

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
LEEDARSON LIGHTING CO., LTD.

Door Window Sensor
Model No.: 7B1-SS-ZE-H0

FCC ID: 2AB2Q7B1SSZEH0

Prepared for : LEEDARSON LIGHTING CO., LTD.
Address : Xingtai Industrial Zone, Economic Development Zone, Changtai
County, Zhangzhou City, Fujian Province, P.R. China

Prepared by : Shenzhen Accurate Technology Co., Ltd.
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Report No. : ATE20190308
Date of Test : March 4-March 7, 2019
Date of Report : March 14, 2019

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Test Report Certification

Applicant : LEEDARSON LIGHTING CO., LTD.
Address : Xingtai Industrial Zone, Economic Development Zone,
Changtai County, Zhangzhou City, Fujian Province, P.R. China

Product : Door Window Sensor

Model Number : 7B1-SS-ZE-H0

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.10: 2013

The EUT was tested according to DTS test procedure of August 24, 2018 KDB558074 D01 DTS Meas Guidance v05 for compliance to FCC 47CFR 15.247 requirements

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and Shenzhen 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 Shenzhen Accurate Technology Co., Ltd.

Date of Test : March 4-March 7, 2019
Date of Report : March 14, 2019

Prepared by :

Star Yang
(Star Yang, Engineer)

A circular blue stamp with "ATC" in the center, "ACCURATE TECHNOLOGY CO., LTD." around the top, and "APPROVED" around the bottom. A star is at the bottom center.

Approved & Authorized Signer :

Sean Liu
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Door Window Sensor
Model Number	:	7B1-SS-ZE-H0
Modulation Type	:	OQPSK (ZigBee)
Frequency Range	:	2405-2480MHz
Number of Channels	:	16
Channel Spacing	:	5MHz
Antenna Gain	:	1.65dBi
Antenna Type	:	Integral Antenna
Power Supply	:	DC 3V

1.2. Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
11	2405	17	2435	23	2465
12	2410	18	2440	24	2470
13	2415	19	2445	25	2475
14	2420	20	2450	26	2480
15	2425	21	2455		
16	2430	22	2460		

1.3.Special Accessory and Auxiliary Equipment

N/A

1.4.Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISED) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd.
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.5.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. 05, 2019	One Year
EMI Test Receiver	Rohde&Schwarz	ESR	101817	Jan. 05, 2019	One Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 05, 2019	One Year
Pre-Amplifier	Agilent	8447D	294A10619	Jan. 05, 2019	One Year
Pre-Amplifier	Compliance Direction	RSU-M2	38322	Jan. 05, 2019	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 05, 2019	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 05, 2019	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 05, 2019	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10S S	N/A	Jan. 05, 2019	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 05, 2019	One Year
Conducted Emission Measurement Software: ES-K1 V1.71					
Radiated Emission Measurement Software: EZ_EMV V1.1.4.2					

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 2405MHz

Middle Channel: 2445MHz

High Channel: 2480MHz

3.2.Configuration and peripherals

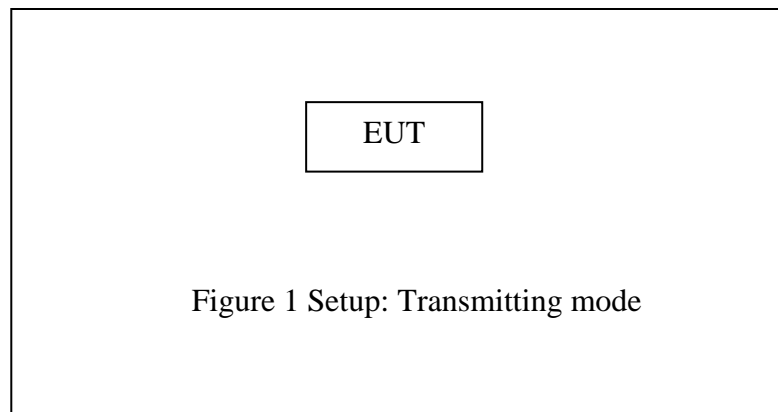


Figure 1 Setup: Transmitting mode

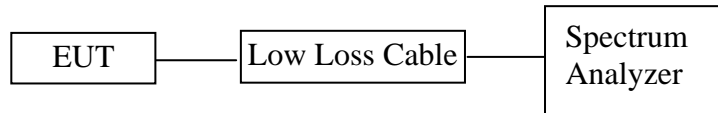
4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.207	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, According to the FCC standard requirements, conducted emission is not applicable

5. 6DB BANDWIDTH TEST

5.1. Block Diagram of Test Setup



5.2. The Requirement for Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.3. EUT Configuration on Measurement

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

5.4. Operating Condition of EUT

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

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2405-2480MHz. We select 2405MHz, 2445MHz, and 2480MHz TX frequency to transmit.

5.5. Test Procedure

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

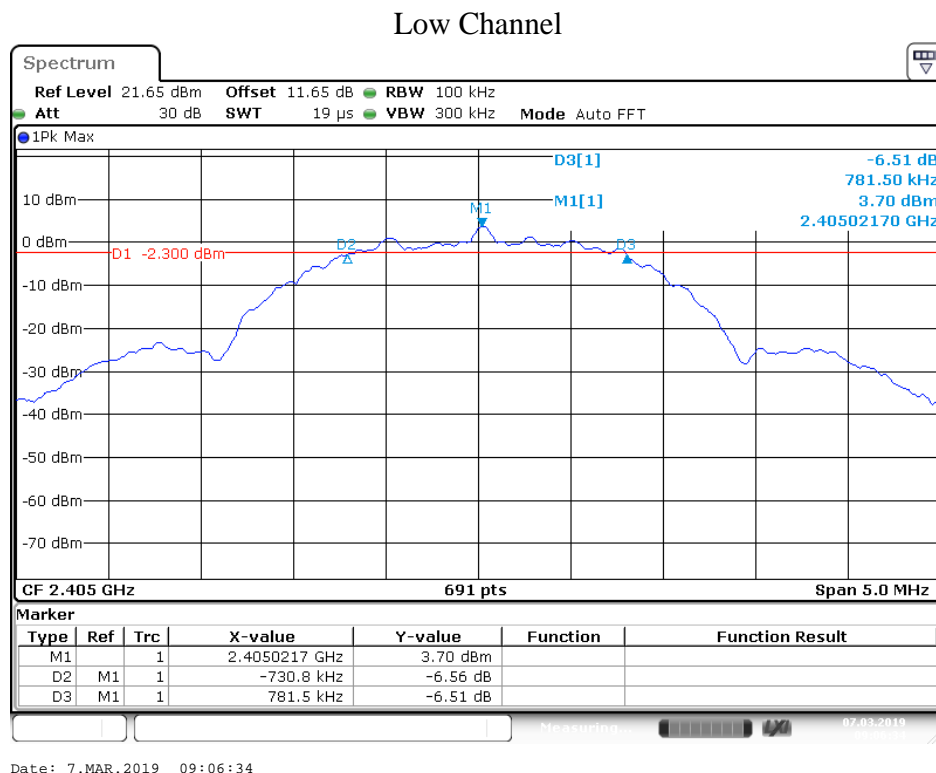
5.5.2. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

5.5.3. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

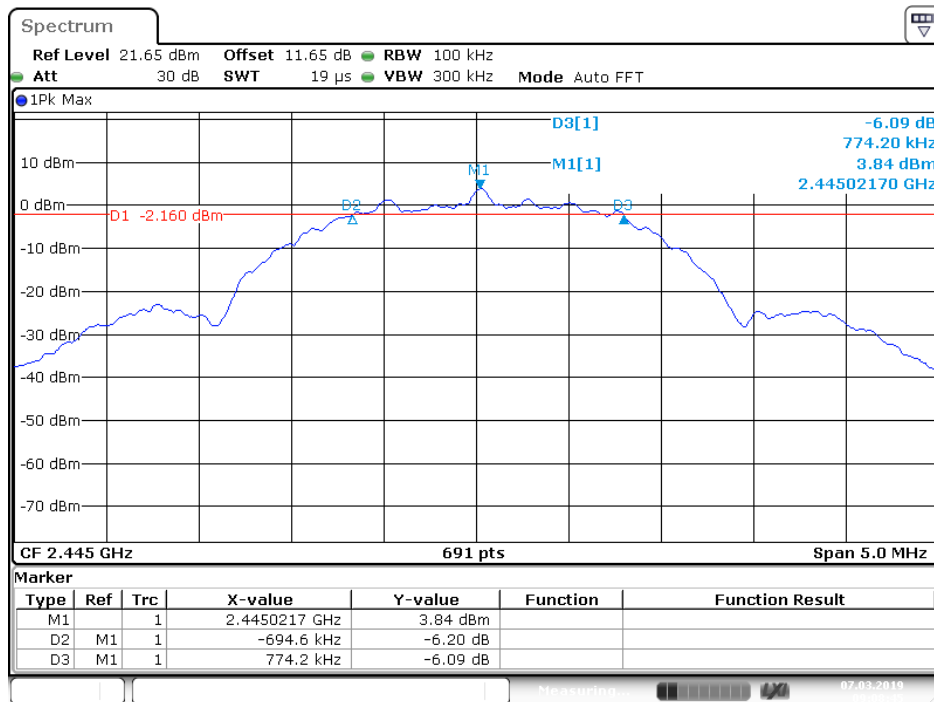
5.6.Test Result

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit(MHz)	Result
Low	2405	1.512	>0.5	Pass
Middle	2445	1.469	>0.5	Pass
High	2480	1.469	>0.5	Pass

The spectrum analyzer plots are attached as below.

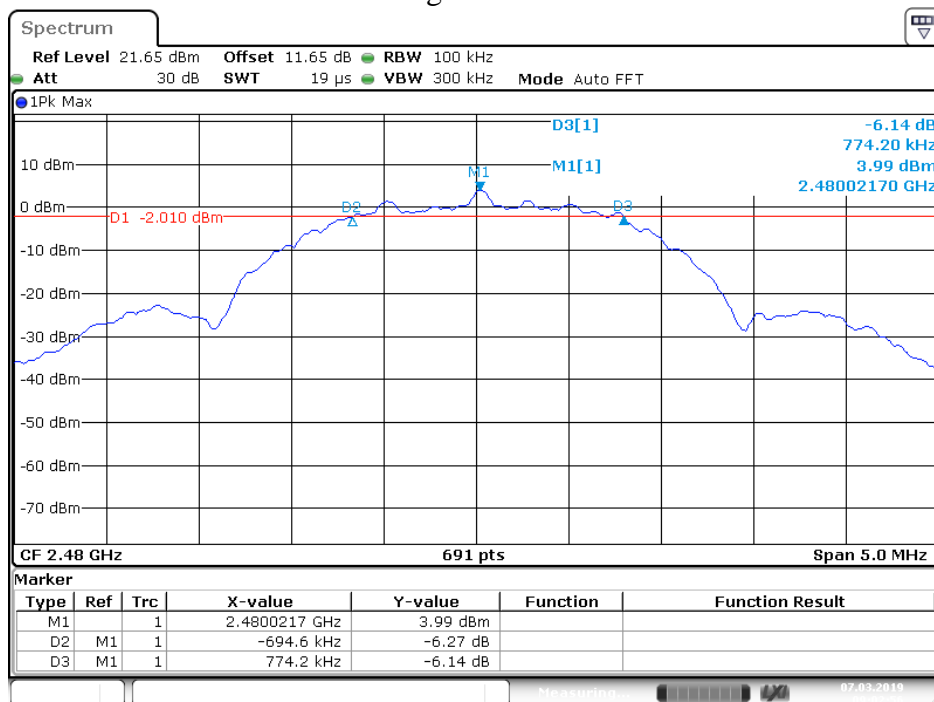


Middle Channel



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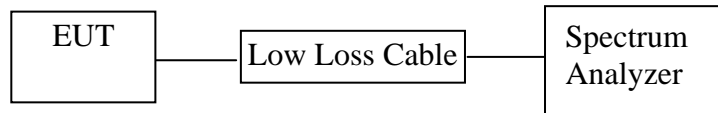
High Channel



Date: 7.MAR.2019 09:02:56

6. MAXIMUM PEAK OUTPUT POWER TEST

6.1. Block Diagram of Test Setup



6.2. The Requirement for Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

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 2405-2480MHz. We select 2405MHz, 2445MHz, and 2480MHz TX frequency to transmit.

6.5. Test Procedure

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

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

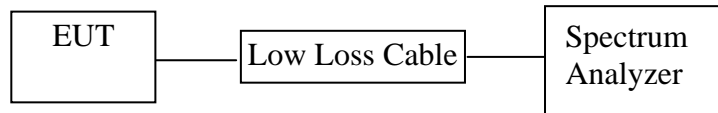
6.5.3. Measurement the maximum peak output power.

6.6.Test Result

Channel	Frequency (MHz)	Peak Power Output (dBm)	E.I.R.P (dBm)	Limit (dBm)	Result
Low	2405	3.49	5.14	30	Pass
Middle	2445	3.60	5.25	30	Pass
High	2480	3.75	5.40	30	Pass

7. POWER SPECTRAL DENSITY TEST

7.1. Block Diagram of Test Setup



7.2. The Requirement for Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.3. 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.

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 modes measure it. The transmit frequency are 2405-2480MHz. We select 2405MHz, 2445MHz, and 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. Measurement Procedure PKPSD:

7.5.3. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS Channel center frequency.
2. Set the span to 1.5 times the DTS Channel bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3kHz) and repeat.

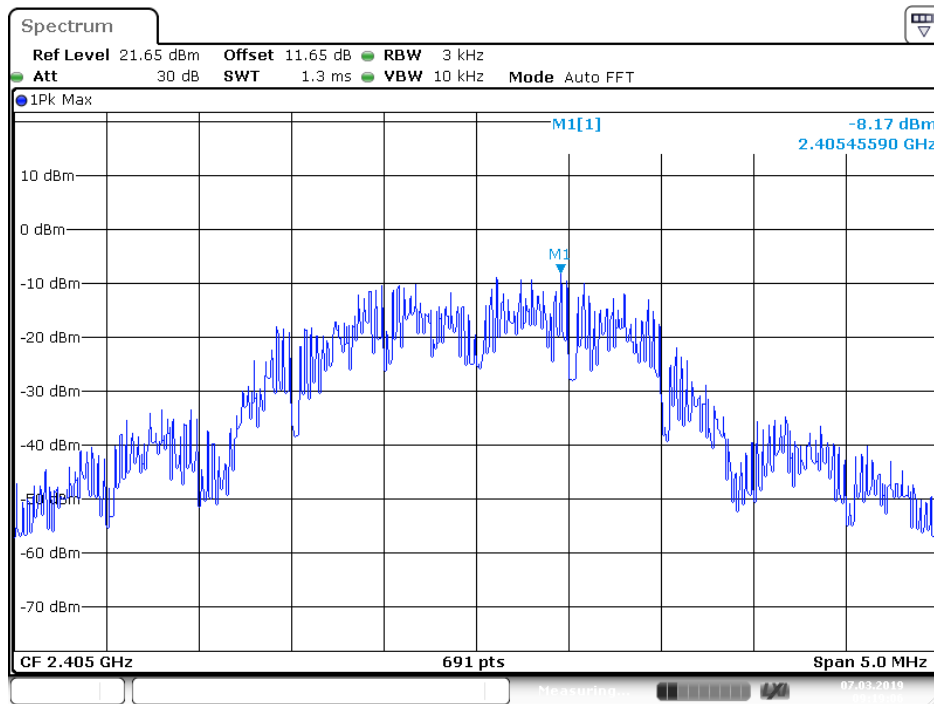
7.5.4. Measurement the maximum power spectral density.

