

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

One Button Model No.: 7A-RC-ZAB-H0

FCC ID: 2AB2Q7ARCZABA0

Prepared for Address	:	LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Zone, Economic Development Zone, Changtai County, Zhangzhou City, Fujian Province, P.R. China
Prepared by Address	:	Shenzhen Accurate Technology Co., Ltd. 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China
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Report No.	:	ATE20190538
Date of Test	:	April 15, 2019
Date of Report	:	April 18, 2019



TABLE OF CONTENTS

Description

Page

Т	est Re	eport Certification	
1.	GE	NERAL INFORMATION	5
	1.1.	Description of Device (EUT)	5
	1.2.	Carrier Frequency of Channels	
	1.3.	Special Accessory and Auxiliary Equipment	6
	1.4.	Description of Test Facility	
	1.5.	Measurement Uncertainty	6
2.	ME	EASURING DEVICE AND TEST EQUIPMENT	7
3.	OP	ERATION OF EUT DURING TESTING	8
	3.1.	Operating Mode	8
	3.2.	Configuration and peripherals	
4.	TE	ST PROCEDURES AND RESULTS	9
5.	6D	B BANDWIDTH TEST	10
	5.1.	Block Diagram of Test Setup	
	5.2.	The Requirement for Section 15.247(a)(2)	10
	5.3.	EUT Configuration on Measurement	10
	5.4.	Operating Condition of EUT	10
	5.5.	Test Procedure	
	5.6.	Test Result	
6.	MA	AXIMUM PEAK OUTPUT POWER TEST	13
	6.1.	Block Diagram of Test Setup	
	6.2.	The Requirement for Section 15.247(b)(3)	
	6.3.	EUT Configuration on Measurement	
	6.4.	Operating Condition of EUT	
	6.5.	Test Procedure	
	6.6.	Test Result	
7.	PO	WER SPECTRAL DENSITY TEST	
	7.1.	Block Diagram of Test Setup	
	7.2.	The Requirement for Section 15.247(e)	
	7.3.	EUT Configuration on Measurement	
	7.4.	Operating Condition of EUT	
	7.5.	Test Procedure	
	7.6.	Test Result	
8.		ND EDGE COMPLIANCE TEST	
	8.1.	Block Diagram of Test Setup	
	8.2.	The Requirement for Section 15.247(d)	
	8.3.	EUT Configuration on Measurement	
	8.4.	Operating Condition of EUT	
	8.5.	Test Procedure	
0	8.6.	Test Result	
9.		DIATED SPURIOUS EMISSION TEST	
	9.1.	Block Diagram of Test Setup	
	9.2.	The Requirement for Section 15.247(d)	
	9.3.	Restricted bands of operation	
	9.4.	Configuration of EUT on Measurement	

Report No.: ATE20190538 Page 3 of 62



Operating Condition of EUT	
Test Procedure	
Data Sample	
Test Result	
NDUCTED SPURIOUS EMISSION COMPLIANCE TEST	59
Block Diagram of Test Setup	59
EUT Configuration on Measurement	
Operating Condition of EUT	
Test Procedure	
Test Result	60
TENNA REQUIREMENT	62
The Requirement	
Antenna Construction	
	Operating Condition of EUT Test Procedure Data Sample Test Result PNDUCTED SPURIOUS EMISSION COMPLIANCE TEST Block Diagram of Test Setup The Requirement for Section 15.247(d) EUT Configuration on Measurement Operating Condition of EUT Test Procedure Test Result TENNA REQUIREMENT The Requirement Antenna Construction



Test Report Certification

Applicant Address		LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Zone, Economic Development Zone, Changtai County, Zhangzhou City, Fujian Province, P.R. China
Product	:	One Button
Model Number	:	7A-RC-ZAB-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 :	April 15, 2019
Date of Report :	April 18, 2019
Prepared by :	(SI PARTICIPIE)
Approved & Authorized Signer :	(Sean Liu, Manager)



1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	One Button
Model Number	:	7A-RC-ZAB-H0
	•	
Modulation Type	:	OQPSK (ZigBee)
Frequency Range	:	2405-2480MHz
Number of Channels	:	16
Channel Spacing	:	5MHz
Antenna Gain	:	1.69dBi
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

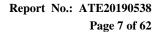
N/A

1.4.Description of Test Facility

1		5
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 (ISEDC)
		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

Kind of equipment	Manufacturer	Туре	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	WRCG2400/2485-23 75/2510-60/11SS	N/A	Jan. 05, 2019	One Year			
Conducted Emission Measurement Software: ES-K1 V1.71								
Radiated Emission Measurement Software: EZ_EMC V1.1.4.2								

Table 1: List of Test and Measurement Equipment



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

EUT	
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

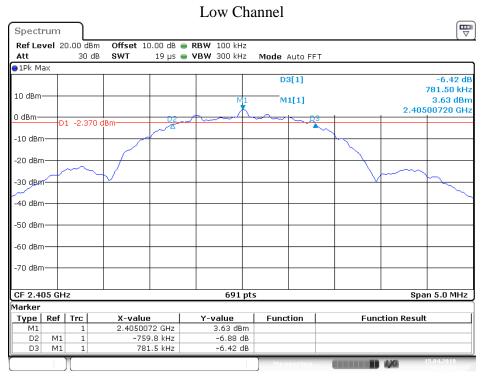
- 5.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 5.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.
- 5.5.3.The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.



5.6.Test Result

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit(MHz)	Result
Low	2405	1.541	>0.5	Pass
Middle	2445	1.534	>0.5	Pass
High	2480	1.549	>0.5	Pass

The spectrum analyzer plots are attached as below.



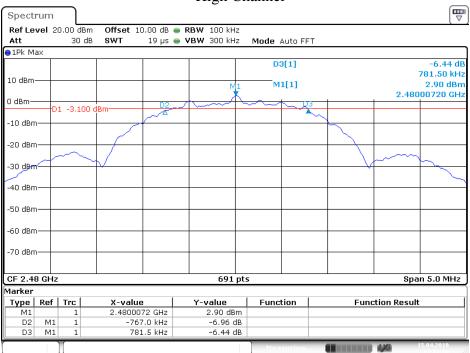
Date: 15.APR.2019 11:22:20



Middle Channel ₩ Spectrum Offset 10.00 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Ref Level 20.00 dBm Att 30 dB Mode Auto FFT 🔵 1 Pk Max -6.42 dB 781.50 kHz D3[1] 10 dBm-3.28 dBm M1[1] 2.44500720 GHz 0 dBm· D1 -2.720 dBm-102 7 -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm--70 dBm-CF 2.445 GHz 691 pts Span 5.0 MHz Marker Type Ref Trc X-value 2.4450072 GHz Function Function Result Y-value 3.28 dBm -6.77 dB M1 1 M1 D2 -752.5 kHz 781.5 kHz -6.42 dB D3 M1 1

Date: 15.APR.2019 11:20:29

High Channel



Date: 15.APR.2019 11:18:11



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	4.89	6.58	30	Pass
Middle	2445	4.52	6.21	30	Pass
High	2480	4.20	5.89	30	Pass

The spectrum analyzer plots are attached as below.

