



## Test Report

Product Name : 2.4G RF Camera  
Model No. : CC425  
FCC ID. : FU5 CC425

Applicant : Everspring Industry Co., Ltd.  
Address : 7F ,No.609 ,Wan Shou Road , Sec. 1 ,  
Kweishan , Taoyuan Hsien

Date of Receipt : Jan. 11, 2005  
Issued Date : Jan. 19, 2005  
Report No. : 051L066FI

The Test Results relate only to the samples tested.  
The test report shall not be reproduced except in full without the written approval of Quietek Corporation.  
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issued Date: Jan. 19, 2005

Report No. : 051L066FI



Product Name : 2.4G RF Camera

Applicant : Everspring Industry Co., Ltd.

Address : 7F ,No.609 ,Wan Shou Road , Sec. 1 , Kweishan , Taoyuan Hsien

Manufacturer : EVERSFRING INDUSTRY CO., LTD

Model No. : CC425

Rated Voltage : DC 9V

Trade Name : Everspring

Applicable Standard : FCC Part 15 Subpart C Paragraph 15.249  
ANSI C63.4: 2003

Test Result : Complied



The Test Results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Rita Huang  
( Rita Huang )

Tested By : Geddy Jeng  
( Geddy Jeng )

Approved By : Gene Chang  
( Gene Chang )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name : 2.4G RF Camera  
Trade Name : Everspring  
FCC ID. : FU5 CC425  
Model No. : CC425  
Frequency Range : 2400MHz to 2483.5MHz  
Type of Modulation : FM  
Antenna type : Soldered on PCB  
Antenna Gain : 2 dBi  
Channel Control : Manual  
Power Adapter : MFR: Maw Woei M/N: MW41-0900500  
Cable Out: Non-Shielded, 1.8m  
Power Line : Non-Shielded, 1.8m

#### Frequency of each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2413MHz	Channel 2:	2432MHz	Channel 3:	2451MHz	Channel 4:	2470MHz

#### Note:

1. This device is a 2.4GHz 2.4G RF Camera included a 2.4GHz transmitting function
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regards to the frequency band operation; the lowest , middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations.

**1.2. Operation Description**

The EUT is 2.4G RF Camera. The operation frequency is from 2.413GHz to 2.470GHz with FM modulation. Three manually selectable channels were built in the EUT. the signal will be transmitted through 2.4 GHz FM RF signal from the soldered on PCB antenna from EUT to receiver. DC 9V shall be provided for EUT operation.

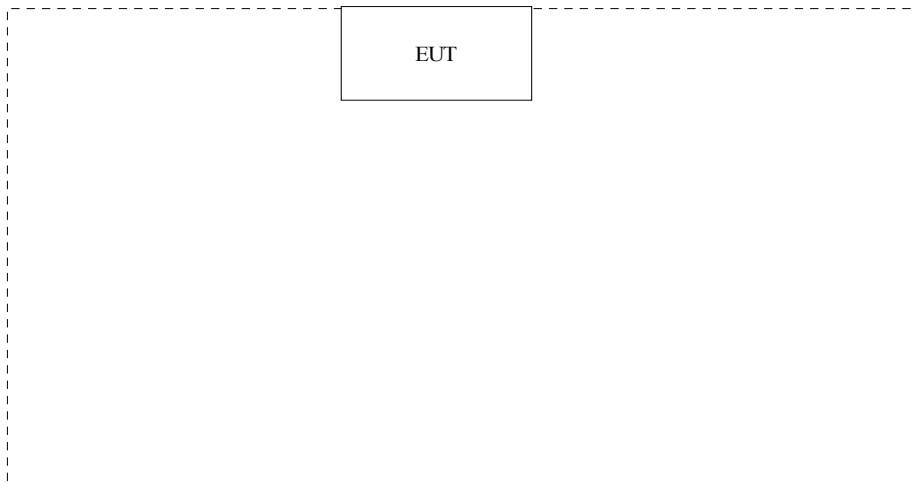
**1.3. Tested System Details**

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	N/A	N/A	N/A	N/A	N/A

	Signal Cable Type	Signal Cable Description
(A)	N/A	N/A

**1.4. Configuration of Tested System**



**1.5. EUT Exercise Software**

- 1.5.1 Setup the EUT and display as shown on 1.4.
- 1.5.2 Turn on the power of all equipment.
- 1.5.3 The EUT will transmit the signal.
- 1.5.4 Repeat the above procedure 1.5.2 to 1.5.3

**1.6. Test Facility**

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: June 22, 2001 File on  
 Federal Communications Commission  
 FCC Engineering Laboratory  
 7435 Oakland Mills Road  
 Columbia, MD 21046  
 Reference 31040/SIT1300F2



**0914**  
**ILAC MRA**

July 03, 2001 Accreditation on NVLAP  
 NVLAP Lab Code: 200533-0



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## 2. Conducted Emission

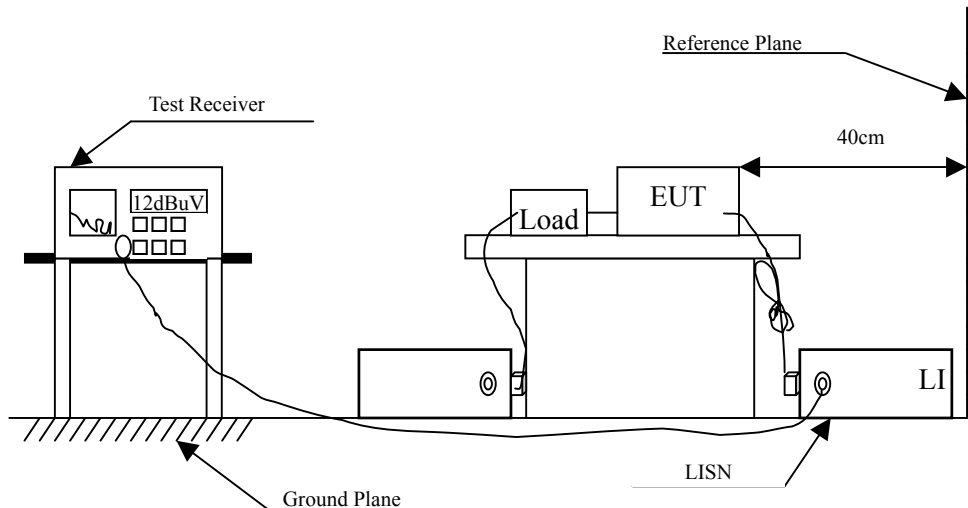
### 2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2004	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2004	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2004	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2004	
5	No.4 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

### 2.2. Test Setup



### 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

## 2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

## 2.5. Uncertainty

The measurement uncertainty is defined as  $\pm 2.02$  dB



## 2.6. Test Result of Conducted Emission

Product : 2.4G RF Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Normal Operation (Channel 2)

Frequency MHz	Cable Loss dB	Probe Factor dB	Reading Level dBuV	Emission Level dBuV	Limits dBuV
<b>Quasi-Peak</b>					
0.271	0.14	0.10	34.17	34.41	61.08
0.408	0.18	0.10	31.28	31.56	57.69
0.814	0.23	0.10	27.77	28.10	56.00
3.228	0.33	0.15	1.42	1.90	56.00
18.455	0.46	0.42	16.11	17.00	60.00
* 24.818	0.49	0.53	41.39	42.41	60.00
<b>Average</b>					
0.271	0.14	0.10	5.70	5.94	51.09
0.408	0.18	0.10	3.90	4.18	47.69
0.814	0.23	0.10	1.80	2.13	46.00
3.228	0.33	0.15	1.28	1.76	46.00
18.455	0.46	0.42	11.60	12.49	50.00
* 24.818	0.49	0.53	24.20	25.22	50.00

Note:

1. All Reading Levels are Quasi-Peak and Average value.
2. “ \* ”, means this data is the worst emission level.
3. Emission Level = Reading Level + LISN Factor + Cable Loss.

