TEST REPORT

REPORT NUMBER: I11MQ0050-FCC-PART15B

ON

Type of Equipment: WatchKEY USB token
Type of Designation: S7
Manufacturer: Watchdata System Co.,Ltd.

ACCORDING TO
Part 15B: Radio Frequency Devices, Oct 1, 2009

China Telecommunication Technology Labs.

Month date, year
Aug 01, 2011

Signature

He Guili
Director

FCC ID: Y6HWATCHKEY509

Report Date: 2011-08-01

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

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.

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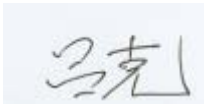
1.2 Testers

Name: Lu Ke

Position: Engineer

Department: Department of EMC test

Signature: 

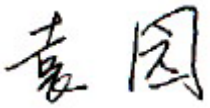
Editor of this test report:

Name: Yuan Yuan

Position: Engineer

Department: Department of EMC test

Date: 2011- 08-01

Signature: 

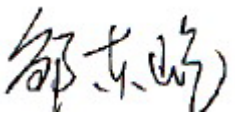
Technical responsibility for area of testing:

Name: Zou Dongyi

Position: Manager

Department: Department of EMC test

Date: 2011- 08-01

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

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:	Watchdata System Co.,Ltd.
Address:	No.2 Yandong Business Park,Wanhong West St.Capital Airport Rd.Chaoyang District,Beijing
Country:	China
Telephone:	（+86）10 6472 2288
Fax:	（+86）10 6472 6134
Contact:	Jing Bai
Telephone:	（+86）10 6472 2288
Email:	jing.bai@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: Watchdata System Co.,Ltd.
Name: WatchKEY USB token
Model Number: S7
Serial Number: -----
Production Status: Product
Receipt date of test item: 2011-1-26

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	Watchdata System Co.,Ltd.	S7	--	None
B	Computer	HP	--	--	Afford by test lab
C	Monitor	HP	LP2001	--	Afford by test lab
D	Mouse	HP	--	--	Afford by test lab
E	Keyboard	HP	--	--	Afford by test lab
F	Printer	HP	C6414A	--	Afford by test lab

Cables:

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

2.5 Other Information

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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	2011-07-29
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
7805	EMI Test Receiver	R/S	ESIB26	100211	2012-01-12	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

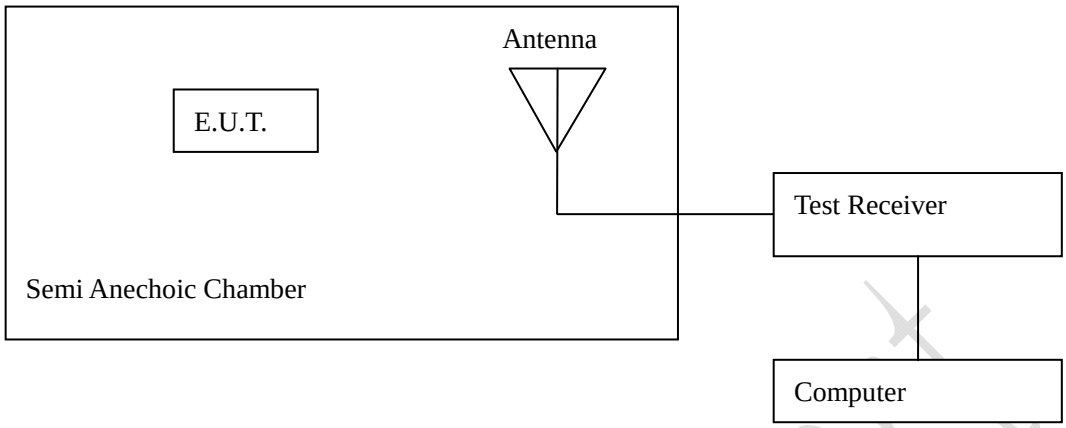
Limit Level Construction:
According to Part 15.109(a).

