



TEST REPORT

No. 2012TAR290

for

TCT Mobile Limited

GPRS dual band mobile phone

Model Name: B12C

Marketing Name: ONE TOUCH 668A

FCC ID : RAD267

with

Hardware Version: PIO

Software Version: vR12

Issued Date: 2012-05-22

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

Tel:+86(0)10-62304633 , Fax:+86(0)10-62304633 Email:welcome@emcite.com. www.emcite.com

©Copyright. All rights reserved by TMC Beijing.

CONTENTS

1. TEST LABORATORY	3
1.1. TESTING LOCATION	3
1.2. TESTING ENVIRONMENT	3
1.3. PROJECT DATA	3
1.4. SIGNATURE	3
2. CLIENT INFORMATION	4
2.1. APPLICANT INFORMATION	4
2.2. MANUFACTURER INFORMATION	4
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	5
3.1. ABOUT EUT	5
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	5
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	5
3.4. EUT SET-UPS	6
4. REFERENCE DOCUMENTS	6
4.1. REFERENCE DOCUMENTS FOR TESTING	6
5. LABORATORY ENVIRONMENT	7
6. SUMMARY OF TEST RESULTS	8
7. TEST EQUIPMENTS UTILIZED	9
ANNEX A: MEASUREMENT RESULTS	10

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

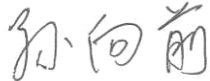
Testing Start Date: May 07, 2012
Testing End Date: May 17, 2012

1.4. Signature



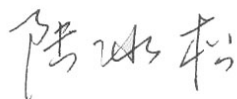
Liu Baodian

(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	GPRS dual band mobile phone
Model Name	ONE TOUCH 668A
FCC ID	RAD267
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	013234000001271	PIO	vR12

*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	Battery	/
AE2	Battery	/
AE3	Travel Adapter	/
AE4	Travel Adapter	/
AE5	USB Cable	/
AE6	USB Cable	/
AE7	USB Cable	/
AE8	USB Cable	/

AE1

Model	CAB22D0000C1
Manufacturer	BYD
Capacitance	650mAh
Nominal Voltage	3.7V

AE2

Model	CAB22B0000C1
Manufacturer	BYD
Capacitance	750mAh
Nominal Voltage	3.7V

AE3

Model	CBA3002AG0C1
Manufacturer	BYD
Length of DC line	120cm

AE4

Model	CBA3002AG0C3
Manufacturer	YINGJU
Length of DC line	120cm

AE5

Model CDA3122002C1
 Manufacturer Juwei
 Length of headset line 100cm

AE6

Model CDA3122002C2
 Manufacturer Shenhua
 Length of headset line 100cm

AE7

Model CDA3122005C1
 Manufacturer Juwei
 Length of headset line 100cm

AE8

Model CDA3122005C2
 Manufacturer Shenhua
 Length of headset 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/AE2+AE3	Charging
Set.2	EUT1+ AE1/AE2+AE4	Charging
Set.3	EUT1+ AE1/AE2+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. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 1 Ω
Normalised site attenuation (NSA)	< ±3.5 dB, 3 m 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. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
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	> 2MΩ
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
2771.400	38.446	-26.3	33.8	30.946	VERTICAL
2779.800	38.441	-26.3	33.8	30.941	VERTICAL
2774.000	38.429	-26.3	33.8	30.929	VERTICAL
2778.000	38.427	-26.3	33.8	30.927	HORIZONTAL
2777.000	38.421	-26.3	33.8	30.921	HORIZONTAL
2777.800	38.417	-26.3	33.8	30.917	HORIZONTAL

Charging Mode(Set.2)

Frequency(MHz)	Result(dBuV/m)	G_{PL} (dB)	F_A (dB/m)	P_{Mea} (dBuV)	Polarity
2775.600	38.640	-26.3	33.8	31.140	VERTICAL
2779.000	38.545	-26.3	33.8	31.045	VERTICAL
2777.000	38.543	-26.3	33.8	31.043	HORIZONTAL
2782.200	38.506	-26.3	33.8	31.006	HORIZONTAL
2779.400	38.452	-26.3	33.8	30.952	VERTICAL
2780.600	38.411	-26.3	33.8	30.911	HORIZONTAL

