



TEST REPORT

No. 2012TAR242

for

TCT Mobile Limited

GSM Quad Band Mobile Phone

Model Name: Xpress

Marketing Name: ONE TOUCH 838

FCC ID : RAD265

with

Hardware Version: PIO

Software Version: E1A

Issued Date: 2012-05-20

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

No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100191

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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

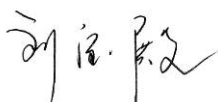
1.2. Testing Environment

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

1.3. Project data

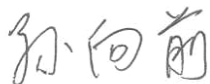
Testing Start Date: Apl. 26, 2012
Testing End Date: May. 08, 2012

1.4. Signature



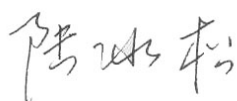
Liu Baodian

(Prepared this test report)



Sun Xiangqian

(Reviewed this test report)



Lu Bingsong

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

2. Client Information

2.1. Applicant Information

Company Name: TCT Mobile Limited
Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China.
City: Shanghai
Postal Code: 201203
Country: China
Telephone: +86-21-61460890
Fax: +86-21-61460602

2.2. Manufacturer Information

Company Name: TCT Mobile Limited
Address /Post: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,
Pudong Area Shanghai, P.R. China.
City: Shanghai
Postal Code: 201203
Country: China
Telephone: +86-21-61460890
Fax: +86-21-61460602

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

3.1. About EUT

Description	GSM Quad Band Mobile Phone
Model Name	Xpress
Marketing Name	ONE TOUCH 838
FCC ID	RAD265
Extreme vol. Limits	3.5VDC to 4.2VDC (nominal: 3.7VDC)

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	863744010510187	PIO	E1A

*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	/
AE7	USB Cable	/
AE8	USB Cable	/

AE1

Model	CBA3002AG0C1
Manufacturer	BYD
Length of DC line	122cm

AE2

Model	CBA3002AG0C3
Manufacturer	Yingju
Length of DC line	125cm

AE3

Model	CAB31L0000C2
Manufacturer	BAK
Capacitance	1000mAh
Nominal Voltage	3.7V

AE4

Model	CAB31L0000C1
Manufacturer	BYD
Capacitance	1000mAh
Nominal Voltage	3.7V

AE5

Model CDA3122002C1
 Manufacturer Juwei
 Length of DC line 100cm

AE6

Model CDA3122002C2
 Manufacturer Shenhua
 Length of DC line 100cm

AE7

Model CDA3122005C1
 Manufacturer Juwei
 Length of DC line 100cm

AE8

Model CDA3122005C2
 Manufacturer Shenhua
 Length of DC line 100cm

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

3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT1+AE1+AE3/AE4	Charging
Set.2	EUT1+AE2+AE3/AE4	Charging
Set.3	EUT1+AE3/AE4+AE5	USB

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	10-1-10 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 (10 meters×6.7meters×6.15meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 1Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

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

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
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. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber (8.6 meters×6.1 meters×3.85 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 MΩ
Ground system resistance	< 1 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 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	2013-03-28
3	Spectrum Analyzer	ESU26	100376	R&S	2012-11-08
4	BiLog Antenna	VUL9163	514	Schwarzbeck	2014-11-10
5	LISN	ESH2-Z5	829991/012	R&S	2013-04-16
6	Universal Radio Communication Tester	CMU200	100680	R&S	2012-09-05
7	Universal Radio Communication Tester	E5515C	MY48363198	Agilent	2012-07-09
8	Dual-Ridge Waveguide Horn Antenna	3117	00139065	ETS-Lindgren	2014-07-31
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 - 2003, 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_{PL} : Cable Loss

P_{Mea} : The measurement result on receiver.

Charging Mode Set.1

Frequency(MHz)	Result(dBuV/m)	G_{PL} (dB)	F_A (dB/m)	P_{Mea} (dBuV)	Polarity
2775.6	39.00957	-26.338	32.1	33.24757	VERTICAL
2774.8	38.99760	-26.338	32.1	33.23560	HORIZONTAL
2773.0	38.96739	-26.338	32.1	33.20539	HORIZONTAL
2775.2	38.94571	-26.338	32.1	33.18371	VERTICAL
2773.2	38.93860	-27.6411	32.1	34.47970	VERTICAL
2776.4	38.93009	-27.6411	32.1	34.47118	HORIZONTAL

