ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
UNINTENTIONAL RADIATOR CERTIFICATION

Product Name	**:**	Home weather station
Model Name	**:**	321RX
FCC ID	**:**	VX5-321RX
Trade Name	**:**	N/A
Report Number	**:**	SZEE100803262101-2
Date	**:**	Sep. 03, 2010

Standards	Results
☒ FCC Part15B: 2009	Pass

Prepared for:

Thermor Ltd.
16975 Leslie St.Newmarket Ontario L3Y 9A1 Canada
TEL: (905) 952-3737 Ext. 6119
FAX: (905) 952-3731

Prepared by:

CENTRE TESTING INTERNATIONAL CORPORATION
Building C, Hongwei Industrial Zone, Baoan 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3362
FAX: +86-755-3368 3385

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Description Page

N/A means not applicable

1. GENERAL INFORMATION

Applicant & Address:	Thermor Ltd. 16975 Leslie St.Newmarket Ontario L3Y 9A1 Canada
Manufacturer & Address:	N/A
Equipment Under Test:	Home weather station
Model Name:	321RX
FCC ID:	VX5-321RX
RX Frequency:	433.92MHz
Trade Name:	N/A
Serial Number:	N/A
Technical Data:	DC 4.5V
Date of test:	Aug. 03 to Aug. 28, 2010
Condition of Test Sample:	Normal

The above equipment was tested by Centre Testing International Corporation for compliance with the requirements set forth in the FCC Part15B and the measurement procedure according to FCC requirements and ANSI C63.4:2003.
The test results of this report relate only to the tested sample identified in this report.

Prepared by : Hengpei Wang

Reviewed by : Louisa Lu

Approved by : Lily Yan
Supervisor

Date : Sep. 03, 2010

2. TEST SUMMARY

No.	Test Item	Rule	Result
1	Conducted Emission	FCC Part15.107	**N/A[1]**
2	Radiated Emission	FCC Part15.109	**PASS**

Note: 1.The power supply of EUT is by battery.

3. MEASUREMENT UNCERTAINTY

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement items	Uncertainty
Radiated Emissions	4.4 dB

4. TEST EQUIPMENT

Equipment	Manufacturer	Model Number	Serial Number	Due Date
3M Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	3510	01/29/2011
Spectrum Analyzer	Agilent	E4440A	MY45300910	01/29/2011
Biconilog Antenna	ETS-LINGREN	3142C	920250	07/31/2011
Horn Antenna	ETS-LINGREN	3117	00057410	01/29/2011
Multi device Controller	ETS-LINGREN	2090	00057230	01/29/2011
Microwave Preamplifier	Agilent	8449B	3008A02425	12/21/2010

5. RADIATED EMISSIONS MEASUREMENT

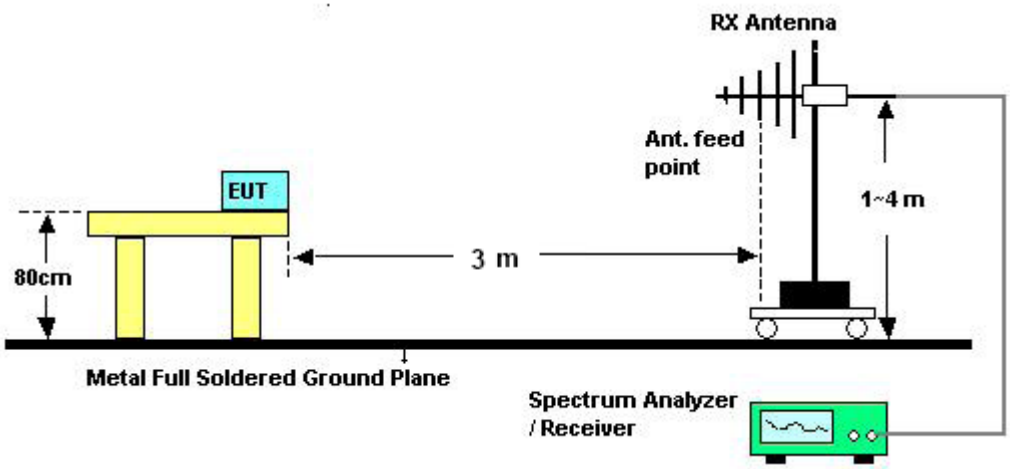
5.1 LIMITS

FCC Part15.109:

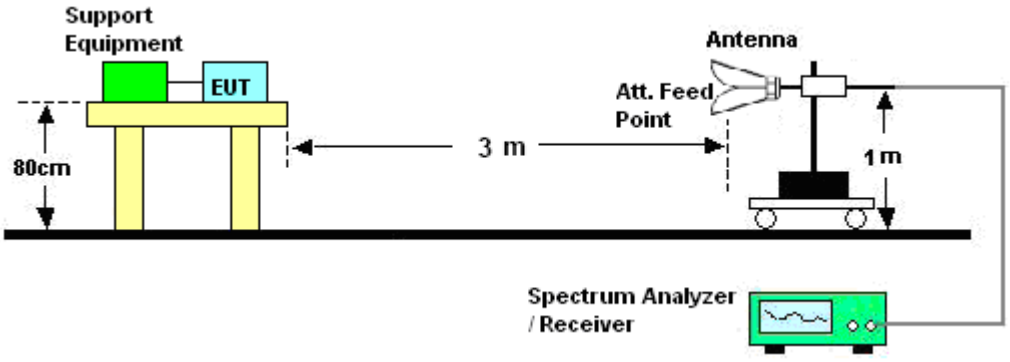
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meter)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

5.2 BLOCK DIAGRAM OF TEST SETUP

For radiated emissions from 30 - 1000MHz



For radiated emissions from 1GHz - 2GHz



5.3 TEST PROCEDURE

a. The EUT was placed on the top of a turntable 0.8 meters above the ground in the chamber, 3 meters away from the antenna (wideband antenna), which was mounted on the top of a variable-height antenna tower. The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.

