TEST REPORT

No. I22Z70189-EMC01

for

Samsung Electronics Co., Ltd.

Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN

Model Name: SM-T509

FCC ID: ZCASMT509

with

Hardware Version: REV1.0

Software Version: T509.001

Issued Date: 2022-08-16

Note:

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Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22Z70189-EMC01	Rev.0	1st edition	2022-08-16

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

CONTENTS

1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 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 (ISED#: 24849). 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, 100176, P.R. China

1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.4. Project data

Testing Start Date: 2022-07-13

Testing End Date: 2022-08-13

1.5. Signature

Li Yan

(Prepared this test report)

Zhang Ying

(Reviewed this test report)

Zhang Xia

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Samsung Electronics Co., Ltd.
Address:	19 Chapin Rd.,Building D Pine Brook, NJ 07058
City:	/
Postal Code:	/
Country:	/
Contact:	Jenni Chun
Email:	j1.chun@samsung.com
Telephone:	+1-201-937-4203

2.2. Manufacturer Information

Company Name:	Samsung Electronics. Co., Ltd.
Address:	Samsung R5, Maetan dong 129, Samsung ro Youngtong gu, Suwon city 443 742, Korea
City:	/
Postal Code:	/
Country:	/
Contact:	Sunghoon Cho
Email:	ggobi.cho@samsung.com
Telephone:	+82-10-2722-4159

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

3.1. About EUT

Description	Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN
Model Name	SM-T509
FCC ID	ZCASMT509

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	Date of receipt
UT12a	2270189UT12a	REV1.0	T509.001	2022.07.13
UT11a	2270189UT11a	REV1.0	T509.001	2022.07.13

*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	Adapter 1	/	/
AE2	Adapter 2	/	/
AE3	Adapter 3	/	/
AE4	Adapter 4	/	/
AE5	Adapter 5	/	/
AE6	USB cable1	/	/
AE7	USB cable2	/	/
AE8	USB cable3	/	/
AE9	Headset1	/	/
AE10	Headset2	/	/
AE11	Battery	/	/
AE12	Data Cable	/	Type C to C
AE13	Mobile HD	/	/

AE1

Model	EP-TA50JWE
Manufacturer	HAEM Co.,Ltd
Length of cable	/

AE2

Model	EP-TA50EWE
Manufacturer	HAEM Co.,Ltd
Length of cable	/

AE3

Model	EP-TA50JWE
Manufacturer	RFTECH Co., Ltd
Length of cable	/

AE4

Model	EP-TA50EWE
Manufacturer	RFTECH Co., Ltd
Length of cable	/

AE5

Model	EP-TA50UWE
Manufacturer	HAEM Co.,Ltd
Length of cable	/

AE6

Model	EP-DT725BWE
Manufacturer	RFTECH Co., Ltd.
Length of cable	/

AE7

Model	EP-DT725BWE
Manufacturer	DONGGUAN KSD CO.,LTD
Length of cable	/

AE8

Model	EP-DR140AWE
Manufacturer	CRESYN HANOI Co., Ltd
Length of cable	/

AE9

Model	EHS64AVFWE
Manufacturer	DONGGUAN YOUNGBO ELECTRONICS CO.,LTD
Length of cable	/

AE10

Model	EHS61ASFWE
Manufacturer	DONGGUAN YOUNGBO ELECTRONICS CO.,LTD
Length of cable	/

Note:

1. The USB cables are shielded.
2. AE12 and AE13 are not the AE of EUT, which are provided by Lab for relevant testing.

3.4. General Description

The Equipment under Test (EUT) is a model of Tablet with Bluetooth, WLAN with integrated antenna and inbuilt battery.
Manual and specifications of the EUT were provided to fulfil the test.
Samples undergoing test were selected by the client.

The device contains receivers which tune and operate between 30MHz-960MHz in the following bands: GSM850, WCDMA Band 5, LTE Band 5, LTE Band 12 and LTE Band17.

3.5. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	UT12a + AE1 + AE6 +AE9	Adapter1 + R Camera+cable1+headset1
Set.2	UT12a + AE2 + AE7	Adapter2 + MP4+cable2
Set.3	UT12a + AE3 + AE6/AE7/AE8+ AE9/AE10	Adapter3 + R Camera + cable + headset
Set.4	UT12a + AE4 + AE7	Adapter4 + MP4+cable2
Set.5	UT12a + AE5 + AE8+AE9/10	Adapter5 + F camera +cable3+headset
Set.6	UT12a + AE12 + AE9	TYPC PC TO SD +R camera+headset1
Set.7	UT12a + AE12 + AE10+ UT11a	OTG + Headset2+F camera +RX
Set.8	UT12a + AE9 + AE13	OTG MP4 + Headset1+ RX
Set.9	UT12a + AE6/AE7/AE8 + AE9/ AE10	USB SD TO PC +RX+Headset1/2

Note: All the set-ups above were tested but only the worst test data of worst set-up showed in this report.

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	2021
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-2 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)**
2	Conducted Emission	15.107(a)	A.2	P	**CTTL(BDA)**

7. Test Equipment Utilized

Test Equipment

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESU26	100376	R&S	2022-09-15	1 year
2	Test Receiver	ESCI	100766	R&S	2023-03-02	1 year
3	LISN	ENV216	101459	R&S	2023-03-16	1 year
4	BiLog Antenna	VULB9163	01176	Schwarzbeck	2022-11-15	1 year
5	EMI Antenna	3117	00167252	ETS-Lindgren	2022-12-26	1 year
6	Universal Radio Communication Tester	CMW500	159408	R&S	2023-03-01	1 year
7	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
8	Keyboard	KU-1601	2048361	Lenovo	N/A	N/A
9	Mouse	EMS-537A	8021S3MC	Lenovo	N/A	N/A
10	PC	M4000e-17	M706RMW2	Lenovo	N/A	N/A

Test Software

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V8.53.0	R&S
Conducted Emission	EMC32 V8.53.0	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 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 meters from the EUT. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m 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 test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept.

A.1.2 EUT Operating Mode

The MS is operating in the USB mode, charging mode, MP4, MP3, CAMERA, OTG and SD mode. The WIFI and BT function was on and worked in receiving 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.

All equipment is placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

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

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/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:

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): 30MHz-1GHz：5.37dB, 1GHz-18GHz：5.58dB, *k*=2.

