



FCC 47 CFR PART 15 SUBPART B

TEST REPORT

For

Applicant : Dongguan Yuanfeng Technology Co., Ltd.

Address : No.62, South Fumin Road, Fumin Industrial Park, Dalang Town,
Dongguan City, Guangdong, P.R. China

Product Name : Connected PND

Model Name : PF10-5002, PF10-5001, PF10-5003, PF10-5004, PF10-5005,
PF10-5006, PF10-5007, PF10-5008, PF10-5009, PF10-5001HD,
PF10-5002HD, PF10-5003HD, PF10-5004HD, PF10-5005HD,
PF10-5006HD, PF10-5007HD, PF10-5008HD, PF10-5009HD

Brand Name : N/A

FCC ID : YNG-PF100001

Report No. : MOST101204F1

Date of Issue : December. 13, 2010

Issued by : Most Technology Service Co., Ltd.

Address : No.5, 2nd Langshan Road, North District, Hi-tech Industrial
Park, Nanshan, Shenzhen, Guangdong, China

Tel : 86-755-8617 0306

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1. VERIFICATION OF CONFORMITY

Equipment Under Test: Connected PND

Brand Name: N/A

Model Number: PF10-5002

Series Number: PF10-5001, PF10-5003, PF10-5004, PF10-5005, PF10-5006, PF10-5007, PF10-5008, PF10-5009, PF10-5001HD, PF10-5002HD, PF10-5003HD, PF10-5004HD, PF10-5005HD, PF10-5007HD, PF10-5006HD, PF10-5008HD, PF10-5009HD

Model Difference description: The same product for different market, only the model name is different

FCC ID: YNG-PF100001

Applicant: Dongguan Yuanfeng Technology Co., Ltd.
No.62, South Fumin Road, Fumin Industrial Park, Dalang Town,
Dongguan
City, Guangdong, P.R. China

Manufacturer: Dongguan Yuanfeng Technology Co., Ltd.
No.62, South Fumin Road, Fumin Industrial Park, Dalang Town,
Dongguan
City, Guangdong, P.R. China

Technical Standards: FCC Part 15 B

File Number: MOST101204F1

Date of test: November. 26, 2010 – December. 13, 2010

Deviation: None

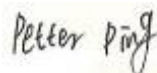
Condition of Test Sample: Normal

Test Result: PASS

The above equipment was tested by MOST for compliance with the requirements set forth in FCC Part 15 and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature):



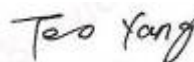
Petter Ping December. 13, 2010

Review by (+ signature):



July Wen December. 13, 2010

Approved by (+ signature):



Terry Yang December. 13, 2010

2. GENERAL INFORMATION

2.1 PRODUCT INFORMATION

Housing Type:	Plastic
EUT Rating Voltage:	DC 5V by car adapter DC 12/24V; DC 5V by AC/DC adapter 100~240V 50/60Hz DC 3.7V by battery;
Voltage During Test:	AC 120V/60Hz
I/O Type of EUT:	USB Port/ SD Scocket/ Earphone Port
I/O Q'TY:	1/ 1/ 1
Model Number:	PF10-5002
Series Number:	PF10-5001,PF10-5003, PF10-5004, PF10-5005, PF10-5006, PF10-5007, PF10-5008, PF10-5009, PF10-5001HD, PF10-5002HD, PF10-5003HD, PF10-5004HD,PF10-5005HD, PF10-5006HD PF10-5007HD, PF10-5008HD, PF10-5009HD
Description of Differences:	The series models are different in appearance and color with the same functions.

NOTE:

- Please refer to Appendix 2 for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

2.2 OBJECTIVE

Perform FCC Part 15 Subpart B tests for FCC Marking.

2.3 TEST STANDARDS AND RESULTS

Test items and the results are as bellow:

EMISSION			
Standard	Item	Result	Remarks
FCC 47 CFR Part 15 Subpart B	Conducted	PASS	Meet Class B limit
	Radiated	PASS	Meet Class B limit

- Note:
- The test result judgment is decided by the limit of measurement standard
 - The information of measurement uncertainty is available upon the customer's request.

2.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

2.5 MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO.

- Uncertainty of Conducted Emission, $U_c = \pm 1.8\text{dB}$
- Uncertainty of Radiated Emission, $U_c = \pm 3.2\text{dB}$

3. TEST METHODOLOGY

3.1 TEST FACILITY

Test Site:	Most Technology Service Co., Ltd.
Location:	No.5, Langshan 2nd Rd, North Hi-Tech Industrial park, Nanshan Shenzhen, Guangdong, China
Description:	<p>There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009 and CISPR 16 requirements. The FCC Registration Number is 490827.</p> <p>The CNAS Registration Number is CNAS L3573.</p>
Site Filing:	The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4:2009 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

3.2 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2009, Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4:2003.

3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

- (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

- (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

4 SETUP OF EQUIPMENT UNDER TEST

4.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

4.2 SUPPORT EQUIPMENT

Device Type	Brand	Model	Series No.	Data Cable	Power Cable
Notebook	Samsung	NP-R428-DS0Z	ZVC093FZ800422X	N/A	1.8M Un-Shielded
SD Card	Transcend	1.0G	N/A	N/A	

Remark:

All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4. 3 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at MOST for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

No.	Equipment	Manufacturer	Model No.	S/N	Calibration date	Calibration due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2010/03/14	2011/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2010/03/14	2011/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14	2011/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2010/03/14	2011/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2010/03/14	2011/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2010/03/14	2011/03/14
7	Bilog Antenna	Sunol	JB3	A121206	2010/03/14	2011/03/14
8	Test Antenna - Horn	Schwarzbeck	BBHA 9120C	--	2010/03/14	2011/03/14
9	Test Antenna - LOOP	Schwarzbeck	VULB 9163	--	2010/03/14	2011/03/14
10	Cable	Resenberger	N/A	NO.1	2010/03/14	2011/03/14
11	Cable	SchwarzBeck	N/A	NO.2	2010/03/14	2011/03/14
12	Cable	SchwarzBeck	N/A	NO.3	2010/03/14	2011/03/14
13	DC Power Filter	DuoJi	DL2×30B	N/A	2010/03/14	2011/03/14
14	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2010/03/14	2011/03/14
15	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2010/03/14	2011/03/14
16	Spectrum Analyzer	Agilent	4408B	MY41440460	2010/03/14	2011/03/14
17	Absorbing Clamp	Luthi	MDS21	3635	2010/03/14	2011/03/14
18	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14	2011/03/14
19	AC Power Source	Kikusui	AC40MA	LM003232	2010/03/14	2011/03/14
20	Test Analyzer	Kikusui	KHA1000	LM003720	2010/03/14	2011/03/14
21	Line Impedence Network	Kikusui	LIN40MA-PCR-L	LM002352	2010/03/14	2011/03/14
22	ESD Tester	Kikusui	KES4021	LM003537	2010/03/14	2011/03/14
23	EMC PRO System	EM Test	UCS-500-M4	V0648102026	2010/03/14	2011/03/14
24	Signal Generator	IFR	2032	203002/100	2010/03/14	2011/03/14
25	Amplifier	A&R	150W1000	301584	2010/03/14	2011/03/14
26	CDN	FCC	FCC-801-M2-25	47	2010/03/14	2011/03/14
27	CDN	FCC	FCC-801-M3-25	107	2010/03/14	2011/03/14
28	EM Injection Clamp	FCC	F-203I-23mm	403	2010/03/14	2011/03/14
29	RF Cable	MIYAZAKI	N/A	No.1/No.2	2010/03/14	2011/03/14
30	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2010/03/14	2011/03/14
31	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2010/03/14	2011/03/14
32	Temperature Chamber	Guangzhou Gongwen	GDS-250	N/A	2010/03/14	2011/03/14

NOTE: Equipments listed above have been calibrated and are in the period of validation.

5. 47 CFR PART 15B REQUIREMENTS

5.1 GENERAL INFORMATION

EUT Function and Test Mode

Mode 1: Idle Mode

During the test, the EUT was on the idle and charging mode.

The EUT configuration of the emission test was **EUT + Battery+ Charger.**

Mode 2: GPS Mode

During the test, the EUT was playing the GPS function continuously.

The EUT configuration of the emission test was **EUT + Battery+ Charger.**

Mode 3 MP3/MP4 Mode

During the test, the EUT was playing the MP3/MP4 function continuously.

The EUT configuration of the emission test was **EUT + Battery+ Charger+ Earphone.**

Mode 4: FM Transmitting Mode

During the test, the EUT was playing the FM transmitting function continuously.

The EUT configuration of the emission test was **EUT + Battery+ Charger.**

Mode 5: Call Mode

During the test, the EUT was playing the call function continuously.

The EUT configuration of the emission test was **EUT + Battery+ Charger.**

Mode 6: USB Mode

During the test, the EUT was connected with the Notebook and made the data transmission function continuously.

