TEST REPORT

No. I15Z42353-EMC01

for

TCL Communication Ltd.

Go Flip

Model Name: 4043S

FCC ID: 2ACCJA007

with

Hardware Version: PIO1

Software Version: 4F25

Issued Date: 2015-11-05

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 CTTL.

Test Laboratory:

FCC 2.948 Listed: No.525429

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

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

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: cttl_terminals@catr.cn, website: www.chinattl.com

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z42353-EMC01	Rev.0	1st edition	2015-11-05

CONTENTS

1. Test Laboratory

1.1. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

1.2. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2015-09-23

Testing End Date: 2015-09-24

1.4. Signature

Zhang Hui
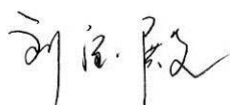
(Prepared this test report)

Qu Pengfei

(Reviewed this test report)

Liu Baodian

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China.
City:	Shanghai
Postal Code:	201203
Country:	China
Contact Person:	Gong Zhizhou
Contact Email	zhizhou.gong@tcl.com
Telephone:	0086-21-51798260
Fax:	0086-21-61460602

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China.
City:	Shanghai
Postal Code:	201203
Country:	China
Telephone:	0086-21-51798260
Fax:	0086-21-61460602

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

3.1. About EUT

Description	Go Flip
Model Name	4043S
FCC ID	2ACCJA007
Extreme vol. Limits	3.45VDC 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 MIIT 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
EUT3	353462070027854	PIO1	4F25

*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	Remarks
AE1	Battery	/	15TCT-BA-0618
AE2	Battery	/	15TCT-BA-0622
AE3	Battery	/	15TCT-BA-0616
AE4	Battery	/	15TCT-BA-0626
AE5	Battery	/	15TCT-BA-0621
AE6	USB cable	/	15TCT-DC-0278
AE7	USB cable	/	15TCT-DC-0287
AE8	USB cable	/	15TCT-DC-0283
AE9	USB cable	/	15TCT-DC-0280
AE10	Travel charger	/	15TCT-CH-1125
AE11	Travel charger	/	15TCT-CH-1131
AE12	Travel charger	/	15TCT-CH-1128
AE13	Travel charger	/	15TCT-CH-1124
AE14	Docking station	/	/

AE1, AE2, AE3, AE4, AE5

Model	CAB1780000C2
Manufacturer	SCUD
Capacitance	1780 mAh
Nominal voltage	3.8 V

AE6, AE7, AE8, AE9

Model	CDA3122001C2
Manufacturer	/
Length of cable	148cm

AE10, AE11, AE12, AE13

Model	CBA0058AG1C1
Manufacturer	Ten Pao
Length of cable	/

AE14

Model	DS4043
PN	CBC0022AA0C2
Manufacturer	TCT Mobile Limited

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

3.4. <u>EUT set-ups</u>

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT3+ AE1+ AE6+AE10	Charger
Set.2	EUT3+ AE1+ AE6	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 - Unintentional Radiators	10-1-13 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	2014

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber SAC-1 (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	**<** ±4 dB, 10 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 6GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

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

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz－1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:		
Verdict Column	P	Pass
	NA	Not applicable
	F	Fail
Location Column	1/2/3/4	The test is performed in test location 1, 2, 3 or 4 which are described in section 1.1 of this report

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

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESU26	100235	R&S	2016-03-02	1 year
2	Test Receiver	ESCI 7	100948	R&S	2016-07-07	1 year
3	Universal Radio Communication Tester	CMW500	143008	R&S	2015-12-09	1 year
4	LISN	ENV216	101200	R&S	2016-07-07	1 year
5	EMI Antenna	VULB 9163	9163-234	Schwarzbeck	2016-09-15	3 years
6	EMI Antenna	3115	6914	ETS-Lindgren	2017-12-15	3 years
7	PC	OPTIPLEX 380	2X1YV2X	DELL	N/A	N/A
8	Monitor	E178FPc	CN-OWR979-64180 -7AJ-D2MS	DELL	N/A	N/A
9	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
10	Keyboard	L100	CN0RH659658907 ATOI40	DELL	N/A	N/A
11	Mouse	M-UAE119	LZ935220ZRC	Lenovo	N/A	N/A

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 distances of 10 meters(for 30MHz-1GHz) and 3 meters (for above 1GHz) is tested. Tested in accordance with the procedures of ANSI C63.4 - 2014, section 8.3.
The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 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 DELL OPTIPLEX 380, and the serial number of the PC is 2X1YV2X. 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 range (MHz)	Field strength limit (µV/m)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

Note: the above limit is for 3 meters test distance. 10 meters' limit is got by converting.