Note: all the set-up lists in section 3.5 and each operating mode were tested, only the worst test data are showed in this section.

Measurement results for Set.2:

Adapter2+MP4 /Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17917.000	39.18	-26.2	41.2	24.13	54.0	14.8	V
17916.000	39.12	-26.2	41.2	24.08	54.0	14.9	V
17914.000	39.11	-26.2	41.2	24.08	54.0	14.9	H
17030.500	39.11	-27.0	41.7	24.50	54.0	14.9	H
17921.500	39.10	-26.2	41.2	24.04	54.0	14.9	V
17932.000	39.08	-26.2	41.2	23.99	54.0	14.9	V

Adapter2+MP4 /Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17935.500	51.6	-26.1	41.2	36.50	74.0	22.4	H
17632.500	51.6	-26.7	41.0	37.26	74.0	22.4	V
17174.000	51.6	-26.9	41.4	37.09	74.0	22.4	H
16944.000	51.5	-27.1	41.6	37.00	74.0	22.5	H
17853.500	51.3	-26.3	41.2	36.45	74.0	22.7	V
17839.000	51.3	-26.4	41.2	36.46	74.0	22.7	V

Measurement results for Set.3

Adapter3 +Headset + R Camera /Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17033.000	39.22	-27.0	41.6	24.61	54.0	14.8	V
17915.000	39.19	-26.2	41.2	24.15	54.0	14.8	V
17923.500	39.14	-26.2	41.2	24.08	54.0	14.9	V
17920.000	39.14	-26.2	41.2	24.09	54.0	14.9	V
17933.000	39.10	-26.2	41.2	24.01	54.0	14.9	V
17924.000	39.10	-26.2	41.2	24.03	54.0	14.9	V

Adapter3 +Headset + R Camera /Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17849.500	51.9	-26.3	41.2	37.05	74.0	22.1	H
17913.500	51.6	-26.2	41.2	36.55	74.0	22.4	H
17862.500	51.5	-26.3	41.2	36.66	74.0	22.5	H
17033.500	51.5	-27.0	41.6	36.88	74.0	22.5	V
16728.000	51.5	-27.4	41.4	37.44	74.0	22.5	V
16627.000	51.4	-27.6	41.3	37.66	74.0	22.6	V

Measurement results for Set.7

OTG + Headset+ Front camera+ RX GSM850MHz /Average detector

Frequency (MHz)	Measurement Result (dBµV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBµV)	Limit (dBµV/m)	Margin (dB)	Antenna Pol. (H/V)
17915.000	39.29	-26.2	41.2	24.25	54.0	14.7	V
17934.500	39.28	-26.2	41.2	24.18	54.0	14.7	V
17910.500	39.21	-26.2	41.2	24.19	54.0	14.8	V
17822.500	39.20	-26.4	41.2	24.45	54.0	14.8	H
17920.500	39.18	-26.2	41.2	24.13	54.0	14.8	V
17917.000	39.18	-26.2	41.2	24.13	54.0	14.8	V

OTG + Headset+ Front camera+ RX GSM850MHz /Peak detector

Frequency (MHz)	Measurement Result (dBµV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBµV)	Limit (dBµV/m)	Margin (dB)	Antenna Pol. (H/V)
17928.500	52.3	-26.2	41.2	37.19	74.0	21.7	V
17047.500	52.1	-27.0	41.6	37.45	74.0	21.9	H
16631.500	51.9	-27.6	41.3	38.14	74.0	22.1	V
17911.500	51.8	-26.2	41.2	36.73	74.0	22.2	H
17325.000	51.7	-26.9	41.2	37.34	74.0	22.3	H
16244.500	51.5	-27.7	40.9	38.20	74.0	22.5	H

Measurement results for Set.9

USB mode (SD) + Headset + RX LTE Band5 /Average detector

Frequency (MHz)	Measurement Result (dBµV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBµV)	Limit (dBµV/m)	Margin (dB)	Antenna Pol. (H/V)
4799.000	40.36	-36.1	34.0	42.40	54.0	13.6	H
4974.000	40.02	-35.6	34.1	41.49	54.0	14.0	H
4798.500	39.98	-36.1	34.0	42.03	54.0	14.0	H
4973.500	39.91	-35.6	34.1	41.37	54.0	14.1	H
17914.000	39.48	-26.2	41.2	24.44	54.0	14.5	V
17037.000	39.40	-27.0	41.6	24.80	54.0	14.6	V

USB mode (SD) + Headset + RX LTE Band5 /Peak detector

Frequency (MHz)	Measurement Result (dBµV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBµV)	Limit (dBµV/m)	Margin (dB)	Antenna Pol. (H/V)
4800.500	54.4	-36.1	34.0	56.39	74.0	19.6	H
4796.500	54.1	-36.1	34.0	56.19	74.0	19.9	H
4798.000	54.0	-36.1	34.0	56.07	74.0	20.0	H
4795.500	53.4	-36.1	34.0	55.47	74.0	20.6	H
17549.000	53.2	-26.7	40.9	38.94	74.0	20.8	V
4799.000	53.0	-36.1	34.0	55.08	74.0	21.0	V

