

## FCC TEST REPORT

**REPORT NO.:** SE08FCI19BR

**MODEL NO.:** ESP-GEN2-01

**LISTED MODELS:** N/A

**RECEIVED:** Dec 25, 2008

**TESTED:** Jan 10 to Jan 15, 2009

**APPLICANT:** ESP SYSTEMS, LLC.

**ADDRESS:** 401 N. Tryon St-10th Floor, Charlotte,  
North Carolina 28202 United States

**ISSUED BY:** SHENZHEN SETEK TECHNOLOGY CO., LTD.

**LAB LOCATION:** 2/F,A3 Bldg, East Industry Zone, Overseas Chinese Town,  
Shenzhen,China

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**SHENZHEN SETEK TECHNOLOGY CO., LTD.**

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Prepared for : ESP SYSTEMS, LLC.  
Address : 401 N.Tryon St-10th Floor, Charlotte,  
North Carolina 28202 United States  
Product : WATCH PAGER  
Model No(s). : ESP-GEN2-01  
Trademark : N/A  
Test Standard : FCC Part 15 Paragraph 15.249  
Prepared by : SHENZHEN SETEK TECHNOLOGY CO., LTD.  
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Reviewer by :   
(Project Engineer)

Approved by :   
(Manager)

Report Number : SE08FCI19BR  
Date of Test : Jan 10 to Jan 15, 2009  
Date of Report : Mar 03, 2009

The device described above is tested by SHENZHEN SETEK TECHNOLOGY CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report applies to above tested sample only and shall not be reproduced in part without written approval of SHENZHEN SETEK TECHNOLOGY CO., LTD.

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# 1. GENERAL INFORMATION

## 1.1 Description of Device (EUT)

Applicant : ESP SYSTEMS, LLC.

Address : 1422 East Fourth Street  
Charlotte, North Carolina 28204, USA

Manufacturer : ESP Technology (Shenzhen) Ltd.

Address : East wing, 3rd Floor, Block 2, Phase 1 of Vision  
Shenzhen Business Park Keji South Rd., Shenzhen Hi-Tech  
Industrial Park, Shenzhen

EUT : WATCH PAGER

Model Number(s) : ESP-GEN2-01

Description of Antenna : PCB Antenna,

Power Supply : AC 120V/60Hz Adaptor

Operation Frequency : 2405MHz-2480 MHz

Number of Channels : 16

Type of Modulation : FHSS

Received : Dec 25, 2008

Date of Test : Jan 10 to Jan 15, 2009

## 1.2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 25GHz)	FCC PART 15: Oct 2007	ANSI C63.4: 2003	Class B	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15: Oct 2007	ANSI C63.4: 2003	Class B	PASS

## 1.3 Description of Support Device

The EUT has been tested as an independent unit.

## 1.4 Standards Applicable for Testing

The customer requested FCC tests for a WATCH PAGER. The standards used were FCC 15 Paragraph 15.249, Paragraph 15.207, Paragraph 15.209, Paragraph 15.31, Paragraph 15.33, Paragraph 15.35.

### 1.5 List of Measuring Equipments Used

AC Power Conducted Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100106	2008/11
2	ARTIFICIAL MAINS	ROHDE & SCHWARZ	ESH2-Z5	100028	2008/11
3	PULSE LIMITER	ROHDE & SCHWARZ	ESHSZ2	100044	2008/11
4	EMI TEST SOFTWARE	ROHDE & SCHWARZ	ES-K1 1.71	N/A	2008/11

Radiated Emissions					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ULTRA-BROADBAND ANTENNA	ROHDE & SCHWARZ	HL562	100015	2008/11
2	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESI 26	100009	2008/11
3	RF TEST PANEL	ROHDE & SCHWARZ	TS / RSP	335015/ 0017	2008/11
4	TURNTABLE	ETS	2088	2149	2008/11
5	ANTENNA MAST	ETS	2075	2346	2008/11
6	EMI TEST SOFTWARE	ROHDE & SCHWARZ	ESK1	N/A	2008/11

### 1.6 Test Facility

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

FCC – Registration No.: 662850

Shenzhen Huatongwei International Inspection Co., Ltd, the EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission.

### 1.7 Measurement Uncertainty

Radiation Uncertainty :  $U_r = \pm 4.22\text{dB}$

Conduction Uncertainty :  $U_c = \pm 3.29\text{dB}$

## 2. Conducted Emission Test

Product Name:	WATCH PAGER
Test Requirement:	FCC Part15 Paragraph 15.207
Test Method:	Based on FCC Part15 Paragraph 15.207
Test Date:	Jan 11, 2009
Frequency Range:	150 kHz to 30MHz
Class:	Class B
Detector:	Peak for pre-scan (9 kHz Resolution Bandwidth) Quasi-Peak & Average if maximized peak within 6dB of Average Limit

### 2.1. Test Equipment

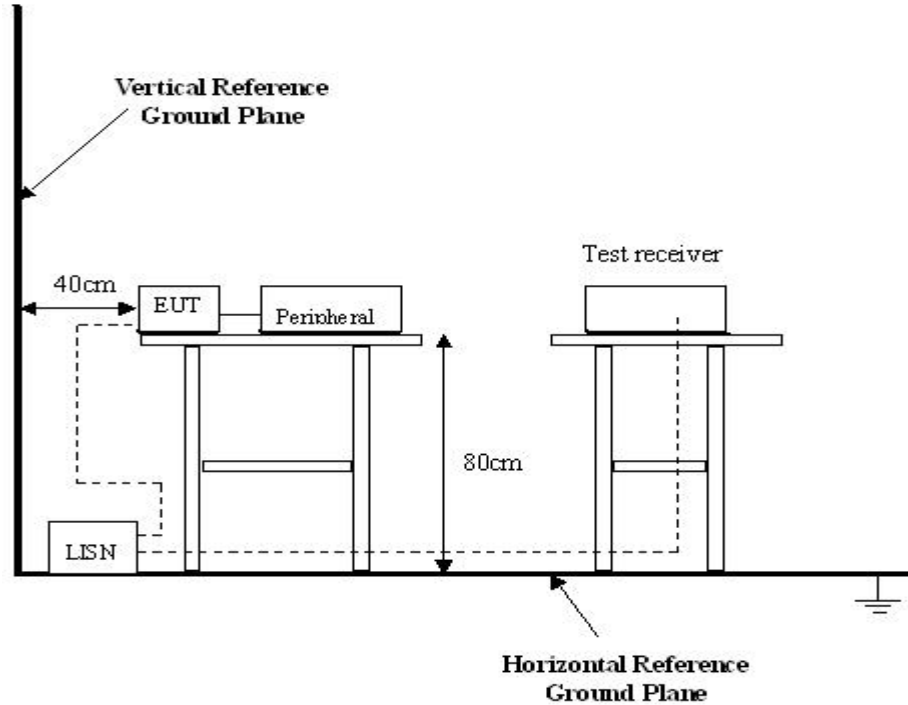
Please refer to Section 1.5. this report.

