



FCC Part 15C Test Report

FCC ID: 2AL7VRLC-411S

Product Name:	IP Camera
Trademark:	reelink
Model Name :	RLC-423WS
Prepared For :	Shenzhen Reo-link Digital Technology Co., Ltd
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Test Date:	Dec. 06 – Dec. 13, 2017
Date of Report :	Dec. 13, 2017
Report No.:	BCTC-LH171104108E



TEST RESULT CERTIFICATION

Applicant's name...... Shenzhen Reo-link Digital Technology Co., Ltd

Address B509, University Town Business Park, LiShan Road,

NanShan, Shenzhen, Guangdong China 518055

Report No.: BCTC-LH171104108E

Manufacture's Name..... SHENZHEN BAICHUAN SECURITY TECHNOLOGY

CO..LTD

Address 5th Floor, Building 7, Tangtou 3rd Industrial Area, Shiyan

Town, Bao'an District, Shenzhen City, China

Product description

Product name...... IP Camera

Trademark.....

Model and/or type reference : RLC-423WS

Standards..... FCC Part15.247

ANSI C63.10:2013

KBD 558074 D01 DTS Meas Guidance v03r05

This device described above has been tested by BCTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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EMC Report

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C						
Standard Section	Test Item	Judgment	Remark			
15.207	Conducted Emission	N/A				
15.247 (a)(2)	6dB Bandwidth	PASS				
15.247 (b)	Peak Output Power	PASS				
15.247 (d)	Radiated Spurious Emission	PASS				
15.247 (e)	Power Spectral Density	PASS				
15.205	Restricted Band of Operation	PASS				
15.247 (d)	Band Edge (Out of Band Emissions)	PASS				
15.203	Antenna Requirement	PASS				

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



1.1 TEST FACILITY

Shenzhen BCTC Testing Co., Ltd.

Add.: BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road,

Report No.: BCTC-LH171104108E

Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China

A2LA Certificate No.: 4474.01 IC Registered No.: 12655A

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	IP Camera				
Trade Name	reolink				
Model Name	RLC-423WS				
Model Difference	N/A				
	The EUT is a IP Camera				
	Operation Frequency:	802.11b/g/n20MHz:2412~2462 MHz 802.11n40MHz:2422~2452 MHz			
	Modulation Type:	WIFI: OFDM/DSSS			
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n Up to 150Mbps			
Product Description	Number Of Channel	802.11b/g/n20MHz:11 CH 802.11n40MHz: 7 CH			
	Antenna Designation:	Please see Note 3.			
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.				
Channel List	Please refer to the Note	2.			
Power	DC 12V				
adapter					
hardware version					
Software version					
Serial number					
Connecting I/O Port(s)	Please refer to the User	's Manual			

Note:

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



2.

	Channel List for 802.11b/g/n(20)						
I Channel I ' ' I Channel I ' ' I Channel I ' ' I Channel I						Frequency (MHz)	
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

	Channel List for 802.11n(40)						
I Channel I ' ' I Channel I ' ' I Channel I ' ' I Channel I '					Frequency (MHz)		
03	2422	05	2432	07	2442	09	2452
04	2427	06	2437	08	2447		

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	external antenna	SMA	2.0dBi	
2	N/A	N/A	external antenna	SMA	2.0dBi	

Note1: Directional Gain=2.0dBi+10log(2)=5.01dBi

Note2: The EUT 802.11n (20) and 802.11n(40) is support MIMO mode.

2.2 DESCRIPTION OF TEST MODES

Pretest Mode	Description			
Mode 1	802.11b CH1/ CH6/ CH11			
Mode 2	802.11g CH1/ CH6/ CH11			
Mode 3	802.11n20 CH1/ CH6/ CH11			
Mode 4	802.11n40 CH3/ CH6/ CH9			
Mode 5	Link Mode			

Conducted Emission				
Final Test Mode Description				
Mode 5 Link Mode				

For Radiated Emission					
Final Test Mode	Description				
Mode 1	802.11b CH1/ CH6/ CH11				
Mode 2	802.11g CH1/ CH6/ CH11				
Mode 3	802.11n20 CH1/ CH6/ CH11				
Mode 4 802.11n40 CH3/ CH6/ CH9					

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- (3) According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 11Mbps for 802.11b,6Mbps for 802.11g,13Mbps for 802.11n(H20), 54Mbps for 802.11n(H40).



2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Emission Test



2.4 DESCRIPTION OF TEST UNITS

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.	Series No.	Note
E-1	IP Camera	reolink	RLC-423WS	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) For detachable type I/O cable should be specified the length in cm in <code>"Length_"</code> column.

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2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 6db bandwidth test equipment

	adiation test, Band-edge test and 6db bandwidth test equipment					
Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4407B	MY45108040	2017.08.27	2018.08.26
2	Test Receiver (9kHz-7GHz)	R&S	ESPI	101318	2017.08.27	2018.08.26
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB 9168	VULB91 68-438	2017.08.27	2018.08.26
4	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1201	2017.0903	2018.09.03
5	Horn Antenna (14GHz-40GHz)	SCHWARZBECK	BBHA 9170	9170-181	2017.0903	2018.09.03
6	Amplifier (9KHz-6GHz)	SCHWARZBECK	BBV9744	9744-0037	2017.08.27	2018.08.26
7	Amplifier (1GHz-18GHz)	SCHWARZBECK	BBV9718	9718-309	2017.08.27	2018.08.26
8	Amplifier (18GHz-40GHz)	SCHWARZBECK	BBV 9721	9721-205	2017.08.27	2018.08.26
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	00014	2017.0903	2018.09.03
10	RF cables1 (9kHz-1GHz)	R&S	R203	R20X	2017.08.27	2018.08.26
11	RF cables2 (1GHz-40GHz)	R&S	R204	R21X	2017.08.27	2018.08.26
12	Antenna connector	Florida RF Labs	N/A	RF 01#	2017.08.27	2018.08.26
13	Power Metter	ANRITSU	ML2487A	6K00001568	2017.08.27	2018.08.26
14	Power Sensor (AV)	ANRITSU	ML2491A	030989	2017.08.27	2018.08.26
15	Signal Analyzer 9kHz-26.5GHz	Agilent	N9010A	MY48030494	2017.08.27	2018.08.26
16	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	2017.08.27	2018.08.26
17	D.C. Power Supply	LongWei	PS-305D	010964729	2017.08.27	2018.08.26

