

# TEST REPORT

**REPORT NUMBER: I12MQ0009-FCC-PART15B\_Rev1**

**ON**

**Type of Equipment:** USB token

**Type of Designation:** A4

**Manufacturer:** Beijing Watchsmart Technologies Co., Ltd

**ACCORDING TO**

**Part 15B: Radio Frequency Devices, Oct 1, 2011**

**China Telecommunication Technology Labs.**

***Month date, year***

*Mar 1, 2012*

***Signature***

A handwritten signature in black ink, appearing to read 'He Guili', written over a horizontal line.

He Guili

**Director**

**FCC ID:** AMGWATCHKEYOCL

**Report Date:** 2012-03-01

**Test Firm Name:** China Telecommunication Technology Labs

**Registration Number:** 840587

#### Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15B. The sample tested was found to comply with the requirements defined in the applied rules.

## CONTENTS

<b>1 GENERAL INFORMATION .....</b>	<b>4</b>
1.1 NOTES .....	4
1.2 TESTERS .....	5
1.3 TESTING LABORATORY INFORMATION .....	6
1.4 DETAILS OF APPLICANT OR MANUFACTURER .....	7
<b>2 TEST ITEM .....</b>	<b>8</b>
2.1 GENERAL INFORMATION .....	8
2.2 OUTLINE OF EUT .....	8
2.3 MODIFICATIONS INCORPORATED IN EUT .....	8
2.4 EQUIPMENT CONFIGURATION .....	8
2.5 OTHER INFORMATION .....	8
<b>3 SUMMARY OF TEST RESULTS .....</b>	<b>9</b>
<b>4 TEST RESULTS .....</b>	<b>10</b>
4.1 RADIATED EMISSION .....	10
4.2 CONDUCTED EMISSION .....	14
<b>ANNEX A EXTERNAL PHOTOS .....</b>	<b>19</b>
<b>ANNEX B INTERNAL PHOTOS .....</b>	<b>20</b>
<b>ANNEX C DEVIATIONS FROM PRESCRIBED TEST METHODS .....</b>	<b>21</b>

## 1 General Information

### 1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15B.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

China Telecommunication Technology Labs.(CTTL) authorizes the applicant or manufacturer (see section 1.4) to reproduce this report provided, and the test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CTTL Mr. He Guili.

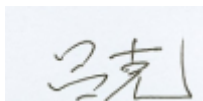
Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. CTTL accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

FCC Part 15B  
Equipment: A4

REPORT NO.: I12MQ0009-FCC-PART15B\_Rev1

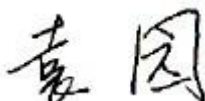
## 1.2 Testers

Name: Lu Ke  
Position: Engineer  
Department: Department of EMC test  
Signature:



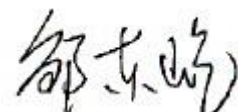
Editor of this test report:

Name: Yuan Yuan  
Position: Engineer  
Department: Department of EMC test  
Date: 2012-03-01  
Signature:



Technical responsibility for area of testing:

Name: Zou Dongyi  
Position: Manager  
Department: Department of EMC test  
Date: 2012-03-01  
Signature:



### 1.3 Testing Laboratory information

#### 1.3.1 Location

Name: China Telecommunication Technology Labs.  
Address: No. 11, Yue Tan Nan Jie, Xi Cheng District  
BEIJING  
P. R. CHINA, 100083  
Tel: +86 10 68094053  
Fax: +86 10 68011404  
Email: [emc@chinattl.com](mailto:emc@chinattl.com)

#### 1.3.2 Details of accreditation status

Accredited by: China National Accreditation Service for Conformity  
Assessment (CNAS)  
Registration number: CNAS Registration No. CNAS L0570  
Standard: ISO/IEC 17025:2005

#### 1.3.3 Test location, where different from section 1.3.1

Name: -----  
Street: -----  
City: -----  
Country: -----  
Telephone: -----  
Fax: -----  
Postcode: -----

## 1.4 Details of applicant or manufacturer

### 1.4.1 Applicant

Name: Beijing Watchsmart Technologies Co., Ltd  
Address: F7, Qi Ming International Mansion, No.101 Li Ze  
Zhong Yuan, Wangjing, Chaoyang District, Beijing  
Country: China  
Telephone: (+86) 10 6472 2288  
Fax: (+86) 106472 6134  
Contact: Jianjun Ma  
Telephone: (+86) 10 6472 2288  
Email: guo.chen@watchdata.com

### 1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --  
Address: --

### 1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name: --  
Address: --

## 2 Test Item

### 2.1 General Information

Manufacturer: Beijing Watchsmart Technologies Co., Ltd  
Name: USB token  
Model Number: A4  
Serial Number: -----  
Production Status: Product  
Receipt date of test item: 2012-02-15

### 2.2 Outline of EUT

EUT is a USB token.

### 2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

### 2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	USB token	Beijing Watchsmart Technologies Co., Ltd	A4	--	None
B	Computer	HP	--	--	None
C	Monitor	HP	LP2001	--	None
D	Mouse	HP	--	--	None
E	Keyboard	HP	--	--	None
F	Printer	HP	C6414A	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
--	--	--	--	--	--	None

### 2.5 Other Information

-----

### 3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

Specification Clause	Name of Test	Result
15.109	Radiated Emission	Pass
15.107	Conducted Emission	Pass
Note: The EUT complies with the requirements of the Class B digital devices.		

## 4 Test Results

### 4.1 Radiated Emission

Specifications:	15.109, ANSI C63.4-2003					
Date of Tests	2012-02-29					
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Transfer data					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESIB26	100211	2013-01-10	Normal
7330	Ultra Broadband Antenna	SCHWARZBECK	VULB 9160	--	2013-11-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2013-01-24	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2013-11-16	Normal

#### Limit Level Construction:

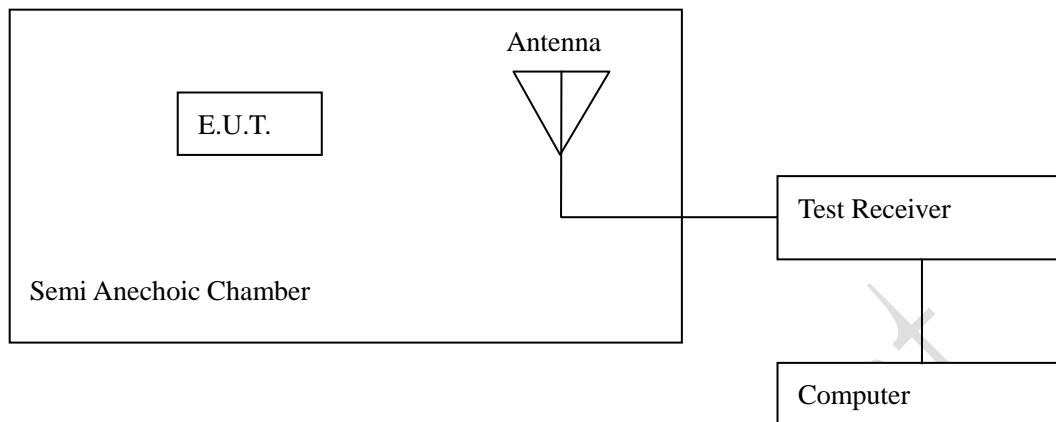
According to Part 15.109(a).

#### Limits

Frequency [MHz]	Field Strength [ $\mu$ V/m]	Field Strength [dB $\mu$ V/m]	Measurement distance [m]
30 -88	100	40.0	3
88-216	150	43.5	3
216 - 960	200	46.0	3
Above 960	500	54.0	3

Note: The tighter limit applies at the band edges.

## Test Configuration



The measuring distance between E.U.T and antenna is 3m.

## Test Setup:

The EUT was placed in an anechoic chamber, see figure RE. The EUT is tested as tabletop EUT. The EUT is positioned on an 80cm height wood table.

The EUT is used as the peripheral equipment of the PC.

The setup is according to Figure 11a of ANSI C63.4-2003.



Figure RE



Figure: Ports

## Test Method

During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2003. The measurement was done by the automated test system.

Test Data: RBW:100kHz

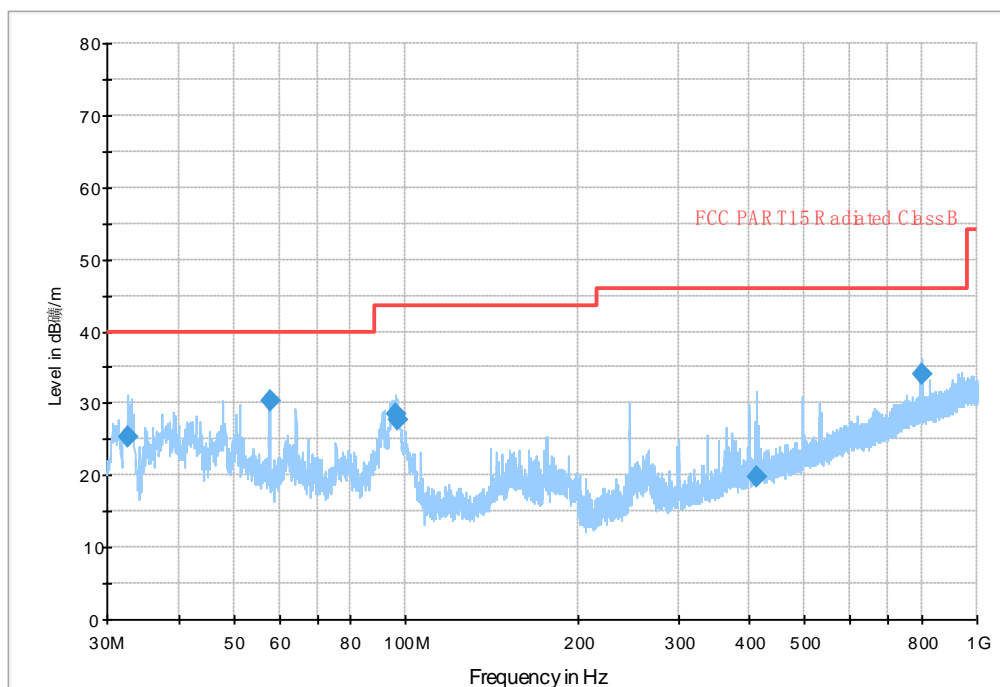
Frequency [MHz]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Antenna Height [cm]	Turntable Azimuth [degree]	Antenna Polarisation (V/H)
32.560000	25.4	40	125.0	78.0	V
57.760000	30.4	40	100.0	53.0	V
96.360000	28.4	43.5	205.0	225.0	V
96.600000	27.7	43.5	125.0	184.0	V
411.600000	19.9	46.0	100.0	147.0	V
799.440000	34.1	46.0	117.0	160.0	V
96.680000	26.5	43.5	205.0	225.0	H
165.760000	18.6	43.5	125.0	147.0	H
494.000000	31.2	46.0	200.0	147.0	H
530.280000	24.3	46.0	175.0	-16.0	H
720.120000	30.0	46.0	193.0	86.0	H
927.760000	29.6	46.0	192.0	225.0	H
Remarks: --					

**FCC Part 15B**  
**Equipment: A4**

**REPORT NO.: I12MQ0009-FCC-PART15B\_Rev1**

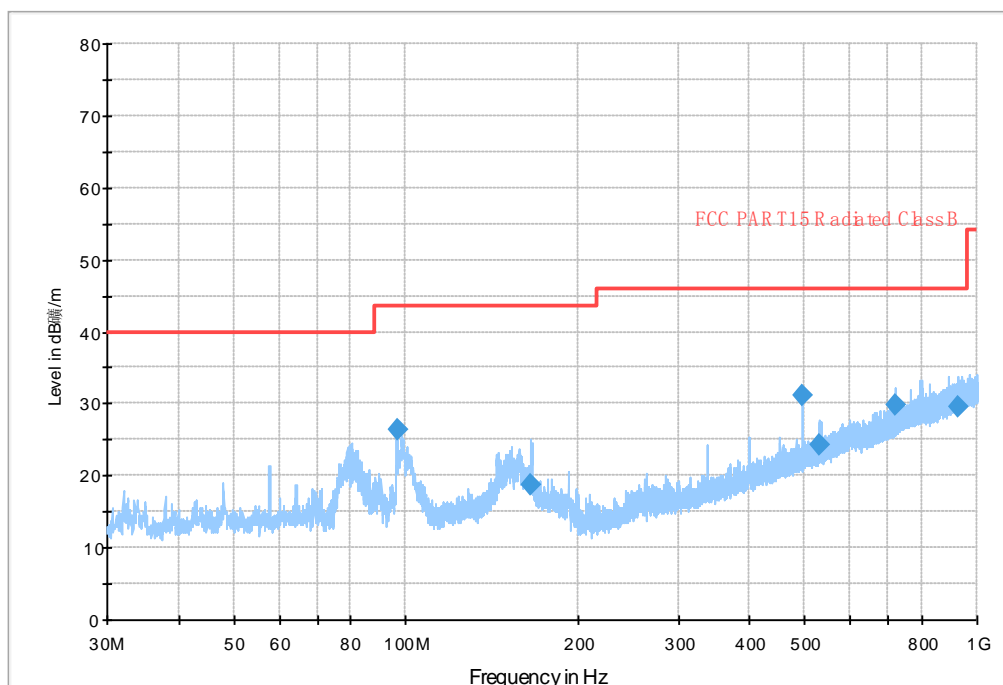
## Graphical Results:

FCC



## Graphical results vertical

FCC



## Graphical results horizontal

FCC Part 15B  
Equipment: A4

REPORT NO.: I12MQ0009-FCC-PART15B\_Rev1

## 4.2 Conducted Emission

Specifications:	15.107, ANSI C63.4-2003					
Date of Tests	2012-01-31					
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa					
Operation Mode	Transfer data					
Test Results:	Pass					
Test equipment Used:						
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7330	EMI Test Receiver	R/S	ESI40	839283/007	2013-02-08	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	837480/002	2013-04-06	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	100268	2013-01-28	Normal
714	Shielding Room	ETS	--	19003	2013-11-15	Normal

### Limit Level Construction:

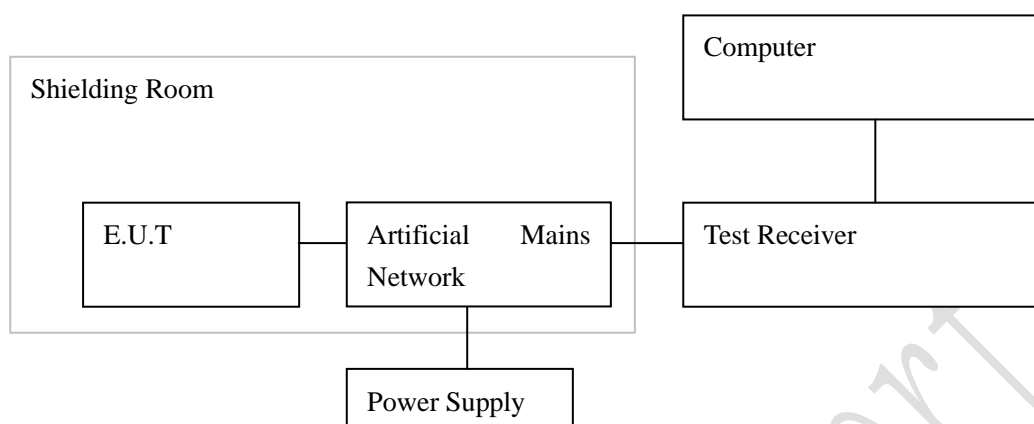
According to Part 15.107 (a)

### Limits for Conducted Emission

Frequency of Emission [MHz]	Conducted limit [dB $\mu$ V]	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

\* Decreases with the logarithm of the frequency.

## Test Configuration



### Test Setup:

The EUT was placed in a shielding room, see figure CE. The EUT is positioned on an 80cm height wood table. The EUT is used as the peripheral equipment of the PC.

The setup is according to Figure 10a of ANSI C63.4-2003.



Figure CE



Figure: Ports

**Test Method:**

During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2003. The AC power line of the Notebook was connected to the artificial mains network then to EMI receiver. The measurement was done by the automated test system.

**RBW:** 9kHz**Line N:**

Detector (QP/AV)	Frequency (MHz)	Level (dB $\mu$ V)	Transducer (dB)	Limit (dB)	PE
QP	0.834000	43.70	10.1	56	Grounded
QP	1.135500	44.90	10.1	56	Grounded
QP	1.212000	46.10	10.2	56	Grounded
AV	0.910500	38.80	10.1	46	Grounded

**Remarks: The test result is the worst case.**

FCC Part 15B  
Equipment: A4

REPORT NO.: I12MQ0009-FCC-PART15B\_Rev1

## Line L:

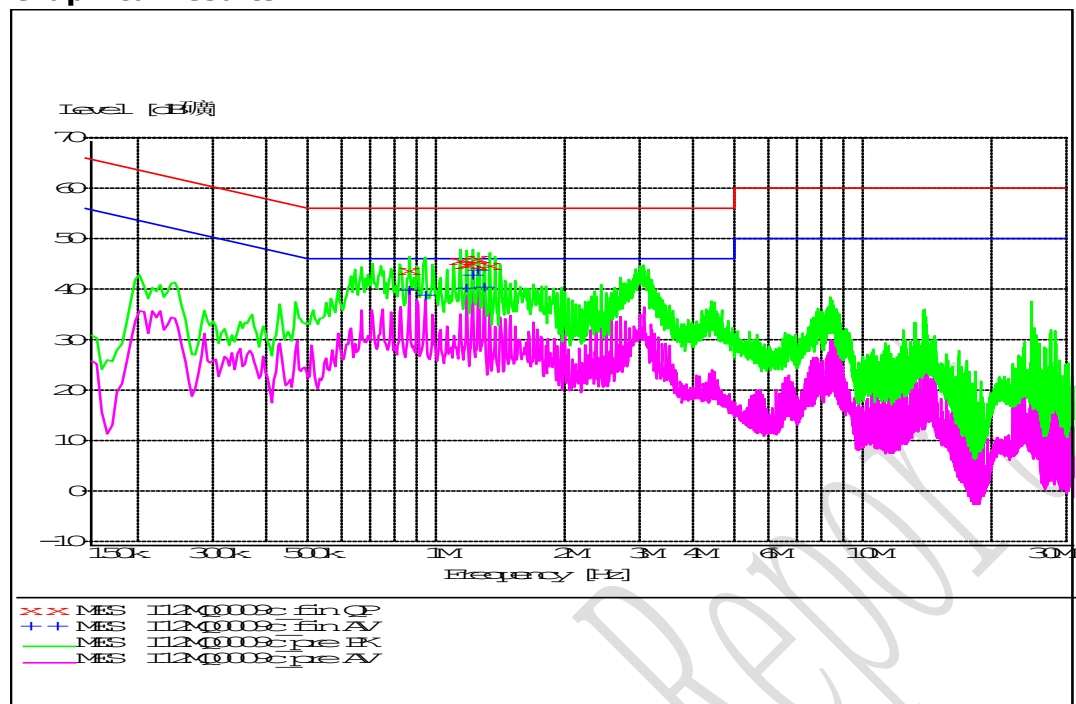
Detector (QP/AV)	Frequency (MHz)	Level (dB $\mu$ V)	Transducer (dB)	Limit (dB)	PE
QP	1.099500	45.70	10.1	56	Grounded
QP	1.176000	45.20	10.2	56	Grounded
QP	1.288500	44.70	10.2	56	Grounded
AV	0.834000	39.80	10.1	46	Grounded
AV	1.135500	40.10	10.1	46	Grounded
AV	1.176000	42.80	10.2	46	Grounded
AV	1.212000	43.70	10.2	46	Grounded
AV	1.252500	40.30	10.2	46	Grounded

**Remarks: The test result is the worst case.**

FCC Part 15B  
Equipment: A4

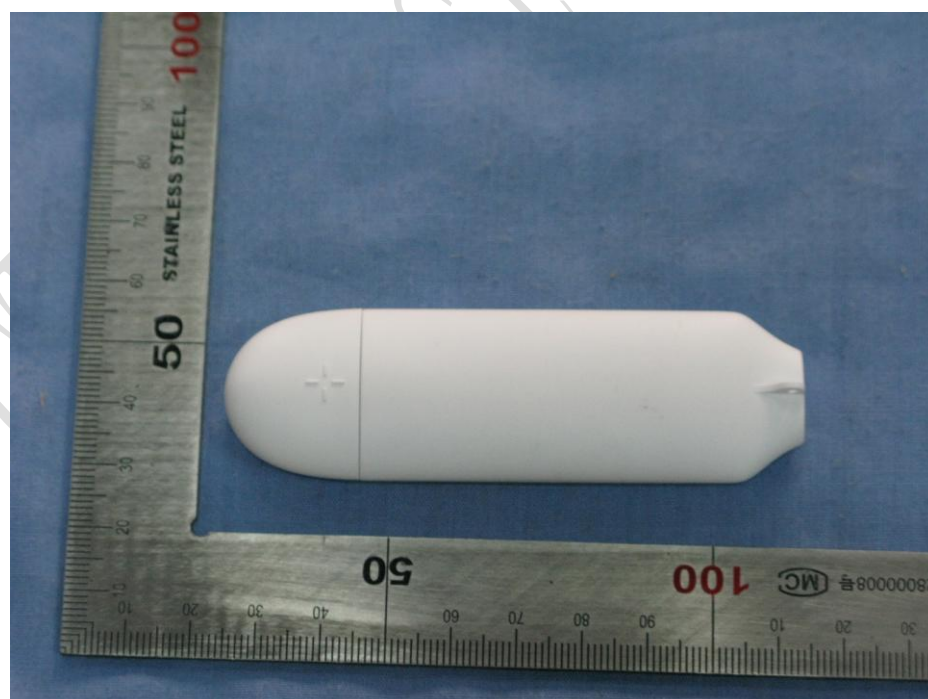
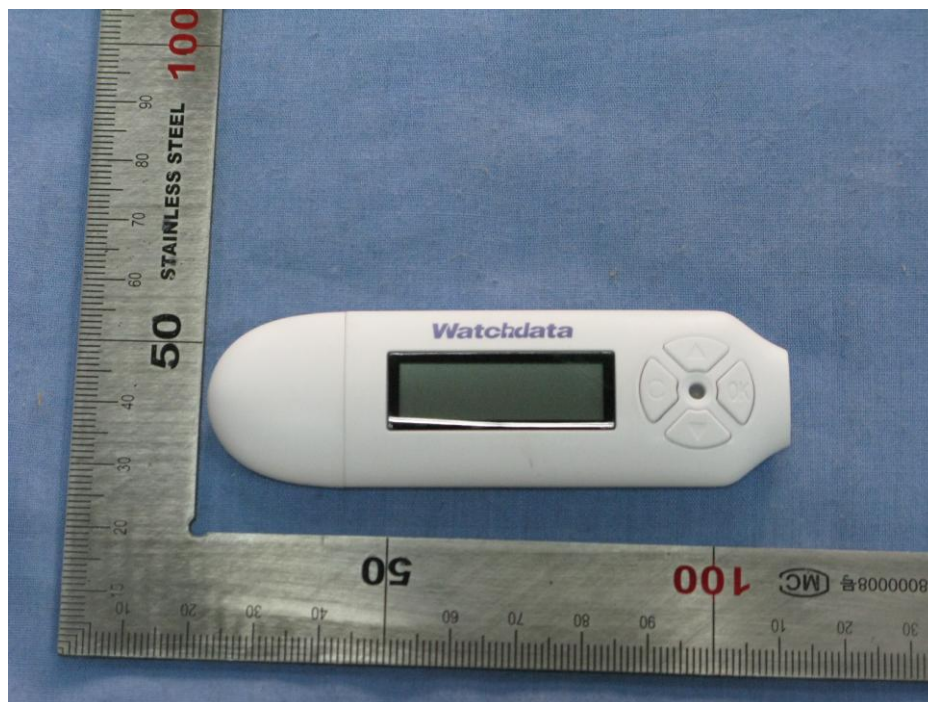
REPORT NO.: I12MQ0009-FCC-PART15B\_Rev1

### Graphical results:

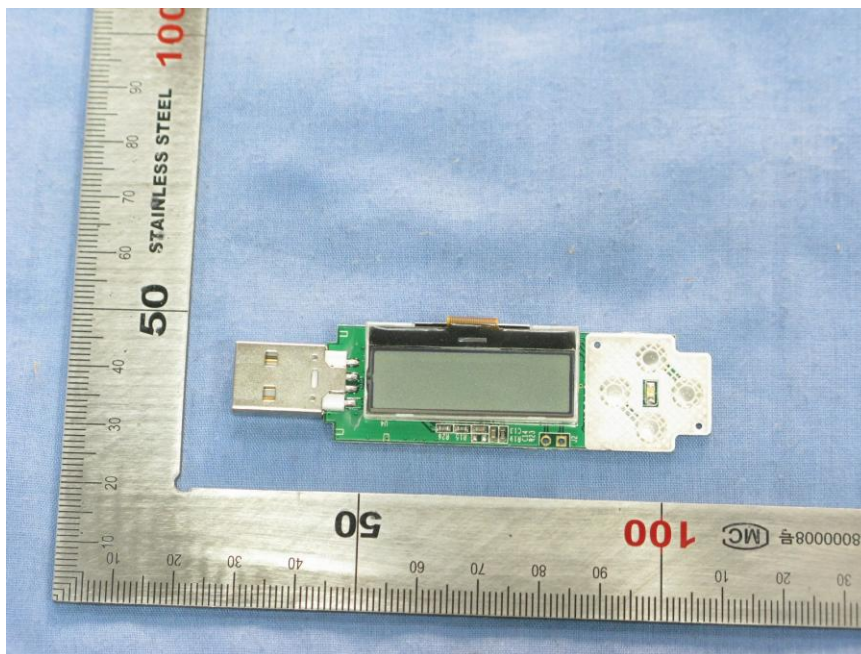


CE graphical results

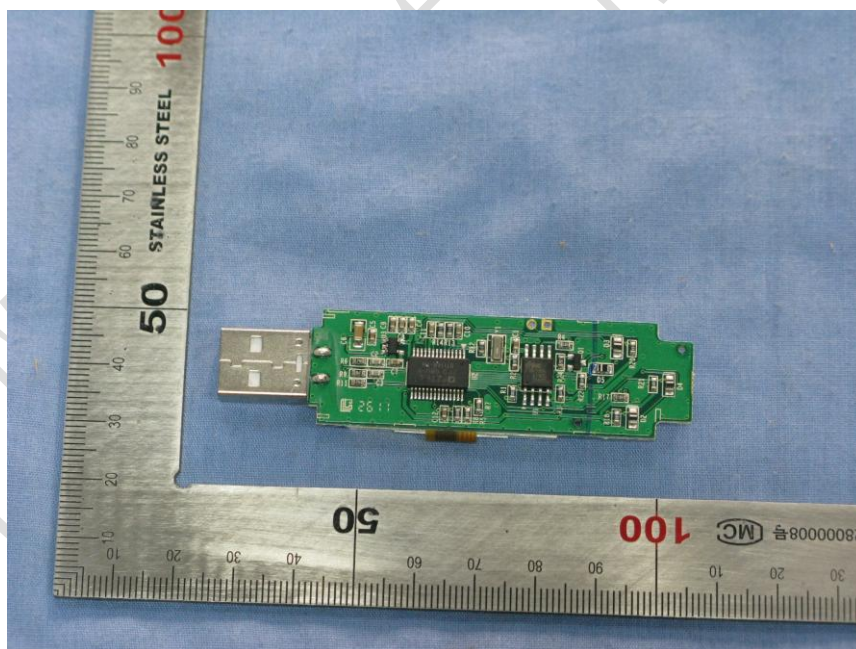
## Annex A External Photos



## Annex B Internal Photos



Main board (face)



Main board (back)

## ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

\_\_\_\_\_ The End of this Report \_\_\_\_\_

CTL Test Report