

# Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC148100

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# **FCC Radio Test Report FCC ID: 2AINY-9028**

## **Original Grant**

Report No. TB-FCC148100

**Applicant** Shenzhen iCar multimedia Industry Co., Ltd

**Equipment Under Test (EUT)** 

**EUT Name** Action camera

9028 Model No.

Series No. 9031, 9032, 9035, 9022, 9180, 9029, 9300, 9500, 9057, 9058

**Brand Name** iCar

2016-05-23 **Receipt Date** 

2016-05-24 to 2016-06-01 **Test Date** 

2016-06-02 **Issue Date** 

**Standards** FCC Part 15, Subpart C (15.247:2015)

ANSI C63.10: 2013 **Test Method** 

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 : Shenzhen iCar multimedia Industry Co., Ltd

Address : 7F /A Building, HuaYua Industry, Areo, Fenghuang Frist Industry

Zoom, Fuyong Stree, Baoan, Shenzhen, China

Manufacturer : Shenzhen iCar multimedia Industry Co., Ltd

Address : 7F /A Building, HuaYua Industry, Areo, Fenghuang Frist Industry

Zoom, Fuyong Stree, Baoan, Shenzhen, China

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

		AL LIVE STATE OF THE STATE OF T			
EUT Name		Action camera	William I william		
Models No.	:	9028, 9031, 9032, 90	35, 9022, 9180, 9029, 9300, 9500, 9057, 9058		
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.			
II TOUR	1		Operation Frequency: 302.11b/g/n(HT20): 2412MHz~2462MHz 302.11n(HT40): 2422MHz~2452MHz		
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3) 802.11n(HT40): 7 channels see note(3)		
Product Description	3	RF Output Power:	802.11b: 9.27 dBm 802.11g: 9.18 dBm 802.11n (HT20): 9.08 dBm 802.11n (HT40): 9.06 dBm		
		Antenna Gain:	0.44 dBi PCB Antenna		
		Modulation Type:	802.11b: DSSS(CCK, QPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)		
		Bit Rate of	802.11b:11/5.5/2/1 Mbps		
	We will be a second	Transmitter:	802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps		
Power Supply					
Power Rating		DC 5.0V by USB cable. DC 3.7V by 1050mAh Li-ion Battery. AC/DC Adapter: Input:100~240V, 50/60Hz Output:5V, 1A			



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Connecting	: Please refer to the User's Manual	1197
I/O Port(S)		

#### 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:

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	08	2447		

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

#### **TX Mode**

EUT

1.4 Description of Support Units

The EUT has been test as an independent unit



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## 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	TX B Mode				

For Radiated Test				
Final Test Mode Description				
Mode 3	TX Mode B Mode Channel 01/06/11			
Mode 4	TX Mode G Mode Channel 01/06/11			
Mode 5	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) 802.11n (HT40) Mode: MCS 0 (13 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 mobile unit; in normal use it was positioned on X-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.



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## 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		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 <sub>Lab</sub> )
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy:	±4.60 dB
Radiated Effilssion	9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy:	±4.40 dB
Radiated Effilssion	30MHz to 1000 MHz	±4.40 db
Radiated Emission	Level Accuracy:	±4.20 dB
Naulateu Elliission	Above 1000MHz	±4.20 UD



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## 1.7 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

	FCC Part	15 Subpart C(15.247)/ RSS 247	Issue 1		
Standa	rd Section	Tool How	1		
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	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	d Emission Te	st			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Aug. 07, 2015	Aug. 06, 2016
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016
LISN	Rohde & Schwarz	ENV216	101131	Aug. 08, 2015	Aug. 07, 2016
Radiation	Emission Tes	t			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Aug. 07, 2015	Aug. 06, 2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 26, 2016	Mar. 25, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 26, 2016	Mar. 25, 2017
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 26, 2016	Mar. 25, 2017
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 26, 2016	Mar. 25, 2017
Pre-amplifier	Sonoma	310N	185903	Mar. 26, 2016	Mar. 25, 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	Aug. 07, 2015	Aug. 06, 2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Power Meter	Anritsu	ML2495A	25406005	Aug.07, 2015	Aug.06, 2016
Power Sensor	Anritsu	ML2411B	25406005	Aug.07, 2015	Aug.06, 2016



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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

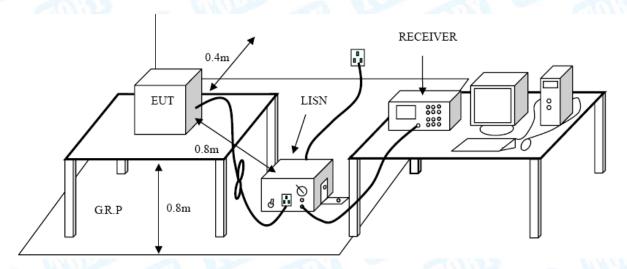
#### **Conducted Emission Test Limit**

TO USE PROPERTY OF THE PARTY OF	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 o	camera	N	lodel Name	a ·	9028	1000
	erature:	25 °C	amora		elative Hu		55%	A HILLY
-	oltage:	AC 120	V/60Hz			indicy:	0070	
Termin		Line	V/00112	(III)				
Test M		TXBM	ode		Call'		- 6	
Remar			orse case is	roportos	N. N. S.			
	IBuV	Offig we	nse case is	reported	•	0.00		
40		Calladja Andrak		Mayarga parang	A STATE OF THE STA	Angle James	QP: AVG:	AVG
1						1.00		
-10 0.150		0.5		(MHz)	5			30.000
0.150	Mk. F	F	Reading Level	(MHz) Correct Factor		e- Limit	Over	30.000
0.150	N	req. //Hz	<b>Level</b> dBu∨	Correct Factor	Measur ment	<b>Limit</b> dBu∨	dB	Detector
0.150 No.	0.1	req. IHZ 499	dBuV 52.20	Correct Factor dB 10.12	Measur ment dBuV 62.32	Limit dBu√ 66.00	dB -3.68	Detector QP
No.	0.1 * 0.1	Freq.  //Hz  499	dBuV 52.20 42.32	Correct Factor dB 10.12	Measur ment dBuV 62.32 52.44	dBuV 66.00 56.00	dB -3.68 -3.56	Detector QP AVG
No. 1 2 3	0.1 * 0.1 0.2	req. MHz 499 499	dBuV 52.20 42.32 44.25	Correct Factor dB 10.12 10.12	Measur ment dBuV 62.32 52.44 54.36	dBuV 66.00 56.00 62.74	-3.68 -3.56 -8.38	Detector QP AVG QP
No. 150	* 0.1 * 0.1 0.2	Freq.  MHz  499  499  2220	Devel dBuV 52.20 42.32 44.25 34.38	Correct Factor dB 10.12 10.12 10.11	Measur ment dBuV 62.32 52.44 54.36 44.49	66.00 56.00 62.74	-3.68 -3.56 -8.38 -8.25	Detector QP AVG QP AVG
No. 1 2 3 4 5	* 0.1 * 0.1 0.2 0.2	499 499 2220 2220	dBuV 52.20 42.32 44.25 34.38 34.82	Correct Factor dB 10.12 10.12 10.11 10.11	Measur ment dBuV 62.32 52.44 54.36 44.49	66.00 56.00 52.74 56.00	dB -3.68 -3.56 -8.38 -8.25 -11.05	Detector QP AVG QP AVG QP
No. 150  No. 1  2  3  4  5  6	* 0.1 * 0.2 0.2 1.3	499 499 2220 2220 3500	Level dBuV 52.20 42.32 44.25 34.38 34.82 21.25	Correct Factor dB 10.12 10.12 10.11 10.11 10.13	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00	-3.68 -3.56 -8.38 -8.25 -11.05 -14.62	Detector QP AVG QP AVG QP AVG
No. 1 2 3 4 5 6 7	0.1 * 0.1 0.2 0.2 1.3 1.3	499 499 2220 2220 3500 6660	Level  dBuV  52.20  42.32  44.25  34.38  34.82  21.25  36.35	Correct Factor dB 10.12 10.12 10.11 10.11 10.13 10.13	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38 46.41	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00  56.00	dB -3.68 -3.56 -8.38 -8.25 -11.05 -14.62 -9.59	Detector QP AVG QP AVG QP AVG QP AVG
0.150  No.  1 2 3 4 5 6 7	0.1 * 0.1 0.2 0.2 1.3 1.3 2.4	499 499 2220 2220 3500 6660	Level dBuV 52.20 42.32 44.25 34.38 34.82 21.25 36.35 23.43	Correct Factor  dB  10.12  10.12  10.11  10.11  10.13  10.13  10.06  10.06	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38 46.41 33.49	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00  46.00	dB -3.68 -3.56 -8.38 -8.25 -11.05 -14.62 -9.59 -12.51	Detector QP AVG QP AVG QP AVG AVG
No. 1 2 3 4 5 6 7 8 9	* 0.1 * 0.1 0.2 0.2 1.3 1.3 2.4 7.3	req.  499 499 2220 2220 3500 660 660 3539	Level  dBuV  52.20  42.32  44.25  34.38  34.82  21.25  36.35  23.43  28.03	Correct Factor dB 10.12 10.12 10.11 10.13 10.13 10.06 10.07	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38 46.41 33.49 38.10	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00  46.00  60.00	dB -3.68 -3.56 -8.38 -8.25 -11.05 -14.62 -9.59 -12.51 -21.90	Detector QP AVG QP AVG QP AVG QP AVG QP AVG
0.150  No.  1 2 3 4 5 6 7 8 9 10	* 0.1 * 0.1 0.2 0.2 1.3 1.3 2.4 2.4 7.3 7.3	Freq. 499 499 2220 2220 3500 660 660 3539	Level  dBuV  52.20  42.32  44.25  34.38  34.82  21.25  36.35  23.43  28.03  14.01	Correct Factor  dB  10.12  10.12  10.11  10.11  10.13  10.06  10.06  10.07	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38 46.41 33.49 38.10 24.08	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00  46.00  50.00	dB -3.68 -3.56 -8.38 -8.25 -11.05 -14.62 -9.59 -12.51 -21.90 -25.92	Detector QP AVG QP AVG QP AVG QP AVG QP AVG
No. 1 2 3 4 5 6 7 8 9	* 0.1 * 0.1 0.2 0.2 1.3 1.3 2.4 2.4 7.3 7.3 20.2	req.  MHz  499  2220  2220  3500  3500  3660  3660  3639  3539	Level  dBuV  52.20  42.32  44.25  34.38  34.82  21.25  36.35  23.43  28.03  14.01  30.36	Correct Factor dB 10.12 10.12 10.11 10.13 10.13 10.06 10.07	Measur ment dBuV 62.32 52.44 54.36 44.49 44.95 31.38 46.41 33.49 38.10 24.08 40.42	Limit  dBuV  66.00  56.00  62.74  52.74  56.00  46.00  50.00  60.00	dB -3.68 -3.56 -8.38 -8.25 -11.05 -14.62 -9.59 -12.51 -21.90	Detector QP AVG QP AVG QP AVG QP AVG QP AVG QP AVG

x:Over limit !:over margin

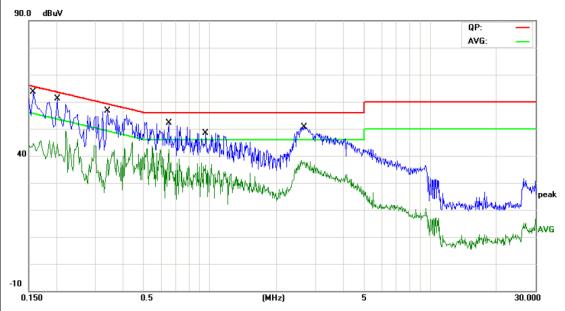
\*:Maximum data





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EUT:	Action camera	Model Name :	9028					
Temperature:	<b>25</b> ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz						
Terminal:	Neutral							
Test Mode:	TX B Mode							
Remark:	Only worse case is repor	ted						



