TEST REPORT

No. 2013EEB00534-EMC

for

XOX Technology Limited

GSM dual mobile phone

Model Name: Icon

Marketing Name: XOX

FCC ID: 2ABBT-XOX-ICON

with

Hardware Version: V0.3

Software Version: V01-130724-1127

Issued Date: 2013-11-29

Test Laboratory:

FCC 2.948 Listed: No.310359

IC O.A.T.S listed: No.6629C-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.

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1. Test Laboratory

1.1. Testing Location

Company Name:	TMC Shenzhen, Telecommunication Metrology Center of MIIT
Address:	No. 12 Building, Shangsha Innovation and Technology Park, Futian District
Postal Code:	518048
Telephone:	+86(0)755-33322000
Fax:	+86(0)755-33322001

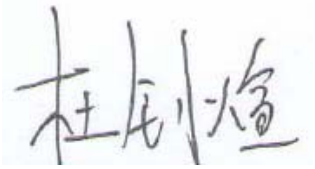
1.2. Testing Environment

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

1.3. Project data

Testing Start Date:	2013-11-12
Testing End Date:	2013-11-25

1.4. Signature



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Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	XOX Technology Limitedb
Address /Post:	20/F, York House, The Landmark 15 Queen's Road Central, Hong Kong
City:	Hong Kong
Country:	CHINA
Telephone:	+852 69522170

2.2. Manufacturer Information

Company Name:	Matsunichi Digital Technology (Shen zhen) Limited
Address /Post:	21/F, No.9996, Shen Nan Boulevard, Nan Shan District, Shenzhen, China
City:	Shenzhen
Postal Code:	518000
Country:	CHINA
Telephone:	150 0755 6476

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

3.1. About EUT

Description	GSM dual mobile phone
Model Name	ICON
FCC ID	2ABBT-XOX-ICON

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N01		V0.3	V01-130724-1127

*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	Travel charger	/
AE3	USB cable	/

AE1-1

Model	XB-065A
Manufacturer	Tianshuo Battery Technology Co., Ltd.
Capacitance	650mAh
Nominal voltage	3.7V

AE1-2

Model	XB-065A
Manufacturer	Tianshuo Battery Technology Co., Ltd.
Capacitance	650mAh
Nominal voltage	3.7V

AE2

Model	TN0500500D-08
Manufacturer	TAILING TECHNOLOGY LTD
Length of cable	101cm

AE3

Model	/
Manufacturer	/
Length of cable	101cm

*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	Charging mode
Set.2	EUT1+ AE1 + AE3	USB mode

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	10-1-2012 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 (11.20 meters×6.10meters×5.60meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 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 ℃, Max. = 35 ℃
Relative humidity	Min. =20 %, Max. = 80 %
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 ℃, Max. = 30 ℃
Relative humidity	Min. =35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber (11.20 meters×6.10 meters×6.60 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2MΩ
Ground system resistance	< 0.5 Ω
Voltage Standing Wave Ratio （VSWR）	≤ 6 dB, from 1 to 6 GHz，3 m distance

6. SUMMARY OF TEST RESULTS

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

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	A.1	P
2	Conducted Emission	15.107(a)	A.2	P

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CAL PERIOD
1	Test Receiver	ESCI	100701	R&S	2014.07.31	1 year
2	Test Receiver	ESCI	100702	R&S	2014.07.31	1 year
3	Test Receiver	FSP 40	100378	R&S	2013.12.21	1 year
4	BiLog Antenna	VULB9163	9163 330	Schwarzbeck	2014.02.24	3 years
5	LISN	ESH2-Z5	100196	R&S	2014.01.23	1 year
6	Dual-Ridge Waveguide Horn Antenna	3117	00066577	ETS-Lindgren	2016.04.01	3 years
7	Universal Radio Communication Tester	CMU200	114545	R&S	2014.03.31	1 year

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: CFR Part 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.

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.

A.1.2 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 Lenovo Thinkcentre M4099t, and the serial number of the PC is SA08850737. 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

Limit from CFR Part 15.109(a)

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

*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

A.1.4 Test Condition

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	120kHz (IF bandwidth)	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”. It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

Result = $P_{Mea} + A_{Rpl} = P_{Mea} + G_A + G_{PL}$

Where

G_A: Antenna factor of receive antenna

G_{PL}: Path Loss

P_{Mea}: Measurement result on receiver.

