



<b>Prüfbericht-Nr.:</b> <i>Test report No.:</i>	<b>50355257 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	168155818	Seite 1 von 20 <i>Page 1 of 20</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client reference No.:</i>	N/A	<b>Auftragsdatum:</b> <i>Order date:</i>	10.03.2020		
<b>Auftraggeber:</b> <i>Client:</i>	<b>LEEDARSON LIGHTING CO., LTD.</b> Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China				
<b>Prüfgegenstand:</b> <i>Test item:</i>	Fan & Light Switch (Red Series)				
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	LZW36-C				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	FCC&IC approval				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.249 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2: Section 2.1091 FCC KDB Publication 447498 D01 v06	RSS-210 Issue 10 December 2019 RSS-Gen Issue 5 March 2019 RSS-102 Issue 5 March 2015			
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	12.03.2020	Please refer to photo documents			
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A001073099-001 to 016				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	30.03.2020 - 08.04.2020				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass				
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>			
					
28.05.2020	Alex Lan / Senior Project Engineer	28.05.2020	Winnie Hou / Technical Certifier		
<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other:</b>					
FCC ID: 2AB2QLZW36-C IC: 10256A-LZW36C, HVIN: LZW36-C					
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
* Legende: 1 = sehr gut      2 = gut      3 = befriedigend      4 = ausreichend      5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n)      F(ail) = entspricht nicht o.g. Prüfgrundlage(n)      N/A = nicht anwendbar      N/T = nicht getestet Legend: 1 = very good      2 = good      3 = satisfactory      4 = sufficient      5 = poor P(ass) = passed a.m. test specifications(s)      F(ail) = failed a.m. test specifications(s)      N/A = not applicable      N/T = not tested					
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

## **Test Summary**

**5.1.1 ANTENNA REQUIREMENT**

*RESULT: Pass*

**5.1.2 FUNDAMENTAL & HARMONICS RADIATED EMISSION**

*RESULT: Pass*

**5.1.3 20dB BANDWIDTH**

*RESULT: Pass*

**5.1.4 99% BANDWIDTH**

*RESULT: Pass*

**5.1.5 RADIATED SPURIOUS EMISSION & BAND EDGE**

*RESULT: Pass*

**5.1.6 CONDUCTED EMISSION ON AC MAINS**

*RESULT: Pass*

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## 1 General Remarks

### 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results

## 2 Test Sites

### 2.1 Test Facilities

**TÜV Rheinland (Shenzhen) Co., Ltd.**

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Registration No.: 694916

IC Registration No.: 25069

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

TÜV Rheinland (Shenzhen) Co., Ltd.

<b>Radio Spectrum Testing (TS8997)</b>					
<b>Equip. No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Cal. until</b>
1825795	Signal Analyzer	R&S	FSV 40	101441	20.08.2020
1825798	OSP	R&S	OSP 150	101017	17.12.2020
1825799	Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
1825800	Test Software	R&S	WMS32 (V10.50.10)	N/A	N/A
1825801	Power Meter	R&S	NRP2	107105	17.12.2020
1825802	Wideband Power Sensor	R&S	NRP-Z81	105350	17.12.2020
1826431	Shielding Room 8#	Albatross	SR8	APC17151-SR8	23.07.2020
<b>Unwanted Emission Testing (TS9975)</b>					
<b>Equip. No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Cal. until</b>
1826021	EMI Test Receiver	R&S	ESR 7	102021	19.08.2020
1826023	Signal Analyzer	R&S	FSV 40	101439	21.08.2020
1826024	System Controller Interface	R&S	SCI-100	S10010038	N/A
1826025	Filterbank	R&S	Wlan	100759	21.08.2020
1826026	OSP	R&S	OSP 120	102040	N/A
1826028	Pre-amplifier	R&S	SCU08F1	08320031	20.08.2020
1826029	Amplifier	R&S	SCU-18F	180070	20.08.2020
1826030	Amplifier	R&S	SCU40A	100475	20.09.2020
1826031	Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	02.09.2020
1826032	Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	02.09.2020
1826033	Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	02.09.2020
1826034	Active Loop Antenna	Schwarzbeck	FMZB 1513	302	01.09.2020
1826035	Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18313	02.09.2020
1826036	Test software	R&S	EMC32 (V10.50.40)	N/A	N/A
1826037	Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
1826433	3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	06.07.2020

<b>Conducted Emission on AC Mains</b>					
<b>Equip. No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Cal. until</b>
1822625	EMI Test Receiver	R&S	ESR3	102428	03.09.2020
1822627	Artificial Mains Network	R&S	ENV216	102333	19.08.2020
1822626	Artificial Mains Network	R&S	ENV432	101411	19.08.2020
1822629	Attenuator	R&S	ESH2Z31	100300	19.08.2020
1825090	EMC32 test software	R&S	EMC32(Ver.10.5 0.01)	N/A	N/A
<b>Radiated Emission (3m chamber)</b>					
<b>Equip. No.</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cali. until</b>
1822620	3m SAC	ETS	SAC3	CT001632-Q1362	23.08.2021
1825044	EMI Test Receiver	R&S	ESR7	102111	04.01.2021
1825004	Horn Antenna	R&S	HF907	102706	01.09.2020
1825005	Preamplifier	FIT	SCU-18F	180077	19.08.2020
1825006	Active magnetic loop antenna	SCHWARZBEC K	FMZB1519B	00080	20.08.2020
1825042	Trilog-Broadband antenna	SCHWARZBEC K	VULB9168	0945	12.09.2020
1825072	Switching Controller Interface	R&S	OSP 120	102039	N/A
1825090	EMC32 test software	R&S	EMC32(Ver.10.5 0.01)	N/A	N/A

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF Power (conducted)	$\pm 2.5$ dB
Radiated Emission of Transmitter, valid up to 26.5 GHz	$\pm 6$ dB
Radiated Emission of Receiver, valid up to 26.5 GHz	$\pm 6$ dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	$\pm 3.70$ dB / $\pm 3.30$ dB
Radiated Emission (3m SAC), 30MHz to 1000MHz	$\pm 4.52$ dB
Radiated Emission (3m SAC), above 1000MHz	$\pm 4.37$ dB
Temperature	$\pm 1$ °C
Humidity	$\pm 5$ %
Voltage (DC)	$\pm 1$ %
Voltage (AC, <10kHz)	$\pm 2$ %

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Guangdong) Ltd. file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3 General Product Information

#### 3.1 Product Function and Intended Use

The EUT is Fan & Light Switch (Red Series), it supports general 2.4GHz wireless technology.

For details, refer to the User Manual, Technical Description and Circuit Diagram.

#### 3.2 Ratings and System Details

**Table 2: Technical Specification of EUT**

General Information of EUT	Value
Kind of Equipment	Fan & Light Switch (Red Series)
Type Designation	LZW36-C
FCC ID	2AB2QLZW36-C
IC:	10256A-LZW36C
HVIN:	LZW36-C
Operating Voltage	AC 120V, 60Hz
Testing Voltage	AC 120V, 60Hz
Technical Specification of General 2.4GHz	
Operating Frequency Band	2400-2483.5MHz
Operating Frequency Channel	2403-2478MHz
Channel Number	76 channel
Channel Space	1MHz
Type of Modulation	GFSK
Antenna Type	Monopole
Antenna number	1
Antenna Gain	1.5 dBi Max



**Table 3: RF Channel and Frequency, General 2.4GHz**

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
<b>0</b>	<b>2403</b>	19	2422	38	2441	57	2460
1	2404	20	2423	39	2442	58	2461
2	2405	21	2424	40	2443	59	2462
3	2406	22	2425	41	2444	60	2463
4	2407	23	2426	42	2445	61	2464
5	2408	24	2427	43	2446	62	2465
6	2409	25	2428	44	2447	63	2466
7	2410	26	2429	45	2448	64	2467
8	2411	27	2430	46	2449	65	2468
9	2412	28	2431	47	2450	66	2469
10	2413	29	2432	48	2451	67	2470
11	2414	30	2433	49	2452	68	2471
12	2415	31	2434	50	2453	69	2472
13	2416	32	2435	51	2454	70	2473
14	2417	33	2436	52	2455	71	2474
15	2418	34	2437	53	2456	72	2475
16	2419	35	2438	54	2457	73	2476
17	2420	36	2439	55	2458	74	2477
18	2421	37	<b>2440</b>	56	2459	75	<b>2478</b>

Test frequencies are lowest channel: 2403 MHz, middle channel: 2440 MHz and highest channel: 2478 MHz

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, General 2.4GHz Transmitting mode
  - 1. Low channel
  - 2. Middle channel
  - 3. High channel
- B. On, Normal Running mode
- C. Off

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

### 3.5 Submitted Documents

- Application Form
- Operation Description
- ID Label and Location Info
- Schematics
- Block Diagram
- User Manual

