

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Dongguan Foreland Electronics Co., LTD

REMOTE CONTROL
Model No.: CSD033A

FCC ID: 2AKJZ-CSD033A

Prepared for : Dongguan Foreland Electronics Co., LTD
Address : Building A2, Taihemei Industry Zone, Tangxia Town,
Dongguan, Guangdong, 523710

Prepared by : ACCURATE TECHNOLOGY CO., LTD
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Report Number : ATE20162551
Date of Test : Dec. 8-10, 2016
Date of Report : Dec. 14, 2016

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Test Report Certification

Applicant : Dongguan Foreland Electronics Co., LTD
Address : Building A2, Taihemei Industry Zone, Tangxia Town, Dongguan, Guangdong, 523710
Manufacturer : Dongguan Foreland Electronics Co., LTD
Address : Building A2, Taihemei Industry Zone, Tangxia Town, Dongguan, Guangdong, 523710
Product : REMOTE CONTROL
Model No. : CSD033A
Trade Mark : N/A

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.249:2016
ANSI C63.10: 2013**

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

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 15.249 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 :
Date of Report :

Dec. 8-10, 2016

Dec. 14, 2016

Prepared by :


(Ting Lü, Engineer)

Approved & Authorized Signer :


(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : REMOTE CONTROL

Model Number : CSD033A

Power Supply : 3V DC (batteries 2×)

Operate Frequency : 2.403~2.48GHz
(2403MHz, 2440MHz, 2480MHz)

Frequency number : 3

Modulation mode : GFSK

Antenna Gain : 0dBi

Antenna type : PCB Antenna

Applicant : Dongguan Foreland Electronics Co., LTD

Address : Building A2, Taihemei Industry Zone, Tangxia Town,
Dongguan, Guangdong, 523710

Manufacturer : Dongguan Foreland Electronics Co., LTD

Address : Building A2, Taihemei Industry Zone, Tangxia Town,
Dongguan, Guangdong, 523710

Date of sample received : Dec. 1, 2016

Date of Test : Dec. 8-10, 2016

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3. Description of Test Facility

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

1.4. Measurement Uncertainty

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

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 09, 2016	One Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 09, 2016	One Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 09, 2016	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 09, 2016	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 14, 2016	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 14, 2016	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 14, 2016	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 14, 2016	One Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 09, 2016	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 09, 2016	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 09, 2016	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 09, 2016	One Year

3. OPERATION OF EUT DURING TESTING

3.1. Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2403MHz

Middle Channel: 2440MHz

High Channel: 2480MHz

3.2. Configuration and peripherals

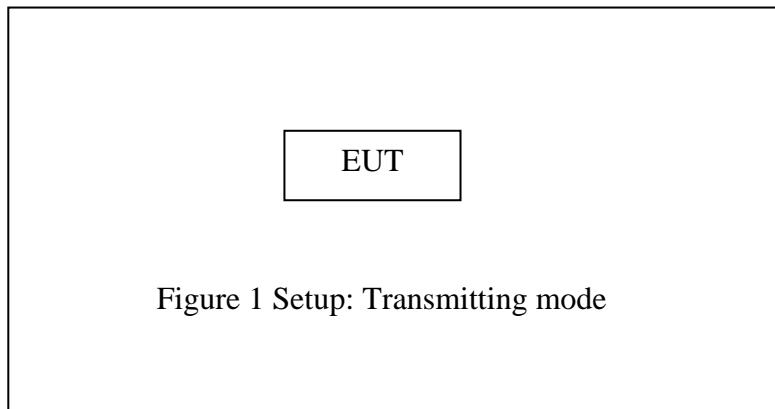


Figure 1 Setup: Transmitting mode

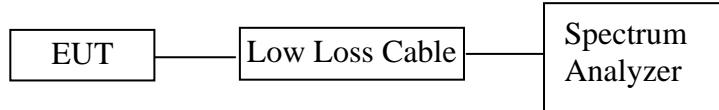
4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.215(c)	20dB Bandwidth	Compliant
Section 15.249(d)	Band Edge Compliance Test	Compliant
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	N/A
Section 15.203	Antenna Requirement	Compliant

Note: The power supply mode of the EUT is DC 3V(Battery 2*), According to the FCC standard requirements, conducted emission is not applicable.

5. 20DB BANDWIDTH MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

5.3. Operating Condition of EUT

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

5.3.2. Turn on the power of all equipment.

5.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 2403, 2440, 2480MHz.

5.4. Test Procedure

5.4.1. Place the EUT on the table and set it in transmitting mode.

5.4.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

5.4.3. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

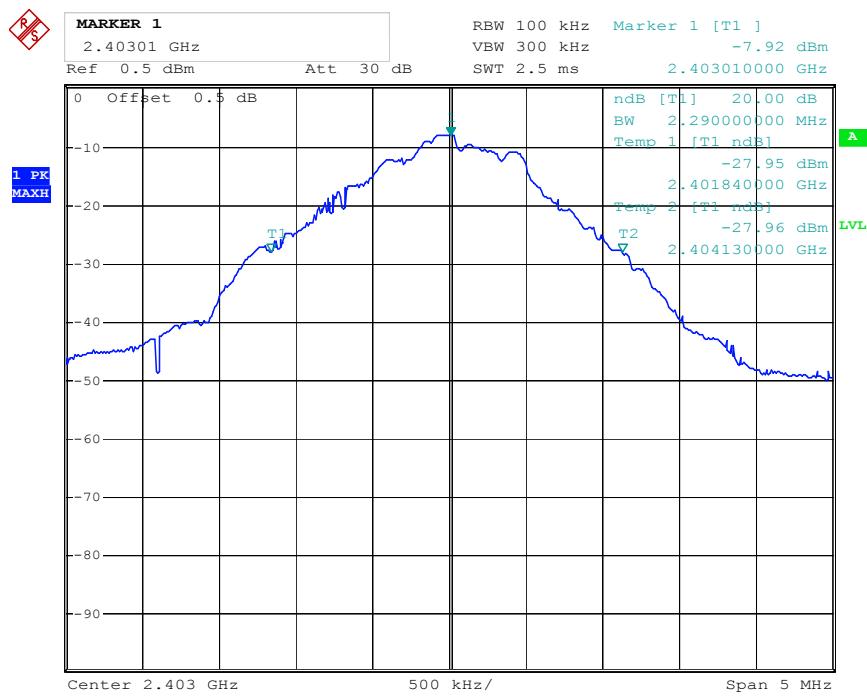
5.4.4. Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5. Test Result

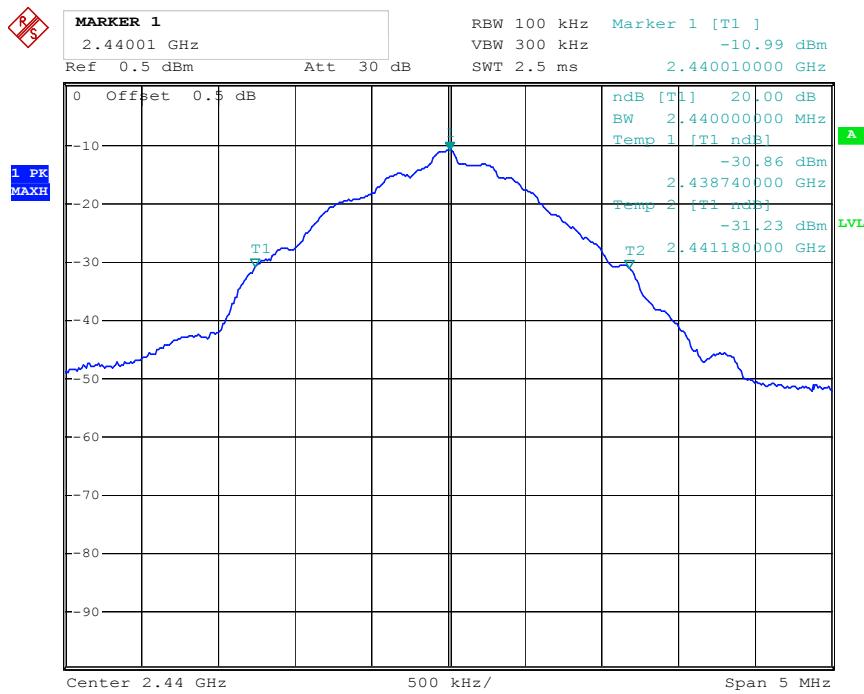
Channel	Frequency(MHz)	20 dB Bandwidth(MHz)
Low	2403	2.29
Middle	2440	2.44
High	2480	2.42

The spectrum analyzer plots are attached as below.

