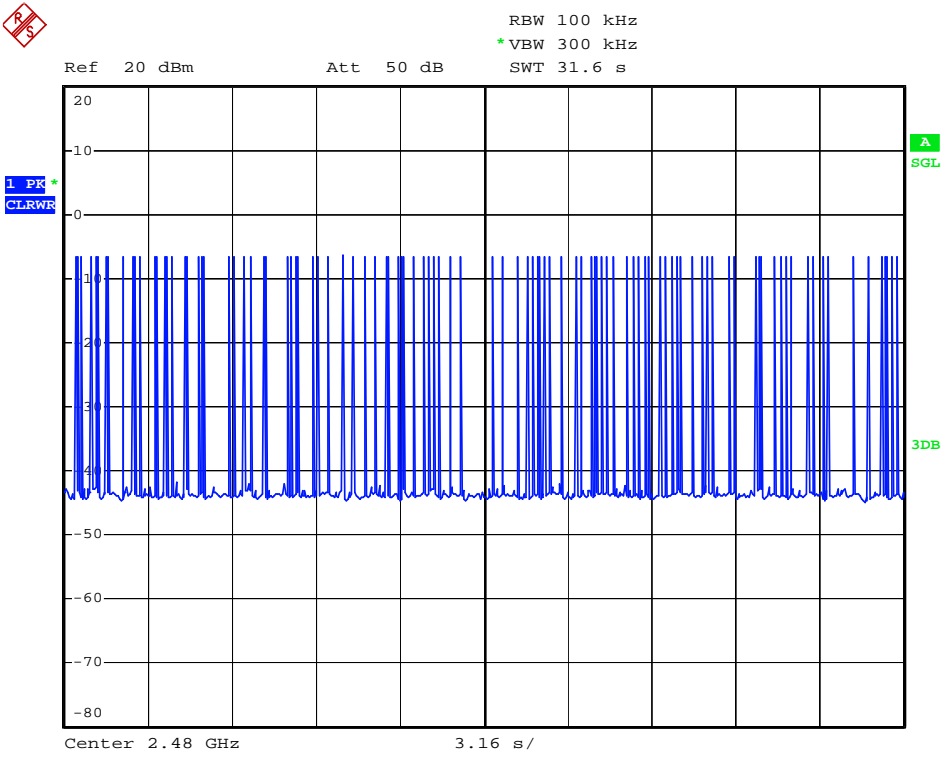
Date: 3.JUL.2012 15:04:40



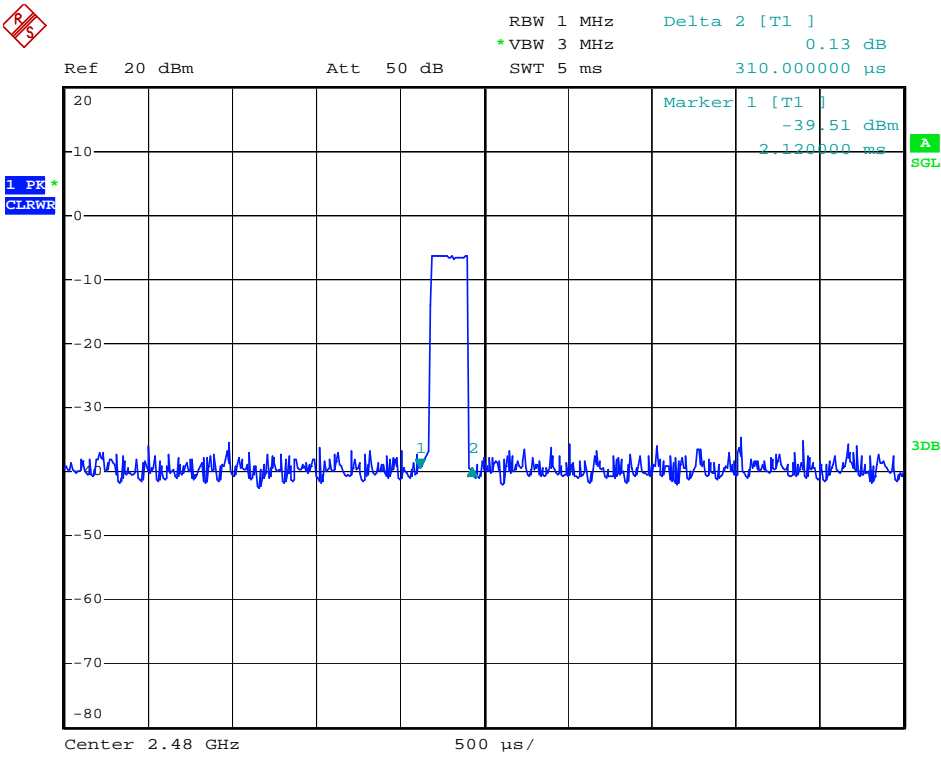
Date: 3.JUL.2012 10:40:20



Date: 3.JUL.2012 15:03:43



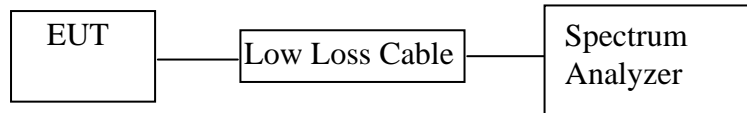
Date: 3.JUL.2012 10:42:03



Date: 3.JUL.2012 15:02:50

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1. Block Diagram of Test Setup



(EUT: Expression Slim)

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. Expression Slim (EUT)

Model Number	:	DOK-K7132B
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

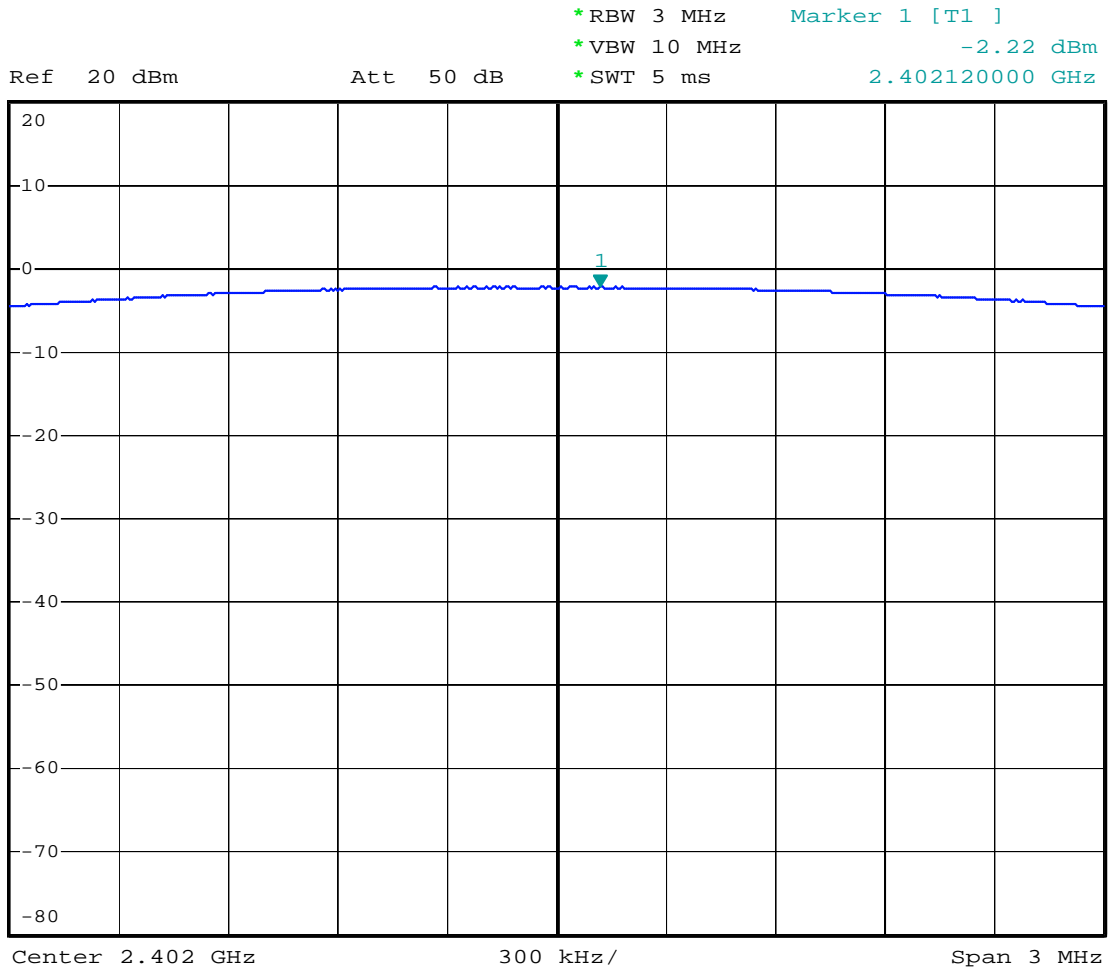
PASS.

Date of Test:	<u>July 7, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX</u>	Test Engineer:	<u>Apple</u>

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	-2.22	0.60	21 dBm / 0.125 W
Middle	2441	-2.77	0.53	21 dBm / 0.125 W
High	2480	-3.72	0.42	21 dBm / 0.125 W

The spectrum analyzer plots are attached as below.

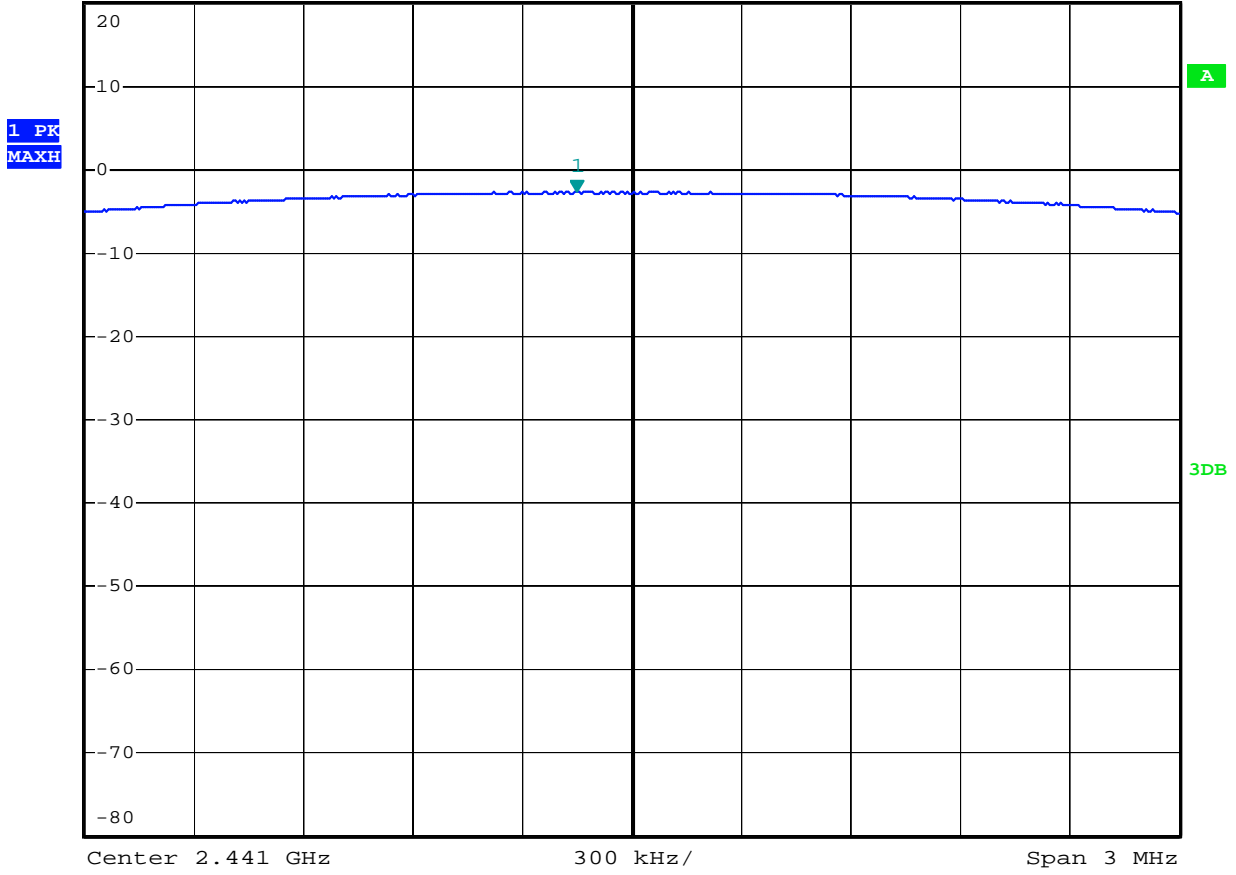
"Spectrum analyzer" is R/S



Date: 7.JUL.2012 15:47:48



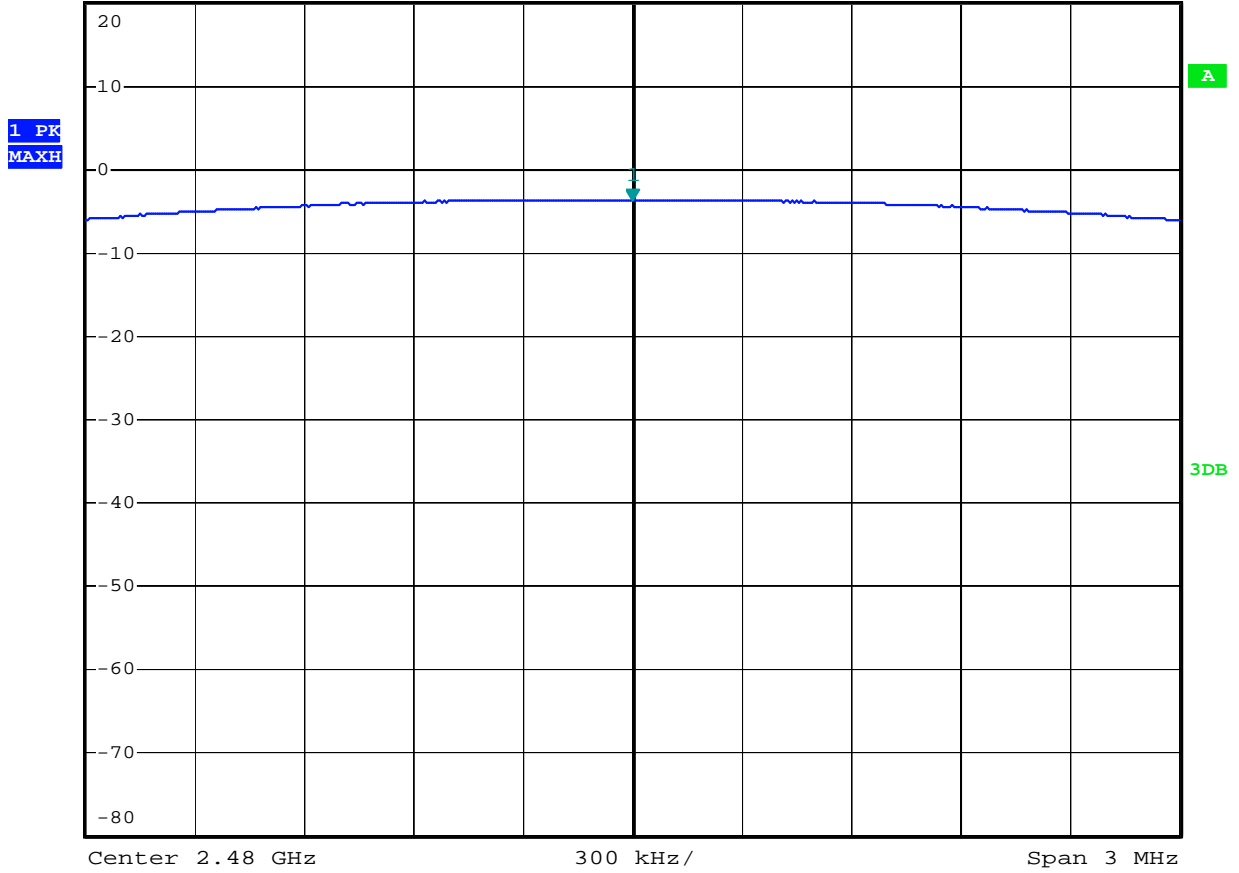
Ref 20 dBm Att 50 dB *RBW 3 MHz Marker 1 [T1]
*VBW 10 MHz -2.77 dBm
*SWT 5 ms 2.440850000 GHz



Date: 7.JUL.2012 15:46:49



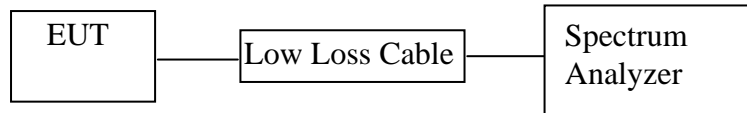
Ref 20 dBm Att 50 dB *RBW 3 MHz Marker 1 [T1]
*VBW 10 MHz -3.72 dBm
*SWT 5 ms 2.480000000 GHz



Date: 7.JUL.2012 15:46:14

10.BAND EDGE COMPLIANCE TEST

10.1.Block Diagram of Test Setup



(EUT: Expression Slim)

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.Expression Slim (EUT)

Model Number	:	DOK-K7132B
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 300kHz and VBW to 1MHz.