7.6. Test Result

Channel	Frequency (MHz)	PSD (dBm/3KHz)	Limit (dBm/3KHz)	Result
Low	2405	-8.17	8	Pass
Middle	2445	-8.21	8	Pass
High	2480	-7.95	8	Pass

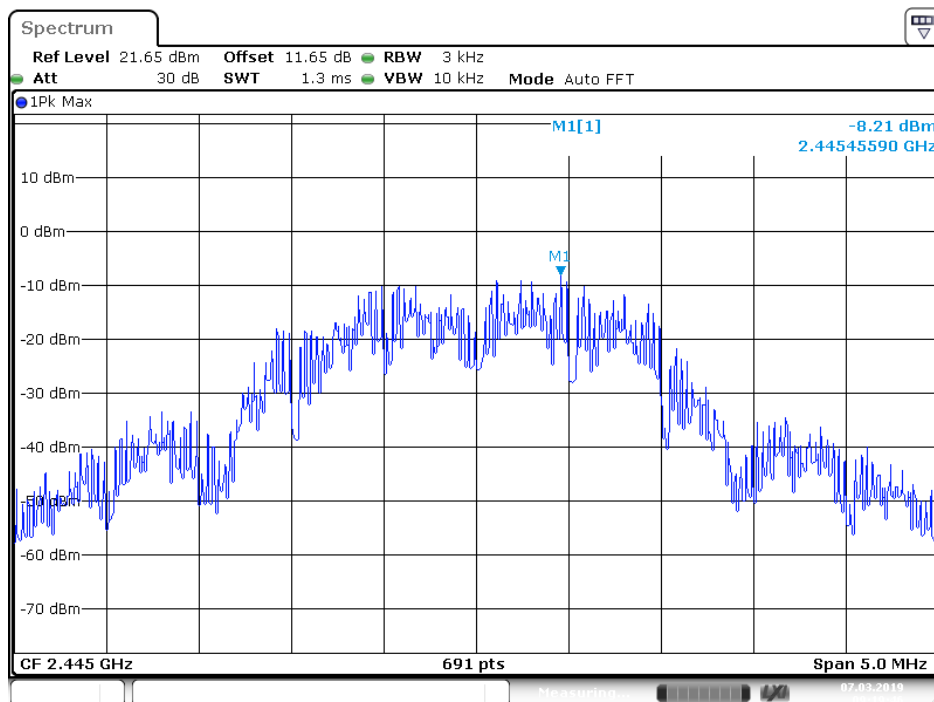
The spectrum analyzer plots are attached as below.

Low Channel



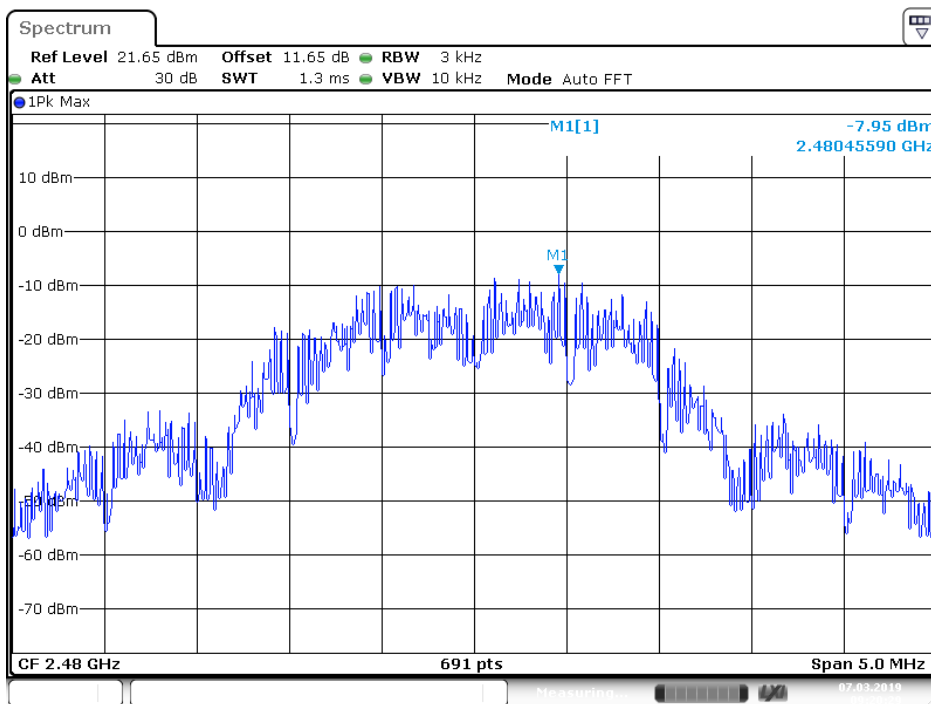
Date: 7.MAR.2019 09:19:06

Middle Channel



Date: 7.MAR.2019 09:19:47

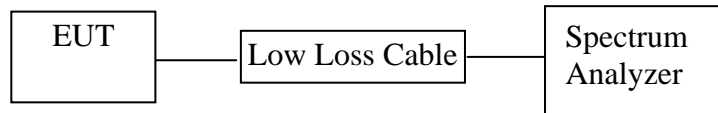
High Channel



Date: 7.MAR.2019 09:20:29

8. BAND EDGE COMPLIANCE TEST

8.1. Block Diagram of Test Setup



8.2. 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).

8.3. 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.

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 modes measure it. The transmit frequency are 2405-2480MHz. We select 2405MHz, 2480MHz TX frequency to transmit.

8.5. Test Procedure

Conducted Band Edge:

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

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

Radiate Band Edge:

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

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

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

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

8.5.7. RBW=1MHz, VBW=1MHz

8.5.8. The band edges was measured and recorded.

8.6. Test Result

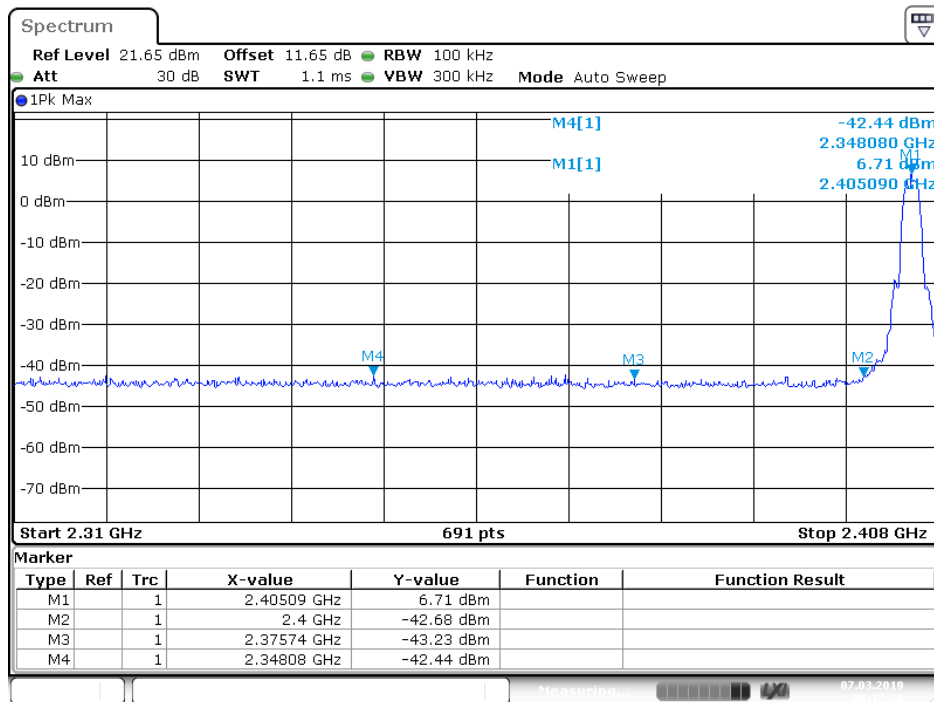
Pass.

Conducted Band Edge Result

Channel	Frequency	Delta peak to band emission	Limit(dBc)
Low	2405MHz	49.39	> 20
High	2480MHz	47.59	> 20

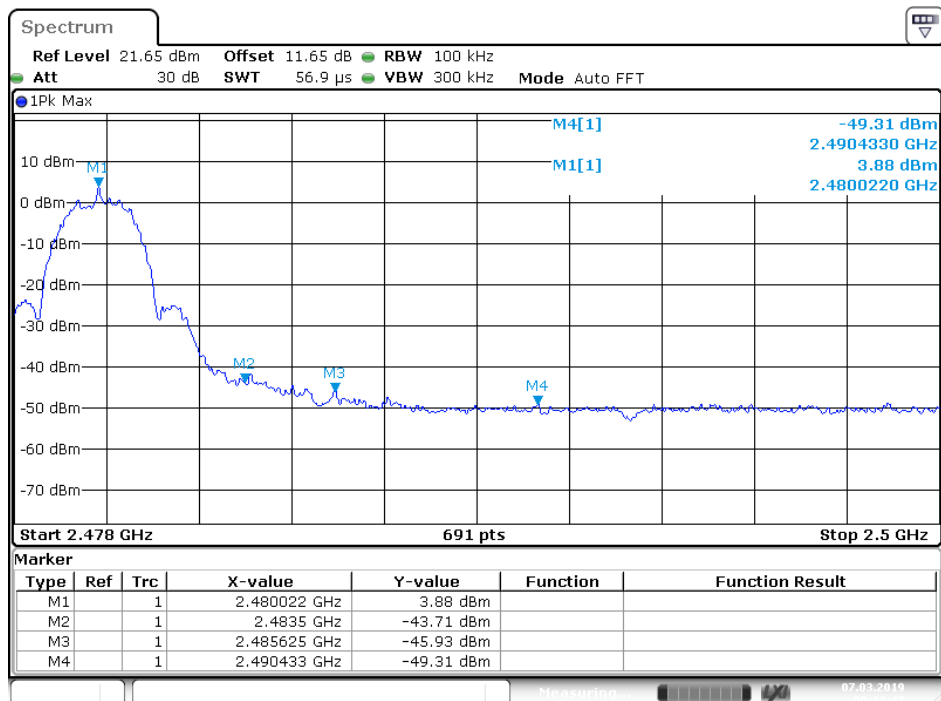
The spectrum analyzer plots are attached as below.

Low Channel



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High Channel



Date: 7.MAR.2019 09:13:48



Radiated Band Edge Result

ACCURATE TECHNOLOGY CO., LTD.

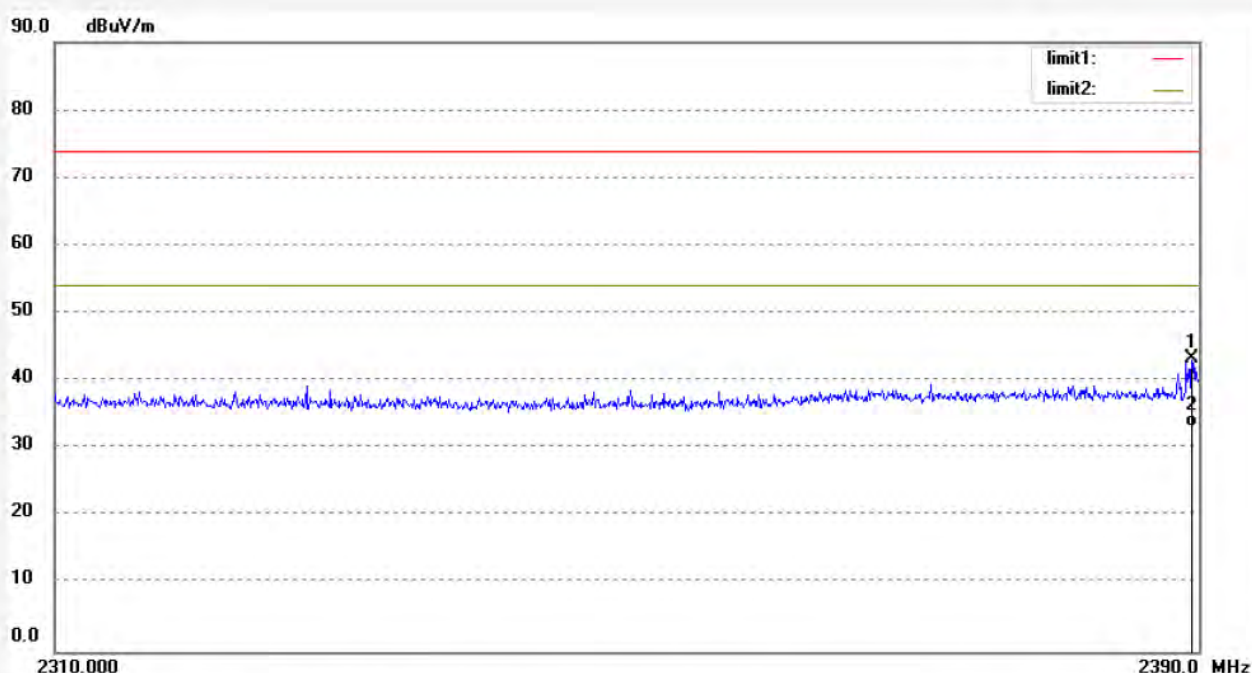
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #449
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Door Window Sensor
Mode: TX 2405MHz
Model: 7B1-SS-ZE-H0
Manufacturer: Leedarson

Polarization: Horizontal
Power Source: DC 3V
Date: 19/03/04/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.520	42.41	0.79	43.20	74.00	-30.80	peak			
2	2389.520	32.33	0.79	33.12	54.00	-20.88	AVG			

Job No.: LGW2019 #448

Standard: FCC (Band Edge)

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

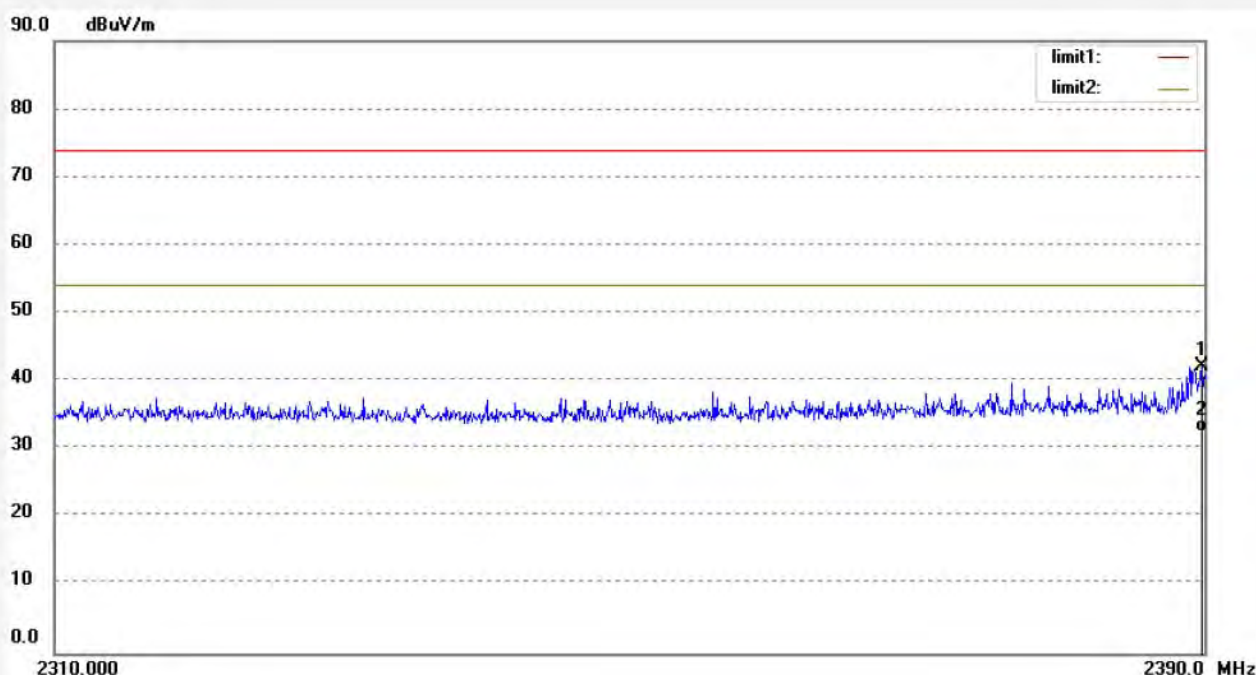
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.840	41.35	0.79	42.14	74.00	-31.86	peak			
2	2389.840	31.66	0.79	32.45	54.00	-21.55	AVG			