Adapter2+MP4, Set.2

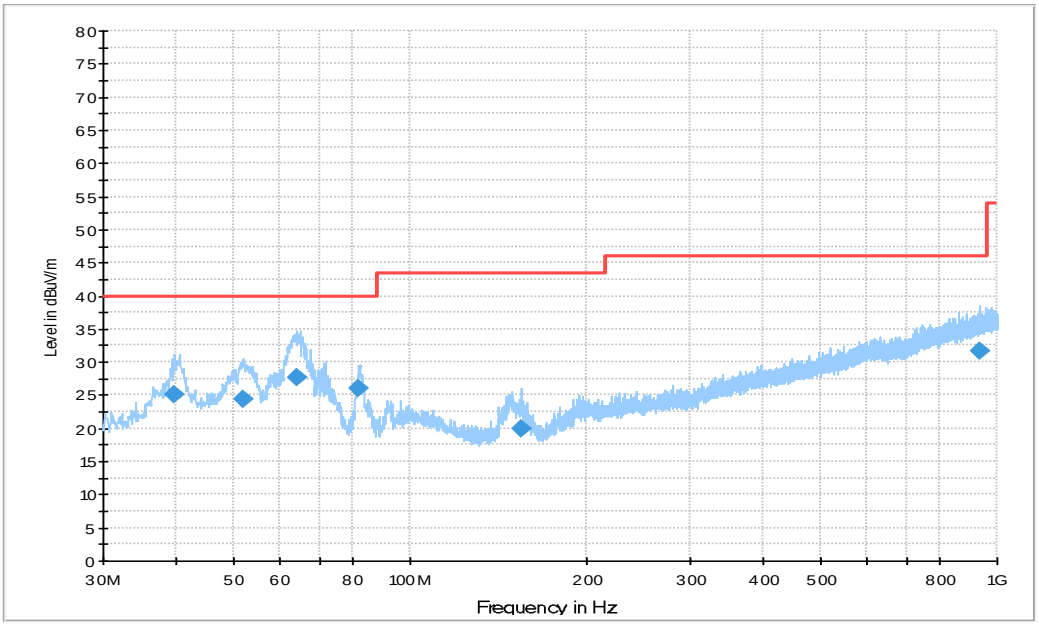

Figure A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
39.700000	25.1	100.0	V	192.0	-0.8	14.9	40.0
51.922000	24.5	125.0	V	127.0	0.1	15.5	40.0
64.241000	27.6	100.0	V	269.0	-2.6	12.4	40.0
81.895000	25.9	125.0	V	307.0	-6.0	14.1	40.0
154.64500	20.0	125.0	H	225.0	-4.5	23.6	43.5
935.68900	31.7	125.0	V	-8.0	12.5	14.3	46.0