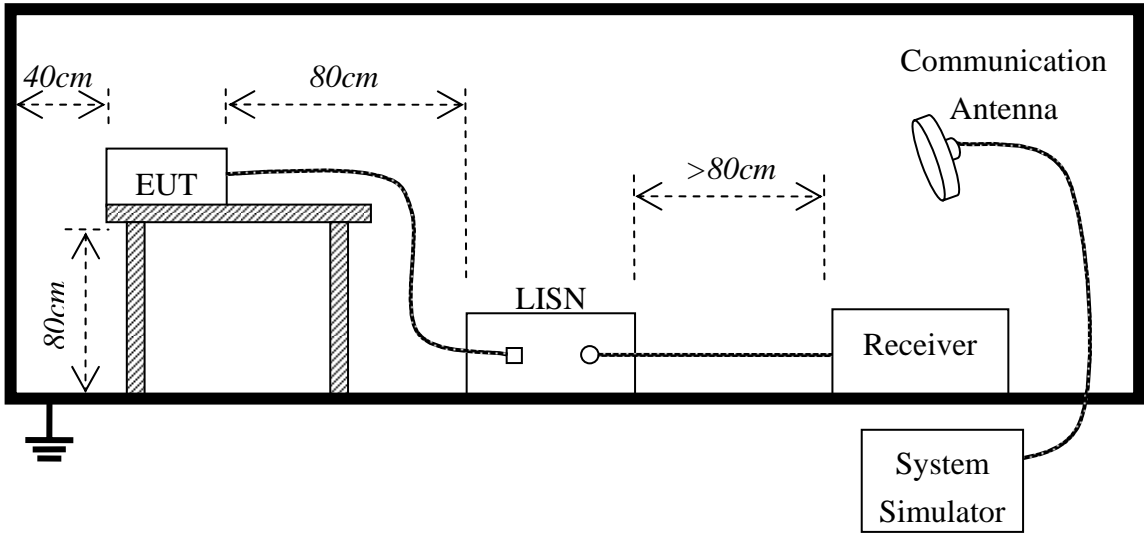
The EUT configuration of the emission test was **EUT + Battery+ USB Cable+Notebook.**

6. LINE CONDUCTED EMISSION TEST
6.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

****Note:** 1. the lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

6.2. BLOCK DIAGRAM OF TEST SETUP



6.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per FCC Part 15.
- 3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
- 4) The EUT received DC 5V power by AC/DC adapter or Notebook which through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test:

Preliminary Conducted Emission Test				
Frequency Range Investigated		150KHz TO 30 MHz		
Mode of operation	Date	Report No.	Data#	Worst Mode
Idle Mode	2010-12-07	MOST101204F1	PF10-5002_0_(L, N)	<input type="checkbox"/>
GPS Mode	2010-12-07	MOST101204F1	PF10-5002_1_(L, N)	<input type="checkbox"/>
MP3/MP4 Mode	2010-12-07	MOST101204F1	PF10-5002_2_(L, N)	<input type="checkbox"/>
FM transmitting	2010-12-07	MOST101204F1	PF10-5002_3_(L, N)	<input checked="" type="checkbox"/>
Call Mode	2010-12-07	MOST101204F1	PF10-5002_4_(L, N)	<input type="checkbox"/>
USB Mode	2010-12-07	MOST101204F1	PF10-5002_5_(L, N)	<input type="checkbox"/>

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

6.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test.

A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

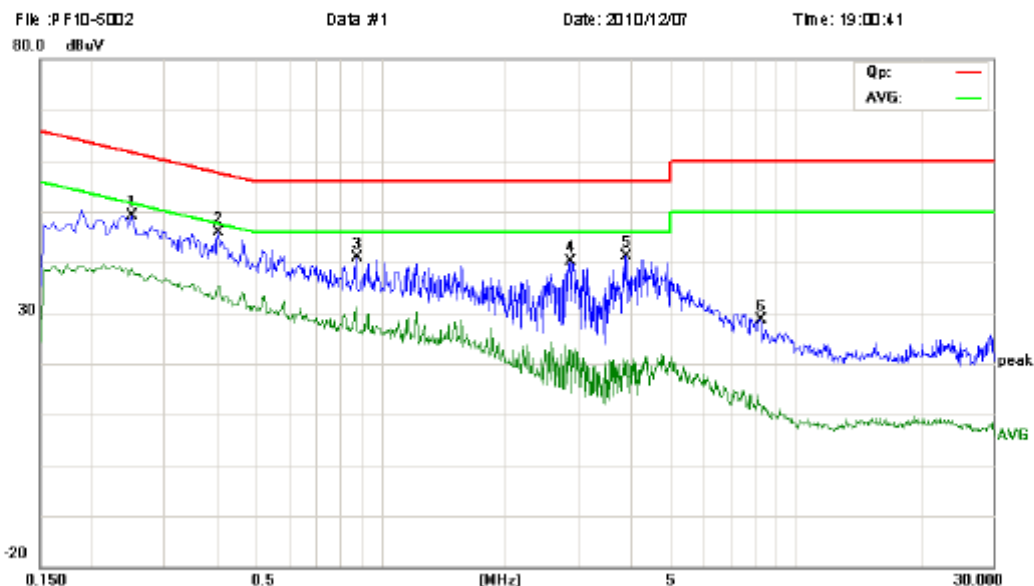
The test data of the worst case condition(s) was reported on the Summary Data page.

6.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong, China
Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site site #1

Phase: **N**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: GPS

Note:

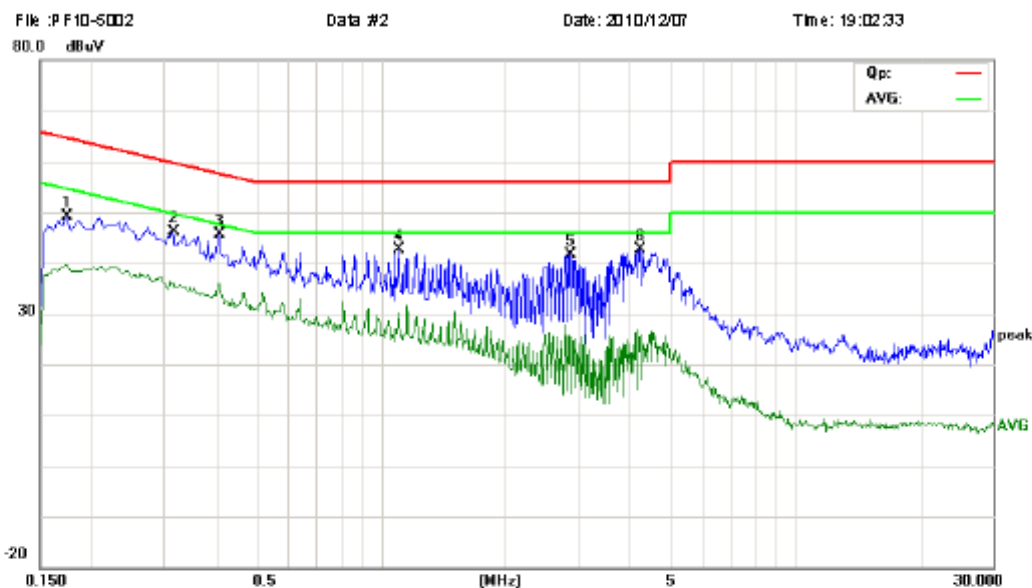
No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1		0.2500	37.58	11.67	49.25	61.76	-12.51	peak	
2	*	0.4020	35.18	10.65	45.83	57.81	-11.98	peak	
3		0.8700	30.80	10.00	40.80	56.00	-15.20	peak	
4		2.8580	30.25	9.86	40.11	56.00	-15.89	peak	
5		3.8900	30.22	10.89	41.11	56.00	-14.89	peak	
6		8.2260	18.57	10.06	28.63	60.00	-31.37	peak	

*:Maximum data x:Over limit !:over margin



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
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Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site site #1

Phase: **L1**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: GPS

Note:

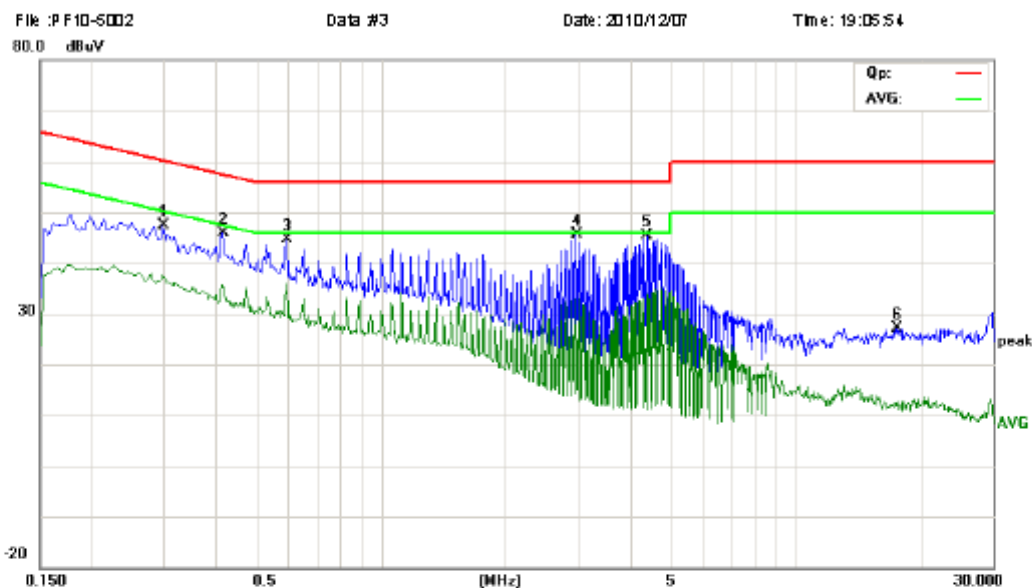
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBμV	dB	dBμV	dBμV	dB	Detector	Comment
1		0.1740	38.73	10.44	49.17	64.77	-15.60	peak	
2		0.3140	34.92	11.24	46.16	59.86	-13.70	peak	
3	*	0.4060	35.12	10.63	45.75	57.73	-11.98	peak	
4		1.1020	32.79	9.90	42.69	56.00	-13.31	peak	
5		2.8460	31.74	9.85	41.59	56.00	-14.41	peak	
6		4.2180	31.37	11.22	42.59	56.00	-13.41	peak	

