



# TEST REPORT

No. 2011TAR356

for

**TCT Mobile Limited**

**GSM dual band mobile phone**

**Model Name: B11Q US**

**Marketing Name: one touch 585A**

**FCC ID : RAD178**

with

**Hardware Version: PIO**

**Software Version: V200**

**Issued Date: 2011-06-19**

**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:**

***DAR accreditation (DIN EN ISO/IEC 17025): No. DGA-PL-114/01-02***

***FCC 2.948 Listed: No.733176***

***IC O.A.T.S listed: No.6629A-1***

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology

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## **1. Test Laboratory**

### **1.1. Testing Location**

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China  
Postal Code: 100191  
Telephone: 00861062304633  
Fax: 00861062304633

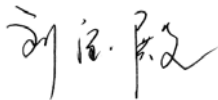
### **1.2. Testing Environment**

Normal Temperature: 15-35°C  
Relative Humidity: 20-75%

### **1.3. Project data**

Testing Start Date: Jun 01,2011  
Testing End Date: Jun 10,2011

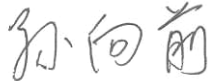
### **1.4. Signature**



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**Liu Baodian**

**(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 Limited  
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area  
City: Shanghai  
Postal Code: 201203  
Country: P.R.China  
Telephone: 0086-21-61460890  
Fax: 0086-21-61460602

### **2.2. Manufacturer Information**

Company Name: TCT Mobile Limited  
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area  
City: Shanghai  
Postal Code: 201203  
Country: P.R.China  
Telephone: 0086-21-61460890  
Fax: 0086-21-61460602

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

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

Description	GSM dual band mobile phone
Model Name	B11Q US
Marketing Name	one touch 585A
FCC ID	RAD178
Extreme vol. Limits	3.5VDC to 4.2VDC (nominal: 3.8VDC)

Note: 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
EUT1	012697000220193	PIO	V200

\*EUT ID: is used to identify the test sample in the lab internally.

#### **3.3. Internal Identification of AE used during the test**

AE ID*	Description	SN
AE1	Travel Adapter	/
AE2	Travel Adapter	/
AE3	Battery	/
AE4	Battery	/
AE5	USB Cable	/
AE6	USB Cable	/

##### AE1

Model	CBA3120AG0C2
Manufacturer	TenPao
Length of DC line	120cm

##### AE2

Model	CBA3002AG0C1
Manufacturer	BYD
Length of DC line	120cm

##### AE3

Model	CAB3120000C1
Manufacturer	BYD
Capacitance	850mAh
Nominal Voltage	3.7V

##### AE4

Model	CAB3120000C2
Manufacturer	Lishen
Capacitance	850mAh

Nominal Voltage	3.7V
AE5	
Model	CDA3122001C1
Manufacturer	Juwei
Length of DC line	150cm
AE6	
Model	CDA3122001C2
Manufacturer	Shenghua
Length of DC line	150cm

\*AE ID: is used to identify the test sample in the lab internally.

## 4. Reference Documents

### 4.1. Reference Documents for testing

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

<b>Reference</b>	<b>Title</b>	<b>Version</b>
FCC Part 15, Subpart B	Radio frequency devices	July 10, 2008 Edition
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	MANUFACTURE	CAL DUE DATE
1	Test Receiver	ESCI	100344	R&S	2012-03-12
2	Test Receiver	ESCI	100766	R&S	2011-12-06
3	Test Receiver	ESI40	831564/002	R&S	2012-02-12
4	BiLog Antenna	VUL9163	9163-302	Schwarzbeck	2012-02-10
5	Signal Generator	SMB100A	102063	R&S	2012-03-05
6	LISN	ESH2-Z5	829991/012	R&S	2012-04-20
7	Universal Radio Communication Tester	CMU200	100680	R&S	2011-09-05
8	Dual-Ridge Waveguide Horn Antenna	3115	6914	EMCO	2012-01-18
9	PC	OPTIPLEX 755	3908243625	DELL	N/A
10	Monitor	E178FPc	CN-OWR979-64 180-7AJ-D2MS	DELL	N/A
11	Printer	DeskJet D2368	TH72E12G7Q	HP	N/A
12	Keyboard	L100	CN0RH6596589 07ATOI40	DELL	N/A
13	Mouse	VR-301	6927225500198	XINGYU	N/A

## **ANNEX A: MEASUREMENT RESULTS**

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

#### **A.1.1 Method of measurement**

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 – 2009, section 8.3.

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

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC 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 PC is DELL OPTIPLEX 755, and the serial number of the PC is 3908243625. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

#### **A.1.3 Measurement Limit**

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

#### **A.1.4 Test Condition**

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15

### A.1.5 Measurement Results

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss", and including the gain of receive antenna and the path loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{Mea}} + F_A + G_{\text{PL}}$$

Where

$F_A$ : Receive Antenna Factor

$G_{\text{PL}}$ : Cable Loss

$P_{\text{Mea}}$ : The measurement result on receiver.