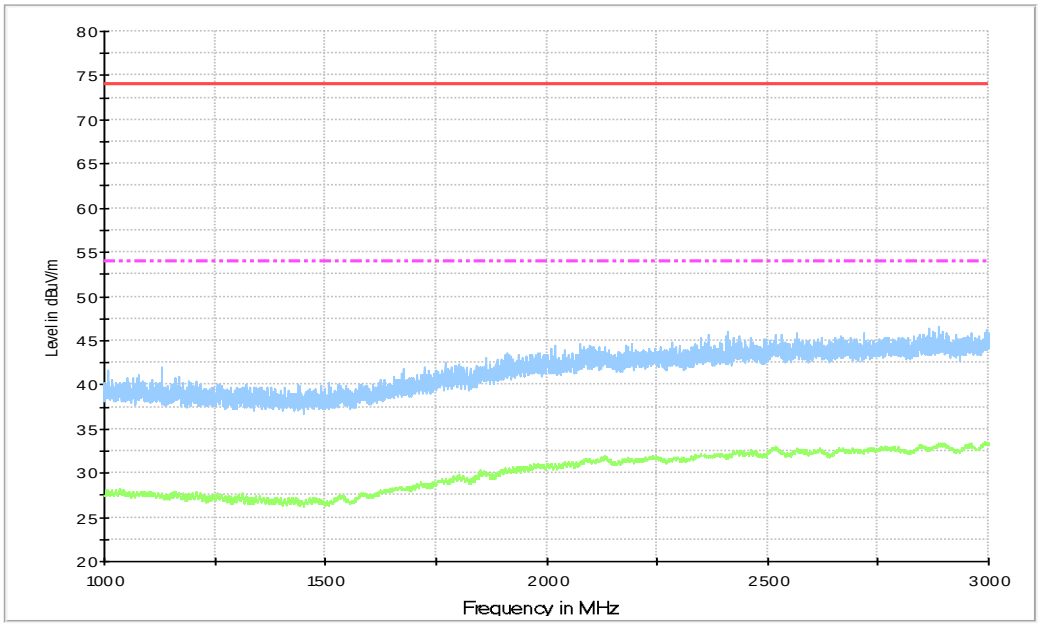

Figure A.2 Radiated Emission from 1GHz to 3GHz

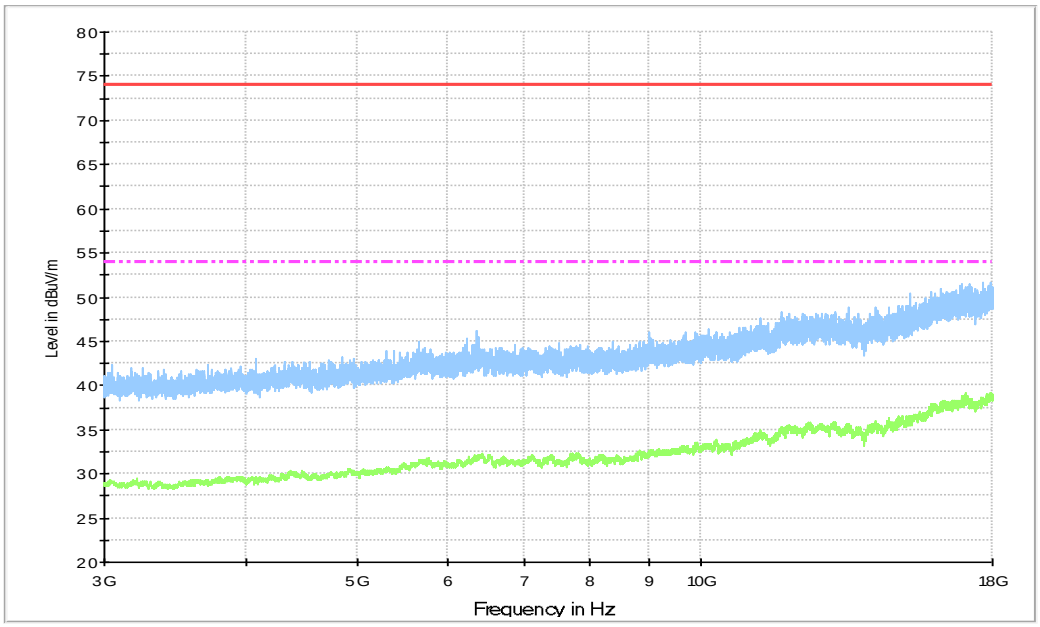

Figure A.3 Radiated Emission from 3GHz to 18GHz

Adapter3 +Headset + R Camera, Set.3

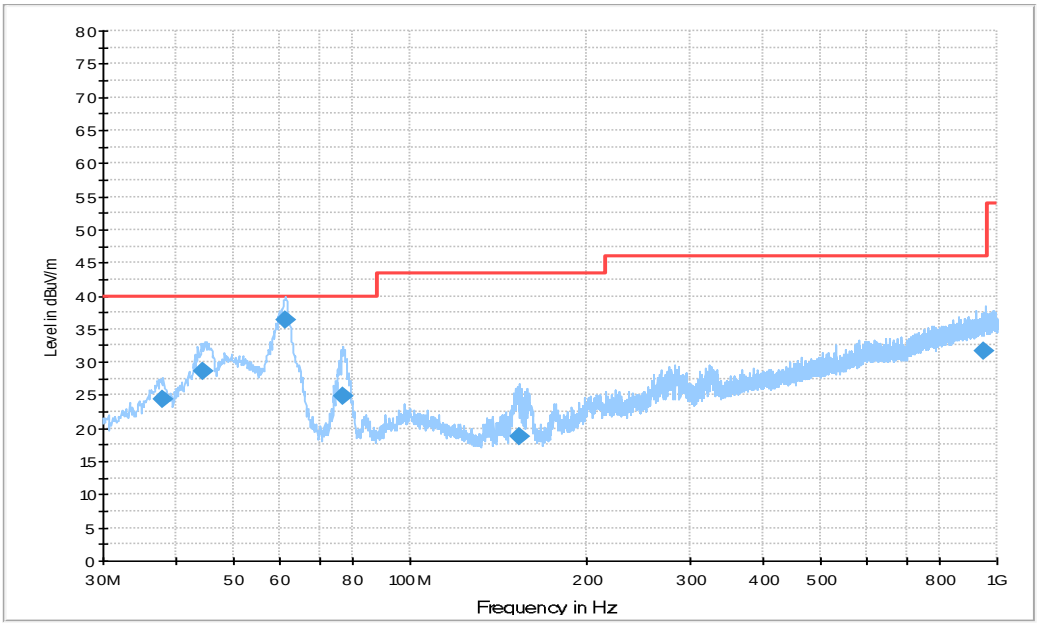

Figure A.4 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
37.954000	24.4	100.0	V	161.0	-1.3	15.6	40.0
44.356000	28.6	100.0	V	275.0	-0.2	11.4	40.0
61.234000	36.3	100.0	V	211.0	-1.7	3.7	40.0
76.851000	24.9	100.0	V	231.0	-5.8	15.1	40.0
153.09300	18.8	100.0	V	96.0	-4.6	24.7	43.5
949.85100	31.6	125.0	V	225.0	12.7	14.4	46.0