### 2.2. Test Procedure

1. The EUT was tested according to ANSI C63.4: 2003. The frequency spectrum from 150kHz to 30MHz was investigated.
2. 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.

### 2.3. Conducted Test Setup

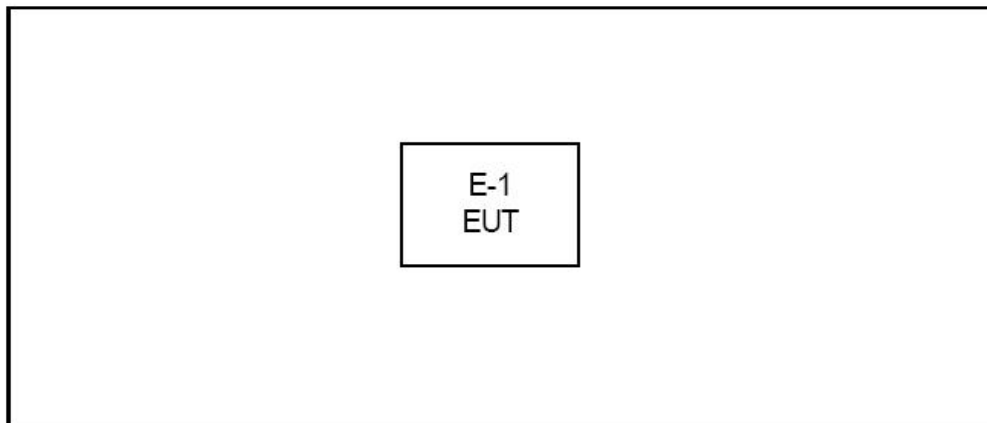
The conducted emission tests were performed using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC Part15 Paragraph 15.207 limits.



### 2.4. EUT Operating Condition

Operating condition is according to ANSI C63.4: 2003.

- A. Setup the EUT and simulators as shown on follow.
- B. Enable RF signal and confirm EUT active.
- C. Modulate output capacity of EUT up to specification.





## 2.5. Conducted Emission Limits

66-56 dBuV/m between 0.15MHz & 0.5MHz

56 dBuV/m between 0.5MHz & 5MHz

60 dBuV/m between 5MHz & 30MHz

**Note:** In the above limits, the tighter limit applies at the band edges.

## 2.6. Test Result

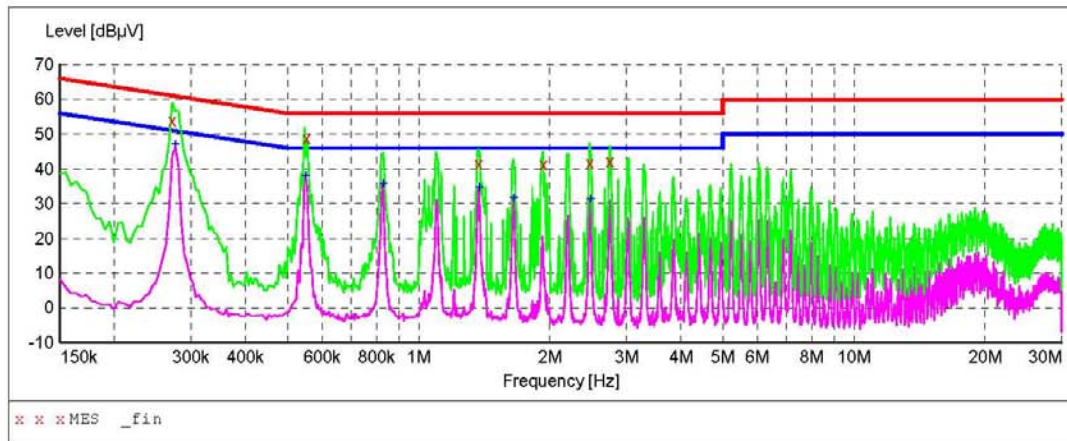
See the following pages

**Voltage Mains Test FCC PART15 B**

EUT: WATCH PAGER  
 Manufacturer: ESP  
 Operating Condition: CHARGING  
 Test Site: SHIELDED ROOM  
 Operator: Peter  
 Test Specification: AC 120V/60Hz  
 Comment:

**SCAN TABLE: "Voltage (9K-30M)FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.271500	54.00	10.6	61	7.1	QP	N	GND
0.555000	48.90	10.5	56	7.1	QP	N	GND
1.374000	41.60	10.6	56	14.4	QP	N	GND
1.936500	41.30	10.6	56	14.7	QP	N	GND
2.476500	41.70	10.7	56	14.3	QP	N	GND
2.755500	42.10	10.7	56	13.9	QP	N	GND

**MEASUREMENT RESULT:**

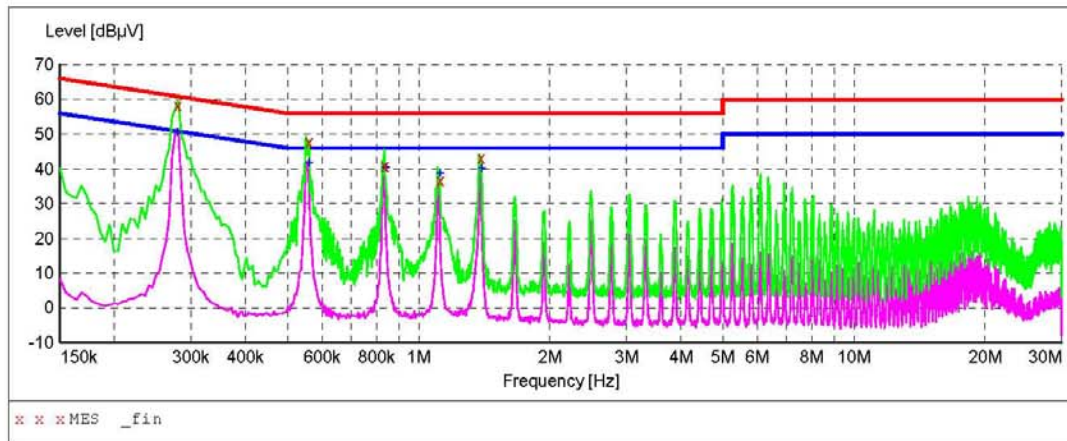
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.276000	47.00	10.6	51	3.9	AV	N	GND
0.550500	38.00	10.5	46	8.0	AV	N	GND
0.829500	35.70	10.5	46	10.3	AV	N	GND
1.383000	34.50	10.6	46	11.5	AV	N	GND
1.657500	31.60	10.6	46	14.4	AV	N	GND
2.485500	31.30	10.7	46	14.7	AV	N	GND