Product : 2.4G RF Camera  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Normal Operation (Channel 2)

Frequency	Cable	Probe	Reading	Emission	Limits
	Loss	Factor	Level	Level	
MHz	dB	dB	dBuV	dBuV	dBuV
<b>Quasi-Peak</b>					
* 0.170	0.11	0.10	38.52	38.73	64.98
0.209	0.12	0.10	36.78	37.00	63.26
0.248	0.14	0.10	35.17	35.41	61.84
0.267	0.14	0.10	34.43	34.67	61.20
0.677	0.21	0.10	26.70	27.01	56.00
24.814	0.49	0.53	27.08	28.10	60.00
<b>Average</b>					
0.170	0.11	0.10	9.10	9.31	54.96
0.209	0.13	0.10	7.90	8.13	53.24
0.248	0.14	0.10	6.50	6.74	51.82
0.267	0.14	0.10	6.10	6.34	51.21
0.677	0.21	0.10	0.89	1.20	46.00
* 24.814	0.49	0.53	21.30	22.32	50.00

Note:

1. All Reading Levels are Quasi-Peak and Average value.
2. “ \* ”, means this data is the worst emission level.
3. Emission Level = Reading Level + LISN Factor + Cable Loss.

### 3. Radiated Emission

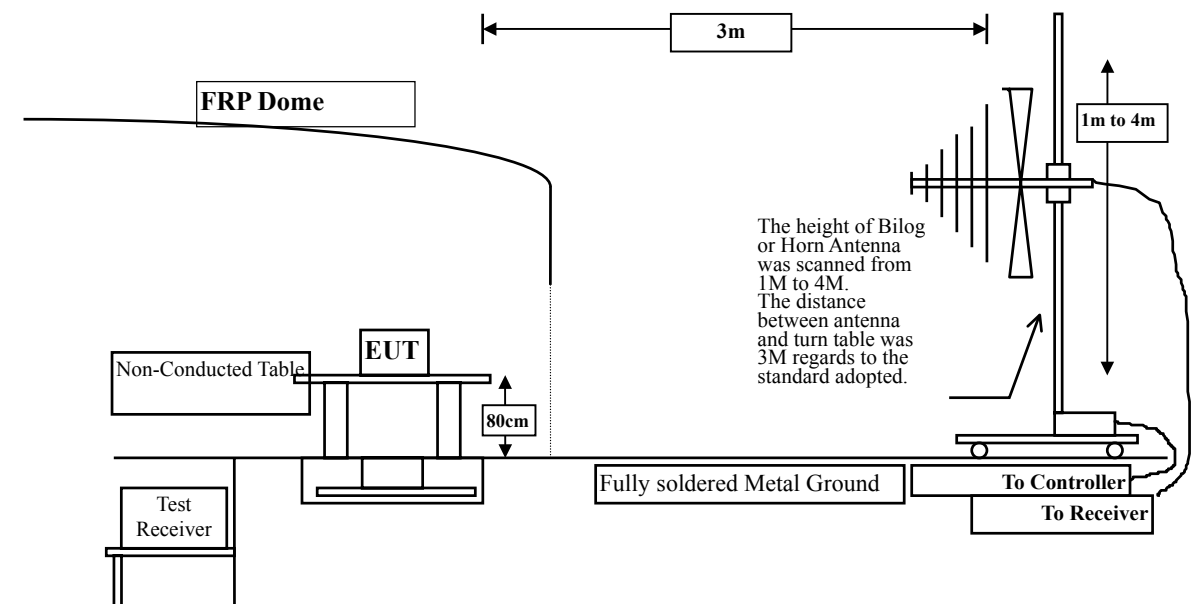
#### 3.1. Test Equipment

The following test equipment are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2004
	Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2004
	Pre-Amplifier	HP	8447D/3307A01812	May, 2004
	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2004
	Horn Antenna	EM	EM6917 / 103325	May, 2004
	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2004
Site # 2	Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2004
	Pre-Amplifier	HP	8447D/3307A01814	May, 2004
	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2004
	Horn Antenna	EM	EM6917 / 103325	May, 2004
Site # 3	X Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2004
	X Spectrum Analyzer	Advantest	R3162 / 100803480	May, 2004
	X Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2004
	X Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2004
	X Horn Antenna	ETS	3115 / 0005-6160	Jul., 2004
X Pre-Amplifier	QTK	QTK-AMP-01 / 0001	Jul., 2004	

- Note:
1. All equipments that need to calibrate are with calibration period of 1 year.
  2. Mark "X" test instruments are used to measure the final test results.

#### 3.2. Test Setup



### 3.3. Limits

#### ➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart B Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

- Remarks :
1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
  2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

#### ➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart B Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### 3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.

Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 3 meters.

The frequency range from 30MHz to 10th harmonics is checked.

### 3.5. Uncertainty

The measurement uncertainty above 1G is defined as  $\pm 3.9$  dB

under 1G is defined as  $\pm 3.8$  dB

### 3.6. Test Result of Radiated Emission

Product : 2.4G RF Camera  
 Test Item : Fundamental Radiated Emission  
 Test Site : No.3OATS  
 Test Mode : Normal Operation

Freq.	Cable	Probe	PreAMP	Reading	Emission	Margin	Limit
MHz	Loss	Factor		Level	Level	dB	dBuV/m
	dB	dB/m	dB	dBuV	dBuV/m		

#### Horizontal

##### Peak Detector:

##### Channel 1

2413.000	2.72	27.31	34.93	89.47	84.57	29.43	114.00
----------	------	-------	-------	-------	-------	-------	--------

##### Channel 2

2432.000	2.74	27.40	34.93	91.05	86.26	27.74	114.00
----------	------	-------	-------	-------	-------	-------	--------

##### Channel 4

2470.000	2.74	27.50	34.93	93.05	88.36	25.64	114.00
----------	------	-------	-------	-------	-------	-------	--------

#### Vertical

##### Peak Detector:

##### Channel 1

2413.000	2.72	27.31	34.93	96.50	91.60	22.40	114.00
----------	------	-------	-------	-------	-------	-------	--------

##### Channel 2

2432.000	2.74	27.40	34.93	96.79	92.00	22.00	114.00
----------	------	-------	-------	-------	-------	-------	--------

##### Channel 4

2470.000	2.74	27.50	34.93	97.74	93.05	20.95	114.00
----------	------	-------	-------	-------	-------	-------	--------

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss – PreAMP.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : 2.4G RF Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 1

Frequency	Cable	Probe	PreAMP	Reading	Emission	Margin	Limit
MHz	Loss	Factor		Level	Level	dB	dBuV/m
	dB	dB/m	dB	dBuV	dBuV/m		

