

FCC TEST REPORT
On Behalf of
PROVISION-ISR LIMITED

IP Camera

Model No.: FX-701

Additional model: PT-737, F-717, WP-717, R-737, B-737

Prepared for : PROVISION-ISR LIMITED
Address : Room 403, F/4, Fu Fai Commercial Centre Building, 27 Hillier Street, Sheung Wan, Hong-Kong

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : May 11, 2015
Number of tested samples : 1
Serial number : Prototype
Date of Test : May 11, 2015 – May 14, 2015
Date of Report : May 14, 2015

FCC TEST REPORT

FCC CFR 47 PART 15 Subpart B: 2014

Report Reference No. : **LCS1505130789F**

Date Of Issue : May 14, 2015

Testing Laboratory Name : **Shenzhen LCS Compliance Testing Laboratory Ltd.**

Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure : Full application of Harmonised standards
 Partial application of Harmonised standards
 Other standard testing method

Applicant's Name : **PROVISION-ISR LIMITED**

Address : Room 403, F/4, Fu Fai Commercial Centre Building, 27 Hillier Street, Sheung Wan, Hong-Kong

Test Specification

Standard : FCC CFR 47 PART 15 Subpart B: 2014, ANSI C63.4-2014

Test Report Form No. : LCSEMC-1.0

TRF Originator : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

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Test Item Description : **IP Camera**

Trade Mark : 

Model/ Type Reference : FX-701

Ratings : DC 5V, 400mA, 3W
 : Adapter parameters: Input: AC 100~240V, 50/60Hz,
 Output: DC 5V, 2000mA

Result : **Positive**

Compiled by:

Supervised by:

Approved by:

Ada Liang

Danny Huang

Gavin Liang

Ada Liang/ File administrators

Danny Huang/ Technique principal

Gavin Liang/ Manager

FCC -- TEST REPORT**Test Report No. : LCS1505130789F**

May 14, 2015

Date of issue

Type / Model..... : FX-701

EUT..... : IP Camera

Applicant..... : PROVISION-ISR LIMITED

Address..... : Room 403, F/4, Fu Fai Commercial Centre Building, 27 Hillier Street, Sheung Wan, Hong-Kong

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Manufacturer..... : PROVISION-ISR LIMITED

Address..... : Room 403, F/4, Fu Fai Commercial Centre Building, 27 Hillier Street, Sheung Wan, Hong-Kong

Telephone..... : /

Fax..... : /

Factory..... : PROVISION-ISR LIMITED

Address..... : Room 403, F/4, Fu Fai Commercial Centre Building, 27 Hillier Street, Sheung Wan, Hong-Kong

Telephone..... : /

Fax..... : /

Test Result according to the standards on page 5: **Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS
Radiated disturbance	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS

N/A is an abbreviation for Not Applicable.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	: IP Camera
Model Number	: FX-701
Power Supply	: DC 5V, 400mA, 3W Adapter parameters: Input: AC 100~240V, 50/60Hz, Output: DC 5V, 2000mA

2.2. Description of Test Facility

Site Description EMC Lab.	: CNAS Registration Number. is L4595. FCC Registration Number. is 899208. Industry Canada Registration Number. is 9642A-1. VCCI Registration Number. is C-4260 and R-3804. ESMD Registration Number. is ARCB0108. UL Registration Number. is 100571-492. TUV SUD Registration Number. is SCN1081. TUV RH Registration Number. is UA 50296516-001
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2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4.Measurement Uncertainty

Test Item	Frequency Range	Expanded uncertainty (U _{lab})	Expanded uncertainty (U _{cispr})
Conducted Emission	(9kHz to 150kHz)	2.63 dB	4.0 dB
	(150kHz to 30MHz)	2.35 dB	3.6 dB
Power disturbance	(30MHz to 300MHz)	2.90dB	4.5 dB
Electromagnetic Radiated Emission (3-loop)	(9kHz to 30MHz)	3.60 dB	N/A
Radiated Emission	(9kHz to 30MHz)	3.68 dB	N/A
Radiated Emission	(30MHz to 1000MHz)	3.48 dB	5.2 dB
Radiated Emission	(above 1000MHz)	3.90 dB	N/A
Mains Harmonic	Voltage	0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	0.510%	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

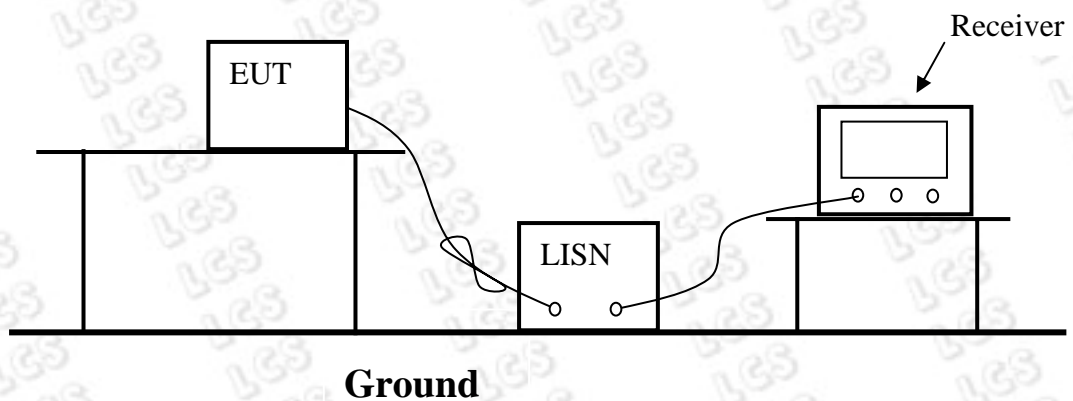
3. POWER LINE CONDUCTED MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	101142	2014/06/18
2	10dB Attenuator	SCHWARZBECK	OSPAM236	9729	2014/06/18
3	Artificial Mains	ROHDE & SCHWARZ	ENV216	101288	2014/06/18

3.2. Block Diagram of Test Setup



3.3. Power Line Conducted Emission Measurement Limits (Class B)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
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. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations 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 simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipment.

3.5.3. Let the EUT work in test mode (ON) and measure it.

3.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9kHz.

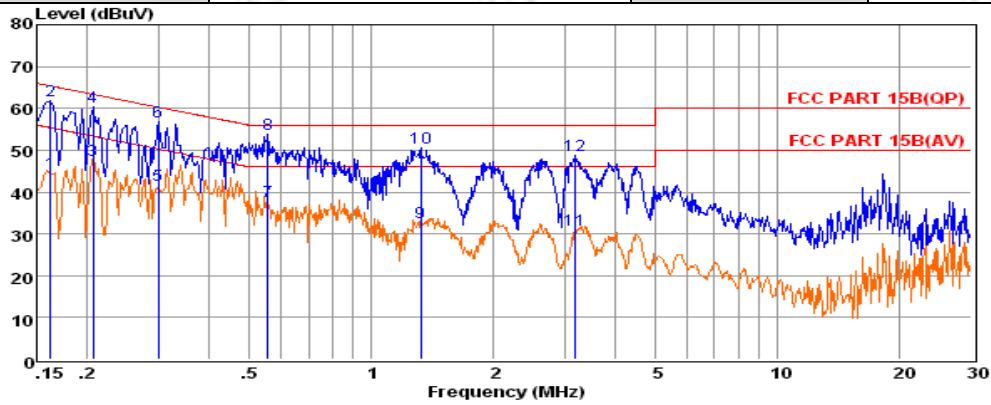
The frequency range from 150kHz to 30MHz is checked.

