

Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC151501

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FCC Radio Test Report FCC ID: 2AGUA-EXPLORERS

Original Grant

Report No. TB-FCC151501

HK ELEPHONE COMMUNICATION TECH CO., LIMITED **Applicant**

Equipment Under Test (EUT)

EUT Name Action camera

Model No. Explorer S

Series No. N/A

Brand Name ELE

Receipt Date 2017-02-17

2017-02-18 to 2017-03-06 **Test Date**

Issue Date 2017-03-07

Standards FCC Part 15, Subpart C (15.247:2016)

Test Method ANSI C63.10: 2013

Conclusions PASS

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

The EUT technically complies with the FCC and IC 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 : HK ELEPHONE COMMUNICATION TECH CO.,LIMITED

Address: UNIT 04, 7/F BRIGHT WAY TOWER NO.33 MONG KOK RD KL,

HONGKONG

Manufacturer: HK ELEPHONE COMMUNICATION TECH CO.,LIMITED

Address : UNIT 04, 7/F BRIGHT WAY TOWER NO.33 MONG KOK RD KL,

HONGKONG

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Action camera					
Models No.	?	Explorer S	Explorer S				
Model Difference	•	N/A					
		Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz				
	1	Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)				
		RF Output Power:	802.11b: 9.34 dBm 802.11g: 9.15 dBm 802.11n (HT20): 9.13 dBm				
Product		Antenna Gain:	2.11 dBi Internal Antenna				
Description		Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n:OFDM(BPSK,QPSK,16QAM, 64QAM)				
		Bit Rate of	802.11b:11/5.5/2/1 Mbps				
		Transmitter:	802.11g:54/48/36/24/18/12/9/6 Mbps				
THE PERSON NAMED IN			802.11n:up to 150Mbps				
Power Supply		DC power by USB cable. DC power by Li-ion battery.					
Power Rating : DC 5.0V by USB cable. DC 3.7V by 900mAh Li-ion battery.							
Connecting I/O Port(S)	9	Please refer to the User's Manual					

Note:

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r05.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Channel List:

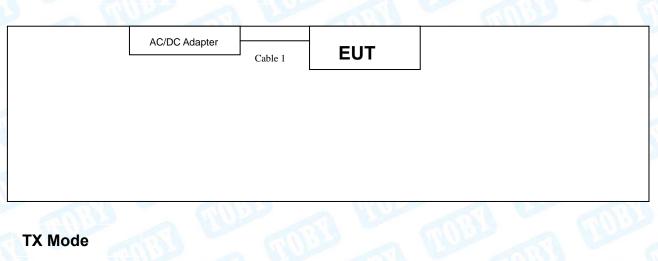


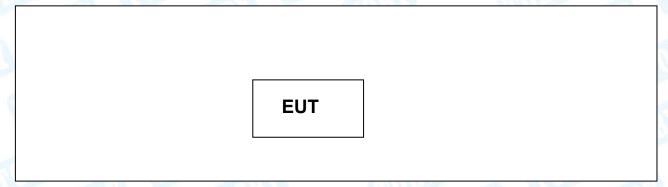
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		0.00			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	80	2447		
Note:CH 01~CH 11 for 802.11b/g/n(HT20)					

- (4) The Antenna information about the equipment is provided by the applicant.
- 1.3 Block Diagram Showing the Configuration of System Tested

USB Charging with TX Mode







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1.4 Description of Support Units

Equipment Information						
Name Model FCC ID/VOC Manufactur		Manufacturer	Used "√"			
AC/DC Adapter	TEKA012	VOC	TEKA	1		
AC/DC Adapter: Input:100~240V, 50/60Hz, 0.2A. Output: 5V, 1A						
Cable Information						
Number	Shielded Type	Ferrite Core	Length	Note		
Cable 1	YES	YES	1.2M			

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	USB Charging with TX B Mode			

For Radiated Test				
Final Test Mode Description				
Mode 2 TX Mode B Mode Channel 01/06/11				
Mode 3	TX Mode G Mode Channel 01/06/11			
Mode 4	TX Mode N(HT20) Mode Channel 01/06/11			

Note:

(1) 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.

According to ANSI C63.10 standards, the measurements are performed at the highest, Middle, lowest available channels, and the worst case data rate as follows:

802.11b Mode: CCK (1 Mbps) 802.11g Mode: OFDM (6 Mbps)

802.11n (HT20) Mode: MCS 0 (6.5 Mbps)

- (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; in normal use it was positioned on X-plane. The



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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 WLAN.

Test Software Version	William I	N/A	
Channel	CH 01	CH 06	CH 11
IEEE 802.11b DSSS	DEF	DEF	DEF
IEEE 802.11g OFDM	DEF	DEF	DEF
IEEE 802.11n (HT20)	DEF	DEF	DEF

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U _{Lab})
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Dedicted Engineer	Level Accuracy:	. 4 CO dD
Radiated Emission	9kHz to 30 MHz	±4.60 dB
Dedicted Emission	Level Accuracy:	. 4 40 dD
Radiated Emission	30MHz to 1000 MHz	±4.40 dB
Dedicted Engineer	Level Accuracy:	. 4.20 dD
Radiated Emission	Above 1000MHz	±4.20 dB



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1.8 Test Facility

The testing report were 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

Standard Section					
FCC	IC	Test Item	Judgment	Remark	
15.203	1	Antenna Requirement	PASS	N/A	
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A	
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A	
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A	
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A	
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A	
15.247(d)	RSS 247 5.5	Band Edge	PASS	N/A	
15.247(d)& 15.209	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A	

Note: "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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3. Test Equipment

Conducted Emission Test						
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date	
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017	
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 22, 2016	Jul. 21, 2017	
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 22, 2016	Jul. 21, 2017	
LISN	Rohde & Schwarz	ENV216	101131	Jul. 22, 2016	Jul. 21, 2017	
Radiation	Emission Tes	t				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date	
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017	
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 22, 2016	Jul. 21, 2017	
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 20, 2016	Mar. 19, 2017	
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 20, 2016	Mar. 19, 2017	
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 19, 2016	Mar. 18, 2017	
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 19, 2016	Mar. 18, 2017	
Loop Antenna	Laplace instrument	RF300	0701	Mar. 19, 2016	Mar. 18, 2017	
Pre-amplifier	Sonoma	310N	185903	Mar. 20, 2016	Mar. 19, 2017	
Pre-amplifier	HP	8447B	3008A00849	Mar. 26, 2016	Mar. 25, 2017	
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 26, 2016	Mar. 25, 2017	
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A	
Antenna C	onducted Em	ission				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date	
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017	
Spectrum Analyzer	Rohde & Schwarz	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017	
Power Meter	Anritsu	ML2495A	25406005	Jul. 22, 2016	Jul. 21, 2017	
Power Sensor	Anritsu	ML2411B	25406005	Jul. 22, 2016	Jul. 21, 2017	



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4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

4.1.2 Test Limit

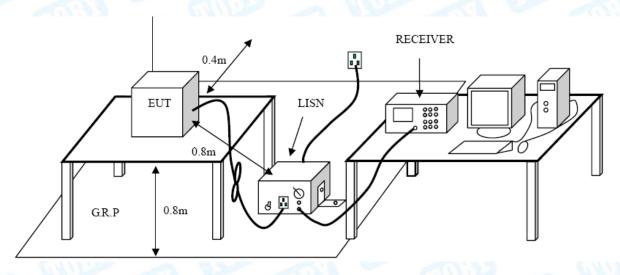
Conducted Emission Test Limit

	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.

4.2 Test Setup



4.3 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 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.

4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Please see the next page.



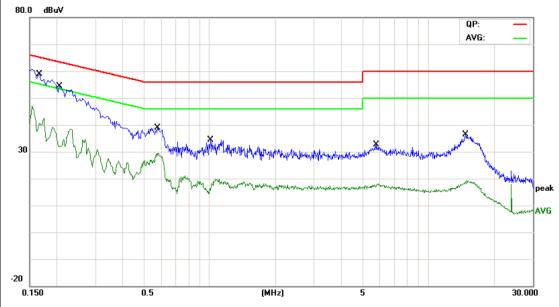
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EUT:	Action camera	- KB	Model Name :	Explo	orer S
Temperature:	25 ℃	NO T	Relative Humidity:	55%	Alle
Test Voltage:	AC 120V/60Hz			133	
Terminal:	Line	A ROLL			
Test Mode:	USB Charging wi	th TX B Mod	le	al	N. S.
Remark:	Only worse case	is reported		13	
W ' W	0.5	(MHz)	the spill special and the spec	QP: AVG:	peak AVG
No. Mk.	Reading Freq. Level	Correct Factor	Measure- ment Limit	Over	
	MHz dBuV	dB	dBuV dBuV	dB	Detector
1 0.	.1580 45.64	9.94	55.58 65.56	-9.98	QP
2 0.	.1580 28.44	9.94	38.38 55.56	-17.18	AVG
3 * 0.	.1940 43.99	10.01	54.00 63.86	-9.86	QP
4 0.	.1940 27.72	10.01	37.73 53.86	-16.13	AVG
5 0.	.5899 26.69	10.06	36.75 56.00	-19.25	QP
6 0.	.5899 16.75	10.06	26.81 46.00	-19.19	AVG
7 1.	.2300 18.96	10.06	29.02 56.00	-26.98	QP
8 1.	.2300 5.53	10.06	15.59 46.00	-30.41	AVG
	.1620 16.27	10.02	26.29 60.00		QP
	.1620 5.01	10.02	15.03 50.00		AVG
	.1860 22.29	10.26	32.55 60.00		QP
	.1860 9.22	10.26	19.48 50.00		AVG
imission Level	l= Read Level+ Co	rrect Factor			



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EUT:	Action camera	Model Name :	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		133
Terminal:	Neutral		TO THE
Test Mode:	USB Charging with TX B Mo	de	a William
Remark:	Only worse case is reported		72 0
80.0 dBuV			QP: —



