FCC TEST REPORT

FCC ID : SJ8-SEW-3030

Applicant : RDI Technology (Shenzhen) Co., Ltd.
Address : Building C1 Xingtang Industrial Park, East Baishixia, Fuyong, Baoan, Shenzhen,PRC

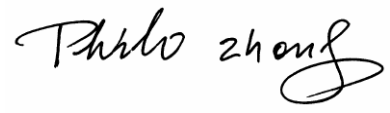
Equipment Under Test (EUT) :

Product description : Digital Camera and Monitor System
Model No. : SEW-3030

Standards : FCC Part 15 Subpart B

Date of Test : July 24,2010

Test Engineer : Olic.huang

Reviewed By : 

Test Result :	**PASS ***

* The sample detailed above has been tested to the requirements of Council Directives ANSI C63.4:2003. The test results have been reviewed against the Directives above and found to meet their essential requirements.

PREPARED BY:
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1 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B: 2008	ANSI C63.4: 2003	Class B	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15, SUBPART B: 2008	ANSI C63.4: 2003	Class B	PASS

Contents

2 General Information

2.1 Client Information

Applicant:	RDI Technology (Shenzhen) Co., Ltd
Address of Applicant:	Building C1 Xingtang Industrial Park,East Baishixia, Fuyong,Baoan, Shenzhen,PRC
Manufacturer:	RDI Technology (Shenzhen) Co., Ltd
Address of manufacturer:	Building C1 Xingtang Industrial Park,East Baishixia, Fuyong,Baoan, Shenzhen,PRC

2.2 General Description of E.U.T.

Product description:	Digital Camera and Monitor System
Model No.:	SEW-3030

2.3 Details of E.U.T.

Power Supply:	AC Input : 100~240V,50/60Hz DC Output : 5V,1.0A

2.4 Description of Support Units

The EUT has been tested as an independent unit.

2.5 Standards Applicable for Testing

The customer requested FCC tests for a Digital Camera and Monitor System . The standards used were FCC Part 15 Subpart B.

2.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC – Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581.June 24,2008.

- **IC – Registration No.:IC7760A**

  Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration IC7760A, July 24, 2008.

2.7 Test Location

All Emissions tests were performed at:-
1/F, Fukangtai Building,West Baima Rd.,Songgang Street, Baoan District, Shenzhen 518105,China

3 Equipment Used during Test

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
EMC Analyzer	Agilent/ E7405A	MY45114943	W2008001	9k-26.5GHz	Aug-09	Aug-10	Wws20081596	±1dB
Trilog Broadband Antenne 30-3000 MHz	SCHWARZBECK MESS-ELEKTROM / VULB9163	336	W2008002	30-3000 MHz	Aug-09	Aug-10		±1dB
Broad-band Horn Antenna	SCHWARZBECK MESS-ELEKTROM / VULB9163	667	W2008003	1-18GHz	Aug-09	Aug-10		f＜10 GHz：±1dB 10GHz＜f＜18 GHz：±1.5dB
Broadband Preamplifier	SCHWARZBECK MESS-ELEKTROM / BBV 9718	9718-148	W2008004	0.5-18GHz	Aug-09	Aug-10		±1.2dB
10m Coaxial Cable with N-male Connectors usable up to 25GHz,	SCHWARZBECK MESS-ELEKTROM / AK 9515 H	-	-	-	Aug-09	Aug-10		-
10m 50 Ohm Coaxial Cable with N-plug, individual length,usable up to 3(5)GHz, Connector	SCHWARZBECK MESS-ELEKTROM / AK 9513				Aug-09	Aug-10		
Positioning Controller	C&C LAB/ CC-C-IF				N/A	N/A		
Color Monitor	SUNSPO/ SP-14C				N/A	N/A		
Test Receiver	ROHDE&SCHWARZ/ ESPI	101155	W2005001	9k-3GHz	Aug-09	Aug-10	Wws20080942	±1dB
EMI Receiver	Beijingkehuan	KH3931		9k-1GHz	Aug-09	Aug-10		
Two-Line V-Network	ROHDE&SCHWARZ/ ENV216	100115	W2005002	50Ω/50μH	Aug-09	Aug-10	Wws20080941	±10%
Absorbing Clamp	ROHDE&SCHWARZ/ MDS-21	100205	W2005003	impandance50 Ω loss ： 17 dB	Aug-09	Aug-10	Wws20080943	±1dB