3.7. Power Line Conducted Emission Measurement Results

PASS.

All the scanning waveforms for Conducted Emission Measurement are refer to the next page.

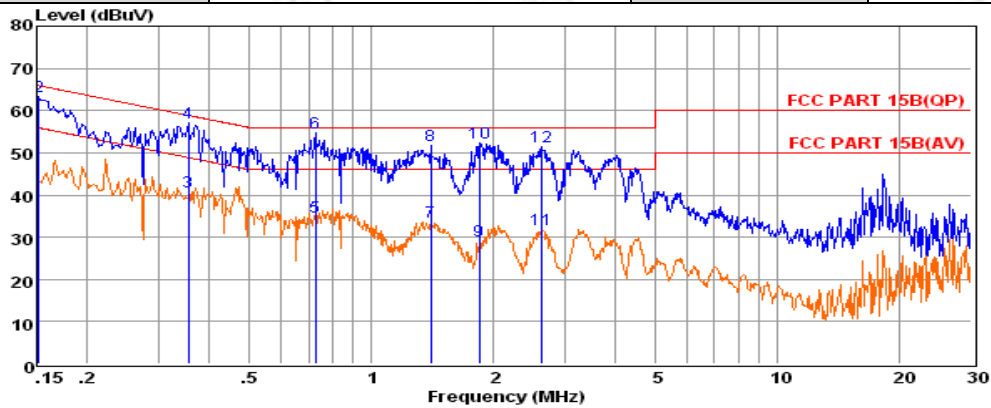
Model No.	FX-701	Test Mode	ON
Environmental Conditions	24°C, 56% RH	Test Engineer	Jacky
Pol	Line		



	Freq	Reading	LisnFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.16	35.00	9.59	0.02	44.61	55.34	-10.73	Average
2	0.16	52.22	9.59	0.02	61.83	65.34	-3.51	QP
3	0.21	37.99	9.63	0.03	47.65	53.36	-5.71	Average
4	0.21	50.81	9.63	0.03	60.47	63.36	-2.89	QP
5	0.30	32.00	9.63	0.03	41.66	50.28	-8.62	Average
6	0.30	47.08	9.63	0.03	56.74	60.28	-3.54	QP
7	0.56	28.00	9.63	0.04	37.67	46.00	-8.33	Average
8	0.56	44.22	9.63	0.04	53.89	56.00	-2.11	QP
9	1.32	23.00	9.63	0.05	32.68	46.00	-13.32	Average
10	1.32	40.85	9.63	0.05	50.53	56.00	-5.47	QP
11	3.17	21.29	9.65	0.06	31.00	46.00	-15.00	Average
12	3.17	38.96	9.65	0.06	48.67	56.00	-7.33	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss.
 2. The emission levels that are 20dB below the official limit are not reported.

Model No.	FX-701	Test Mode	ON
Environmental Conditions	24°C, 56% RH	Test Engineer	Jacky
Pol	Neutral		



	Freq	Reading	LisnFac	CabLos	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.15	35.44	9.70	0.02	45.16	55.91	-10.75	Average
2	0.15	53.66	9.70	0.02	63.38	65.91	-2.53	QP
3	0.35	30.99	9.61	0.03	40.63	48.87	-8.24	Average
4	0.35	47.47	9.61	0.03	57.11	58.87	-1.76	QP
5	0.73	25.00	9.63	0.04	34.67	46.00	-11.33	Average
6	0.73	45.01	9.63	0.04	54.68	56.00	-1.32	QP
7	1.40	24.00	9.63	0.05	33.68	46.00	-12.32	Average
8	1.40	42.00	9.63	0.05	51.68	56.00	-4.32	QP
9	1.85	19.40	9.63	0.05	29.08	46.00	-16.92	Average
10	1.85	42.58	9.63	0.05	52.26	56.00	-3.74	QP
11	2.62	22.27	9.64	0.05	31.96	46.00	-14.04	Average
12	2.62	41.62	9.64	0.05	51.31	56.00	-4.69	QP

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss.
 2. The emission levels that are 20dB below the official limit are not reported.

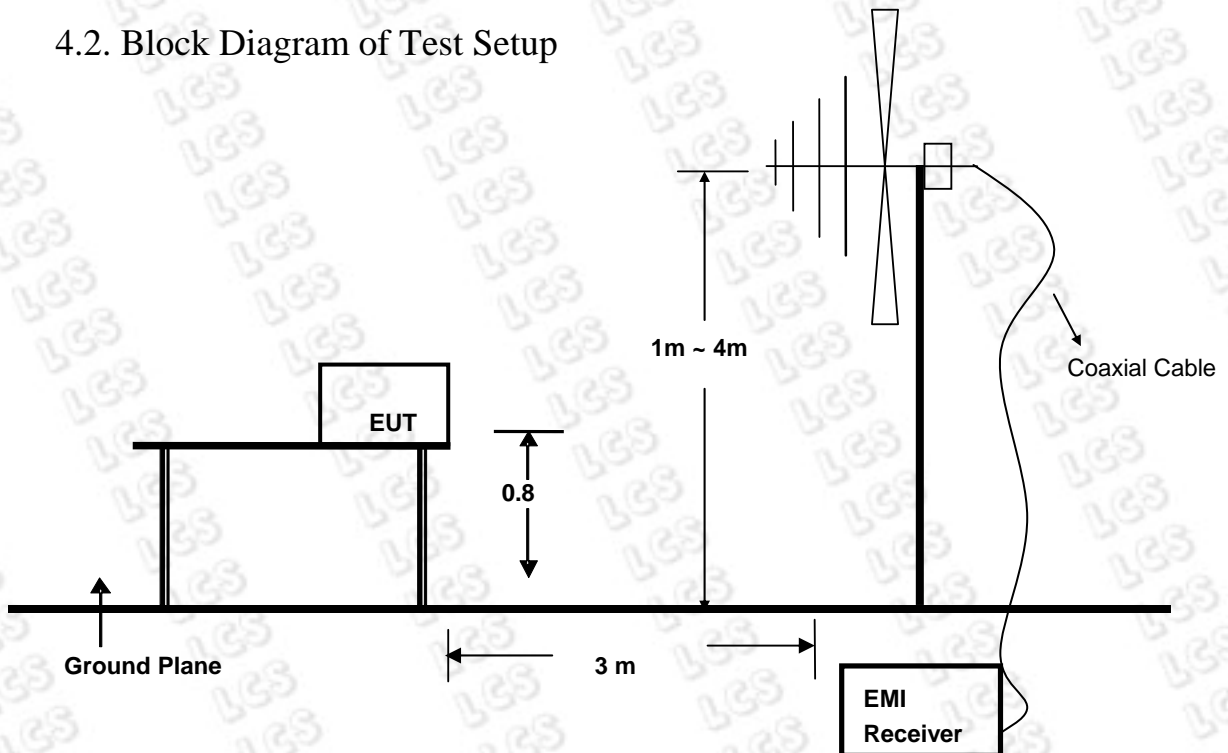
4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2015/02/04
2	EMI Test Receiver	ROHDE & SCHWARZ	ESPI	101840	2014/06/18
3	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2014/06/18
4	EMI Test Software	AUDIX	E3	N/A	2014/06/18
5	Positioning Controller	MF	MF-7082	/	2014/06/18

4.2. Block Diagram of Test Setup



4.3. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54

Remark : (1) Emission level $(\text{dB})\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$
 (2) The smaller limit shall apply at the cross point between two frequency bands.
 (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2.