Charging Mode Set.2

Frequency(MHz)	Result(dBuV/m)	G_{PL} (dB)	F_A (dB/m)	P_{Mea} (dBuV)	Polarity
2775.4	39.12895	-26.338	32.1	33.36695	VERTICAL
2776.0	39.05843	-27.6411	32.1	34.59952	HORIZONTAL
2777.2	39.03280	-26.338	32.1	33.27080	VERTICAL
2775.0	39.01642	-26.338	32.1	33.25442	VERTICAL
2776.2	39.00874	-27.6411	32.1	34.54983	HORIZONTAL
2775.2	38.96235	-26.338	32.1	33.20035	HORIZONTAL

USB Mode Set.3

Frequency(MHz)	Result(dBuV/m)	G_{PL} (dB)	F_A (dB/m)	P_{mea} (dBuV)	Polarity
1496.6	43.23774	-32.5738	25.2	50.61154	HORIZONTAL
1496.4	43.21731	-32.5738	25.2	50.59111	HORIZONTAL
1496.8	43.19081	-32.5738	25.2	50.56461	HORIZONTAL
1496.2	43.16420	-32.5738	25.2	50.53801	HORIZONTAL
1497.0	43.14403	-32.5738	25.2	50.51783	HORIZONTAL
1496.0	43.12735	-32.5738	25.2	50.50115	HORIZONTAL

Charging Mode

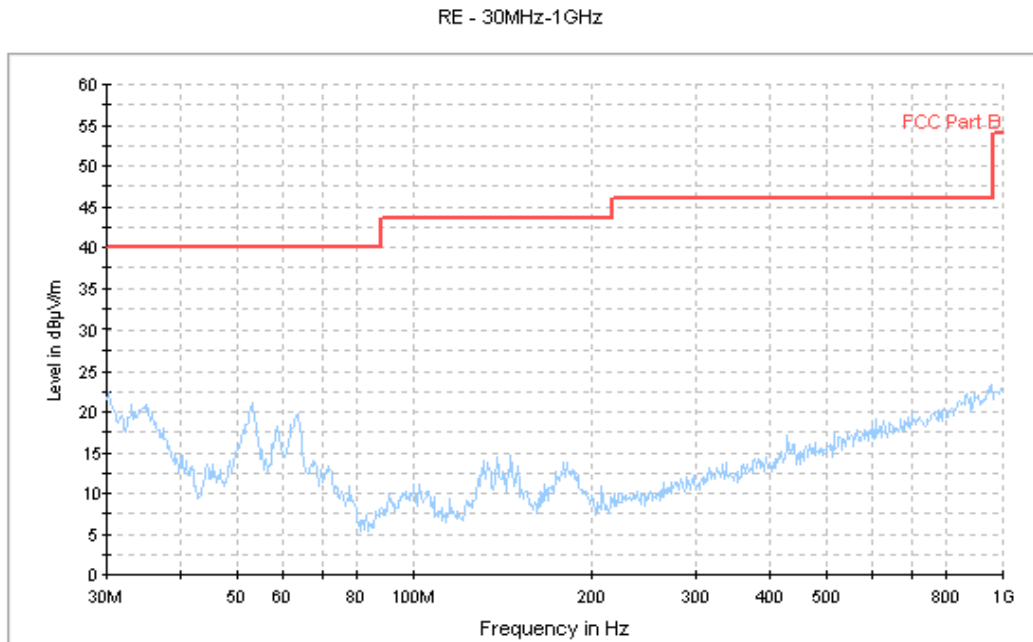


Figure A.1 Radiated Emission from 30MHz to 1GHz (Set.1, Charging mode)

