



TEST REPORT

No. I20Z61291-EMC01

for

HMD Global Oy

GSM/WCDMA/LTE phone

Model Name: TA-1307

FCC ID: 2AJOTTA-1307

with

Hardware Version: 0142

Software Version: 0.2031.10.06

Issued Date: 2020-9-29

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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I20Z61291-EMC01	Rev.0	1 st edition	2020-09-29

Note: the latest revision of the test report supersedes all previous versions.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, P. R. China 100176

CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China100191

1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.4. Project data

Testing Start Date: 2020-08-18

Testing End Date: 2020-09-29

1.5. Signature



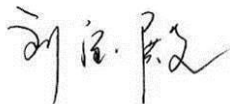
Li Yan

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2. Client Information

2.1. Applicant Information

Company Name: HMD Global Oy
Address: Bertel Jungin aukio 9, 02600 Espoo, FINLAND
City: Espoo
Postal Code: /
Country: Finland
Contact: /
Email: +358 408036126
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2.2. Manufacturer Information

Company Name: HMD Global Oy
Address: Bertel Jungin aukio 9,02600 Espoo, FINLAND
City: Espoo
Postal Code: /
Country: Finland
Contact: /
Email: +358 408036126
Telephone: +97143697604

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

3.1. About EUT

Description	GSM/WCDMA/LTE phone
Model Name	TA-1307
FCC ID	2AJOTTA-1307
Extreme vol. Limits	3.6VDC to 4.2VDC (nominal: 3.9VDC)

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL, Telecommunication Technology Labs, CAICT.

3.2. Internal Identification of EUT used during the test

EUT ID*	IME/SNI	HW Version	SW Version
UT30a	004402972490704	0142	0.2031.10.06

*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	/	/
AE2	charger	/	/
AE3	charger	/	/
AE4	Headset	/	/
AE5	USB Cable	/	/

AE1

Model	BL-4XL
Manufacturer	ZHONGSHAN TIANMAO BATTERY CO., LTD
Capacity	/
Nominal Voltage	/

AE2

Model	AC-18
Manufacturer	Dongguan Aohai Technology Co., Ltd.
Length of cable	/

AE3

Model	AC-18
Manufacturer	DEE VAN ENTERPRISE CO., LTD.
Length of cable	/

AE4

Model	WH-108
Manufacturer	Rongtaifeng
Length of cable	/



AE5

Model /
Manufacturer /
Length of cable /

Note: The USB cables are shielded.

3.4. General Description

The device contains receivers which tune and operate between 30MHz-960MHz in the following bands: GSM850, WCDMA BAND 5, and LTE BAND 5.

3.5. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	UT30a + AE1 + AE2	Charger+ Camera+GSM805
Set.2	UT30a + AE1 + AE3	Charger+MP4+WB5
Set.3	UT30a + AE1 + AE3+ AE4	Charger+MP3+LTE5
Set.4	UT30a + AE1 + AE4+ AE5	USB+FM

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	2019
ANSI C63.4	American National Standard for Methods of Measurement of Radio- Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

Note: The test methods have no deviation with standards.

5. LABORATORY ENVIRONMENT

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

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ± 4 dB, 3m/10m distance, from 30 to 1000 MHz
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

Semi-anechoic chamber SAC-2 (10 meters×6.7meters×6.1meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
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, 3m distance, from 30 to 1000 MHz
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

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

Temperature	Min. = 15 °C, Max. = 35 °C
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
	BR	Re-use test data from basic model report.

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

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESU26	100376	R&S	2020-10-30	1 year
2	Test Receiver	Test Receiver	100766	ESCI	2021-03-10	1 year
3	Universal Radio Communication Tester	CMW500	127406	R&S	2021-02-18	1 year
4	LISN	ENV216	101459	R&S	2021-03-17	1 year
5	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	2021-02-24	1 year
6	EMI Antenna	3117	00139065	ETS-Lindgren	2020-11-10	1 year
7	Signal Generator	SMF100A	101295	R&S	2020-11-06	1 year
8	Test Receiver	ESCI 3	100344	Rohde & Schwarz	2021-02-26	1 year
9	LISN	ENV216	101200	R&S	2021-05-19	1 year
10	EMI Antenna	VULB 9163	9163-1223	Schwarzbeck	2021-03-18	1 year
11	EMI Antenna	3115	9614	ETS-Lindgren	2021-01-14	1 year
12	Test Receiver	ESU26	100235	Rohde & Schwarz	2021-03-02	1 year
13	Test Receiver	ESCI 3	100344	Rohde & Schwarz	2021-02-26	1 year
14	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
15	Keyboard	KU-1601	2048361	Lenovo	N/A	N/A
16	Mouse	EMS-537A	8021S3MC	Lenovo	N/A	N/A

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V9.01.00	R&S
Conducted Emission	EMC32 V8.52.0	R&S

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission

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 3/10meters(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 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, charging mode, FM, MP3, MP4, CAMERA and License RX band mode.

The EUT was tested while operating in licensed band RX mode. All licensed band receivers that tune in the range of 30MHz-960MHz, as listed in the Section 3.4, are investigated. Only the worst case emissions are reported.

The FM radio mode radiated testing was performed with the Low/Mid/High channel. Only the worst cases are reported.

The model of the PC is Lenovo M4000e-17, and the serial number of the PC is M706RMW2.

Note: I/O information: Printer – USB, Mouse – PS/2, Keyboard – USB.

A.1.3 Measurement Limit

Frequency range (MHz)	Field strength limit ($\mu\text{V}/\text{m}$)		
	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.

Limit (10m) = limit (3m) + 20(log (3/10))

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/3MHz	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:

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

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

Measurement uncertainty (worst case): 30MHz-1GHz: 5.40dB, 1GHz-18GHz: 4.32dB, $k=2$.