4.5.2. Let the EUT work in test mode (on) and measure it.

4.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.

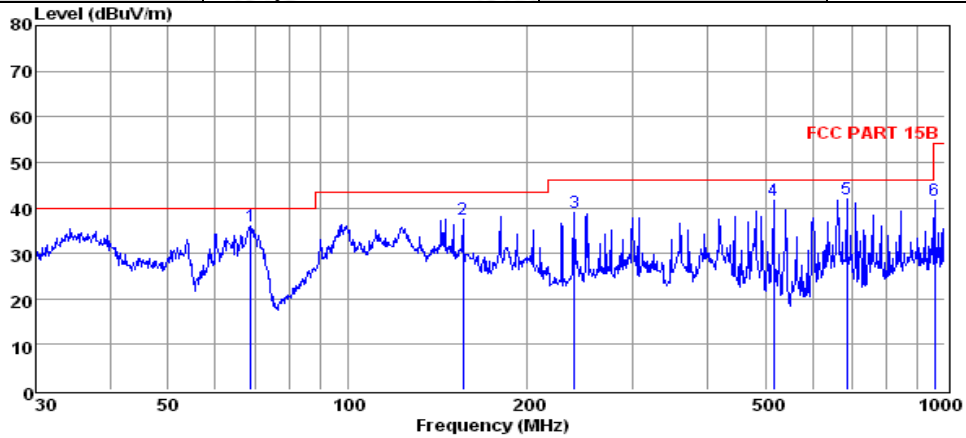
The frequency range from 30MHz to 1000MHz is checked.

4.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

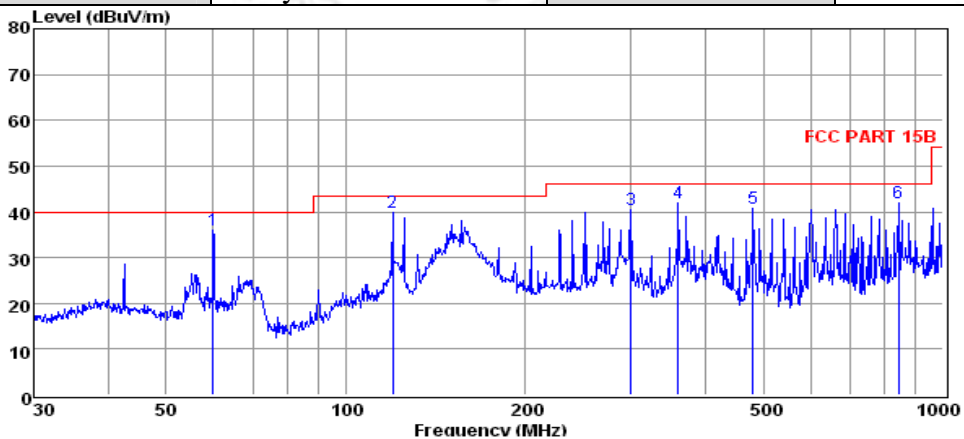
Model No.	FX-701	Test Mode	ON
Environmental Conditions	24°C, 56% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Jacky		



	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Linit dBuV/m	Over dB	Remark
1	68.87	26.35	0.51	9.11	35.97	40.00	-4.03	QP
2	155.91	28.30	0.76	8.50	37.56	43.50	-5.94	QP
3	239.99	25.89	1.01	12.09	38.99	46.00	-7.01	QP
4	517.25	23.18	1.42	16.90	41.50	46.00	-4.50	QP
5	684.75	21.58	1.60	18.76	41.94	46.00	-4.06	QP
6	962.16	18.12	2.01	21.49	41.62	54.00	-12.38	QP

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that ate 20db blow the official limit are not reported

Model No.	FX-701	Test Mode	ON
Environmental Conditions	24°C, 56% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Jacky		

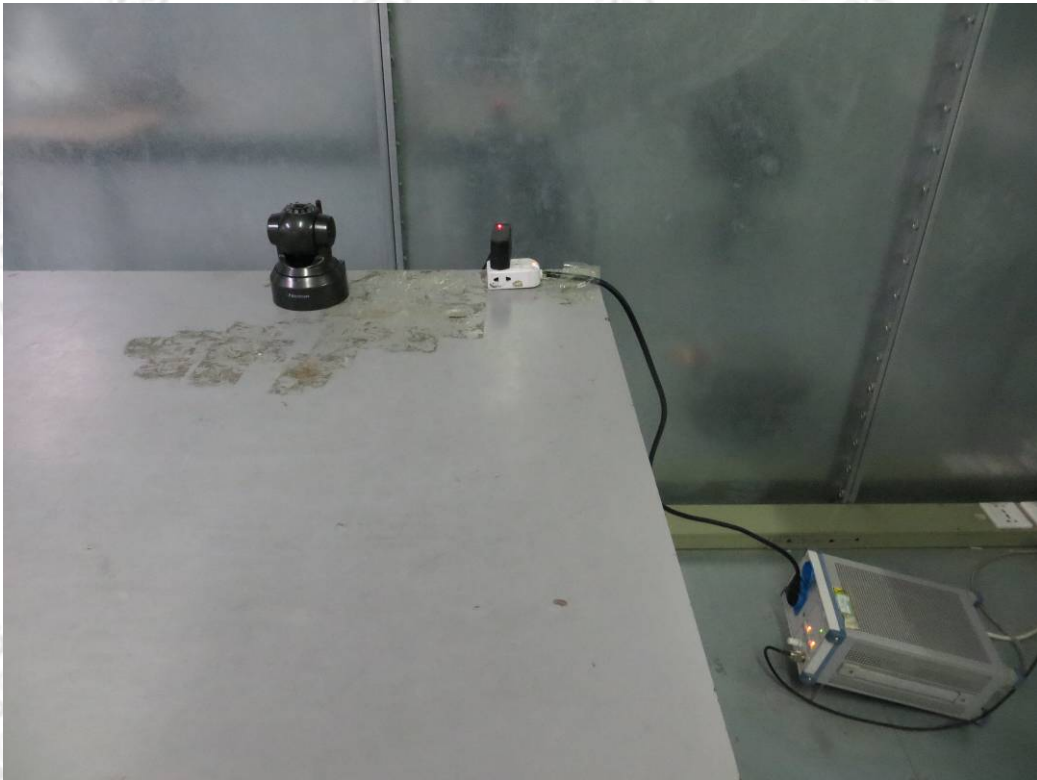


	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Linit dBuV/m	Over dB	Remark
1	59.86	22.71	0.49	12.70	35.90	40.00	-4.10	QP
2	119.86	28.75	0.64	10.51	39.90	43.50	-3.60	QP
3	300.37	26.39	1.13	13.06	40.58	46.00	-5.42	QP
4	360.45	26.36	1.18	14.43	41.97	46.00	-4.03	QP
5	480.53	23.42	1.31	16.08	40.81	46.00	-5.19	QP
6	842.13	19.57	1.88	20.49	41.94	46.00	-4.06	QP