Low channel

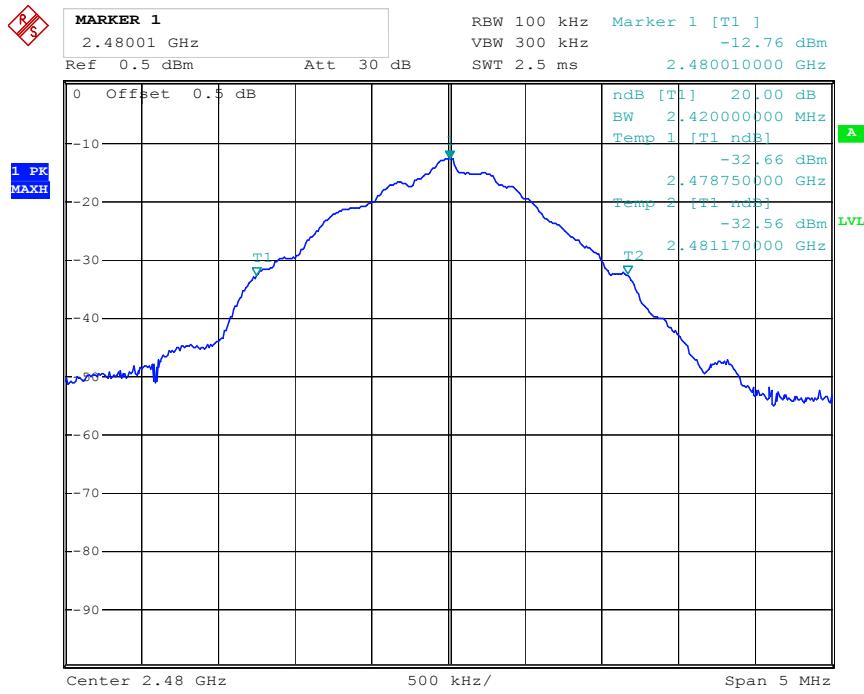


Middle channel



Date: 10.DEC.2016 02:55:10

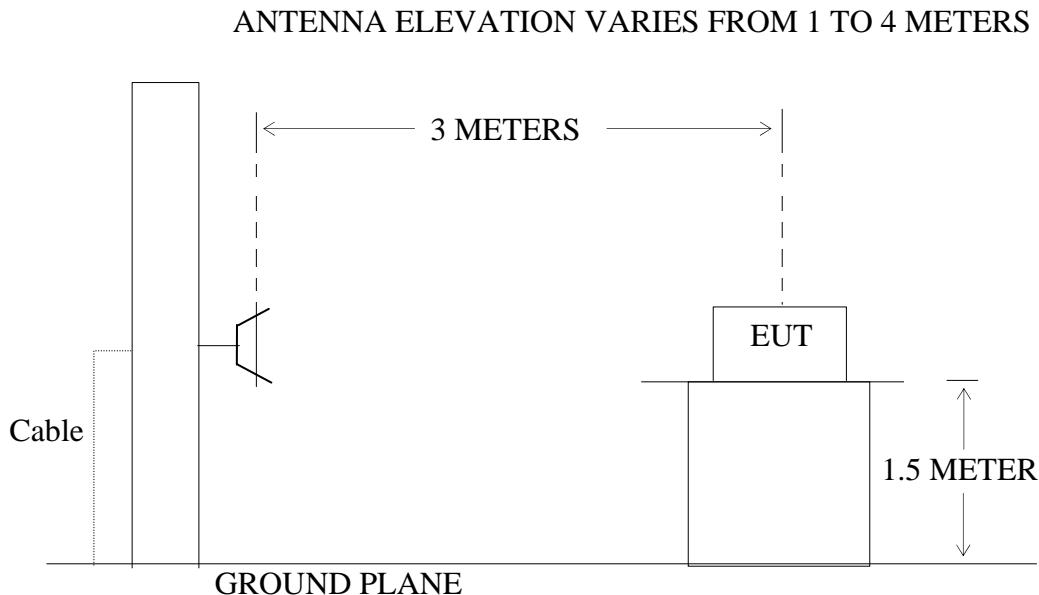
High channel



Date: 10.DEC.2016 02:56:25

6. BAND EDGE COMPLIANCE TEST

6.1. Block Diagram of Test Setup



6.2. The Requirement For Section 15.249

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 A8.4(4), the attenuation required 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).

6.3. EUT Configuration on Measurement

The 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.

6.4. 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 modes measure it. The transmit frequency are 2403, 2480MHz.

6.5. Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

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

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

6.5.4. 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

6.5.5. The band edges was measured and recorded.

6.6. Test Result



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH1 #88

Polarization: Horizontal

Standard: FCC PK

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/10/

Temp.(C)/Hum.(%) 23 C / 48 %

Time: 12/43/54

EUT: REMOTE CONTROL

Engineer Signature: YJZH

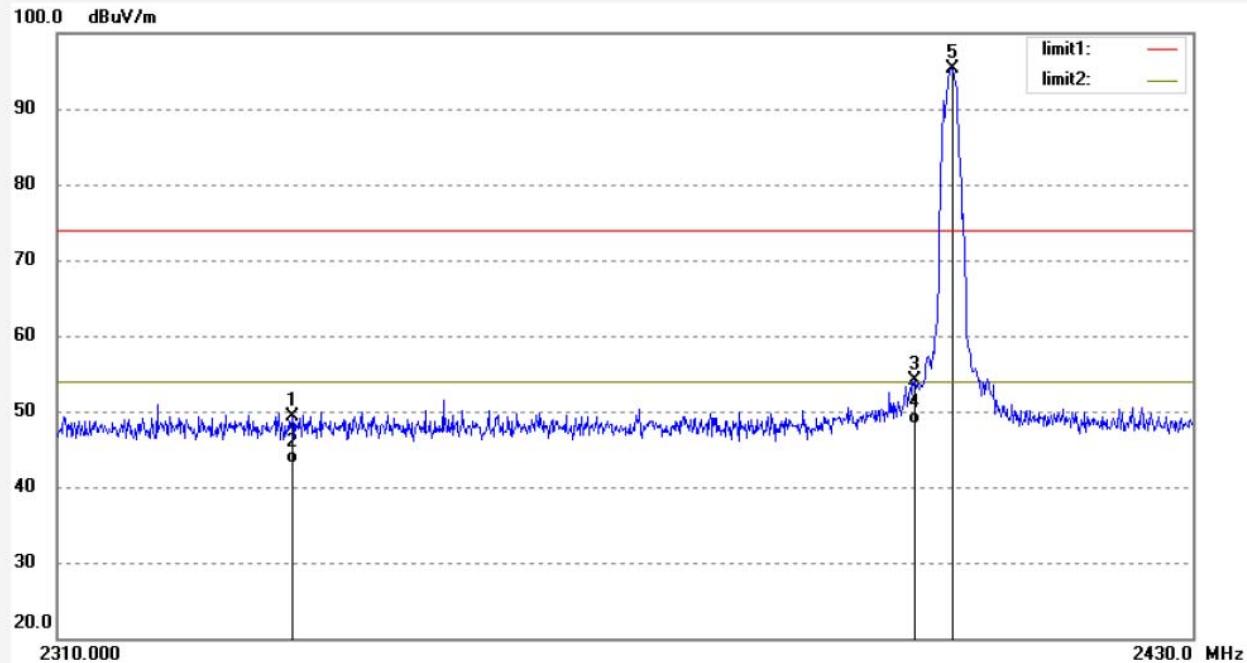
Mode: TX 2403MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.: ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2334.360	3.80	45.50	49.30	74.00	-24.70	peak			
2	2334.360	-2.40	45.50	43.10	54.00	-10.90	AVG			
3	2400.000	8.34	45.78	54.12	74.00	-19.88	peak			
4	2400.000	2.44	45.78	48.22	54.00	-5.78	AVG			
5	2403.000	49.57	45.80	95.37			peak			



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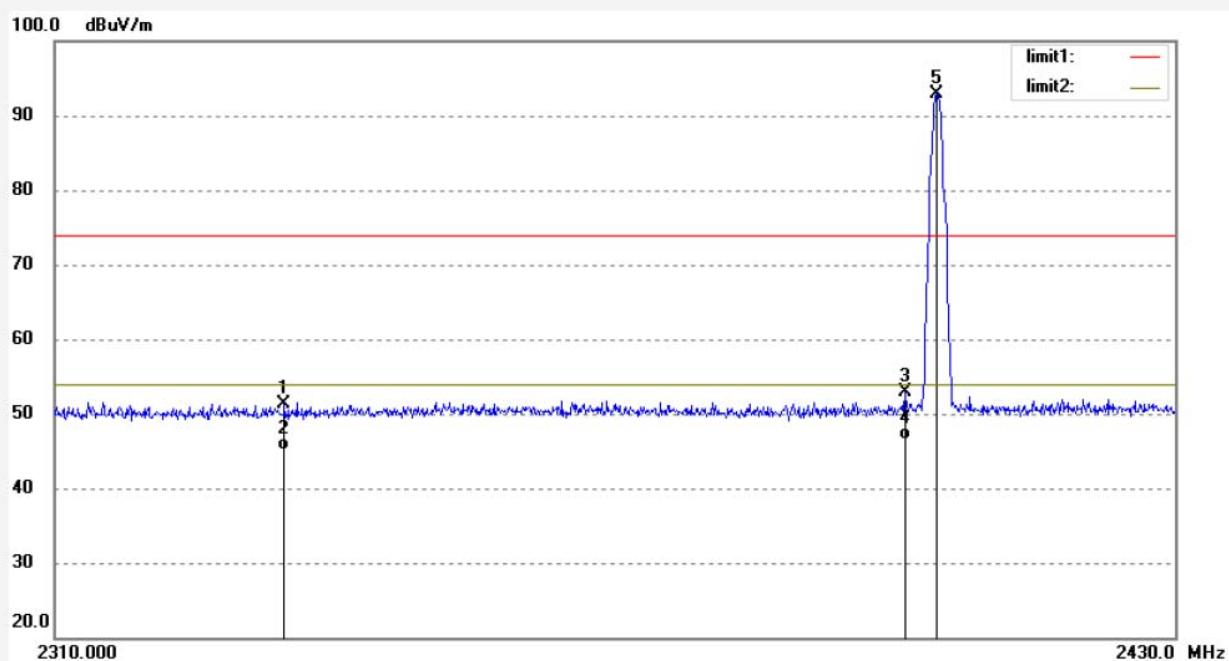
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH1 #89
Standard: FCC PK
Test item: Radiation Test
Temp. (C)/Hum.(%) 23 C / 48 %
EUT: REMOTE CONTROL
Mode: TX 2403MHz
Model: CSD033A
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Polarization: Vertical
Power Source: DC 3V
Date: 16/12/10/
Time: 12:46/22
Engineer Signature: YJZH
Distance: 3m