#### Charging Mode(AE1)

Frequency(MHz)	Result(dBuV/m)	$G_{\text{PL}}$ (dB)	$F_A$ (dB/m)	PMea(dBuV)	Polarity
3723.447	50.58	-19.6	33.4	36.78	VERTICAL
3691.383	50.28	-19.5	33.4	36.38	VERTICAL
3855.711	50.28	-19.6	33.4	36.48	HORIZONTAL
3513.026	50.14	-19.6	33.4	36.34	VERTICAL
3993.988	50.14	-19.3	33.4	36.04	HORIZONTAL
3440.882	50.09	-19.6	31.2	38.49	HORIZONTAL

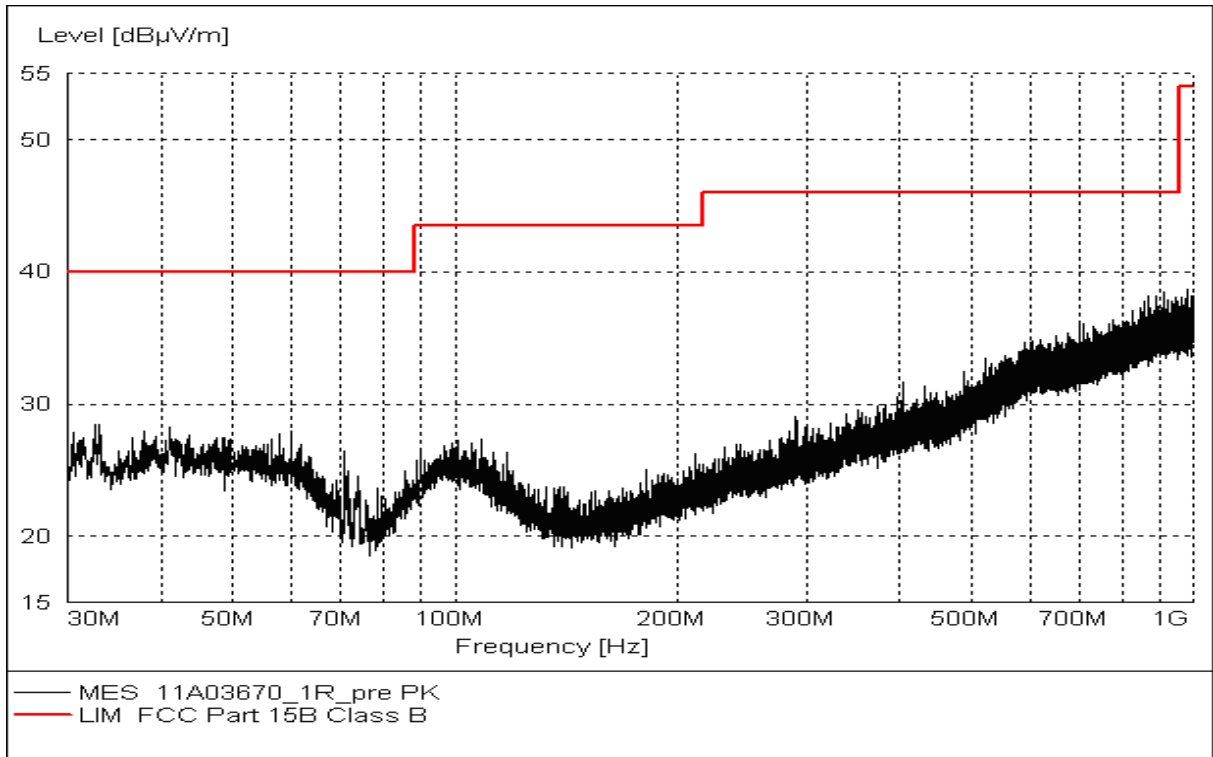
#### Charging Mode(AE2)

Frequency(MHz)	Result(dBuV/m)	$G_{\text{PL}}$ (dB)	$F_A$ (dB/m)	PMea(dBuV)	Polarity
3787.575	50.75	-19.8	33.4	37.15	VERTICAL
3729.459	50.44	-19.6	33.4	36.64	HORIZONTAL
3905.812	50.26	-19.8	33.4	36.66	HORIZONTAL
3997.996	50.26	-19.3	33.4	36.16	VERTICAL
3969.94	50.18	-19.6	33.4	36.38	HORIZONTAL
3803.607	50.08	-19.5	33.4	36.18	HORIZONTAL

