



TEST REPORT

No. I19Z70333-EMC01

for

Samsung Electronics. Co., Ltd.

Mobile phone

Model Name: SM-A015A,SM-A015AZ

FCC ID: ZCASMA015A

with

Hardware Version: REV3.0

Software Version: A015A.001(A015AUCU0ATAC),

A015AZ.001(A015AZUCE0ATA1)

Issued Date: 2020-02-11

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:

CTTL-Telecommunication Technology Labs, CAICT

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: ctl_terminals@caict.ac.cn, website: www.caict.ac.cn

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19Z70333-EMC01	Rev.0	1 st edition	2020-02-11

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

CONTENTS

1. TEST LABORATORY.....	4
1.1. INTRODUCTION & ACCREDITATION	4
2. TEST LABORATORY.....	4
2.1. TESTING LOCATION	4
2.2. TESTING ENVIRONMENT	4
2.3. PROJECT DATA.....	4
2.4. SIGNATURE	4
3. CLIENT INFORMATION.....	5
3.1. APPLICANT INFORMATION.....	5
3.2. MANUFACTURER INFORMATION.....	5
4. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
4.1. ABOUT EUT	6
4.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	6
4.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST.....	6
4.4. EUT SET-UPS	8
5. REFERENCE DOCUMENTS	9
5.1. REFERENCE DOCUMENTS FOR TESTING.....	9
6. LABORATORY ENVIRONMENT	10
7. SUMMARY OF TEST RESULTS.....	11
8. TEST EQUIPMENTS UTILIZED.....	12
ANNEX A: MEASUREMENT RESULTS	13
ANNEX B: PERSONS INVOLVED IN THIS TESTING.....	34

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.

2. Test Laboratory

2.1. Testing Location

CTTL(huayuan North Road)

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

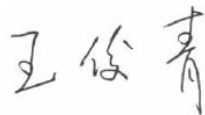
2.2. Testing Environment

Normal Temperature: 15-35° C
Relative Humidity: 20-75%

2.3. Project data

Testing Start Date: 2019-11-11
Testing End Date: 2019-12-16

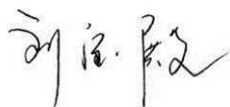
2.4. Signature



Wang Junqing
(Prepared this test report)



Zhang Ying
(Reviewed this test report)



Liu Baodian
Deputy Director of the laboratory
(Approved this test report)

3. Client Information

3.1. Applicant Information

Company Name: Samsung Electronics. Co., Ltd.
Address: R5, A Tower 22 Floor A-1,(Maetan dong)
129,Samsung-ro,Yeongtong-gu, Suwon-Si, Gyeonggi-do 16677, Korea
Contact Person JP KIM
Contact Email jp426.kim@samsung.com
Telephone: +82-10-4376-0326
Fax: /

3.2. Manufacturer Information

Company Name: Samsung Electronics. Co., Ltd.
Address: R5, A Tower 22 Floor A-1,(Maetan dong)
129,Samsung-ro,Yeongtong-gu, Suwon-Si, Gyeonggi-do 16677, Korea
Contact Person JP KIM
Contact Email jp426.kim@samsung.com
Telephone: +82-10-4376-0326
Fax: /

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

4.1. About EUT

Description	Mobile phone
Model Name	SM-A015A,SM-A015AZ
FCC ID	ZCASMA015A
Power Supply	3.85V

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.

4.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	/	/	/
EUT3	/	/	/

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

4.3. Internal Identification of AE used during the test

AE ID*	Description	SN	Remarks
AE1	Battery	/	/
AE2	Battery	/	/
AE3	Charger	/	315
AE4	Charger	/	929
AE5	Charger	/	941
AE6	USB Cable	/	/
AE7	Headset	/	/
AE10	OTG Cable	/	/

AE1

Model	QL1695
Manufacturer	Ningde Amperex Technology Limited
Capacitance	/
Nominal voltage	3.85 V

AE2

Model	QL1695
Manufacturer	SCUD(Fujian) Electronics Co., Ltd.
Capacitance	/
Nominal voltage	3.85 V

AE3

Model	EP-TA50JWE
Manufacturer	DongYang E&P Inc.
Length of cable	/

AE4

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



AE5

Model	EP-TA50JWE
Manufacturer	RF Tech
Length of cable	/

AE6

Model	EP-DR140AWE
Manufacturer	LUXSHARE-ICT (VIETNAM) LIMITED
Length of cable	/

AE7

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

AE10

Model	/
Manufacturer	/
Length of cable	/

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

Note: The USB cables are shielded.