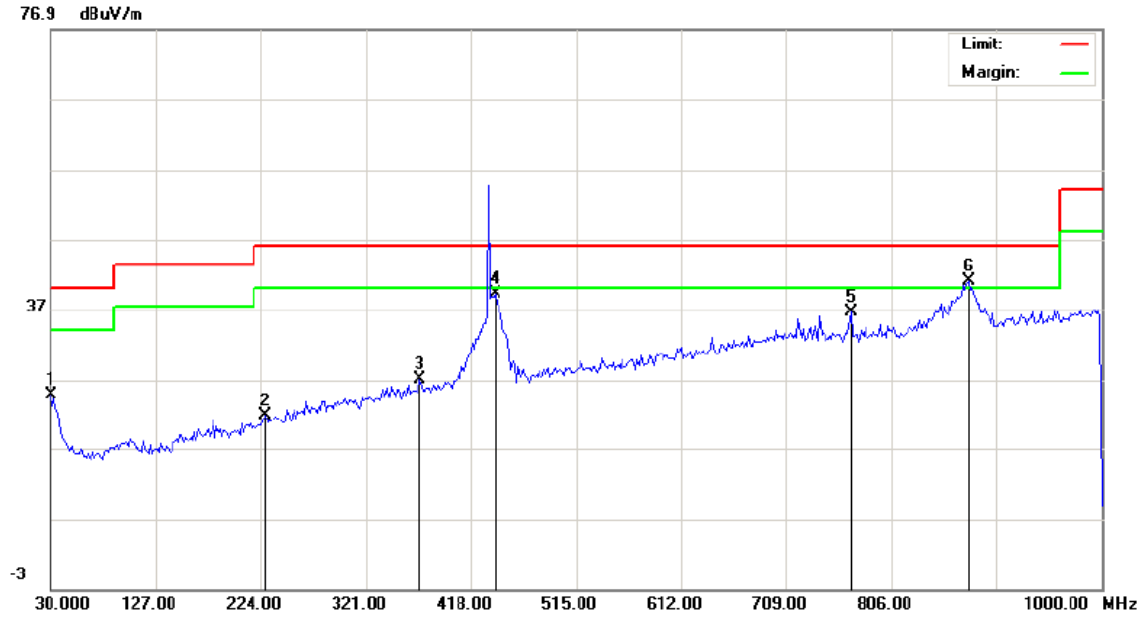
b. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

c. The test frequency analyzer system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.4 TEST RESULT

PASS

Figure 1: Test figure of radiated emission（receiving）, 30MHz ~ 1GHz, 3m distance



Site site #1 Polarization: *Horizontal* Temperature: 26

Limit: FCC Class B 3M Radiation Power: DC 4.5V Humidity: 60 %

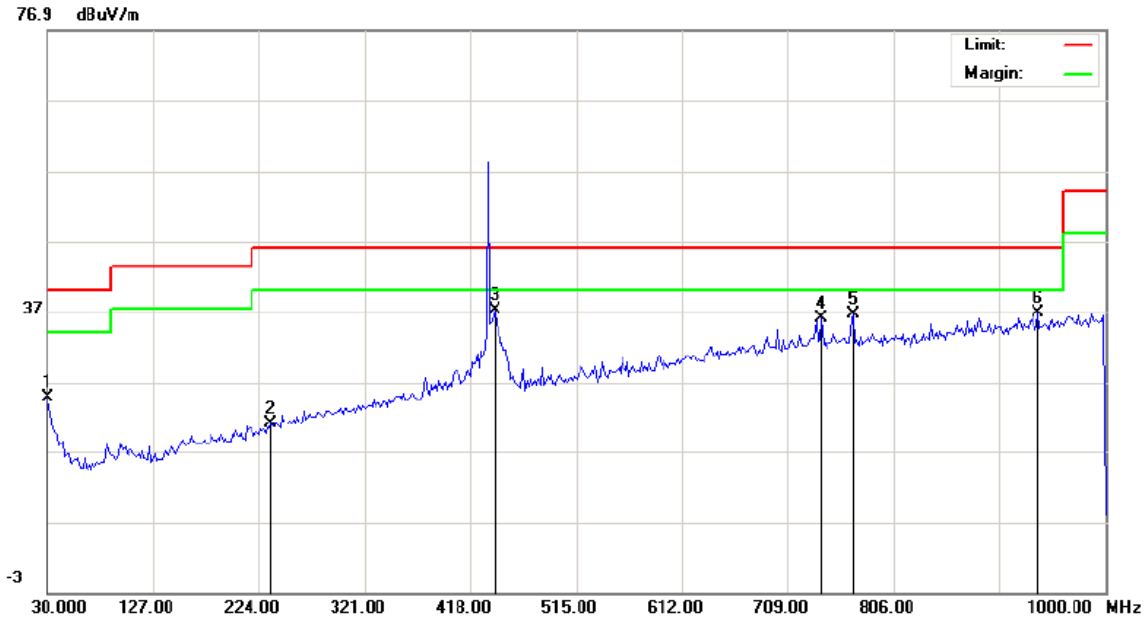
EUT:Home weather station

M/N:321RX

Mode: Receiving

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	30.0000	7.22			17.63	24.85			40.00		-15.15		P	
2	228.8500	8.87			12.99	21.86			46.00		-24.14		P	
3	371.1167	9.26			17.65	26.91			46.00		-19.09		P	
4	440.6333	20.16	17.19		19.02	39.18	36.21		46.00		-9.79		P	
5	768.8167	11.71			24.99	36.70			46.00		-9.30		P	
6	877.1333	14.79	7.85		26.30	41.09	34.15		46.00		-11.85		P	