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBu∀	dBu∀	dB	Detector
1		0.1660	39.40	10.12	49.52	65.15	-15.63	QP
2		0.1660	22.10	10.12	32.22	55.15	-22.93	AVG
3	*	0.2060	40.02	10.12	50.14	63.36	-13.22	QP
4		0.2060	23.56	10.12	33.68	53.36	-19.68	AVG
5		0.5780	24.95	10.02	34.97	56.00	-21.03	QP
6		0.5780	19.04	10.02	29.06	46.00	-16.94	AVG
7		1.0060	16.10	10.16	26.26	56.00	-29.74	QP
8		1.0060	5.39	10.16	15.55	46.00	-30.45	AVG
9		5.7940	15.48	10.06	25.54	60.00	-34.46	QP
10		5.7940	6.52	10.06	16.58	50.00	-33.42	AVG
11		14.7540	19.13	10.06	29.19	60.00	-30.81	QP
12		14.7540	6.85	10.06	16.91	50.00	-33.09	AVG



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EUT:	Action	camera	2 10	Model Name) :	Explorer S				
Temperature:	25 ℃	Carrie		Relative Hui	midity:	55%				
Test Voltage:	AC 240)V/60Hz			Call	1:33				
Terminal:	Line		A KILL	1	N W	400	MALL			
est Mode:	USB C	harging with	TX B Mode	е (Т)						
Remark:	Only w	orse case is	reported	C. Service		13				
30 dBuV	a Van and Market	Lagger Control of the State of	And the second	Marketon de grade de la production de la constantion de la constan	Fraging with deeply	QP: AVG:	per AVI			
0.150	0.5		(MHz)	5			30.000			
NI- MI-		Reading Level	Correct Factor	Measure- ment	Limit	Over				
No. Mk.	Freq.					ID.	·			
	MHz	dBuV	dB	dBuV	dBuV	dB				
1 * (MHz 0.1620	dBu√ 40.29		dBu√ 50.23	dBuV 65.36	-15.13	QP			
1 * 0	MHz 0.1620 0.1620	dBu√ 40.29 21.91	dB	dBuV 50.23 31.85	dBu√ 65.36 55.36	-15.13 -23.51	QP			
1 * 0	MHz 0.1620	dBu√ 40.29	dB 9.94	dBu√ 50.23	dBu√ 65.36 55.36	-15.13	QP			
1 * 0 2 0 3 0	MHz 0.1620 0.1620	dBu√ 40.29 21.91	dB 9.94 9.94	dBuV 50.23 31.85	dBuV 65.36 55.36 56.00	-15.13 -23.51	QP AVG QP			
1 * (2 (3 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4	MHz 0.1620 0.1620 0.5500	dBu√ 40.29 21.91 27.32	9.94 9.94 10.04	dBuV 50.23 31.85 37.36	dBuV 65.36 55.36 56.00 46.00	-15.13 -23.51 -18.64	QP AVG QP			
1 * 0 2 0 3 0 4 0	MHz 0.1620 0.1620 0.5500 0.5500	dBuV 40.29 21.91 27.32 14.05	9.94 9.94 10.04 10.04	dBuV 50.23 31.85 37.36 24.09	dBuV 65.36 55.36 56.00 46.00 56.00	-15.13 -23.51 -18.64 -21.91	QP AVG QP AVG			
1 * 0 2 0 3 0 4 0 5 6	MHz 0.1620 0.1620 0.5500 0.5500	dBuV 40.29 21.91 27.32 14.05 21.70	9.94 9.94 10.04 10.04 10.06	dBuV 50.23 31.85 37.36 24.09 31.76	dBuV 65.36 55.36 56.00 46.00 56.00 46.00	-15.13 -23.51 -18.64 -21.91 -24.24	QP AVG QP AVG			
1 * 0 2 0 3 0 4 0 5 6 7 2	MHz 0.1620 0.1620 0.5500 0.5500 1.1019	dBuV 40.29 21.91 27.32 14.05 21.70 9.89	9.94 9.94 10.04 10.04 10.06	dBuV 50.23 31.85 37.36 24.09 31.76 19.95	dBuV 65.36 55.36 56.00 46.00 56.00 56.00	-15.13 -23.51 -18.64 -21.91 -24.24 -26.05	AVG QP AVG QP			
1 * 0 2 0 3 0 4 0 5 6 7 2 8 2	MHz 0.1620 0.1620 0.5500 0.5500 1.1019 1.1019 2.1860	dBuV 40.29 21.91 27.32 14.05 21.70 9.89 20.85	9.94 9.94 10.04 10.04 10.06 10.06	dBuV 50.23 31.85 37.36 24.09 31.76 19.95 30.90	dBuV 65.36 55.36 56.00 46.00 46.00 56.00 46.00	-15.13 -23.51 -18.64 -21.91 -24.24 -26.05 -25.10	QP AVG QP AVG QP AVG			
1 * 0 2 0 3 0 4 0 5 6 7 2 8 2 9 6	MHz 0.1620 0.1620 0.5500 0.5500 1.1019 1.1019 2.1860 2.1860	dBuV 40.29 21.91 27.32 14.05 21.70 9.89 20.85 7.46	9.94 9.94 10.04 10.04 10.06 10.06 10.05	dBuV 50.23 31.85 37.36 24.09 31.76 19.95 30.90 17.51	dBuV 65.36 55.36 56.00 46.00 46.00 56.00 46.00 60.00	-15.13 -23.51 -18.64 -21.91 -24.24 -26.05 -25.10 -28.49	QP AVG QP AVG QP AVG			
1 * 0 2 0 3 0 4 0 5 6 7 2 8 2 9 6 10 6	MHz 0.1620 0.1620 0.5500 0.5500 1.1019 1.1019 2.1860 2.1860 6.3659	dBuV 40.29 21.91 27.32 14.05 21.70 9.89 20.85 7.46 19.83	9.94 9.94 10.04 10.04 10.06 10.06 10.05 10.05	dBuV 50.23 31.85 37.36 24.09 31.76 19.95 30.90 17.51 29.86	dBuV 65.36 55.36 56.00 46.00 56.00 46.00 46.00 60.00	-15.13 -23.51 -18.64 -21.91 -24.24 -26.05 -25.10 -28.49 -30.14	QP AVG QP AVG QP AVG			





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EUT:	Action ca	amera	2 13	Model Nar	Explo	rer S	
emperature:	25 ℃			Relative H	55%		
est Voltage:	AC 240\	//60Hz		13	(11)	1133	
erminal:	Neutral		ARTE		100		MAIL
est Mode:	USB Ch	arging with	TX B Mode		2	2	A Line
Remark:	Only wo	rse case is	reported			13	
30 MBuV 20 0.150	0.5	Reading	(MHz)	5 Measure-	of the definition of the second	QP: AVG:	30.000
No. Mk.	Freq.	Level dBuV	Factor dB	ment dBuV	Limit dBuV	Over	Detector
1 * 0	.1620	41.22	10.12	51.34	65.36		QP
	.1620	23.91	10.12	34.03		-21.33	AVG
	.2060	37.91	10.12	48.03	63.36		QP
	.2060	21.25	10.12	31.37		-21.99	AVG
	.5899	25.62	10.12	35.64		-20.36	QP
	.5899	19.68	10.02	29.70		-16.30	AVG
	.4220	18.64	10.12	28.76	56.00		QP
	.4220	9.21	10.12	19.33		-26.67	AVG
	.3060	19.44	10.06	29.50	56.00		QP
	.3060	13.81	10.06	23.87	46.00		AVG
11 15	.3740	16.70	10.06	26.76	60.00	-33.24	QP
		2.74	10.06	12.80	EO 00	-37.20	AVG



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5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limits (9 kHz~1000 MHz)

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)

Frequency	Class A (dBuV	//m)(at 3 M)	Class B (dBuV	//m)(at 3 M)
(MHz)	Peak	Average	Peak	Average
Above 1000	80	60	74	54

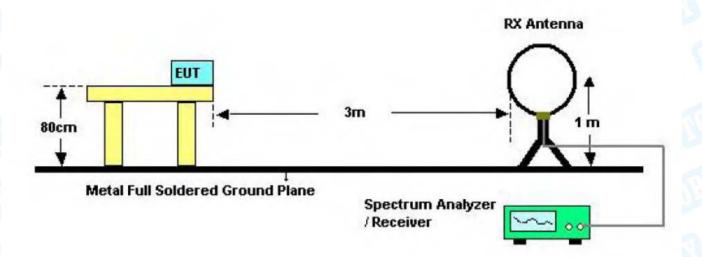
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

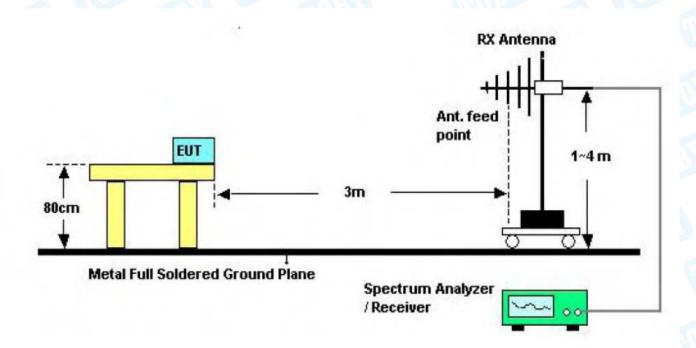


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5.2 Test Setup



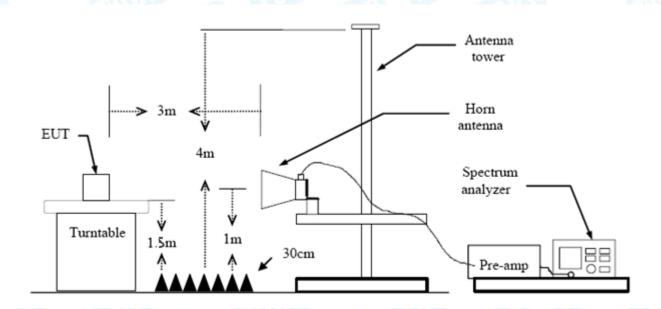
Below 30MHz Test Setup



Below 1000MHz Test Setup



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Above 1GHz Test Setup

5.3 Test Procedure

- (1) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. 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.