4.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.7	EUT1+ AE1/AE2+ AE3+ AE6+ AE7	Charger + FM
Set.8	EUT1+ AE1/AE2+ AE4+ AE6	Charger
Set.9	EUT1+ AE1/AE2+ AE5+ AE6	Charger
Set.10	EUT1+ AE1/AE2+ AE6	USB
Set.11	EUT1+ AE1+AE6+AE10+ EUT3	OTG Charging mode

Note: Mobile phone SM-A015A,SM-A015AZ manufactured by Samsung Electronics. Co., Ltd. is a variant model based onSM-A015T1 for conformance test. According to the declaration of changes, no test needs to been performed, all results are cited from the initial model. The report number for initial model is I19Z70327-EMC01.

5. Reference Documents

5.1. 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	2016
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.

6. LABORATORY ENVIRONMENT

Semi-anechoic chamber SAC-1 (23 meters×17meters×10meters) 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, 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 °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

7. SUMMARY OF TEST RESULTS

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

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

8. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATI ON INTERVAL
1	Test Receiver	ESU26	100235	R&S	2020-03-01	1 Year
2	Test Receiver	ESC13	100344	R&S	2020-02-14	1 Year
3	Universal Radio Communication Tester	CMW500	150344	R&S	2020-11-17	1 year
4	Universal Radio Communication Tester	CMW500	116588	R&S	2020-12-26	1 year
5	LISN	ENV216	101200	R&S	2020-03-14	1 year
6	EMI Antenna	VULB 9163	9163-1222	Schwarzbeck	2020-03-14	1 year
7	EMI Antenna	3115	6914	ETS-Lindgren	2021-01-03	1 year
8	PC	M4000E-17	M706GWXD	LENOVO	N/A	N/A
9	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
10	Signal Generator	SMBV100A	260613	R&S	2020-12-27	1 year

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, charging mode of MS and OTG 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, charging mode and OTG 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 and is connected to a device in the case of OTG charging mode. The model of the PC is M4000E-17, and the serial number of the PC is M706GWXD. 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.1.3 Measurement Limit

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

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

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

Measurement uncertainty (worst case): $U = 5.44 \text{ dB}$, $k=2$.

Measurement results for Set.7:

Charging Mode/Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17826.033	46.8	-18.5	45.6	19.7	H
17963.733	46.8	-17.7	45.6	18.9	H
17952.967	46.7	-17.7	45.6	18.8	V
17935.967	46.6	-17.7	45.6	18.7	H
17955.233	46.6	-17.7	45.6	18.7	H
17947.867	46.5	-17.7	45.6	18.6	H

Charging Mode/Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17958.633	58.2	-17.7	45.6	30.3	H
17917.833	58.0	-17.7	45.6	30.1	H
17824.333	58.0	-18.5	45.6	30.9	V
17816.400	57.9	-18.5	45.6	30.8	H
17950.700	57.9	-17.7	45.6	30.0	H
17505.867	57.9	-19.2	45.6	31.5	H

Measurement results for Set.8:
Charging Mode/Average detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Antenna Pol. (H/V)
17956.933	46.8	-17.7	45.6	18.9	H
17960.333	46.8	-17.7	45.6	18.9	H
17821.500	46.8	-18.5	45.6	19.7	V
17954.100	46.7	-17.7	45.6	18.8	H
17949.000	46.7	-17.7	45.6	18.8	H
17947.867	46.6	-17.7	45.6	18.7	H