				Low Ch	annel			
Spectrum								
Ref Level 20 Att	0.00 dBm 30 dB	Offset 10 SWT).00 dB 👄 R 1 ms 👄 V	BW 3 MHz BW 10 MHz	Mode Auto S	ween		
1Pk Max						···F		
					M1[1]		2.40	4.89 dBn 43780 GH:
10 dBm				M1				
0 dBm								
-10 dBm								
and the second sec								- man
-20 dBm								
-30 dBm								
-40 dBm								
-50 dBm								
50 ID								
-60 dBm								
-70 dBm								
CF 2.405 GH	z			691 p	ts		Span	10.0 MHz
	[Measuring		1 4/4	15.04.2019

т Ch -1

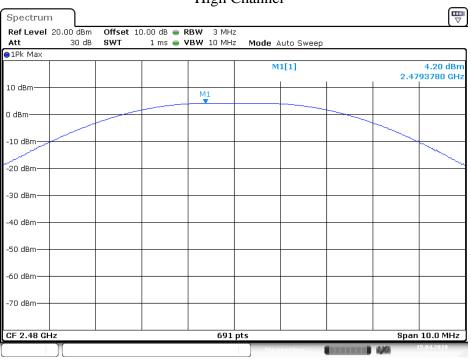
Date: 15.APR.2019 11:14:53



Middle Channel ₽ Spectrum Offset 10.00 dB ■ RBW 3 MHz SWT 1 ms ■ VBW 10 MHz Ref Level 20.00 dBm Att 30 dB Mode Auto Sweep ●1Pk Max 4.52 dBm 2.4444210 GHz M1[1] 10 dBm-M1 0 dBm--10 dBm -20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm-691 pts Span 10.0 MHz CF 2.445 GHz

Date: 15.APR.2019 11:15:41

High Channel



Date: 15.APR.2019 11:16:19



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 x 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.

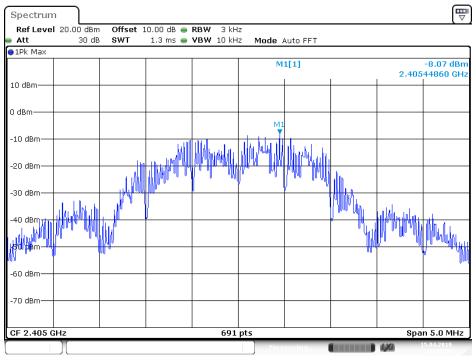
7.6.Test Result

Channel	Frequency (MHz)	PSD (dBm/3KHz)	Limit (dBm/3KHz)	Result
Low	2405	-8.07	8	Pass
Middle	2445	-8.45	8	Pass
High	2480	-8.81	8	Pass

The spectrum analyzer plots are attached as below.

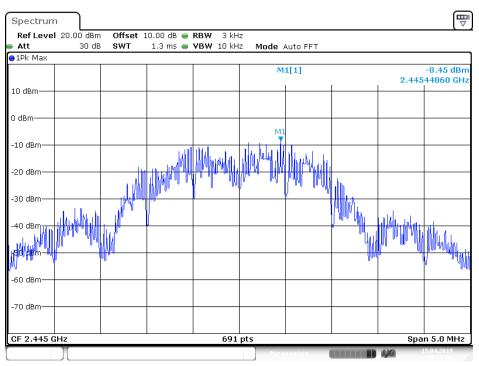


Low Channel



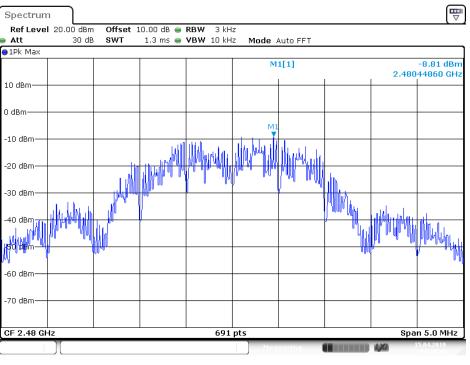
Date: 15.APR.2019 11:35:59

Middle Channel



Date: 15.APR.2019 11:35:02





High Channel

Date: 15.APR.2019 11:34:16



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	48.48	>20
High	2480MHz	43.96	>20

The spectrum analyzer plots are attached as below.

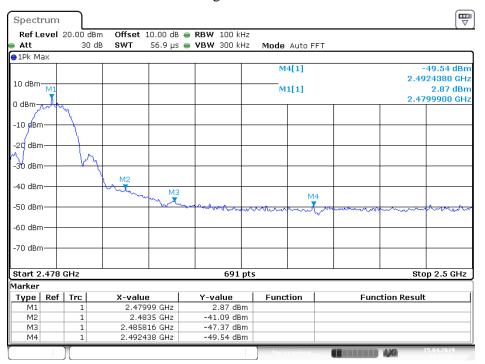


Low Channel

Spectru	Im	٦										E V	,
Ref Lev	el 20	.00 dB	m Offset	10.00 dB	■ RBW 1	00 kHz							_
🗕 Att		30 d	B SWT	1.1 ms	👄 VBW 3	00 kHz	Mode	Auto 9	Sweep				
😑 1Pk Max													٦
10 dBm—							M	4[1]			2	-45.44 dB 351910 GH	
							M	1[1]			5	3.74 ដំដី .405090 dF	
0 dBm—												T A	-
-10 dBm—													_
-20 dBm—													H
-30 dBm—													1
-40 dBm—			<u> </u> .		1/1/4			IVI3				Mzrl	4
-50 dBm-	Mouro	unipen	waterware	hours	an the second	بالمالية المراجعة	alaber and a	mente	nn	mannal	orensterner	the section	-
-60 dBm—													-
-70 dBm—	_												-
Start 2.3	1 GHz					691 pts					Sto	p 2.408 GHz	1
Marker													
	tef T		X-valu		Y-valı		Func	tion		Fun	ction Res	ult	4
M1 M2		1		09 GHz		4 dBm 4 dBm							-
M2 M3		1		2.4 GHz 04 GHz		4 aBm 9 dBm							-1
M3 M4		1		91 GHz		4 dBm							-1
) Mea	suring.			4,40	15.04.2019 11:29:09	Ĩ

Date: 15.APR.2019 11:29:09

High Channel



Date: 15.APR.2019 11:27:54



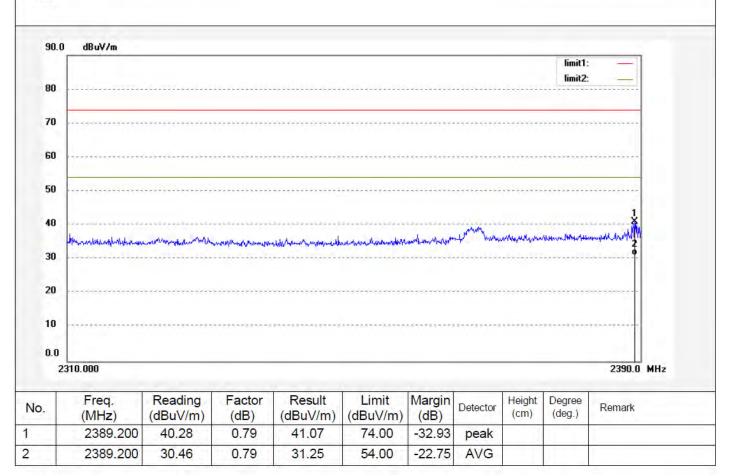
Radiated Band Edge Result

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

	1
Job No.: LGW2019 #1010	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2405MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	