*:Maximum data x:Over limit !:over margin



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Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site site #1

Phase: **L1**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: CALL

Note:

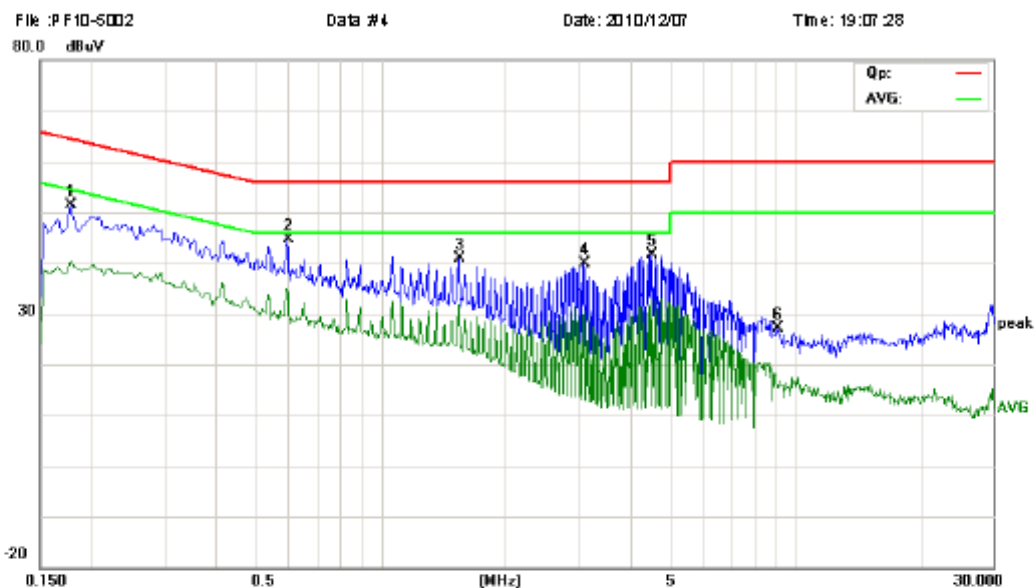
No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.2980	35.98	11.35	47.33	60.30	-12.97	peak	
2	0.4140	35.31	10.57	45.88	57.57	-11.69	peak	
3	0.5900	34.70	10.00	44.70	56.00	-11.30	peak	
4 *	2.9540	35.56	9.95	45.51	56.00	-10.49	peak	
5	4.3700	34.01	11.37	45.38	56.00	-10.62	peak	
6	17.5500	18.07	9.00	27.07	60.00	-32.93	peak	

*:Maximum data x:Over limit !:over margin



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Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site site #1

Phase: **N**

Temperature: 26

Limit: FCC Part 15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: CALL

Note:

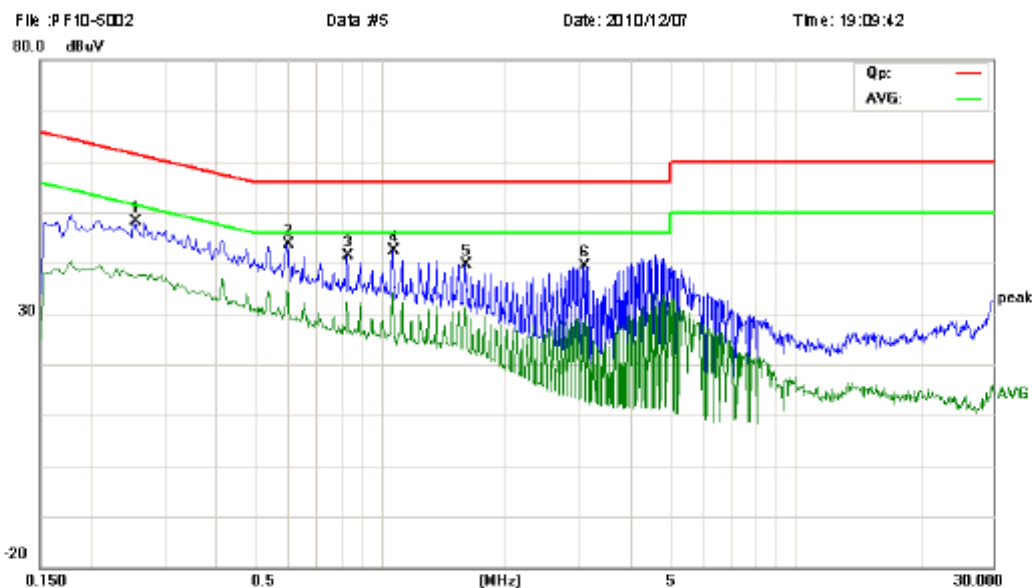
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector Comment
1		0.1780	40.63	10.68	51.31	64.58	-13.27	peak
2	*	0.5940	34.63	10.00	44.63	56.00	-11.37	peak
3		1.5380	31.34	9.46	40.80	56.00	-15.20	peak
4		3.0780	29.89	10.08	39.97	56.00	-16.03	peak
5		4.4980	30.22	11.50	41.72	56.00	-14.28	peak
6		9.0500	17.60	9.57	27.17	60.00	-32.83	peak

*:Maximum data x:Over limit !:over margin



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong, China
Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site site #1

Phase: **N**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: FM TRANSMITTING

Note:

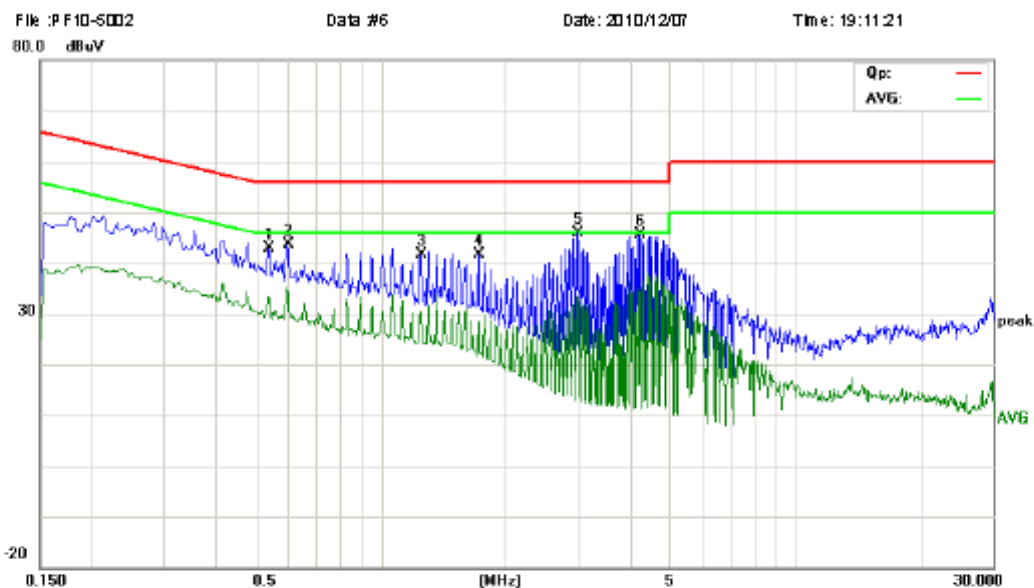
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2540	36.46	11.64	48.10	61.63	-13.53	peak	
2	*	0.5940	33.68	10.00	43.68	56.00	-12.32	peak	
3		0.8300	31.38	10.00	41.38	56.00	-14.62	peak	
4		1.0660	32.49	9.93	42.42	56.00	-13.58	peak	
5		1.5980	30.32	9.40	39.72	56.00	-16.28	peak	
6		3.0780	29.34	10.08	39.42	56.00	-16.58	peak	

*:Maximum data x:Over limit !:over margin



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Guangdong, China
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Conducted Emission Measurement