Note: the result contains vertical part and Horizontal part

Set.1 Charging mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea}(dBuV)	Polarity
1050	30.9	-5.8	36.7	V
1276	29.5	-4.4	33.9	V
1865	33.2	-0.1	33.3	V
2357	36.7	1.7	35	V
3137	34.1	3.2	30.9	V
3239.875	34.8	3.3	31.5	V

Set.2 USB mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{Mea}(dBuV)	Polarity
1500	43.7	-3.4	47.1	V
3000	39.1	3	36.1	H
3657.75	44	3.8	40.2	V
3679.5	40.1	3.8	36.3	V
3777.75	42.1	4.2	37.9	V
3901.25	39.2	4.4	34.8	V

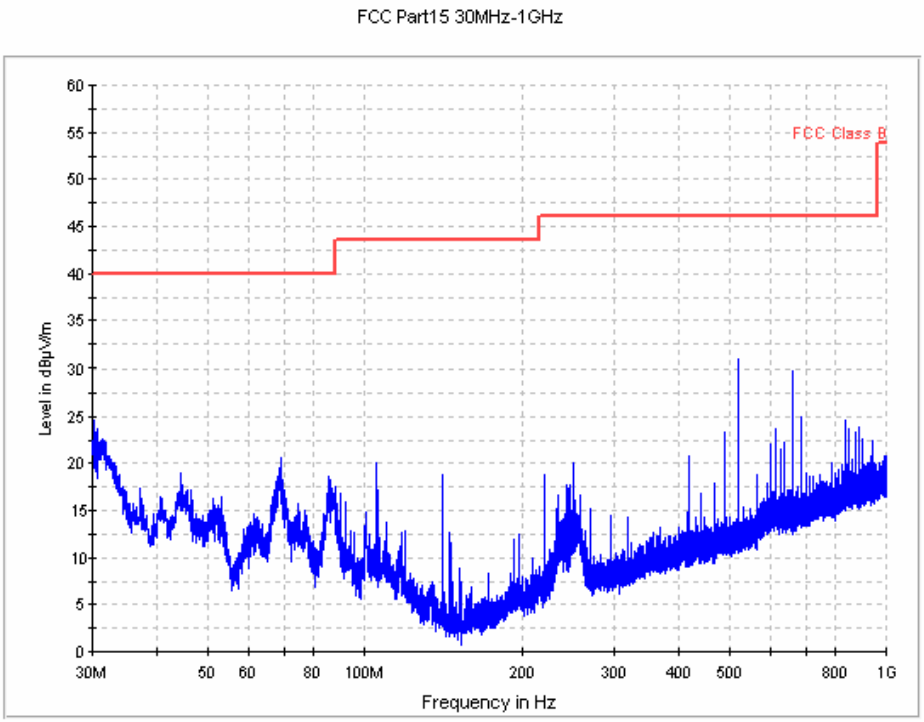

Figure A.1 Radiated Emission from 30MHz to 1GHz (Set.1, Charging mode)

