

## Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC142674 Page: 1 of 34

# FCC Radio Test Report FCC ID: 2ADSQFS-52423

Report No. : TB-FCC142674

**Applicant**: Lovehoney Ltd

**Equipment Under Test (EUT)** 

**EUT Name** : Fifty Shades of Grey "Relentless Vibrations" Remote control Egg

**Model No.** : FS-52423

Serial No. : N/A

Brand Name : FSOG

**Receipt Date** : 2014-11-12

**Test Date** : 2014-11-12 to 2014-12-10

**Issue Date** : 2014-12-11

**Standards** : FCC Part 15, Subpart C (15.249: 2014)

Test Method : ANSI C63.4:2003

**Conclusions : PASS** 

In the configuration tested, the EUT complied with the standards specified above,

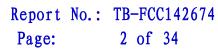
The EUT technically complies with the FCC requirements

Test/Witness Engineer :

Approved& Authorized :

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0





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## 1. General Information about EUT

#### 1.1 Client Information

Applicant		Lovehoney Ltd
Address		100 Locksbrook Road, Bath, BA1 3EN, UK
Manufacturer		Odeco Ltd
Address		2F, Block 7th, YuSheng Industrial Zone, Gushu, Xixiang, Bao'an district, Shenzhen, China

## 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Fifty Shades of Grey "Relentless Vibrations" Remote control Egg			
Models No.		FS-52423			
Model : N/A					
Difference					
		Operation Frequency:2402~2474 MHz			
	:	Out Power:	68.77 dBuV/m@3m Peak		
Product			67.13 dBuV/m@3m Avg		
Description		Antenna Gain:	0 dBi		
		Modulation Type:	GFSK		
Power Supply	:	DC Voltage supplied by Li-ion battery.			
Power Rating		DC 3.7V			
Connecting I/O Port(S)	:	Please refer to the User's Manual			

#### Note:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

#### (2) Channel List:

Channel List						
Low Channel (MHz) MID Channel (MHz) HIGH Channel (MH						
2402	2445	2474				

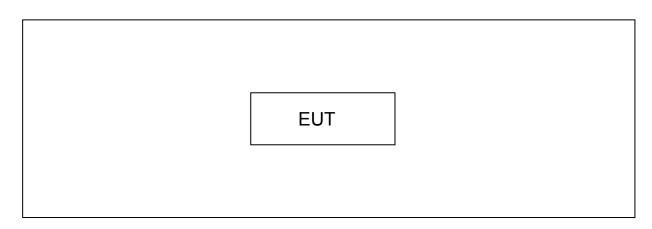




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#### 1.3 Block Diagram Showing the Configuration of System Tested





#### 1.4 Description of Support Units

The EUT has been tested as an independent unit.

Name	Model	S/N	Manufacturer	Used "√"

#### 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test		
Final Test Mode	Description	
Mode 1	Charging with TX Mode	

For Radiated Test			
Final Test Mode	Description		
Mode 2	TX Mode		

#### Note:

For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

(1)According to ANSI C63.4 standards, the measurements are performed at the highest,



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middle, lowest available channels.

(2)During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.

(3) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

#### 1.6 Description of Test Software Setting

During testing channel & Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF mode.



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#### 1.7 Test Facility

The testing was performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at:

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China.

At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

#### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



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## 2. Test Summary

FCC Part 15 Subpart C(15.249)					
Standard Section	Judgment	Remark			
15.203	Antenna Requirement	PASS	N/A		
15.205	Restricted Bands	PASS	N/A		
15.207	Conducted Emission	PASS	N/A		
15.249 &15.209	Radiated Spurious Emission	PASS	N/A		
15.215(C) 20dB Bandwidth PASS N/A					
Note: N/A is an abbreviation for Not Applicable.					