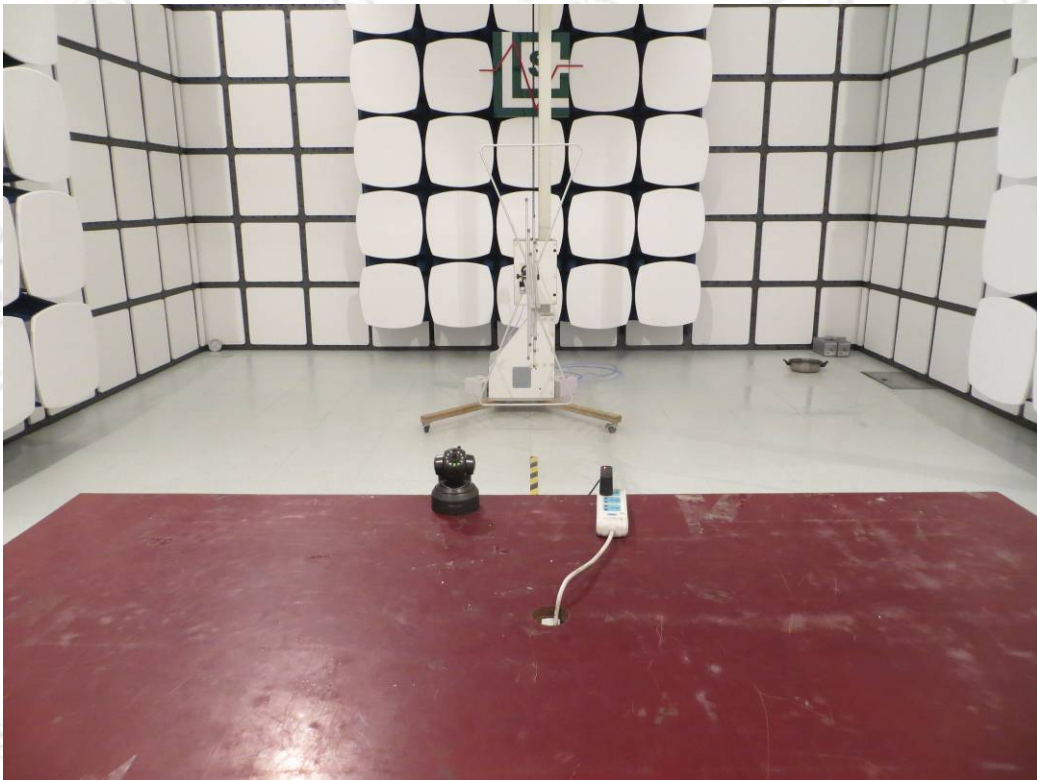
Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that ate 20db blow the official limit are not reported