Charging Mode/ Peak detector

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Antenna Pol. (H/V)
17826.033	58.8	-18.5	45.6	31.7	H
17941.067	58.6	-17.7	45.6	30.7	H
17956.933	58.4	-17.7	45.6	30.5	V
17942.767	58.2	-17.7	45.6	30.3	H
17849.267	58.1	-18.5	45.6	31.0	H
17718.367	57.9	-18.9	45.6	31.2	H

Measurement results for Set.9:
Charging Mode/Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17956.933	46.8	-17.7	45.6	18.9	H
17960.333	46.8	-17.7	45.6	18.9	H
17821.500	46.8	-18.5	45.6	19.7	V
17954.100	46.7	-17.7	45.6	18.8	H
17949.000	46.7	-17.7	45.6	18.8	H
17947.867	46.6	-17.7	45.6	18.7	H

Charging Mode/Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17843.600	58.1	-18.5	45.6	31.0	H
17990.367	57.9	-17.7	45.6	30.0	H
17975.633	57.9	-17.7	45.6	30.0	V
17402.167	57.8	-19.2	41.5	35.5	H
17802.233	57.6	-18.5	45.6	30.5	H
17917.267	57.6	-17.7	45.6	29.7	H

Measurement results for Set.10:
USB Mode/Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17960.333	46.8	-17.7	45.6	18.9	H
17822.633	46.5	-18.5	45.6	19.4	H
17959.767	46.4	-17.7	45.6	18.5	V
17942.767	46.4	-17.7	45.6	18.5	H
17954.667	46.3	-17.7	45.6	18.4	H
17956.367	46.2	-17.7	45.6	18.3	H

USB Mode/Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17962.033	57.7	-17.7	45.6	29.8	H
17969.967	57.6	-17.7	45.6	29.7	H
17514.933	57.5	-19.2	45.6	31.1	V
17980.733	57.5	-17.7	45.6	29.6	H
17698.533	57.5	-18.9	45.6	30.8	H
17611.833	57.5	-18.9	45.6	30.8	H

Measurement results for Set.11:
OTG Charging Mode/Average detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17822.067	46.9	-18.5	45.6	19.8	H
17942.200	46.9	-17.7	45.6	19.0	H
17961.467	46.8	-17.7	45.6	18.9	V
17950.133	46.8	-17.7	45.6	18.9	H
17960.900	46.8	-17.7	45.6	18.9	H
17927.467	46.8	-17.7	45.6	18.9	H

OTG Charging Mode/Peak detector

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Antenna Pol. (H/V)
17951.267	59.4	-17.7	45.6	31.5	H
17959.200	58.5	-17.7	45.6	30.6	H
17622.033	58.4	-18.9	45.6	31.7	V
17945.033	58.3	-17.7	45.6	30.4	H
17962.600	58.2	-17.7	45.6	30.3	H
17963.733	58.2	-17.7	45.6	30.3	H