**Horizontal**
**Peak Detector**

4826.000	3.86	31.21	34.65	53.46	53.88	20.12	74.00
7239.000	5.01	35.87	34.81	43.83	49.90	24.10	74.00
9652.000	6.15	37.84	35.10	44.53	53.43	20.57	74.00

**Average**

--

**Vertical**
**Peak Detector**

4826.000	3.86	31.21	34.65	54.48	54.90	19.10	74.00
7239.000	5.01	35.87	34.81	43.82	49.89	24.11	74.00
9652.000	6.15	37.84	35.10	45.92	54.82	19.18	74.00
9652.000	6.15	37.84	35.10	44.92	53.82	20.18	74.00

**Average**

4826.000	3.86	31.21	34.65	50.77	51.19	2.81	54.00
----------	------	-------	-------	-------	-------	------	-------

## Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Probe Factor + Cable Loss- PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : 2.4G RF Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 2

Frequency	Cable	Probe	PreAMP	Reading	Emission	Margin	Limit
MHz	Loss	Factor		Level	Level	dB	dBuV/m
	dB	dB/m	dB	dBuV	dBuV/m		

### Horizontal

#### Peak Detector

4864.000	3.88	31.37	34.65	51.93	52.54	21.46	74.00
7296.000	5.03	35.96	34.82	43.49	49.66	24.34	74.00
9728.000	6.19	37.90	35.11	44.36	53.35	20.65	74.00

#### Average

--

### Vertical

#### Peak Detector

4864.000	3.88	31.37	34.65	53.93	54.54	19.46	74.00
7296.000	5.03	35.96	34.82	43.74	49.91	24.09	74.00
9728.000	6.19	37.90	35.11	46.48	55.47	18.53	74.00

#### Average

4864.000	3.88	31.37	34.65	49.81	50.42	3.58	54.00
9728.000	6.19	37.90	35.11	37.10	46.09	7.91	54.00

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Probe Factor + Cable Loss- PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Product : 2.4G RF Camera  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 4

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal  
Peak Detector**

4940.000	3.92	31.43	34.64	53.21	53.92	20.08	74.00
7410.000	5.09	36.12	34.83	43.34	49.73	24.27	74.00
9880.000	6.26	38.02	35.12	46.61	55.77	18.23	74.00

**Average**

9880.000	6.26	38.02	35.12	35.37	44.53	9.47	54.00
----------	------	-------	-------	-------	-------	------	-------

**Vertical  
Peak Detector**

4940.000	3.92	31.43	34.64	53.58	54.29	19.71	74.00
7410.000	5.09	36.12	34.83	44.11	50.50	23.50	74.00
9880.000	6.26	38.02	35.12	48.85	58.01	15.99	74.00

**Average**

4940.000	3.92	31.43	34.64	48.72	49.43	4.57	54.00
9880.000	6.26	38.02	35.12	38.56	47.72	6.28	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Probe Factor + Cable Loss- PreAMP.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : 2.4G RF Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 1

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal:</b>							
313.730	2.33	12.10	0.00	23.27	37.70	8.30	46.00
357.380	2.56	13.45	0.00	22.57	38.58	7.42	46.00
381.620	2.68	13.88	0.00	22.09	38.65	7.35	46.00
476.200	3.16	16.86	0.00	17.72	37.74	8.26	46.00
* 524.700	3.42	16.44	0.00	20.28	40.14	5.86	46.00
570.780	3.65	17.06	0.00	17.98	38.70	7.30	46.00

**Vertical:**

* 311.300	2.32	12.40	0.00	25.09	39.81	6.19	46.00
318.580	2.36	12.51	0.00	22.84	37.70	8.30	46.00
333.120	2.43	12.61	0.00	24.55	39.60	6.40	46.00
357.380	2.56	14.12	0.00	21.80	38.48	7.52	46.00
381.620	2.68	14.86	0.00	20.78	38.31	7.69	46.00
524.700	3.42	16.79	0.00	17.83	38.04	7.96	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss.

Product : 2.4G RF Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 2

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal:</b>							
333.120	2.43	12.56	0.00	23.93	38.93	7.07	46.00
357.380	2.56	13.45	0.00	23.47	39.48	6.52	46.00
381.620	2.68	13.88	0.00	22.89	39.45	6.55	46.00
476.200	3.16	16.86	0.00	18.77	38.79	7.21	46.00
* 524.700	3.42	16.44	0.00	20.96	40.82	5.18	46.00
570.780	3.65	17.06	0.00	18.78	39.50	6.50	46.00

<b>Vertical:</b>							
255.520	2.03	12.51	0.00	24.38	38.93	7.07	46.00
316.150	2.34	12.38	0.00	25.75	40.47	5.53	46.00
* 333.120	2.43	12.61	0.00	25.57	40.62	5.38	46.00
357.380	2.56	14.12	0.00	22.75	39.43	6.57	46.00
381.620	2.68	14.86	0.00	21.62	39.15	6.85	46.00
524.700	3.42	16.79	0.00	18.86	39.07	6.93	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss.

Product : 2.4G RF Camera  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 4

Frequency	Cable Loss	Probe Factor	PreAMP	Reading Level	Emission Level	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

**Horizontal:**

* 308.880	2.31	12.15	0.00	26.46	40.92	5.08	46.00
357.380	2.56	13.45	0.00	22.81	38.82	7.18	46.00
381.620	2.68	13.88	0.00	22.25	38.81	7.19	46.00
476.200	3.16	16.86	0.00	18.11	38.13	7.87	46.00
524.700	3.42	16.44	0.00	20.16	40.02	5.98	46.00
570.780	3.65	17.06	0.00	18.19	38.91	7.09	46.00

**Vertical:**

* 333.120	2.43	12.61	0.00	24.70	39.75	6.25	46.00
357.380	2.56	14.12	0.00	22.30	38.98	7.02	46.00
381.620	2.68	14.86	0.00	21.07	38.60	7.40	46.00
524.700	3.42	16.79	0.00	17.96	38.17	7.83	46.00
570.780	3.65	19.02	0.00	14.25	36.92	9.08	46.00
619.280	3.90	19.27	0.00	11.84	35.01	10.99	46.00

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ \* ”, means this data is the worst emission level.
3. Emission Level = Reading Level + Probe Factor + Cable Loss.

## 4. Band Edge

### 4.1. Test Equipment

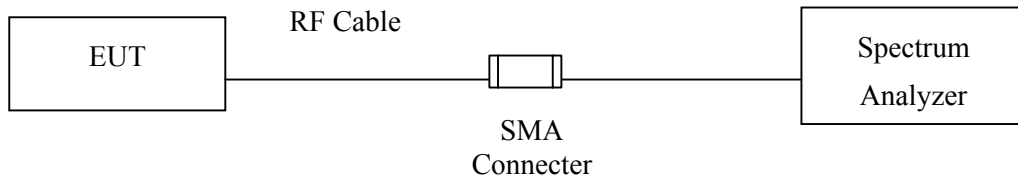
The following test equipments are used during the band edge tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Spectrum Analyzer	Advantest	R3272 / 72421194	May, 2004
X Test Receiver	R & S	ESCS 30 / 825442/14	May, 2004
X Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2004
X Pre-Amplifier	HP	8447D/3307A01812	May, 2004
X Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2004
X Horn Antenna	EM	EM6917 / 103325	May, 2004