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
10m 50 Ohm Coaxial Cable with N-plug, individual length,usable up to 3(5)GHz, Connectors	SCHWARZBECK MESS-ELEKTROM / AK 9514				Aug-09	Aug-10		
Digital Power Analyzer	Em Test AG/Switzerland/ DPA 500	V07451 03095	W2008012	Power：2000VA Vol-range：0-300V Freq_range：10-80Hz	Aug-09	Aug-10	Wwd200 81185	Voltage distinguish:0.025% Power_freq distinguish:0.02Hz
Power Source	Em Test AG/Switzerland/ ACS 500	V07451 03096	W2008013	Vol-range：0-300V Power_freq：10-80Hz				
Electrostatic Discharge Simulator	Em Test AG/Switzerland/DITO	V07451 03094	W2008005	Contact discharge：500V-10KV Air diacharge：500V-16.5KV	Aug-09	Aug-10	Wwc200 82400	7.5A current will be changed in V_m=1.5V
RF Generator	TESEQ GmbH/ NSG4070	25781	W2008008	Fraq-range：9K-1GHz RF voltage：-60 dBm-+10dBm	Aug-09	Aug-10	Wws200 81890	Power_freq distinguish0.1Hz RFeletricity distinguish 0.1 B
CDN M-Type	TESEQ GmbH/ CDN M016	25112	W2008009	Voltage correct factor 9.5 dB	Aug-09	Aug-10	Wwc200 82396	150K-80MHz：±1dB 80-230MHz:-2-+3dB
EM-Clamp	TESEQ GmbH/ KEMZ 801	25453	W2008010	Freq_range：0.15-1000 MHz	Aug-09	Aug-10	Wwc200 82397	0.3-400 MHz：±4dB Other freq：±5dB
Attenuator 6dB	TESEQ GmbH/ ATN6050	25365			Aug-09	Aug-10	Wws200 81597	
All Modules Generator	SCHAFFNER/6150	34579	W2008006	voltage:200V-4.4KV Pulse current：100A-2.2KA	Aug-09	Aug-10	Wwc200 82401	voltage: ±10% Pulse current：±10%

Equipment Name	Manufacturer Model	Equipment No	Internal No	Specification	Cal. Date	Due Date	Cert. No	Uncertainty
Capacitive Coupling Clamp	SCHAFFNER/ CDN 8014	25311			Aug-09	Aug-10	Wwc20082398	-
Signal and Data Line Coupling Network	SCHAFFNER/ CDN 117	25627	W2008011	1.2/50μS	Aug-09	Aug-10	Wwc20082399	-
AC Power Supply	TONGYUN/ DTDGC-4				Aug-09	Aug-10	Wws20080944	-
Exposure Level Tester ELT-400	Narda Safety TEST Solutions/2304/03	M-0155	w2008022	Test freq range：1—400kHz	Aug-09	Aug-10	Wwd20081191	Test uncertainly: 1—120kHz:±1.83%, 120 kHz-400 kHz: ±4.06%
Magnetic Field Probe 100cm^2	Narda Safety TEST Solutions/2300/90.10	M-1070	w2008021	Test freq range：1—400kHz				Test uncertainly: 1Hz-10Hz: ±16.2%, 10Hz - 120kHz:±2.2%, 120 kHz-400 kHz: ±4.7%
Active Loop Antenna Charger 10kHz-30MHz	Beijing Dazhi / ZN30900A	-	-	10kHz-30MHz	Aug-09	Aug-10		±1dB

4 Emissions Test Results

4.1 Conducted Emission Data

Test Requirement:	FCC Part15.107 Class B
Test Method:	ANSI C63.4：2003
Test Date:	July 24,2010
Frequency Range:	150kHz to 30MHz
Class:	Class B
Limit:	66-56 dBμV between 0.15MHz & 0.5MHz 56 dBμV between 0.5MHz & 5MHz 60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

4.1.1 E.U.T. Operation

Operating Environment:

Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	1012 mbar

EUT Operation :

The EUT was tested according to ANSI C63.4：2003. The frequency spectrum from 150kHz to 30MHz was investigated.