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

Date of Test:	<u>July 7, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX (Hopping off)</u>	Test Engineer:	<u>Apple</u>

Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	36.20	> 20dBc
2480	33.79	> 20dBc

Date of Test:	<u>July 7, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX (Hopping on)</u>	Test Engineer:	<u>Apple</u>

Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	37.21	> 20dBc
2480	37.59	> 20dBc

"Spectrum analyzer" is R/S

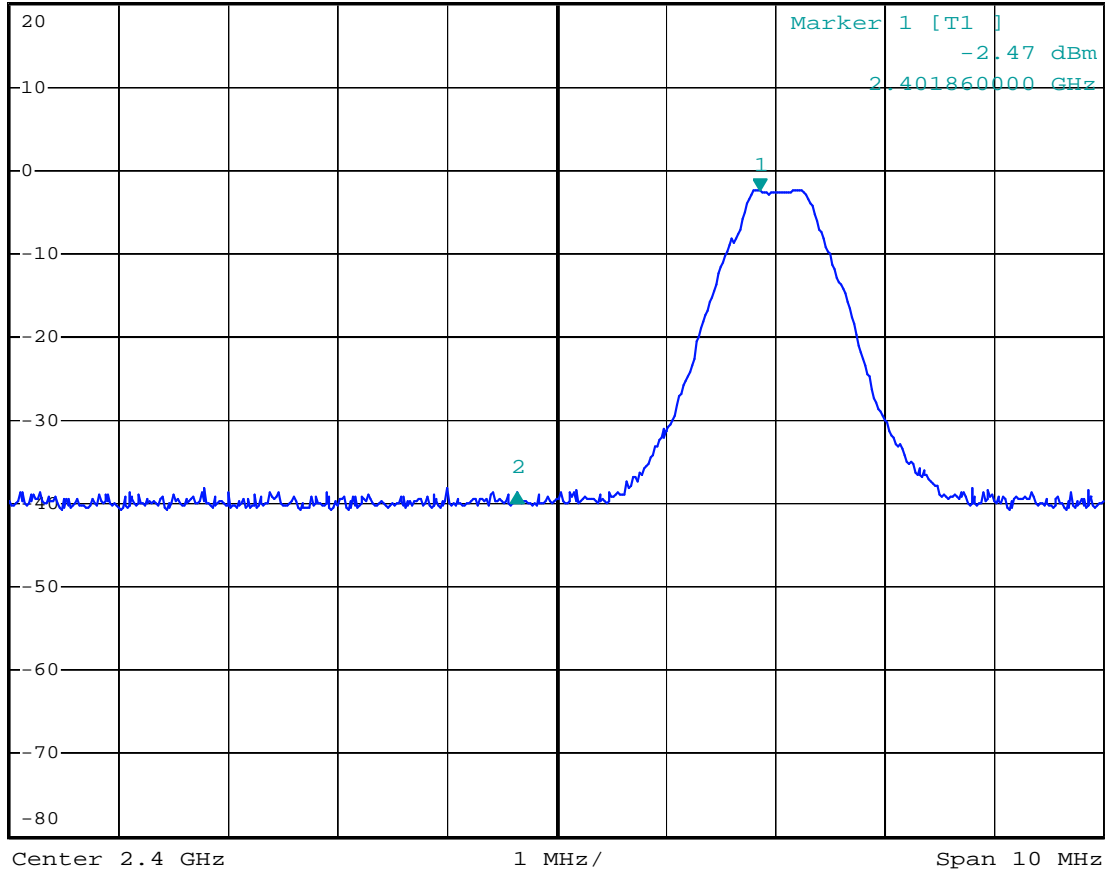


*RBW 300 kHz Delta 2 [T1]
*VBW 1 MHz -36.20 dB
*SWT 2.5 ms -2.220000000 MHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Date: 7.JUL.2012 15:49:46

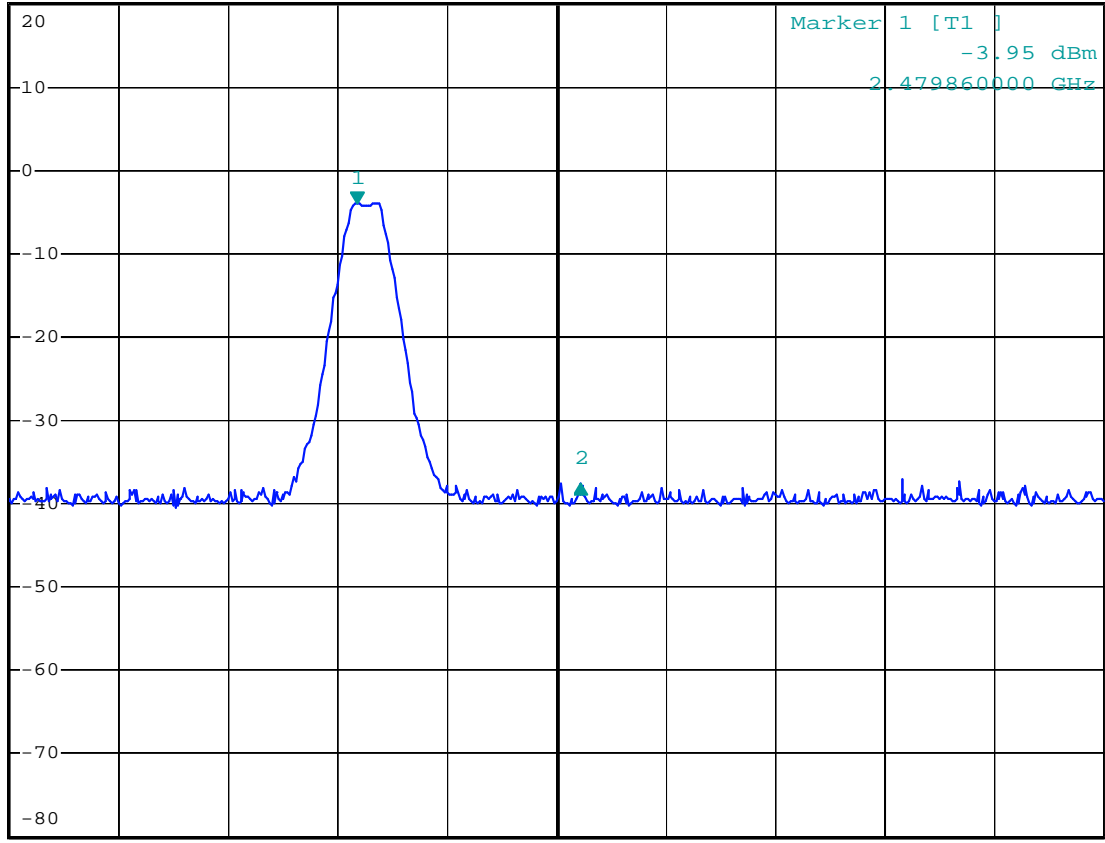


*RBW 300 kHz Delta 2 [T1]
*VBW 1 MHz -33.79 dB
*SWT 2.5 ms 4.060000000 MHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Center 2.4835 GHz

2 MHz /

Span 20 MHz

Date: 7.JUL.2012 15:51:39

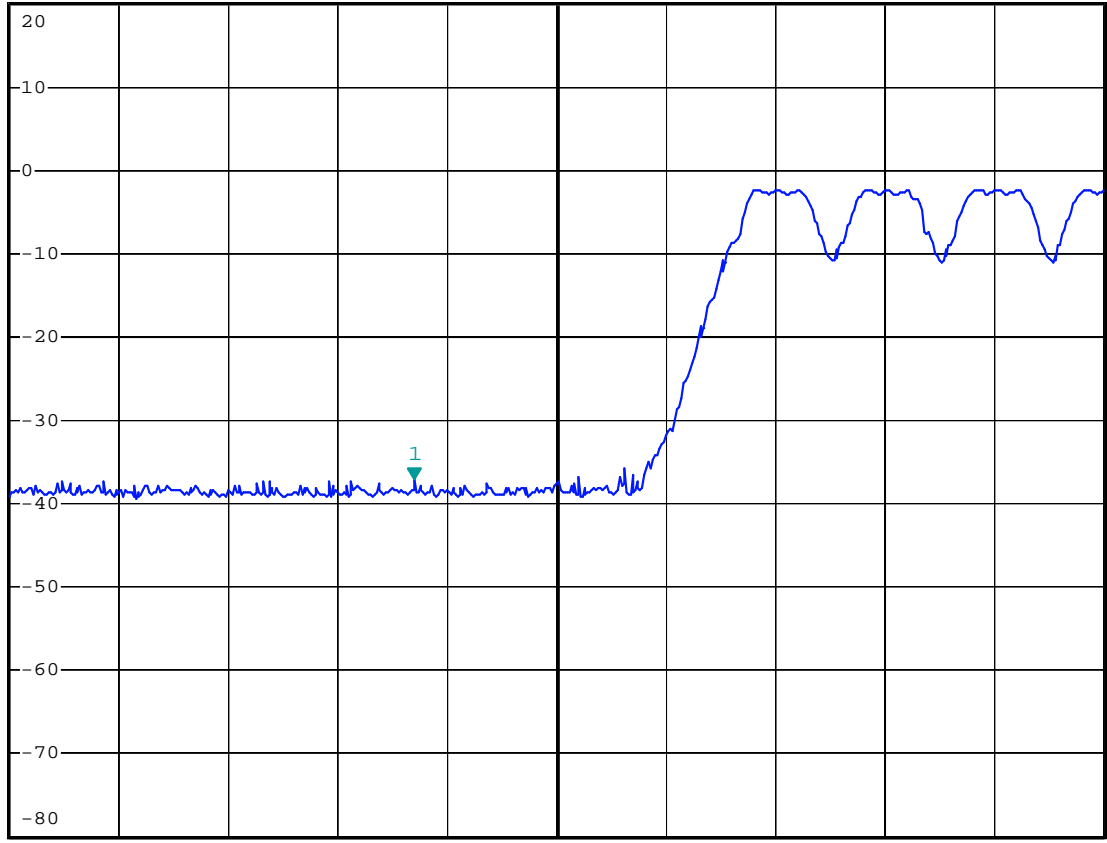


*RBW 300 kHz Marker 1 [T1]
*VBW 1 MHz -37.21 dBm
*SWT 2.5 ms 2.398700000 GHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Center 2.4 GHz

1 MHz/

Span 10 MHz

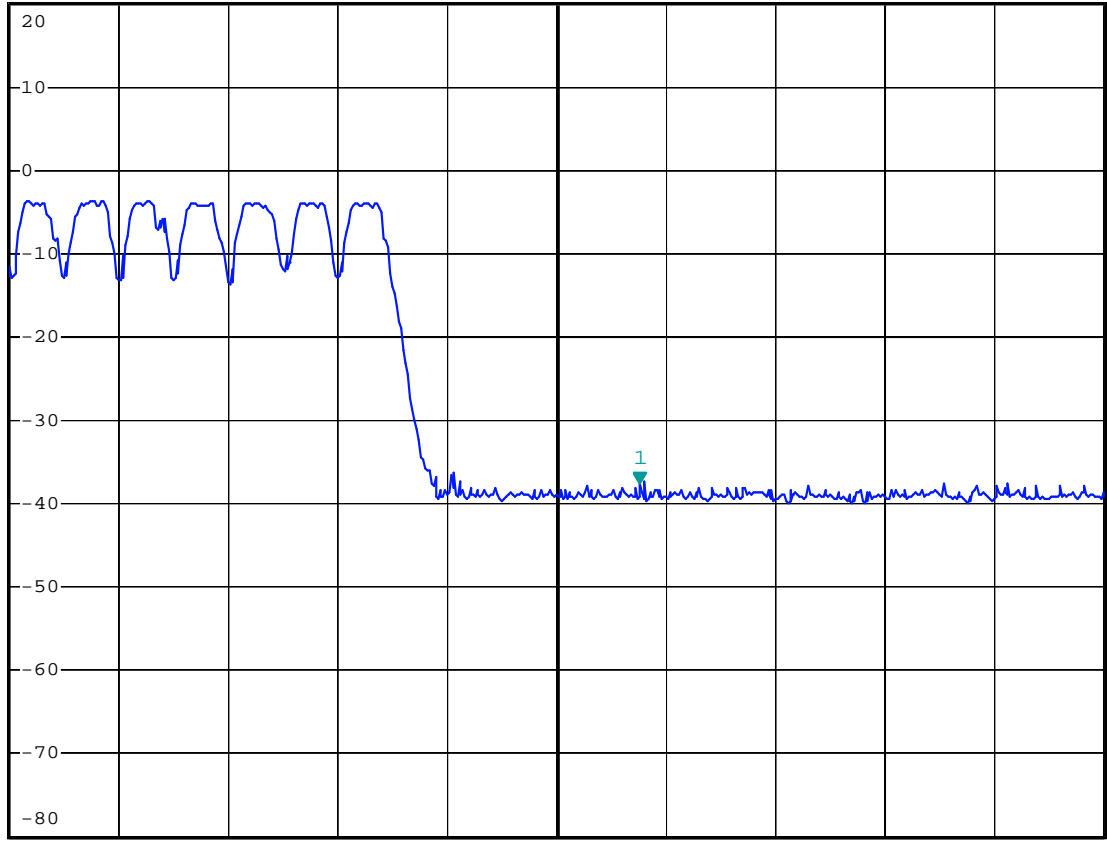


*RBW 300 kHz Marker 1 [T1]
*VBW 1 MHz -37.59 dBm
*SWT 2.5 ms 2.485020000 GHz

Ref 20 dBm

Att 50 dB

1 PK
MAXH



Center 2.4835 GHz

2 MHz/

Span 20 MHz

Radiated Band Edge Result

Date of Test:	<u>July 10, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX (2402MHz)</u>	Test Engineer:	<u>Kai</u>

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2310.000	35.12	45.26	-7.81	27.31	37.45	54	74	-26.69	-36.55	Vertical
2349.411	40.67	47.61	-7.79	32.88	39.82	54	74	-21.12	-34.18	Vertical
2390.000	37.15	45.20	-7.53	29.62	37.67	54	74	-24.38	-36.33	Vertical
2310.000	35.94	44.03	-7.81	28.13	36.22	54	74	-25.87	-37.78	Horizontal
2342.605	41.38	47.16	-7.79	33.59	39.37	54	74	-20.41	-34.63	Horizontal
2390.000	37.13	44.63	-7.53	29.60	37.10	54	74	-24.40	-36.90	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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$
3. Display the measurement of peak values.

Date of Test:	<u>July 10, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX (2480MHz)</u>	Test Engineer:	<u>Kai</u>

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	40.79	47.34	-7.37	33.42	39.97	54	74	-20.58	-34.03	Vertical
2486.399	40.54	46.14	-7.39	33.15	38.75	54	74	-20.85	-35.25	Vertical
2500.000	38.92	44.50	-7.40	31.52	37.10	54	74	-22.48	-36.90	Vertical
2483.500	40.23	50.15	-7.37	32.86	42.78	54	74	-21.14	-31.22	Horizontal
2485.925	41.43	48.84	-7.38	34.05	41.46	54	74	-19.95	-32.54	Horizontal
2500.000	38.17	46.42	-7.40	30.77	39.02	54	74	-23.23	-34.98	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.