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESCI	1166.5950K03-1 01165-ha	2017.08.27	2018.08.26
2	LISN	SCHWARZBECK	NSLK8127	8127739	2017.08.27	2018.08.26
3	LISN	R&S	NSLK8126	8126487	2017.08.27	2018.08.26
4	RF cables	R&S	R204	R20X	2017.08.27	2018.08.26
5	Attenuator	R&S	ESH3-Z2	143206	2017.08.27	2018.08.26



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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FREQUENCY (MHz)	Limit(c	Ctondord	
FREQUENCY (MINZ)	Quasi-peak	Average	Standard
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

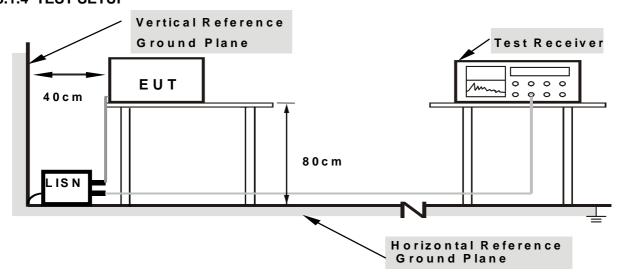
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. 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.
- c. 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.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation



3.1.4 TEST SETUP



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

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

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

3.1.6 TEST RESULTS

The EUT Power provide by DC, no requriments for this item.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

	Limit(dBuV/m) (at 3M)		
FREQUENCY (MHz)	PEAK	AVERAGE	
Above 1000	74	54	

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	25GHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

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- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
- h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel .Note:

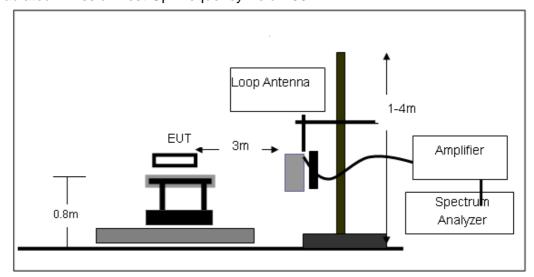
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

3.2.3 DEVIATION FROM TEST STANDARD

No deviation

3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz

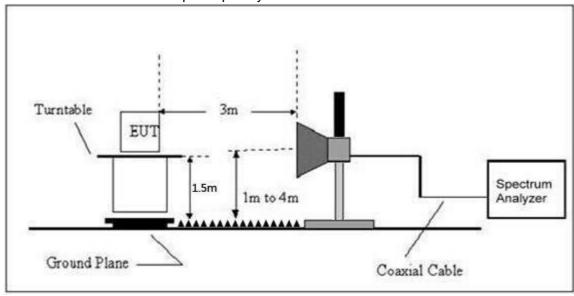




(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

For 802.11b/g, only the SISO mode was supported. And basing on the pre-scan, only the data for worst case configuration (ant 1 active) was listed below.

For 80211n, both SISO and MIMO were supported. And basing on the pre-scan, only the data for worst case configuration (MIMO mode) was listed below.



3.2.6 TEST RESULTS (BETWEEN 9KHZ - 30 MHZ)

Temperature:	20℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage:	DC 12V
Test Mode:	Mode 5	Polarization :	

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Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
				PASS
				PASS

NOTE:

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

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

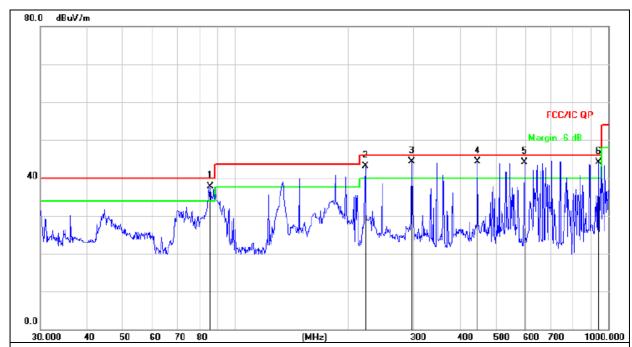
Limit line = specific limits(dBuv) + distance extrapolation factor.



3.2.7 TEST RESULTS (BETWEEN 30MHZ - 1GHZ)

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization:	Horizontal
Test Voltage :	DC 12V		
Test Mode :	Mode 5		

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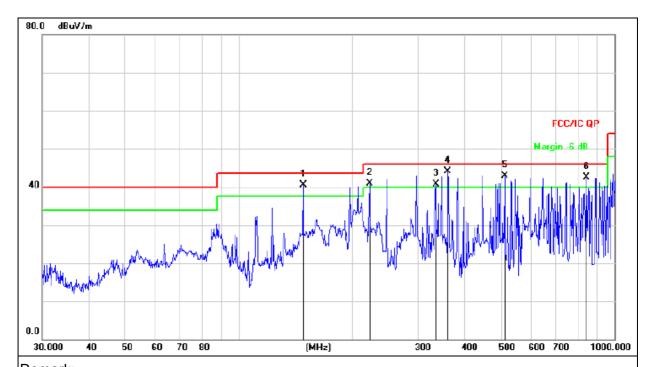
Remark:

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBuV/m	dB/m	dB	Detector
1	İ	85.5977	56.09	-18.40	37.69	40.00	-2.31	QP
2	İ	222.9501	59.18	-16.15	43.03	46.00	-2.97	QP
3	*	297.2241	57.96	-13.60	44.36	46.00	-1.64	QP
4	İ	446.4141	54.90	-10.65	44.25	46.00	-1.75	QP
5	İ	595.1327	51.00	-6.80	44.20	46.00	-1.80	QP
6	İ	942.1304	46.23	-2.06	44.17	46.00	-1.83	QP



Temperature :	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization:	Vertical
Test Voltage :	DC 12V		
Test Mode :	Mode 5		



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

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBuV/m	dB/m	dB	Detector
1	İ	148.4410	59.50	-19.05	40.45	43.50	-3.05	QP
2	ļ	222.9501	56.97	-16.15	40.82	46.00	-5.18	QP
3	İ	334.8589	53.86	-13.07	40.79	46.00	-5.21	QP
4	*	360.4476	56.28	-12.18	44.10	46.00	-1.90	QP
5	İ	510.0436	51.99	-9.16	42.83	46.00	-3.17	QP
6	İ	842.1295	45.98	-3.54	42.44	46.00	-3.56	QP