Measurement results for Set.1:

Charger+ Camera+GSM850 /Average detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17686.500	39.82	-22.1	41.2	20.73	54.0	14.2	H
17690.500	39.68	-22.2	41.2	20.60	54.0	14.3	V
17707.000	39.67	-22.2	41.2	20.62	54.0	14.3	V
17698.500	39.65	-22.2	41.2	20.58	54.0	14.4	V
17696.500	39.65	-22.2	41.2	20.58	54.0	14.4	V
17766.500	39.61	-22.3	41.3	20.69	54.0	14.4	V

Charger+ Camera+GSM850 /Peak detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17577.500	51.9	-22.4	41.2	33.07	74.0	22.1	H
17204.000	51.7	-22.9	41.5	33.13	74.0	22.3	V
17026.000	51.7	-23.0	41.7	33.04	74.0	22.3	H
16998.000	51.6	-23.0	41.7	32.95	74.0	22.4	H
17018.000	51.6	-23.0	41.7	32.91	74.0	22.4	V
17720.500	51.5	-22.2	41.2	32.53	74.0	22.5	H

Measurement results for Set.2:
Charger+MP4+WB5 /Average detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17705.500	39.77	-22.2	41.2	20.72	54.0	14.2	V
17708.500	39.73	-22.2	41.2	20.68	54.0	14.3	V
17704.000	39.72	-22.2	41.2	20.67	54.0	14.3	V
17702.500	39.69	-22.2	41.2	20.63	54.0	14.3	V
17698.500	39.68	-22.2	41.2	20.61	54.0	14.3	H
17687.000	39.67	-22.1	41.2	20.58	54.0	14.3	H

Charger+MP4+WB5 /Peak detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17221.000	52.16	-22.9	41.5	33.56	74.0	21.8	H
17727.000	52.05	-22.2	41.2	33.04	74.0	22.0	H
17728.500	51.98	-22.2	41.2	32.98	74.0	22.0	V
17658.000	51.93	-22.1	41.2	32.78	74.0	22.1	H
17209.000	51.92	-22.9	41.5	33.32	74.0	22.1	H
17592.000	51.81	-22.3	41.2	32.88	74.0	22.2	V

Measurement results for Set.3:
Charger+MP3+LTE5 /Average detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17703.500	39.81	-22.2	41.2	20.76	54.0	14.2	V
17689.500	39.68	-22.2	41.2	20.59	54.0	14.3	V
17696.500	39.66	-22.2	41.2	20.60	54.0	14.3	H
17746.000	39.64	-22.3	41.2	20.68	54.0	14.4	V
17700.500	39.63	-22.2	41.2	20.57	54.0	14.4	V
17682.000	39.61	-22.1	41.2	20.51	54.0	14.4	V

Charger+MP3+LTE5 /Peak detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17633.500	52.8	-22.0	41.2	33.56	74.0	21.2	V
17773.000	52.2	-22.3	41.3	33.31	74.0	21.8	H
17923.500	52.0	-22.7	41.3	33.41	74.0	22.0	V
17887.500	51.9	-22.6	41.3	33.18	74.0	22.1	H
17803.500	51.8	-22.4	41.3	33.00	74.0	22.2	H
17712.500	51.7	-22.2	41.2	32.71	74.0	22.3	H

Measurement results for Set.4:
USB mode +FM /Average detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17975.633	49.2	-17.7	45.6	21.300	54.0	4.8	H
17997.733	49.0	-17.7	45.6	21.100	54.0	5.0	H
17985.833	48.5	-17.7	45.6	20.600	54.0	5.5	V
17965.433	48.3	-17.7	45.6	20.400	54.0	5.7	H
18000.000	48.3	-45.6	44.5	49.366	54.0	5.7	H
17992.633	48.0	-17.7	45.6	20.100	54.0	6.0	H

USB mode +FM /Peak detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
17977.333	57.4	-17.7	45.6	29.500	74.0	16.6	H
17911.033	56.8	-18.5	45.6	29.700	74.0	17.2	H
17990.933	56.5	-17.7	45.6	28.600	74.0	17.5	V
18000.000	56.3	-45.6	44.5	57.366	74.0	17.7	H
17986.400	56.3	-17.7	45.6	28.400	74.0	17.7	H
17914.433	56.2	-17.7	45.6	28.300	74.0	17.8	H

Charger+ Camera+GSM850, Set.1

15B RE 30MHz-1GHz

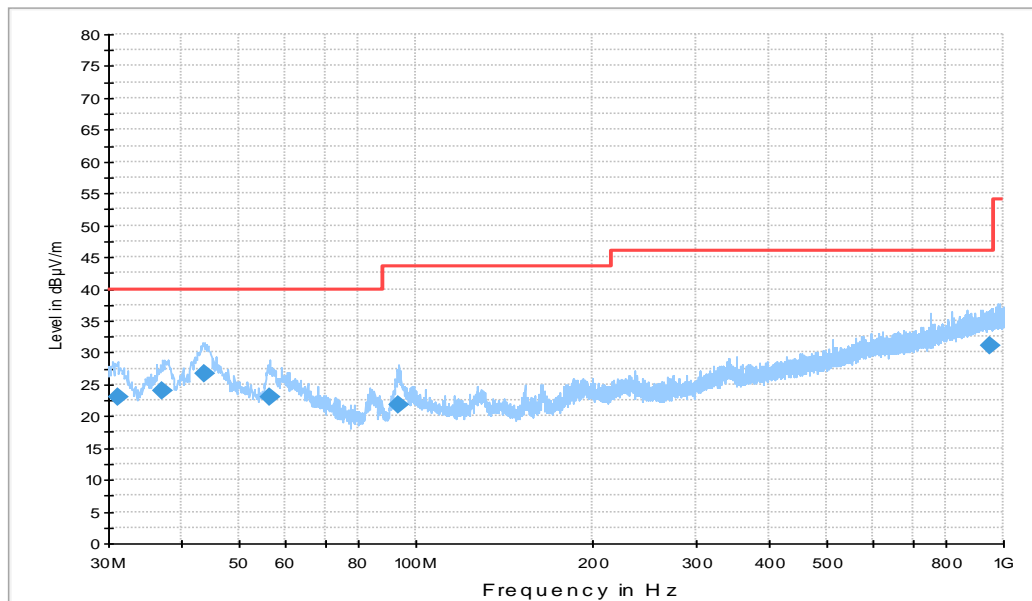


Figure A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
31.067000	22.9	100.0	V	225.0	-1.7	17.1	40.0
37.081000	23.9	100.0	V	135.0	-0.6	16.1	40.0
43.677000	26.7	110.0	V	148.0	0.0	13.3	40.0
56.384000	23.1	100.0	V	170.0	-0.2	16.9	40.0
93.729000	21.9	119.0	V	253.0	-2.2	21.6	43.5
950.04500	31.1	100.0	V	128.0	11.8	14.9	46.0