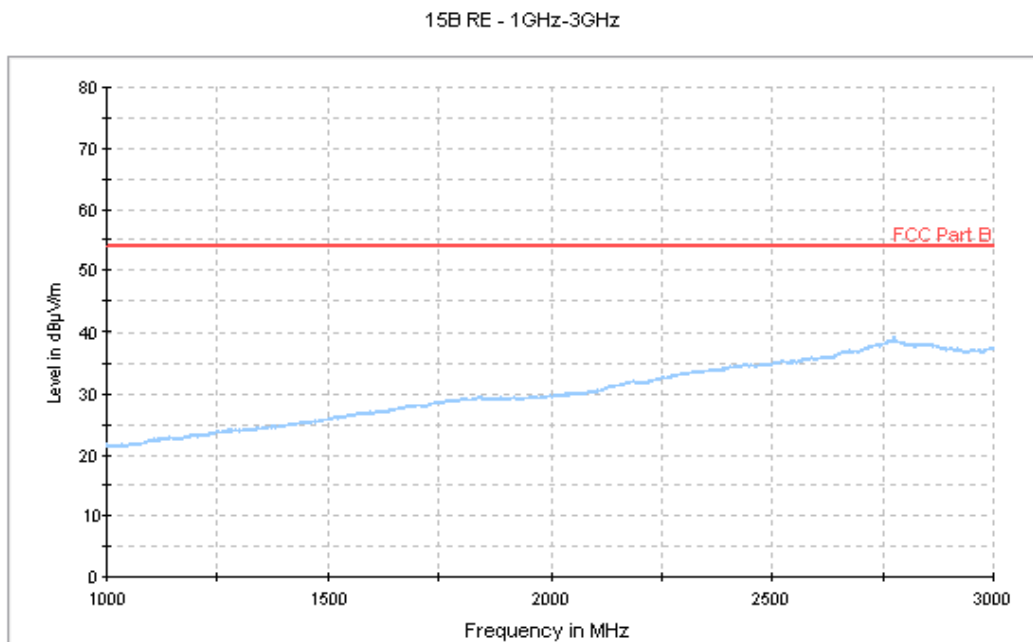


Figure A.2 Radiated Emission from 1GHz to 3GHz (Set.1, Charging mode)

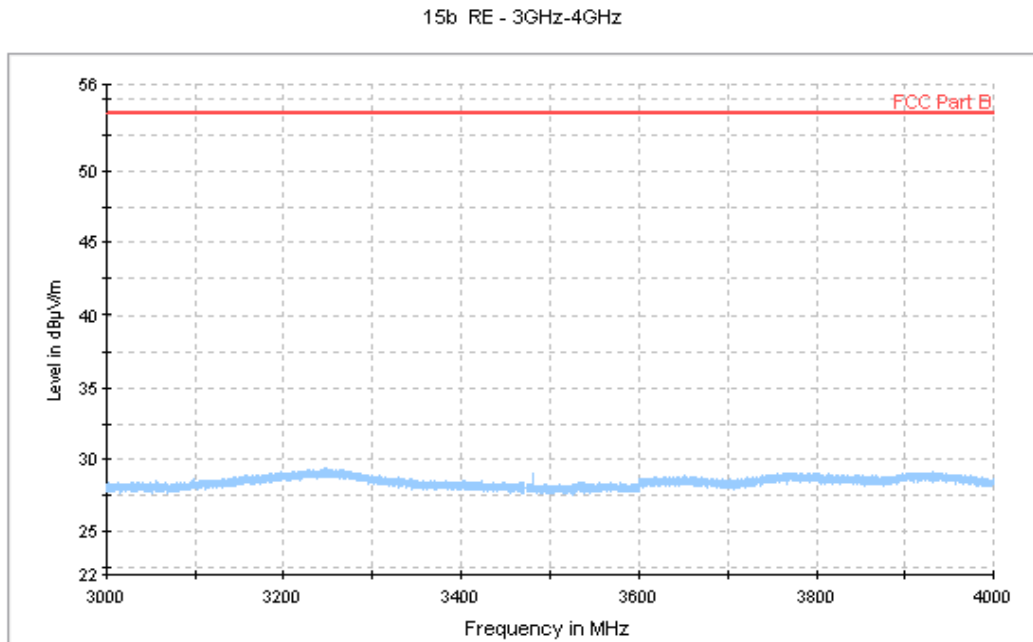


Figure A.3 Radiated Emission from 3GHz to 4GHz (Set.1, Charging mode)

