Test Report

Applicant:	Canon Electronic Business Machines (HK) Co., Ltd.
Product Name:	2.4G wireless presenter (dongle)
Brand Name:	Canon
Model No.:	PR100-R (dongle), PR10-G (dongle)
Date of Receipt :	Sept. 12, 2015
Date of Test:	Sept. 12-21, 2015
Date of Report:	Sept. 24, 2015
Prepared by:	Most Compliance Laboratory Limited

The testing has been performed on the submitted samples and found in compliance with the council FCC Rules and Regulations Part 15 Subpart B

Most Technology Service Co., Limited
OFFICE 11, 10 GREAT RUSSELL STREET, LONDON WC1B 3BQ

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TEST REPORT FOR FCC COMPLIANCE DECLARATION

Report Number	MTE/HNZ/A15101406	
Applicant	Canon Electronic Business Machines (HK) Co., Ltd.	
	Floor 17, Tower 1, Ever Gain Plaza, 82-100 Container Port Road, Kwai Chung, Hong Kong	
Manufacturer	LOGITECHNOLOGY (LONGNAN) INC.	
	DA LUO INDUSTRIAL PARK, LONGNAN ECONOMIC & TECHNOLOGICAL DEVELOPMENT ZONE, GANZHOU CITY, JIANGXI, CHINA.	
Product	Product Name	2.4G wireless presenter (dongle)
	Model No.	PR100-R (dongle)
	Power Supply	DC 5V by USB Port
Test Result	The EUT was found compliant with the requirement(s) of the standards.	
Standard	FCC Rules and Regulations Part 15 Subpart B Class B	

*Note

The above device has been tested by Most Technology Service Co., Limited To determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test record, data evaluation & Equipment Under Test (EUT) configurations represented are contained in this test report and Most Technology Service Co., Limited Is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced except in full, without written approval of Most Technology Service Co., Limited, this document may be altered or revised by Most Technology Service Co., Limited, personal only, and shall be noted in the revision of the document.

Prepared by	Helen
	Helen Zhu
Reviewed by	Henry
	Henry Chen
Approved by	
	Yvette Zhou(Manager)

MOST TECHNOLOGY SERVICE CO., LTD. APPROVED EMC & SAFETY

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	2.4G wireless presenter (dongle)
Model Number	:	PR100-R (dongle), PR10-G (dongle)
Remark	:	Used PR100-R (dongle) does all tests.

1.2. Operational Mode(s) of EUT

Order Number	:	Test Mode(s)
1	:	Running

1.3. Test Voltage(s) of EUT

Order Number	:	Test Voltage(s)
1	:	DC 5V By USB Port

2. LABORATORY INFORMATION

2.1. Laboratory Name

2.2. Most Technology Service Co., Limited

2.3. Location

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

2.4. Test facility

3m Anechoic Chamber	:	Nov. 28, 2012 File on Federal Communication Commission Registration Number:490827
Shielding Room	:	Nov. 28, 2012 File on Federal Communication Commission Registration Number:490827
EMC Lab.	:	Accredited by TUV Rheinland Shenzhen Audit Report: UA 50149851 Mar. 12, 2009 Accredited by Industry Canada Registration Number: 7103A-1 Oct. 22, 2012 Accredited by TIMCO Registration Number: Q1460 March 28, 2010

2.5. Measurement Uncertainty

No.	Item	Uncertainty
1.	Uncertainty for Conducted Disturbance Test	1.25dB
2.	Uncertainty for Radiated Disturbance Test	3.15dB

2.6. Supporting System Details

Notebook

EMC CODE	:	Test Notebook
M/N	:	E425
S/N	:	R9-KZL4B
Manufacturer	:	Lenovo
Power cord	:	Unshielded, detachable, 1.8m

Mouse

EMC CODE	:	Test Mouse B
M/N	:	M-UAE96
S/N	:	HE71214BB18
Manufacturer	:	Lenovo
Data cord	:	Unshielded, detachable , 1.8m

Printer

EMC CODE	:	Printer
M/N	:	L11121E
S/N	:	N/A
Manufacturer	:	Canon

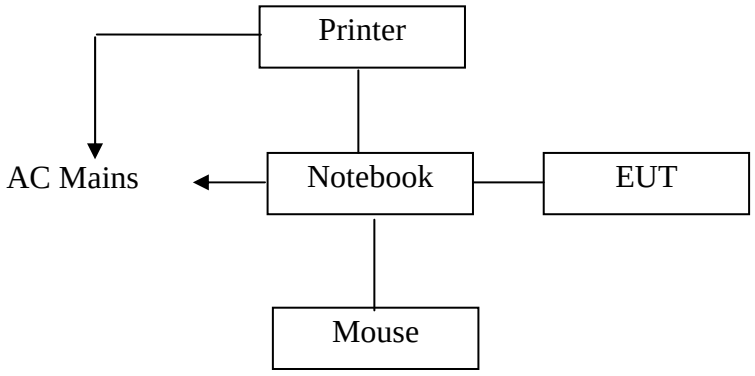
3. SUMMARY OF TEST RESULTS

EMISSION			
Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	FCC Subpart 15 B Section 15.107	Class B	PASS
Radiated disturbance	FCC Subpart 15 B Section 15.109	Class B	PASS
N/A is an abbreviation for Not Applicable.			