15B RE - 1GHz-3GHz

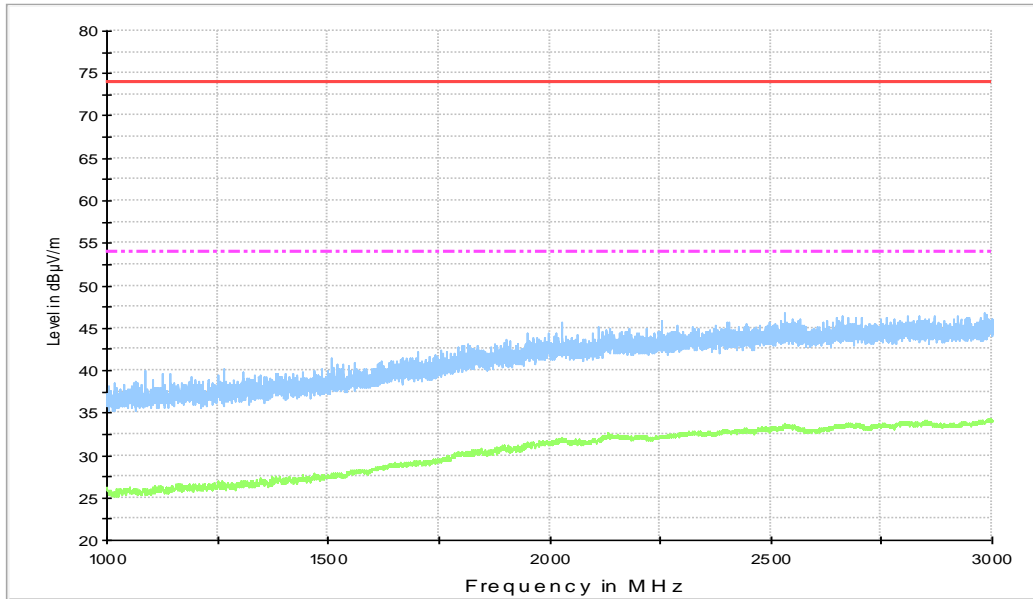


Figure A.2 Radiated Emission from 1GHz to 3GHz

15b RE - 3GHz-18GHz

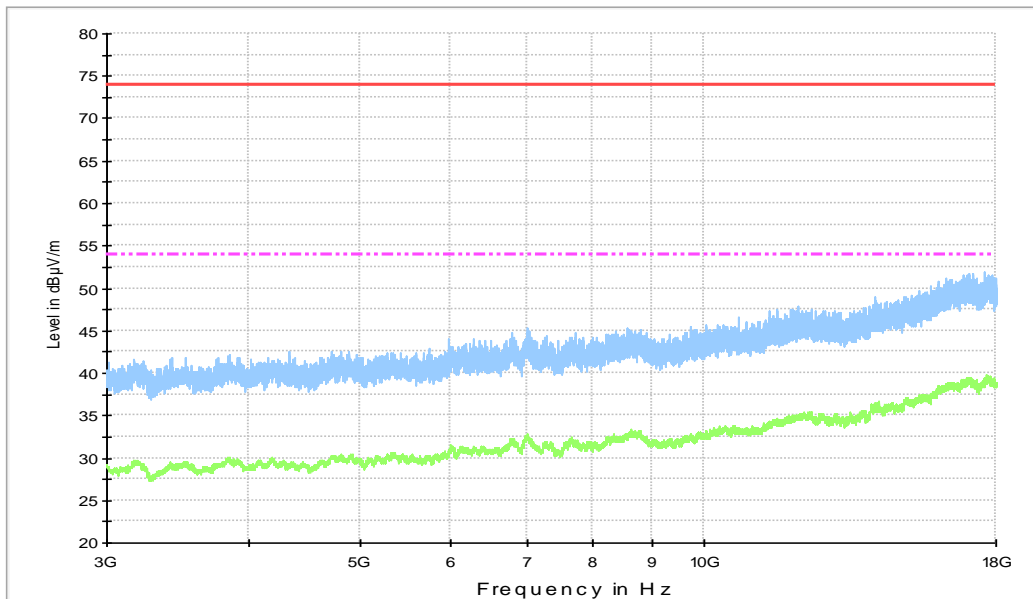


Figure A.3 Radiated Emission from 3GHz to 18GHz

Charger+MP4+WB5, Set.2

15B RE 30MHz-1GHz

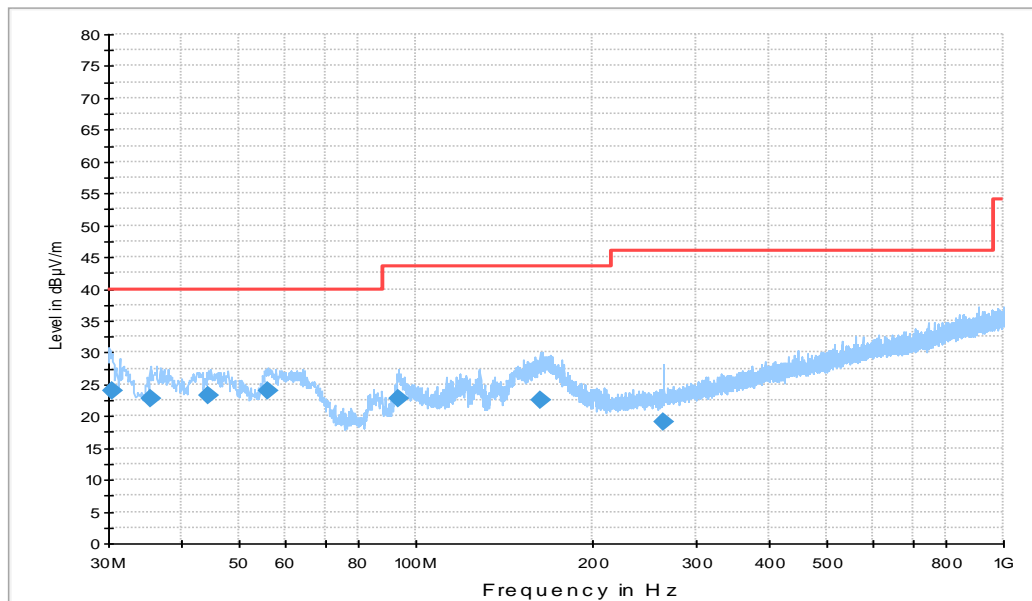


Figure A.4 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
30.388000	24.0	100.0	V	126.0	-1.9	16.0	40.0
35.335000	22.7	100.0	V	149.0	-0.9	17.3	40.0
44.356000	23.2	100.0	V	138.0	0.0	16.8	40.0
55.899000	24.1	100.0	V	138.0	-0.1	15.9	40.0
93.632000	22.7	100.0	V	138.0	-2.2	20.8	43.5
162.50200	22.6	100.0	V	-42.0	-4.1	21.0	43.5