3.2.8 TEST RESULTS (1GHZ~25GHZ)

802.11b

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D.J.	Frequency	Meter Reading	Pre-	Cable	Antenna	Emission Level	Limits	Margin	Data atau	
Polar (H/V)			amplifier	Loss	Factor				Detector Type	
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		
				operation	frequency:24	12				
V	4824.00	66.28	39.55	7.85	25.66	60.24	74.00	-13.76	PK	
V	4824.00	47.83	39.55	7.85	25.66	41.79	54.00	-12.21	AV	
V	7236.00	67.15	38.33	7.52	24.55	60.89	74.00	-13.11	PK	
V	7236.00	47.28	38.33	7.52	24.55	41.02	54.00	-12.98	AV	
٧	15448.00	50.32	35.23	6.75	26.59	48.43	74.00	-25.57	PK	
Н	4824.00	67.88	39.55	7.85	25.66	61.84	74.00	-12.16	PK	
Η	4824.00	47.95	39.55	7.85	25.66	41.91	54.00	-12.09	AV	
Η	7236.00	68.57	38.33	7.52	23.55	61.31	74.00	-12.69	PK	
Ι	7236.00	50.57	38.33	7.52	23.22	42.98	54.00	-11.02	AV	
Н	15448.00	46.30	35.45	6.75	27.88	45.48	74.00	-28.52	PK	
operation frequency:2437										
V	4874.00	64.72	38.89	7.57	25.45	58.85	74.00	-15.15	PK	
V	4874.00	47.61	38.89	7.57	25.45	41.74	54.00	-12.26	AV	
V	7311.00	65.59	38.78	7.35	24.78	58.94	74.00	-15.06	PK	
V	7311.00	47.49	38.78	7.35	24.78	40.84	54.00	-13.16	AV	
V	15448.00	51.05	35.89	6.42	26.47	48.05	74.00	-25.95	PK	
Ι	4874.00	63.86	38.89	7.57	25.45	57.99	74.00	-16.01	PK	
Ι	4874.00	48.50	38.89	7.57	25.45	42.63	54.00	-11.37	AV	
Τ	7311.00	69.18	38.78	7.35	24.78	62.53	74.00	-11.47	PK	
Н	7311.00	46.74	38.78	7.35	24.78	40.09	54.00	-13.91	AV	
Τ	15448.00	47.12	36.68	6.42	26.65	43.51	74.00	-30.49	PK	
				operation	frequency:24	62				
V	4924.00	67.56	38.75	7.46	25.45	61.72	74.00	-12.28	PK	
V	4924.00	49.65	38.75	7.46	25.45	43.81	54.00	-10.19	AV	
V	7386.00	66.68	38.65	7.22	24.78	60.03	74.00	-13.97	PK	
V	7386.00	48.60	38.65	7.22	24.78	41.95	54.00	-12.05	AV	
V	15448.00	52.32	35.58	6.35	26.47	49.56	74.00	-24.44	PK	
Н	4924.00	65.08	38.75	7.46	25.45	59.24	74.00	-14.76	PK	
Н	4924.00	49.89	38.75	7.46	25.45	44.05	54.00	-9.95	AV	
Н	7386.00	68.62	38.65	7.22	24.78	61.97	74.00	-12.03	PK	
Н	7386.00	46.05	38.65	7.22	24.78	39.40	54.00	-14.60	AV	
Η	15448.00	48.09	36.42	6.32	26.65	44.64	74.00	-29.36	PK	

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level - Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Shenzhen BCTC Technology Co., Ltd.

802.11g

Report No.: BCTC-LH171104108E

	802.11g											
Polar	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector			
(H/V)	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Туре			
				operation 1	frequency:241	2						
V	4824.00	66.09	39.55	7.85	25.66	60.05	74.00	-13.95	PK			
V	4824.00	49.83	39.55	7.85	25.66	43.79	54.00	-10.21	AV			
V	7236.00	66.57	38.33	7.52	24.55	60.31	74.00	-13.69	PK			
V	7236.00	47.44	38.33	7.52	24.55	41.18	54.00	-12.82	AV			
V	15448.00	51.11	35.23	6.75	26.59	49.22	74.00	-24.78	PK			
Н	4824.00	63.49	39.55	7.85	25.66	57.45	74.00	-16.55	PK			
Н	4824.00	49.76	39.55	7.85	25.66	43.72	54.00	-10.28	AV			
Н	7236.00	69.13	38.33	7.52	23.55	61.87	74.00	-12.13	PK			
Н	7236.00	49.76	38.33	7.52	23.22	42.17	54.00	-11.83	AV			
Н	15448.00	45.25	35.45	6.75	27.88	44.43	74.00	-29.57	PK			
operation frequency:2437												
V	4874.00	67.24	38.89	7.57	25.45	61.37	74.00	-12.63	PK			
V	4874.00	49.56	38.89	7.57	25.45	43.69	54.00	-10.31	AV			
V	7311.00	67.73	38.78	7.35	24.78	61.08	74.00	-12.92	PK			
V	7311.00	48.31	38.78	7.35	24.78	41.66	54.00	-12.34	AV			
V	15448.00	53.26	35.89	6.42	26.47	50.26	74.00	-23.74	PK			
Н	4874.00	65.84	38.89	7.57	25.45	59.97	74.00	-14.03	PK			
Н	4874.00	49.72	38.89	7.57	25.45	43.85	54.00	-10.15	AV			
Н	7311.00	69.51	38.78	7.35	24.78	62.86	74.00	-11.14	PK			
Н	7311.00	47.73	38.78	7.35	24.78	41.08	54.00	-12.92	AV			
Н	15448.00	48.63	36.68	6.42	26.65	45.02	74.00	-28.98	PK			
				operation 1	frequency:246	62						
V	4924.00	67.63	38.75	7.46	25.45	61.79	74.00	-12.21	PK			
V	4924.00	47.99	38.75	7.46	25.45	42.15	54.00	-11.85	AV			
V	7386.00	69.27	38.65	7.22	24.78	62.62	74.00	-11.38	PK			
V	7386.00	49.96	38.65	7.22	24.78	43.31	54.00	-10.69	AV			
V	15448.00	53.85	35.58	6.35	26.47	51.09	74.00	-22.91	PK			
Н	4924.00	67.03	38.75	7.46	25.45	61.19	74.00	-12.81	PK			
Н	4924.00	50.21	38.75	7.46	25.45	44.37	54.00	-9.63	AV			
Н	7386.00	68.7	38.65	7.22	24.78	62.05	74.00	-11.95	PK			
Н	7386.00	47.39	38.65	7.22	24.78	40.74	54.00	-13.26	AV			
Н	15448.00	48.49	36.42	6.32	26.65	45.04	74.00	-28.96	PK			

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Shenzhen BCTC Technology Co., Ltd.