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#### 3. Conducted Emission Test

#### 3.1 Test Standard and Limit

3.1.1Test Standard FCC Part 15.207

#### 3.1.2 Test Limit

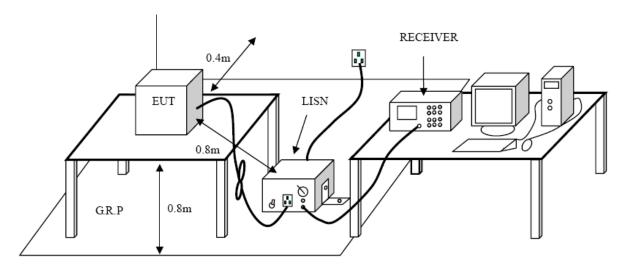
#### **Conducted Emission Test Limit**

Fraguency	Maximum RF Line Voltage (dBμV)			
Frequency	Quasi-peak Level	Average Level		
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

#### Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

#### 3.2 Test Setup



#### 3.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

#### 3.4 Test Equipment Used

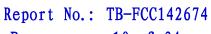
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date	
EMI Test	ROHDE&		400004	Aug. 09. 2014	Aug 07 2015	
Receiver	SCHWARZ	ESCI	100321	Aug. 08, 2014	Aug. 07, 2015	
50ΩCoaxial	Anritsu	MP59B	X10321	Aug. 08, 2014	Aug. 07, 2015	
Switch		MESSE	X10321	Aug. 08, 2014	Aug. 07, 2013	
L.I.S.N	Rohde & Schwarz	ENV216	101131	Aug. 08, 2014	Aug. 07, 2015	
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 08, 2014	Aug. 07, 2015	

#### 3.5 EUT Operating Mode

Please refer to the description of test mode.

#### 3.6 Test Data

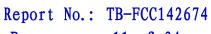
Please see the next page.





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	Fifty Shades of Grey					
EUT:	"Relentless Vibrations"	Model Name :	FS-52423			
	Remote control Egg	11.0001110111011				
Temperature:	25 °C	Relative Humidity:	55%			
Test Voltage: DC 3.7V						
Terminal:	Line					
Test Mode:	USB Charging with TX M	lode 2402 MHz				
Remark:	Only worse case is repor	ted				
90.0 dBuV						
			QP: — AVG: —			
	x					
40 📈	ACCIONATION OF THE PROPERTY OF					
WW apm		VAVAVAVAVANA.				
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\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	A Mary A A	" A A A A A A A A A A A A A A A A A A A	AVG			
V			AVG			
-10						
0.150	0.5 (MHz)	5	30.000			
No. Mk. Fr	Reading Correct req. Level Facto		Over			
	req. Level Facto IHz dBuV dB	dBuV dBuV	dB Detector			
	100 33.81 10.12		19.27 QP			
	100 33.91 10.12	42.03 53.20 -				
	540 36.68 10.02		9.30 QP			
	540 28.52 10.02		7.46 AVG			
	860 28.67 10.15					
6 0.9	860 20.75 10.15	30.90 46.00 -	15.10 AVG			
7 1.63	220 28.86 10.10	38.96 56.00 -	17.04 QP			
8 1.63	220 22.06 10.10	32.16 46.00 -	13.84 AVG			
9 2.2	780 27.62 10.06	37.68 56.00 -	18.32 QP			
10 2.2	780 22.30 10.06	32.36 46.00 -	13.64 AVG			
11 2.73	340 27.20 10.06	37.26 56.00 -	18.74 QP			
12 2.73	340 22.42 10.06	32.48 46.00 -	13.52 AVG			
Emission Level=	Read Level+ Correct Fac	etor				





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EUT:	Fifty Shades of Grey "Relentless Vibration		Model Name	<b>.</b> .	EQ 5	2423
EUI.	Remote control Egg			F3-5	FS-52423	
Temperature:	25 °C			55%		
Test Voltage:	DC 3.7V					
Terminal:	Neutral					
Test Mode:	USB Charging with	TX Mod	e 2402 MHz			
Remark:	Only worse case is r	reported	l			
90.0 dBuV						
					QP: AVG:	
A Ž	X					
40	Manager A	$^{\prime}$	$\wedge \wedge \wedge \wedge \wedge$			
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				. , " ) <sub>M</sub> M	Mhair, M	lum MAG
-10						
0.150	0.5	(MHz)	5			30.000
	Reading C	orrect	Measure-			
		actor	ment	Limit	Over	
	lHz dBuV	dB	dBuV	dBu∀	dB	Detector
		0.02	47.54	63.20	-15.66	QP
2 0.2	100 34.05 1	0.02	44.07	53.20	-9.13	AVG
3 0.5	540 35.72 1	0.05	45.77	56.00	-10.23	QP
4 * 0.5	540 27.61 1	0.05	37.66	46.00	-8.34	AVG
5 0.8	340 30.41 1	0.09	40.50	56.00	-15.50	QP
6 0.8	340 21.23 1	0.09	31.32	46.00	-14.68	AVG
7 1.63	220 28.93 1	0.06	38.99	56.00	-17.01	QP
8 1.63	220 22.12 1	0.06	32.18	46.00	-13.82	AVG
9 2.19	900 28.98 1	0.05	39.03	56.00	-16.97	QP
10 2.1	900 23.39 1	0.05	33.44	46.00	-12.56	AVG
11 5.2	260 27.43	9.97	37.40	60.00	-22.60	QP
12 5.2	260 23.28	9.97	33.25	50.00	-16.75	AVG
Emission I evel=	Read Level+ Correct	t Factor	r			