15B RE - 1GHz-3GHz

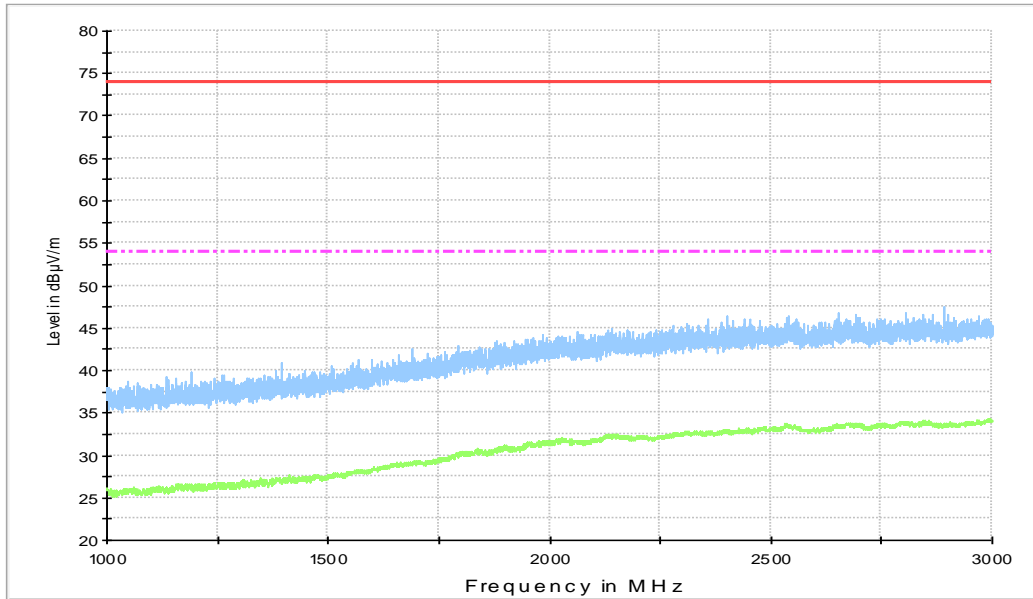


Figure A.5 Radiated Emission from 1GHz to 3GHz

15b RE - 3GHz-18GHz

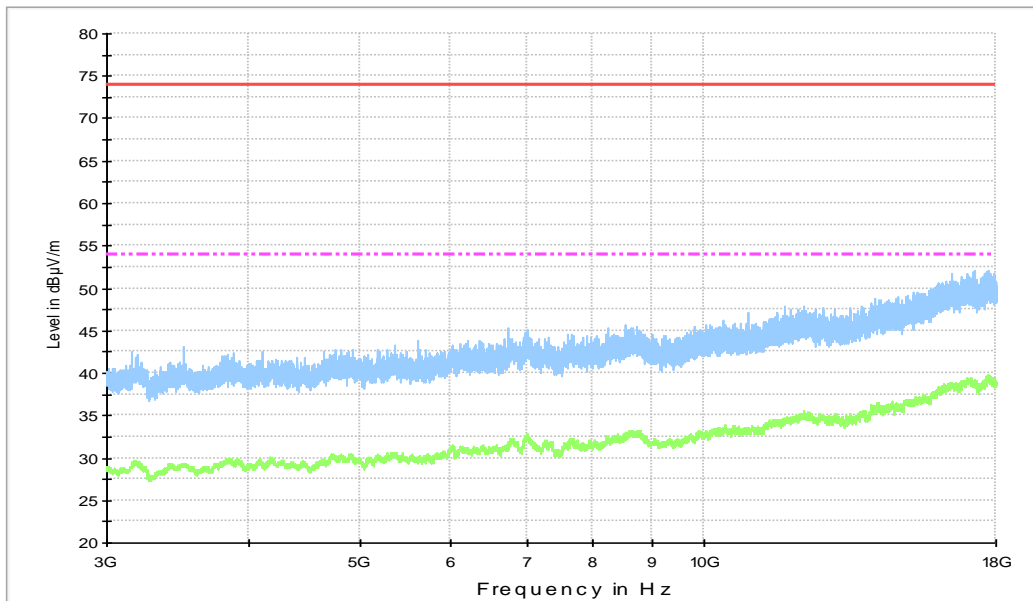


Figure A.6 Radiated Emission from 3GHz to 18GHz

Charger+MP3+LTE5, Set.3

15B RE 30MHz-1GHz

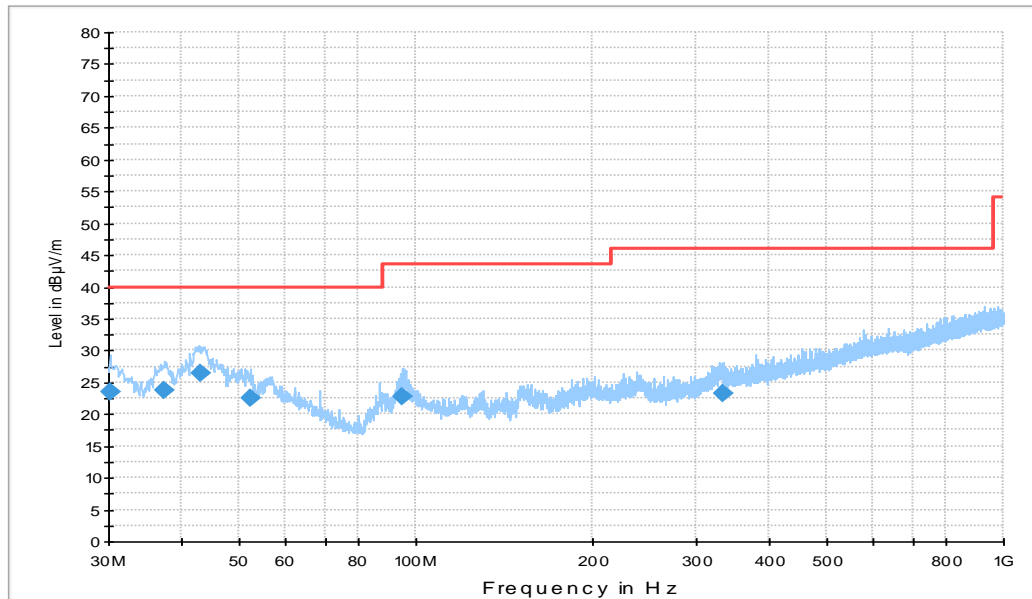


Figure A.7 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.194000	23.4	100.0	V	163.0	-1.9	16.6	40.0
37.372000	23.6	110.0	V	90.0	-0.6	16.4	40.0
43.095000	26.5	100.0	V	32.0	0.0	13.5	40.0
52.213000	22.4	100.0	V	274.0	0.0	17.6	40.0
94.699000	22.7	110.0	V	209.0	-2.0	20.8	43.5
333.51300	23.1	125.0	H	184.0	2.2	22.9	46.0