5. PHOTOGRAPH

5.1. Photo of Power Line Conducted Measurement



5.2. Photo of Radiated Measurement



6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig.7

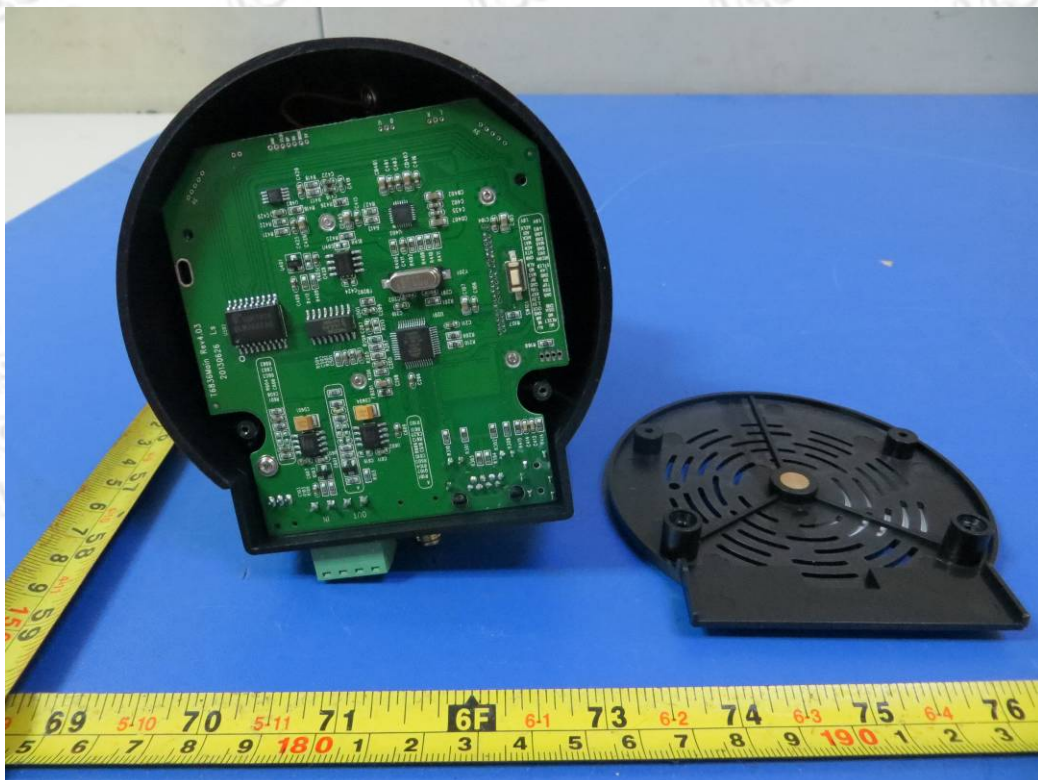


Fig. 8