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## 4. Radiated Emission Test

#### 4.1 Test Standard and Limit

4.1.1 Test Standard FCC Part 15.209

4.1.2 Test Limit

#### Radiated Emission Limit (9kHz~1000MHz)

	diated Emission Emint (okinz	
Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

#### Radiated Emission Limit (Above 1000MHz)

		//m)(at 3 M)
(MHz)	Peak	Average
Above 1000	74	54

#### Note:

(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(Uv/m)

#### Limits of radiated emission measurement (15.249)

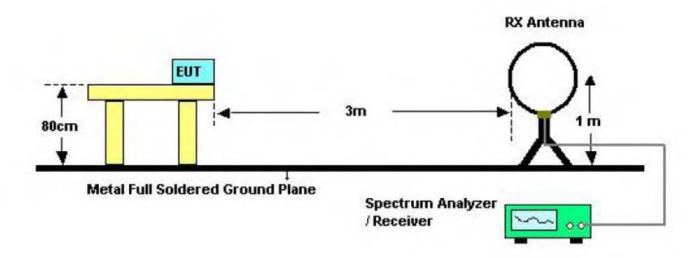
FCC Part 15 (15.249), Subpart C								
Limit	Frequency Range (MHz)							
Field strength of fundamental								
50000 μV/m (94 dBμV/m) @ 3 m	2400~2483.5							
Field strength of Harmonics	2400~2463.5							
500 μV/m (54 dBμV/m) @ 3 m								

Restricted bands requirement for equipment operating in 2400MHz to 2483.5 MHz (15.205)

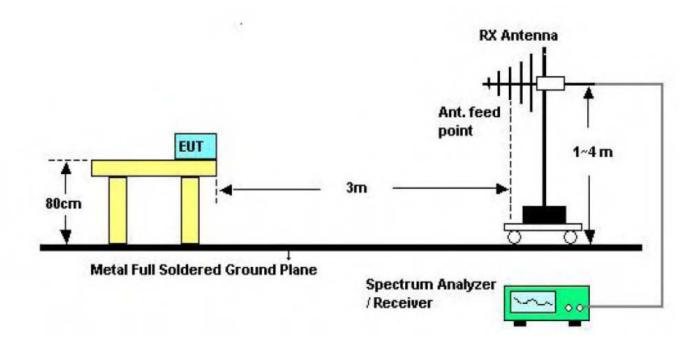


Restricted Frequency Band (MHz)	(dBuV/m)(at 3 M)
2310~2390	Attenuated by at least 50 dB below the level of the fundamental or to the general radiated
2483.5~2500	emission limits in 15.209, whichever is the lesser attenuation

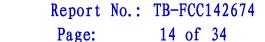
## 4.2 Test Setup



Bellow 30MHz Test Setup



Bellow 1000MHz Test Setup





Turntable

EUT

0.8 m lm to 4m

Test
Receiver

Coaxial Cable

Above 1GHz Test Setup

#### 4.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (7) For the actual test configuration, please see the test setup photo.

#### 4.4 EUT Operating Condition

The EUT was set to Continual Transmitting in maximum power, and new batteries are used during testing.



