



FCC 47 CFR PART 15 SUBPART B

TEST REPORT

For

Applicant : China Great-wall Computer Shenzhen CO., LTD.

Address : GREATWALL BLDG., SCIENCE & INDUSTRY PARK, NANSHAN
DISTRICT, SHENZHEN, P.R CHINA.

Product Name : Notebook Computer

Model Name : SYNET583-PK, A892

Brand Name : GREATWALL, SYLVANIA

FCC ID : KXY-A892

Report No. : MOST100910F1

Date of Issue : November. 27, 2010

Issued by : Most Technology Service Co., Ltd.

Address : No.5, 2nd Langshan Road, North District, Hi-tech Industrial
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1. VERIFICATION OF CONFORMITY

Equipment Under Test: Notebook Computer

Brand Name: GREATWALL, SYLVANIA

Model Number: SYNET583-PK

Series Number: A892

Model Difference description: The models are all the same in schematic diagram and critical components, except for marketing strategy.

FCC ID: KXY-A892

Applicant: China Great-wall Computer Shenzhen Co., Ltd.
GREATWALL BLDG., SCIENCE & INDUSTRY PARK, NANSHAN
DISTRICT, SHENZHEN, P.R CHINA

Manufacturer: China Great-wall Computer Shenzhen Co., Ltd.
GREATWALL BLDG., SCIENCE & INDUSTRY PARK, NANSHAN
DISTRICT, SHENZHEN, P.R CHINA

Technical Standards: FCC Part 15 B

File Number: MOST100910F1

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

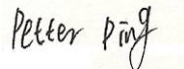
Deviation: None


Condition of Test Sample: Normal

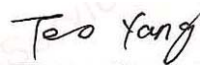
Test Result: PASS

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/Test Engineer November. 27, 2010

Review by (+ signature): 
July Wen/Lab Manager November. 27, 2010

Approved by (+ signature): 
Terry Yang/Manager November. 27, 2010

2. GENERAL INFORMATION

2.1 PRODUCT INFORMATION

Housing Type:	Plastic
EUT Rating Voltage:	DC 10.8V by Li-ion Battery; AC: 100V-240V 50/60Hz;
Voltage During Test:	AC 120V/60Hz
I/O Type of EUT:	USB Port/ SD Scocket/ Earphone Port/VGA Port/ DC Power/ Network Port
I/O Q'TY:	3/ 1/ 2/ 1/ 1/ 1
Model Number:	SYNET583-PK
Series Number:	A892
Description of Differences:	The models are all the same in schematic diagram and critical components, except for marketing strategy.

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 C63.4:2003 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 C63.4:2003 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 C63.4:2003, 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 PRODUCT TESTING DETAILS

Housing Type:	Plastic
AC Power Rating:	AC IN:100-240V/ 50/60Hz/1.5A DC Out: 19V/2.1A
EUT During Test	DC IN: 19V
Power Cable:	Unshielded, 2.00 m

4.3 I/O PORT OF EUT:

I/O Port Type	Q'TY	Tested with
AC input	1	1
SD Card	1	1
USB	3	3
Earphone	2	2
VGA	1	1
RJ 45	1	1

4.4 SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
MONITOR	Dell	E178FPc	CN-0WR979-64180-7 61-1SKS	1.6M Un-Shielded	1.8M Un-Shielded
KEYBOARD	Unis	WN10	WN10200807005590	1.6M Un-Shielded	
MOUSE	Lenovo	M-UAE96	E-C011-05-3735(B)	1.6M Un-Shielded	
Microphone	HP	N/A	N/A	Un-shielding 1.5M	
SD CARD	Kingston	2G	0907T139090	N/A	
U Disk	Kingston	2G	N/A	N/A	

4.5 EUT TECHNICAL SPECIFICATION

No.	Component		Model name	Spec.	Manufacturer
1	Mainboard	/	NBPC893	M/B	SHENZHEN COBY COMMUNICATIONS CO.,LTD
2	AC/DC Adapter	/	ADP40S-1902100	INPUT: 100-240V~ 1.5A, 50/60Hz OUTPUT: 19VDC, 2.1A	CHINA GREATWALL COMPUTER SHENZHEN CO., LTD.
3.	LED panel	/	HSD089IFW1-A00	LCD 8.9" panel	HannStar corporation
4	CPU	/	N450	1.66GHz, Single Core	Intel corporation
5	Memory	/	K667SHYBPM6416C6	1GB DDR2 667	KINGTIGER
6	Inverter	X3802	XTAL 14.318MHZ SMD 20PF/30PPM	ITTI/L8430-14.31818-20 8*4.5mm	ITTI
		X3001	XTAL 32.768KHZ SMD 12.5PF/20PP	MICRO CRYSTAL/MS1V-T1K	MICRO CRYSTAL
		Y5	XTAL 32.768KHZ SMD 12.5PF/20PP	MICRO CRYSTAL/MS1V-T1K	MICRO CRYSTAL
		Y10	XTAL 25MHZ SMD 18PF/30PPM	FUJICOM/FSX6M2 25.000000M18FAQ	FUJICOM
7	Chasis (top side)	/	GN-5001RFH	V-0,thick 1.2 mm min.	LG CHEMICAL(GUANGZHOU) ENGINEERING PLASTICS CO LTD
8	Chasis (LED panel side)	/	GN-5001RFH	V-0,thick 1.2 mm min.	LG CHEMICAL(GUANGZHOU) ENGINEERING PLASTICS CO LTD
9	Chasis (keyboard side)	/	GN-5001RFH	V-0,thick 1.2 mm min.	LG CHEMICAL(GUANGZHOU) ENGINEERING PLASTICS CO LTD
10	Chasis (bottom side)	/	GN-5001RFH	V-0,thick 1.2 mm min.	LG CHEMICAL(GUANGZHOU) ENGINEERING PLASTICS CO LTD
12	PCB	/	BTC-202	V-0,130°C	BOARDTEKCOMPUTER(S UZHOU) CO LTD
13	LED Panel	/	B101AW02 V0	10.1" WSVGA(LED Backlight with driving circuit design)	AU Optonics corporation
14	RTC Battery	/	CR2032 KTS	3V, maximum abnormal charging current 5mA min.	VIC-DAWN ENTERPRISE CO., LTD.
15	Battery pack	/	8299-VMTIDAGM22003	2200mAh	GALLOPWIRE ENTERPRISE CO., LTD.
16	CPU FAN	/	ND-4011M05S	DC5V , 0.4A	ShenZhen Wan Jing Hua Technology Co.,Ltd
17	HDD	/	LEXAR-SA25.11	8G SSD SATA	Lexar Media, Inc.
18	Touch module	/	TM-01256-001	--	Synaptics
19	Keyboard	/	7090-3B BTC	--	Pegatron Corporation
20	LED cable	/	LVDS	LVDS	Shenzhen Liuchuan Technology Development Co., Ltd.
21	thermal pad	/	--	15*15*0.4 (L*W*H)	Sentra Team Technology Co., Ltd.)

4.6 SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
MONITOR	Dell	E178FPc	CN-0WR979-64180-76 1-1SKS	1.6M Un-Shielded	1.8M Un-Shielded
KEYBOARD	Unis	WN10	WN10200807005590	1.6M Un-Shielded	
MOUSE	Lenovo	M-UAE96	E-C011-05-3735(B)	1.6M Un-Shielded	
Microphone	HP	N/A	N/A	Un-shielding 1.5M	
SD CARD	Kingston	2G	0907T139090	N/A	
U Disk	Kingston	2G	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.

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

The EUT has been tested under different mode condition; Make sure the entire mode EUT was working at the follow conditions during the testing.

1. Adjust the computer to keep the maximum brightness and contrast display during the testing.
2. Adjust the computer to keep the maximum screen distinguish rate and the maximum screen refurbish frequency during the testing.
3. Input and scrolling the letter H's on the display during the testing.

After the 1-3 steps are finished, start the testing and make the EUT work normally during the test.

The following data show only with the worst case setup.