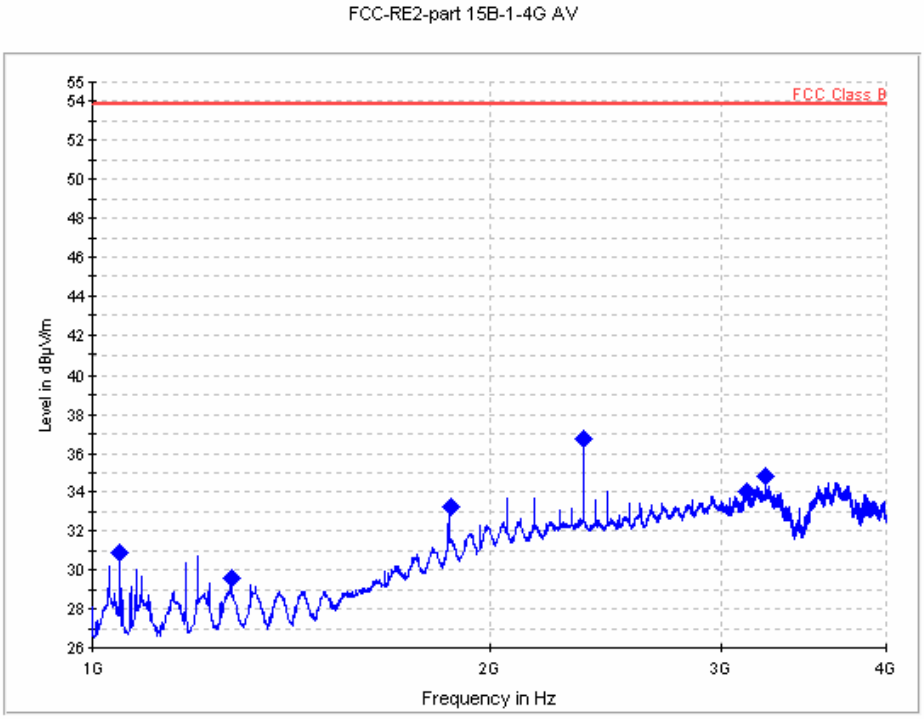

Figure A.2 Radiated Emission from 1GHz to 4GHz (Set.1, Charging mode)

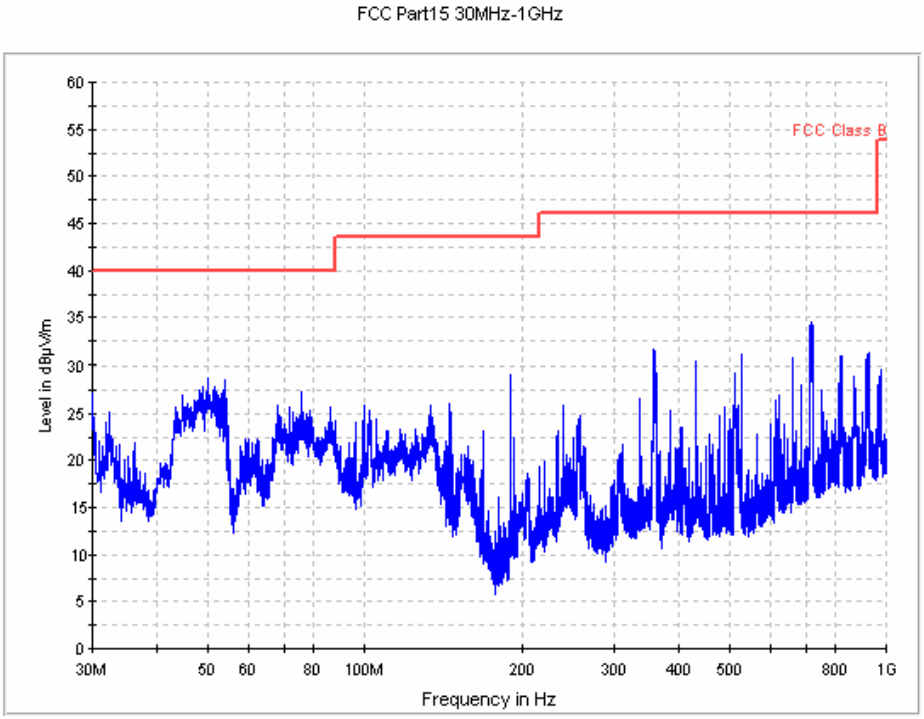

Figure A.3 Radiated Emission from 30MHz to 1GHz (Set.2, USB mode)