Charging Mode, Set.7

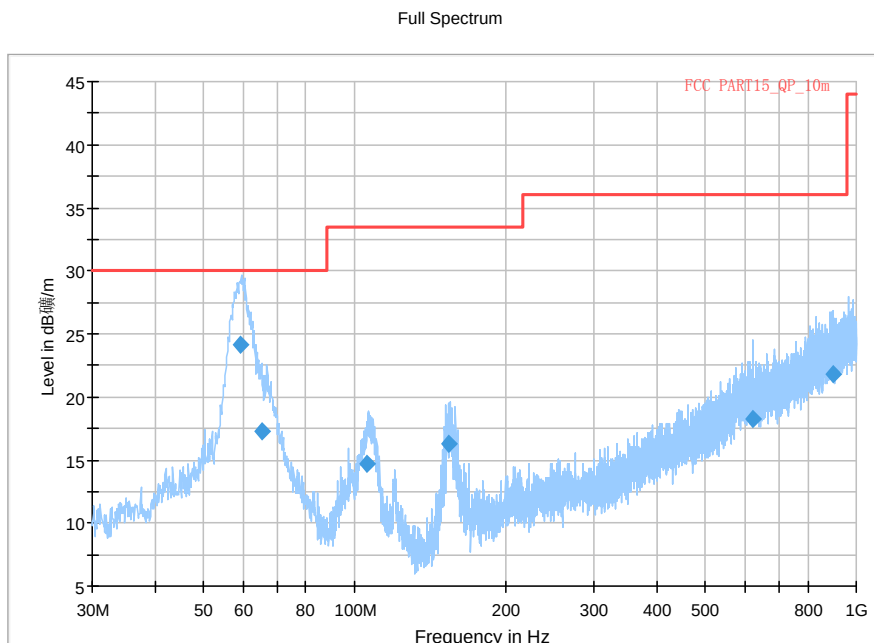


Fig A.1 Radiated Emission from 30MHz to 1GHz

Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
59.128000	24.11	30.00	5.89	1000.0	120.000	225.0	V	11.0
65.451000	17.33	30.00	12.67	1000.0	120.000	179.0	V	300.0
106.210000	14.71	33.50	18.81	1000.0	120.000	190.0	V	240.0
154.451000	16.34	33.50	17.18	1000.0	120.000	106.0	V	62.0
621.973000	18.26	36.00	17.76	1000.0	120.000	298.0	V	-2.0
897.942000	21.87	36.00	14.15	1000.0	120.000	325.0	V	24.0