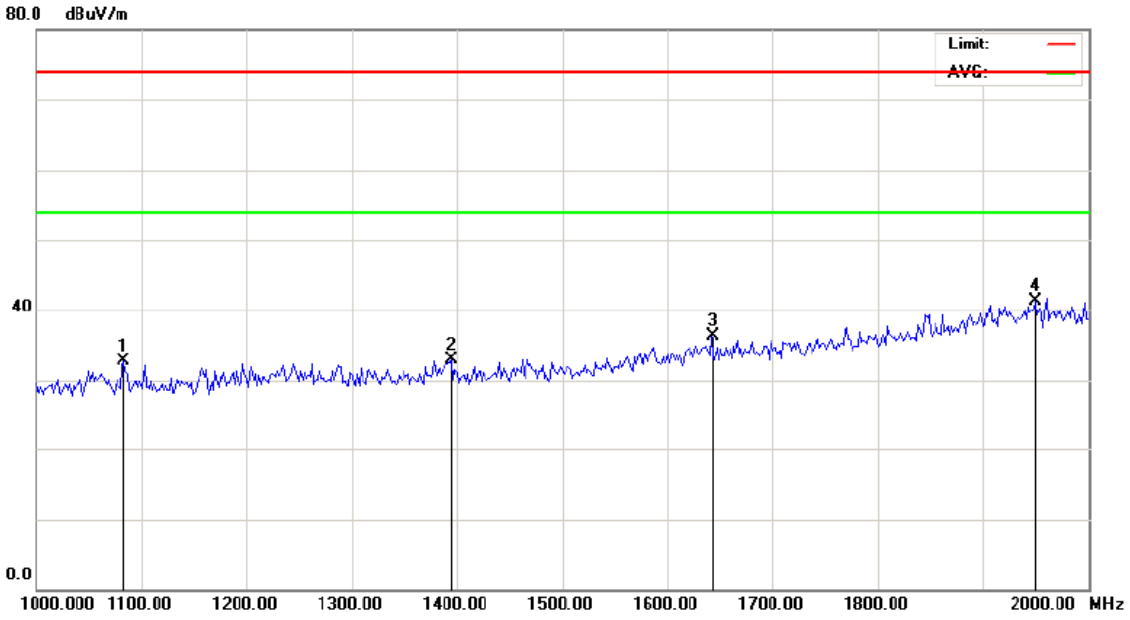
Site site #1
Limit: FCC Class B 3M Radiation
EUT:Home weather station
M/N:321RX
Mode: Receiving
Note

Polarization: ***Vertical***
Power: DC 4.5V

Temperature: 26
Humidity: 60 %

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	30.0000	7.25			17.63	24.88			40.00		-15.12		P	
2	235.3167	7.72			13.25	20.97			46.00		-25.03		P	
3	440.6333	18.10			19.02	37.12			46.00		-8.88		P	
4	739.7167	11.20			24.88	36.08			46.00		-9.92		P	
5	768.8167	11.59			24.99	36.58			46.00		-9.42		P	
6	938.5667	9.76			27.09	36.85			46.00		-9.15		P	

Figure 2: Test figure of radiated emission（receiving）, 1GHz ~ 2GHz, 3m distance



Site site #1 Polarization: *Horizontal* Temperature: 26

Limit: FCC ABOVE 1GHz RADIATED EMISSION Power: DC4.5V Humidity: 60 %

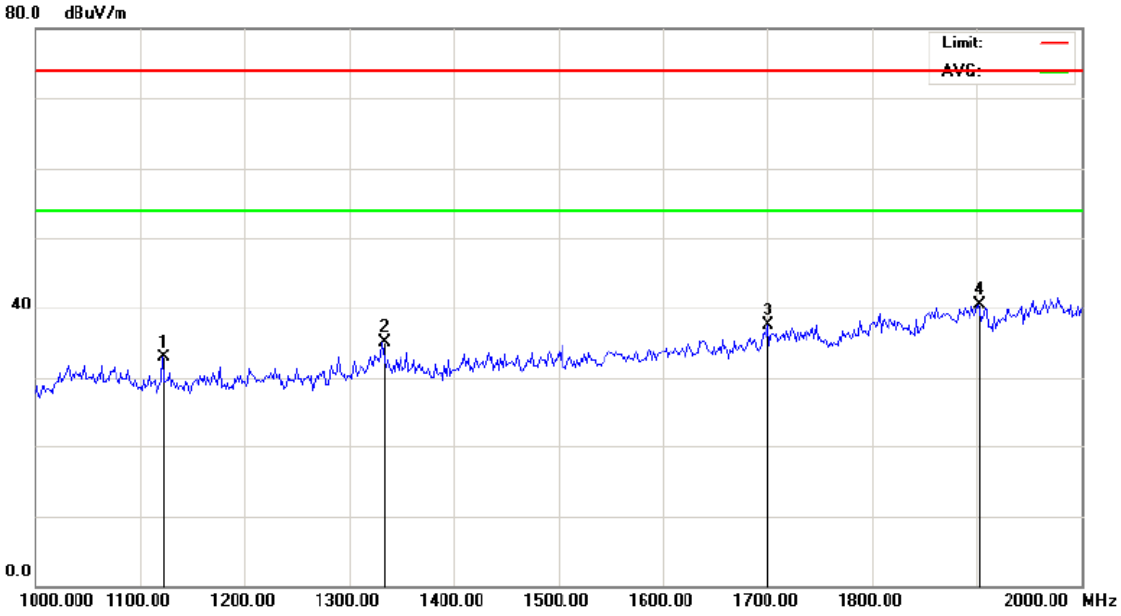
EUT:Home weather station

M/N:321RX

Mode: Receiving

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	1083.333	36.36			-3.68	32.68			74.00	54.00	-41.32	-21.32	P	
2	1395.000	34.57			-1.68	32.89			74.00	54.00	-41.11	-21.11	P	
3	1641.667	35.12			1.18	36.30			74.00	54.00	-37.70	-17.70	P	
4	1950.000	35.30			5.96	41.26			74.00	54.00	-32.74	-12.74	P	



Site site #1 Polarization: *Vertical* Temperature: 26

Limit: FCC ABOVE 1GHz RADIATED EMISSION Power: DC4.5V Humidity: 60 %

EUT:Home weather station

M/N:321RX

Mode: Receiving

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	1121.667	36.40			-3.44	32.96			74.00	54.00	-41.04	-21.04	P	
2	1331.667	37.20			-2.09	35.11			74.00	54.00	-38.89	-18.89	P	
3	1700.000	35.40			2.09	37.49			74.00	54.00	-36.51	-16.51	P	
4	1901.667	35.24			5.21	40.45			74.00	54.00	-33.55	-13.55	P	

Note1 :

Correct factor = cable loss+ antenna factor -amplifier factor.

Measurement(PK,QP,AV) = Reading_ Level(PK,QP,AV)+ correct factor.

Note2 :

The frequency which over the limit in above test graphs (30MHz-1GHz) is 433.92MHz,It is an unmodulated siginal generate by the signal generator,so it is not recorded in the report.

Note 3:

Below 1GHz: The total factor = cable loss+ antenna factor.

For Example: for 440.63MHz, cable loss is 2.45dB and the antenna factor is 16.57dB/m.