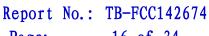
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## 4.5 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug. 07, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Aug. 08, 2014	Aug. 07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 07, 2014	Mar.06, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	11909A	185903	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	8447B	3008A00849	Mar. 07, 2014	Mar.06, 2015
Cable	HUBER+SUHNE R	100	SUCOFLEX	Mar. 07, 2014	Mar.06, 2015
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Feb. 11, 2014	Feb.10, 2015
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

#### 4.6 Test Data

Please see the next page.

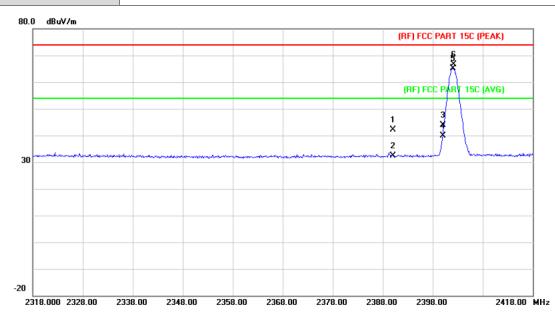




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## 4.6.2 Field Strength of the Fundamental

	Fifty Shades of Grey		
EUT:	"Relentless Vibrations"	Model Name :	FS-52423
	Remote control Egg		
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2402MHz		
Remark:			



No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	41.38	0.77	42.15	74.00	-31.85	peak
2		2390.000	31.56	0.77	32.33	54.00	-21.67	AVG
3		2400.000	43.17	0.81	43.98	74.00	-30.02	peak
4		2400.000	39.11	0.81	39.92	54.00	-14.08	AVG
5	*	2402.000	64.20	0.82	65.02	94.00	-28.98	AVG
6		2402.200	65.87	0.82	66.69	114.00	-47.31	peak





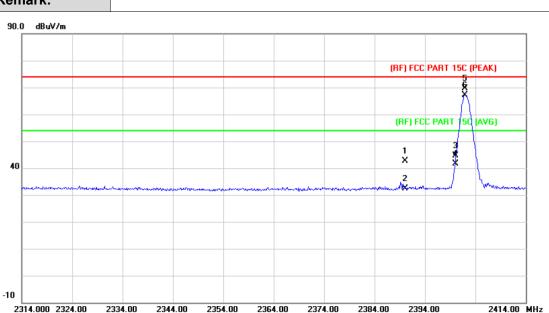
2314.000 2324.00

2334.00

2344.00

2354.00

Fifty Shades of Grey EUT: "Relentless Vibrations" **Model Name:** FS-52423 Remote control Egg Temperature: **25** ℃ **Relative Humidity:** 55% DC 3.7V **Test Voltage:** Ant. Pol. Vertical Test Mode: TX 2402MHz Remark:



2364.00

2374.00

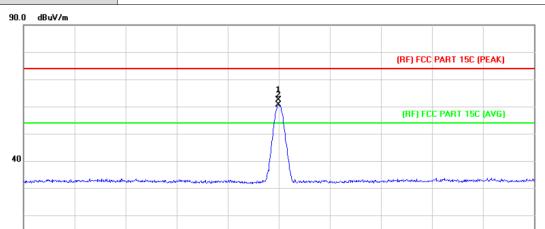
2384.00

2394.00

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	41.74	0.77	42.51	74.00	-31.49	peak
2		2390.000	31.70	0.77	32.47	54.00	-21.53	AVG
3		2400.000	43.87	0.81	44.68	74.00	-29.32	peak
4		2400.000	40.78	0.81	41.59	54.00	-12.41	AVG
5		2401.900	68.83	0.82	69.65	114.00	-45.23	peak
6	*	2401.900	66.31	0.82	67.13	94.00	-26.87	AVG



Fifty Shades of Grey EUT: "Relentless Vibrations" **Model Name:** FS-52423 Remote control Egg Temperature: **25** ℃ **Relative Humidity:** 55% DC 3.7V **Test Voltage:** Ant. Pol. Horizontal TX 2445MHz Test Mode: Remark:



No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2444.900	61.31	1.01	62.32	114.00	-51.68	peak
2	*	2444.900	59.55	1.01	60.56	94.00	-33.44	AVG