5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.



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5.5 Test Data

Remark: During testing 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.

Test data please refer the following pages.



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9KHz~30MHz

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz~1GHz

		Ac	tion	came	era		Model:		Explorer S				
Tempe	rature	: 25	$^{\circ}$ C		الزار		Relative Hu	umidity:	55%				
Test Vo	oltage:	DC	3.7	V		CHILD.		ONL		9			
Ant. Po	ol.	Но	rizor	ntal		F. Branch			(III)	33			
Test M	ode:	TX	BM	lode	2412	MHz	A STATE OF		No.				
Remar	k:	On	ly w	orse	case	is reported		Militar					
80.0 dE	BuV/m												
30	My	was a standard to the standard	Mary L.	houston	M			(RF)FCC	15C 3M Radiatio Margin -6 3 4 5 X X X				
20													
-20 30.000	40	50 60	70	80		(MHz)	300	400	500 600 700	1000.00			
30.000	40 Mk.	50 60 Freq		Rea	ading vel		Measure- ment	400	500 600 700 Over	1000.00			
30.000				Rea Le	_	Correct	Measure-		Over	1000.00			
30.000	Mk.	Freq	•	Rea Le	vel	Correct Factor	Measure- ment	Limit	Over dB	Detecto			
30.000 No.	Mk.	Freq MHz		Rea Le	vel BuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB -10.42	Detecto			
No.	Mk.	Freq MHz	20	Rea Le dE 54	vel BuV .63	Correct Factor dB/m -19.05	Measure- ment dBuV/m 35.58	Limit dBuV/m	Over dB -10.42 -5.92	Detecto			
No.	Mk.	Freq MHz 221.392 341.978	20 36 24	Rea Le 54 54	vel BuV .63	Correct Factor dB/m -19.05 -14.65	Measure- ment dBuV/m 35.58 40.08	Limit dBuV/m 46.00 46.00	Over dB -10.42 -5.92 -4.02	Detector peak peak peak			
No. 1 2 3	Mk.	Freq MHz 221.392 341.978 582.742	20 36 24	Rea Le 54 54 51	vel 3uV .63 .73	Correct Factor dB/m -19.05 -14.65 -9.22	Measure- ment dBuV/m 35.58 40.08 41.98	Limit dBuV/m 46.00 46.00 46.00	Over dB -10.42 -5.92 -4.02 -4.41	Detector peak			



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	Γ:				Action camera						Rie	Mod	lel:					Explorer S				À	
Ten	npera	atur	e:	1	25	$^{\circ}\!\mathbb{C}$		1				Relative Humidity:						55%					
Tes	t Vol	tag	e:		DC	3.7	7V	*	فطيو														
4nt	. Pol	l			Ver	Vertical										V							
Tes	t Mo	de:			TX	ВМ	Mod	de 2	2412	MHz		C							N				
Ren	nark	:			Onl	ly w	vors	se c	ase	is rep	orted				4			5					Ñ
80.0) dBu\	V/m																				_	
30	Marshard .	~~~~	Ly.		Myd	M.,		tall de la constant d	<i>N</i>	\	Ž Ž	× ×		4 *	(F	WHA.	C 15C			ation in -6 X			
30	.000	40	5	50	60	70	80			(MHz)		;	300	4	00	500	60	0 7	700	10	000.)00
1	No. I	Mk.		Fre			L	eve			rect	m	asur ent			mit		0	/e	r			
				MH	Z		d	Bu\	/	dB	/m	dE	BuV/m	1	dE	uV/ı	m	C	ΙB		De	etec	to
1			12	4.13	329)	4	7.5	8	-22	.30	2	5.28	<u> </u>	4	3.50)	-18	8.2	22	p	ea	ık
2			19	1.0	738	3	5	1.9	4	-20	.50	3	1.44		4	3.50)	-12	2.0	06	p	ea	ık
3			22	1.39	920)	5	3.3	8	-19	.05	34	4.33	,	4	6.00)	-1	1.6	67	p	ea	ık
4			34	1.9	786	6	5	2.4	2	-14	.65	3	7.77	,	4	6.00)	-8	.2	3	p	ea	ık
5	į		58	2.74	424		5	0.5	4	-9.	22	4	1.32	2	4	6.00)	-4	.6	8	p	ea	ık
	*	k	72	4.04	244		4	8.3	0	-6.	09	4	2.21		4	6.00)	-3	.7	9	r	ea	ık



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Above 1GHz

EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		133
Ant. Pol.	Horizontal		TO THE
Test Mode:	TX B Mode 2412MHz		A FILLY
Remark:	No report for the emission w limit.	hich more than 10 dB bel	ow the prescribed

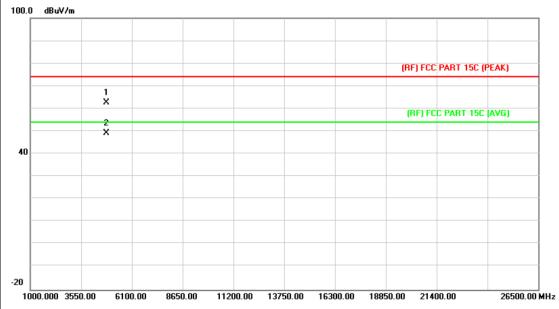


N	lo.	Mk.	Freq.	_		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4824.147	37.73	13.56	51.29	54.00	-2.71	AVG
2			4824.351	49.38	13.56	62.94	74.00	-11.06	peak



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ive Humidity: 55%
WUD3
Miles
ore than 10 dB below the

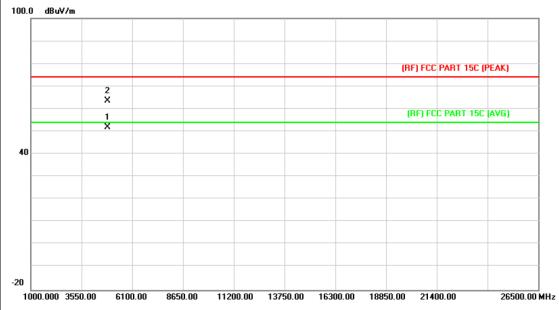


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.427	49.16	13.56	62.72	74.00	-11.28	peak
2	*	4823.970	35.45	13.56	49.01	54.00	-4.99	AVG



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	mm l	1333					
Ant. Pol.	Horizontal							
Test Mode:	TX B Mode 2437MHz							
Remark:	No report for the emission wh prescribed limit.	No report for the emission which more than 10 dB below the						



No	o. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.009	38.00	13.86	51.86	54.00	-2.14	AVG
2		4874.198	49.71	13.86	63.57	74.00	-10.43	peak



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical	Vertical						
Test Mode:	TX B Mode 2437MHz		a William					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							

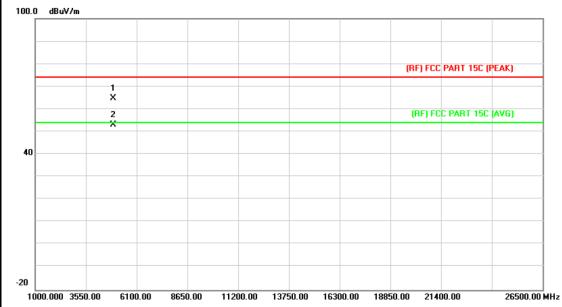


No	o. Mł	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.991	35.07	13.86	48.93	54.00	-5.07	AVG
2		4874.237	48.74	13.86	62.60	74.00	-11.40	peak



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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	The state of	133
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		A PROPERTY.
Remark:	No report for the emission will prescribed limit.	nich more than 10 dB b	elow the

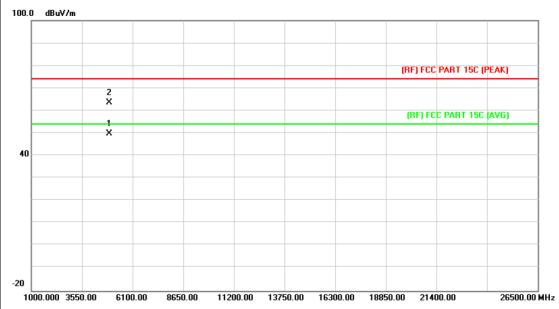


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.706	50.61	14.15	64.76	74.00	-9.24	peak
2	*	4924.051	38.78	14.15	52.93	54.00	-1.07	AVG



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S	Explorer S	Model:	Action camera	EUT:
N. See	55%	Relative Humidity:	25 ℃	Temperature:
	133		DC 3.7V	Test Voltage:
Cir.			Vertical	Ant. Pol.
Asser	I WILL		TX B Mode 2462MHz	Test Mode:
1	elow the	hich more than 10 dB be	No report for the emission value prescribed limit.	Remark:
	elow the	hich more than 10 dB be	TX B Mode 2462MHz No report for the emission v	Test Mode:



N	o. M	1k.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4	4924.108	35.70	14.15	49.85	54.00	-4.15	AVG
2		4	4924.996	49.41	14.15	63.56	74.00	-10.44	peak



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal							
Test Mode:	TX G Mode 2412MHz		1 Williams					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the						
	prescribed limit.							