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

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Job No.: LGW2019 #454

Standard: FCC (Band Edge)

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

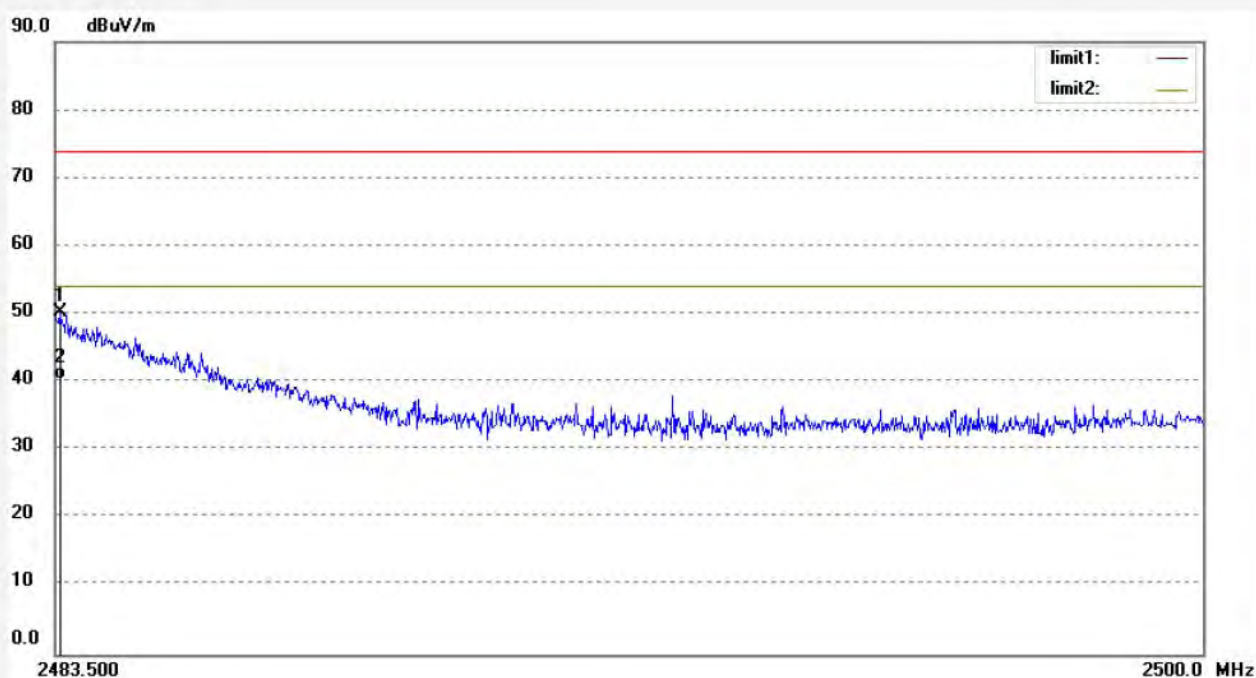
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:

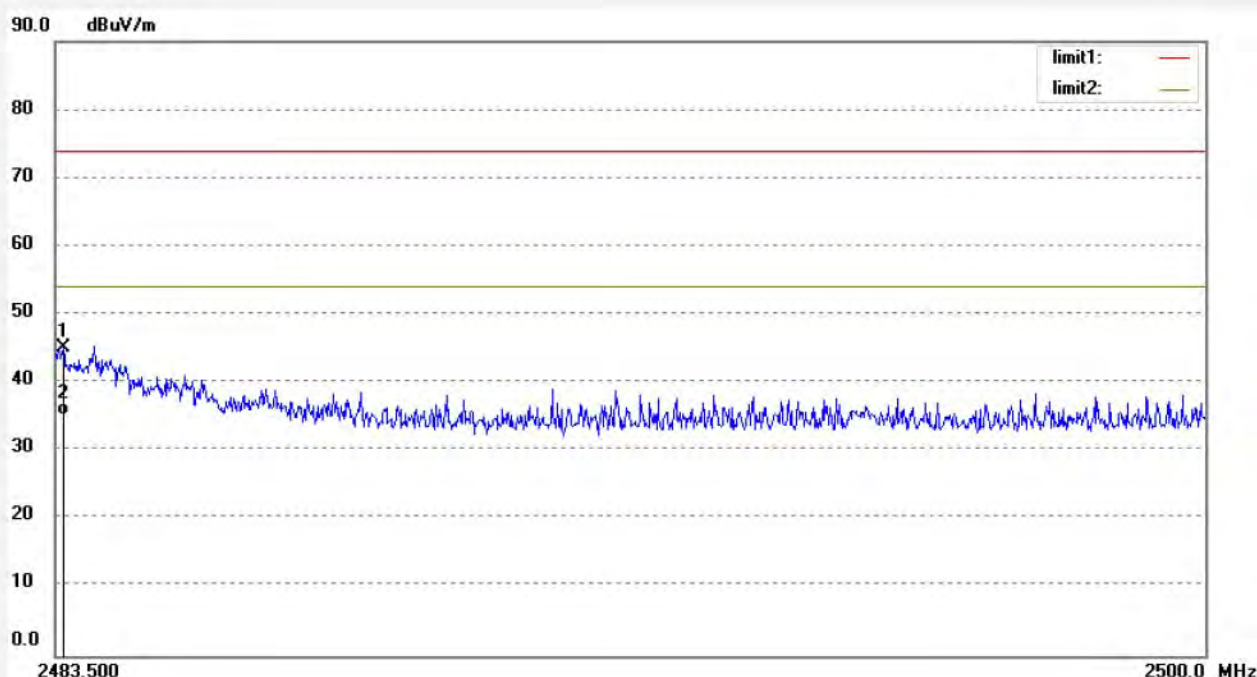


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.566	49.20	1.10	50.30	74.00	-23.70	peak			
2	2483.566	39.22	1.10	40.32	54.00	-13.68	AVG			

Job No.: LGW2019 #455
Standard: FCC (Band Edge)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Door Window Sensor
Mode: TX 2480MHz
Model: 7B1-SS-ZE-H0
Manufacturer: Leedarson

Polarization: Vertical
Power Source: DC 3V
Date: 19/03/04/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.615	44.12	1.10	45.22	74.00	-28.78	peak			
2	2483.615	34.11	1.10	35.21	54.00	-18.79	AVG			

Note:

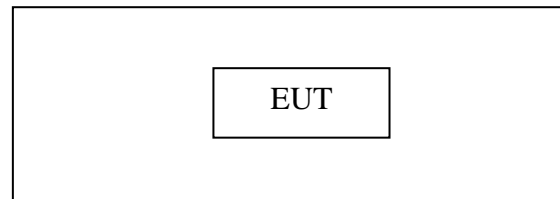
1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is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

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

9. RADIATED SPURIOUS EMISSION TEST

9.1. Block Diagram of Test Setup

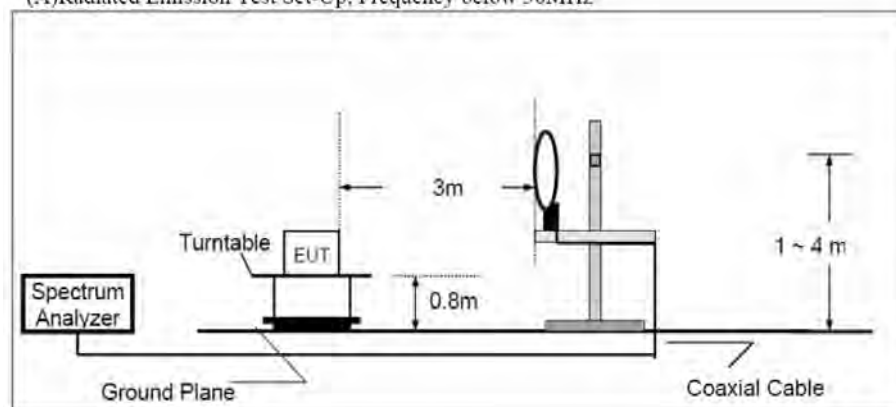
9.1.1. Block diagram of connection between the EUT and peripherals



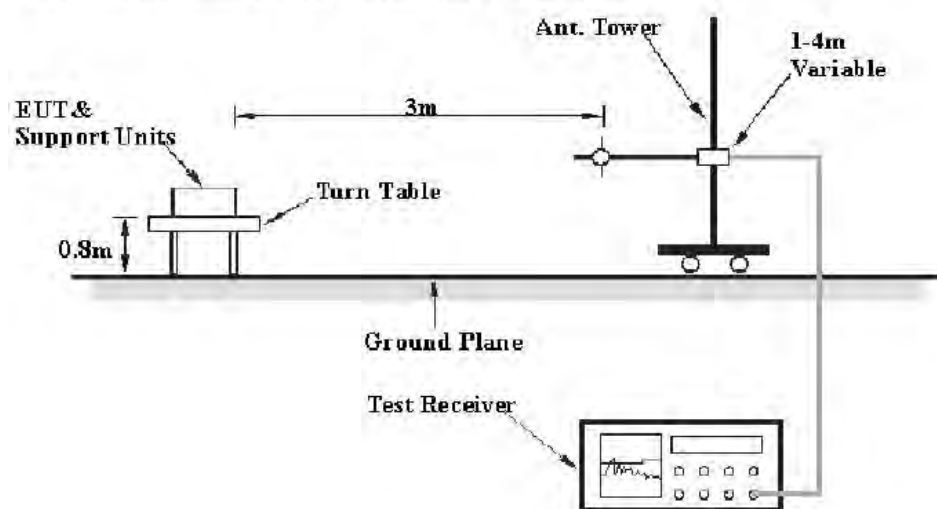
Setup: Transmitting mode

9.1.2. Semi-Anechoic Chamber Test Setup Diagram

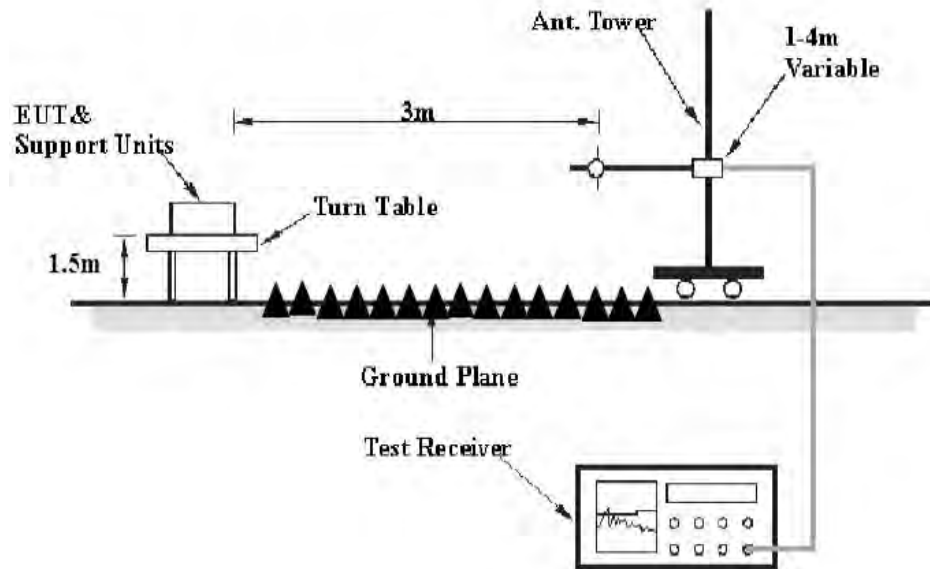
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



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



9.2.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).

9.3. Restricted bands of operation

9.3.1.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.

9.4.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.

9.5. Operating Condition of EUT

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

9.5.2. Turn on the power of all equipment.

9.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2405-2480MHz. We select 2405MHz, 2445MHz, and 2480MHz TX frequency to transmit.

9.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground (Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground (Above 1GHz). 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 bi-log 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 EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

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 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. The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading.

9.7.Data Sample

Frequency (MHz)	Reading (dB μ v)	Factor (dB/m)	Result (dB μ v/m)	Limit (dB μ v/m)	Margin (dB)	Remark
X.XX	43.85	-22.22	21.63	43.5	-21.87	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB μ v/m) = Reading(dB μ v) + Factor(dB/m)

Limit (dB μ v/m) = Limit stated in standard

Margin (dB) = Result(dB μ v/m) - Limit (dB μ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

9.8.Test Result

Pass.

The frequency range from 9kHz to 26.5GHz is checked.

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

The spectrum analyzer plots are attached as below.