USB Mode

Frequency(MHz)	Result(dBuV/m)	G_{PL} (dB)	F_A (dB/m)	P_{mea} (dBuV)	Polarity
2991.400	42.272	-28.3	34.1	36.472	VERTICAL
2992.600	42.203	-28.3	34.1	36.403	VERTICAL
2991.800	42.179	-28.3	34.1	36.379	VERTICAL
2991.600	42.174	-28.3	34.1	36.374	VERTICAL
2992.000	42.155	-28.3	34.1	36.355	VERTICAL
2991.200	42.124	-28.3	34.1	36.324	VERTICAL

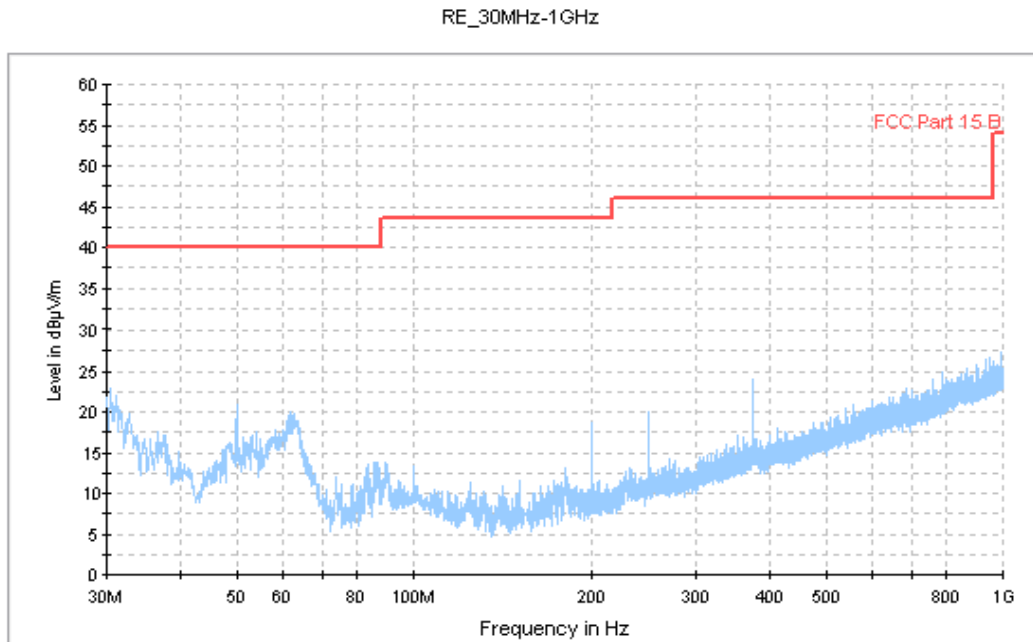


Figure A.1 Radiated Emission from 30MHz to 1GHz(Set.1 Charging Mode)