15B RE - 1GHz-3GHz

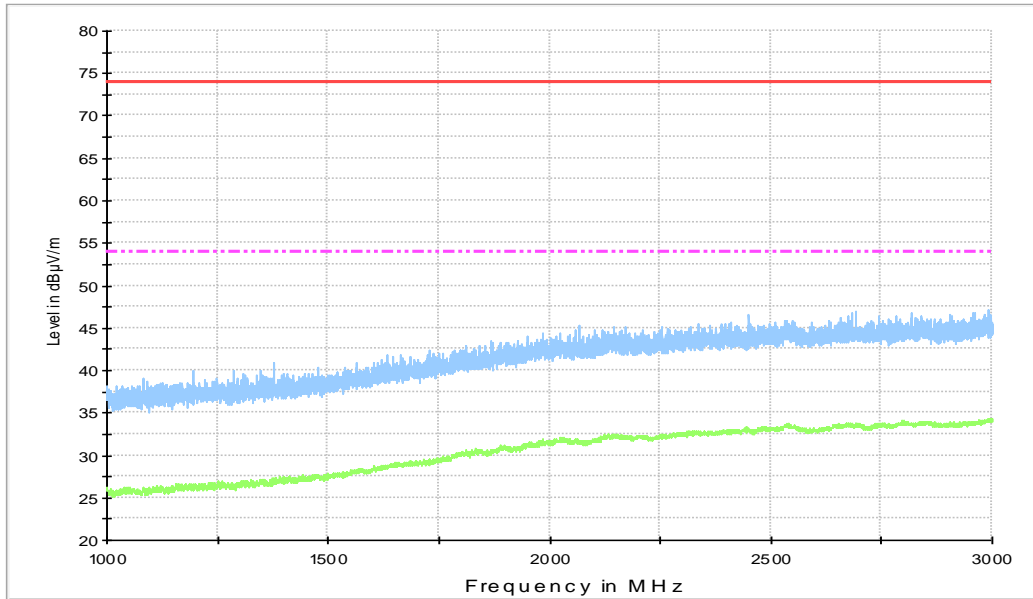


Figure A.8 Radiated Emission from 1GHz to 3GHz

15b RE - 3GHz-18GHz

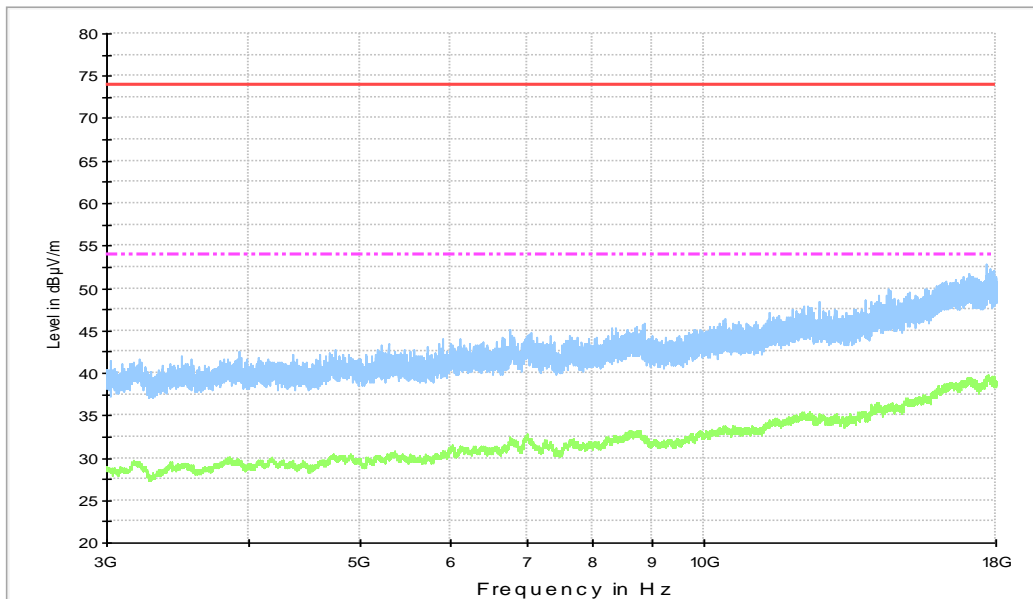


Figure A.9 Radiated Emission from 3GHz to 18GHz

USB mode +FM, Set.4

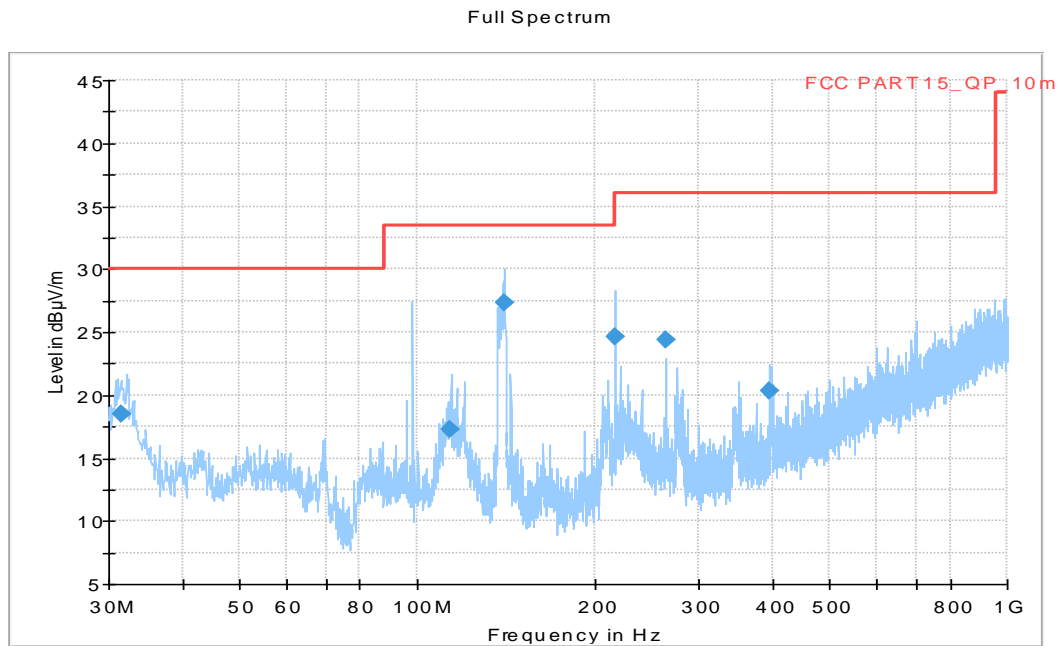


Figure A.10 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBµV/m)
31.594000	18.50	120.0	V	111.0	11.50	30.00
113.97900	17.28	198.0	V	151.0	16.24	33.50
140.61700	27.37	99.0	V	193.0	6.15	33.50
216.00900	24.61	113.0	V	98.0	11.41	36.00
264.02400	24.40	100.0	V	-30.0	11.62	36.00
396.29500	20.37	103.0	V	111.0	15.65	36.00

