



FCC TEST REPORT

FCC ID: 2AG8WSJ9000

Product Name:	Action Camera
Trademark:	N/A
Model Number:	ECM-SJ9000 ECM-SJ8000,ECM-SJ8000C,ECM-SJ8000A,ECM-SJ9000A,ECM-SJ7000D,ECM-SJ4000W1,ECM-SJ9000B,ECM-SJ360,ECM-SJ5000 PLUS,ECM-SJ100,ECM-CL1000
Prepared For:	Eyerain Technology & Industry Co., Ltd
Address:	3rd Floor, Building 1, NO.12 Zhenye Street,Xianxi Industrial Park,Chang' an Town,Dongguan City, Guangdong Province,China
Prepared By:	Shenzhen BCTC Technology Co., Ltd.
Address:	No.101,Yousong Road,Longhua New District, Shenzhen,China
Report No.:	BCTC-151216656



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**Shenzhen BCTC Technology Co., Ltd.**

Applicant : Eyerein Technology & Industry Co., Ltd

Address : 3rd Floor, Building 1, NO.12 Zhenye Street,Xianxi Industrial Park,Chang' an Town,Dongguan City, Guangdong Province,China

Manufacturer : Eyesun Technology Co., Ltd

Address : 6/F,2-3 Building , 2nd Industry city , Bao'an district, Shenzhen city, Guangdong province ,China

EUT : Action Camera
ECM-SJ9000

Model Number : ECM-SJ8000,ECM-SJ8000C,ECM-SJ8000A,ECM-SJ9000A,ECM-SJ7000 D,ECM-SJ4000W1,ECM-SJ9000B,ECM-SJ360,ECM-SJ5000 PLUS,ECM-SJ100,ECM-CL1000

Trademark: : N/A

Test Date : Dec. 30, 2015 - Jan. 10, 2016

Date of Report : Jan. 11, 2016

Test Result: : The equipment under test was found to be compliance with the requirements of the standards applied.

Test Procedure Used:
FCC Part 15 B: 2014
ANSI C63.4:2014

Prepared by(Engineer):

Reviewer(Supervisor):

Approved & Authorized
Signer(Manager):

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen BCTC Technology Co., Ltd.



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Action Camera
ECM-SJ9000
Model Number : ECM-SJ8000, ECM-SJ8000C, ECM-SJ8000A, ECM-SJ9000A, ECM-SJ7000D, ECM-SJ4000W1, ECM-SJ9000B, ECM-SJ360, ECM-SJ5000 PLUS, ECM-SJ100, ECM-CL1000
Trademark : N/A
Model Difference : The product is different for model number and outlook color.
Battery : DC 3.7V
Model: SJ9000
Adapter : I/P: AC 100-240V 50/60Hz
O/P: DC 5.5V/1A
Work Frequency : 2.4GHz

Note: ECM-SJ9000 was selected as the test model and the datas have been recorded in this report.

1.2. Tested System Details

Personal Computer	: ASUS	Monitor	: SONY
M/N	: A1580TW	M/N	: MNT1
Printer	: EPSON STYLUS	Keyboard (USB)	: Genuine
M/N	: P320A	M/N	: N/A
Modem	: ACEEX	Mouse	: DETROIS
M/N	: DM-1414	M/N	: CM309

1.3. Test Uncertainty

Conducted Emission : $\pm 2.66\text{dB}$
Uncertainty

Radiated Emission Uncertainty : $\pm 4.26\text{dB}$

1.4. Description Of Test Modes

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 above was evaluated respectively.

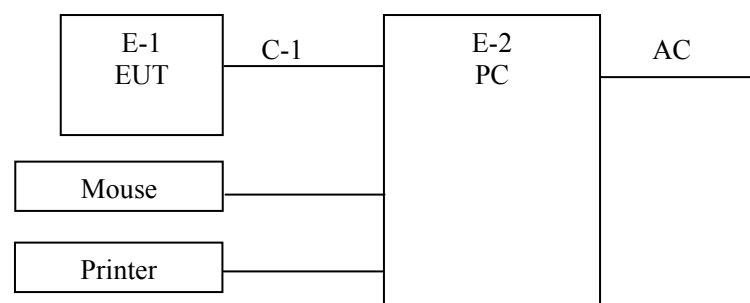
Pretest Mode	Description
Mode 1	Recording Mode
Mode 2	Playing Mode
Mode 3	Data Transmitting Mode

For Conducted Emission	
Final Test Mode	Description
Mode 3	Data Transmitting Mode

For Radiated Emission	
Final Test Mode	Description
Mode 3	Data Transmitting Mode

1.5. Block Diagram Showing The Configuration Of System Tested

Emission Test





1.6. Test Facility

Site Description

Name of Firm : Shenzhen BCTC Technology Co., Ltd.