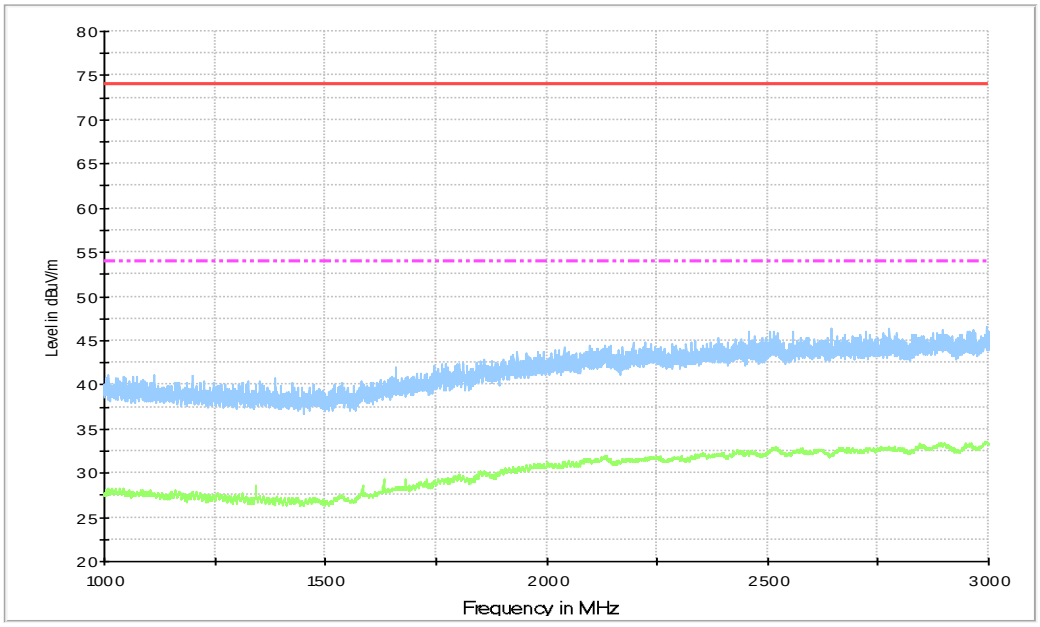

Figure A.5 Radiated Emission from 1GHz to 3GHz

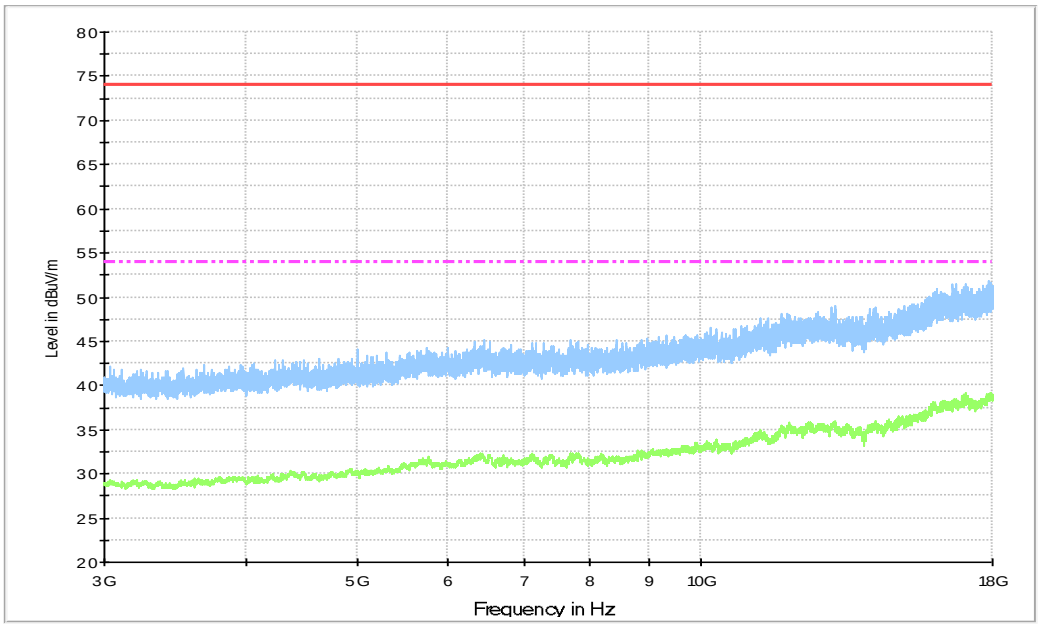

Figure A.6 Radiated Emission from 3GHz to 18GHz

OTG + Headset+ Front camera+ RX GSM850MHz, Set.7

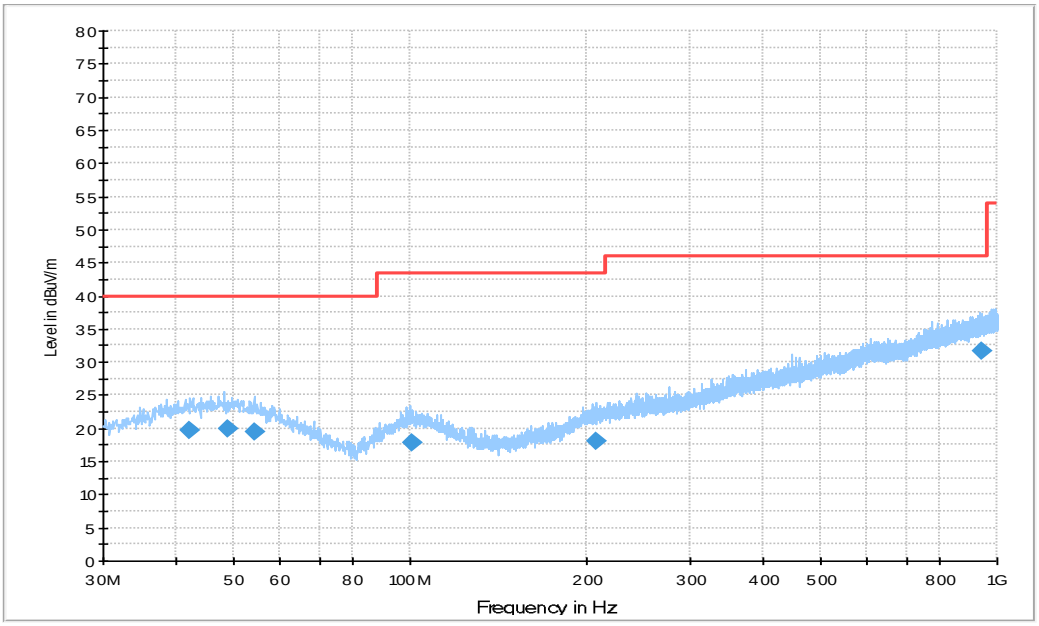

Figure A.7 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
42.222000	19.6	113.0	V	193.0	-0.4	20.4	40.0
48.915000	20.0	125.0	V	128.0	0.3	20.0	40.0
54.250000	19.4	100.0	V	198.0	-0.3	20.6	40.0
100.71300	17.8	113.0	H	109.0	-1.4	25.7	43.5
207.21900	18.2	113.0	V	179.0	-0.7	25.3	43.5
942.28500	31.6	125.0	H	257.0	12.6	14.4	46.0