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

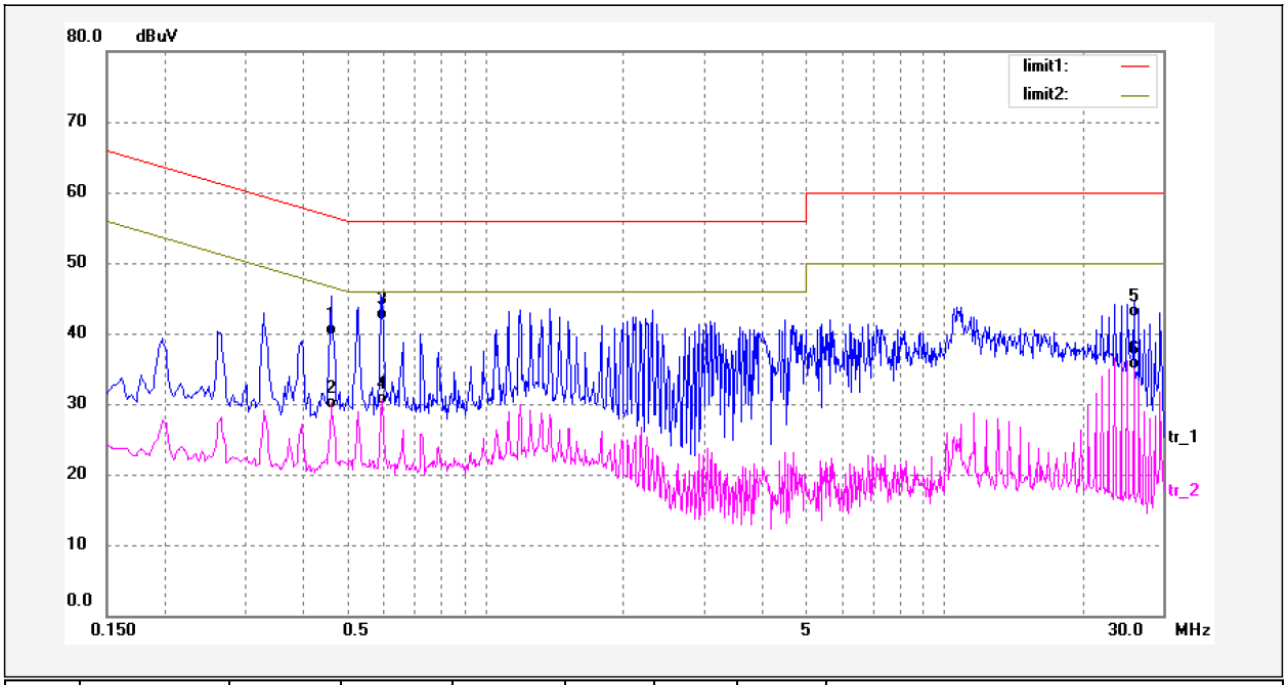
4.1.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.4：2003, The specification used in this report was the FCC Part15.107 Class B limits. The EUT was placed on the test table in working mode.The EUT has been tested the PC mode.and the data as follow:

4.1.3 Conducted Emission Test Data

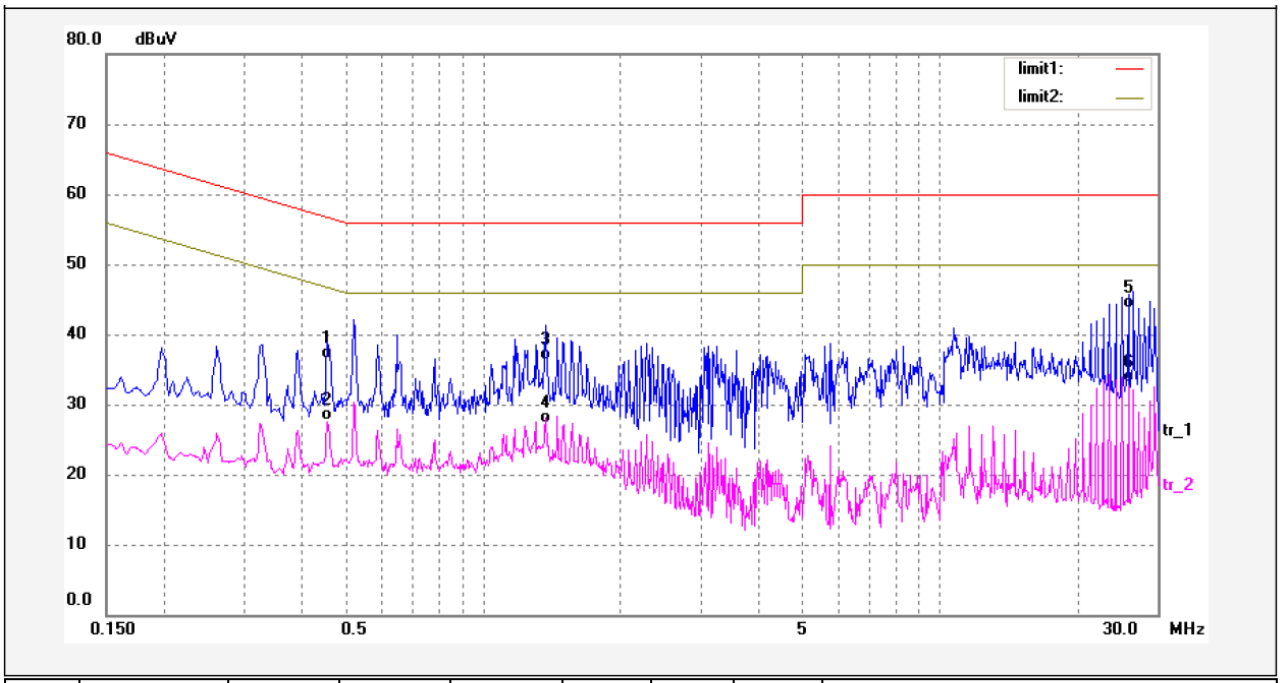
The conducted test data as below :
Mode： PC mode