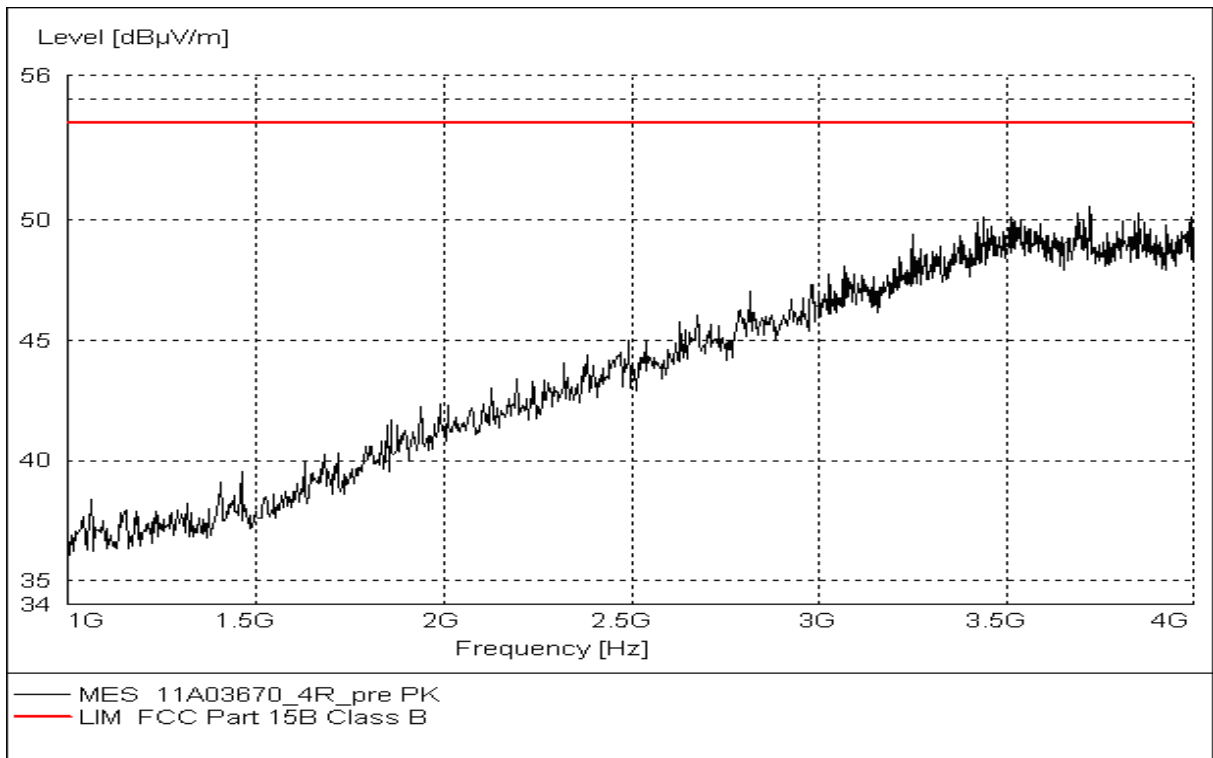
#### USB Mode

Frequency(MHz)	Result(dBuV/m)	$G_{\text{PL}}$ (dB)	$F_A$ (dB/m)	Pmea(dBuV)	Polarity
3873.747	50.99	-19.6	33.4	37.19	HORIZONTAL
3701.403	50.85	-19.4	33.4	36.85	VERTICAL
2058.116	50.43	-20.2	27.5	43.13	VERTICAL
3474.95	50.42	-19.7	31.2	38.92	HORIZONTAL
3751.503	50.38	-19.7	33.4	36.68	VERTICAL
3711.423	50.37	-19.5	33.4	36.47	HORIZONTAL