9KHz to 30MHz Test data:

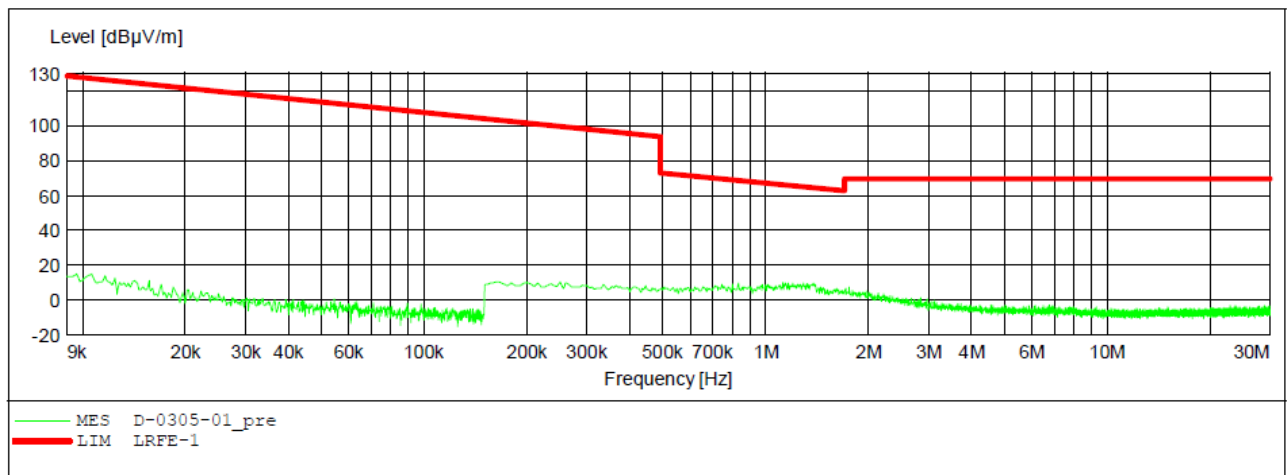
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2405MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: X

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



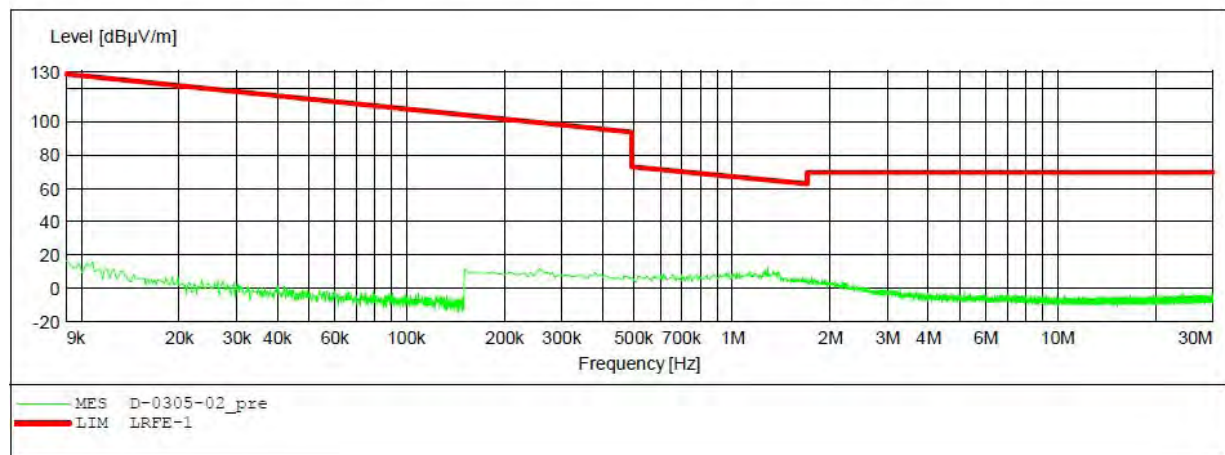
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2405MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: Y

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



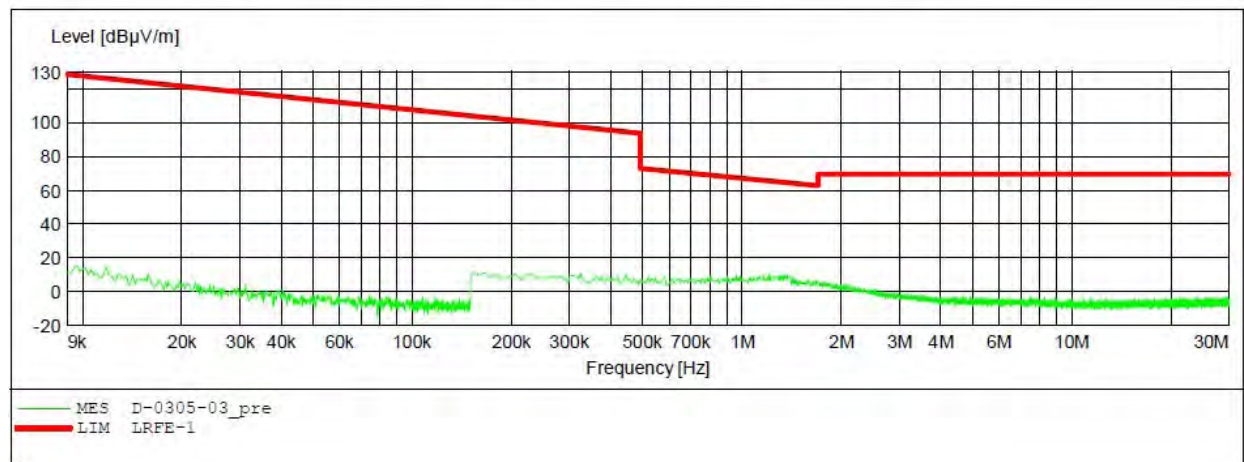
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2405MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: Z

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



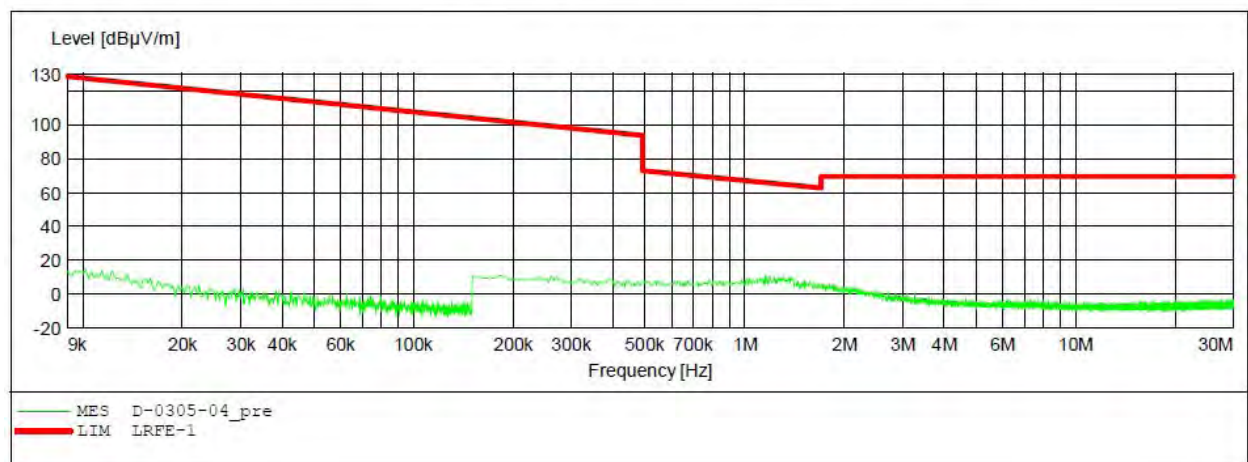
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2445MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: X

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD VTERM2 1.70				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



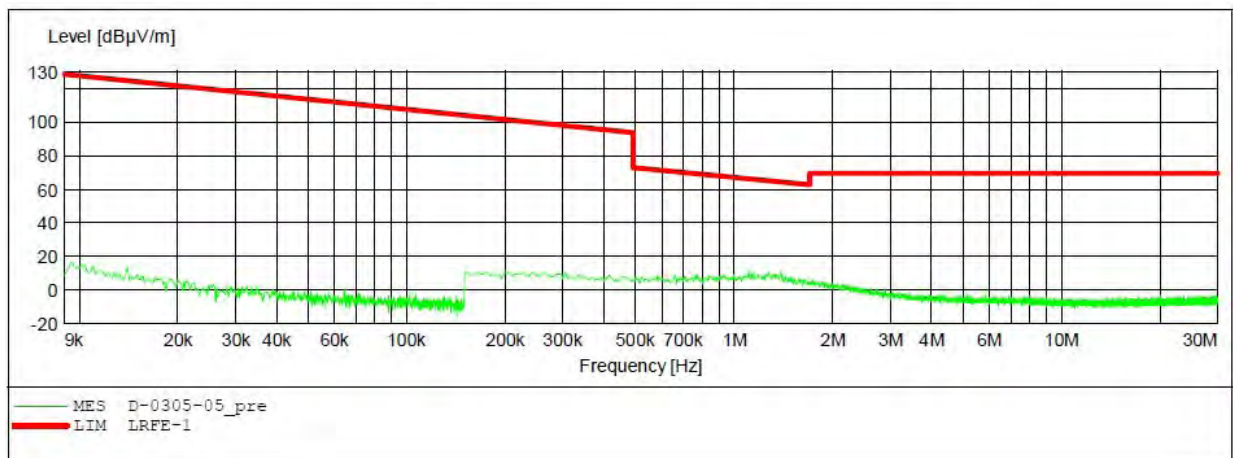
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2445MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: Y

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



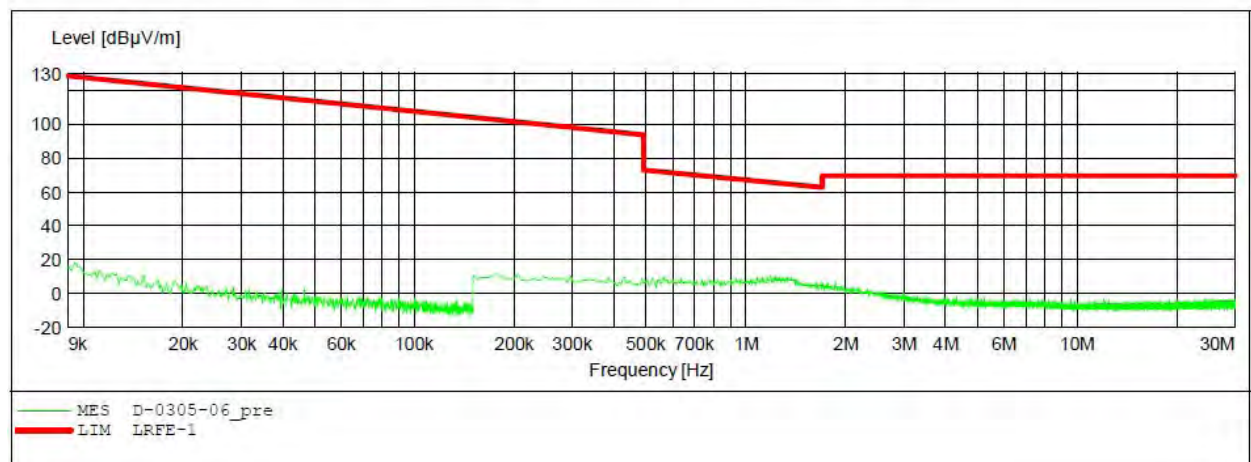
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
Manufacturer: Leedarson
Operating Condition: TX 2445MHz
Test Site: 2# Chamber
Operator: WADE
Comment: Z

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



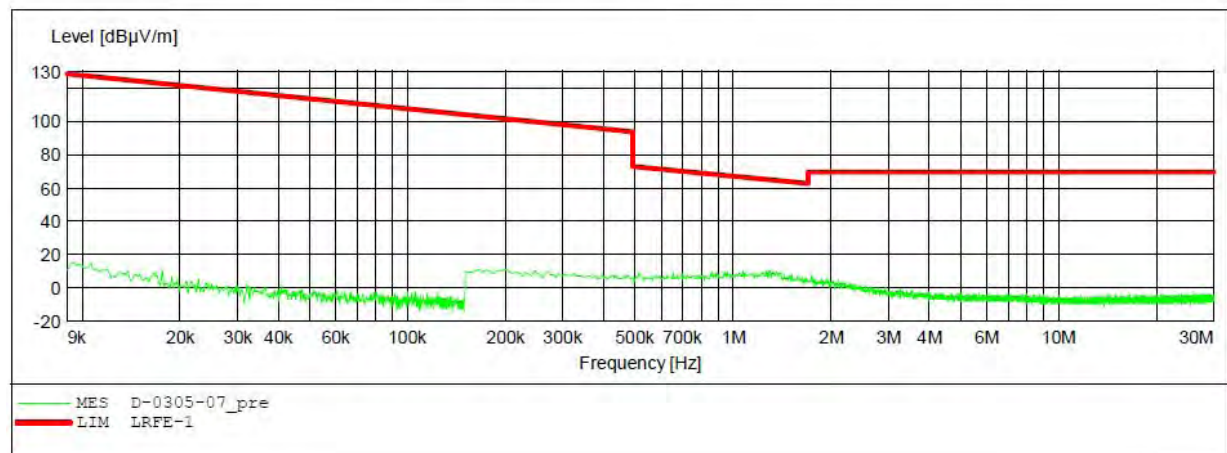
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: X

SCAN TABLE: "LFRE Fin"

Short Description:				_SUB_STD_VTERM2 1.70				
Start	Stop	Step	Width	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz		QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz		QuasiPeak	1.0 s	9 kHz	1516M	



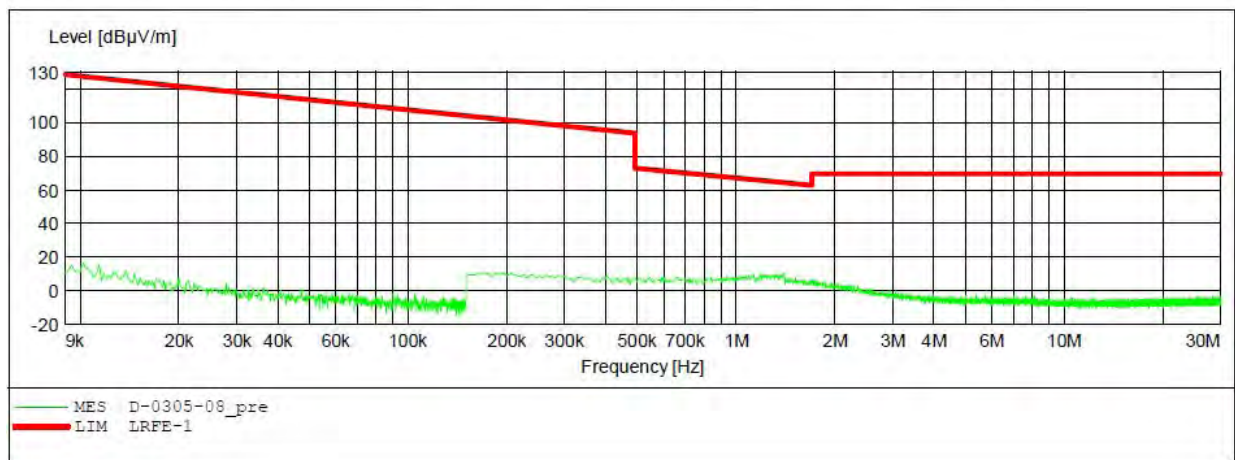
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: Y

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



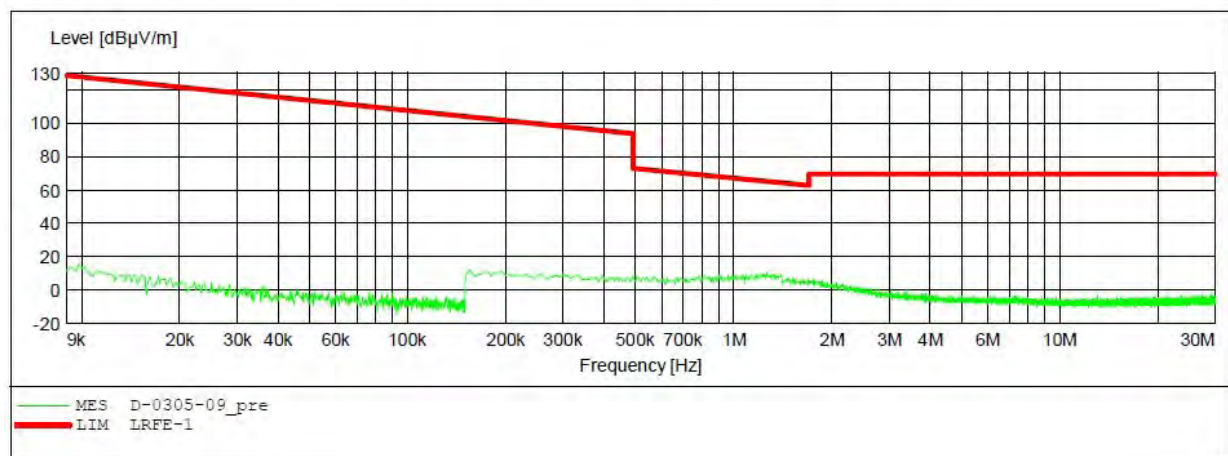
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: Door Window Sensor M/N:7B1-SS-ZE-H0
 Manufacturer: Leedarson
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Comment: Z

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



30MHz to 1GHz Test data:



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2019 #517

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

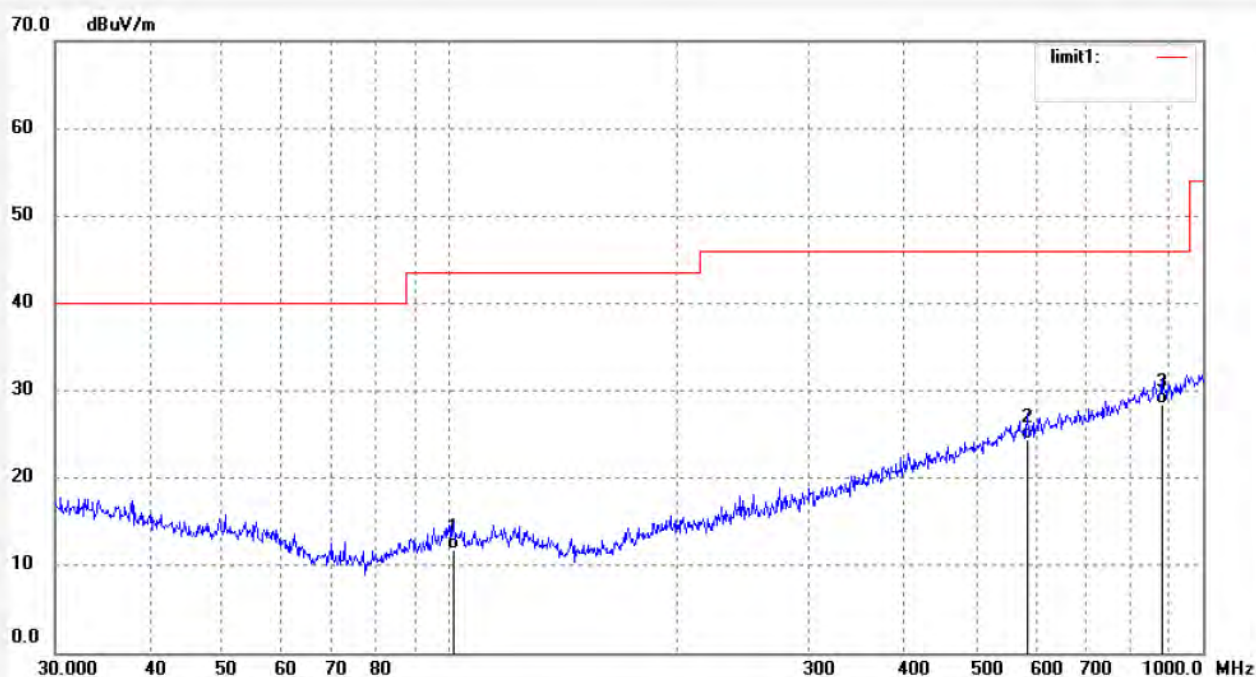
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	101.2883	25.14	-13.26	11.88	43.50	-31.62	QP			
2	584.7894	26.91	-2.52	24.39	46.00	-21.61	QP			
3	881.4067	26.38	2.04	28.42	46.00	-17.58	QP			

Job No.: LGW2019 #516

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

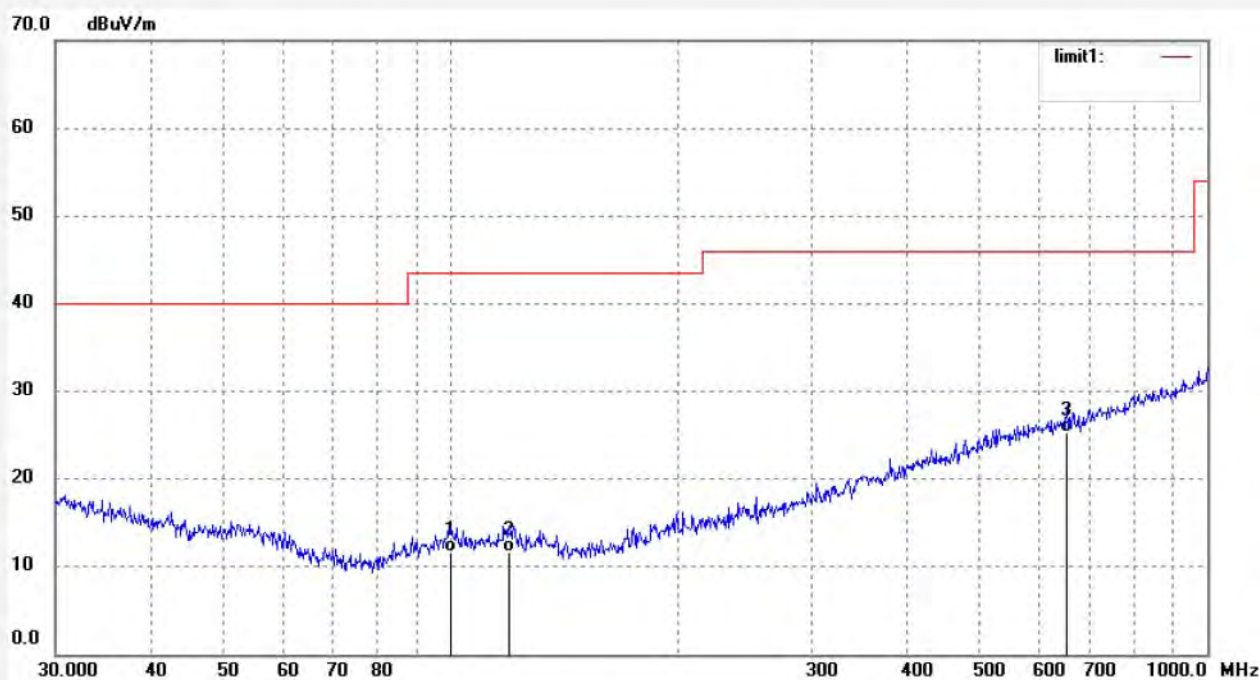
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Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	99.8777	24.76	-13.09	11.67	43.50	-31.83	QP			
2	119.4360	24.71	-13.06	11.65	43.50	-31.85	QP			
3	651.9416	26.98	-1.76	25.22	46.00	-20.78	QP			

Job No.: LGW2019 #518

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

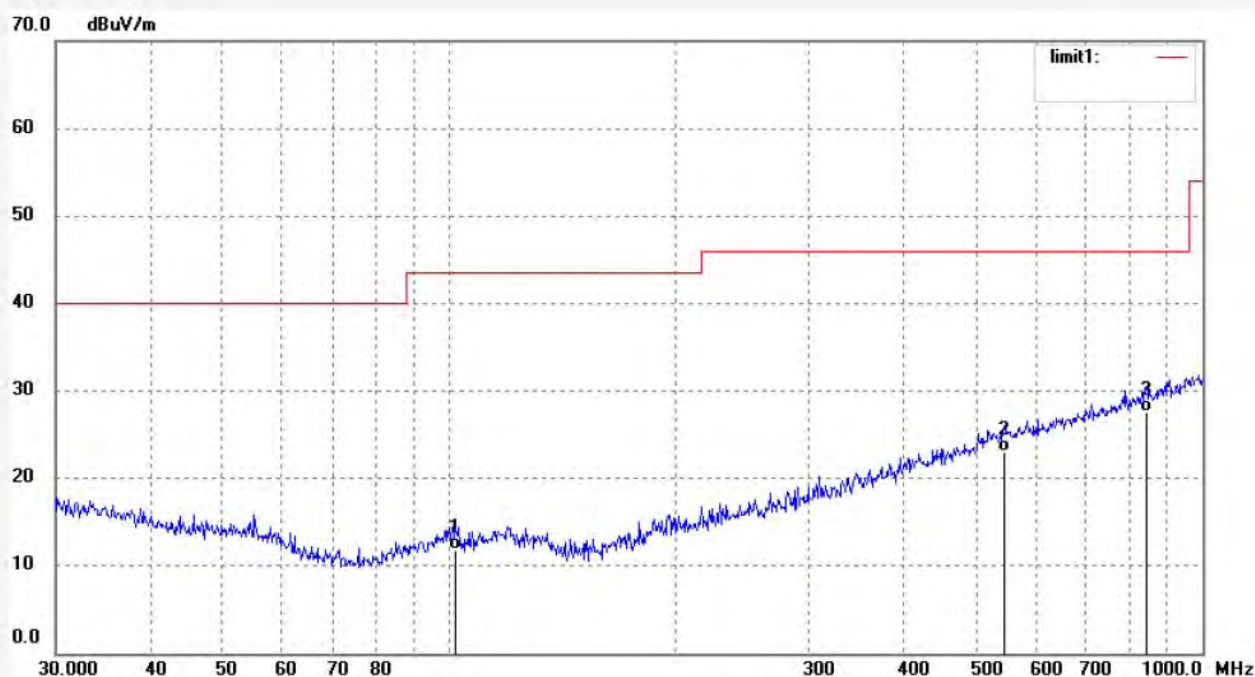
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	101.6443	25.05	-13.32	11.73	43.50	-31.77	QP			
2	545.1825	26.21	-3.23	22.98	46.00	-23.02	QP			
3	842.1295	26.00	1.50	27.50	46.00	-18.50	QP			

Job No.: LGW2019 #519

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

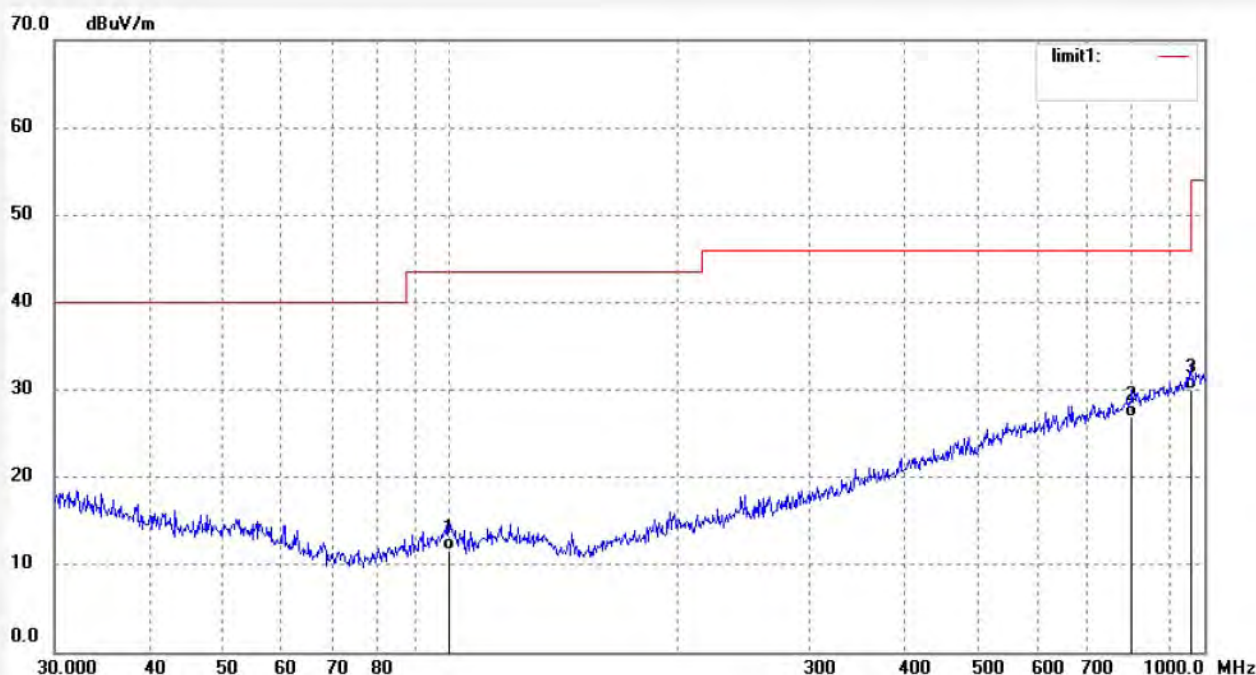
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	99.8777	24.75	-13.09	11.66	43.50	-31.84	QP			
2	801.7862	26.06	0.87	26.93	46.00	-19.07	QP			
3	958.7943	26.68	3.31	29.99	46.00	-16.01	QP			

Job No.: LGW2019 #521

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

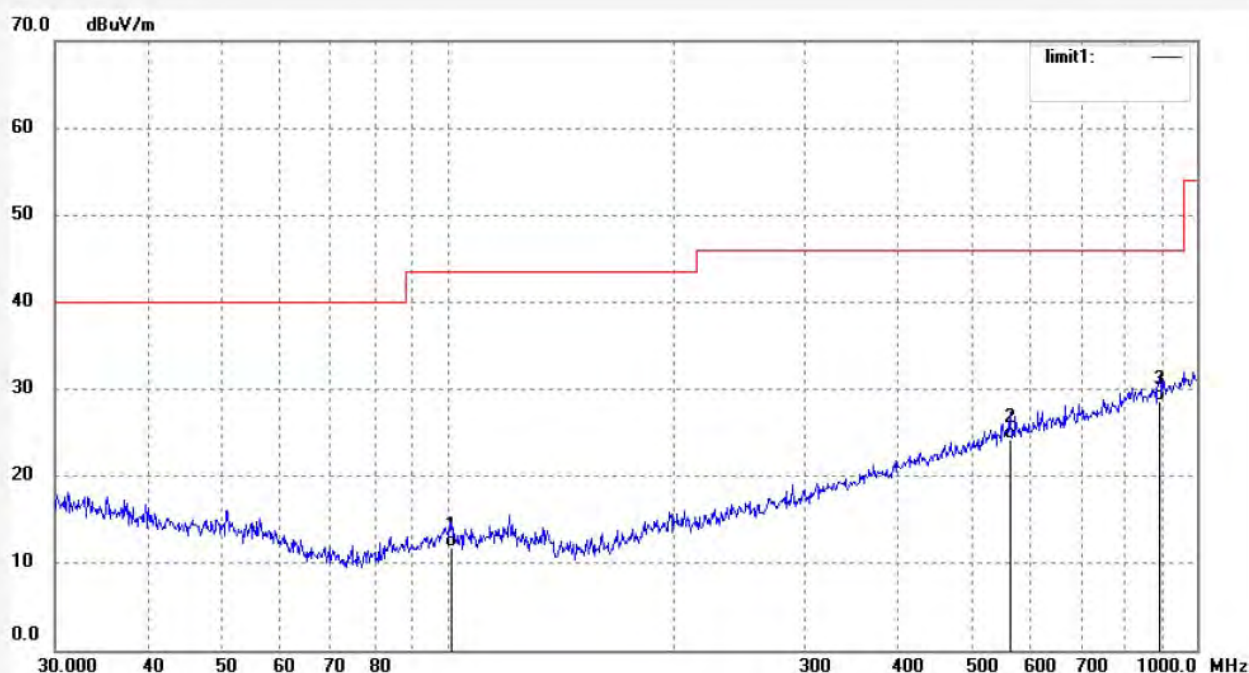
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	101.2883	25.12	-13.26	11.86	43.50	-31.64	QP			
2	562.6624	27.18	-2.87	24.31	46.00	-21.69	QP			
3	890.7278	26.43	2.16	28.59	46.00	-17.41	QP			