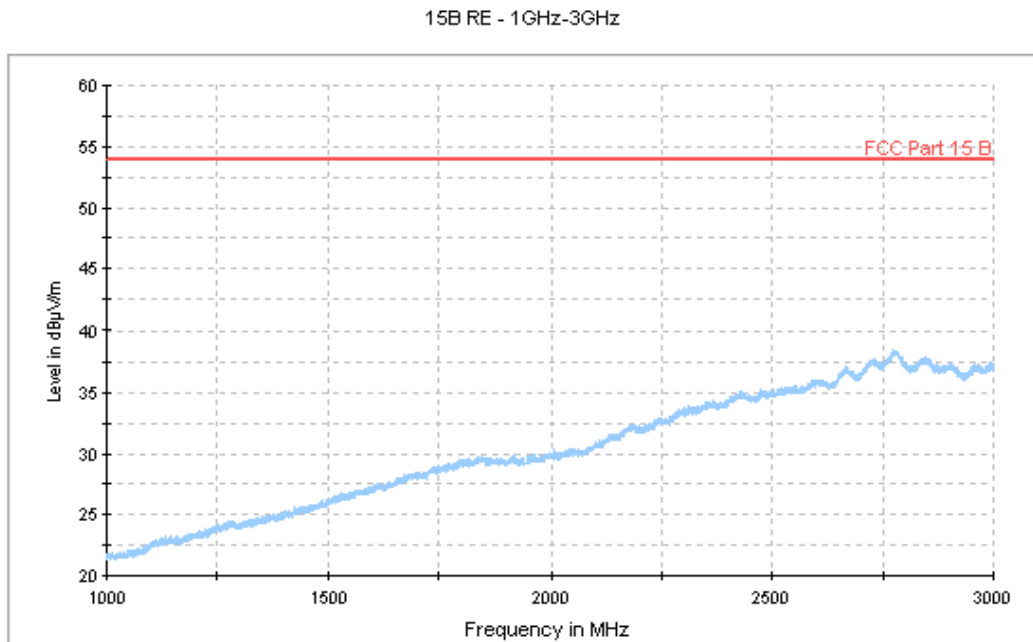


Figure A.2 Radiated Emission from 1GHz to 3GHz(Set.1 Charging Mode)

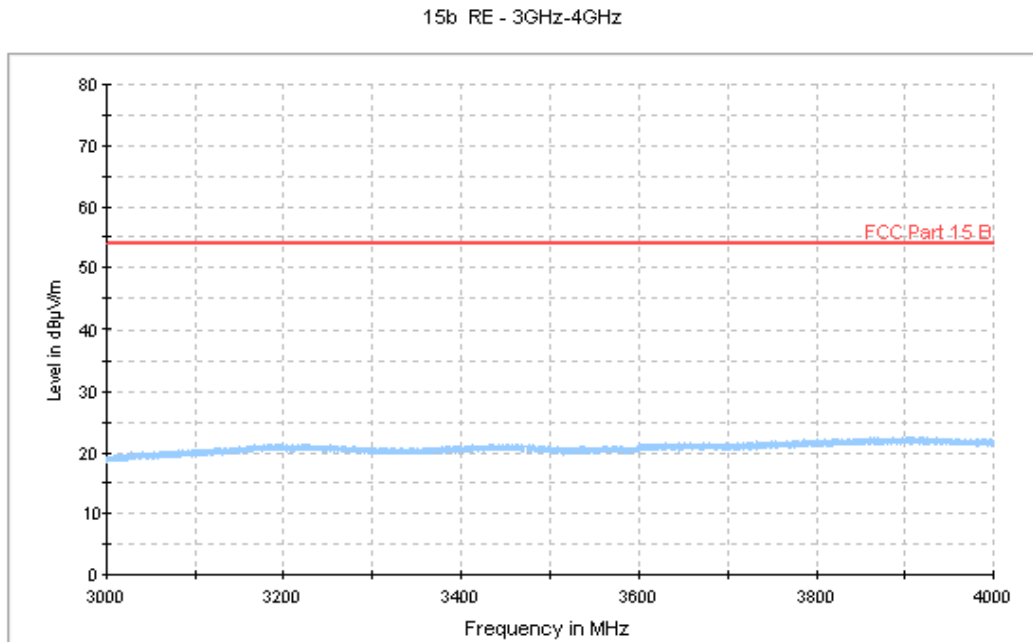


Figure A.3 Radiated Emission from 3GHz to 4GHz(Set.1 Charging Mode)