**Voltage Mains Test FCC PART15 B**

EUT: WATCH PAGER  
 Manufacturer: ESP  
 Operating Condition: CHARGING  
 Test Site: SHIELDED ROOM  
 Operator: Peter  
 Test Specification: AC 120V/60Hz  
 Comment:

**SCAN TABLE: "Voltage (9K-30M)FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.280500	58.40	10.6	61	2.4	QP	L1	GND
0.559500	47.80	10.5	56	8.2	QP	L1	GND
0.838500	40.70	10.5	56	15.3	QP	L1	GND
1.122000	36.70	10.6	56	19.3	QP	L1	GND
1.392000	43.10	10.6	56	12.9	QP	L1	GND

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.280500	50.50	10.6	51	0.5	AV	L1	GND
0.559500	41.80	10.5	46	4.2	AV	L1	GND
0.843000	40.30	10.5	46	5.7	AV	L1	GND
1.122000	38.70	10.6	46	7.3	AV	L1	GND
1.401000	40.10	10.6	46	5.9	AV	L1	GND

### 3 Radiation Emission Test

Product Name:	WATCH PAGER
Test Requirement:	FCC Part15 Paragraph 15.249
Test Method:	Based on FCC Part15 Paragraph 15.31 and Paragraph 15.33
Test Date:	Aug 20, 2008
Frequency Range:	30MHz to 25GHz
Measurement Distance:	3m
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

#### 3.1. Test Equipment

Please refer to Section 1.5. in this report.

#### 3.2. 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 centre variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

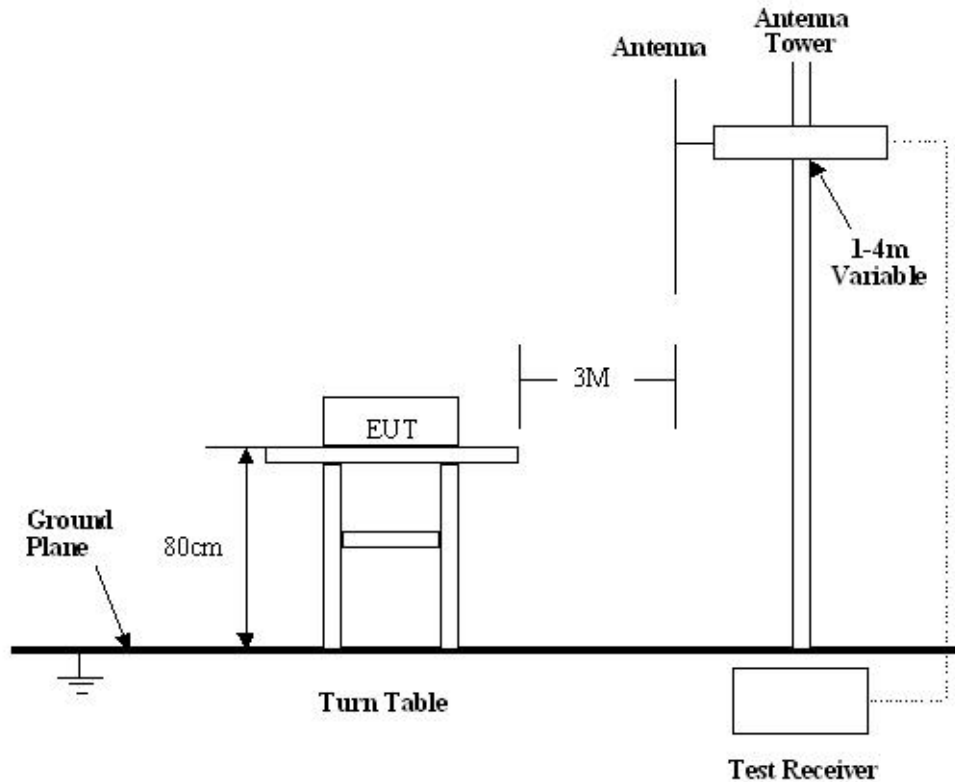
Based on ANSI C63.4: 2003, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at EMC Lab is  $\pm 3.84$  dB.

#### 3.3. Test Procedure

1. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.
2. All data was recorded in the peak detection mode.
3. The EUT was under normal mode during the final qualification test and the configuration was used to represent the worst case results.
4. According to the FCC Part 15 Paragraph 15.205, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna to the intentional radiator shall be considered sufficient to comply with the provisions of this section. This product has a Reverse-Polarity antenna, fulfill the requirement of this section.

### 3.4. Radiated Test 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 Paragraph 15.249 and Paragraph 15.209 limits.



### 3.5. Spectrum Analyzer Setup

According to FCC Part15 Paragraph 15.249 Rules, the system was tested to 25000 MHz.

Start Frequency.....	30 MHz
Stop Frequency.....	25000 MHz
Sweep Speed .....	Auto
IF Bandwidth.....	100 kHz
Video Bandwidth.....	1 MHz
Quasi-Peak Adapter Bandwidth .....	120 kHz
Quasi-Peak Adapter Mode .....	Normal
Resolution Bandwidth .....	1MHz

### 3.6. 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBuV means the emission is 7dBuV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Class B Limit}$$

### 3.7. Summary of Test Results

According to the data in section 7.10, the EUT complied with the FCC Part15 Paragraph 15.249 standards.

### 3.8. EUT Operating Condition

Same as section 6.4 of this report.

### 3.9. Radiated Emissions Limit

#### A. FCC Part 15 subpart C Paragraph 15.249 Limit

Fundamental Frequency	Field Strength of Fundamental		Field Strength of Harmonics	
	mV/m	dBuV/m	uV/m	dBuV/m
902-928MHz	50	94	500	54
2400-2483.5 MHz	50	94	500	54
5725-5875 MHz	50	94	500	54
24.0-24.25GHz	250	108	2500	68

- Note:**
- (1) RF Voltage(dBuV)=20 log RF Voltage(uV)
  - (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.
  - (3)The emission limit in this paragraph is based on measurement instrumentaion employing an average detector. Measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
  - (4) Limit fundamental is 94dBuV/m@3m(AV)and114dBuV/m@3m(PK)  
Limit field strength of harmonics: 54 dBuV/m@3m(AV)and74dBuV/m@3m(PK)

**B. Frequencies in restricted band are complied to limit on Paragraph 15.209**

Frequency(MHZ)	Distance(m)	Field strength(dBuV/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

- Note:**
- (1) RF Voltage(dBuV)=20 log RF Voltage(uV)
  - (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.

