

APPLICATION CERTIFICATION  
On Behalf of  
Zhejiang Dictory Electronic Technology Co., Ltd.

BLUETOOTH HANDS FREE CAR KIT  
Model No.: DR02A

FCC ID: WVRDR02A

Prepared for : Zhejiang Dictory Electronic Technology Co., Ltd.  
Address : 23/F, Xingyao Building, No.518, Jiangnan Ave., Binjiang  
District, Hangzhou City, Zhejiang Province, China

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 : ATE20081948  
Date of Test : October 14-23, 2008  
Date of Report : October 24, 2008

## TABLE OF CONTENTS

Description	Page
<b>Test Report Certification</b>	
<b>1. GENERAL INFORMATION</b> .....	<b>5</b>
1.1. Description of Device (EUT).....	5
1.2. Description of Test Facility .....	6
1.3. Measurement Uncertainty.....	6
<b>2. MEASURING DEVICE AND TEST EQUIPMENT</b> .....	<b>7</b>
<b>3. OPERATION OF EUT DURING TESTING</b> .....	<b>8</b>
3.1. Operating Mode .....	8
3.2. Configuration and peripherals .....	8
<b>4. TEST PROCEDURES AND RESULTS</b> .....	<b>9</b>
<b>5. CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)</b> .....	<b>10</b>
5.1. Block Diagram of Test Setup.....	10
5.2. The Emission Limit .....	11
5.3. Configuration of EUT on Measurement .....	11
5.4. Operating Condition of EUT .....	11
5.5. Test Procedure .....	11
5.6. Power Line Conducted Emission Measurement Results .....	12
<b>6. RADIATED EMISSION FOR FCC PART 15 SECTION 15.209 (A)</b> .....	<b>15</b>
6.1. Block Diagram of Test Setup.....	15
6.2. The Emission Limit For Section 15.209 (a) .....	16
6.3. EUT Configuration on Measurement .....	16
6.4. Operating Condition of EUT .....	16
6.5. Test Procedure .....	17
6.6. The Emission Measurement Result .....	18
<b>7. 20DB BANDWIDTH TEST</b> .....	<b>21</b>
7.1. Block Diagram of Test Setup.....	21
7.2. The Requirement For Section 15.247(a)(1).....	21
7.3. EUT Configuration on Measurement .....	21
7.4. Operating Condition of EUT .....	21
7.5. Test Procedure .....	22
7.6. Test Result .....	22
<b>8. CARRIER FREQUENCY SEPARATION TEST</b> .....	<b>26</b>
8.1. Block Diagram of Test Setup.....	26
8.2. The Requirement For Section 15.247(a)(1).....	26
8.3. EUT Configuration on Measurement .....	26
8.4. Operating Condition of EUT .....	26
8.5. Test Procedure .....	27
8.6. Test Result .....	27
<b>9. NUMBER OF HOPPING FREQUENCY TEST</b> .....	<b>31</b>
9.1. Block Diagram of Test Setup.....	31
9.2. The Requirement For Section 15.247(a)(1)(iii).....	31
9.3. EUT Configuration on Measurement .....	31
9.4. Operating Condition of EUT .....	31
9.5. Test Procedure .....	32

9.6.	Test Result .....	32
<b>10.</b>	<b>DWELL TIME TEST .....</b>	<b>36</b>
10.1.	Block Diagram of Test Setup.....	36
10.2.	The Requirement For Section 15.247(a)(1)(iii).....	36
10.3.	EUT Configuration on Measurement .....	36
10.4.	Operating Condition of EUT .....	36
10.5.	Test Procedure .....	37
10.6.	Test Result .....	37
<b>11.</b>	<b>MAXIMUM PEAK OUTPUT POWER TEST .....</b>	<b>41</b>
11.1.	Block Diagram of Test Setup.....	41
11.2.	The Requirement For Section 15.247(b)(1).....	41
11.3.	EUT Configuration on Measurement .....	41
11.4.	Operating Condition of EUT .....	41
11.5.	Test Procedure .....	42
11.6.	Test Result .....	42
<b>12.</b>	<b>RADIATED EMISSION TEST .....</b>	<b>46</b>
12.1.	Block Diagram of Test Setup.....	46
12.2.	The Limit For Section 15.247(d) .....	47
12.3.	Restricted bands of operation .....	47
12.4.	Configuration of EUT on Measurement .....	48
12.5.	Test Procedure .....	48
12.6.	The Field Strength of Radiation Emission Measurement Results .....	49
<b>13.</b>	<b>BAND EDGE COMPLIANCE TEST .....</b>	<b>70</b>
13.1.	Block Diagram of Test Setup.....	70
13.2.	The Requirement For Section 15.247(d) .....	70
13.3.	EUT Configuration on Measurement .....	70
13.4.	Operating Condition of EUT .....	71
13.5.	Test Procedure .....	71
13.6.	Test Result .....	72
<b>14.</b>	<b>ANTENNA REQUIREMENT.....</b>	<b>77</b>
14.1.	The Requirement .....	77
14.2.	Antenna Construction .....	77

## Test Report Certification

Applicant : Zhejiang Dictory Electronic Technology Co., Ltd.  
 Manufacturer : Zhejiang Dictory Electronic Technology Co., Ltd.  
 EUT Description : BLUETOOTH HANDS FREE CAR KIT  
     (A) MODEL NO.: DR02A  
     (B) SERIAL NO.: N/A  
     (C) POWER SUPPLY: 3.7V DC (Li-ion battery 1×)

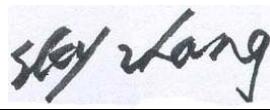
### Measurement Procedure Used:

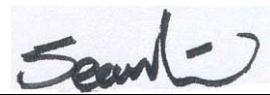
FCC Rules and Regulations Part 15 Subpart C Section 15.207, 15.209, 15.247:2008  
 ANSI C63.4: 2003

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 15.207, 15.209, 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 : October 14-23, 2008

Prepared by :   
(Engineer)

Approved & Authorized Signer :   
(Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : BLUETOOTH HANDS FREE CAR KIT

Model Number : DR02A

Frequency Band : 2402MHz-2480MHz

Number of Channels : 79

Antenna Gain : 0dBi

Power Supply : 3.7V DC (Li-ion battery 1×)

AC Adapter : Model: GFP302-0512  
Input: AC 100-240V, 50/60Hz  
Output: DC 4.2V, 1000mA

Applicant : Zhejiang Dictory Electronic Technology Co., Ltd.

Address : 23/F, Xingyao Building, No.518, Jiangnan Ave., Binjiang District, Hangzhou City, Zhejiang Province, China

Manufacturer : Zhejiang Dictory Electronic Technology Co., Ltd.

Address : 23/F, Xingyao Building, No.518, Jiangnan Ave., Binjiang District, Hangzhou City, Zhejiang Province, China

Date of sample received : October 10, 2008

Date of Test : October 14-23, 2008

## 1.2.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

## 1.3.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 until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	03.29.2009
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	03.29.2009
Spectrum Analyzer	Agilent	E7405A	MY45115511	03.29.2009
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	03.31.2009
Loop Antenna	Schwarzbeck	FMZB1516	1516131	03.28.2009
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	03.29.2009
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	12.20.2008
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	10.09.2009
LISN	Rohde&Schwarz	ESH3-Z5	100305	03.29.2009
LISN	Schwarzbeck	NSLK8126	8126431	03.29.2009

### 3. OPERATION OF EUT DURING TESTING

#### 3.1. Operating Mode

The mode is used: Charging mode

Transmitting mode:

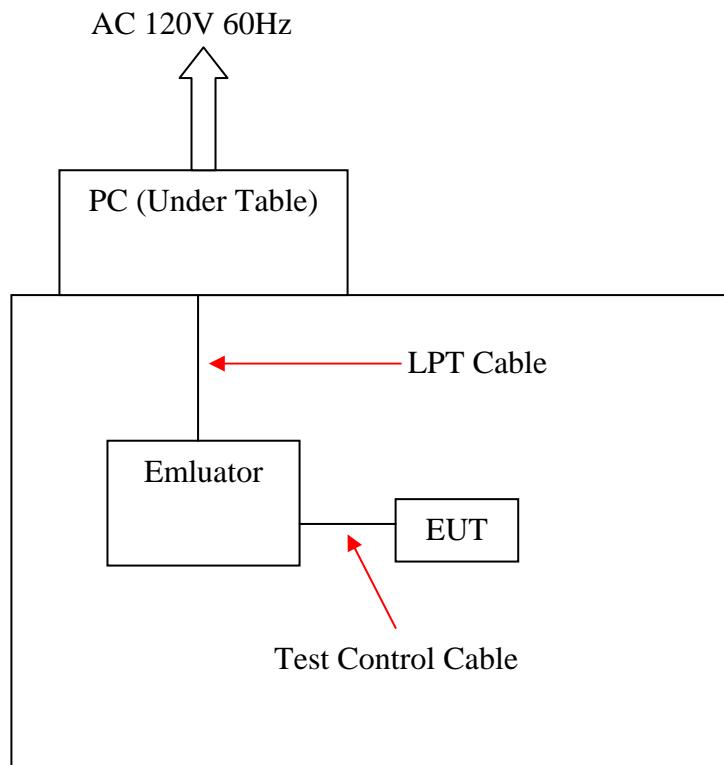
Low Channel: 2402MHz

Middle Channel: 2441MHz

High Channel: 2480MHz

Hopping

#### 3.2. Configuration and peripherals



(EUT: BLUETOOTH HANDS FREE CAR KIT)

## 4. TEST PROCEDURES AND RESULTS

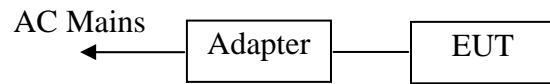
FCC Rules	Description of Test	Result
Section 15.207	Conducted Emission Test	Compliant
Section 15.209	Radiated Emission Test	Compliant
Section 15.247(a)(1)	20dB Bandwidth Test	Compliant
Section 15.247(a)(1)	Carrier Frequency Separation Test	Compliant
Section 15.247(a)(1)(iii)	Number Of Hopping Frequency 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)	Radiated Emission Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.203	Antenna Requirement	Compliant

## 5. CONDUCTED EMISSION FOR FCC PART 15 SECTION

### 15.207(A)

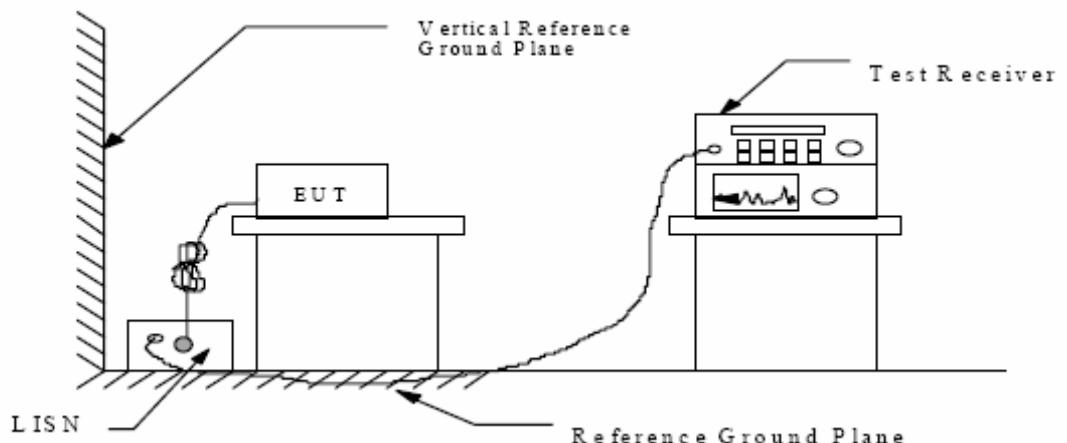
#### 5.1. Block Diagram of Test Setup

##### 5.1.1. Block diagram of connection between the EUT and simulators



(EUT: BLUETOOTH HANDS FREE CAR KIT)

##### 5.1.2. Shielding Room Test Setup Diagram



(EUT: BLUETOOTH HANDS FREE CAR KIT)

## 5.2.The Emission Limit

### 5.2.1.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.

## 5.3.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.

### 5.3.1.BLUETOOTH HANDS FREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory 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 Charging mode measure it.

## 5.5.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.

## 5.6.Power Line Conducted Emission Measurement Results

**PASS.**

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

Date of Test:	<u>October 23, 2008</u>	Temperature:	<u>25°C</u>
	<u>BLUETOOTH HANDS FREE</u>		
EUT:	<u>CAR KIT</u>	Humidity:	<u>52%</u>
			<u>DC 4.2V (Adapter input)</u>
Model No.:	<u>DR02A</u>	Power Supply:	<u>Adapter power: AC120V/60Hz</u>
Test Mode:	<u>Charging</u>	Test Engineer:	<u>Roger</u>

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
1.837500	34.40	11.7	56	21.6	QP	N	GND
Frequency MHz							
0.897000	27.50	11.9	46	18.5	AV	N	GND
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
1.869000	34.90	11.7	56	21.1	QP	L1	GND
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.703500	27.60	11.9	46	18.4	AV	L1	GND
0.861000	27.00	11.9	46	19.0	AV	L1	GND

The spectral diagrams are attached as below.

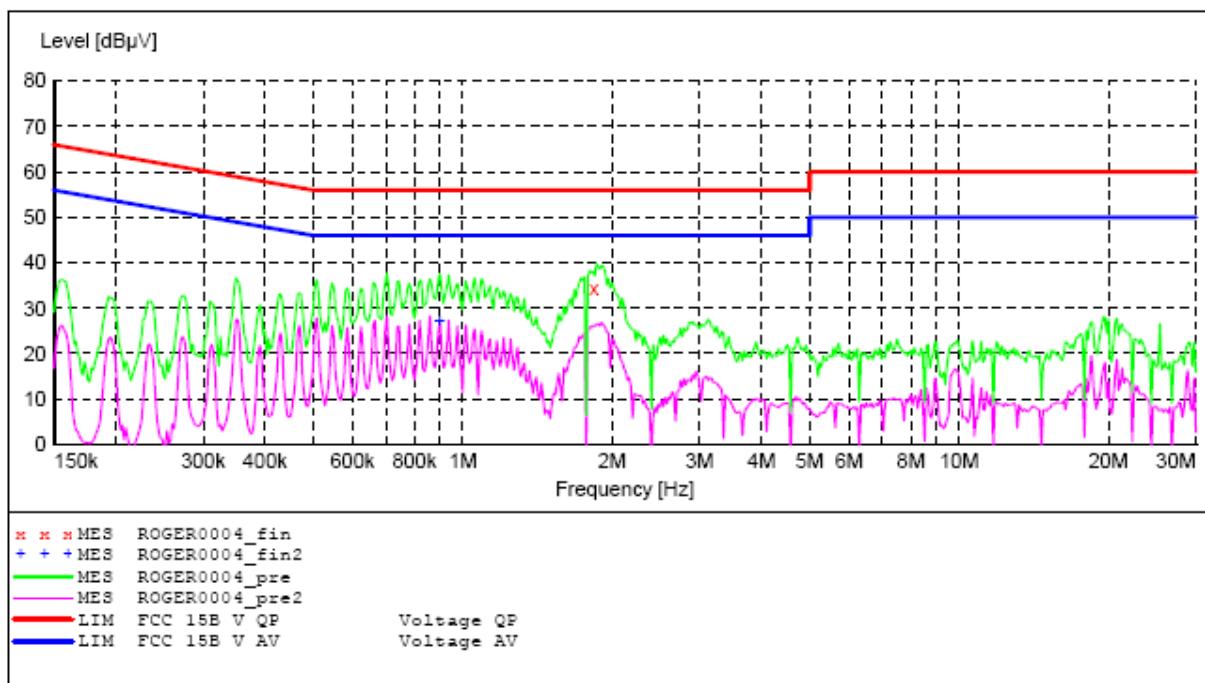
SHENZHEN ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD EN55022B

EUT: BLUETOOTH HANDS FREE CAR KIT M/N:DR02A  
 Manufacturer: Dictory  
 Operating Condition: Charing  
 Test Site: 1#Shielding Room  
 Operator: Roger  
 Test Specification: Va 120V/60Hz Sample No.:083732 Report No.:ATE20081948

## SCAN TABLE: "V 9K-30MHz fin"

Short Description:		Conducted emission				
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
			Average			
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



## MEASUREMENT RESULT: "ROGER0004\_fin"

10/23/2008 11:21AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
1.837500	34.40	11.7	56	21.6	QP	N	GND

## MEASUREMENT RESULT: "ROGER0004\_fin2"

10/23/2008 11:21AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.897000	27.50	11.9	46	18.5	AV	N	GND

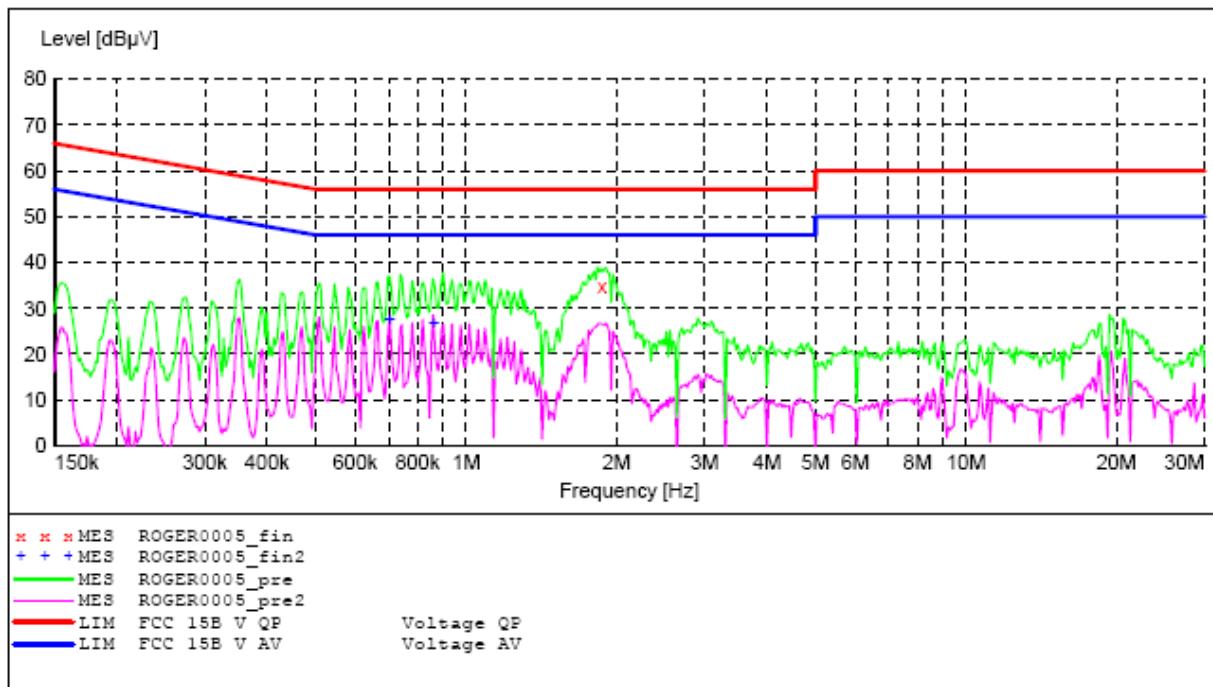
SHENZHEN ACCURATE TECHNOLOGY CO., LTD

## CONDUCTED EMISSION STANDARD EN55022B

EUT: BLUETOOTH HANDS FREE CAR KIT M/N:DR02A  
 Manufacturer: Dictory  
 Operating Condition: Charing  
 Test Site: 1#Shielding Room  
 Operator: Roger  
 Test Specification: Vb 120V/60Hz Sample No.:083732 Report No.:ATE20081948

## SCAN TABLE: "V 9K-30MHz fin"

Short Description: Conducted emission  
 Start Stop Step Detector Meas. IF Transducer  
 Frequency Frequency Width Time Bandw.  
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008  
 Average  
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008  
 Average



## MEASUREMENT RESULT: "ROGER0005\_fin"

10/23/2008 11:27AM

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
1.869000	34.90	11.7	56	21.1	QP	L1	GND

## MEASUREMENT RESULT: "ROGER0005\_fin2"

10/23/2008 11:27AM

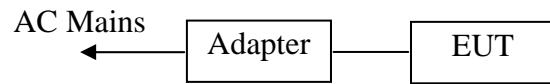
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.703500	27.60	11.9	46	18.4	AV	L1	GND
0.861000	27.00	11.9	46	19.0	AV	L1	GND

## 6. RADIATED EMISSION FOR FCC PART 15 SECTION 15.209

(A)

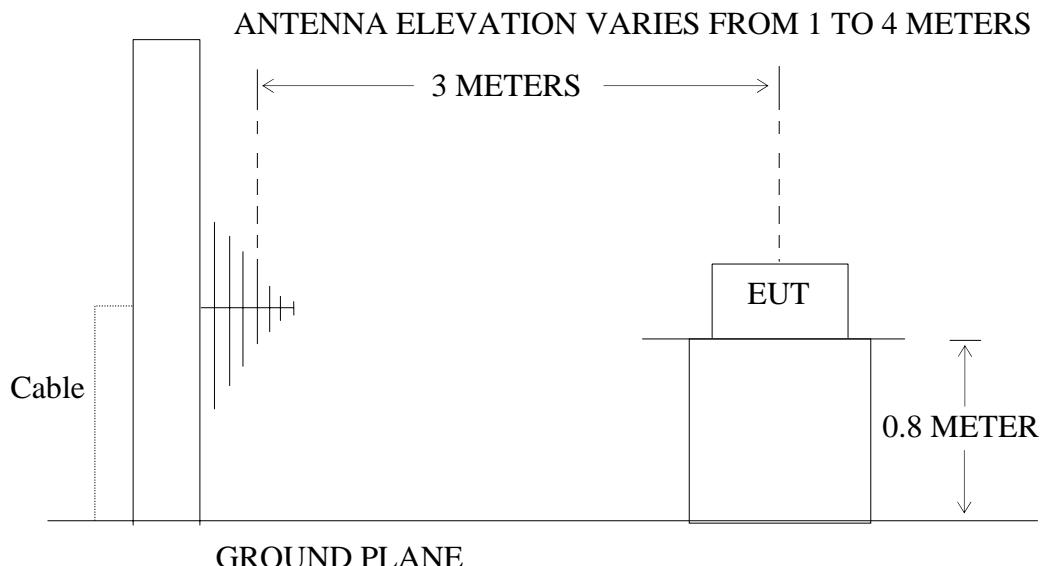
### 6.1. Block Diagram of Test Setup

#### 6.1.1. Block diagram of connection between the EUT and simulators



(EUT: BLUETOOTH HANDS FREE CAR KIT)

#### 6.1.2. Anechoic Chamber Test Setup Diagram



(EUT: BLUETOOTH HANDS FREE CAR KIT)

## 6.2.The Emission Limit For Section 15.209 (a)

### 6.2.1.Radiation Emission Measurement Limits According to Section 15.209 (a).

Frequency (MHz)	Limit	
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dB $\mu$ V/m)
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

## 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.BLUETOOTH HANDS FREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory 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 Charging mode measure it.