## 4 Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

**Radio Spectrum:** The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013 and ANSI C63.4: 2014.

### 4.3 Special Accessories and Auxiliary Equipment

N/A

### 4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

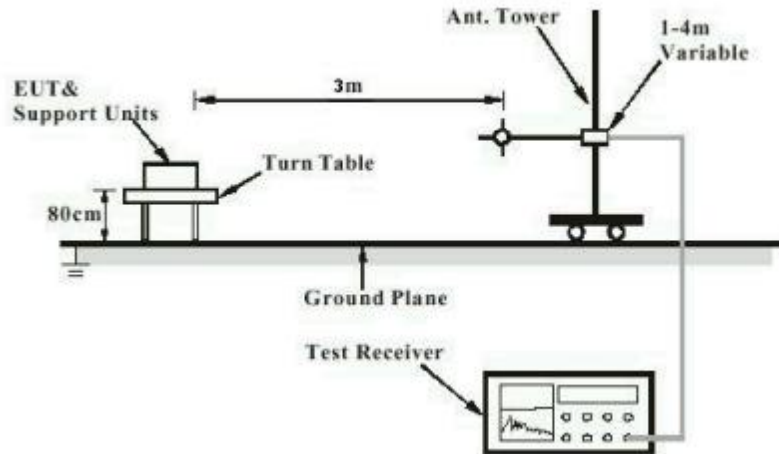


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

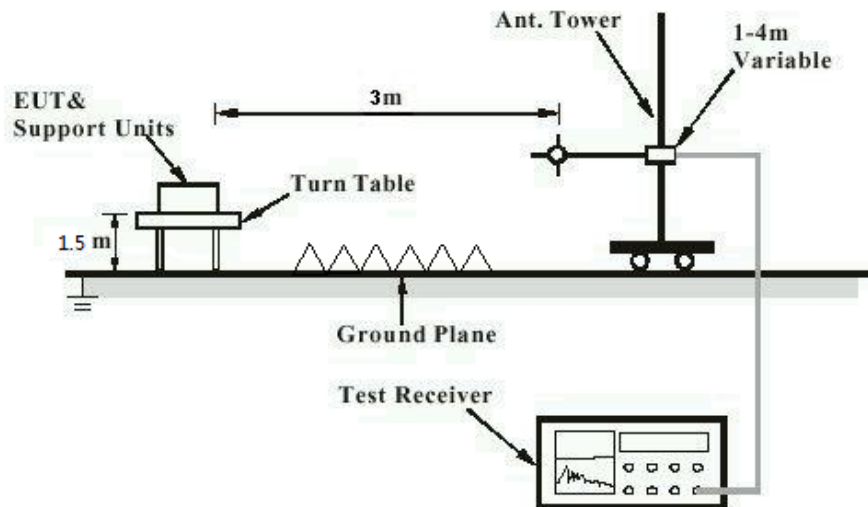


Diagram of Measurement Configuration for Mains Conduction Measurement

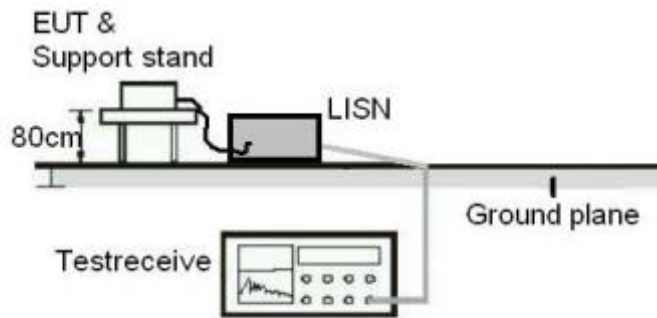
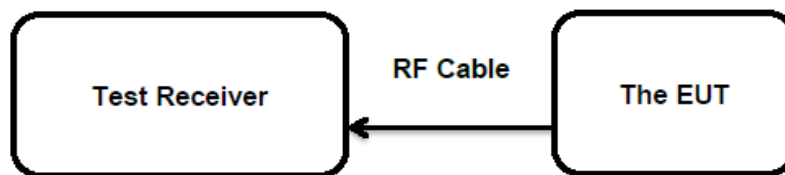


Diagram of Measurement Configuration for Conducted Transmitter Measurement



## 5 Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.203  
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has a Monopole antenna, the directional gain of antenna is 1.5dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

## 5.1.2 Fundamental & Harmonics Radiated Emission

**RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.249(a), RSS-210  
Basic standard : ANSI C63.10: 2013  
Limits : Refer to FCC Part 15.209(a)  
RSS-210 Annex B.10(a)  
Kind of test site : 3m Semi-anechoic Chamber

**Test Setup**

Date of testing : 30.03.2020  
Input voltage : AC 120V, 60Hz  
Operation mode : A  
Test channel : Low / Middle / High  
Ambient temperature : 23 °C  
Relative humidity : 42 %  
Atmospheric pressure : 100 kPa

For the measurement records, refer to the appendix B.

### 5.1.3 20dB Bandwidth

**RESULT:****Pass****Test Specification**

Test standard : FCC Part 15.215  
Basic standard : ANSI C63.10: 2013  
Kind of test site : Shielded Room

**Test Setup**

Date of testing : 01.04.2020  
Input voltage : AC 120V, 60Hz  
Operation mode : A  
Ambient temperature : 23 °C  
Relative humidity : 42 %  
Atmospheric pressure : 100 kPa

For the measurement records, refer to the appendix B.



### 5.1.4 99% Bandwidth

**RESULT:****Pass****Test Specification**

Test standard : RSS-Gen Section 6.7  
Basic standard : ANSI C63.10: 2013  
Kind of test site : Shielded Room

**Test Setup**

Date of testing : 01.04.2020  
Input voltage : AC 120V, 60Hz  
Operation mode : A  
Ambient temperature : 23 °C  
Relative humidity : 42 %  
Atmospheric pressure : 100 kPa

For the measurement records, refer to the appendix B.

### 5.1.5 Radiated Spurious Emission & Band Edge

**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.249 (d) & FCC Part 15.205 RSS-210 Annex B.10(b)
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.249(d) RSS-Gen Clause 8.9 & 8.10
Kind of test site	: 3m Semi-anechoic Chamber

**Test Setup**

Date of testing	: 30.03.2020
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Ambient temperature	: 24 °C
Relative humidity	: 45 %
Atmospheric pressure	: 100 kPa

**Remark:**

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix B.

### 5.1.6 Conducted Emission on AC Mains

**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) RSS-Gen Clause 8.8
Kind of test site	: Shielded Room

**Test Setup**

Date of testing	: 02.04.2020
Input voltage	: AC 120V/60Hz
Operation mode	: B
Earthing	: Not connected
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

## 6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

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## Appendix B: Test Results

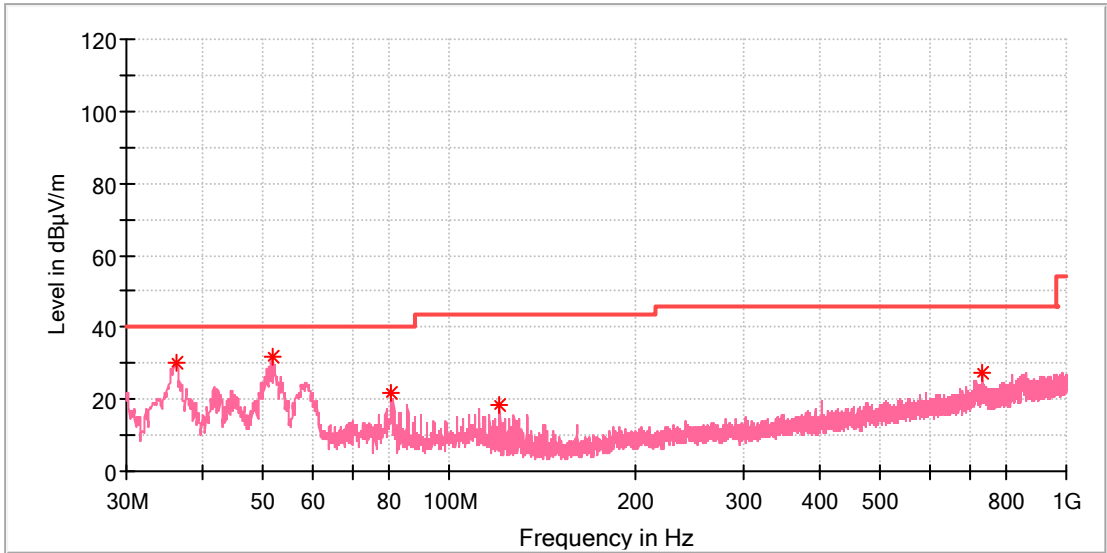
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Note: Testing was carried out within frequency range 9 kHz to the tenth harmonics. The measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, therefore only the radiated spurious emissions from 30MHz to 18GHz were reported.