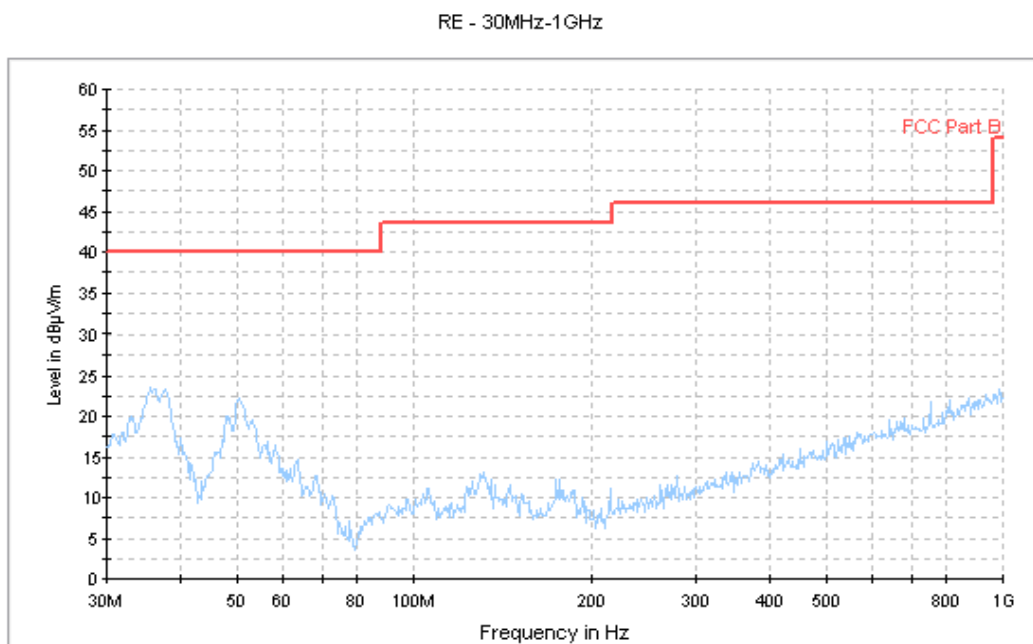


Figure A.4 Radiated Emission from 30MHz to 1GHz (Set.2, Charging mode)

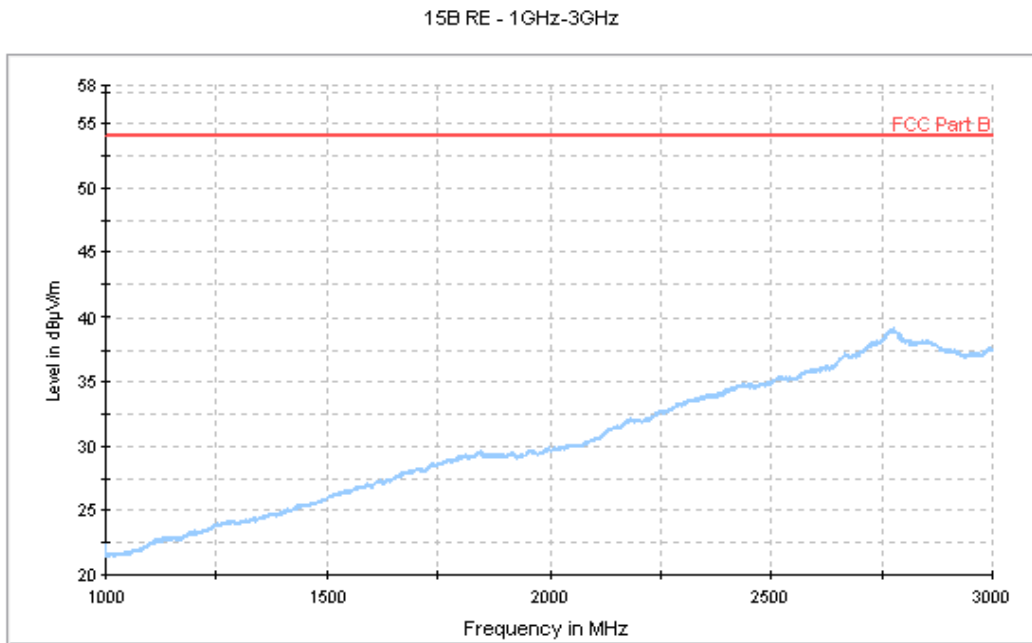


Figure A.5 Radiated Emission from 1GHz to 3GHz (Set.2, Charging mode)