Site Location : No.101, Yousong Road, Longhua New District,
Shenzhen, China

Lab Qualifications : Certificated by Industry Canada
Registration No.: 12655A
Date of registration: January 19, 2015

Certificated by FCC, USA
Registration No.: 187086
Date of registration: November 28, 2014

Certificated by CNAS China
Registration No.: CNAS L6046
Date of registration: February 3, 2013



2. TEST INSTRUMENT USED

For Conducted Emission at the mains terminals Test

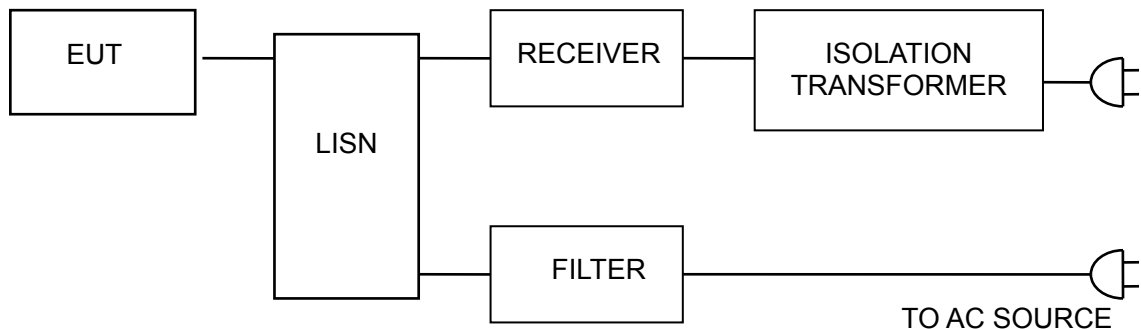
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Aug. 25, 2015	Aug. 24, 2016
EMI Receiver	R&S	ESCI	101421	Aug. 27, 2015	Aug. 26, 2016
LISN	Schwarzbeck	NSLK8127	8127739	Sep. 07, 2015	Sep. 06, 2016
Attenuator	R&S	ESH3-Z2	BCTC021E	Aug. 25, 2015	Aug. 24, 2016
843 Cable 1#	FUJIKURA	843C1#	001	Aug. 25, 2015	Aug. 24, 2016

For Radiated Emission Test

Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	E4407B	MY45108040	2015.07.06	2016.07.05
Test Receiver	R&S	ESPI	101318	2015.07.06	2016.07.05
Bilog Antenna	R&S	VULB 9168	VULB91 68-438	2015.07.06	2016.07.05
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.07.06	2016.07.05
Spectrum Analyzer	ADVANTEST	R3132	150900201	2015.07.06	2016.07.05
Horn Antenna	R&S	HF906	10027	2015.07.06	2016.07.05
Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2015.07.06	2016.07.05
Amplifier	R&S	BBV9743	9743-019	2015.12.22	2016.12.21
Loop Antenna	ARA	PLA-1030/B	1029	2015.07.06	2016.07.05
RF cables	R&S	R203	R20X	2015.07.06	2016.07.05
Antenna connector	Florida RFLabs	Lab-Fle	RF 01#	2015.07.06	2016.07.05
Power Metter	ANRITSU	ML2487A	6K00001568	2015.07.06	2016.07.05
Power Sensor (AV)	ANRITSU	ML2491A	030989	2015.07.06	2016.07.05
Signal Analyzer	Agilent	N9010A	MY48030494	2015.07.06	2016.07.05

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.



3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

The frequency range from 150 KHz to 30 MHz is investigated.