Report No.: BCTC-LH171104108E

	802.11n(20MHz)											
Polar	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector			
(H/V)	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Type			
				operation	frequency:241	12						
V	4824.00	68.44	39.55	7.85	25.66	62.40	74.00	-11.60	PK			
V	4824.00	48.57	39.55	7.85	25.66	42.53	54.00	-11.47	AV			
V	7236.00	68.78	38.33	7.52	24.55	62.52	74.00	-11.48	PK			
V	7236.00	48.77	38.33	7.52	24.55	42.51	54.00	-11.49	AV			
V	15448.00	51.5	35.23	6.75	26.59	49.61	74.00	-24.39	PK			
Н	4824.00	68.83	39.55	7.85	25.66	62.79	74.00	-11.21	PK			
Н	4824.00	49.62	39.55	7.85	25.66	43.58	54.00	-10.42	AV			
Н	7236.00	68.6	38.33	7.52	23.55	61.34	74.00	-12.66	PK			
Н	7236.00	51.85	38.33	7.52	23.22	44.26	54.00	-9.74	AV			
Н	15448.00	47.51	35.45	6.75	27.88	46.69	74.00	-27.31	PK			
operation frequency:2437												
V	4874.00	67.39	38.89	7.57	25.45	61.52	74.00	-12.48	PK			
V	4874.00	50.24	38.89	7.57	25.45	44.37	54.00	-9.63	AV			
V	7311.00	66.76	38.78	7.35	24.78	60.11	74.00	-13.89	PK			
V	7311.00	46.98	38.78	7.35	24.78	40.33	54.00	-13.67	AV			
V	15448.00	52.05	35.89	6.42	26.47	49.05	74.00	-24.95	PK			
Н	4874.00	65.05	38.89	7.57	25.45	59.18	74.00	-14.82	PK			
Н	4874.00	48.83	38.89	7.57	25.45	42.96	54.00	-11.04	AV			
Η	7311.00	69.07	38.78	7.35	24.78	62.42	74.00	-11.58	PK			
Н	7311.00	47.41	38.78	7.35	24.78	40.76	54.00	-13.24	AV			
Н	15448.00	48.2	36.68	6.42	26.65	44.59	74.00	-29.41	PK			
				operation	frequency:246	52						
V	4924.00	69.10	38.75	7.46	25.45	63.26	74.00	-10.74	PK			
V	4924.00	51.17	38.75	7.46	25.45	45.33	54.00	-8.67	AV			
V	7386.00	67.57	38.65	7.22	24.78	60.92	74.00	-13.08	PK			
V	7386.00	49.81	38.65	7.22	24.78	43.16	54.00	-10.84	AV			
V	15448.00	53.62	35.58	6.35	26.47	50.86	74.00	-23.14	PK			
Н	4924.00	65.95	38.75	7.46	25.45	60.11	74.00	-13.89	PK			
Н	4924.00	49.83	38.75	7.46	25.45	43.99	54.00	-10.01	AV			
Н	7386.00	70.18	38.65	7.22	24.78	63.53	74.00	-10.47	PK			
Н	7386.00	47.39	38.65	7.22	24.78	40.74	54.00	-13.26	AV			
Н	15448.00	49.52	36.42	6.32	26.65	46.07	74.00	-27.93	PK			

- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



Shenzhen BCTC Technology Co., Ltd.

802.11n(40MHz)

Report No.: BCTC-LH171104108E

	802.11n(40MHz)											
Polar	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector			
(H/V)	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Type			
	•			operation	frequency:24	22	•					
V	4844.000	68.77	39.55	7.77	25.66	62.65	74.00	-11.35	PK			
V	4844.000	49.38	39.55	7.77	25.66	43.26	54.00	-10.74	AV			
V	7266.000	69.12	38.33	7.30	24.55	62.64	74.00	-11.36	PK			
V	7266.000	49.2	38.33	7.30	24.55	42.72	54.00	-11.28	AV			
V	15448.00	53.36	35.23	6.60	26.59	51.32	74.00	-22.68	PK			
Н	4844.000	69.23	39.55	7.77	25.66	63.11	74.00	-10.89	PK			
Н	4844.000	50.4	39.55	7.77	25.66	44.28	54.00	-9.72	AV			
Н	7266.000	70.81	38.33	7.30	23.55	63.33	74.00	-10.67	PK			
Н	7266.000	51.97	38.33	7.30	23.22	44.16	54.00	-9.84	AV			
Н	15448.00	48.35	35.45	6.60	27.88	47.38	74.00	-26.62	PK			
operation frequency:2437												
V	4874.00	68.01	38.89	7.57	25.45	62.14	74.00	-11.86	PK			
V	4874.00	49.54	38.89	7.57	25.45	43.67	54.00	-10.33	AV			
V	7311.00	68.67	38.78	7.35	24.78	62.02	74.00	-11.98	PK			
V	7311.00	47.77	38.78	7.35	24.78	41.12	54.00	-12.88	AV			
V	15448.00	52.55	35.89	6.42	26.47	49.55	74.00	-24.45	PK			
Н	4874.00	66.8	38.89	7.57	25.45	60.93	74.00	-13.07	PK			
Н	4874.00	50.49	38.89	7.57	25.45	44.62	54.00	-9.38	AV			
Н	7311.00	73.3	38.78	7.35	24.78	66.65	74.00	-7.35	PK			
Н	7311.00	48.39	38.78	7.35	24.78	41.74	54.00	-12.26	AV			
Н	15448.00	49.63	36.68	6.42	26.65	46.02	74.00	-27.98	PK			
				operation	frequency:24	52						
V	4904.00	68.78	38.75	7.38	25.45	62.86	74.00	-11.14	PK			
V	4904.00	51.15	38.75	7.38	25.45	45.23	54.00	-8.77	AV			
V	7356.00	67.80	38.65	7.15	24.78	61.08	74.00	-12.92	PK			
V	7356.00	50.76	38.65	7.15	24.78	44.04	54.00	-9.96	AV			
V	15448.00	54.39	35.58	6.25	26.47	51.53	74.00	-22.47	PK			
Н	4904.00	68.00	38.75	7.38	25.45	62.08	74.00	-11.92	PK			
Н	4904.00	50.87	38.75	7.38	25.45	44.95	54.00	-9.05	AV			
Н	7356.00	69.62	38.65	7.15	24.78	62.90	74.00	-11.10	PK			
Н	7356.00	47.90	38.65	7.15	24.78	41.18	54.00	-12.82	AV			
Н	15448.00	49.71	36.42	6.25	26.65	46.19	74.00	-27.81	PK			