2445.00

2455.00

**Emission Level= Read Level+ Correct Factor** 

2395.000 2405.00

2415.00

2425.00

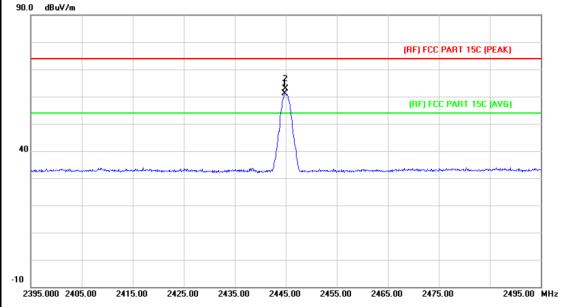
2435.00

2495.00 MHz



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	Fifty Shades of Grey		
EUT:	"Relentless Vibrations"	Model Name :	FS-52423
	Remote control Egg		
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX 2445MHz		
Remark:			
90.0 dBuV/m			
		(RF) I	CC PART 15C (PEAK)
		2	



No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2444.800	60.18	1.01	61.19	94.00	-32.81	AVG
2		2444.900	61.86	1.01	62.87	114.00	-51.13	peak





Fifty Shades of Grey EUT: FS-52423 "Relentless Vibrations" **Model Name:** Remote control Egg Temperature: **25** ℃ **Relative Humidity:** 55% Test Voltage: DC 3.7V Ant. Pol. Horizontal TX 2474MHz Test Mode: Remark:

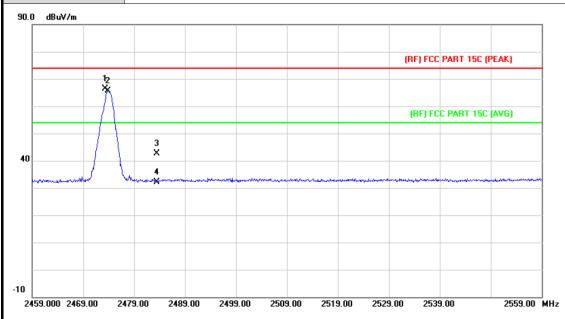
							(RF) FCC	PART 15C (	PEAK)
	1 <sup>2</sup> ×								
							(RF) FC	C PART 15C	(AVG)
			3 X						
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No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2473.900	64.37	1.13	65.50	94.00	-28.5	AVG
2		2474.300	65.20	1.13	66.33	114.00	-55.33	peak
3		2483.500	40.88	1.17	42.05	74.00	-31.95	peak
4		2483.500	31.34	1.17	32.51	54.00	-21.49	AVG

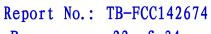


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EUT:	Fifty Shades of Grey "Relentless Vibrations" Remote control Egg	Model Name :	FS-52423
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX 2474MHz		
Remark:			



No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2473.300	65.15	1.13	66.28	114.00	-47.72	peak
2	*	2473.900	64.44	1.13	65.57	94.00	-28.43	AVG
3		2483.500	41.49	1.17	42.66	74.00	-31.34	peak
4		2483.500	30.93	1.17	32.10	54.00	-21.90	AVG

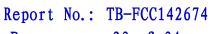




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## 4.6.3 Radiated Spurious Emission (Below 1 GHz)