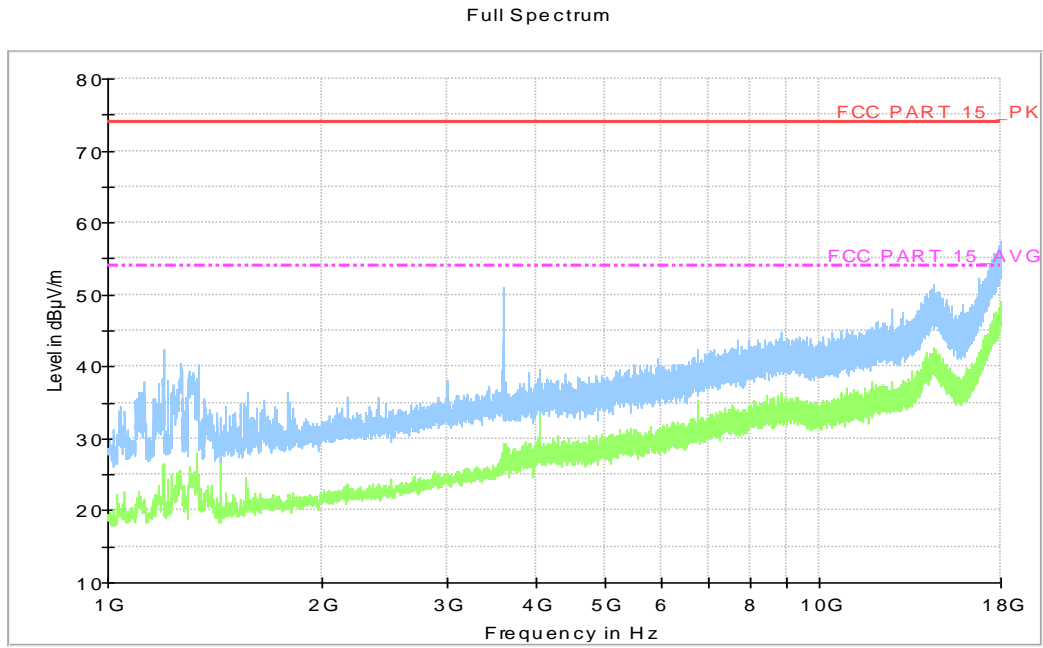


Figure A.11 Radiated Emission from 1GHz to 18GHz

A.2 Conducted Emission

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 7.3.

A.2.2 EUT Operating Mode

The MS is operating in the USB mode, charging mode, MP3, MP4, CAMERA and FM mode.

The model of the PC is Lenovo M4000e-17, and the serial number of the PC is M706RMW2.

Note: I/O information: Printer – USB, Mouse – PS/2, Keyboard – USB.

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/IF bandwidth	Sweep Time(s)
9kHz	1

A.2.5 Measurement Results

Measurement uncertainty: $U= 3.10$ dB, $k=2$.