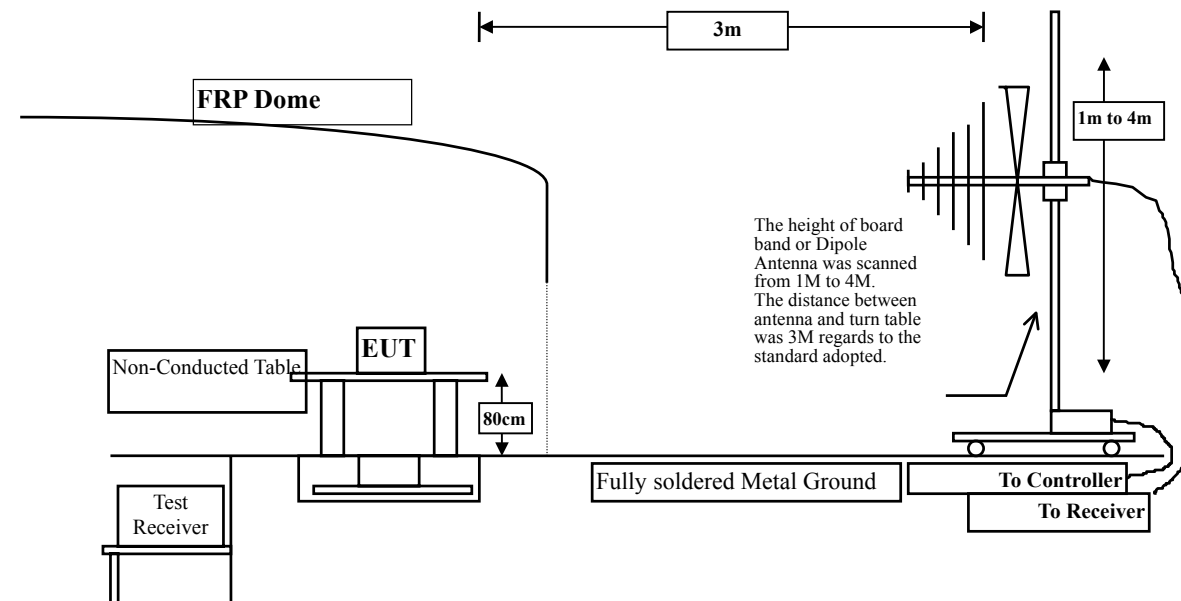
- Note: 1. All equipments that need to calibrate are with calibration period of 1 year.  
 2. Mark "X" test instruments are used to measure the final test results.

### 4.2. Test Setup

#### RF Conducted Measurement:



#### RF Radiated Measurement:



### 4.3. Limit

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 50 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30 )is 120 kHz, above 1GHz are 1 MHz.

### 4.5. Uncertainty

The measurement uncertainty Conducted is defined as  $\pm 1$  MHz and Radiated above 1GHz as  $\pm 3.9$  dB.

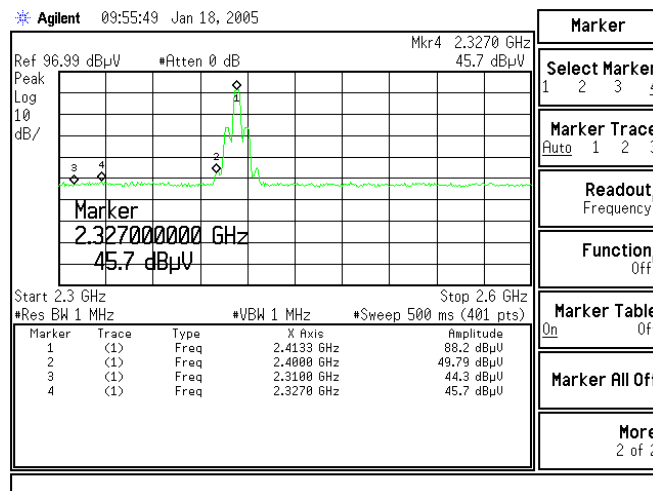
### 4.6. Test Result of Band Edge

Product : 2.4G RF Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 1

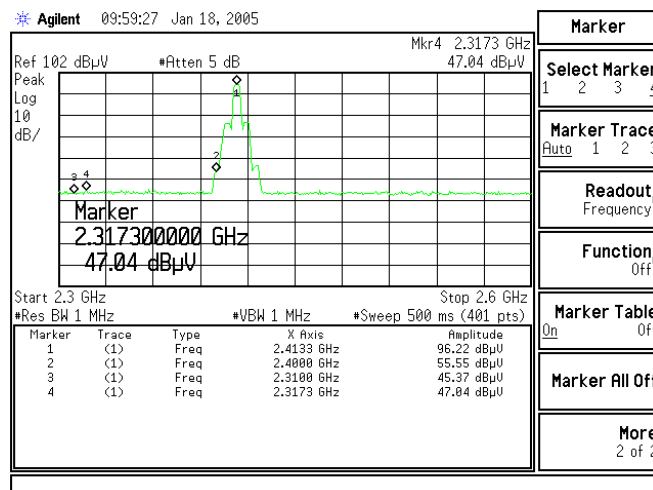
#### RF Radiated Measurement: (Peak Detector)

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
1(Horizontal)	2327.000	45.70	27.03	2.68	00.00	40.48	74.00	Pass
1 (Vertical)	2317.300	47.04	27.03	2.68	00.00	41.82	74.00	Pass

Horizontal



Vertical



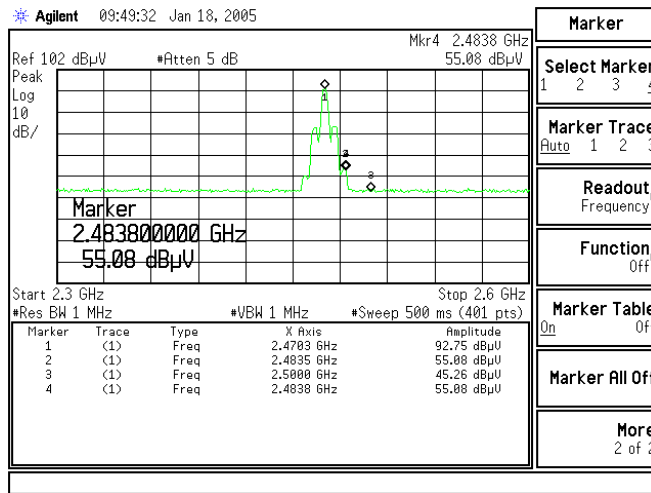
Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : 2.4G RF Camera  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Channel 4

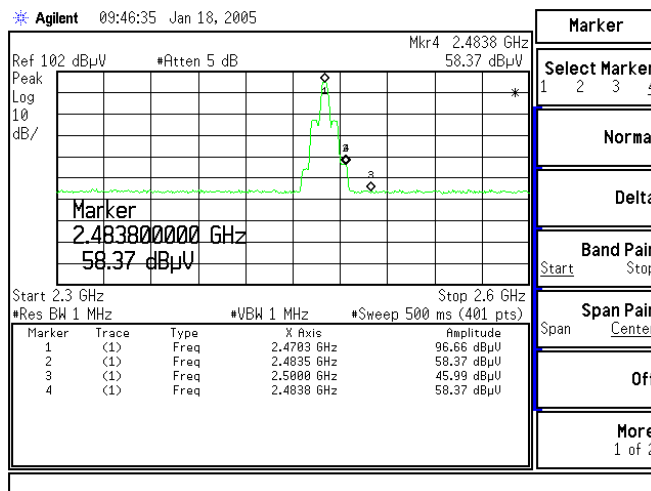
**RF Radiated Measurement: (Peak Detector)**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
4(Horizontal)	2483.800	55.08	27.05	2.75	00.00	50.40	74.00	Pass
4 (Vertical)	2483.800	58.37	27.50	2.75	00.00	53.69	74.00	Pass

**Horizontal**



**Vertical**



Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



## 5. EMI Reduction Method During Compliance Testing

No modification was made during testing.