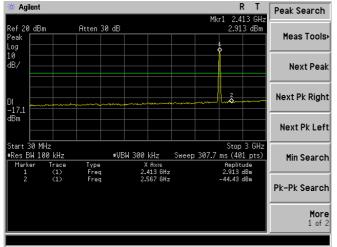
- 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss Pre-amplifier, Margin= Emission Level - Limit
- 2. If peak below the average limit, the average emission was no test.
- 3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

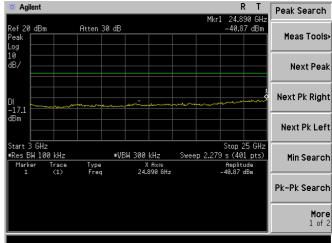


For Conducted

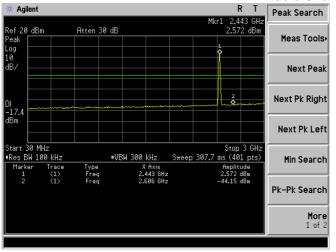
we pretest all mode, the worst mode was 802.11b, and the data only show the worst mode data. 802.11b

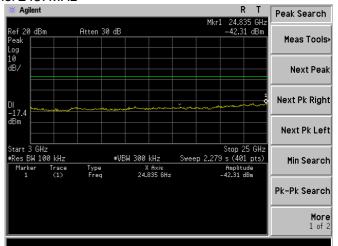
Low Channel 2412MHz



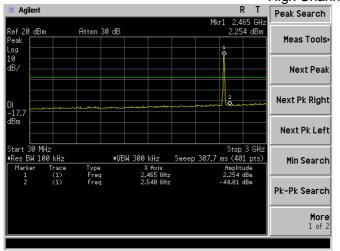


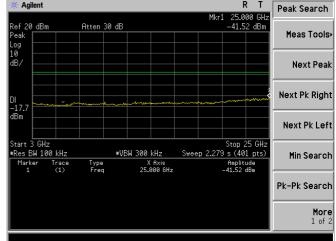
Middle Channel 2437MHz





High Channel 2462MHz







3.3 RADIATED BAND EMISSION MEASUREMENT 3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.205

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

EDEOLIENCY (MH-)	Limit(dBuV/m) (at 3M)				
FREQUENCY (MHz)	PEAK	AVERAGE			
Above 1000	74	54			

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

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

Spectrum Parameter	Setting				
Attenuation	Auto				
Start Frequency	2300MHz				
Stop Frequency	2520				
RB / VB (emission in restricted	4 MHz /4 MHz for Dook 4 MHz /40Hz for Average				
band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average				

3.3.2 TEST PROCEDURE

Above 1GHz test procedure as below:

- a. 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel,the Highest channel

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

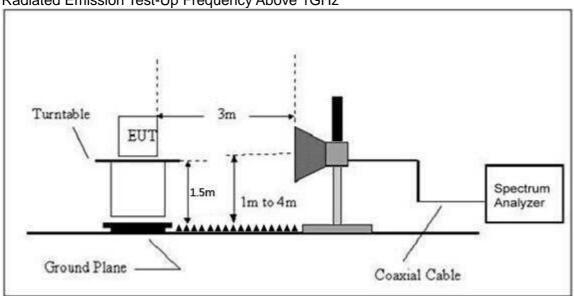


3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.3.6 TEST RESULT

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission evel (dBuV/m) PK	Lim (dBu PK		Result			
				Lov	v Chann	∟ el 2412Mŀ			7.0				
	Н	2390.00	56.77	38.06	7.42	20.15	46.28	74.00	54.00	PASS			
	Н	2400.00	62.78	38.06	7.42	20.15	52.29	74.00	54.00	PASS			
	V	2390.00	57.12	38.06	7.42	20.15	46.63	74.00	54.00	PASS			
	V	2400.00	62.98	38.06	7.42	20.15	52.49	74.00	54.00	PASS			
802.11b		2400.00 62.96 36.00 7.42 20.13 32.49 74.00 54.00 FASS High Channel 2462MHz											
	Н	2483.50	59.88	38.17	7.45	20.54	49.70	74.00	54.00	PASS			
	Н	2485.50	59.33	38.17	7.45	20.54	49.15	74.00	54.00	PASS			
	V	2483.50	60.85	38.20	7.45	20.54	50.64	74.00	54.00	PASS			
	V	2485.50	56.91	38.20	7.45	20.54	46.70	74.00	54.00	PASS			
			•	Lov	v Chann	el 2412MI	Ηz		•	•			
	Ι	2390.00	57.53	38.06	7.42	20.15	47.04	74.00	54.00	PASS			
	Ι	2400.00	59.81	38.06	7.42	20.15	49.32	74.00	54.00	PASS			
	V	2390.00	57.62	38.06	7.42	20.15	47.13	74.00	54.00	PASS			
802.11g	>	2400.00	62.18	38.06	7.42	20.15	51.69	74.00	54.00	PASS			
602.11g		High Channel 2462MHz											
	Н	2483.50	61.59	38.17	7.45	20.54	51.41	74.00	54.00	PASS			
	Η	2485.50	59.67	38.17	7.45	20.54	49.49	74.00	54.00	PASS			
	V	2483.50	61.13	38.20	7.45	20.54	50.92	74.00	54.00	PASS			
	V	2485.50	58.80	38.20	7.45	20.54	48.59	74.00	54.00	PASS			
	Low Channel 2412MHz												
	Н	2390.00	57.46	38.06	7.42	20.15	46.97	74.00	54.00	PASS			
	Н	2400.00	61.75	38.06	7.42	20.15	51.26	74.00	54.00	PASS			
	V	2390.00	57.46	38.06	7.42	20.15	46.97	74.00	54.00	PASS			
802.11n20	V	2400.00	59.87	38.06	7.42	20.15	49.38	74.00	54.00	PASS			
		1				el 2462M			Г				
	Н	2483.50	61.18	38.17	7.45	20.54	51.00	74.00	54.00	PASS			
	Н	2485.50	58.55	38.17	7.45	20.54	48.37	74.00	54.00	PASS			
	V	2483.50	60.61	38.20	7.45	20.54	50.40	74.00	54.00	PASS			
	V	2485.50	59.30	38.20	7.45	20.54	49.09	74.00	54.00	PASS			
	LI	2200.00	E0.00			el 2422MI		74.00	E4.00	DACC			
	H	2390.00	59.09	38.06	7.42	20.15	48.60	74.00	54.00	PASS			
	Н	2400.00	62.18	38.06	7.42	20.15	51.69	74.00	54.00	PASS			
	V	2390.00	58.45	38.06	7.42	20.15	47.96	74.00	54.00	PASS			
802.11n40	V	2400.00	61.98	38.06	7.42	20.15	51.49	74.00	54.00	PASS			
	LJ	2402 50	61 12			el 2452M		74.00	E4.00	DV66			
	H	2483.50	61.13	38.17 38.17	7.45	20.54	50.95	74.00	54.00	PASS			
	H V	2485.50 2483.50	58.60 61.10	38.20	7.45 7.45	20.54 20.54	48.42 50.89	74.00	54.00 54.00	PASS PASS			
								74.00					
	V	2485.50	57.82	38.20	7.45	20.54	47.61	74.00	54.00	PASS			