## 6.5. 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 bandwidth of test receiver is set at 120kHz in 30-1000MHz.

The frequency range from 30MHz to 1000MHz is checked.

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

## 6.6.The Emission Measurement Result

**PASS.**

Date of Test:	October 16, 2008	Temperature:	25°C
	BLUETOOTH HANDS HREE		
EUT:	CAR KIT	Humidity:	52%
			DC 4.2V (Adapter input)
Model No.:	DR02A	Power Supply:	Adapter power: AC120V/60Hz
Test Mode:	Charging	Test Engineer:	Roger

Frequency (MHz)	Reading (dB $\mu$ V/m)	Factor(dB) Corr.	Result	Limit	Margin	Polarization
			(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
-	-	-	-	-	-	Vertical
-	-	-	-	-	-	Horizontal

The spectral diagrams are attached as below display the measurement of peak values.

Note:

1. Remark “-” means that the emission level is too low to be measured.
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

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain


**ACCURATE TECHNOLOGY CO., LTD.**

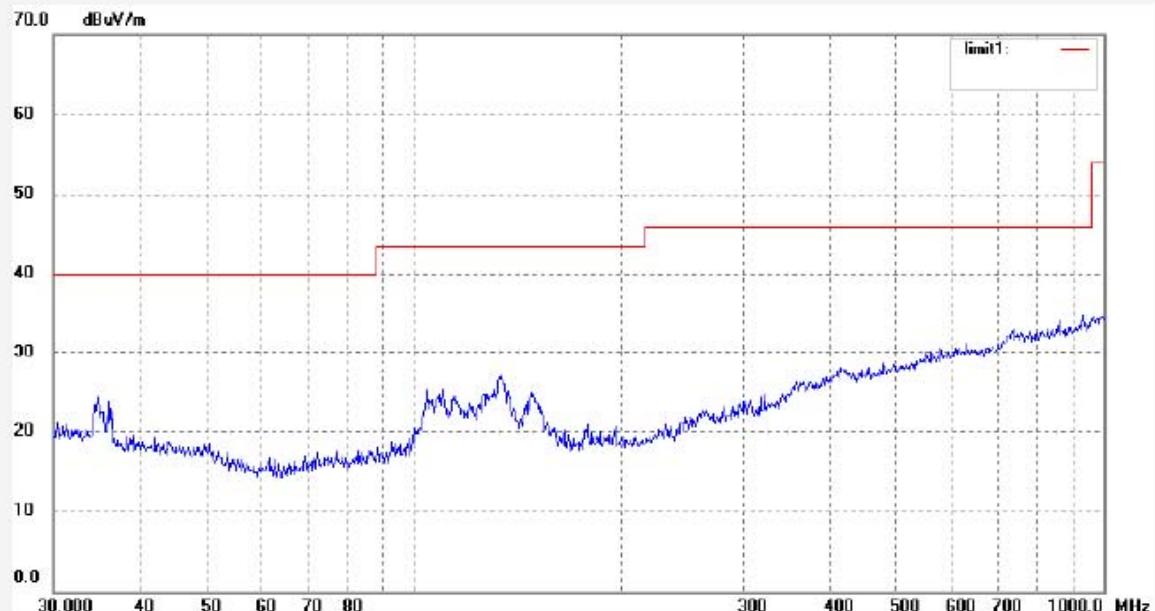
 F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Roger #3  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp. ( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: Charging  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Horizontal  
 Power Source: AC 120V/60Hz  
 Date: 08/10/16/  
 Time: 8/55/58  
 Engineer Signature:  
 Distance: 3m

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	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.: Roger #4  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp.( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: Charging  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Vertical

Power Source: AC 120V/60Hz

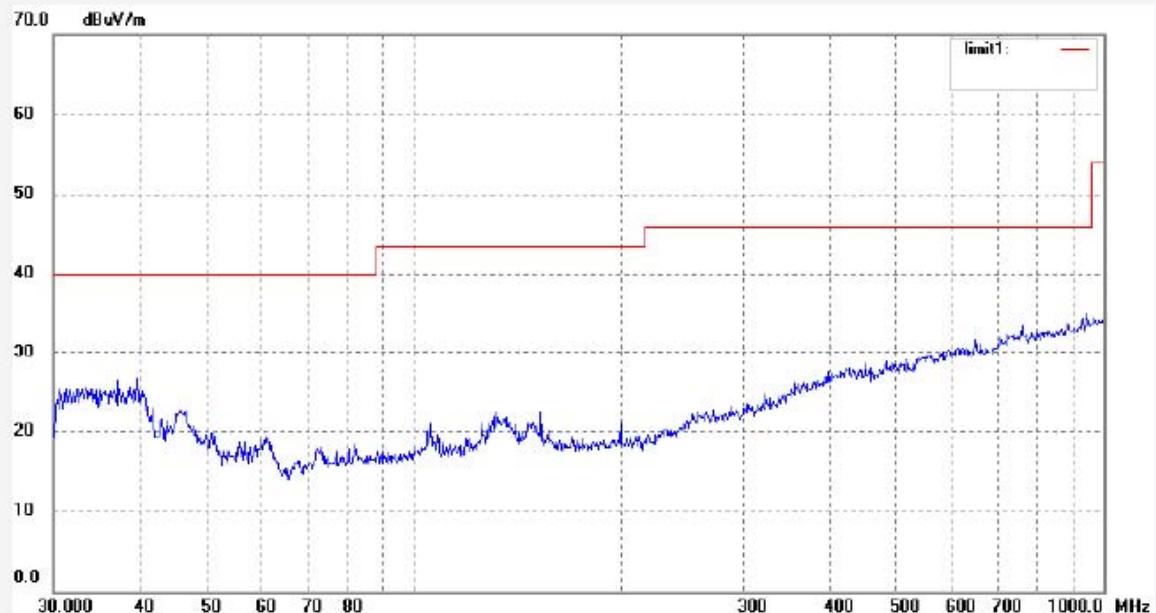
Date: 08/10/16/

Time: 8/58/33

Engineer Signature:

Distance: 3m

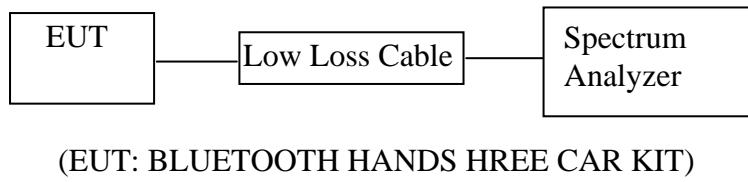
Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
-----	----------------	---------------------	----------------	--------------------	-------------------	----------------	----------	--------

## 7. 20DB BANDWIDTH TEST

### 7.1. Block Diagram of Test Setup



### 7.2. 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.

### 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. BLUETOOTH HANDS HREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory 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 off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

## 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 RBW of spectrum analyzer to 30kHz and VBW to 100kHz.
- 7.5.3. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

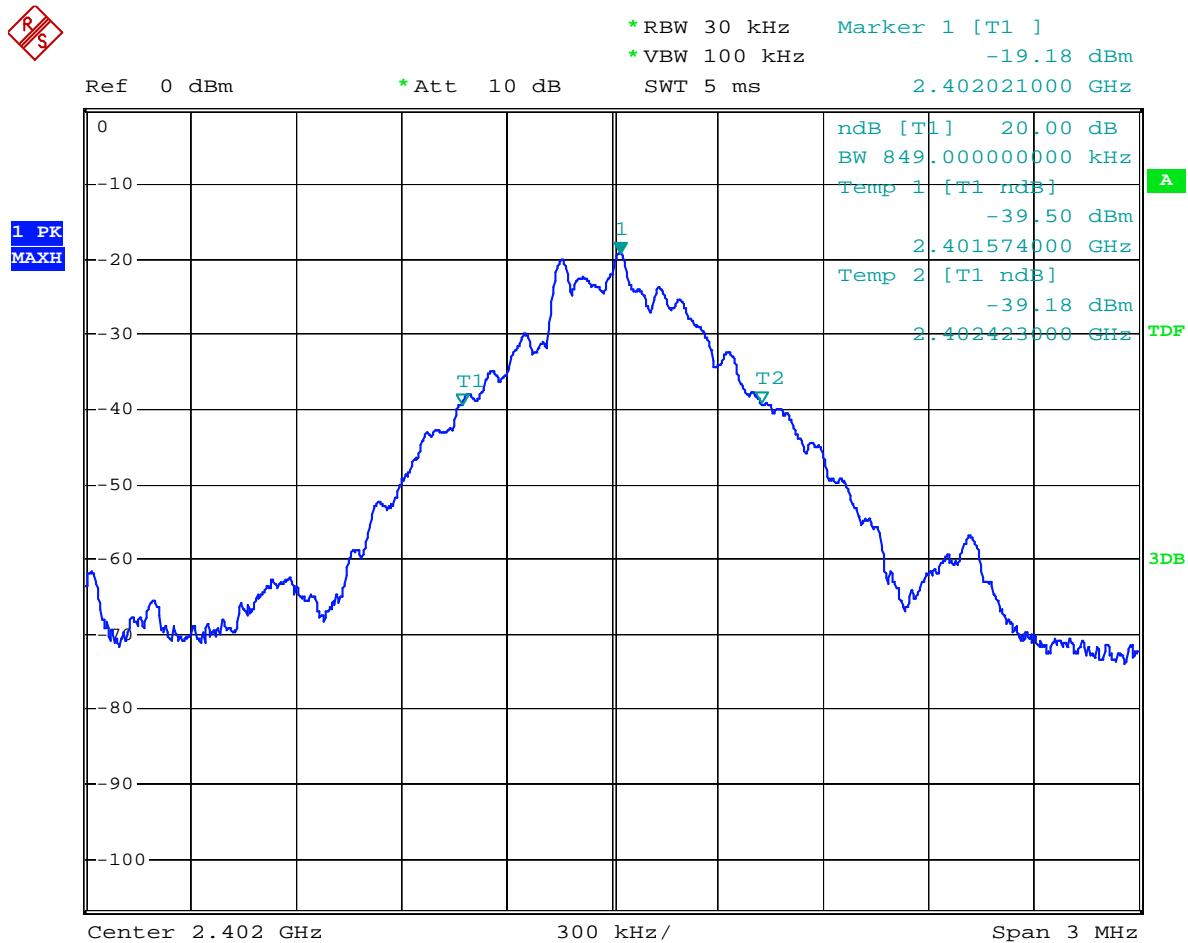
## 7.6. Test Result

**PASS.**

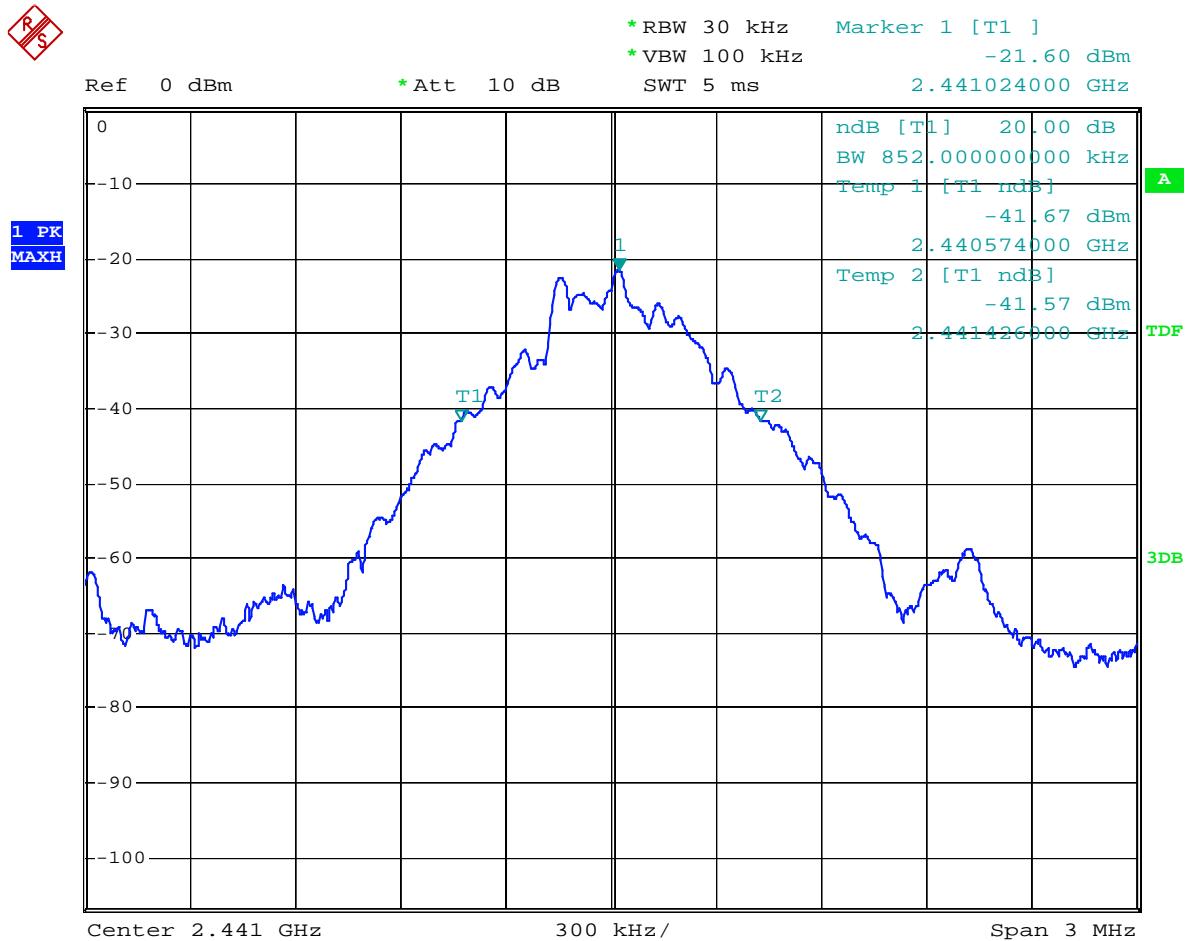
Date of Test:	October 20, 2008	Temperature:	25°C
	BLUETOOTH HANDS FREE		
EUT:	CAR KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX	Test Engineer:	Roger

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	0.849	---
Middle	2441	0.852	---
High	2480	0.852	---

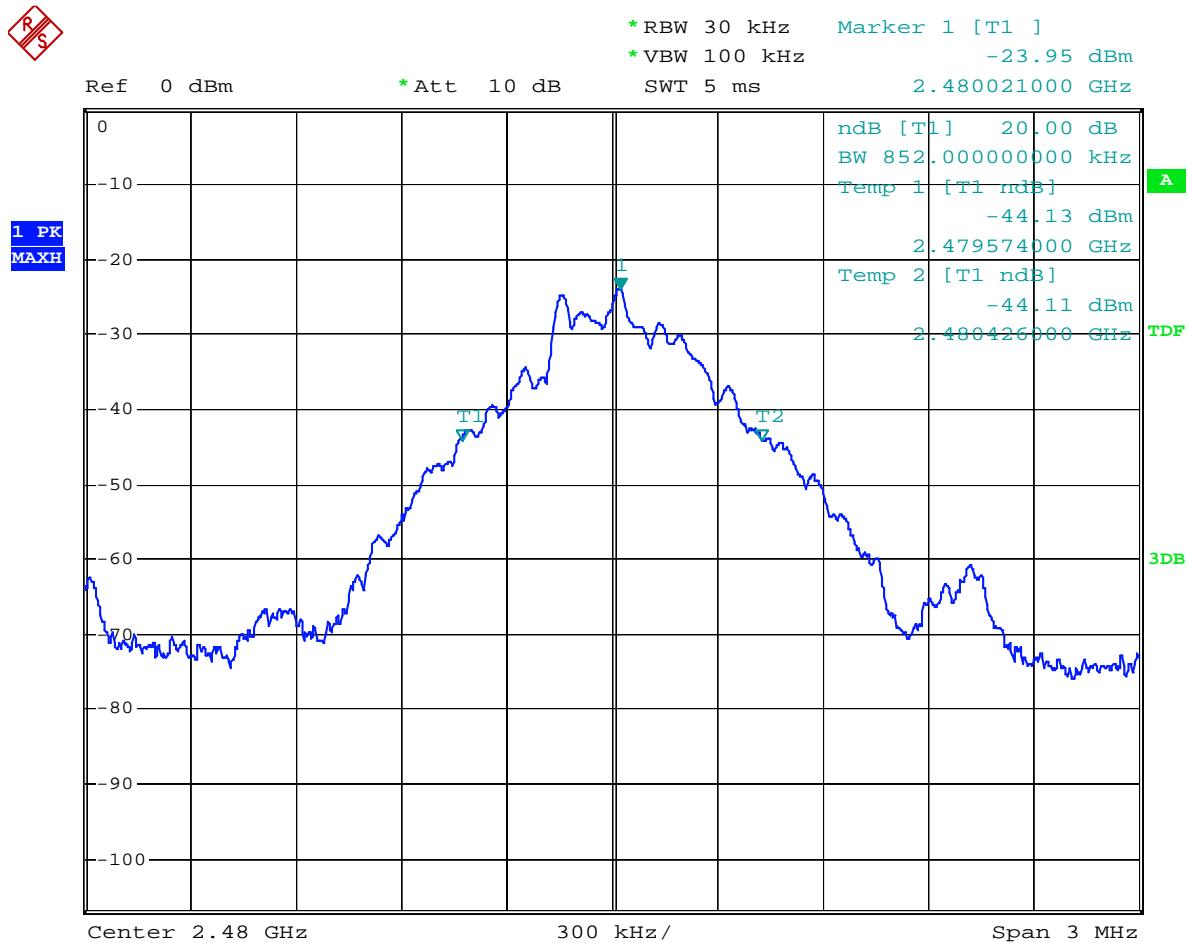
The spectrum analyzer plots are attached as below.