**Charging Mode(AE1)**

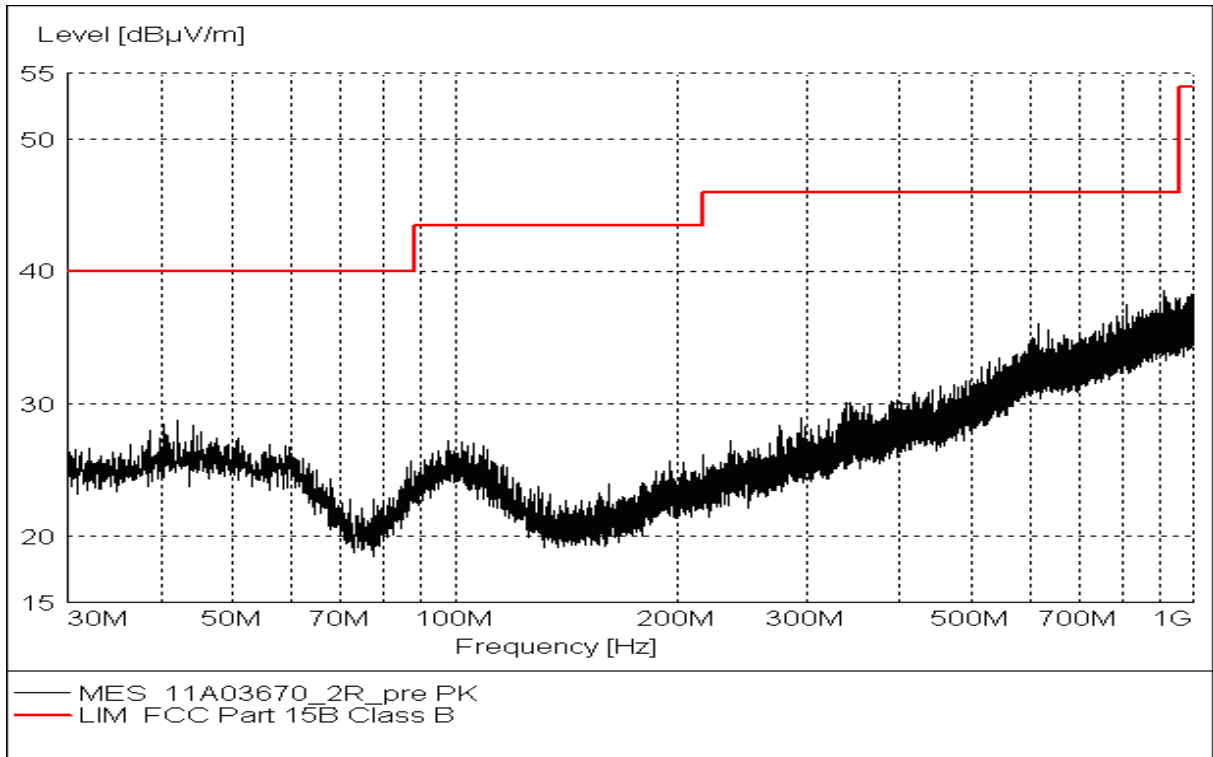


**Figure A.1 Radiated Emission from 30MHz to 1GHz**

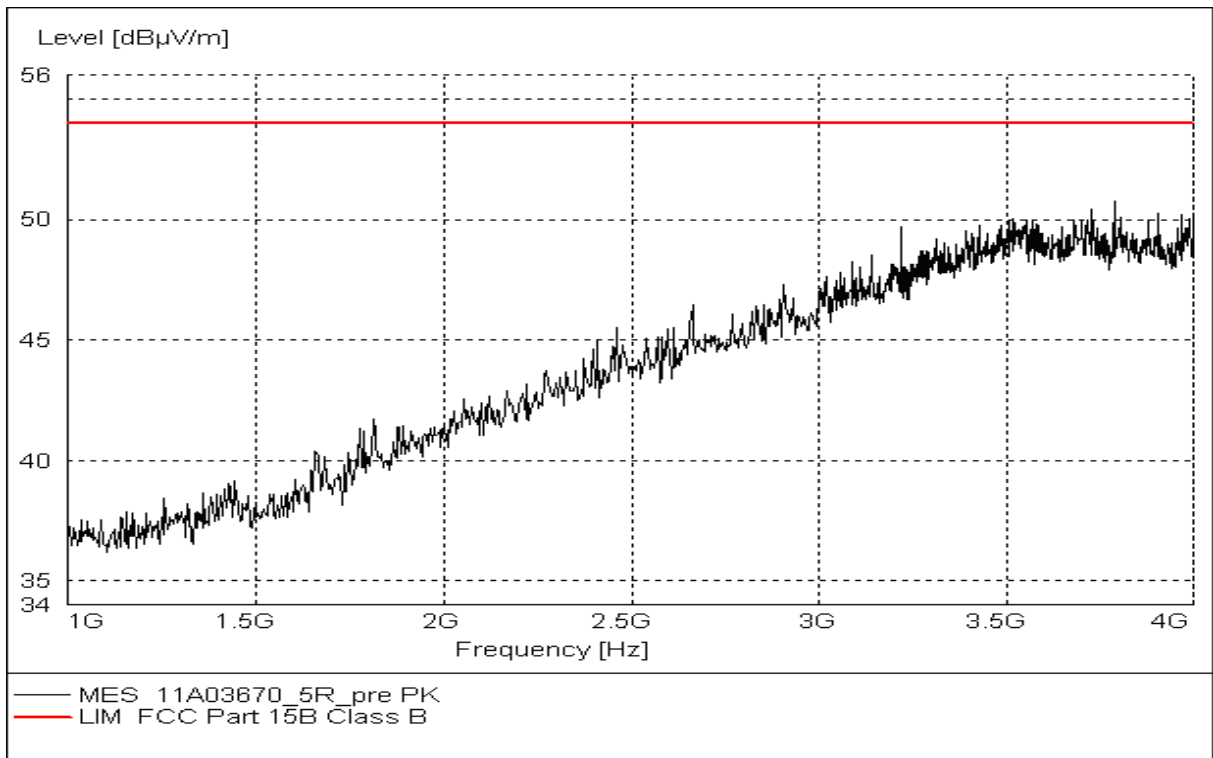


**Figure A.2 Radiated Emission from 1GHz to 4GHz**

**Charging Mode(AE2)**



**Figure A.3 Radiated Emission from 30MHz to 1GHz**



**Figure A.4 Radiated Emission from 1GHz to 4GHz**

USB Mode