Note: Report NO.: ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2334.120	5.85	45.50	51.35	74.00	-22.65	peak			
2	2334.120	-0.45	45.50	45.05	54.00	-8.95	AVG			
3	2400.000	7.13	45.78	52.91	74.00	-21.09	peak			
4	2400.000	0.73	45.78	46.51	54.00	-7.49	AVG			
5	2403.000	47.10	45.80	92.90			peak			

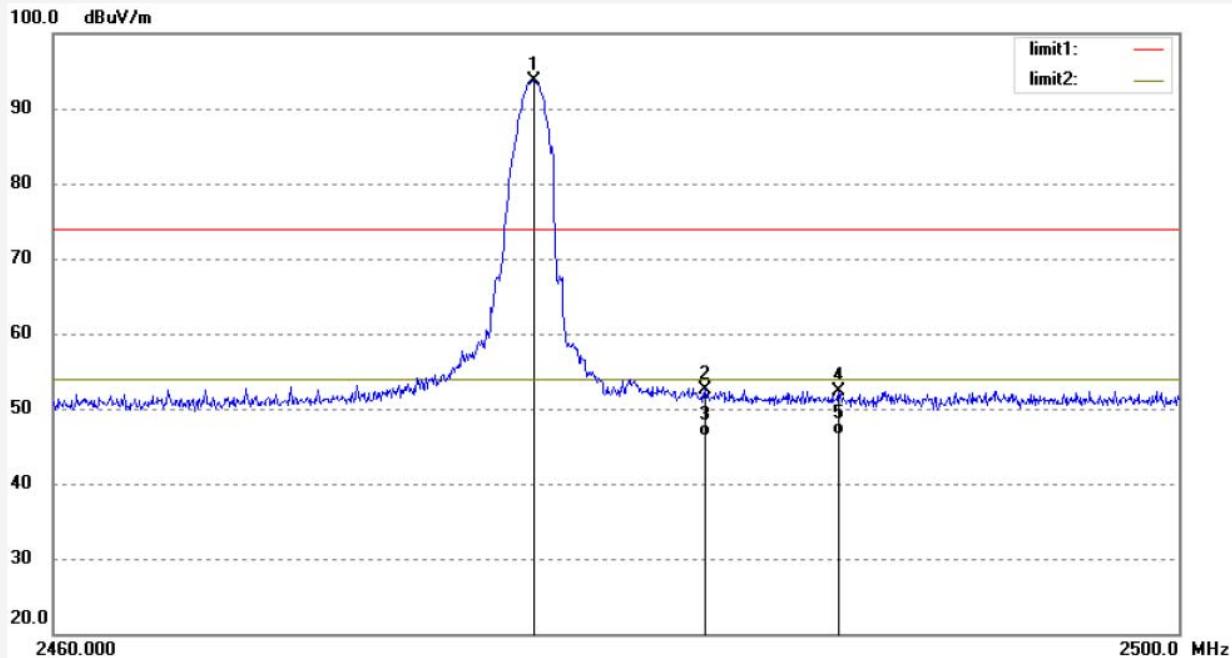


ACCURATE TECHNOLOGY CO., LTD.

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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.:	YJZH1 #93	Polarization:	Horizontal
Standard:	FCC PK	Power Source:	DC 3V
Test item:	Radiation Test	Date:	16/12/10/
Temp. (C)/Hum.(%)	23 C / 48 %	Time:	12/59/09
EUT:	REMOTE CONTROL	Engineer Signature:	YJZH
Mode:	TX 2480MHz	Distance:	3m
Model:	CSD033A		
Manufacturer:	DONGGUAN FORELAND ELECTRONICS CO.,LTD		
Note:	Report NO.: ATE20162551		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	47.52	46.10	93.62			peak			
2	2483.500	6.41	46.13	52.54	74.00	-21.46	peak			
3	2483.500	0.21	46.13	46.34	54.00	-7.66	AVG			
4	2487.880	6.23	46.15	52.38	74.00	-21.62	peak			
5	2487.880	0.43	46.15	46.58	54.00	-7.42	AVG			



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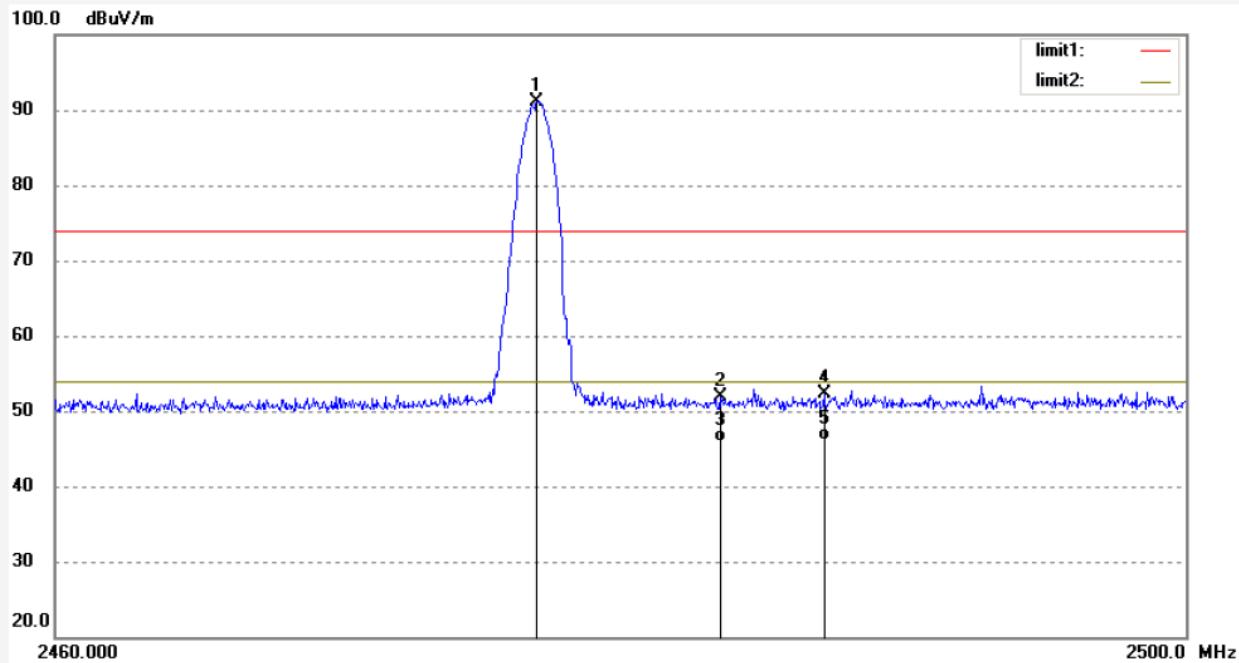
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH1 #92
Standard: FCC PK
Test item: Radiation Test
Temp. (C)/Hum.(%) 23 C / 48 %
EUT: REMOTE CONTROL
Mode: TX 2480MHz
Model: CSD033A
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Polarization: Vertical
Power Source: DC 3V
Date: 16/12/10/
Time: 12:53:44
Engineer Signature: YJZH
Distance: 3m

Note: Report NO.: ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	45.02	46.10	91.12			peak			
2	2483.500	5.83	46.13	51.96	74.00	-22.04	peak			
3	2483.500	-0.27	46.13	45.86	54.00	-8.14	AVG			
4	2487.160	6.09	46.15	52.24	74.00	-21.76	peak			
5	2487.160	-0.01	46.15	46.14	54.00	-7.86	AVG			

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.
4. The average measurement was not performed when peak measured data under the limit of average detection.

