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Report No.: UNIA19080610FR-01



FCC RADIO TEST REPORT

FCC ID: 2ADOYRC-6

Product: Wireless remote control

Trade Name: FALCON EYES

Model Name: RC-6

Serial Model: N/A

Report No.: UNIA19080610FR-01

Prepared for

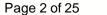
FALCON EYES LTD.

Unit E1, 11/F, Phase1, Hang Fung Building, 2G Hok Yuen Street Hung Hom, Kowloon, Hong Kong

Prepared by

Shenzhen United Testing Technology Co., Ltd.

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China





TEST RESULT CERTIFICATION

Applicant's name:	FALCON EYES LTD.
Address:	Unit E1, 11/F, Phase1, Hang Fung Building, 2G Hok Yuen Stree Hung Hom, Kowloon, Hong Kong
Manufacture's Name:	FALCON EYES LTD.
Address:	Unit E1, 11/F, Phase1, Hang Fung Building, 2G Hok Yuen Stree Hung Hom, Kowloon, Hong Kong
Product description	
Product name:	Wireless remote control
Trade Mark:	FALCON EYES
Model and/or type reference :	RC-6
Standards:	FCC Rules and Regulations Part 15 Subpart C Section 15.249 ANSI C63.10: 2013
with the FCC requirements. A report. This report shall not be reproducted document may be altered or report.	show that the equipment under test (EUT) is in compliance and it is applicable only to the tested sample identified in the duced except in full, without the written approval of UNI, this evised by Shenzhen United Testing Technology Co., Ltd., noted in the revision of the document.
Date of Test	<u> </u>
Date (s) of performance of tests.	
Date of Issue	
Test Result	: Pass
	Bob lian
Prepared by:	ering lech
Reviewer:	Bob tao/Editor Kahn yang/Supervisor
	() A. 10/
Approved & Authorized Signe	er:

Liuze/Manager





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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST RESULT

CONDUCTED EMISSIONS TEST N/A

RADIATED EMISSION TEST COMPLIANT

BAND EDGE COMPLIANT

OCCUPIED BANDWIDTH MEASUREMENT COMPLIANT

ANTENNA REQUIREMENT COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang

Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

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1.3 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 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 150KHz	2.96	
	D.	150KHz ~ 30MHz	2.44	

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 30MHz	2.50	
8		30MHz ~ 1000MHz	4.80	17
12		1000MHz ~ 6000MHz	4.13	

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2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment:	Wireless remote control
Trade Mark:	FALCON E YES
Model Name:	RC-6
Serial No.:	N/A
Model Difference:	N/A
FCC ID:	2ADOYRC-6
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi
Operation frequency:	2407MHz
Number of Channels:	1CH
Modulation Type:	GFSK
Battery:	AA Battery*1
Power Source:	DC 1.5V from Battery

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2.2 CARRIER FREQUENCY OF CHANNELS

	Channel List						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2407						

2.3 TEST MODE

The EUT was programmed to be in continuously transmitting mode.

Channel List				
Test Channel	EUT Channel	Test Frequency (MHz)		
CH01	CH01	2407		

2.4 TEST SETUP

Operation of EUT during Conducted testing:



Operation of EUT during Radiation and Above1GHz Radiation testing:

EUT





2.5 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Wireless remote control	FALCON EYES	RC-6	EUT
	j			
		161	j	
			13.	1 [7]
10	- 1			

Item	Shielded Type	Ferrite Core	Length	Note
	<i>i</i>			
	12	4	H	
	- Si	4		7
		20	, si	4

Note:

- 1. The support equipment was authorized by Declaration of Confirmation.
- 2. For detachable type I/O cable should be specified the length in cm in <code>[Length]</code> column.
- 3. "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.6 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
		Conduction Emi	ssions Measuremer	nt	
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2019.09.17
3	AMN	ETS	3810/2	00020199	2019.09.17
4	EMI TEST RECEIVER	Rohde&Schwarz	ESCI	101210	2019.09.17
5	Pulse limiter	CYBRTEK	EM5010	E115010056	2020.05.26
6	AAN	TESEQ	T8-Cat6	38888	2019.09.24
. 7	j	Radiated Emis	sions Measurement		
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2019.10.08
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2019.12.09
4	PREAMP	HP	8449B	3008A00160	2019.09.24
5	PREAMP	HP	8447D	2944A07999	2020.05.26
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2019.09.17
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2019.09.17
8	Signal Generator	Agilent	E4421B	MY4335105	2019.09.17
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2019.09.24
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2019.09.27
11	RF Power sensor	DARE	RPR3006W	15l00041SNO88	2020.06.09
12	RF Power sensor	DARE	RPR3006W	15l00041SNO89	2020.06.09
13	RF power divider	Anritsu	K241B	992289	2019.09.24
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2019.09.17
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2020.05.28
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2020.05.28
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2020.05.28
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2020.05.28
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2020.05.28
20	Signal Generator	Agilent	N5183A	MY47420153	2020.05.28
21	Spctrum Analyzer	Rohde&Schwarz	FSP 40	100501	2020.05.28
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2020.05.28
23	Frequency Meter	VICTOR	VC2000	997406086	2020.05.28
24	DC Power Source	HYELEC	HY5020E	055161818	2020.05.28

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3 CONDUCTED EMISSION

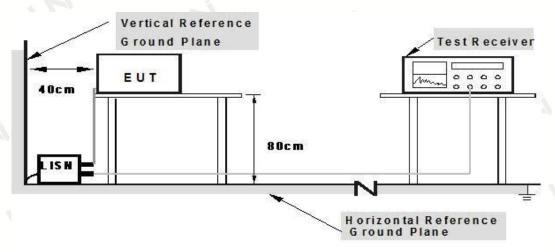
3.1 TEST LIMIT

For unintentional device, according to §15.107(a) Line Conducted Emission Limits is as following

		Maximum RF Line Voltage (dBμV)			
	Frequency (MHz)			CLA	SS B
	(1411 12)	Q.P.	Ave.	Q.P.	Ave.
	0.15~0.50	79	66	66~56*	56~46*
Ī	0.50~5.00	73	60	56	46
	5.00~30.0	73	60	60	50

^{*} Decreasing linearly with the logarithm of the frequency. For intentional device, according to §15.107(a) Line Conducted Emission Limit is same as above table.

3.2 TEST SETUP



Note: 1.Support units were connected to second LISM.

2.Both of LISMs (AMM) are 80 cm from EUT and at least 80 from other units and other metal planes

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3.3 TEST PROCEDURE

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is placed on a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5. All support equipments received AC power from a second LISN, if any.
- 6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 TEST RESULT

N/A

Remark: EUT is powered by DC 1.5V of an AA battery.

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4 RADIATED EMISSION

4.1 TEST LIMIT

For unintentional device, according to §15.209(a), except for Class B digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)		Quasi-peak	300
0.490MHz-1.705MHz	24000/F (kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
	500	54.0	Average	3
Above 1GHz	500	74.0	Peak	3

For intentional device, according to §15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

Limit: (Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
2400MHz-2483.5MHz	94.0	Average Value
	114.0	Peak Value

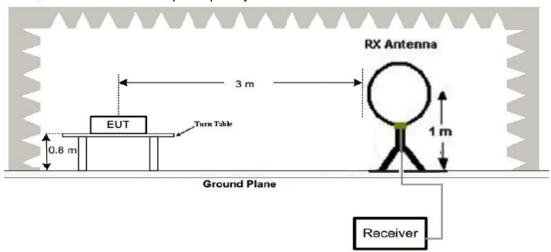
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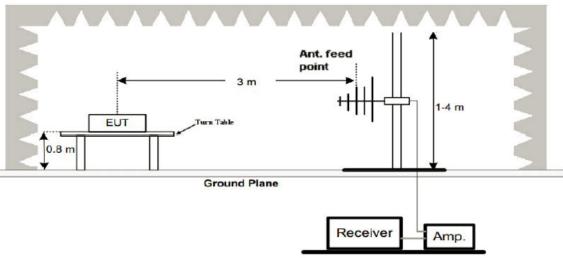


4.2 TEST SETUP

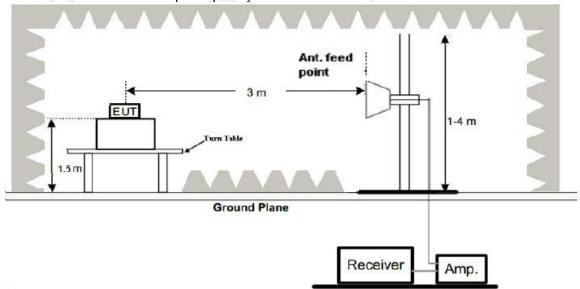
1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



3. Radiated Emission Test-Up Frequency Above 1GHz



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4.3 TEST PROCEDURE

- 1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane.