**3.10. Radiated Emissions Test Result**

Formula of conversion factors: the field strength at 3m was established by adding The meter reading of the spectrum analyzer (which is set to read in units of dBuV) To the antenna correction factor supplied by the antenna manufacturer. The antenna Correction factors are stored in terms of dB. The gain of the pressletor was accounted For in the spectrum analyser meter reading.

Example:

Freq(MHz)    Meter Reading +ACF=FS

33            20dBuV+10.36dB=30.36dBuV/m @3m

**Radiated Emission Test Data**

Test Voltage:            AC 120V/60Hz

Test Mode:              Normal Working

Temperature:            24 °C

Humidity:                52%RH

Test Result:              PASS

Remarks: No further spurious emission found between lowest internal generated/used frequency to 30 MHz

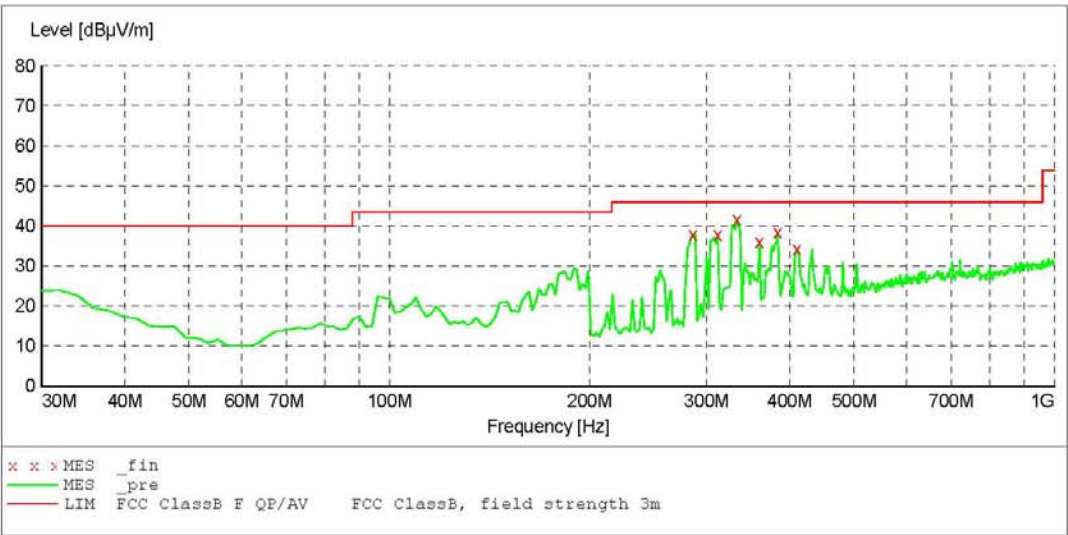
30MHz-1GHz Radiation emission test:

RADIATED EMISSION FCC PART15 B

EUT: SWATCH PAGER  
Manufacturer: ESP  
Operating Condition: NORMAL WORKING  
Test Site: 3M CHAMBER  
Operator: SAM  
Test Specification: AC 120V/60Hz

SWEEP TABLE: "test (30M-1G)"

Short Description:	Field Strength				
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	120 kHz	HL562 08



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
286.590000	37.80	13.4	46.0	8.2	QP	100.0	97.00	HORIZONTAL
311.860000	37.80	14.7	46.0	8.2	QP	100.0	97.00	HORIZONTAL
333.240000	41.70	16.1	46.0	4.3	QP	100.0	97.00	HORIZONTAL
360.460000	36.00	17.9	46.0	10.0	QP	100.0	124.00	HORIZONTAL
383.780000	38.50	19.3	46.0	7.5	QP	100.0	69.00	HORIZONTAL
411.000000	34.30	20.2	46.0	11.7	QP	100.0	69.00	HORIZONTAL

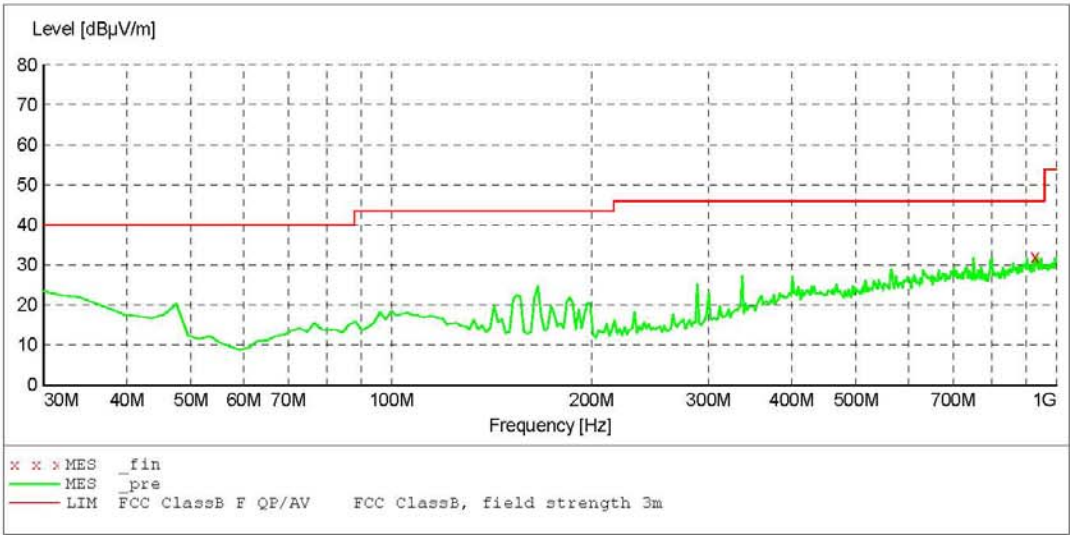


RADIATED EMISSION FCC PART15 B

EUT: SWATCH PAGER  
Manufacturer: ESP  
Operating Condition: NORMAL WORKING  
Test Site: 3M CHAMBER  
Operator: SAM  
Test Specification: AC 120V/60Hz

SWEEP TABLE: "test (30M-1G)"

Short Description:		Field Strength			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency				
30.0 MHz	1.0 GHz	MaxPeak	Coupled	120 kHz	HL562 08