### Appendix B.1: Fundamental & Harmonics Radiated Emission

#### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Low Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

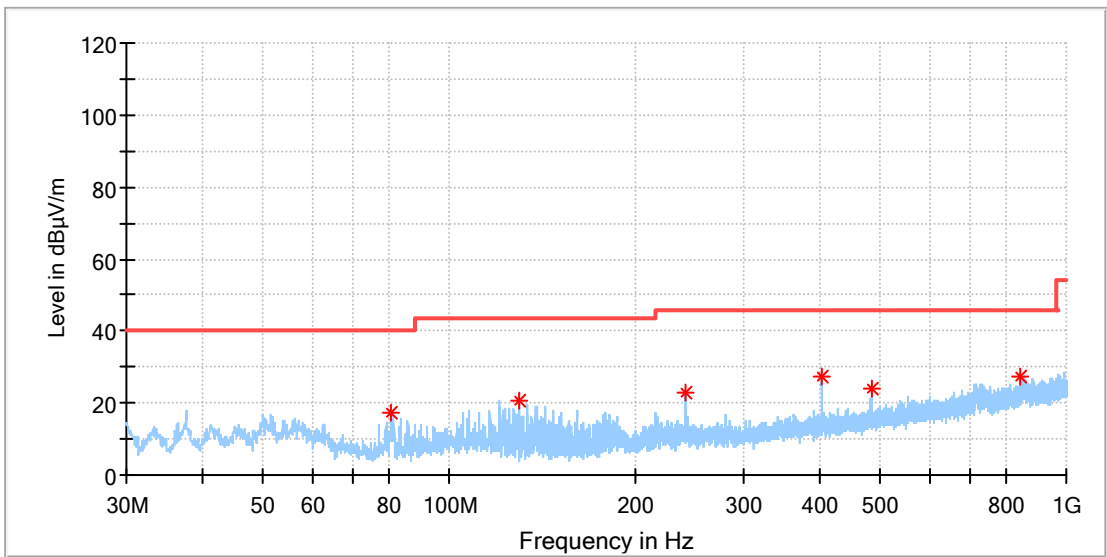


#### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
36.159500	30.11	---	40.00	9.89	100.0	V	247.0	-21.8
51.679500	31.73	---	40.00	8.27	100.0	V	110.0	-18.6
80.440000	22.04	---	40.00	17.96	100.0	V	28.0	-23.7
120.840500	18.53	---	43.50	24.97	100.0	V	110.0	-21.2
728.545500	27.36	---	46.00	18.64	100.0	V	11.0	-7.9

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Low Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

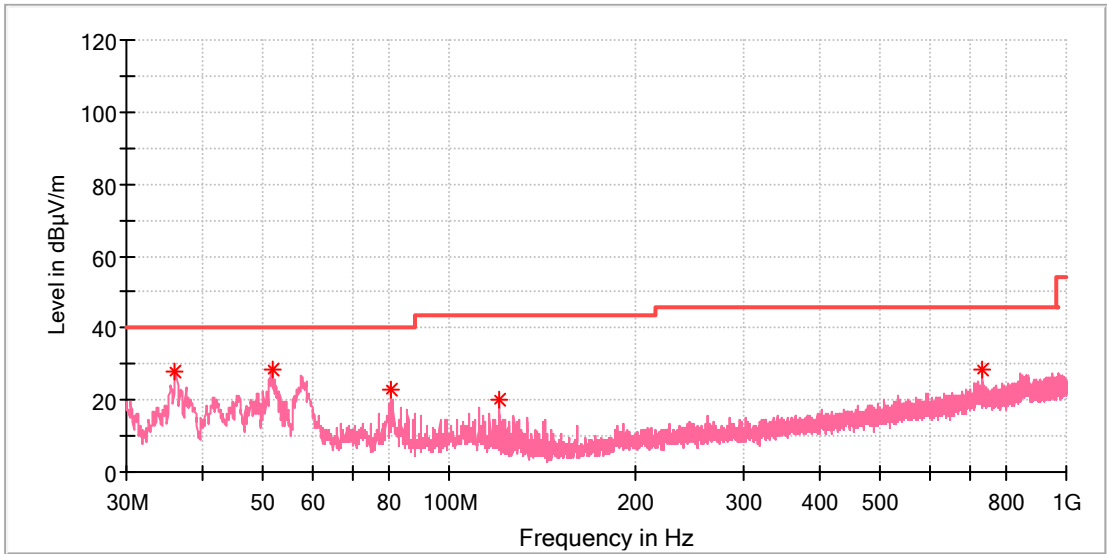


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
80.440000	17.19	---	40.00	22.81	100.0	H	209.0	-23.7
129.716000	20.83	---	43.50	22.67	100.0	H	184.0	-22.1
241.266000	22.70	---	46.00	23.30	100.0	H	340.0	-18.0
402.334500	27.28	---	46.00	18.72	100.0	H	275.0	-14.1
482.553500	23.99	---	46.00	22.01	100.0	H	160.0	-12.5
845.042500	27.50	---	46.00	18.50	100.0	H	53.0	-6.0

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_Mid Channel  
 Test Voltage: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin



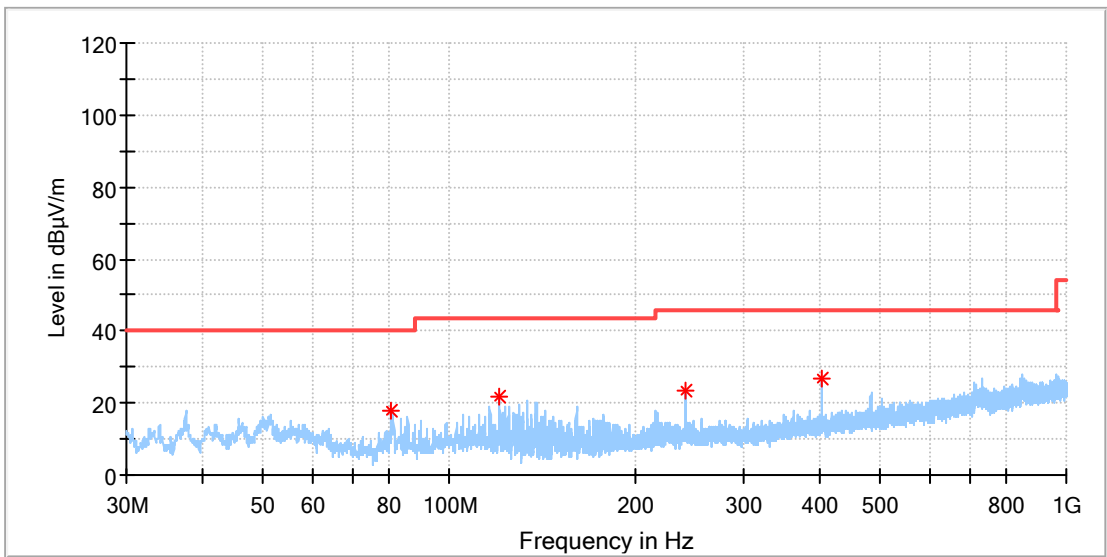
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
36.014000	28.11	---	40.00	11.89	100.0	V	209.0	-21.8
51.631000	28.21	---	40.00	11.79	100.0	V	184.0	-18.6
80.391500	22.66	---	40.00	17.34	100.0	V	96.0	-23.7
120.840500	20.20	---	43.50	23.30	100.0	V	104.0	-21.2
729.612500	28.39	---	46.00	17.61	100.0	V	291.0	-7.9



### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Mid Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

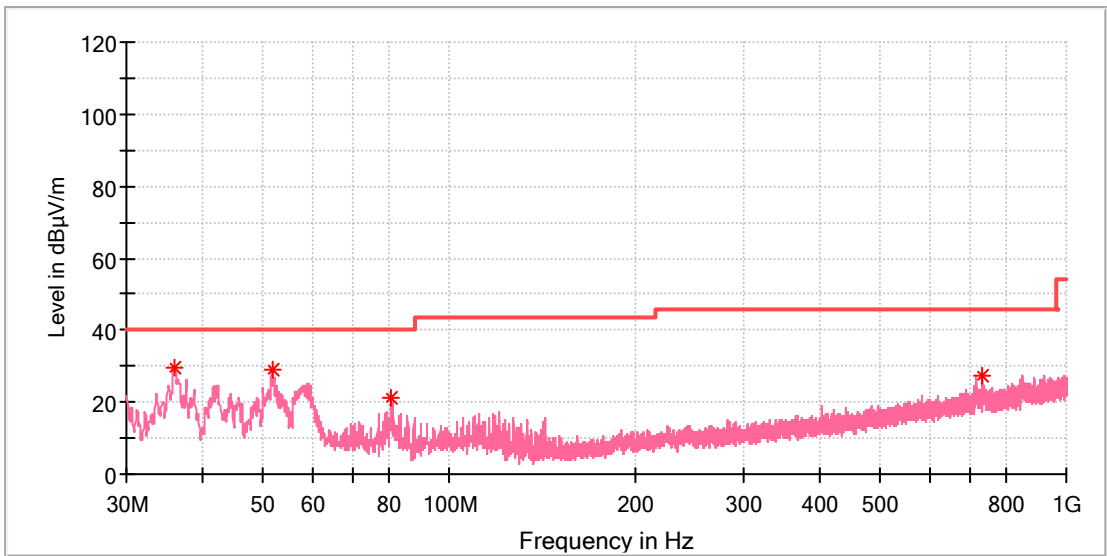


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
80.391500	17.99	---	40.00	22.01	100.0	H	53.0	-23.7
120.840500	21.87	---	43.50	21.63	100.0	H	44.0	-21.2
241.217500	23.40	---	46.00	22.60	100.0	H	11.0	-18.0
402.043500	26.74	---	46.00	19.26	100.0	H	249.0	-14.1