 And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.
- 7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 TEST RESULT

PASS

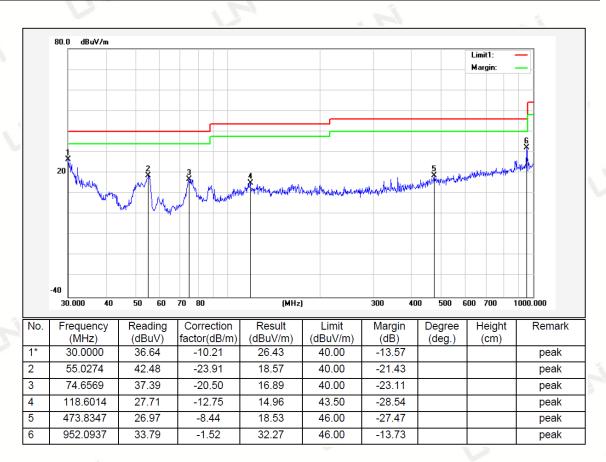
Remark:

- 1. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, and test data recorded in this report.
- 2. Radiated emission test from 9KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9KHz to 30MHz and not recorded in this report.



Below 1GHz Test Results:

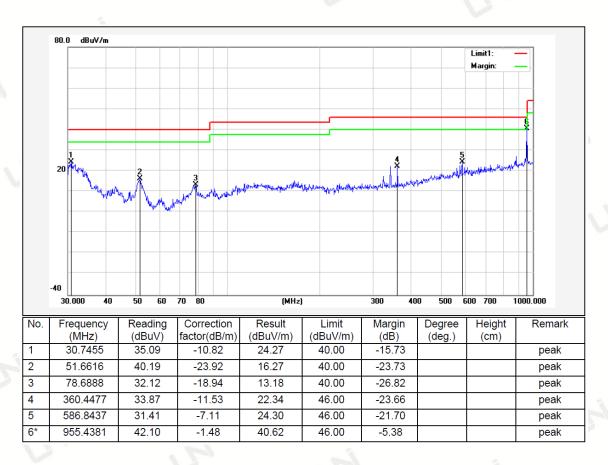
Temperature:	24°C	Relative Humidity:	48%		
Test Date:	Aug. 08, 2019	Pressure:	1010hPa		
Test Voltage:	AC 120V, 60Hz Phase: Horizontal				
Test Mode:	Transmitting mode of GFSK 2407MHz				



Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level - Limit Factor = Ant. Factor + Cable Loss - Pre-amplifier



Temperature:	24°C	Relative Humidity:	48%		
Test Date:	Aug. 08, 2019	Pressure:	1010hPa		
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical		
Test Mode:	Transmitting mode of GFSK 2407MHz				



Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in RSS-Gen apply.
- (3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.





Above 1 GHz Test Results: CH01 (2407MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2407	111.07	-5.84	105.23	114	-8.77	PK
2407	82.49	-5.84	76.65	94	-17.35	AV
4814	60.56	-3.64	56.92	74	-17.08	PK
4814	49.44	-3.64	45.80	54	-8.20	AV
7221	57.37	-0.95	56.42	74	-17.58	PK
7221	47.13	-0.95	46.18	54	-7.82	AV
· · · · · · · · · · · · · · · · · · ·						

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier. Margin = Absolute Level - Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2407	110.96	-5.84	105.12	114	-8.88	PK
2407	81.96	-5.84	76.12	94	-17.88	AV
4814	60.39	-3.64	56.75	74	-17.25	PK
4814	48.89	-3.64	45.25	54	-8.75	AV
7221	56.87	-0.95	55.92	74	-18.08	PK
7221	46.69	-0.95	45.74	54	-8.26	AV

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier. Margin = Absolute Level - Limit

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Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in RSS-Gen apply.
- (4) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
- (7) All modes of operation were investigated and the worst-case emissions are reported.