Note:





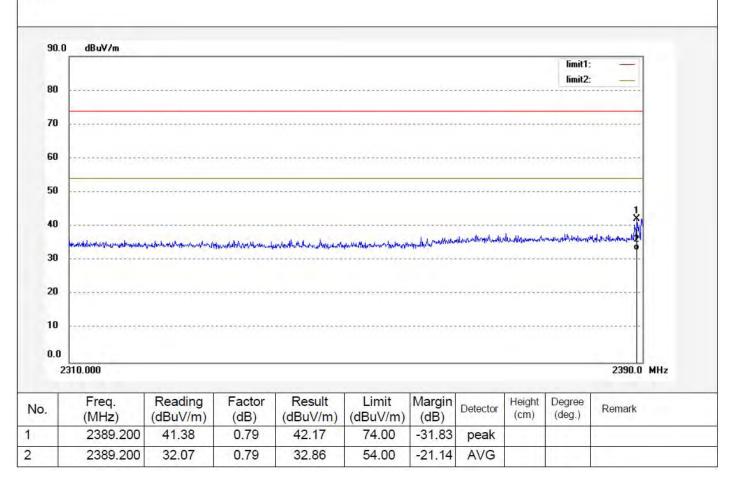
Report No.: ATE20190538 Page 24 of 62

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 #1009	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2405MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	

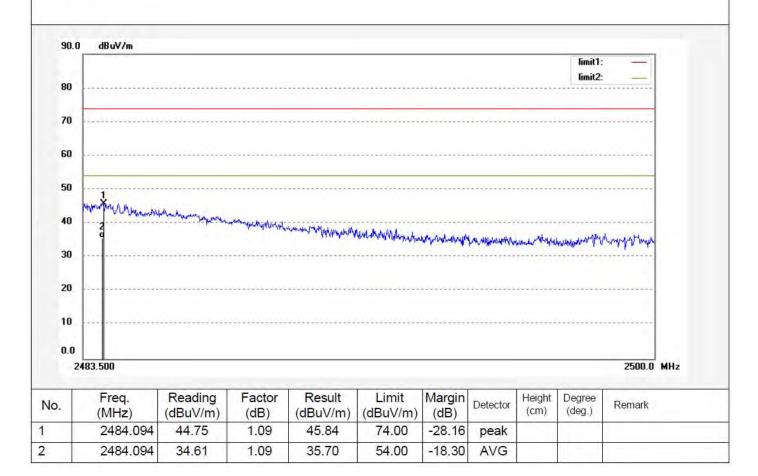
Note:





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 #1015	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	
Note:	





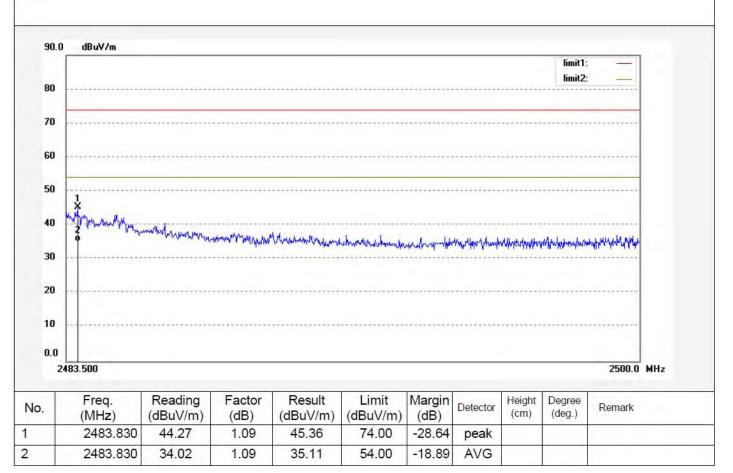
Report No.: ATE20190538 Page 26 of 62

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 #1016	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	

Note:



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:

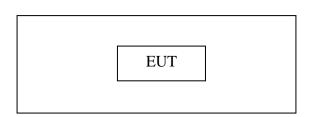
Result = Reading + Corrected Factor



9. RADIATED SPURIOUS EMISSION TEST

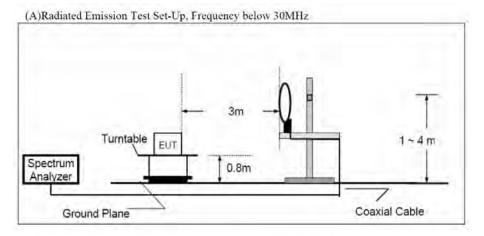
9.1.Block Diagram of Test Setup

9.1.1.Block diagram of connection between the EUT and peripherals

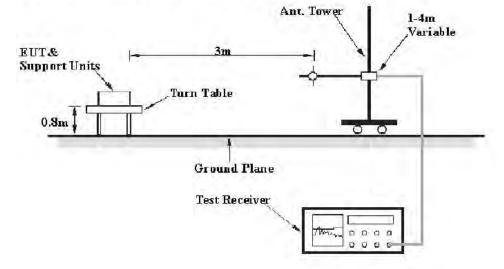


Setup: Transmitting mode

9.1.2.Semi-Anechoic Chamber Test Setup Diagram

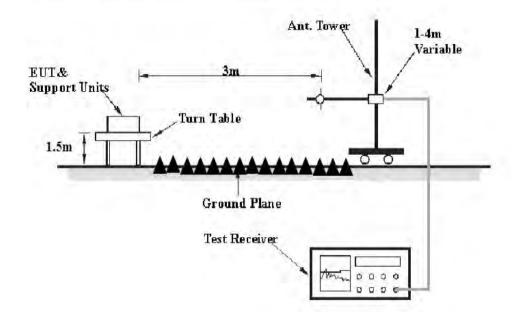


(B)Radiated Emission Test Set-Up, Frequency 30MHz-1GHz





(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

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								

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

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 Section15.209 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	Reading	Factor	Result	Limit	Margin	Remark
(MHz)	(dBµv)	(dB/m)	(dBµv/m)	(dBµv/m)	(dB)	
X.XX	43.85	-22.22	21.63	43.5	-21.87	QP

$$\label{eq:requency} \begin{split} & Frequency(MHz) = Emission frequency in MHz \\ & Reading(dB\mu v) = Uncorrected Analyzer/Receiver reading \\ & Factor (dB/m) = Antenna factor + Cable Loss - Amplifier gain \\ & Result(dB\mu v/m) = Reading(dB\mu v) + Factor(dB/m) \\ & Limit (dB\mu v/m) = Limit stated in standard \\ & Margin (dB) = Result(dB\mu v/m) - Limit (dB\mu v/m) \\ & QP = Quasi-peak Reading \end{split}$$

Calculation Formula: Margin(dB) = Result ($dB\mu V/m$)–Limit($dB\mu V/m$) Result($dB\mu V/m$)= Reading($dB\mu V$)+ 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.