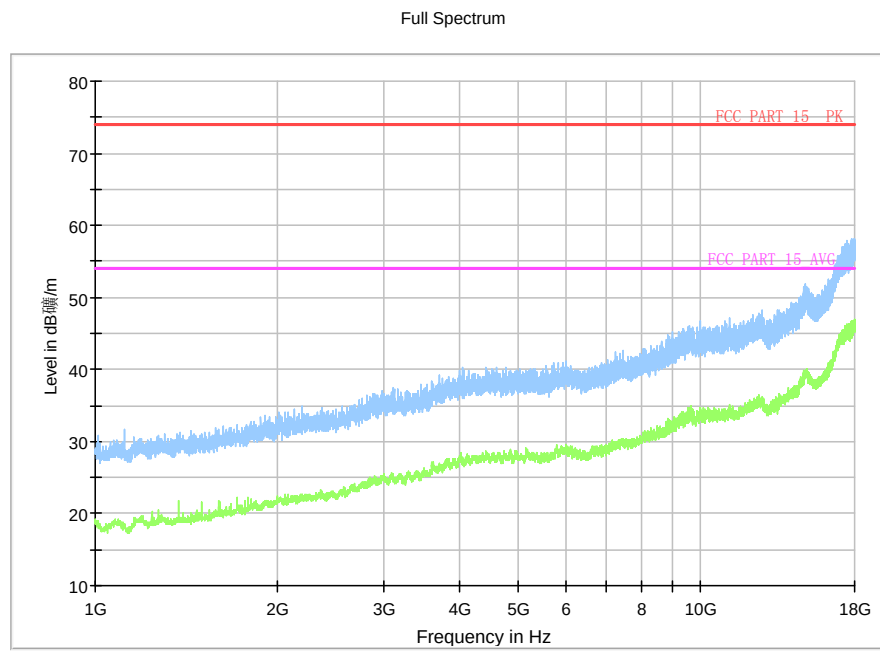


Fig A.2 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.8

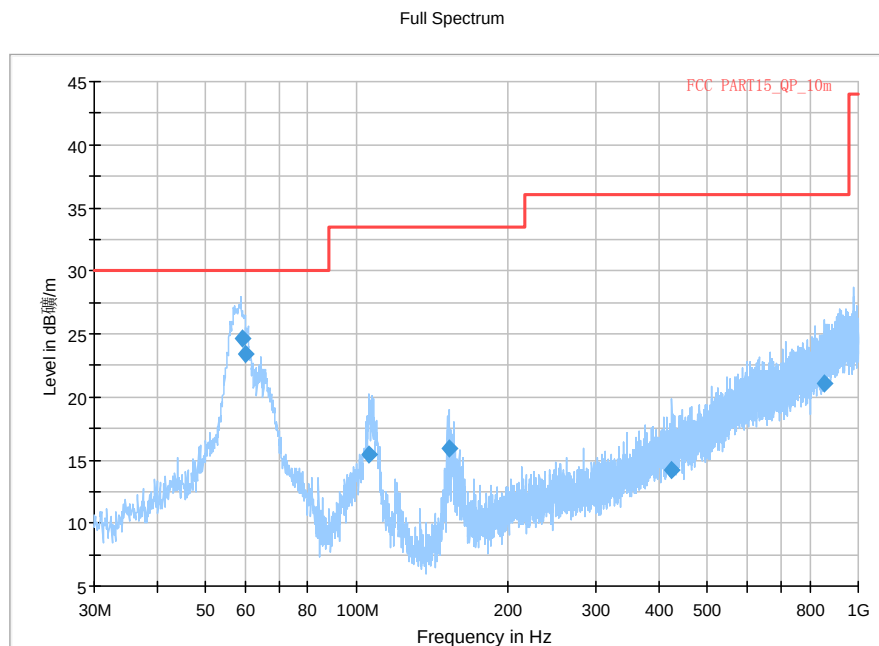


Fig A.3 Radiated Emission from 30MHz to 1GHz

Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
59.012000	24.58	30.00	5.42	1000.0	120.000	105.0	V	-17.0
60.149000	23.39	30.00	6.61	1000.0	120.000	102.0	V	-4.0
105.748000	15.46	33.50	18.06	1000.0	120.000	124.0	V	285.0
152.608000	15.87	33.50	17.65	1000.0	120.000	124.0	V	60.0
425.857000	14.19	36.00	21.83	1000.0	120.000	104.0	V	120.0
853.715000	21.02	36.00	15.00	1000.0	120.000	197.0	V	95.0