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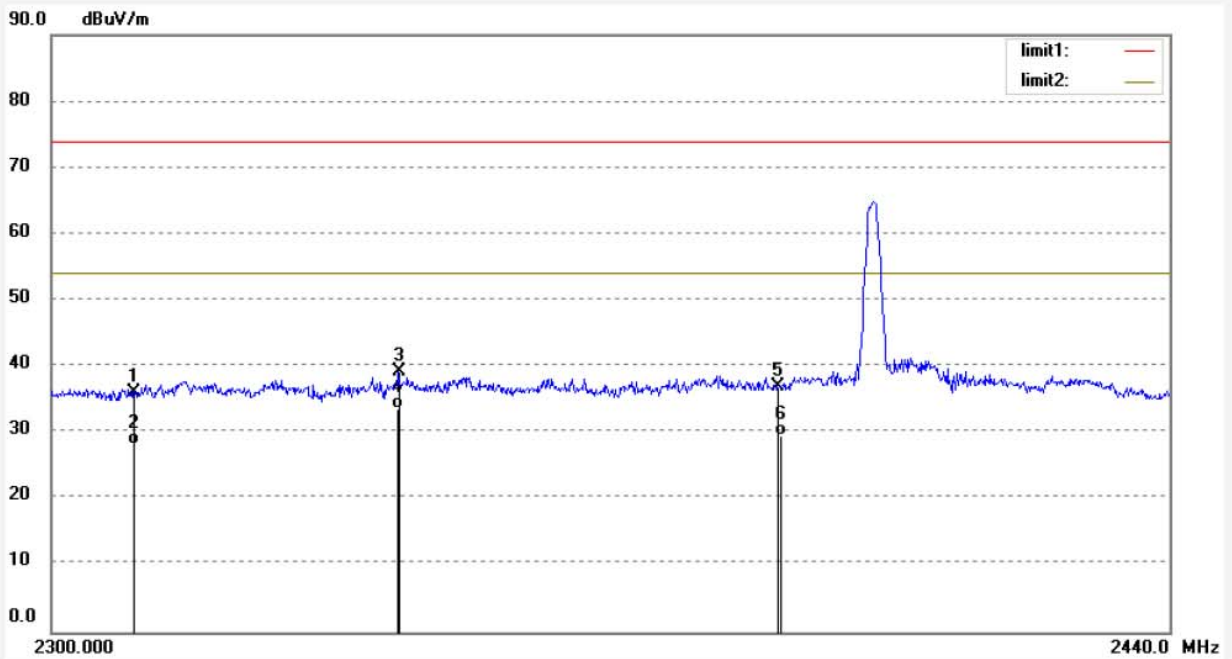
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1618
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2402MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/10
Time: 10:37:39
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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	44.03	-7.81	36.22	74.00	-37.78	peak			
2	2310.000	35.94	-7.81	28.13	54.00	-25.87	AVG			
3	2342.605	47.16	-7.79	39.37	74.00	-34.63	peak			
4	2342.605	41.38	-7.79	33.59	54.00	-20.41	AVG			
5	2390.000	44.63	-7.53	37.10	74.00	-36.90	peak			
6	2390.000	37.13	-7.53	29.60	54.00	-24.40	AVG			



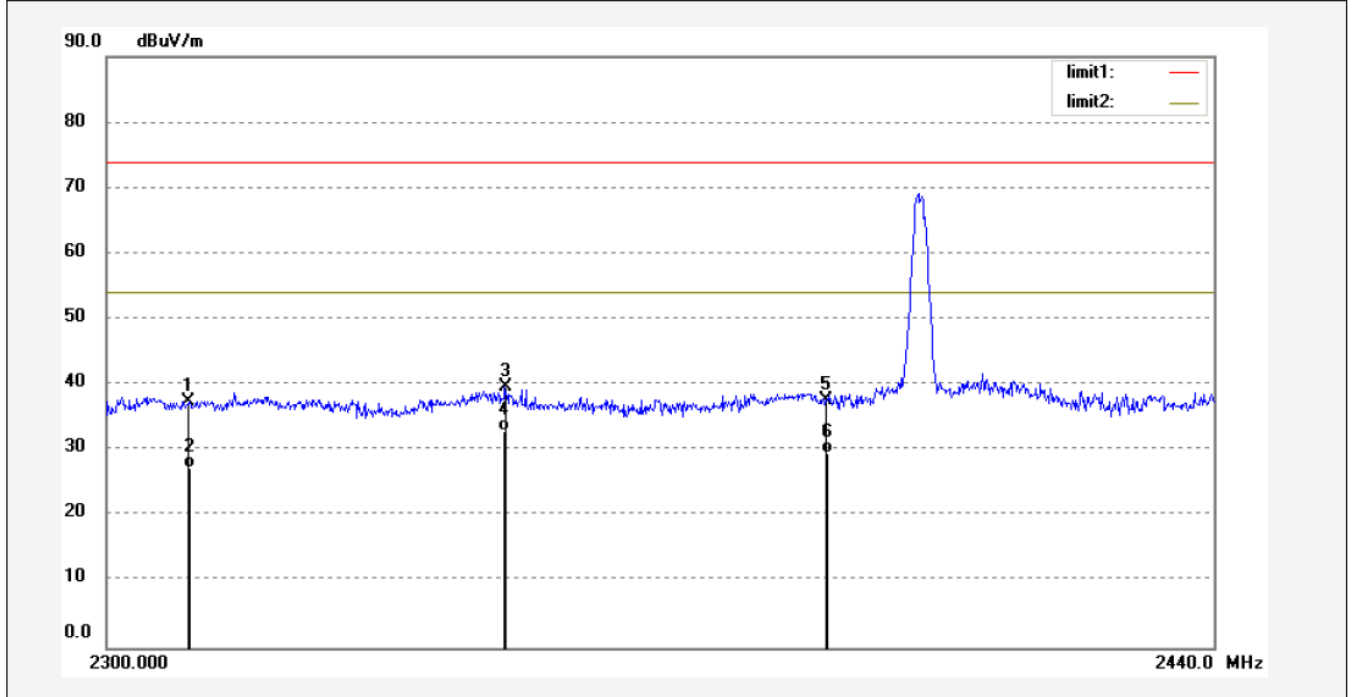
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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1617	Polarization: Vertical
Standard: FCC 15C PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/10
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 10:30:09
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2402MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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	45.26	-7.81	37.45	74.00	-36.55	peak			
2	2310.000	35.12	-7.81	27.31	54.00	-26.69	AVG			
3	2349.411	47.61	-7.79	39.82	74.00	-34.18	peak			
4	2349.411	40.67	-7.79	32.88	54.00	-21.12	AVG			
5	2390.000	45.20	-7.53	37.67	74.00	-36.33	peak			
6	2390.000	37.15	-7.53	29.62	54.00	-24.38	AVG			



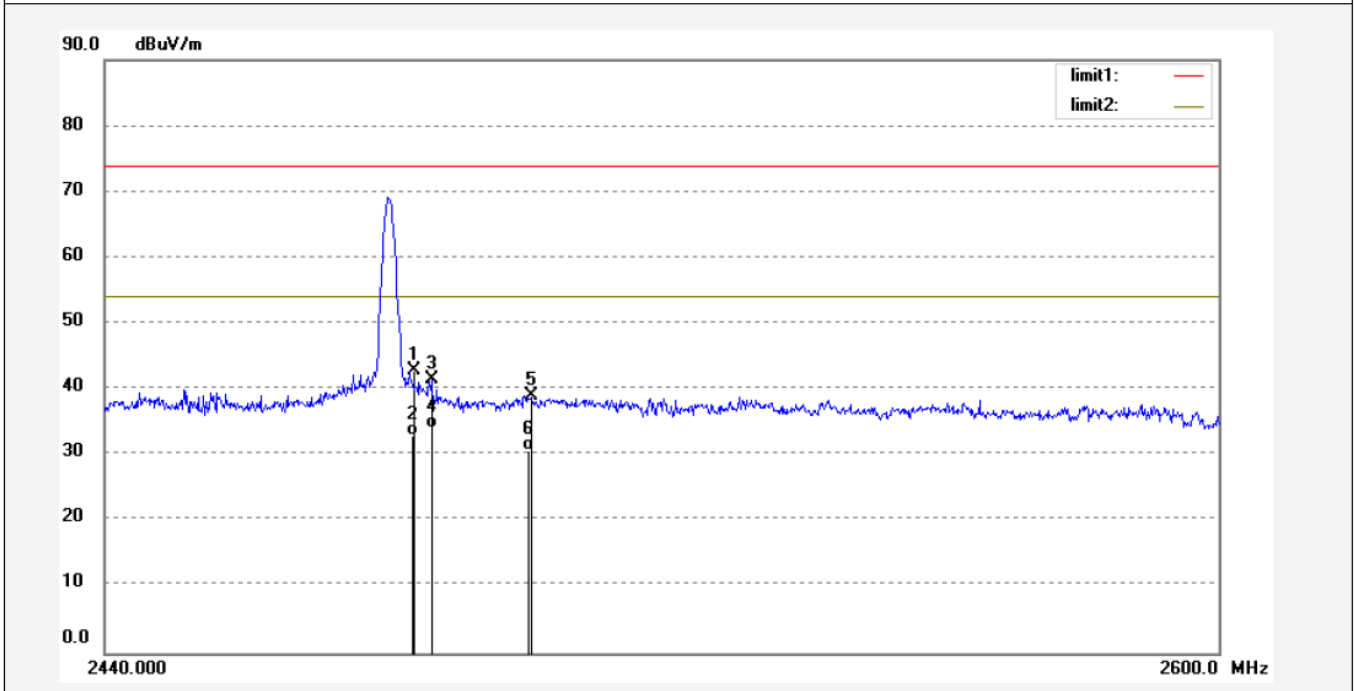
ACCURATE TECHNOLOGY CO., LTD.

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 #1620	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/10
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 10:57:36
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2480MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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	50.15	-7.37	42.78	74.00	-31.22	peak			
2	2483.500	40.23	-7.37	32.86	54.00	-21.14	AVG			
3	2485.925	48.84	-7.38	41.46	74.00	-32.54	peak			
4	2485.925	41.43	-7.38	34.05	54.00	-19.95	AVG			
5	2500.000	46.42	-7.40	39.02	74.00	-34.98	peak			
6	2500.000	38.17	-7.40	30.77	54.00	-23.23	AVG			



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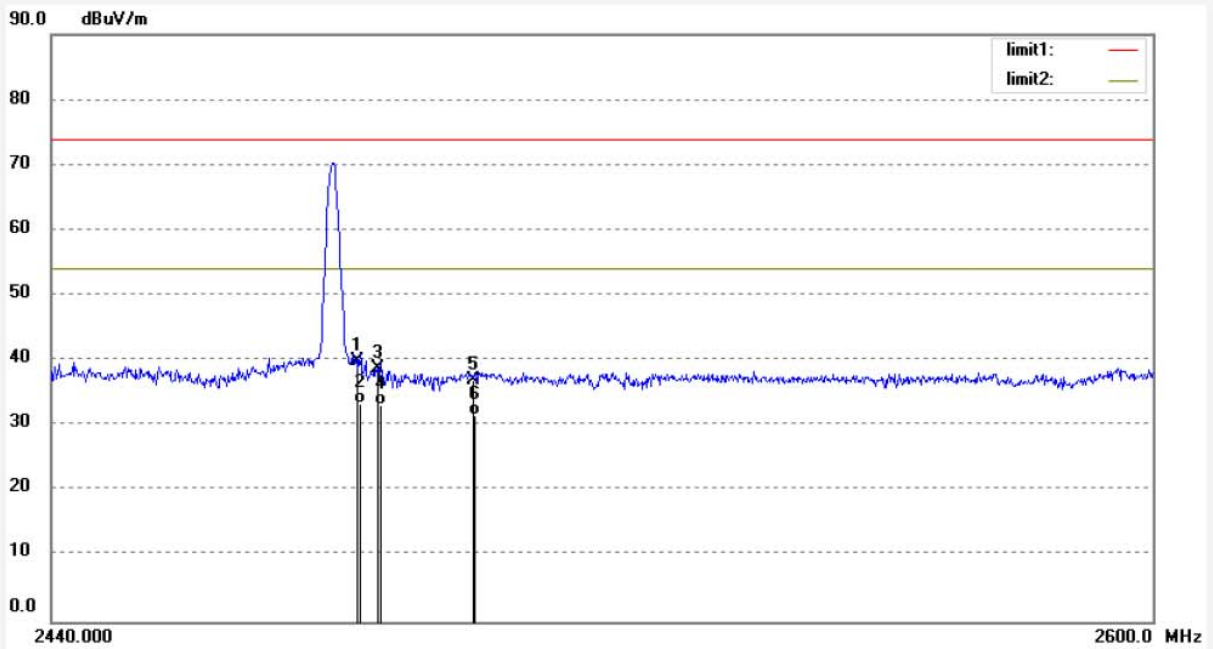
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1619
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2480MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/07/10
Time: 10:52:40
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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	47.34	-7.37	39.97	74.00	-34.03	peak			
2	2483.500	40.79	-7.37	33.42	54.00	-20.58	AVG			
3	2486.399	46.14	-7.39	38.75	74.00	-35.25	peak			
4	2486.399	40.54	-7.39	33.15	54.00	-20.85	AVG			
5	2500.000	44.50	-7.40	37.10	74.00	-36.90	peak			
6	2500.000	38.92	-7.40	31.52	54.00	-22.48	AVG			

11.RADIATED SPURIOUS EMISSION TEST

11.1.Block Diagram of Test Setup

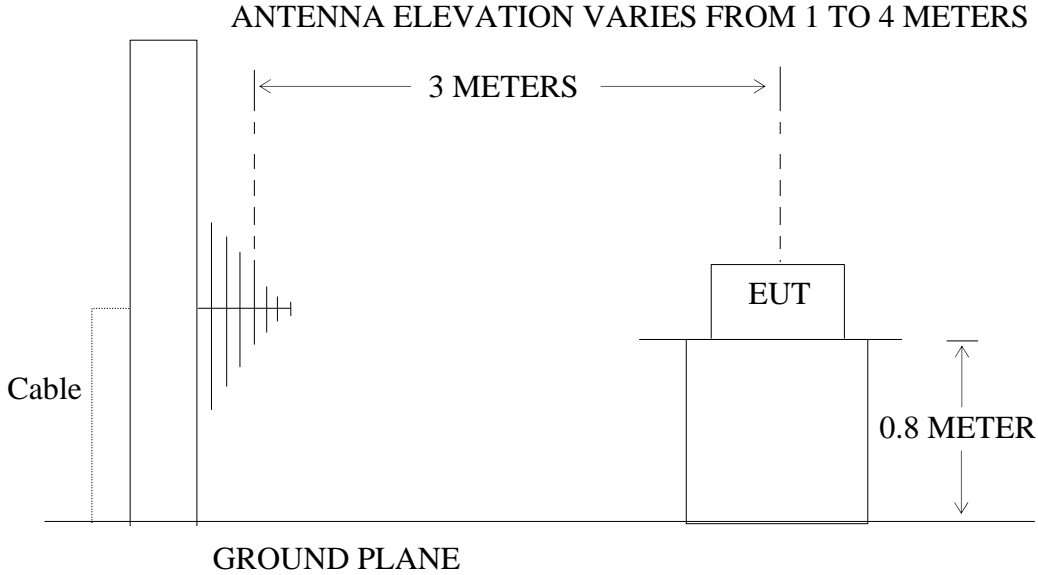
11.1.1.Block diagram of connection between the EUT and simulators



Setup: Transmitting mode

(EUT: Expression Slim)

11.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: Expression Slim)

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			

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

²Above 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 Section 15.209 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. Expression Slim (EUT)

Model Number : DOK-K7132B
 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:	<u>July 9, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>TX (2402MHz)</u>	Test Engineer:	<u>Apple</u>