Site site #1

Phase: **L1**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

M/N: PF10-5002

Mode: FM TRANSMITTING

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.5340	32.96	10.00	42.96	56.00	-13.04	peak	
2		0.5940	33.67	10.00	43.67	56.00	-12.33	peak	
3		1.2460	31.89	9.75	41.64	56.00	-14.36	peak	
4		1.7180	32.30	9.28	41.58	56.00	-14.42	peak	
5	*	2.9620	36.01	9.96	45.97	56.00	-10.03	peak	
6		4.2060	34.47	11.21	45.68	56.00	-10.32	peak	

*:Maximum data x:Over limit !:over margin

7. RADIATED EMISSION TEST

7.1. LIMITS OF RADIATED DISTURBANCES AT 3M DISTANCES FOR CLASS B

According to FCC section 15.247, radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

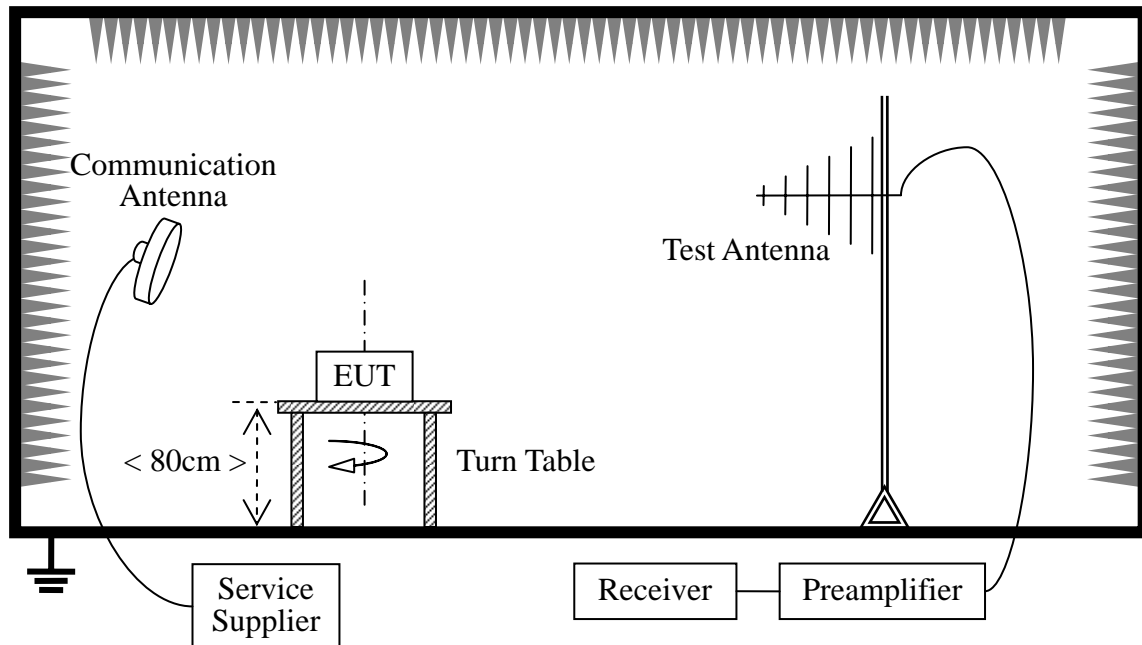
According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	$2400/F(\text{kHz})$	300
0.490 - 1.705	$24000/F(\text{kHz})$	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

7.2 TEST DESCRIPTION

Test Setup:



The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading. During the measurement, the EUT is activated and transmitting with the other Bluetooth device (Supply by the Applicant) during the test.

For the Test Antenna:

- (a) In the frequency range of 9 kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- (b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

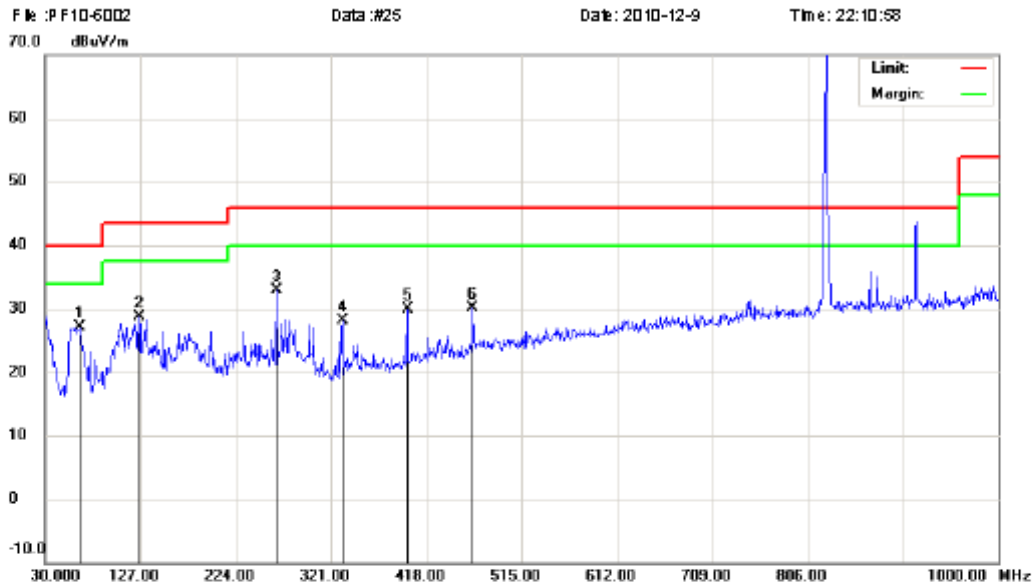
Preliminary Radiated Emission Test				
Frequency Range Investigated			30 MHz TO 1000 MHz	
Mode of operation	Date	Report No.	Data#	Worst Mode
Idle Mode	2010-12-07	MOST101204F1	PF10-5002_0_(H, V)	<input type="checkbox"/>
GPS Mode	2010-12-07	MOST101204F1	PF10-5002_1_(H, V)	<input type="checkbox"/>
MP3/MP4 Mode	2010-12-07	MOST101204F1	PF10-5002_2_(H, V)	<input type="checkbox"/>
FM transmitting	2010-12-07	MOST101204F1	PF10-5002_3_(H, V)	<input type="checkbox"/>
Call Mode	2010-12-07	MOST101204F1	PF10-5002_4_(H, V)	<input checked="" type="checkbox"/>
USB Mode	2010-12-07	MOST101204F1	PF10-5002_5_(H, V)	<input type="checkbox"/>

7.3 TEST RESULT



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong, China
Tel: 0755-86170306 Fax: 0755-86170310

Radiated Emission Measurement



Site: site MOST 3M

Polarization: *Horizontal*

Temperature: 25

Limit: FCC Part15 B 3M Radiation

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

Distance:

M/N: PF10-5002

Mode: CALL MODE

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBμV	dB	dBμV/m	dBμV/m	dB	cm	degree	Comment
1	*	65.8900	15.74	11.37	27.11	40.00	-12.89	peak		
2		126.0300	11.07	17.70	28.77	43.50	-14.73	peak		
3		265.7100	14.46	18.35	32.81	46.00	-13.19	peak		
4		332.6400	11.02	17.03	28.05	46.00	-17.95	peak		
5		398.6000	11.21	18.66	29.87	46.00	-16.13	peak		
6		465.5300	9.08	20.98	30.06	46.00	-15.94	peak		

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

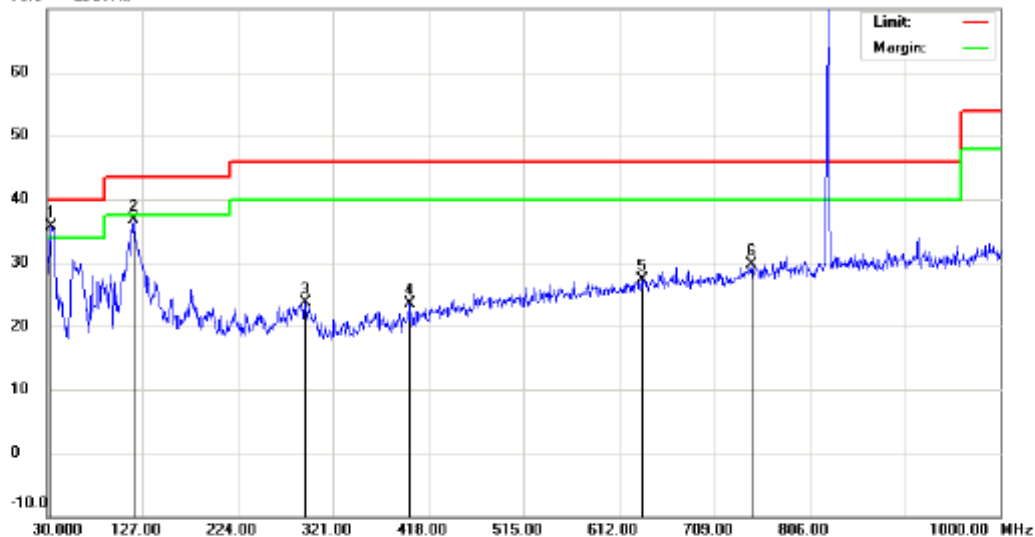
File: PF10-6002

Data: #26

Date: 2010-12-9

Time: 22:12:23

70.0 dBuV/m



Site: site MOST 3M

Polarization: **Vertical**

Temperature: 25

Limit: FCC Part15 B 3M Radiation

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Connected PND

Distance:

M/N: PF10-5002

Mode: CALL MODE

Note:

No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV/m	Limit dBμV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	34.8500	14.65	21.06	35.71	40.00	-4.29	peak		
2		118.2700	19.33	17.33	36.66	43.50	-6.84	peak		
3		292.8700	4.30	19.34	23.64	46.00	-22.36	peak		
4		398.6000	4.84	18.66	23.50	46.00	-22.50	peak		
5		636.2500	3.52	23.85	27.37	46.00	-18.63	peak		
6		746.8300	3.86	25.80	29.66	46.00	-16.34	peak		

*:Maximum data x:Over limit !:over margin

Notes:

- (1) The spikes which exceed the limit should be ignored because they are MS and SS carrier frequency.