Live Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4620	29.02	10.78	39.80	56.66	-16.86	QP	
2	0.4620	18.58	10.78	29.36	46.66	-17.30	AVG	
3	0.5940	31.65	10.21	41.86	56.00	-14.14	QP	
4	0.5940	19.70	10.21	29.91	46.00	-16.09	AVG	
5	25.8779	29.68	12.66	42.34	60.00	-17.66	QP	
6	25.8779	22.20	12.66	34.86	50.00	-15.14	AVG	

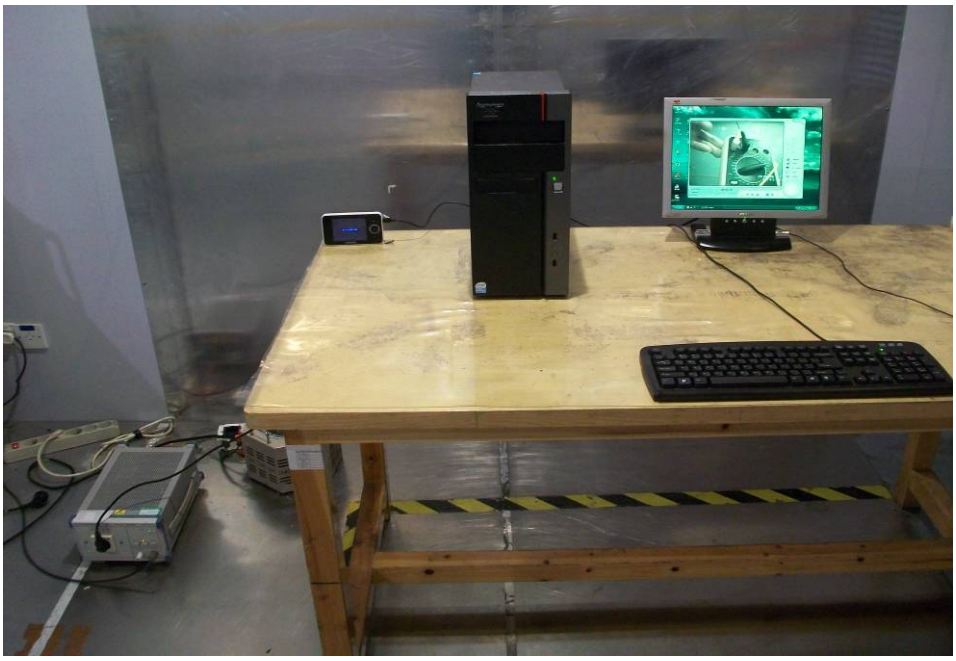
Neutral Line



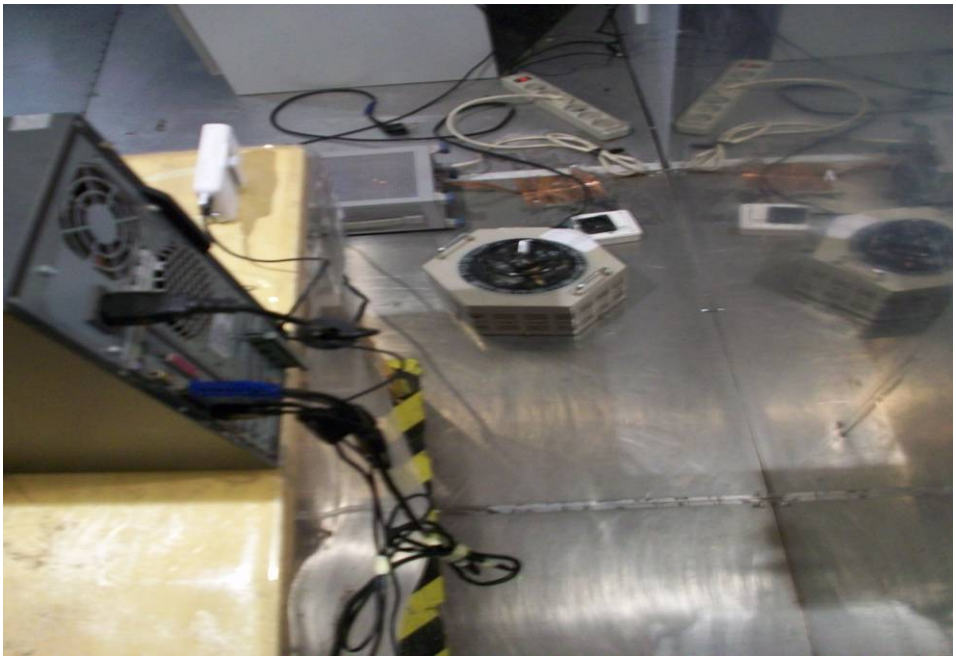
No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4580	25.80	10.78	36.58	56.73	-20.15	QP	
2	0.4580	16.99	10.78	27.77	46.73	-18.96	AVG	
3	1.3740	25.07	11.19	36.26	56.00	-19.74	QP	
4	1.3740	16.21	11.19	27.40	46.00	-18.60	AVG	
5	25.8779	31.02	12.66	43.68	60.00	-16.32	QP	
6	25.8779	20.50	12.66	33.16	50.00	-16.84	AVG	