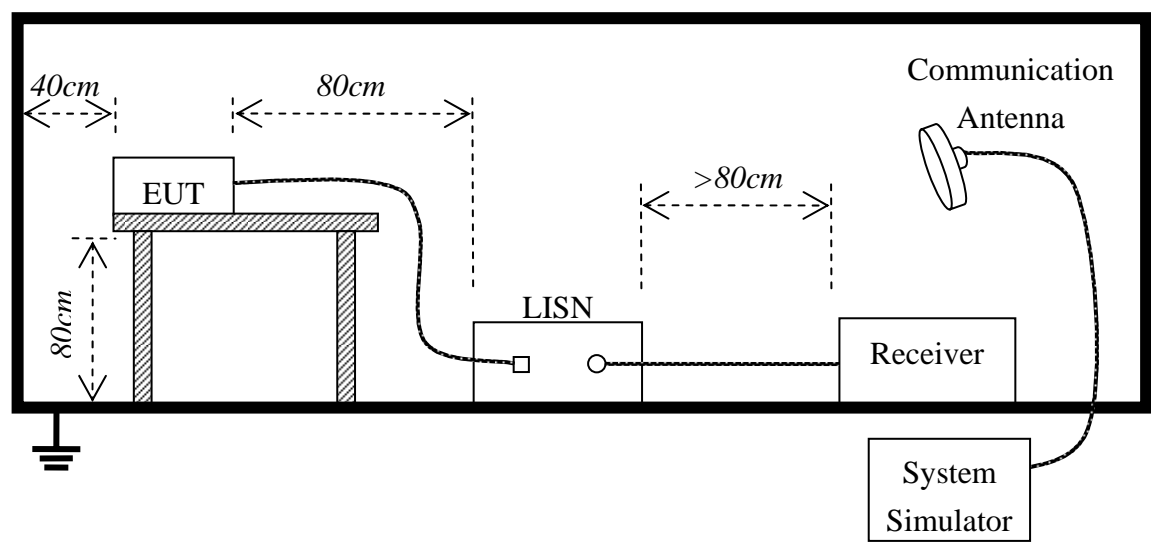
The worst case of Y axis was reported.

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 19V power by AC/DC adapter 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
USB Mode	2010-11-18	MOST100910F1	01_(L, N)	<input checked="" type="checkbox"/>
Earphone Mode	2010-11-18	MOST100910F1	03_(L, N)	
VGA Mode	2010-11-18	MOST100910F1	04_(L, N)	
RJ 45 Mode	2010-11-18	MOST100910F1	05_(L, N)	
Card Port Mode	2010-11-18	MOST100910F1	07_(L, N)	
Wifi Mode	2010-11-18	MOST100910F1	08_(L, N)	

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.

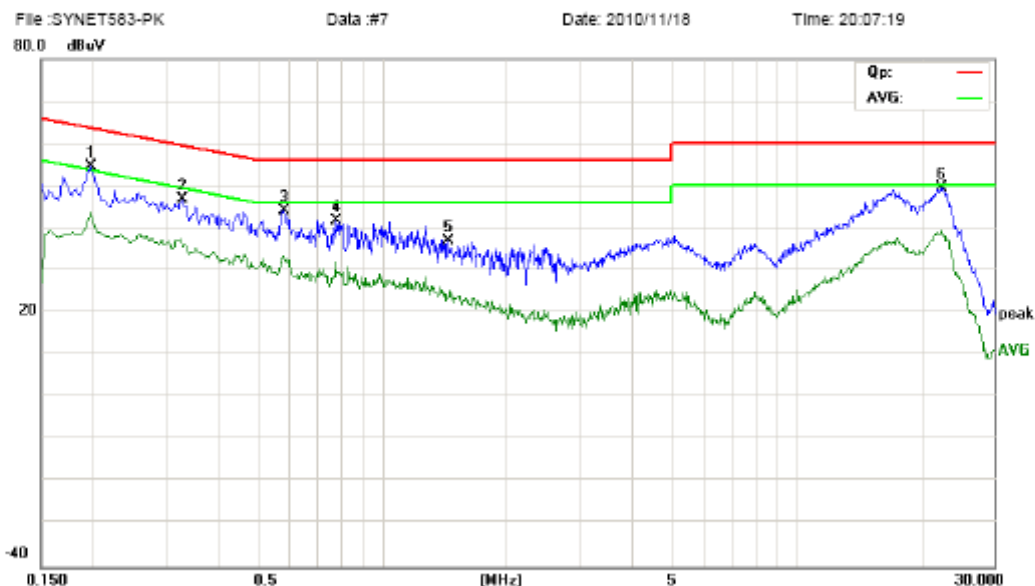
The test data of the worst case condition(s) was reported on the Summary Data page.

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: NOTEBOOK COMPUTER

MN: SYNET583-PK

Mode: Full Load

Note:

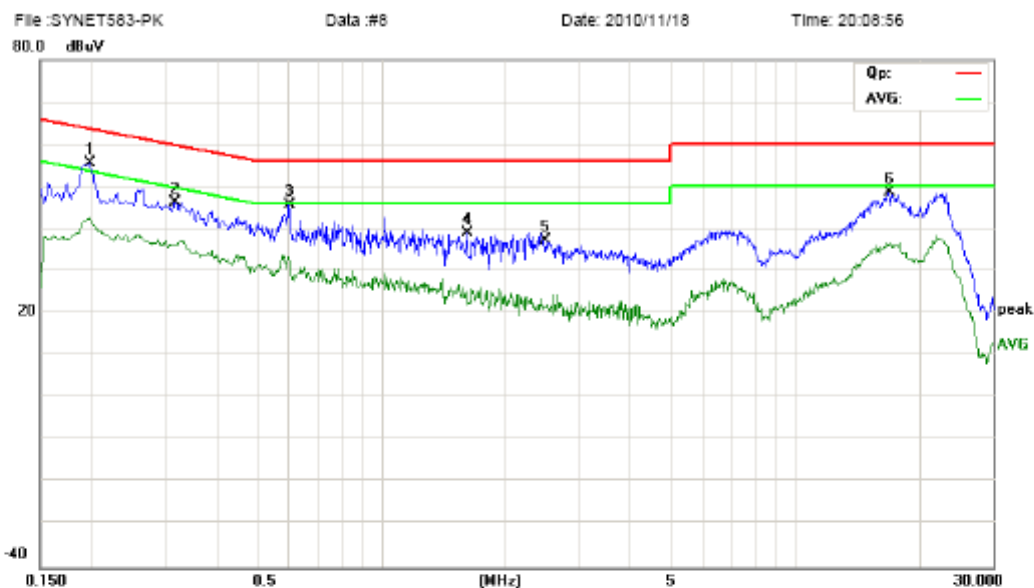
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1980	42.87	11.88	54.75	63.69	-8.94	peak	
2		0.3300	35.60	11.13	46.73	59.45	-12.72	peak	
3		0.5780	34.27	10.00	44.27	56.00	-11.73	peak	
4		0.7740	31.79	10.00	41.79	56.00	-14.21	peak	
5		1.4380	27.37	9.56	36.93	56.00	-19.07	peak	
6		22.2980	40.57	9.00	49.57	60.00	-10.43	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: **L1**

Temperature: 26

Limit: FCC Part15 B Class B QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: NOTEBOOK COMPUTER

M/N: SYNET583-PK

Mode: Full Load

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1980	43.67	11.88	55.55	63.69	-8.14	peak	
2		0.3180	35.10	11.21	46.31	59.76	-13.45	peak	
3		0.5980	35.53	10.00	45.53	56.00	-10.47	peak	
4		1.6140	29.52	9.39	38.91	56.00	-17.09	peak	
5		2.4740	27.77	9.47	37.24	56.00	-18.76	peak	
6		16.8340	39.72	9.00	48.72	60.00	-11.28	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 15.209 (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:

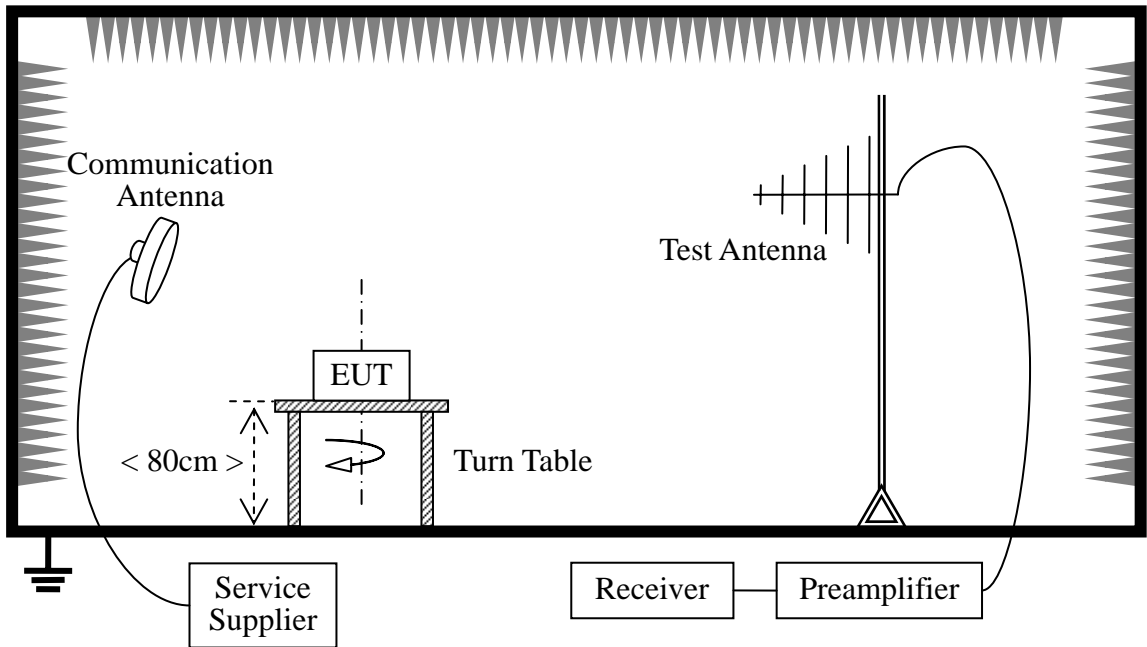
Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

NOTE: (1) The lower limit shall apply at the transition frequencies.