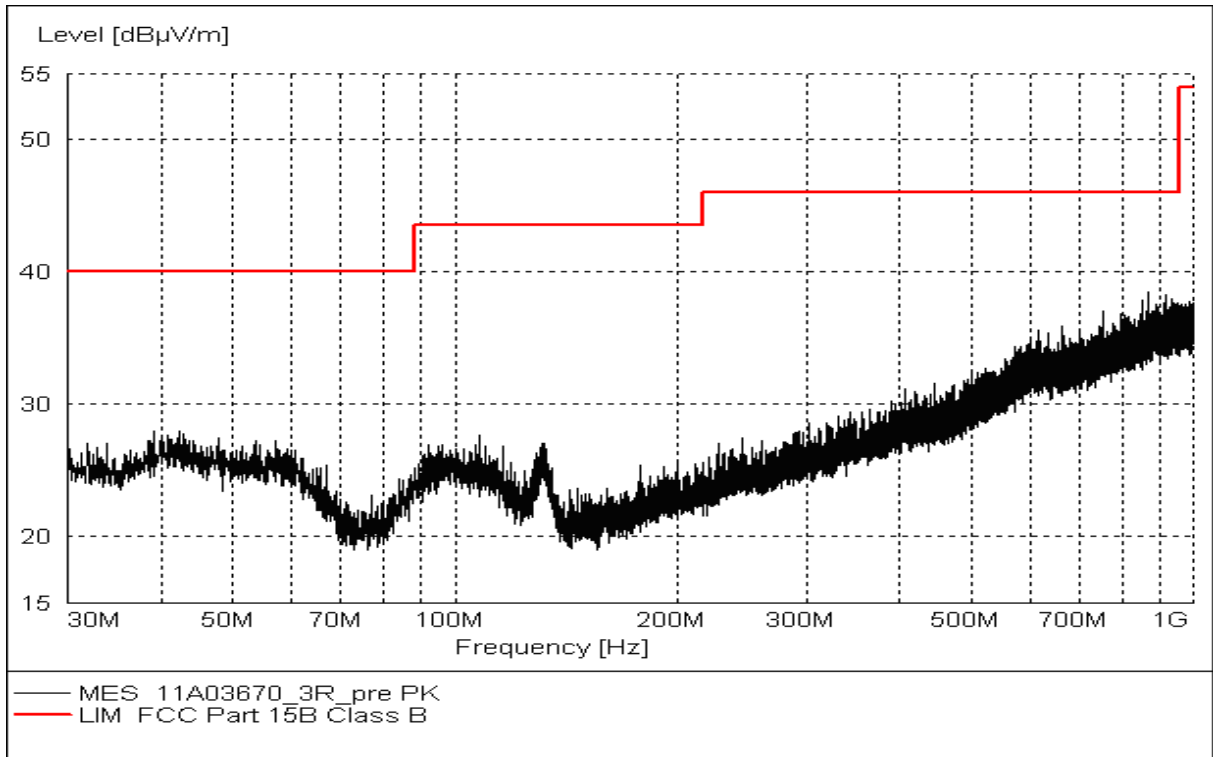


Figure A.5 Radiated Emission from 30MHz to 1GHz

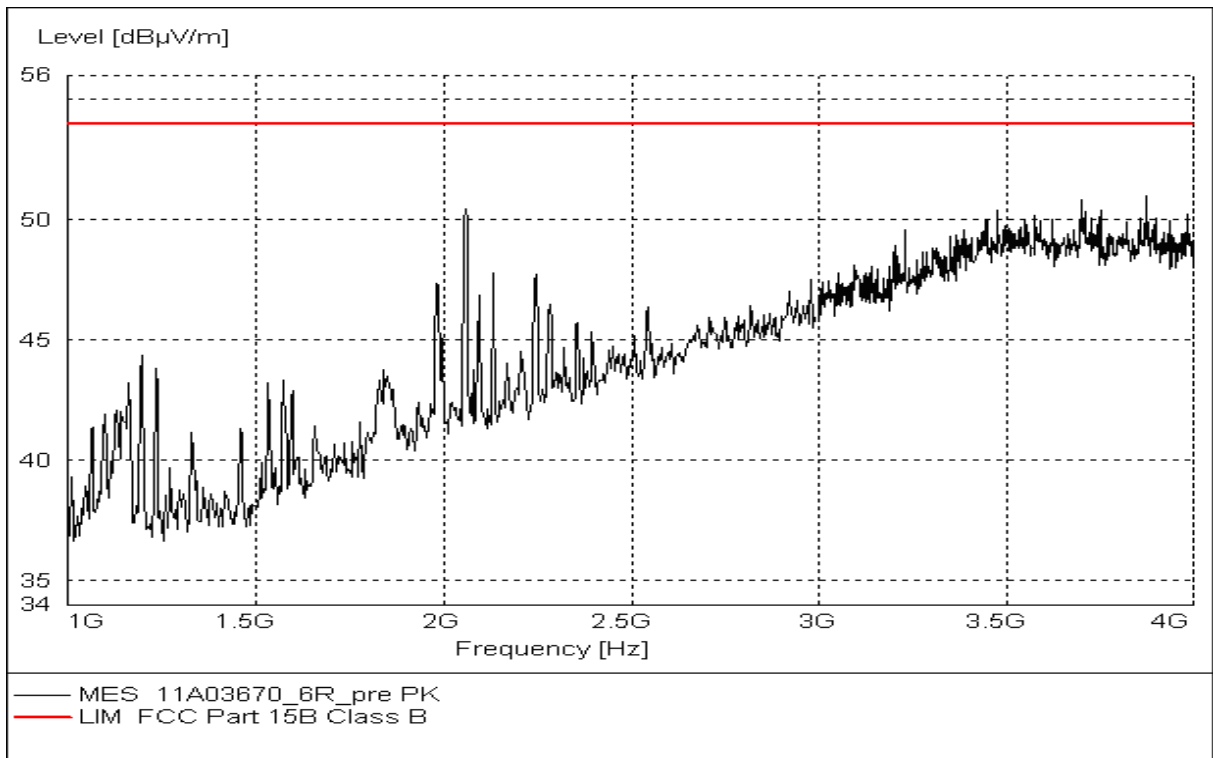


Figure A.6 Radiated Emission from 1GHz to 4GHz

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

### A.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 – 2009, section 7.2.

### A.2.