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_High Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

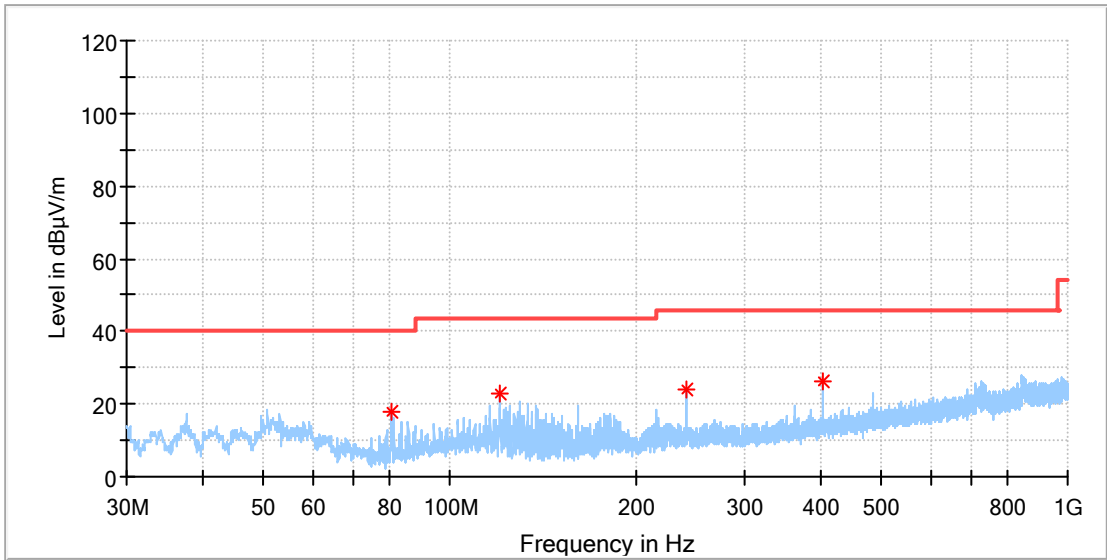


### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.917000	29.70	---	40.00	10.30	100.0	V	331.0	-21.9
51.679500	29.11	---	40.00	10.89	100.0	V	0.0	-18.6
80.391500	21.07	---	40.00	18.93	100.0	V	46.0	-23.7
728.642500	27.35	---	46.00	18.65	100.0	V	290.0	-7.9

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_High Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

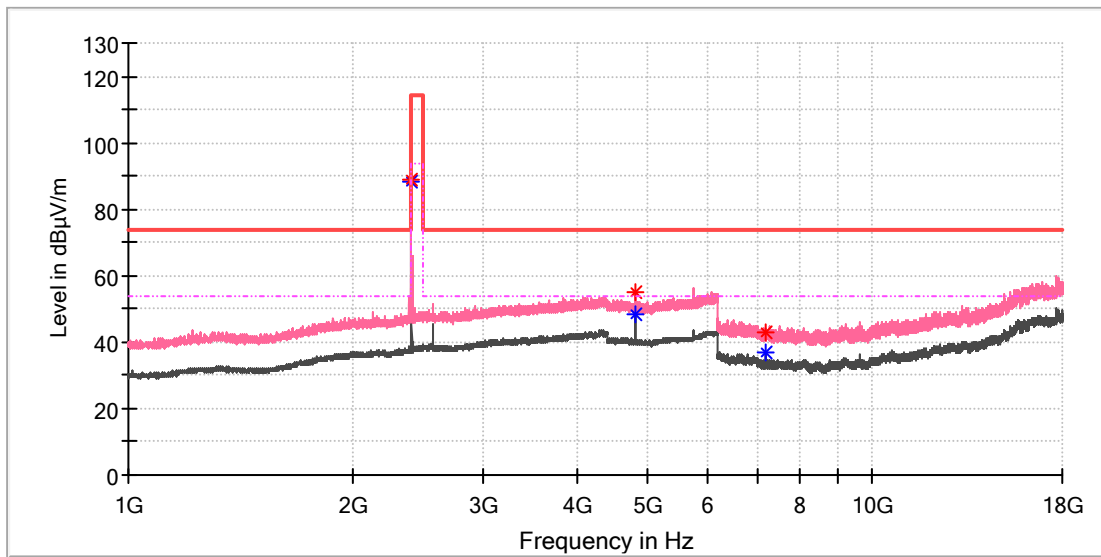


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
80.440000	17.74	---	40.00	22.26	100.0	H	62.0	-23.7
120.792000	23.01	---	43.50	20.49	100.0	H	62.0	-21.2
241.266000	23.90	---	46.00	22.10	100.0	H	0.0	-18.0
402.189000	26.45	---	46.00	19.55	100.0	H	284.0	-14.1

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_Low Channel  
 Test Voltage:: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin

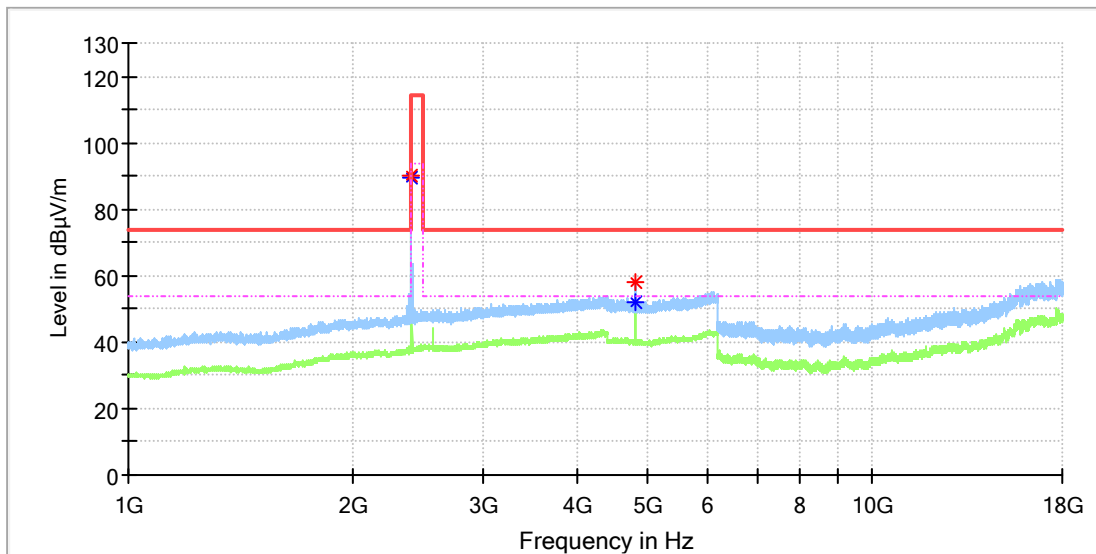


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2403.000000	---	88.03	94.00	5.97	100.0	V	151.0	7.0
2403.000000	89.01	---	114.00	24.99	100.0	V	151.0	7.0
4806.000000	---	48.66	54.00	5.34	100.0	V	346.0	13.6
4806.000000	55.18	---	74.00	18.82	100.0	V	346.0	13.6
7208.900000	43.15	---	74.00	30.85	100.0	V	6.0	8.8
7208.900000	---	36.74	54.00	17.26	100.0	V	6.0	8.8

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_Low Channel  
 Test Voltage: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin

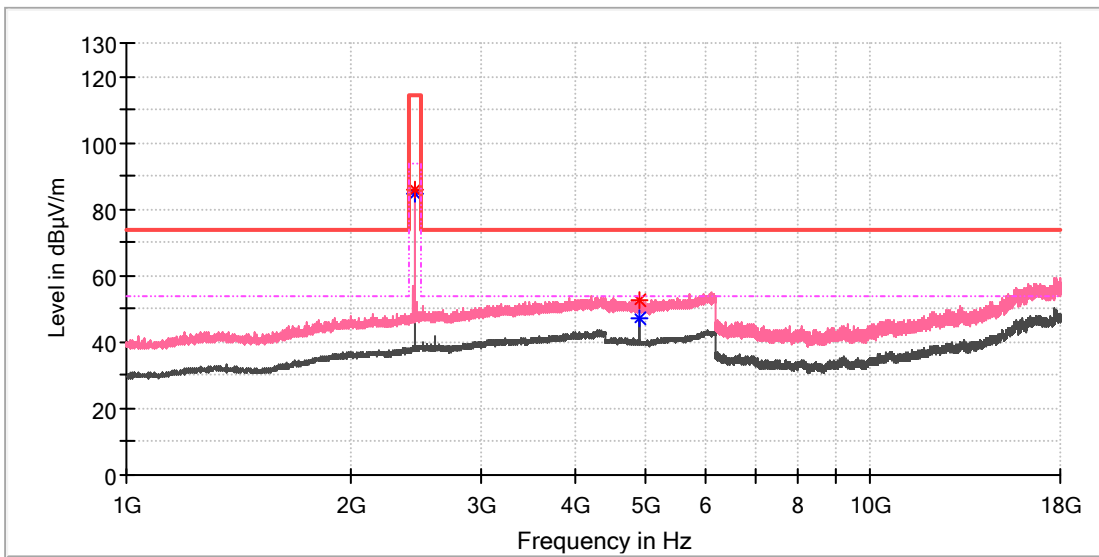


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2403.000000	90.26	---	114.00	23.74	100.0	H	218.0	7.0
2403.000000	---	89.42	94.00	4.58	100.0	H	218.0	7.0
4805.500000	---	52.13	54.00	1.87	100.0	H	71.0	13.6
4805.500000	58.32	---	74.00	15.68	100.0	H	71.0	13.6