Below 30MHz

Frequency (MHz)	Reading (dBμV/m)		Factor(dB) Corr.	Result (dBμV/m)		Limit (dBμV/m)	Margin (dB)		Polarization
	QP			QP			QP		
-	-		-	-		-	-		X
-	-		-	-		-	-		Y
-	-		-	-		-	-		Z

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		
264.0000	9.20		18.66	27.86		46.00	-18.14		Vertical
312.5482	10.90		19.13	30.03		46.00	-15.97		
264.0000	21.62		18.66	40.28		46.00	-5.72		Horizontal
312.5482	22.19		19.13	41.32		46.00	-4.68		
672.3103	13.49		26.19	39.68		46.00	-6.32		

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:	July 9, 2012	Temperature:	25°C
EUT:	Expression Slim	Humidity:	50%
Model No.:	DOK-K7132B	Power Supply:	DC 3.7V
Test Mode:	TX (2441MHz)	Test Engineer:	Apple

Below 30MHz

Frequency (MHz)	Reading (dBµV/m)		Factor(dB) Corr.	Result (dBµV/m)		Limit (dBµV/m)	Margin (dB)		Polarization
	QP			QP	QP		QP	QP	
-	-	-	-	-	-	-	-	-	X
-	-	-	-	-	-	-	-	-	Y
-	-	-	-	-	-	-	-	-	Z

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	QP	
264.0000	8.99		18.66	27.65		46.00	-18.35		Vertical
312.5482	10.41		19.13	29.54		46.00	-16.46		
264.0000	21.83		18.66	40.49		46.00	-5.51		Horizontal
312.5482	21.21		19.13	40.34		46.00	-5.66		
672.3104	13.87		26.19	40.06		46.00	-5.94		

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:	July 9, 2012	Temperature:	25°C
EUT:	Expression Slim	Humidity:	50%
Model No.:	DOK-K7132B	Power Supply:	DC 3.7V
Test Mode:	TX (2480MHz)	Test Engineer:	Apple

Below 30MHz

Frequency (MHz)	Reading (dBµV/m)		Factor(dB) Corr.	Result (dBµV/m)		Limit (dBµV/m)	Margin (dB)		Polarization
	QP			QP			QP		
-	-	-	-	-	-	-	-	-	X
-	-	-	-	-	-	-	-	-	Y
-	-	-	-	-	-	-	-	-	Z

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		
264.0000	9.45		18.66	28.11		46.00	-17.89		Vertical
312.5482	7.98		19.13	27.11		46.00	-18.89		
264.0000	21.44		18.66	40.10		46.00	-5.90		Horizontal
312.5483	21.00		19.13	40.13		46.00	-5.87		

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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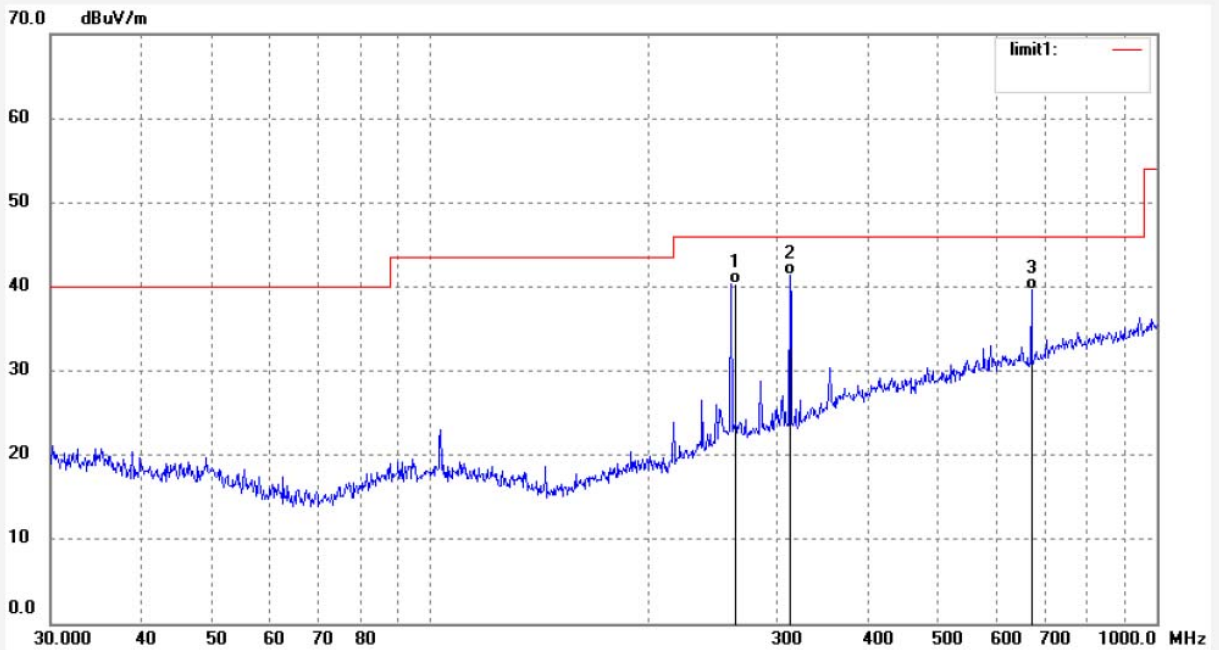
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1589
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2402MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/09
Time: 12:57:13
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	21.62	18.66	40.28	46.00	-5.72	QP			
2	312.5482	22.19	19.13	41.32	46.00	-4.68	QP			
3	672.3103	13.49	26.19	39.68	46.00	-6.32	QP			



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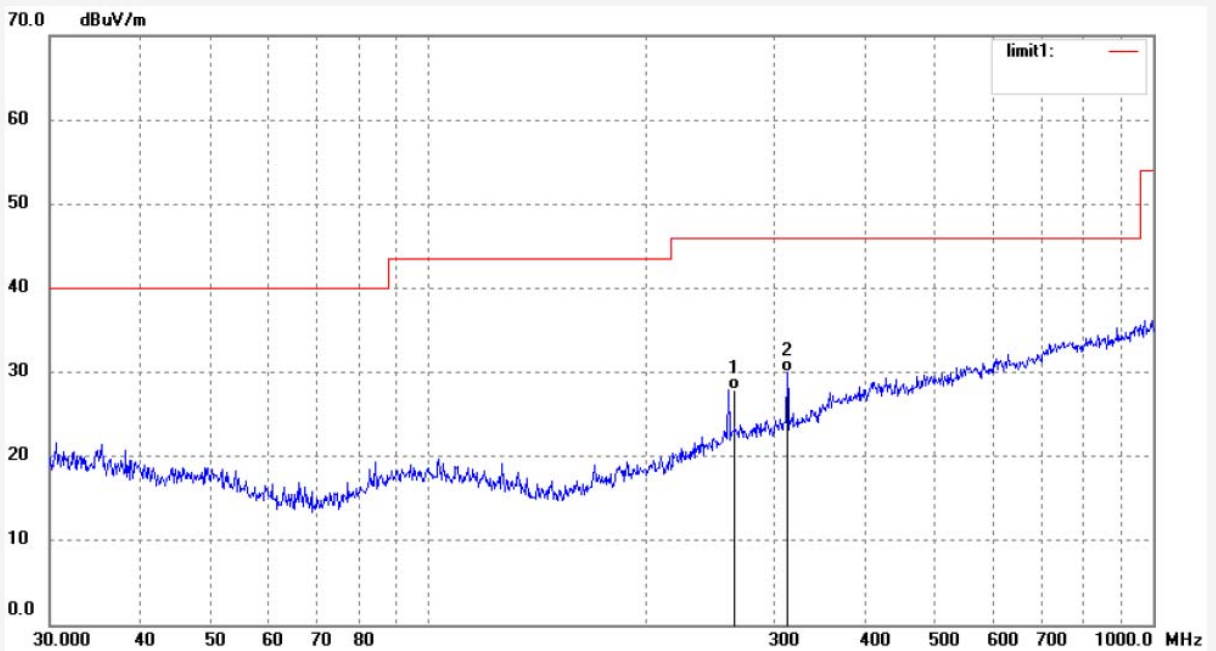
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1590
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2402MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/07/09
Time: 12:58:27
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	9.20	18.66	27.86	46.00	-18.14	QP			
2	312.5482	10.90	19.13	30.03	46.00	-15.97	QP			



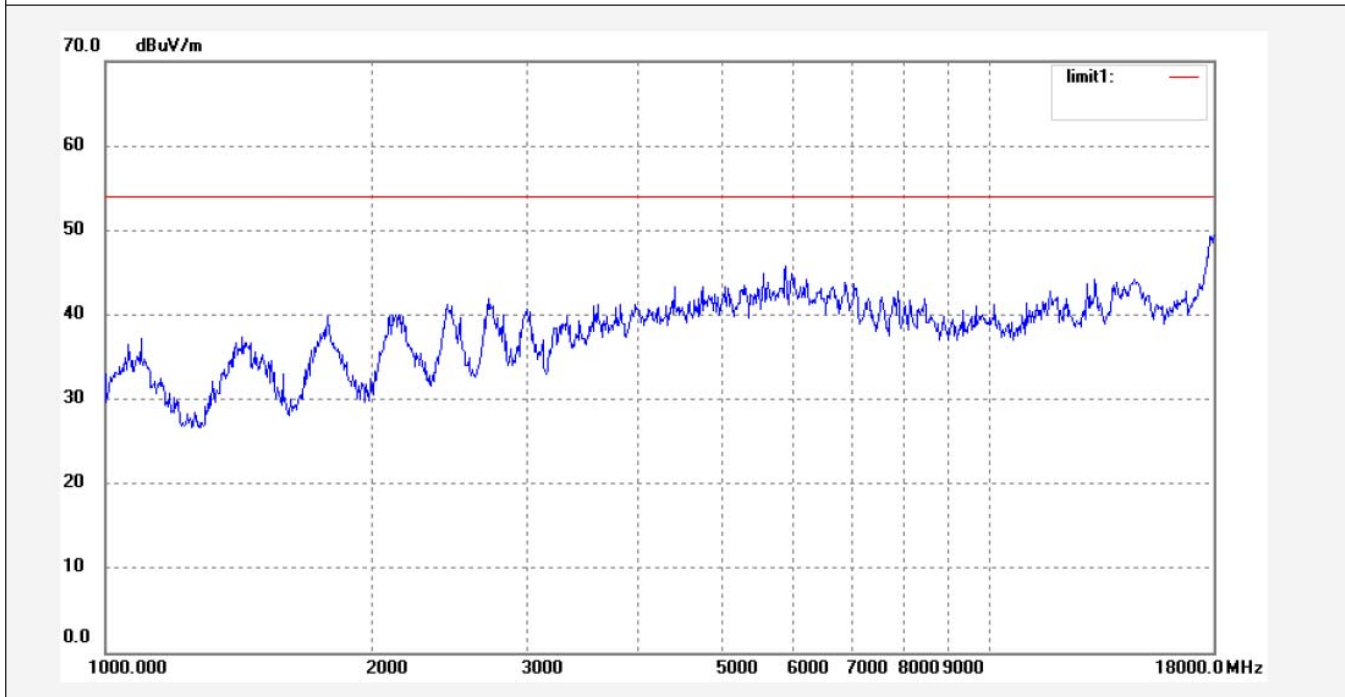
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Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: STAR #1541	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/02
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:48:13
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2402MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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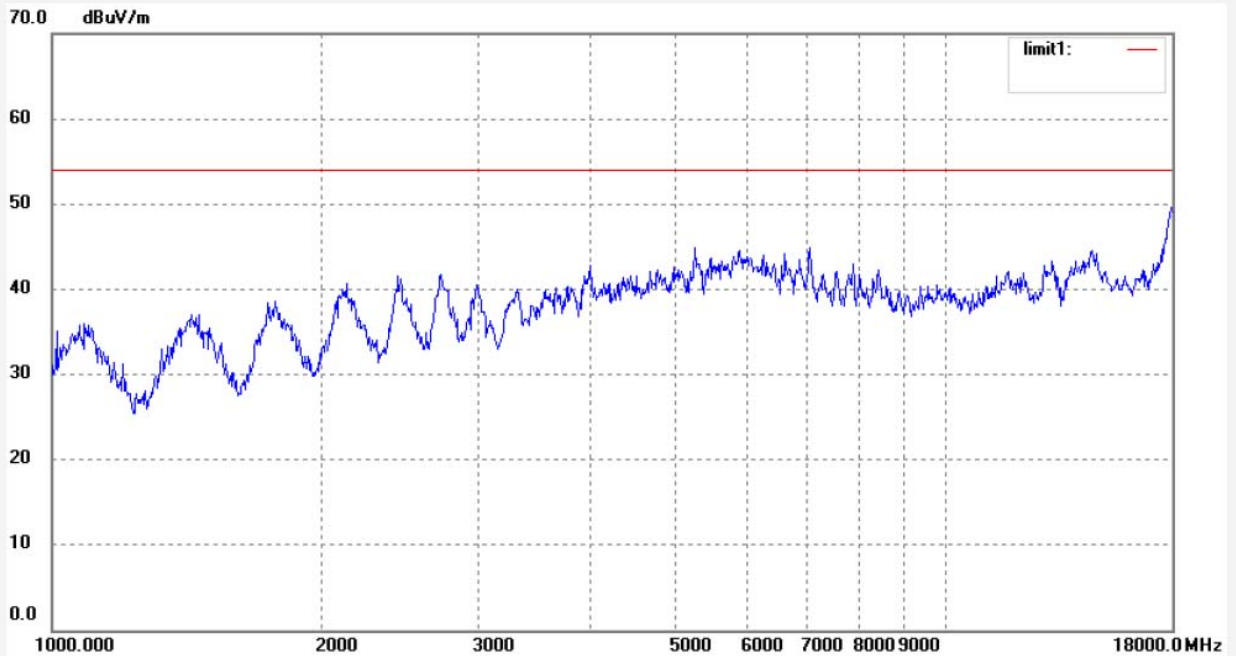
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1542
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2402MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/07/02
Time: 19:48:50
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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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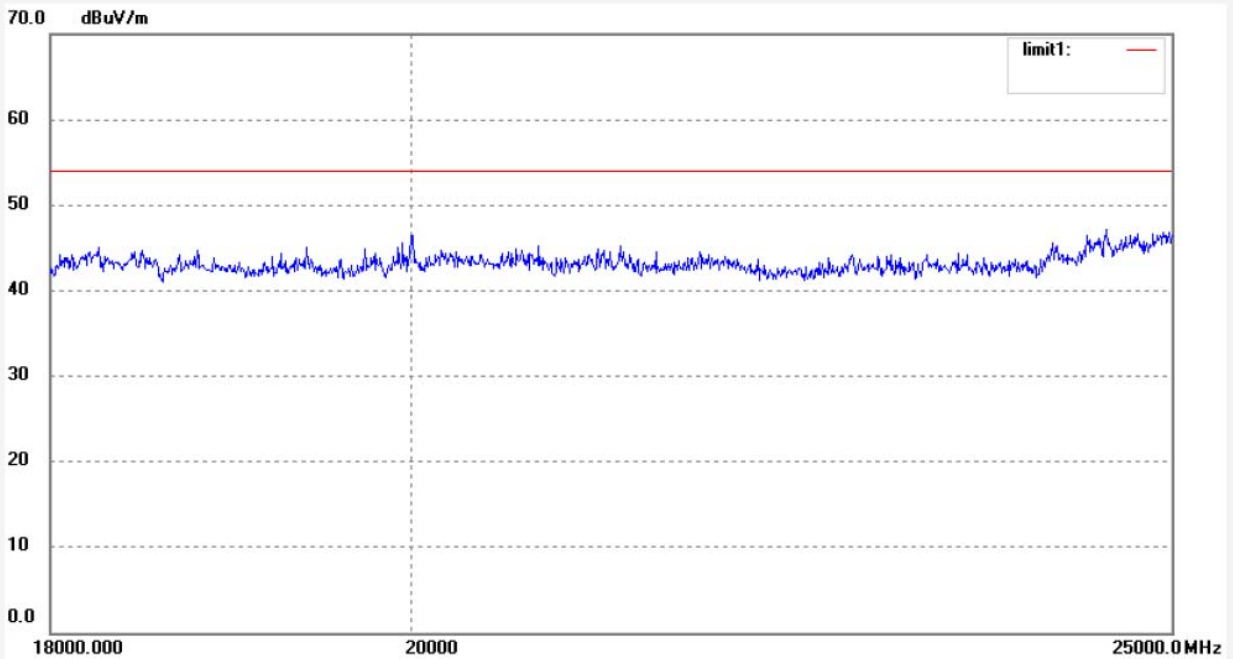
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Star_tmp #201	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/04
Temp.(C)/Hum.(%) 25 C / 51 %	Time: 18:46:04
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2402MHz	Distance:
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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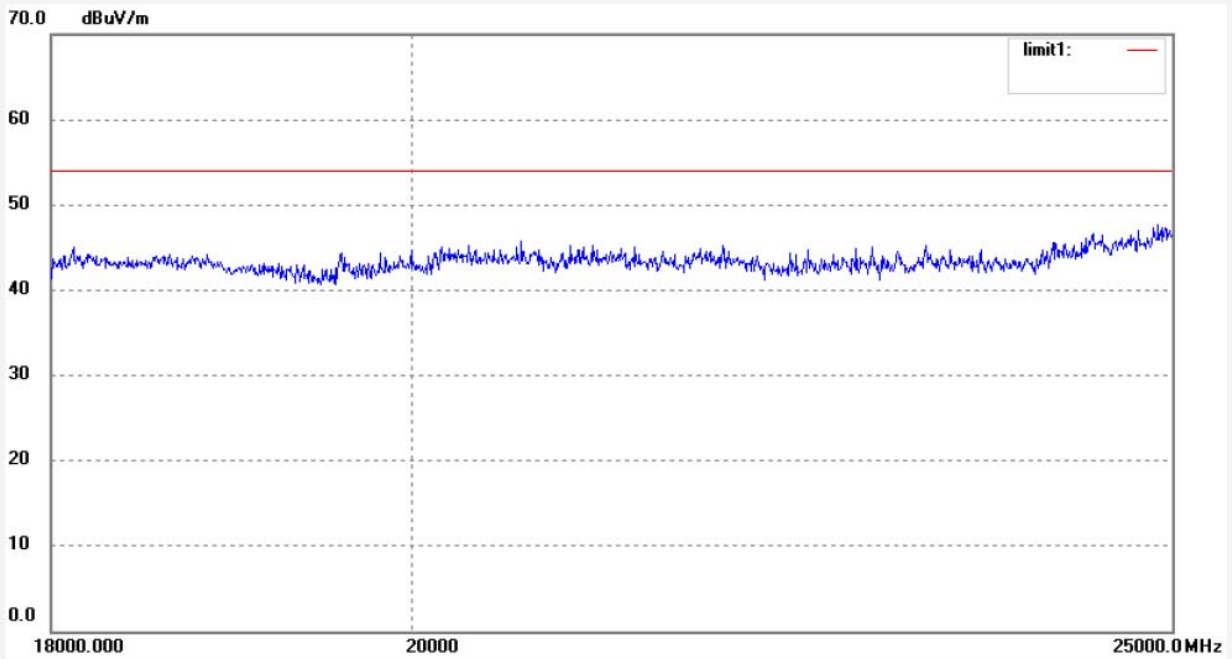
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Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Star_tmp #200	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/04
Temp.(C)/Hum.(%) 25 C / 51 %	Time: 18:45:42
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2402MHz	Distance:
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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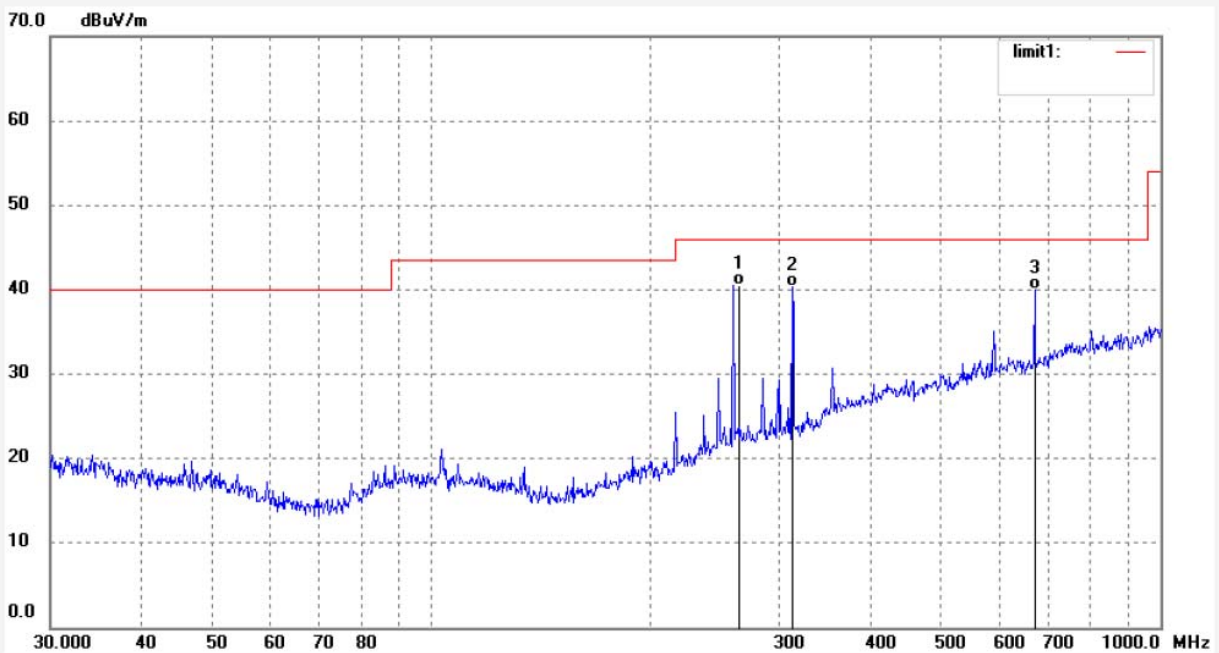
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1592
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2441MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/09
Time: 12:59:53
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	21.83	18.66	40.49	46.00	-5.51	QP			
2	312.5482	21.21	19.13	40.34	46.00	-5.66	QP			
3	672.3104	13.87	26.19	40.06	46.00	-5.94	QP			