5 BAND EDGE

5.1 TEST LIMIT

RSS-Gen and RSS-210 Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in RSS-Gen, whichever is the lesser attenuation.

5.2 TEST PROCEDURE

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 TEST RESULT

PASS





Operation Mode: TX CH01 (2407MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2310	56.64	-5.81	50.83	74	-23.17	PK
2310	/	-5.81	/	54	1	AV
2390	55.92	-5.84	50.08	74	-23.92	PK
2390		-5.84	/	54	/	AV
2400	55.70	-5.84	49.86	74	-24.14	PK
2400	/	-5.84	/	54	/	AV

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type	
2310	56.45	-5.81	50.64	74	-23.36	PK	
2310	/	-5.81	/	54	/	AV	
2390	56.62	-5.84	50.78	74	-23.22	PK	
2390	/	-5.84		54	/	AV	
2400	56.10	-5.84	50.26	74	-23.74	PK	
2400	/	-5.84	/	54	/	AV	
Remark: Fact	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						





Operation Mode: TX CH78 (2480MHz)

Horizontal:

					and the same of th	
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2483.5	56.86	-5.65	51.21	74	-22.79	PK
2483.5	/	-5.65	/	54	1	AV
2500	55.85	-5.72	50.13	74	-23.87	PK
2500	1	-5.72		54	/	AV
Remark: Fact	tor = Antenna Facto	or + Cable Lo	ss – Pre-amplifier	120		leg .

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2483.5	57.33	-5.65	51.68	74	-22.32	PK
2483.5	1	-5.65	/	54	/	AV
2500	56.06	-5.72	50.34	74	-23.66	PK
2500	/	-5.72	/	54	1	AV
Domark: Foot	or Antonno Footo	r . Cabla I a	oo Dro omplifior			

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

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6 OCCUPIED BANDWIDTH

6.1 TEST SETUP

Same as Radiated Emission Measurement.

6.2 TEST PROCEDURE

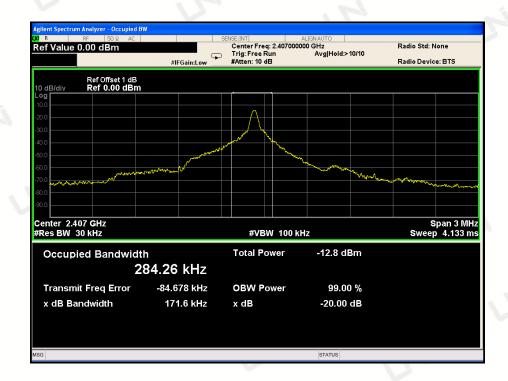
- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. Set EUT as normal operation.
- 3. Based on RSS-Gen and RSS-210: RBW=30KHz, VBW=100KHz, Span=3MHz.
- 4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

6.4 TEST RESULT

PASS

GFSK Modulation:

Frequency (MHz)	20dB Bandwidth (MHz)	Result
2407	0.1716	PASS



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7 ANTENNA REQUIREMENT

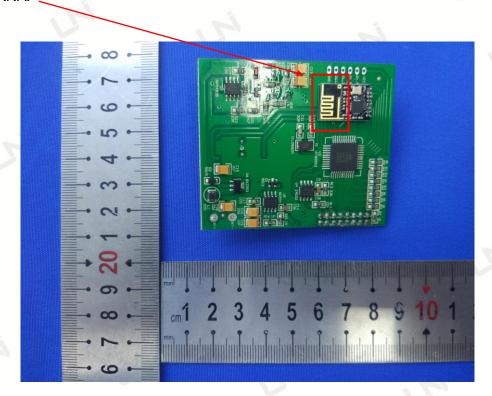
Standard Applicable:

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Connected Construction

The antenna used in this product is a PCB Antenna, The directional gains of antenna used for transmitting is 0dBi.

ANTENNA:







8 PHOTO OF TEST

8.1 RADIATED EMISSION









N/A

End of Report