Date: 20.OCT.2008 11:12:08



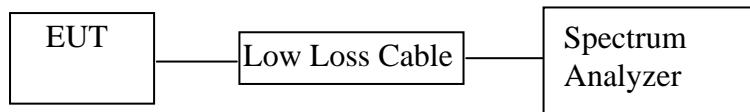
Date: 20.OCT.2008 11:14:44



Date: 20.OCT.2008 11:15:32

## 8. CARRIER FREQUENCY SEPARATION TEST

### 8.1. Block Diagram of Test Setup



(EUT: BLUETOOTH HANDS HREE CAR KIT)

### 8.2. 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.

### 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. BLUETOOTH HANDS HREE CAR KIT (EUT)

Model Number	:	DR02A
Serial Number	:	N/A
Manufacturer	:	Zhejiang Dictory 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 RBW of spectrum analyzer to 100kHz and VBW to 300kHz. Adjust Span to 3 MHz.
- 8.5.3. Set the adjacent channel of the EUT maxhold another trace.
- 8.5.4. Measurement the channel separation

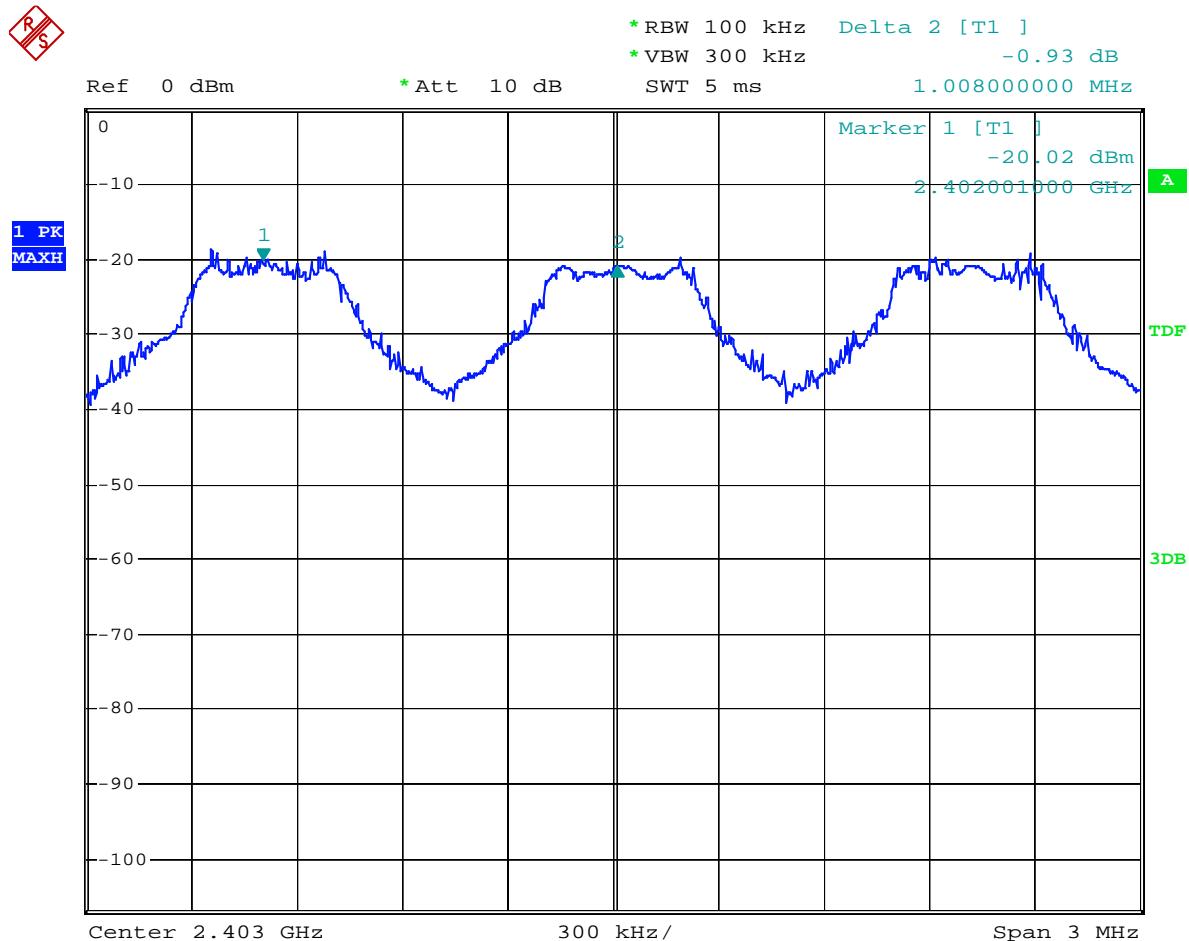
## 8.6. Test Result

**PASS.**

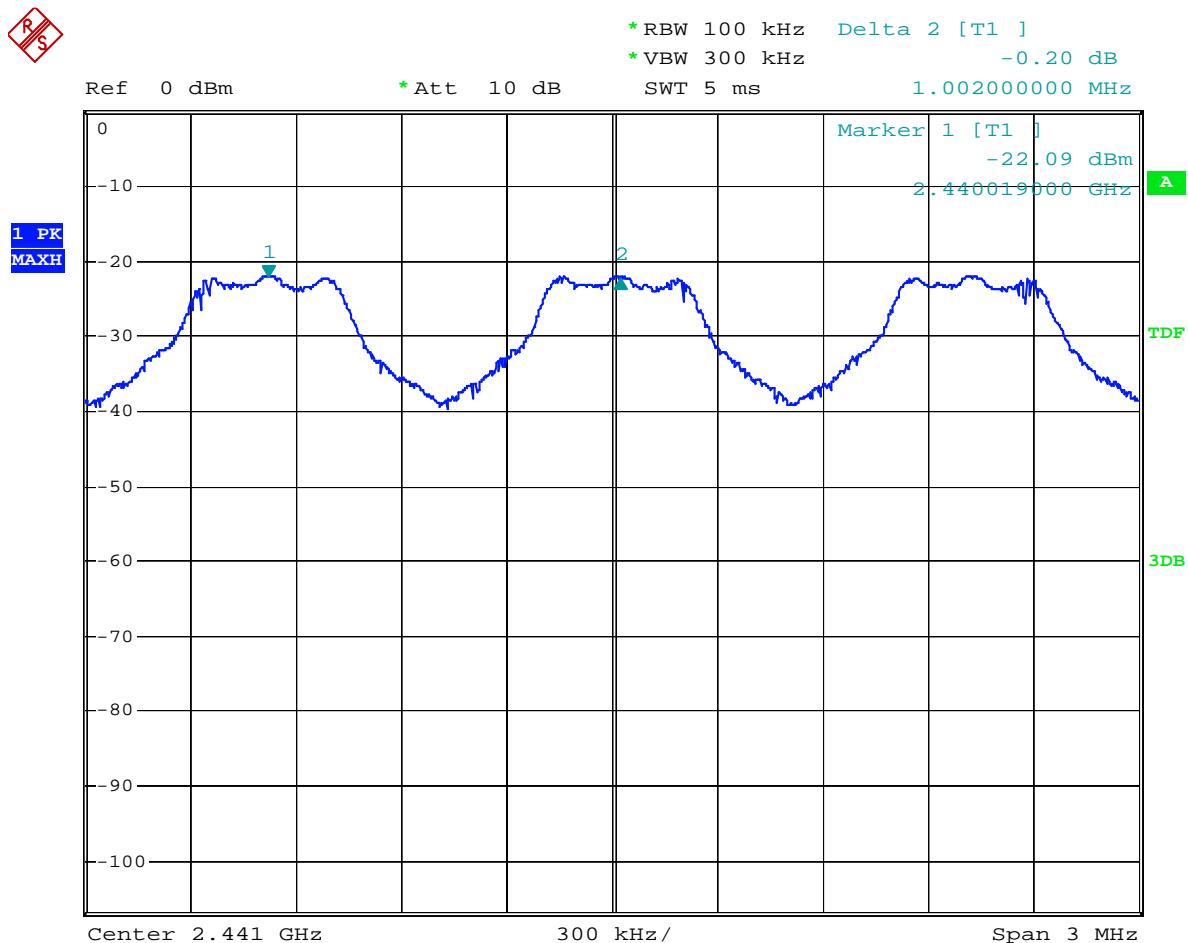
Date of Test:	<u>October 20, 2008</u>	Temperature:	<u>25°C</u>
EUT:	<u>BLUETOOTH HANDS FREE</u>	Humidity:	<u>52%</u>
Model No.:	<u>CAR KIT</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>DR02A</u>	Test Engineer:	<u>Roger</u>

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit
Low	2402	1.008	> the 20dB Bandwidth or 25kHz (whichever is greater)
Middle	2441	1.002	> the 20dB Bandwidth or 25kHz (whichever is greater)
High	2480	1.008	> the 20dB Bandwidth or 25kHz (whichever is greater)

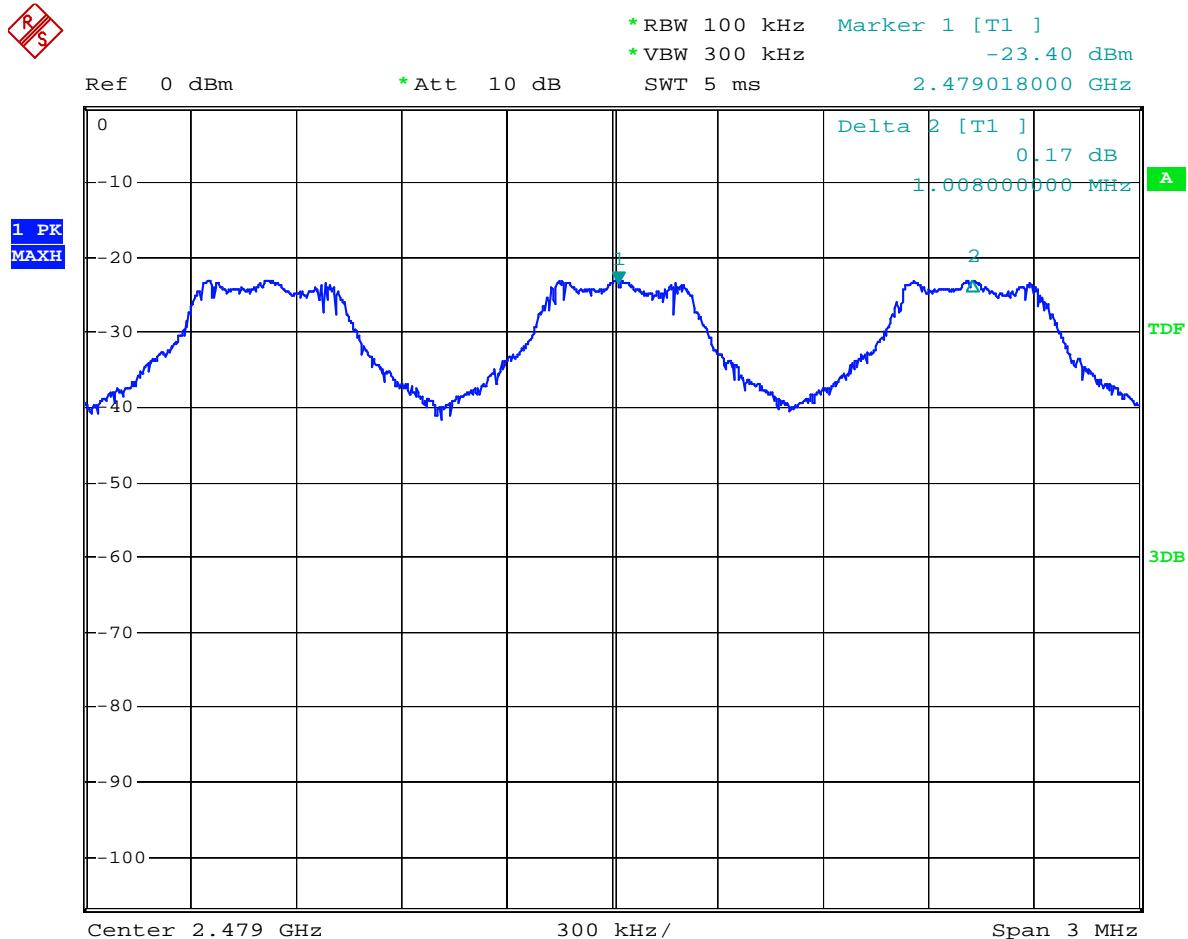
The spectrum analyzer plots are attached as below.



Date: 20.OCT.2008 11:32:23



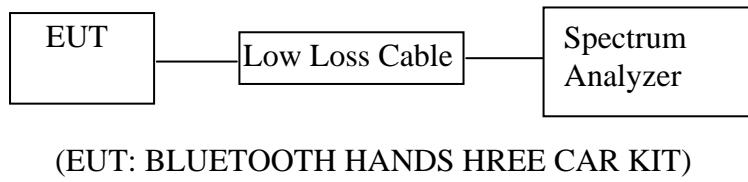
Date: 20.OCT.2008 11:39:19



Date: 20.OCT.2008 11:46:00

## 9. NUMBER OF HOPPING FREQUENCY TEST

### 9.1. Block Diagram of Test Setup



### 9.2. 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.

### 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. BLUETOOTH HANDS HREE CAR KIT (EUT)

Model Number	:	DR02A
Serial Number	:	N/A
Manufacturer	:	Zhejiang Dictory 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 on) modes measure it.

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

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

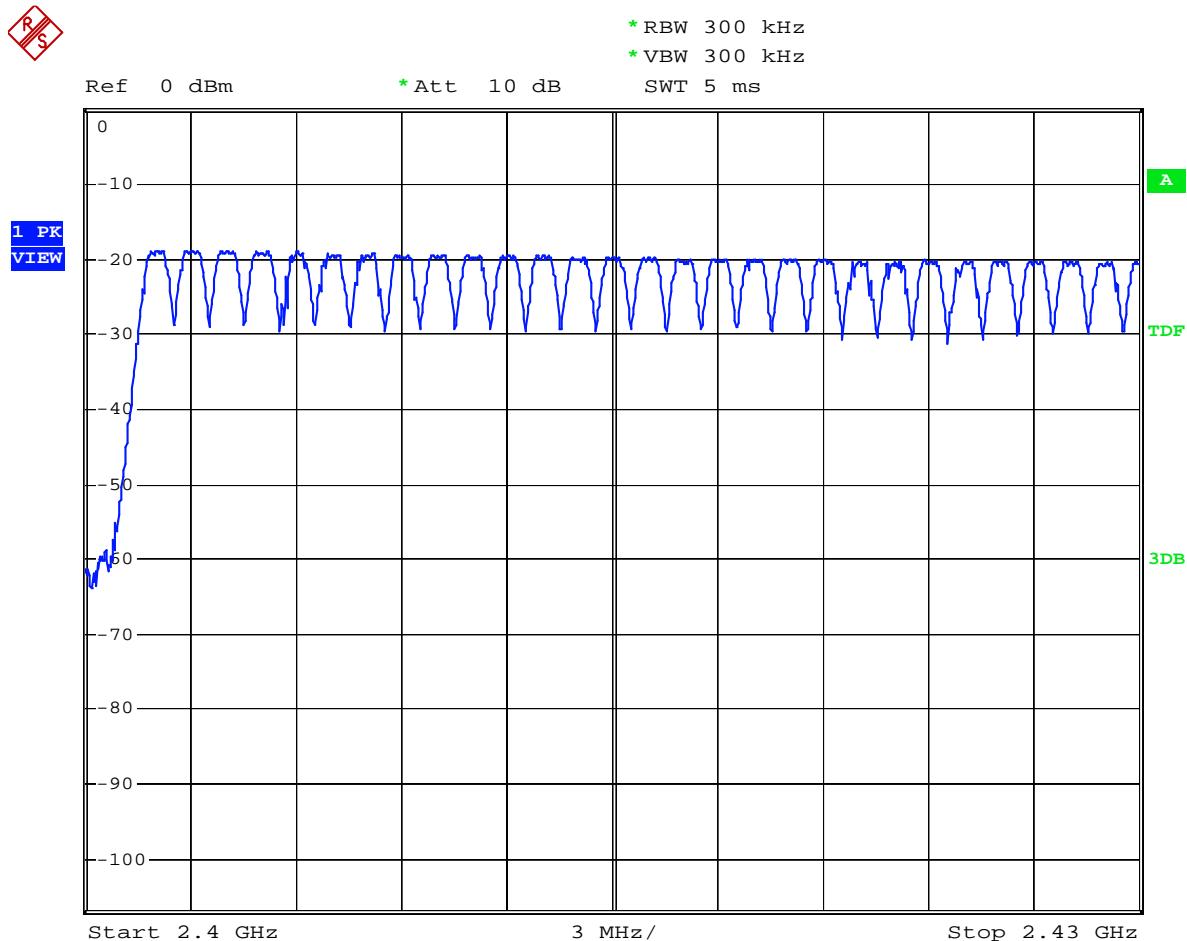
## 9.6. Test Result

**PASS.**

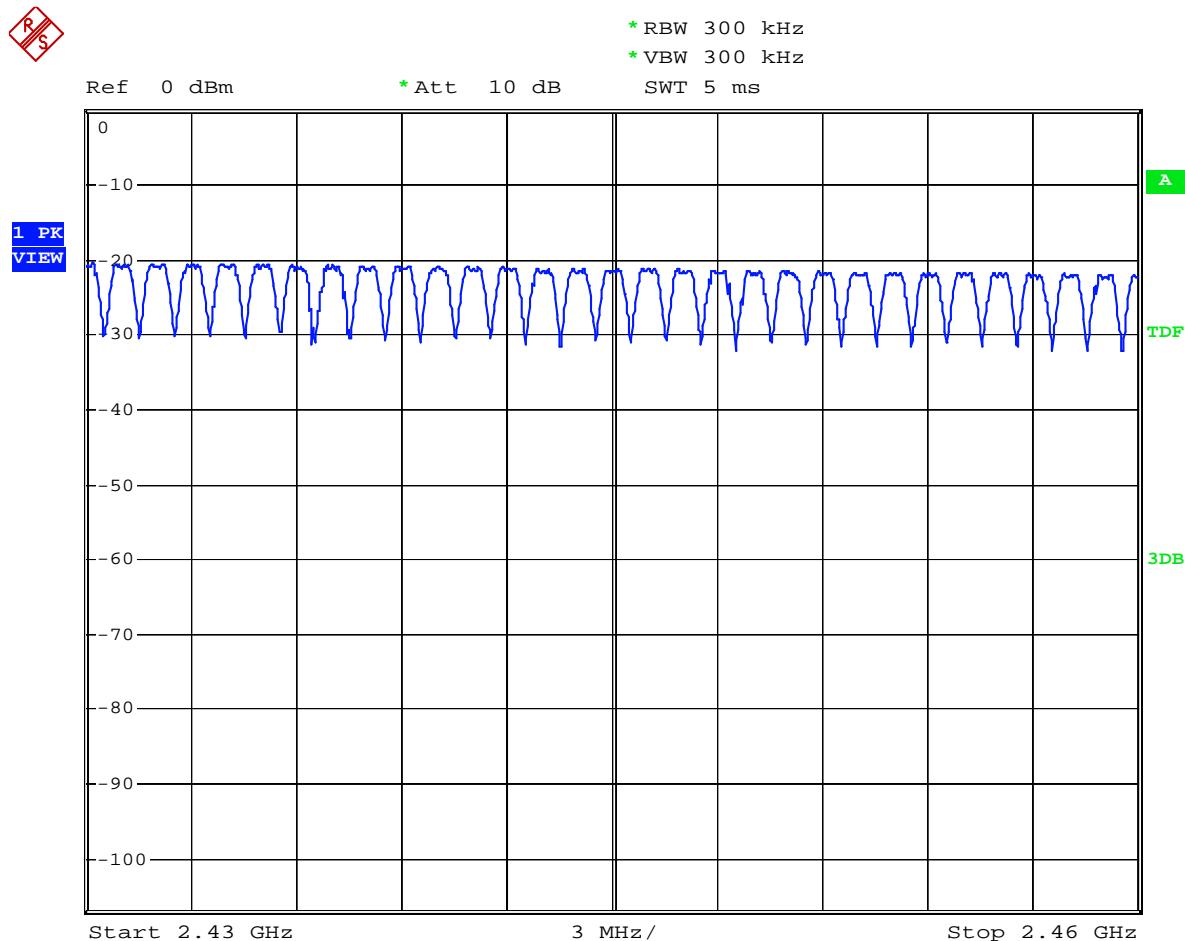
Date of Test:	<u>October 20, 2008</u>	Temperature:	<u>25°C</u>
	<u>BLUETOOTH HANDS</u>		
EUT:	<u>HREE CAR KIT</u>	Humidity:	<u>52%</u>
Model No.:	<u>DR02A</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>Hopping</u>	Test Engineer:	<u>Roger</u>

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

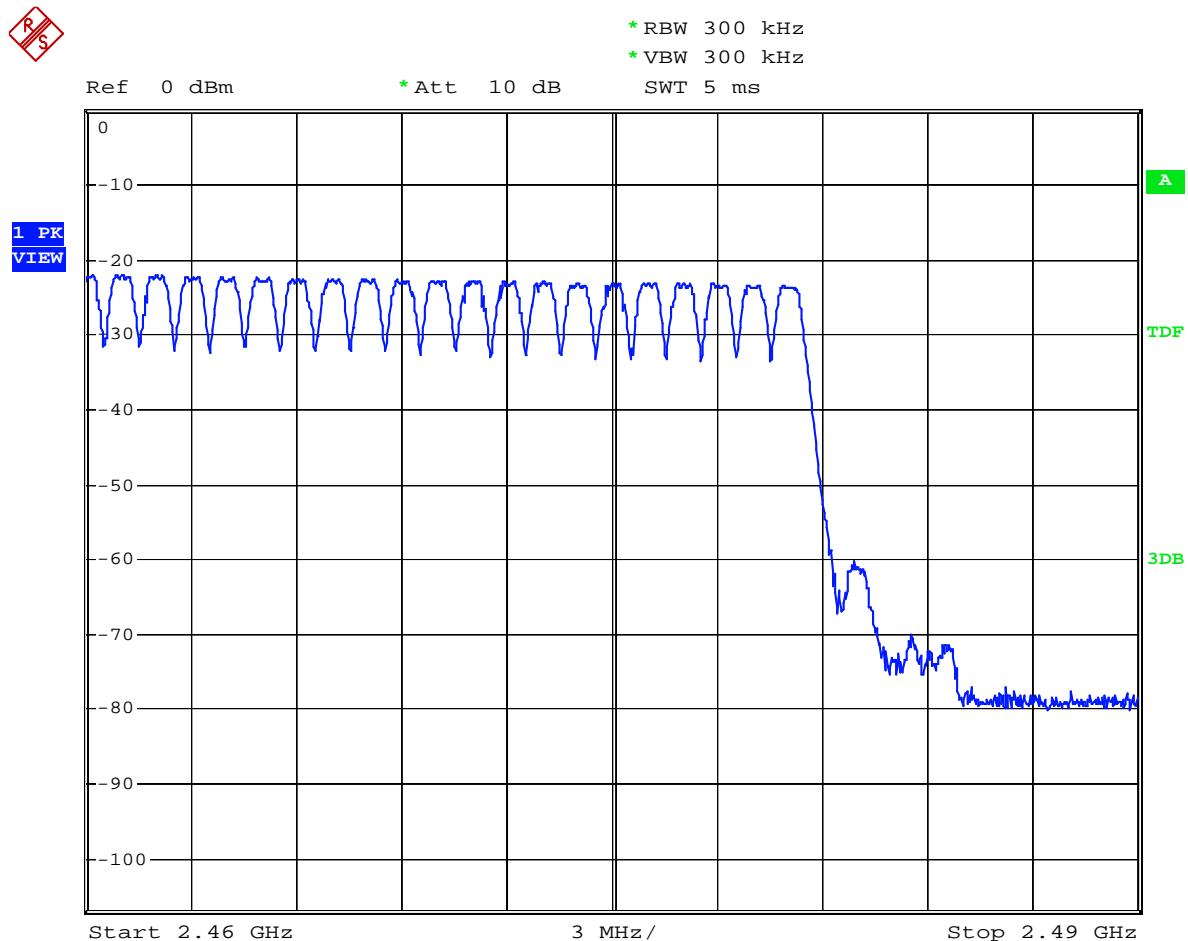
The spectrum analyzer plots are attached as below.