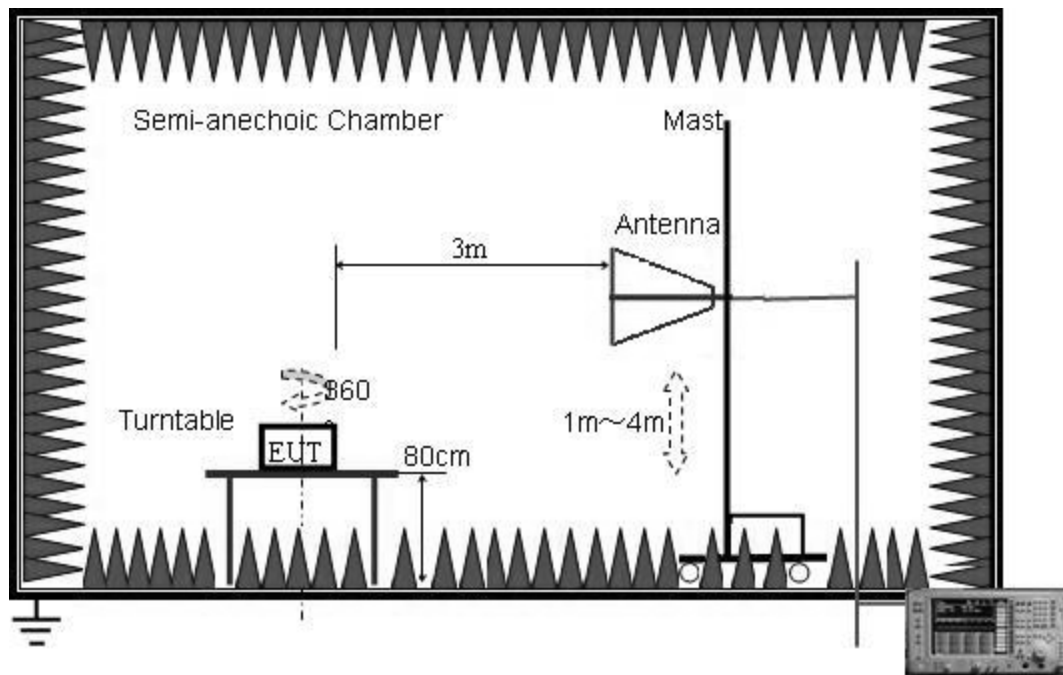
7.2 TEST DESCRIPTION

Test Setup:

Below 1GHz:



Above 1GHz:



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.

7.3. PRELIMINARY PROCEDURE OF RADIATED 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 turntable with a height of 0.8 meters is used which 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 a 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 19V power by AC/DC adapter which received AC 120V/60Hz. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected

to the Analyzer via a cable and at times a pre-amplifier would be used.

- 6) The Analyzer / Receiver quickly scanned from 9kHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The following test mode(s) were scanned during the preliminary test:

Preliminary Radiated Emission Test				
Frequency Range Investigated		30 MHz TO 1000 MHz		
Mode of operation	Date	Report No.	Data#	Worst Mode
USB Mode	2010-11-9	MOST100910F1	01_(H,V)	<input checked="" type="checkbox"/>
Earphone Mode	2010-11-9	MOST100910F1	03_(H,V)	
VGA Mode	2010-11-9	MOST100910F1	04_(H,V)	
RJ 45 Mode	2010-11-9	MOST100910F1	05_(H,V)	
SD Card Mode	2010-11-9	MOST100910F1	07_(H,V)	
Wifi Mode	2010-11-9	MOST100910F1	08_(H,V)	

Then, the EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for final testing.

7.4 TEST RESULT



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

Radiated Emission Measurement

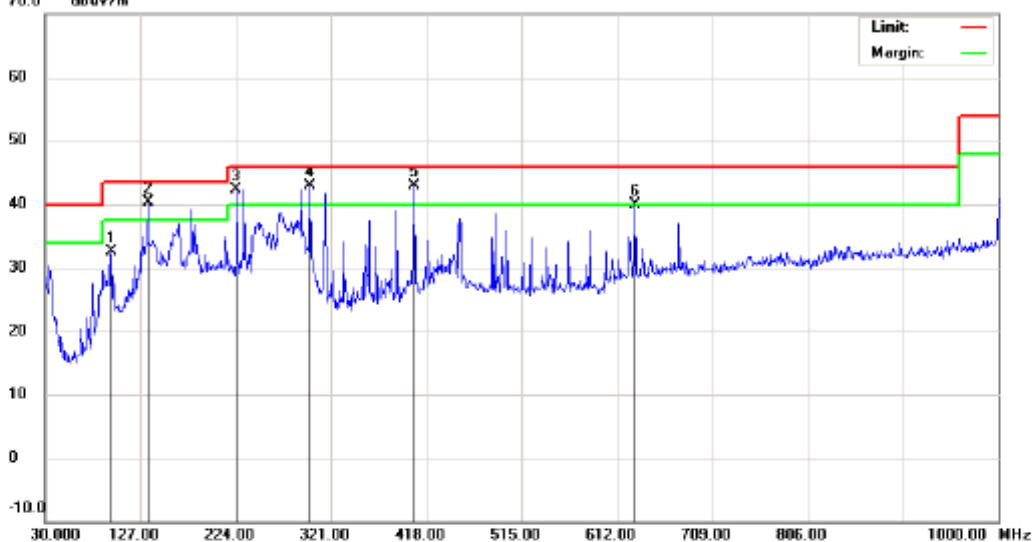
File: SYNET583-PK

Data: #11

Date: 2010-11-9

Time: 18:04:38

70.0 dBuV/m



Site site MOST 3M

Polarization: *Horizontal*

Temperature: 26

Limit: FCC Part15 B 3M Radiation

Power: AC 120V/60Hz

Humidity: 60 %

EUT: NOTEBOOK

Distance:

MN: SYNET583-PK

Mode: Full Load

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		97.9000	19.81	12.72	32.53	43.50	-10.97	peak		
2	!	134.7600	22.81	17.46	40.27	43.50	-3.23	peak		
3	!	224.9700	26.00	16.40	42.40	46.00	-3.60	peak		
4	!	299.6600	23.63	19.30	42.93	46.00	-3.07	peak		
5	*	405.3900	24.13	18.82	42.95	46.00	-3.05	peak		
6		630.4299	16.04	23.80	39.84	46.00	-6.16	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