So, The total factor = cable loss+ antenna factor = 2.45+16.57 = 19.02dB

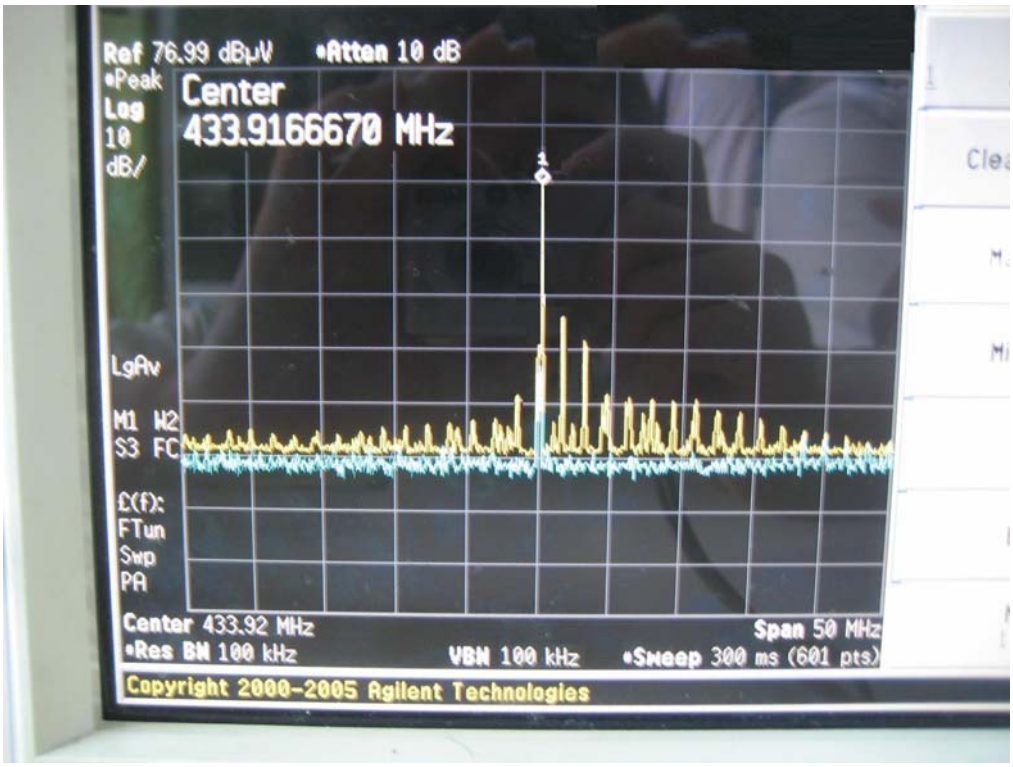
Above 1GHz: The total factor = cable loss+ antenna factor -amplifier factor.

For Example: for 1950.00MHz, cable loss is 3.96dB , the antenna factor is 32.00dB/m and amplifier factor is 30dB

So, The total factor = cable loss+ antenna factor -amplifier factor.

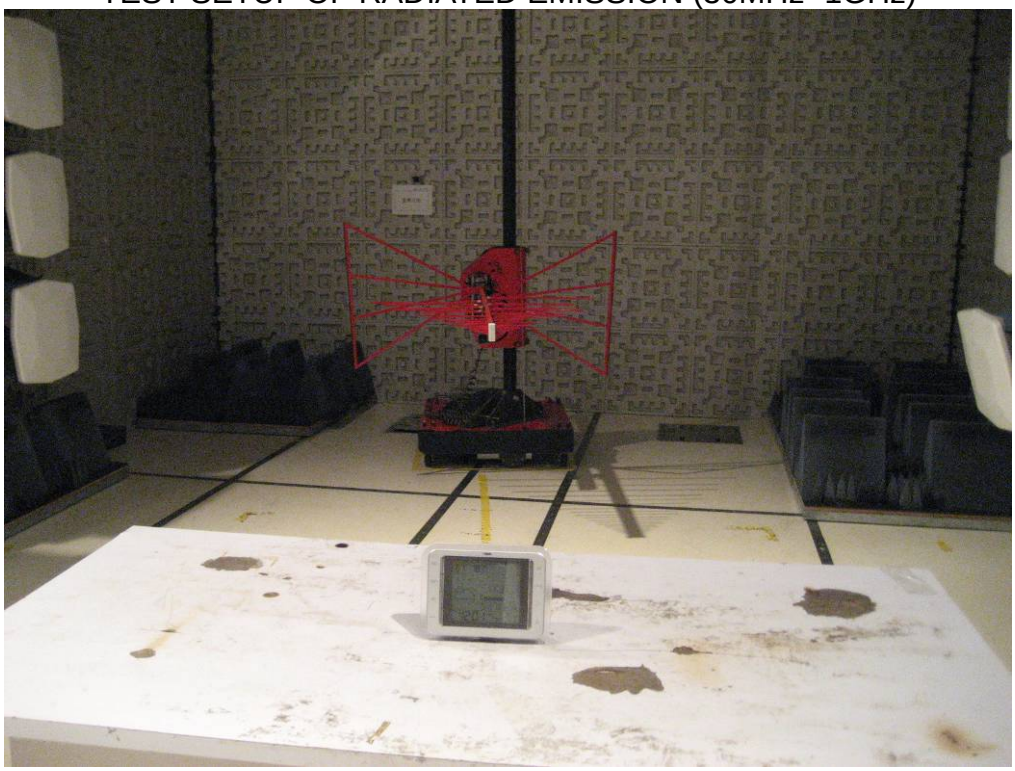
= 3.96+32.00-30 = 5.96dB

Spectrum screenshots of fundanmental frequency when receiver receives an unmodulated signal.



APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

TEST SETUP OF RADIATED EMISSION (30MHz -1GHz)