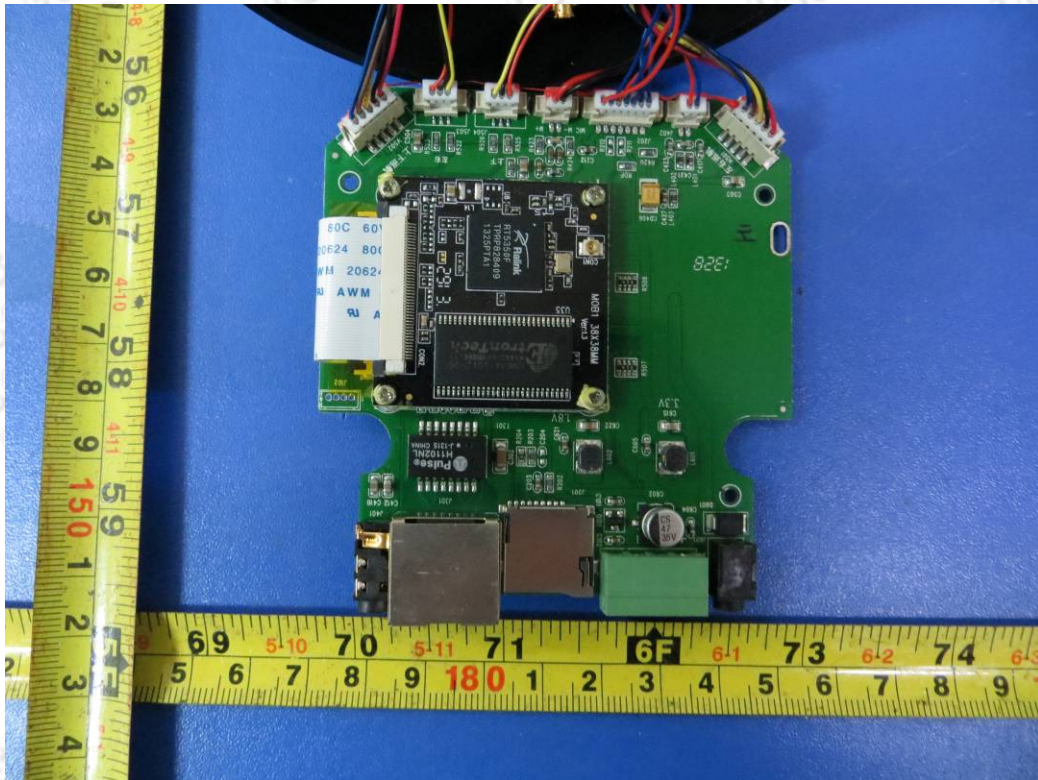


Fig.9

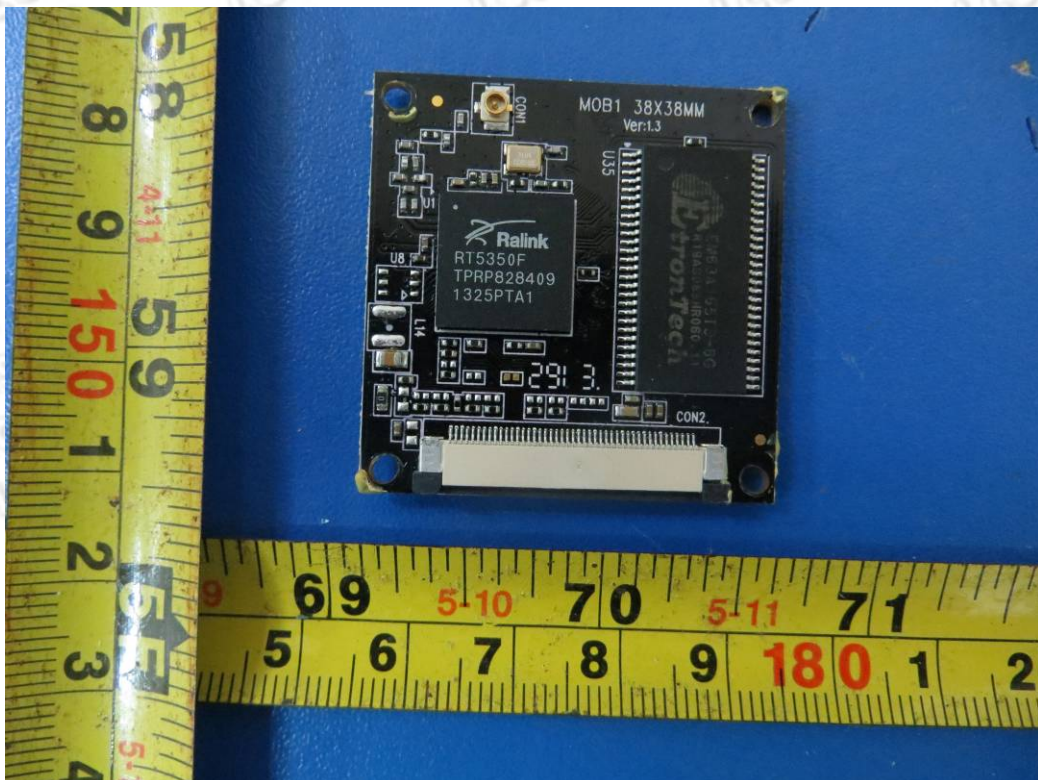


Fig. 10

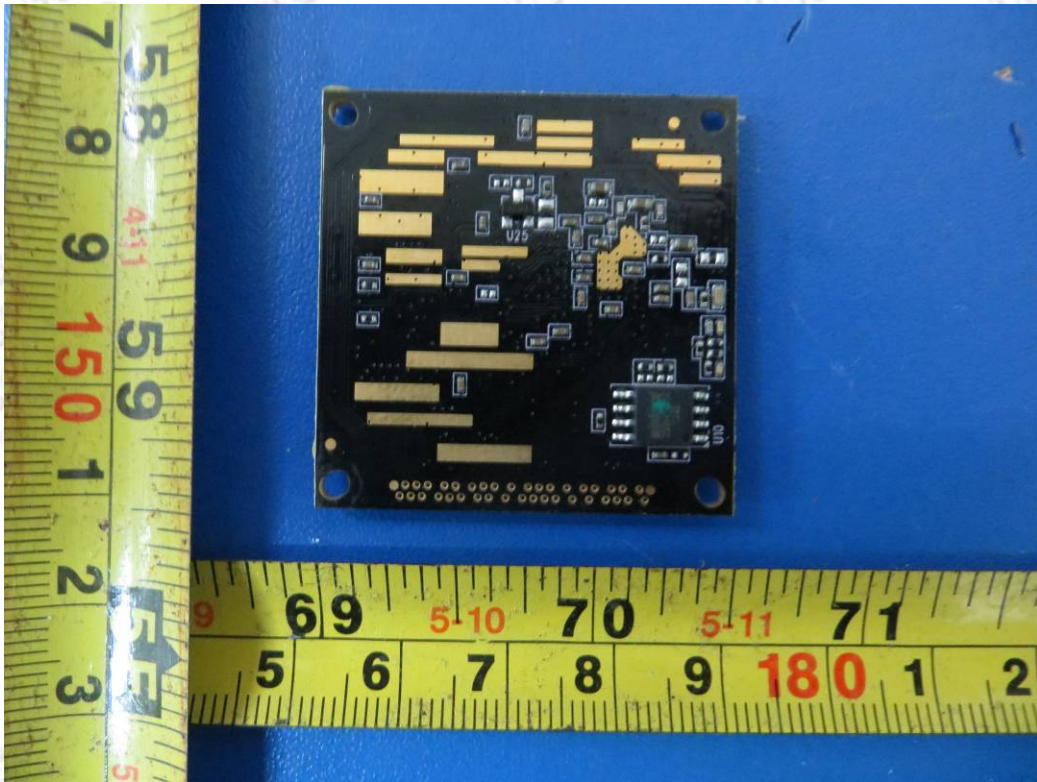


Fig.11

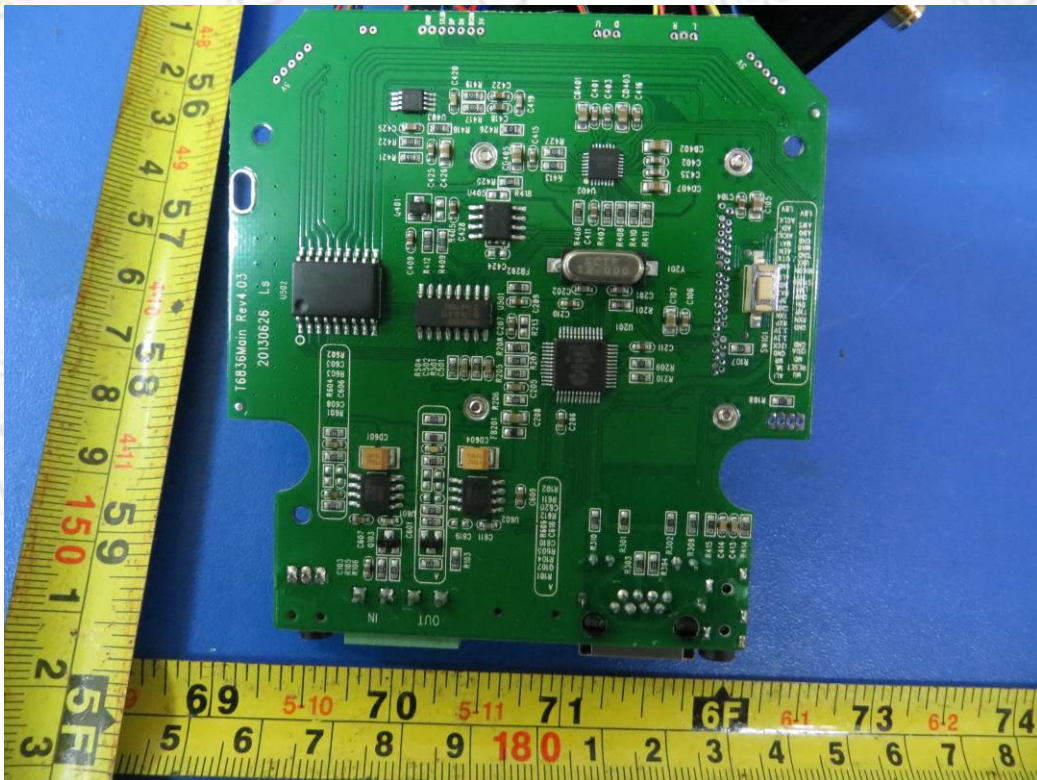


Fig. 12