Limits

Frequency [MHz]	Field Strength [μV/m]	Field Strength [dBμV/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

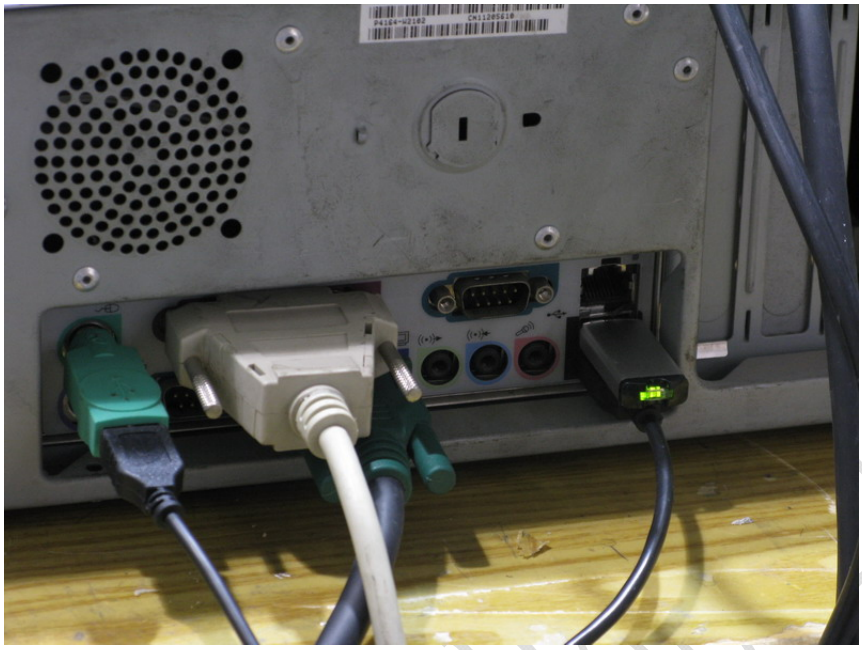


Figure: Ports

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.

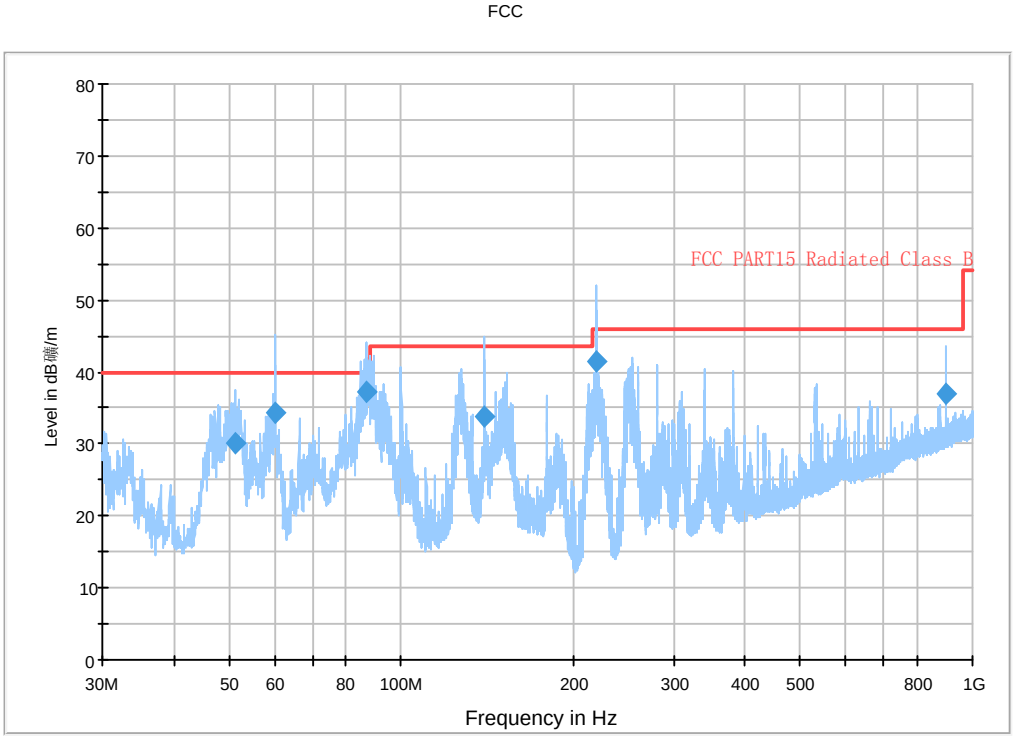
RBW:100kHz

Test Data:

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corrector (dB)	Margin (dB)	Limit (dBuV/m)
51.400000	30.2	100	V	237	12.7	9.8	40.0
60.040000	34.3	205	V	-33	12.8	5.7	40.0
86.720000	37.1	125	V	98	9.2	2.9	40.0
140.000000	33.7	217	H	152	14.2	9.8	43.5
220.080000	41.5	175	H	0	12.3	4.5	46.0
899.640000	37.0	125	V	210	27.9	19.0	46.0

Remark: The test result is the worst case.

Graphical Results:



Graphical results

4.2 Conducted Emission

Specifications:	15.107, ANSI C63.4-2003
Date of Tests	2011-08-01
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	2012-02-15	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	837480/002	2012-01-07	Normal
7330	Artificial Mains Network	R/S	ESH2-Z5	100268	2013-01-28	Normal
714	Shielding Room	ETS	--	19003	2013-11-15	Normal

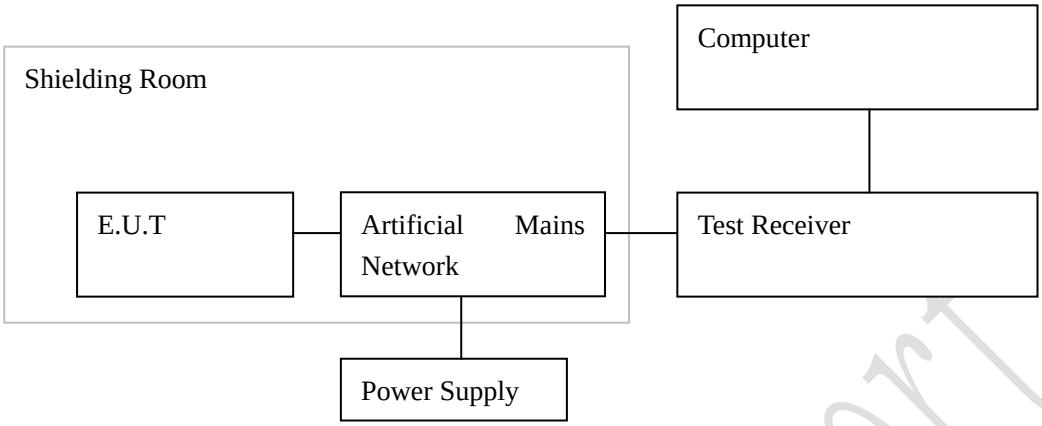
Limit Level Construction:
According to Part 15.107 (a)

Limits for Conducted Emission

Frequency of Emission [MHz]	Conducted limit [dBμV]	
	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

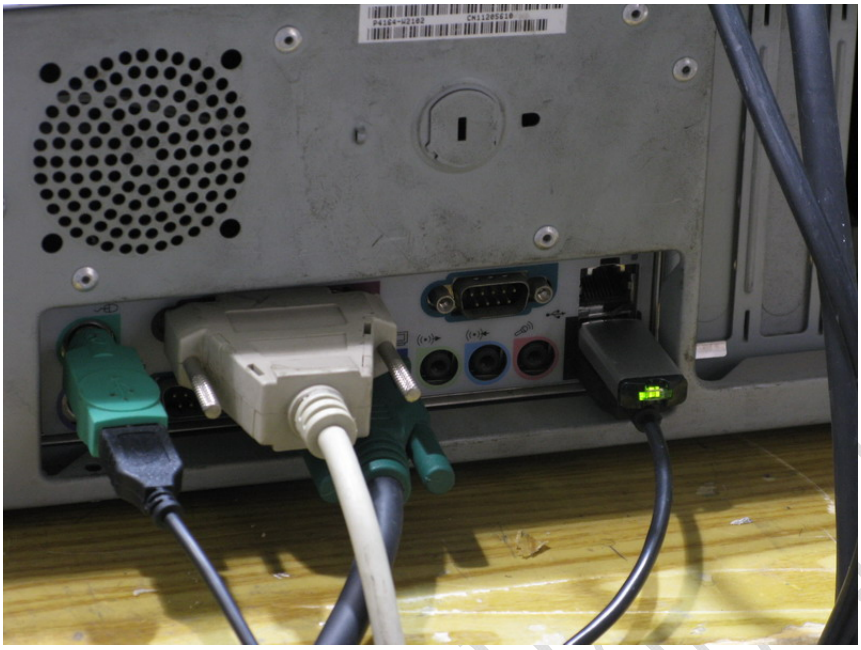


Figure: Ports

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

Test Data:

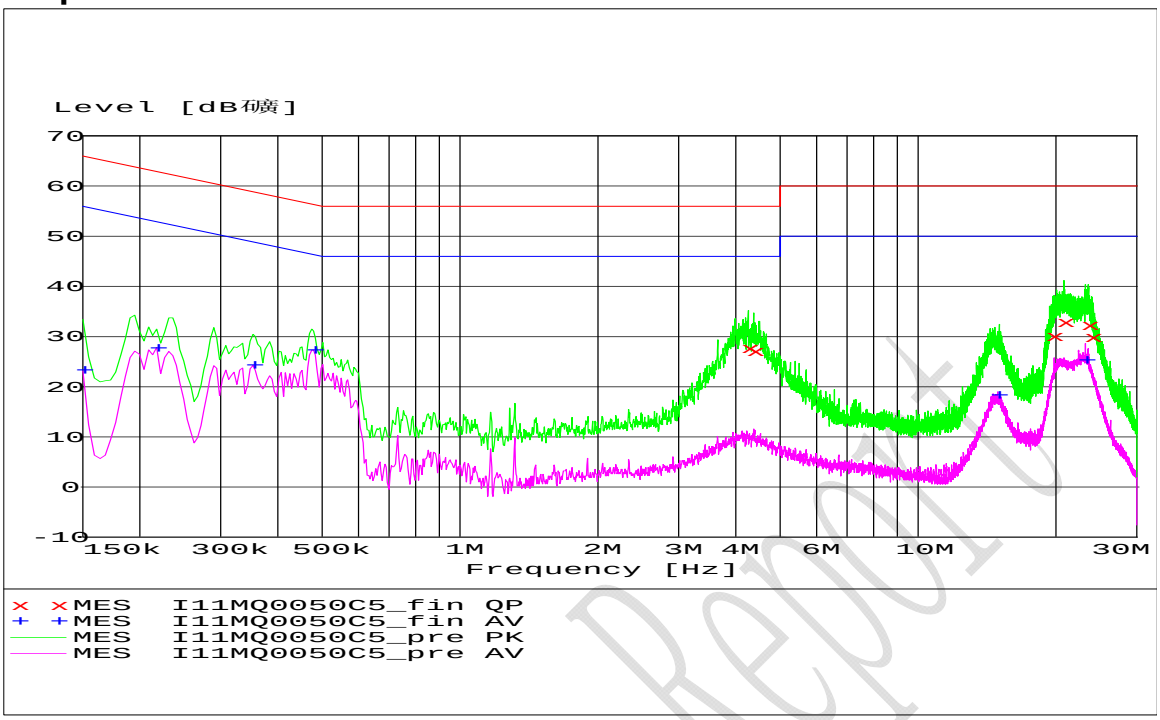
Line N:

Detector (QP/AV)	Frequency (MHz)	Level (dBμV)	Transducer (dB)	Limit (dB)	PE
QP	4.258500	27.60	10.2	56	Grounded
QP	4.371000	27.10	10.2	56	Grounded
QP	19.675500	30.10	10.3	60	Grounded
QP	20.841000	32.90	10.3	60	Grounded
QP	23.527500	32.20	10.3	60	Grounded
QP	23.955000	29.90	10.3	60	Grounded
AV	0.150000	23.20	9.9	56	Grounded
AV	0.217500	27.70	9.9	53	Grounded
AV	0.352500	24.20	9.9	49	Grounded
AV	0.478500	27.20	9.9	46	Grounded
AV	14.901000	18.30	10.2	50	Grounded
AV	23.154000	25.30	10.3	50	Grounded
Remarks: The test result is the worst case.					

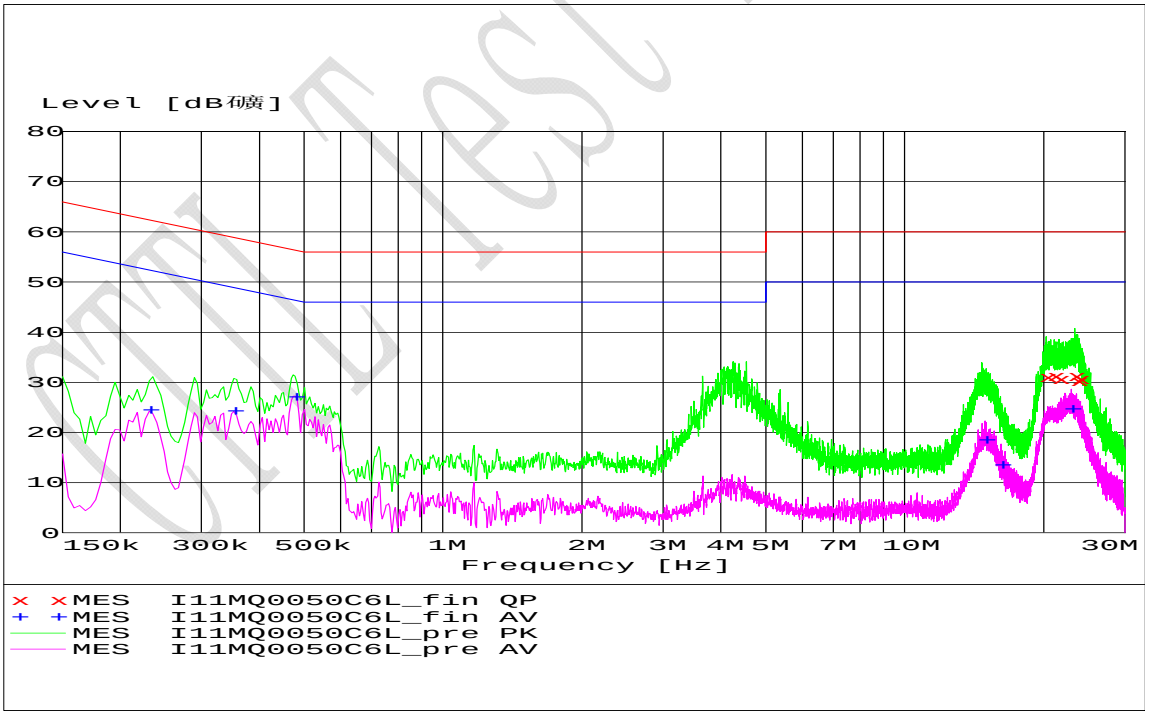
Line L:

Detector (QP/AV)	Frequency (MHz)	Level (dBμV)	Transducer (dB)	Limit (dB)	PE
QP	20.274000	30.90	10.3	60	Grounded
QP	21.066000	31.30	10.3	60	Grounded
QP	21.651000	30.60	10.3	60	Grounded
QP	23.374500	31.20	10.3	60	Grounded
QP	23.667000	30.20	10.3	60	Grounded
QP	23.878500	30.60	10.3	60	Grounded
AV	0.231000	24.40	9.9	52	Grounded
AV	0.352500	24.30	9.9	49	Grounded
AV	0.478500	27.10	9.9	46	Grounded
AV	14.914500	18.40	10.2	50	Grounded
AV	16.170000	13.40	10.2	50	Grounded
AV	22.947000	24.60	10.3	50	Grounded
Remarks: The test result is the worst case.					

Graphical results:

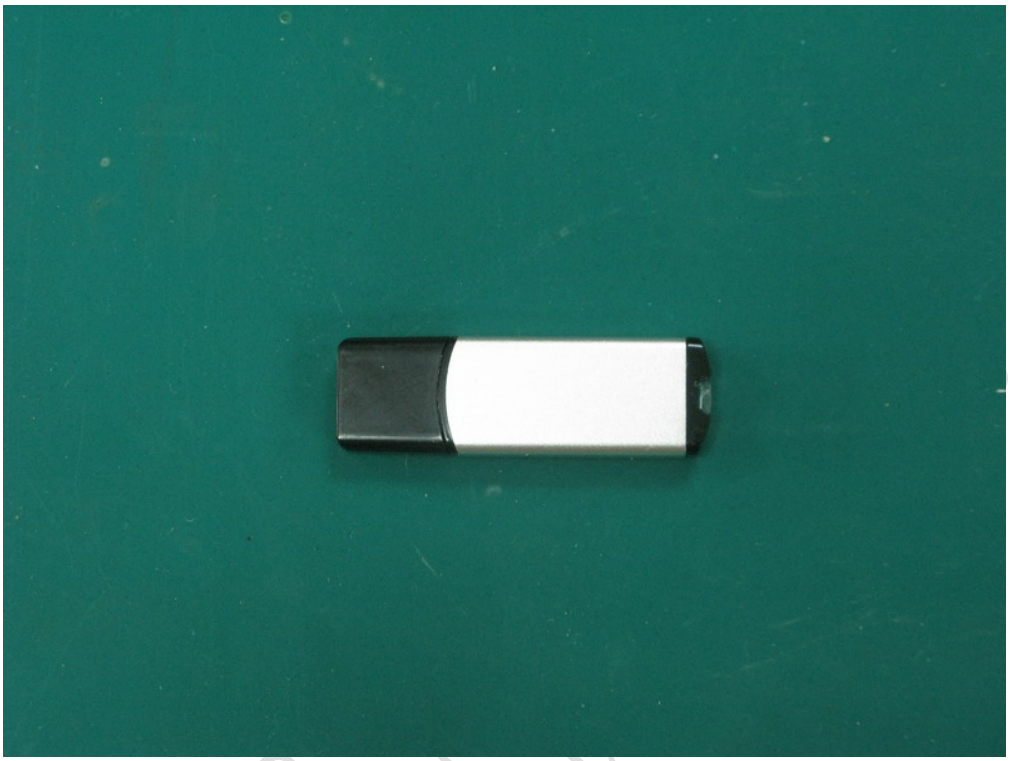


CE graphical results(Line N)