3.7. Test Result

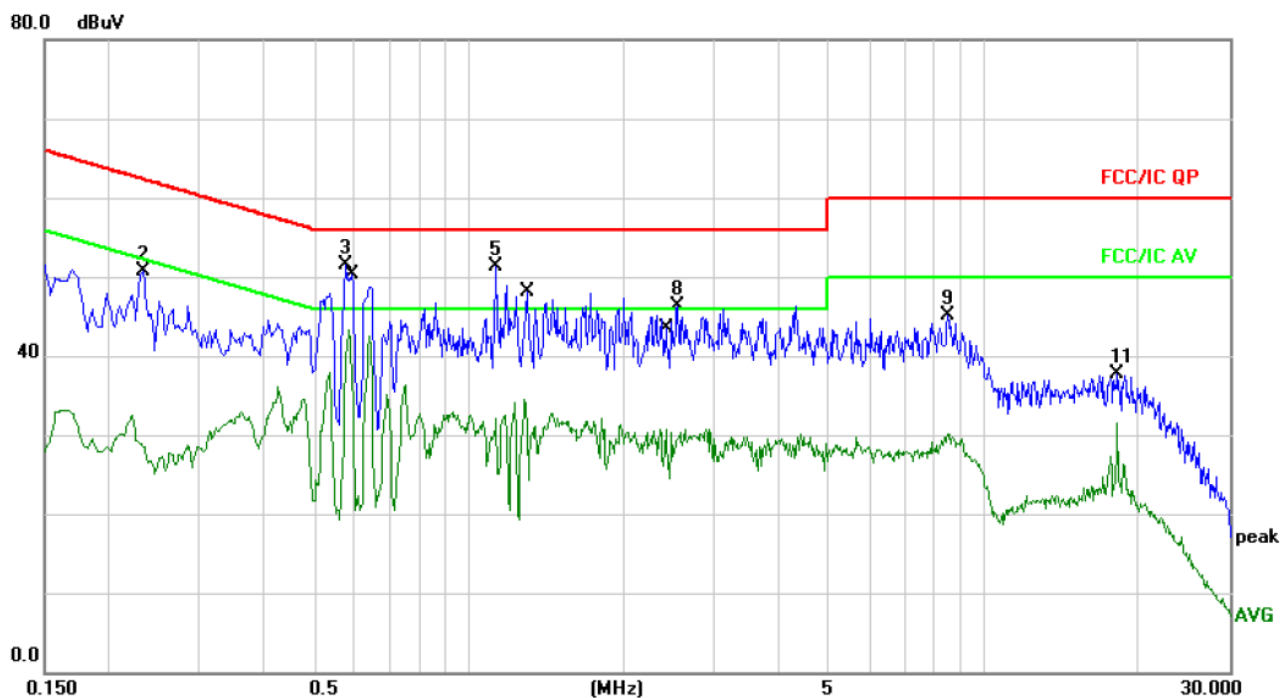
PASS

Please refer to the following page.



Conducted Emission At The Mains Terminals Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode

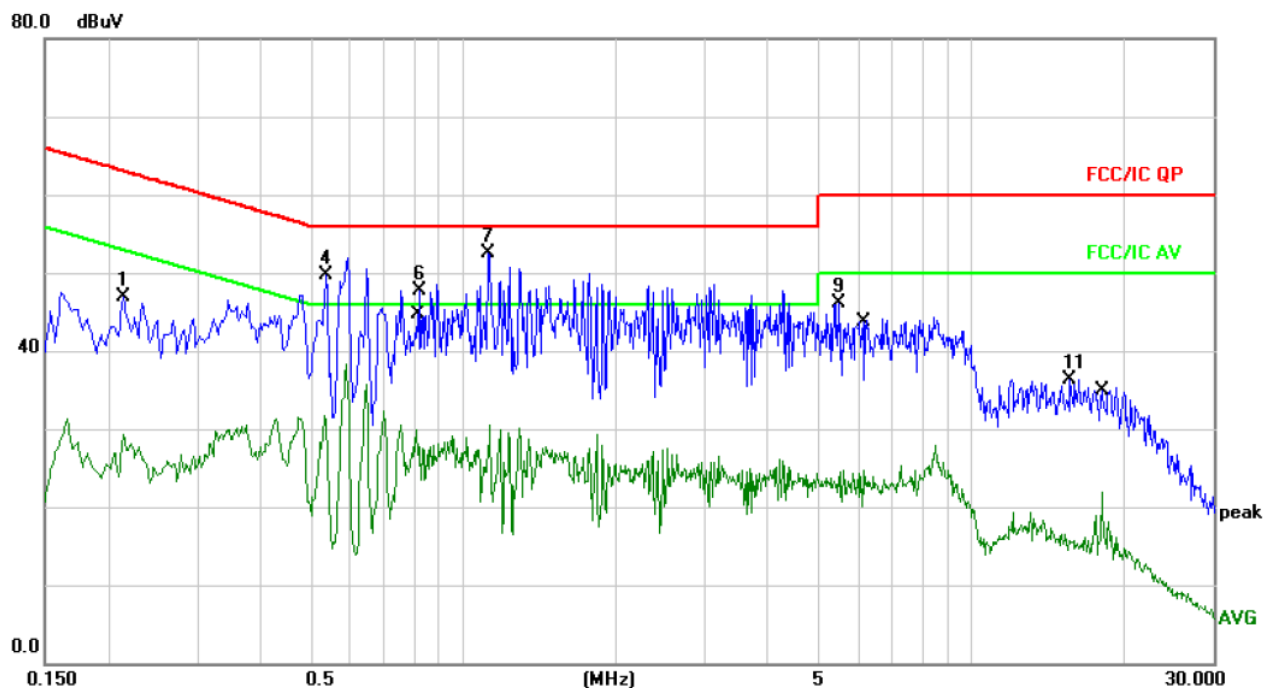


No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.2316	18.75	10.07	28.82	52.39	-23.57	AVG	
2	0.2340	40.56	10.07	50.63	62.30	-11.67	peak	
3	0.5780	41.34	10.12	51.46	56.00	-4.54	peak	
4 *	0.5860	33.16	10.12	43.28	46.00	-2.72	AVG	
5	1.1300	41.21	10.17	51.38	56.00	-4.62	peak	
6	1.2860	24.32	10.17	34.49	46.00	-11.51	AVG	
7	2.4180	20.61	10.18	30.79	46.00	-15.21	AVG	
8	2.5420	36.19	10.19	46.38	56.00	-9.62	peak	
9	8.5060	34.99	10.11	45.10	60.00	-14.90	peak	
10	8.5500	20.05	10.11	30.16	50.00	-19.84	AVG	
11	18.1740	27.50	10.16	37.66	60.00	-22.34	peak	
12	18.1740	21.27	10.16	31.43	50.00	-18.57	AVG	



Conducted Emission At The Mains Terminals Test Data

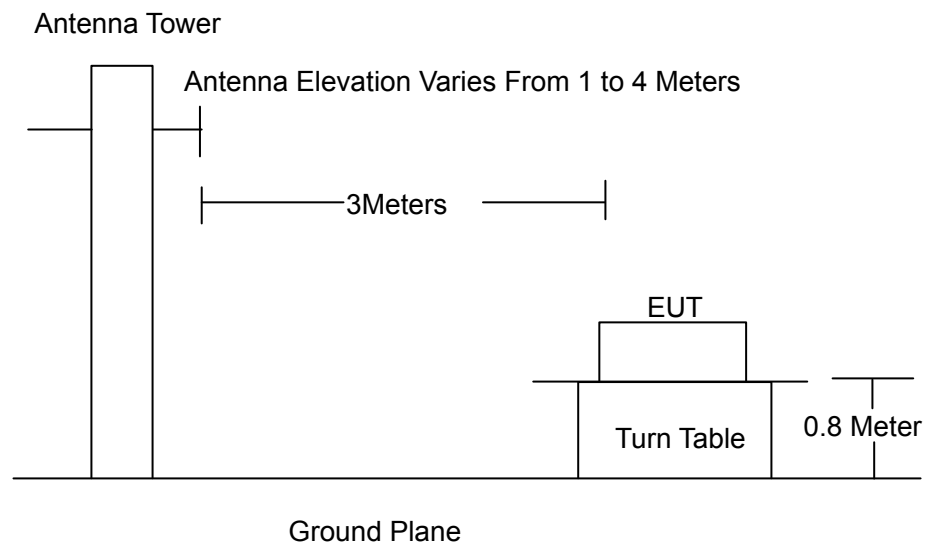
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2140	36.93	10.07	47.00	63.04	-16.04	peak	
2		0.2140	19.31	10.07	29.38	53.04	-23.66	AVG	
3		0.5340	21.49	10.12	31.61	46.00	-14.39	AVG	
4		0.5380	39.52	10.12	49.64	56.00	-6.36	peak	
5		0.8100	19.83	10.15	29.98	46.00	-16.02	AVG	
6		0.8220	37.56	10.15	47.71	56.00	-8.29	peak	
7	*	1.1220	42.33	10.17	52.50	56.00	-3.50	peak	
8		1.1300	20.36	10.17	30.53	46.00	-15.47	AVG	
9		5.4899	35.89	10.12	46.01	60.00	-13.99	peak	
10		6.1420	14.69	10.09	24.78	50.00	-25.22	AVG	
11		15.6620	26.23	10.15	36.38	60.00	-23.62	peak	
12		18.1299	11.76	10.16	21.92	50.00	-28.08	AVG	

4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 15 B

4.3. Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.



4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz

The frequency range from 30MHz to 1000MHz is checked.