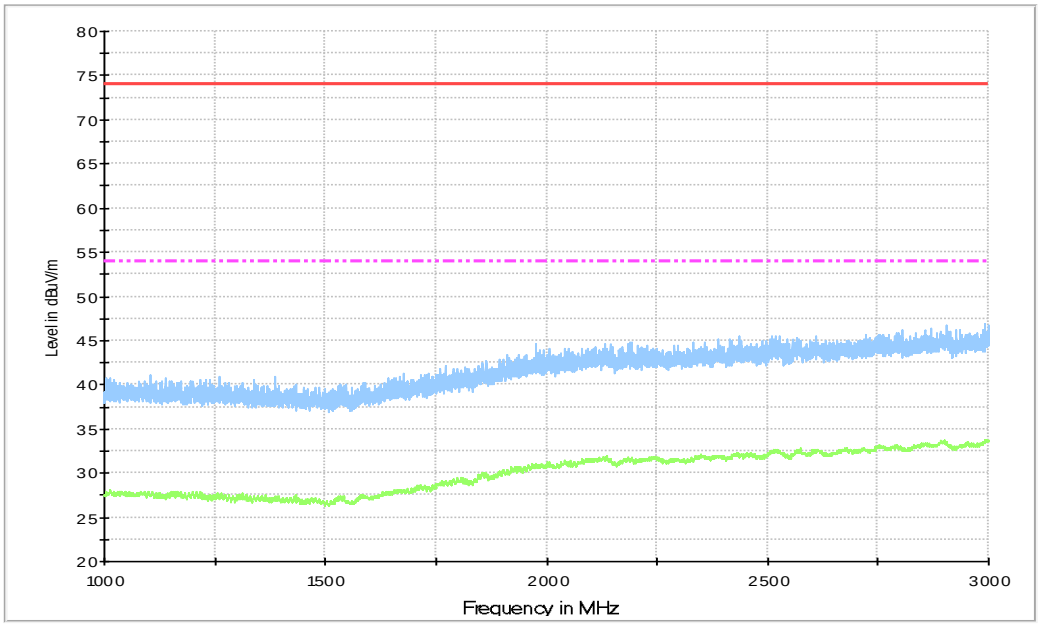

Figure A.8 Radiated Emission from 1GHz to 3GHz

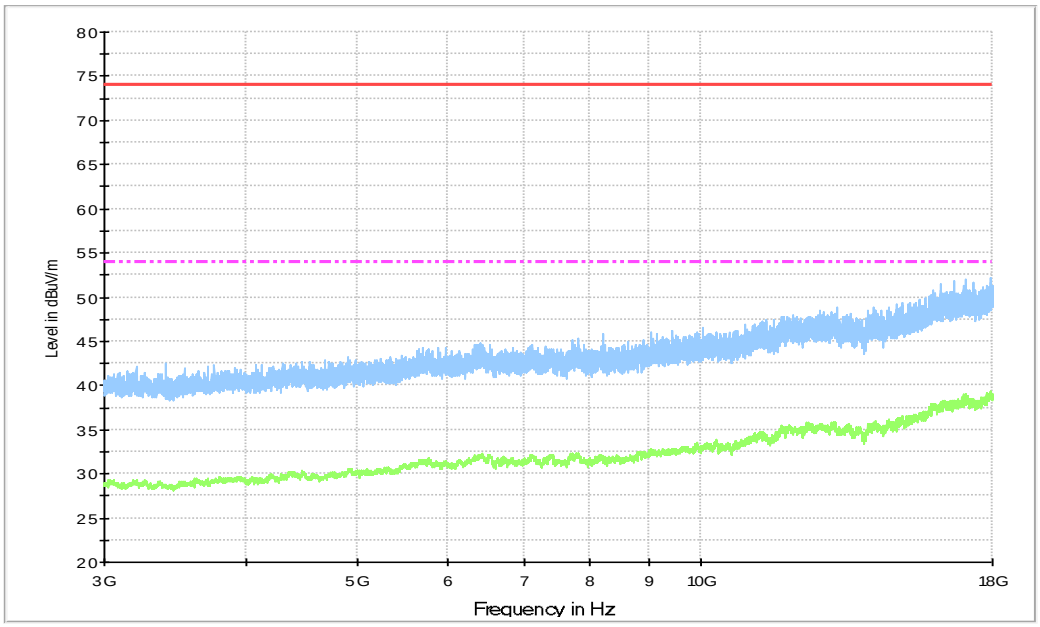

Figure A.9 Radiated Emission from 3GHz to 18GHz

USB mode (SD) + Headset + RX LTE Band5, Set.9

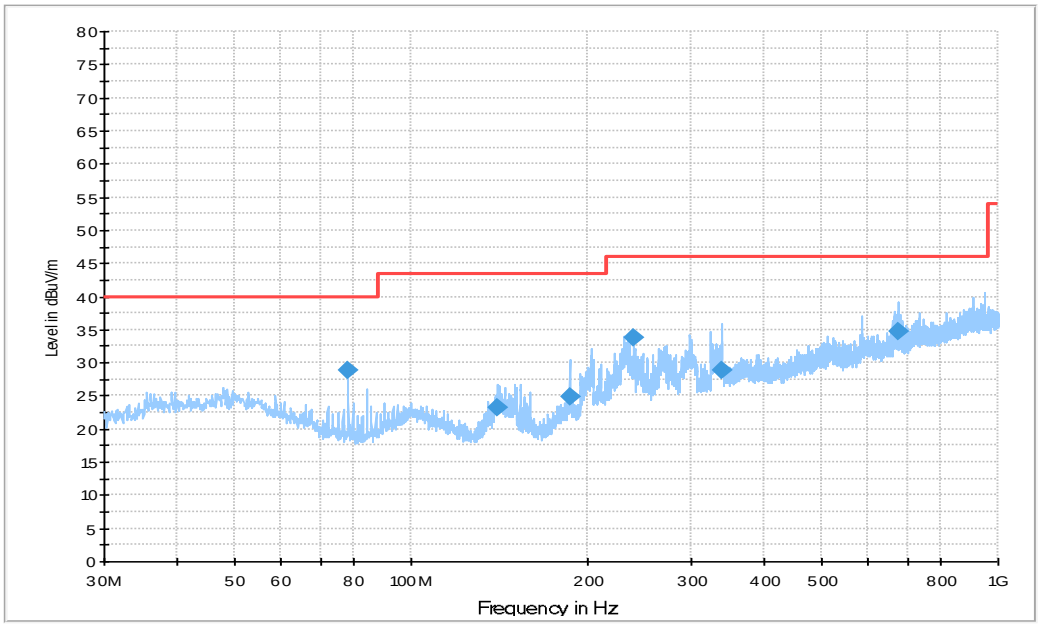

Figure A.10 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
78.112000	28.9	125.0	H	250.0	-6.1	11.1	40.0
140.09500	23.3	125.0	H	282.0	-4.9	20.2	43.5
186.07300	24.8	100.0	V	147.0	-2.4	18.7	43.5
240.00500	33.7	113.0	H	101.0	0.6	12.3	46.0
338.75100	28.8	125.0	V	82.0	3.1	17.2	46.0
674.46800	34.8	100.0	H	300.0	9.3	11.2	46.0