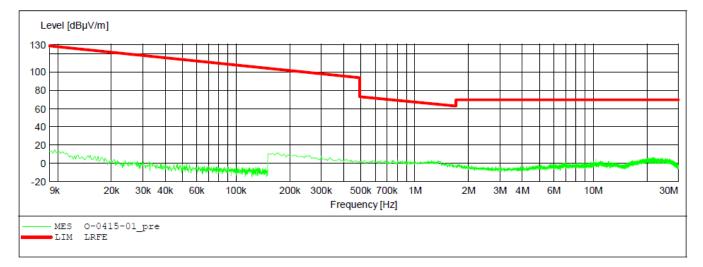
9KHz to 30MHz Test data:

ACCURATE TECHNOLOGY CO., LTD.

FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2405MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Х
Start of Test:	2019-04-15 /

Short Description:			JB STD VTER	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

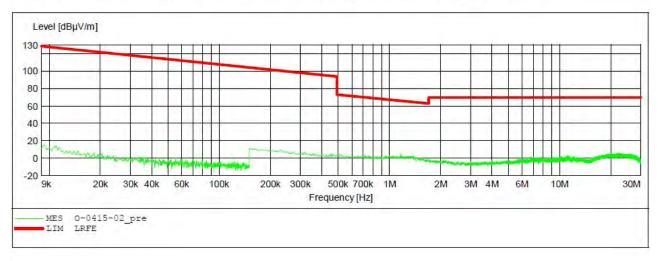




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2405MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Y
Start of Test:	2019-04-15 /

2	Short Desc	ription:	S	UB STD VTE			
	Start	Stop	Step -	Detector	Meas.	IF	Transducer
	Frequency	Frequency	Width		Time	Bandw.	
		150.0 kHz		QuasiPeak	1.0 s	200 Hz	1516M
	150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

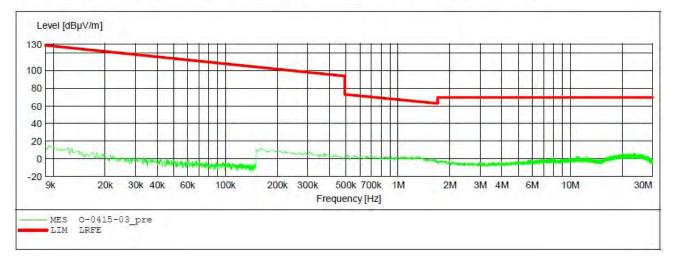




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2405MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Z
Start of Test:	2019-04-15 /

Short Description:			SUB STD VTE	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

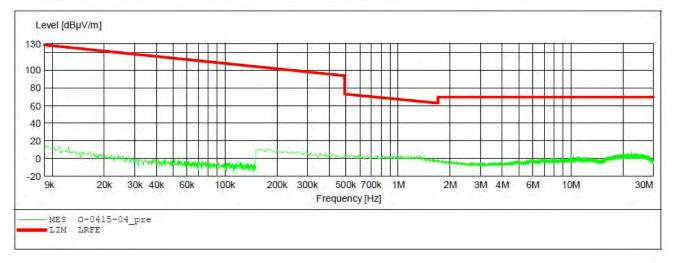




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2445MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	X
Start of Test:	2019-04-15 /

Short Description: SUB STD VTERM2 1.70							
	Start		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	1516M
	150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

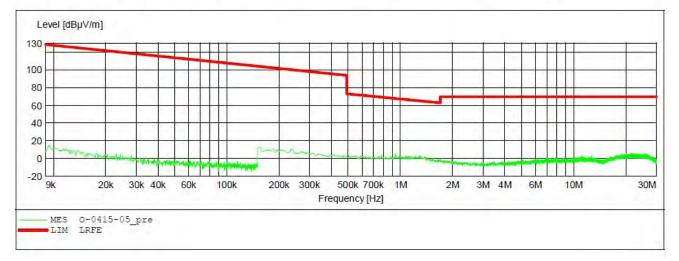




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2445MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Y
Start of Test:	2019-04-15 /

Short Desc	ription:	5	SUB STD VTE	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

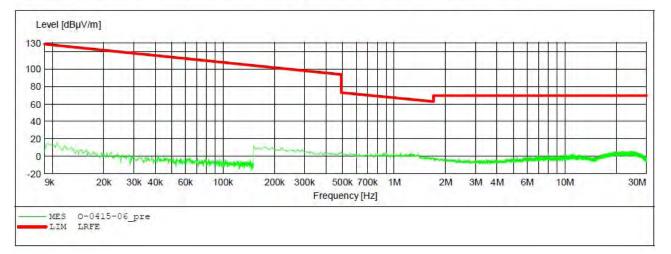




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2445MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Z
Start of Test:	2019-04-15 /

ID VTERM2 1.70	
ector Meas. IF Transducer	
Time Bandw.	
siPeak 1.0 s 200 Hz 1516M	
siPeak 1.0 s 9 kHz 1516M	
102	ector Meas. IF Transducer Time Bandw. siPeak 1.0 s 200 Hz 1516M

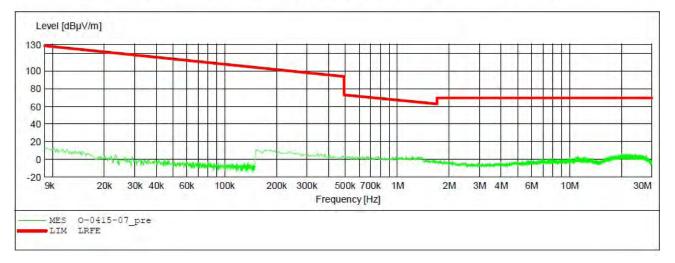




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2480MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	X
Start of Test:	2019-04-15 /

Short Desc	ription:		SUB STD VTE	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

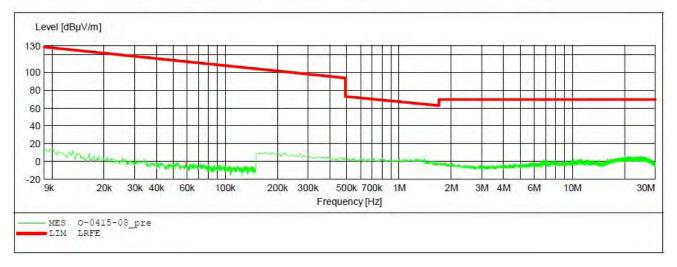




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2480MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Y
Start of Test:	2019-04-15 /

Short Desc	ription:	S	SUB STD VTE	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M

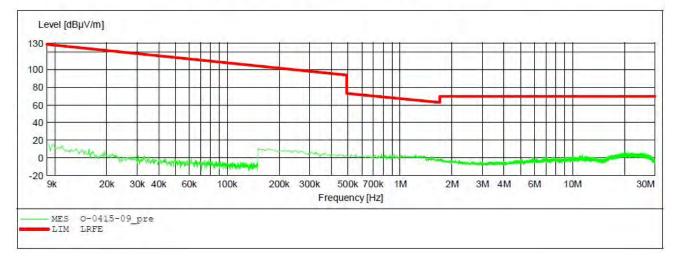




FCC Part 15C 3M Radiated

EUT:	One Button M/N:7A-RC-ZAB-H0
Manufacturer:	Leedarson
Operating Condition:	TX 2480MHz
Test Site:	2# Chamber
Operator:	WADE
Test Specification:	DC 3V
Comment:	Z
Start of Test:	2019-04-15 /