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBu∀	dB	Detector
1 *	0.1580	53.45	10.12	63.57	65.56	-1.99	QP
2	0.1580	34.40	10.12	44.52	55.56	-11.04	AVG
3	0.2020	50.95	10.12	61.07	63.52	-2.45	QP
4	0.2020	34.26	10.12	44.38	53.52	-9.14	AVG
5	0.3420	46.44	10.07	56.51	59.15	-2.64	QP
6	0.3420	29.18	10.07	39.25	49.15	-9.90	AVG
7	0.6500	42.19	10.02	52.21	56.00	-3.79	QP
8	0.6500	32.40	10.02	42.42	46.00	-3.58	AVG
9	0.9539	38.34	10.14	48.48	56.00	-7.52	QP
10	0.9539	26.53	10.14	36.67	46.00	-9.33	AVG
11	2.6579	40.50	10.06	50.56	56.00	-5.44	QP
12	2.6579	27.55	10.06	37.61	46.00	-8.39	AVG

\*:Maximum data x:Over limit !:over margin





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EUT:			Actio	n camer	a	Мо	del Na	ame :		9028	
Tempe	rature	<b>)</b> :	<b>25</b> °C		4.50	Rel	lative	Humi	idity:	55%	Rain
Test Ve	oltage	:	AC 2	40V/60⊢	łz	100		100	170	UM	
Termin	nal:		Line		J W				1 6		
Test M	ode:		TX B	Mode	33		61			a V	N. Carrie
Remar	k:		Only	worse ca	ase is repo	orted	6		MA	190	- 9
90.0 d	lBuV										
										QP: AVG:	
40		Ay Wa	Mari	AMA AMARA	Maringan an army	ye water	he Anna Marina	What have	Marke	organis (Adeline Samera)	peak AVG
-10 0.150			0.5		(M	Hz)		5			30.000
				Readir			Meas		1 ::4	0	
No.	Mk.		eq. Hz	Leve dBuV			me dBu		Limit dBuV	Over	Detector
		0.14		48.69			58.6		66.00	-7.39	QP
		0.14		21.01			30.9		56.00	-25.07	AVG
3		0.17	785	47.59	9.9	98	57.5	57	64.55	-6.98	QP
4		0.17	785	27.99	9.9	98	37.9	97	54.55	-16.58	AVG
5		0.73	300	36.22	2 10.	11	46.3	33	56.00	-9.67	QP
6		0.73	300	16.83	3 10.	11	26.9	94	46.00	-19.06	AVG
7	*	2.39	940	39.00	10.0	)5	49.0	)5	56.00	-6.95	QP
8		2.39	940	17.87	7 10.0	)5	27.9	92	46.00	-18.08	AVG
9		9.62	219	22.65	5 10.	15	32.8	30	60.00	-27.20	QP
10		9.62	219	5.80			15.9	95	50.00	-34.05	AVG
11		22.94		21.96			32.1			-27.88	QP
12		22.94	160	7.85	5 10.°	16	18.0	01	50.00	-31.99	AVG

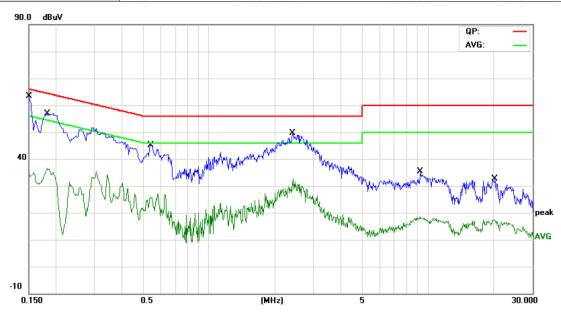
\*:Maximum data x:Over limit !:over margin





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EUT:	Action camera	Model Name :	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 240V/60Hz						
Terminal:	Neutral						
Test Mode:	TX B Mode						
Remark:	Only worse case is repor	ted	0				



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBu∀	dBu∀	dB	Detector
1	*	0.1499	53.13	10.12	63.25	66.00	-2.75	QP
2		0.1499	24.83	10.12	34.95	56.00	-21.05	AVG
3		0.1819	46.71	10.12	56.83	64.39	-7.56	QP
4		0.1819	26.44	10.12	36.56	54.39	-17.83	AVG
5		0.5349	35.24	10.02	45.26	56.00	-10.74	QP
6		0.5349	15.93	10.02	25.95	46.00	-20.05	AVG
7		2.4020	39.64	10.06	49.70	56.00	-6.30	QP
8		2.4020	22.57	10.06	32.63	46.00	-13.37	AVG
9		9.1819	25.15	10.13	35.28	60.00	-24.72	QP
10		9.1819	8.37	10.13	18.50	50.00	-31.50	AVG
11		20.1220	22.61	10.06	32.67	60.00	-27.33	QP
12		20.1220	7.43	10.06	17.49	50.00	-32.51	AVG

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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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 (9kHz~1000MHz)

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

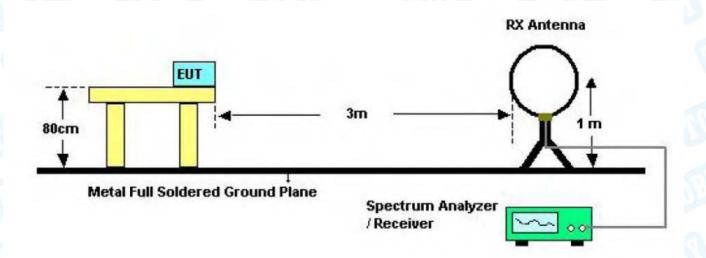
#### Note:

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

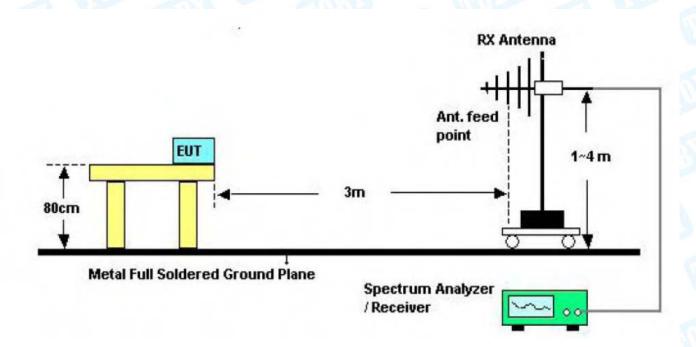


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## 5.2 Test Setup



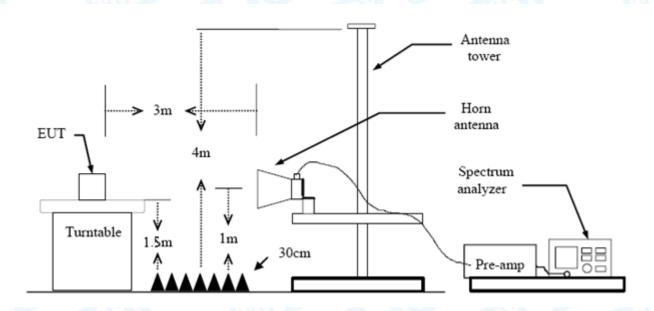
Below 30MHz Test Setup



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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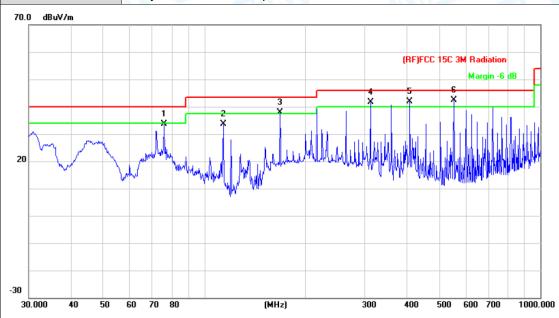
0	DTZ
	КY
<u> </u>	

		Actio	on camera	M	odel:	9028	3	7(1)		
Гетре	rature:	25	°C	R	elative Humidity	: 55%	a 1			
Test Vo	oltage:	DC	DC 3.7V							
Ant. Po	ol.	Hori	zontal	Aller						
Test M	ode:	TX	3 Mode 2412M	ИНz	CHILL:		167	Labora Control		
Remar	k:	Only	worse case is	s reported		UP	)	۸ ۱		
70.0 dB	uV/m			1	3 4	RFJFCC 15C 3	M Radiation Margin -6	dB		
30.000 No.	40 50 Mk.	60 70	Reading Level	(MHz)  Correct Factor	Measure-	000 500 mit (	600 700 Over	1000.00		
30.000	Mk.		Reading	Correct	Measure- ment Lii		Over			
30.000	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment Lin	mit ( BuV/m	Over	Detecto		
30.000 No.	Mk. 1	Freq.	Reading Level	Correct Factor	Measure- ment Lin dBuV/m dB 36.62 43	mit ( BuV/m 3.50	Over dB	Detecto <b>peak</b>		
No.	Mk. 167	Freq. MHz 7.8240	Reading Level dBuV 57.66	Correct Factor dB/m -21.04	Measure- ment Lin dBuV/m dB 36.62 43 40.25 46	mit 0 3uV/m 3.50 6.00	Over  dB  -6.88	Detecto peak peak		
No.	Mk. 167	Freq. MHz 7.8240 6.0240	Reading Level dBuV 57.66 59.95	Correct Factor dB/m -21.04 -19.70	Measure- ment Lin dBuV/m dB 36.62 43 40.25 46 40.37 46	mit 0 8uV/m 3.50 6.00	Over  dB  -6.88  -5.75	Detecto peak peak peak peak		
No. 1 2 3	Mk. 167 ! 216 ! 312 * 360	Freq. MHz 7.8240 6.0240 2.1792	Reading Level dBuV 57.66 59.95 57.00	Correct Factor dB/m -21.04 -19.70 -16.63	Measurement Lind dBuV/m dB 36.62 43 40.25 46 40.37 46 41.80 46	mit 0 3.50 6.00 6.00 6.00	Over  dB  -6.88  -5.75  -5.63	Detecto peak peak peak		



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EUT:		Action camera	Model:	9028					
Tempe	rature:	25 ℃	Relative Humidity:	55%					
Test Vo	oltage:	DC 3.7V		TO SE					
Ant. Po	ol.	Vertical							
Test M	ode:	TX B Mode 2412MHz							
Remar	k:	Only worse case is repor	Only worse case is reported						



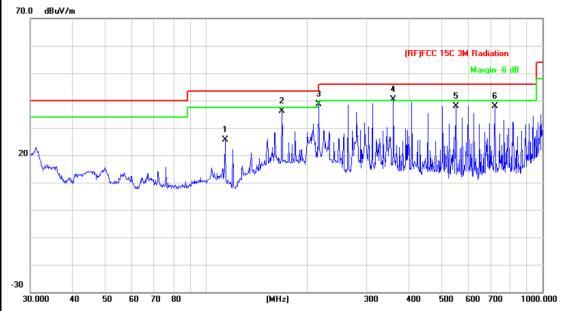
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		75.9770	56.96	-23.42	33.54	40.00	-6.46	peak
2		113.7142	55.84	-22.11	33.73	43.50	-9.77	peak
3	į	167.8240	58.99	-21.04	37.95	43.50	-5.55	peak
4	į	312.1792	58.32	-16.63	41.69	46.00	-4.31	peak
5	İ	408.9460	54.81	-12.84	41.97	46.00	-4.03	peak
6	*	552.8831	52.56	-10.13	42.43	46.00	-3.57	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Action camera	Model:	9028				
Temperature:	<b>25</b> ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2437MHz						
Remark:	Only worse case is reported						



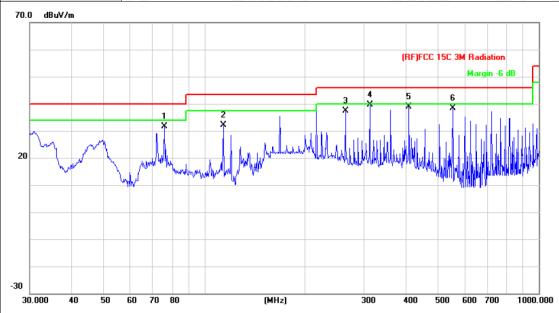
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		113.7142	47.66	-22.11	25.55	43.50	-17.95	peak
2		167.8240	57.16	-21.04	36.12	43.50	-7.38	peak
3		216.0240	58.45	-19.70	38.75	46.00	-7.25	peak
4	*	360.4476	54.85	-14.55	40.30	46.00	-5.70	peak
5		552.8831	48.12	-10.13	37.99	46.00	-8.01	peak
6		721.7259	45.01	-7.10	37.91	46.00	-8.09	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Action camera	Model:	9028				
Temperature:	<b>25</b> ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2437MHz						
Remark:	Only worse case is reported						



No	. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		75.9770	54.96	-23.42	31.54	40.00	-8.46	peak
2		113.7142	54.34	-22.11	32.23	43.50	-11.27	peak
3		263.8190	55.22	-17.82	37.40	46.00	-8.60	peak
4	*	312.1792	56.32	-16.63	39.69	46.00	-6.31	peak
5		408.9460	51.81	-12.84	38.97	46.00	-7.03	peak
6		552.8831	48.56	-10.13	38.43	46.00	-7.57	peak

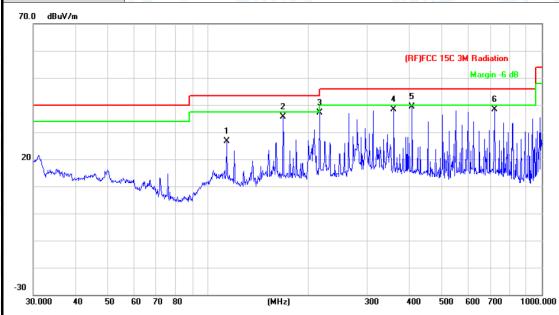
<sup>\*:</sup>Maximum data x:Over limit !:over margin



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		KY.
	υ.	