The highest frequency of the internal sources of the EUT was 2.4GHz, so the measurement was only made up to 12 GHz

4.7. Test Result

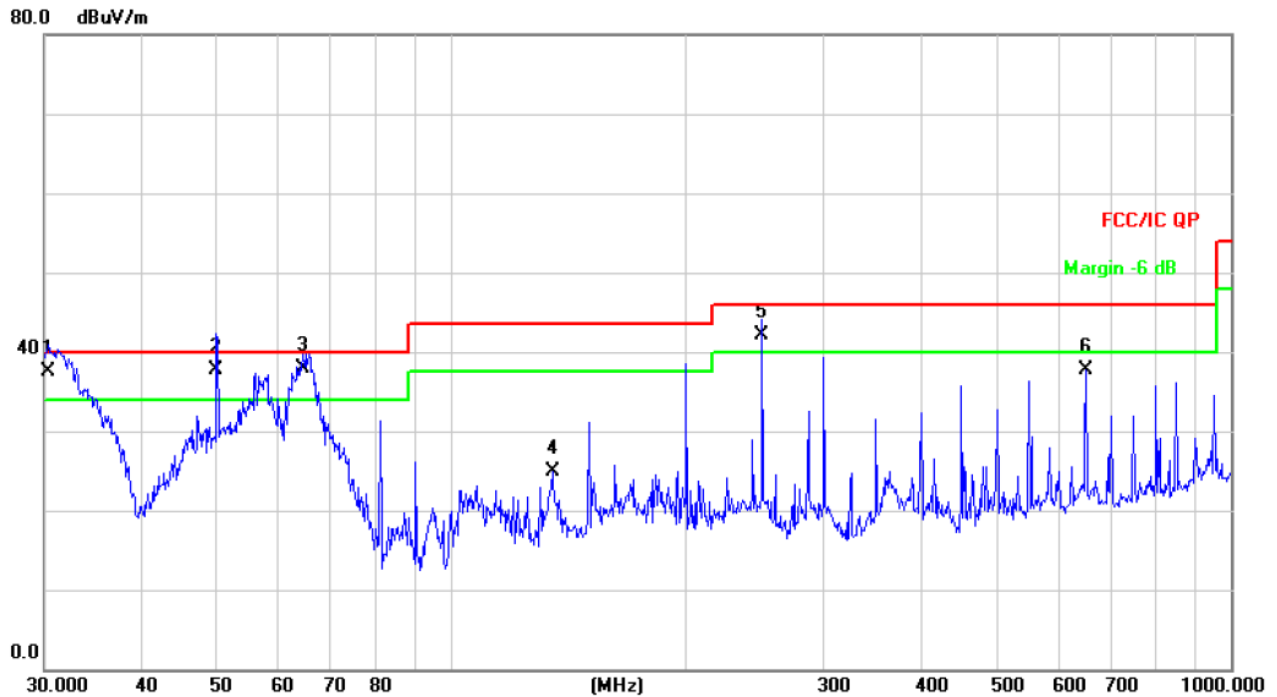
PASS

Please refer to the following page.