Short Desc	ription:	S	SUB STD VTE	RM2 1.70		
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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



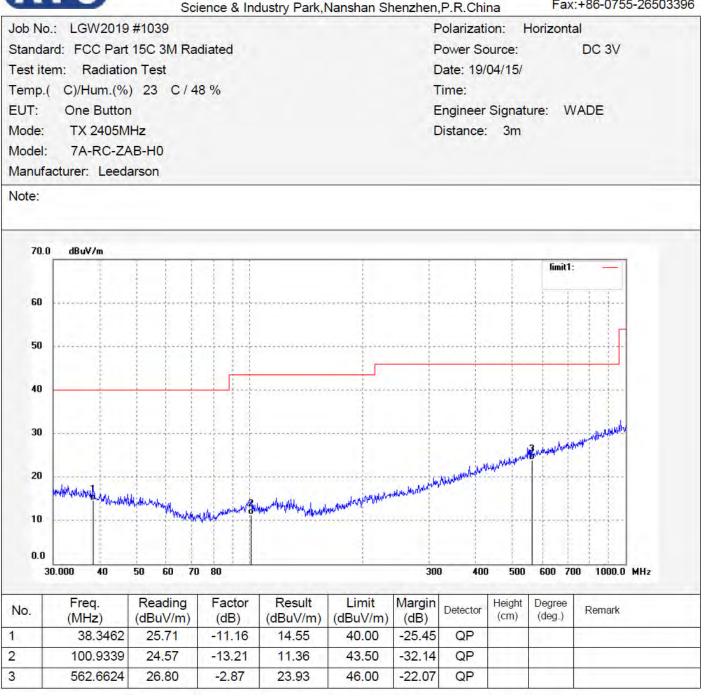


(R)

30MHz to 1GHz 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

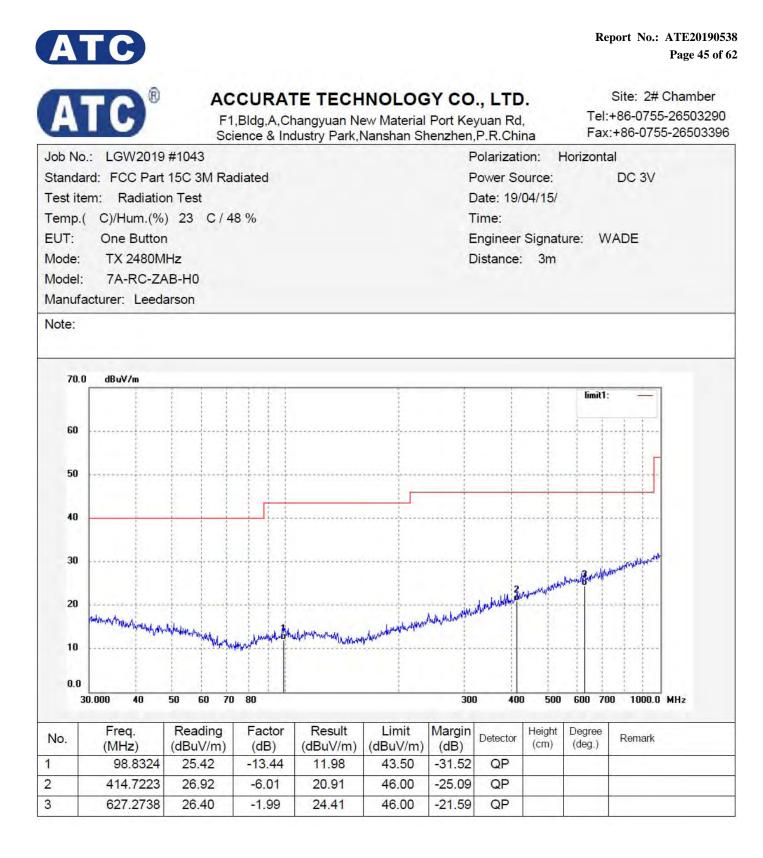


FCC ID: 2AB2Q7ARCZABA0











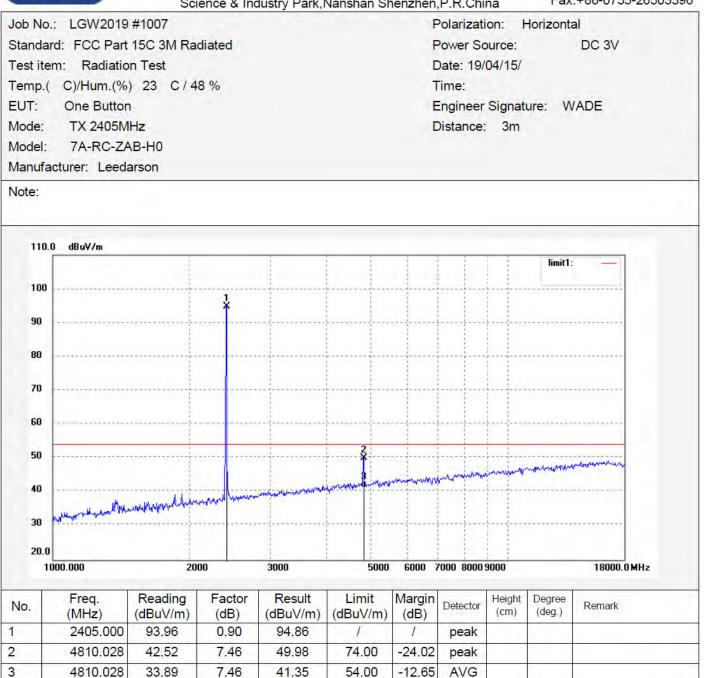


R

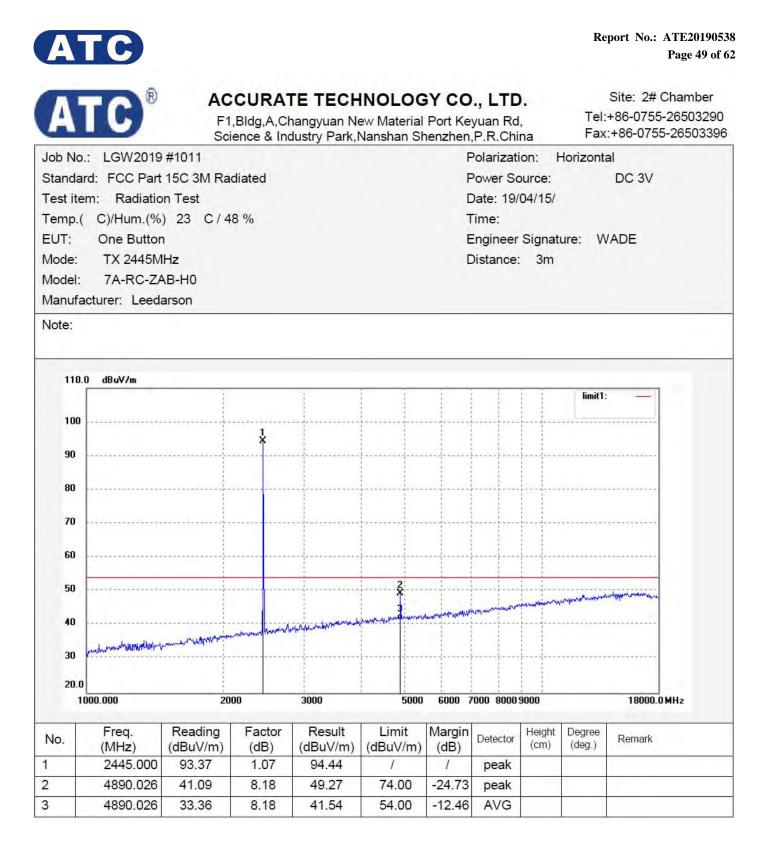
1GHz to 18GHz Test data:

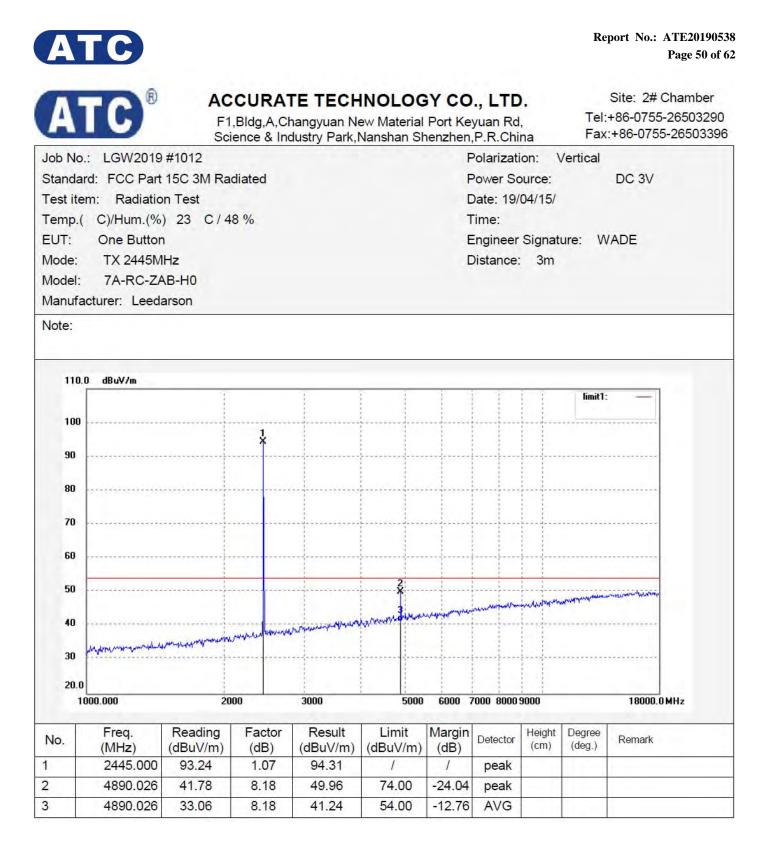
ACCURATE TECHNOLOGY CO., LTD.

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











A 1	IC [®]	F1	,Bldg,A,C	TE TECH hangyuan N dustry Park,	ew Material	Port Ke	yuan Rd	I,		+86-0755	Chamber 5-26503290 5-2650339
ob No.:	: LGW2019	#1013				F	olarizat	ion: \	Vertical		
tandar	d: FCC Part	15C 3M Ra	diated			F	Power So	ource:		DC 3V	
est iter	m: Radiatio	n Test				C	Date: 19/	04/15/			
emp.(C)/Hum.(%)) 23 C/4	8 %			1	Time:				
UT:	One Button	n							ure: W	ADE	
lode:	TX 2480M					C	Distance	: 3m			
lodel:	7A-RC-ZA										
anutad	cturer: Leeda	arson									
110.0	dBuV/m								limit1:	=	
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10	00.000	20	uu	3000	5000	6000 7	000 8000	9000		18000.	UMHZ
10.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
	2480.000	91.66	1.10	92.76	1	/	peak				
	4960.029	41.39	8.60	49.99	74.00	-24.01	peak				
	4960.029	32.76	8.60	41.36	54.00	-12.64	AVG				



18GHz to 26.5GHz 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

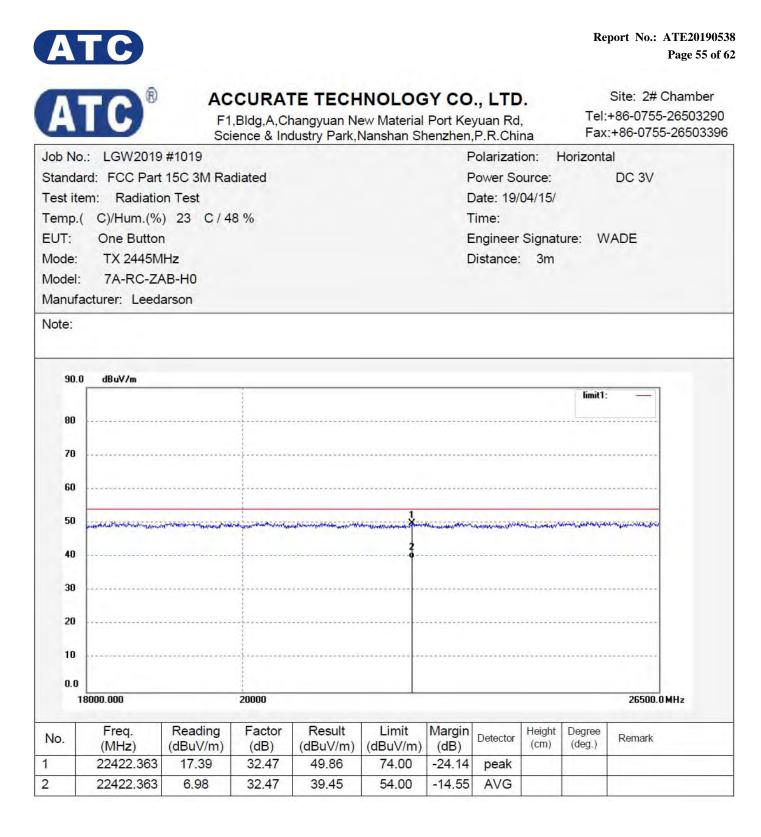
Job No.: LGW2019 #1018	Polarization: Horizontal
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2405MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	
Note:	

			1						limit1:	\rightarrow
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60		******			**********	********			******	*****
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10				********	***********	********		*******	********	
0.0										
1	8000.000		20000							26500.0 MHz
•	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
	21571.684	18.24	31.50	49.74	74.00	-24.26	peak			
	21571.684	8.06	31.50	39.56	54.00	-14.44	AVG			



F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.Chin Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