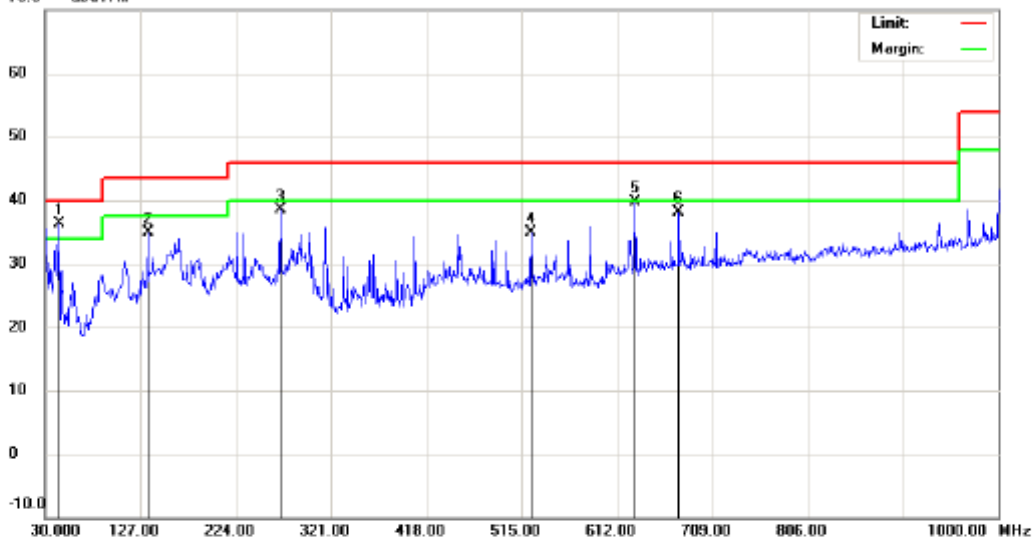
File: SYNET583-PK

Data: #12

Date: 2010-11-9

Time: 17:53:23

70.0 dBuV/m



Site site MOST 3M

Polarization: **Vertical**

Temperature: 26

Limit: FCC Part15 B 3M Radiation

Power: AC 120V/60Hz

Humidity: 60 %

EUT: NOTEBOOK

Distance:

MN: SYNET583-PK

Mode: Full Load

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	*	44.5500	22.43	13.89	36.32	40.00	-3.68	peak		
2		134.7600	17.39	17.46	34.85	43.50	-8.65	peak		
3		269.5899	19.69	18.85	38.54	46.00	-7.46	peak		
4		524.7000	12.95	22.04	34.99	46.00	-11.01	peak		
5		630.4299	15.89	23.80	39.69	46.00	-6.31	peak		
6		675.0500	13.60	24.55	38.15	46.00	-7.85	peak		

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

Above 1 GHz**Operation Mode:** Full Load Mode**Test Date:** November. 9, 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)	Peak Margin (dB)	AV Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)				
1337.50	H	62.39	39.97	5.02	67.41	44.99	74.00	54.00	-6.59	-9.01
2227.50	H	57.54	33.98	10.14	67.68	44.12	74.00	54.00	-6.32	-9.88
N/A										>20
1337.50	V	60.76	36.78	5.02	65.78	41.80	74.00	54.00	-8.22	-12.20
2012.50	V	54.09	35.22	9.06	63.15	44.28	74.00	54.00	-10.85	-9.72
N/A										>20

Notes:

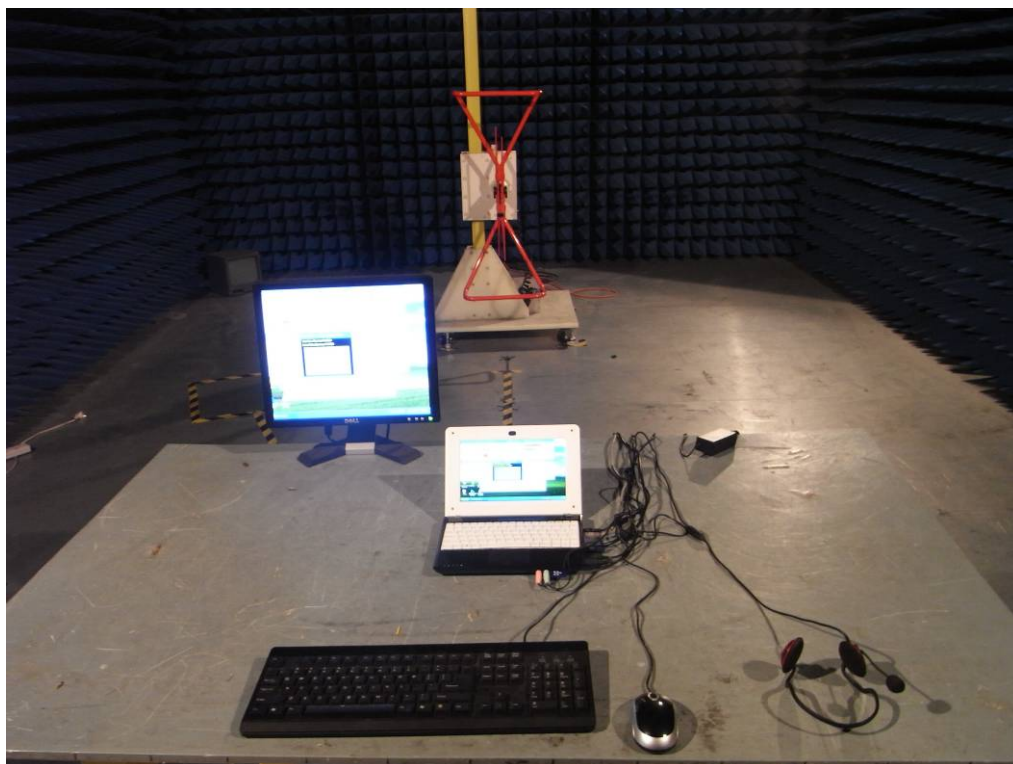
1. Measuring frequencies from 1 GHz to 6GHz.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
3. The frequency that above 3GHz is mainly from the environment noise.