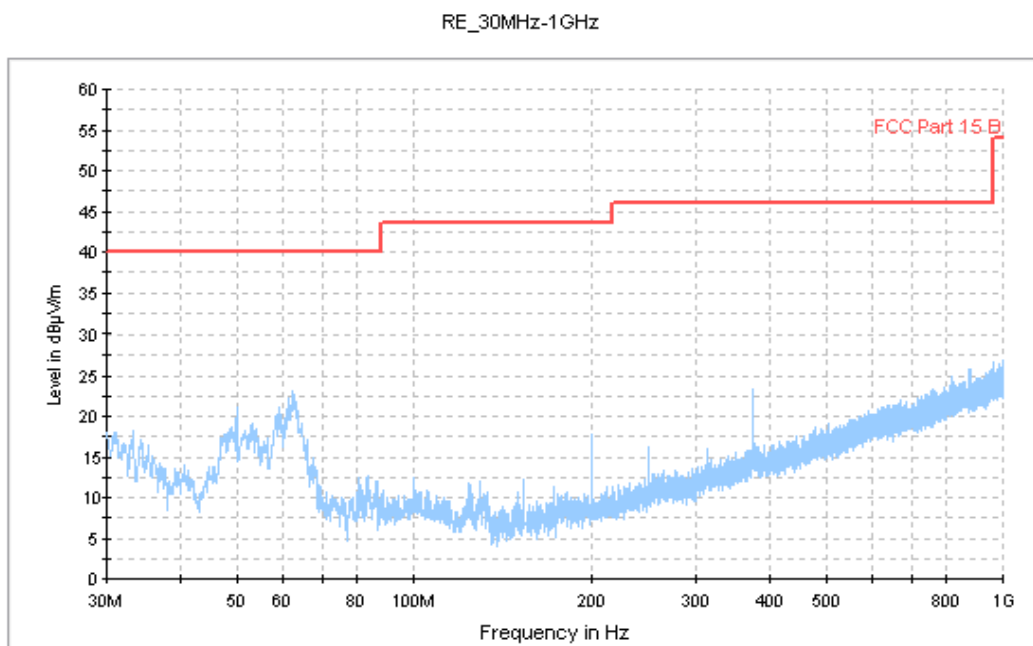


Figure A.4 Radiated Emission from 30MHz to 1GHz(Set.2 Charging Mode)

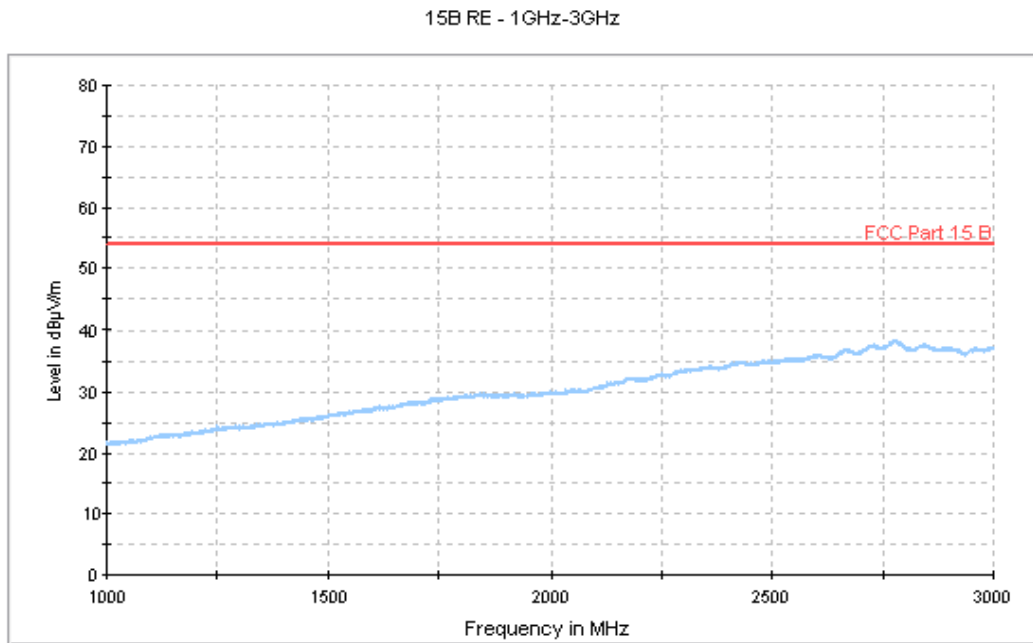


Figure A.5 Radiated Emission from 1GHz to 3GHz(Set.2 Charging Mode)