Charger+ Camera, Set.1

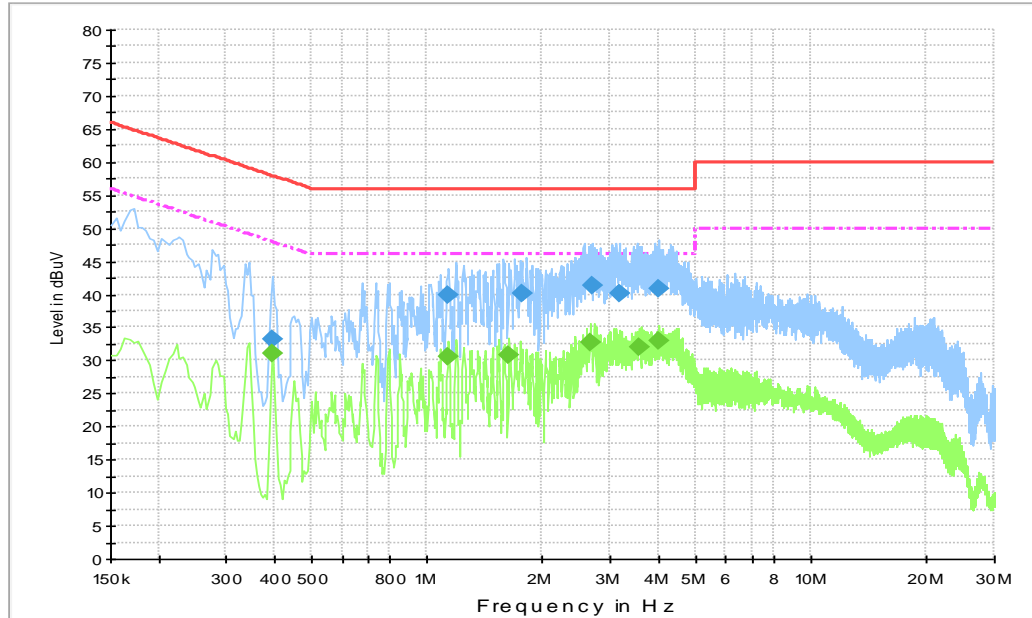


Figure A.12 Conducted Emission

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.397500	33.3	5000.0	9.000	On	L1	20.0	24.6	57.9
1.135500	39.9	5000.0	9.000	On	L1	19.8	23.1	56.0
1.761000	40.1	5000.0	9.000	On	L1	19.8	20.9	56.0
2.683500	41.2	5000.0	9.000	On	L1	19.8	14.8	56.0
3.160500	40.1	5000.0	9.000	On	L1	19.8	15.9	56.0
4.011000	40.9	5000.0	9.000	On	L1	19.8	15.1	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.397500	31.0	5000.0	9.000	On	L1	20.0	26.9	47.9
1.140000	30.7	5000.0	9.000	On	L1	19.8	27.3	46.0
1.639500	30.9	5000.0	9.000	On	L1	19.8	23.1	46.0
2.661000	32.7	5000.0	9.000	On	L1	19.8	18.3	46.0
3.579000	32.0	5000.0	9.000	On	L1	19.8	14.0	46.0
4.011000	32.8	5000.0	9.000	On	L1	19.8	13.2	46.0

. Charger+MP4, Set.2

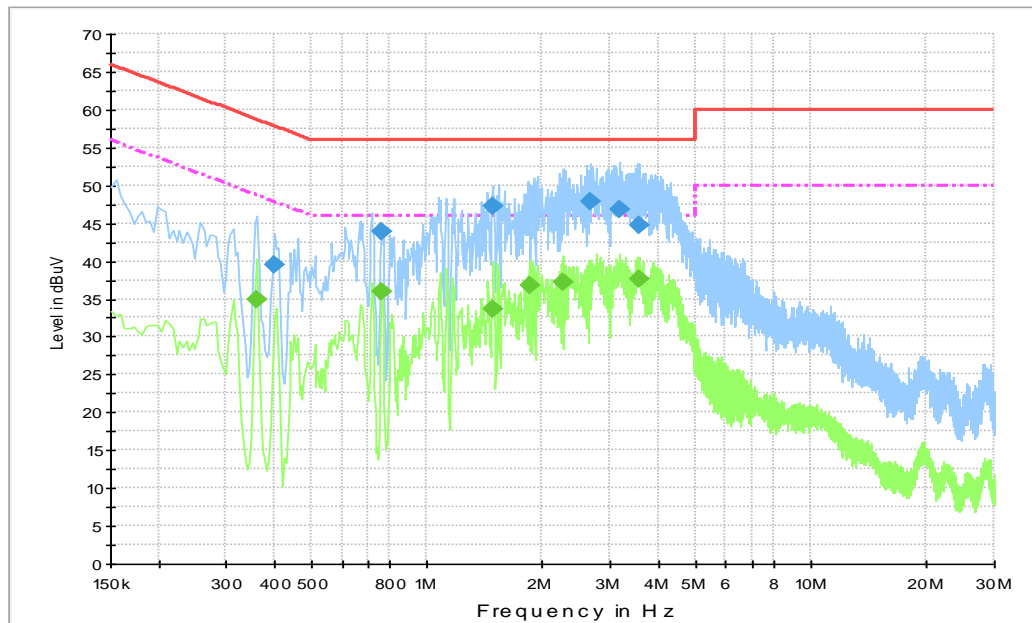


Figure A.13 Conducted Emission

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.402000	39.4	5000.0	9.000	On	L1	20.0	18.4	57.8
0.762000	43.8	5000.0	9.000	On	L1	19.9	12.2	56.0
1.477500	47.2	5000.0	9.000	On	L1	19.8	8.8	56.0
2.661000	47.9	5000.0	9.000	On	L1	19.8	8.1	56.0
3.169500	46.7	5000.0	9.000	On	L1	19.8	9.3	56.0
3.579000	44.8	5000.0	9.000	On	L1	19.8	11.2	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.361500	34.9	5000.0	9.000	On	L1	19.9	13.8	48.7
0.762000	35.9	5000.0	9.000	On	L1	19.9	10.1	46.0
1.482000	33.6	5000.0	9.000	On	L1	19.8	12.4	46.0
1.846500	36.7	5000.0	9.000	On	L1	19.8	18.3	46.0
2.251500	37.2	5000.0	9.000	On	L1	19.8	16.8	46.0
3.579000	37.6	5000.0	9.000	On	L1	19.8	8.5	46.0