A.1.4 Test Condition

Frequency range (MHz)	RBW/VBW	Sweep Time (s)	Detector
30-1000	120kHz (IF Bandwidth)	5	Peak/Quasi-peak
Above 1000	1MHz/1MHz	15	Peak, Average

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.

Measurement uncertainty (worst case): U = 4.3 dB, k=2.

Measurement results for Set.1:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17982.433	43.9	-17.7	45.6	16.000	V
17975.633	43.4	-17.7	45.6	15.500	V
17994.333	43.4	-17.7	45.6	15.500	H
17996.033	43.4	-17.7	45.6	15.500	H
17981.300	43.4	-17.7	45.6	15.500	H
17990.367	43.3	-17.7	45.6	15.400	V

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17988.100	55.2	-17.7	45.6	27.300	V
17864.567	55.1	-18.5	45.6	28.000	H
17883.267	54.9	-18.5	45.6	27.800	V
17968.267	54.8	-17.7	45.6	26.900	V
17975.067	54.7	-17.7	45.6	26.800	H
17956.933	54.7	-17.7	45.6	26.800	H

Measurement results for Set.2:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17997.733	43.5	-17.7	45.6	15.600	H
17980.167	43.4	-17.7	45.6	15.500	V
17989.233	43.4	-17.7	45.6	15.500	V
17999.433	43.4	-17.7	45.6	15.500	V
17974.500	43.4	-17.7	45.6	15.500	V
17998.867	43.4	-17.7	45.6	15.500	H

USB Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
1992.800	56.3	-35.7	25.3	66.700	V
17987.533	54.9	-17.7	45.6	27.000	H
17939.933	54.6	-17.7	45.6	26.700	H
17998.300	54.6	-17.7	45.6	26.700	H
17969.967	54.5	-17.7	45.6	26.600	V
17960.900	54.5	-17.7	45.6	26.600	H

Note: The measurement results of Set.1 and Set.2 showed here are worst cases of the combinations of different batteries and different USB cables.