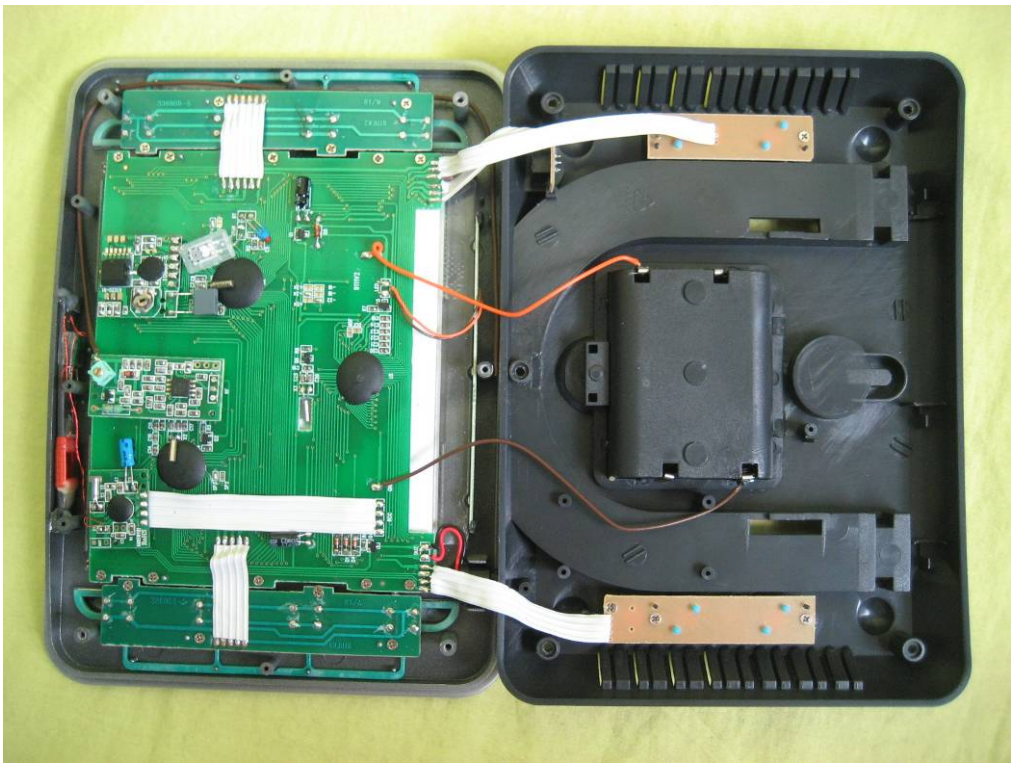
TEST SETUP OF RADIATED EMISSION (1GHz -2GHz)