EUT:	Action camera	Model:	9028				
Temperature:	<b>25</b> ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2462MHz						
Remark:	ark: Only worse case is reported						



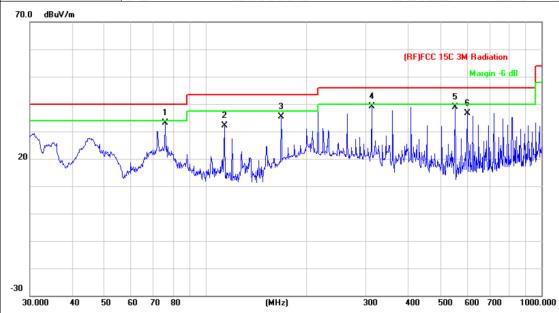
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		113.7142	48.66	-22.11	26.55	43.50	-16.95	peak
2		167.8240	56.66	-21.04	35.62	43.50	-7.88	peak
3		216.0240	56.95	-19.70	37.25	46.00	-8.75	peak
4		360.4476	52.85	-14.55	38.30	46.00	-7.70	peak
5	*	408.9460	52.19	-12.84	39.35	46.00	-6.65	peak
6		721.7259	45.51	-7.10	38.41	46.00	-7.59	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2462MHz	TX B Mode 2462MHz					
Remark:	Only worse case is reported						



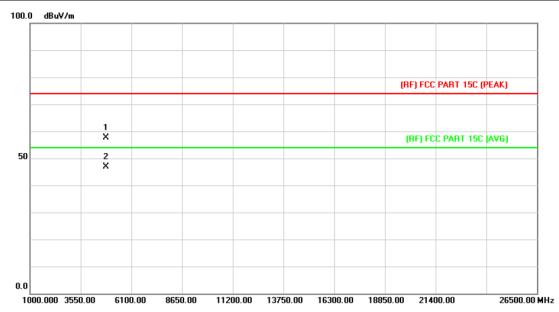
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	7	5.9770	56.46	-23.42	33.04	40.00	-6.96	peak
2	1	13.7142	54.34	-22.11	32.23	43.50	-11.27	peak
3	1	67.8240	56.49	-21.04	35.45	43.50	-8.05	peak
4 ,	* 3	12.1792	55.82	-16.63	39.19	46.00	-6.81	peak
5	5	52.8831	49.06	-10.13	38.93	46.00	-7.07	peak
6	6	01.4265	46.03	-9.41	36.62	46.00	-9.38	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2412MHz	CHILD					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	1					

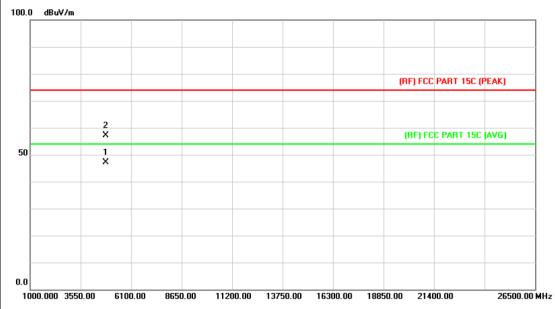


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.997	44.12	13.56	57.68	74.00	-16.32	peak
2	*	4824.120	33.31	13.56	46.87	54.00	-7.13	AVG



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX B Mode 2412MHz					
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the				
	prescribed limit.					

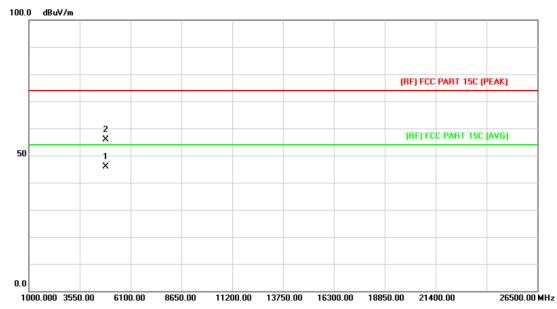


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4823.897	33.50	13.56	47.06	54.00	-6.94	AVG
2		4824.652	43.66	13.56	57.22	74.00	-16.78	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal	U TOTAL TOTAL				
Test Mode:	TX B Mode 2437MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					

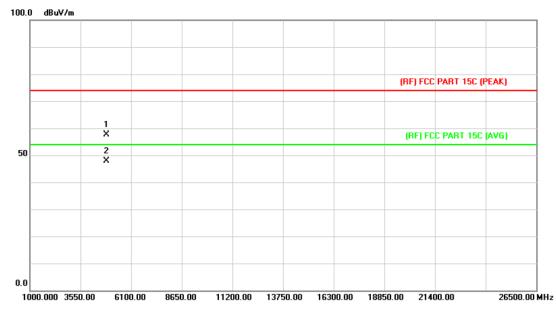


	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.984	32.12	13.86	45.98	54.00	-8.02	AVG
2			4874.612	42.12	13.86	55.98	74.00	-18.02	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V		THE			
Ant. Pol.	Vertical					
Test Mode:	TX B Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

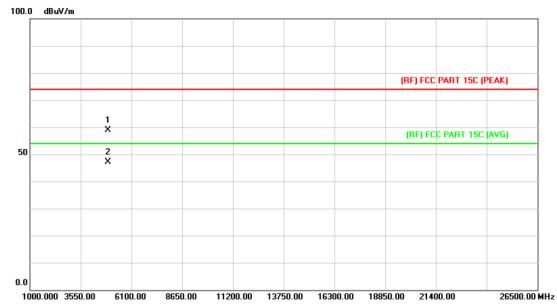


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.584	43.83	13.86	57.69	74.00	-16.31	peak
2	*	4874.672	34.01	13.86	47.87	54.00	-6.13	AVG



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V		THE			
Ant. Pol.	Horizontal					
Test Mode:	TX B Mode 2462MHz	CHILD:				
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

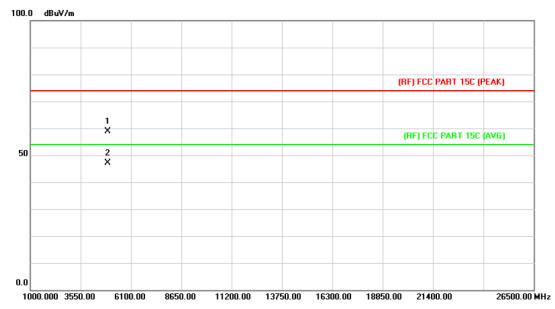


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.674	44.82	14.15	58.97	74.00	-15.03	peak
2	*	4924.674	32.87	14.15	47.02	54.00	-6.98	AVG



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2462MHz	CHULL STORY					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

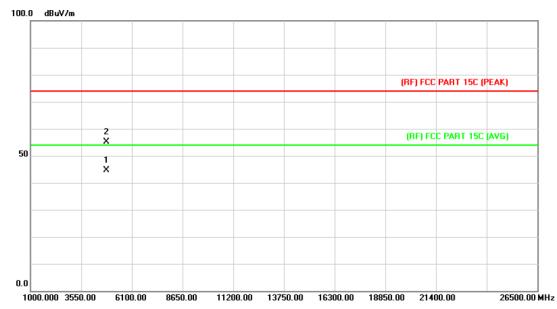


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.687	44.83	14.15	58.98	74.00	-15.02	peak
2	*	4924.367	33.06	14.15	47.21	54.00	-6.79	AVG



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX G Mode 2412MHz						
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

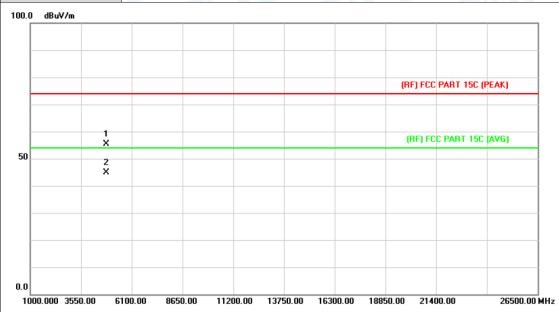


N	lo.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4823.687	31.11	13.56	44.67	54.00	-9.33	AVG
2			4824.556	41.52	13.56	55.08	74.00	-18.92	peak



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EUT:	Action camera	Model:	9028					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V							
Ant. Pol.	Vertical							
Test Mode:	TX G Mode 2412MHz							
Remark:	No report for the emission	No report for the emission which more than 10 dB below the						
	prescribed limit.							

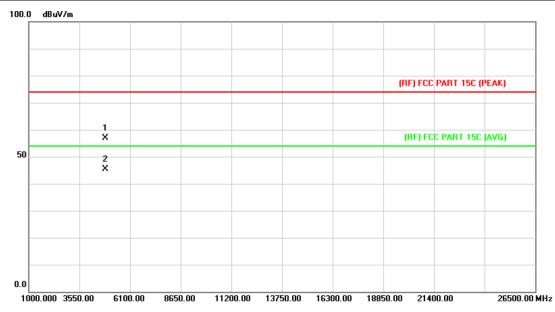


No	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.654	41.90	13.56	55.46	74.00	-18.54	peak
2	*	4824.622	31.21	13.56	44.77	54.00	-9.23	AVG



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					



No	. Mk	. Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.654	43.01	13.86	56.87	74.00	-17.13	peak
2	*	4874.032	31.51	13.86	45.37	54.00	-8.63	AVG



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

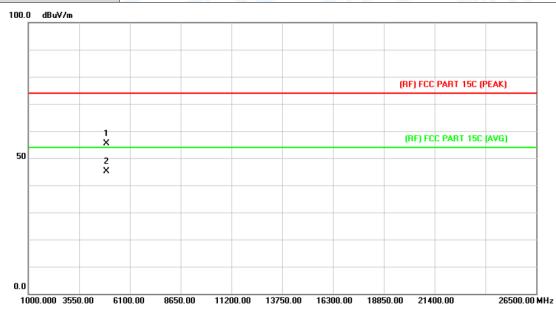


N	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.610	31.11	13.86	44.97	54.00	-9.03	AVG
2			4874.364	41.81	13.86	55.67	74.00	-18.33	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	DC 3.7V				
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX G Mode 2462MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					

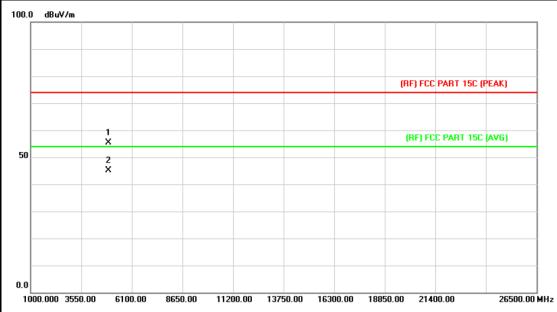


N	o. M	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4923.608	41.34	14.15	55.49	74.00	-18.51	peak
2	*	4923.987	30.93	14.15	45.08	54.00	-8.92	AVG