7. RADIATED SPURIOUS EMISSION TEST

7.1. Block Diagram of Test Setup

7.1.1. Block diagram of connection between the EUT and peripherals

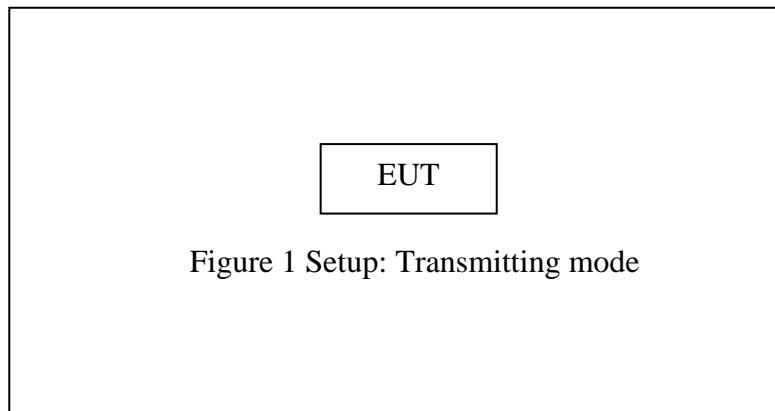
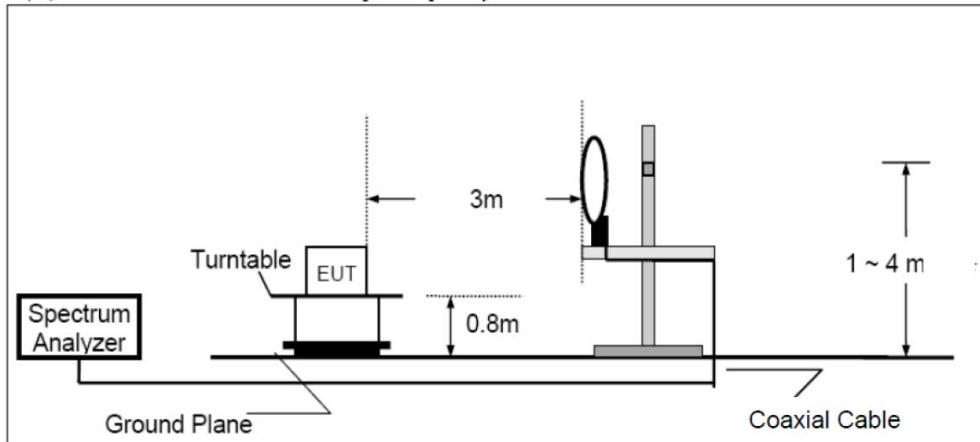


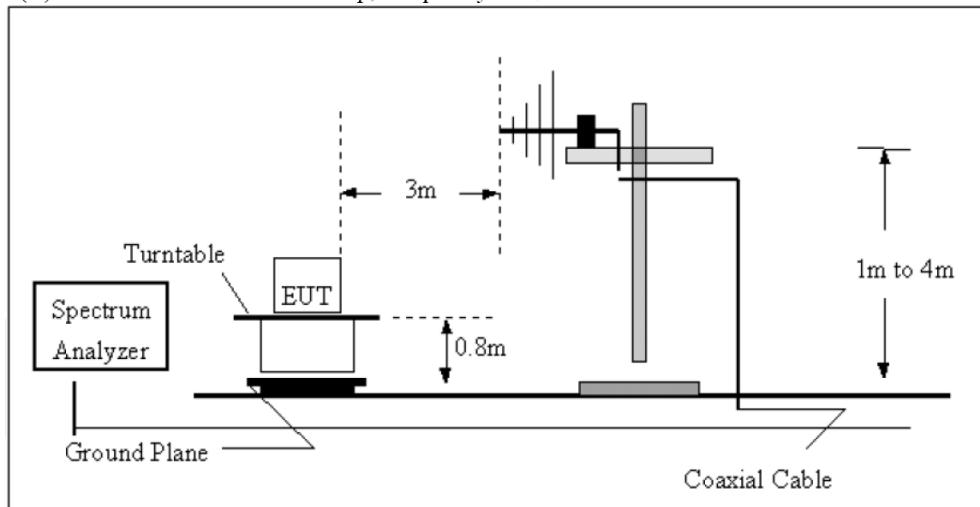
Figure 1 Setup: Transmitting mode

7.1.2. Semi-Anechoic Chamber Test Setup Diagram

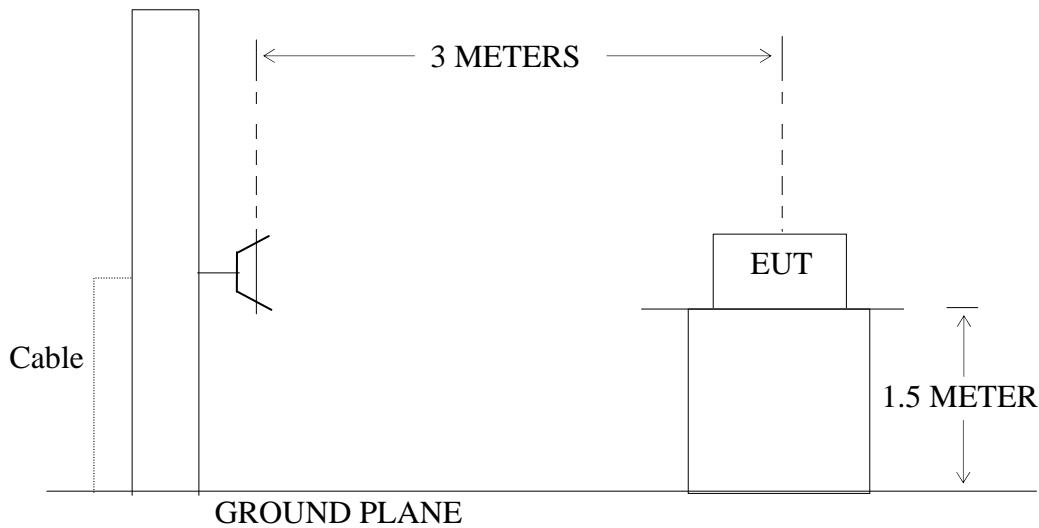
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30-1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



7.2. The Limit For Section 15.249

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 A8.4(4), 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).

7.3.Restricted bands of operation

7.3.1.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.

7.4.Configuration of EUT on Measurement

The 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.

7.5.Operating Condition of EUT

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

7.5.2.Turn on the power of all equipment.

7.5.3.Let the EUT work in TX modes and measure it. The transmit frequency are 2403, 2440, 2480MHz.

7.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter(Below 1GHz) and 1.5m(above 1GHz) 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 C63.10: 2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

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

The final measurement in band 9-90 kHz, 110-490 kHz 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.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

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

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

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

2. *: Denotes restricted band of operation.

3. The EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.

4. The radiation emissions from 9KHz-30MHz and 18GHz-25GHz are not reported, because the test values lower than the limits of 20dB.

5. The average measurement was not performed when peak measured data under the limit of average detection.

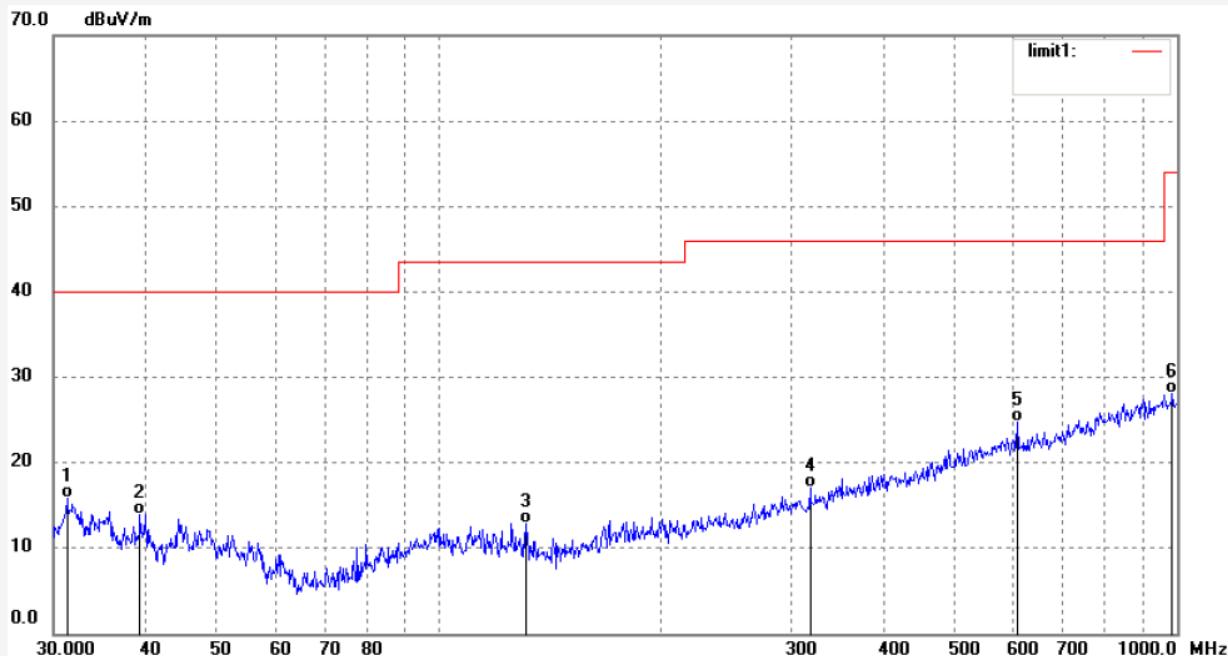
Below 1GHz



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.ChinaSite: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #423	Polarization: Horizontal
Standard: FCC 15.249 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 16/12/08/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 8/56/28
EUT: REMOTE CONTROL	Engineer Signature: YJZH
Mode: TX 2403MHz	Distance: 3m
Model: CSD033A	
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD	
Note: Report NO.:ATE20162551	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.2918	31.76	-15.98	15.78	40.00	-24.22	QP			
2	39.3203	32.24	-18.27	13.97	40.00	-26.03	QP			
3	131.2235	33.52	-20.64	12.88	43.50	-30.62	QP			
4	318.0874	32.55	-15.42	17.13	46.00	-28.87	QP			
5	607.1806	33.28	-8.59	24.69	46.00	-21.31	QP			
6	986.0439	30.55	-2.52	28.03	54.00	-25.97	QP			