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Mid Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

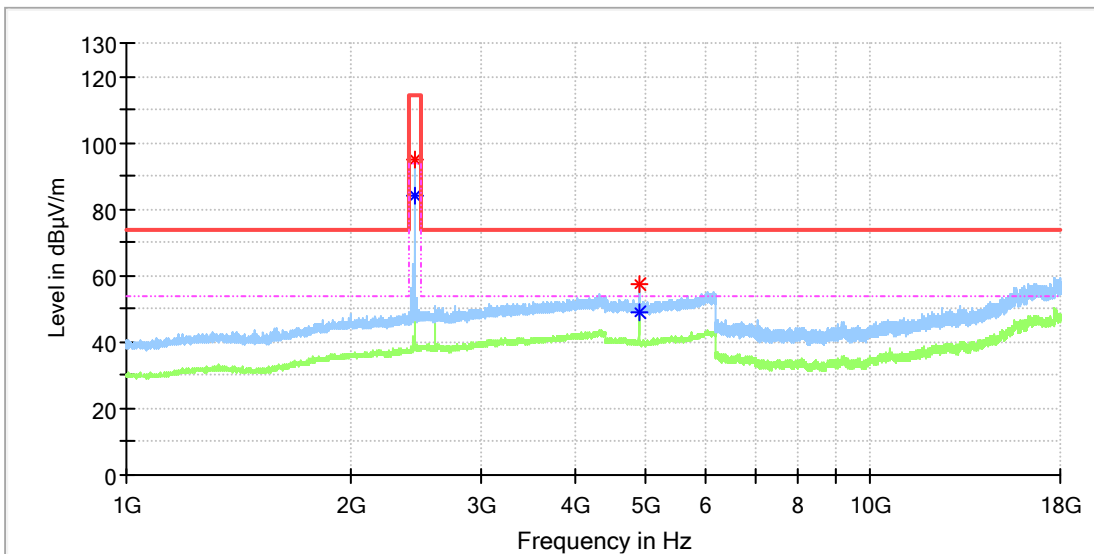


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2440.000000	---	84.84	94.00	9.16	100.0	V	191.0	7.4
2440.000000	85.64	---	114.00	28.36	100.0	V	191.0	7.4
4879.500000	52.66	---	74.00	21.34	100.0	V	86.0	13.4
4880.000000	---	46.97	54.00	7.03	100.0	V	174.0	13.4

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_Mid Channel  
 Test Voltage: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin

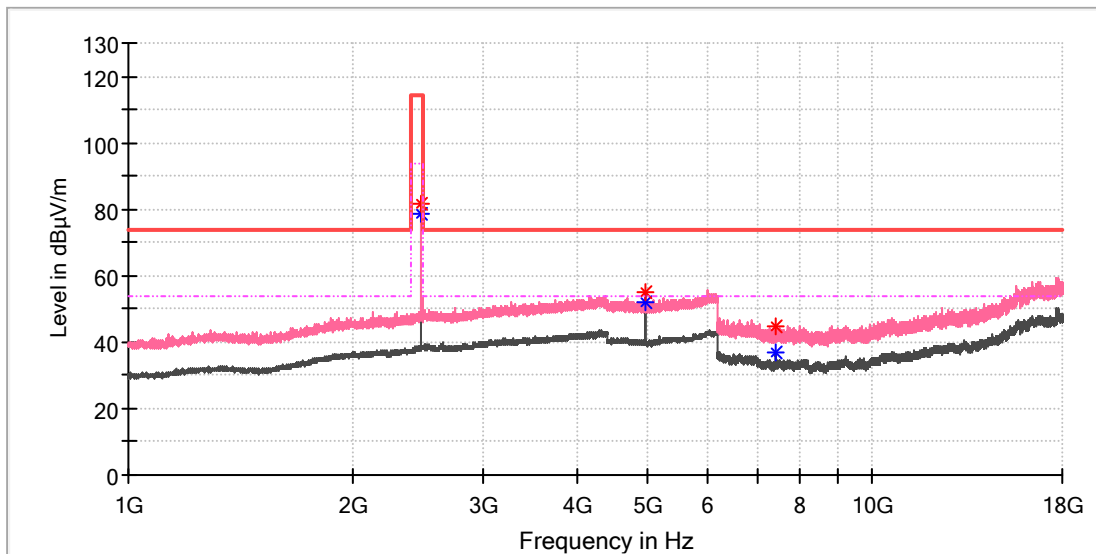


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2439.000000	---	84.28	94.00	9.72	100.0	H	88.0	7.4
2440.000000	94.77	---	114.00	19.23	100.0	H	88.0	7.4
4879.000000	---	49.06	54.00	4.94	100.0	H	251.0	13.4
4879.500000	57.53	---	74.00	16.47	100.0	H	251.0	13.4

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_High Channel  
 Test Voltage: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin



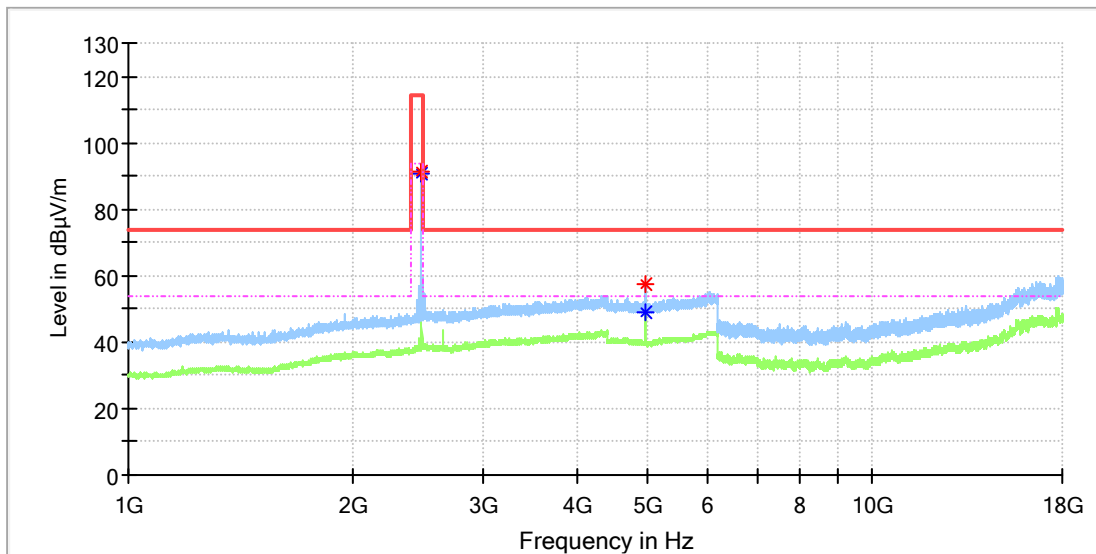
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2477.500000	---	78.59	94.00	15.41	100.0	V	67.0	7.4
2477.500000	81.51	---	114.00	32.49	100.0	V	67.0	7.4
4956.000000	---	51.91	54.00	2.09	100.0	V	284.0	13.2
4956.000000	55.31	---	74.00	18.69	100.0	V	284.0	13.2
7433.100000	44.65	---	74.00	29.35	100.0	V	0.0	8.4
7434.575000	---	36.87	54.00	17.13	100.0	V	5.0	8.4



### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Test Mode: TX\_High Channel  
 Test Voltage: AC 120V/60Hz  
 Remark: Temp 23 Humi:42%  
 Test Standard: FCC 15.249  
 Tested By: Kei Zhang  
 Reviewed By: Terry Yin