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2462MHz	CHILD					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

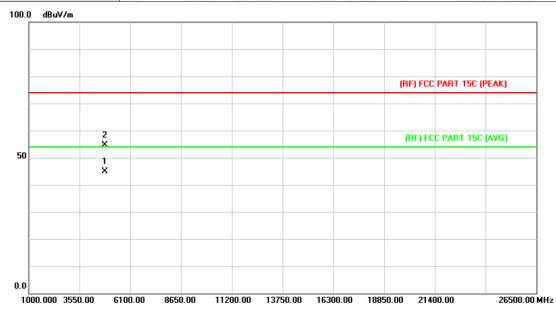


-	No.	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4923.574	41.19	14.15	55.34	74.00	-18.66	peak
2		*	4923.621	30.89	14.15	45.04	54.00	-8.96	AVG



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2412	MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

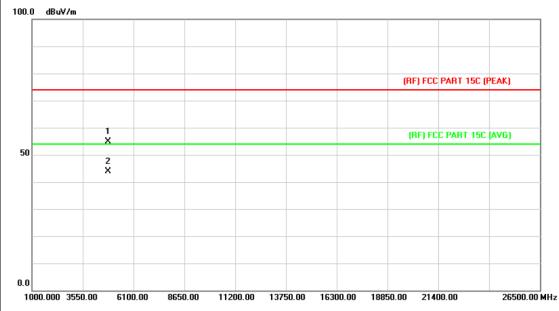


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.341	31.42	13.56	44.98	54.00	-9.02	AVG
2		4824.351	41.11	13.56	54.67	74.00	-19.33	peak



Page: 41 of 96

EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT20) Mode 2412	MHz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	A U					

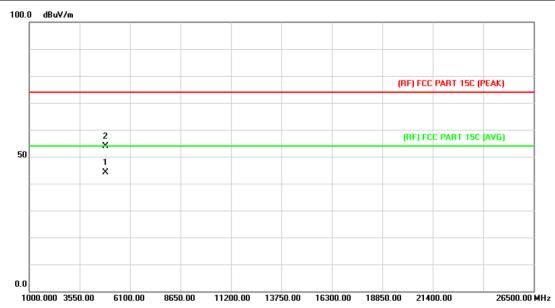


No	o. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.684	41.43	13.56	54.99	74.00	-19.01	peak
2	*	4824.671	30.41	13.56	43.97	54.00	-10.03	AVG



Page: 42 of 96

EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	DC 3.7V				
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX N(HT20) Mode 2437	ИНz	THE RESERVE TO SERVE THE PARTY OF THE PARTY			
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

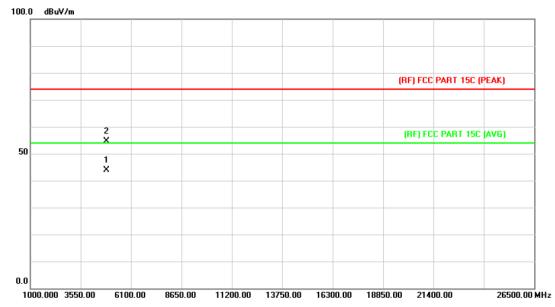


No	o. MI	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.608	30.35	13.86	44.21	54.00	-9.79	AVG
2		4874.084	40.13	13.86	53.99	74.00	-20.01	peak



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EUT:	Action camera	Model:	9028					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical	U. C.						
Test Mode:	TX N(HT20) Mode 2437I	MHz						
Remark:	No report for the emission which more than 10 dB below the							
	prescribed limit.							
1								

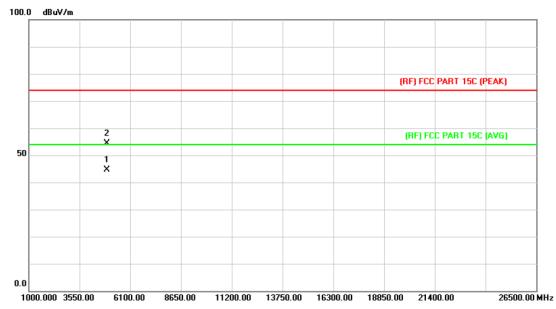


N	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4873.985	30.01	13.86	43.87	54.00	-10.13	AVG
2			4874.025	40.76	13.86	54.62	74.00	-19.38	peak



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT20) Mode 2462	ИНz	THE RESERVE TO SERVE THE PARTY OF THE PARTY				
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

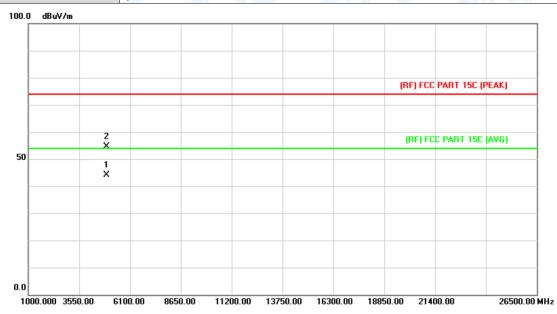


N	o. Mł	c. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.854	30.44	14.15	44.59	54.00	-9.41	AVG
2		4924.314	40.22	14.15	54.37	74.00	-19.63	peak



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX N(HT20) Mode 2462N	ИHz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	- a U					



N	o. M	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.874	29.91	14.15	44.06	54.00	-9.94	AVG
2		4924.084	40.53	14.15	54.68	74.00	-19.32	peak



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT40) Mode 2422	MHz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	prescribed limit.					



No	. Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4844.054	40.00	13.68	53.68	74.00	-20.32	peak
2	*	4844.321	29.90	13.68	43.58	54.00	-10.42	AVG



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Action camera	Model:	9028				
		9020				
25 ℃	Relative Humidity:	55%				
DC 3.7V						
Vertical						
TX N(HT40) Mode 2422N	ИНz					
No report for the emission which more than 10 dB below the						
prescribed limit.						
	DC 3.7V Vertical TX N(HT40) Mode 2422N No report for the emission	DC 3.7V  Vertical  TX N(HT40) Mode 2422MHz  No report for the emission which more than 10 c				



No	. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4843.956	40.19	13.68	53.87	74.00	-20.13	peak
2	*	4844.041	29.30	13.68	42.98	54.00	-11.02	AVG

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



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT40) Mode 2437	MHz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	prescribed limit.					

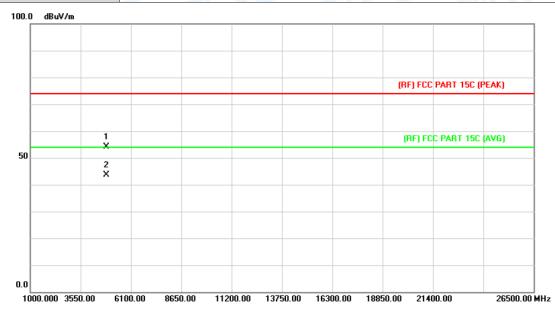


No	o. M	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.645	30.02	13.86	43.88	54.00	-10.12	AVG
2		4873.691	39.59	13.86	53.45	74.00	-20.55	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2437I	MHz				
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.	1				

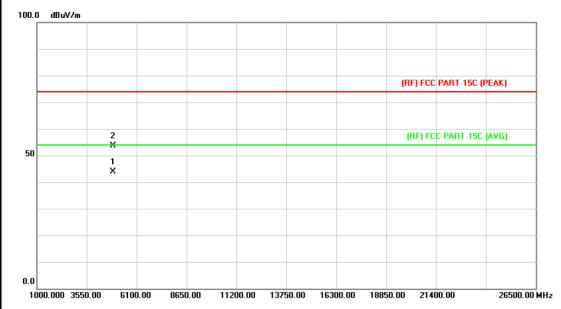


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4873.984	40.16	13.86	54.02	74.00	-19.98	peak
2	*	4874.521	29.71	13.86	43.57	54.00	-10.43	AVG



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	25 ℃ Relative Humidity: 55%					
Test Voltage:	DC 3.7V						
Ant. Pol.	Horizontal	The state of the s					
Test Mode:	TX N(HT40) Mode 2452	MHz	TO THE				
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.	1					

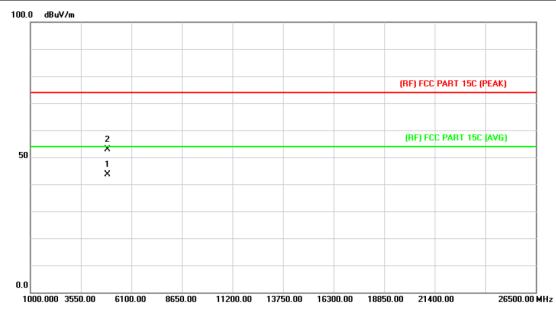


-	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4903.574	29.84	14.03	43.87	54.00	-10.13	AVG
2			4904.751	39.56	14.03	53.59	74.00	-20.41	peak



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V		THE STATE OF				
Ant. Pol.	Vertical						
Test Mode:	TX N(HT40) Mode 2452	ИНz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						
1							



N	lo.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	1	k	4903.841	29.65	14.03	43.68	54.00	-10.32	AVG
2			4904.795	38.93	14.03	52.96	74.00	-21.04	peak



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# 6. Restricted Bands Requirement

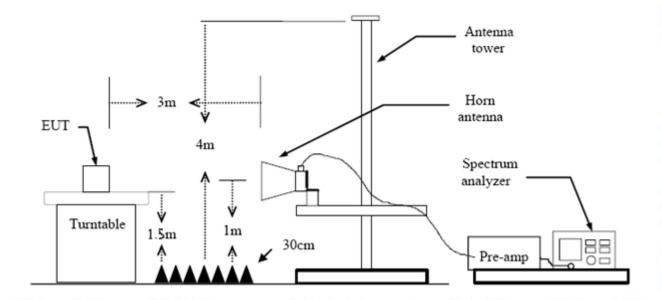
#### 6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dB	BuV/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.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.



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(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

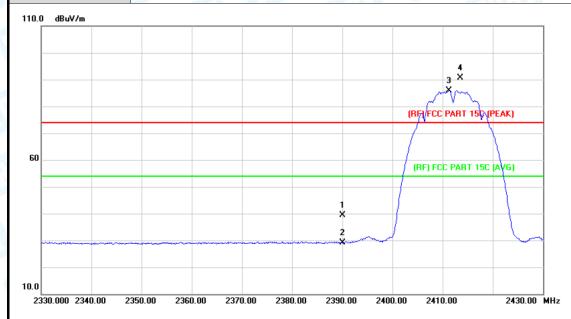
Please see the next page.