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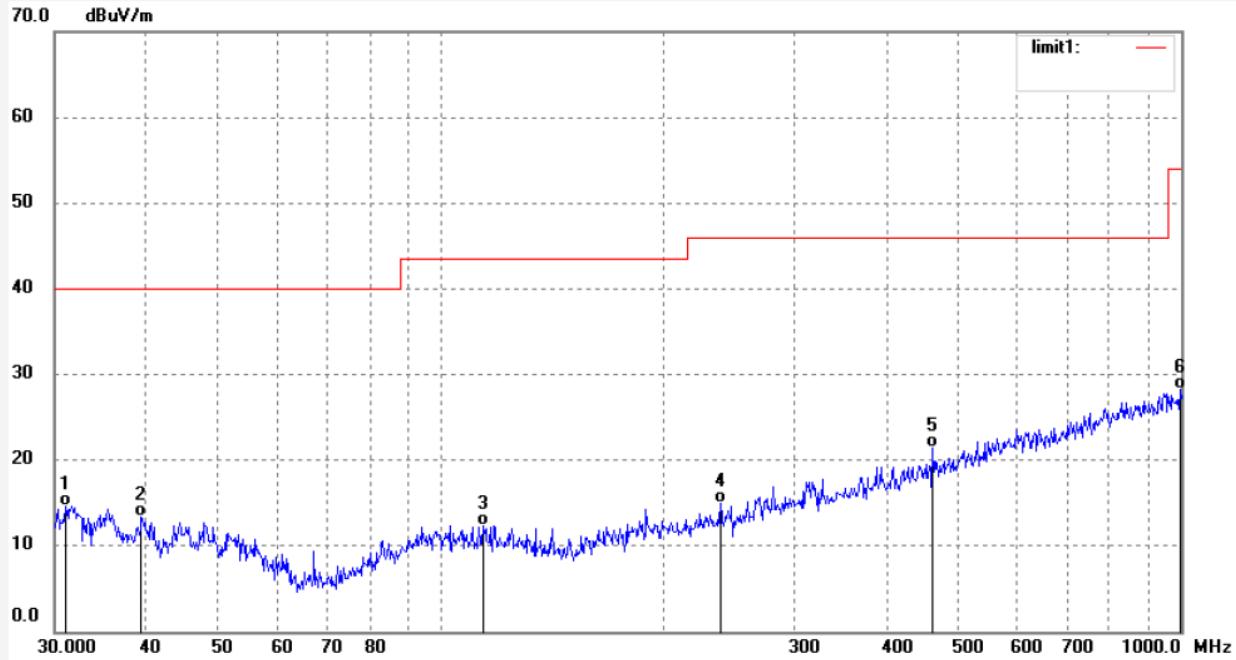
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #424
Standard: FCC 15.249 3M Radiated
Test item: Radiation Test
Temp. (C)/Hum.(%) 25 C / 55 %
EUT: REMOTE CONTROL
Mode: TX 2403MHz
Model: CSD033A
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Polarization: Vertical
Power Source: DC 3V
Date: 16/12/08/
Time: 8/57/32
Engineer Signature: YJZH
Distance: 3m

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.0728	30.61	-15.93	14.68	40.00	-25.32	QP			
2	39.3203	31.67	-18.27	13.40	40.00	-26.60	QP			
3	114.0183	32.60	-20.20	12.40	43.50	-31.10	QP			
4	238.4626	32.71	-17.80	14.91	46.00	-31.09	QP			
5	461.6313	33.11	-11.72	21.39	46.00	-24.61	QP			
6	996.4926	30.60	-2.31	28.29	54.00	-25.71	QP			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: YJZH #425

Polarization: Horizontal

Standard: FCC 15.249 3M Radiated

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/08/

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 10/38/10

EUT: REMOTE CONTROL

Engineer Signature: YJZH

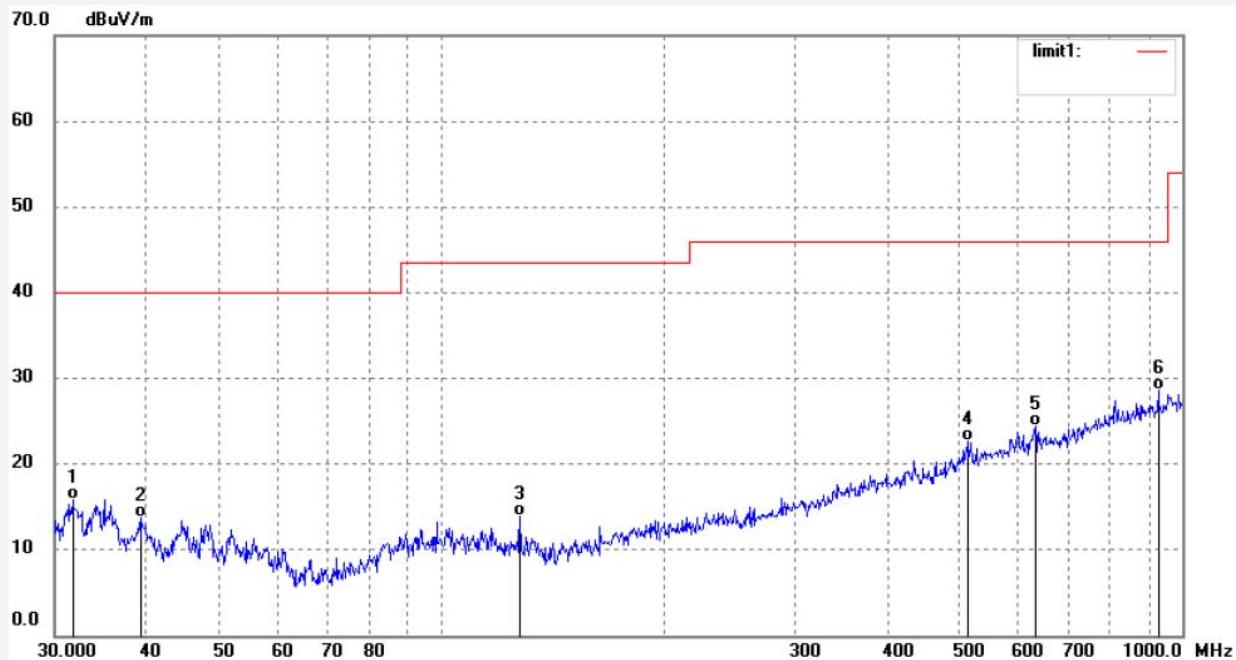
Mode: TX 2440MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.7348	31.87	-16.07	15.80	40.00	-24.20	QP			
2	39.3204	32.01	-18.27	13.74	40.00	-26.26	QP			
3	127.5865	34.51	-20.60	13.91	43.50	-29.59	QP			
4	514.7533	33.08	-10.45	22.63	46.00	-23.37	QP			
5	633.3285	32.74	-8.27	24.47	46.00	-21.53	QP			
6	928.8711	32.17	-3.55	28.62	46.00	-17.38	QP			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: YJZH #426

Polarization: Vertical

Standard: FCC 15.249 3M Radiated

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/08/

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 10/39/27

EUT: REMOTE CONTROL

Engineer Signature: YJZH

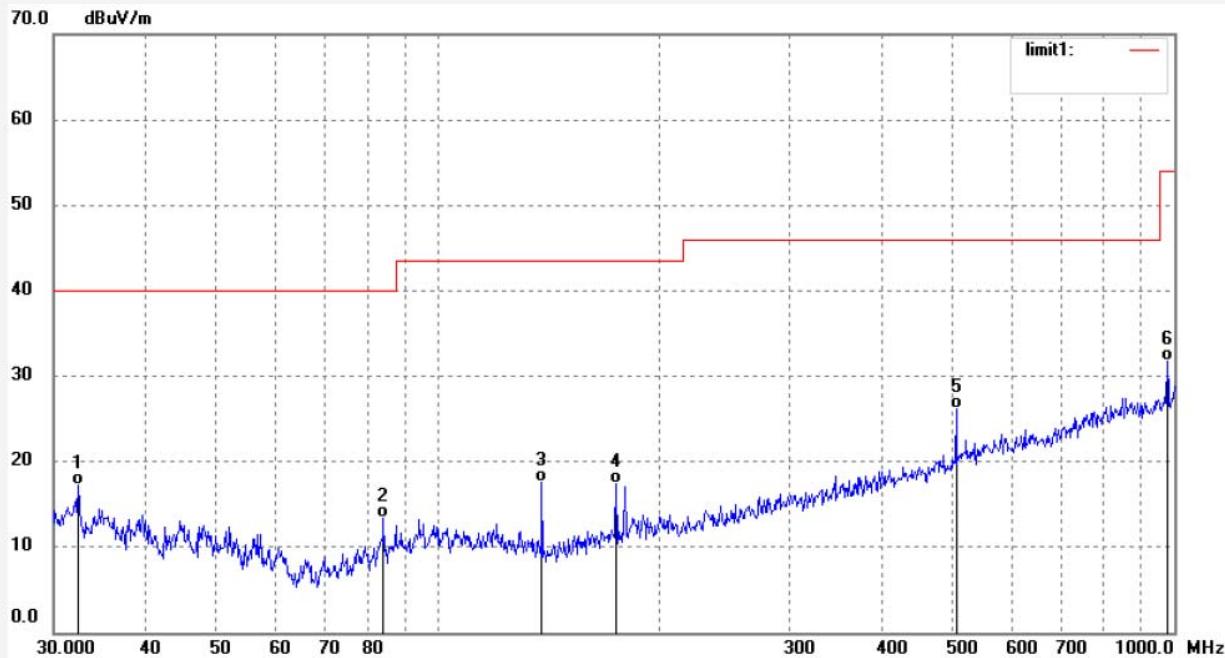
Mode: TX 2440MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.4109	33.47	-16.21	17.26	40.00	-22.74	QP			
2	84.2839	35.57	-22.26	13.31	40.00	-26.69	QP			
3	138.3251	38.96	-21.39	17.57	43.50	-25.93	QP			
4	174.4265	37.57	-20.09	17.48	43.50	-26.02	QP			
5	505.7891	36.72	-10.61	26.11	46.00	-19.89	QP			
6	979.1392	34.35	-2.65	31.70	54.00	-22.30	QP			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: YJZH #428