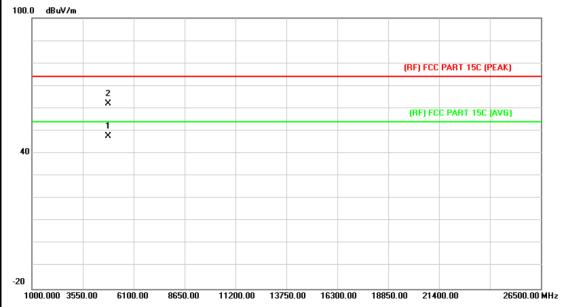


No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.013	48.42	13.56	61.98	74.00	-12.02	peak
2	*	4823.016	34.20	13.56	47.76	54.00	-6.24	AVG



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	The second	133				
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2412MHz		A HILL				
Remark:	No report for the emission w prescribed limit.	hich more than 10 dB b	elow the				



No	o. N	Лk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*		4823.652	34.21	13.56	47.77	54.00	-6.23	AVG
2			4823.853	48.48	13.56	62.04	74.00	-11.96	peak



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EUT:	Action camera	Model:	Explorer S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	DC 3.7V				
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX G Mode 2437MHz		1 Williams			
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					

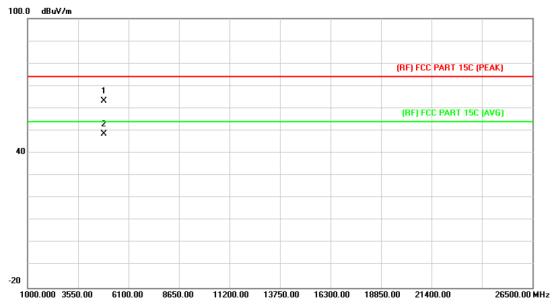


N	lo.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.472	34.64	13.86	48.50	54.00	-5.50	AVG
2			4874.963	48.46	13.86	62.32	74.00	-11.68	peak



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2437MHz		A Principal				
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						



N	lo. I	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4872.779	49.29	13.85	63.14	74.00	-10.86	peak
2	*	k ,	4874.111	34.61	13.86	48.47	54.00	-5.53	AVG



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX G Mode 2462MHz		A Principal				
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

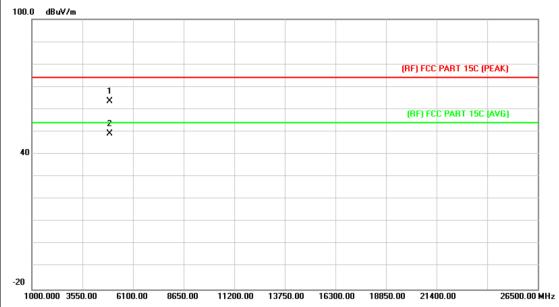


N	lo. M	lk. Fre		ing Corrected Factor		- Limit	Over	
		MH	z dBu\	/ dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.	765 49.2	6 14.15	63.41	74.00	-10.59	peak
2	*	4925.0	002 35.0	1 14.16	49.17	54.00	-4.83	AVG



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2462MHz		A FIRE				
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						



-	No. M	k. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.730	49.30	14.15	63.45	74.00	-10.55	peak
2	*	4923.811	35.13	14.15	49.28	54.00	-4.72	AVG



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Action camera	Model:	Explorer S			
25 ℃	Relative Humidity:	55%			
DC 3.7V					
Horizontal					
TX N(HT20) Mode 2412MHz		A Property			
No report for the emission which more than 10 dB below the prescribed limit.					
	25 ℃ DC 3.7V Horizontal TX N(HT20) Mode 2412MHz No report for the emission whi	Relative Humidity: DC 3.7V Horizontal TX N(HT20) Mode 2412MHz No report for the emission which more than 10 dB be			

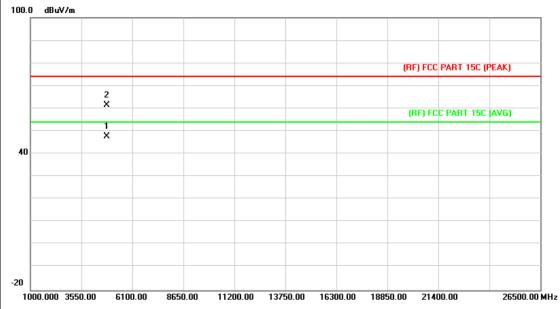


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.877	48.12	13.56	61.68	74.00	-12.32	peak
2	*	4823.892	34.23	13.56	47.79	54.00	-6.21	AVG



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT20) Mode 2412MHz	CHILD -	Line				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
100 0 ID VI							

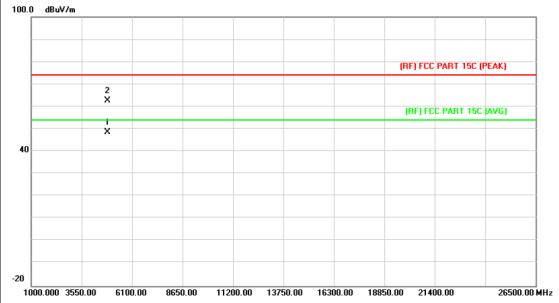


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4822.560	34.21		47.76	54.00	-6.24	AVG
2		4824.381	47.78	13.56	61.34	74.00	-12.66	peak



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal		TO PAGE					
Test Mode:	TX N(HT20) Mode 2437MHz		I THE					
Remark:	No report for the emission whi	No report for the emission which more than 10 dB below the						
	prescribed limit.							



N	lo.	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	,	*	4873.475	34.62	13.86	48.48	54.00	-5.52	AVG
2			4873.676	48.90	13.86	62.76	74.00	-11.24	peak



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical	Vertical						
Test Mode:	TX N(HT20) Mode 2437MHz	CHILD -	A HILL					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							
	No report for the emission wh	ich more than 10 dB b	elow the					



No.	Mk.	Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.937	49.37	13.86	63.23	74.00	-10.77	peak
2	*	4874.486	34.63	13.86	48.49	54.00	-5.51	AVG



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal		TO PAGE					
Test Mode:	TX N(HT20) Mode 2462MHz		I WILL					
Remark:	No report for the emission whi	No report for the emission which more than 10 dB below the						
	prescribed limit.							

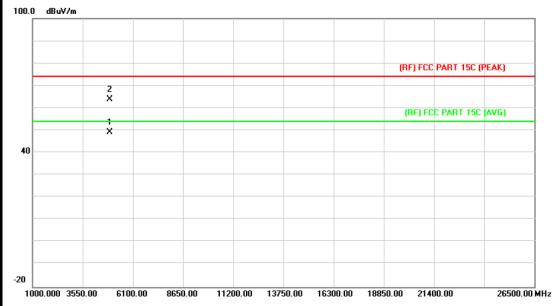


N	0.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4923.631	35.01	14.15	49.16	54.00	-4.84	AVG
2			4924.612	48.45	14.15	62.60	74.00	-11.40	peak



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EUT:	Action camera	Model:	Explorer S					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical		Circulation of the Control of the Co					
Test Mode:	TX N(HT20) Mode 2462MHz		A HILL					
Remark:	No report for the emission wh	No report for the emission which more than 10 dB below the						
	prescribed limit.							
4								



No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.574	34.94	14.15	49.09	54.00	-4.91	AVG
2		4924.147	49.64	14.15	63.79	74.00	-10.21	peak



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6. Restricted Bands Requirement

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.247(d)

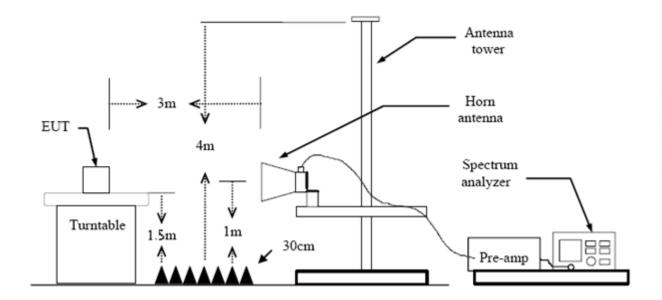
FCC Part 15.209

FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dB	uV/m)(at 3 M)
Band (MHz)	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

6.2 Test Setup



6.3 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) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.



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(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

- (4) 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.
- (5) 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.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) 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.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

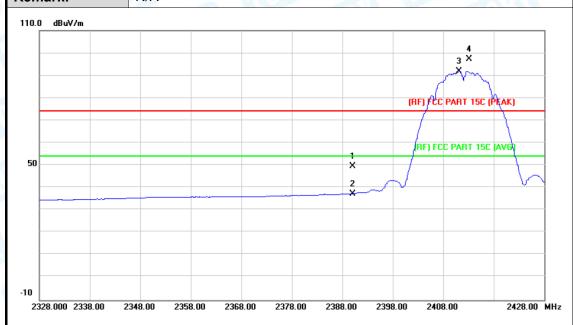
Please see the next page.



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(1) Radiation Test

EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal		THE PARTY OF THE P				
Test Mode:	TX B Mode 2412MHz		13				
Remark:	N/A						

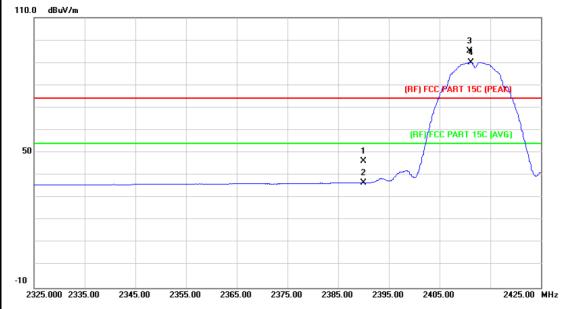


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	48.72	0.77	49.49	74.00	-24.51	peak
2		2390.000	36.62	0.77	37.39	54.00	-16.61	AVG
3	*	2411.200	90.99	0.86	91.85	Fundamental F	requency	AVG
4	Χ	2413.100	96.48	0.86	97.34	Fundamental F	requency	peak



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EUT:	Action camera	Model:	Explorer S				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical		TOP I				
Test Mode:	TX B Mode 2412MHz		a William				
Remark:	N/A		7 (1)				