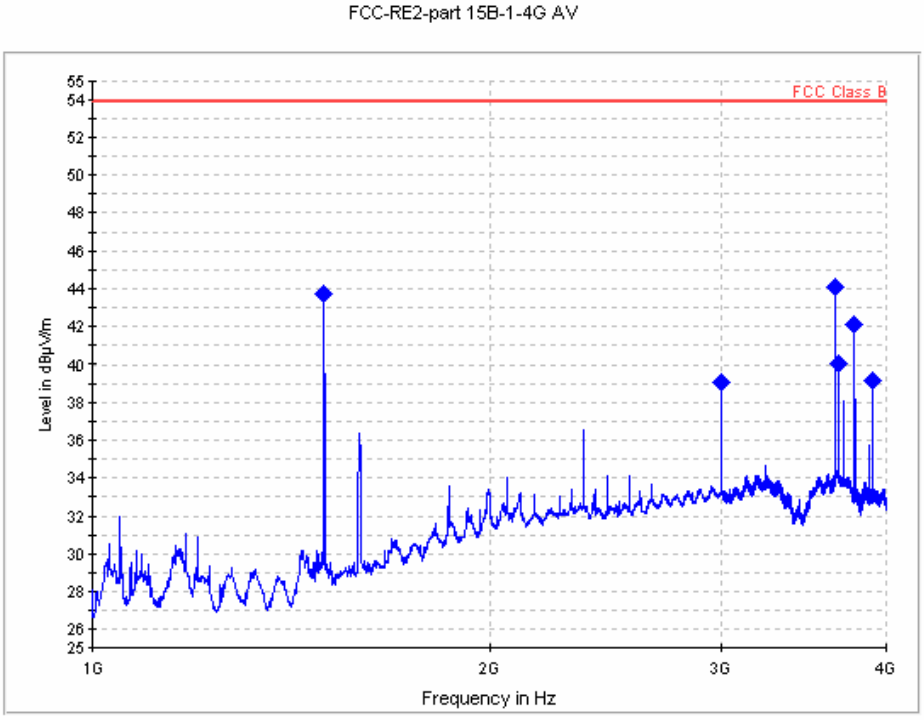

Figure A.4 Radiated Emission from 1GHz to 4GHz (Set.2, USB mode)

A.2 Conducted Emission (§15.107(a))

Reference

FCC: CFR Part 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 Lenovo Thinkcentre M4099t, and the serial number of the PC is SA08850737. 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 (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		

A.2.4 Test Condition in charging mode

Voltage（V）	Frequency（Hz）
120	60

RBW	Sweep Time(s)
9kHz	1

A.2.5 Measurement Results

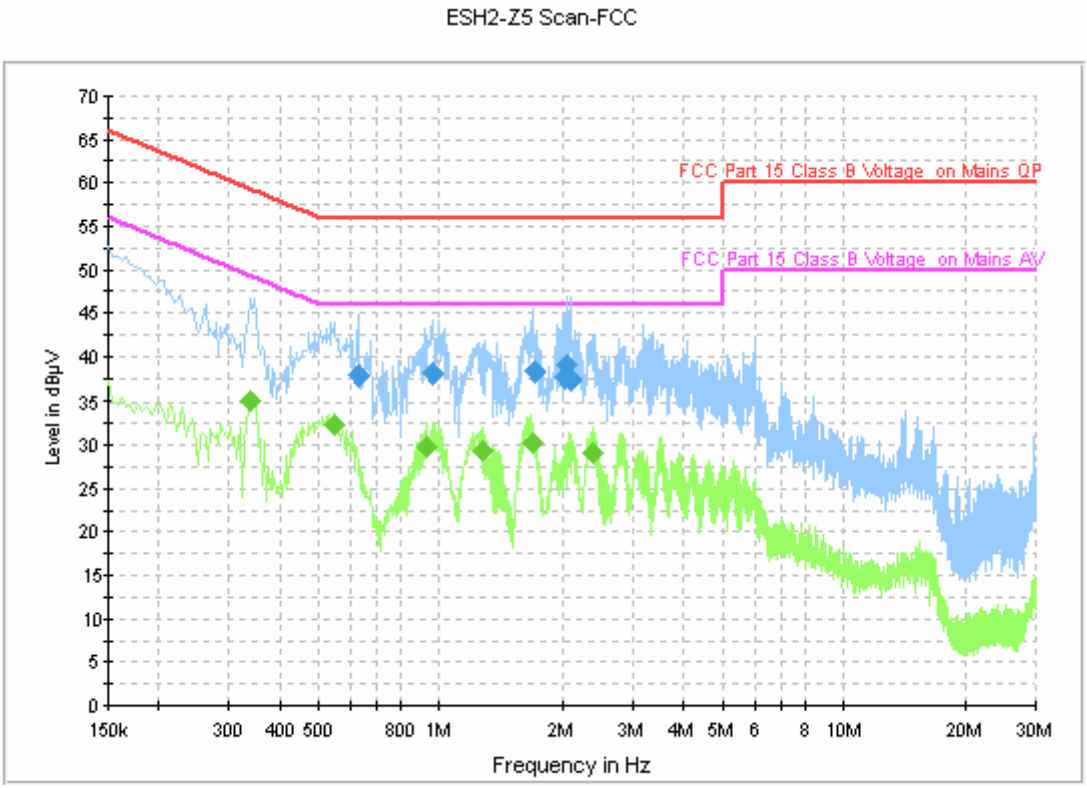

Figure A.5 Conducted Emission (Set.1, Charging mode)