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
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Tel: 0755-86170306 Fax: 0755-86170310

Radiated Emission Measurement

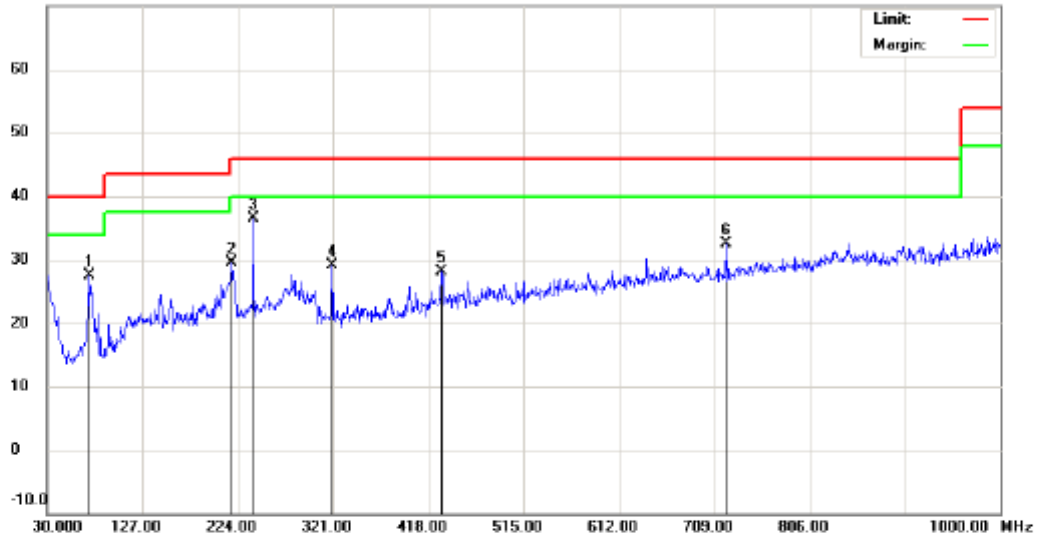
File: PF10-6002

Data: #29

Date: 2010-12-9

Time: 22:43:51

70.0 dBuV/m



Site site MOST 3M

Polarization: **Horizontal**

Temperature: 25

Limit: FCC Part15 B 3M Radiation

Power: DC 5V

Humidity: 60 %

EUT: Connected PND

Distance:

M/N: PF10-5002

Mode: USB

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	72.6800	15.85	11.67	27.52	40.00	-12.48	peak		
2	218.1800	13.32	16.22	29.54	46.00	-16.46	peak		
3 *	239.5200	19.39	17.17	36.56	46.00	-9.44	peak		
4	320.0299	12.08	17.00	29.08	46.00	-16.92	peak		
5	431.5800	7.74	20.32	28.06	46.00	-17.94	peak		
6	720.6400	7.74	24.71	32.45	46.00	-13.55	peak		

*:Maximum data x:Over limit !:over margin



Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong, China
Tel: 0755-86170306 Fax: 0755-86170310

Radiated Emission Measurement

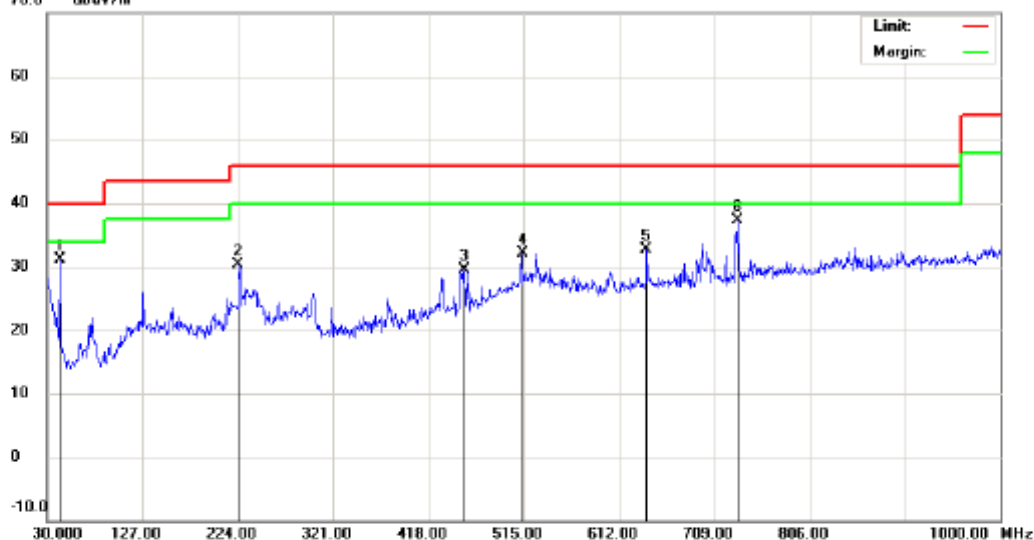
File: PF10-6002

Data: #30

Date: 2010-12-9

Time: 22:45:33

70.0 dBuV/m



Site: site MOST 3M

Polarization: **Vertical**

Temperature: 25

Limit: FCC Part15 B 3M Radiation

Power: DC 5V

Humidity: 60 %

EUT: Connected PND

Distance:

M/N: PF10-5002

Mode: USB

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		43.5800	16.55	14.51	31.06	40.00	-8.94	peak		
2		224.9700	13.97	16.40	30.37	46.00	-15.63	peak		
3		454.8600	9.41	20.15	29.56	46.00	-16.44	peak		
4		513.0600	10.53	21.56	32.09	46.00	-13.91	peak		
5		640.1300	8.61	24.00	32.61	46.00	-13.39	peak		
6	*	733.2500	12.18	25.06	37.24	46.00	-8.76	peak		

*:Maximum data x:Over limit !:over margin

The worst test data above 1 GHz was showed as the follow:

Operation Mode:	USB Mode	Test Date:	December. 19, 2010
Temperature:	24°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

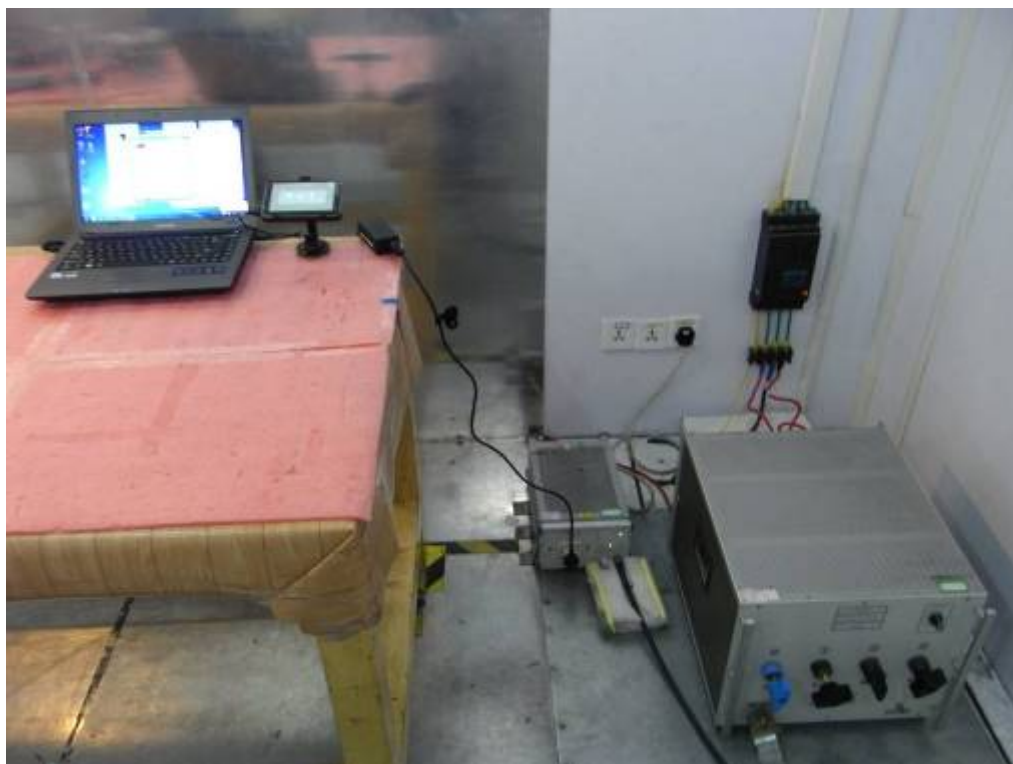
Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	AV Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
1440.50	H	54.66	34.74	5.84	60.50	40.58	74.00	54.00	-13.42
1920.57	H	55.96	17.86	16.63	72.59	34.49	74.00	54.00	-19.51
N/A									>20
1440.72	V	55.03	32.57	5.84	60.87	38.41	74.00	54.00	-15.59
1920.48	V	55.03	19.69	16.63	71.66	36.32	74.00	54.00	-17.68
N/A									>20