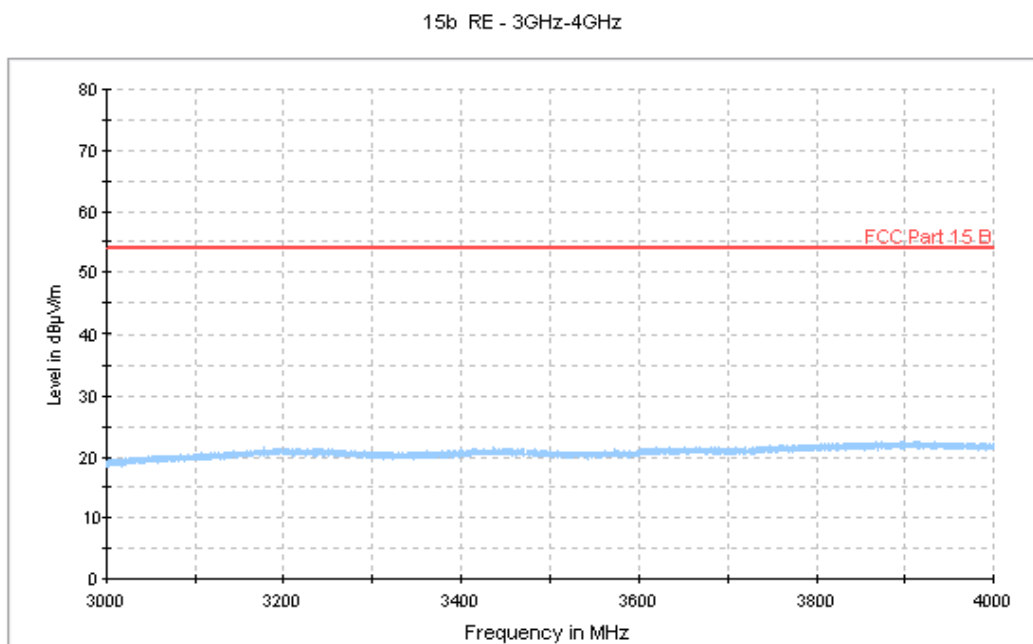


Figure A.6 Radiated Emission from 3GHz to 4GHz(Set.2 Charging Mode)

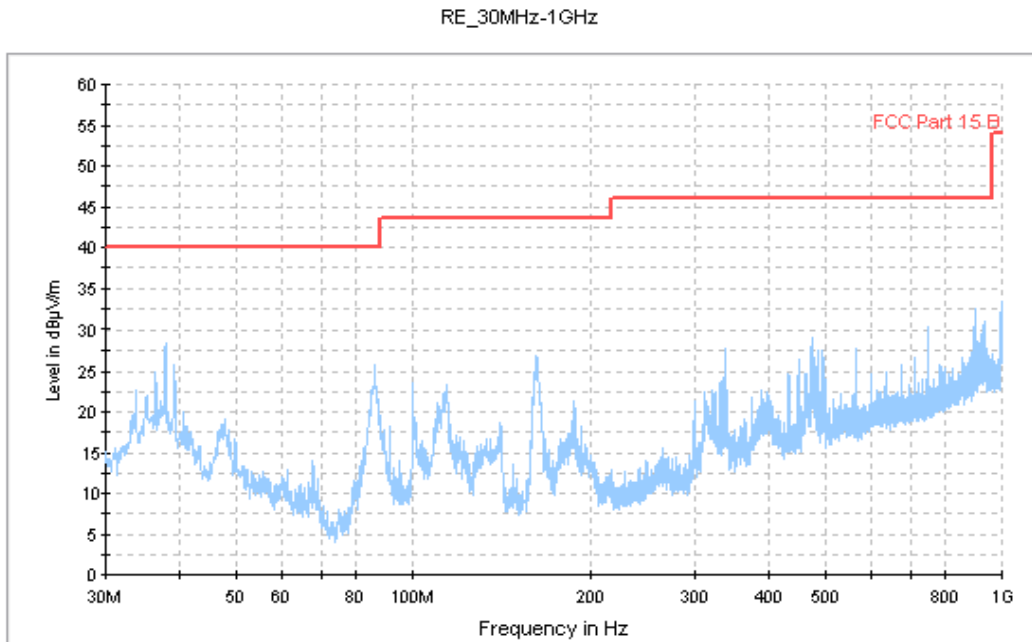


Figure A.7 Radiated Emission from 30MHz to 1GHz(Set.3 USB Mode)