MEASUREMENT RESULT:

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det. QP	Height cm	Azimuth deg	Polarization
930.020000	32.00	25.5	46.0	14.0	QP	100.0	239.00	VERTICAL

**Above 1GHz Radiation emission test:**

Frequency ( MHz)	Detector	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart C Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Turntable Angle ( $^{\circ}$ )
Low frequency							
2405.0	AV	Vertical	85.65	94.00	8.35	1.0	100
4810.0	AV	Vertical	43.17	54.00	10.83	1.5	60
7215.0	AV	Vertical	44.26	54.00	9.74	1.2	45
9620.0	AV	Vertical	45.59	54.00	8.41	1.0	90
12025.0	AV	Vertical	42.68	54.00	11.32	1.5	60
14430.0	AV	Vertical	45.77	54.00	8.23	1.2	100
16835.0	AV	Vertical	44.12	54.00	9.88	1.8	120
19240.0	AV	Vertical	43.38	54.00	10.62	1.2	60
21645.0	AV	Vertical	44.82	54.00	9.18	1.5	90
24050.0	AV	Vertical	42.20	54.00	11.80	1.0	120
2405.0	AV	Horizontal	81.11	94.00	12.89	1.5	270
4810.0	AV	Horizontal	43.59	54.00	10.41	1.6	180
7215.0	AV	Horizontal	44.22	54.00	9.78	1.5	120
9620.0	AV	Horizontal	45.62	54.00	8.38	1.6	200
12025.0	AV	Horizontal	45.66	54.00	8.34	1.5	100
14430.0	AV	Horizontal	45.57	54.00	8.43	1.2	270
16835.0	AV	Horizontal	45.10	54.00	8.90	1.8	180
19240.0	AV	Horizontal	46.22	54.00	7.78	1.0	90
21645.0	AV	Horizontal	46.77	54.00	7.23	1.5	60
24050.0	AV	Horizontal	46.10	54.00	7.90	1.2	100
2405.0	PK	Vertical	86.44	114.00	27.56	1.5	45
4810.0	PK	Vertical	48.88	74.00	25.12	1.5	120
7215.0	PK	Vertical	48.90	74.00	25.10	1.8	60
9620.0	PK	Vertical	49.11	74.00	24.89	1.0	270
12025.0	PK	Vertical	49.54	74.00	24.46	1.2	180
14430.0	PK	Vertical	49.62	74.00	24.38	1.5	60
16835.0	PK	Vertical	50.57	74.00	23.43	1.8	100
19240.0	PK	Vertical	50.83	74.00	23.17	1.2	120
21645.0	PK	Vertical	51.30	74.00	22.70	1.8	100
24050.0	PK	Vertical	51.65	74.00	22.35	1.0	90
2405.0	PK	Horizontal	88.15	114.00	25.85	1.5	120
4810.0	PK	Horizontal	48.72	74.00	25.28	1.6	180
7215.0	PK	Horizontal	48.85	74.00	25.15	1.5	120

9620.0	PK	Horizontal	49.03	74.00	24.97	1.6	90
12025.0	PK	Horizontal	49.44	74.00	24.56	1.8	180
14430.0	PK	Horizontal	49.59	74.00	24.41	1.2	120
16835.0	PK	Horizontal	49.17	74.00	24.83	1.5	100
19240.0	PK	Horizontal	50.33	74.00	23.67	1.0	45
21645.0	PK	Horizontal	51.26	74.00	22.74	1.5	60
24050.0	PK	Horizontal	51.57	74.00	22.43	1.0	90
Middle frequency							
2445.00	AV	Vertical	81.89	94.00	12.11	1.5	60
4890.00	AV	Vertical	44.41	54.00	9.59	1.5	45
7335.00	AV	Vertical	44.73	54.00	9.27	1.6	90
9780.00	AV	Vertical	45.15	54.00	8.85	1.5	180
12225.00	AV	Vertical	45.65	54.00	8.35	1.2	120
14670.00	AV	Vertical	46.12	54.00	7.88	1.0	100
17115.00	AV	Vertical	46.75	54.00	7.25	1.5	90
19560.00	AV	Vertical	46.81	54.00	7.19	1.8	45
22005.00	AV	Vertical	47.77	54.00	6.23	1.2	60
24450.00	AV	Vertical	47.82	54.00	6.18	1.6	120
2445.00	AV	Horizontal	71.76	94.00	22.24	1.5	60
4890.00	AV	Horizontal	44.11	54.00	6.89	1.5	180
7335.00	AV	Horizontal	44.23	54.00	9.89	1.8	120
9780.00	AV	Horizontal	45.06	54.00	8.94	1.2	90
12225.00	AV	Horizontal	45.57	54.00	8.43	1.5	60
14670.00	AV	Horizontal	45.59	54.00	8.41	1.0	100
17115.00	AV	Horizontal	46.44	54.00	7.56	1.5	90
19560.00	AV	Horizontal	46.70	54.00	7.30	1.8	120
22005.00	AV	Horizontal	47.66	54.00	6.34	1.5	180
24450.00	AV	Horizontal	47.71	54.00	6.29	1.8	270
2445.00	PK	Vertical	87.67	114.00	26.33	1.5	90
4890.00	PK	Vertical	50.51	74.00	22.49	1.5	60
7335.00	PK	Vertical	50.77	74.00	23.23	1.5	120
9780.00	PK	Vertical	51.32	74.00	22.68	1.2	270
12225.00	PK	Vertical	51.46	74.00	22.54	1.8	100
14670.00	PK	Vertical	52.25	74.00	21.75	1.5	180
17115.00	PK	Vertical	52.77	74.00	21.23	1.2	90
19560.00	PK	Vertical	52.98	74.00	21.02	1.8	45
22005.00	PK	Vertical	53.26	74.00	20.74	1.2	100

24450.00	PK	Vertical	53.44	74.00	20.56	1.0	90
2445.00	PK	Horizontal	88.55	114.00	25.45	1.5	180
4890.00	PK	Horizontal	49.99	74.00	24.01	1.8	90
7335.00	PK	Horizontal	50.52	74.00	23.48	1.5	120
9780.00	PK	Horizontal	51.17	74.00	22.83	1.5	100
12225.00	PK	Horizontal	51.22	74.00	22.78	1.8	45
14670.00	PK	Horizontal	52.28	74.00	21.72	1.5	90
17115.00	PK	Horizontal	51.59	74.00	22.41	1.5	180
19560.00	PK	Horizontal	52.15	74.00	21.85	1.6	120
22005.00	PK	Horizontal	53.13	74.00	20.87	1.2	270
24450.00	PK	Horizontal	53.41	74.00	20.59	1.0	180