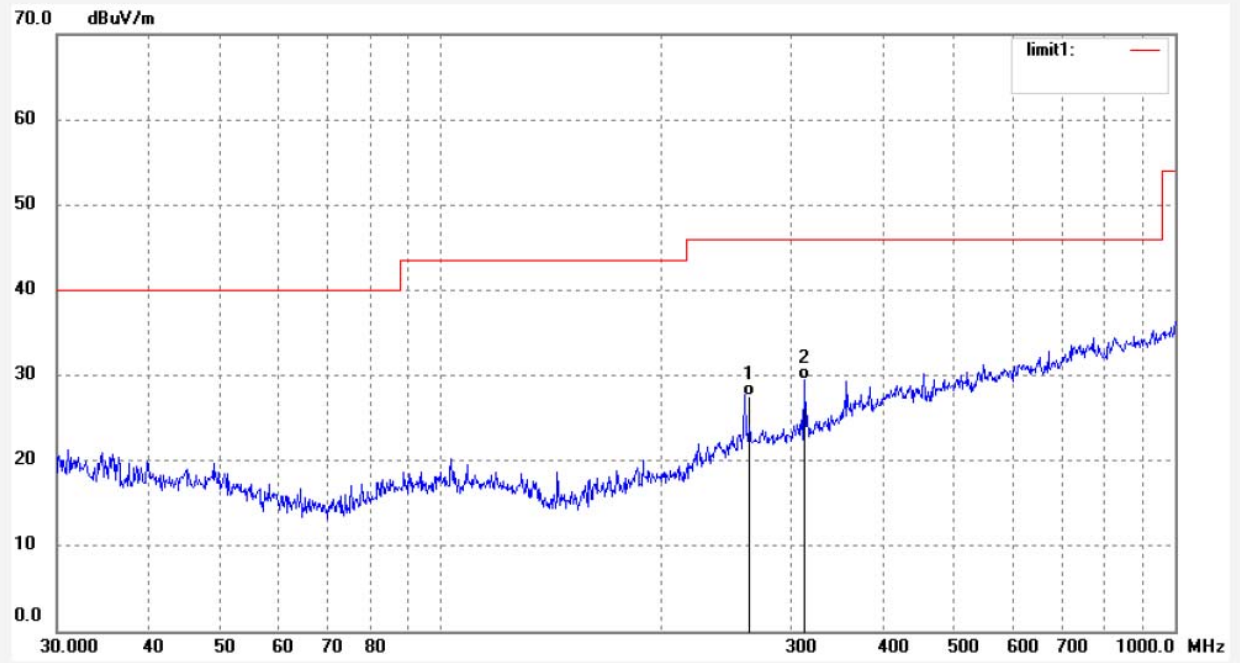
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1591	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/09
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 12:59:05
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2441MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	8.99	18.66	27.65	46.00	-18.35	QP			
2	312.5482	10.41	19.13	29.54	46.00	-16.46	QP			



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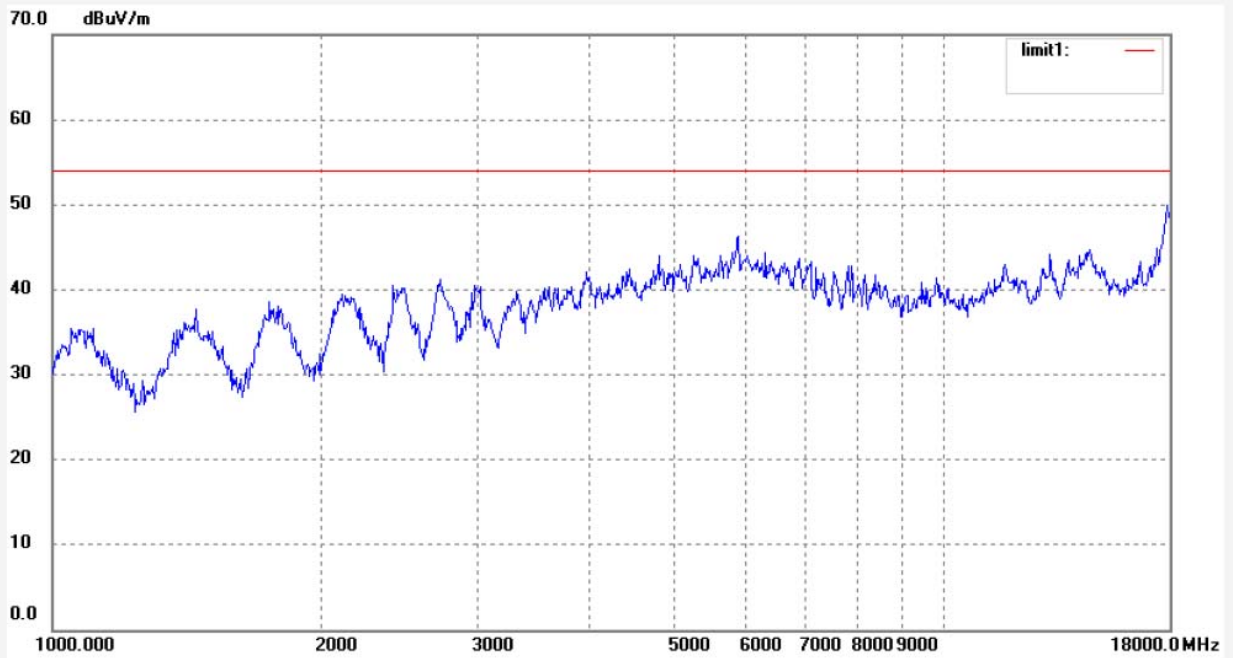
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1540
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2441MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/02
Time: 19:47:26
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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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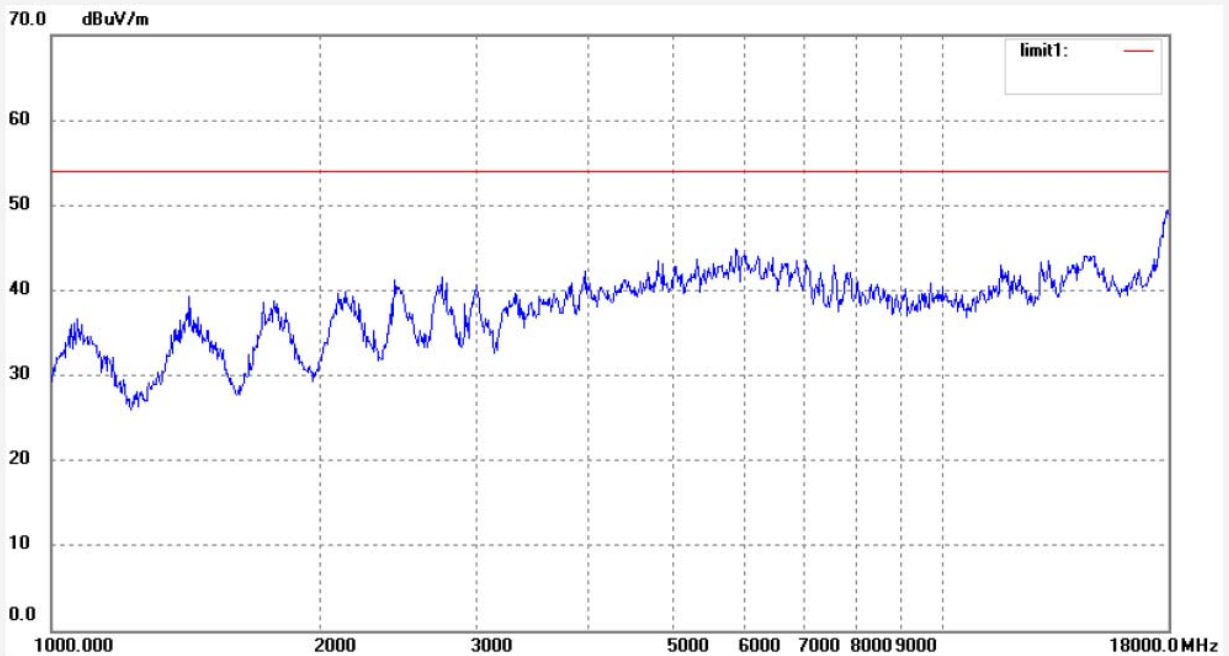
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1539	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/02
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 19:46:39
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2441MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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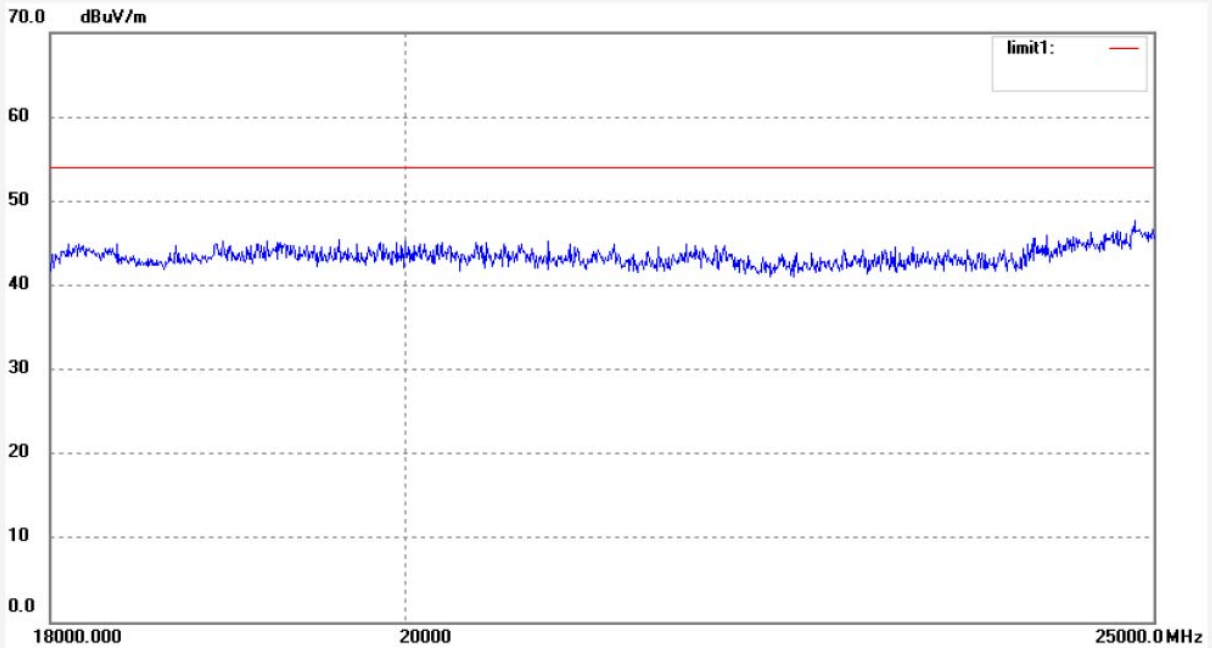
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Star_tmp #202	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/04
Temp.(C)/Hum.(%) 25 C / 51 %	Time: 18:46:17
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2441MHz	Distance:
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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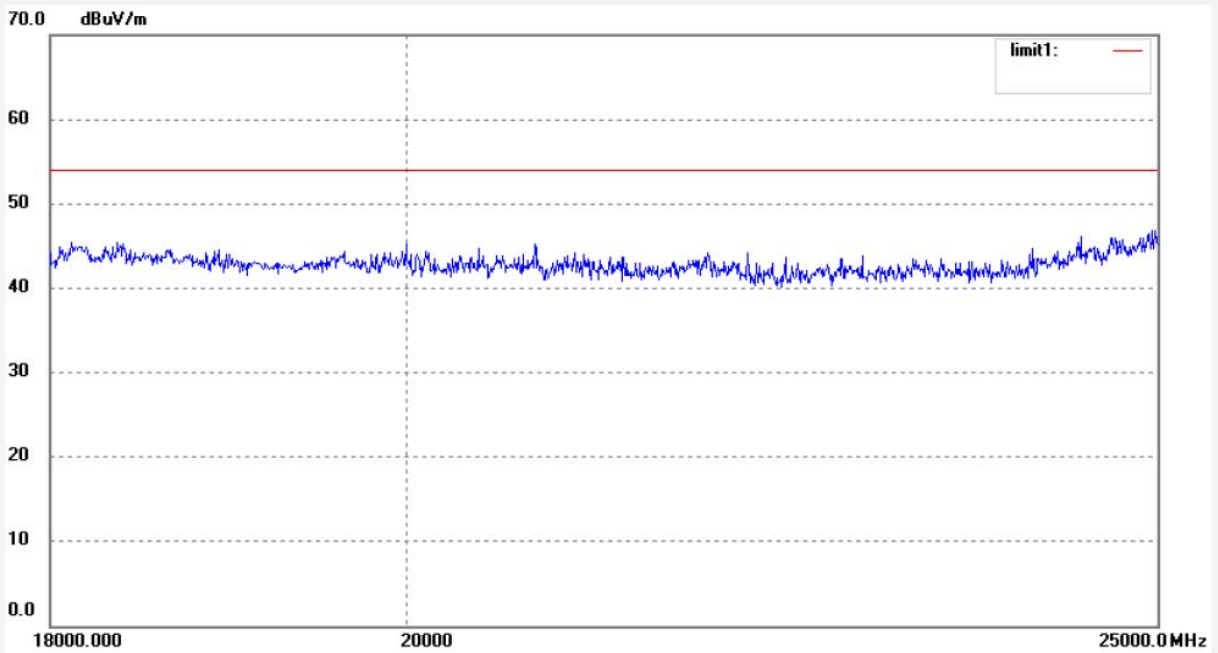
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Star_tmp #203	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/04
Temp.(C)/Hum.(%) 25 C / 51 %	Time: 18:46:33
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2441MHz	Distance:
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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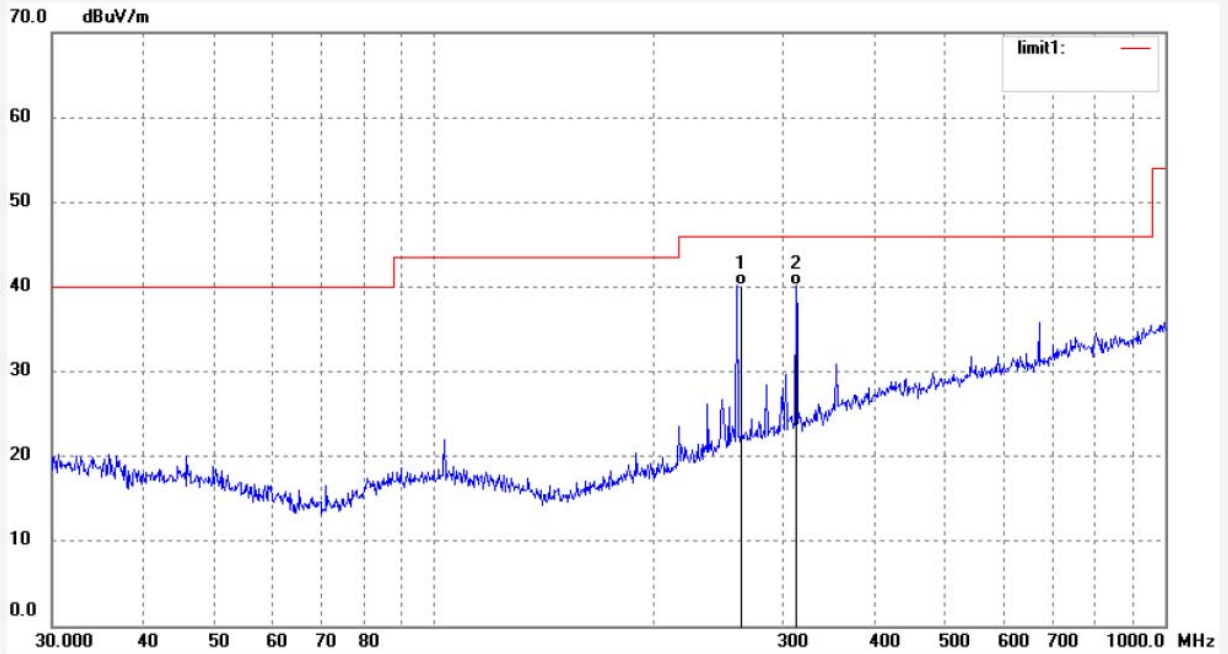
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1593
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2480MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/09
Time: 13:00:31
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	21.44	18.66	40.10	46.00	-5.90	QP			
2	312.5482	21.00	19.13	40.13	46.00	-5.87	QP			