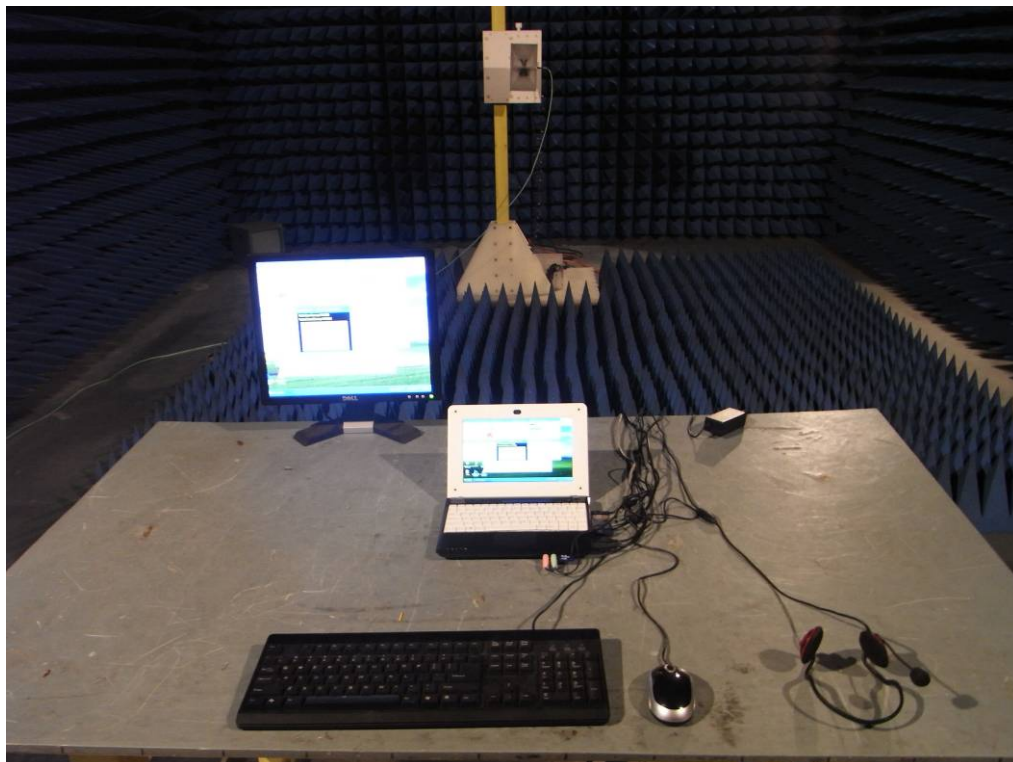
APPENDIX 1
PHOTOGRAPHS OF TEST SETUP

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



VIEW OF EXPANDING SAMPLE



PHOTO OF POWER SUPPLY



PHOTO OF AC LINE



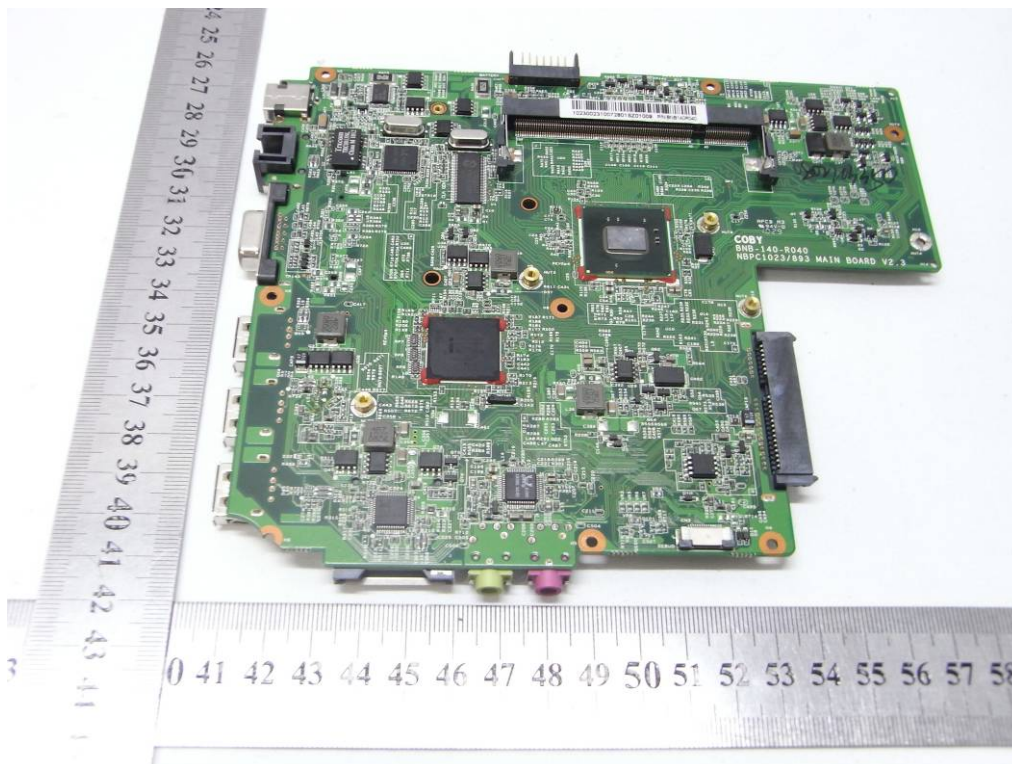
PHOTO OF THE ENTIRE SAMPLE



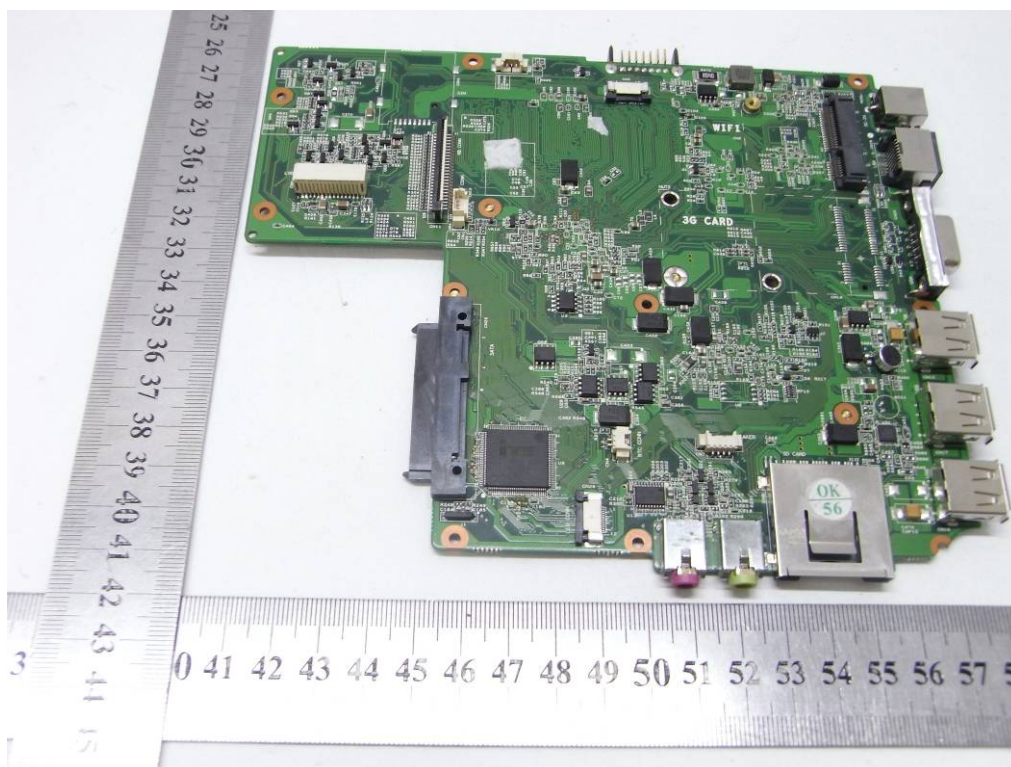
PHOTO OF THE BATTERY



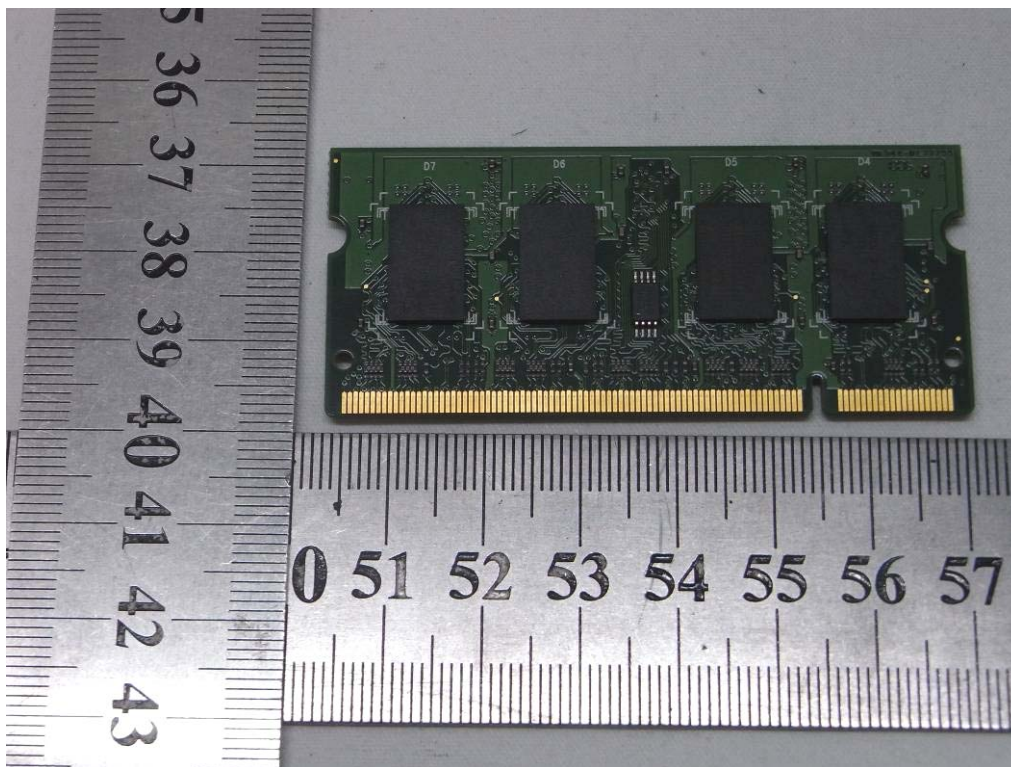
INTERNAL PHOTO OF SAMPLE - 1



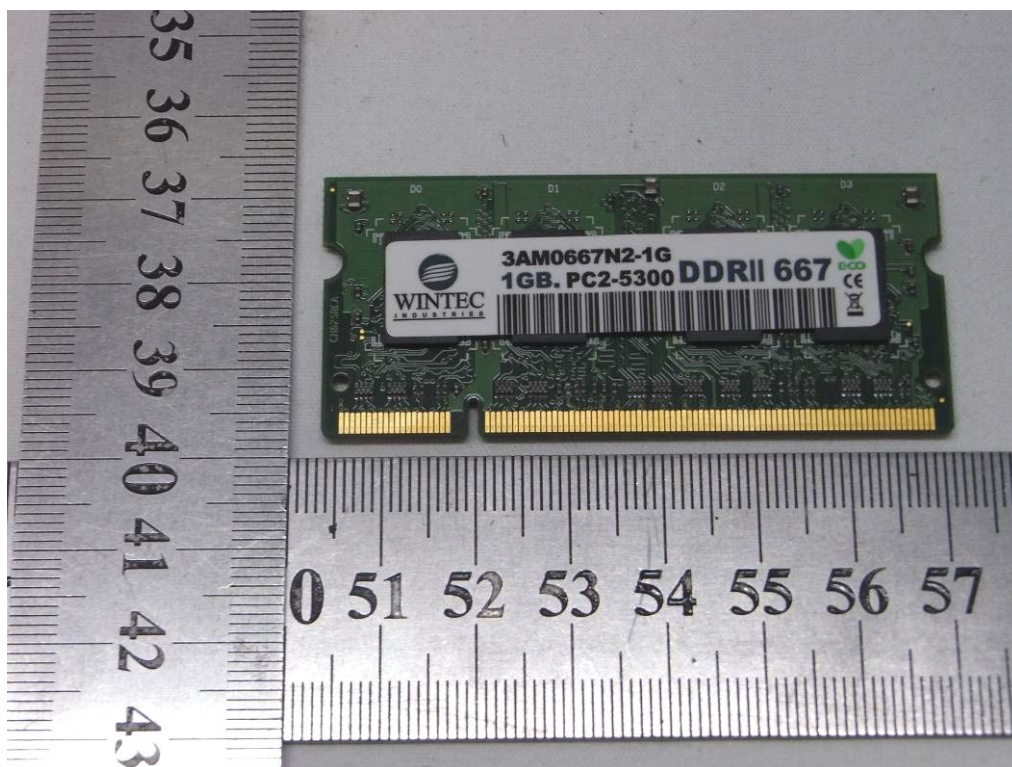
INTERNAL PHOTO OF SAMPLE -2



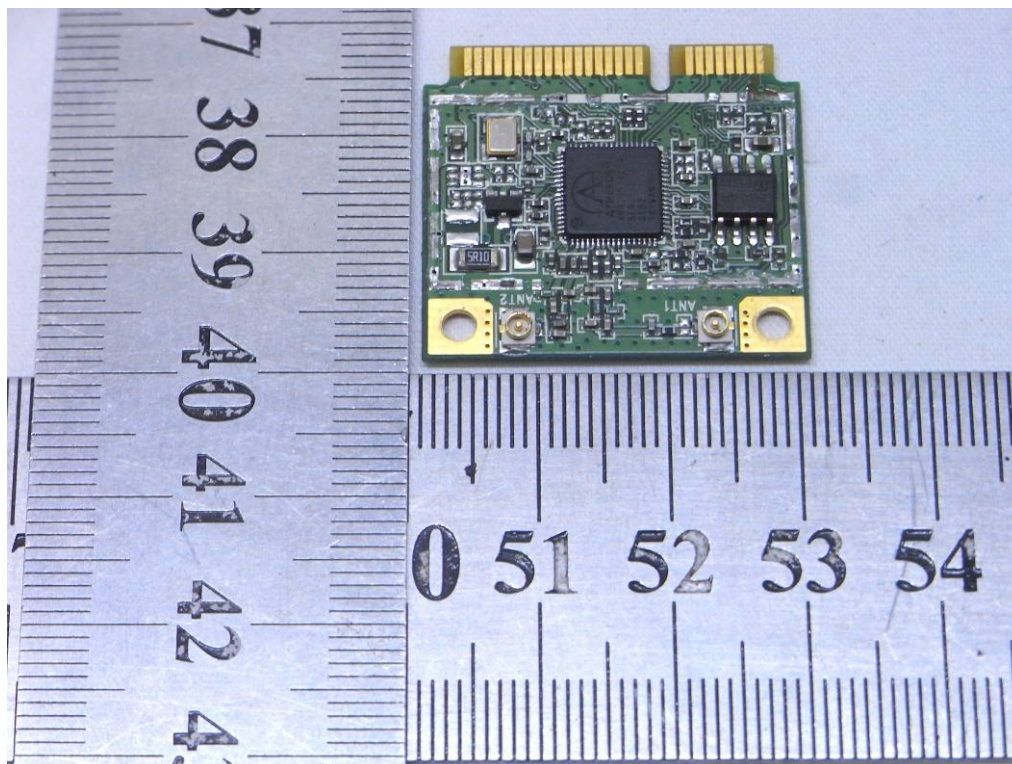
INTERNAL PHOTO OF SAMPLE - 3