High frequency							
2480.00	AV	Vertical	80.47	94.00	13.53	1.5	120
4960.00	AV	Vertical	44.23	54.00	9.77	1.5	90
7440.00	AV	Vertical	44.49	54.00	9.51	1.5	45
9920.00	AV	Vertical	45.23	54.00	8.77	1.5	100
12400.00	AV	Vertical	45.65	54.00	8.35	1.2	180
14880.00	AV	Vertical	46.18	54.00	7.82	1.6	120
17360.00	AV	Vertical	46.65	54.00	7.35	1.8	45
19840.00	AV	Vertical	46.88	54.00	7.12	1.2	60
22320.00	AV	Vertical	47.20	54.00	6.80	1.5	90
24800.00	AV	Vertical	47.63	54.00	6.37	1.8	100
2480.00	AV	Horizontal	80.66	94.00	13.34	1.5	180
4960.00	AV	Horizontal	44.11	54.00	9.89	1.5	60
7440.00	AV	Horizontal	44.26	54.00	9.74	1.5	120
9920.00	AV	Horizontal	45.19	54.00	8.81	1.8	270
12400.00	AV	Horizontal	45.42	54.00	8.58	1.2	180
14880.00	AV	Horizontal	45.88	54.00	8.12	1.6	90
17360.00	AV	Horizontal	46.41	54.00	7.59	1.8	120
19840.00	AV	Horizontal	46.57	54.00	7.43	1.5	100
22320.00	AV	Horizontal	46.18	54.00	7.82	1.2	45
24800.00	AV	Horizontal	47.52	54.00	6.48	1.6	90
2480.00	PK	Vertical	85.21	114.00	28.79	1.5	180
4960.00	PK	Vertical	49.59	74.00	24.41	1.5	270
7440.00	PK	Vertical	50.11	74.00	23.89	1.5	45
9920.00	PK	Vertical	50.27	74.00	23.73	1.2	90
12400.00	PK	Vertical	50.85	74.00	23.15	1.6	180

14880.00	PK	Vertical	51.12	74.00	22.88	1.8	60
17360.00	PK	Vertical	52.26	74.00	21.74	1.5	90
19840.00	PK	Vertical	52.58	74.00	21.42	1.2	180
22320.00	PK	Vertical	52.77	74.00	21.23	1.0	270
24800.00	PK	Vertical	53.39	74.00	20.61	1.2	90
2480.00	PK	Horizontal	86.72	114.00	27.28	1.5	60
4960.00	PK	Horizontal	49.42	74.00	24.58	1.5	120
7440.00	PK	Horizontal	50.03	74.00	23.97	1.5	180
9920.00	PK	Horizontal	50.21	74.00	23.79	1.2	90
12400.00	PK	Horizontal	50.42	74.00	23.58	1.0	270
14880.00	PK	Horizontal	51.08	74.00	22.92	1.2	120
17360.00	PK	Horizontal	52.15	74.00	21.85	1.5	90
19840.00	PK	Horizontal	52.46	74.00	21.54	1.8	60
22320.00	PK	Horizontal	52.68	74.00	21.32	1.3	180
24800.00	PK	Horizontal	53.25	74.00	20.75	1.6	100

**Note:** Above 1GHz,do a Peak and Average measurements for all emissions:  
Limit fundamental is 94dBuV/m@3m(AV)and114dBuV/m@3m(PK)  
Limit field strength of harmonics: 54 dBuV/m@3m(AV)and74dBuV/m@3m(PK)

## 4 Band Edge

### 4.1. Test Equipment

Please refer to Section 1.5. this report.

### 4.2. Test Procedure

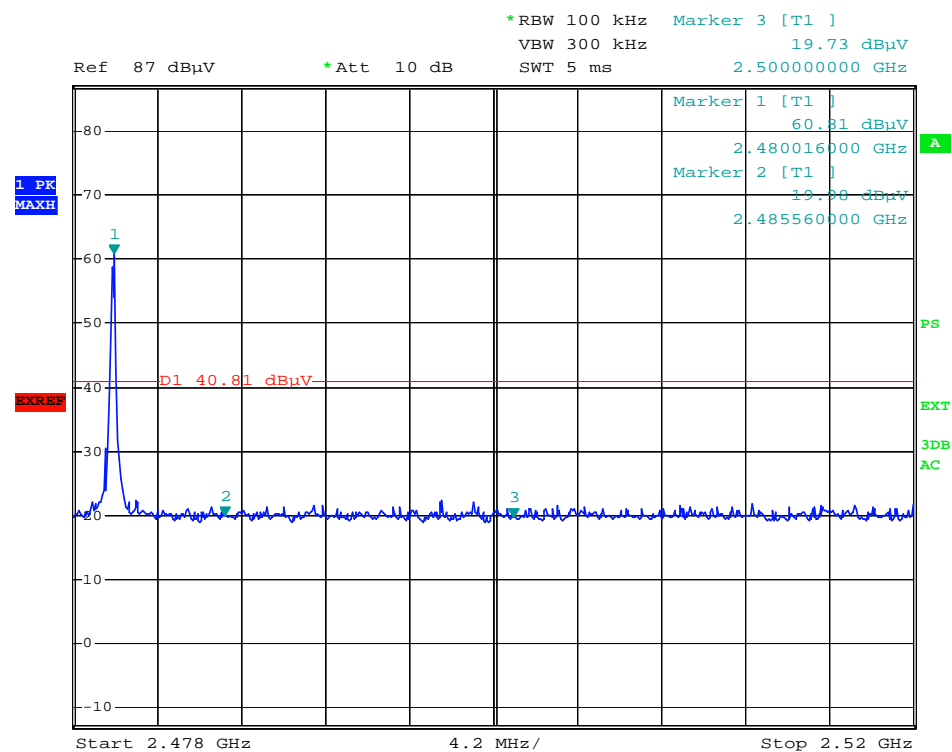
1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below:



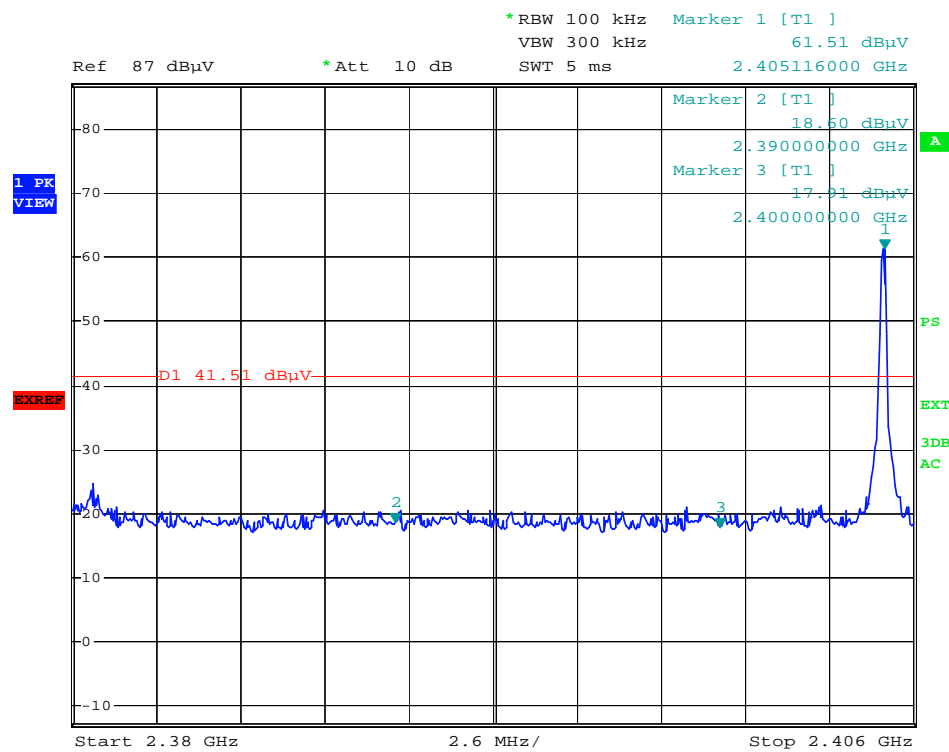
2. The bandwidth of the fundamental frequency was measure by spectrum analyser with 1MHz RBW and 1MHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power 20dB.

### 4.3. Test Result

Product Name:	WATCH PAGER
Test Item:	20dB Band Edge Test
Test Voltage:	DC 12V by the Adaptor
Mode:	TX On
Temperature:	24 °C
Humidity:	52%RH