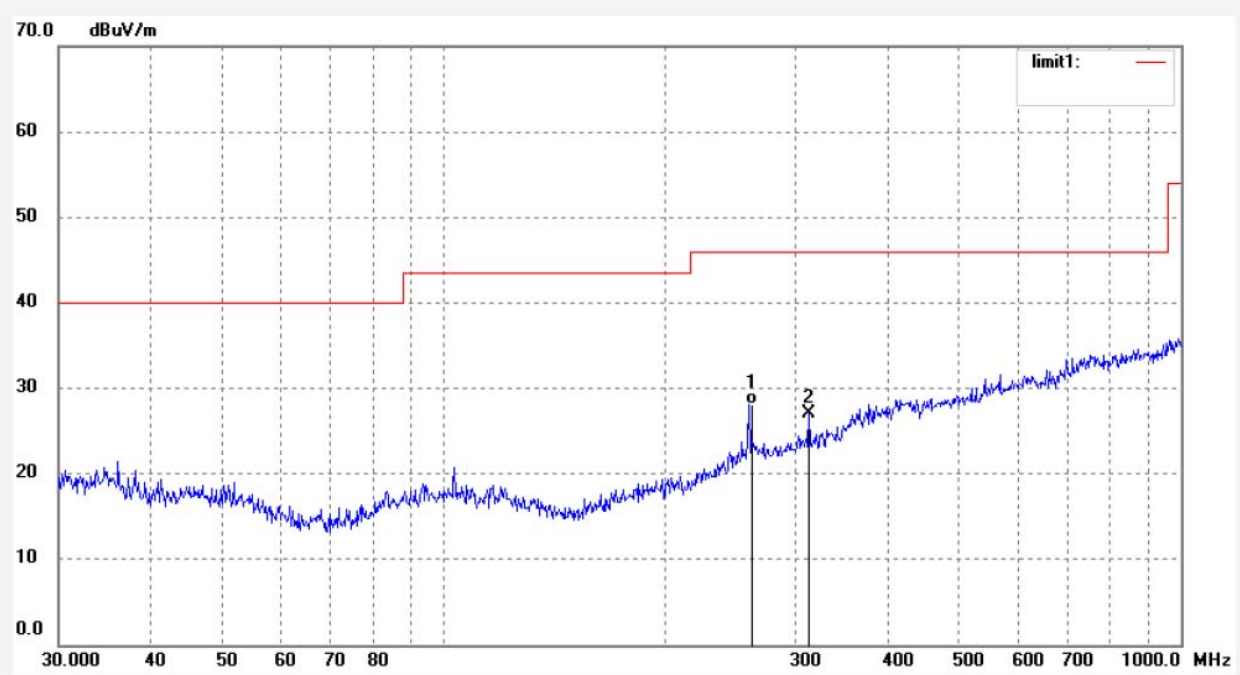
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: star #1594	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/09
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 13:01:23
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2480MHz	Distance: 3m
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	264.0000	9.45	18.66	28.11	46.00	-17.89	QP			
2	312.5482	7.98	19.13	27.11	46.00	-18.89	QP			



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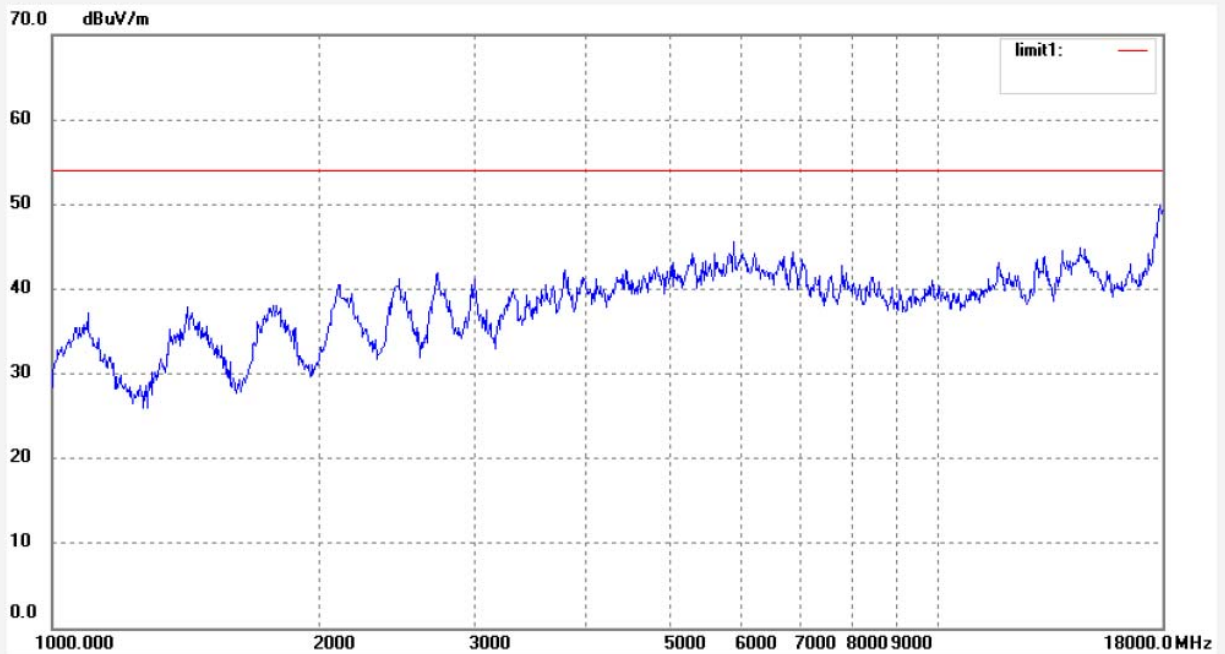
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1537
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2480MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2012/07/02
Time: 19:45:18
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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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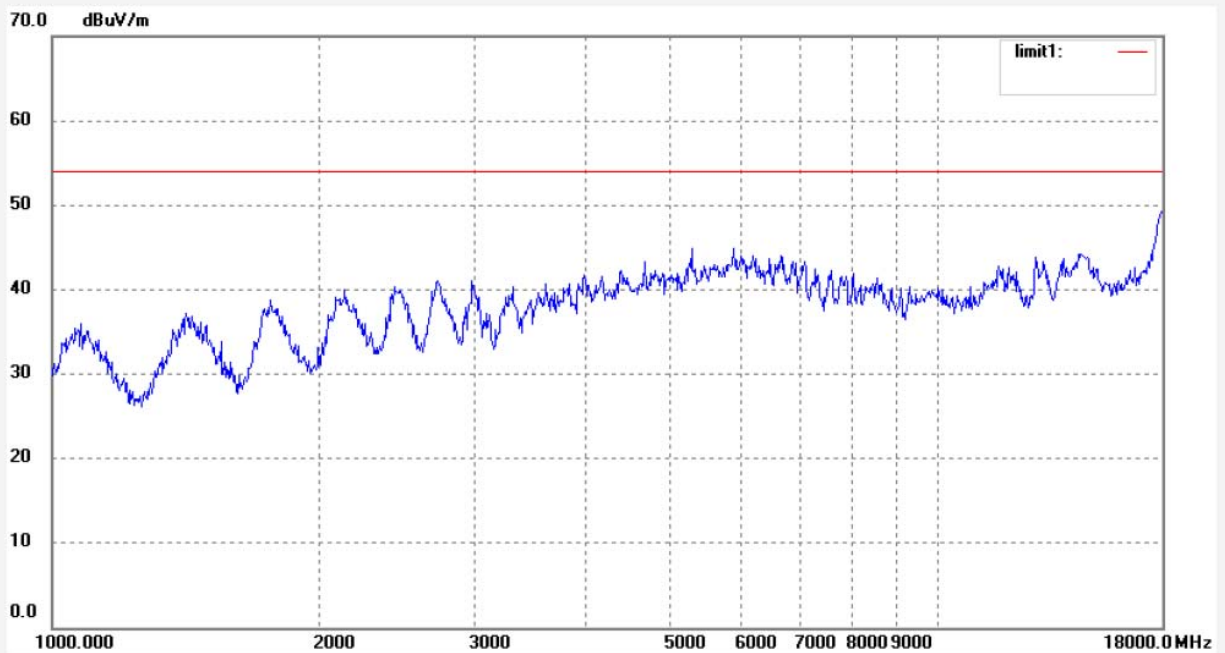
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: STAR #1538
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Expression Slim
Mode: TX 2480MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/07/02
Time: 19:46:01
Engineer Signature: Star
Distance: 3m

Note: Report No.:ATE20121387



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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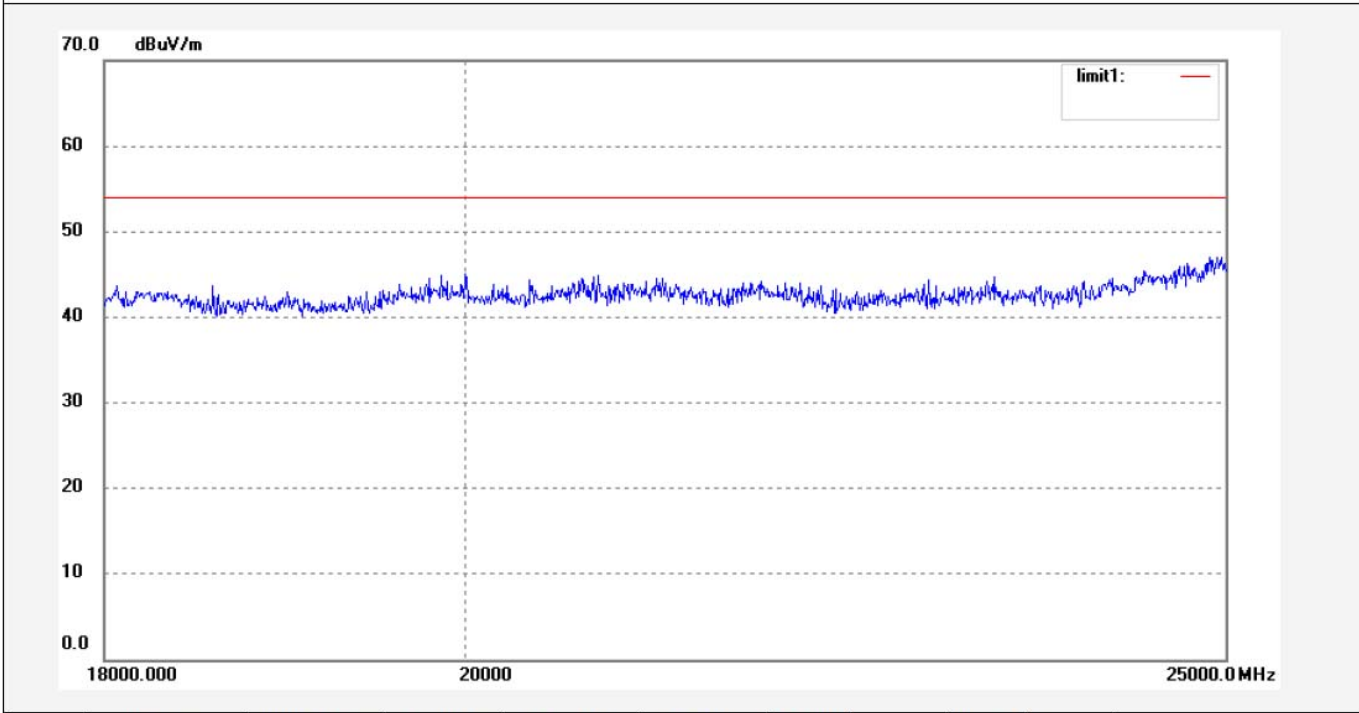
ACCURATE TECHNOLOGY CO., LTD.