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## (1) Radiation Test

EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V	U.S.				
Ant. Pol.	Horizontal		THE PARTY OF THE P			
Test Mode:	TX B Mode 2412MHz					
Remark:	N/A	10				

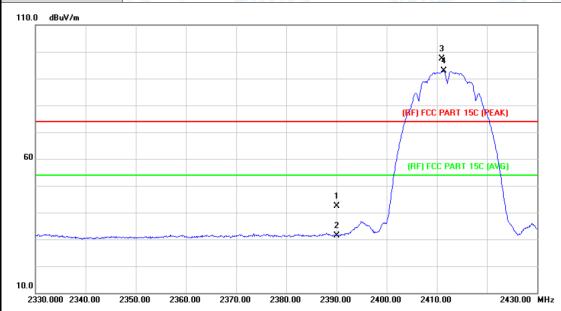


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1			2390.000	38.69	0.77	39.46	74.00	-34.54	peak
2			2390.000	28.38	0.77	29.15	54.00	-24.85	AVG
3		*	2411.300	85.05	0.86	85.91	Fundamental	Frequency	AVG
4		X	2413.500	89.77	0.86	90.63	Fundamental	Frequency	peak



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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz	THE PARTY OF THE P	
Remark:	N/A		130 - D

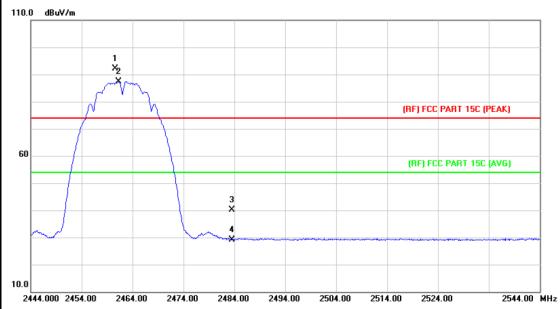


No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	41.49	0.77	42.26	74.00	-31.74	peak
2		2390.000	30.57	0.77	31.34	54.00	-22.66	AVG
3	Χ	2411.000	96.59	0.86	97.45	Fundamental	Frequency	peak
4	*	2411.400	91.93	0.86	92.79	Fundamental	Frequency	AVG



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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		

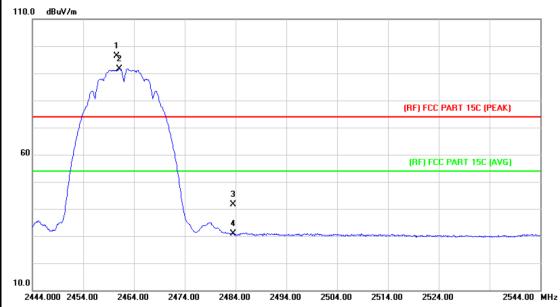


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2460.600	91.00	1.06	92.06	Fundamental	Frequency	peak
2	*	2461.300	86.33	1.07	87.40	Fundamental	Frequency	AVG
3		2483.500	39.07	1.17	40.24	74.00	-33.76	peak
4		2483.500	27.91	1.17	29.08	54.00	-24.92	AVG



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Ĭ	EUT:	Action camera	Model:	9028
	Temperature:	25 ℃	Relative Humidity:	55%
	Test Voltage:	DC 3.7V		
H	Ant. Pol.	Vertical		
	Test Mode:	TX B Mode 2462MHz	CHILD	
	Remark:	N/A		132 - 0

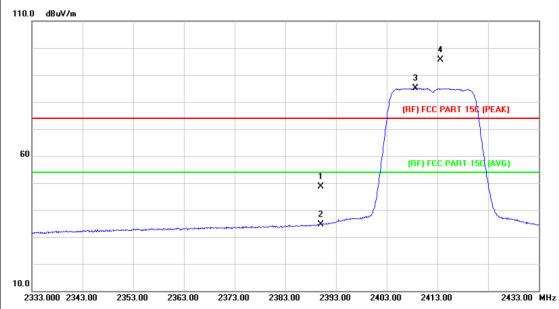


N	No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	>	<b>(</b>	2460.600	95.35	1.06	96.41	Fundamental	Frequency	peak
2	*	r	2461.200	90.65	1.07	91.72	Fundamental	Frequency	AVG
3			2483.500	40.36	1.17	41.53	74.00	-32.47	peak
4			2483.500	29.78	1.17	30.95	54.00	-23.05	AVG



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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz		
Remark:	N/A		
	<u> </u>	·	

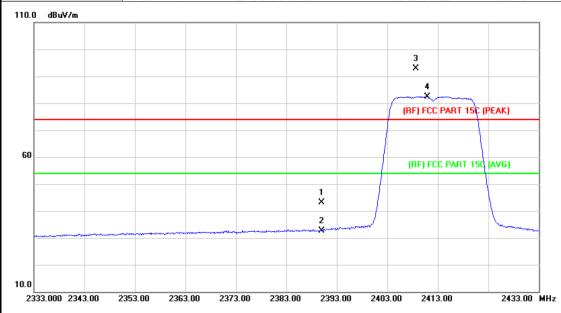


N	lo. N	1k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2	2390.000	47.83	0.77	48.60	74.00	-25.40	peak
2		2	2390.000	33.84	0.77	34.61	54.00	-19.39	AVG
3	*	2	2408.700	84.33	0.85	85.18	Fundamenta	l Frequency	AVG
4	X	2	2413.600	94.67	0.86	95.53	Fundamenta	I Frequency	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V		MINE TO THE			
Ant. Pol.	Vertical					
Test Mode:	TX G Mode 2412MHz					
Remark:	N/A					

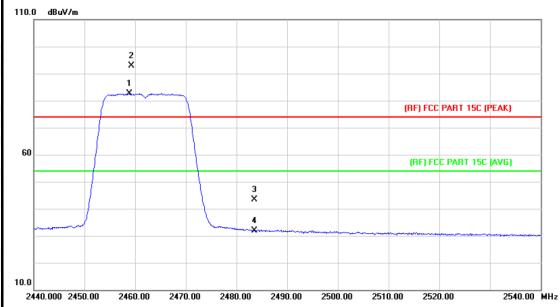


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	42.36	0.77	43.13	74.00	-30.87	peak
2		2390.000	31.94	0.77	32.71	54.00	-21.29	AVG
3	Χ	2408.700	92.01	0.85	92.86	Fundamenta	I Frequency	peak
4	*	2410.900	81.61	0.86	82.47	Fundamenta	I Frequency	AVG



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EUT:	Action camera	Model:	9028
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz		
Remark:	N/A		133 - 0
· ·			

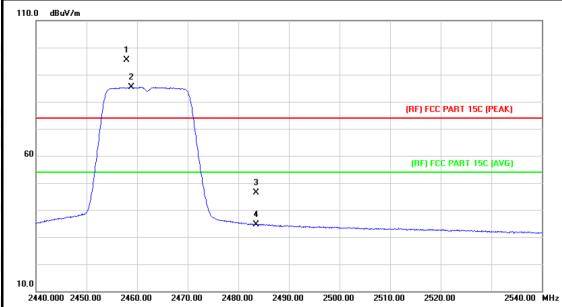


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2458.800	81.53	1.06	82.59	Fundamental	Frequency	AVG
2	X	2459.300	91.70	1.06	92.76	Fundamenta	I Frequency	peak
3		2483.500	42.20	1.17	43.37	74.00	-30.63	peak
4		2483.500	30.77	1.17	31.94	54.00	-22.06	AVG



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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz		a the
Remark:	N/A		

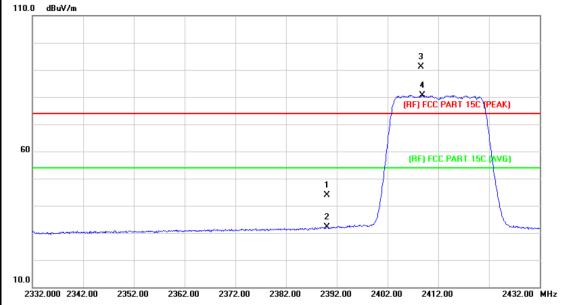


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2457.900	94.35	1.06	95.41	Fundamental	Frequency	peak
2	*	2458.800	84.38	1.06	85.44	Fundamental	Frequency	AVG
3		2483.500	45.28	1.17	46.45	74.00	-27.55	peak
4		2483.500	33.57	1.17	34.74	54.00	-19.26	AVG



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	25 ℃ Relative Humidity:				
Test Voltage:	DC 3.7V		11111111			
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT20) Mode 2412MHz					
Remark:	N/A	011	150			
110.0 dBuV/m						

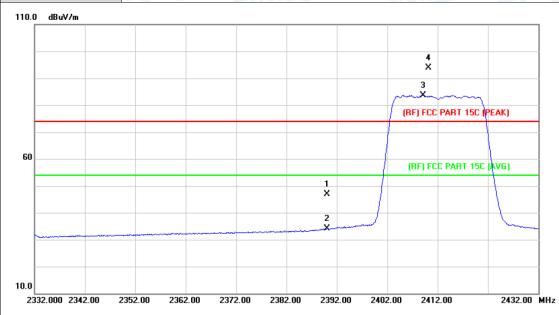


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.19	0.77	43.96	74.00	-30.04	peak
2		2390.000	31.26	0.77	32.03	54.00	-21.97	AVG
3	Χ	2408.600	90.24	0.85	91.09	Fundamental	Frequency	peak
4	*	2408.900	79.90	0.85	80.75	Fundamental	Frequency	AVG



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EUT:	Action camera	Model:	9028					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical							
Test Mode:	TX N(HT20) Mode 2412	TX N(HT20) Mode 2412MHz						
Remark:	N/A		100					

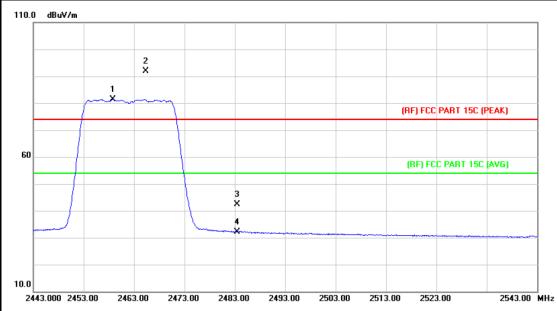


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	46.10	0.77	46.87	74.00	-27.13	peak
2		2390.000	33.36	0.77	34.13	54.00	-19.87	AVG
3	*	2409.100	82.85	0.85	83.70	Fundamental	Frequency	AVG
4	X	2410.200	93.14	0.85	93.99	Fundamental	Frequency	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT20) Mode 2462MHz					
Remark: N/A						

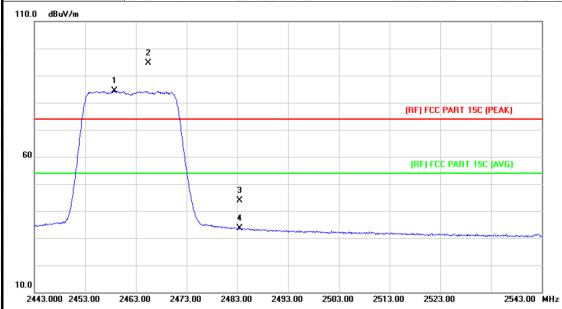


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	2458.800	80.27	1.06	81.33	Fundamental	Frequency	AVG
2		X	2465.300	90.79	1.09	91.88	Fundamental	Frequency	peak
3			2483.500	41.28	1.17	42.45	74.00	-31.55	peak
4			2483.500	30.92	1.17	32.09	54.00	-21.91	AVG



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EUT:	Action camera	Model:	9028					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Vertical	Vertical						
Test Mode:	TX N(HT20) Mode 2462I	ИНz						
Remark:	: N/A							
110.0 dBuV/m	110.0 dBuV/m							

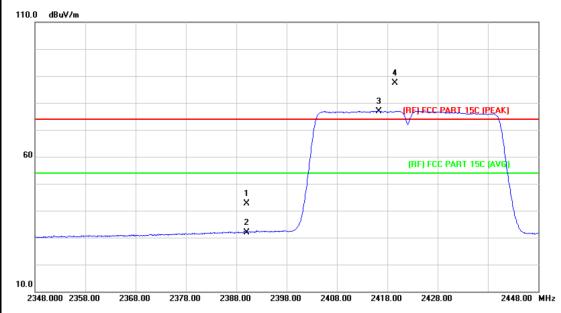


N	o. M	1k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*		2458.800	83.29	1.06	84.35	Fundamenta	I Frequency	AVG
2	X		2465.500	93.48	1.09	94.57	Fundamenta	I Frequency	peak
3			2483.500	42.77	1.17	43.94	74.00	-30.06	peak
4			2483.500	32.46	1.17	33.63	54.00	-20.37	AVG



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EUT:	Action camera	Model:	9028					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal	Horizontal						
Test Mode:	TX N(HT40) Mode 2422	MHz	TO VIDE					
Remark:	Remark: N/A							
110.0 dBuV/m	110.0 dRuV/m							

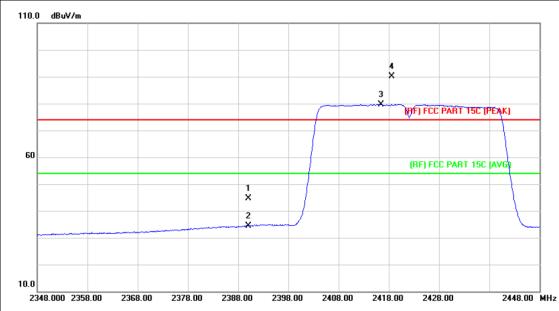


N	No. N	Лk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1			2390.000	41.78	0.77	42.55	74.00	-31.45	peak
2			2390.000	31.19	0.77	31.96	54.00	-22.04	AVG
3	*		2416.300	76.12	0.88	77.00	Fundamenta	al Frequency	AVG
4	X		2419.600	86.44	0.89	87.33	Fundamental	Frequency	peak