## Attachment 1 : EUT Test Photographs

**Attachment 1: EUT Test Setup Photographs**

Front View of Conducted Test



Back View of Conducted Test



Front View of Radiated Test



Back View of Radiated Test



Front View of Radiated Test (Horn)



Back View of Radiated Test (Horn)



## Attachment 2 : EUT Detailed Photographs

**Attachment 2 : EUT Detailed Photographs**

(1) EUT Photo



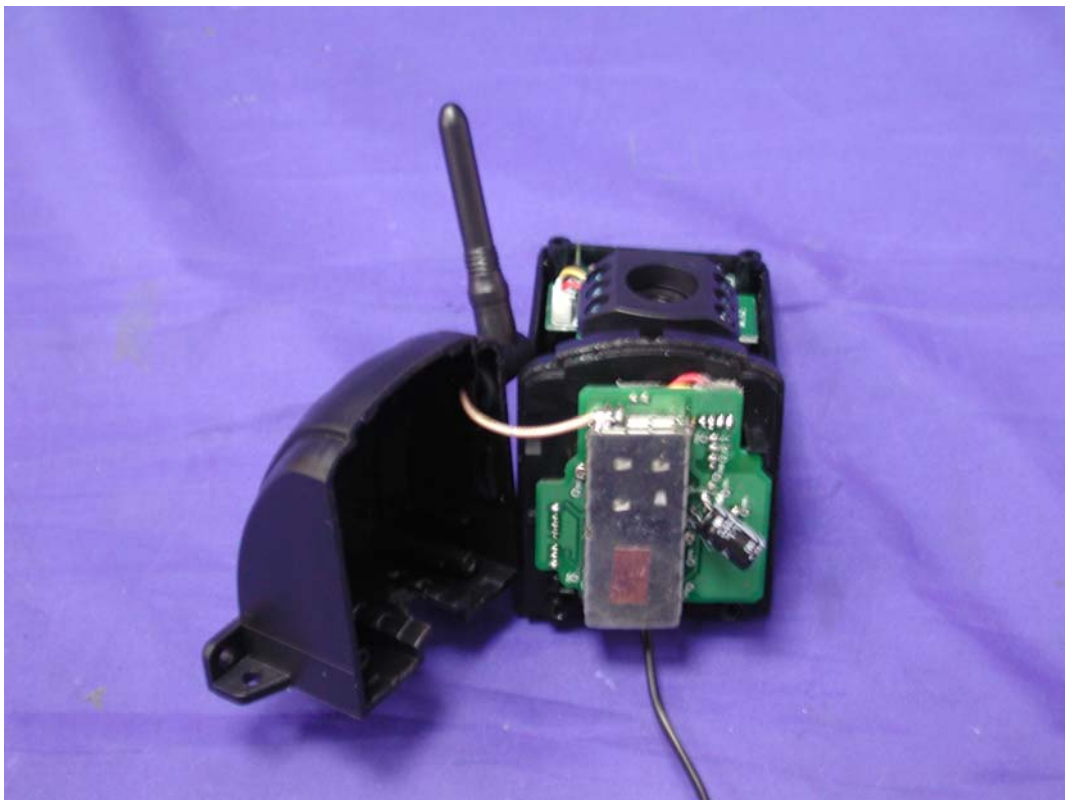
(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