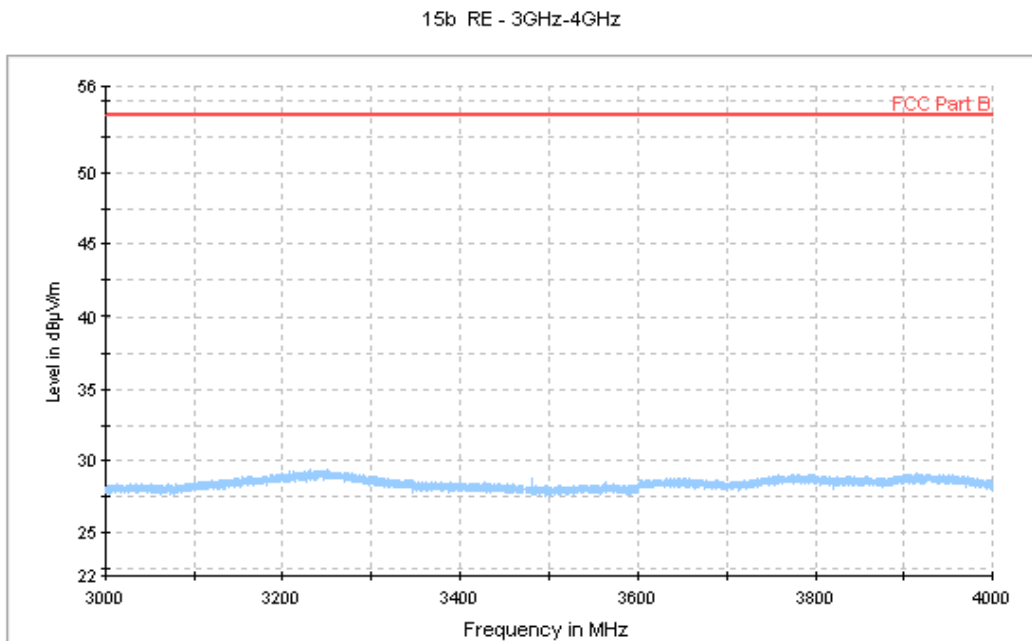


Figure A.6 Radiated Emission from 3GHz to 4GHz (Set.2, Charging mode)

USB Mode

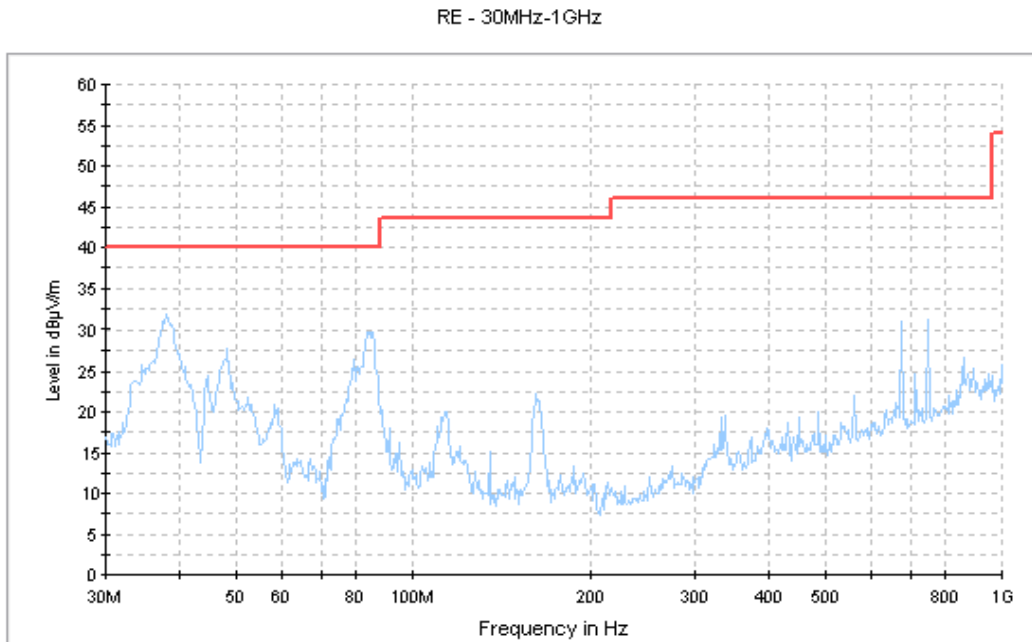


Figure A.7 Radiated Emission from 30MHz to 1GHz (Set.3,USB mode)