Charging Mode, Set.1
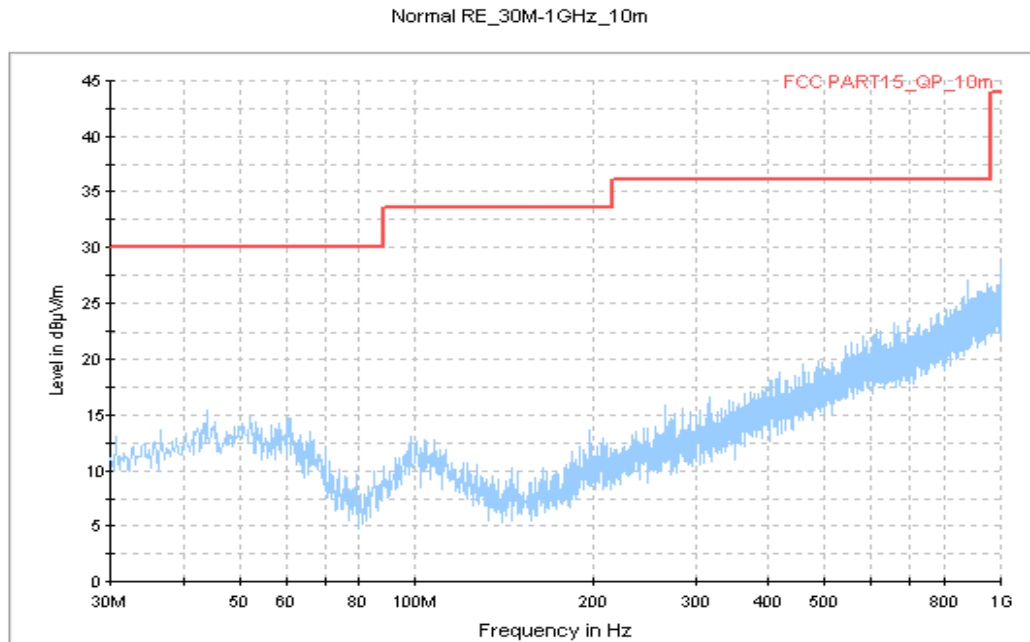
Fig.1   Radiated Emission from 30MHz to 1GHz
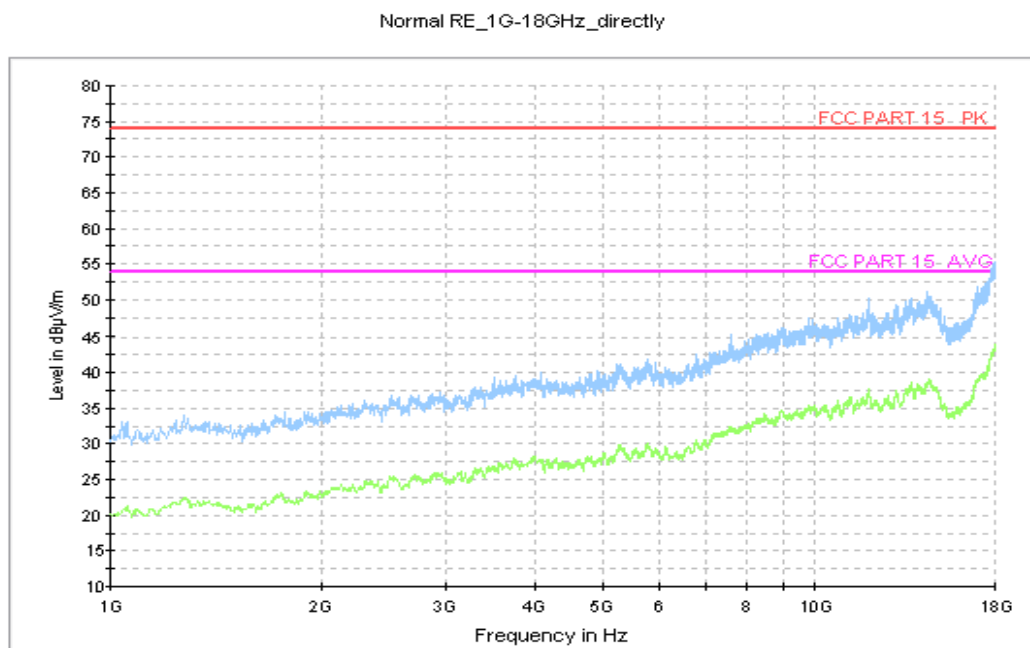
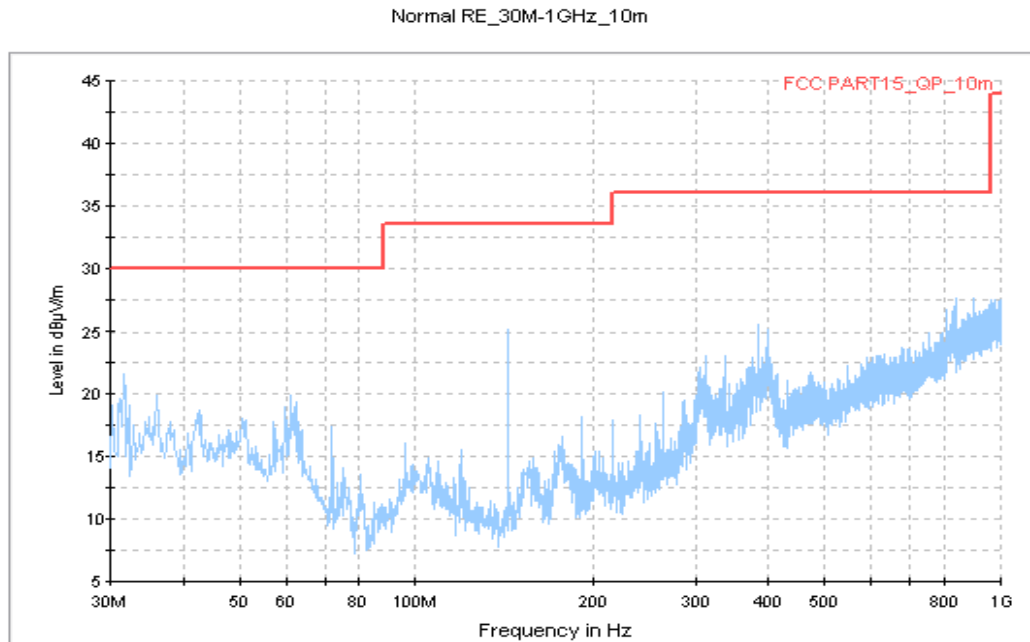**Fig.2   Radiated Emission from 1GHz to 18GHz**