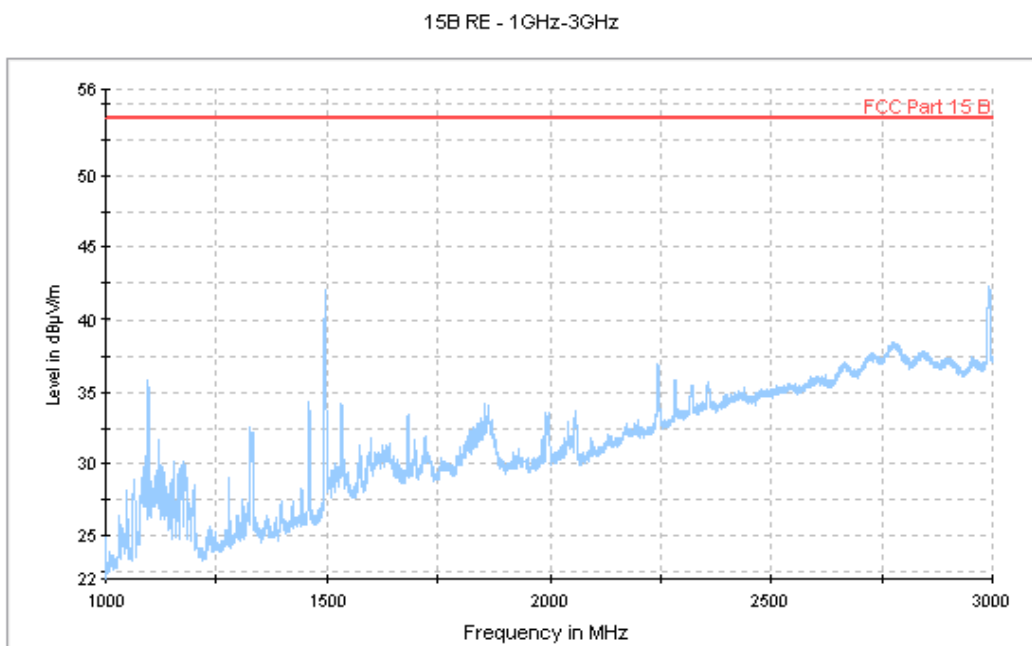


Figure A.8 Radiated Emission from 1GHz to 4GHz(Set.3 USB Mode)

15b RE - 3GHz-4GHz

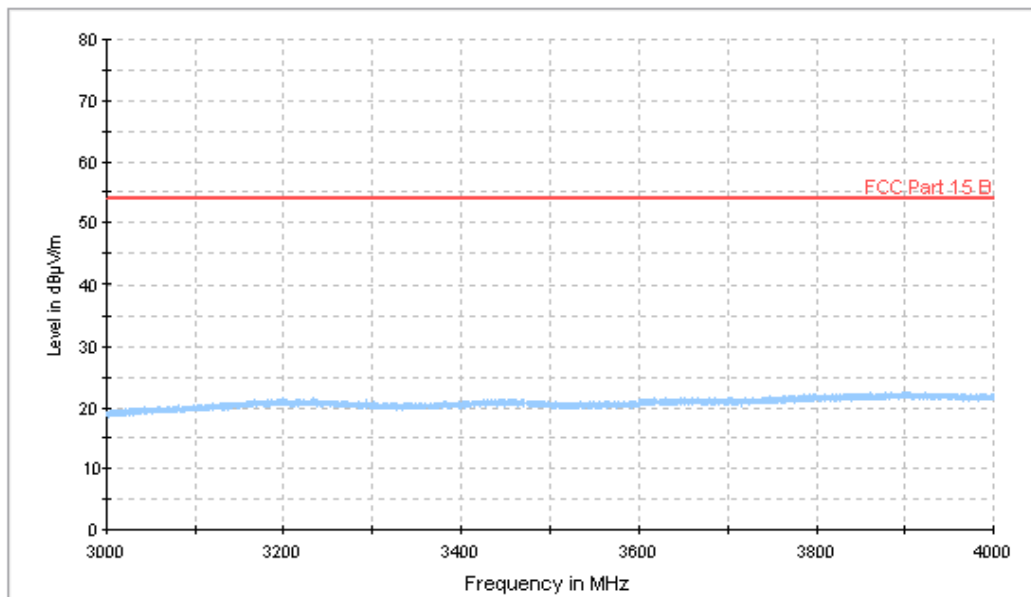


Figure A.9 Radiated Emission from 1GHz to 4GHz(Set.3 USB Mode)