Polarization: Horizontal

Standard: FCC 15.249 3M Radiated

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/08/

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 10/42/57

EUT: REMOTE CONTROL

Engineer Signature: YJZH

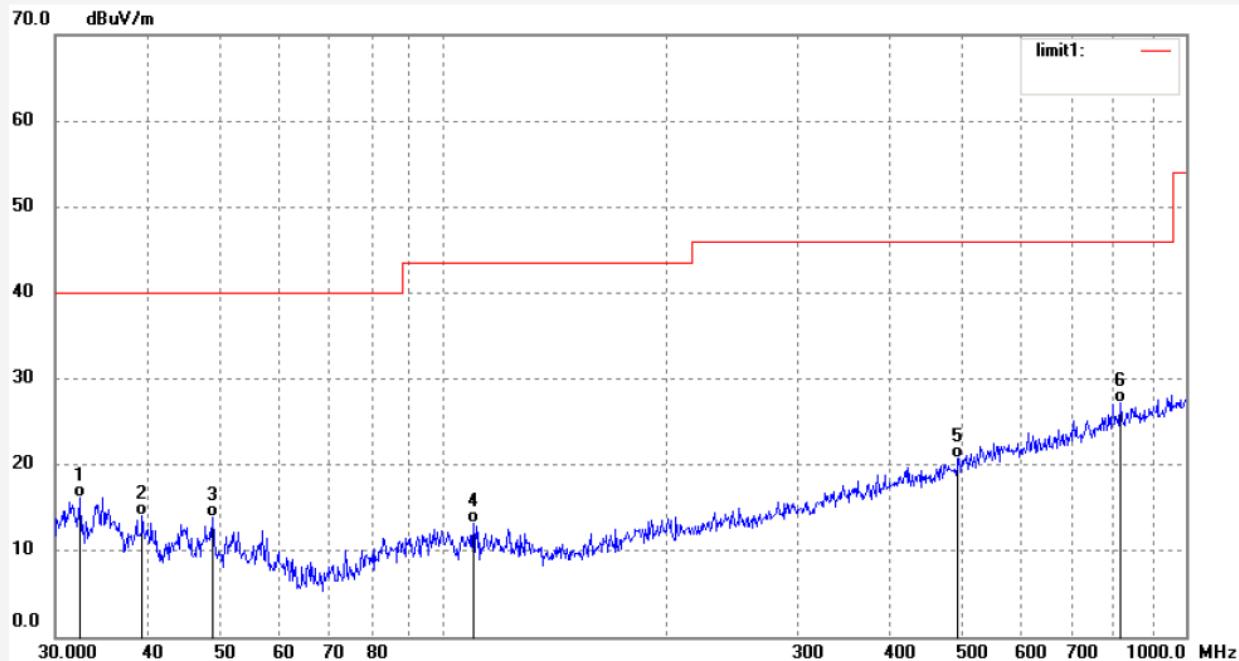
Mode: TX 2480MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.4109	32.40	-16.21	16.19	40.00	-23.81	QP			
2	39.3204	32.41	-18.27	14.14	40.00	-25.86	QP			
3	48.8906	33.56	-19.63	13.93	40.00	-26.07	QP			
4	109.6957	33.28	-20.08	13.20	43.50	-30.30	QP			
5	493.5009	31.74	-11.07	20.67	46.00	-25.33	QP			
6	815.6352	32.14	-4.96	27.18	46.00	-18.82	QP			

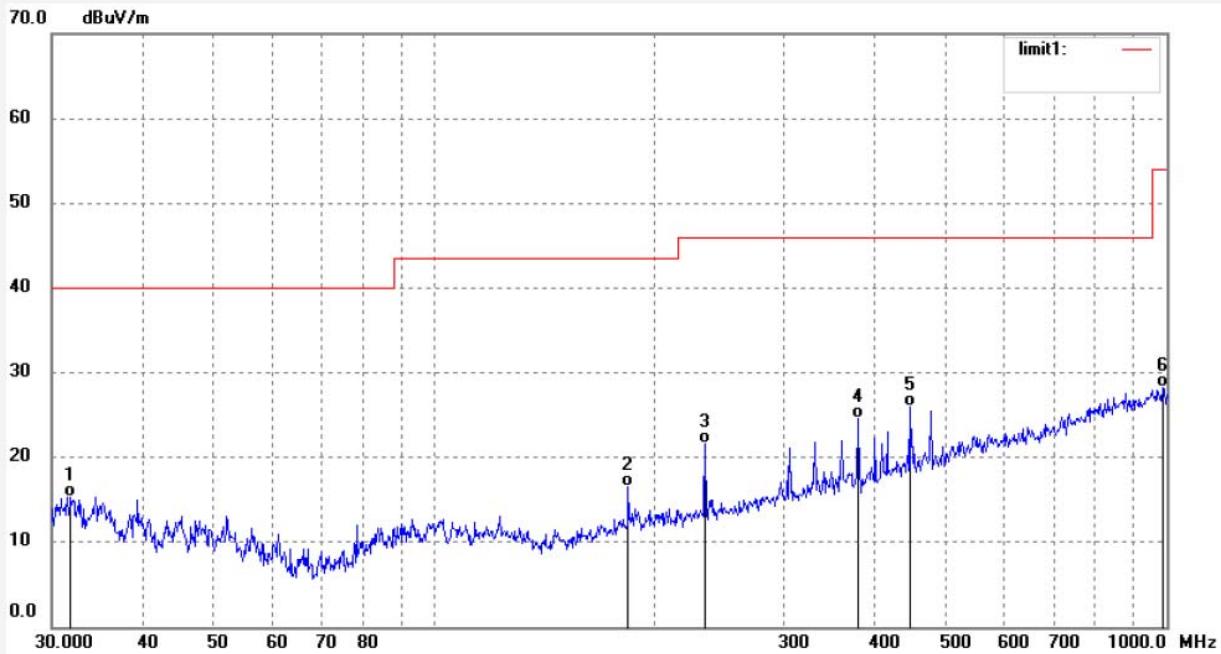


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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #427	Polarization: Vertical
Standard: FCC 15.249 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 16/12/08/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 10/41/39
EUT: REMOTE CONTROL	Engineer Signature: YJZH
Mode: TX 2480MHz	Distance: 3m
Model: CSD033A	
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD	
Note: Report NO.:ATE20162551	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.8465	31.42	-16.08	15.34	40.00	-24.66	QP			
2	183.8660	35.86	-19.38	16.48	43.50	-27.02	QP			
3	234.3099	39.66	-17.96	21.70	46.00	-24.30	QP			
4	379.1780	38.38	-13.77	24.61	46.00	-21.39	QP			
5	445.6932	38.09	-12.04	26.05	46.00	-19.95	QP			
6	989.5146	30.76	-2.45	28.31	54.00	-25.69	QP			