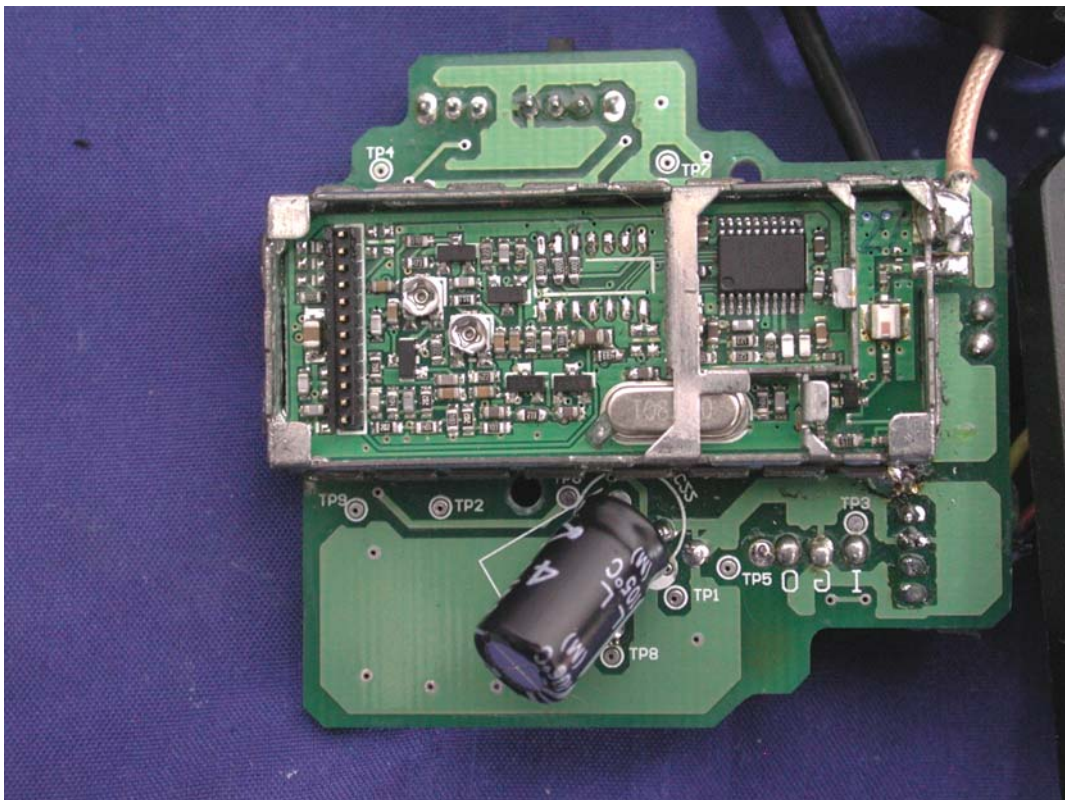




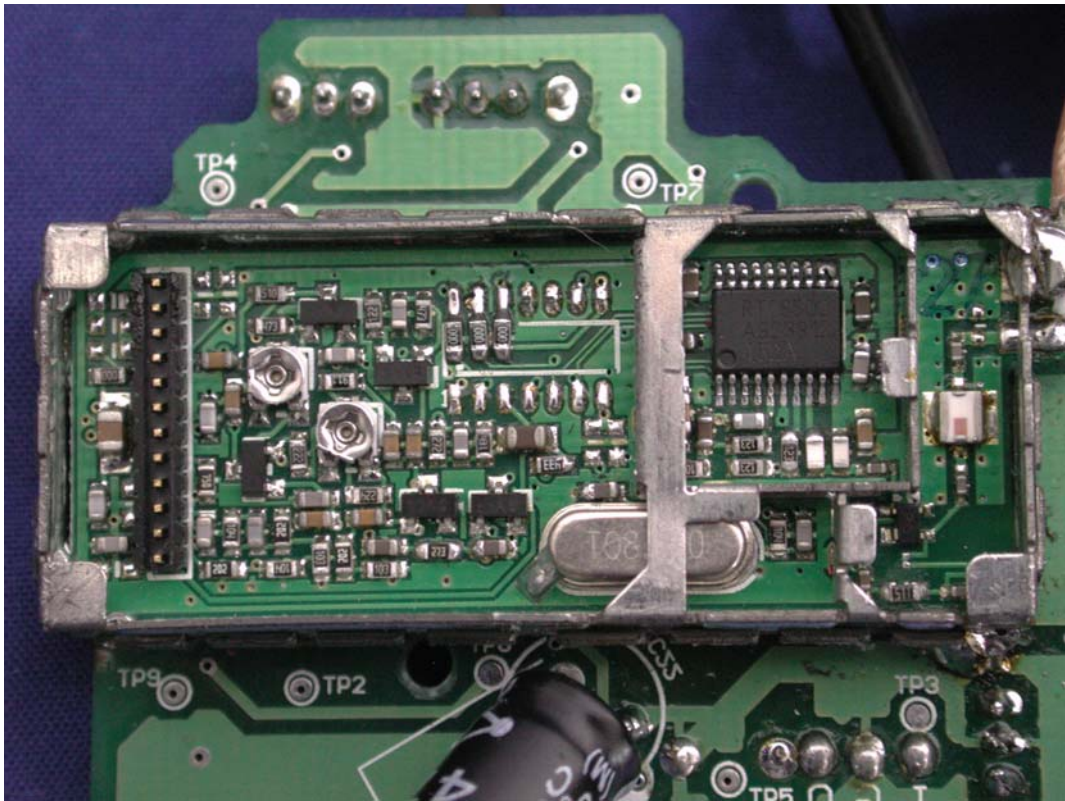
(5) EUT Photo



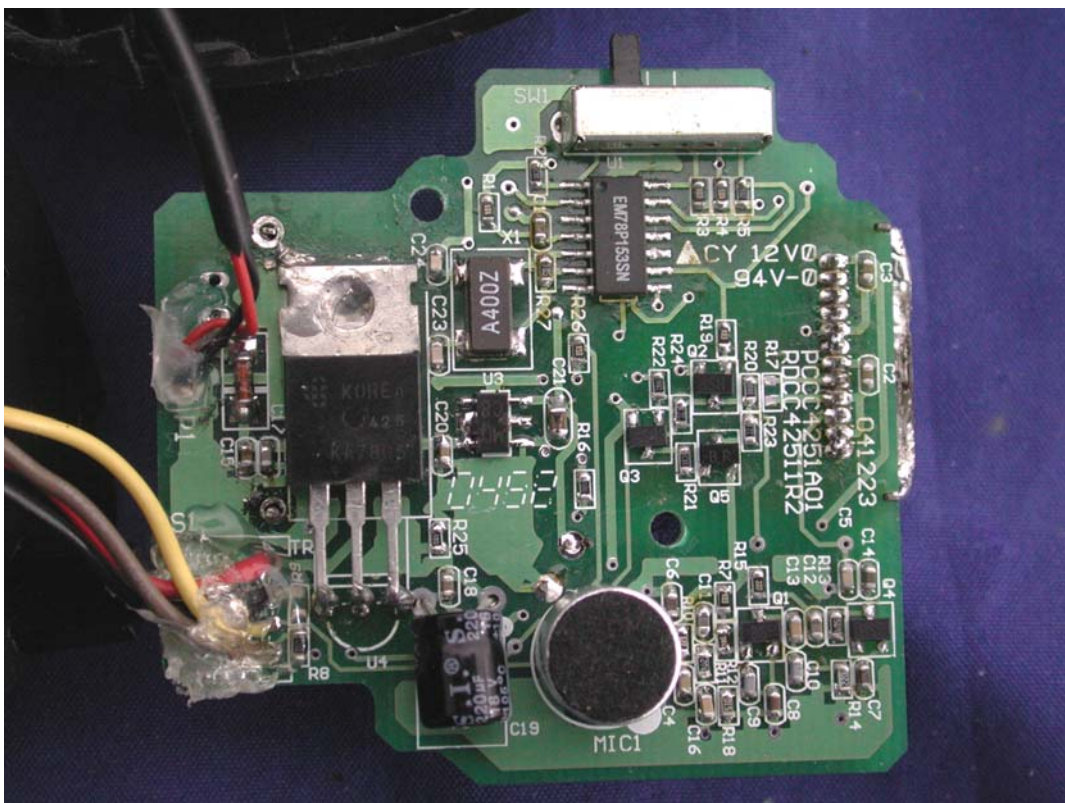
(6) EUT Photo



(7) EUT Photo



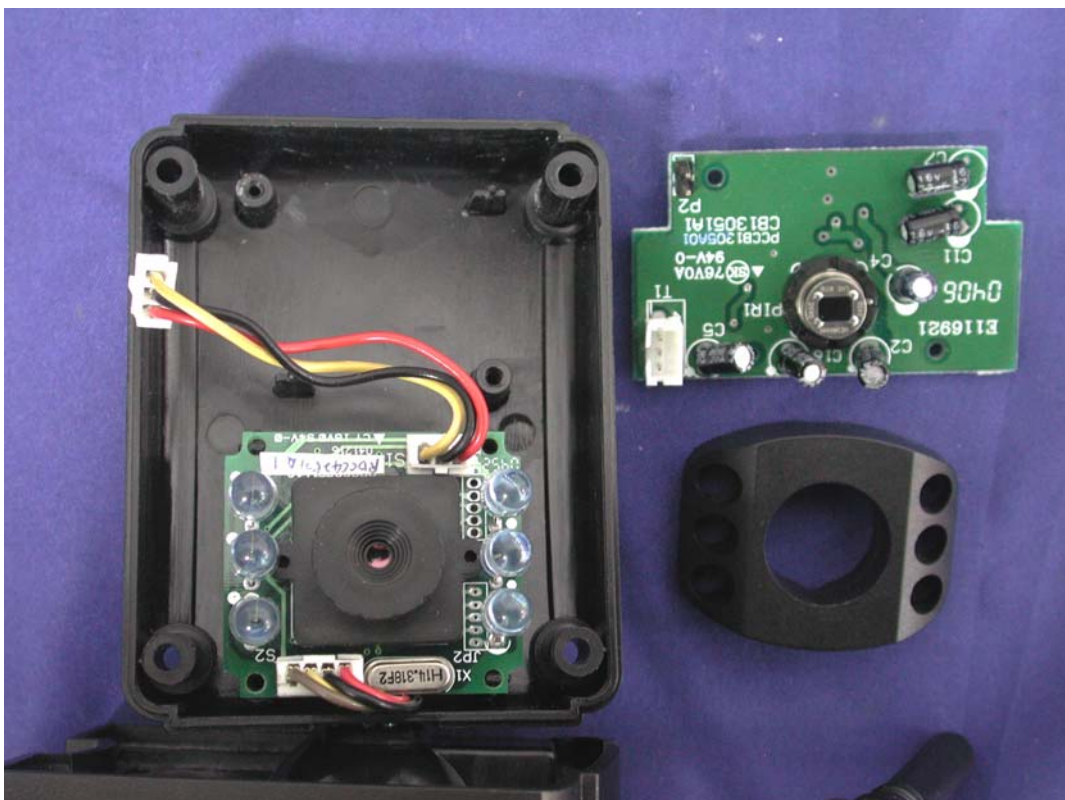