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

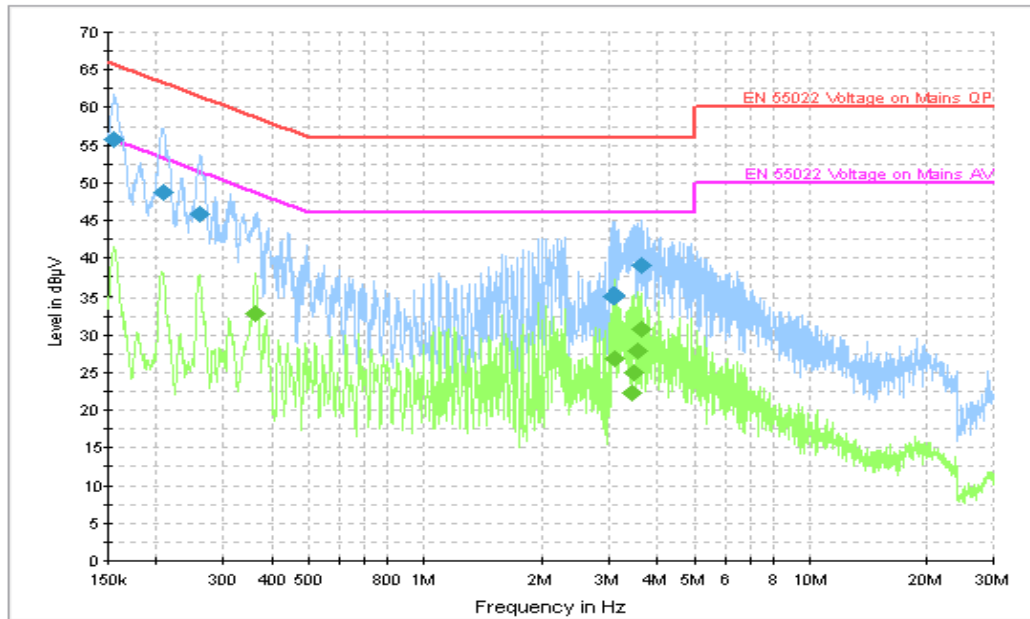


Figure A.10 Conducted Emission(Set.1 Charging Mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.155956	55.7	GND	L1	10.2	10.0	65.7
0.209168	48.8	GND	L1	10.2	14.4	63.2
0.259515	45.7	GND	L1	10.2	15.7	61.4
3.044591	35.1	GND	L1	10.4	20.9	56.0
3.099806	35.2	GND	L1	10.4	20.8	56.0
3.644055	39.0	GND	L1	10.4	17.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.361881	32.8	GND	N	10.2	15.9	48.7
3.099806	26.8	GND	L1	10.4	19.2	46.0
3.432150	22.3	GND	L1	10.4	23.7	46.0
3.483942	24.9	GND	L1	10.4	21.1	46.0
3.536516	28.0	GND	L1	10.4	18.0	46.0
3.644055	30.7	GND	L1	10.4	15.3	46.0