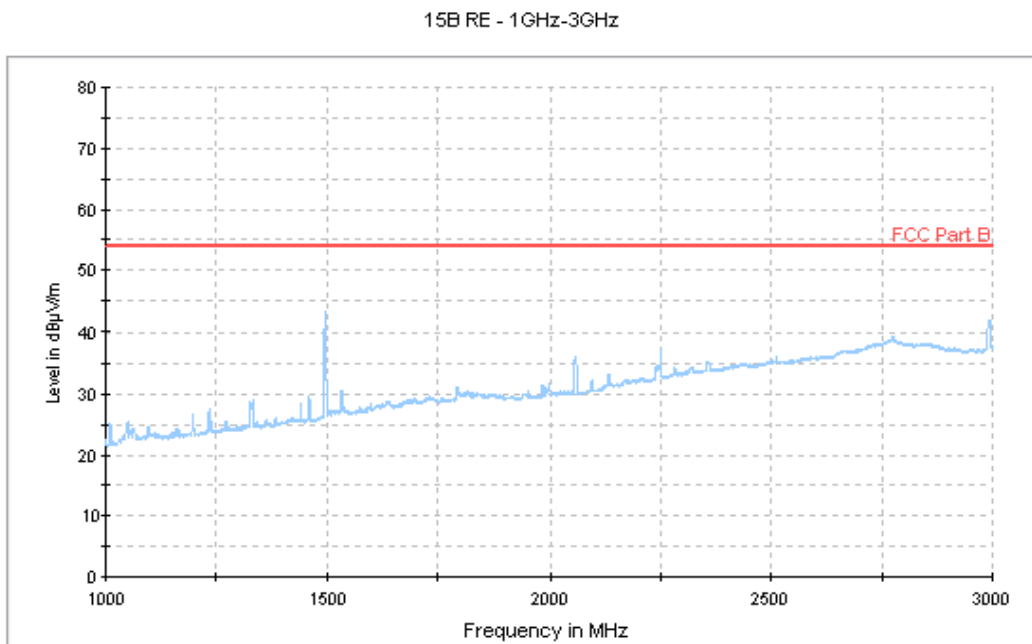


Figure A.8 Radiated Emission from 1GHz to 3GHz (Set.3,USB mode)

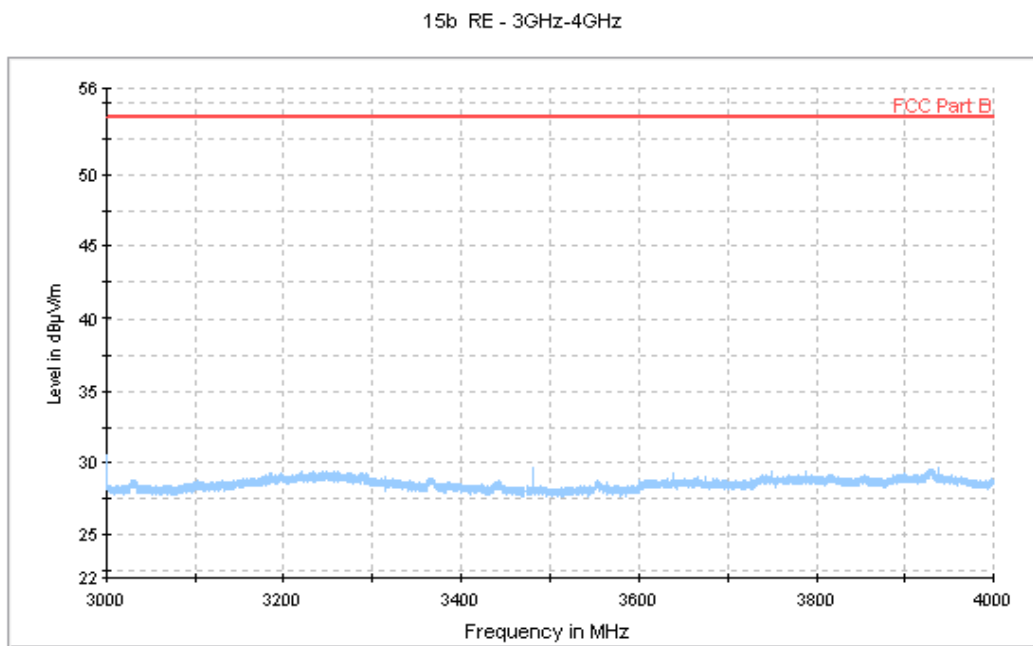


Figure A.9 Radiated Emission from 3GHz to 4GHz (Set.3,USB mode)

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 150 kHz to 30 MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 - 2003, 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 μ 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