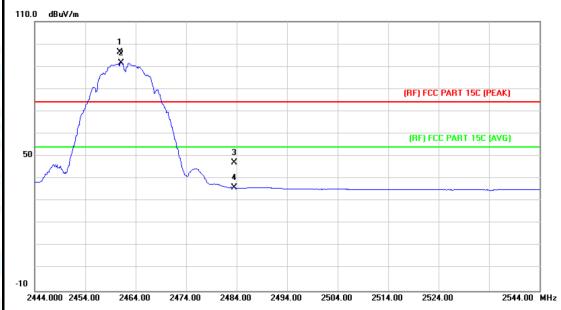


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	45.52	0.77	46.29	74.00	-27.71	peak
2		2390.000	35.95	0.77	36.72	54.00	-17.28	AVG
3	X	2410.900	94.27	0.86	95.13	Fundamental Frequency		peak
4	*	2411.200	89.34	0.86	90.20	Fundamental F	requency	AVG



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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	3.0	133
Ant. Pol.	Horizontal		Circulation of the Control of the Co
Test Mode:	TX B Mode 2462MHz		A FIRST
Remark:	N/A		2

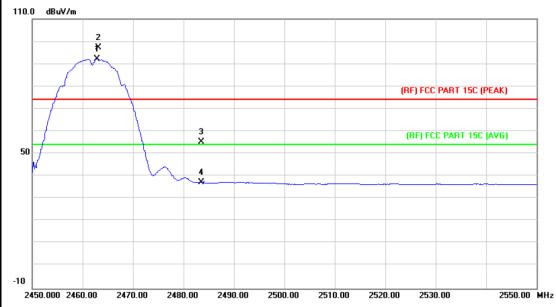


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	X	2460.900	95.17	1.06	96.23	Fundamenta	Frequency	peak
2	*	2461.200	90.55	1.07	91.62	Fundamenta	l Frequency	AVG
3		2483.500	45.89	1.17	47.06	74.00	-26.94	peak
4		2483.500	34.91	1.17	36.08	54.00	-17.92	AVG



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Action camera	Model:	Explorer S			
25 ℃	Relative Humidity:	55%			
DC 3.7V		333			
Vertical					
TX B Mode 2462MHz		Alle			
N/A		3 _ 0			
	DC 3.7V Vertical TX B Mode 2462MHz	25 °C Relative Humidity: DC 3.7V Vertical TX B Mode 2462MHz			

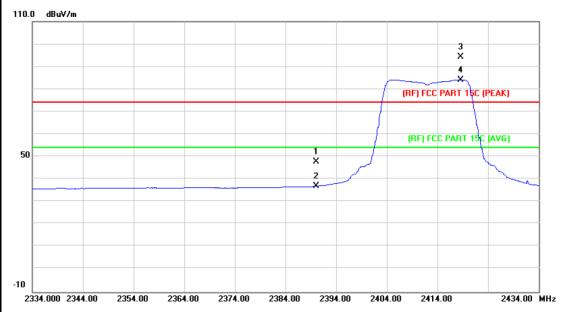


N	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2462.800	91.08	1.08	92.16	Fundamental Frequency		AVG
2	X	2463.100	96.23	1.08	97.31	Fundamental F	requency	peak
3		2483.500	54.03	1.17	55.20	74.00	-18.80	peak
4		2483.500	36.00	1.17	37.17	54.00	-16.83	AVG



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Ş	EUT:	Action camera	Model:	Explorer S
Ì	Temperature:	25 ℃	Relative Humidity:	55%
	Test Voltage:	DC 3.7V	m li	133
ł	Ant. Pol.	Horizontal		
	Test Mode:	TX G Mode 2412MHz		MILL
	Remark:	N/A		3 _ 0



No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	47.12	0.77	47.89	74.00	-26.11	peak
2		2390.000	36.17	0.77	36.94	54.00	-17.06	AVG
3	Χ	2418.600	93.32	0.89	94.21	Fundamental Frequency		peak
4	*	2418.600	83.26	0.89	84.15	Fundamental Frequency		AVG



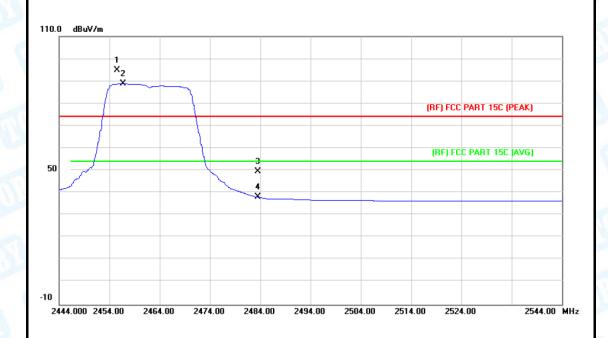
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EUT:			Actio	n came	ra	1 187	M	odel:		E	Explorer S		
Tem	peratu	re:	25 ℃				R	elative	Humidity	/ : !	55%		
Test	Voltag	e:	DC 3	.7V			28	1000	(m)				
۹nt.	Pol.		Vertic	cal		ARG		-3	A B				
Test	Mode:		TX G	Mode	2412MI	Hz	. (A	113	l land	
Rem	ark:		N/A	A Thin		1				133			1
110.0	dBuV/m												
										3 X			
									<u></u>	4 X			
									(RF) FC	PART	15C (PEAK)		
50								-	(RF) FO	C PART	5C [AVG]		
30							1 X	J.					
							2	ممسمه					
Ĩ													
-10													
	35.000 234	5.00 23	55.00	2365.00	2375.00	2385.0	0 239)5.00 24	405.00 241	5.00	24	35.00 I	MH:
				Read	ina (Correct	Me	asure-					
N	o. Mk.	Fre	a.	Leve	_	Factor		nent	Limit		Over		
		MH:	•	dBu\		dB/m		BuV/m	dBuV/ı	m	dB	Dete	cto
1		2390.0		42.7		0.77		3.47	74.00		30.53	ре	
2		2390.0		30.7		0.77		31.47	54.00		22.53	A۷	
_	X	2418.6		90.6		0.89		91.50				pe	
	\sim	2 7 10.0		90.0	1	0.09		31.36	Fundame	ntai Fre	quency	A۷	
3	*	2418.8	200	80.4	7	0.89	_		Fundame				



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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	The same	133
Ant. Pol.	Horizontal		TO THE
Test Mode:	TX G Mode 2462MHz		A FIRE
Remark:	N/A		3 _ (1)

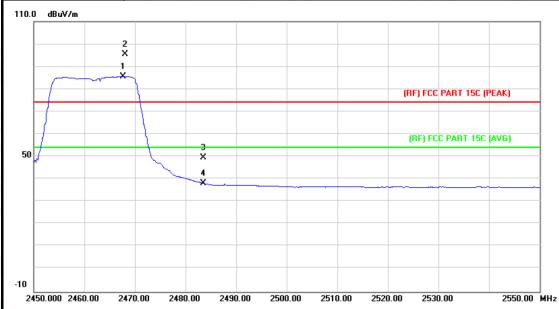


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	X	2455.500	93.69	1.05	94.74	Fundamental Frequency		peak
2	*	2456.700	87.77	1.05	88.82	Fundamental F	requency	AVG
3		2483.500	48.39	1.17	49.56	74.00	-24.44	peak
4		2483.500	36.86	1.17	38.03	54.00	-15.97	AVG



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EUT:	Action camera	Model:	Explorer S			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2462MHz		a William			
Remark:	N/A					

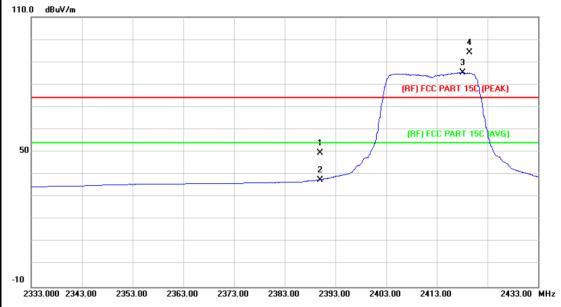


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2467.700	84.53	1.10	85.63	Fundamental	Frequency	AVG
2	X	2468.000	94.43	1.11	95.54	Fundamental	Frequency	peak
3		2483.500	48.47	1.17	49.64	74.00	-24.36	peak
4		2483.500	37.05	1.17	38.22	54.00	-15.78	AVG



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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		Till a
Ant. Pol.	Horizontal		TO THE
Test Mode:	TX N(HT20) Mode 2412MH	z (N)	J. Hilliam
Remark:	N/A		73
	•		



No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	48.77	0.77	49.54	74.00	-24.46	peak
2		2390.000	36.92	0.77	37.69	54.00	-16.31	AVG
3	*	2418.100	84.34	0.89	85.23	Fundamental	Frequency	AVG
4	Χ	2419.500	93.23	0.89	94.12	Fundamental	Frequency	peak



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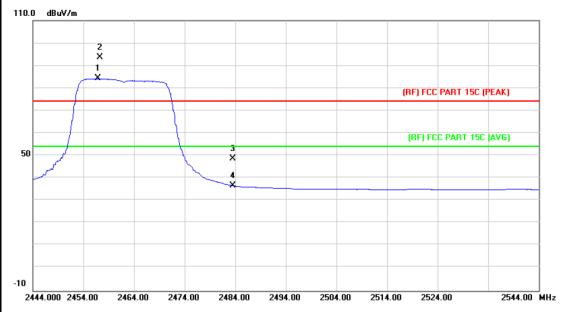
EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		1133
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2	2412MHz	J Filtre
Remark:	N/A		13
110.0 dBuV/m			
		(INF) FEC P	3 X 4 PART TSC (PEAK)
		(RF) FCC	PART 15C (AVG)
50		1 X 2 X	
-10			

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	47.29	0.77	48.06	74.00	-25.94	peak
2		2390.000	34.86	0.77	35.63	74.00	-38.37	peak
3	*	2418.700	92.31	0.89	93.20	Fundamental	Frequency	peak
4	Χ	2419.900	79.17	0.89	80.06	Fundamental	Frequency	peak