(8) EUT Photo



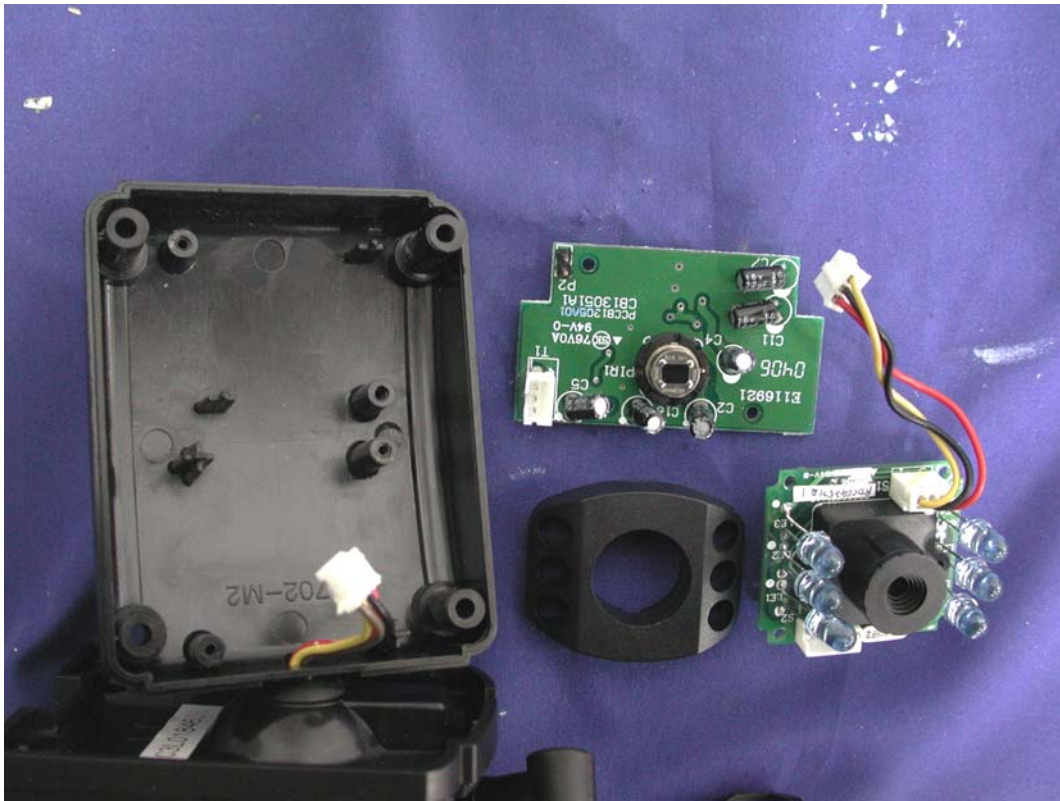
(9) EUT Photo



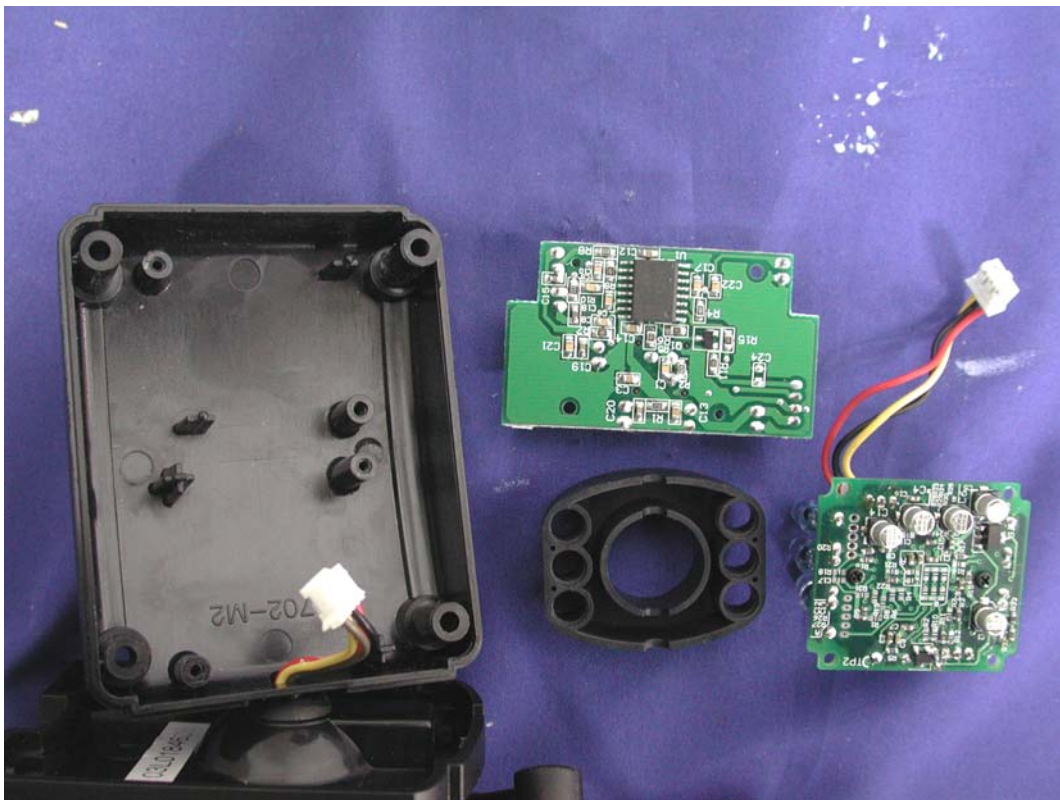
(10) EUT Photo



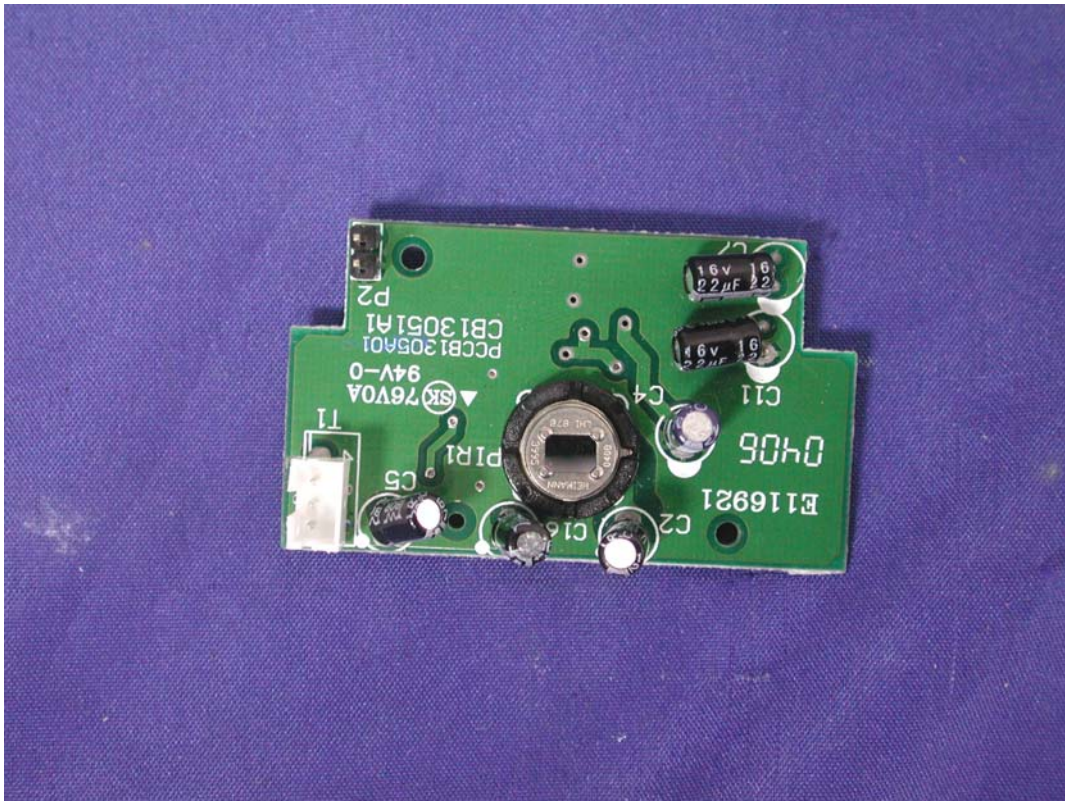
(11) EUT Photo