^{1.} Emission Level = Meter Reading + Antenna Factor + Cable Loss - Pre-amplifier, Margin= Emission Level - Limit

^{2.} If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.



4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C										
Section	Test Item	Limit	Frequency Range (MHz)	Result						
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS						

4.1.1 TEST PROCEDURE

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = RMS.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing. we test all antenna's data, the data only show the antenna1 worst mode

EMC Report Tel: 400-788-9558 0755-33019988 Web:Http://www.bctc-lab.com.cn Page 27 of 44



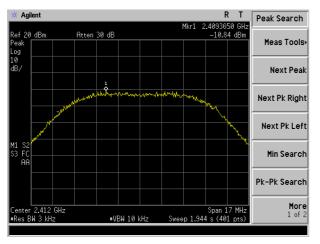
4.1.5 TEST RESULTS

	Frequency	Power Sp Dens (dBn	ity	Total Power Spectral	Limit (dBm)	Result
		ANT1	ANT2	Density (dBm)		
	2412 MHz	-10.84	-11.45	/	<8	PASS
802.11b	2437 MHz	-11.39	-11.67	/	<8	PASS
	2462 MHz	-11.48	-11.75	/	<8	PASS
	2412 MHz	-15.97	-16.23	/	<8	PASS
802.11g	2437 MHz	-16.72	-16.85	/	<8	PASS
	2462 MHz	-16.24	-16.47	/	<8	PASS
	2412 MHz	-16.02	-16.25	-13.12	<8	PASS
802.11n (20MHz)	2437 MHz	-16.42	-16.68	-13.54	<8	PASS
	2462 MHz	-15.10	-15.87	-12.46	<8	PASS
	2422 MHz	-18.88	-18.96	-15.91	<8	PASS
802.11n (40MHz)	2437 MHz	-20.87	-21.02	-17.93	<8	PASS
	2452 MHz	-20.51	-20.74	-17.61	<8	PASS

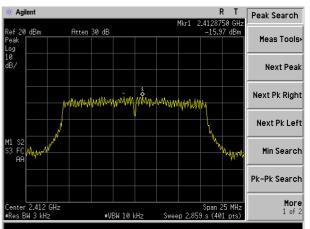


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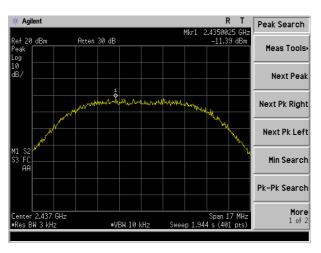
(802.11b) channel 1



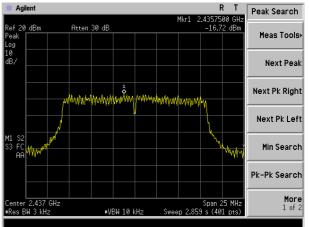
(802.11g) channel 1



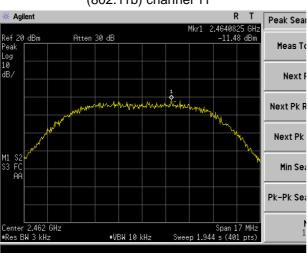
(802.11b) channel 6



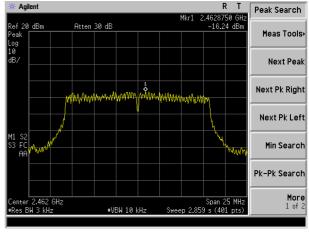
(802.11g) channel 6



(802.11b) channel 11



(802.11g) channel 11



EMC Report

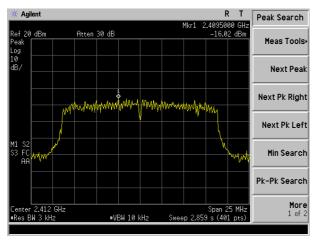
Tel: 400-788-9558 0755-33019988

Web:Http://www.bctc-lab.com.cn

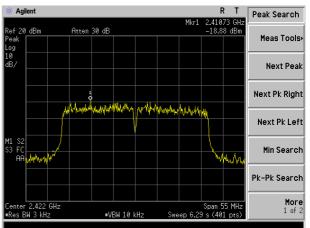
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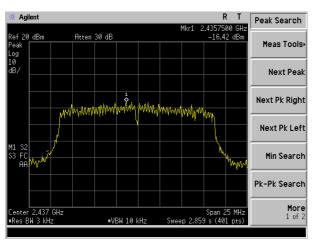
(802.11n20) channel 1