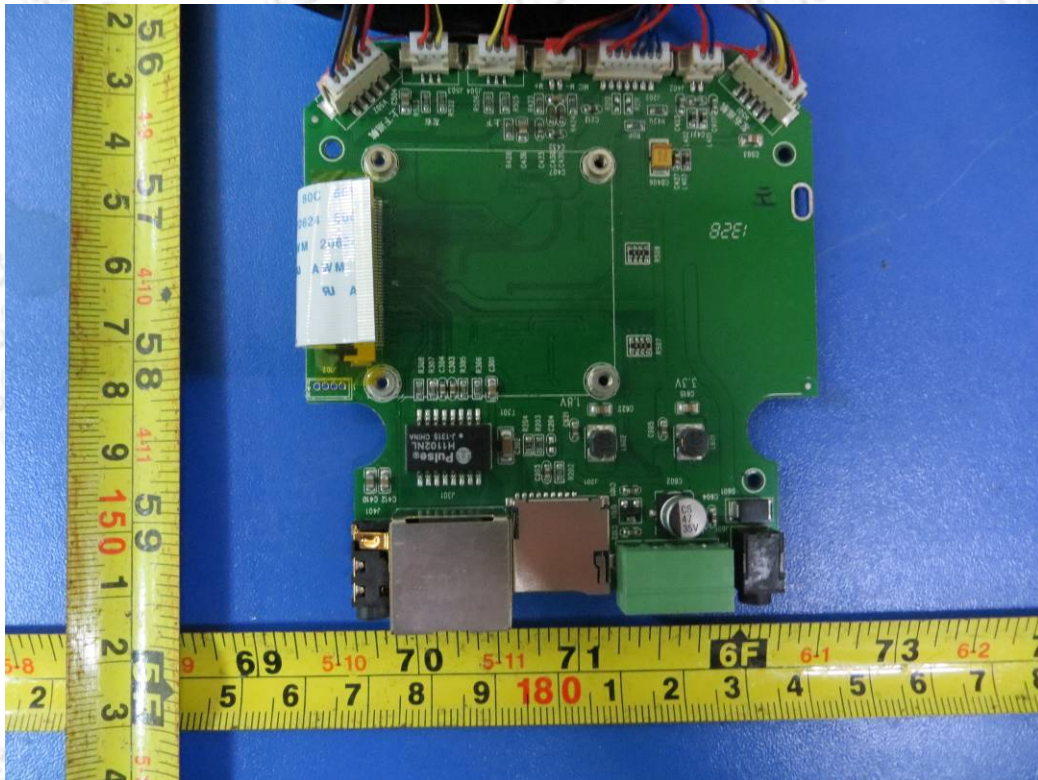


Fig.13

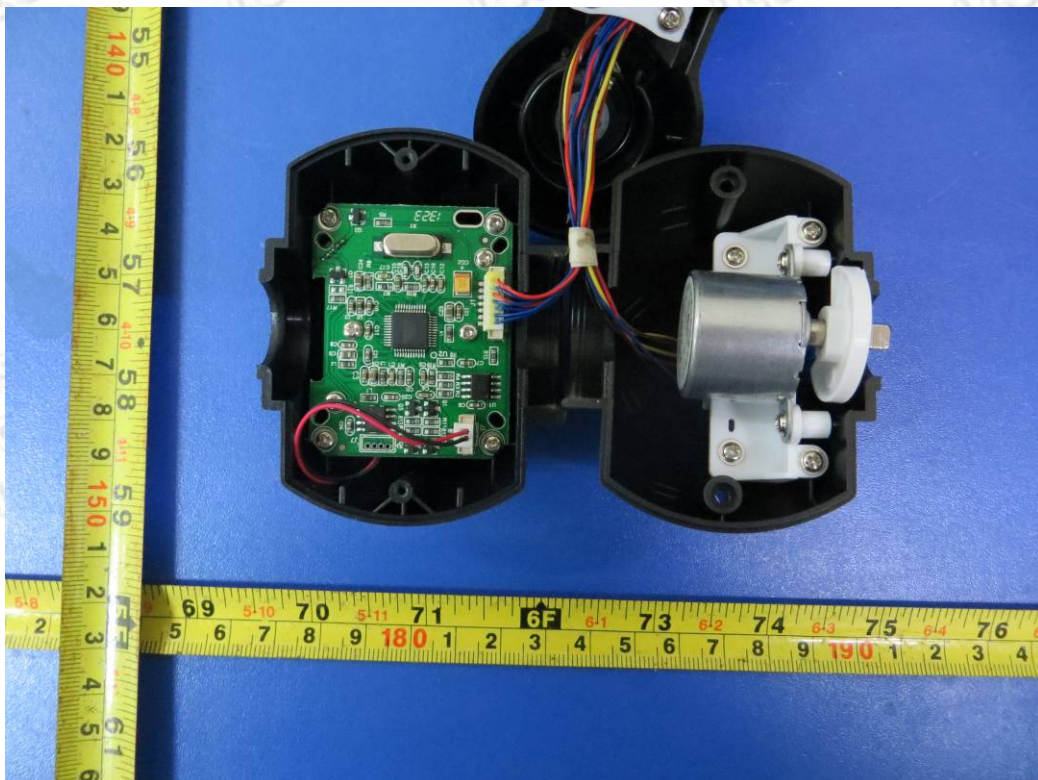


Fig. 14

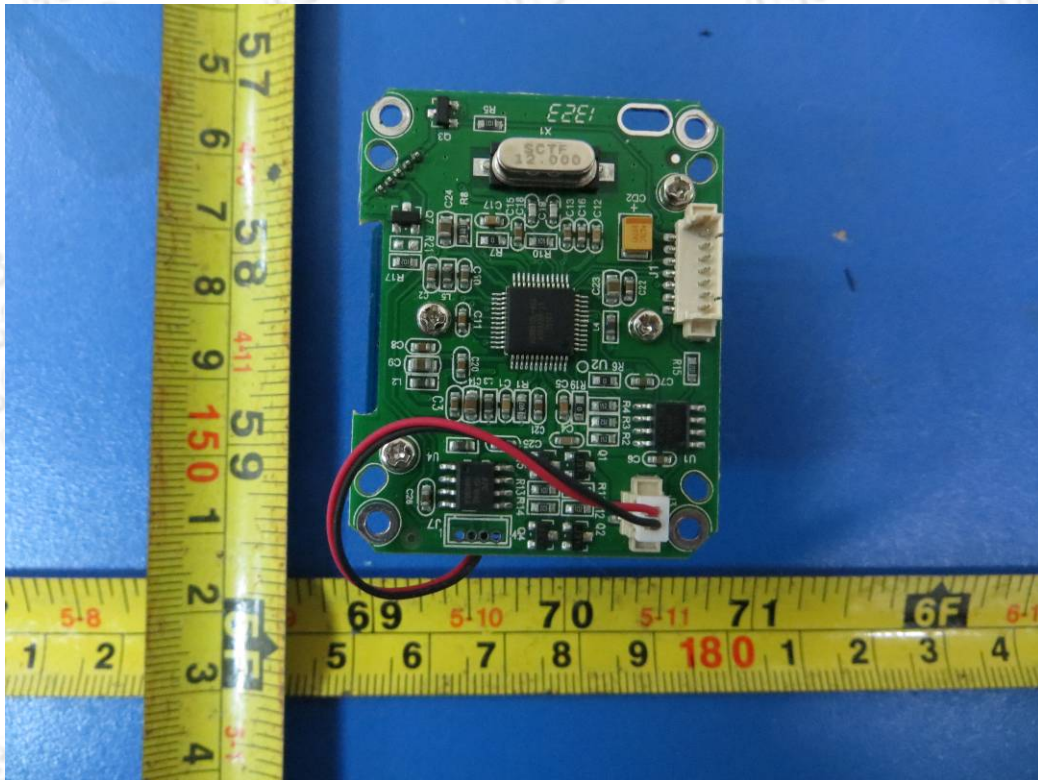


Fig.15



Fig. 16

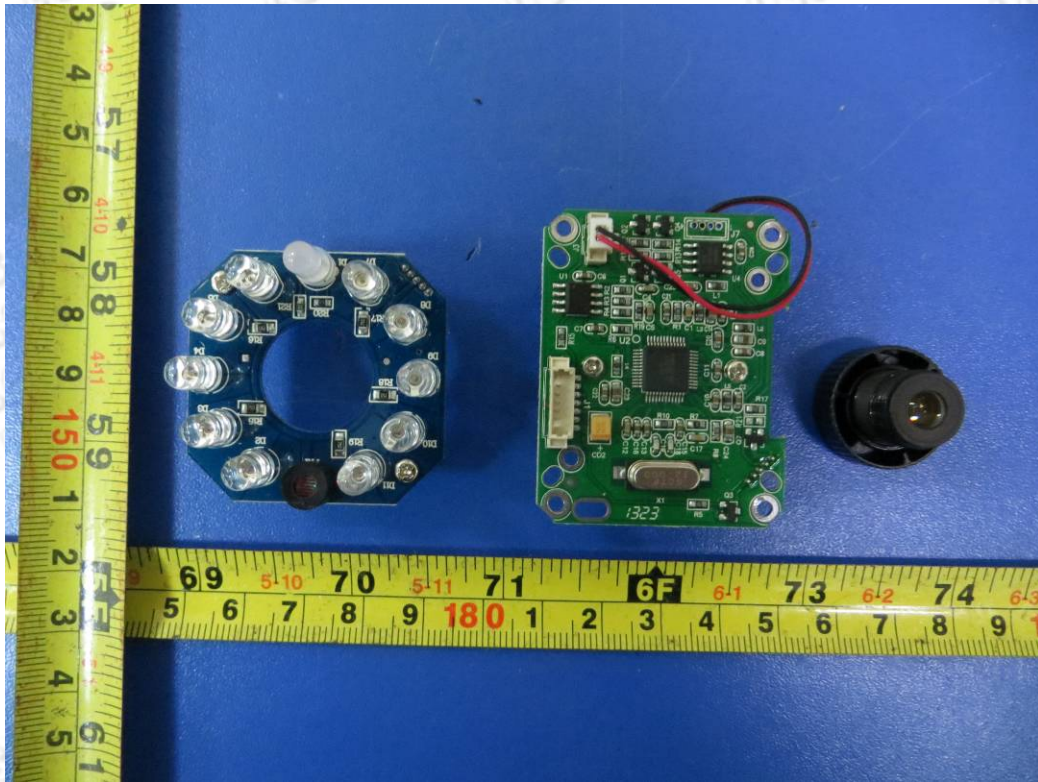


Fig.17