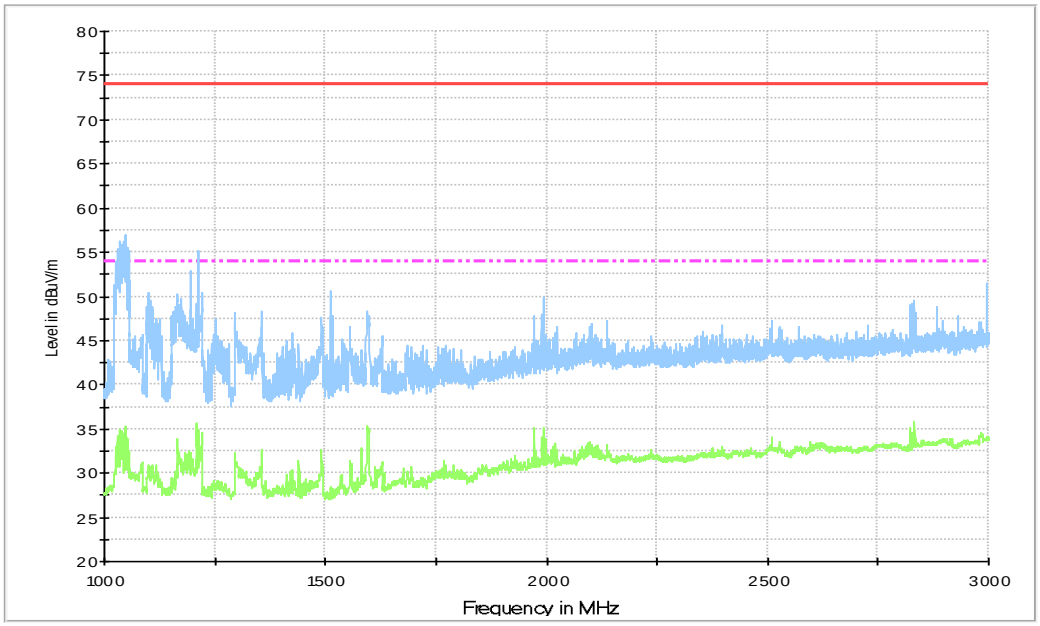

Figure A.11 Radiated Emission from 1GHz to 3GHz

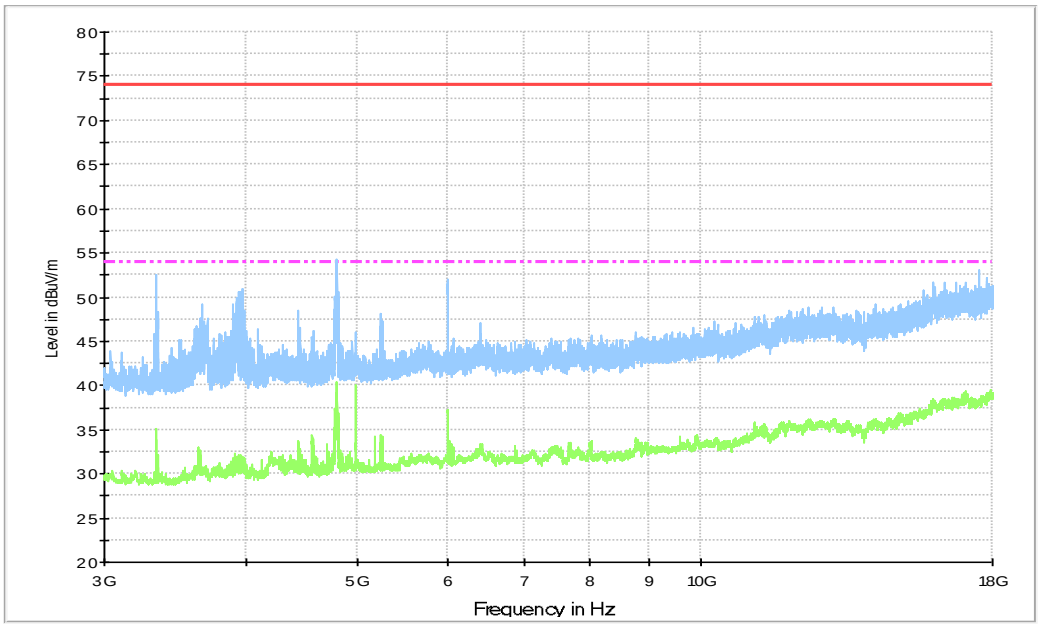

Figure A.12 Radiated Emission from 3GHz to 18GHz

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, MP4, MP3, CAMERA and SD mode.

The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

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

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*= 3.10 dB, *k*=2.

Note: all the set-up lists in section 3.5 and each operating mode were tested, only the worst test data are showed in this section.

Set.1

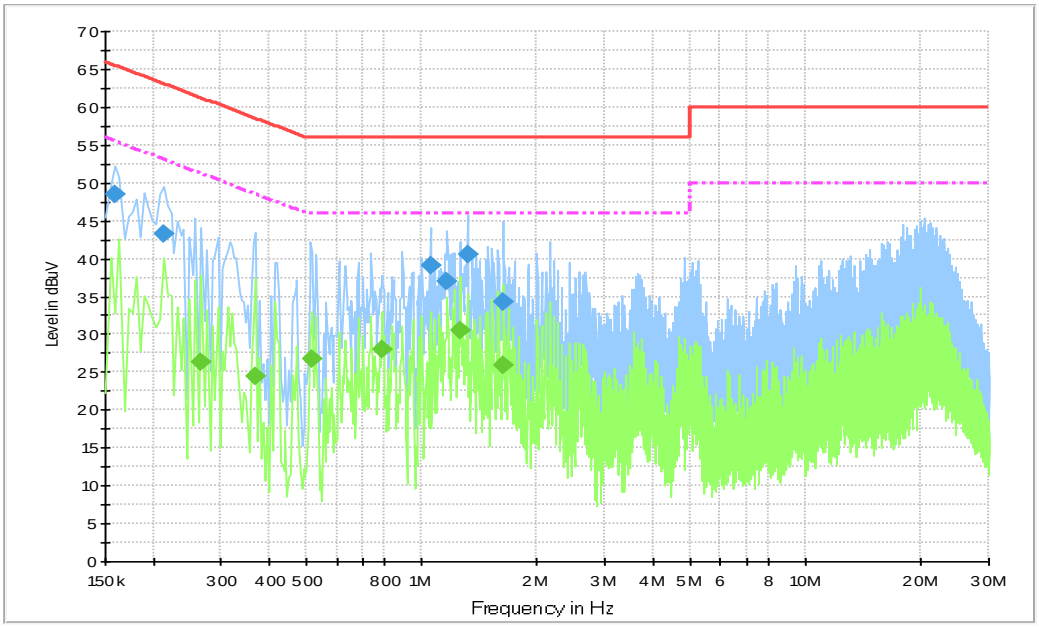

Figure A.13 Conducted Emission

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)
0.159000	48.6	3000.0	9.000	On	L1	19.9	16.9	65.5
0.213000	43.2	3000.0	9.000	On	N	19.7	19.9	63.1
1.054500	39.0	3000.0	9.000	On	L1	19.7	17.0	56.0
1.167000	37.0	3000.0	9.000	On	L1	19.6	19.0	56.0
1.315500	40.5	3000.0	9.000	On	L1	19.6	15.5	56.0
1.635000	34.3	3000.0	9.000	On	N	19.6	21.7	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.267000	26.2	3000.0	9.000	On	L1	19.8	25.0	51.2
0.370500	24.5	3000.0	9.000	On	N	19.8	24.0	48.5
0.519000	26.8	3000.0	9.000	On	L1	19.8	19.2	46.0
0.789000	28.0	3000.0	9.000	On	N	19.7	18.0	46.0
1.261500	30.6	3000.0	9.000	On	N	19.6	15.4	46.0
1.635000	25.8	3000.0	9.000	On	N	19.6	20.2	46.0