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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		CONTRACT OF
Test Mode:	TX N(HT20) Mode 2462MHz		MARIE
Remark:	N/A		3 _ 6

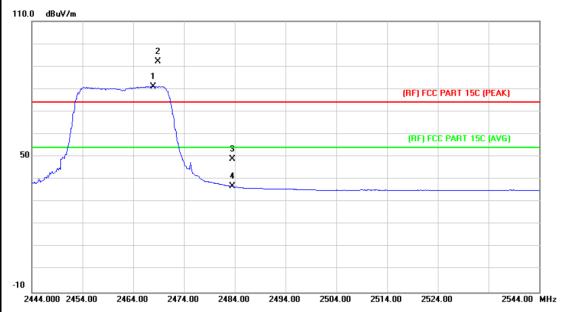


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2456.900	83.16	1.05	84.21	Fundamental F	requency	AVG
2	Χ	2457.300	92.52	1.05	93.57	Fundamental F	requency	peak
3		2483.500	47.53	1.17	48.70	74.00	-25.30	peak
4		2483.500	35.57	1.17	36.74	54.00	-17.26	AVG

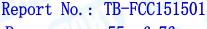


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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	The same	133
Ant. Pol.	Vertical		Circulation of the Circulation o
Test Mode:	TX N(HT20) Mode 2462MHz		A HILL
Remark:	N/A		3 _ (1)
110.0 dBuV/m			



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2467.900	80.01	1.10	81.11	Fundamental	Frequency	AVG
2	X	2468.900	91.07	1.11	92.18	Fundamental	Frequency	peak
3		2483.500	47.82	1.17	48.99	74.00	-25.01	peak
4		2483.500	35.71	1.17	36.88	54.00	-17.12	AVG

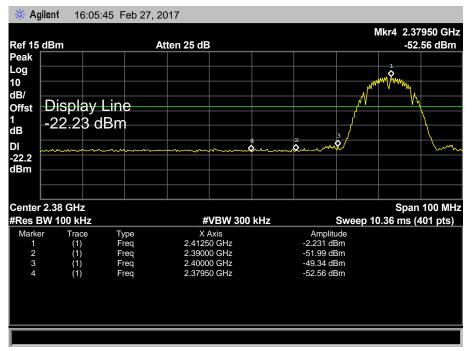


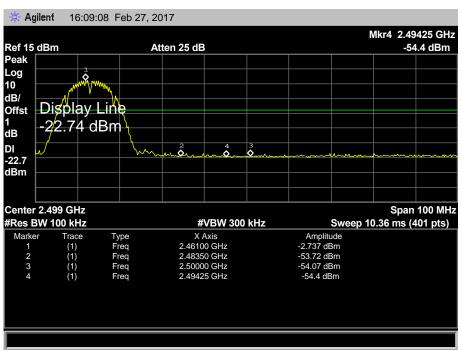


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(2) Conducted Test

EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	TO US	
Test Mode:	TX B Mode 2412MHz / TX E	3 Mode 2462MHz	J. W. Commission
Remark:	The EUT is programed in co	ontinuously transmitting	mode







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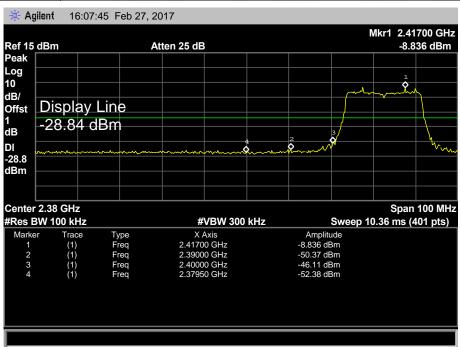
T:	Action camer	a	N.	lodel:		Explorer	
mperature:	25 ℃	TAN	F	Relative Hu	ımidity:	55%	
st Voltage:	DC 3.7V			Call Mark			
st Mode: TX G Mode 2412MHz / TX			z/TXGI	Mode 2462	MHz		
mark:	The EUT is p	rograme	ed in cont	inuously tra	ansmitting	g mode	
* Agilent	16:06:52 Feb 27, 2	.017					
					Mkr	1 2.41575 GHz	
Ref 15 dBm Peak	<i>P</i>	tten 25 dB				-8.292 dBm	
Log 10						1	
dB/	alay Lina					nt m	
Offst DIS	olay Line 29 dBm						
αБ	29 UDIII			2	3		
DI -28.3	······		~~~~	···å····	N	Vm	
dBm							
Center 2.38 C						Span 100 MHz	
#Res BW 100	kHz	#VBW 300 kHz			Sweep 10.36 ms (401 pts)		
Mankan	T	V A		A 1:4-			
	race Type (1) Freq	X A 2.41575	5 GHz	Amplitu -8.292 dE	3m		
1 2	(1) Freq (1) Freq	2.41575 2.39000	5 GHz) GHz	-8.292 dE -52.21 dE	3m 3m		
1 2		2.4157	5 GHz) GHz) GHz	-8.292 dE	3m 3m 3m		
1 2 3 4 4 Agilent	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m	1 2.45575 GHz	
Agilent Ref 15 dBm Peak	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m	1 2.45575 GHz -7.712 dBm	
Agilent Ref 15 dBm Peak Log	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/	(1) Freq (1) Freq (1) Freq (1) Freq (1) Fred	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst DISI	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst DISI	(1) Freq (1) Freq (1) Freq (1) Freq (1) Fred	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 dB DI	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq	2.41576 2.39000 2.40000 2.37950	5 GHz) GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 dB DI -27.7	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq (1) Fred (1) Fred	2.41575 2.39000 2.40000 2.37950	5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 dB DI	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq (1) Fred (1) Fred	2.41576 2.39000 2.40000 2.37950	5 GHz) GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m		
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 -27.7 dBm	(1) Freq (1) Freq (1) Freq (1) Freq (1) Fred (1)	2.41576 2.39000 2.40000 2.37950	5 GHz) GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE	3m 3m 3m 3m 3m	-7.712 dBm	
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 -27. dBm Center 2.499	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq (1) Fred (1)	2.41576 2.39000 2.40000 2.37950	6 GHz 9 GHz 9 GHz 9 GHz 9 GHz	-8.292 dE -52.21 dd -45.26 dE -52.67 dE	Sm 3m 3m 3m 3m	-7.712 dBm	
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 -27. dB DI -27.7 dBm Center 2.499 #Res BW 100 Marker	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq 16:10:13 Feb 27, 2	2.41576 2.39000 2.40000 2.37950 2.37950 2.37950	5 GHz) GHz) GHz) GHz) GHz /BW 300 kHz ixis	-8.292 dE -52.21 dE -45.26 dE -52.67 dE	Sweep 10.36	-7.712 dBm	
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 -27. dB DI -27.7 dBm Center 2.499 #Res BW 100 Marker	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq 16:10:13 Feb 27, 2	2.41576 2.39000 2.40000 2.37950 2.37950 2.37950	5 GHz) GHz) GHz) GHz) GHz /BW 300 kHz xxis 5 GHz	-8.292 dE -52.21 dE -45.26 dE -52.67 dE	Sweep 10.36	-7.712 dBm	
Agilent Ref 15 dBm Peak Log 10 dB/ Offst 1 -27. dB DI -27.7 dBm Center 2.499 #Res BW 100 Marker	(1) Freq (1) Freq (1) Freq (1) Freq (1) Freq 16:10:13 Feb 27, 2	2.41576 2.39000 2.40000 2.37950 2.37950 2.37950	5 GHz) GHz) GHz) GHz) GHz) GHz /BW 300 kHz xis 5 GHz) GHz) GHz	-8.292 dE -52.21 dE -45.26 dE -52.67 dE	Sweep 10.36 Jide Sm	-7.712 dBm	

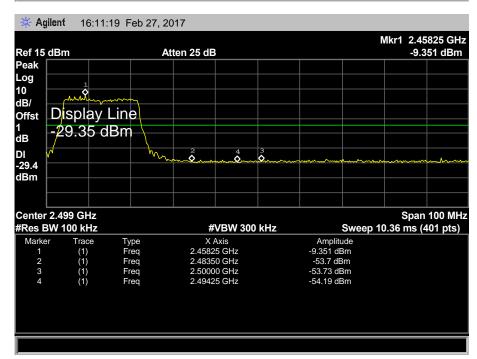




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EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	The same of the sa	133
Test Mode:	TX N(HT20) Mode 2412MH	z / TX N(HT20) Mode 24	62MHz
Remark:	The EUT is programed in co	ontinuously transmitting r	mode







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7. Bandwidth Test

7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (a)(2)

7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210						
Test Item	Limit	Frequency Range(MHz)				
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5				

7.2 Test Setup



7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB 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.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Digital photo framesdle and high channel for the test.