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC 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 PC is DELL OPTIPLEX 755, and the serial number of the PC is 3908243625. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

### A.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

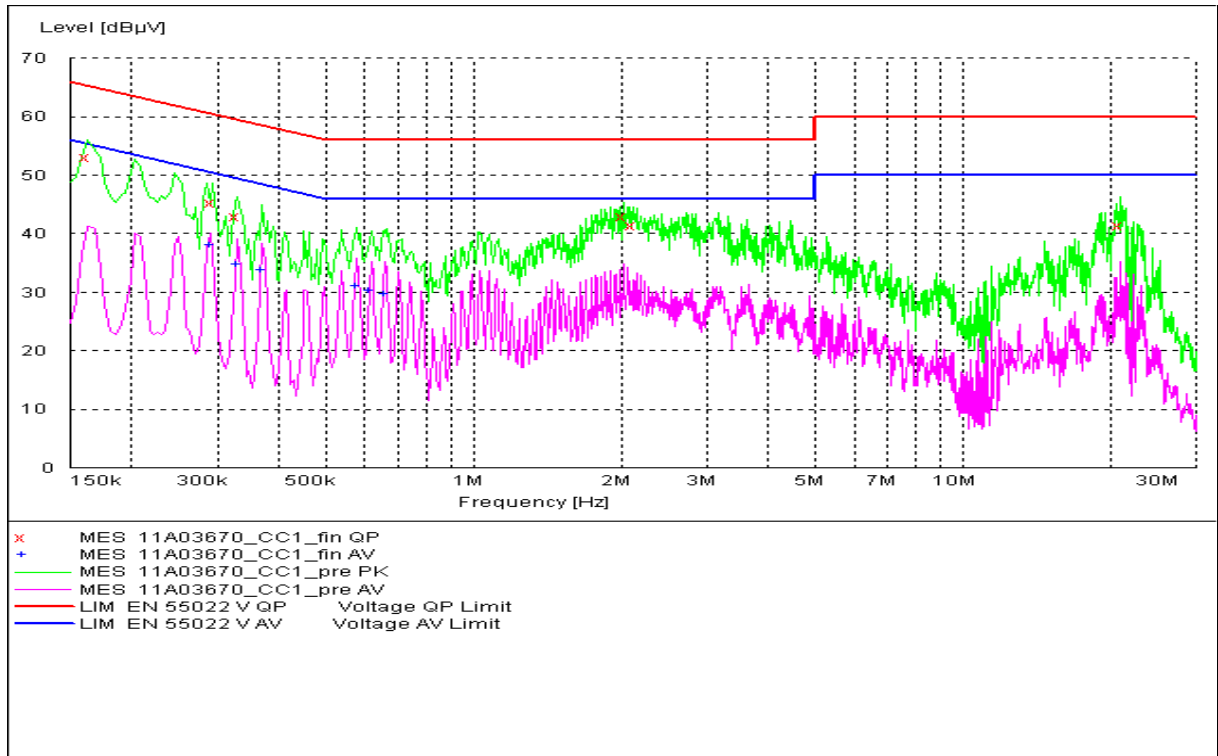
\*Decreases with the logarithm of the frequency