Date: 20.OCT.2008 11:05:53



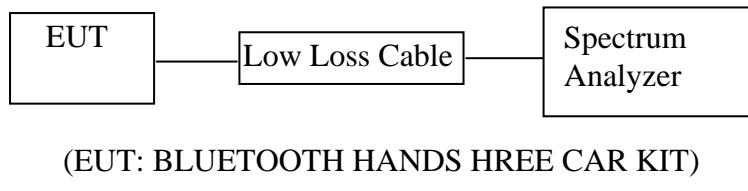
Date: 20.OCT.2008 11:07:58



Date: 20.OCT.2008 11:09:32

## 10.DWELL TIME TEST

### 10.1.Block Diagram of Test Setup



### 10.2.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.

### 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.BLUETOOTH HANDS FREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory 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 on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, 2480MHz TX frequency to transmit.

## 10.5. Test Procedure

- 10.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 10.5.2. Set center frequency of spectrum analyzer = operating frequency.
- 10.5.3. Set the spectrum analyzer as RBW=100kHz, VBW=300kHz, Span=0Hz, Adjust Sweep=1s. Get the burst (in 1 sec.).
- 10.5.4. Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=2ms. Get the pulse time.
- 10.5.5. Repeat above procedures until all frequency measured were complete.

## 10.6. Test Result

**PASS.**

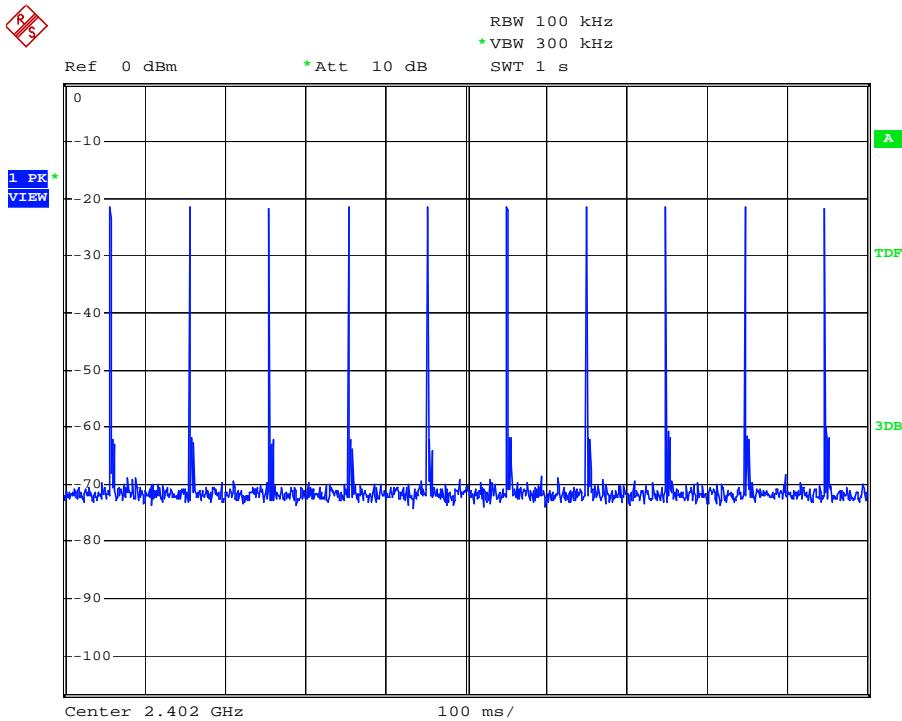
Date of Test:	<u>October 20, 2008</u>	Temperature:	<u>25°C</u>
EUT:	<u>BLUETOOTH HANDS HREE</u>	Humidity:	<u>52%</u>
Model No.:	<u>CAR KIT</u>	Power Supply:	<u>DC 3.7V</u>
Test Mode:	<u>DR02A</u>	Test Engineer:	<u>Roger</u>

A period transmit time =  $0.4 \times 79 = 31.6$

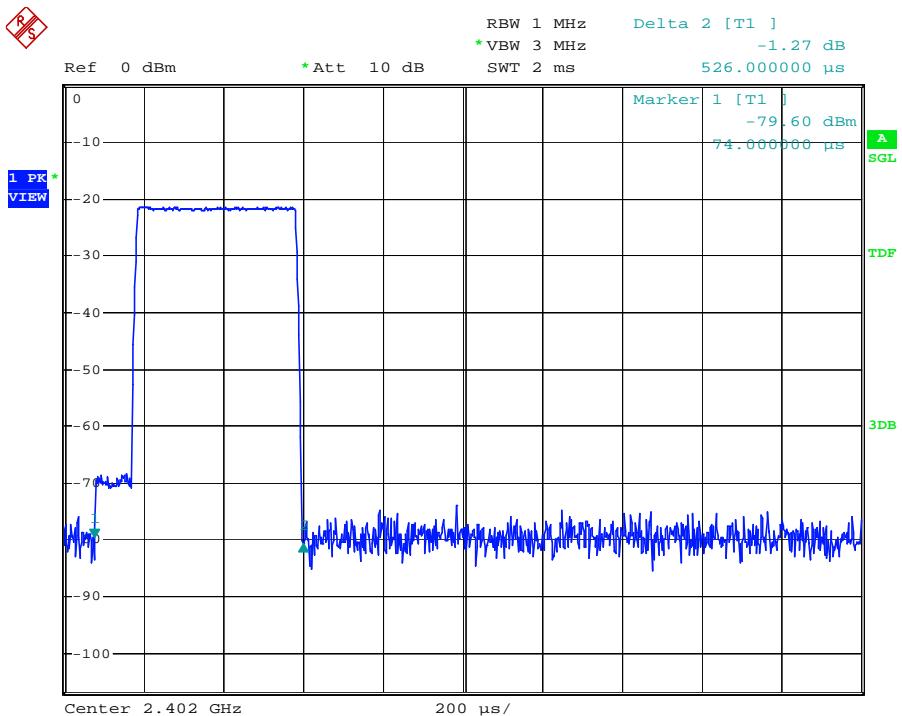
Dwell time = pulse time  $\times$  burst (in 1 sec.)  $\times$  31.6

Channel	Channel Frequency (MHz)	Pulse Time (ms)	Burst (in 1 sec.)	Dwell Time (ms)	Limit (ms)
Low	2402	0.526	10	166.22	400
Middle	2441	0.526	10	166.22	400
High	2480	0.522	10	164.95	400

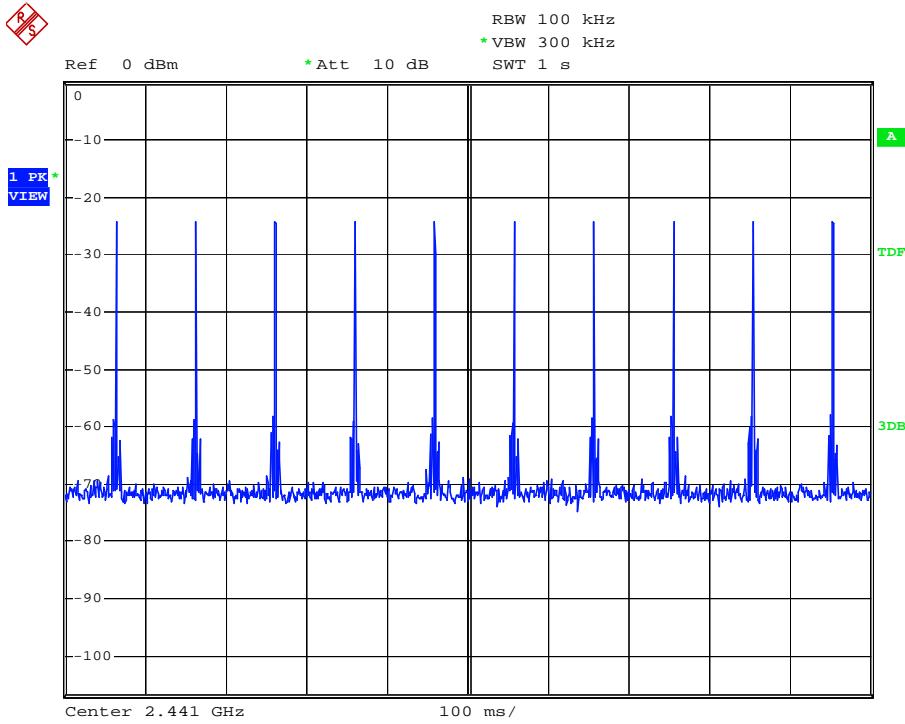
The spectrum analyzer plots are attached as below.



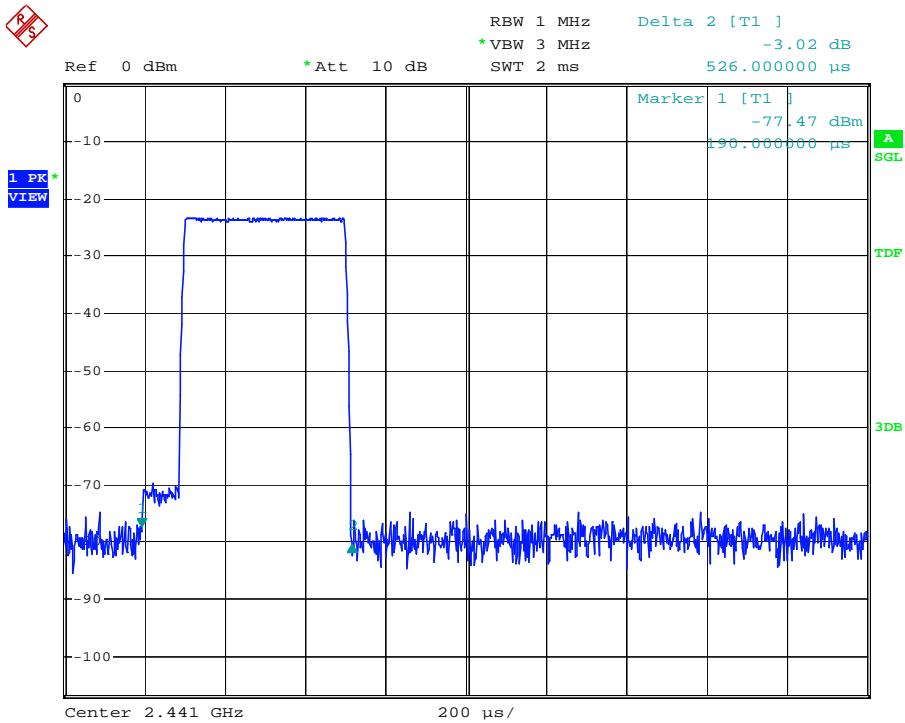
Date: 20.OCT.2008 16:31:38



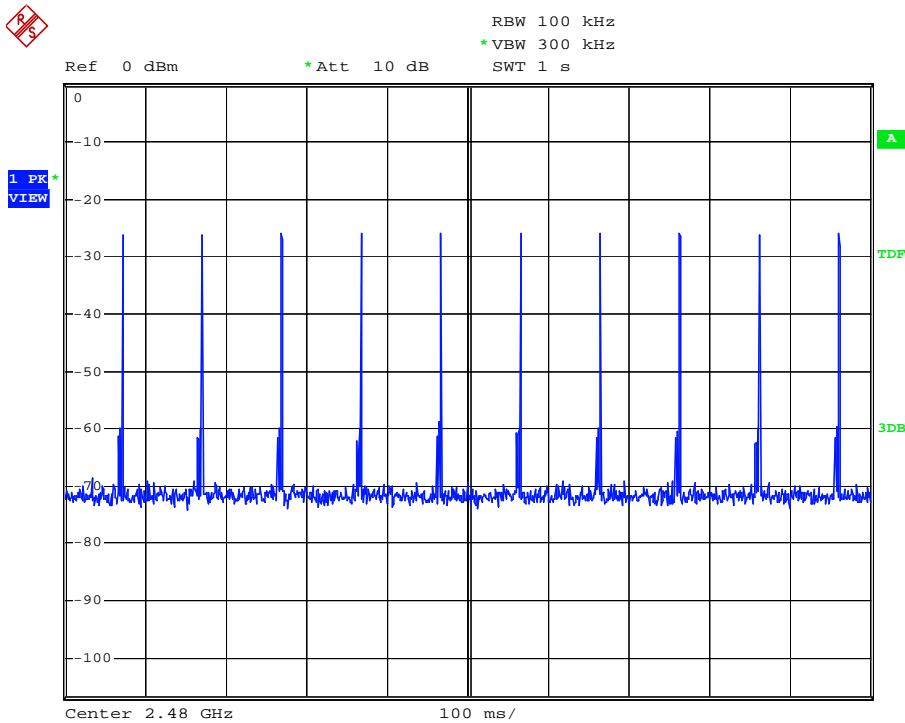
Date: 20.OCT.2008 16:48:18



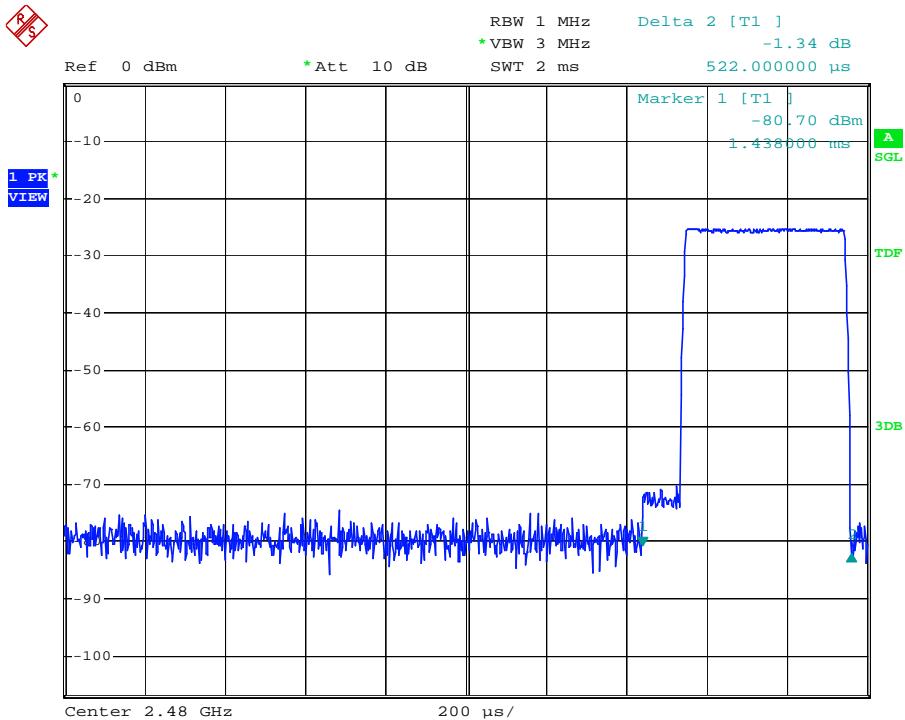
Date: 20.OCT.2008 16:32:26



Date: 20.OCT.2008 16:49:59



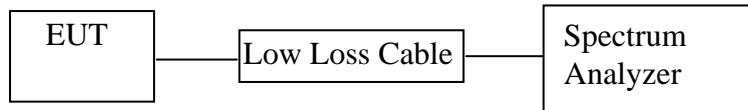
Date: 20.OCT.2008 16:33:20



Date: 20.OCT.2008 16:39:35

## 11. MAXIMUM PEAK OUTPUT POWER TEST

### 11.1. Block Diagram of Test Setup



(EUT: BLUETOOTH HANDS FREE CAR KIT)

### 11.2. 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.

### 11.3. 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.

#### 11.3.1. BLUETOOTH HANDS FREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory Electronic Technology Co., Ltd.

### 11.4. Operating Condition of EUT

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

11.4.2. Turn on the power of all equipment.

11.4.3. 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.

## 11.5. Test Procedure

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

11.5.2. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz.

11.5.3. Measurement the maximum peak output power.

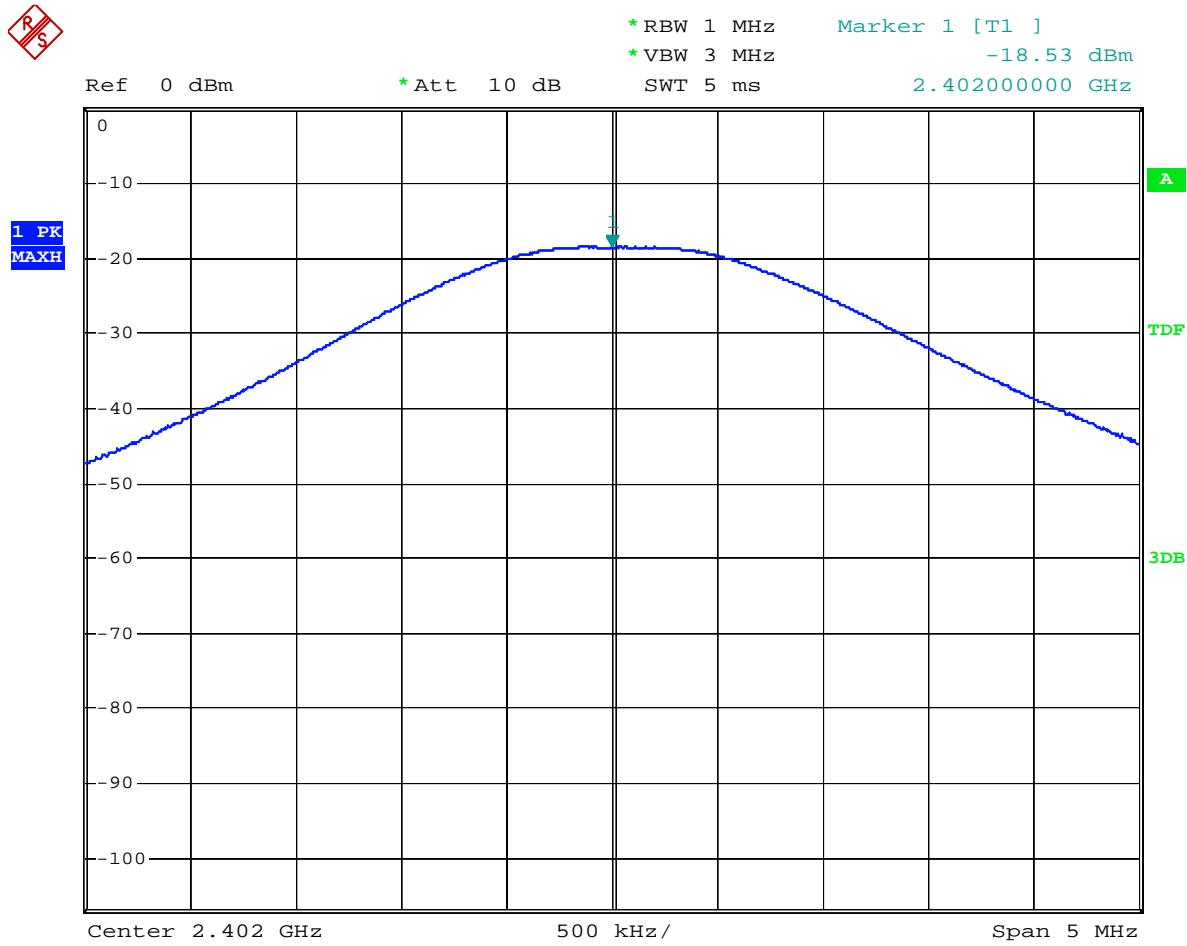
## 11.6. Test Result

**PASS.**

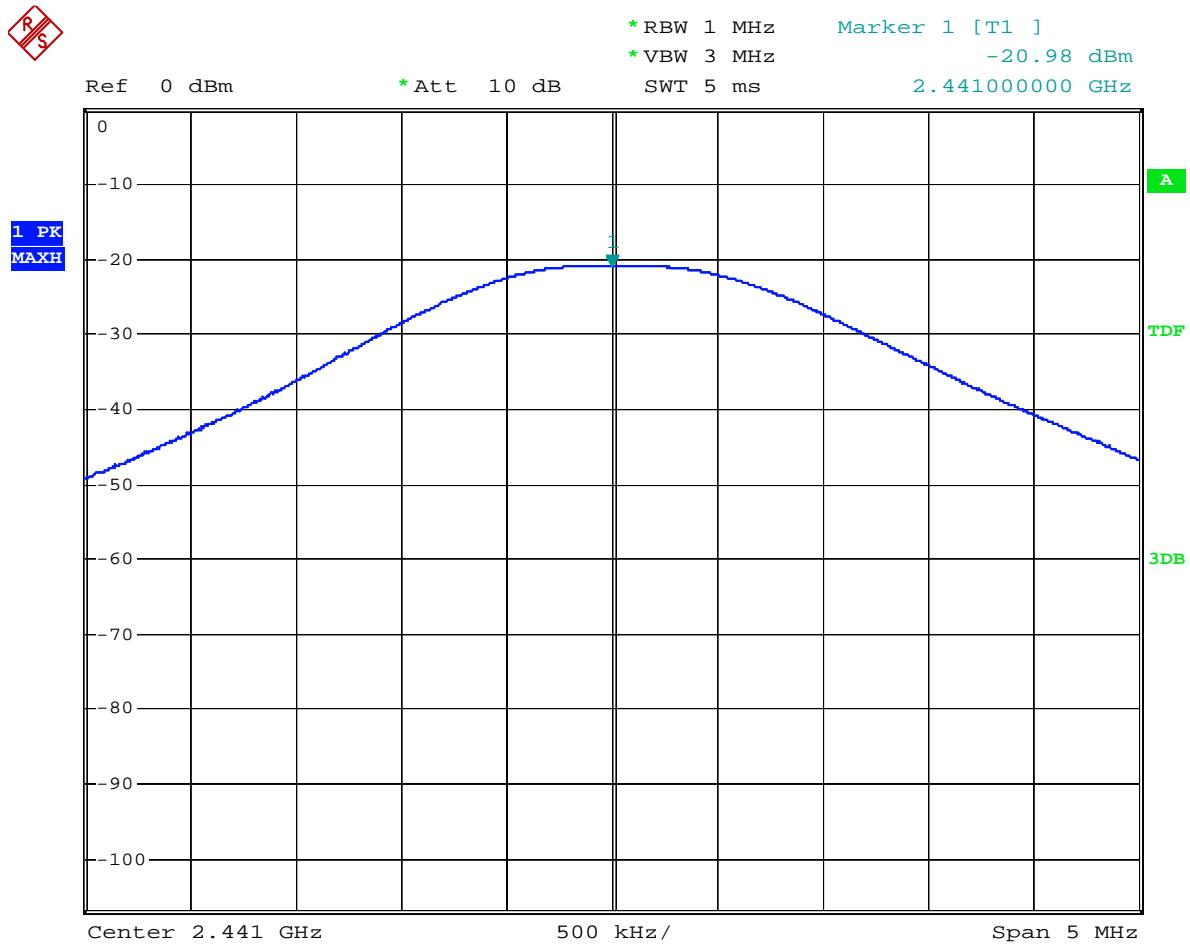
Date of Test:	October 20, 2008	Temperature:	25°C
	BLUETOOTH HANDS HREE		
EUT:	CAR KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX	Test Engineer:	Roger