Notes:

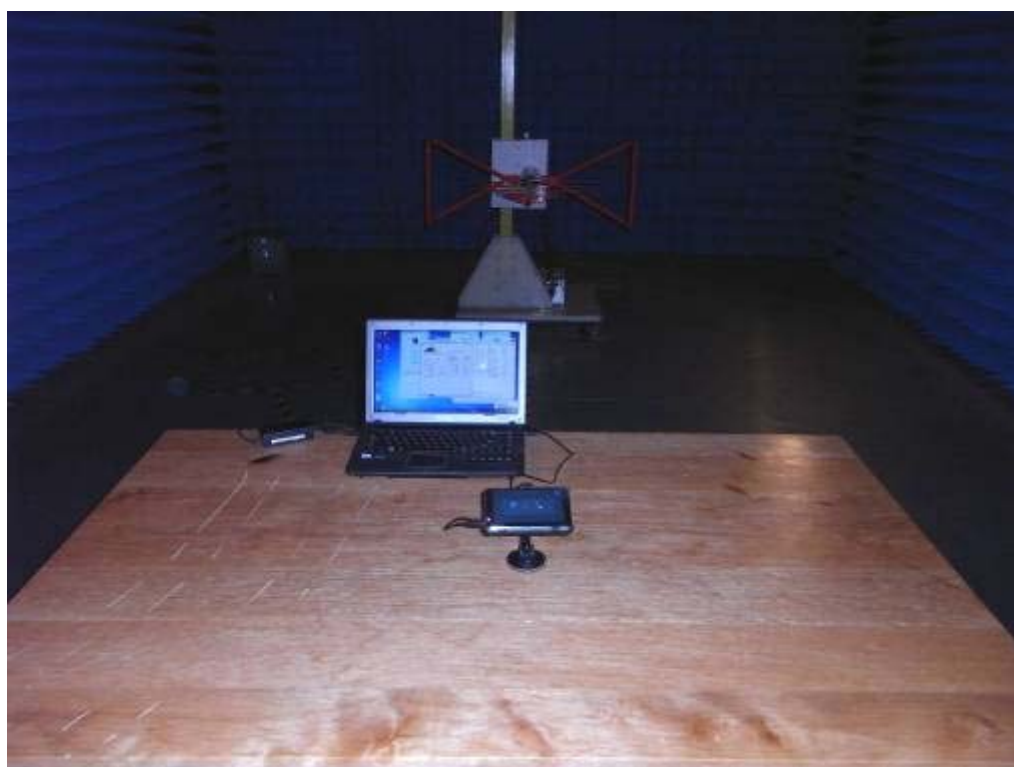
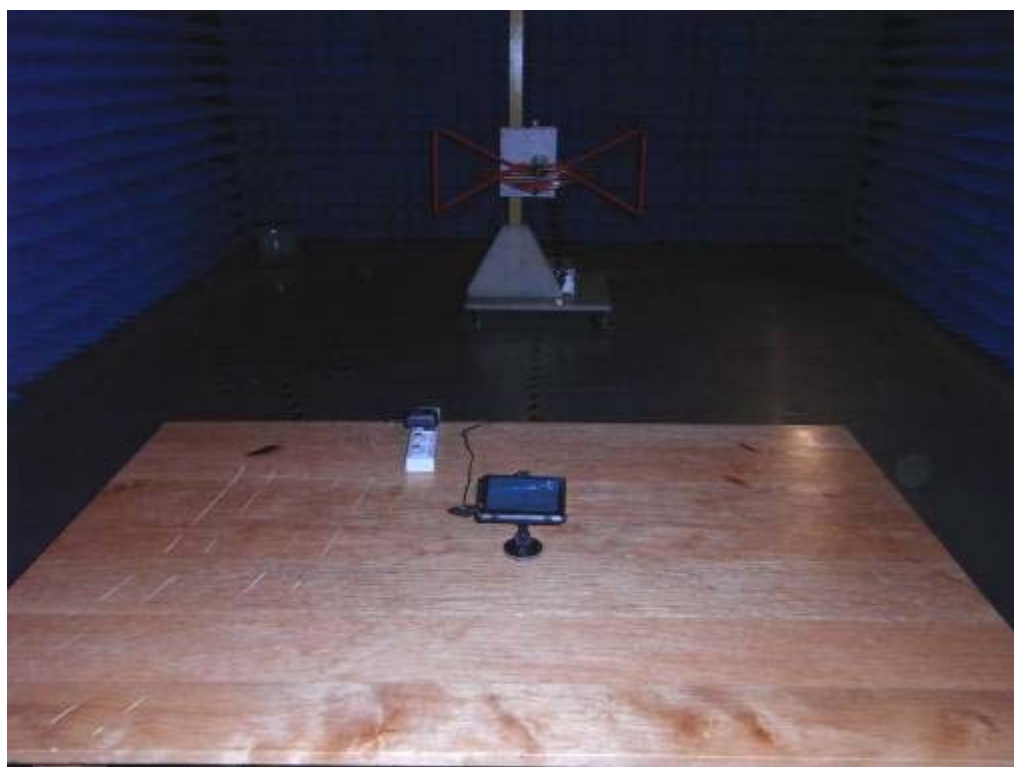
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