USB Mode, Set.2

Normal RE_30M-1GHz_10m

Fig.3   Radiated Emission from 30MHz to 1GHz
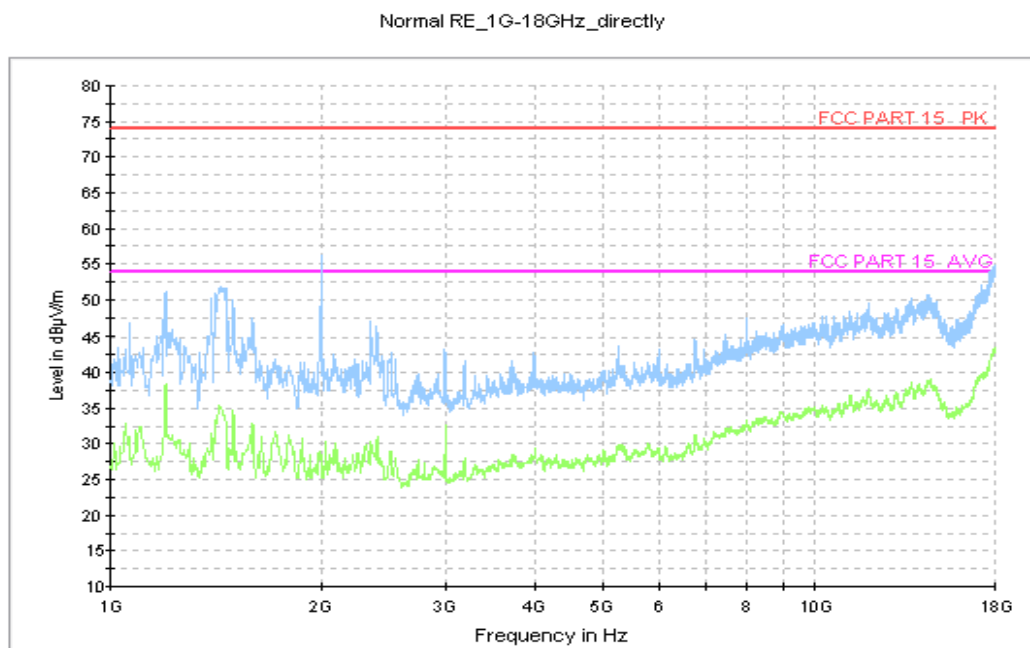
Normal RE_1G-18GHz_directly

Fig.4   Radiated Emission from 1GHz to 18GHz

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 - 2014, 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 380, and the serial number of the PC is 2X1YV2X. 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/IF bandwidth	Sweep Time(s)
9kHz	1

A.2.5 Measurement Results

Measurement uncertainty: U= 2.9 dB, k=2.