4.1.4 Photographs – Conducted Emission Test Setup

Test Setup Front View



Test Setup Back View



4.2 Radiation Emission Data

Test Requirement:	FCC Part15 B
Test Method:	Based on ANSI C63.4:2003
Test Date:	July 24,2010
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Limit:	40.0 dBμV/m between 30MHz & 88MHz
	43.5 dBμV/m between 88MHz & 216MHz
	46.0 dBμV/m between 216MHz & 960MHz
	54.0 dBμV/m zbove 960MHz
Detector:	Peak for pre-scan (120kHz resolution bandwidth)
	Quasi-Peak if maximised peak within 6dB of limit

4.2.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on ANSI C63.4:2003, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Waltek EMC lab is $\pm$5.03 dB.

4.2.2 EUT Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC Part15 B limits. The EUT was placed on the test table in working mode. a typical signal or an unmodulated CW signal at the operating frequency of the EUT shall be supplied to the EUT for all measurements.

4.2.3 Spectrum Analyzer Setup

According to FCC Part15 B Rules, the system was tested 30 to 10000MHz.
Below 1G

Start Frequency..... 30 MHz
Stop Frequency..... 1000 MHz
Sweep Speed Auto
IF Bandwidth ..... 120 kHz
Video Bandwidth..... 100KHz
Quasi-Peak Adapter Bandwidth ..... 120 kHz
Quasi-Peak Adapter Mode ..... Normal
Resolution Bandwidth 100KHz

4.2.4 Test Procedure

The radiated emissions test.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dBμV of specification limits), and are distinguished with a "**Qp**" in the data table.
The EUT was under normal mode during the final qualification test and the configuration was used to represent the worst case results.
The EUT was working in normal link of read/write mode.for more details of the test result,please refer to the test setup view in the report.

4.2.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

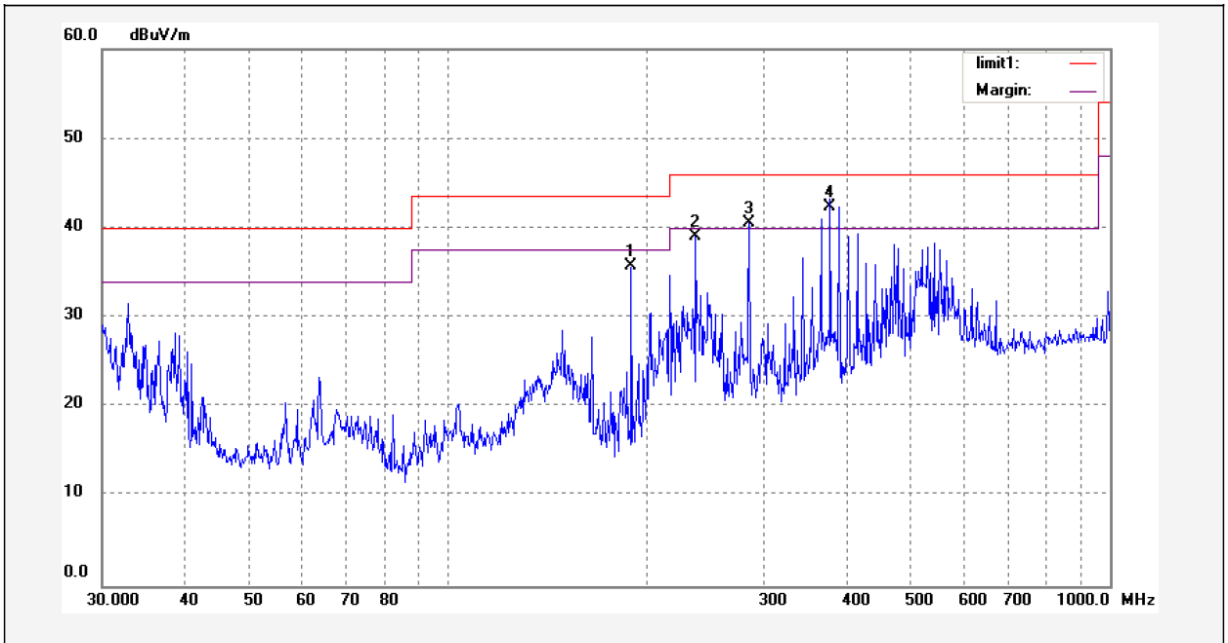
Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:
Margin = Corr. Ampl. – Class B Limit