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2019 #520

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

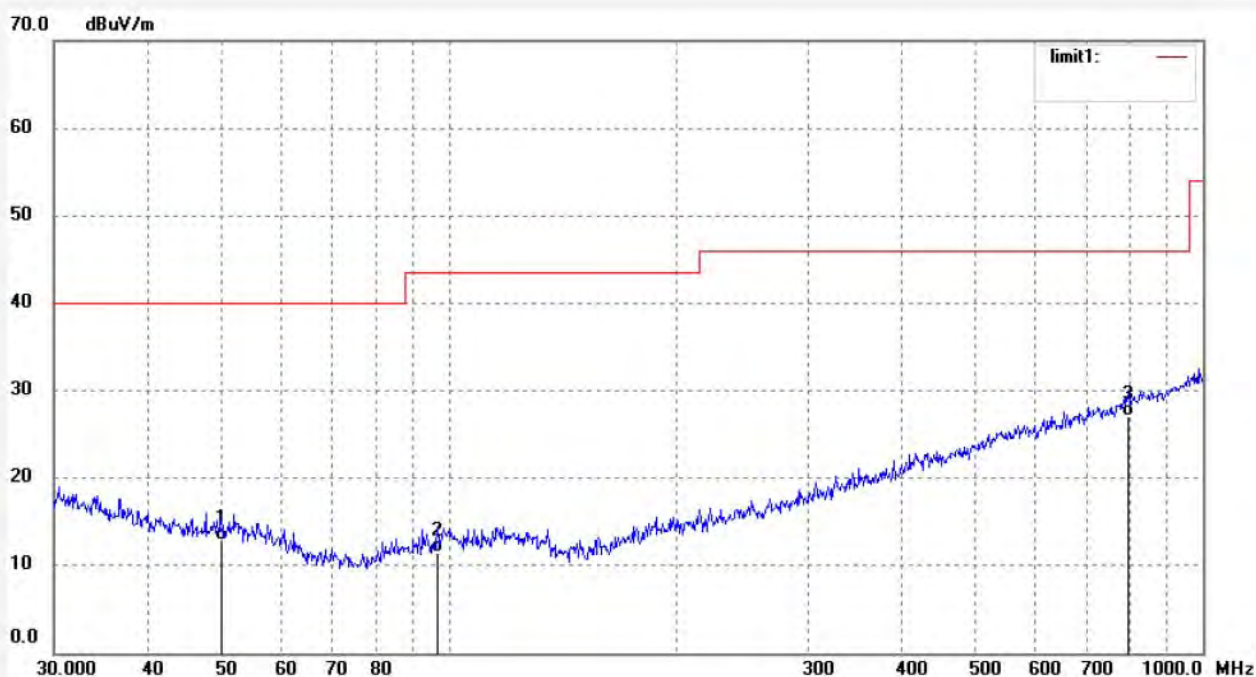
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	50.0566	25.48	-12.59	12.89	40.00	-27.11	QP			
2	96.7749	25.63	-14.15	11.48	43.50	-32.02	QP			
3	796.1829	26.29	0.73	27.02	46.00	-18.98	QP			

1GHz to 18GHz Test data:



ACCURATE TECHNOLOGY CO., LTD.

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

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2019 #446

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

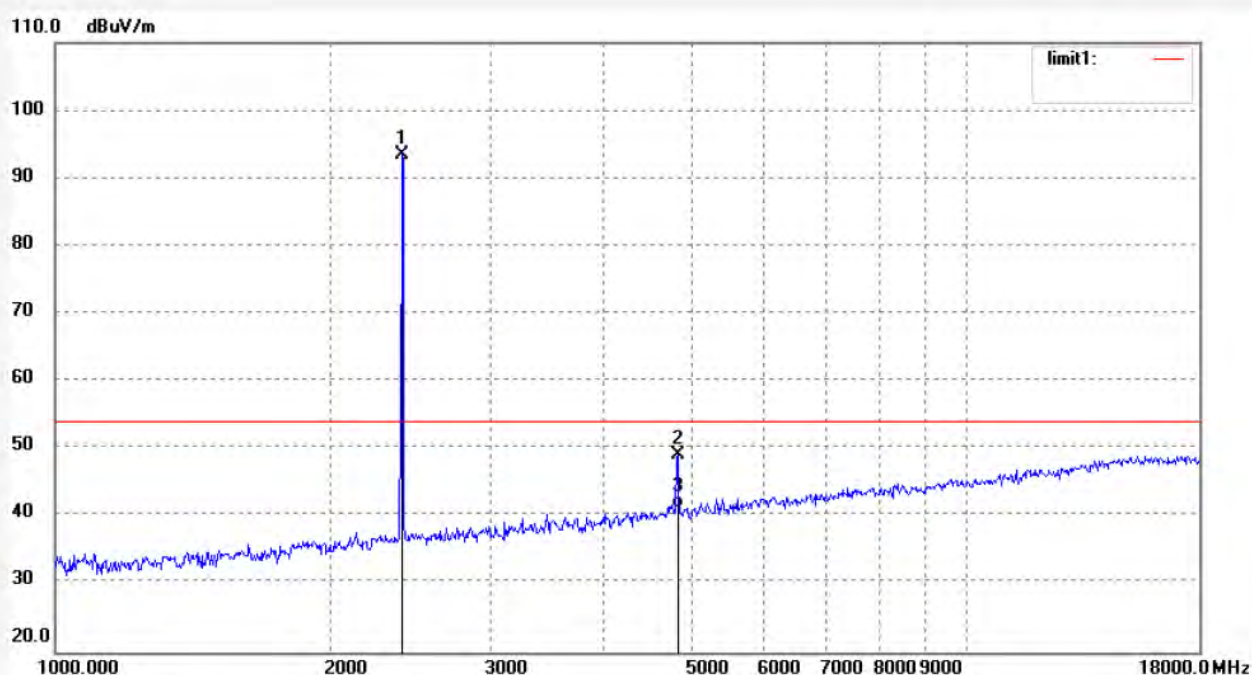
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2405.000	92.55	0.90	93.45	/	/	peak			
2	4810.026	41.61	7.46	49.07	74.00	-24.93	peak			
3	4810.026	33.89	7.46	41.35	54.00	-12.65	AVG			

Job No.: LGW2019 #447

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

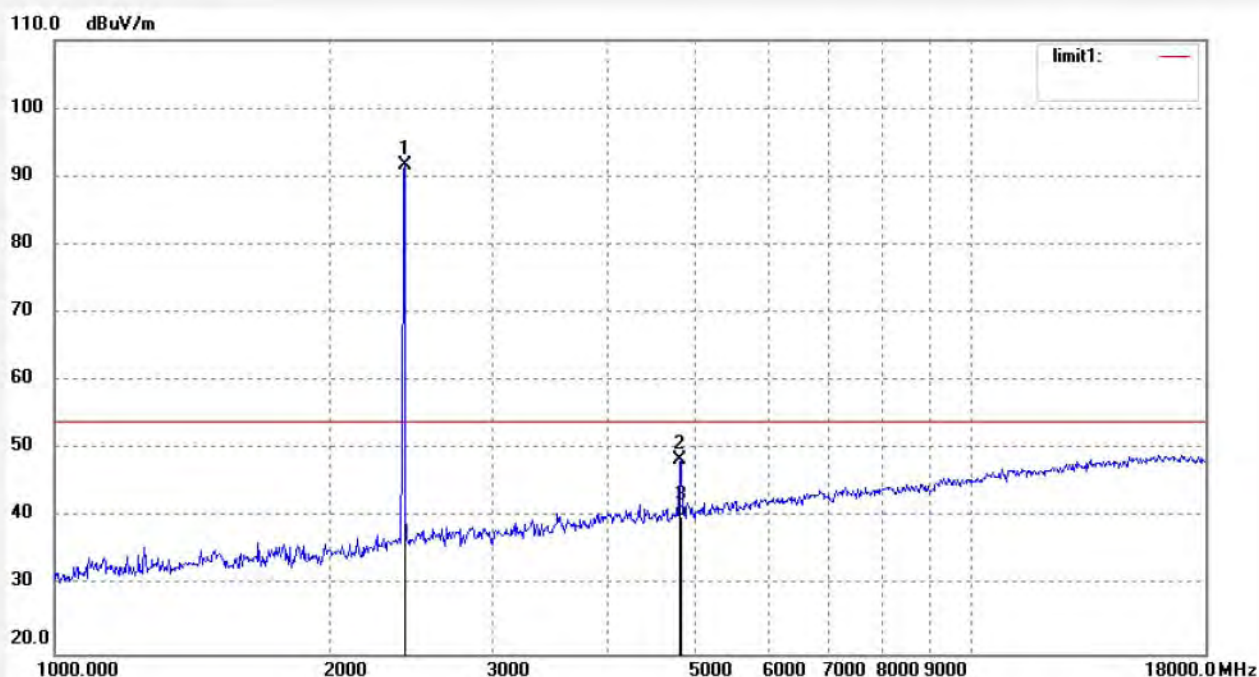
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2405.000	90.68	0.90	91.58	/	/	peak			
2	4810.025	41.04	7.46	48.50	74.00	-25.50	peak			
3	4810.025	32.78	7.46	40.24	54.00	-13.76	AVG			

Job No.: LGW2019 #450

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

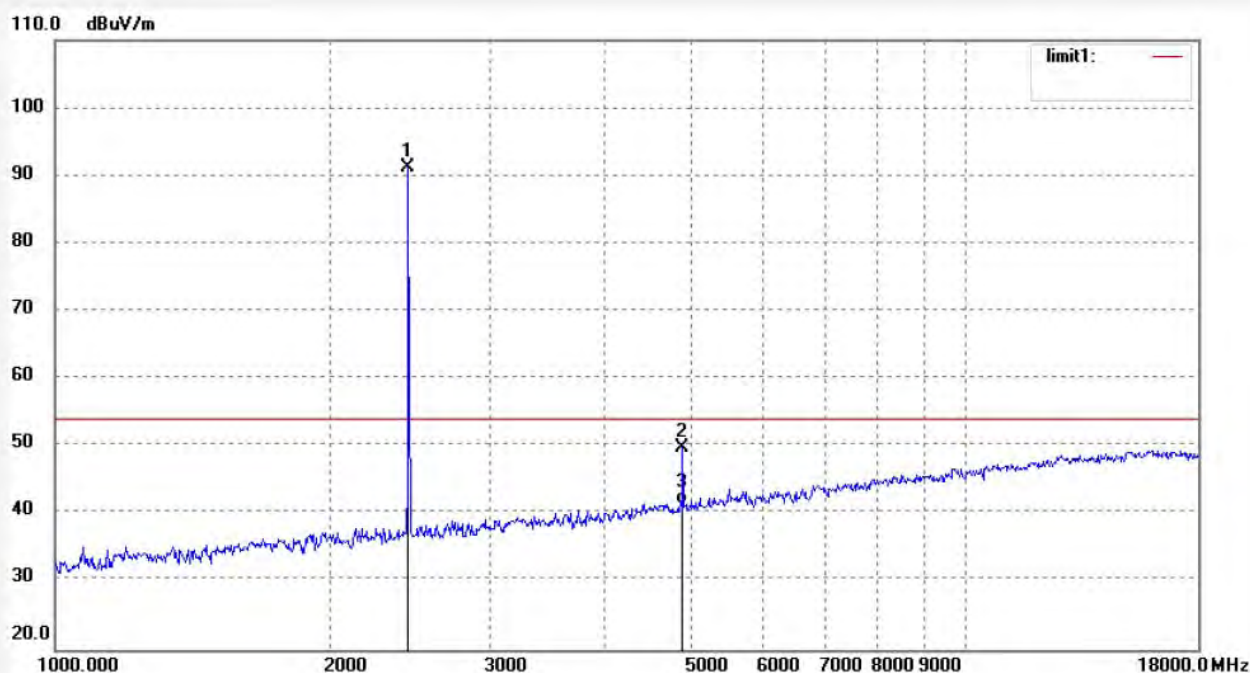
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2445.000	90.21	1.07	91.28	/	/	peak			
2	4890.028	41.56	8.18	49.74	74.00	-24.26	peak			
3	4890.028	33.23	8.18	41.41	54.00	-12.59	AVG			

Job No.: LGW2019 #451

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

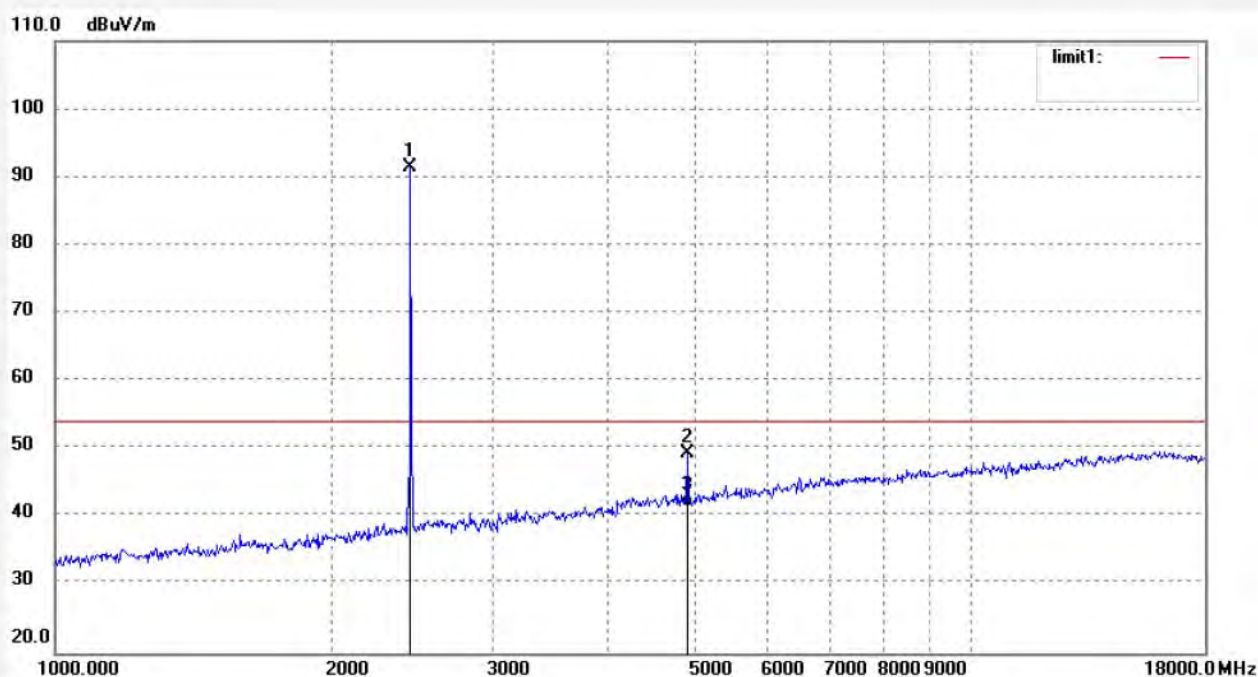
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2445.000	90.27	1.07	91.34	/	/	peak			
2	4890.027	41.16	8.18	49.34	74.00	-24.66	peak			
3	4890.027	33.39	8.18	41.57	54.00	-12.43	AVG			