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_tmp #205	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/07/04
Temp.(C)/Hum.(%) 25 C / 51 %	Time: 18:47:12
EUT: Expression Slim	Engineer Signature: Star
Mode: TX 2480MHz	Distance:
Model: DOK-K7132B	
Manufacturer: Freedom	

Note: Report No.:ATE20121387



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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ACCURATE TECHNOLOGY CO., LTD.

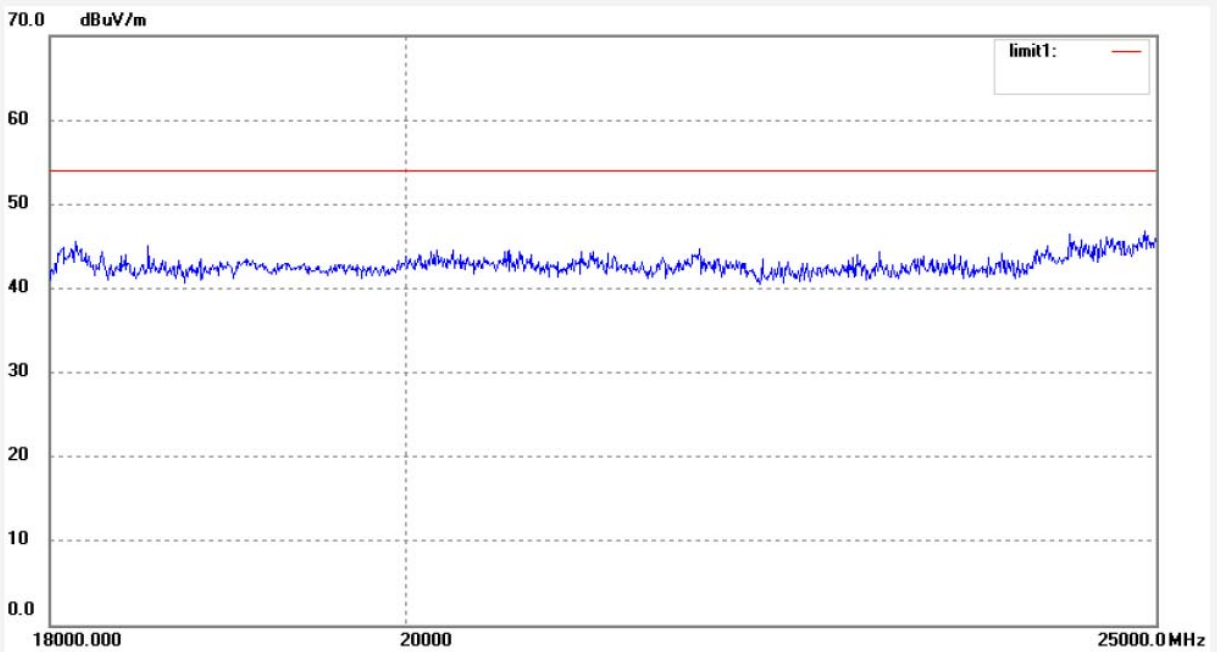
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Star_tmp #204
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 51 %
EUT: Expression Slim
Mode: TX 2480MHz
Model: DOK-K7132B
Manufacturer: Freedom

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/07/04
Time: 18:46:56
Engineer Signature: Star
Distance:

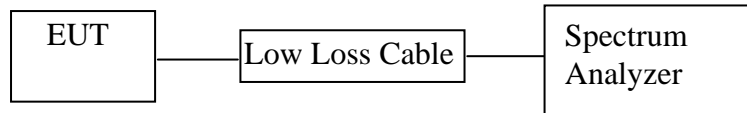
Note: Report No.:ATE20121387



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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12. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

12.1. Block Diagram of Test Setup



(EUT: Expression Slim)

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. Expression Slim (EUT)

Model Number	:	DOK-K7132B
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).

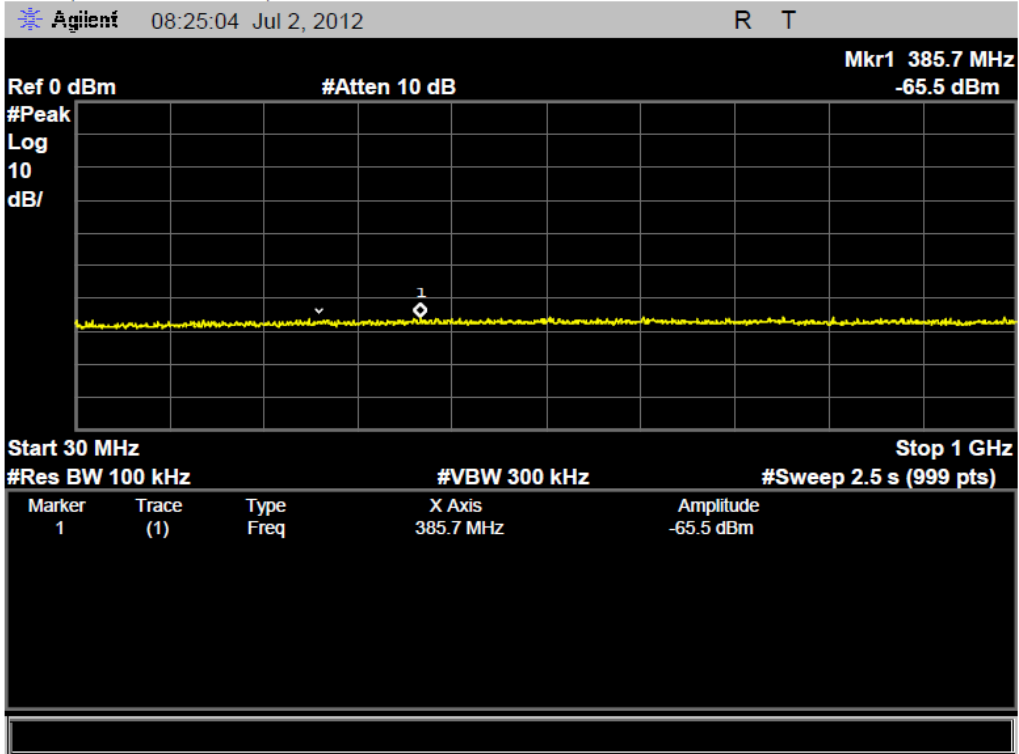
12.5.3. The Conducted Spurious Emission was measured and recorded.

12.6. Test Result

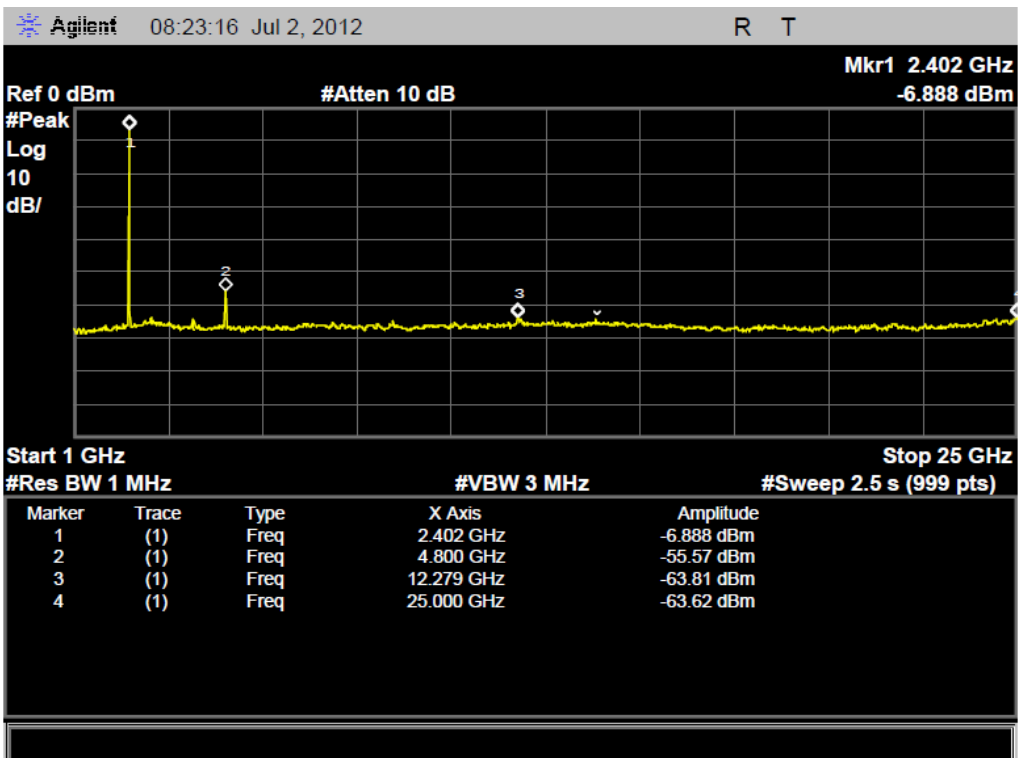
Pass.

The spectrum analyzer plots are attached as below.

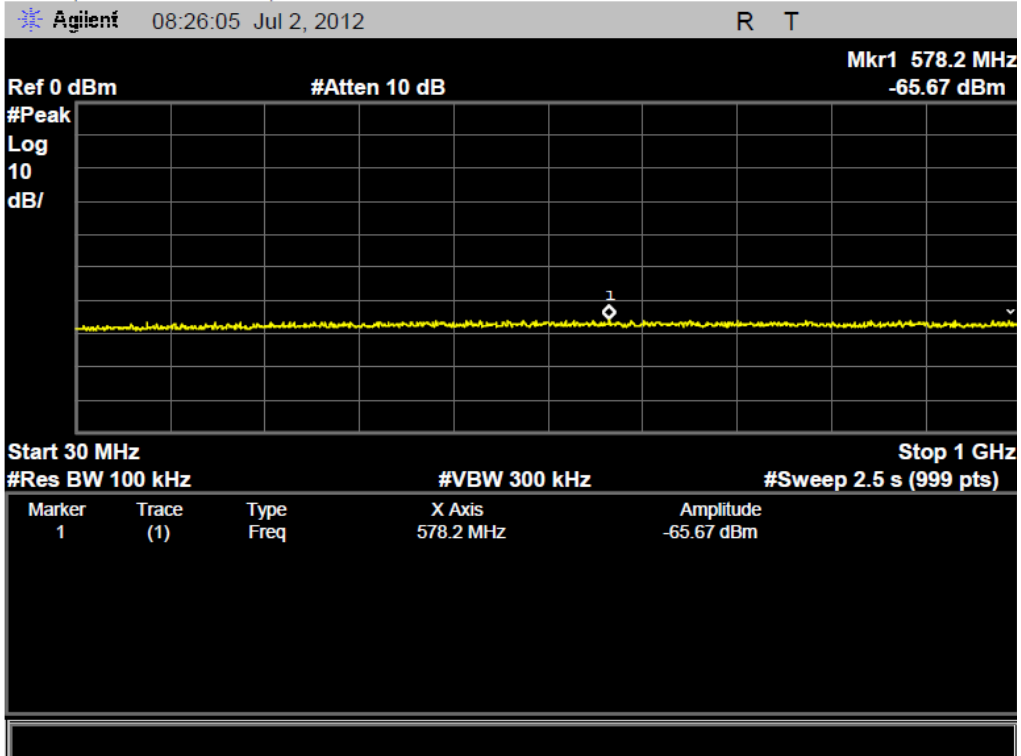
"Spectrum analyzer" is Agilent
TX 2402GHz (30MHz-1GHz)



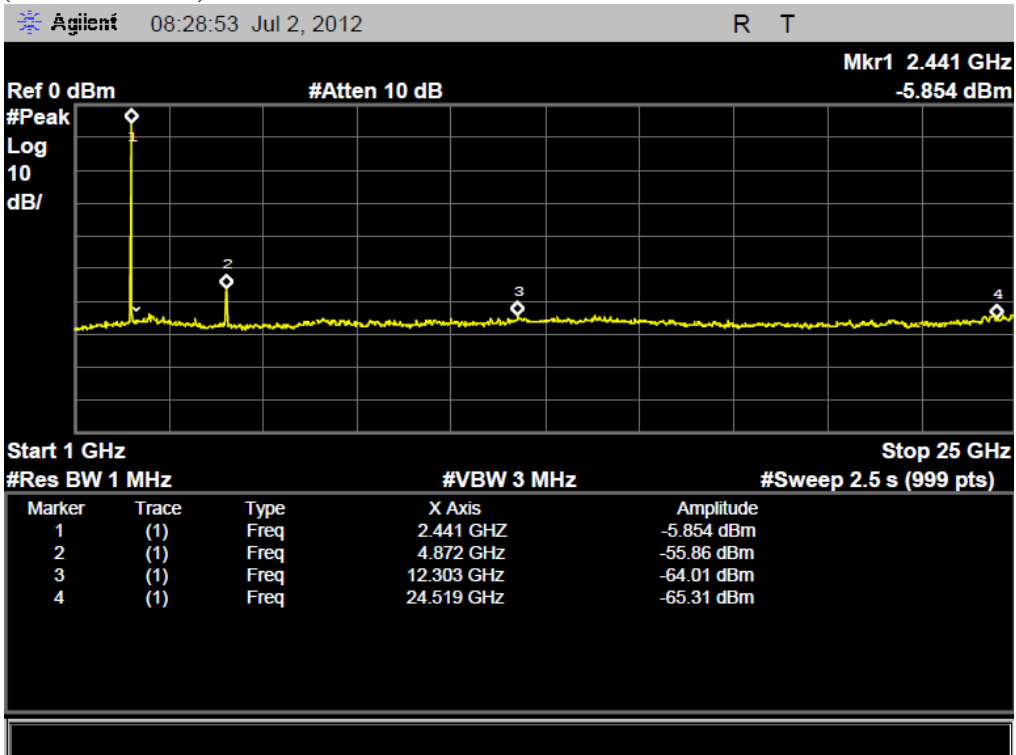
(1GHz-25GHz)