4.2.6 Summary of Test Results

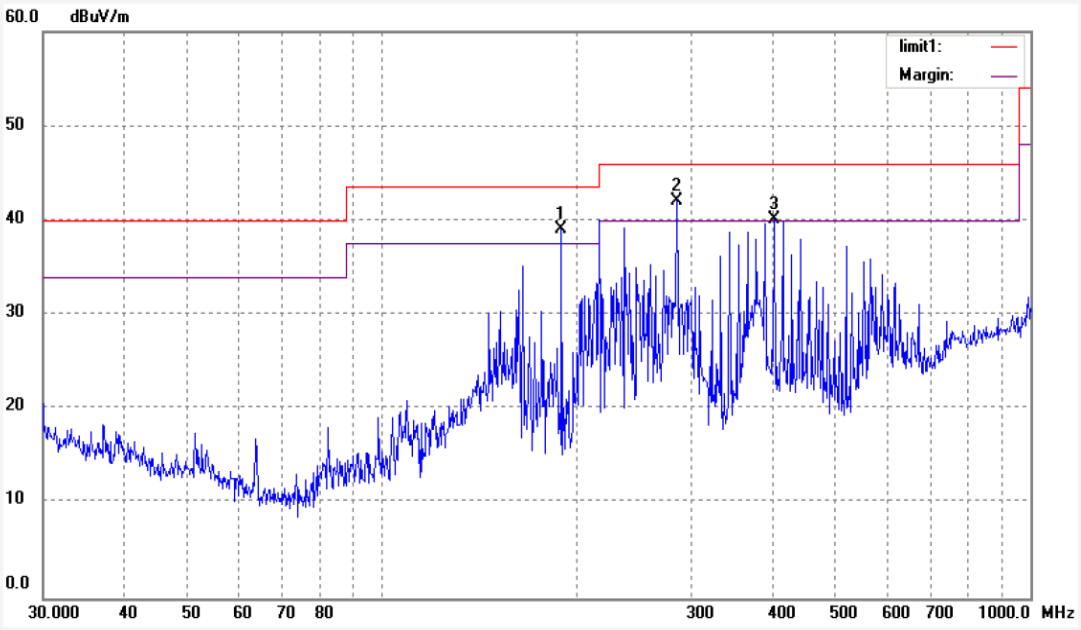
According to the data in this section, the EUT complied with the FCC Part15 B standards.
The EUT was pretested in two modes:PC mode and AV/OUT mode,and the worse case was the PC mode, so the data show was the PC mode only.

Test Mode:PC mode
Test Polarization： Horizontal



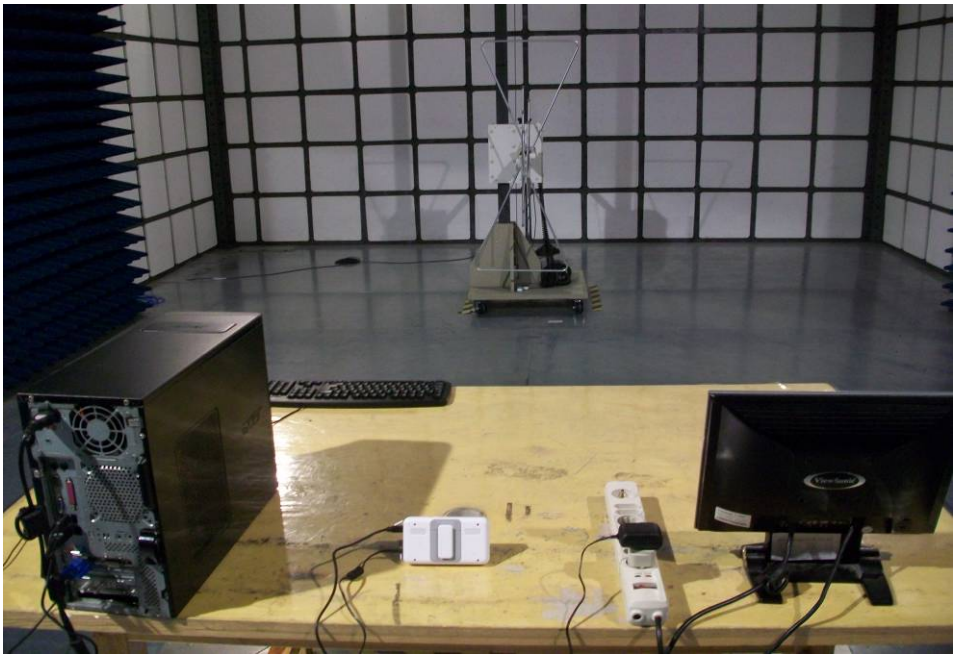
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	189.1076	23.38	12.32	35.70	43.50	-7.80	peak	
2	236.7928	21.98	17.17	39.15	46.00	-6.85	peak	
3	285.2611	22.56	18.04	40.60	46.00	-5.40	peak	
4	377.8481	22.00	20.35	42.35	46.00	-3.65	peak	