APPENDIX 1
PHOTOGRAPHS OF TEST SETUP

CE TEST SETUP



RE TEST SETUP





APPENDIX 2

PHOTOGRAPHS OF EUT

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



TOP VIEW OF SAMPLE



BOTTOM VIEW OF SAMPLE



PHOTO OF POWER SUPPLY



PHOTO OF USB LINE



PHOTO OF CAR ADAPTOR



PHOTO OF TRESTLE TABLE



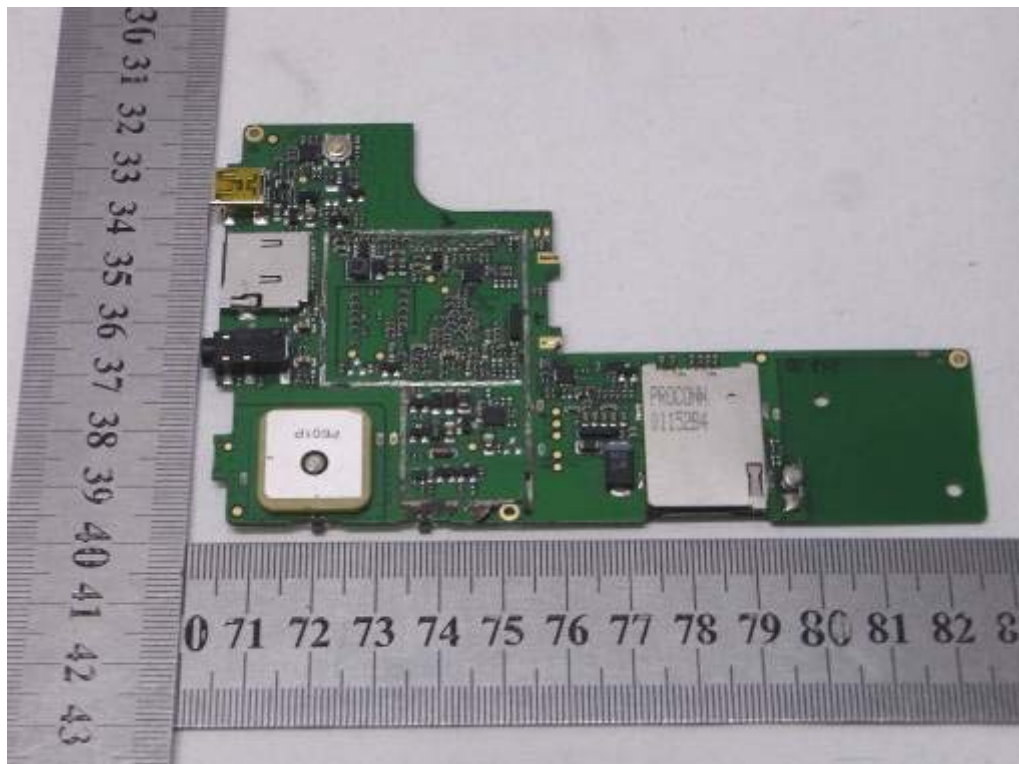
PHOTO OF THE ENTIRE SAMPLE



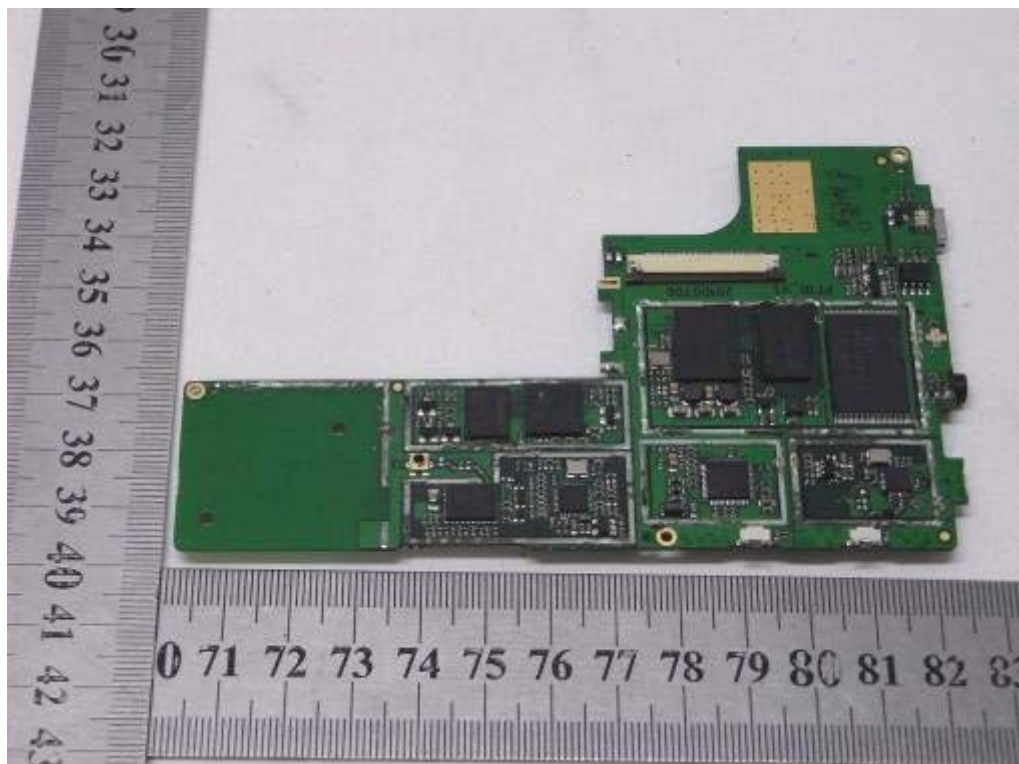
PHOTO OF THE BATTERY



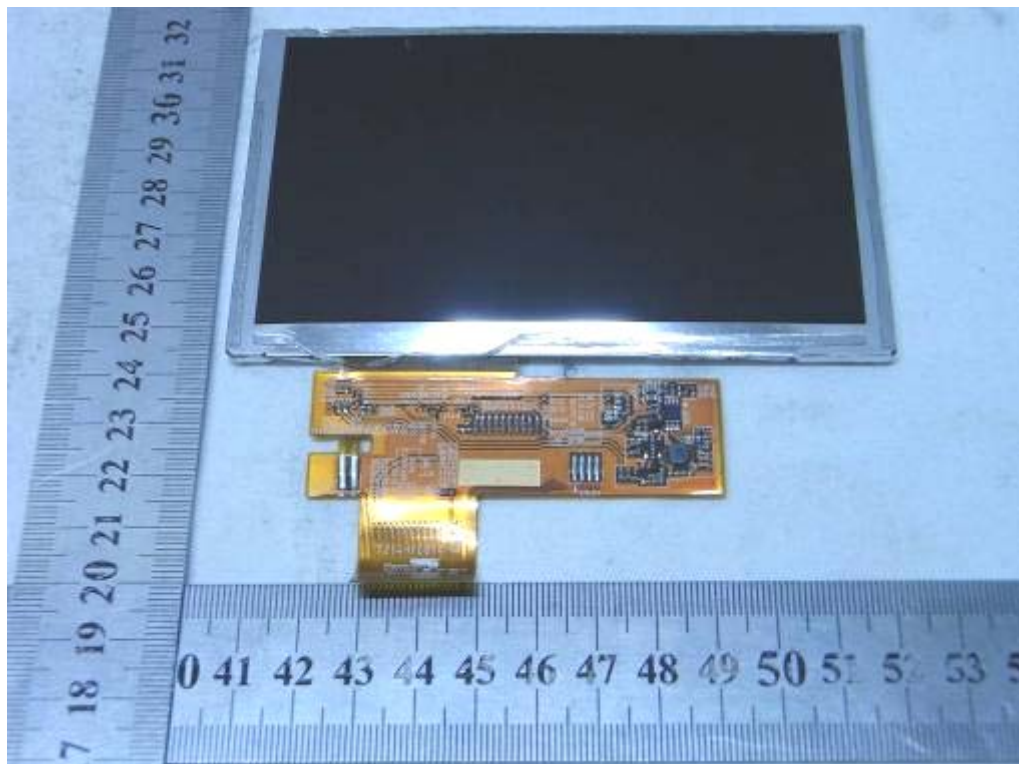