Set.3

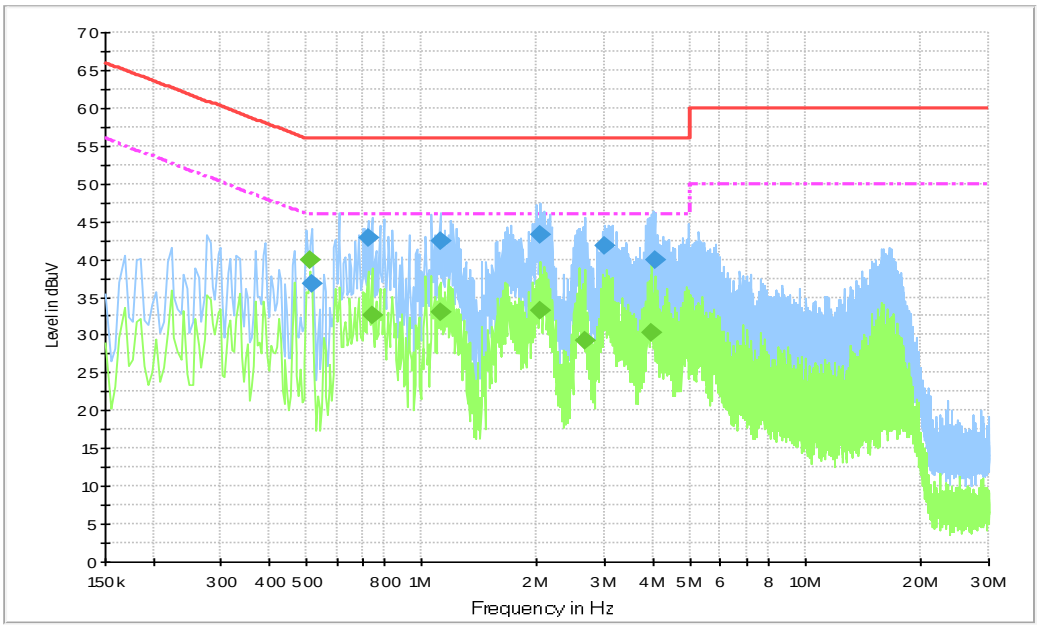

Figure A.14 Conducted Emission

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.519000	36.8	3000.0	9.000	On	N	19.8	19.2	56.0
0.726000	42.9	3000.0	9.000	On	N	19.7	13.1	56.0
1.117500	42.4	3000.0	9.000	On	N	19.7	13.6	56.0
2.031000	43.2	3000.0	9.000	On	N	19.6	12.8	56.0
2.998500	41.7	3000.0	9.000	On	N	19.6	14.3	56.0
4.038000	39.9	3000.0	9.000	On	N	19.6	16.1	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.510000	40.0	3000.0	9.000	On	L1	19.8	6.0	46.0
0.744000	32.6	3000.0	9.000	On	L1	19.7	13.4	46.0
1.117500	32.9	3000.0	9.000	On	L1	19.7	13.1	46.0
2.031000	33.3	3000.0	9.000	On	L1	19.6	12.7	46.0
2.661000	29.2	3000.0	9.000	On	L1	19.6	16.8	46.0
3.988500	30.4	3000.0	9.000	On	L1	19.6	15.6	46.0

USB (SD) mode, Set.9

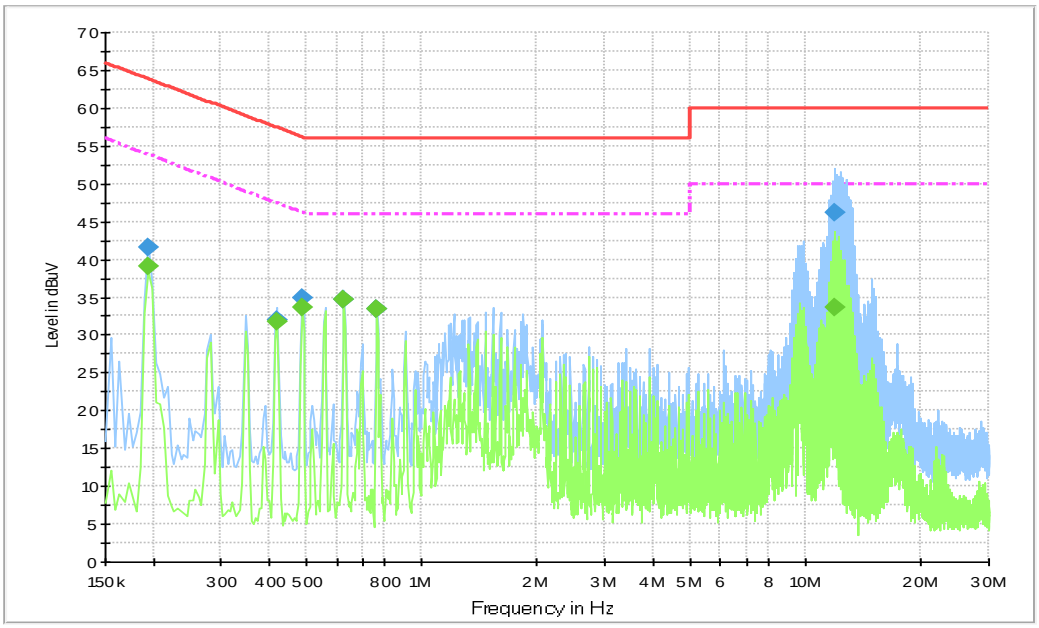

Figure A.15 Conducted Emission

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)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.195000	41.5	3000.0	9.000	On	N	19.7	22.3	63.8
0.420000	32.0	3000.0	9.000	On	L1	19.8	25.4	57.4
0.487500	35.0	3000.0	9.000	On	N	19.8	21.2	56.2
0.627000	34.6	3000.0	9.000	On	N	19.7	21.4	56.0
0.766500	33.4	3000.0	9.000	On	L1	19.7	22.6	56.0
11.931000	46.3	3000.0	9.000	On	N	19.8	13.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.195000	39.0	3000.0	9.000	On	N	19.7	14.8	53.8
0.420000	31.8	3000.0	9.000	On	L1	19.8	15.7	47.4
0.487500	33.6	3000.0	9.000	On	L1	19.8	12.6	46.2
0.627000	34.8	3000.0	9.000	On	L1	19.7	11.2	46.0
0.766500	33.5	3000.0	9.000	On	L1	19.7	12.5	46.0
11.913000	33.7	3000.0	9.000	On	N	19.8	16.3	50.0

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ANNEX B: Persons involved in this testing

Test Item	Tester
Radiated Emission	Zhao Wenhui
Conducted Emission	Guo Qian

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