INTERNAL PHOTO OF SAMPLE - 4

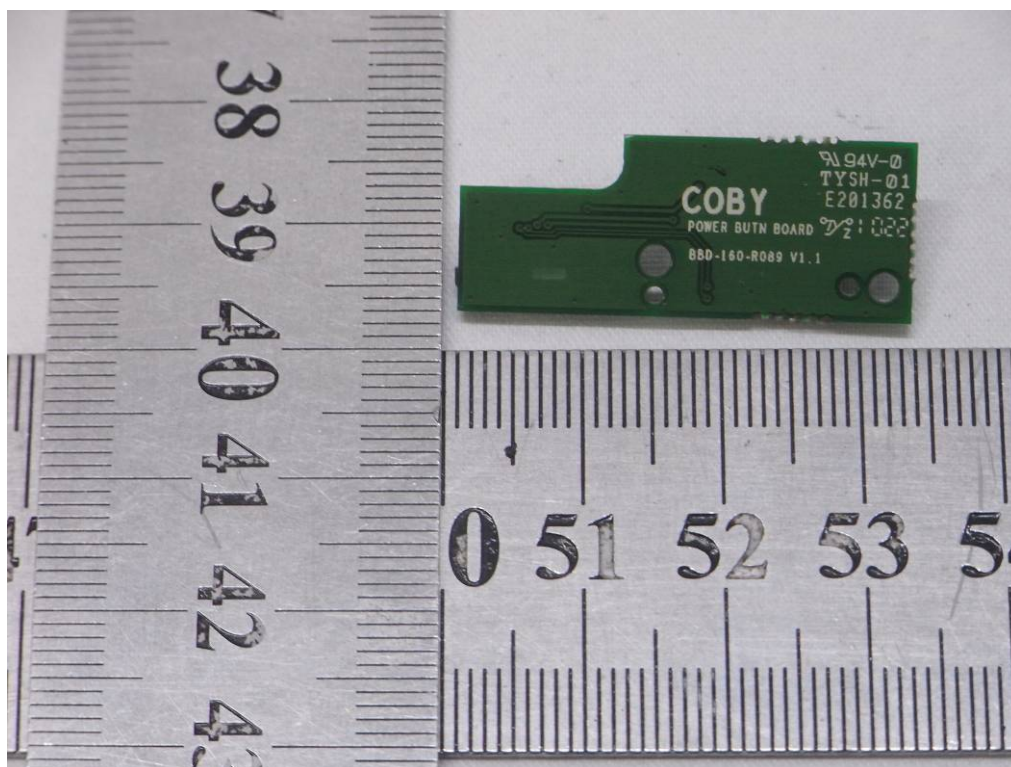


INTERNAL PHOTO OF SAMPLE - 5

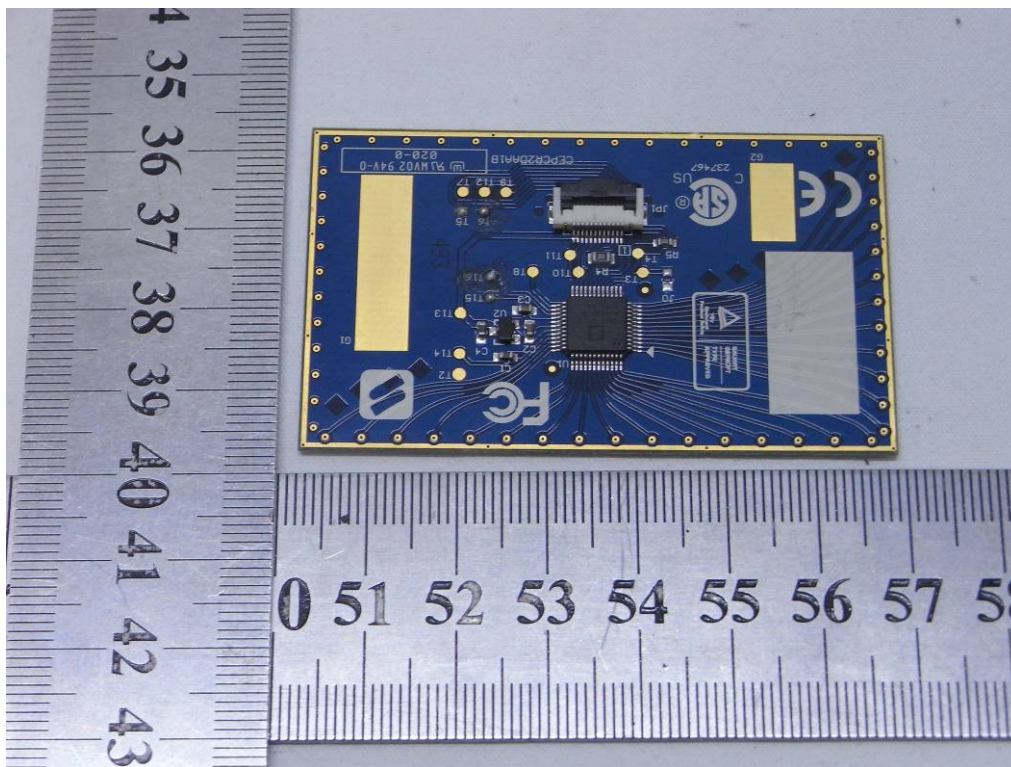


A photograph of a small, green, square electronic component, likely a microcontroller or sensor, placed on a white surface. The component has two yellow circular pads at the top and two gold-colored pins at the bottom. It is surrounded by a ruler for scale. The ruler shows measurements in centimeters (0 to 5) and millimeters (37 to 43). The component is labeled with 'E85792', 'CK66-01 002', '94V-0', and 'AW-NE785H'.