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.626000	37.8	FLO	N	10.0	18.2	56.0
0.962000	38.2	FLO	N	10.1	17.8	56.0
1.710000	38.3	FLO	N	10.1	17.7	56.0
2.030000	37.6	FLO	N	10.1	18.4	56.0
2.050000	38.9	FLO	N	10.1	17.1	56.0
2.094000	37.3	FLO	N	10.2	18.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.338000	35.0	FLO	L1	10.0	14.2	49.3
0.546000	32.5	FLO	L1	10.1	13.5	46.0
0.930000	29.8	FLO	L1	10.1	16.2	46.0
1.282000	29.2	FLO	L1	10.1	16.8	46.0
1.694000	30.4	FLO	L1	10.1	15.6	46.0
2.370000	29.1	FLO	L1	10.1	16.9	46.0

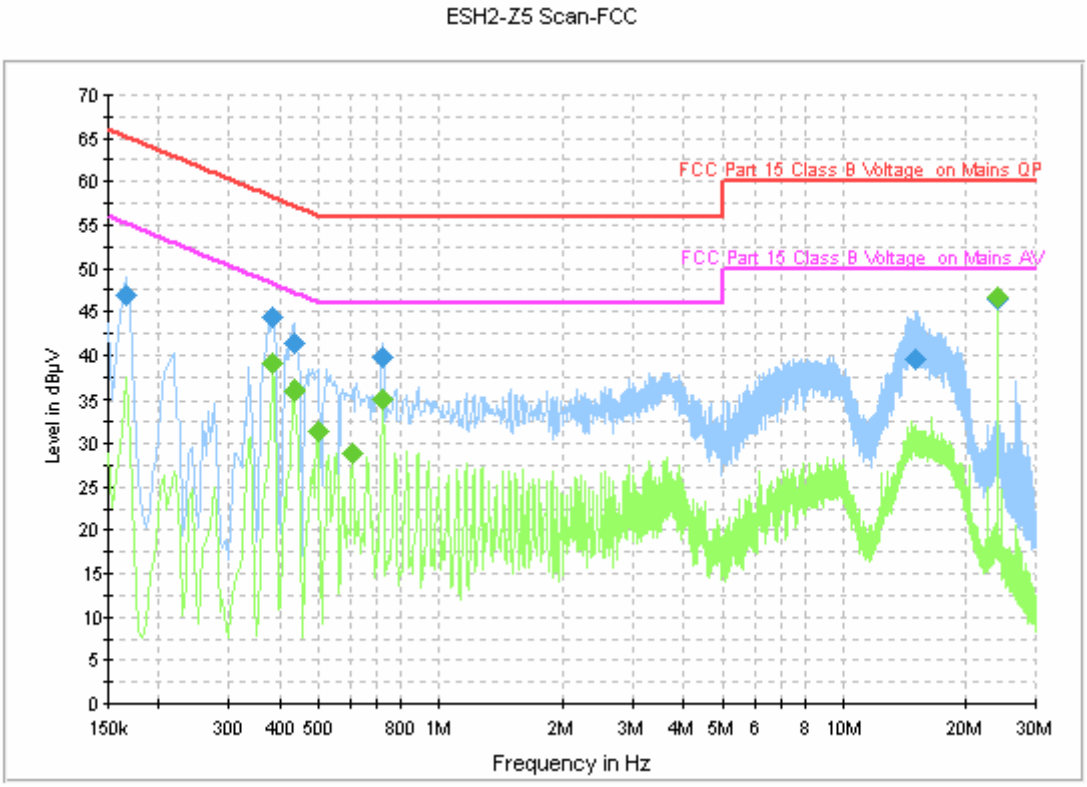

Figure A.6 Conducted Emission (Set.2, USB mode)

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	46.8	FLO	L1	10.0	18.3	65.2
0.386000	44.5	FLO	N	10.0	13.7	58.1
0.434000	41.4	FLO	N	10.1	15.8	57.2
0.722000	39.7	FLO	L1	10.0	16.3	56.0
14.994000	39.5	FLO	L1	10.5	20.5	60.0
24.002000	46.4	FLO	N	10.6	13.6	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.386000	39.1	FLO	N	10.0	9.1	48.1
0.434000	36.0	FLO	N	10.1	11.1	47.2
0.498000	31.4	FLO	L1	10.0	14.7	46.0
0.606000	28.8	FLO	L1	10.0	17.2	46.0
0.722000	35.1	FLO	L1	10.0	11.0	46.0
24.002000	46.6	FLO	N	10.6	3.4	50.0

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