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EUT:	Action camera	Model:	9028			
Temperature:	25 ℃	55%				
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2422MHz					
Remark: N/A						

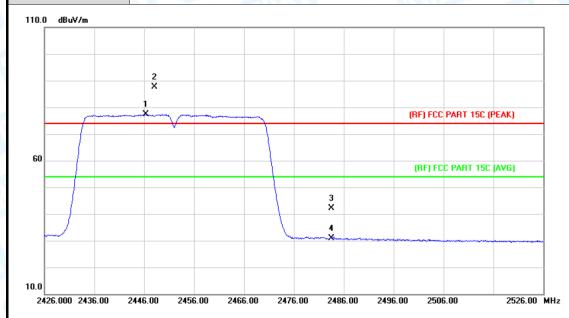


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.95	0.77	44.72	Fundamental	Frequency	peak
2		2390.000	33.63	0.77	34.40	Fundamental	Frequency	AVG
3	*	2416.400	78.77	0.88	79.65	54.00	25.65	AVG
4	Χ	2418.600	89.16	0.89	90.05	74.00	16.05	peak



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EUT:	Action camera	Model:	9028				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Horizontal						
Test Mode:	TX N(HT40) Mode 2452MHz						
Remark: N/A							

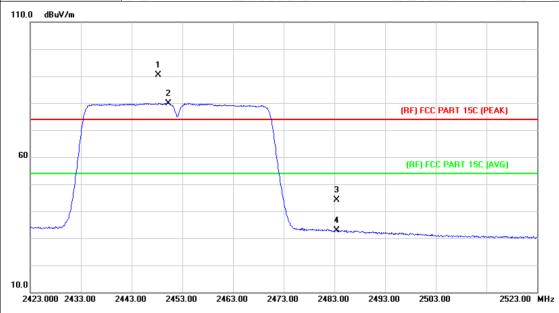


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2446.300	76.31	1.01	77.32	Fundamental	Frequency	AVG
2	Χ	2448.000	86.53	1.02	87.55	Fundamental	Frequency	peak
3		2483.500	41.07	1.17	42.24	74.00	-31.76	peak
4		2483.500	29.75	1.17	30.92	54.00	-23.08	AVG



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EUT:	Action camera	Model:	9028		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Ant. Pol.	Vertical				
Test Mode: TX N(HT40) Mode 2452MHz			THE RESERVE TO SERVE THE PARTY OF THE PARTY		
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	X	2448.300	89.34	1.02	90.36	Fundamental	Frequency	peak
2	*	2450.300	78.92	1.02	79.94	Fundamental	Frequency	AVG
3		2483.500	42.91	1.17	44.08	74.00	-29.92	peak
4		2483.500	31.62	1.17	32.79	54.00	-21.21	AVG

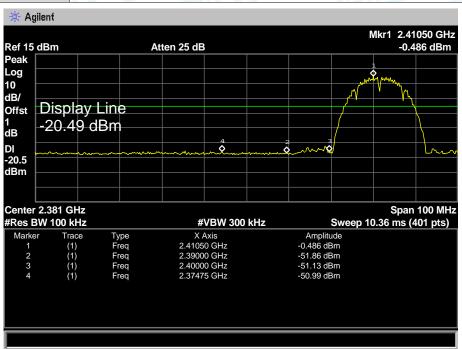


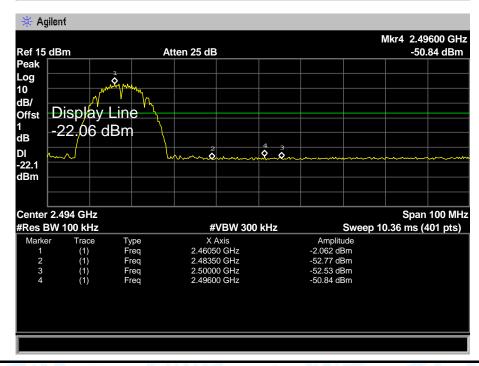


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### (2) Conducted Test

EUT:	Action camera	Model:	9028		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode: TX B Mode 2412MHz / TX B Mode 2462MHz					
Remark:	The EUT is programed in continuously transmitting mode				



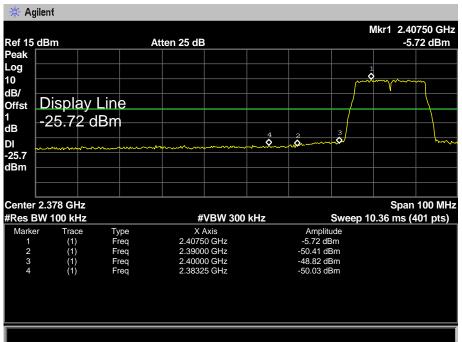


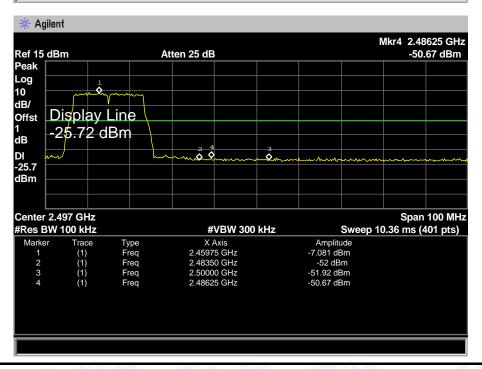




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EUT:	Action camera	Model:	9028		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz				
Remark:	The EUT is programed in continuously transmitting mode				



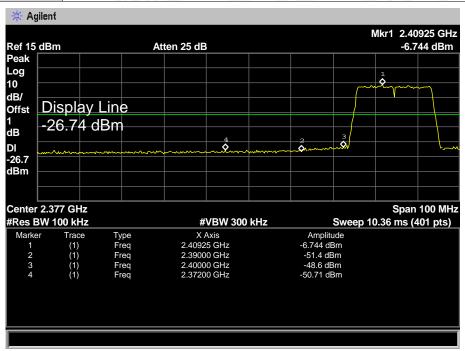


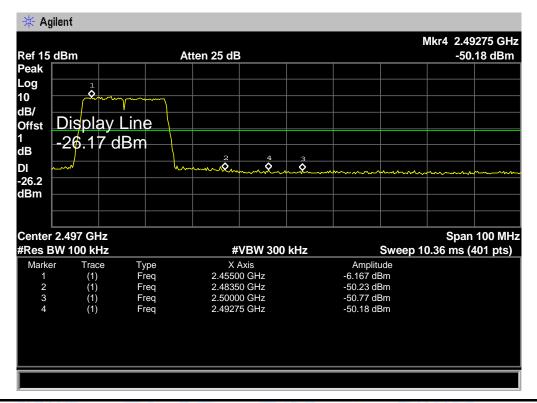




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EUT:	Action camera	Model:	9028		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode: TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz					
Remark:	The EUT is programed in continuously transmitting mode				



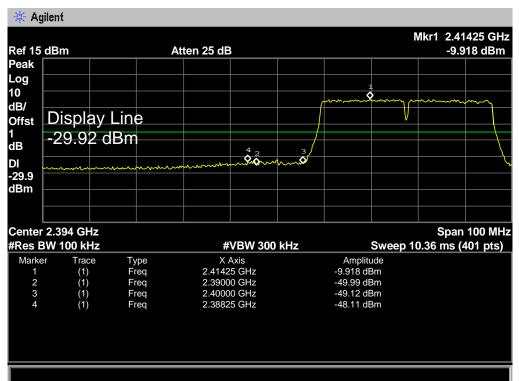


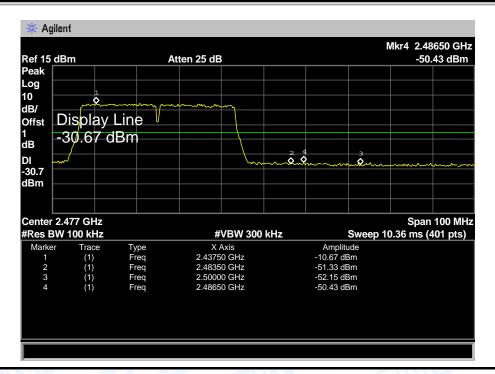




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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz		
Remark:	The EUT is programed in o	continuously transmittir	ng mode







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## 7. Bandwidth Test

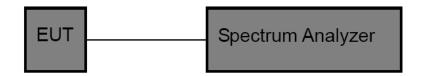
#### 7.1 Test Standard and Limit

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	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, middle and high channel for the test.

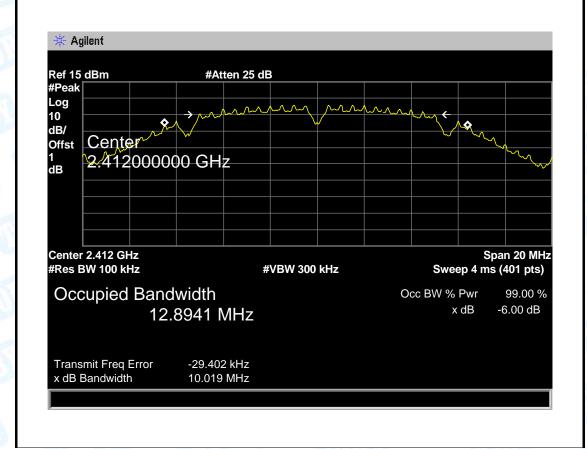


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## 7.5 Test Data

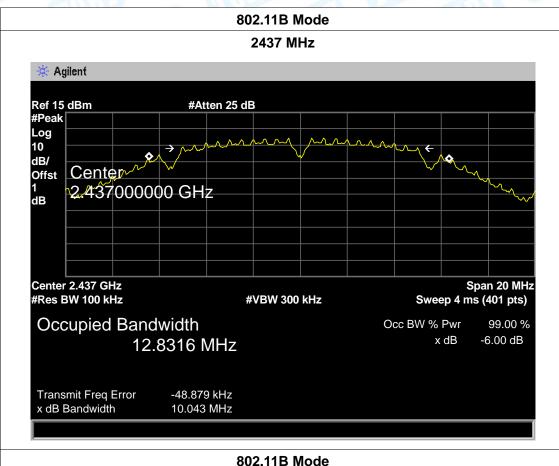
EUT:	Action camera	Model:	9028	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	DC 3.7V			
Test Mode:	TX 802.11B Mode			
Channel frequence	Channel frequency 6dB Bandwidth		Limit	
(MHz)	(MHz)	(MHz)	(MHz)	
2412 10.019		12.8941		
2437 10.043		12.8316	>=0.5	
2462				
		1	1	

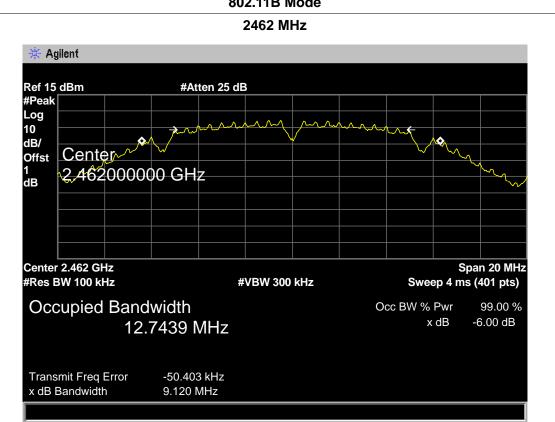
#### 802.11B Mode





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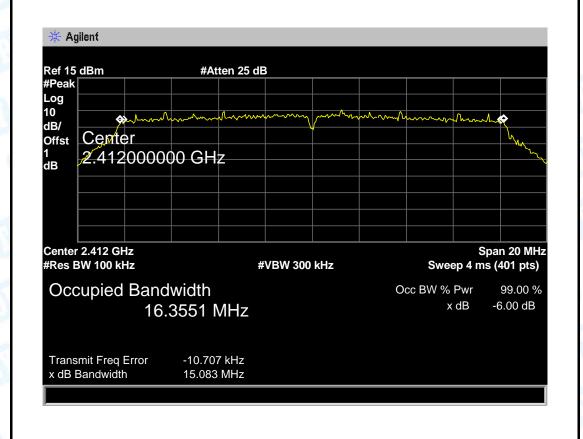