And and		Sci	ence & In	dustry Park,	Nanshan Sh	nenzhen	,P.R.Chi	na	Fax	+86-0755-26503396
Job No	b.: LGW2019	#1017				F	Polarizati	on: \	/ertical	
Standa	ard: FCC Part		F	Power Source: DC 3V						
Test it	t item: Radiation Test							04/15/		
Temp.	(C)/Hum.(%) 23 C/4	8 %			1	Time:			
EUT:	One Buttor	1				E	Engineer	Signat	ure: W	ADE
Mode:	TX 2405M	IHz				C	Distance:	3m		
Model	7A-RC-ZA	AB-HO								
Manuf	acturer: Leed	arson								
Note:										
90.	0 dBuV/m								F 24	
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0.0										
	18000.000		20000							26500.0 MHz
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22018.444	18.21	32.01	50.22	74.00	-23.78	peak			
2	22018.444	8.26	32.01	40.27	54.00	-13.73	AVG			





F1,Bldg,A,Changyuan New Material Port Keyuan Rd,

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

		Sci	ence & In	dustry Park,	Nanshan Sl	nenzhen.	P.R.Chi	na	Fax	:+86-0755-26503396
Job No	.: LGW2019	#1020				F	Polarizati	ion: \	/ertical	
Standa	ard: FCC Part	15C 3M Ra	diated			F	Power So	ource:		DC 3V
Test ite	em: Radiatio	on Test				C	Date: 19/	04/15/		
Temp.	(C)/Hum.(%) 23 C/4	8 %			Т	ime:			
EUT:	One Buttor	n				E	Ingineer	Signat	ure: W	ADE
Mode:	TX 2445M	lHz				C	Distance	3m		
Model:	7A-RC-ZA	AB-HO								
Manufa	acturer: Leed	arson								
Note:										
90.0	0 dBuV/m		2						limit1:	
			1						mink 1.	
80	*****	*****			******	****		********		
70										
60								*******		
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20										
10										
0.0			1							
	8000.000		20000					_	_	26500.0 MHz
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	23037.721	17.21	32.42	49.63	74.00	-24.37	peak			

AVG

-14.44

7.14

23037.721

32.42

39.56

54.00

2



F1,Bldg,A,Changyuan New Material Port Keyuan Rd,

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

	-	Sci	ence & In	dustry Park,I	Nanshan Sh	nenzhen	P.R.Chi	na	Fax	:+86-0755-26503396
Job N	o.: LGW2019	#1022				F	Polarizati	ion: I	Horizonta	al
Stand	Standard: FCC Part 15C 3M Radiated Power Source:									DC 3V
Test item: Radiation Test Date: 19/04/15/										
Temp	Temp.(C)/Hum.(%) 23 C / 48 % Time:									
EUT:	One Buttor	1				E	Ingineer	Signat	ure: W	ADE
Mode:	TX 2480M	IHz				C	Distance:	3m		
Model	: 7A-RC-ZA	AB-HO								
Manuf	acturer: Leed	arson								
Note:										
90.	0dBu¥/m									
			1						limit1:	—
80										
70										
60					**********					
50	and the second second second		minimum man	and and the supportant station	Reversion Herrich	with your wards	-	Manual Bring	+Whend was a series of	annous and a second
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30										
			1							
20	Sector Contraction of the Contra		·							
10										
0.0			1							
	18000.000		20000							26500.0 MHz
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22266.803	17.57	32.37	49.94	74.00	-24.06	peak	1	13-/	
2	22266.803	7.18	32.37	39.55	54.00	-14.45	AVG		1	



R

ACCURATE TECHNOLOGY CO., LTD.

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

Job No.: LGW2019 #1021	Polarization: Vertical
Standard: FCC Part 15C 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 19/04/15/
Temp.(C)/Hum.(%) 23 C / 48 %	Time:
EUT: One Button	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: 7A-RC-ZAB-H0	
Manufacturer: Leedarson	
Note:	
90.0 dBu¥/m	
80	limit1:

1	Freq.	Reading	Factor	Result	Limit	Margin	Detector	Height	Degree	
1	8000.000		20000							26500.0 MHz
0.0			1		-					
10										
20	*****									
80									•••••	
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10	NANGABARA DE MANAGA	anther where and	-	allalation and a state of the second	mint	aferers (seast-ast-aster)	and the state of the	water and a free	we wanted and a start of the	fairs and the
0										******
70								*******	*******	
30										

74.00

54.00

-23.94

-13.43

peak

AVG

22035.483

22035.483

18.06

8.57

32.00

32.00

50.06

40.57

1

2



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.

					Lo	w Cha	annel					_
Spectr	um											
Ref Le	vel 2	0.00 di	Bm Offset 1	0.00 dB	RBW	100 kHz						
🔵 Att		30	dB SWT	265 ms	🔵 VBW	300 kHz	Mode	Auto S	Sweep			
⊖1Pk Ma	x											
							M	4[1]				-40.04 dBm
10 dBm-												18.0530 GHz
	м1						M	1[1]				-0.60 dBm 2.4240 GHz
0 dBm—	7											2.4240 GH2
-10 dBm-												
-20 dBm-												
20 0011												
-30 dBm-												
			M2					MЗ	M4			
-40 dBm-						when	IN WAA	why	ruXun	horne	monthe	And the real real
-40 dBm- ملیر مرتبہ -50 dBm-	man	Linner Office	" home	al man	mw w-w-	- Constraint						
-50 aBm-												
-60 dBm-												
00 00												
-70 dBm-												
Start 30	.0 MH	lz				691 pt:	s				Sto	p 26.5 GHz
Marker												<u> </u>
Type	Ref	Trc	X-value		Y-va	lue	Func	tion		Fund	ction Resu	lt
M1		1		24 GHz		.60 dBm						
M2		1		14 GHz		.47 dBm						
M3 M4		1		74 GHz 53 GHz		.54 dBm .04 dBm						
[M4		1	18.0.	oo GH2	-40	.o4 uBm		_				
							Mea				LXI	15.04.2019

Date: 15.APR.2019 11:30:57



Middle Channel

1Pk Max 10 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	0 dBm Offset 30 dB SWT		RBW 100 kHz VBW 300 kHz	Mode Auto M4[1]	Sweep	-40.62 dBr
1Pk Max 10 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	30 dB SWT	265 ms (• VBW 300 kHz	M4[1]	Sweep	
10 dBm 0 dBm -10 dBm -20 dBm -30 dBm						
0 dBm -10 dBm -20 dBm -30 dBm						
0 dBm						
0 dBm						19.8540 GH
0 dBm				M1[1]		-1.16 dBr
-20 dBm						2.4620 GH
-20 dBm						
-30 dBm	1					
-30 dBm						
40 d0m						+
40 d0m						
40 d0m					M3 M4	
	M2				▼ IVI4	
	wowwwwwwwww	Mary and	approximation and	Markow Wald	whomewhole	- marine marine
-50 dBm						
-60 dBm						
-70 dBm						
Start 30.0 MHz			691 pt	s		Stop 26.5 GHz
Marker						
Type Ref Tro	: X-valu	ie	Y-value	Function	Fun	ction Result
		462 GHz	-1.16 dBm			
		6.6 GHz	-40.84 dBm			
		053 GHz	-38.80 dBm			
M4	1 19.	854 GHz	-40.62 dBm		1	
				1	1	