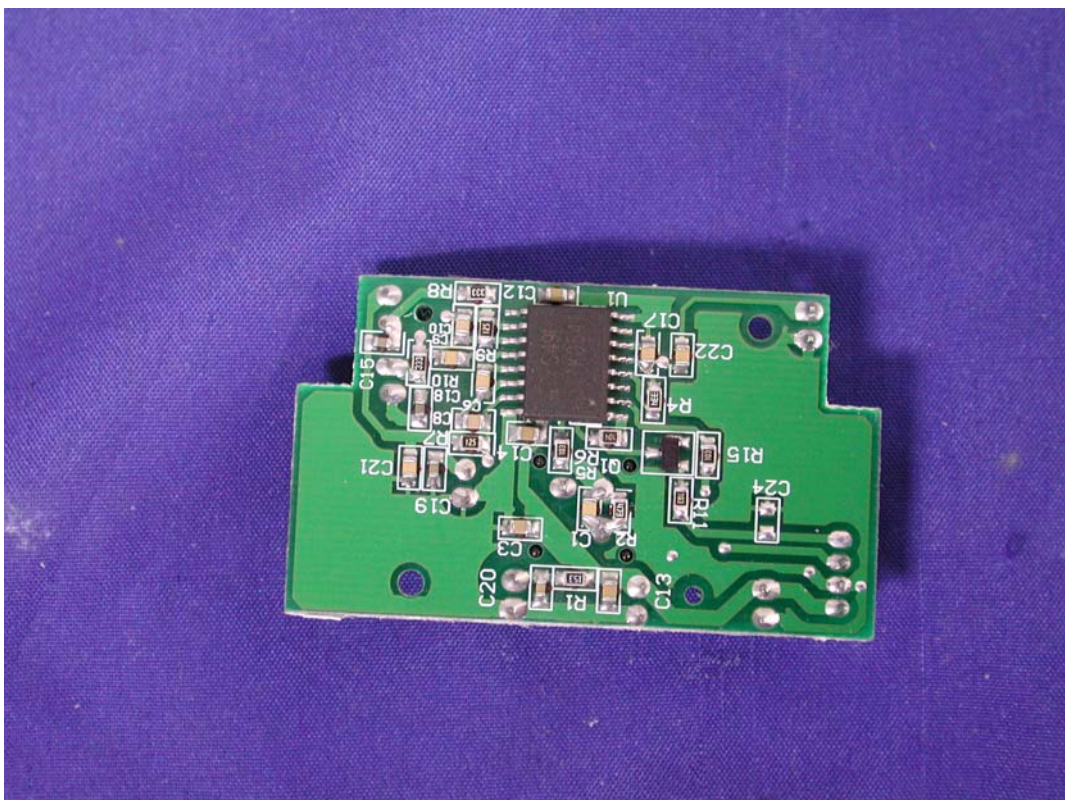
(12) EUT Photo



(13) EUT Photo



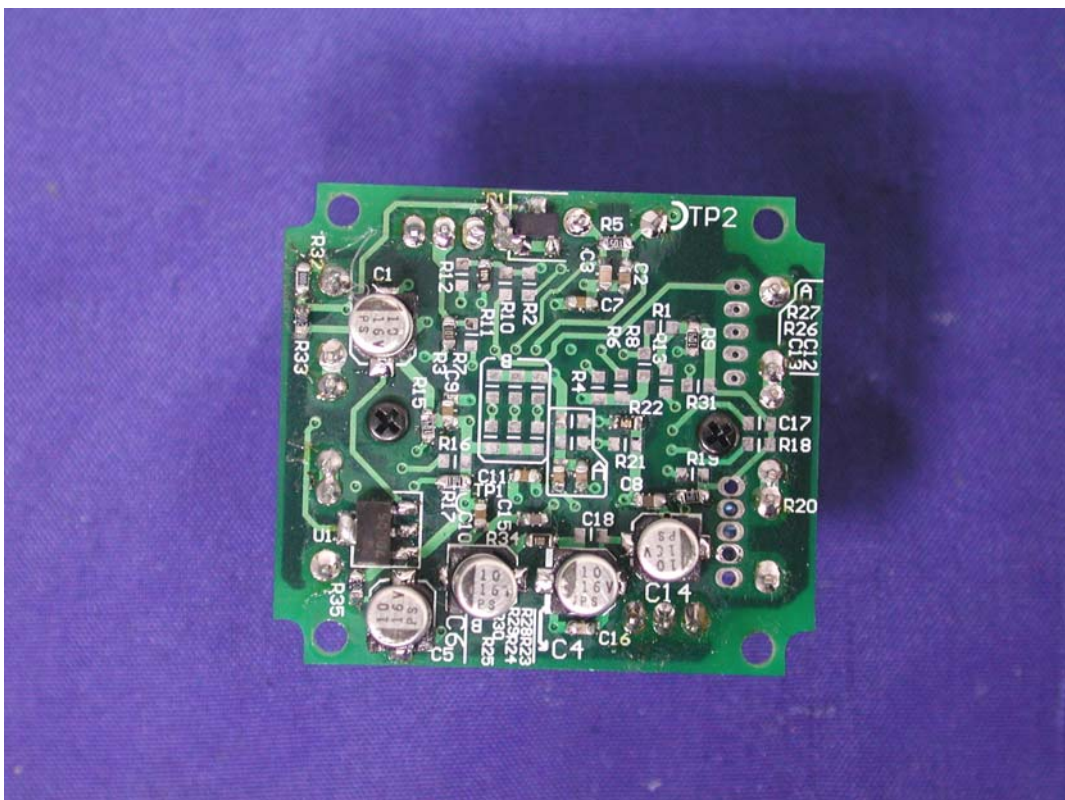
(14) EUT Photo



(15) EUT Photo



(16) EUT Photo



(17) EUT Photo



(18) EUT Photo