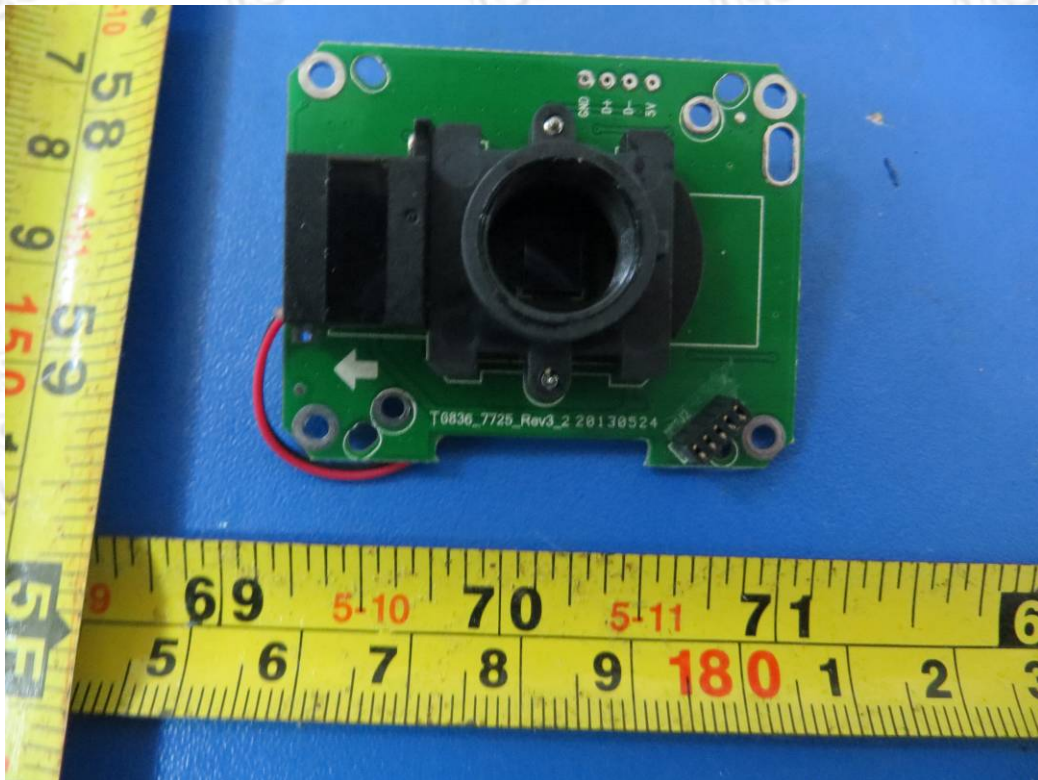


Fig. 18

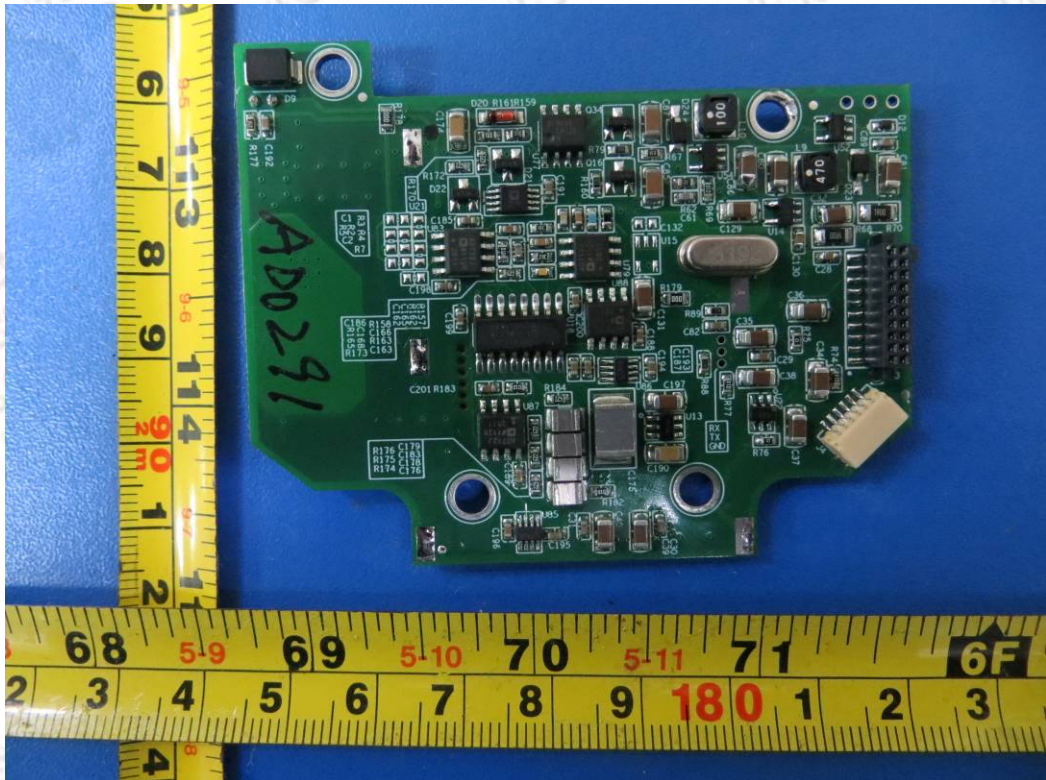


Fig.19

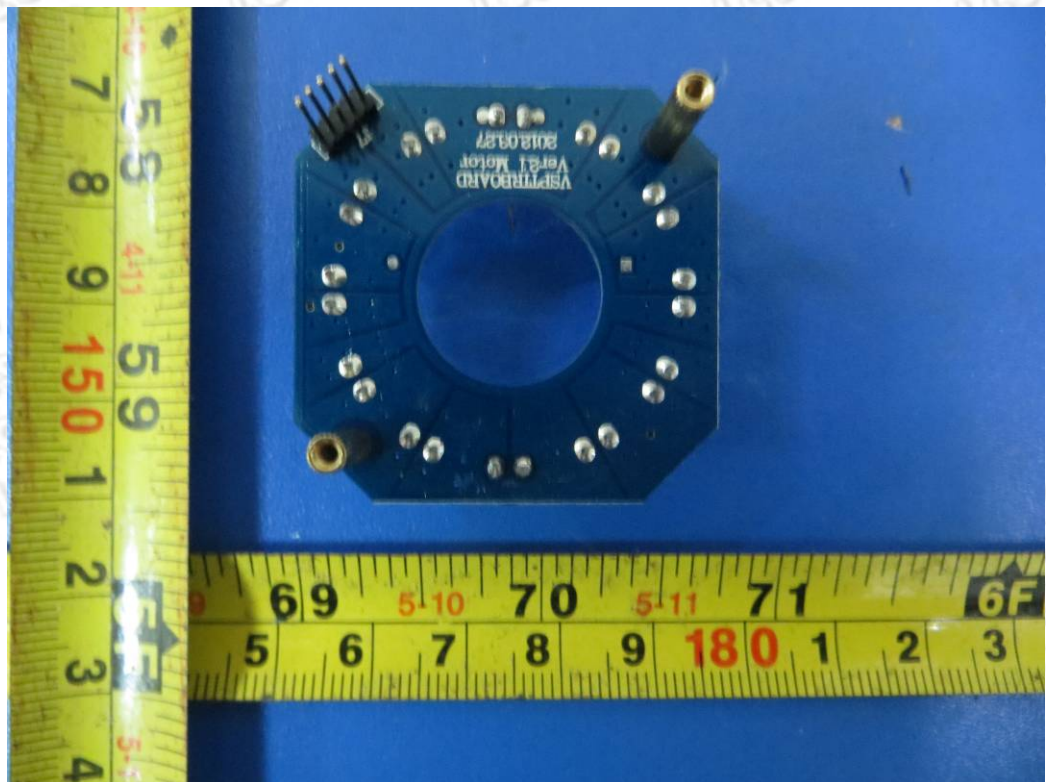


Fig. 20



Fig.21

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