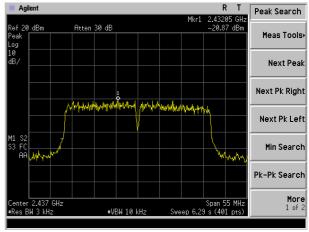
(802.11n40) channel 3



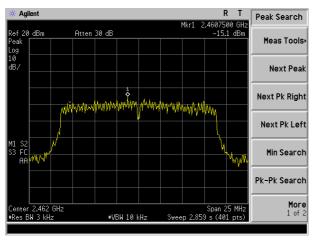
(802.11n20) channel 6



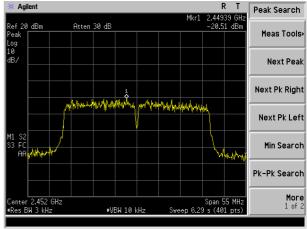
(802.11n40) channel 6



(802.11n20) channel 11



(802.11n40) channel 9





5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

Report No.: BCTC-LH171104108E

5.1.1 TEST PROCEDURE

- 1. Set RBW = 100 kHz.
- 2. Set the video bandwidth (VBW) \geq 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

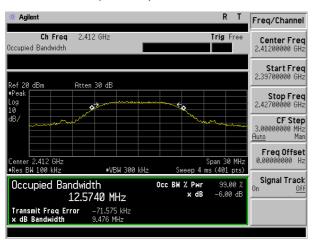
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing. we test all antenna's data, the data only show the antenna1 worst mode



5.1.5 TEST RESULTS

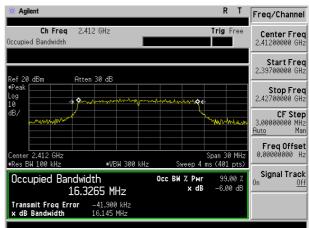
	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result	
	(11112)	ANT1	ANT2	(112)		
	2412	9.476	9.356	>500	Pass	
802.11b	2437	9.790	9.542	>500	Pass	
	2462	9.459	9.324	>500	Pass	
	2412	16.154	16.048	>500	Pass	
802.11g	2437	15.832	15.781	>500	Pass	
	2462	16.301	16.268	>500	Pass	
802.11n20	2412	15.726	15.675	>500	Pass	
	2437	16.019	16.007	>500	Pass	
	2462	16.644	16.569	>500	Pass	
	2422	35.839	35.635	>500	Pass	
802.11n40	2437	35.823	35.774	>500	Pass	
	2452	35.819	35.786	>500	Pass	

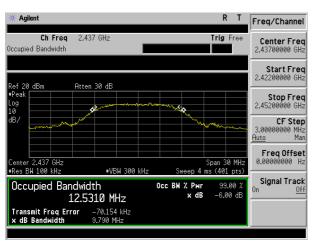




(802.11b) channel 1

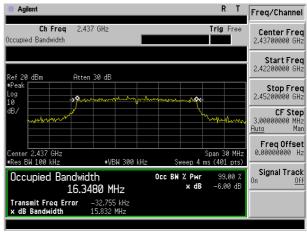
(802.11g) channel 1



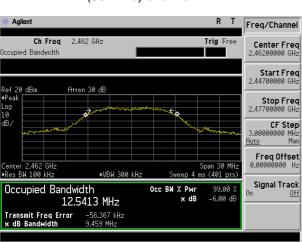


(802.11b) channel 6

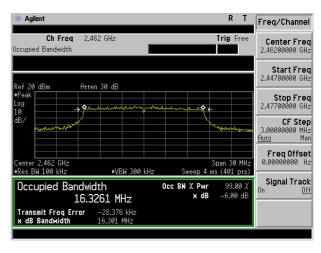
(802.11g) channel 6



(802.11b) channel 11

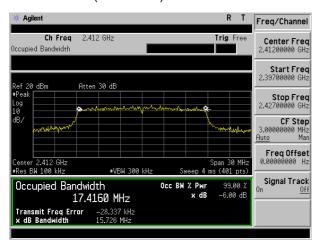


(802.11g) channel 11

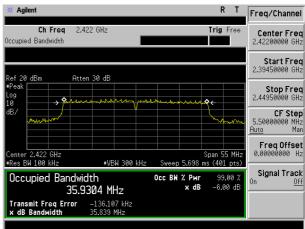




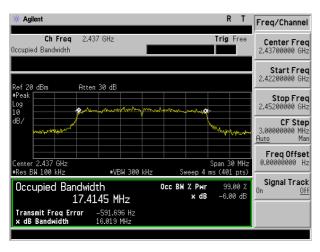
(802.11n20) channel 1



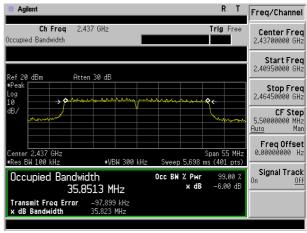
(802.11n40) channel 3



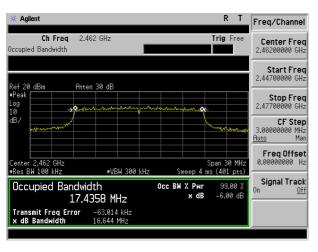
(802.11n20) channel 6



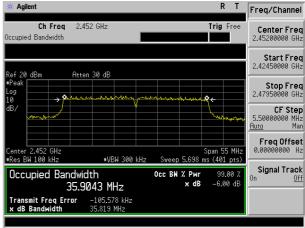
(802.11n40) channel 6



(802.11n20) channel 11



(802.11n40) channel 9





6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

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6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



6.1.5 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 12V

	Frequency (MHz)	Maximum Conducted Output Power(PK)(dBm)		Total Output Power (dBm)	LIMIT dBm
		ANT1	ANT2	(dBIII)	
	2412	16.62	16.45	1	30
802.11b	2437	16.75	16.39	1	30
	2462	16.81	16.57	/	30
802.11g	2412	15.86	15.69	/	30
	2437	15.74	15.82	/	30
	2462	15.63	15.56	/	30
802.11n20	2412	12.36	12.44	15.41	30
	2437	12.45	12.37	15.42	30
	2462	12.59	12.54	15.58	30
802.11n40	2422	11.48	11.38	14.44	30
	2437	11.67	11.53	14.61	30
	2452	11.35	11.41	14.39	30



7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE 7.1 APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