### A.2.4 Test Condition in charging mode

Voltage (V)	Frequency (Hz)
120	60

RBW	Sweep Time(s)
9KHz	1

**A.2.4 Measurement Results**  
**Charging Mode(AE1)**



**Figure A.7 Conducted Emission**

**MEASUREMENT RESULT: "11A03670\_CC1\_fin QP"**

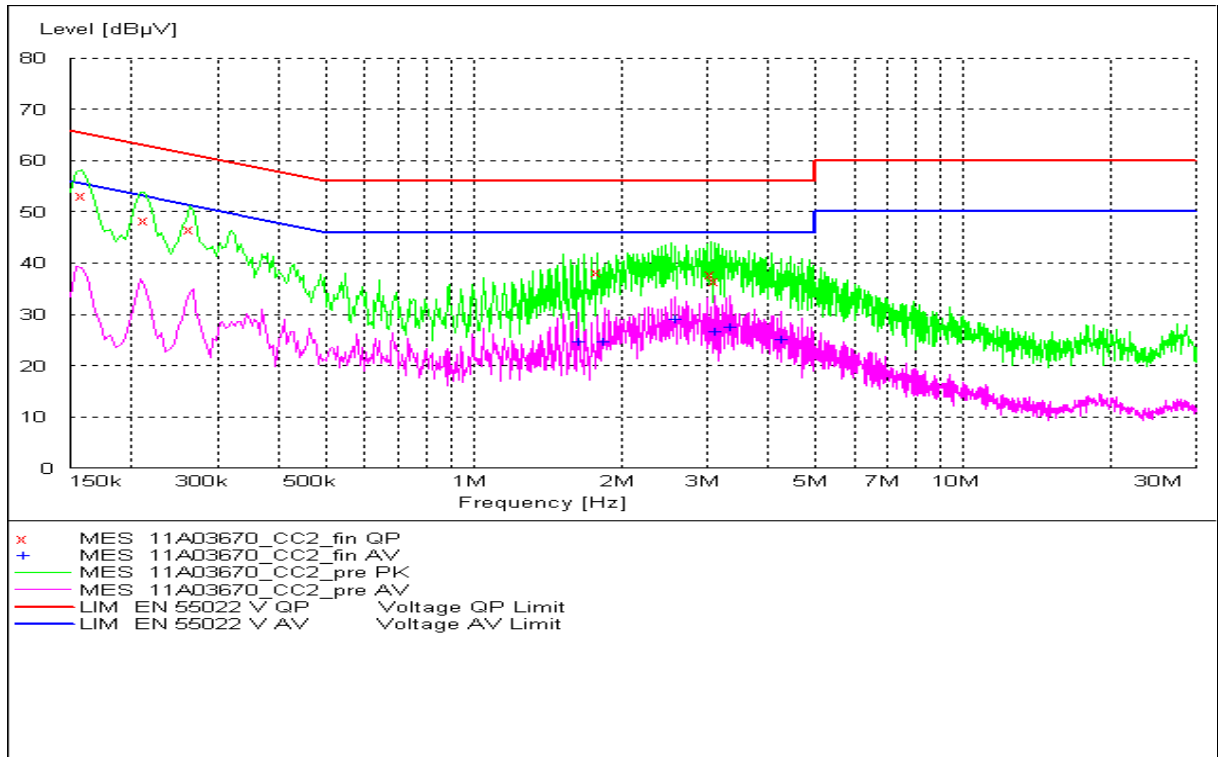
Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
0.163500	53.00	10.1	65	12.3	N	GND
0.294000	45.30	10.1	60	15.1	N	GND
0.330000	42.90	10.1	60	16.6	L1	GND
2.030181	42.90	10.1	56	13.1	L1	GND
2.129853	41.30	10.1	56	14.7	L1	GND
21.002085	41.30	10.3	60	18.7	L1	GND

**MEASUREMENT RESULT: "11A03670\_CC1\_fin AV"**

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
0.289500	38.00	10.1	51	12.5	N	GND
0.330000	34.80	10.1	50	14.7	N	GND
0.370500	33.70	10.1	49	14.8	N	GND
0.577500	31.00	10.1	46	15.0	N	GND
0.618000	30.20	10.1	46	15.8	N	GND
0.658500	29.70	10.1	46	16.3	N	GND