Test Polarization： Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	189.1074	26.83	12.29	39.12	43.50	-4.38	peak	
2	285.2610	24.44	17.57	42.01	46.00	-3.99	peak	
3	402.5167	18.93	21.16	40.09	46.00	-5.91	peak	

4.2.7 Photographs–Radiation Emission Test Setup View

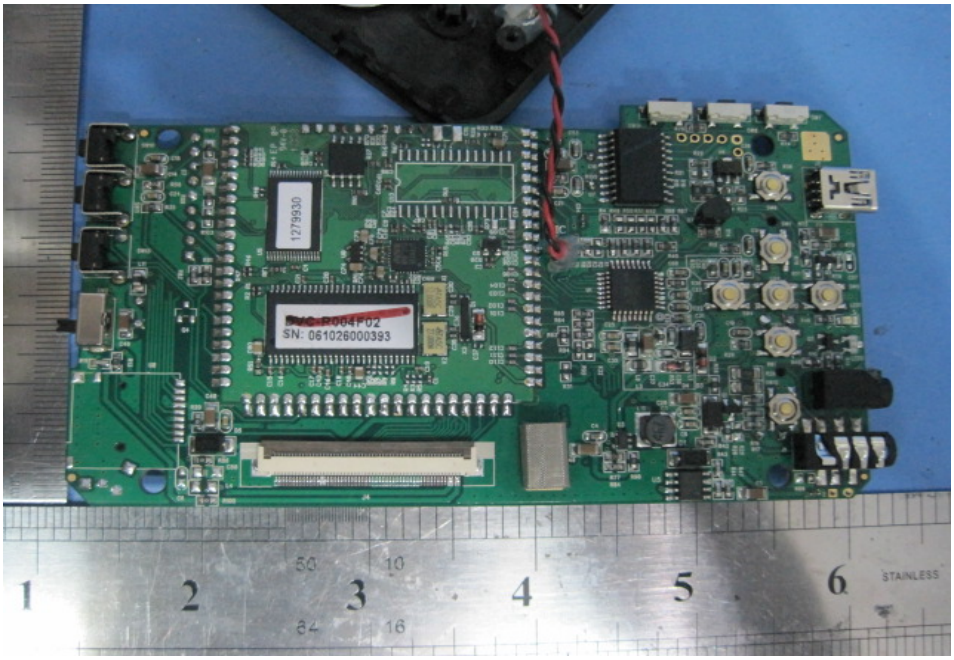


5 Photographs - Constructional Details