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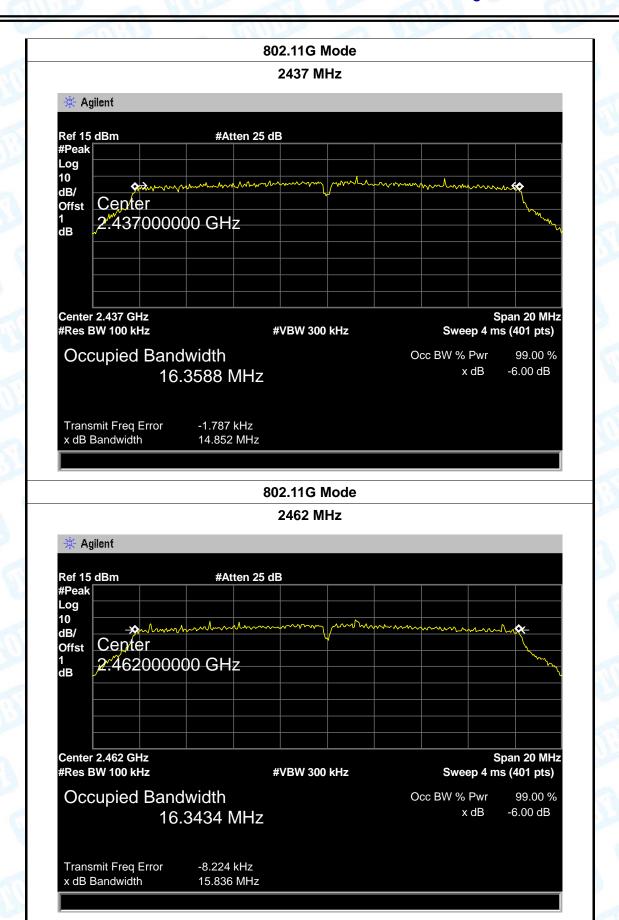
EUT:	Action camera	Model:	9028
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX 802.11G Mode		
Channel frequen	Channel frequency 6dB Bandwidth		Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	2412 15.083		
2437 14.852		16.3588	>=0.5
2462	15.836	16.3434	
	000.44	O Maria	

## 802.11G Mode





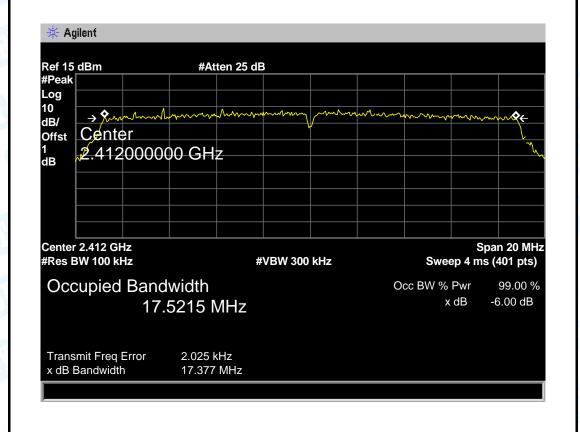
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EUT:	Action camera	Model:	9028	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	DC 3.7V			
Test Mode:	TX 802.11N(HT20) Mode			
Channel frequence	cy 6dB Bandwidth	99% Bandwidth	Limit	
(MHz)	(MHz)	(MHz)	(MHz)	
2412	17.377	17.5215		
2437	2437 17.005		>=0.5	
2462	17.317	17.4893		
802.11N(HT20) Mode				







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-6.00 dB

x dB

4		<b>V</b> /
, State	ж	V
ш		т.

UT:	Acti	ion camera	Model:	9028	
emperature:	re: 25 ℃		Relative Humidity:	: 55%	
est Voltage:	DC	3.7V		MINDS.	
est Mode:	TX	802.11N(HT40) Mod	le		
hannel freque	ency	6dB Bandwidth	99% Bandwidth	Limit	
(MHz)		(MHz)	(MHz)	(MHz)	
2422		35.203	35.6900		
2437		35.199	35.6514	>=0.5	
2452		35.169	35.7334		
		000 441//	IT40) Mode		
		802.11N(I	HT40) Mode		
		•	2 MHz		
* Agilent		•	•		
		242	•		
Agilent Ref 15 dBm #Peak		•	•		
Ref 15 dBm #Peak Log		242	•		
Ref 15 dBm #Peak Log 10 dB/	A	#Atten 25 dB	•	mundul plus	
Ref 15 dBm #Peak Log 10 dB/ Offst 1		#Atten 25 dB	2 MHz	mhatala k	
Ref 15 dBm #Peak Log 10 dB/ Offst		#Atten 25 dB	2 MHz	Mundal Ander	
Ref 15 dBm #Peak Log 10 dB/ Offst 1		#Atten 25 dB	2 MHz	Munda Ambe	
Ref 15 dBm #Peak Log 10 dB/ Offst 1		#Atten 25 dB	2 MHz	when he ke	
Ref 15 dBm #Peak Log 10 dB/ Offst 1	20000	#Atten 25 dB	2 MHz	Span 40 MHz	

35.6900 MHz

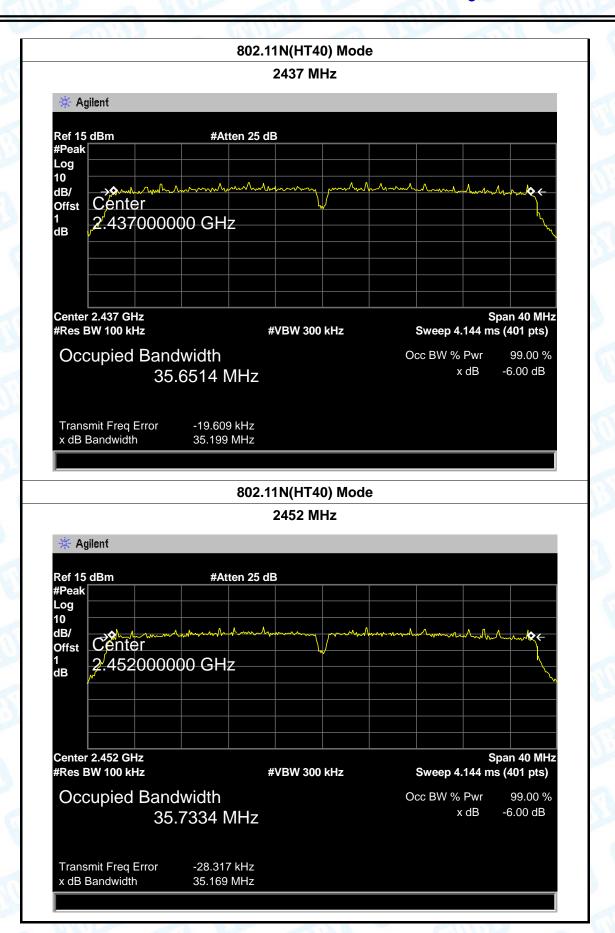
-25.009 kHz 35.203 MHz

Transmit Freq Error x dB Bandwidth





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# 8. Peak Output Power Test

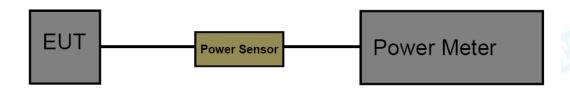
#### 8.1 Test Standard and Limit

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(MHz)					
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

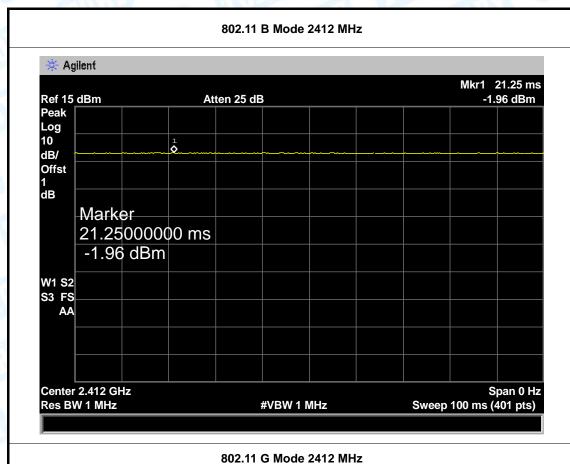
EUT:	Action camera	Model Name :	9028
Temperature:	<b>25</b> ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	9.27	
802.11b	2437	9.25	
	2462	9.19	
	2412	9.18	
802.11g	2437	9.14	
	2462	9.09	30
802.11n	2412	9.04	30
602.11h (HT20)	2437	9.08	
(11120)	2462	9.01	
802.11n	2422	8.98	
602.11h (HT40)	2437	9.00	
(11170)	2452	9.06	
	Resi	ult: PASS	

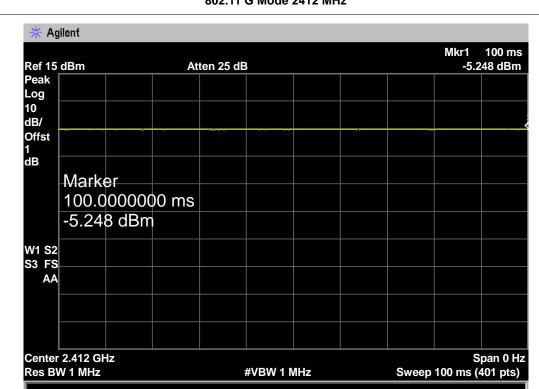
	Duty Cycle		
Mode	Channel frequency (MHz)	Test Result	
	2412		
802.11b	2437		
	2462		
	2412		
802.11g	2437		
	2462	>98%	
000 44	2412		
802.11n (HT20)	2437		
(П120)	2462		
000 44	2422		
802.11n (⊔T40)	2437		
(HT40)	2452		





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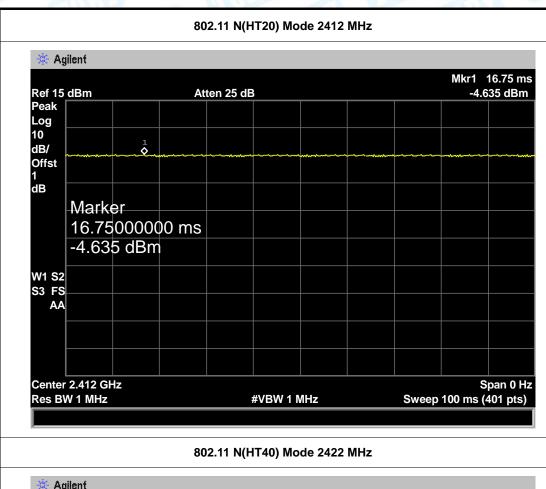


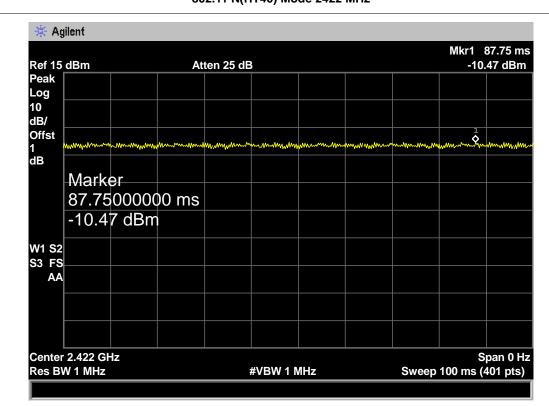






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# 9. Power Spectral Density Test

#### 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, middle and high channel for the test.



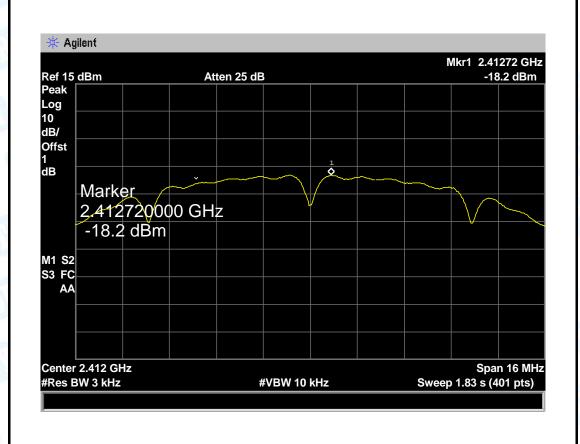
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#### 9.5 Test Data