Above 1GHz



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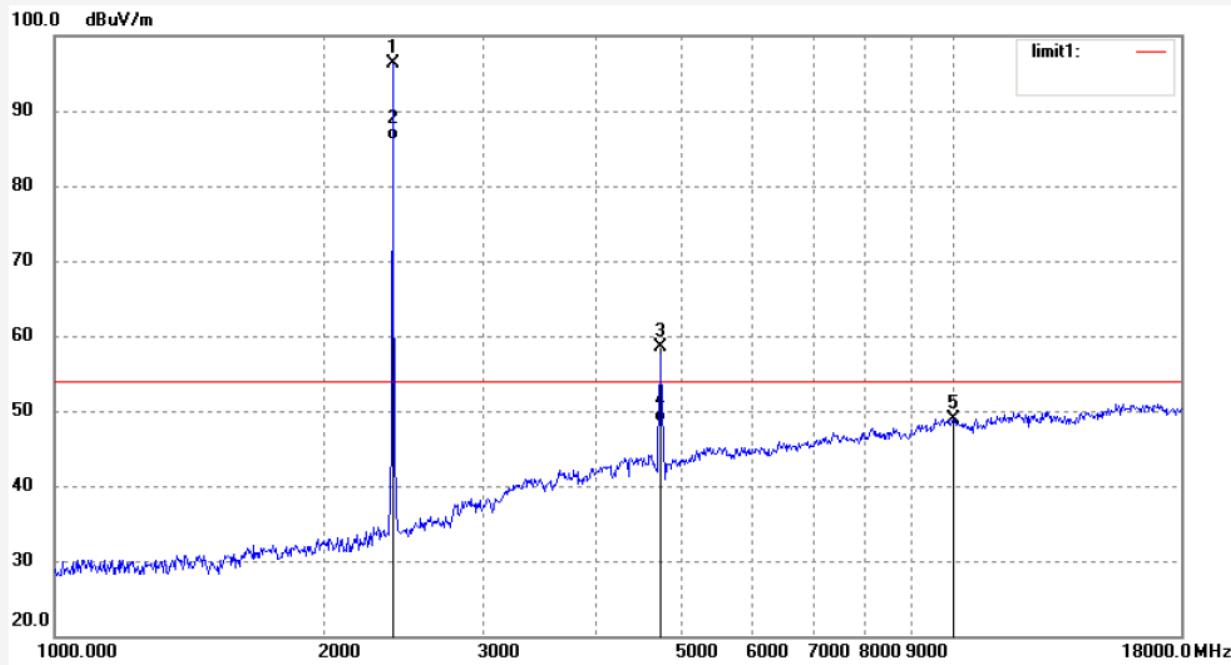
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: YJZH #451	Polarization: Horizontal
Standard: FCC 15.249 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 16/12/08/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/12/19
EUT: REMOTE CONTROL	Engineer Signature: YJZH
Mode: TX 2403MHz	Distance: 3m
Model: CSD033A	
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD	
Note: Report NO.:ATE20162551	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2403.000	102.20	-5.98	96.22	114.00	17.78	peak			
2	2403.000	92.10	-5.98	86.12	94.00	7.88	AVG			
3	4806.000	55.30	3.15	58.45	74.00	15.55	peak			
4	4806.000	45.40	3.15	48.55	54.00	5.45	AVG			
5	10027.302	34.87	14.02	48.89	74.00	25.11	peak			



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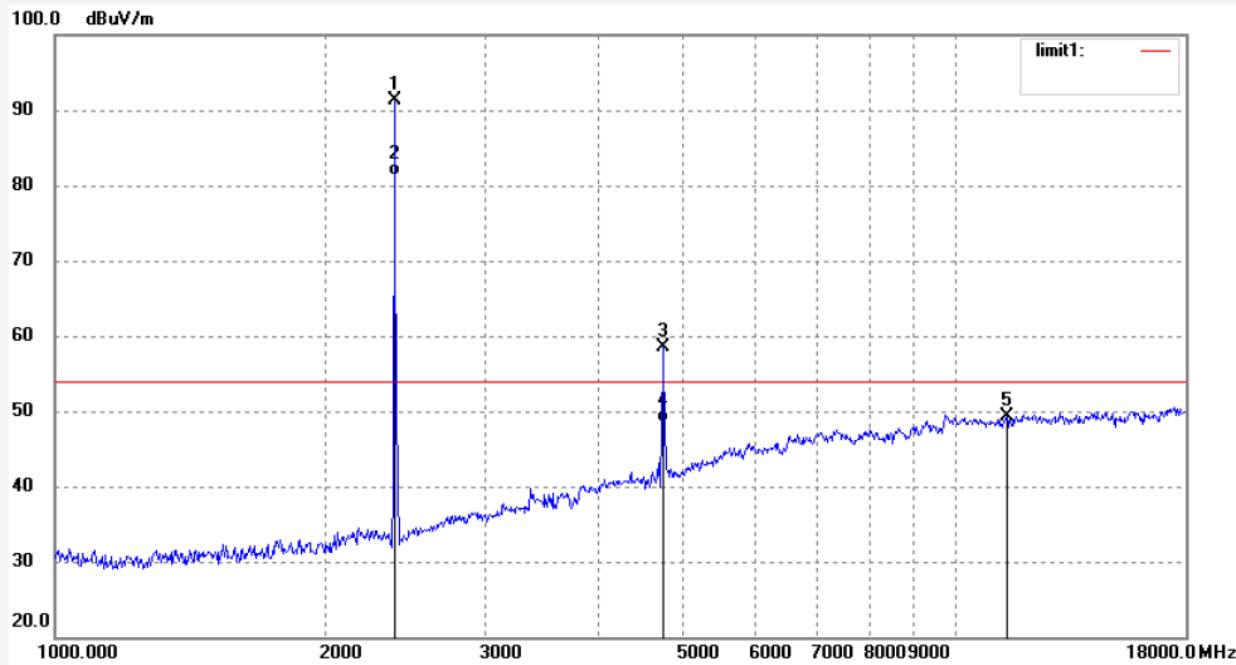
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: YJZH #452	Polarization: Vertical
Standard: FCC 15.249 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 16/12/08/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/12/23
EUT: REMOTE CONTROL	Engineer Signature: YJZH
Mode: TX 2403MHz	Distance: 3m
Model: CSD033A	
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD	
Note: Report NO.:ATE20162551	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2403.000	97.20	-5.98	91.22	114.00	22.78	peak			
2	2403.000	87.21	-5.98	81.23	94.00	12.77	AVG			
3	4806.000	55.30	3.15	58.45	74.00	15.55	peak			
4	4806.000	45.30	3.15	48.45	54.00	5.55	AVG			
5	11397.391	34.02	15.27	49.29	74.00	24.71	peak			

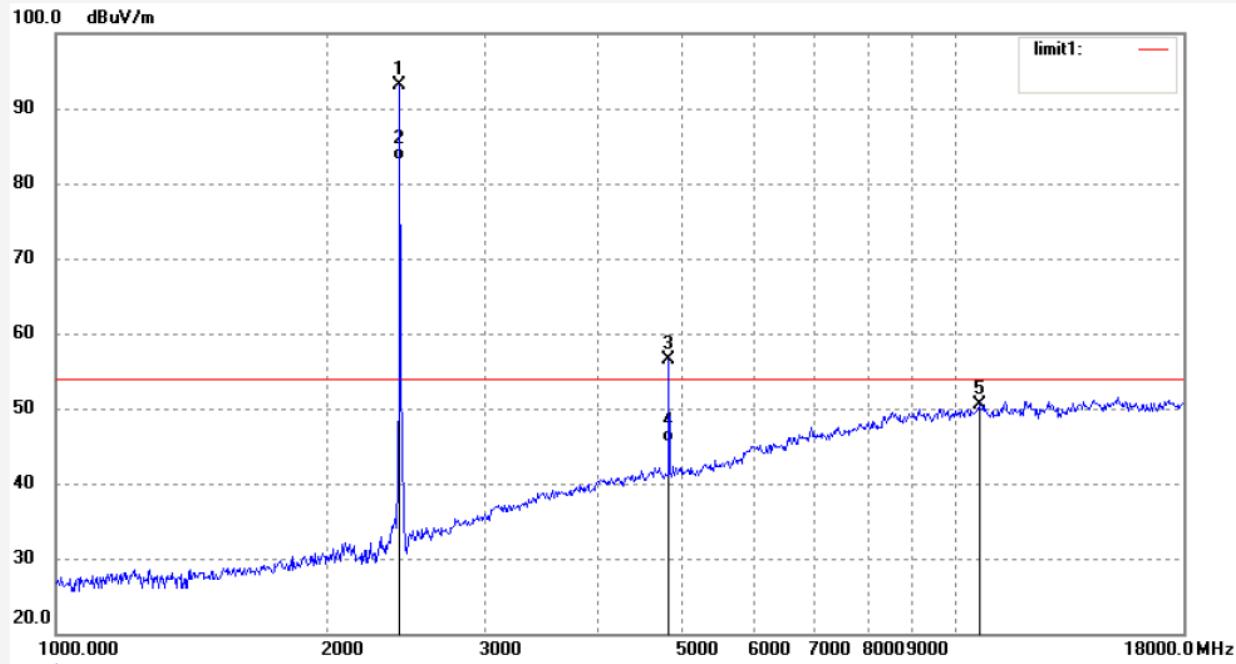


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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #454	Polarization: Horizontal
Standard: FCC 15.249 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 16/12/08/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/15/52
EUT: REMOTE CONTROL	Engineer Signature: YJZH
Mode: TX 2440MHz	Distance: 3m
Model: CSD033A	
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD	
Note: Report NO.:ATE20162551	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	98.89	-5.72	93.17	114.00	20.83	peak			
2	2440.000	88.80	-5.72	83.08	94.00	10.92	AVG			
3	4880.000	52.91	3.67	56.58	74.00	17.42	peak			
4	4880.000	41.90	3.67	47.57	54.00	6.43	AVG			
5	10659.349	37.26	13.31	50.57	74.00	23.43	peak			