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode

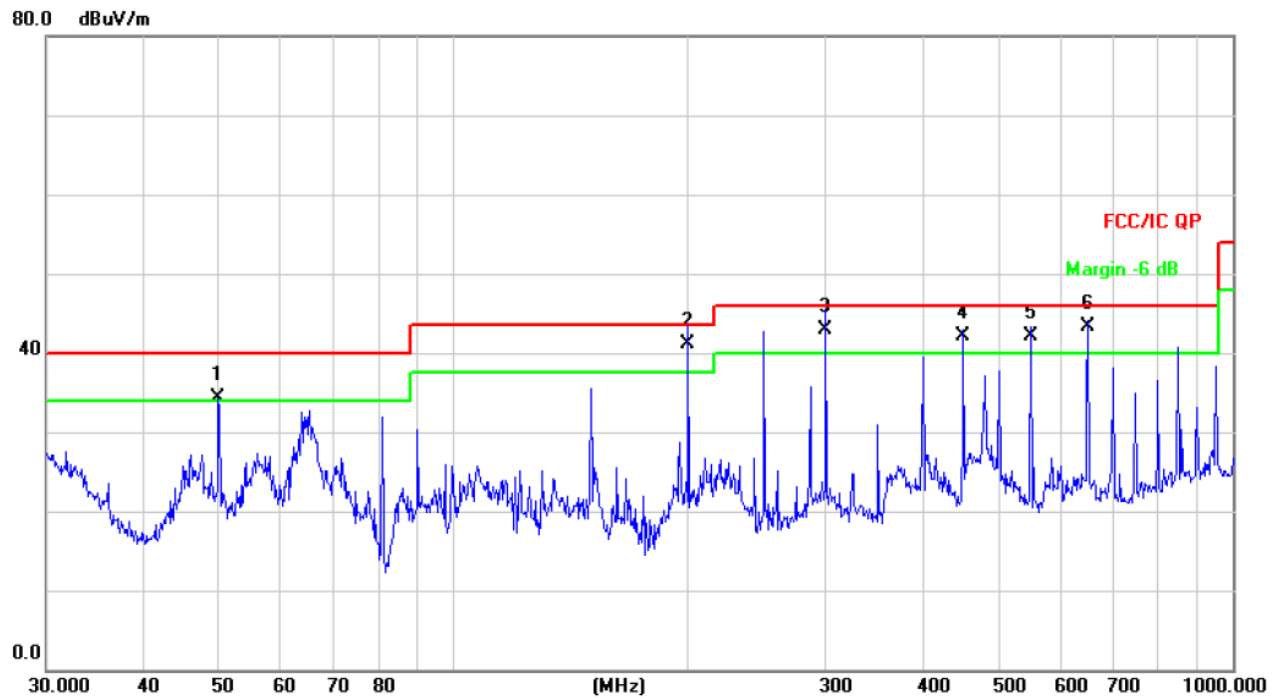


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	!	30.3173	45.65	-8.06	37.59	40.00	-2.41	QP		
2	!	49.8814	47.96	-10.27	37.69	40.00	-2.31	QP		
3	*	64.4331	50.34	-12.40	37.94	40.00	-2.06	QP		
4		134.5592	38.69	-13.78	24.91	43.50	-18.59	QP		
5	!	250.3012	56.25	-14.19	42.06	46.00	-3.94	QP		
6		651.9417	42.77	-5.06	37.71	46.00	-8.29	QP		



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode



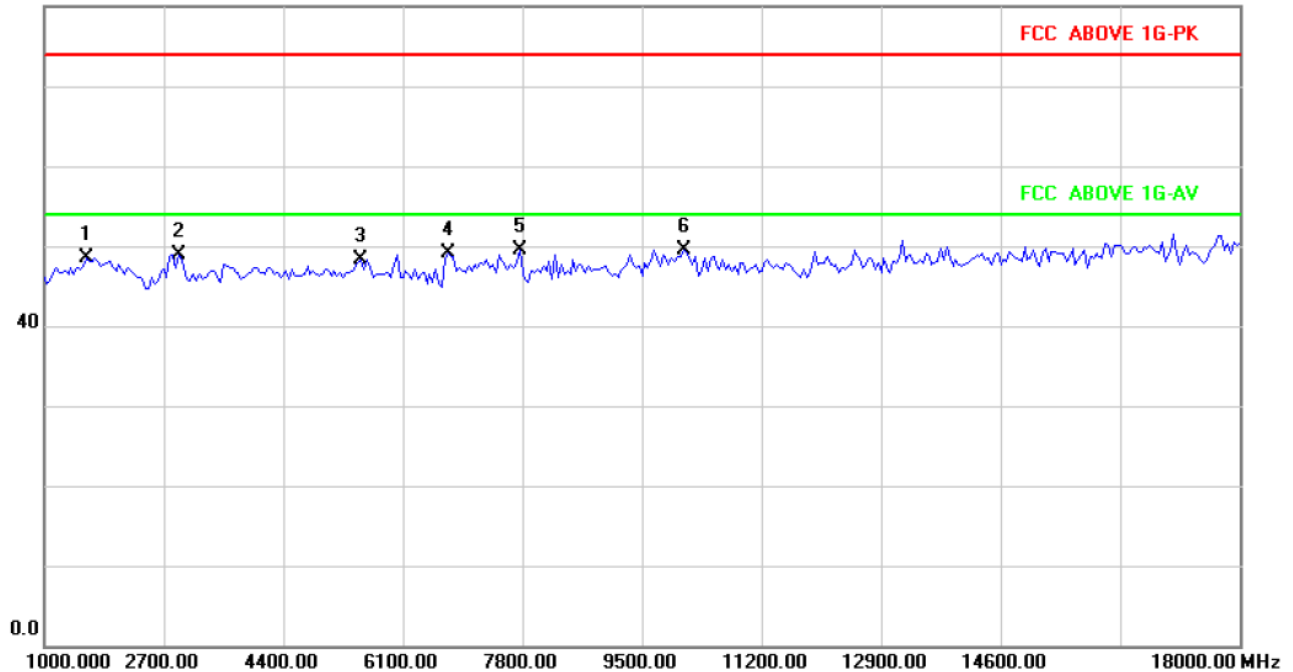
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	!	49.8813	44.58	-10.27	34.31	40.00	-5.69	QP		
2	*	199.9856	57.36	-16.20	41.16	43.50	-2.34	QP		
3	!	300.3672	55.44	-12.57	42.87	46.00	-3.13	QP		
4	!	451.1349	51.18	-9.00	42.18	46.00	-3.82	QP		
5	!	550.9479	49.26	-7.09	42.17	46.00	-3.83	QP		
6	!	651.9416	48.41	-5.06	43.35	46.00	-2.65	QP		