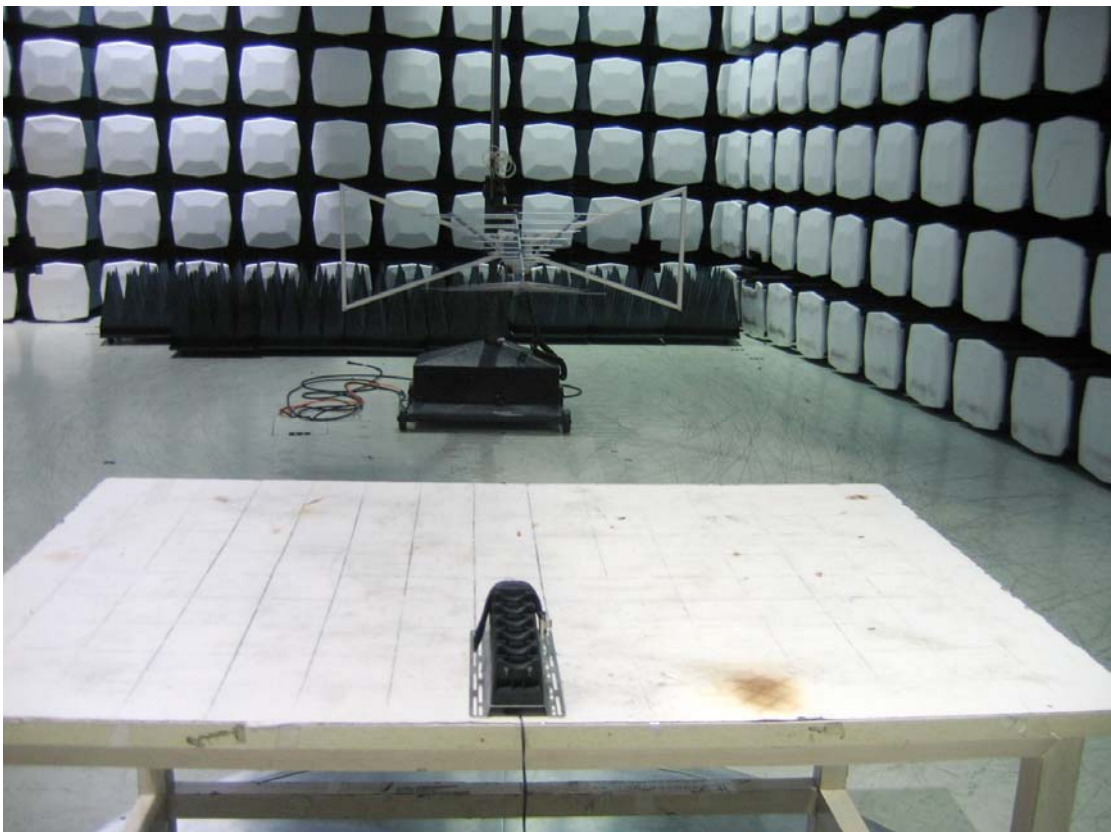


Date: 10.JAN.2009 11:51:31



Date: 10.JAN.2009 11:53:26

## 5 Photographs of Test setup





## 6 Photographs of EUT



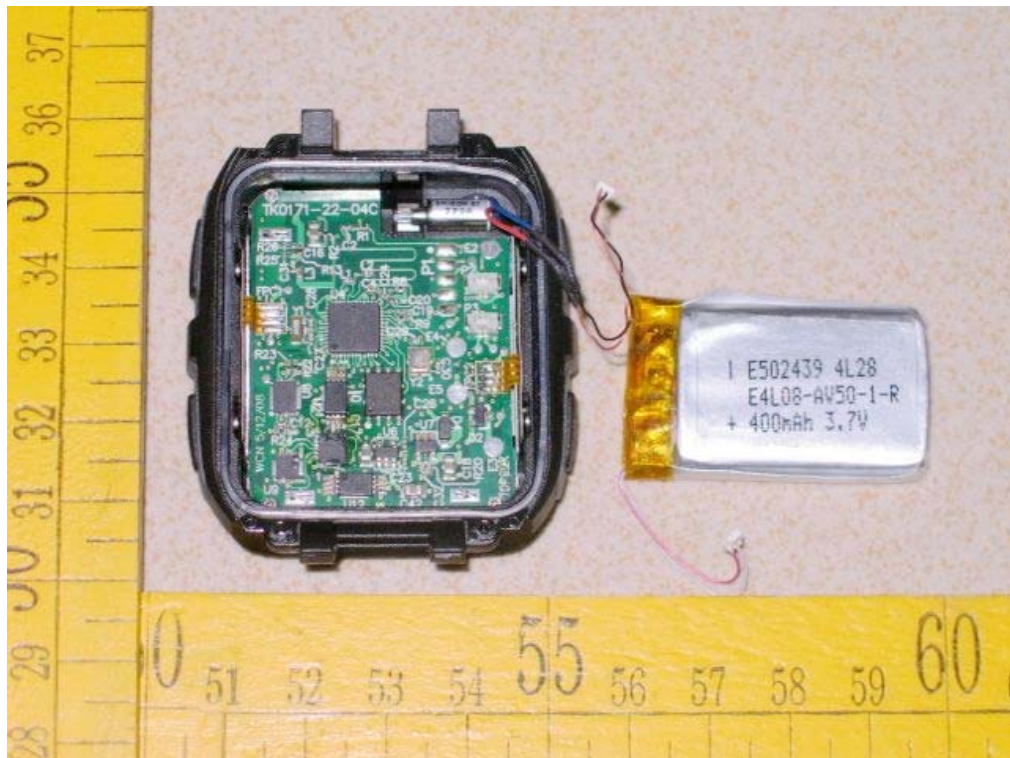


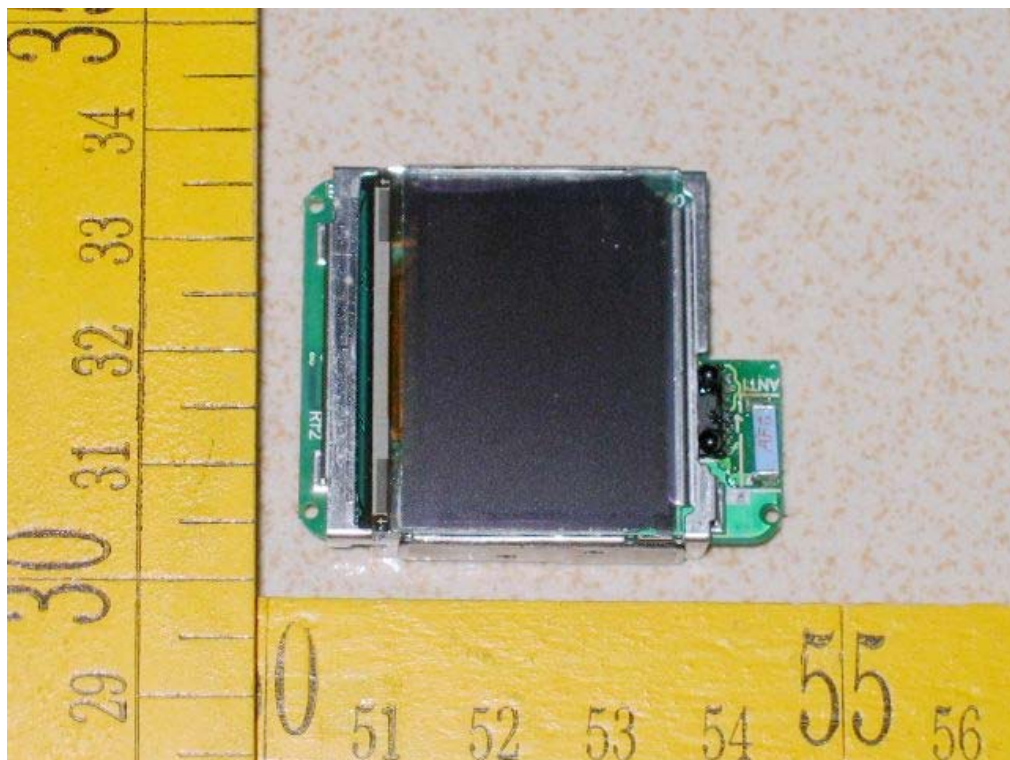




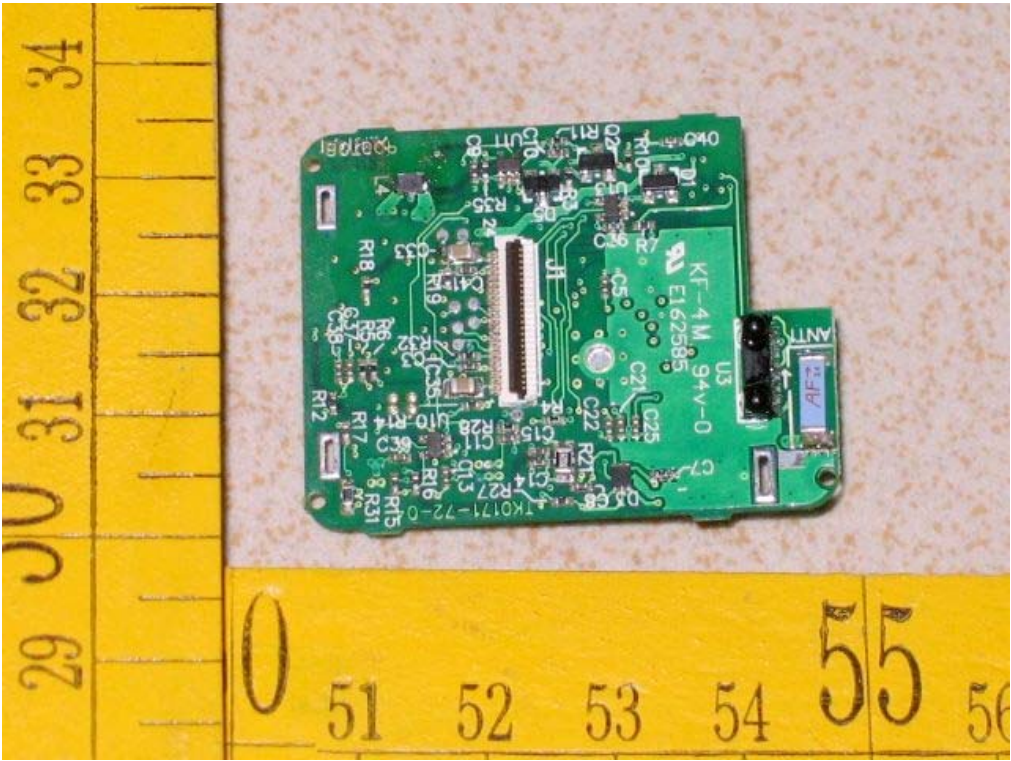












## 7 FCC ID Label

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.



**FCC ID Label Location**

**END of Report**