**Charging Mode(AE2)**



**Figure A.8 Conducted Emission**

**MEASUREMENT RESULT: "11A03670\_CC2\_fin QP"**

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
0.159000	53.30	10.1	66	12.2	L1	GND
0.213000	48.40	10.1	63	14.7	L1	GND
0.262500	46.70	10.1	61	14.6	L1	GND
1.797000	38.30	10.1	56	17.7	L1	GND
3.060289	37.80	10.1	56	18.2	L1	GND
3.115789	36.60	10.1	56	19.4	L1	GND

**MEASUREMENT RESULT: "11A03670\_CC2\_fin AV"**

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
1.639500	24.80	10.1	46	21.2	L1	GND
1.846500	24.70	10.1	46	21.3	L1	GND
2.579938	29.10	10.1	46	16.9	L1	GND
3.115789	26.70	10.1	46	19.3	L1	GND
3.328041	27.60	10.1	46	18.4	L1	GND
4.267427	25.10	10.1	46	20.9	L1	GND

USB Mode

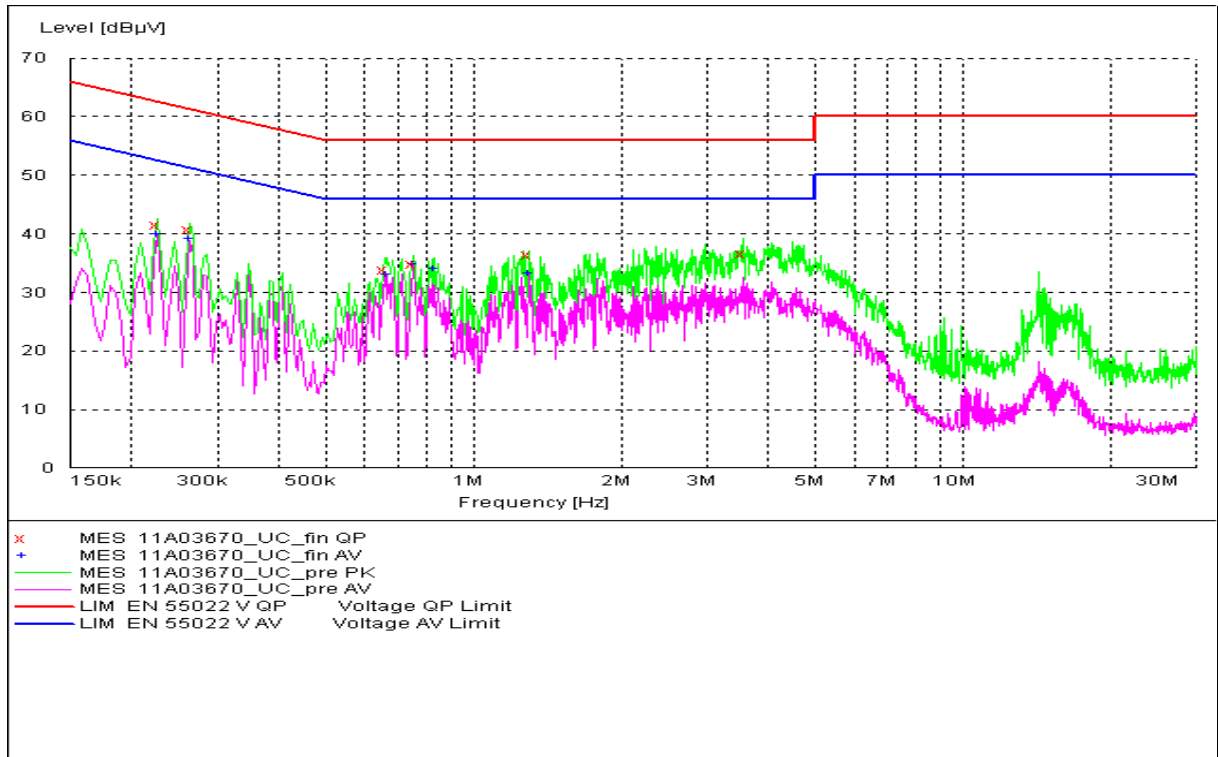


Figure A.9 Conducted Emission

MEASUREMENT RESULT: "11A03670\_UC\_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
0.226500	41.60	10.1	63	21.0	L1	GND
0.262500	40.80	10.1	61	20.6	L1	GND
0.658500	33.90	10.1	56	22.1	L1	GND
0.753000	34.80	10.1	56	21.2	L1	GND
1.297500	36.30	10.1	56	19.7	L1	GND
3.544118	36.50	10.1	56	19.5	L1	GND

MEASUREMENT RESULT: "11A03670\_UC\_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB	/	/
0.226500	39.90	10.1	53	12.6	L1	GND
0.262500	39.20	10.1	51	12.1	L1	GND
0.667500	33.10	10.1	46	12.9	L1	GND
0.753000	34.90	10.1	46	11.1	L1	GND
0.829500	34.00	10.1	46	12.0	L1	GND
1.297500	33.20	10.1	46	12.8	L1	GND

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