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode

80.0 dBuV/m



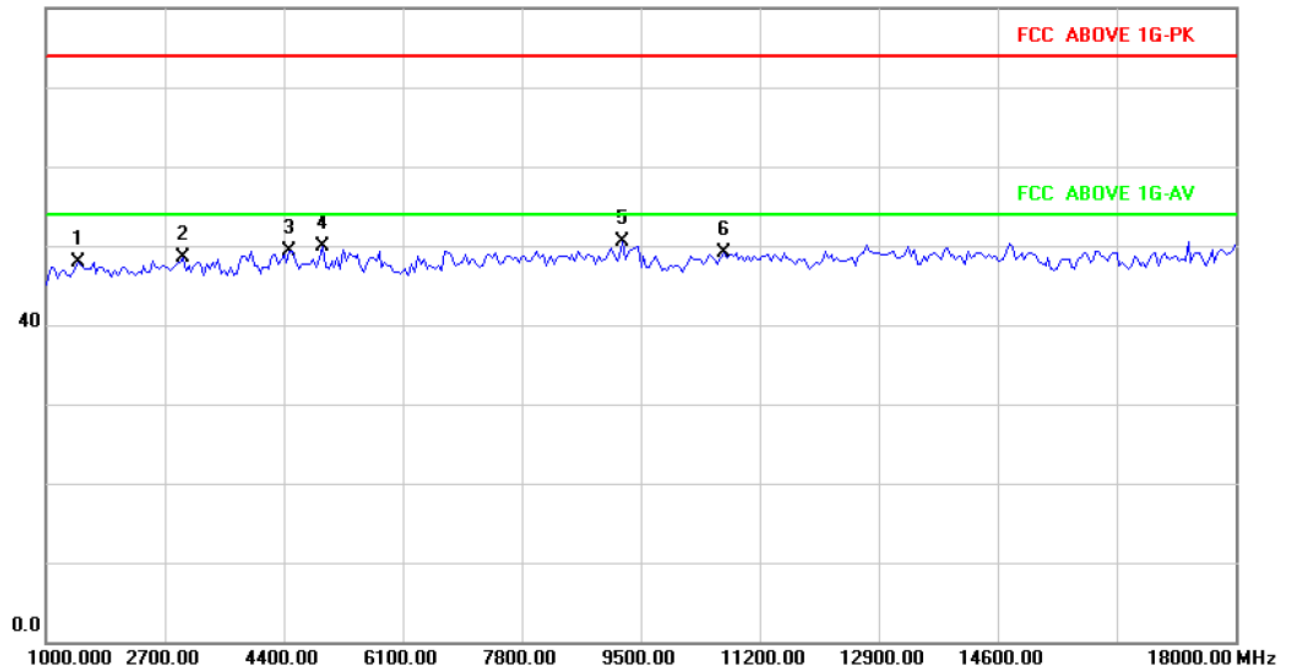
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1595.000	35.90	12.69	48.59	74.00	-25.41	peak		
2		2912.500	34.02	14.93	48.95	74.00	-25.05	peak		
3		5505.000	28.21	20.18	48.39	74.00	-25.61	peak		
4		6737.500	30.95	18.06	49.01	74.00	-24.99	peak		
5	*	7757.500	32.26	17.34	49.60	74.00	-24.40	peak		
6		10095.000	31.01	18.44	49.45	74.00	-24.55	peak		



Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Data Transmitting Mode

80.0 dBuV/m



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		1467.500	35.40	12.59	47.99	74.00	-26.01	peak		
2		2955.000	33.44	15.00	48.44	74.00	-25.56	peak		
3		4485.000	30.29	18.97	49.26	74.00	-24.74	peak		
4		4952.500	30.46	19.51	49.97	74.00	-24.03	peak		
5	*	9245.000	33.65	16.78	50.43	74.00	-23.57	peak		
6		10690.000	31.44	17.70	49.14	74.00	-24.86	peak		