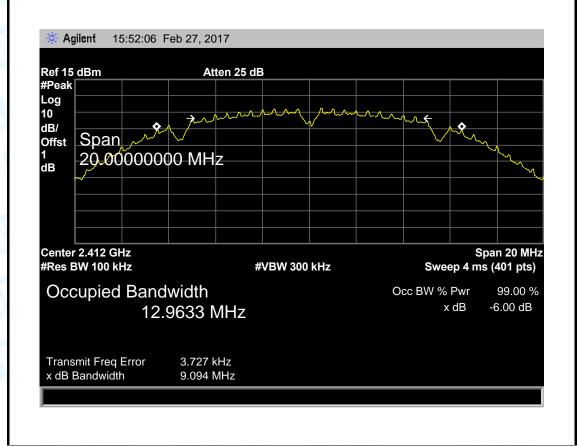
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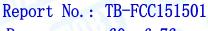
7.5 Test Data

EUT:	Action camera	Model:	Explorer S
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX 802.11B Mode		
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	9.094	12.9633	
2437	9.081	12.9560	>=0.5
2462	8.132	12.9438	

802.11B Mode

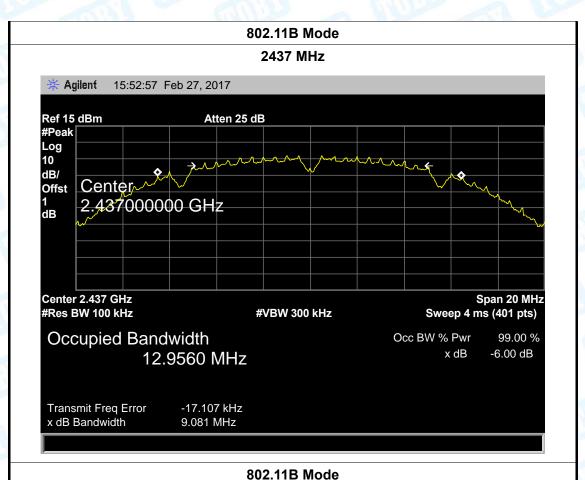
2412 MHz







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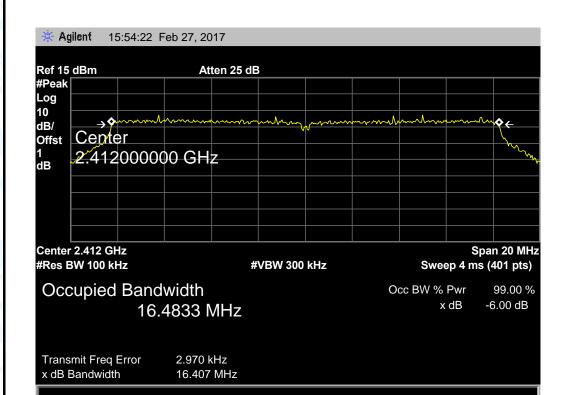
2462 MHz 🔆 Agilent 15:53:35 Feb 27, 2017 Ref 15 dBm Atten 25 dB #Peak Log 10 Center dB/ Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 12.9438 MHz Transmit Freq Error -20.916 kHz x dB Bandwidth 8.132 MHz

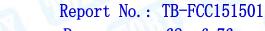


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EUT:	Action camera	Model:	Explorer S		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	Test Mode: TX 802.11G Mode				
Channel frequency 6dB Bandwidth 99% Bandwidth Limit					
(MHz)	(MHz)	(MHz)	(MHz)		
2412	16.407	16.4833			
2437	16.419	16.4856	>=0.5		
2462	16.481	16.4965			
802.11G Mode					

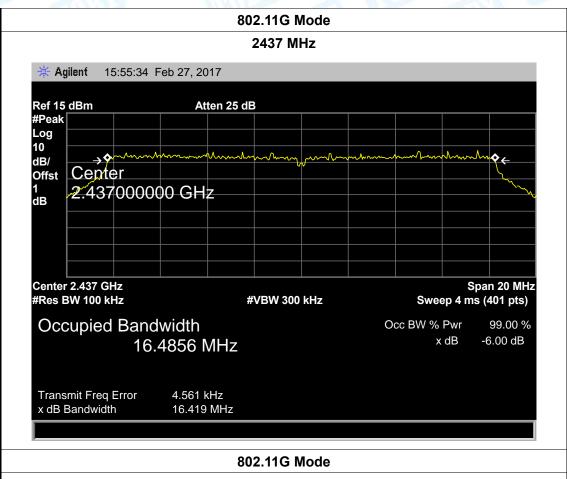
2412 MHz





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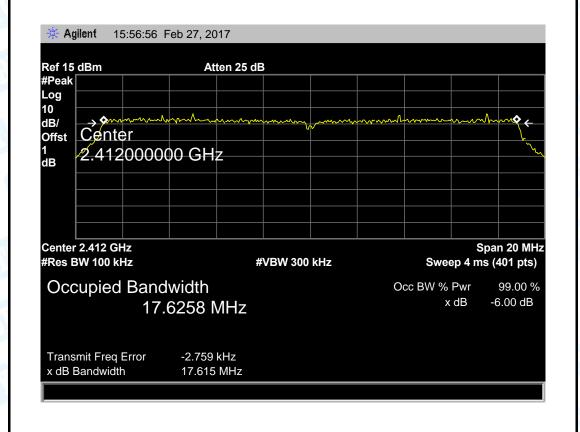
2462 MHz * Agilent 15:56:16 Feb 27, 2017 Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB 16.4965 MHz x dB Transmit Freq Error 2.177 kHz x dB Bandwidth 16.481 MHz



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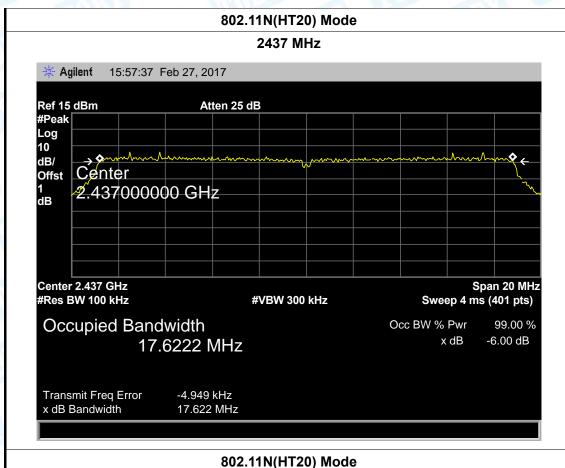
EUT:	Action camera	Model:	Explorer S		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode: TX 802.11N(HT20) Mode					
Channel frequence	Channel frequency 6dB Bandwidth 99% Bandwidth Limit				
(MHz)	(MHz)	(MHz)	(MHz)		
2412	17.615	17.6258			
2412 2437	17.615 17.622	17.6258 17.6222	>=0.5		
		+	>=0.5		

2412 MHz





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2462 MHz * Agilent 15:59:17 Feb 27, 2017 Ref 15 dBm Atten 25 dB #Peak Log 10 dB/ Center Offst 1 dB **2**.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 17.6159 MHz Transmit Freq Error -5.035 kHz x dB Bandwidth 17.636 MHz



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8. Peak Output Power Test

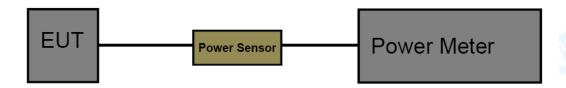
8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210			
Test Item Limit Frequency Range(MH			
Peak Output Power	1 Watt or 30 dBm	2400~2483.5	

8.2 Test Setup



8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r05.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.



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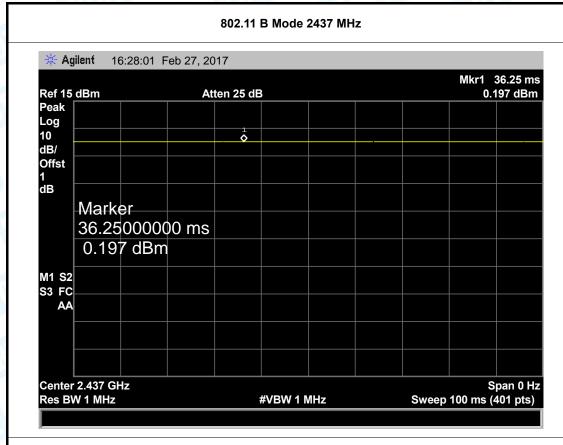
8.5 Test Data

EUT:	Action camera	Model:	Explorer S	
Temperature:	25 ℃	Relative Humidity	7: 55%	
Test Voltage:	DC 3.7V			
Mode	Channel frequency	Toot Pocult (dPm)	Limit (dPm)	
Wode	(MHz)	Test Result (dBm)	Limit (dBm)	
	2412	9.34		
802.11b	2437	9.28		
	2462	9.31		
	2412	9.12		
802.11g	2437	9.08	30	
	2462	9.15		
000 44	2412	9.09		
802.11n (HT20)	2437	9.13		
(11120)	2462	9.06		
	Resu	ult: PASS		

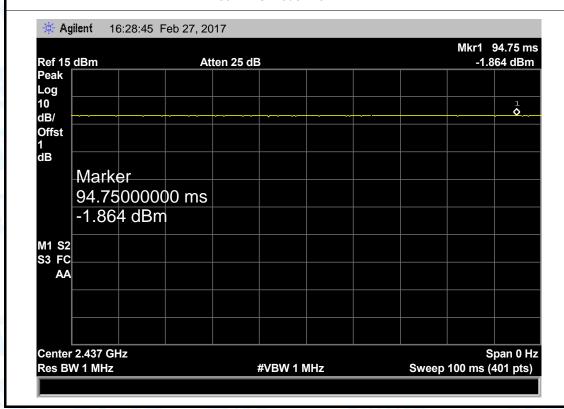
	Duty Cy	cle
Mode	Channel frequency (MHz)	Test Result
802.11b	2412	
	2437	
	2462	
	2412	
802.11g	2437	>98%
	2462	
000 44	2412	
802.11n (HT20)	2437	
	2462	



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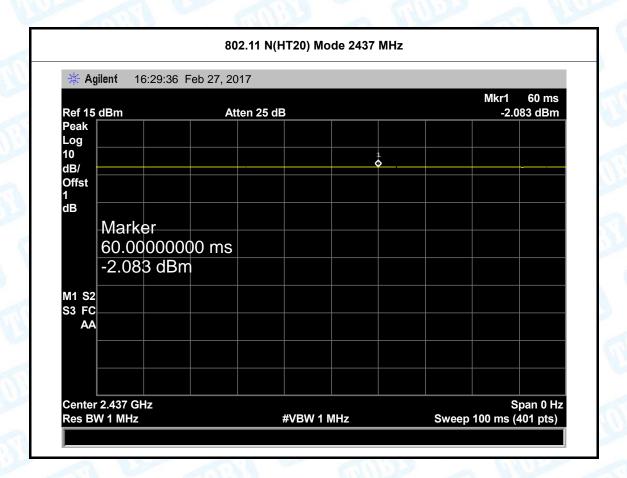








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9. Power Spectral Density Test

9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247 (e)

9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)				
Test Item Limit Frequency Range(MHz)				
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5		

9.2 Test Setup



9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r05.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz(5) Set the VBW to: 10 kHz
- (6) Detector: peak(7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Digital photo framesdle and high channel for the test.