4. BLOCK DIAGRAM OF TEST SETUP

The equipments are installed test to meet ANSI C63.4:2009 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. EUT was tested in normal configuration (Please See following Block diagrams)

4.1. Block Diagram of connection between EUT and simulation-EMI



(EUT: 2.4G wireless presenter (dongle))

5. TEST INSTRUMENT USED

5.1. For Conducted Disturbance at Mains Terminals Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100492	Mar. 10, 15	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ENV216	100093	Mar. 10, 15	1 Year
3.	Coaxial Switch	Anritsu Corp	MP59B	6200283933	Mar. 07, 15	1 Year
4.	Terminator	Hubersuhner	50Ω	No.1	Mar. 07, 15	1 Year
5.	RF Cable	SchwarzBeck	N/A	No.1	Mar. 07, 15	1 Year

5.2. For Radiation Test (In Anechoic Chamber)

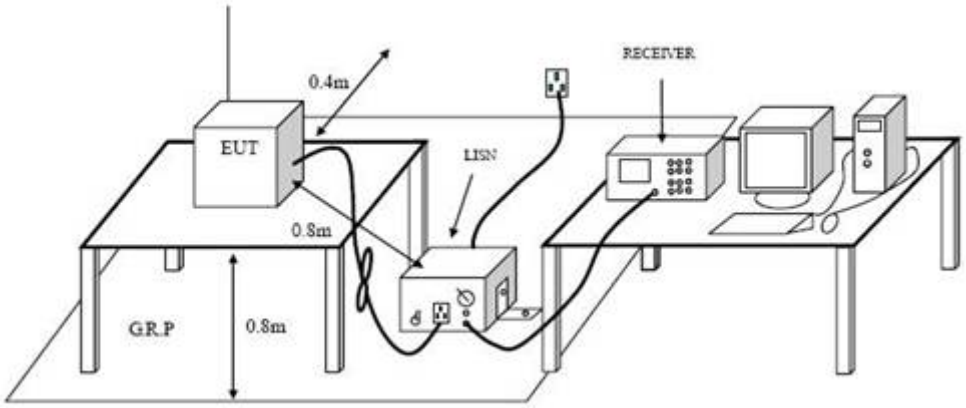
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESPI	101202	Mar. 10, 15	1 Year
2.	Bilog Antenna	Sunol	JB3	A121206	Mar. 14, 15	1 Year
3.	Cable	Resenberger	N/A	NO.1	Mar. 07, 15	1 Year
4.	Cable	SchwarzBeck	N/A	NO.2	Mar. 07, 15	1 Year
5.	Cable	SchwarzBeck	N/A	NO.3	Mar. 07, 15	1 Year
6.	DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
7.	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
8.	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A

5.3. For Radiation Test (In Anechoic Chamber)(Below 1000MHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESPI	101202	Mar. 10, 15	1 Year
2.	Bilog Antenna	Sunol	JB3	A121206	Mar. 14, 15	1 Year
3.	Cable	Resenberger	N/A	NO.1	Mar. 07, 15	1 Year
4.	Cable	SchwarzBeck	N/A	NO.2	Mar. 07, 15	1 Year
5.	Cable	SchwarzBeck	N/A	NO.3	Mar. 07, 15	1 Year
6.	DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
7.	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
8.	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A

6. CONDUCTED DISTURBANCE AT MAINS TERMINALS TEST

6.1. Configuration of Test System



6.2. Test Standard

FCC Subpart 15 B Section 15.107

6.3. Power Line Conducted Disturbance at Mains Terminals Limit

Frequency (MHz)	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

6.4. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2009 on conducted Disturbance test.

The bandwidth of test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 6.5.

6.5. Conducted Disturbance at Mains Terminals Test Results

6.5.1. Test Results: **PASS**

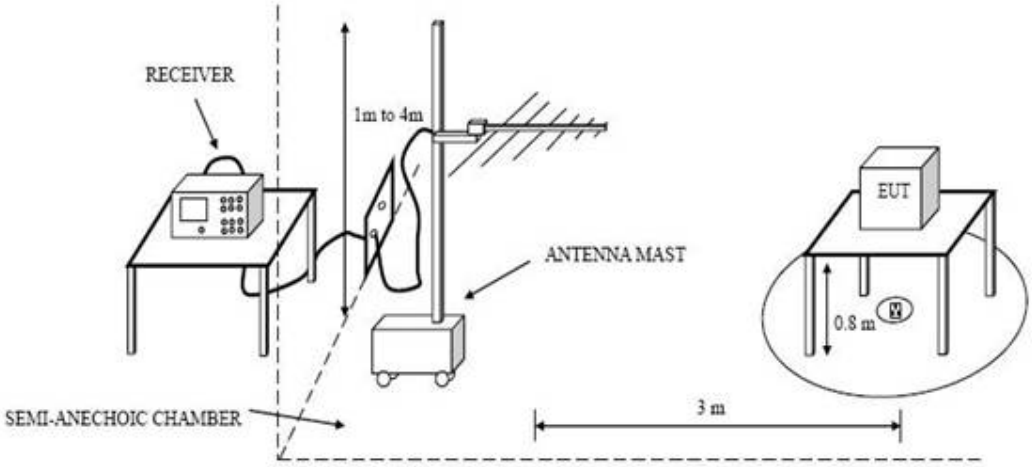
6.5.2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

6.5.3. Emission Level= Correct Factor + Reading Level.

6.5.4. The test data and the scanning waveform are attached within Appendix I.

7. RADIATED DISTURBANCE TEST

7.1. Configuration of Test System



7.2. Test Standard

FCC Subpart 15 B Section 15.109

7.3. Radiated Disturbance Limit

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dBμV/m)	
30 ~ 88	3	40.0	
88~216	3	43.5	
216~960	3	46.0	
960 ~ 1000	3	54.0	
1000-18000	3	74(Peak)	54(Average)

Note: 1. Emission level (dB)μV = 20 log Emission level μV/m
2.The lower limit shall apply at the transition frequencies.
3. Distance refers to the distance in meters between the test antenna and the closed point of any part of the EUT.

7.4. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2009 on Radiated Disturbance test.

The bandwidth setting on the test receiver is 120 kHz.

The frequency range from 30MHz to 1000MHz is checked. The test result are reported on Section 7.5.

7.5. Radiated Disturbance Test Results

7.5.1. Test Results: **PASS**

7.5.2. Emission Level= Correct Factor + Reading Level.

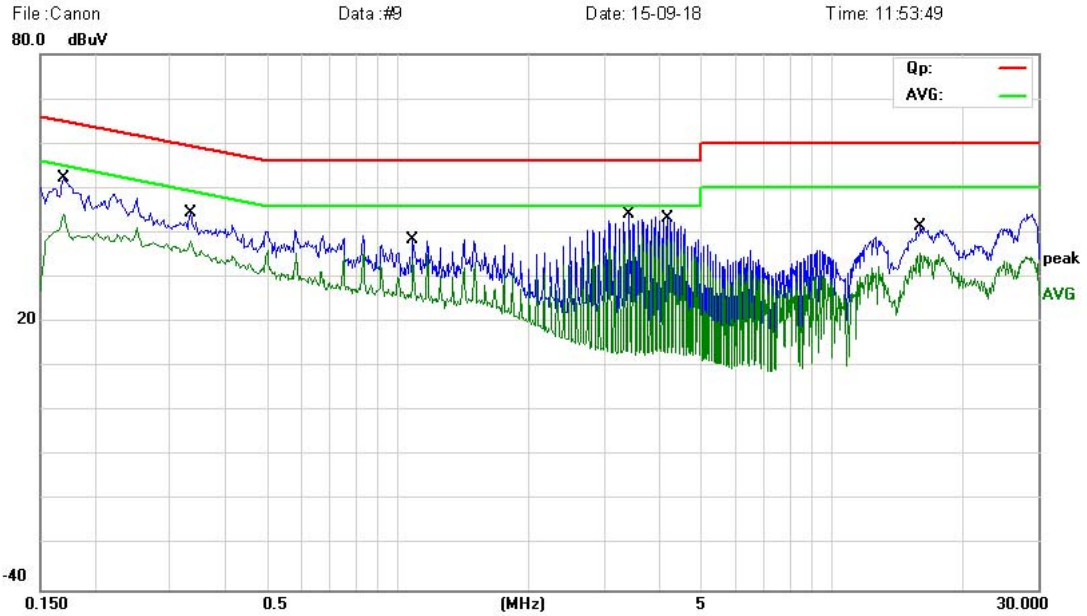
7.5.3. All reading are Quasi-Peak values.

7.5.4. The test data and the scanning waveform are attached within Appendix II.

APPENDIX I

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Conducted Emission Measurement



Site MOST #1
Limit: FCC Part15 B Class B QP
EUT: 2.4G wireless presenter
M/N: PR100-R(dongle)
Mode: Running
Note:

Phase: L1
Power: DC 5V by USB Port

Temperature: 23.4
Humidity: 52.7 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1693	41.97	10.16	52.13	64.99	-12.86	QP	
2		0.1693	34.02	10.16	44.18	54.99	-10.81	AVG	
3		0.3336	33.24	11.11	44.35	59.36	-15.01	QP	
4		0.3336	26.94	11.11	38.05	49.36	-11.31	AVG	
5		1.0824	28.39	9.92	38.31	56.00	-17.69	QP	
6		1.0824	24.12	9.92	34.04	46.00	-11.96	AVG	
7		3.4174	33.73	10.42	44.15	56.00	-11.85	QP	
8	*	3.4174	28.01	10.42	38.43	46.00	-7.57	AVG	
9		4.1794	32.14	11.18	43.32	56.00	-12.68	QP	
10		4.1794	27.20	11.18	38.38	46.00	-7.62	AVG	
11		15.9697	32.33	9.00	41.33	60.00	-18.67	QP	
12		15.9697	26.35	9.00	35.35	50.00	-14.65	AVG	

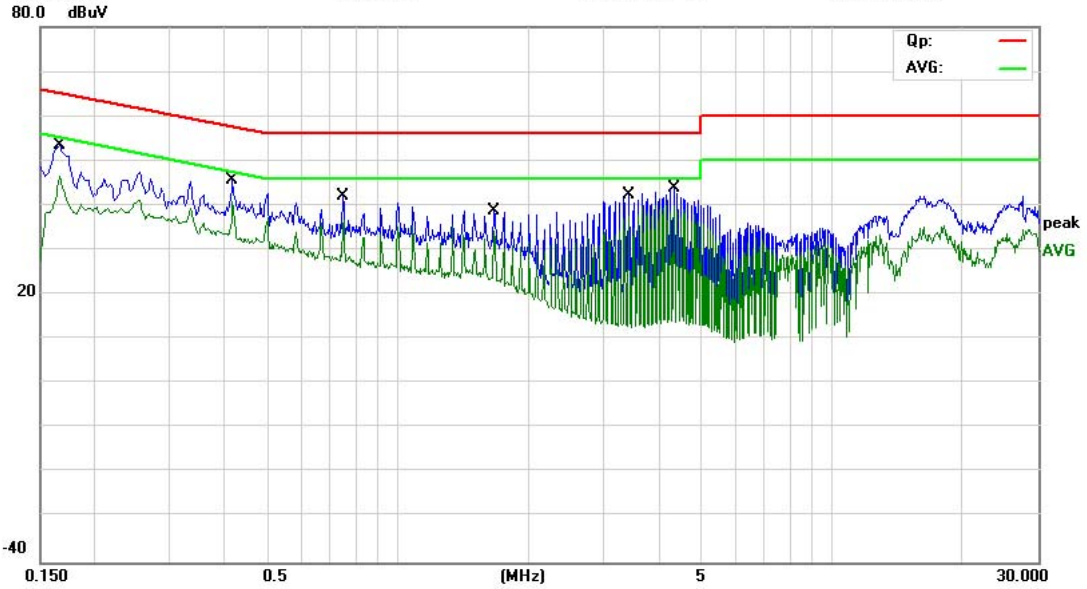
*:Maximum data x:Over limit !:over margin

Engineer Signature: Lidegan

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Conducted Emission Measurement

File :Canon Data :#10 Date: 15-09-18 Time: 11:58:18



Site MOST #1 Phase: N Temperature: 23.4
Limit: FCC Part15 B Class B QP Power: DC 5V by USB Port Humidity: 52.7 %
EUT: 2.4G wireless presenter
M/N: PR100-R(dongle)
Mode: Running
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1658	43.59	9.95	53.54	65.17	-11.63	QP	
2		0.1658	36.64	9.95	46.59	55.17	-8.58	AVG	
3		0.4171	35.09	10.55	45.64	57.51	-11.87	QP	
4		0.4171	30.16	10.55	40.71	47.51	-6.80	AVG	
5		0.7470	31.97	10.00	41.97	56.00	-14.03	QP	
6		0.7470	25.43	10.00	35.43	46.00	-10.57	AVG	
7		1.6625	29.47	9.34	38.81	56.00	-17.19	QP	
8		1.6625	24.78	9.34	34.12	46.00	-11.88	AVG	
9		3.4174	31.84	10.42	42.26	56.00	-13.74	QP	
10		3.4174	27.26	10.42	37.68	46.00	-8.32	AVG	
11		4.3376	32.38	11.34	43.72	56.00	-12.28	QP	
12	*	4.3376	28.69	11.34	40.03	46.00	-5.97	AVG	

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

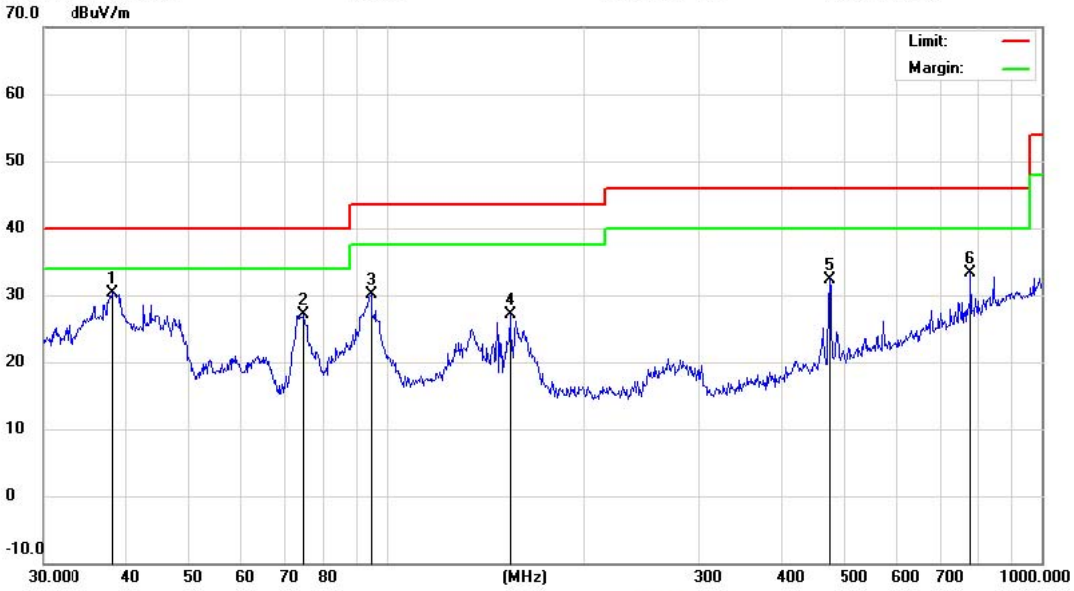
Engineer Signature: Lidegan

APPENDIX II

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :PR100-R(device) Data :#3 Date: 2015-9-12 Time: 15:11:15



Site Chamber #1
Limit: FCC Part15 B 3M Radiation
EUT: 2.4G wireless presenter(device)
M/N: PR100-R(dongle)
Mode: Running
Note:

Polarization: *Vertical*
Power: DC 5V by USB port
Distance: 3m

Temperature: 24
Humidity: 50.5 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	38.3462	13.09	17.19	30.28	40.00	-9.72	QP			
2		74.9191	15.65	11.55	27.20	40.00	-12.80	QP			
3		94.7600	17.77	12.26	30.03	43.50	-13.47	QP			
4		154.8204	10.28	16.89	27.17	43.50	-16.33	QP			
5		473.8346	10.95	21.39	32.34	46.00	-13.66	QP			
6		779.6067	7.04	26.19	33.23	46.00	-12.77	QP			

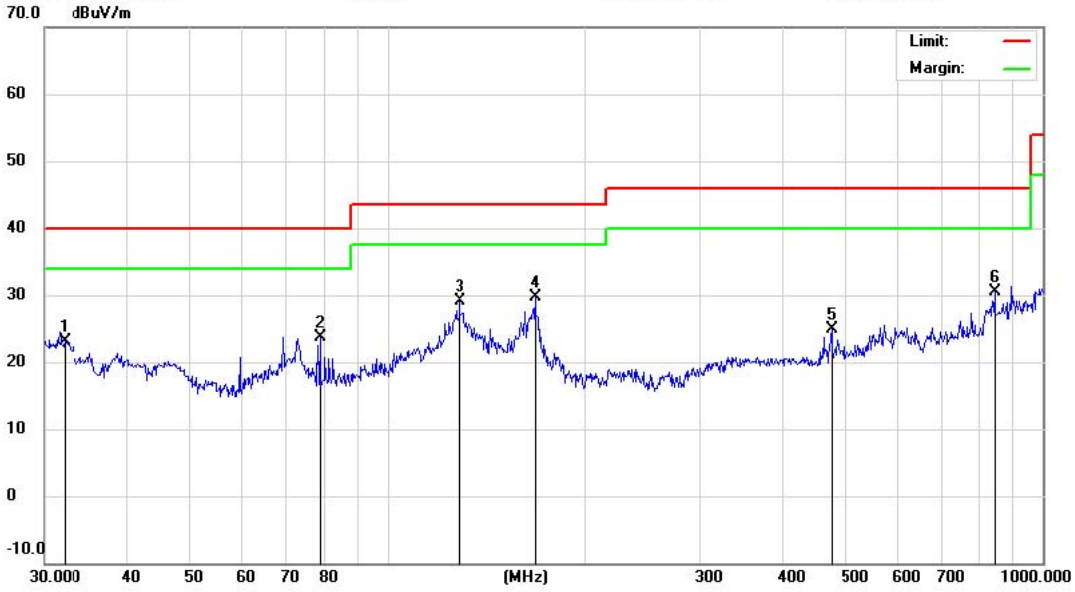
*:Maximum data x:Over limit !:over margin

Engineer Signature: zhangfei

Compliance Laboratory
Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :PR100-R(device) Data :#4 Date: 2015-9-12 Time: 15:22:35



Site Chamber #1
Limit: FCC Part15 B 3M Radiation
EUT: 2.4G wireless presenter(dongle)
M/N: PR100-R(dongle)
Mode: Running
Note:

Polarization: *Horizontal*
Power: DC 5V by USB port
Distance: 3m

Temperature: 24
Humidity: 50.5 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		32.1794	2.48	20.61	23.09	40.00	-16.91	QP			
2		78.9652	12.30	11.43	23.73	40.00	-16.27	QP			
3		129.0142	11.35	17.68	29.03	43.50	-14.47	QP			
4	*	168.4137	12.48	17.22	29.70	43.50	-13.80	QP			
5		475.4990	3.38	21.47	24.85	46.00	-21.15	QP			
6		845.0877	3.45	27.10	30.55	46.00	-15.45	QP			

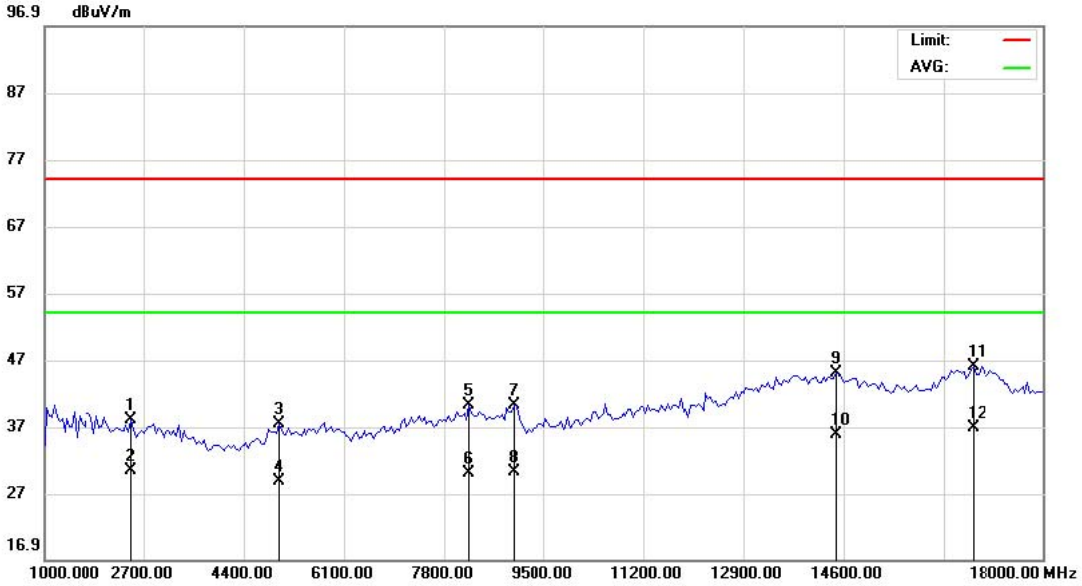
*:Maximum data x:Over limit I:over margin

Engineer Signature: zhangfei

Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
Guangdong ,China
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :CACON Data :#1 Date: 2015-9-13 Time: 9:39:56



Site site #1 Polarization: *Horizontal* Temperature: 24.0
Limit: FCC 1000M-18000M PEAK Power: DC 5V by USB port Humidity: 51.1 %
EUT: 2.4G wireless presenter (dongle) Distance: 3m
M/N: PR100-R(dongle)
Mode: Running
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2487.500	46.34	-8.29	38.05	74.00	-35.95	peak			
2		2487.500	38.64	-8.29	30.35	54.00	-23.65	AVG			
3		4995.000	41.25	-3.85	37.40	74.00	-36.60	peak			
4		4995.000	32.65	-3.85	28.80	54.00	-25.20	AVG			
5		8225.000	40.85	-0.66	40.19	74.00	-33.81	peak			
6		8225.000	30.76	-0.66	30.10	54.00	-23.90	AVG			
7		8990.000	40.80	-0.67	40.13	74.00	-33.87	peak			
8		8990.000	30.95	-0.67	30.28	54.00	-23.72	AVG			
9		14472.50	40.99	4.10	45.09	74.00	-28.91	peak			
10		14472.50	31.76	4.10	35.86	54.00	-18.14	AVG			
11		16810.00	39.75	6.30	46.05	74.00	-27.95	peak			
12	*	16810.00	30.43	6.30	36.73	54.00	-17.27	AVG			

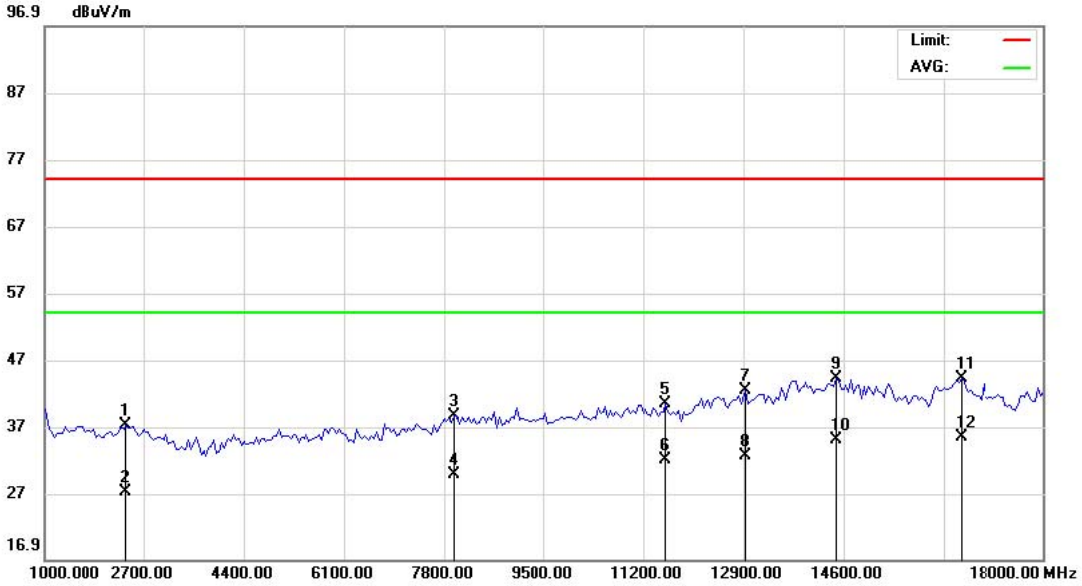
*:Maximum data x:Over limit !:over margin

Engineer Signature: lidegan

Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park
(Langshan Section)
Tel: 0755-86026850 Fax: 0755-26013350

Radiated Emission Measurement

File :CACON Data :#2 Date: 2015-9-13 Time: 9:48:05



Site site #1 Polarization: *Vertical* Temperature: 24.0

Limit: FCC 1000M-18000M PEAK Power: DC 5V by USB port Humidity: 51.1 %

EUT: 2.4G wireless presenter (dongle) Distance: 3m

M/N: PR100-R(dongle)

Mode: Running

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2402.500	45.62	-8.43	37.19	74.00	-36.81	peak			
2		2402.500	35.65	-8.43	27.22	54.00	-26.78	AVG			
3		7970.000	39.87	-1.23	38.64	74.00	-35.36	peak			
4		7970.000	30.98	-1.23	29.75	54.00	-24.25	AVG			
5		11582.50	41.20	-0.79	40.41	74.00	-33.59	peak			
6		11582.50	32.76	-0.79	31.97	54.00	-22.03	AVG			
7		12942.50	39.90	2.48	42.38	74.00	-31.62	peak			
8		12942.50	30.13	2.48	32.61	54.00	-21.39	AVG			
9		14472.50	40.16	4.10	44.26	74.00	-29.74	peak			
10		14472.50	30.98	4.10	35.08	54.00	-18.92	AVG			
11		16597.50	38.58	5.59	44.17	74.00	-29.83	peak			
12	*	16597.50	29.76	5.59	35.35	54.00	-18.65	AVG			

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

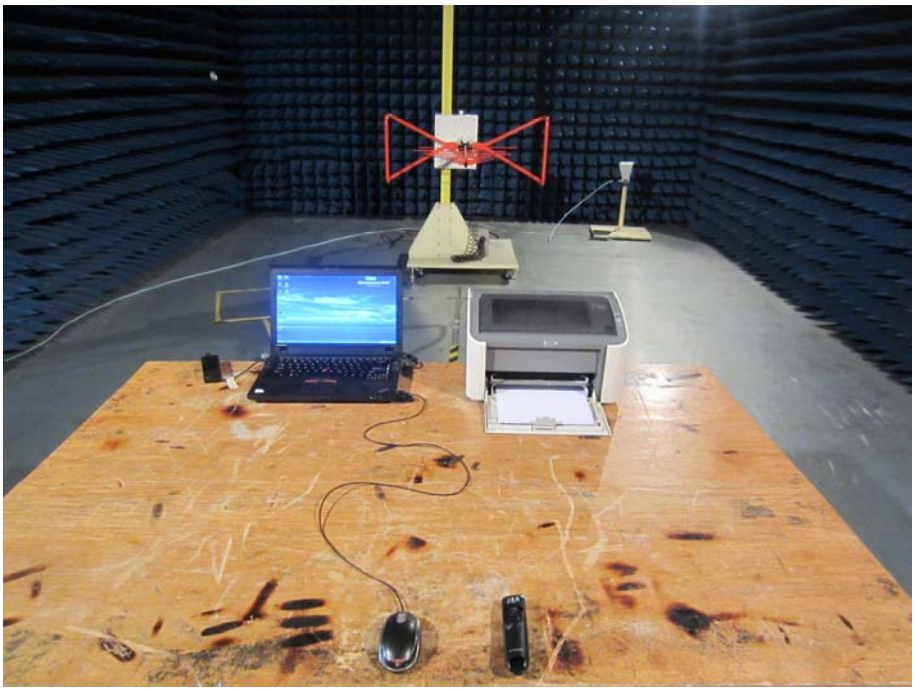
Engineer Signature: lidegan

APPENDIX III

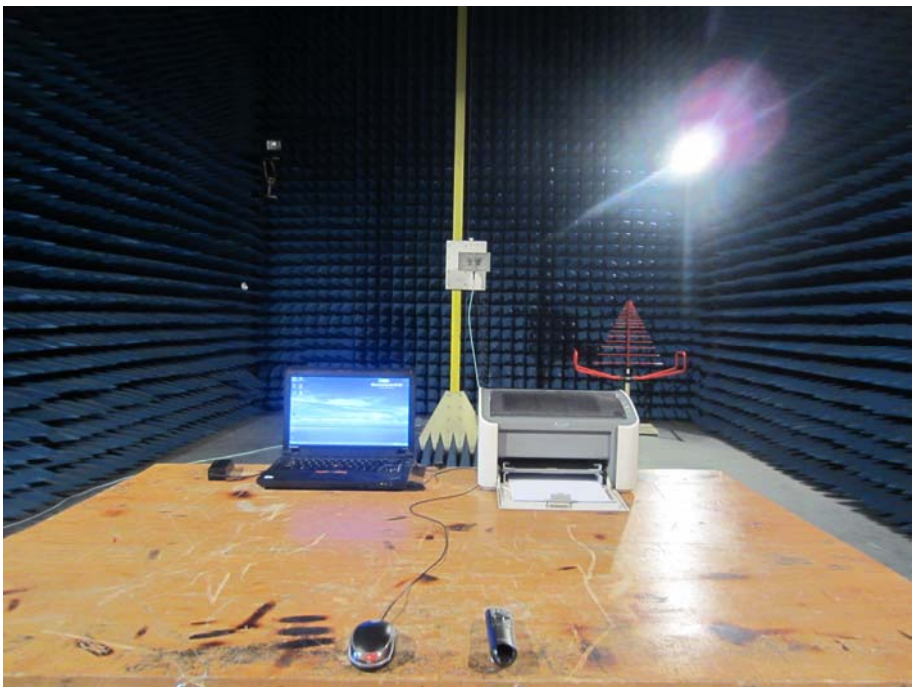
(Test Photos)

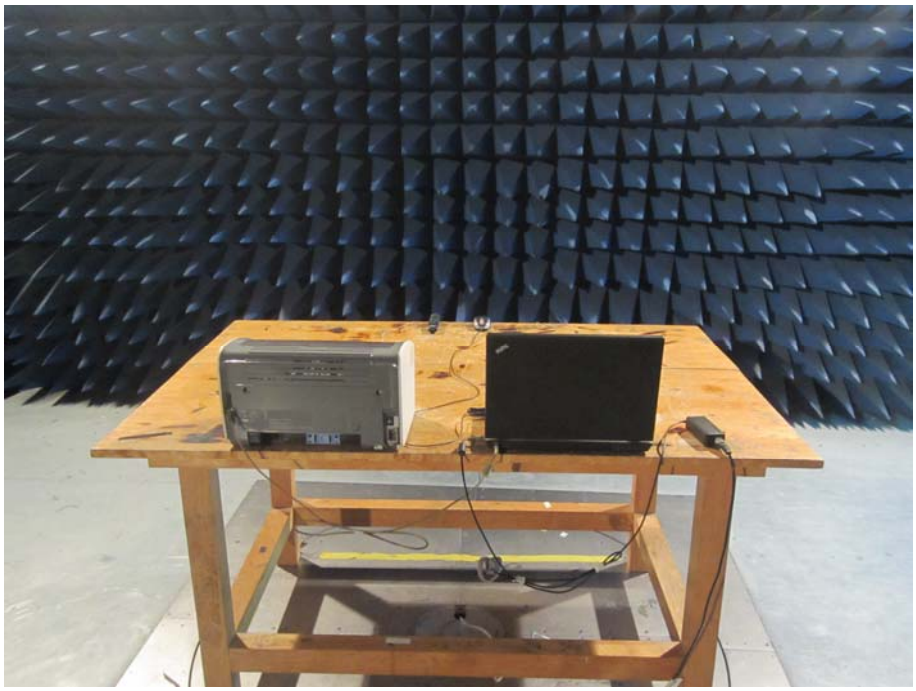
Conducted Test Setup Photograph

Radiated Test Setup Photograph



Radiated Test Setup Photograph





APPENDIX IV
(Photos of the EUT)

Figure 1
General Appearance of the EUT

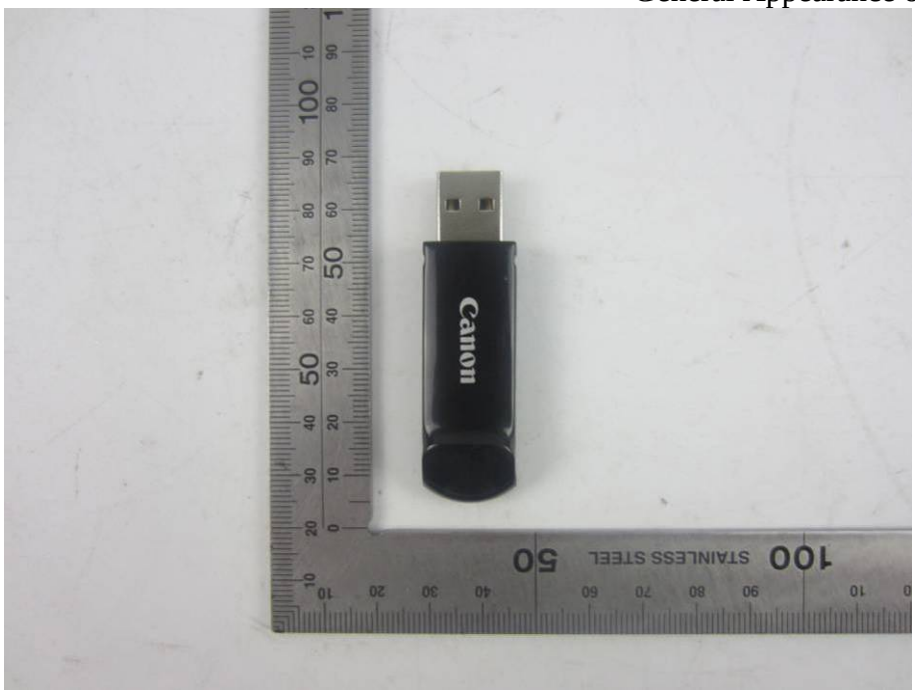


Figure 2
General Appearance of the EUT

Figure 3
General Appearance of the EUT

Figure 4
General Appearance of the EUT

Figure 5
General Appearance of the EUT

Figure 6
General Appearance of the EUT

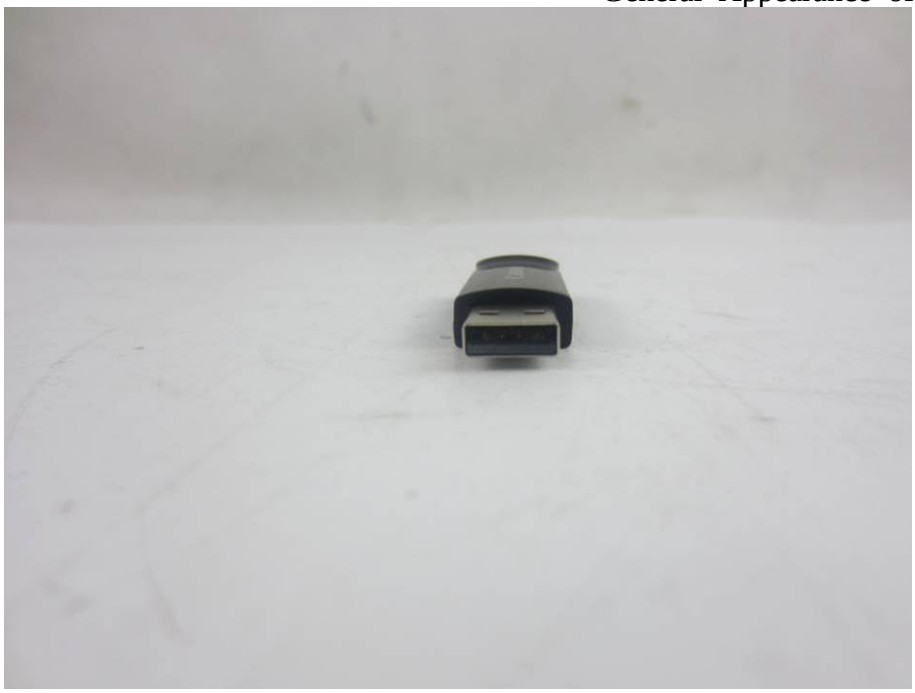


Figure 7
General Appearance of the EUT

Figure 8
General Appearance of the EUT

Figure 9
Inside of the EUT

Figure 10
Components Side of the PCB

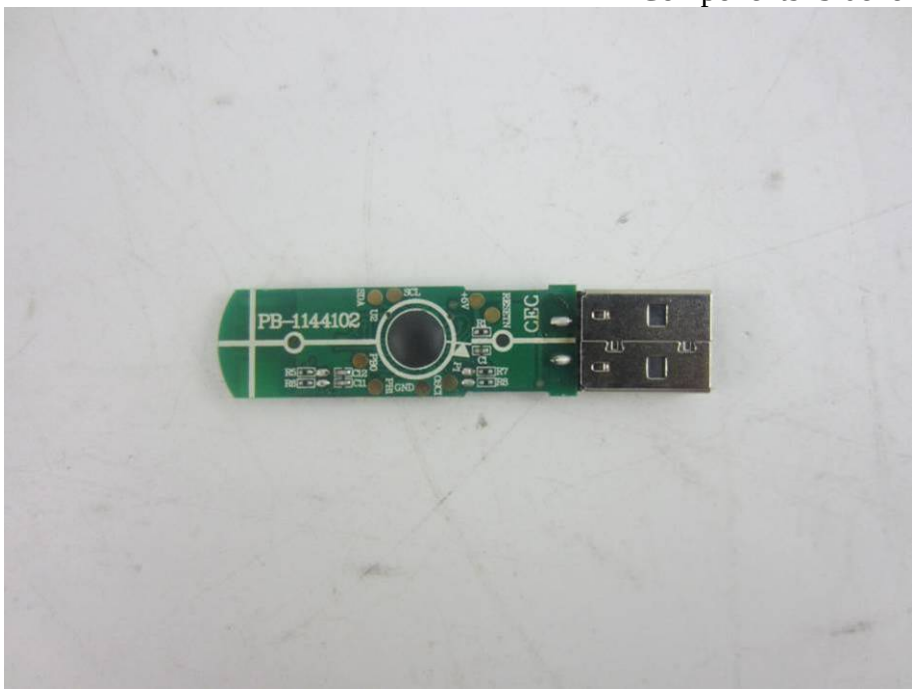


Figure 11
Components Side of the PCB