APPENDIX 2 EXTERNAL PHOTOGRAPHS OF EUT

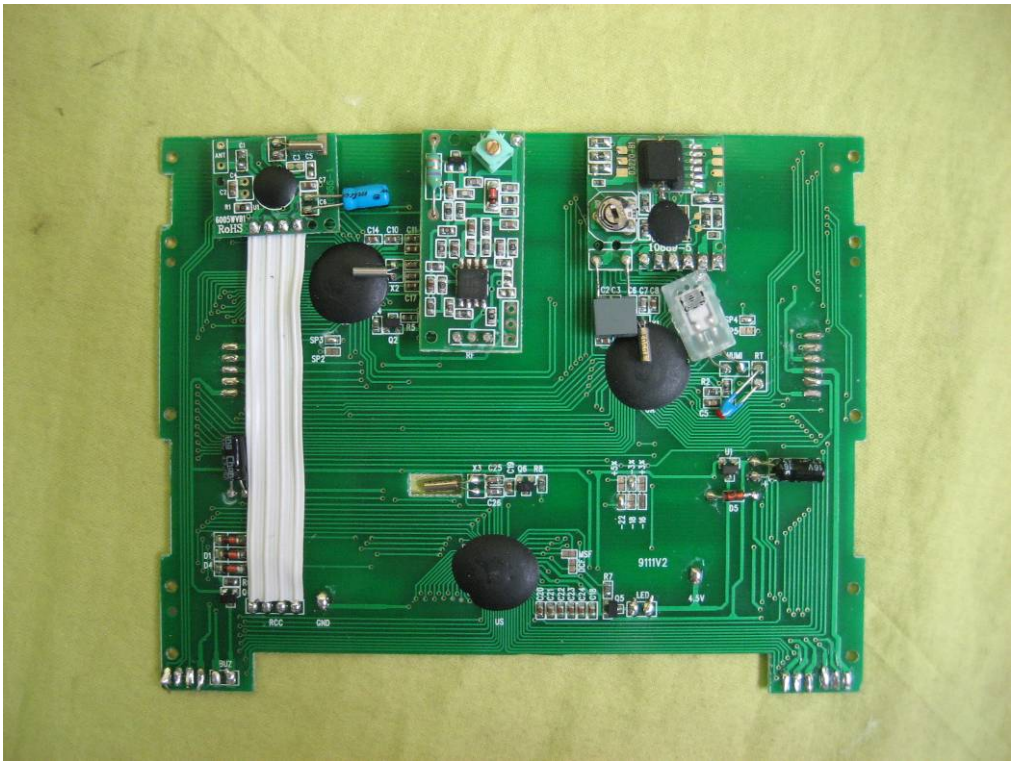
View of EUT-1

View of EUT-2

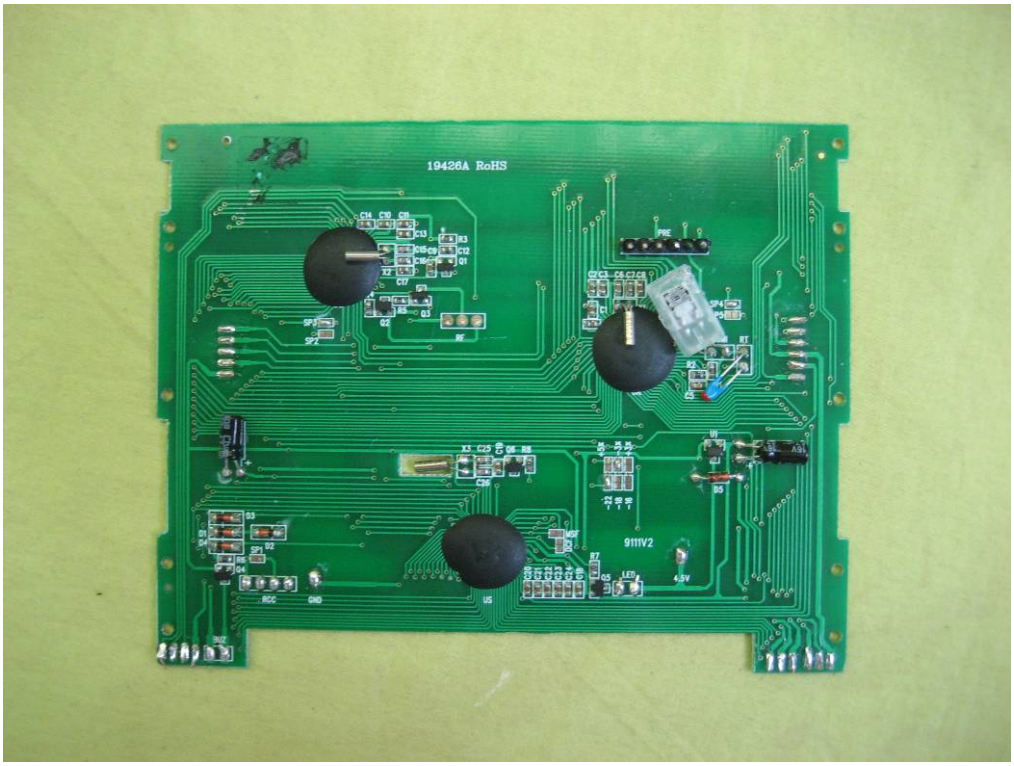
APPENDIX 3 INTERNAL PHOTOGRAPHS OF EUT



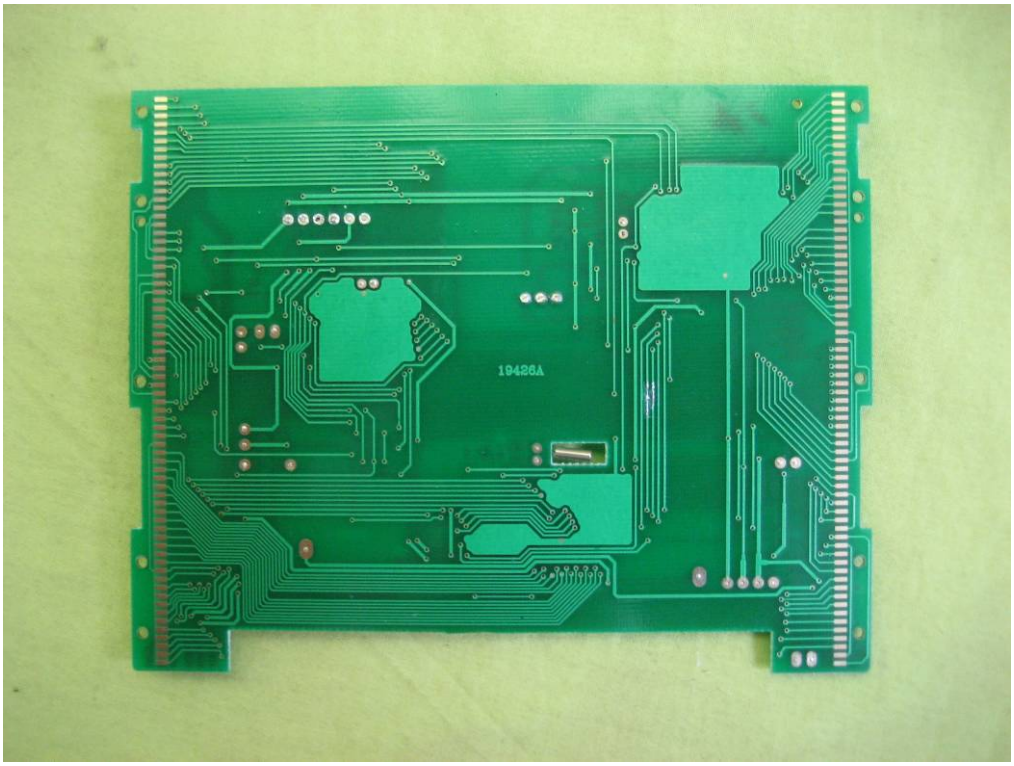