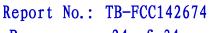
EU	Γ:			"Re	Fifty Shades of Grey Relentless Vibration Remote control Egg $^{25}$ $^{\circ}$						Mc	odel Na	m	e :			F	S-:	524	23	3			
Ten	nperat	ure:		25	$^{\circ}$						Re	lative I	Hu	ımi	dity	<b>/</b> :	5	5%	, D					
Tes	t Volta	age:		DC	3.7	V																		
Ant	. Pol.			Hoi	rizor	nta	I																	
Tes	t Mod	e:		TX	240	)2N	1Hz	<u> </u>																
Rer	nark:			Onl	ly w	ors	e c	ase	is re	port	ed													
80.	0 dBuV/	m .																						
															(	RF)F	CC :	15C :	3M R	adia	ition			
																			Ma	argi	n -6	dB	₽	
					-																		_	
30																								
																5				6 X	ويرار	المساه	WW.	
														4	u se saluh	X	h/H-tu	Mayera	harro	-distrib	MUTT	rigrapi		
	W.Meyronigh	Upar dhydd	hannagage	oran litera	(More), hapelly	ymahry	2 ************************************	hvid-vegyragh	S Kunlum	endulpolitic	copilor.	P MANAGAN P P P P P P P P P P P P P P P P P P P	irv <b>p</b>	Marya.										
-20 31	0.000	40	50	60	70	80				(MHz)			3	300		400	Ę	500	600	1 7	00	10	<b>)00</b> .	000
					_		1:.				_	N 4												
١	No. M	k.	Fre	eq.	r		adii eve	_		rrec acto		Measu men		<del>)</del> -	Liı	mit		(	Οv	er				
			MH	Iz		dE	3u∨	′	d	B/m		dBuV/	m		dΒ	3uV/	m		dE	3		Det	ect	tor
1		4	1.71	129		27	.06	6	-20	0.88		6.18	3		4	0.0	0	-	-33	.8	2	р	ea	k
2		9	2.13	388		28	3.18	8	-2	2.50		5.68	3		4	3.5	0	-	-37	.8	2	р	ea	k
3		14	1.8	262		27	7.68	8	-2	1.84		5.84	1		4	3.5	0	-	37	.6	6	р	ea	k
4		30	9.9	977		27	7.73	3	-10	6.70		11.0	3		4	6.0	0	-	34	.9	7	р	ea	k
5		41	1.8	240		30	0.0	0	-12	2.86		17.1	4		4	6.0	0	-	-28	.8	6	р	ea	k
6	*	69	4.4	174		29	9.19	9	-7	.01		22.1	8		4	6.0	0	-	-23	.8	2	р	ea	k
Em	ission	Lev	el= I	Read	d Le	eve	+ (	Corr	ect	Fact	or													





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			Fift	y Sl	nac	les	of Gre	ey .										
EUT:			"Re	eleni	tles	ss V	/ibratic	ons"	Мо	del Nan	ne :		F	S-52	242	3		
			Rer	mot	ес	ontr	rol Eg	g										
Tempe	rature:		25	$^{\circ}$ C					Rel	ative H	umic	lity:	55	5%				
Test Vo	oltage:		DC	3.7	V	_								_	_	_	_	_
Ant. Po	ol.		Ver	rtica	1													
Test Mo				240														
Remarl	k:		Onl	ly w	ors	se ca	ase is	report	ed									
80.0 dB	BuV/m																	_
												(RF)	FCC 1	5C 3M				
		+	+									_			Marg	jin -6	dB	#
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30			#		Ľ	1										_	$\square$	_
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-20 30.000	40	50	60	70 8	80			(MHz	1		300	400	5	00 6	SOO 1	700	10	000.00
00.000	-10	00	60	10 .	00			ţ	,		000		-			100		100.0
No	Mk.	Fre		F		adir evel	-	Correct Facto		Measur		Lim	it	O	ve	r		
110.	IVIN.								)f	ment							Dot	ecto
		MHz				BuV		dB/m		dBuV/n		dBu\			dB			
1	4	4.27	52		29	9.34	ļ -	-21.97		7.37		40.		-3	32.6	33	р	eak
2	7	6.24	42		29	9.14	4 .	-23.41		5.73		40.	00	-3	34.2	27	р	eak
3	14	17.92	214		28	8.10	) .	-21.34	-	6.76		43.	50	-3	36.7	74	р	eak
	20	2.10	005	,	29	9.06	ĵ .	-20.30	)	8.76		43.	50	-3	34.7	74	pe	eak
4						2.2	1	-14.05		14.16	 }	46.	00	-3	31.8	34	po	eak
		31.24	187	,	20	つ.∠ .		- I <del>T</del> .U.						-				
5	38	31.24				8.21 8.71		-9.25		19.46		46.	<u> </u>	-2	26.5			eak





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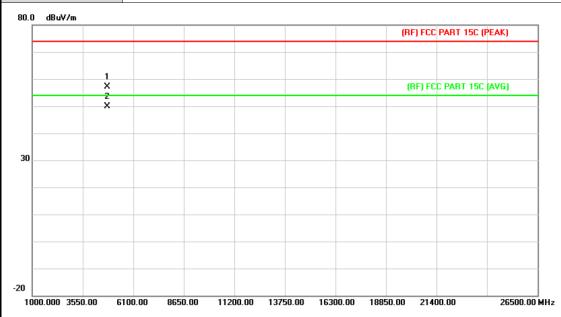
## 4.6.4 Radiated Spurious Emission (Above 1 GHz)