5. EUT PHOTOGRAPHS

EUT Photo 1

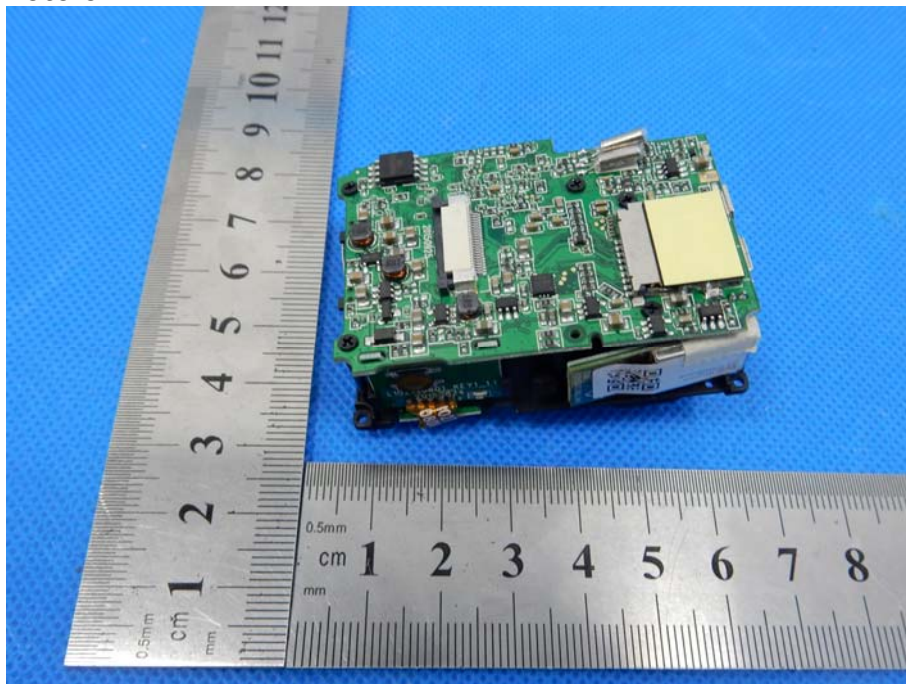


EUT Photo 2



EUT Photo 3**EUT Photo 4**

EUT Photo 5

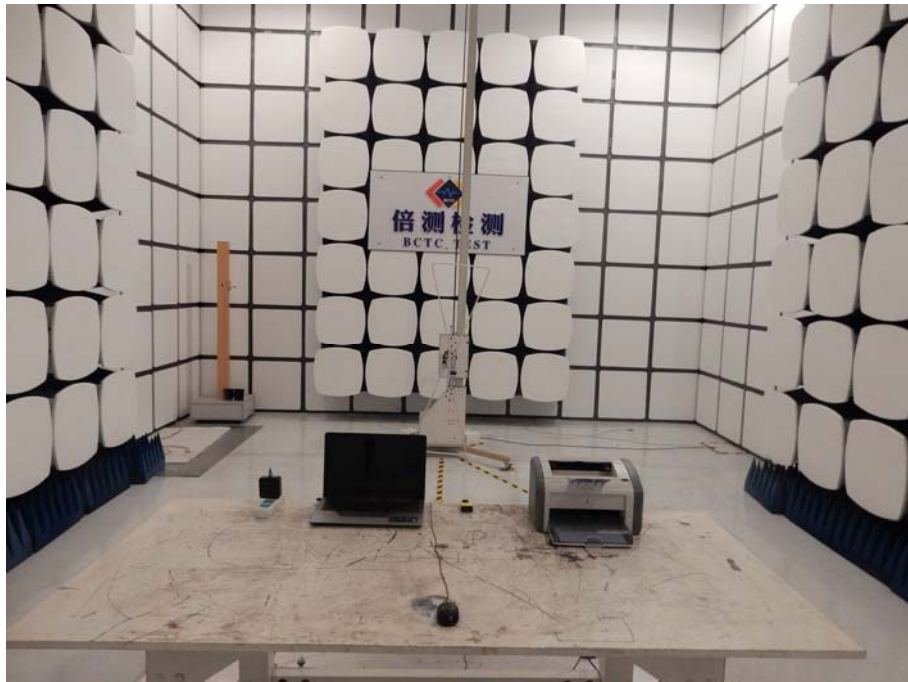


6. EUT TEST PHOTOGRAPHS

CE



RE



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