View of EUT-1



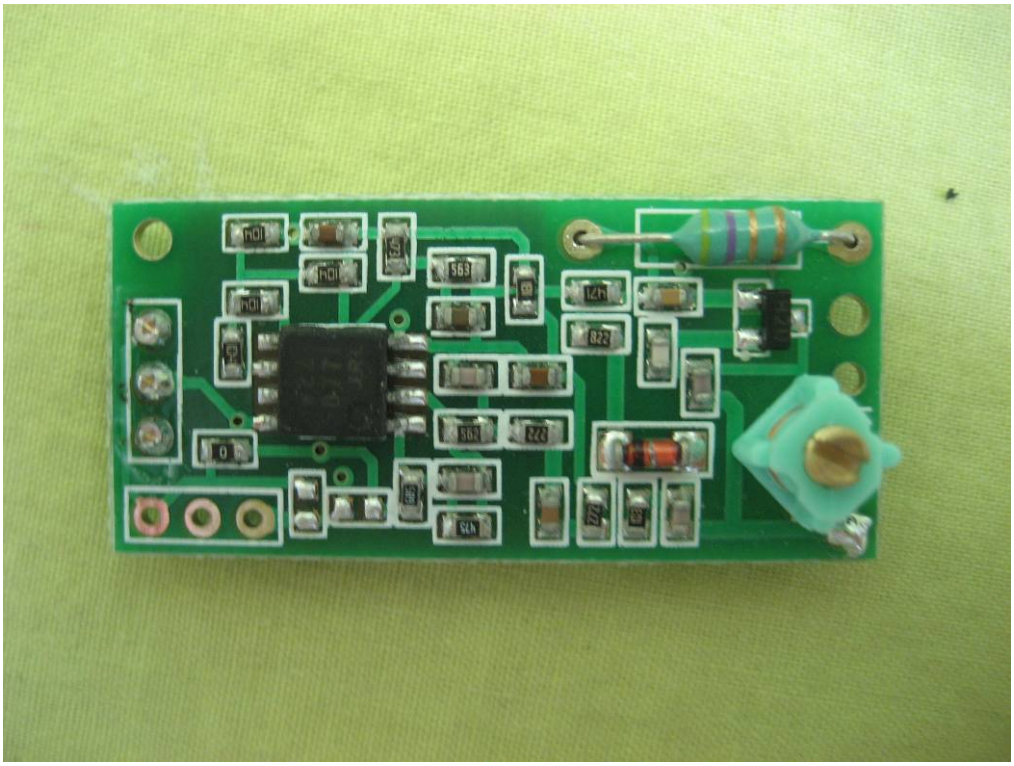
View of EUT-2



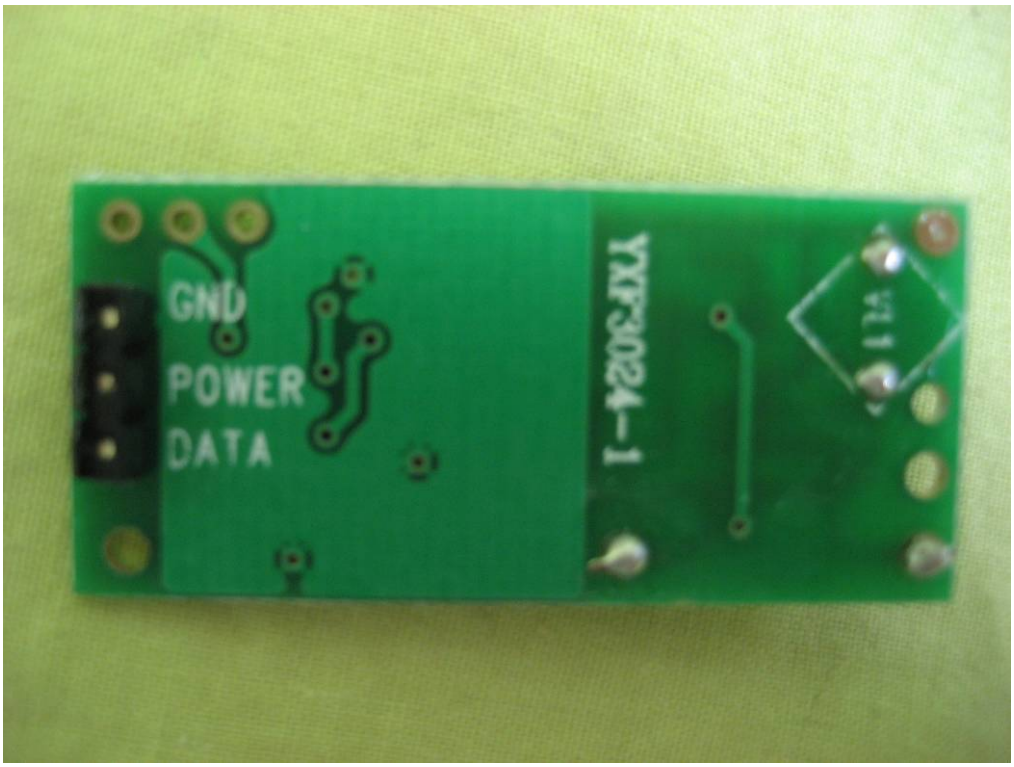
View of EUT-3



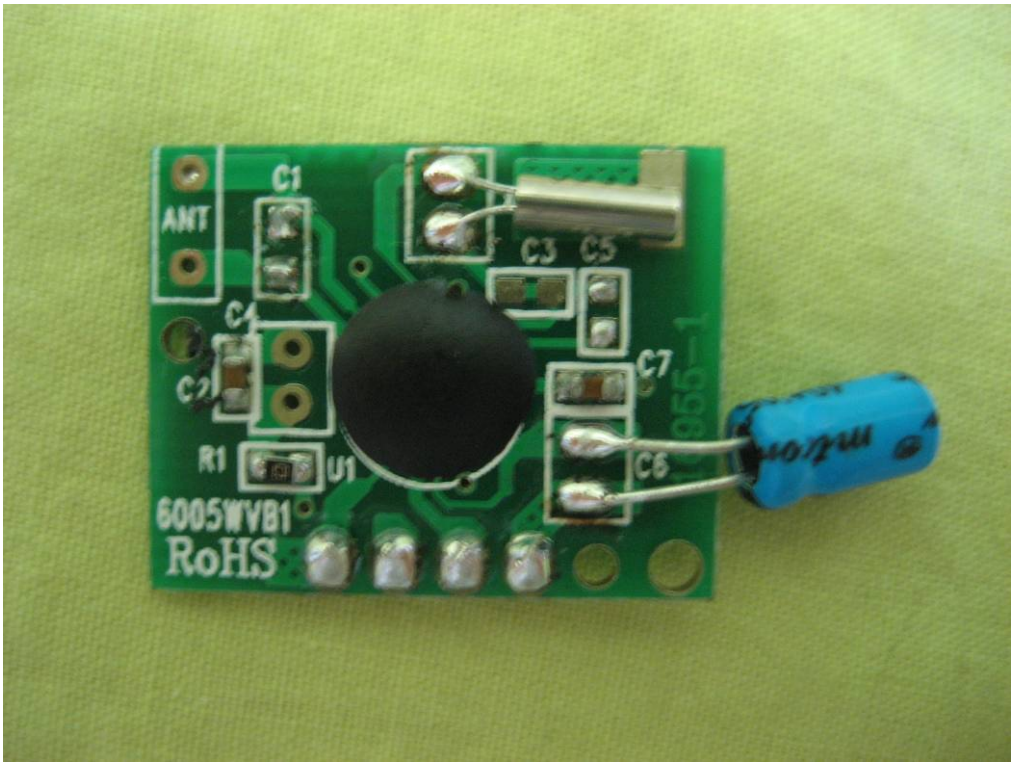
View of EUT-4



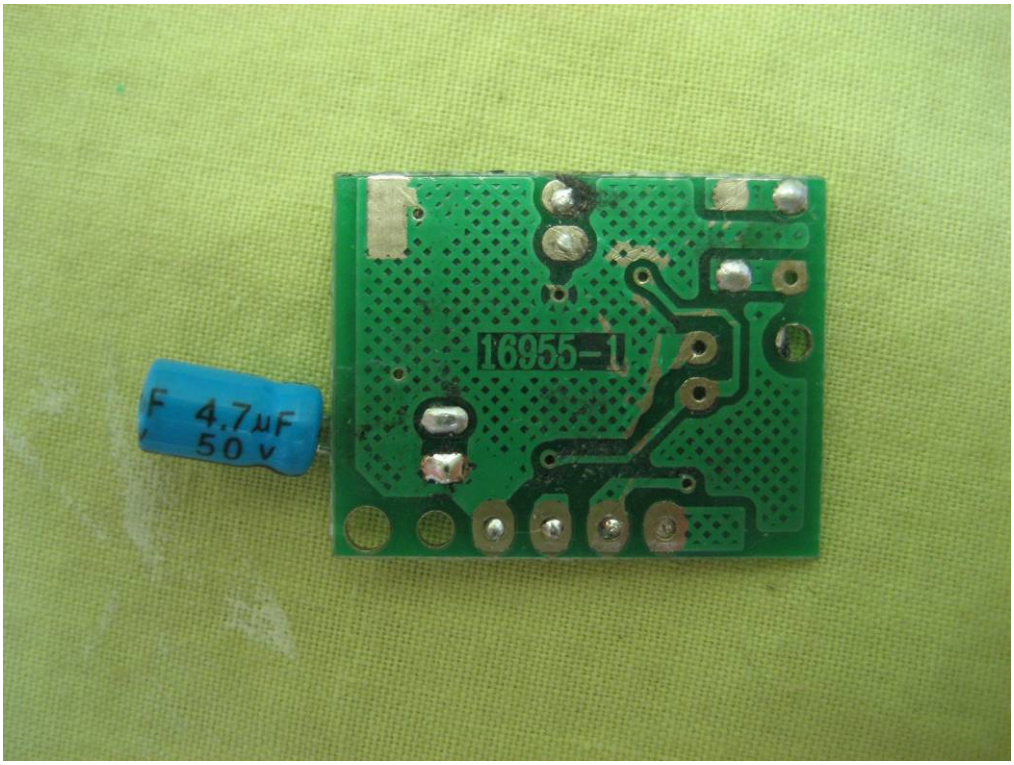