EUT:	Action camera Model:		Model:	9028
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	DC 3.7V			and it
Test Mode:	TX 802.11	1B Mode	N. W.	
Channel Frequency Power		Power	Density	Limit (dBm)
(MHz) (3 k		(3 kH	z/dBm)	

# (MHZ) (3 KHZ/dBM) 2412 -18.20 2437 -19.00 8 2462 -18.05

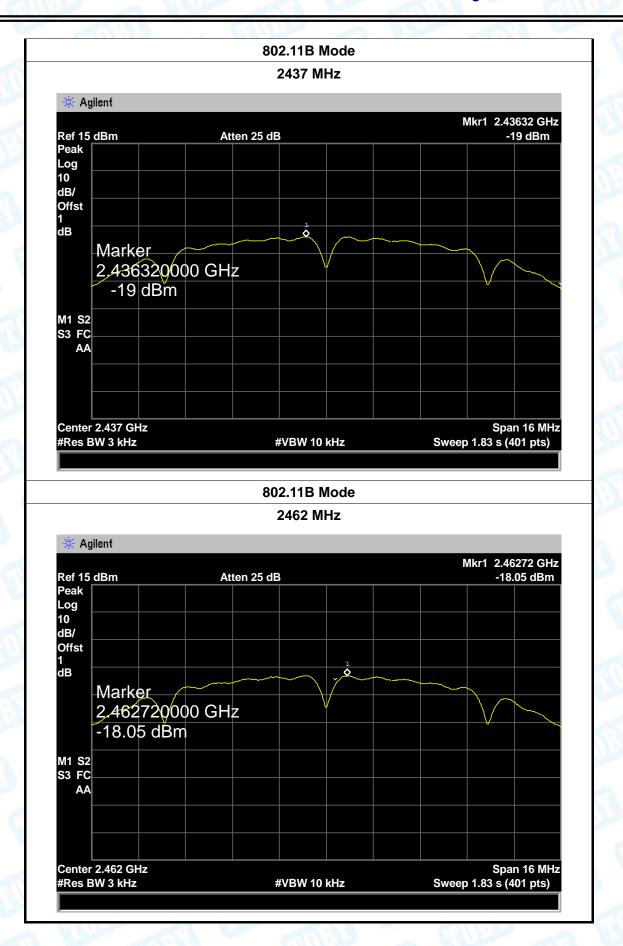
#### 802.11B Mode







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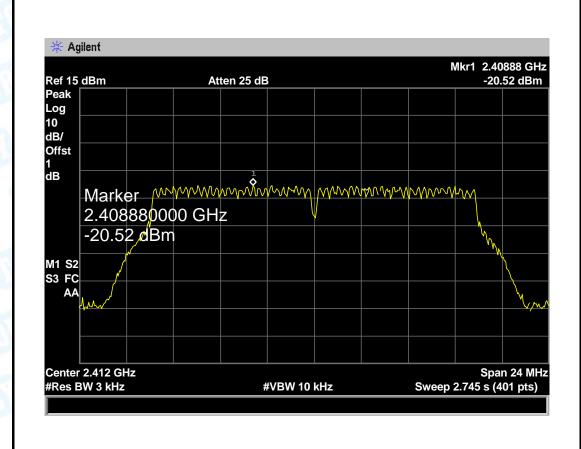
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	PARAGRAP CONTRACTOR		
EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Temperature:	25 ℃
Test Voltage:	DC 3.7V		
To at Marian	TV 000 440 Made		

Test Mode: TX 802.11G Mode

Channel Frequency	Power Density	Limit (dBm)
(MHz)	(3 kHz/dBm)	
2412	-20.52	
2437	-20.46	8
2462	-20.91	

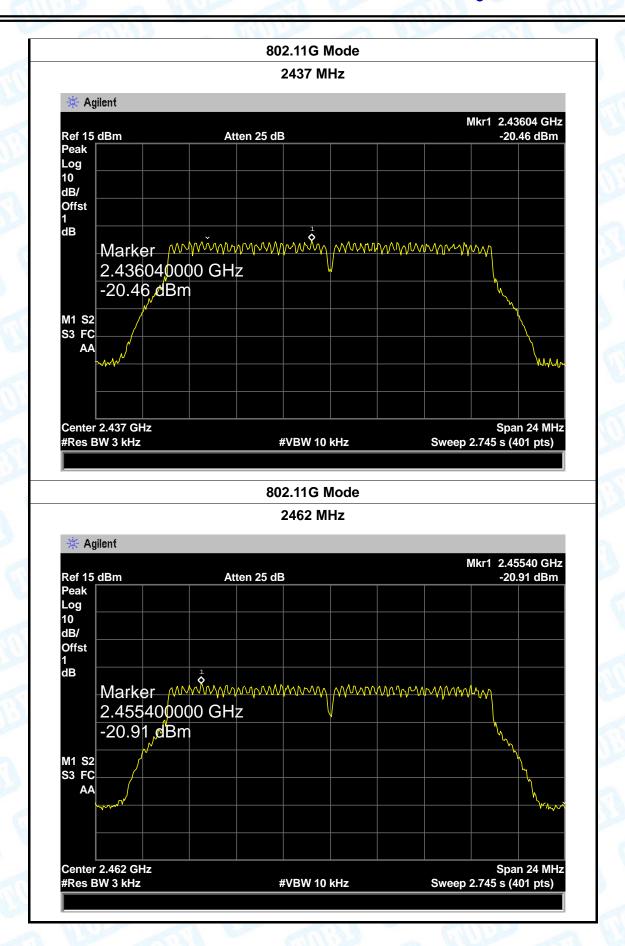
#### 802.11G Mode







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8

M	1	<b>)</b>	3Y	
	-	7	7	•

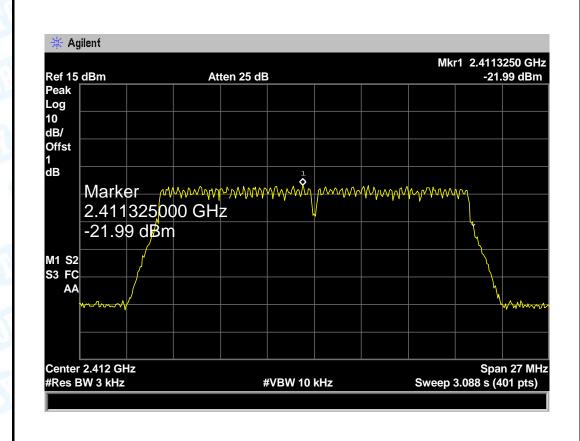
2437

2462

EUT:	Action camera		Model:	9028	13
Temperature:	25 ℃	THE STATE OF	Temperature:	25 ℃	
Test Voltage:	DC 3.7V				
Test Mode:	TX 802.11N(HT20) Mode			13	
Channel Frequency		Power Density		Limit (dBm)	
(MHz)		(3 kHz/dBm)			
2412 -21		.99			

## -22.52 **802.11N(HT20) Mode**

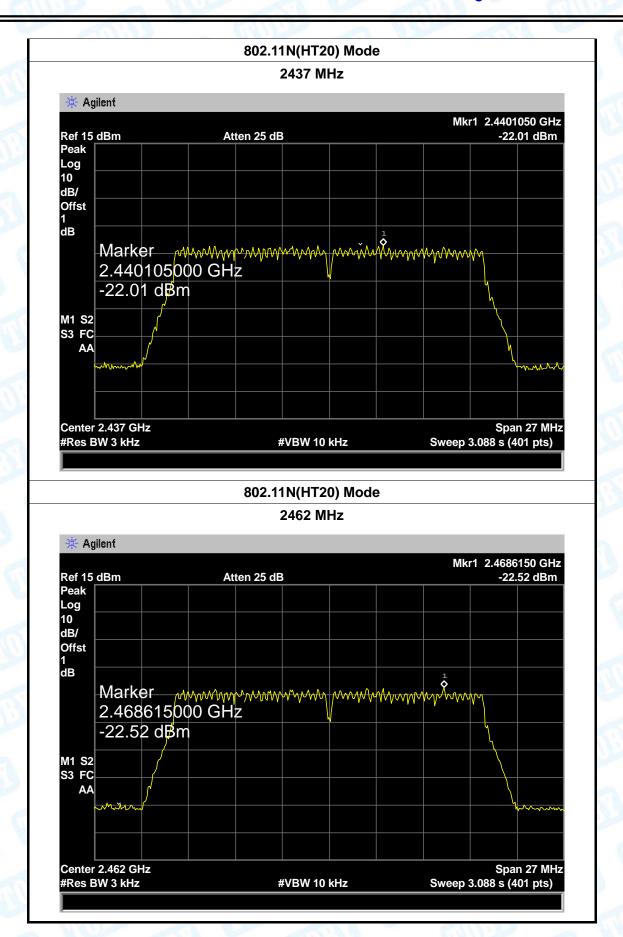
-22.01







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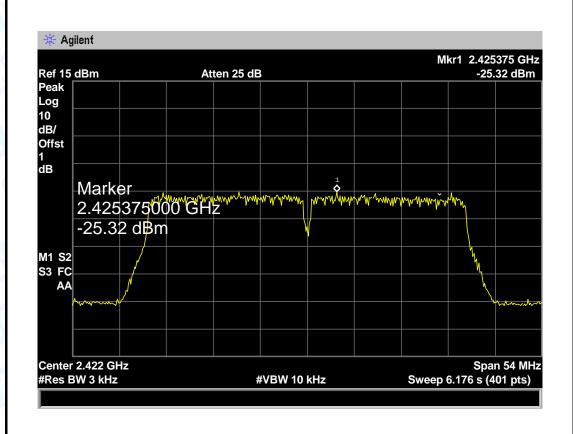
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EUT:	Action camera	Model:	9028
Temperature:	25 ℃	Temperature:	25 ℃
Test Voltage:	DC 3.7V		1111111

Test Mode: TX 802.11N(HT40) Mode

Channel Frequency Power Density		Limit (dBm)
(MHz)	(3 kHz/dBm)	
2422	-25.32	
2437	-24.76	8
2452	-25.83	

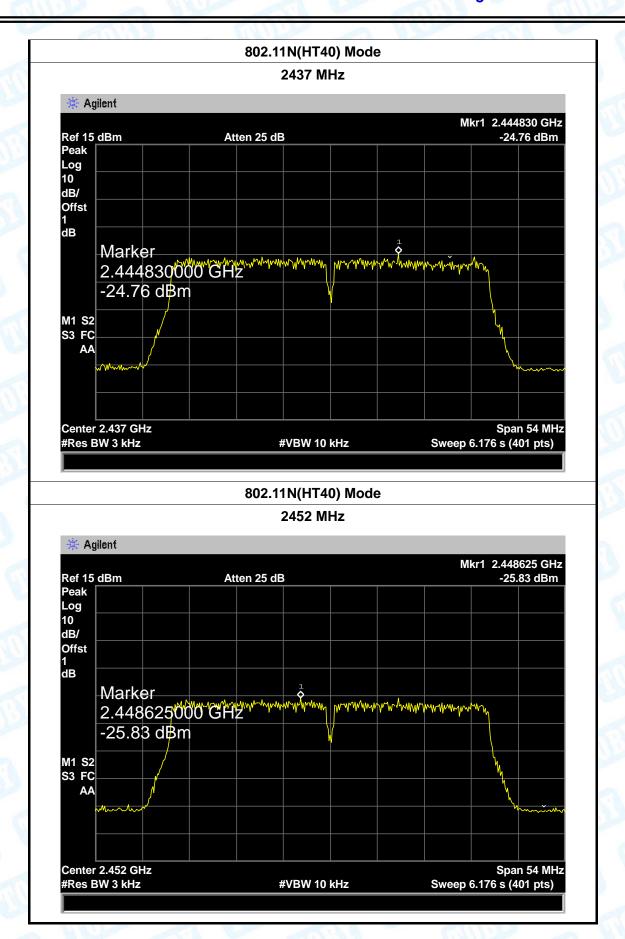
#### 802.11N(HT40) Mode







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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 0.44 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 PCB Antenna. It complies with the standard requirement.

	Antenna Type
33	▼ Permanent attached antenna
	□ Unique connector antenna
	□ Professional installation antenna

-----End of report-----