≣UT:		es of Grey s Vibrations" ontrol Egg	Model Name	:	FS-52423			
Temperature:	25 ℃		Relative Hum	idity:	55%			
Гest Voltage:	DC 3.7V				1.			
Ant. Pol.	Horizontal							
Test Mode:	TX 2402N	lHz						
Remark:								
80.0 dBuV/m								
				(RF) F	CC PART 15C (PEAI	g		
1 X				(BE)	FCC PART 15C (AV	G)		
2 X				,				
30								
_								
1000.000 3550.00	6100.00 8650.0	0 11200.00 137	50.00 16300.00 18	850.00 2	1400.00	26500.00 MH		
No. Mk. F		ading Corre		Limit	t Over			
1	MHz di	BuV dB/m	dBuV/m	dBuV	/m dB	Detecto		
1 480	3.634 42	2.44 13.44		74.0	0 -18.12	peak		
2 * 480	3.634 35	5.76 13.4	4 49.20	54.0	0 -4.80	AVG		



Report No.: TB-FCC142674
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EUT:	Fifty Shades of Grey "Relentless Vibrations" Remote control Egg	Model Name :	FS-52423
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX 2402MHz		
Remark:			



N	o. Mł	c. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4803.640	43.67	13.44	57.11	74.00	-16.89	peak
2	*	4803.640	36.53	13.44	49.97	54.00	-4.03	AVG



Fifty Shades of Grey EUT: "Relentless Vibrations" **Model Name:** FS-52423 Remote control Egg Temperature: **25** ℃ **Relative Humidity:** 55% Test Voltage: DC 3.7V Ant. Pol. Horizontal TX 2445MHz Test Mode: Remark:

			(RF) FCC	C PART 15C (PEAK)		
1 X			(RF) FC	C PART 15C	(AVG)	
2 X						

No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4889.586	43.05	13.95	57.00	74.00	-17.00	peak
2	*	4889.586	33.66	13.95	47.61	54.00	-6.39	AVG

11200.00 13750.00

**Emission Level= Read Level+ Correct Factor** 

8650.00

1000.000 3550.00

26500.00 MHz



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EUT:	Fifty Shades of Grey "Relentless Vibrations" Remote control Egg	Model Name :	FS-52423
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX 2445MHz		
Remark:			

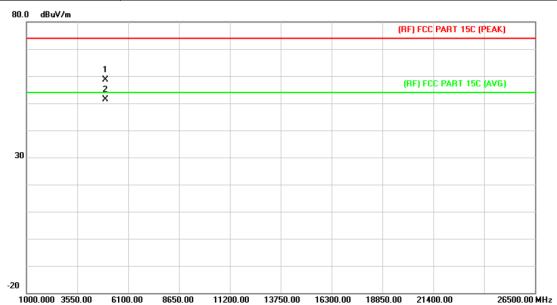


No	. Mk	Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4889.598	44.63	13.95	58.58	74.00	-15.42	peak
2	*	4889.598	35.40	13.95	49.35	54.00	-4.65	AVG



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	Fifty Shades of Grey		
EUT:	"Relentless Vibrations"	Model Name :	FS-52423
	Remote control Egg		
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX 2474MHz		
Remark:			

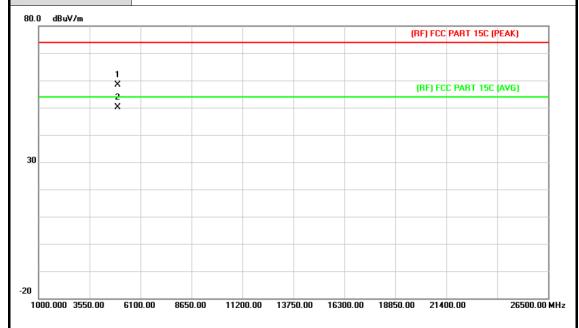


	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
_			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
_	1		4947.673	44.23	14.29	58.52	74.00	-15.48	peak
_	2	*	4947.673	37.17	14.29	51.46	54.00	-2.54	AVG