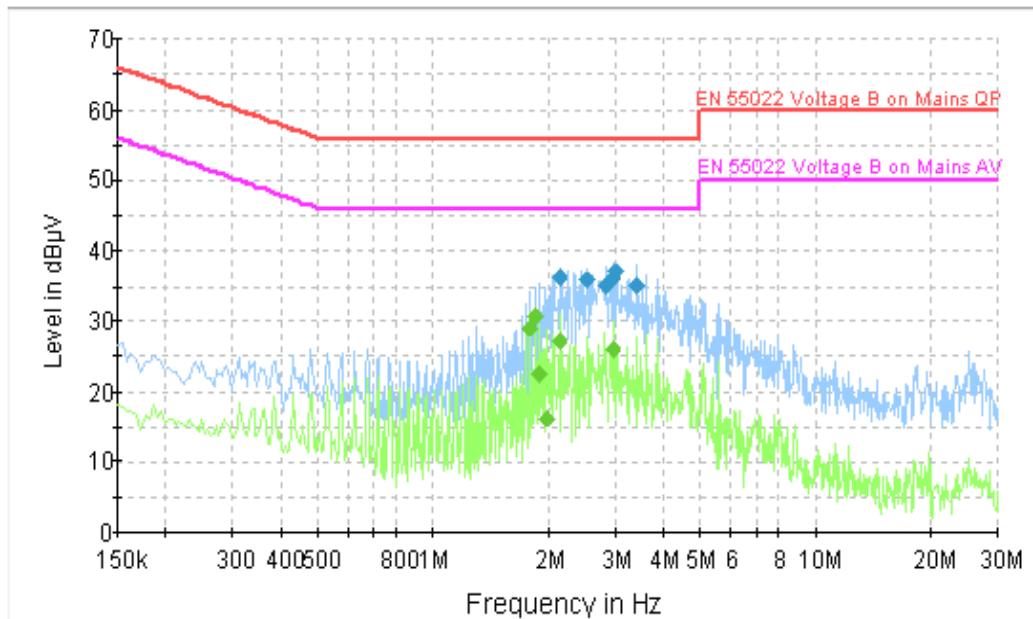


Figure A.10 Conducted Emission (Set.1, Charging mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.133973	36.2	GND	N	9.8	19.8	56.0
2.515758	35.9	GND	N	9.8	20.1	56.0
2.849840	35.2	GND	N	9.8	20.8	56.0
2.951093	36.4	GND	N	9.8	19.6	56.0
2.995581	37.0	GND	N	9.8	19.0	56.0
3.427399	35.1	GND	N	9.8	20.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.797000	28.9	GND	N	9.8	17.1	46.0
1.846500	30.6	GND	N	9.8	15.4	46.0
1.896000	22.5	GND	L1	9.8	23.5	46.0
1.986000	16.1	GND	L1	9.8	29.9	46.0
2.133973	27.3	GND	N	9.8	18.7	46.0
2.951093	25.9	GND	N	9.8	20.1	46.0