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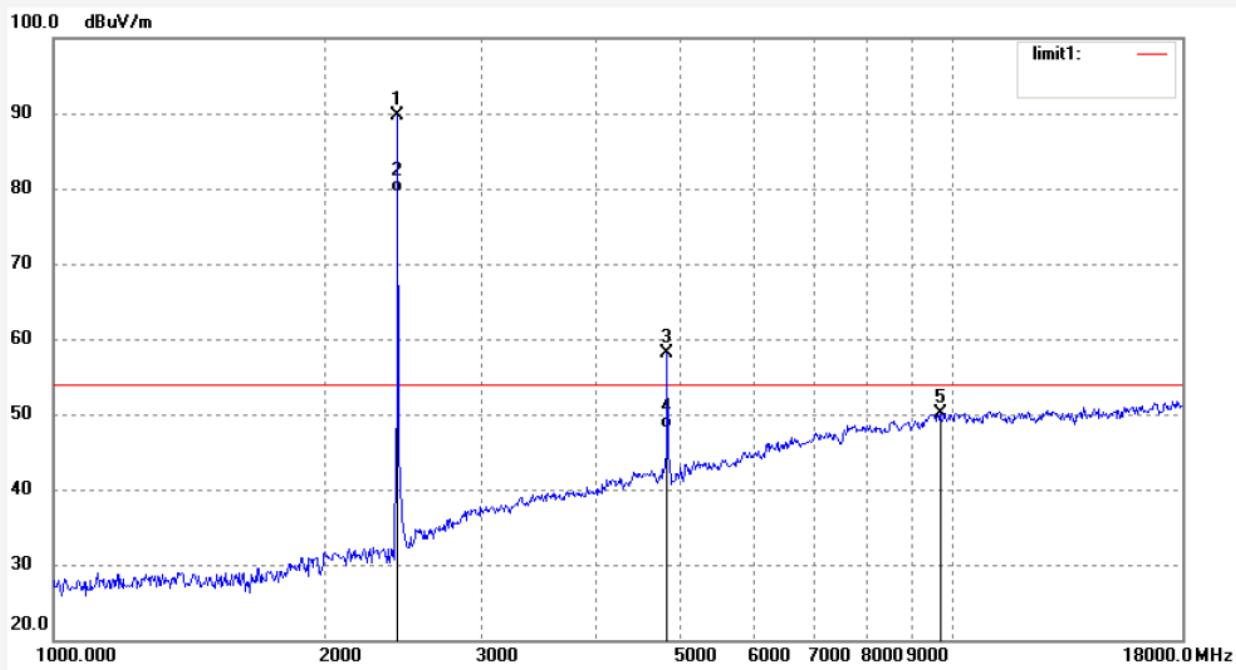
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #453
Standard: FCC 15.249 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: REMOTE CONTROL
Mode: TX 2440MHz
Model: CSD033A
Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Polarization: Vertical
Power Source: DC 3V
Date: 16/12/08/
Time: 11/15/49
Engineer Signature: YJZH
Distance: 3m

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	95.39	-5.72	89.67	114.00	24.33	peak			
2	2440.000	85.30	-5.72	79.58	94.00	14.42	AVG			
3	4880.000	54.41	3.67	58.08	74.00	15.92	peak			
4	4880.000	44.41	3.67	48.08	54.00	5.92	AVG			
5	9683.105	36.57	13.53	50.10	74.00	23.90	peak			



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

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: YJZH #450

Polarization: Horizontal

Standard: FCC 15.249 3M Radiated

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/08/

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 11/09/48

EUT: REMOTE CONTROL

Engineer Signature: YJZH

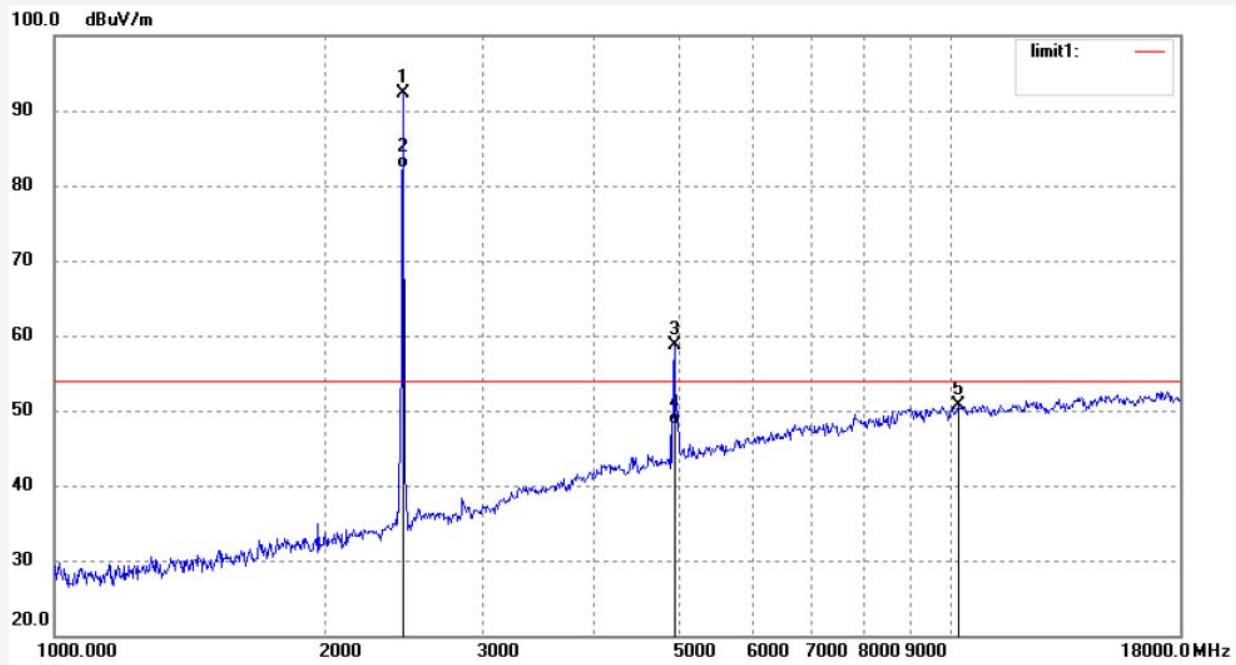
Mode: TX 2480MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	97.76	-5.55	92.21	114.00	21.79	peak			
2	2480.000	87.76	-5.55	82.21	94.00	11.79	AVG			
3	4960.000	54.13	4.54	58.67	74.00	15.33	peak			
4	4960.000	43.63	4.54	48.17	54.00	5.83	AVG			
5	10203.962	37.22	13.50	50.72	74.00	23.28	peak			



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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: YJZH #449

Polarization: Vertical

Standard: FCC 15.249 3M Radiated

Power Source: DC 3V

Test item: Radiation Test

Date: 16/12/08/

Temp.(C)/Hum.(%) 25 C / 55 %

Time: 11/07/26

EUT: REMOTE CONTROL

Engineer Signature: YJZH

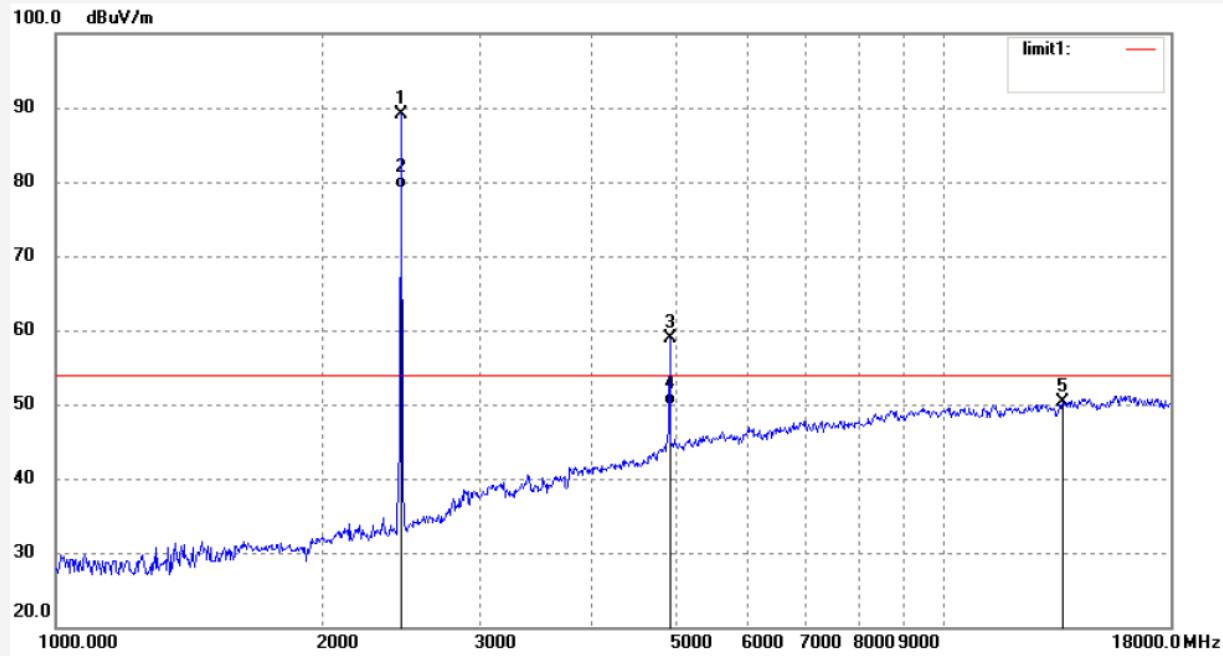
Mode: TX 2480MHz

Distance: 3m

Model: CSD033A

Manufacturer: DONGGUAN FORELAND ELECTRONICS CO.,LTD

Note: Report NO.:ATE20162551



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	94.61	-5.55	89.06	114.00	24.94	peak			
2	2480.000	84.61	-5.55	79.06	94.00	14.94	Avg			
3	4960.000	54.40	4.54	58.94	74.00	15.06	peak			
4	4960.000	45.40	4.54	49.94	54.00	4.06	Avg			
5	13611.841	-0.69	51.07	50.38	74.00	22.93	peak			

8. ANTENNA REQUIREMENT

8.1. 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.

8.2. Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