View of EUT-5



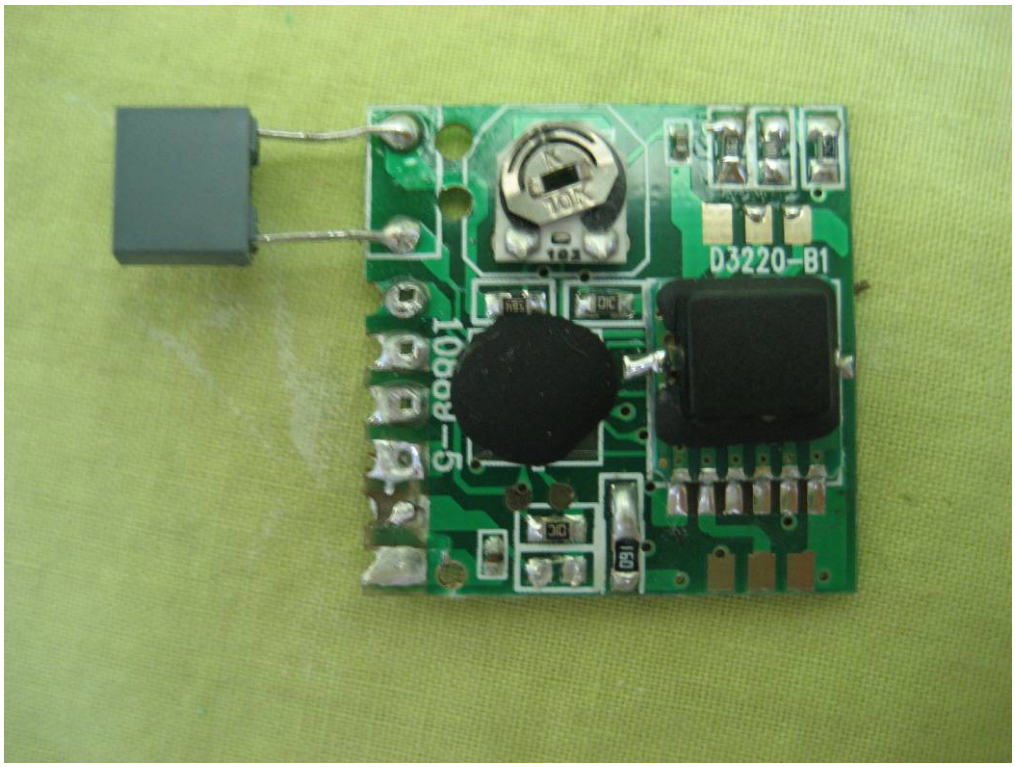
View of EUT-6



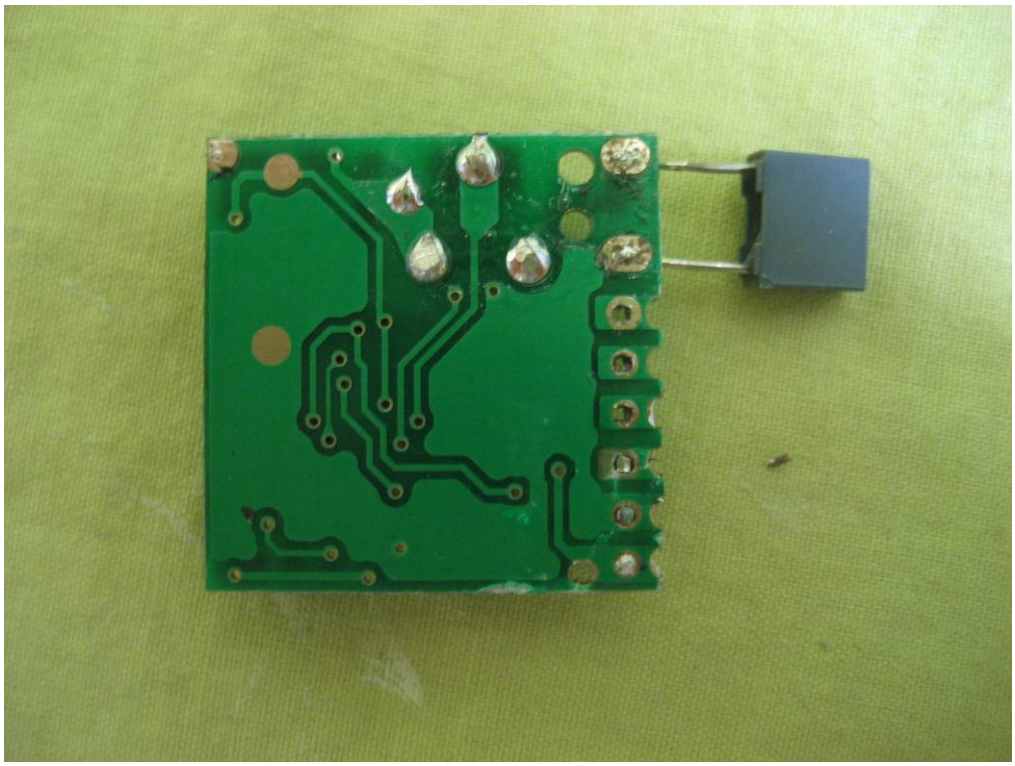
View of EUT-7



View of EUT-8



View of EUT-9



View of EUT-10

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