INTERNAL PHOTO OF SAMPLE - 1



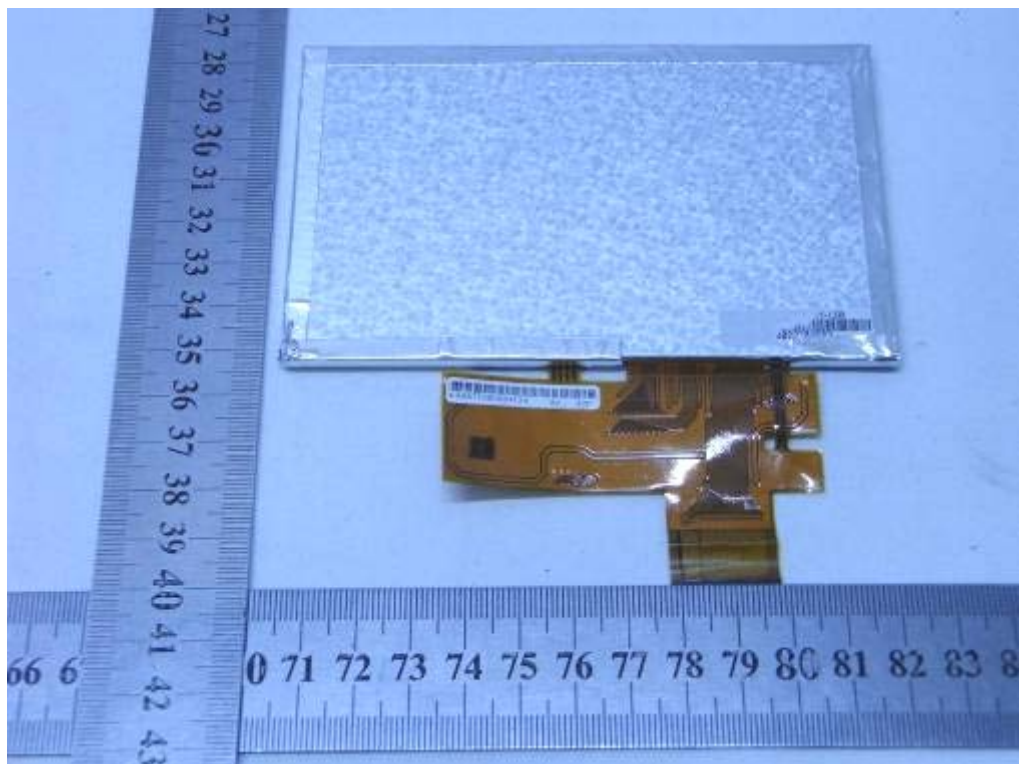
INTERNAL PHOTO OF SAMPLE - 2



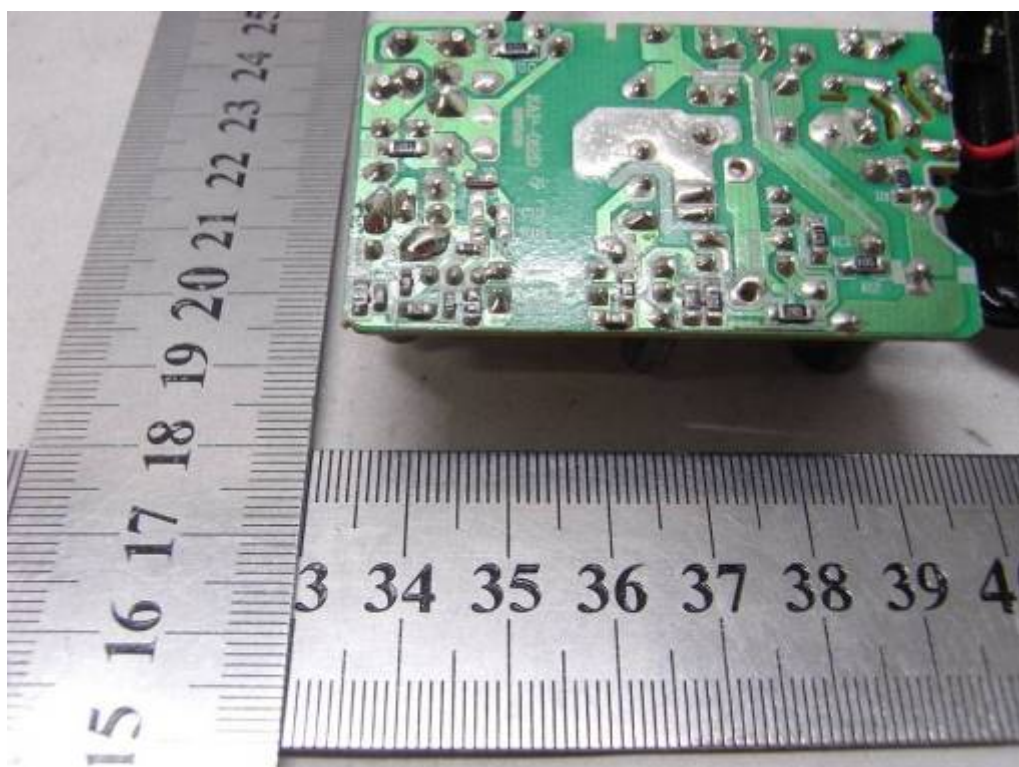
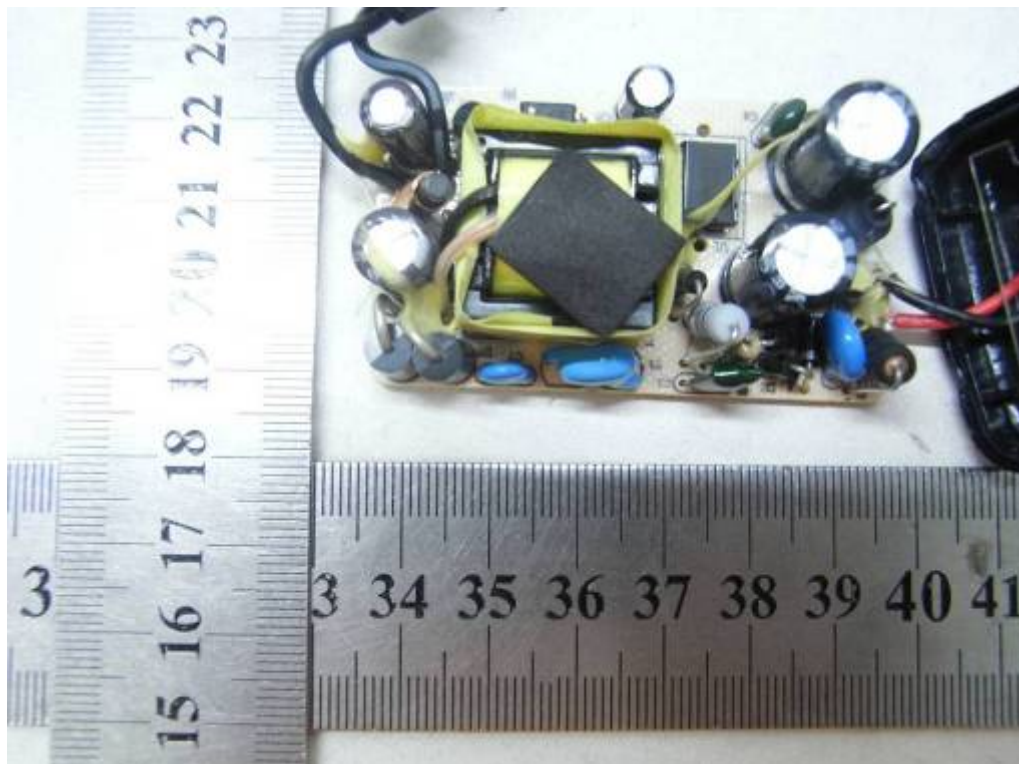
INTERNAL PHOTO OF SAMPLE - 3



INTERNAL PHOTO OF SAMPLE - 4



INTERNAL PHOTO OF POWER SUPPLY



INTERNAL PHOTO OF CAR SUPPLY

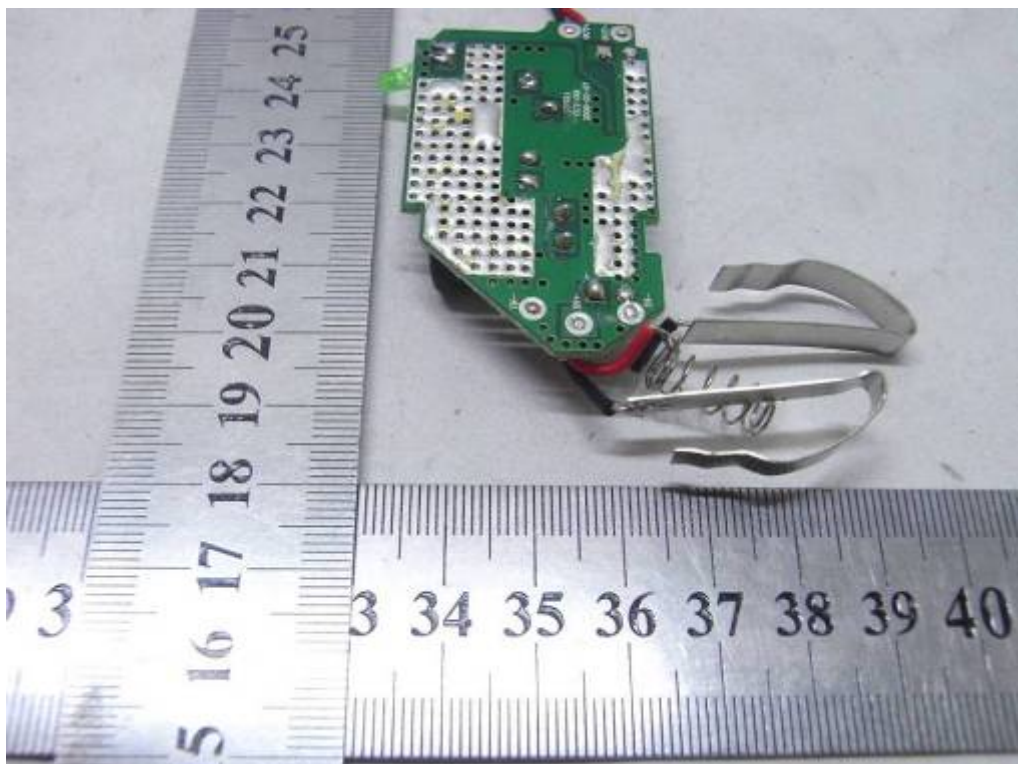
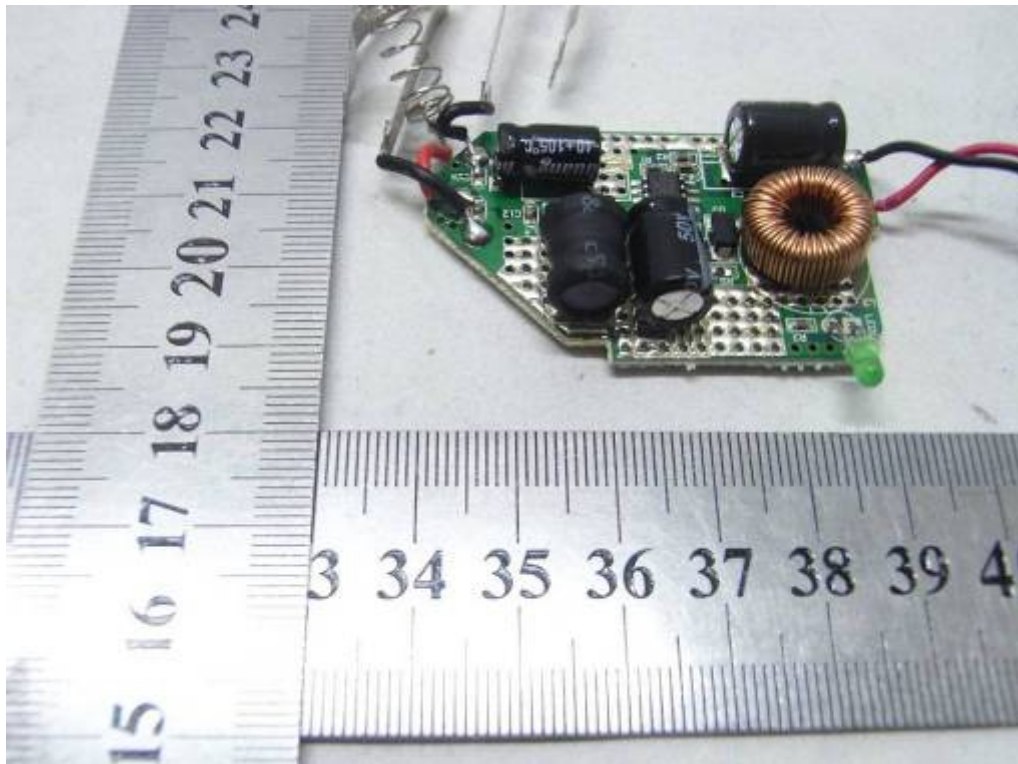


PHOTO OF THE OTHER SAMPLE-1



PHOTO OF THE OTHER SAMPLE-2



-----END OF REPORT-----