Job No.: LGW2019 #453

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

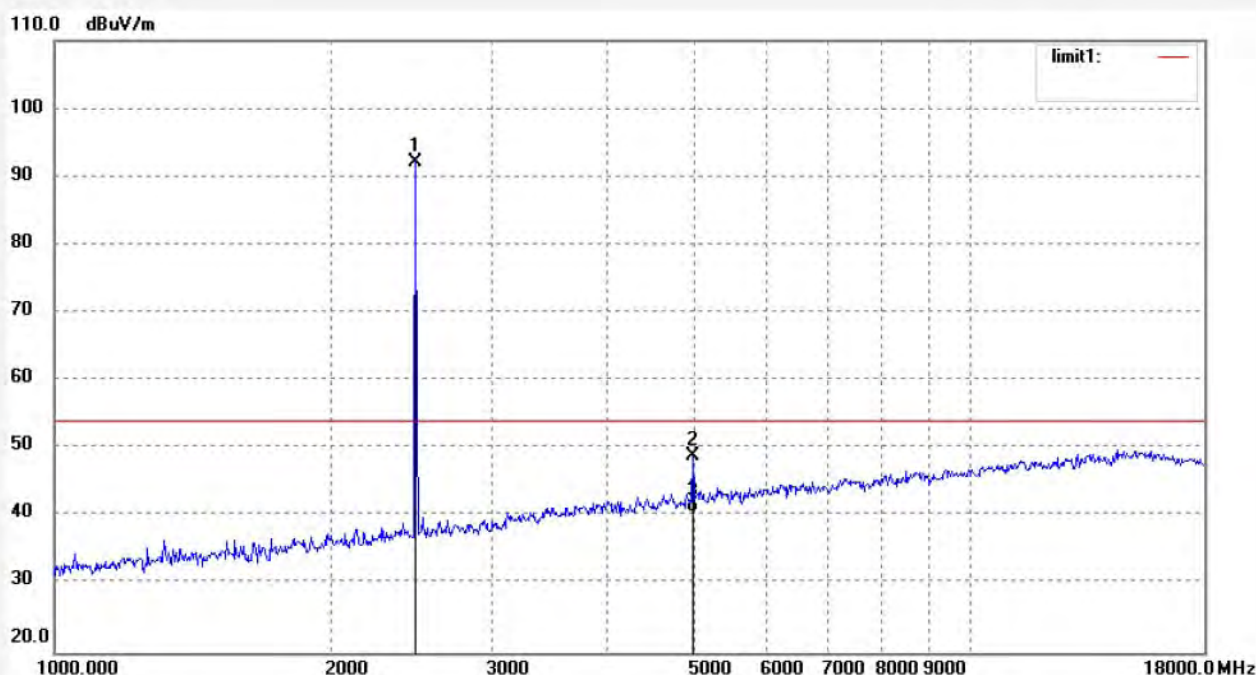
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



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	91.06	1.10	92.16	/	/	peak			
2	4960.027	40.34	8.60	48.94	74.00	-25.06	peak			
3	4960.027	31.97	8.60	40.57	54.00	-13.43	AVG			

Job No.: LGW2019 #452

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

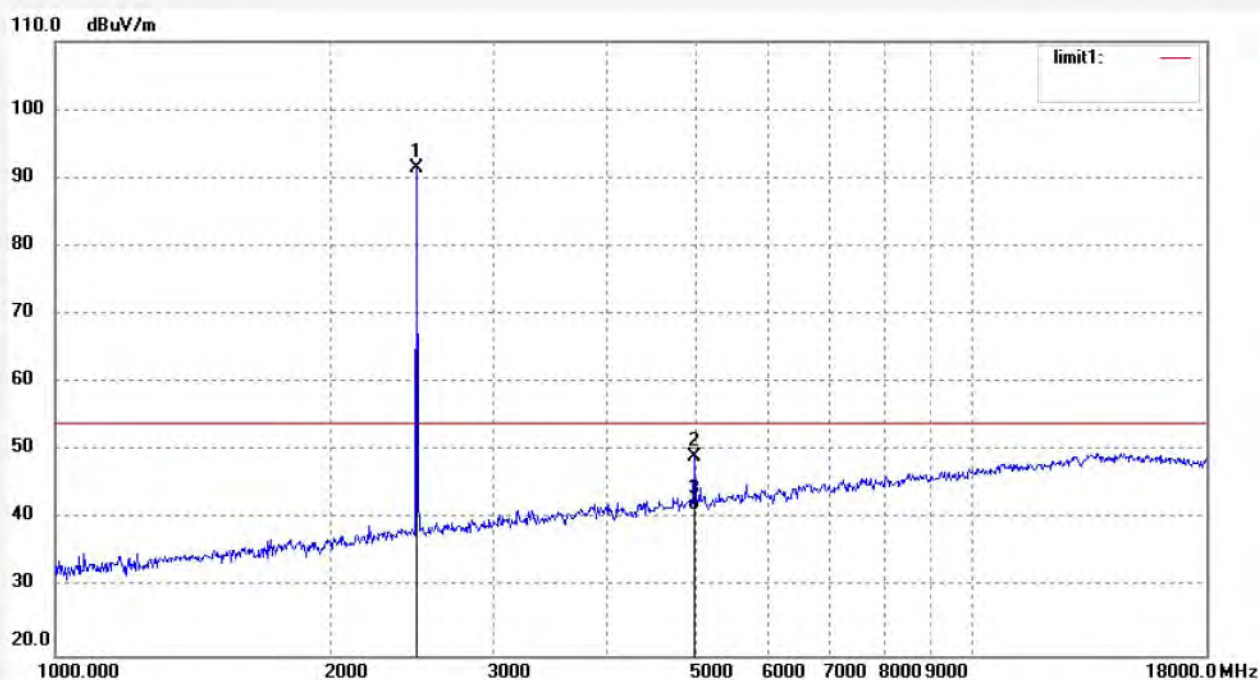
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



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	90.37	1.10	91.47	/	/	peak			
2	4960.029	40.58	8.60	49.18	74.00	-24.82	peak			
3	4960.029	32.64	8.60	41.24	54.00	-12.76	AVG			

18GHz to 26.5GHz Test data:



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Fax:+86-0755-26503396

Job No.: LGW2019 #457

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

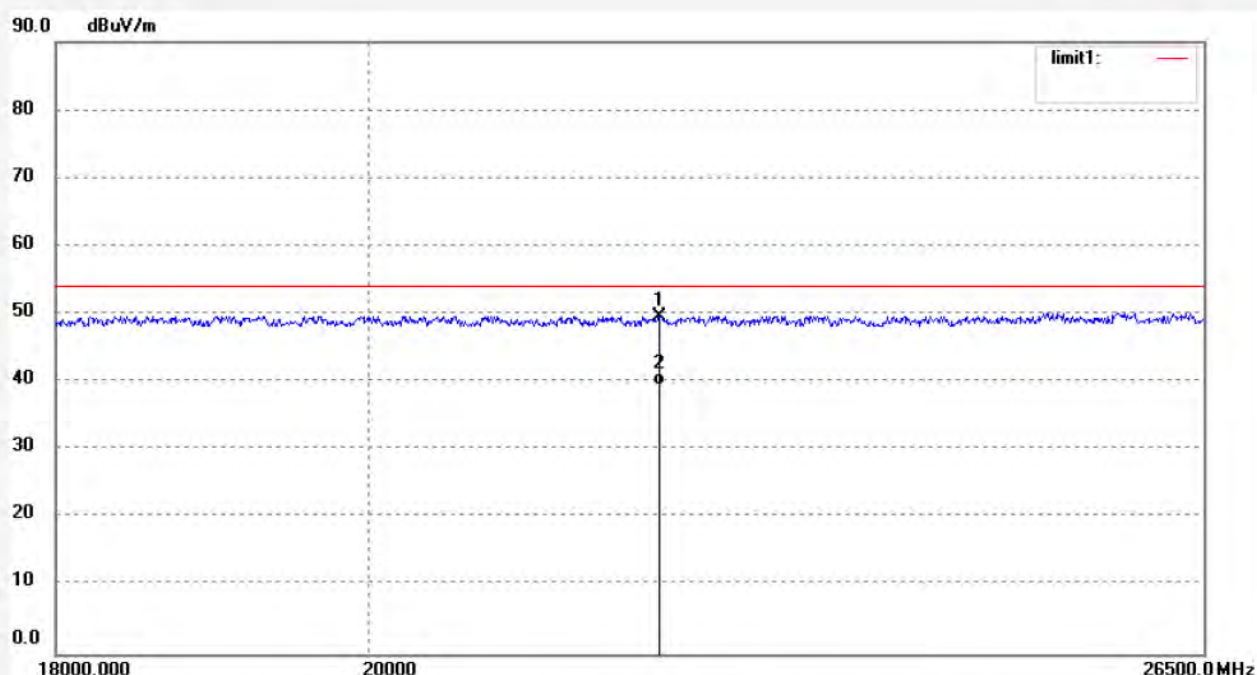
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22061.066	10.14	39.45	49.59	74.00	-24.41	peak			
2	22061.066	0.00	39.45	39.45	54.00	-14.55	AVG			

Job No.: LGW2019 #456

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2405MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

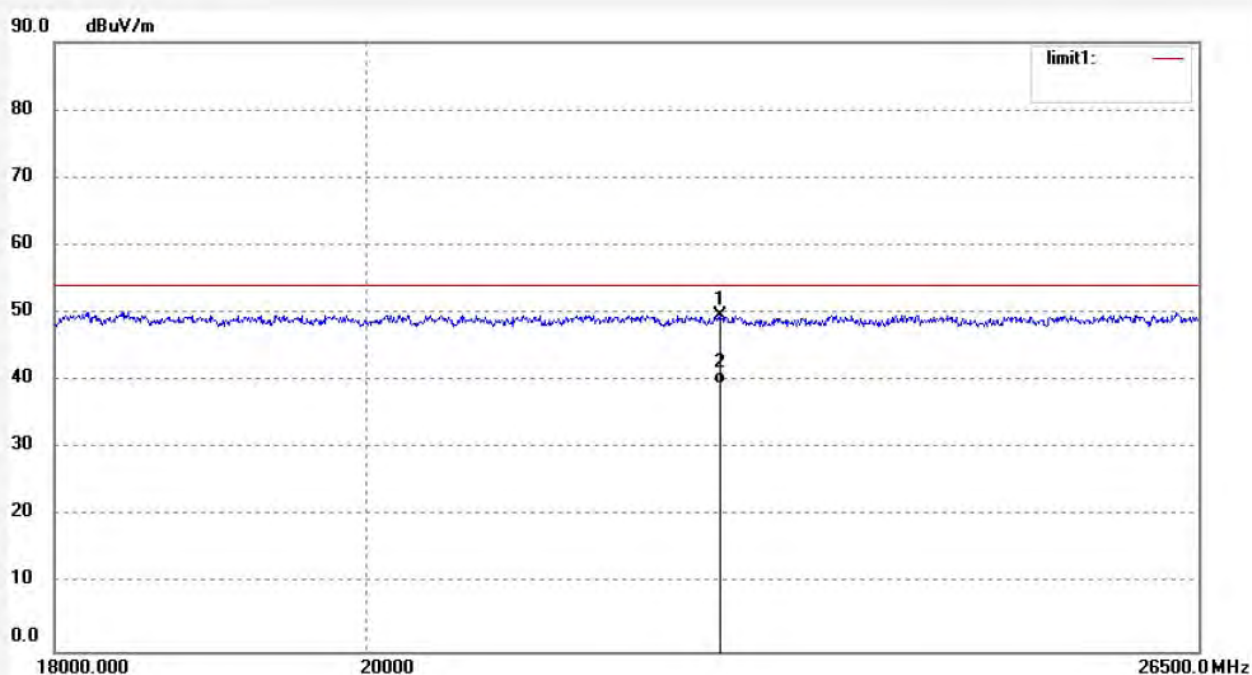
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22544.105	10.18	39.42	49.60	74.00	-24.40	peak			
2	22544.105	-0.01	39.42	39.41	54.00	-14.59	AVG			

Job No.: LGW2019 #458

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

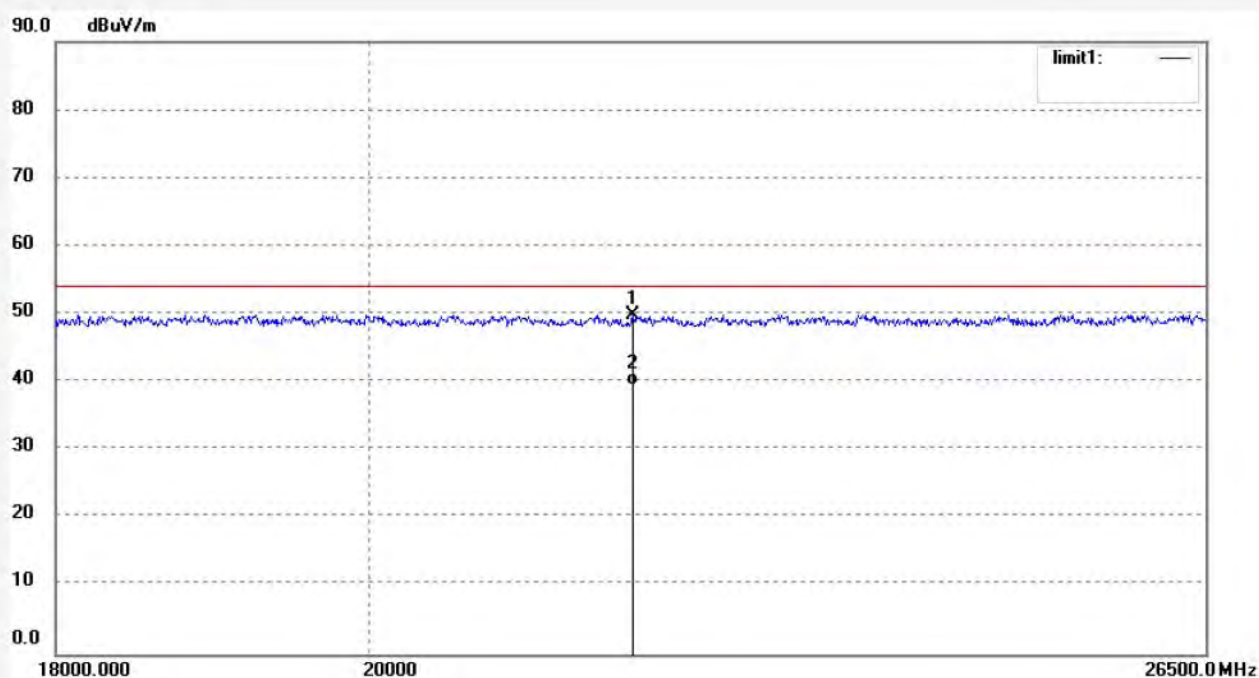
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21857.231	10.61	39.15	49.76	74.00	-24.24	peak			
2	21857.231	0.26	39.15	39.41	54.00	-14.59	AVG			



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Job No.: LGW2019 #459

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2445MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