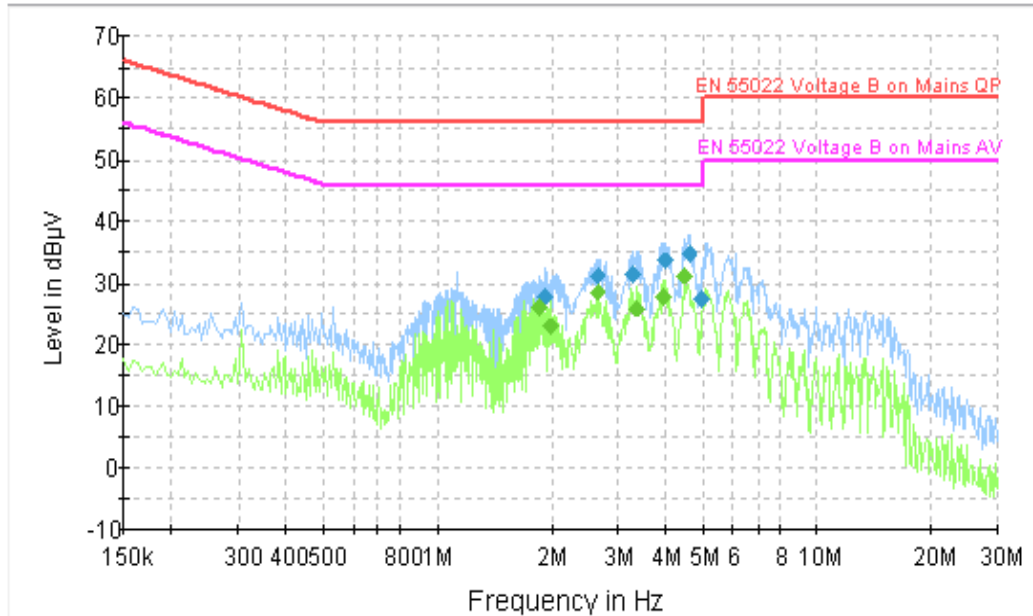


Figure A.11 Conducted Emission (Set.2, Charging mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.936500	27.8	GND	N	9.8	28.2	56.0
2.644414	31.1	GND	N	9.8	24.9	56.0
3.276952	31.4	GND	N	9.8	24.6	56.0
4.000485	33.7	GND	N	9.8	22.3	56.0
4.623048	34.7	GND	N	9.8	21.3	56.0
4.982179	27.6	GND	N	9.8	28.4	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.864500	26.0	GND	N	9.8	20.0	46.0
1.981500	22.9	GND	N	9.8	23.1	46.0
2.644414	28.5	GND	N	9.8	17.5	46.0
3.359700	25.7	GND	N	9.8	20.3	46.0
3.960778	27.8	GND	N	9.8	18.2	46.0
4.509185	31.2	GND	N	9.8	14.8	46.0

USB Mode

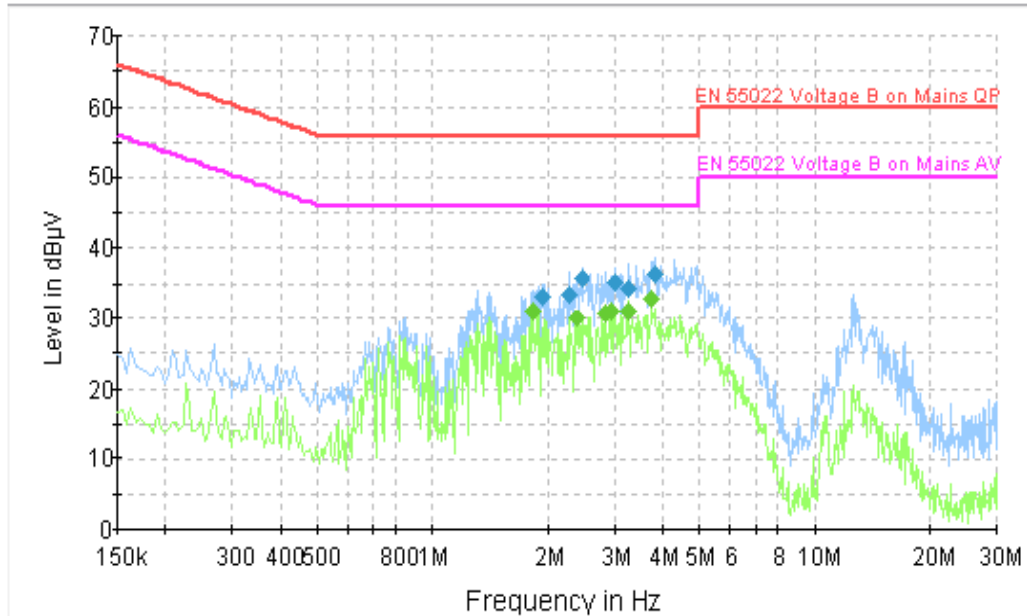


Figure A.12 Conducted Emission (Set.3, USB mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.927500	33.0	GND	L1	9.8	23.0	56.0
2.276919	33.2	GND	L1	9.8	22.8	56.0
2.453797	35.5	GND	L1	9.8	20.5	56.0
3.010559	35.1	GND	L1	9.8	20.9	56.0
3.276952	34.1	GND	N	9.8	21.9	56.0
3.805853	36.2	GND	L1	9.8	19.8	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.824000	30.8	GND	N	9.8	15.2	46.0
2.381454	29.9	GND	L1	9.8	16.1	46.0
2.821553	30.6	GND	L1	9.8	15.4	46.0
2.921802	30.9	GND	L1	9.8	15.1	46.0
3.276952	31.0	GND	N	9.8	15.0	46.0
3.768078	32.7	GND	N	9.8	13.3	46.0

END OF REPORT