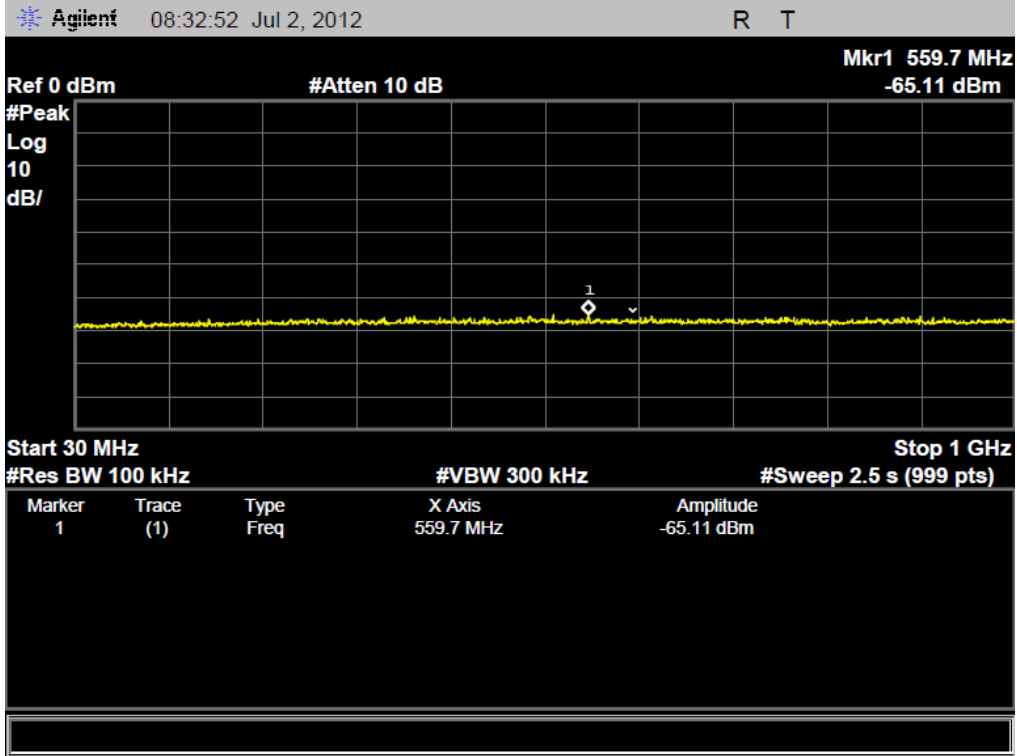
TX 2441GHz (30MHz-1GHz)



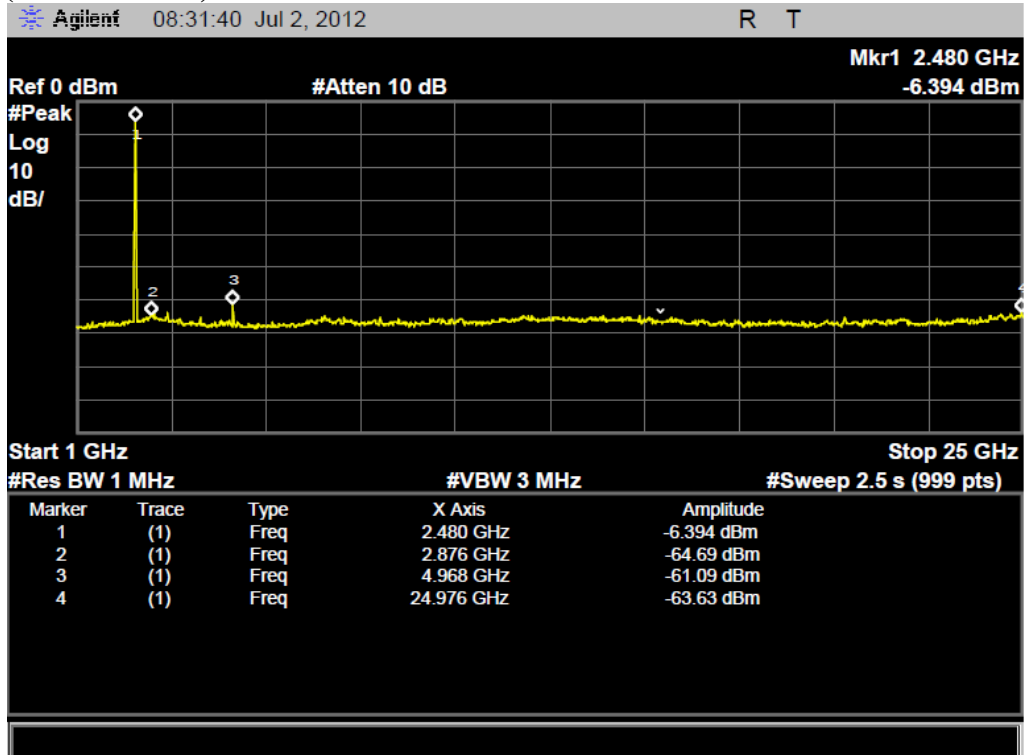
(1GHz-25GHz)



TX 2480GHz (30MHz-1GHz)



(1GHz-25GHz)

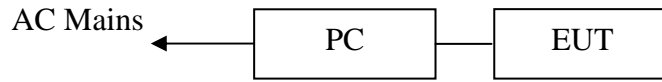


13.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

15 SECTION 15.207(A)

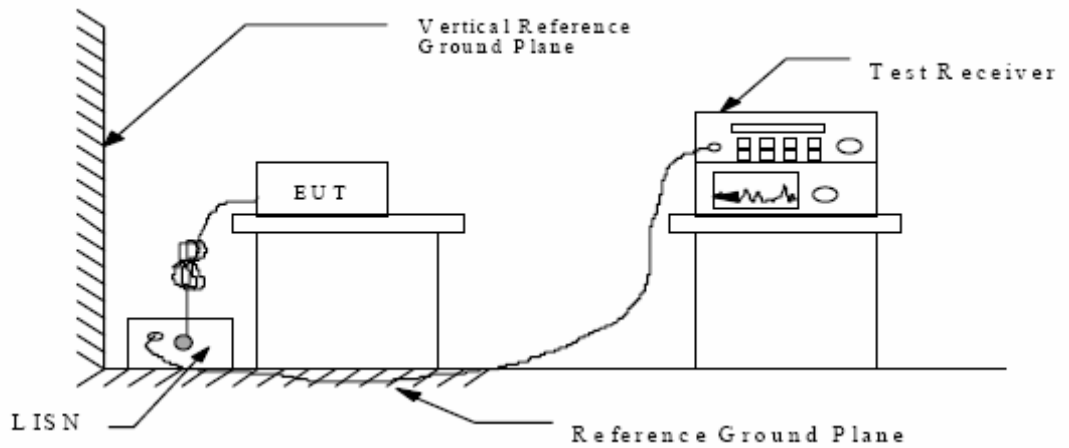
13.1. Block Diagram of Test Setup

13.1.1. Block diagram of connection between the EUT and simulators



(EUT: Expression Slim)

13.1.2. Shielding Room Test Setup Diagram



(EUT: Expression Slim)

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.Expression Slim (EUT)

Model Number : DOK-K7132B
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:	<u>July 10, 2012</u>	Temperature:	<u>25°C</u>
EUT:	<u>Expression Slim</u>	Humidity:	<u>50%</u>
Model No.:	<u>DOK-K7132B</u>	Power Supply:	<u>AC 120V/ 60Hz</u>
Test Mode:	<u>Charging</u>	Test Engineer:	<u>Apple</u>

Frequency (MHz)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)	Detector	Line
0.150600	47.90	66	18.1	QP	Neutral
0.508871	40.10	56	15.9	QP	
3.230847	34.00	56	22.0	QP	
0.506843	36.20	46	-9.8	AV	
1.162749	29.20	46	-16.8	AV	
1.953748	27.90	46	-18.1	AV	
0.153024	49.80	65.8	-16.0	QP	Live
0.502813	40.50	56	-15.5	QP	
3.309167	34.20	56	-21.8	QP	
0.500809	36.20	46	-9.8	AV	
1.181465	29.30	46	-16.7	AV	
1.993137	28.10	46	-17.9	AV	

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

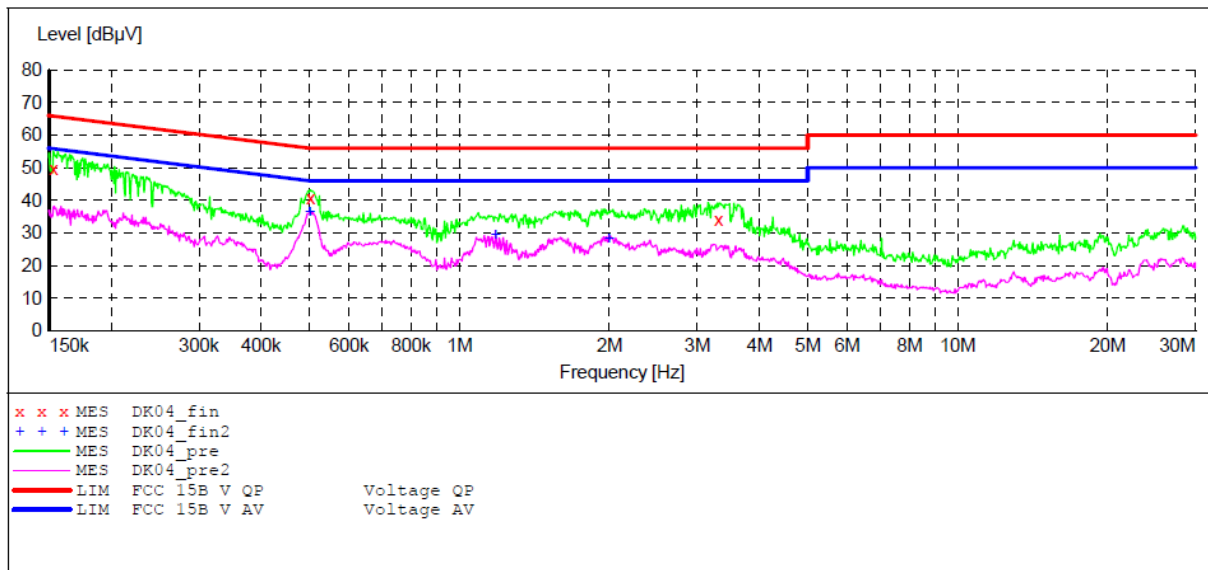
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Expression Slim M/N:DOK-K7132B
 Manufacturer: Doking
 Operating Condition: Charging
 Test Site: 1#Shielding Room
 Operator: Star
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20121387
 Start of Test: 7/10/2012 / 5:59:39PM

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: "DK04_fin"

7/10/2012 6:02PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.153024	49.80	11.0	65.8	16.0	QP	L1	GND
0.502813	40.50	12.0	56	15.5	QP	L1	GND
3.309167	34.20	11.5	56	21.8	QP	L1	GND

MEASUREMENT RESULT: "DK04_fin2"

7/10/2012 6:02PM

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.500809	36.20	12.0	46	9.8	AV	L1	GND
1.181465	29.30	11.8	46	16.7	AV	L1	GND
1.993137	28.10	11.7	46	17.9	AV	L1	GND

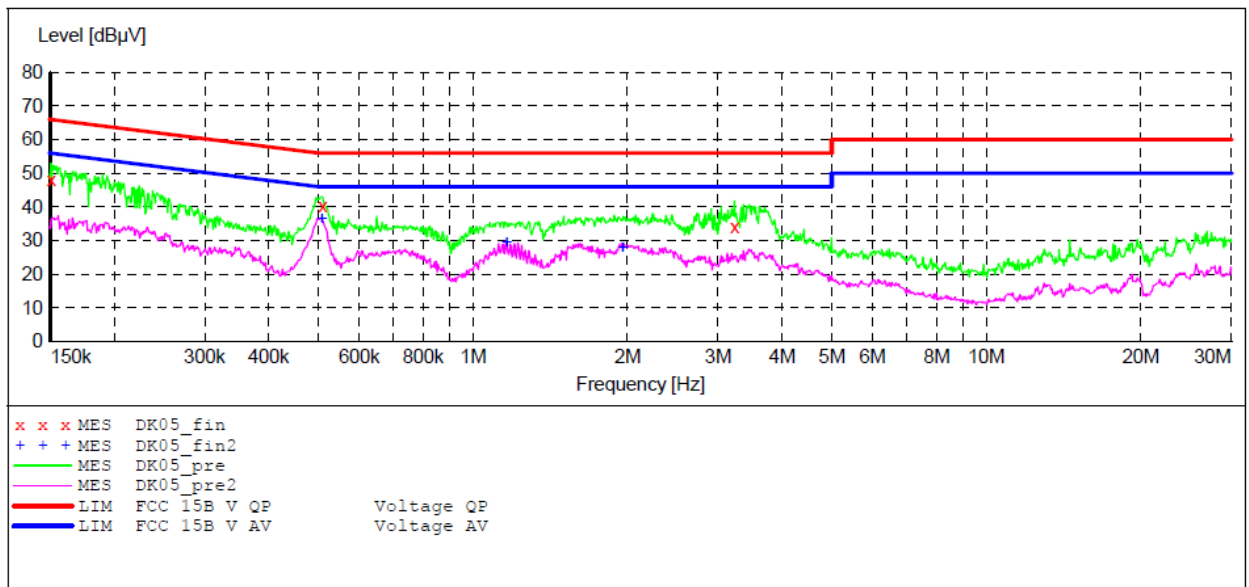
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Expression Slim M/N:DOK-K7132B
 Manufacturer: Doking
 Operating Condition: Charging
 Test Site: 1#Shielding Room
 Operator: Star
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20121387
 Start of Test: 7/10/2012 / 6:02:36PM

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

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



MEASUREMENT RESULT: "DK05_fin"

7/10/2012 6:04PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150600	47.90	11.0	66	18.1	QP	N	GND
0.508871	40.10	12.0	56	15.9	QP	N	GND
3.230847	34.00	11.5	56	22.0	QP	N	GND

MEASUREMENT RESULT: "DK05_fin2"

7/10/2012 6:04PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.506843	36.20	12.0	46	9.8	AV	N	GND
1.162749	29.20	11.8	46	16.8	AV	N	GND
1.953748	27.90	11.7	46	18.1	AV	N	GND

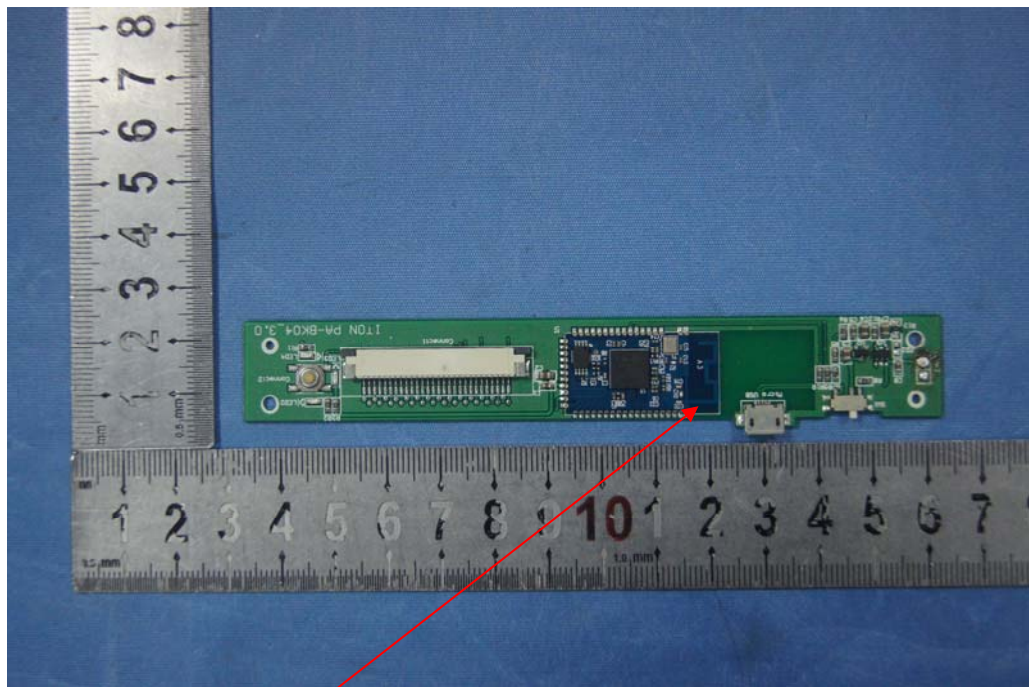
14.ANTENNA REQUIREMENT

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

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna