



# TEST REPORT

No. 2008TAR072

for

**TCT Mobile Suzhou Limited**

**GSM/UMTS Data Card**

**Model Name: LeMans**

**Marketing Name: One Touch X200**

with

**Hardware Version: PIO5**

**Software Version: FL1BE3D0**

**Issued Date: Dec 13th, 2008**



No. DAT-P-114/01-01



Registration Number:  
733176



IC O.A.T.S

registration number:  
6629A-1

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

**Test Laboratory:**

TMC Beijing, Telecommunication Metrology Center of Ministry of Information Industry

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## **CONTENTS**

<b>1. TEST LABORATORY.....</b>	<b>3</b>
<b>1.1. TESTING LOCATION.....</b>	<b>3</b>
<b>1.2. TESTING ENVIRONMENT.....</b>	<b>3</b>
<b>1.3. PROJECT DATA.....</b>	<b>3</b>
<b>1.4. SIGNATURE.....</b>	<b>3</b>
<b>2. CLIENT INFORMATION.....</b>	<b>4</b>
<b>2.1. APPLICANT INFORMATION.....</b>	<b>4</b>
<b>2.2. MANUFACTURER INFORMATION.....</b>	<b>4</b>
<b>3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE).....</b>	<b>5</b>
<b>3.1. ABOUT EUT.....</b>	<b>5</b>
<b>3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST.....</b>	<b>5</b>
<b>3.3. GENERAL DESCRIPTION.....</b>	<b>5</b>
<b>4. REFERENCE DOCUMENTS.....</b>	<b>5</b>
<b>4.1. REFERENCE DOCUMENTS FOR TESTING.....</b>	<b>5</b>
<b>5. LABORATORY ENVIRONMENT.....</b>	<b>5</b>
<b>6. SUMMARY OF TEST RESULTS.....</b>	<b>7</b>
<b>7. TEST EQUIPMENTS UTILIZED.....</b>	<b>7</b>
<b>ANNEX A: EUT PHOTOGRAPH.....</b>	<b>8</b>
<b>ANNEX B: MEASUREMENT RESULTS.....</b>	<b>11</b>
<b>ANNEX C: TEST LAYOUT.....</b>	<b>15</b>

## 1. Test Laboratory

### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MII  
Address: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China  
Postal Code: 100083  
Telephone: 00861062303288  
Fax: 00861062304793

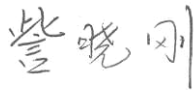
### 1.2. Testing Environment

Normal Temperature: 15-35℃  
Relative Humidity: 20-75%

### 1.3. Project data

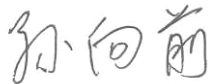
Testing Start Date: Dec 01st, 2008  
Testing End Date: Dec 04th, 2008

### 1.4. Signature



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**Zi Xiaogang**  
**(Prepared this test report)**



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**Sun Xiangqian**  
**(Reviewed this test report)**



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**Lu Bingsong**  
**Deputy Director of the laboratory**  
**(Approved this test report)**

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: TCT Mobile Suzhou Limited  
Address /Post: 4/F, South Building, No.2966, Jinke Road, Zhangjiang High-Tech Park,  
Pudong, Shanghai, 201203, P.R.China  
City: Shanghai  
Postal Code: 201203  
Country: China  
Telephone: +86 (0)21 6146 0697  
Fax: +86 (0)21 6146 0602

### **2.2. Manufacturer Information**

Company Name: TCT Mobile Suzhou Limited  
Address /Post: 4/F, South Building, No.2966, Jinke Road, Zhangjiang High-Tech Park,  
Pudong, Shanghai, 201203, P.R.China  
City: Shanghai  
Postal Code: 201203  
Country: China  
Telephone: +86 (0)21 6146 0697  
Fax: +86 (0)21 6146 0602

### **3. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

#### **3.1. About EUT**

Description	GSM/UMTS Data Card
Model name	LeMans
Marketing name	One Touch X200
brand name	ALCATEL
FCC ID	RAD095
Power supply	4.75VDC to 5.25VDC (nominal: 5 VDC)

Note: Photographs of EUT are shown in ANNEX A of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MII of People's Republic of China.

#### **3.2. Internal Identification of EUT used during the test**

EUT ID*	SN or IMEI	HW Version	SW Version
N04	356525020001638	PIO5	FL1BE3D0

#### **3.3. General Description**

The Equipment Under Test (EUT) is a model of GSM/UMTS Data Card with integrated antenna. Manual and specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the Client.

### **4. Reference Documents**

#### **4.1. Reference Documents for testing**

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	V 10.1.07
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003

### **5. LABORATORY ENVIRONMENT**

**Semi-anechoic chamber** (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

**Control room** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

**Conducted chamber** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

**Fully-anechoic chamber** (6.8 meters×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

## 6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

Clause	List	Clause in FCC rules	Verdict
1	Radiated Emission	15.109(a)	P
2	Conducted Emission	15.107(a)	P

## 7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURER	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2009-10-30
2	Test Receiver	ESI40	831564/002	R&S	2009-2-11
3	BiLog Antenna	3142B	9908-1403	EMCO	2009-1-16
4	BiLog Antenna	VUL9163	9163 175	Schwarzbeck	2009-9-19
5	Signal Generator	SMT06	831285/005	R&S	2008-12-26
6	Signal Generator	SMP04	100070	R&S	2009-4-20
7	LISN	ESH2-Z5	829991/012	R&S	2009-9-13
8	Spectrum Analyzer	FSU26	200030	R&S	2009-6-18
9	Universal Radio Communication Tester	CMU200	100680	R&S	2009-8-23
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2009-3
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2009-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2009-3
13	Climatic chamber	SH-241	92003546	ESPEC	2009-5-15

**ANNEX A: EUT photograph**

**External Photo**



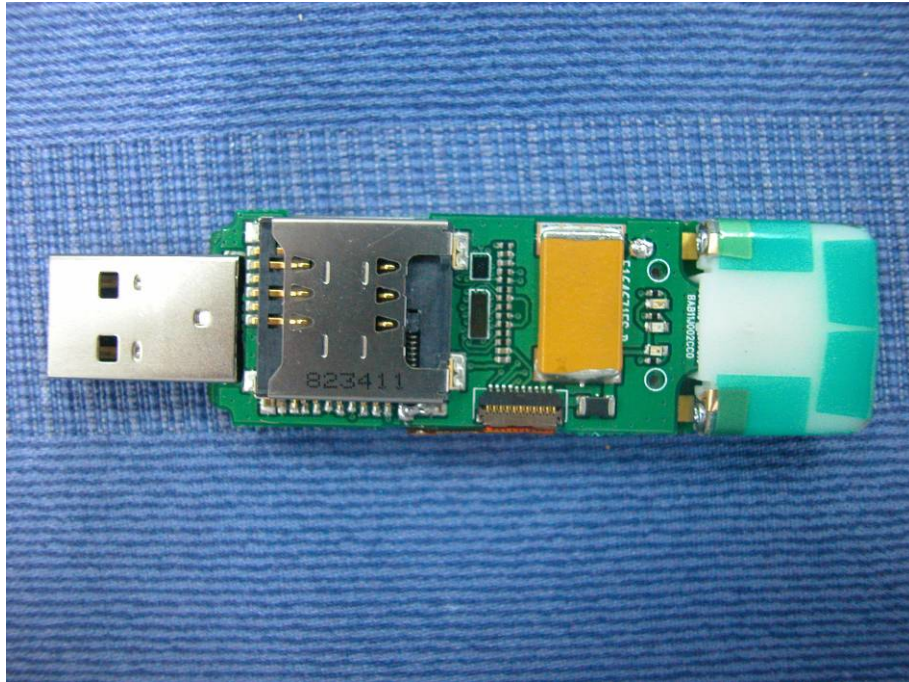
**Data Card**



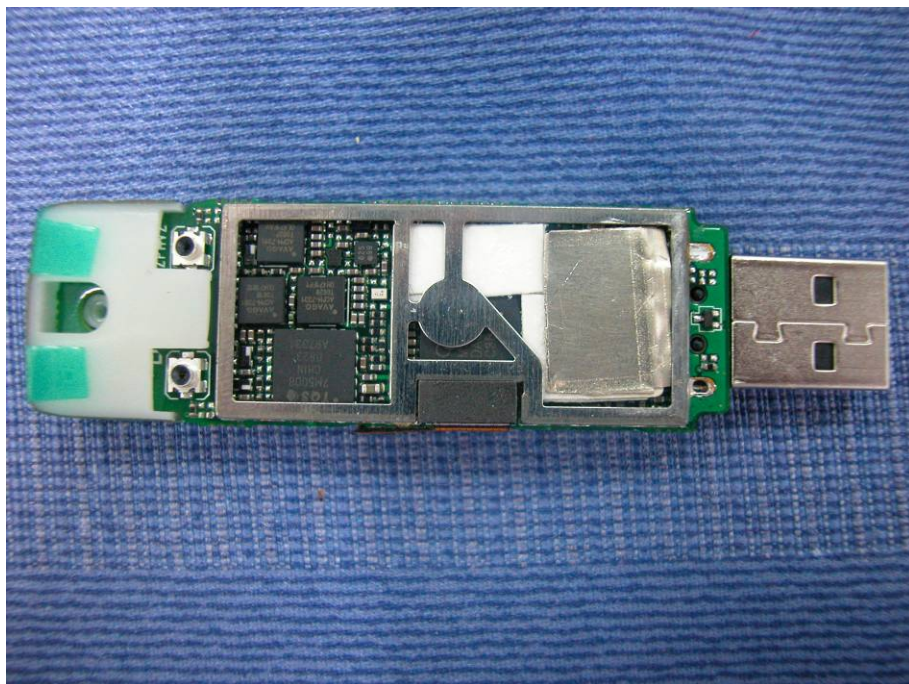
**Data Card**



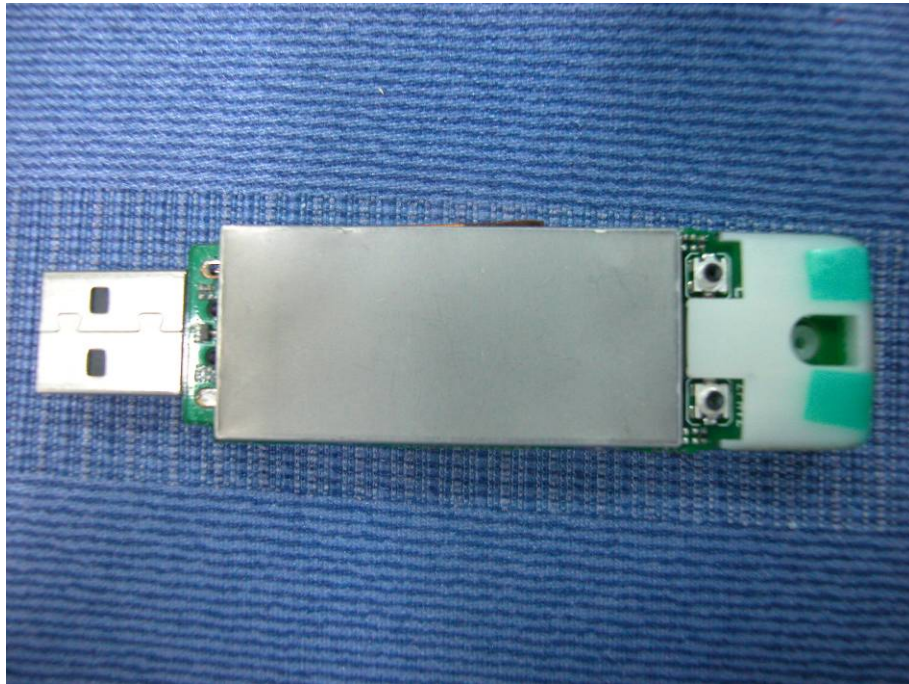
**Internal Photo**



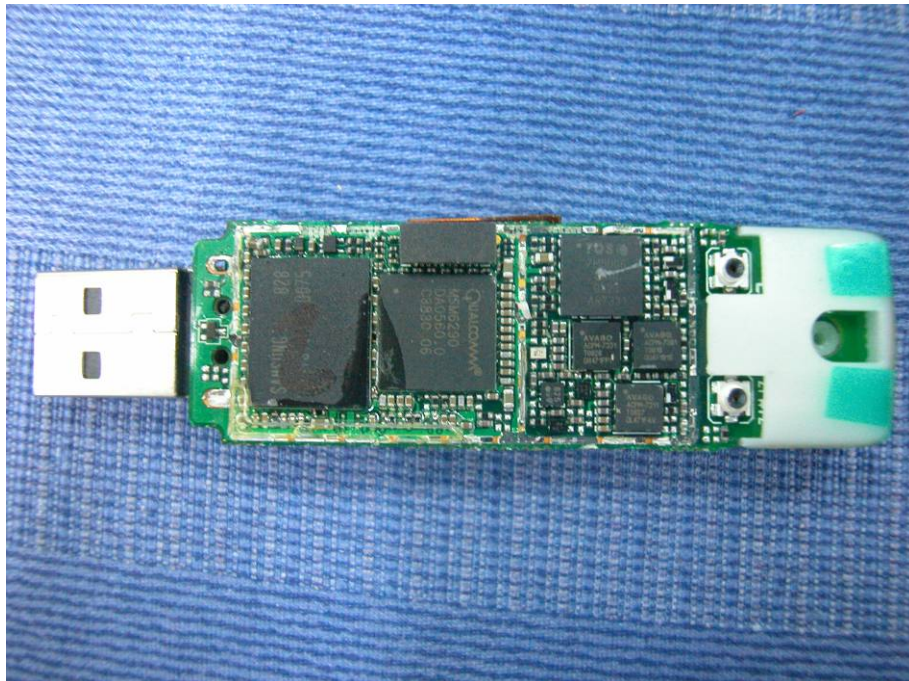
**Data Card Disassembly**



**Data Card Disassembly**



Data Card Disassembly



Data Card Disassembly

## **ANNEX B: MEASUREMENT RESULTS**

### **B.1 Radiated Emission (§15.109(a))**

#### **B.1.1 Method of measurement**

The field strength of radiated emissions from the unintentional radiator (USB mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 – 2003, section 8.3. The test set-up please refers to Annex C.1.

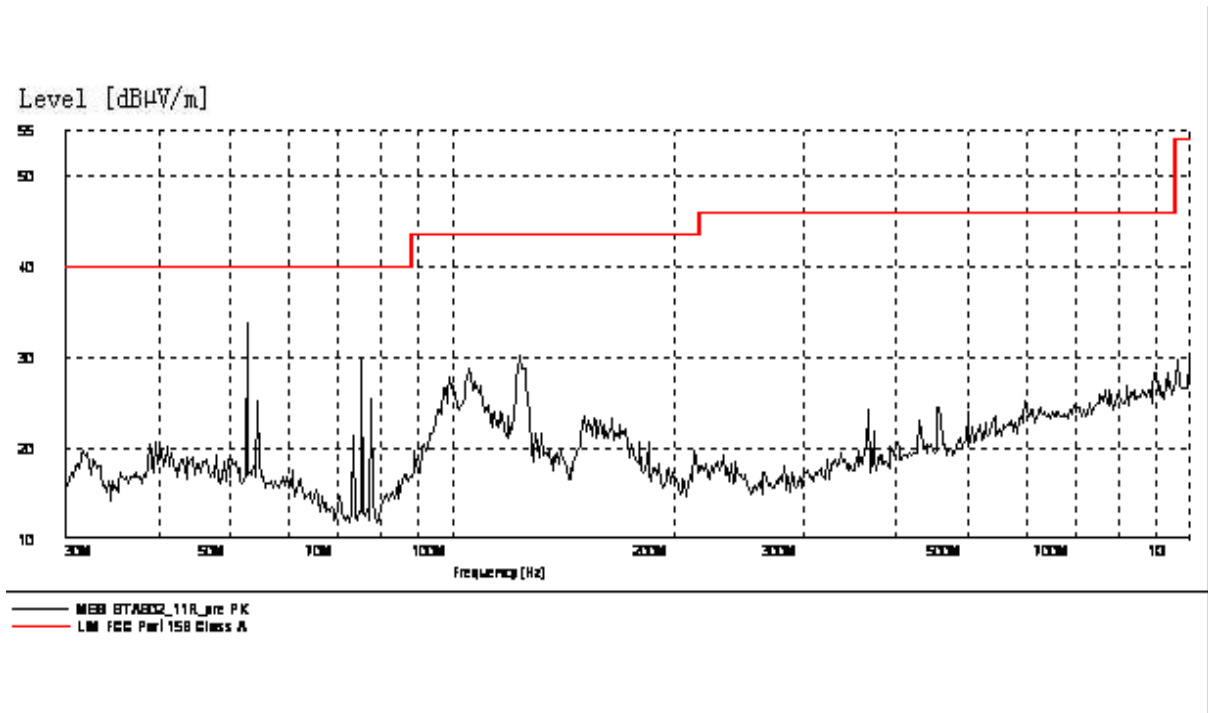
#### **B.1.2 EUT Operating Mode:**

The MS is operating in the USB mode. During the test MS is connected to a laptop via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the computer is DELL OPTIPLEX 320, and the serial number of the computer is GZVV42X. The software is used to let the laptop keep on copying data to MS, reading and erasing the data after copy action was finished.

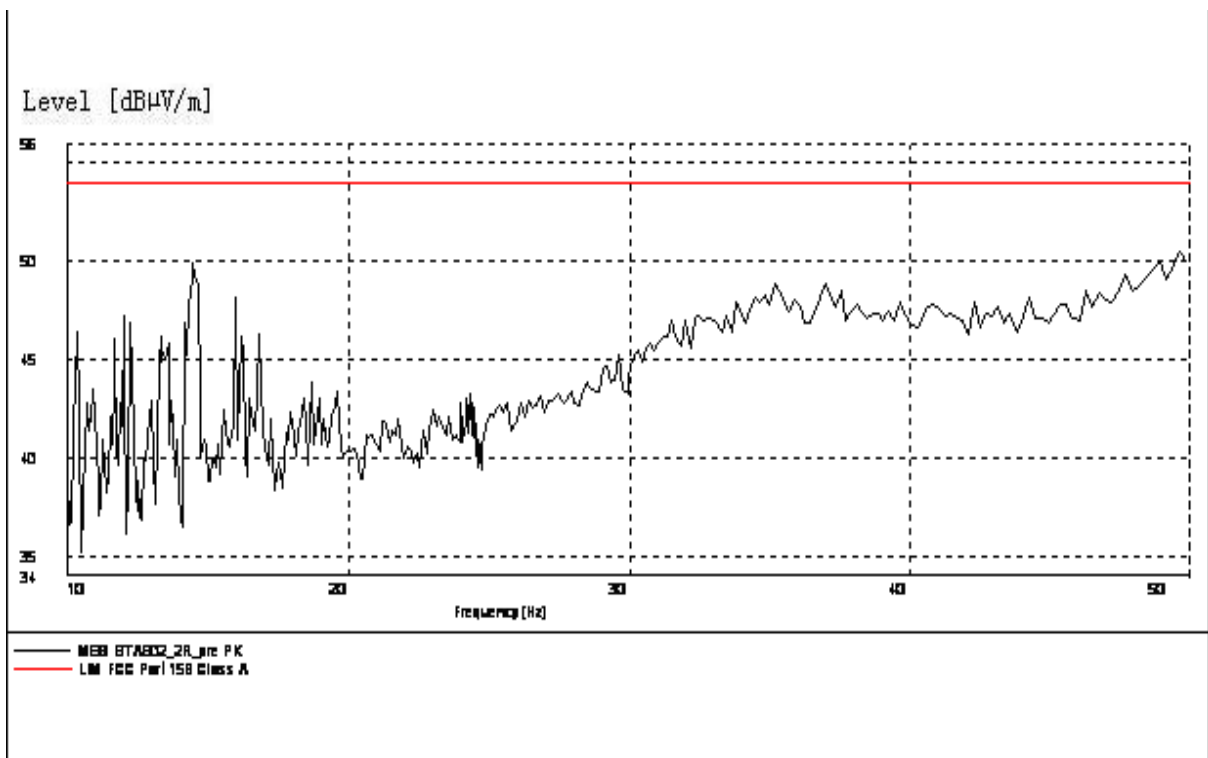
#### **B.1.3 Measurement Limit**

Frequency of emission (MHz)	Field strength (microvolts/meter)
30-88	100
88-216	150
216-960	200
Above 960	500

**B.1.4 Measurement Results**  
**USB Mode**



**Figure B.1 Radiated Emission from 30MHz to 1GHz**



**Figure B.2 Radiated Emission from 1GHz to 5GHz**

## B.2 Conducted Emission (§15.107(a))

### B.2.1 Method of measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 – 2003, section 7.2. The test set-up please refers to Annex C.2.

### B.2.2 EUT Operating Mode:

The MS is operating in the USB mode. During the test MS is connected to a laptop via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the computer is DELL OPTIPLEX 320, and the serial number of the computer is GZVV42X. The software is used to let the laptop keep on copying data to MS, reading and erasing the data after copy action was finished.

### B.2.3 Measurement Limit

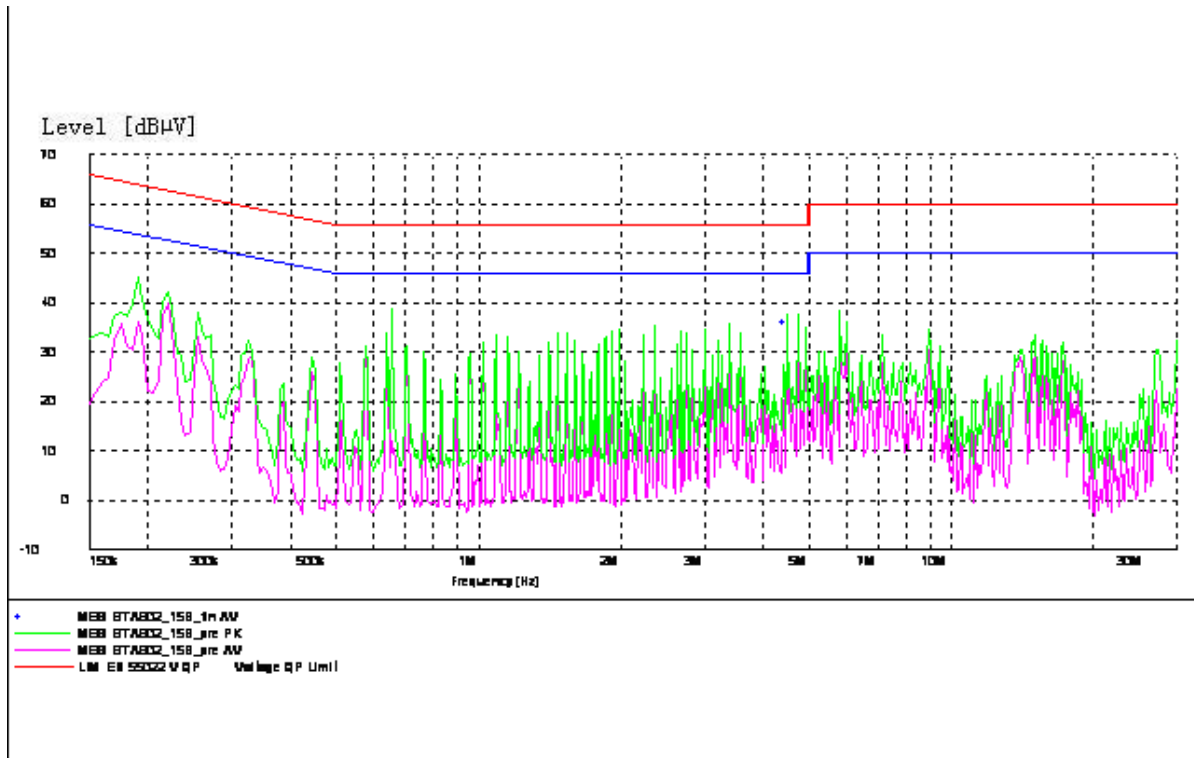
Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency

### B.2.4 Test Condition in charging mode

Voltage (V)	Frequency (Hz)
110	60

**B.2.4 Measurement Results**  
**USB Mode**



**Figure B.3 Conducted Emission**

**MEASUREMENT RESULT: "8TA802\_15B\_fin AV"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
4.472432	35.80	10.2	46	10.2	L1	GND

**ANNEX C: TEST LAYOUT**

**Pic C-1 Conducted Emission (USB Mode)**



**Pic C-2 Radiated Spurious Emission (USB Mode)**

**\*\*\*END OF REPORT\*\*\***