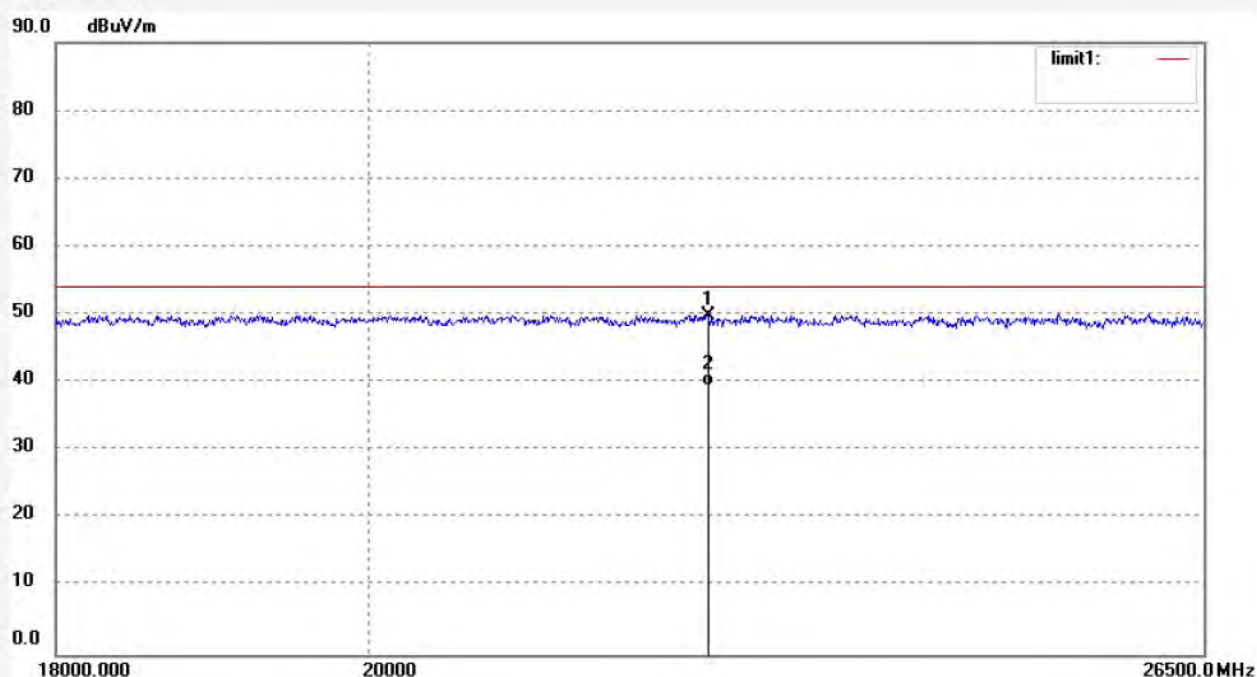
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22431.037	10.45	39.35	49.80	74.00	-24.20	peak			
2	22431.037	0.10	39.35	39.45	54.00	-14.55	AVG			

Job No.: LGW2019 #461

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Horizontal

Power Source: DC 3V

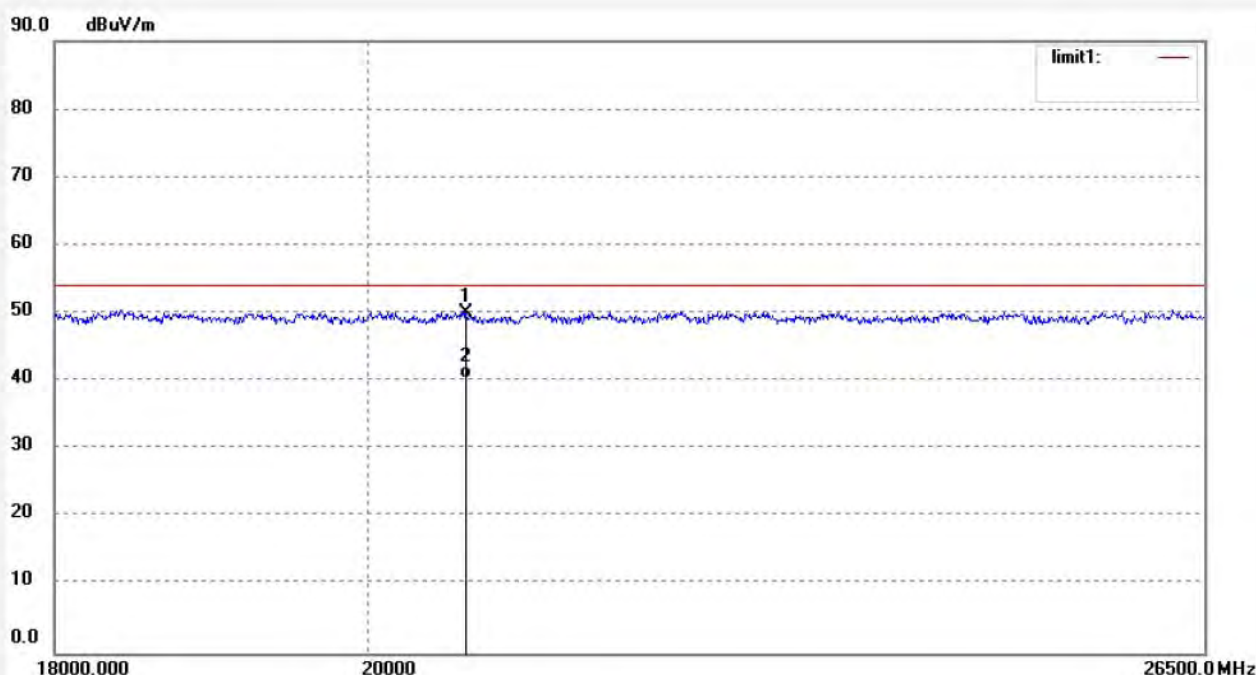
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	20673.165	11.73	38.32	50.05	74.00	-23.95	peak			
2	20673.165	2.14	38.32	40.46	54.00	-13.54	AVG			

Job No.: LGW2019 #460

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

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

EUT: Door Window Sensor

Mode: TX 2480MHz

Model: 7B1-SS-ZE-H0

Manufacturer: Leedarson

Polarization: Vertical

Power Source: DC 3V

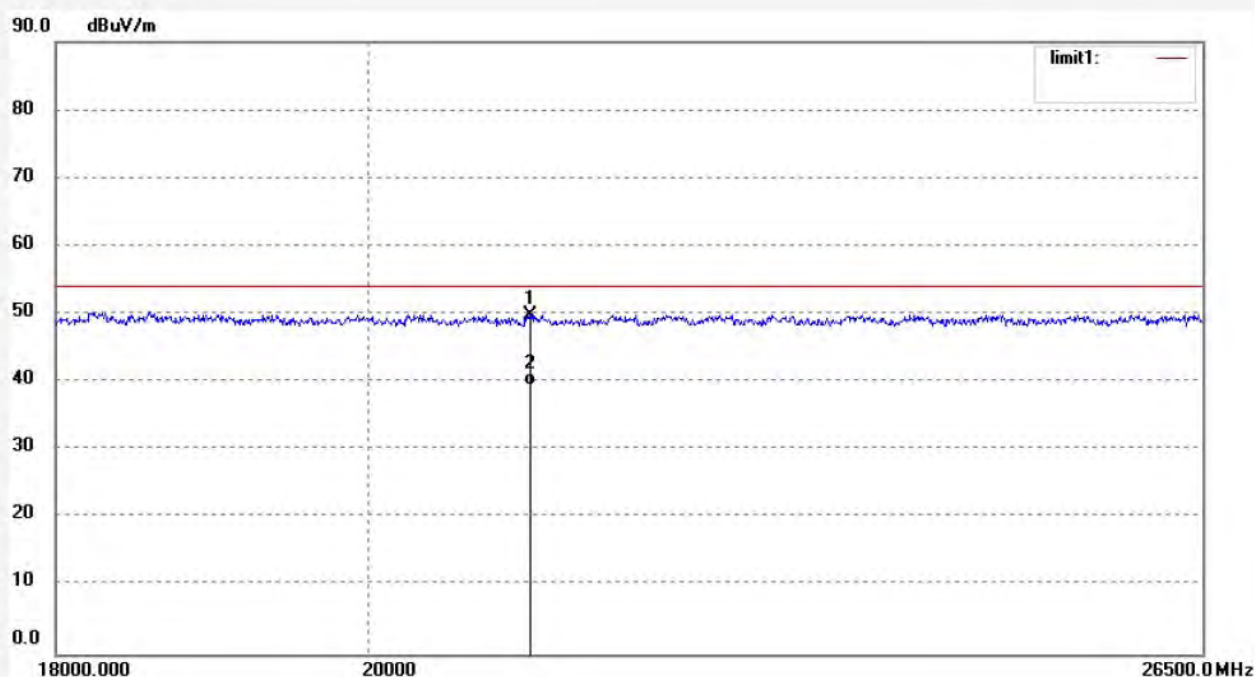
Date: 19/03/04/

Time:

Engineer Signature: WADE

Distance: 3m

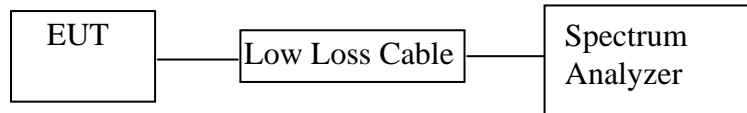
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21125.815	10.42	39.38	49.80	74.00	-24.20	peak			
2	21125.815	0.03	39.38	39.41	54.00	-14.59	AVG			

10.CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

10.1.Block Diagram of Test Setup



10.2.The Requirement for Section 15.247(d)

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

10.3.EUT Configuration on Measurement

The equipment is 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.

10.4.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 modes measure it. The transmit frequency are 2405-2480 MHz. We select 2405MHz, 2445MHz, and 2480MHz TX frequency to transmit.

10.5.Test Procedure

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

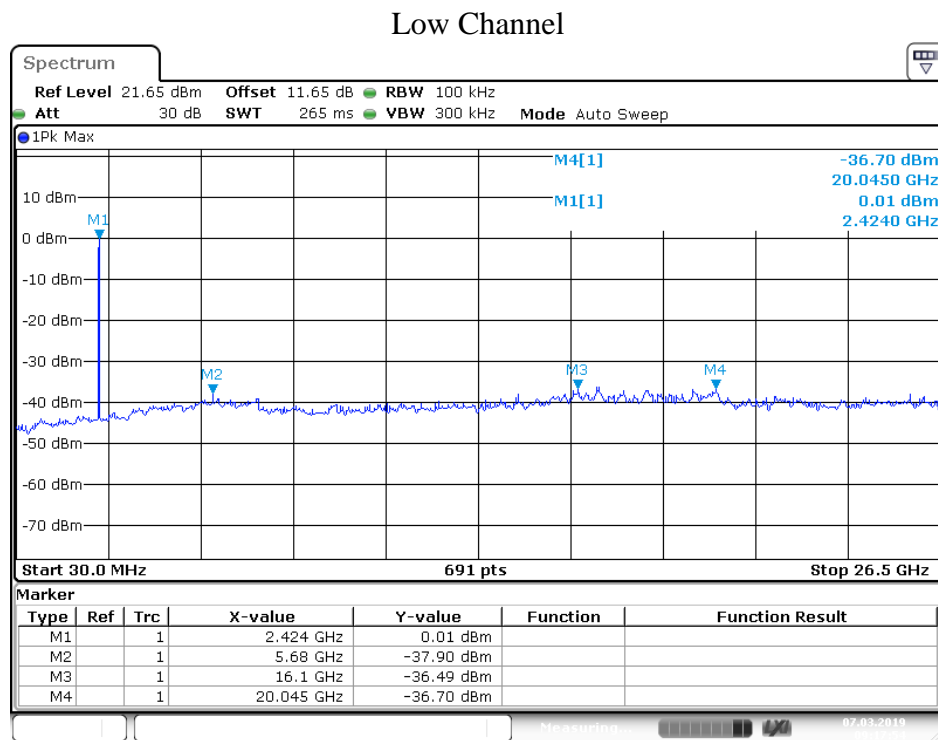
10.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz

10.5.3.The Conducted Spurious Emission was measured and recorded.

10.6.Test Result

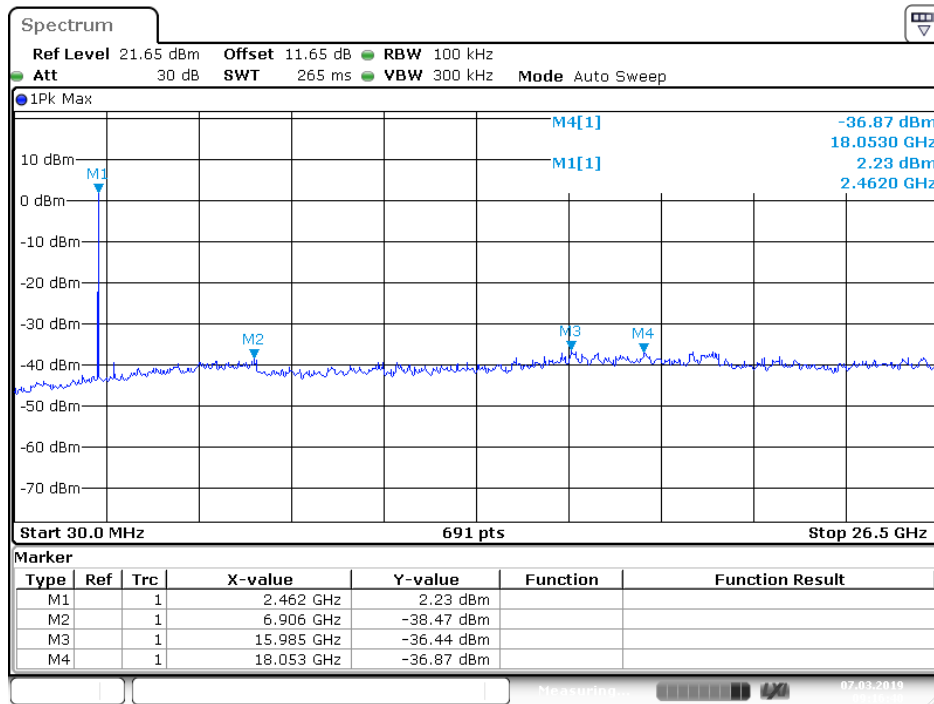
Pass.

The spectrum analyzer plots are attached as below.



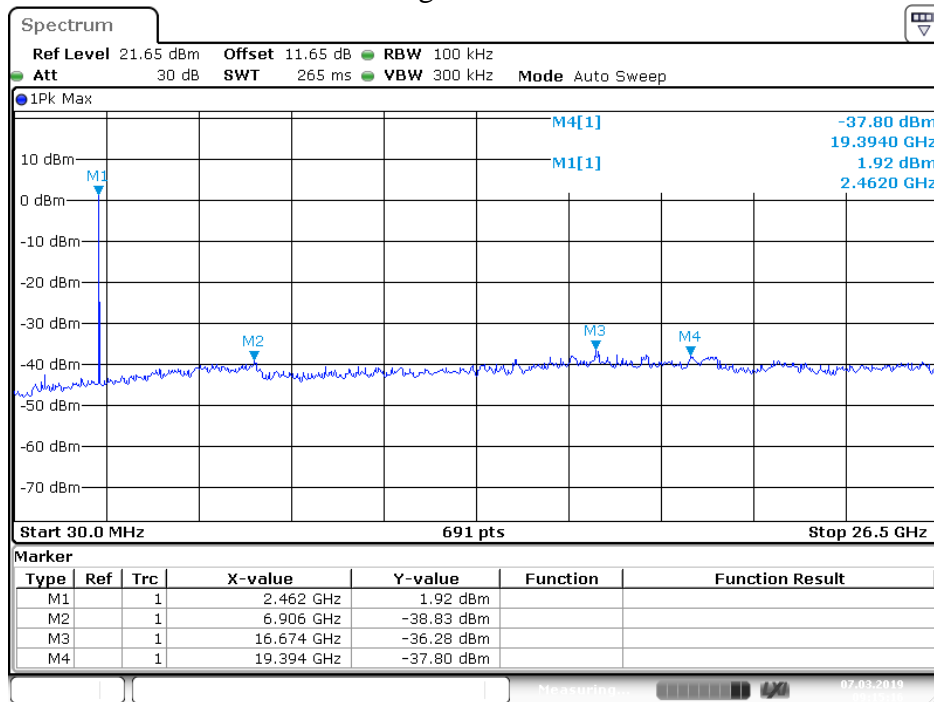
Date: 7.MAR.2019 09:17:55

Middle Channel



Date: 7.MAR.2019 09:16:40

High Channel



Date: 7.MAR.2019 09:15:16

11.ANTENNA REQUIREMENT

11.1.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.

11.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 1.65dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

******* End of Test Report *******