### Critical Freqs

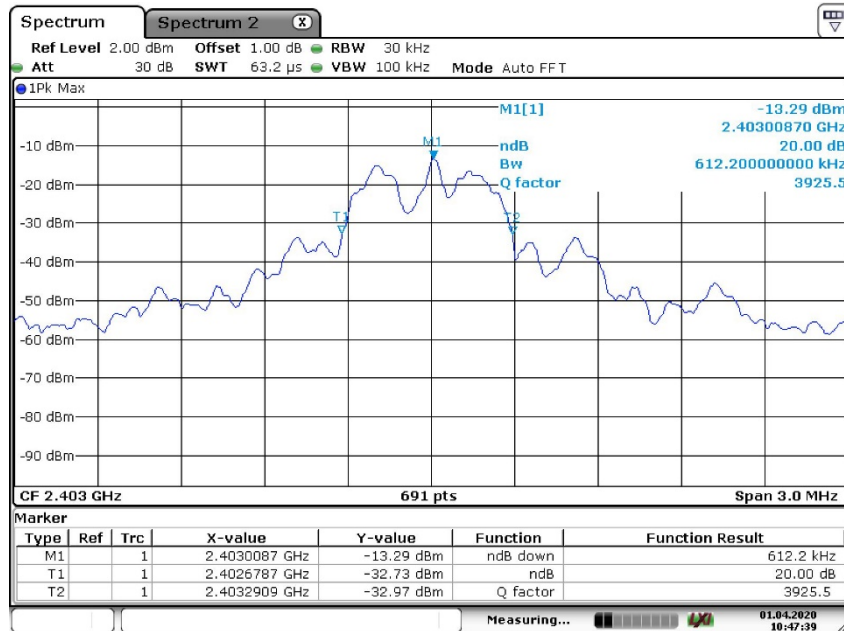
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2477.500000	91.32	---	114.00	22.68	100.0	H	56.0	7.4
2478.000000	---	90.85	94.00	3.15	100.0	H	56.0	7.4
4955.000000	---	49.08	54.00	4.92	100.0	H	265.0	13.2
4956.000000	57.74	---	74.00	16.26	100.0	H	284.0	13.2

## Appendix B.2: Test Results of 20dB Bandwidth

### Test Result of 20dB Bandwidth, General 2.4GHz

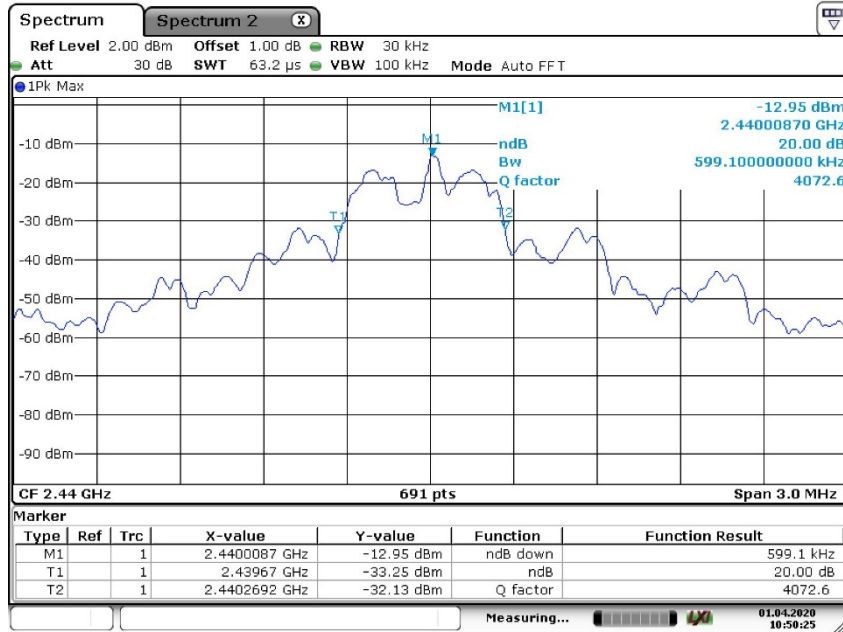
Test Mode Test Channel (MHz)	20dB Bandwidth (kHz)
2403	612.2
2440	599.1
2478	612.2

Low Channel



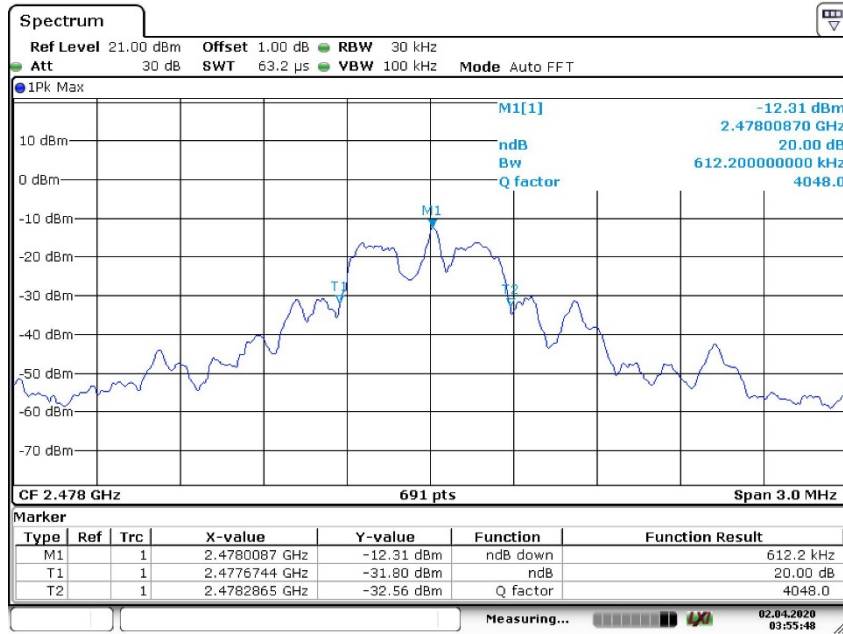
Date: 1.APR.2020 10:47:39

Middle Channel



Date: 1.APR.2020 10:50:25

High Channel



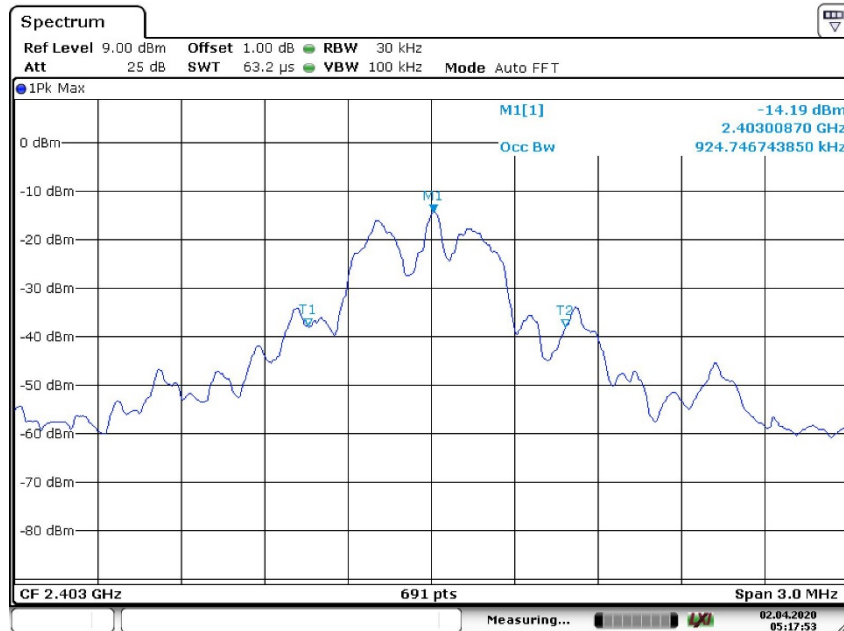
Date: 2.APR.2020 03:55:48

### Appendix B.3: Test Results of 99% Bandwidth

#### Test Result of 99% Bandwidth, General 2.4GHz

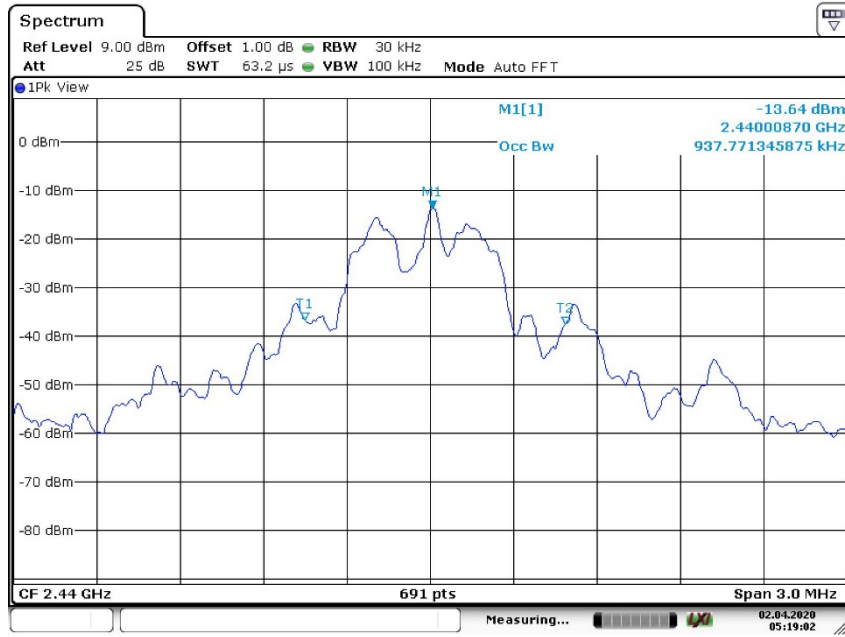
Test Mode Test Channel (MHz)	99% Bandwidth (kHz)
2403	924.75
2440	937.77
2478	933.43