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	-18.53	0.014	30 dBm / 1 W
Middle	2441	-20.98	0.008	30 dBm / 1 W
High	2480	-23.32	0.005	30 dBm / 1 W

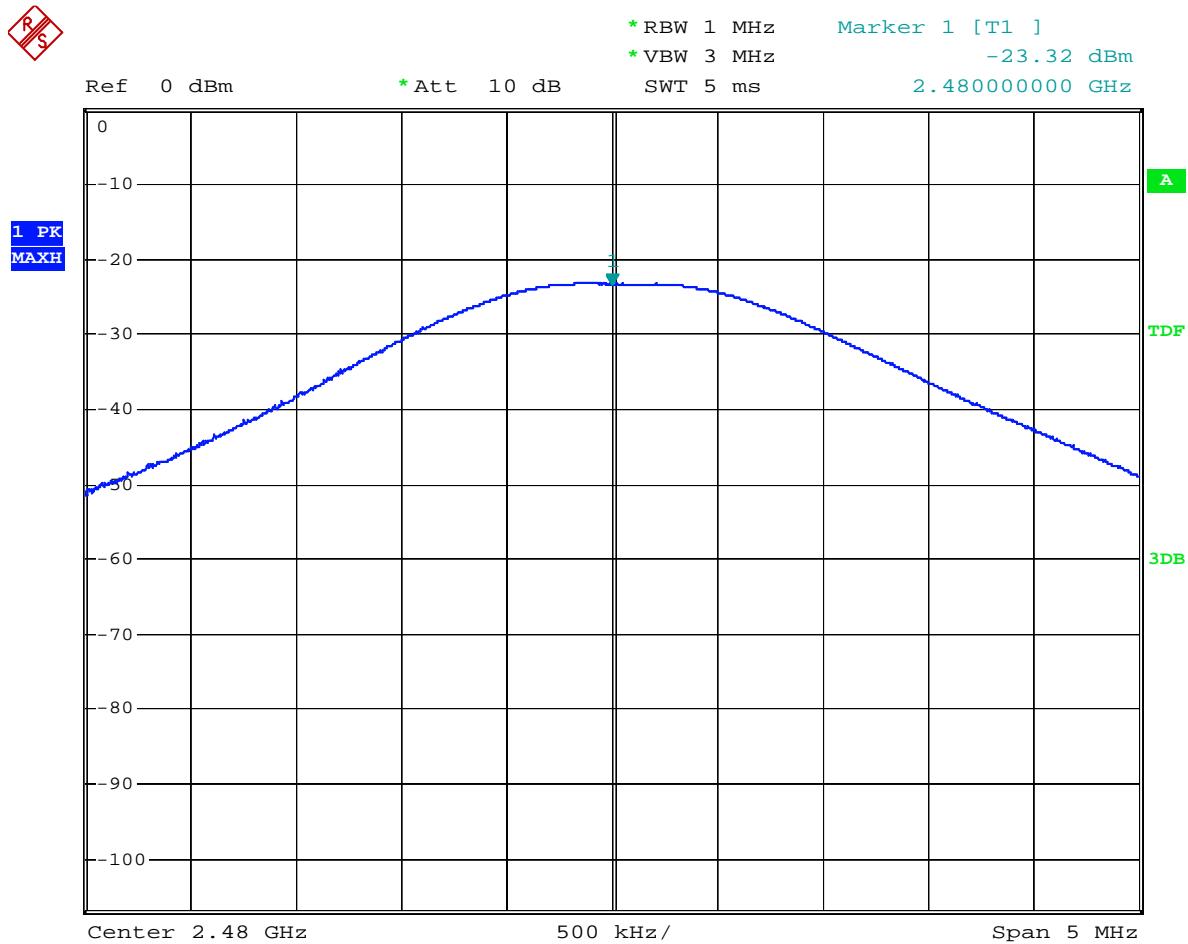
The spectrum analyzer plots are attached as below.



Date: 20.OCT.2008 11:20:41



Date: 20.OCT.2008 11:19:50

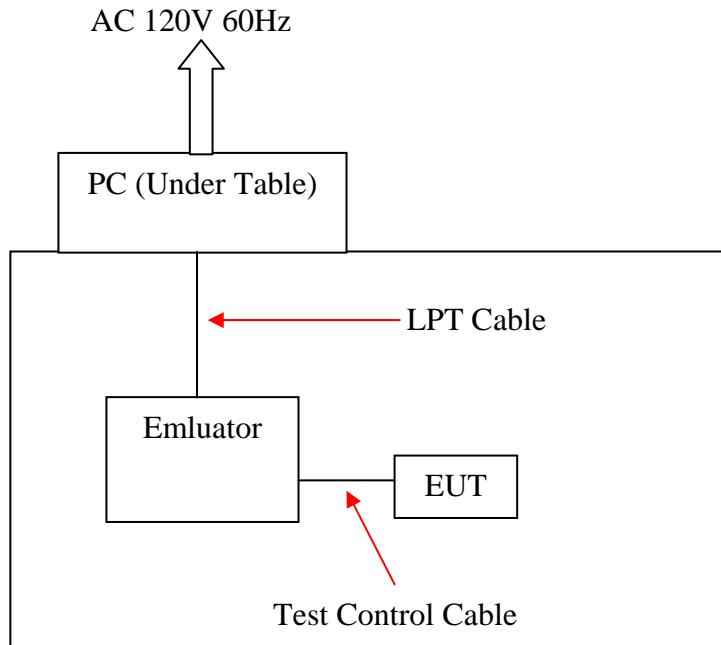


Date: 20.OCT.2008 11:18:21

## 12.RADIATED EMISSION TEST

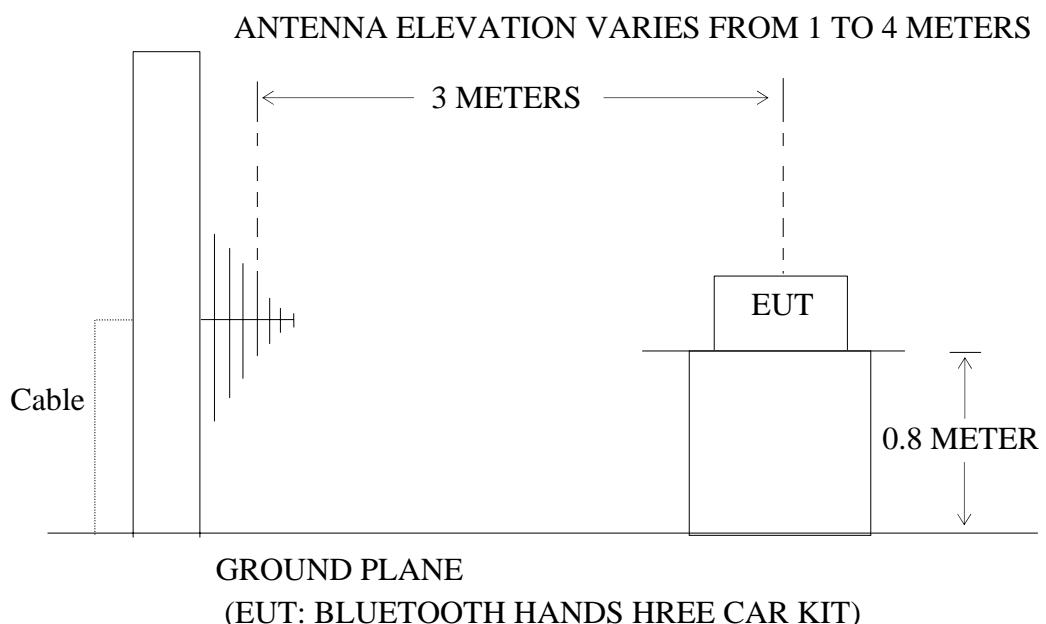
### 12.1.Block Diagram of Test Setup

#### 12.1.1.Block diagram of connection between the EUT and simulators



(EUT: BLUETOOTH HANDS FREE CAR KIT)

#### 12.1.2.Anechoic Chamber Test Setup Diagram



## 12.2.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).

## 12.3.Restricted bands of operation

### 12.3.1.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
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			

<sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510

<sup>2</sup>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 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.

## 12.4. 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.

### 12.4.1. BLUETOOTH HANDS FREE CAR KIT (EUT)

Model Number : DR02A  
 Serial Number : N/A  
 Manufacturer : Zhejiang Dictory Electronic Technology Co., Ltd.

## 12.5. 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 bandwidth of test receiver (R&S ESI26) is set at 120kHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

The frequency range from 30MHz to 25000MHz 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

12.6.The Field Strength of Radiation Emission Measurement Results  
**PASS.**

Date of Test:	October 16-23, 2008	Temperature:	25°C
	BLUETOOTH HANDS FREE		
EUT:	CAR KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX (2402MHz)	Test Engineer:	Roger

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dB $\mu$ V/m)	Factor Corr. (dB)	Result	Limit	Margin	Polarization
			QP	QP	QP	
31.6234	15.02	19.03	34.05	40.00	-5.95	Vertical
36.5236	14.84	18.35	33.19	40.00	-6.81	Vertical
97.3436	17.88	13.91	31.79	43.50	-11.71	Vertical
125.8058	16.34	15.04	31.38	43.50	-12.12	Vertical
141.2721	17.11	14.48	31.59	43.50	-11.91	Vertical
164.8911	17.58	14.66	32.24	43.50	-11.26	Vertical
97.3436	14.96	14.05	29.01	43.50	-14.49	Horizontal
141.2721	18.19	14.48	32.67	43.50	-10.83	Horizontal
202.8745	12.89	15.03	27.92	43.50	-15.58	Horizontal
225.4267	13.45	15.97	29.42	46.00	-16.58	Horizontal
289.2986	13.72	18.58	32.30	46.00	-13.70	Horizontal
425.7932	11.14	23.07	34.21	46.00	-11.79	Horizontal

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dB $\mu$ V/m)		Factor Corr. (dB)	Result(dB $\mu$ V/m)		Limit(dB $\mu$ V/m)		Margin(dB $\mu$ V/m)		Polarizati on
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2402.060	85.21	86.73	-7.45	77.76	79.28	-	-	-	-	Vertical
*4804.118	43.86	45.32	-0.30	43.56	45.02	54	74	-10.44	-28.98	Vertical
2402.060	86.95	88.34	-7.45	79.50	80.89	-	-	-	-	Horizontal
*4804.118	51.10	52.43	-0.30	50.80	52.13	54	74	-3.20	-21.87	Horizontal

**Note: 1.The emission emitted by the EUT is too low to be measured except the emission listed above.**

**2. \*: Denotes restricted band of operation.**

Date of Test:	October 16-23, 2008	Temperature:	25°C
EUT:	BLUETOOTH HANDS HREE	Humidity:	52%
Model No.:	CAR KIT	Power Supply:	DC 3.7V
Test Mode:	DR02A	Test Engineer:	Roger
	TX (2441MHz)		

### For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dB $\mu$ V/m)	Factor Corr. (dB)	Result	Limit	Margin	Polarization
			QP	QP	QP	
31.6234	15.53	19.03	34.56	40.00	-5.44	Vertical
36.7811	13.92	18.28	32.20	40.00	-7.80	Vertical
97.3436	17.67	13.91	31.58	43.50	-11.92	Vertical
141.2721	17.75	14.48	32.23	43.50	-11.27	Vertical
189.1075	15.16	14.86	30.02	43.50	-13.48	Vertical
236.7927	11.88	16.54	28.42	46.00	-17.58	Vertical
97.3436	12.44	14.05	26.49	43.50	-17.01	Horizontal
141.2721	17.29	14.48	31.77	43.50	-11.73	Horizontal
189.1075	16.73	14.86	31.59	43.50	-11.91	Horizontal
252.2522	15.24	17.68	32.92	46.00	-13.08	Horizontal
298.5932	14.00	18.64	32.64	46.00	-13.36	Horizontal
456.7909	10.96	23.15	34.11	46.00	-11.89	Horizontal

### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dB $\mu$ V/m)		Factor Corr. (dB)	Result(dB $\mu$ V/m)		Limit(dB $\mu$ V/m)		Margin(dB $\mu$ V/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2441.070	84.63	86.22	-7.35	77.28	78.87	-	-	-	-	Vertical
*4882.136	44.89	46.77	0.14	45.03	46.91	54	74	-8.97	-27.09	Vertical
2441.070	84.73	86.63	-7.35	77.38	79.28	-	-	-	-	Horizontal
*4882.136	47.15	49.48	0.14	47.29	49.62	54	74	-6.71	-24.38	Horizontal

**Note: 1. The emission emitted by the EUT is too low to be measured except the emission listed above.**

**2. \*: Denotes restricted band of operation.**

Date of Test:	October 16-23, 2008	Temperature:	25°C
	BLUETOOTH HANDS HREE		
EUT:	CAR KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX (2480MHz)	Test Engineer:	Roger

### For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dB $\mu$ V/m)	Factor Corr. (dB)	Result	Limit	Margin	Polarization
			QP	QP	QP	
31.6234	15.19	19.03	34.22	40.00	-5.78	Vertical
35.7616	15.79	18.51	34.30	40.00	-5.70	Vertical
84.8782	15.62	13.90	29.52	40.00	-10.48	Vertical
97.3436	18.45	13.91	32.36	43.50	-11.14	Vertical
141.2721	19.63	14.48	34.11	43.50	-9.39	Vertical
216.1196	19.01	15.56	34.57	46.00	-11.43	Vertical
97.3436	14.49	14.05	28.54	43.50	-14.96	Horizontal
140.7767	15.65	14.49	30.14	43.50	-13.36	Horizontal
143.7760	15.43	14.48	29.91	43.50	-13.59	Horizontal
215.3616	15.90	15.55	31.45	43.50	-12.05	Horizontal
264.0416	13.83	18.66	32.49	46.00	-13.51	Horizontal
424.2998	11.60	23.10	34.70	46.00	-11.30	Horizontal

### For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dB $\mu$ V/m)		Factor Corr. (dB)	Result(dB $\mu$ V/m)		Limit(dB $\mu$ V/m)		Margin(dB $\mu$ V/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2480.050	83.12	84.75	-7.37	75.75	77.38	-	-	-	-	Vertical
*4960.098	43.67	45.71	0.52	44.19	46.23	54	74	-9.81	-27.77	Vertical
2480.050	83.55	84.92	-7.37	76.18	77.55	-	-	-	-	Horizontal
*4960.098	45.22	46.95	0.52	45.74	47.47	54	74	-8.26	-26.53	Horizontal

**Note: 1. The emission emitted by the EUT is too low to be measured except the emission listed above.**

**2. \*: Denotes restricted band of operation.**


**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.: Roger #52

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/21/19

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

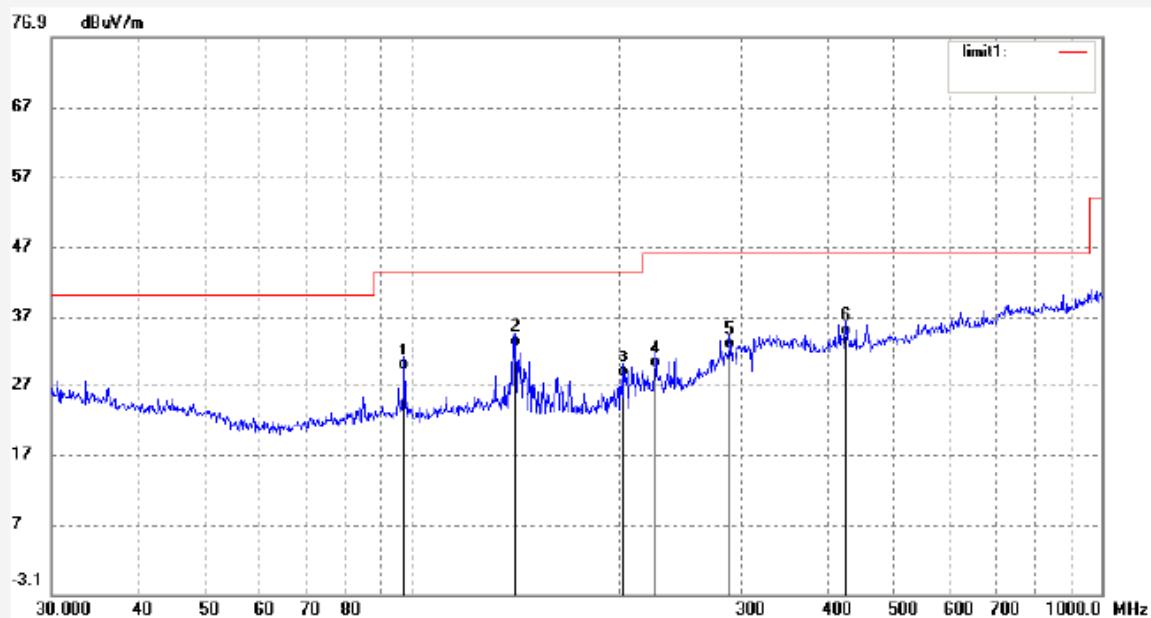
Mode: TX 2402MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictory

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	97.3436	14.96	14.05	29.01	43.50	-14.49	QP	
2	141.2721	18.19	14.48	32.67	43.50	-10.83	QP	
3	202.8745	12.89	15.03	27.92	43.50	-15.58	QP	
4	225.4267	13.45	15.97	29.42	46.00	-16.58	QP	
5	289.2986	13.72	18.58	32.30	46.00	-13.70	QP	
6	425.7932	11.14	23.07	34.21	46.00	-11.79	QP	