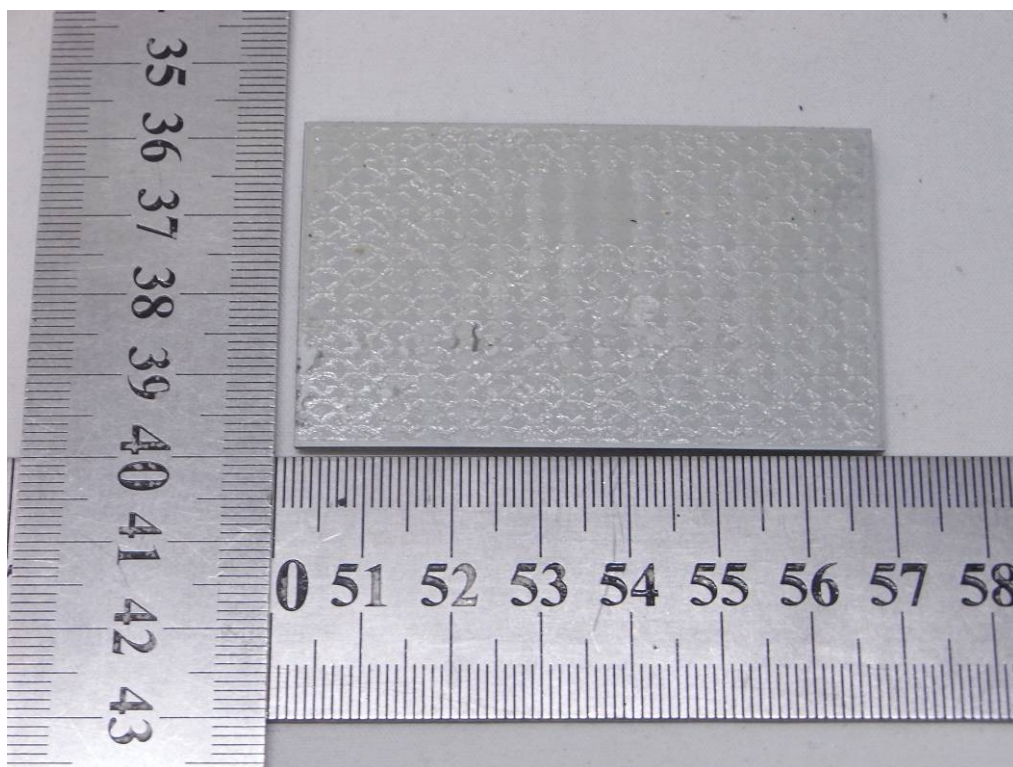
INTERNAL PHOTO OF SAMPLE - 8



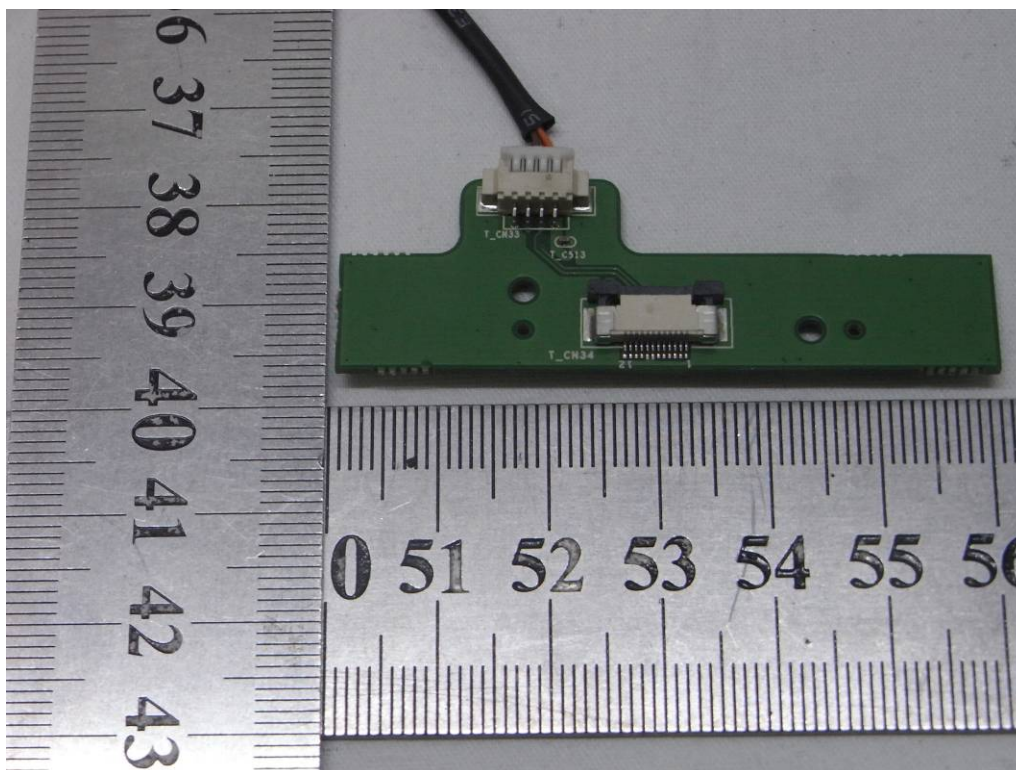
INTERNAL PHOTO OF SAMPLE - 9



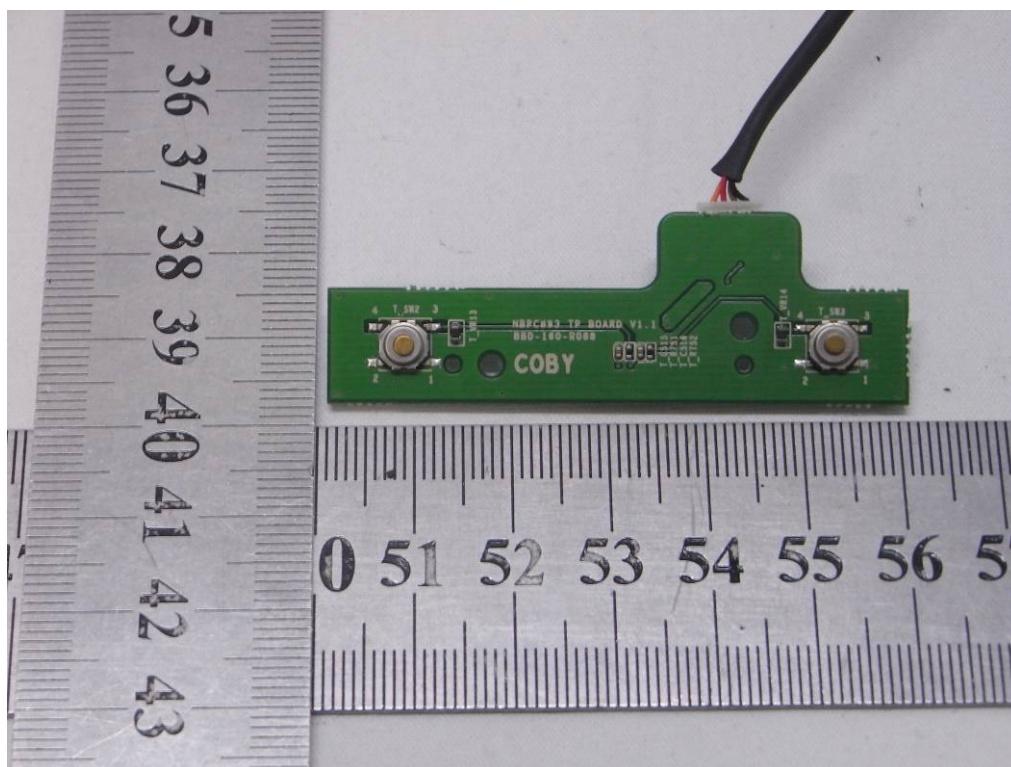
INTERNAL PHOTO OF SAMPLE - 10



INTERNAL PHOTO OF SAMPLE - 11



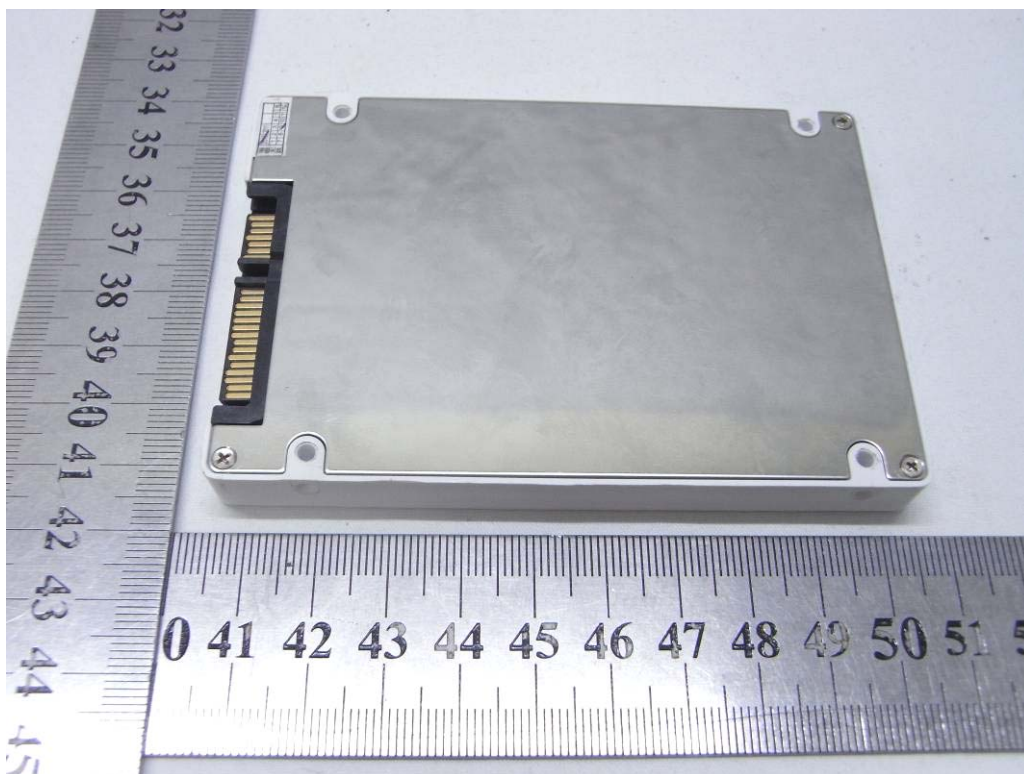