Report No.: TB-FCC142674
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EUT:	Fifty Shades of Grey "Relentless Vibrations" Remote control Egg	Model Name :	FS-52423
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX 2474MHz		
Remark:			



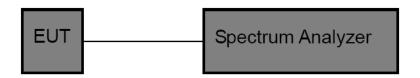
No.	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4947.658	44.04	14.29	58.33	74.00	-15.67	peak
2	*	4947.658	35.93	14.29	50.22	54.00	-3.78	AVG



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#### 5. Bandwidth Test

#### 5.1 Test Setup



#### 5.2 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Bandwidth: RBW=100 kHz, VBW=300kHz.

(3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.

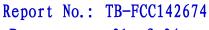
### 5.3 EUT Operating Condition

The EUT was set to continuously transmitting for the Bandwidth Test.

#### 5.4 Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug. 07, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Aug. 08, 2014	Aug. 07, 2015

#### 5.5 Test Data

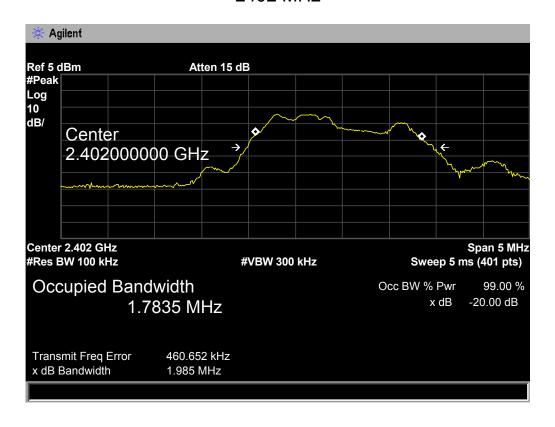


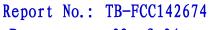


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Low Channel Frequency (MHz)	20dB Bandwidth (MHz)	
2402	1.985	

#### 2402 MHz



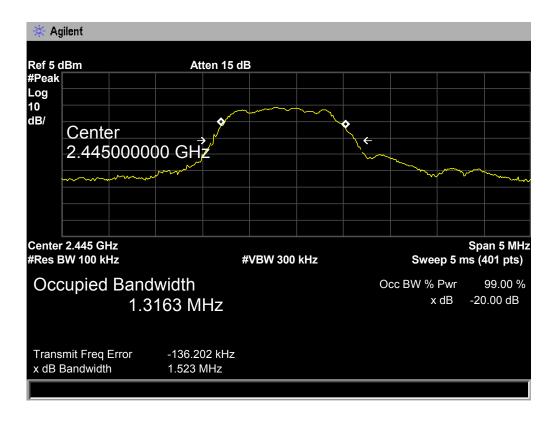




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MID Channel Frequency (MHz)	20dB Bandwidth (MHz)	
2445	1.523	

#### 2445 MHz

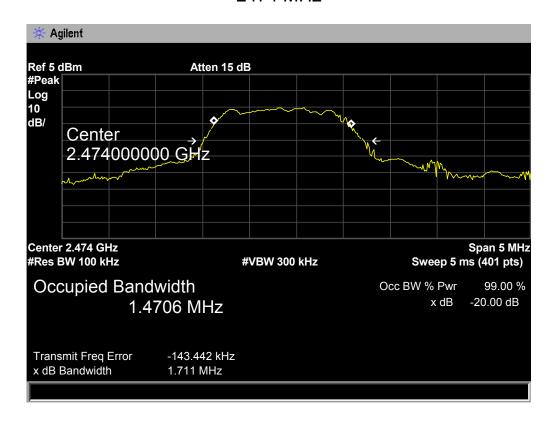






HIGH Channel Frequency (MHz)	20dB Bandwidth (MHz)	
2474	1.711	

#### 2474 MHz





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## 6. Antenna Requirement

#### 6.1 Standard Requirement

6.1.1 Standard FCC Part 15.203

#### 6.1.2 Requirement

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 6.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 0 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### 6.3 Result

The EUT antenna is an Integral Antenna. It complies with the standard requirement.