Charger+MP3, Set.3

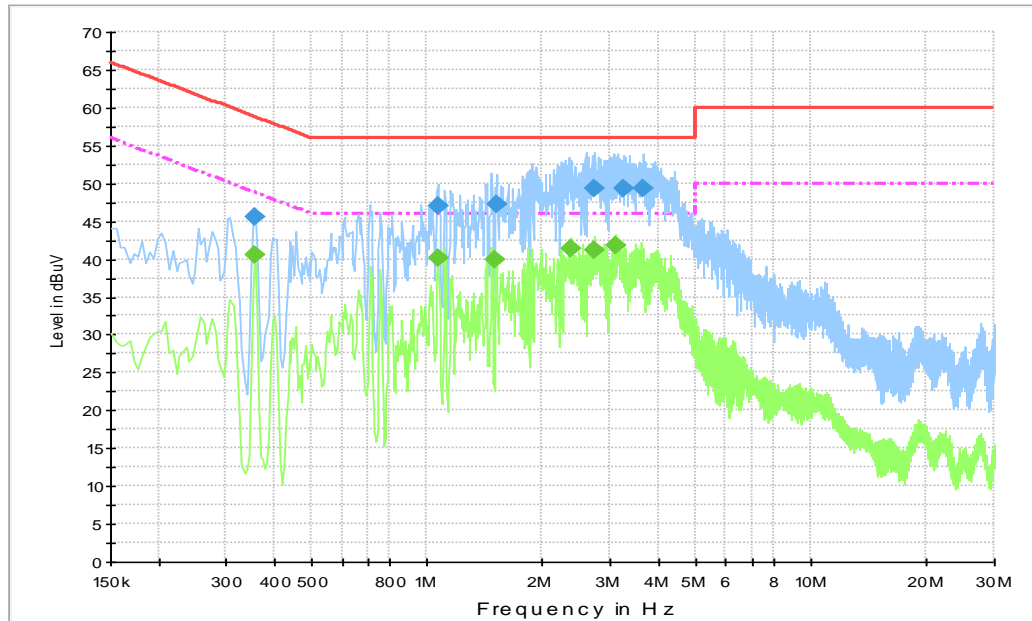


Figure A.14 Conducted Emission

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.357000	45.5	5000.0	9.000	On	L1	19.9	13.3	58.8
1.068000	46.9	5000.0	9.000	On	L1	19.8	9.1	56.0
1.522500	47.3	5000.0	9.000	On	L1	19.8	8.7	56.0
2.742000	49.3	5000.0	9.000	On	L1	19.8	6.7	56.0
3.250500	49.2	5000.0	9.000	On	L1	19.8	6.8	56.0
3.655500	49.4	5000.0	9.000	On	L1	19.8	6.6	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.357000	40.6	5000.0	9.000	On	L1	19.9	8.2	48.8
1.068000	40.2	5000.0	9.000	On	L1	19.8	5.8	46.0
1.509000	40.0	5000.0	9.000	On	L1	19.8	6.0	46.0
2.382000	41.4	5000.0	9.000	On	L1	19.8	4.6	46.0
2.742000	41.2	5000.0	9.000	On	L1	19.8	4.8	46.0
3.093000	41.9	5000.0	9.000	On	L1	19.8	4.1	46.0

USB mode +FM, Set.4

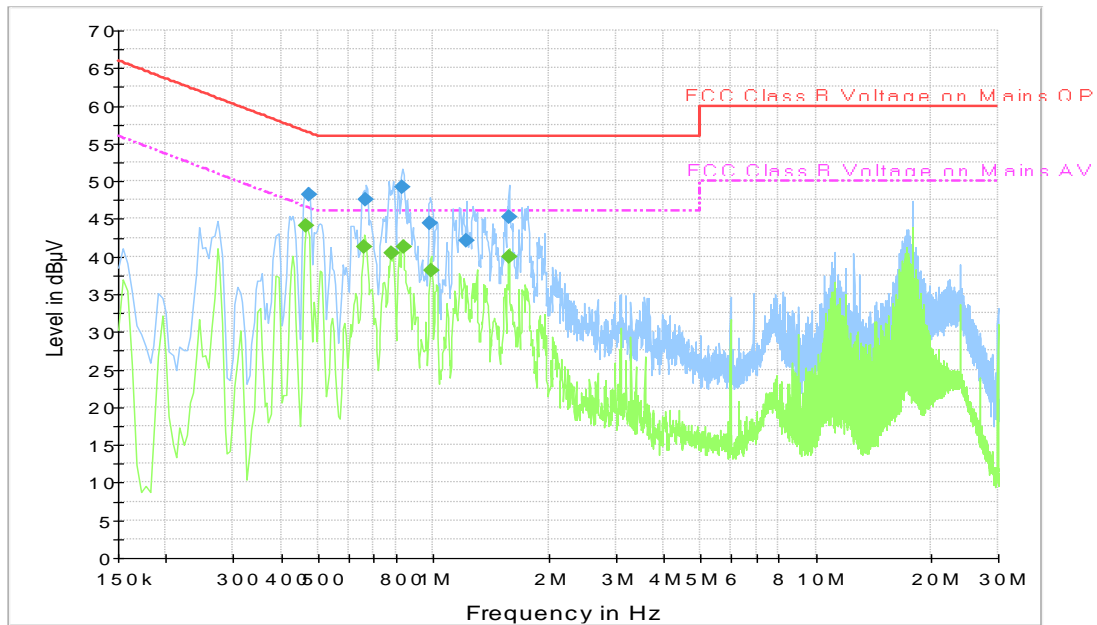


Figure A.15 Conducted Emission

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.474000	48.2	On	N	10.0	8.3	56.4
0.667500	47.5	On	N	10.0	8.5	56.0
0.829500	49.1	On	L1	10.0	6.9	56.0
0.982500	44.4	On	N	10.0	11.6	56.0
1.221000	42.0	On	N	10.0	14.0	56.0
1.576500	45.3	On	N	10.0	10.7	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.465000	44.0	10000.0	On	N	10.0	2.6	46.6
0.658500	41.3	10000.0	On	L1	10.0	4.7	46.0
0.780000	40.5	10000.0	On	N	10.0	5.5	46.0
0.834000	41.3	10000.0	On	N	10.0	4.7	46.0
0.987000	38.2	10000.0	On	N	10.0	7.8	46.0
1.576500	40.0	10000.0	On	N	10.0	6.0	46.0



ANNEX B: Persons involved in this testing

Test Item	Tester
Radiated Emission	Zhao Wenhui,Wang Huan
Conducted Emission	Guo Qian, Zhang Tianli

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