INTERNAL PHOTO OF SAMPLE - 12



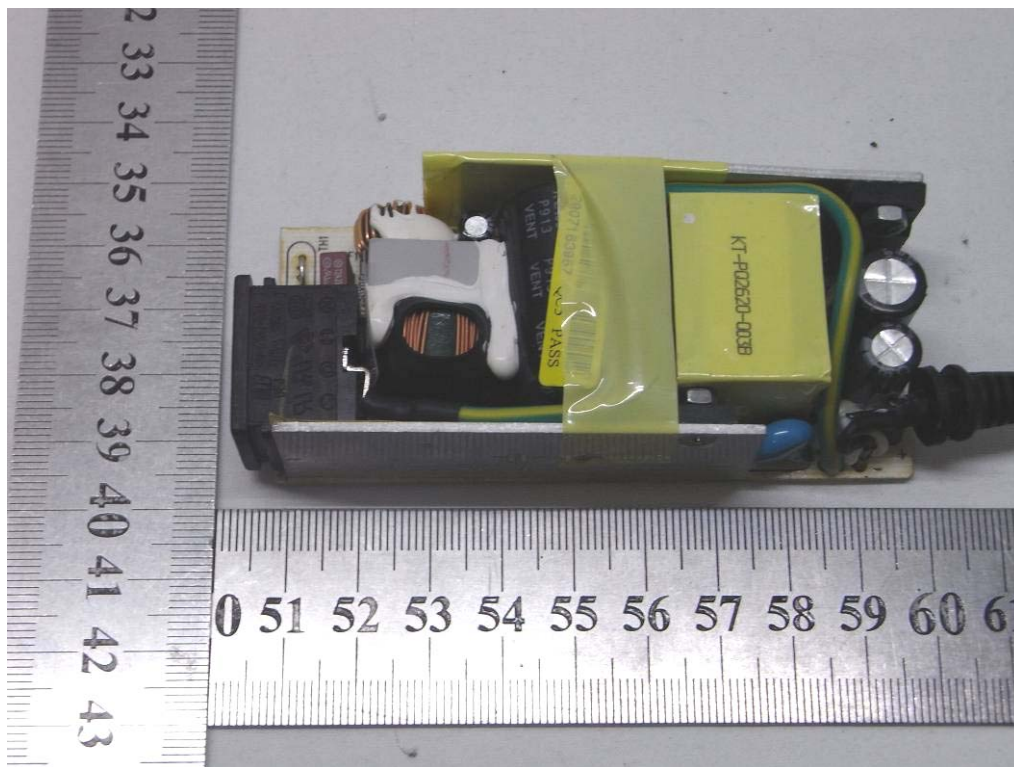
INTERNAL PHOTO OF SAMPLE - 13



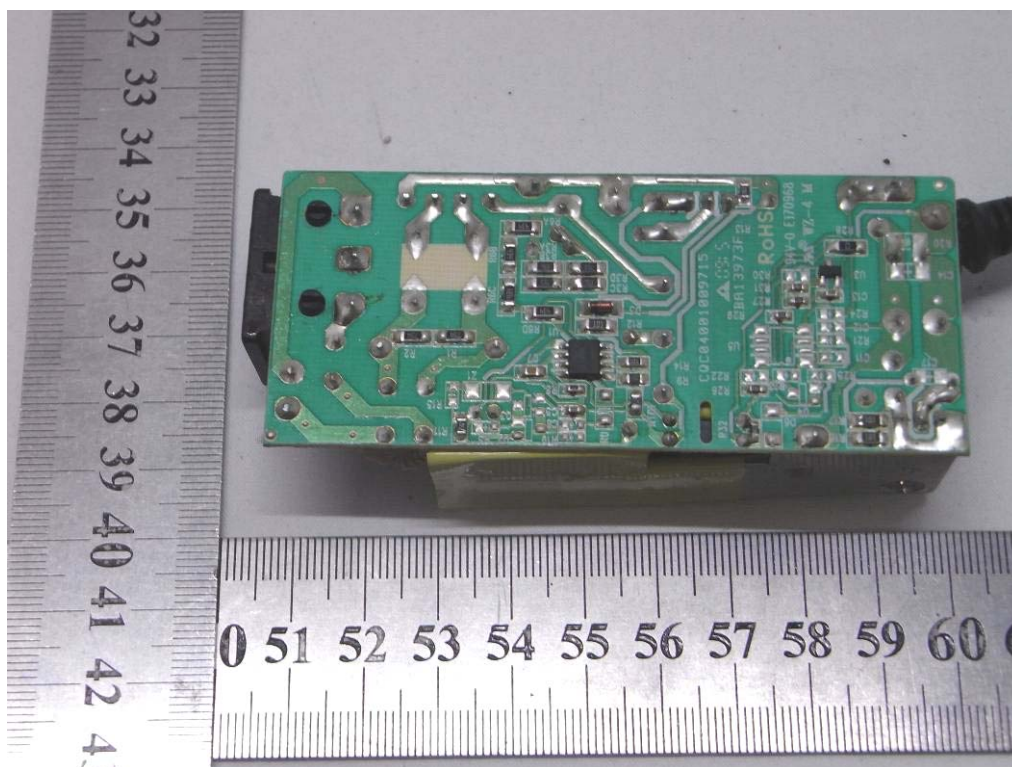
INTERNAL PHOTO OF SAMPLE - 14



INTERNAL PHOTO OF POWER SUPPLY-1



INTERNAL PHOTO OF POWER SUPPLY-2



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