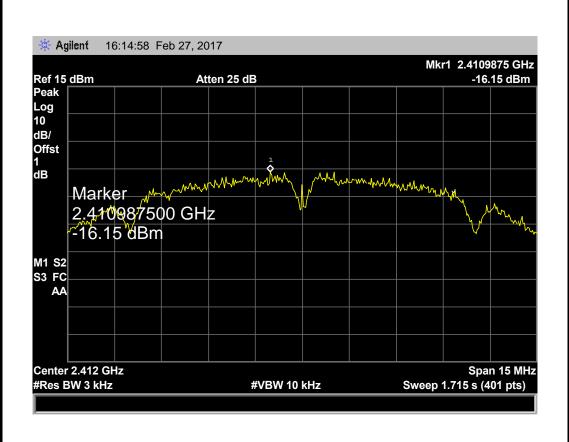


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9.5 Test Data

EUT:	Action camera		Model:	Explorer S	
Temperature:	25 ℃		Relative Humidity:	55%	
Test Voltage:	DC 3.7V				
Test Mode:	TX 802.1	TX 802.11B Mode			
Channel Freq	uency	Power Den	sity	Limit	
(MHz)		(3 kHz/dBm)		(dBm)	
2412	2412				
2437		-16.73		8	
2462	-16.43				
802 11B Mode					

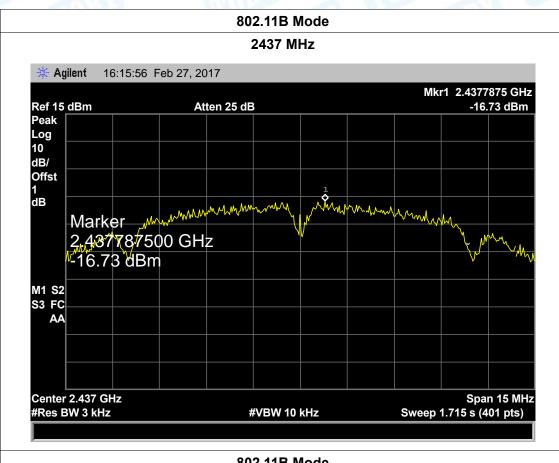
2412 MHz

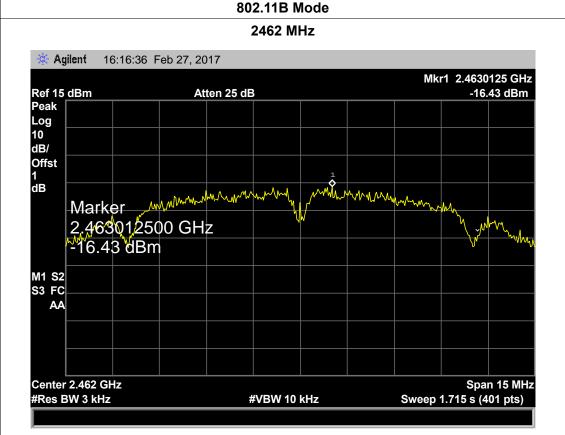






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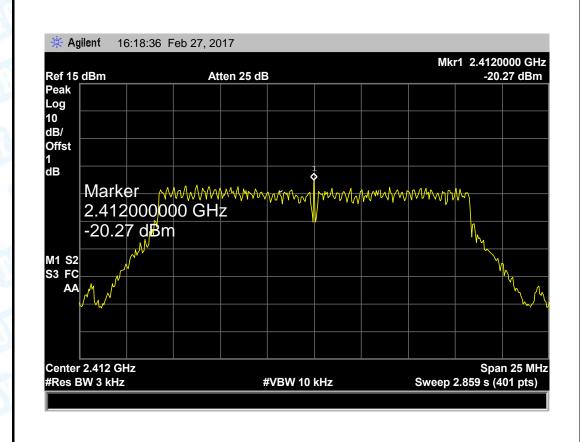
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EUT:	Action ca	mera	Мо	del:	Explorer S
Temperature:	25 ℃	ani'	Ter	nperature:	25 ℃
Test Voltage:	DC 3.7V	Co.			
Test Mode:	TX 802.1	1G Mode	I KILL		
Channel Frequency	uency	Pov	wer Density		Limit
(MHz)		(3 kHz/dBm)			(dBm)
2442			00.07		

2412 -20.27 2437 -19.87 **8** 2462 -20.81

802.11G Mode

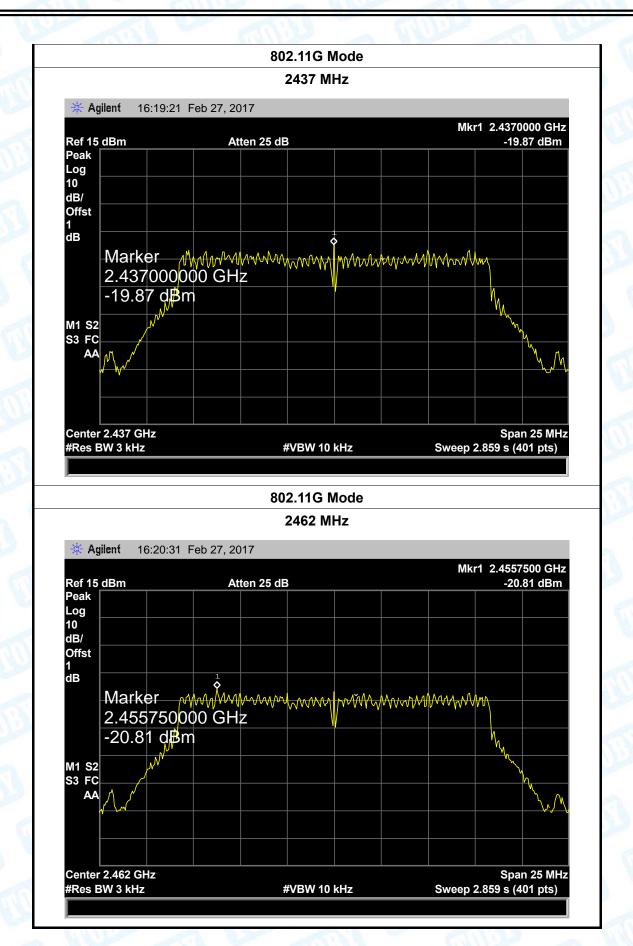
2412 MHz







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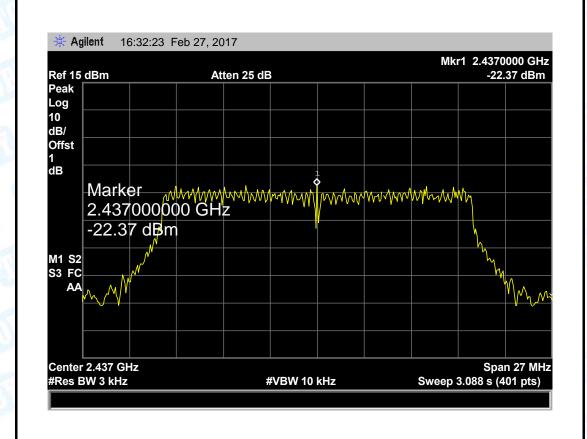
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١	EUT:	Action camera Model: Explorer					S
	Temperature:	25 ℃		Temperature	:	25 ℃	N. See
	Test Voltage:	DC 3.7V					
	Test Mode:	TX 802.11N(HT20) Mode					
	Channal Eragi	10001	Bower Don	oitu		Limit	

Channel Frequency	Power Density	Limit
(MHz)	(3 kHz/dBm)	(dBm)
2412	-22.37	
2437	-21.80	8
2462	-20.62	

802.11N(HT20) Mode

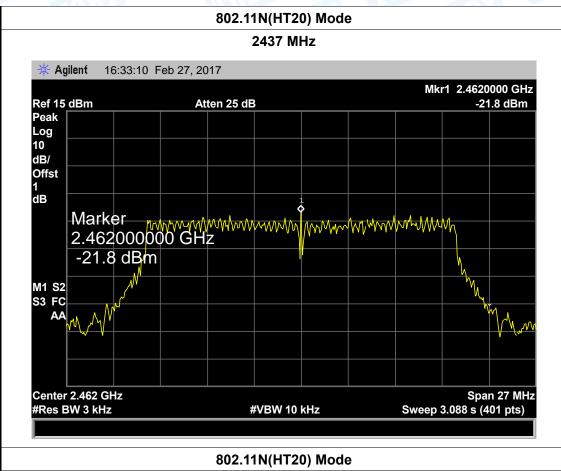
2412 MHz

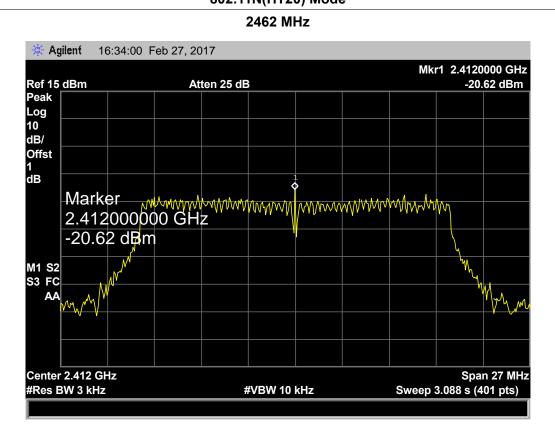






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10. Antenna Requirement

10.1 Standard Requirement

10.1.1 Standard FCC Part 15.203

10.1.2 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.

10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 2.11 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

Result

The EUT antenna is a Internal Antenna. It complies with the standard requirement.

	Antenna Type
33	▶ Permanent attached antenna
(anno	□ Unique connector antenna
	□ Professional installation antenna

----END OF REPORT----