**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.: Roger #51

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/19/01

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

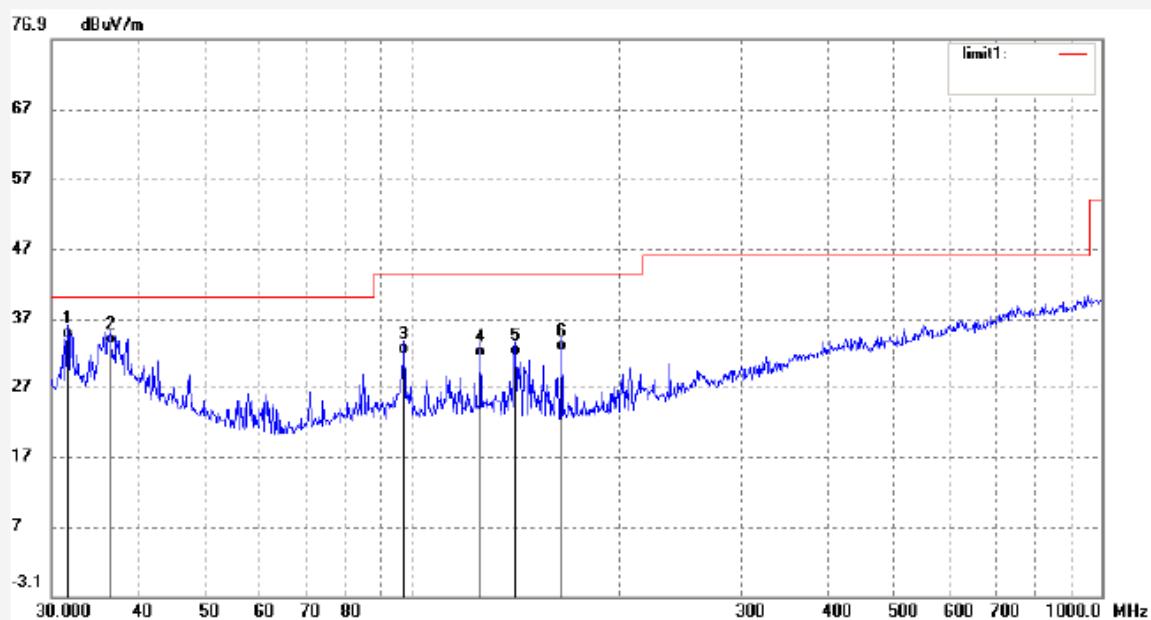
Mode: TX 2402MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictory

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	31.6234	15.02	19.03	34.05	40.00	-5.95	QP	
2	36.5236	14.84	18.35	33.19	40.00	-6.81	QP	
3	97.3436	17.88	13.91	31.79	43.50	-11.71	QP	
4	125.8058	16.34	15.04	31.38	43.50	-12.12	QP	
5	141.2721	17.11	14.48	31.59	43.50	-11.91	QP	
6	164.8911	17.58	14.66	32.24	43.50	-11.26	QP	


**ACCURATE TECHNOLOGY CO., LTD.**

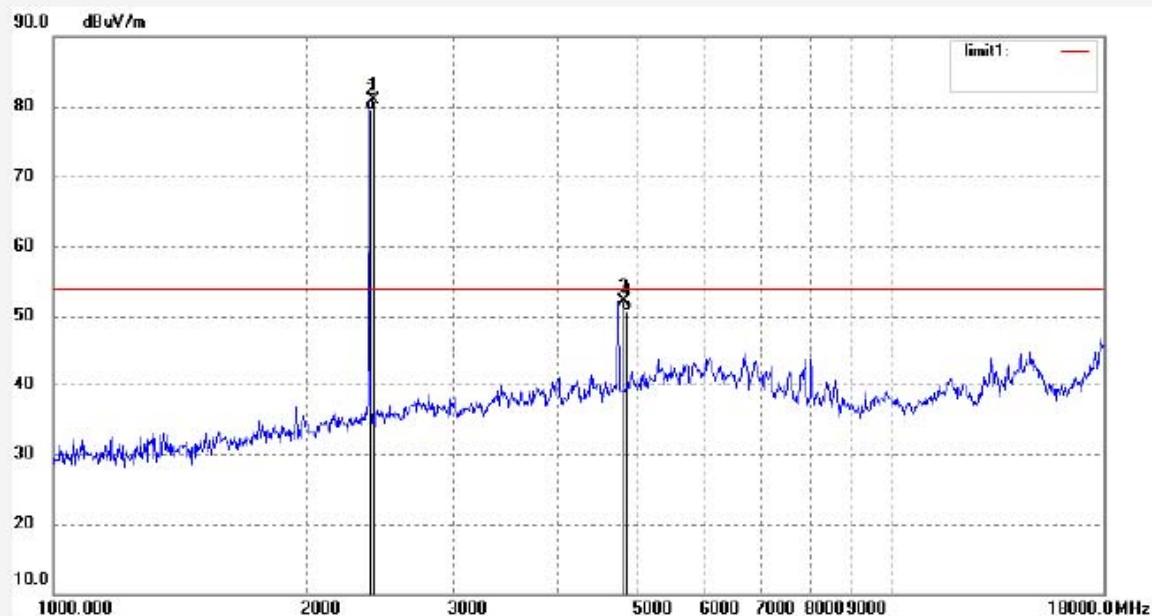
 F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Roger #41  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp.( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: TX 2402MHz  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Horizontal  
 Power Source: DC 3.7V  
 Date: 08/10/17/  
 Time: 11/53/10  
 Engineer Signature:  
 Distance: 3m

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2402.060	88.34	-7.45	80.89	-	-	peak	
2	2402.060	86.95	-7.45	79.50	-	-	AVG	
3	4804.118	52.43	-0.30	52.13	74.00	-21.87	peak	
4	4804.118	51.10	-0.30	50.80	54.00	-3.20	AVG	


**ACCURATE TECHNOLOGY CO., LTD.**

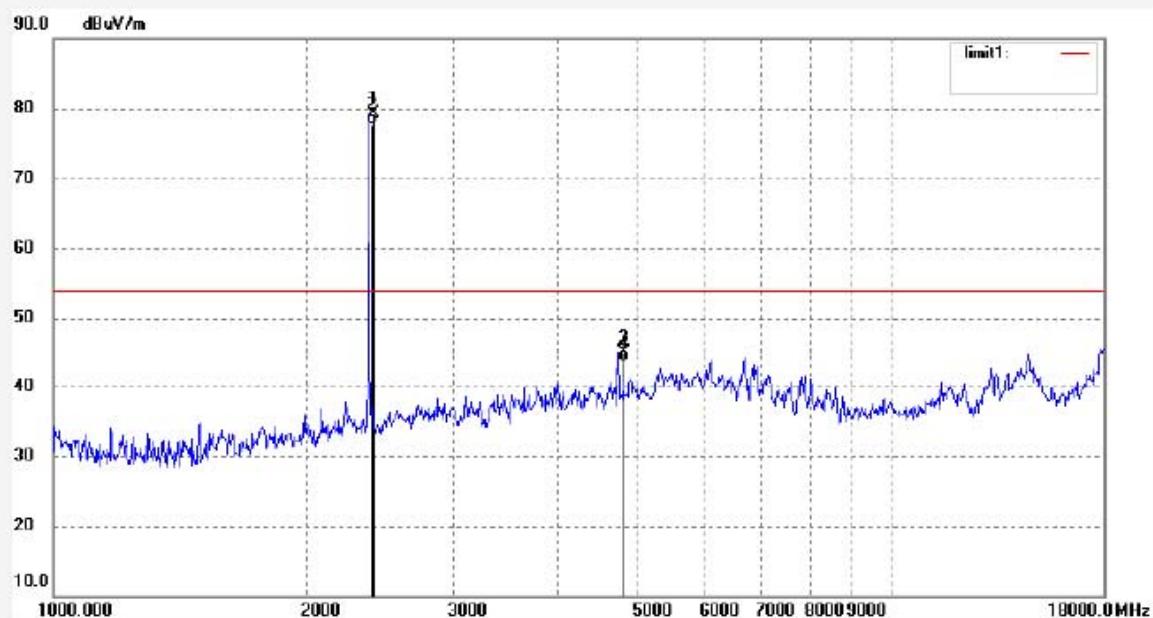
 F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Roger #42  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp.( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: TX 2402MHz  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Vertical  
 Power Source: DC 3.7V  
 Date: 08/10/17/  
 Time: 12/08/28  
 Engineer Signature:  
 Distance: 3m

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2402.060	86.73	-7.45	79.28	-	-	peak	
2	2402.060	85.21	-7.45	77.76	-	-	AVG	
3	4804.118	45.32	-0.30	45.02	74.00	-28.98	peak	
4	4804.118	43.86	-0.30	43.56	54.00	-10.44	AVG	

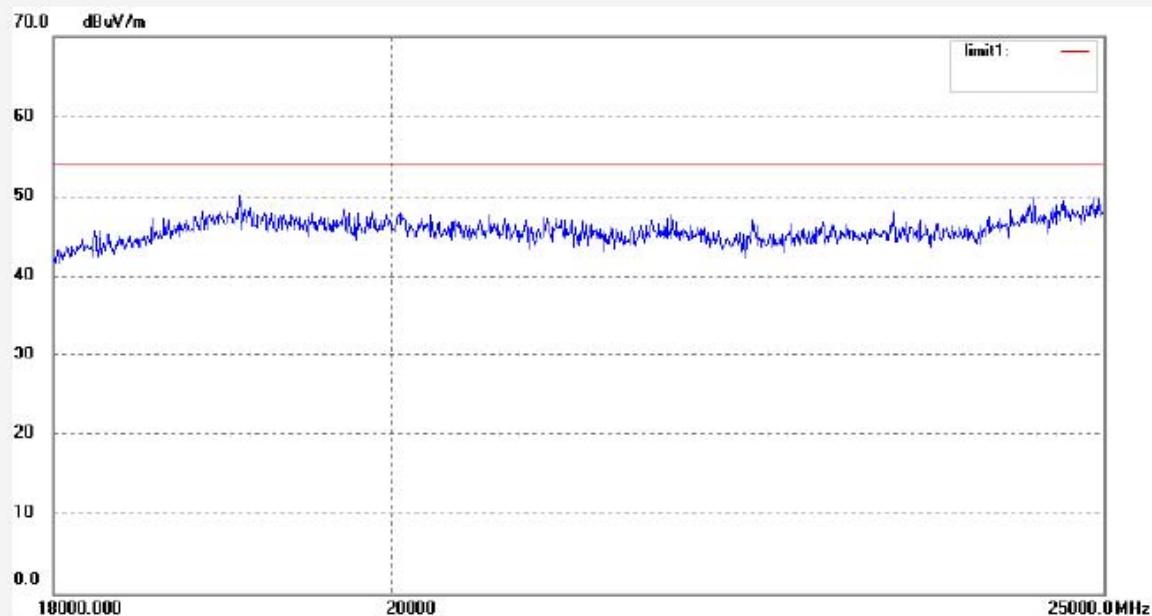

**ACCURATE TECHNOLOGY CO., LTD.**

 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.: Roger #61	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 08/10/23/
Temp.( C)/Hum.(%) 25 C / 52 %	Time: 9/16/07
EUT: BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:
Mode: TX 2402MHz	Distance: 3m
Model: DR02A	
Manufacturer: Dictory	

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
-----	----------------	---------------------	----------------	--------------------	-------------------	----------------	----------	--------


**ACCURATE TECHNOLOGY CO., LTD.**

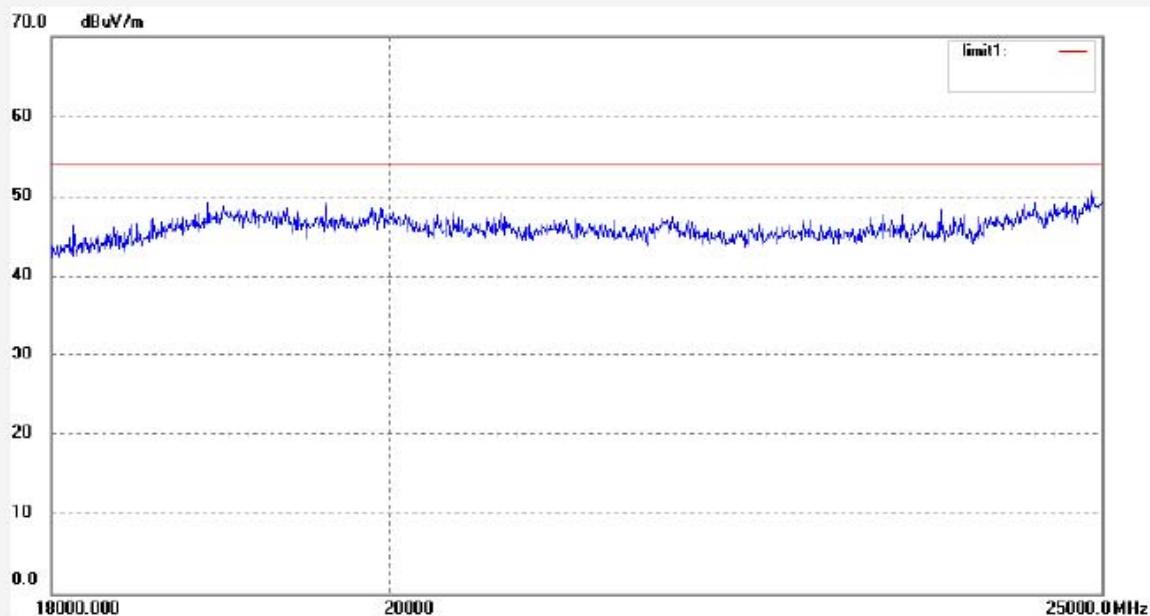
 F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Roger #60  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp.( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: TX 2402MHz  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Vertical  
 Power Source: DC 3.7V  
 Date: 08/10/23/  
 Time: 9/06/44  
 Engineer Signature:  
 Distance: 3m

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	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.: Roger #49

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/12/16

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

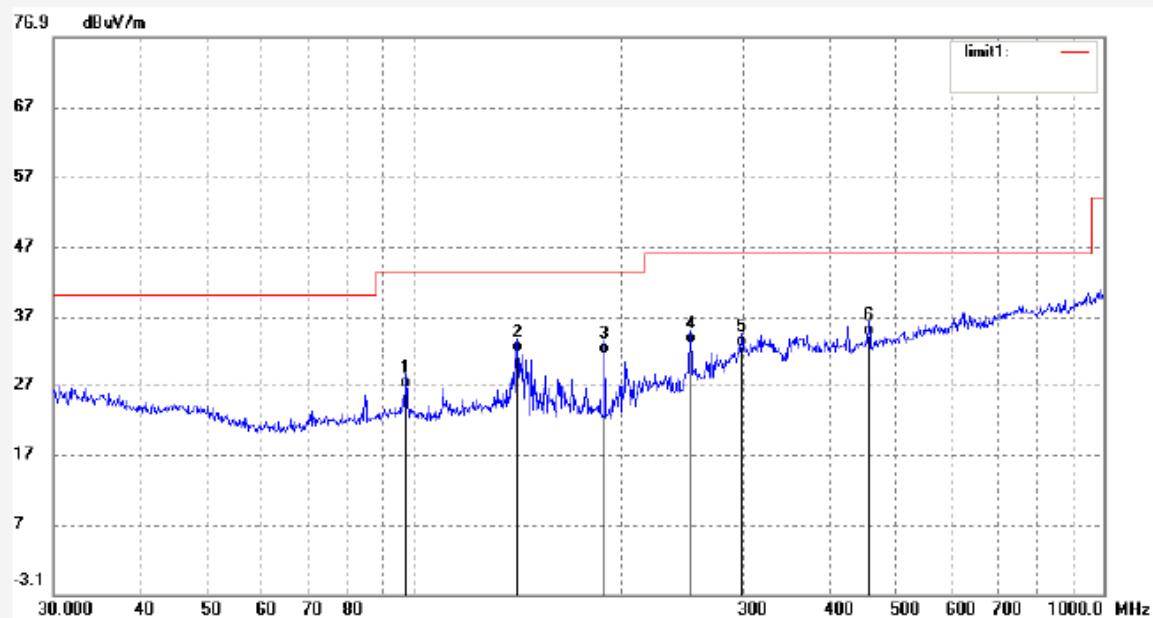
Mode: TX 2441MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictry

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	97.3436	12.44	14.05	26.49	43.50	-17.01	QP	
2	141.2721	17.29	14.48	31.77	43.50	-11.73	QP	
3	189.1075	16.73	14.86	31.59	43.50	-11.91	QP	
4	252.2522	15.24	17.68	32.92	46.00	-13.08	QP	
5	298.5932	14.00	18.64	32.64	46.00	-13.36	QP	
6	456.7909	10.96	23.15	34.11	46.00	-11.89	QP	


**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.: Roger #50

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/15/52

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

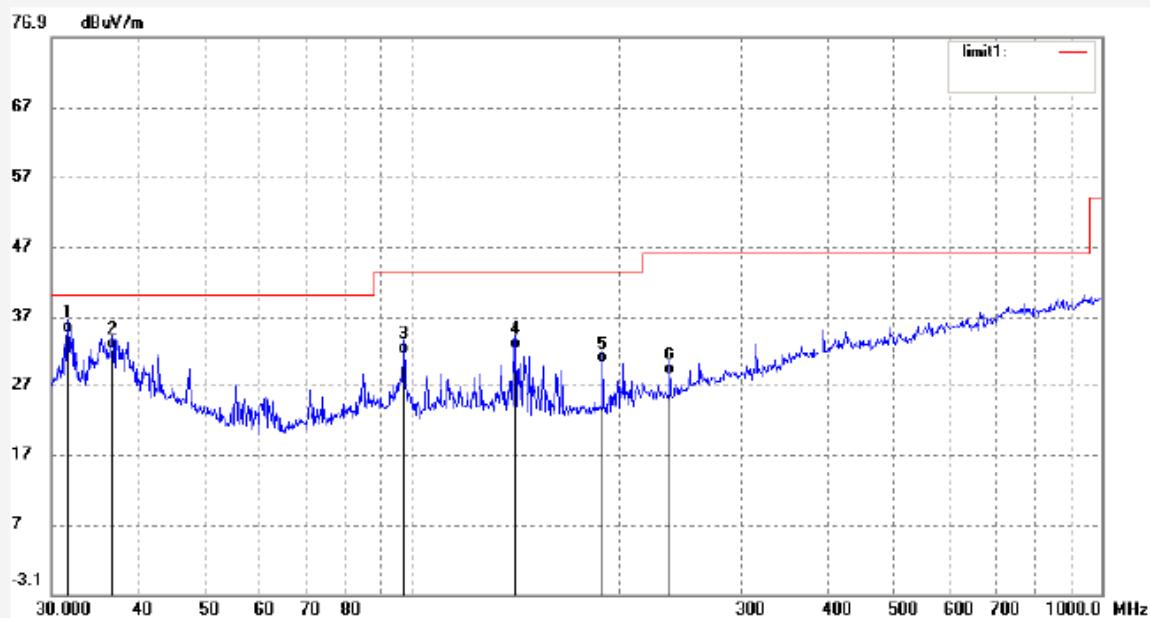
Mode: TX 2441MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictory

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	31.6234	15.53	19.03	34.56	40.00	-5.44	QP	
2	36.7811	13.92	18.28	32.20	40.00	-7.80	QP	
3	97.3436	17.67	13.91	31.58	43.50	-11.92	QP	
4	141.2721	17.75	14.48	32.23	43.50	-11.27	QP	
5	189.1075	15.16	14.86	30.02	43.50	-13.48	QP	
6	236.7927	11.88	16.54	28.42	46.00	-17.58	QP	


**ACCURATE TECHNOLOGY CO., LTD.**

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

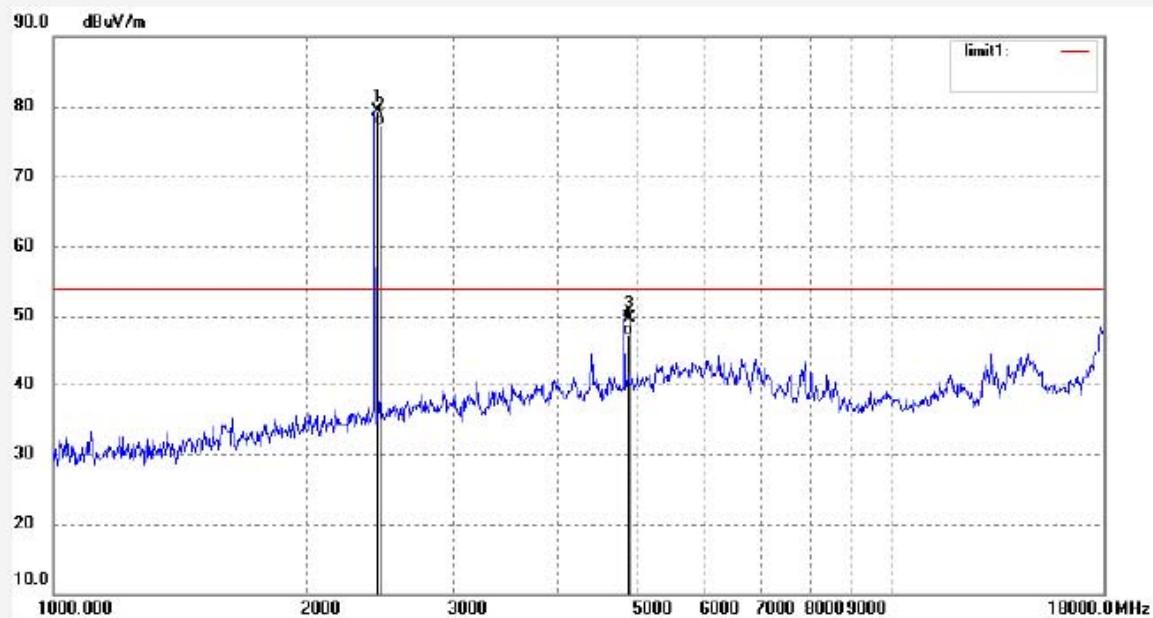
Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: Roger #44	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 08/10/17/
Temp.( C)/Hum.(%) 25 C / 52 %	Time: 12/14/11
EUT: BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: DR02A	
Manufacturer: Dictory	