Date: 15.APR.2019 11:31:59

High Channel

Mathematical System Offset 10.00 dB RBW 100 kHz Mode Auto Sweep 1Pk Max 30 dB SWT 265 ms VBW 300 kHz Mode Auto Sweep 1Pk Max M4[1] -41.61 dB 22.3820 GH 10 dBm M1 10 cm 2.4620 GH -10 dBm M1 0 2.4620 GH -20 dBm M2 M3 M4 -40 dBm M2 M3 M4 -60 dBm GH GH GH GH -70 dBm GH GH GH GH -80 dBm M2 GH GH GH -70 dBm GH GH GH GH GH -40 dBm M2 GH GH </th <th></th> <th></th> <th></th> <th></th> <th>ingn c</th> <th>mann</th> <th></th> <th></th> <th></th> <th></th> <th></th>					ingn c	mann							
Att 30 db SWT 265 ms VBW 300 kHz Mode Auto Sweep 10 dBm	Spectrur	n											
1Pk Max	Ref Leve	1 20.00	dBm Offset	10.00 dB	😑 RBW 100 k	Hz							
10 dBm	Att 🛛	30	D dB SWT	265 ms	😑 VBW 300 k	Hz Mo	de Auto :	Sweep					
10 dBm 22.3820 GF 0 dBm 1.23 dB -10 dBm 2.4620 GF -10 dBm 2.4620 GF -20 dBm -10 dBm -30 dBm -10 dBm -40 dBm M2 -40 dBm M2 -50 dBm -10 dBm -60 dBm -10 dBm -70 dBm -10 dBm <td>∋1Pk Max</td> <td></td>	∋1Pk Max												
10 dBm M1 -1.23 dB 0 dBm M1[1] -1.23 dB -10 dBm -1.03 dB 2.4620 GF -10 dBm -1.03 dB -1.03 dB -20 dBm -1.04 dB -1.04 dB -30 dBm -1.04 dB -1.04 dB -40 dBm M2 -1.04 dB -50 dBm -1.04 dB -1.04 dB -70 dBm -1.04 dB -1.04 dB -70 dBm -1.03 dB -1.03 dB -70 dBm -1.03 dB -1.03 dB -70 dBm -1.23 dB -1.03 dB -70 dBm -1.03 dB -1.03 dB -70 dBm -1.23 dB -1.03 dB -70 dBm -1.03 dB -1.03 dB -70 dBm -1.03 dB -1.03 dB -70 dBm -1.23 dB -1.03 dB -70 dBm -1.23 dB -1.03 dB -70 dBm -1.23 dB -1.03 dB -71 d1 2.462 GHz -1.23 dB M2 1 6.993 GHz -40.93 dB M3 1 19.777 GHz -40.23 dB -1.04 dB						1	M4[1]				-41.61 dBn		
M1 -1.23 dB -10 dBm 2.4620 GF -10 dBm 2.4620 GF -20 dBm 2.4620 GF -20 dBm 2.4620 GF -30 dBm 2.462 GF -40 dBm M2 -40 dBm M2 -40 dBm M2 -50 dBm M3 -40 dBm M2 -40 dBm M2 -50 dBm -50 dBm -60 dBm -50 dBm -70 dBm -50 dBm -7	10 d8m						_				22.3820 GHz		
0 dBm -10 dBm							M1[1]			-1.23 dBm			
-10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -40 dBm -60 dBm -70	0 dBm	1									2.4620 GH		
-20 dBm -30 dBm -40 dBm -40 dBm -40 dBm -50 dBm -60 dBm -60 dBm -70													
-30 dBm M2 M3 M4 -40 dBm M2 M3 M4 -50 dBm	-10 dBm-			-		+							
-30 dBm -40 dBm -40 dBm -40 dBm -50 dBm -70													
M2 M3 M4 40 dBm	-20 dBm-			+		+	-						
40 dBm M2 M3 M4 40 dBm													
40 dBm 101 4	-30 dBm												
Stort 30.0 MHz 691 pts Stop 26.5 GHz Yarker 691 pts Stop 26.5 GHz Yarker 1 2.462 GHz -1.23 dBm M1 1 2.462 GHz -40.93 dBm M3 1 19.777 GHz -40.23 dBm	40 dBm		_						-				
Stort 30.0 MHz 691 pts Stop 26.5 GHz American Stop 26.2 GHz Stop 26.2 GHz Marker -70 dBm -70 dBm Type Ref Trc X-value Y-value Marker -70.23 dBm -70.23 dBm M1 1 2.462 GHz -1.23 dBm M3 1 19.777 GHz -40.93 dBm M4 1 22.382 GHz -41.61 dBm		www	wholewill	and me and	mound	when	m	uhronan	Mullips	happentured	intransition		
-60 dBm -60 dBm Image: Constraint of the second se	450 dBm-						_						
Type Ref Trc X-value Y-value Function Function Result M1 1 2.462 GHz -1.23 dBm													
Start 30.0 MHz 691 pts Stop 26.5 GHz Marker Your Stop 26.5 GHz Marker Type Ref Trc X-value Function Function Result M1 1 2.462 GHz -1.23 dBm Function Function Result M2 1 6.983 GHz -40.93 dBm Function Function Result M3 1 19.777 GHz -40.23 dBm Function Function M4 1 22.382 GHz -41.61 dBm Function Function	-60 dBm—												
Start 30.0 MHz 691 pts Stop 26.5 GHz Marker Your Stop 26.5 GHz Marker Type Ref Trc X-value Function Function Result M1 1 2.462 GHz -1.23 dBm Function Function Result M2 1 6.983 GHz -40.93 dBm Function Function Result M3 1 19.777 GHz -40.23 dBm Function Function M4 1 22.382 GHz -41.61 dBm Function Function													
Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2.462 GHz -1.23 dBm - <td>-70 dBm—</td> <td></td>	-70 dBm—												
Marker Tro X-value Y-value Function Function Result M1 1 2.462 GHz -1.23 dBm M2 1 6.983 GHz -40.93 dBm M3 1 19.777 GHz -40.23 dBm M4 1 22.382 GHz -41.61 dBm													
Type Ref Trc X-value Y-value Function Function Result M1 1 2.462 GHz -1.23 dBm	Start 30.0	MHz			691	pts				Sto	op 26.5 GHz		
M1 1 2.462 GHz -1.23 dBm M2 1 6.983 GHz -40.93 dBm M3 1 19.777 GHz -40.23 dBm M4 1 22.382 GHz -41.61 dBm	Marker												
M2 1 6.983 GHz -40.93 dBm M3 1 19.777 GHz -40.23 dBm M4 1 22.382 GHz -41.61 dBm	Type Re	f Trc	X-valu	e				Function Result					
M3 1 19.777 GHz -40.23 dBm M4 1 22.382 GHz -41.61 dBm													
M4 1 22.382 GHz -41.61 dBm													
	1914		22.3		-+1.01 ut	200		I	_		15.01.0010		
Measuring 15.04.2010		Л								1,00	1510432019		

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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 1.69dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

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