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7.2 TEST PROCEDURE

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- c) Set RBW to 100 kHz and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- e) Repeat above procedures until all measured frequencies were complete.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

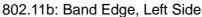
EUT	SPECTRUM
	ANALYZER

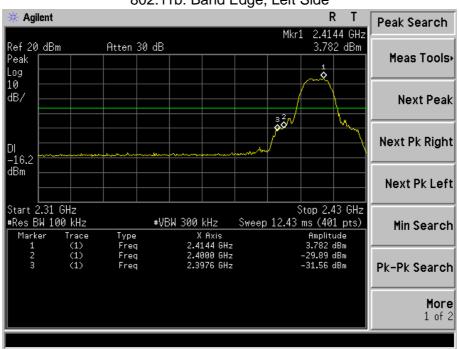
7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing. we test all antenna's data, the data only show the antenna1 worst mode

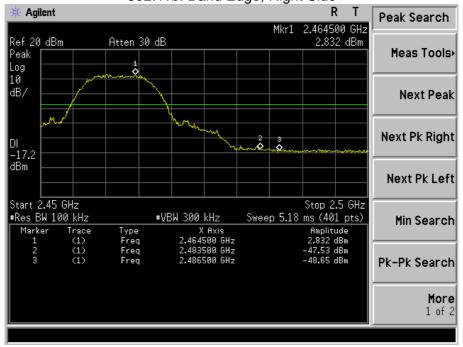
7.1 TEST RESULTS





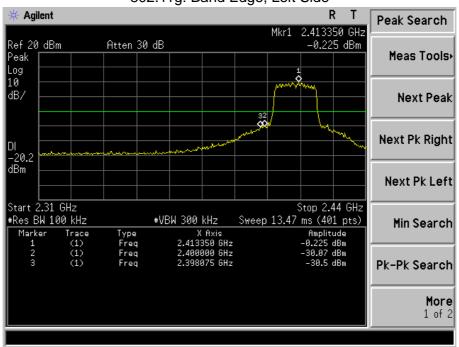




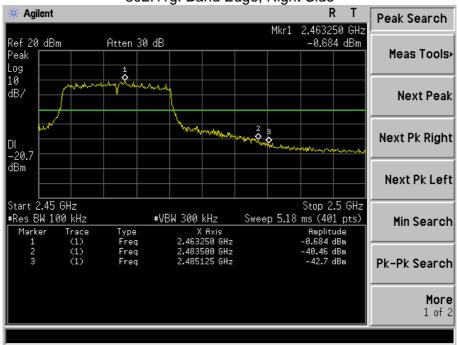




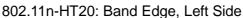


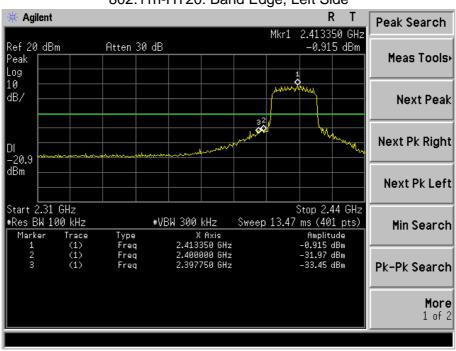




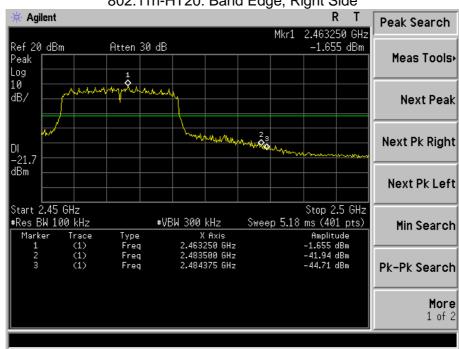




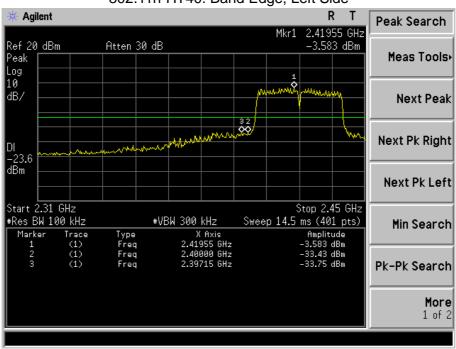


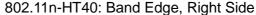


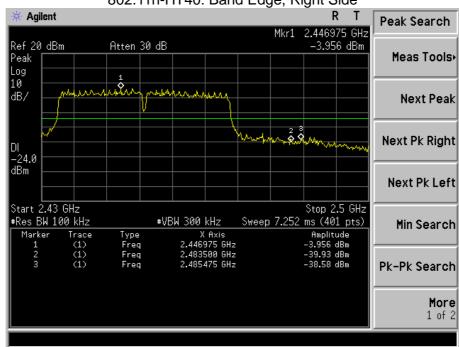














8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

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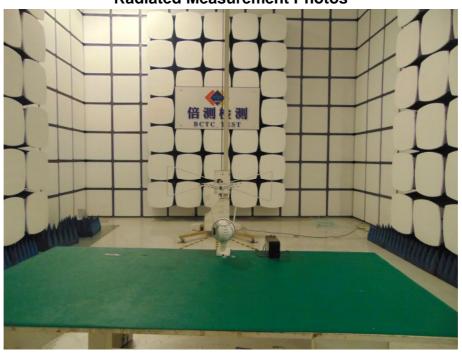
8.2 EUT ANTENNA

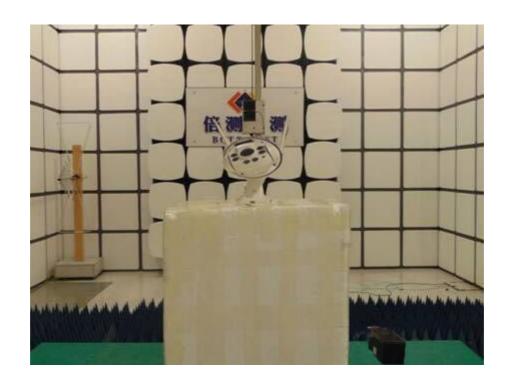
The EUT antenna is external antenna, The anti spiral antenna is used, and the standard antenna will not be connected. It comply with the standard requirement.



9. EUT TEST PHOTO









10. EUT PHOTO





******** END OF REPORT *******