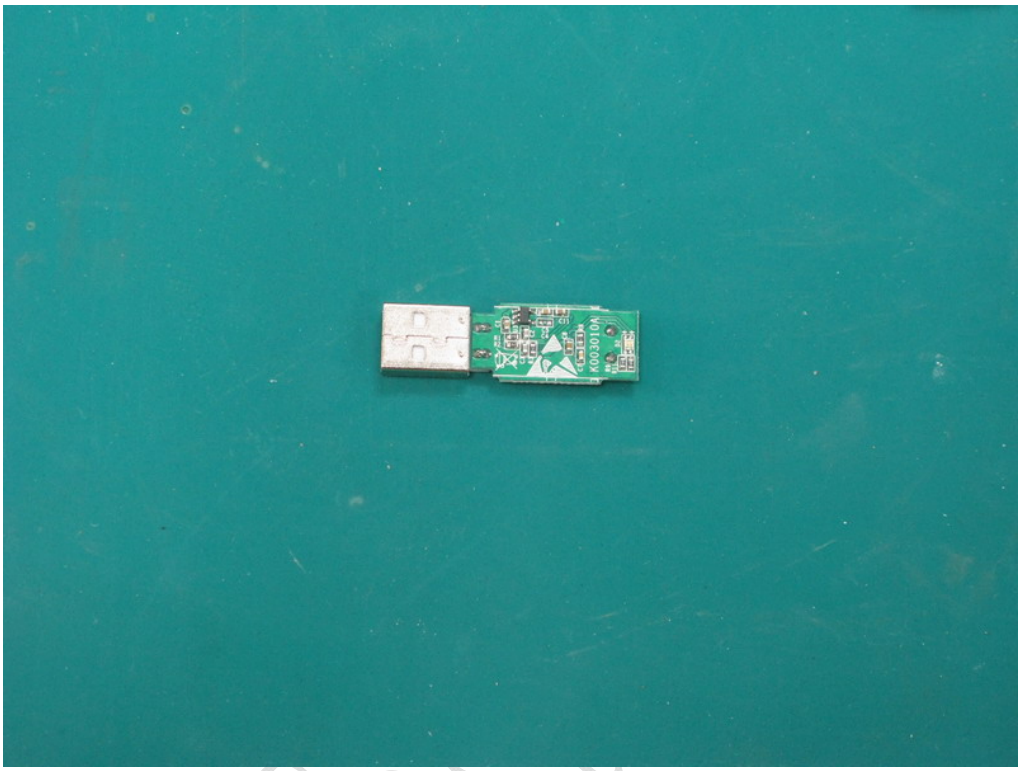
CE graphical results(Line L)

Annex A External Photos

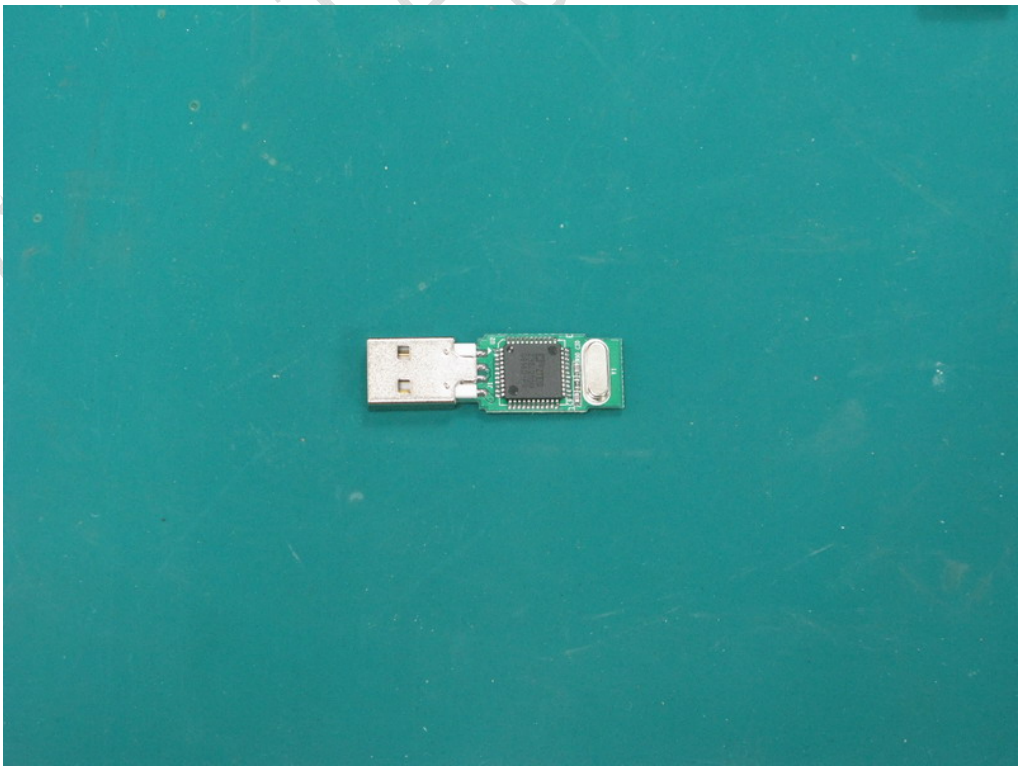


Picture 1 Front view of the handset

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