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2441.070	86.63	-7.35	79.28	-	-	peak	
2	2441.070	84.73	-7.35	77.38	-	-	AVG	
3	4882.136	49.48	0.14	49.62	74.00	-24.38	peak	
4	4882.136	47.15	0.14	47.29	54.00	-6.71	AVG	


**ACCURATE TECHNOLOGY CO., LTD.**

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

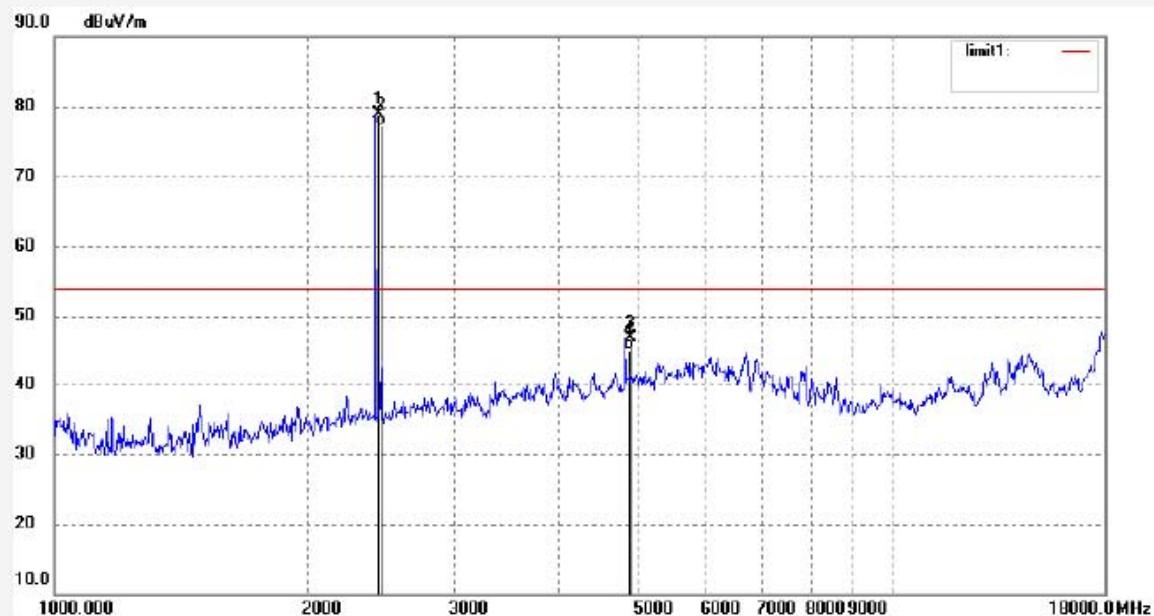
Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.:	Roger #43	Polarization:	Vertical
Standard:	FCC Class B 3M Radiated	Power Source:	DC 3.7V
Test item:	Radiation Test	Date:	08/10/17/
Temp. ( C )/Hum. (%)	25 C / 52 %	Time:	12/11/55
EUT:	BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:	
Mode:	TX 2441MHz	Distance:	3m
Model:	DR02A		
Manufacturer:	Dictory		

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2441.070	86.22	-7.35	78.87	-	-	peak	
2	2441.070	84.63	-7.35	77.28	-	-	AVG	
3	4882.136	46.77	0.14	46.91	74.00	-27.09	peak	
4	4882.136	44.89	0.14	45.03	54.00	-8.97	AVG	

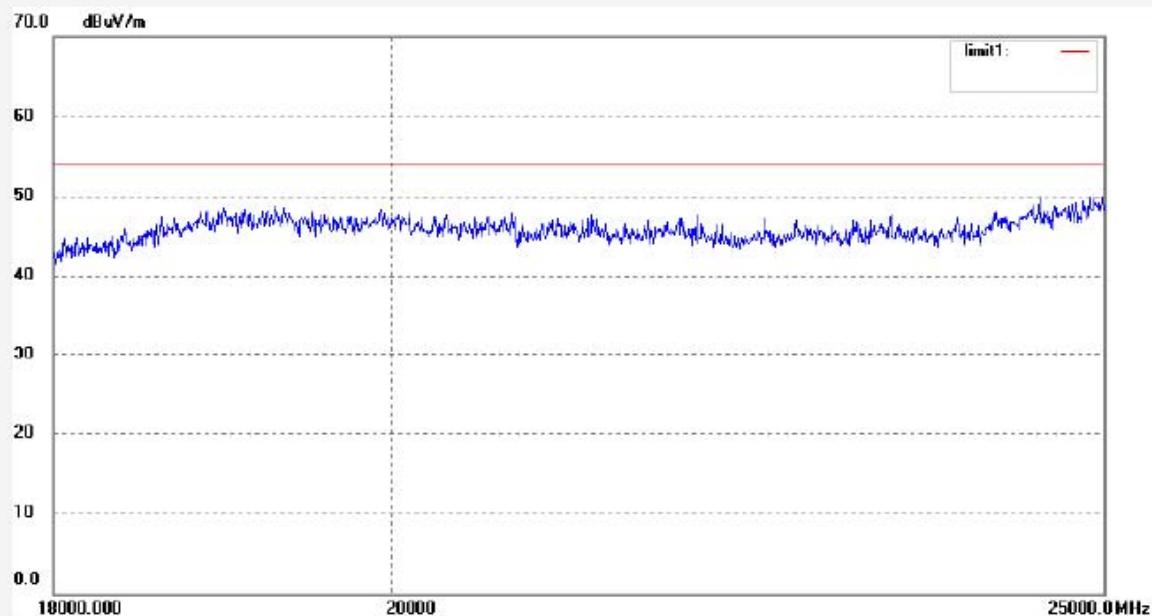

**ACCURATE TECHNOLOGY CO., LTD.**

 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.: Roger #62	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 08/10/23/
Temp.( C)/Hum.(%) 25 C / 52 %	Time: 9/25/00
EUT: BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:
Mode: TX 2441MHz	Distance: 3m
Model: DR02A	
Manufacturer: Dictory	

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
-----	----------------	---------------------	----------------	--------------------	-------------------	----------------	----------	--------


**ACCURATE TECHNOLOGY CO., LTD.**

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

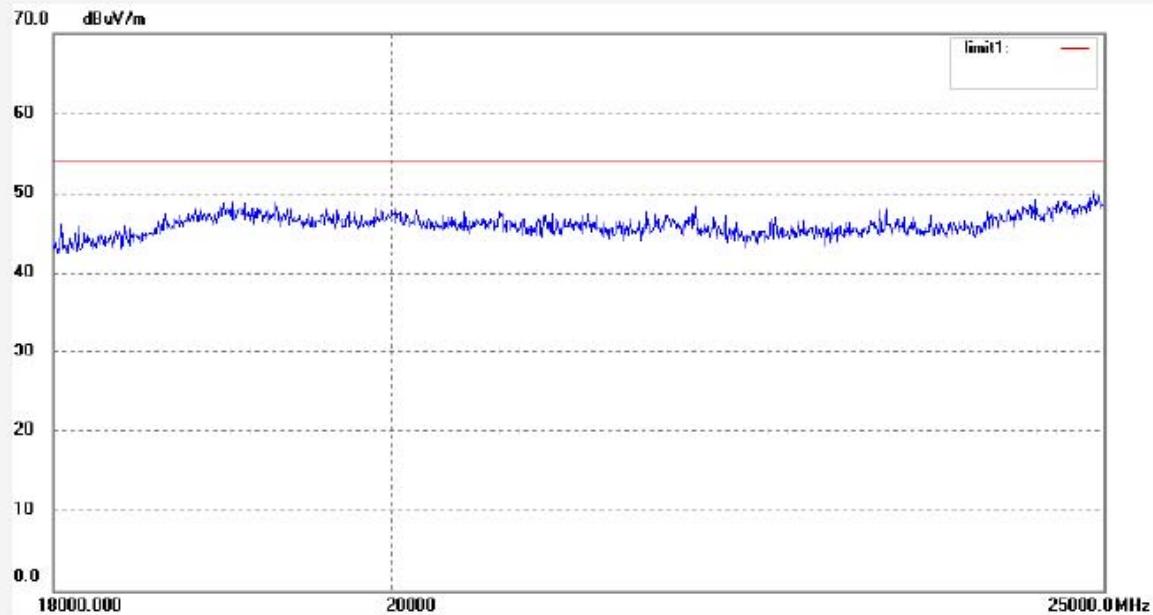
Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.:	Roger #63	Polarization:	Vertical
Standard:	FCC Class B 3M Radiated	Power Source:	DC 3.7V
Test item:	Radiation Test	Date:	08/10/23/
Temp.( C)/Hum.(%)	25 C / 52 %	Time:	9/36/28
EUT:	BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:	
Mode:	TX 2441MHz	Distance:	3m
Model:	DR02A		
Manufacturer:	Dictory		

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	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.: Roger #48

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/08/32

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

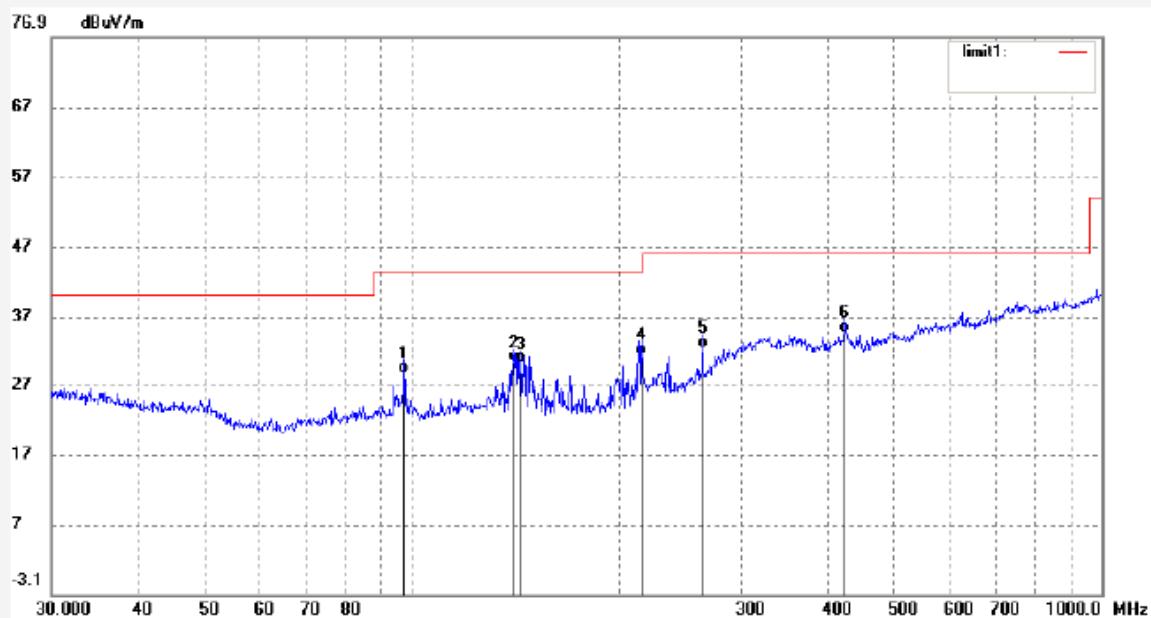
Mode: TX 2480MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictory

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	97.3436	14.49	14.05	28.54	43.50	-14.96	QP	
2	140.7767	15.65	14.49	30.14	43.50	-13.36	QP	
3	143.7760	15.43	14.48	29.91	43.50	-13.59	QP	
4	215.3616	15.90	15.55	31.45	43.50	-12.05	QP	
5	264.0416	13.83	18.66	32.49	46.00	-13.51	QP	
6	424.2998	11.60	23.10	34.70	46.00	-11.30	QP	


**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.: Roger #47

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: DC 3.7V

Test item: Radiation Test

Date: 08/10/17/

Temp. ( C)/Hum.(%) 25 C / 52 %

Time: 14/06/03

EUT: BLUETOOTH HANDS FREE CAR KIT

Engineer Signature:

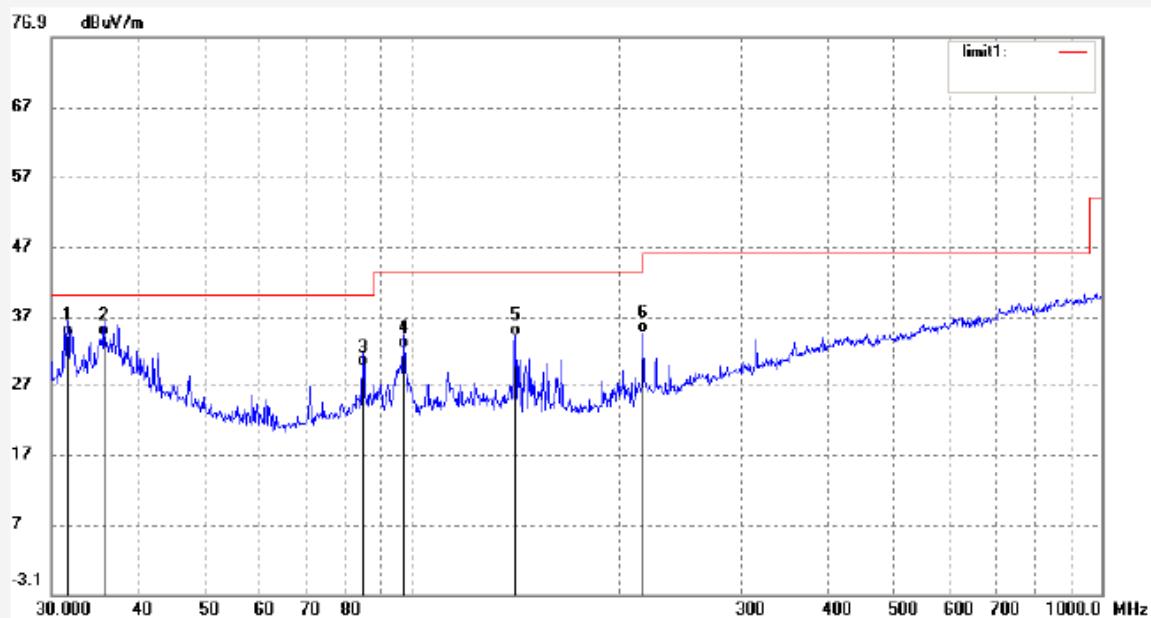
Mode: TX 2480MHz

Distance: 3m

Model: DR02A

Manufacturer: Dictory

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	31.6234	15.19	19.03	34.22	40.00	-5.78	QP	
2	35.7616	15.79	18.51	34.30	40.00	-5.70	QP	
3	84.8782	15.62	13.90	29.52	40.00	-10.48	QP	
4	97.3436	18.45	13.91	32.36	43.50	-11.14	QP	
5	141.2721	19.63	14.48	34.11	43.50	-9.39	QP	
6	216.1196	19.01	15.56	34.57	46.00	-11.43	QP	

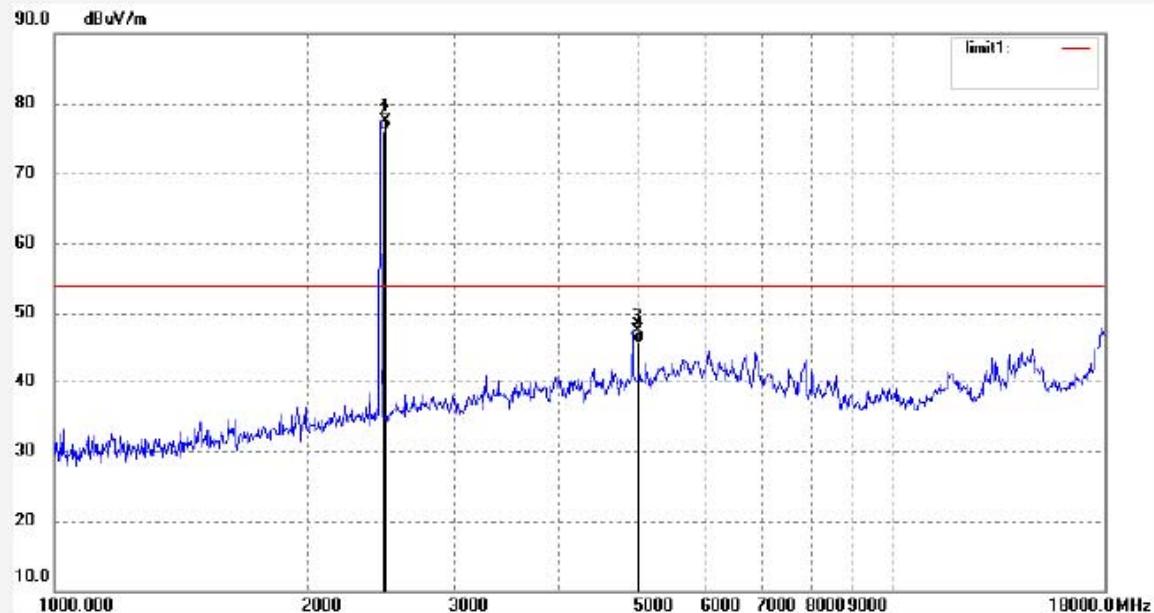

**ACCURATE TECHNOLOGY CO., LTD.**

 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.:	Roger #45	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiated	Power Source:	DC 3.7V
Test item:	Radiation Test	Date:	08/10/17/
Temp. ( C )/Hum. (%)	25 C / 52 %	Time:	12/16/53
EUT:	BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:	
Mode:	TX 2480MHz	Distance:	3m
Model:	DR02A		
Manufacturer:	Dictory		

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2480.050	84.92	-7.37	77.55	-	-	peak	
2	2480.050	83.55	-7.37	76.18	-	-	AVG	
3	4960.098	46.95	0.52	47.47	74.00	-26.53	peak	
4	4960.098	45.22	0.52	45.74	54.00	-8.26	AVG	

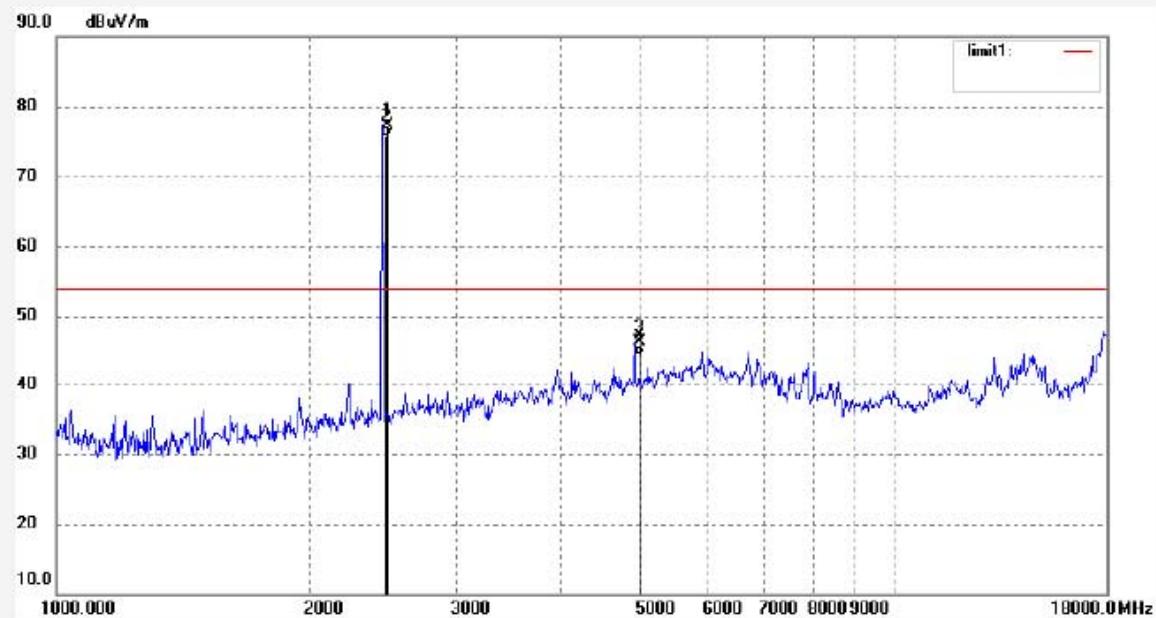

**ACCURATE TECHNOLOGY CO., LTD.**

 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.: Roger #46	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 08/10/17/
Temp.( C)/Hum.(%) 25 C / 52 %	Time: 12/18/57
EUT: BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: DR02A	
Manufacturer: Dictory	

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2480.050	84.75	-7.37	77.38	-	-	peak	
2	2480.050	83.12	-7.37	75.75	-	-	AVG	
3	4960.098	45.71	0.52	46.23	74.00	-27.77	peak	
4	4960.098	43.67	0.52	44.19	54.00	-9.81	AVG	