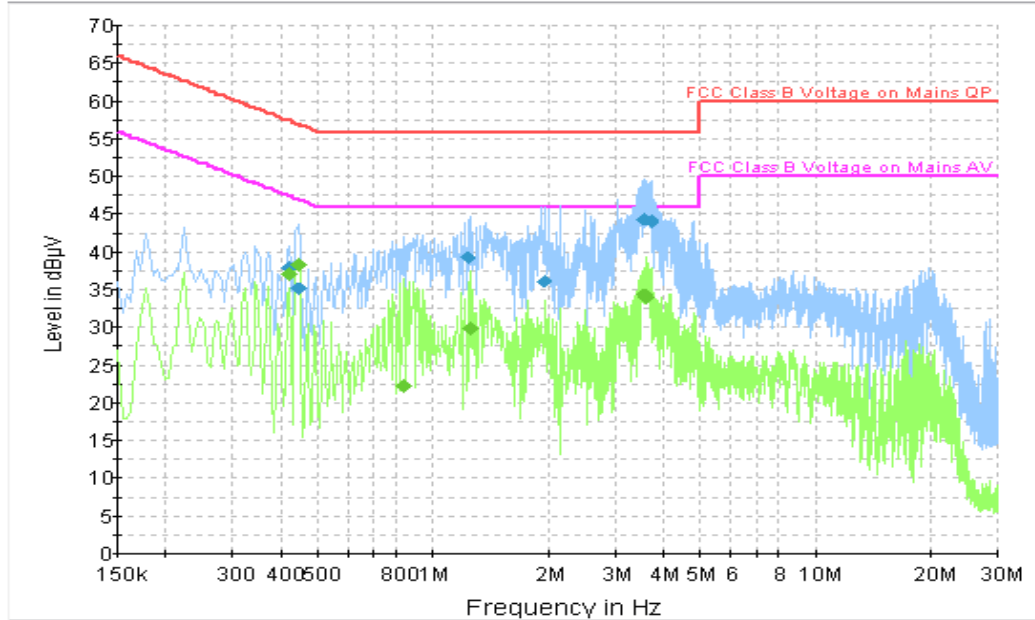**Charging Mode, Set.1**
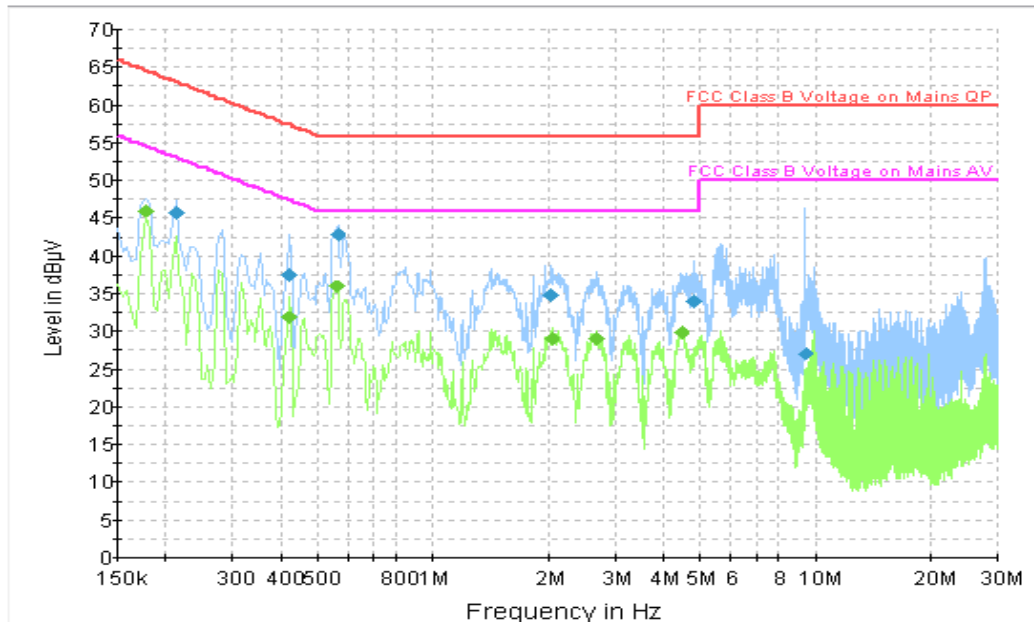

Fig.5   Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.420000	38.0	2000.0	9.000	On	L1	19.8	19.4	57.4
0.442500	35.2	2000.0	9.000	On	N	19.8	21.9	57.0
1.234500	39.3	2000.0	9.000	On	L1	19.7	16.7	56.0
1.954500	36.2	2000.0	9.000	On	L1	19.6	19.8	56.0
3.592500	44.4	2000.0	9.000	On	L1	19.7	11.6	56.0
3.705000	44.0	2000.0	9.000	On	L1	19.7	12.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.420000	37.2	2000.0	9.000	On	N	19.8	10.3	47.4
0.442500	38.2	2000.0	9.000	On	N	19.8	8.8	47.0
0.838500	22.4	2000.0	9.000	On	N	19.8	23.6	46.0
1.261500	29.8	2000.0	9.000	On	L1	19.7	16.2	46.0
3.592500	34.3	2000.0	9.000	On	L1	19.7	11.7	46.0
3.615000	33.9	2000.0	9.000	On	L1	19.7	12.1	46.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and different USB cables.

USB Mode, Set.2

Fig.6 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.213000	45.7	2000.0	9.000	On	N	19.8	17.4	63.1
0.420000	37.4	2000.0	9.000	On	L1	19.8	20.0	57.4
0.564000	42.9	2000.0	9.000	On	N	19.8	13.1	56.0
2.031000	34.8	2000.0	9.000	On	L1	19.6	21.2	56.0
4.821000	34.0	2000.0	9.000	On	N	19.7	22.0	56.0
9.406500	27.1	2000.0	9.000	On	L1	19.8	32.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.177000	46.1	2000.0	9.000	On	N	19.7	8.5	54.6
0.420000	31.9	2000.0	9.000	On	L1	19.8	15.6	47.4
0.559500	36.1	2000.0	9.000	On	N	19.8	10.0	46.0
2.040000	29.0	2000.0	9.000	On	N	19.6	17.0	46.0
2.665500	29.1	2000.0	9.000	On	L1	19.7	16.9	46.0
4.461000	29.8	2000.0	9.000	On	N	19.7	16.2	46.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and different USB cables.

END OF REPORT