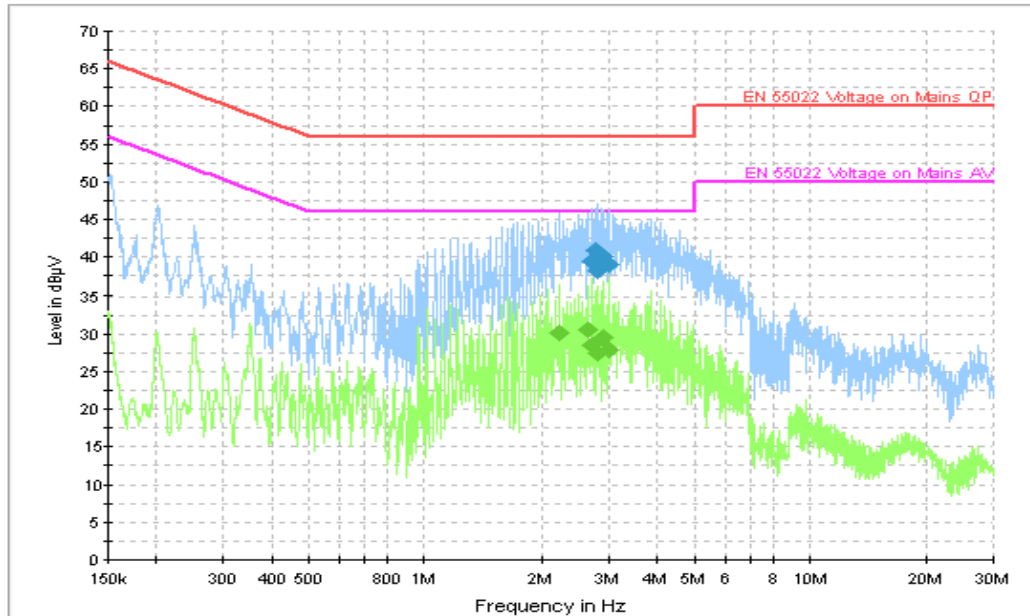


Figure A.11 Conducted Emission(Set.2 Charging Mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.700795	39.4	GND	L1	10.4	16.6	56.0
2.758025	40.9	GND	L1	10.4	15.1	56.0
2.799644	38.3	GND	L1	10.4	17.7	56.0
2.858968	40.2	GND	L1	10.4	15.8	56.0
2.902111	40.1	GND	L1	10.4	15.9	56.0
3.008328	39.1	GND	L1	10.4	16.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.222957	30.2	GND	L1	10.4	15.8	46.0
2.644753	30.6	GND	L1	10.4	15.4	46.0
2.700795	28.5	GND	L1	10.4	17.5	46.0
2.799644	27.4	GND	L1	10.4	18.6	46.0
2.902111	29.5	GND	L1	10.4	16.5	46.0
3.008328	27.9	GND	L1	10.4	18.1	46.0

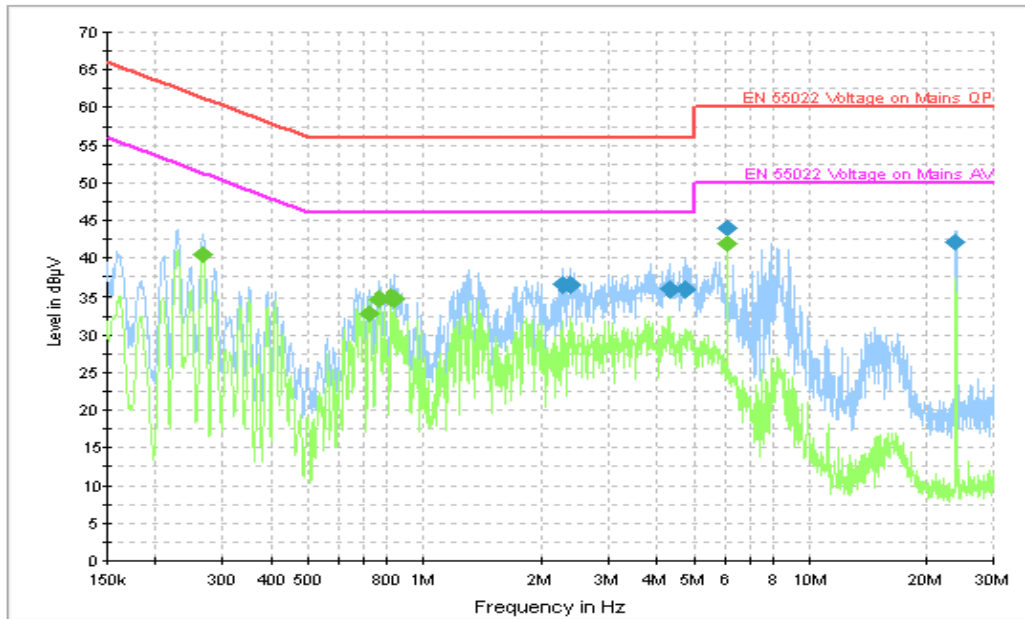


Figure A.12 Conducted Emission(Set.3 USB Mode)

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.270061	36.5	GND	L1	10.4	19.5	56.0
2.374387	36.5	GND	L1	10.4	19.5	56.0
4.296712	35.9	GND	L1	10.4	20.1	56.0
4.714821	35.9	GND	L1	10.5	20.1	56.0
6.100219	44.1	GND	N	10.5	15.9	60.0
23.981249	42.1	GND	L1	11.0	17.9	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.265809	40.4	GND	L1	10.2	10.8	51.2
0.725073	32.9	GND	L1	10.3	13.1	46.0
0.762953	34.7	GND	L1	10.3	11.3	46.0
0.819823	34.8	GND	L1	10.3	11.2	46.0
0.839707	34.6	GND	L1	10.3	11.4	46.0
6.100219	41.8	GND	N	10.5	8.2	50.0

END OF REPORT