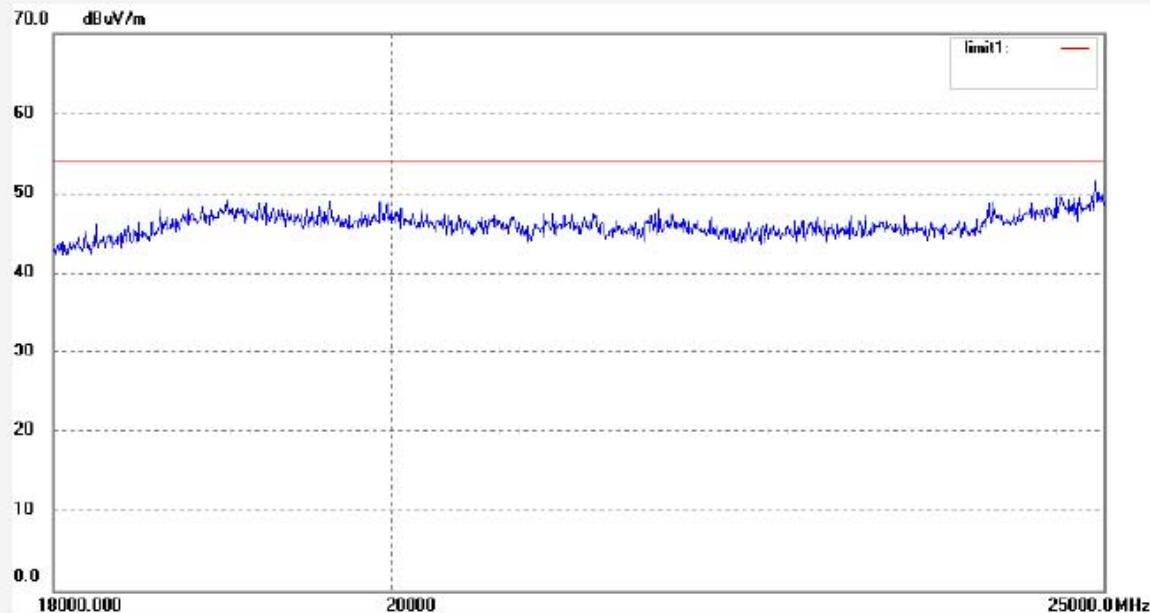

**ACCURATE TECHNOLOGY CO., LTD.**

 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.:	Roger #65	Polarization:	Horizontal
Standard:	FCC Class B 3M Radiated	Power Source:	DC 3.7V
Test item:	Radiation Test	Date:	08/10/23/
Temp. ( C )/Hum. (%)	25 C / 52 %	Time:	9/58/37
EUT:	BLUETOOTH HANDS FREE CAR KIT	Engineer Signature:	
Mode:	TX 2480MHz	Distance:	3m
Model:	DR02A		
Manufacturer:	Dictory		

Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
-----	-------------	------------------	-------------	-----------------	----------------	-------------	----------	--------


**ACCURATE TECHNOLOGY CO., LTD.**

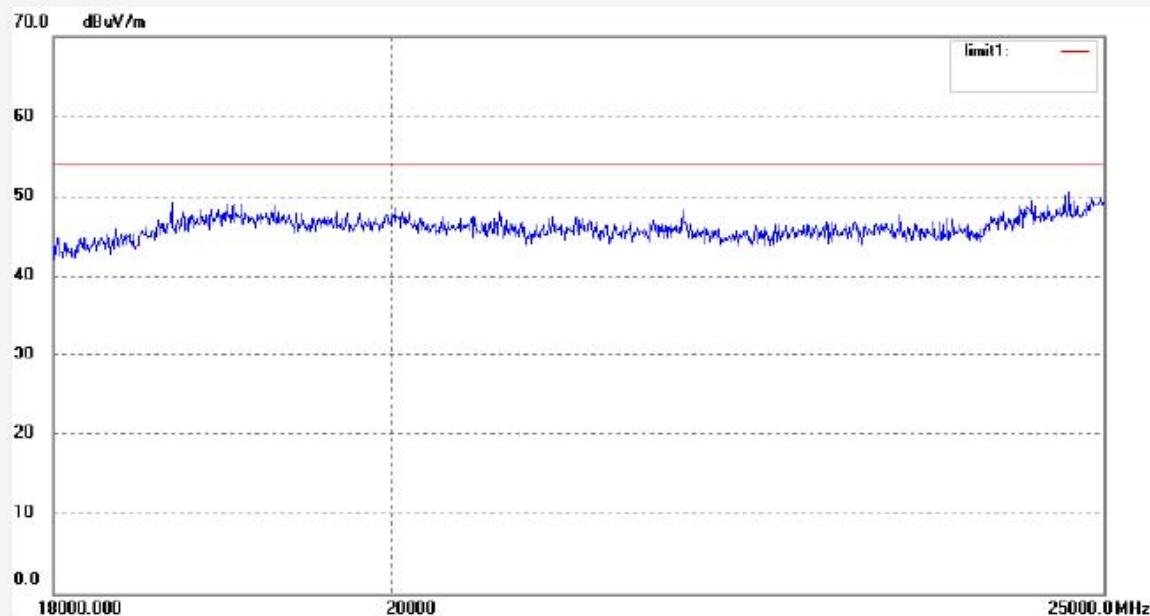
 F1,Bldg.A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: Roger #64  
 Standard: FCC Class B 3M Radiated  
 Test item: Radiation Test  
 Temp.( C)/Hum.(%) 25 C / 52 %  
 EUT: BLUETOOTH HANDS FREE CAR KIT  
 Mode: TX 2480MHz  
 Model: DR02A  
 Manufacturer: Dictory

Polarization: Vertical  
 Power Source: DC 3.7V  
 Date: 08/10/23/  
 Time: 9/47/13  
 Engineer Signature:  
 Distance: 3m

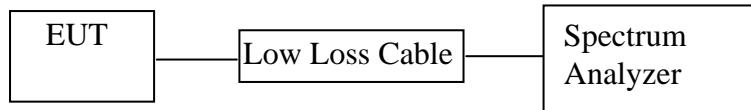
Note: Sample No.083732 Report NO.ATE20081948



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
-----	----------------	---------------------	----------------	--------------------	-------------------	----------------	----------	--------

## 13.BAND EDGE COMPLIANCE TEST

### 13.1.Block Diagram of Test Setup



(EUT: BLUETOOTH HANDS HREE CAR KIT)

### 13.2.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).

### 13.3.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.

#### 13.3.1.BLUETOOTH HANDS HREE CAR KIT (EUT)

Model Number	:	DR02A
Serial Number	:	N/A
Manufacturer	:	Zhejiang Dictory 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 TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

### 13.5.Test Procedure

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

13.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz with convenient frequency span including 100kHz bandwidth from band edge.

13.5.3.The band edges was measured and recorded.

### 13.6. Test Result

**Pass**

Date of Test:	October 20, 2008	Temperature:	25°C
EUT:	KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX (Hopping off)	Test Engineer:	Roger

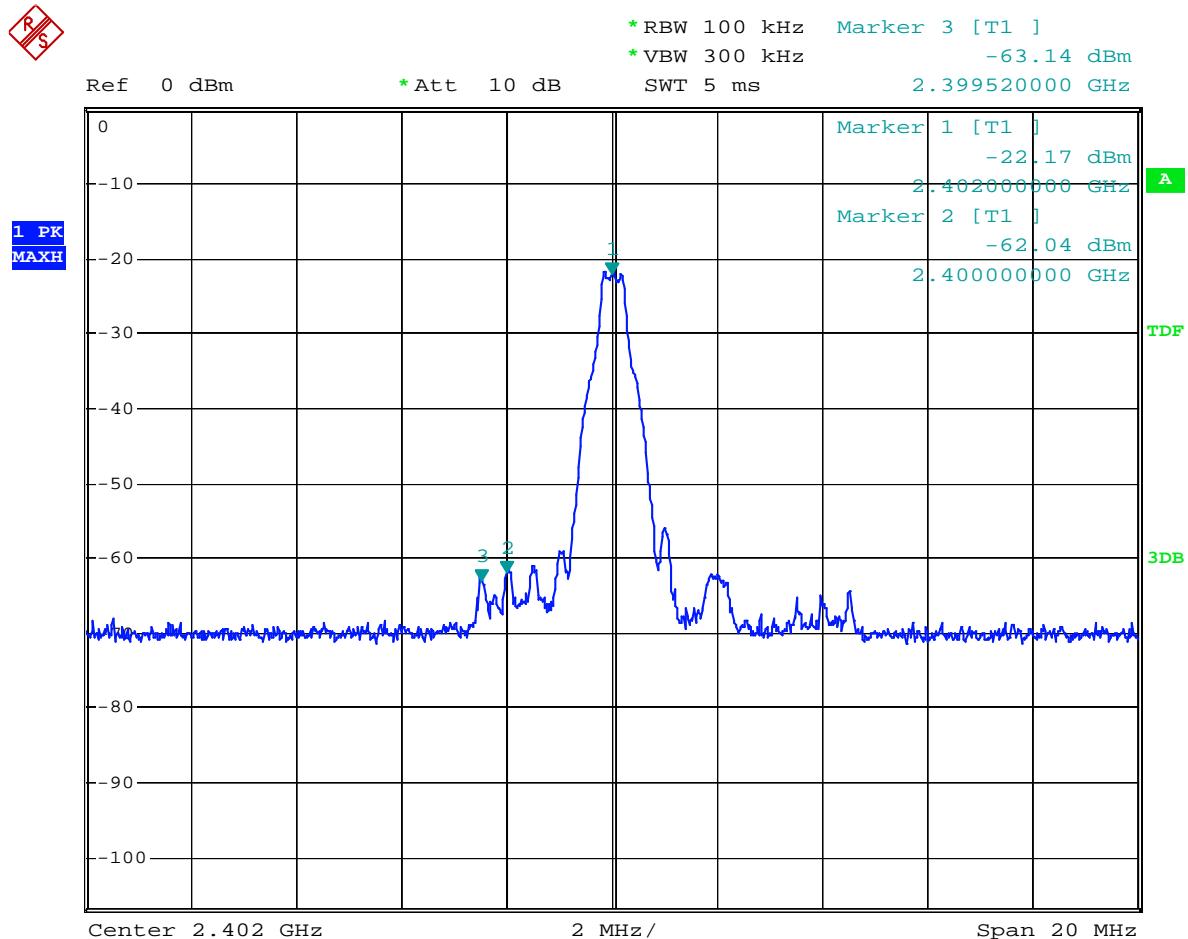
Conducted test

Frequency (MHz)	Peak Power Output (dBm)	Emission Read Value (dBm)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	-22.17	-62.04	39.87	> 20dBc
2480	-25.82	-68.00	42.18	> 20dBc

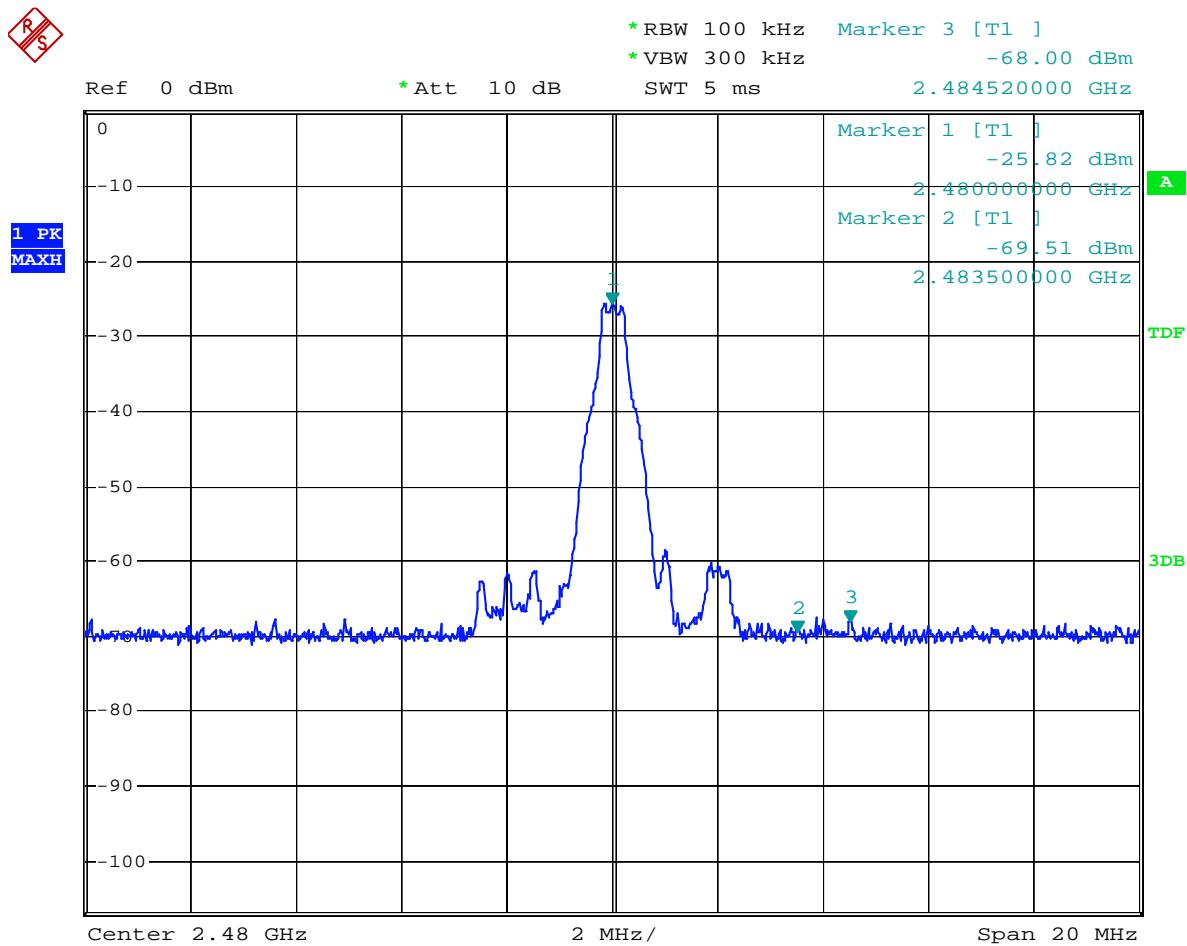
Date of Test:	October 20, 2008	Temperature:	25°C
EUT:	KIT	Humidity:	52%
Model No.:	DR02A	Power Supply:	DC 3.7V
Test Mode:	TX (Hopping on)	Test Engineer:	Roger

Conducted test

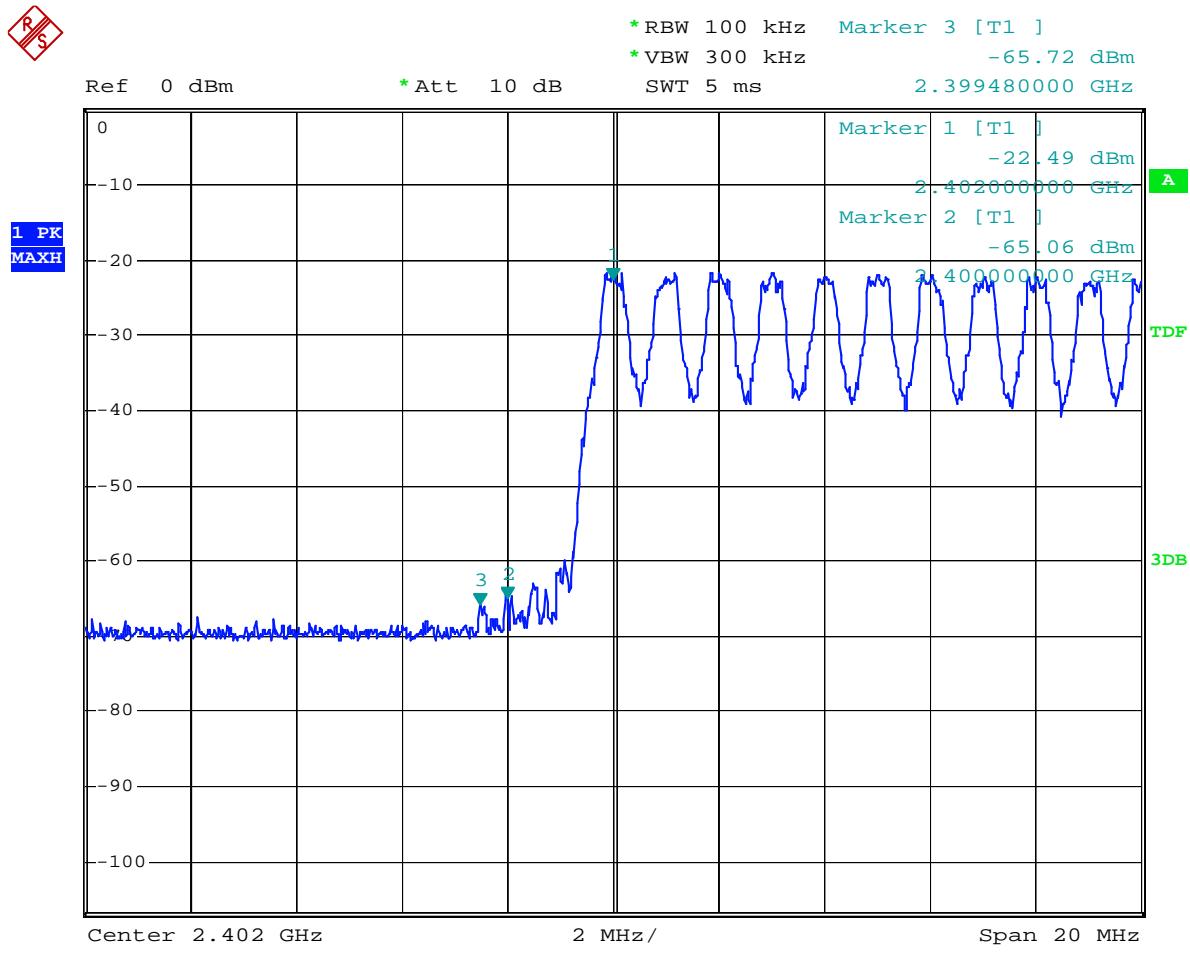
Frequency (MHz)	Peak Power Output (dBm)	Emission Read Value (dBm)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2402	-22.49	-65.06	42.57	> 20dBc
2480	-25.91	-67.17	41.26	> 20dBc



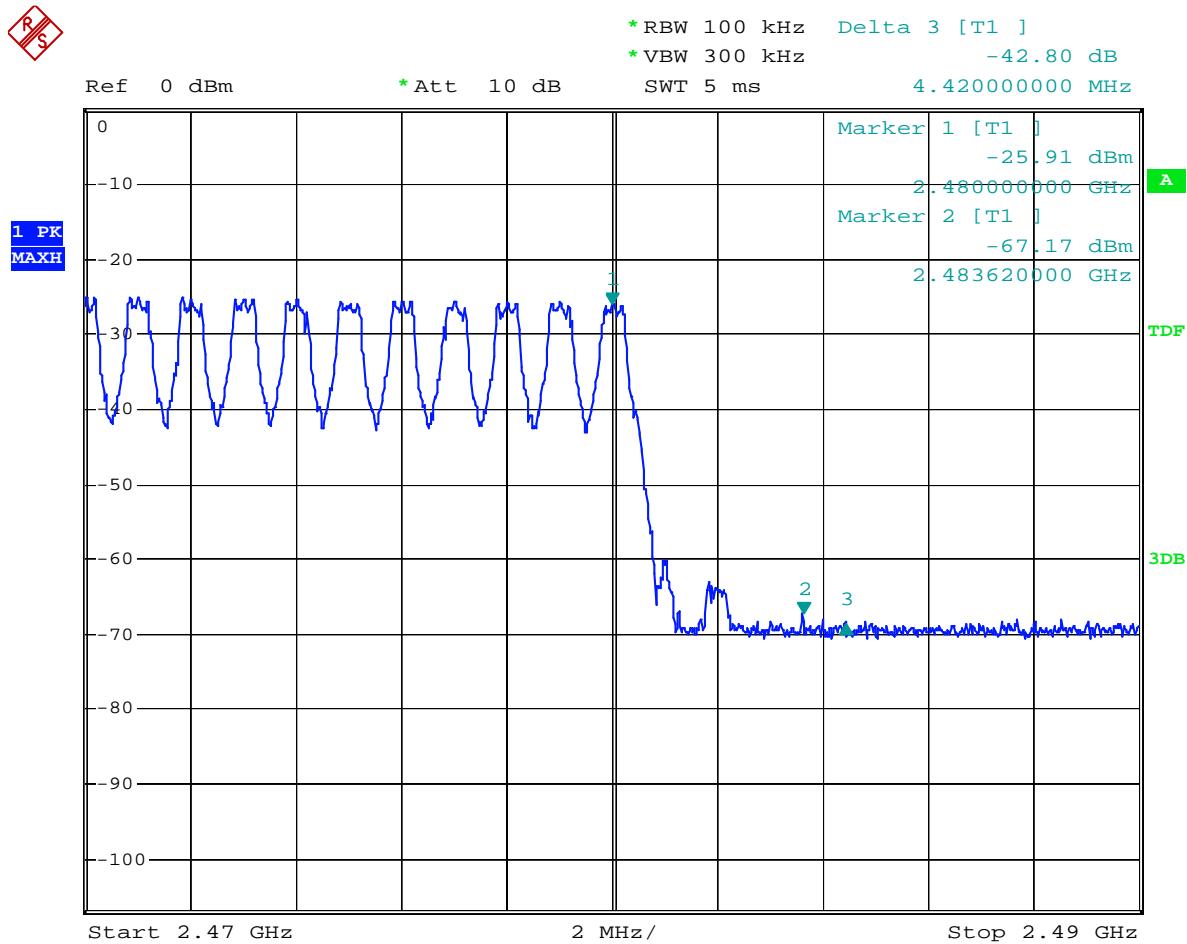
Date: 20.OCT.2008 17:36:53



Date: 20.OCT.2008 17:39:10



Date: 20.OCT.2008 17:35:25



Date: 20.OCT.2008 17:31:42

## **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**

The antenna is PCB Layout antenna, no consideration of replacement. Therefore, the equipment complies with the antenna requirement of Section 15.203.