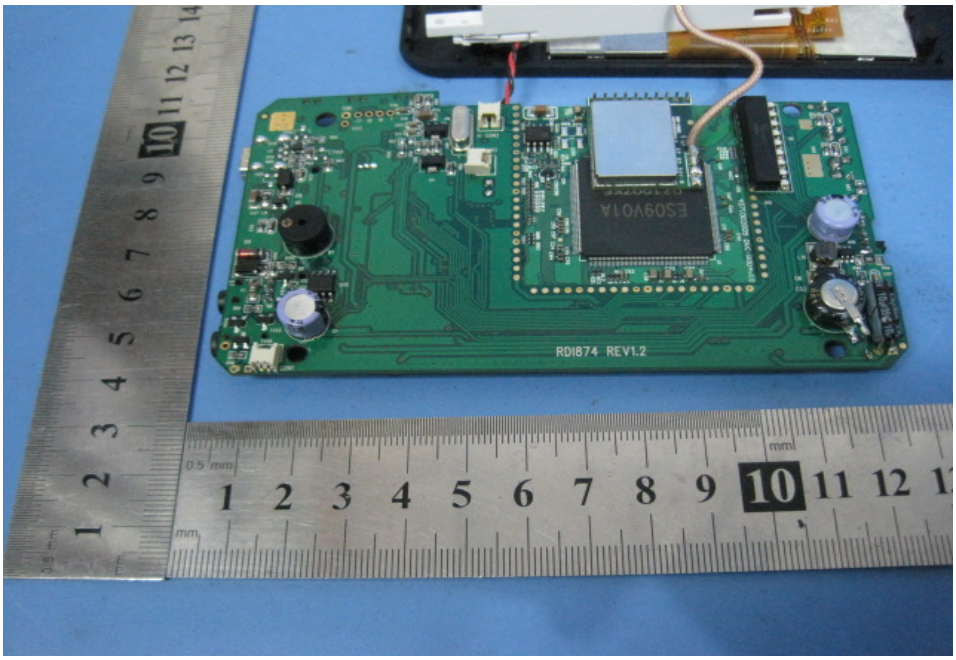
5.1 EUT - Front View

5.2 EUT - Back View

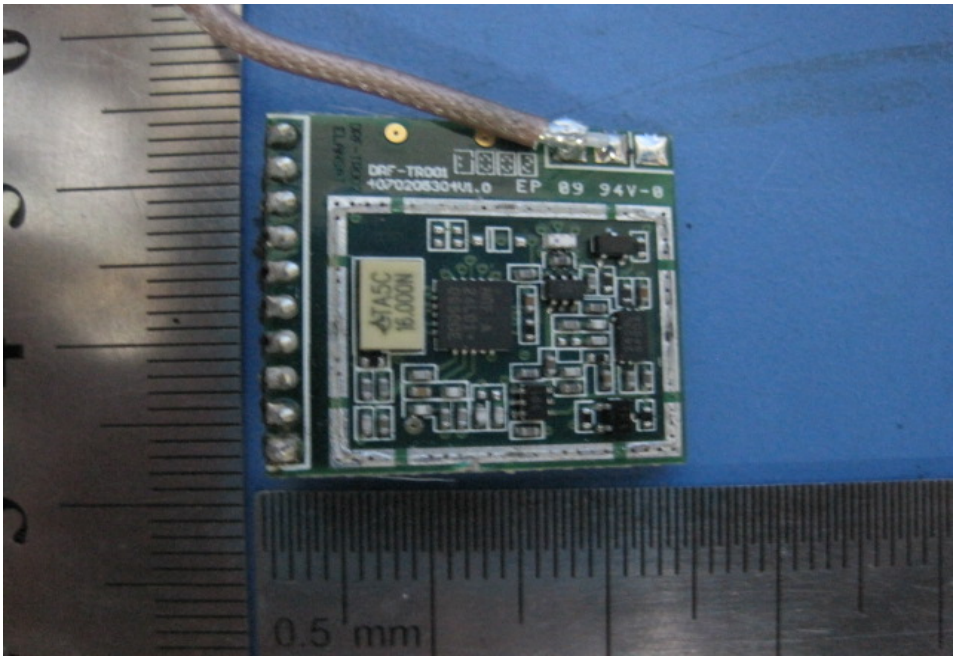
5.3 PCB 1 -Front View



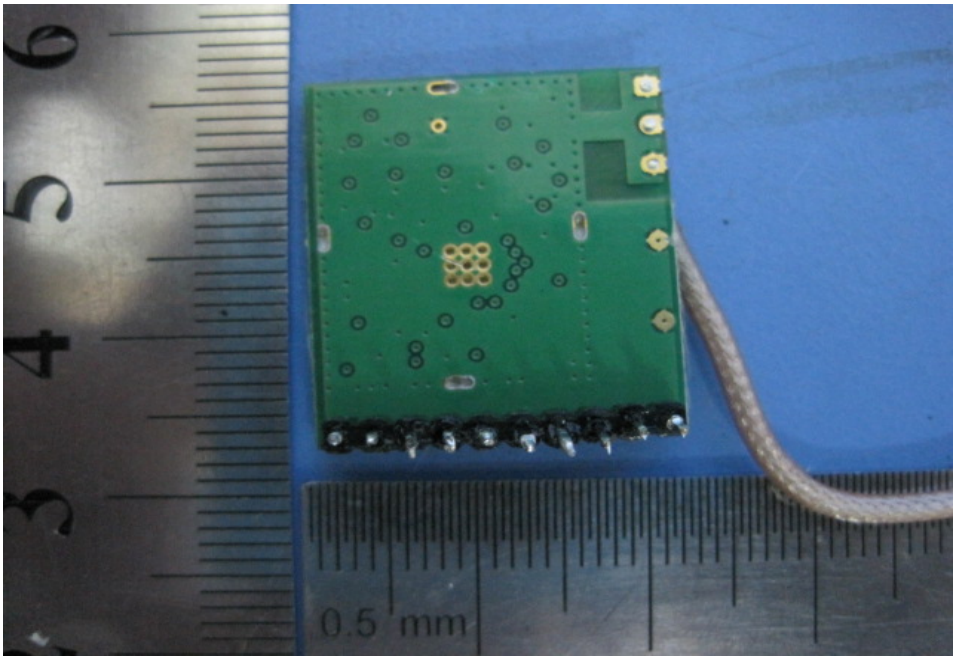
5.4 PCB 1 - Back View



5.5 PCB 2 -Front View



5.6 PCB 2-Back View



FCC ID Label

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

EUT Top View/ proposed FCC Label Location