Low Channel



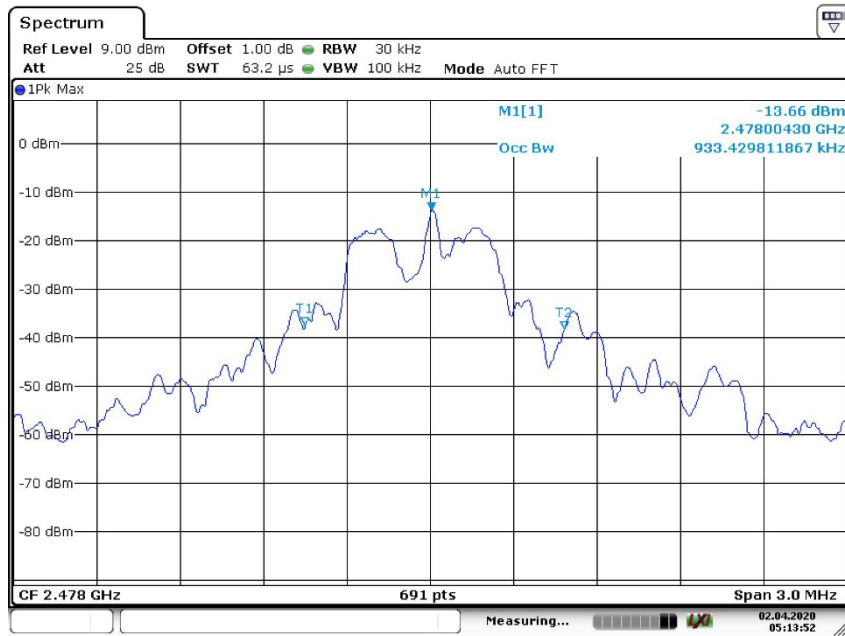
Date: 2.APR.2020 05:17:53

Middle Channel



Date: 2.APR.2020 05:19:03

High Channel

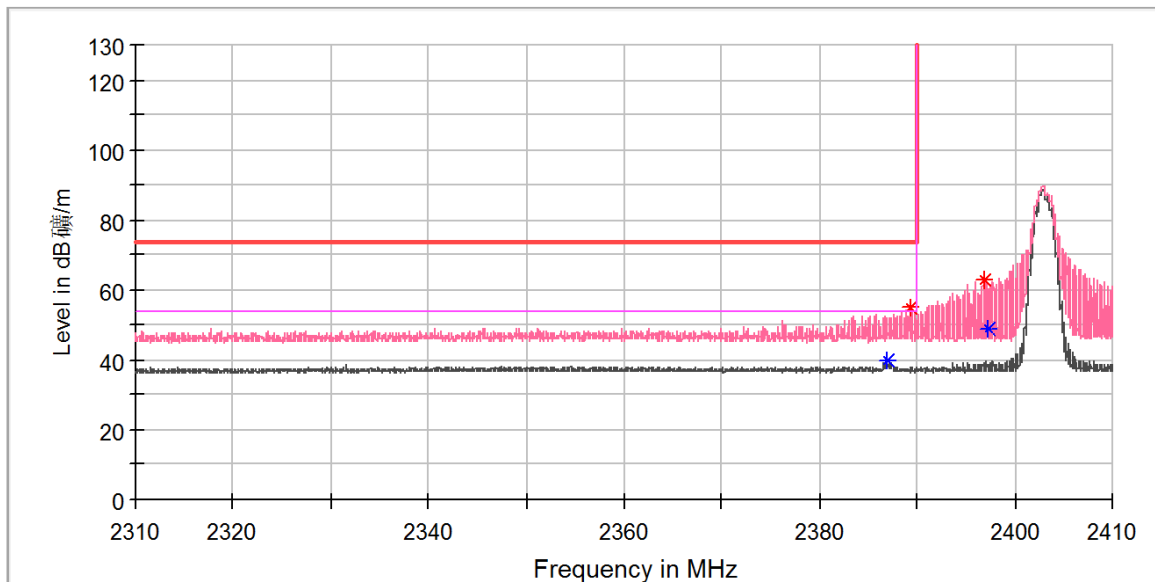


Date: 2.APR.2020 05:13:53

### Appendix B.4: Test Results of Radiated Emissions in Restricted Bands

#### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Low Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

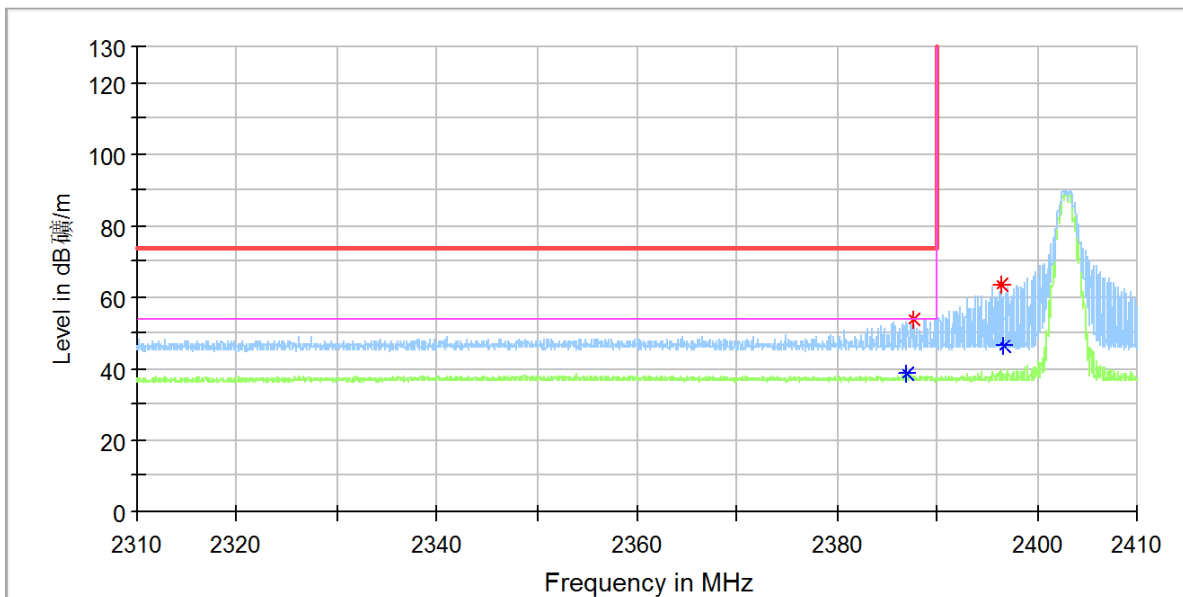


#### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2387.000000	---	39.72	54.00	14.28	100.0	V	107.0	7.0
2389.308824	54.99	---	74.00	19.01	100.0	V	183.0	7.0
2396.808824	62.94	---	74.00	11.06	100.0	V	142.0	7.0
2396.808824	---	48.73	54.00	5.27	100.0	V	106.0	7.0

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_Low Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

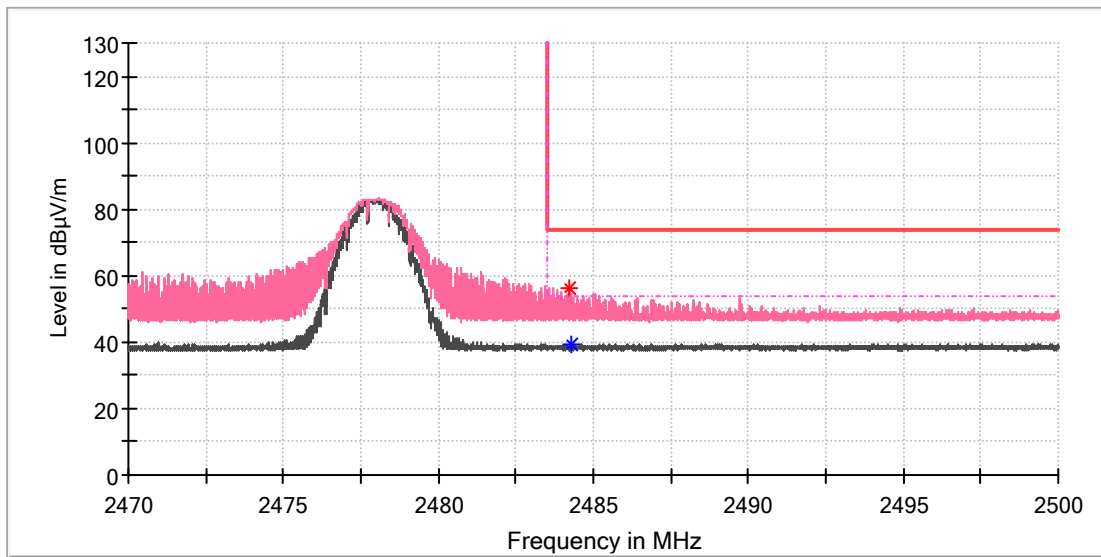


### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2386.882353	---	39.00	54.00	15.00	100.0	H	92.0	7.0
2387.647059	53.76	---	74.00	20.24	100.0	H	50.0	7.0
2396.470588	63.57	---	74.00	10.43	100.0	H	231.0	7.0
2396.470588	---	47.59	54.00	6.41	100.0	V	96.0	7.0

### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_High Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



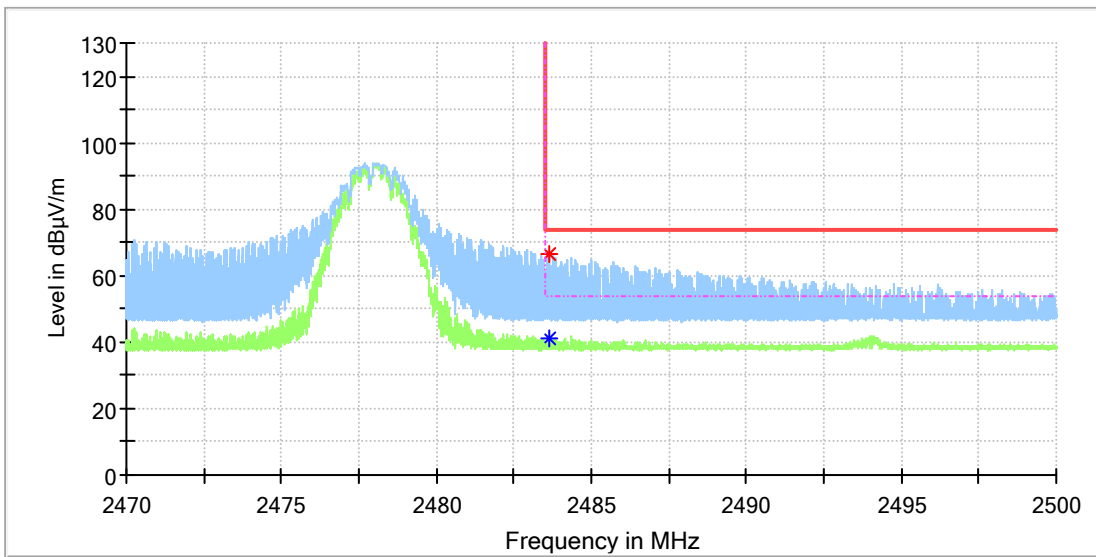
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2484.197059	56.24	---	74.00	17.76	100.0	V	225.0	7.4
2484.302941	---	39.32	54.00	14.68	100.0	V	288.0	7.4



### EUT Information

EUT Name:	FAN & LIGHT SWITCH (RED SERIES)
Model:	LZW36-C
Test Mode:	TX_High Channel
Test Voltage::	AC 120V/60Hz
Remark:	Temp 23 Humi:42%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



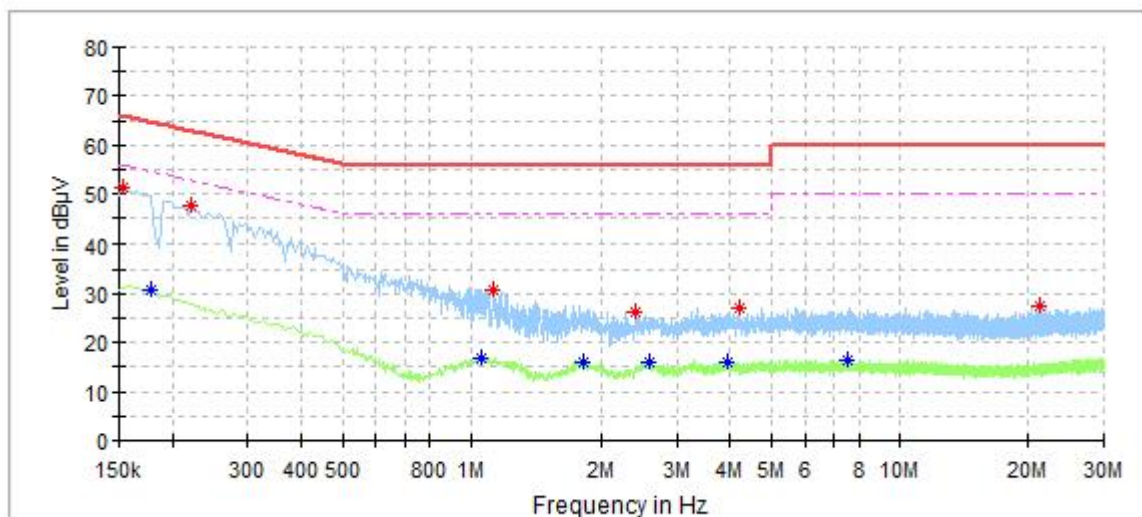
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.645588	---	40.90	54.00	13.10	100.0	H	315.0	7.4
2483.645588	66.78	---	74.00	7.22	100.0	H	315.0	7.4

### Appendix B.5: Test Results of Conducted Emission on AC Mains

#### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Order No.: 168155818 50  
 Test Mode: Running  
 Test Voltage: AC 120V/60Hz  
 Test By: Shower.Dai  
 Review By: Gary Chen  
 Remark:

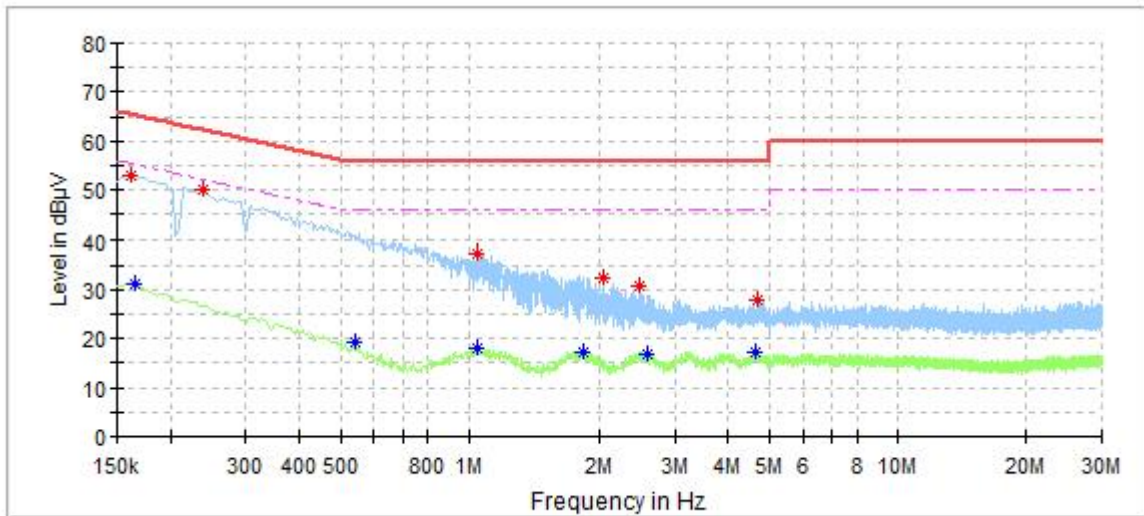


#### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.154000	51.34	---	65.78	14.44	L1	9.6
0.178000	---	30.73	54.58	23.85	L1	9.6
0.222000	47.54	---	62.74	15.21	L1	9.6
1.060000	---	16.91	46.00	29.09	L1	9.7
1.132000	30.93	---	56.00	25.07	L1	9.7
1.816000	---	16.12	46.00	29.88	L1	9.7
2.412000	26.20	---	56.00	29.80	L1	9.8
2.592000	---	15.89	46.00	30.11	L1	9.8
3.932000	---	16.07	46.00	29.93	L1	9.8
4.200000	27.15	---	56.00	28.85	L1	9.8
7.532000	---	16.22	50.00	33.78	L1	10.0
21.208000	27.45	---	60.00	32.55	L1	10.5

### EUT Information

EUT Name: FAN & LIGHT SWITCH (RED SERIES)  
 Model: LZW36-C  
 Order No.: 168155818 50  
 Test Mode: Running  
 Test Voltage: AC 120V/60Hz  
 Test By: Shower.Dai  
 Review By: Gary Chen  
 Remark:



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.162000	52.92	---	65.36	12.44	N	9.6
0.166000	---	31.09	55.16	24.06	N	9.6
0.238000	49.85	---	62.17	12.32	N	9.6
0.540000	---	19.27	46.00	26.73	N	9.7
1.048000	37.22	---	56.00	18.78	N	9.7
1.048000	---	18.24	46.00	27.76	N	9.7
1.828000	---	17.29	46.00	28.71	N	9.7
2.036000	32.51	---	56.00	23.49	N	9.7
2.472000	30.91	---	56.00	25.09	N	9.8
2.580000	---	17.02	46.00	28.98	N	9.8
4.660000	---	17.04	46.00	28.96	N	9.9
4.688000	27.86	---	56.00	28.14	N	9.9