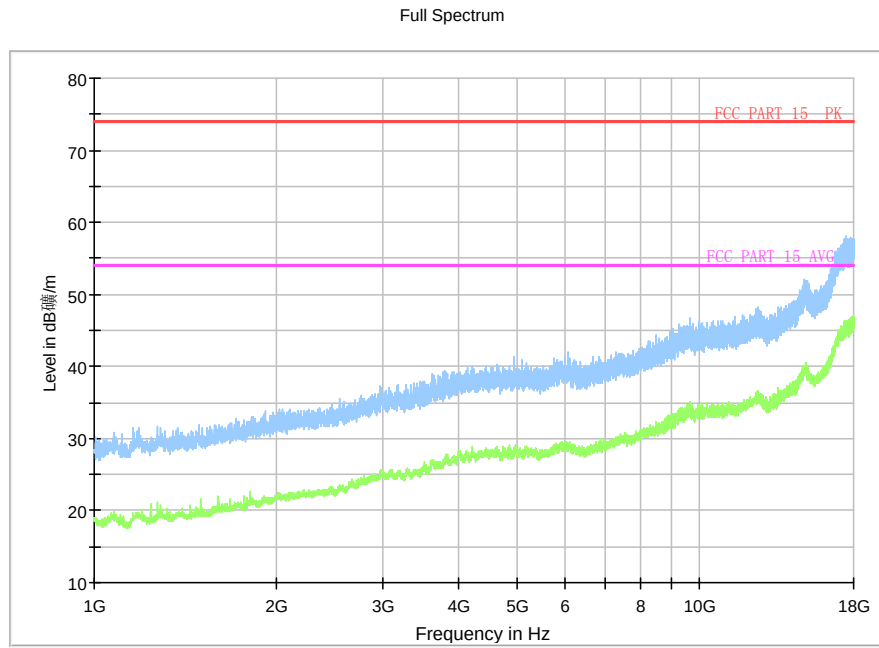


Fig A.4 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.9

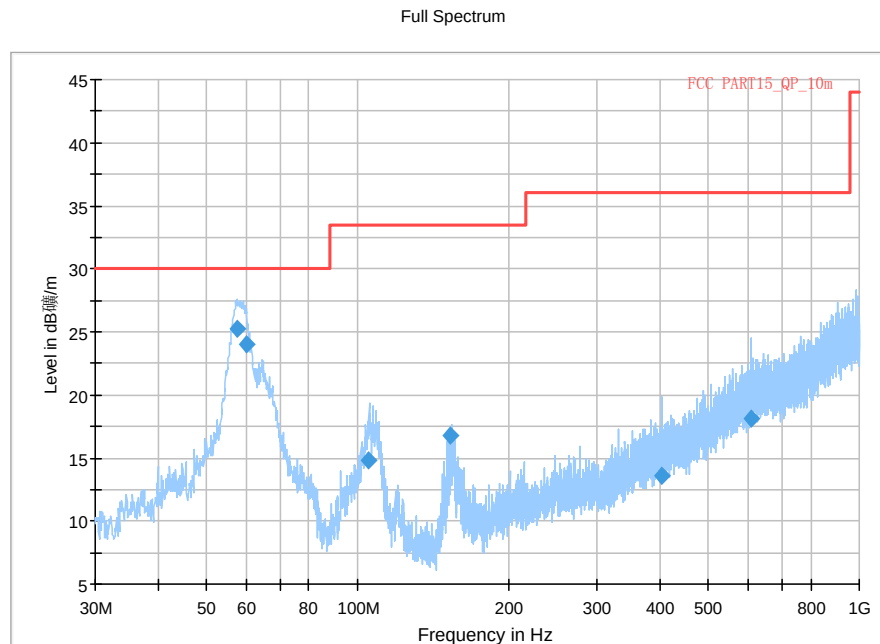


Fig A.5 Radiated Emission from 30MHz to 1GHz

Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
57.705000	25.29	30.00	4.71	1000.0	120.000	277.0	V	14.0
59.955000	23.96	30.00	6.04	1000.0	120.000	102.0	V	-26.0
105.443000	14.84	33.50	18.68	1000.0	120.000	119.0	V	-16.0
153.269000	16.76	33.50	16.76	1000.0	120.000	100.0	V	75.0
403.062000	13.60	36.00	22.42	1000.0	120.000	325.0	V	202.0
607.801000	18.08	36.00	17.94	1000.0	120.000	123.0	V	242.0

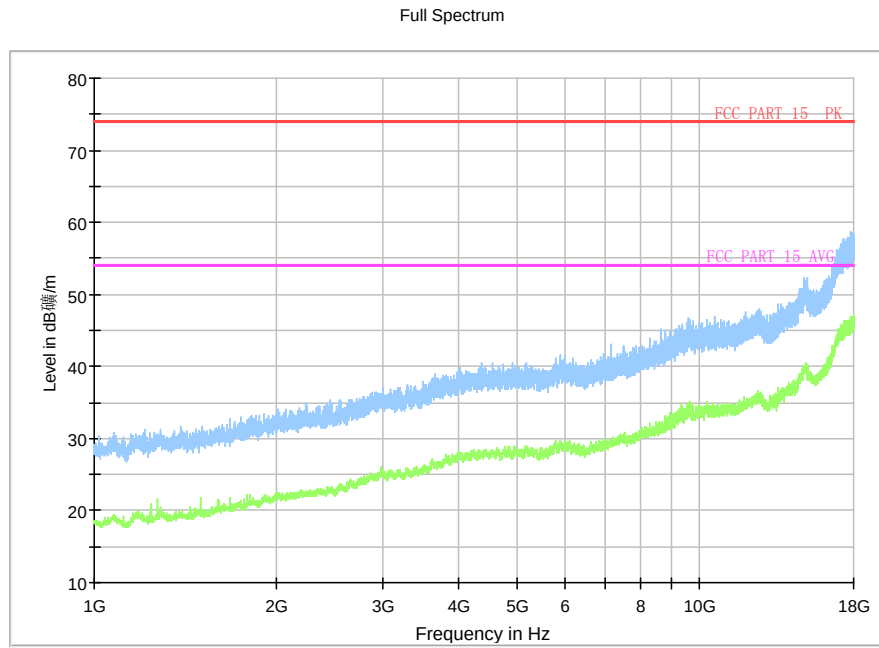


Fig A.6 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.10

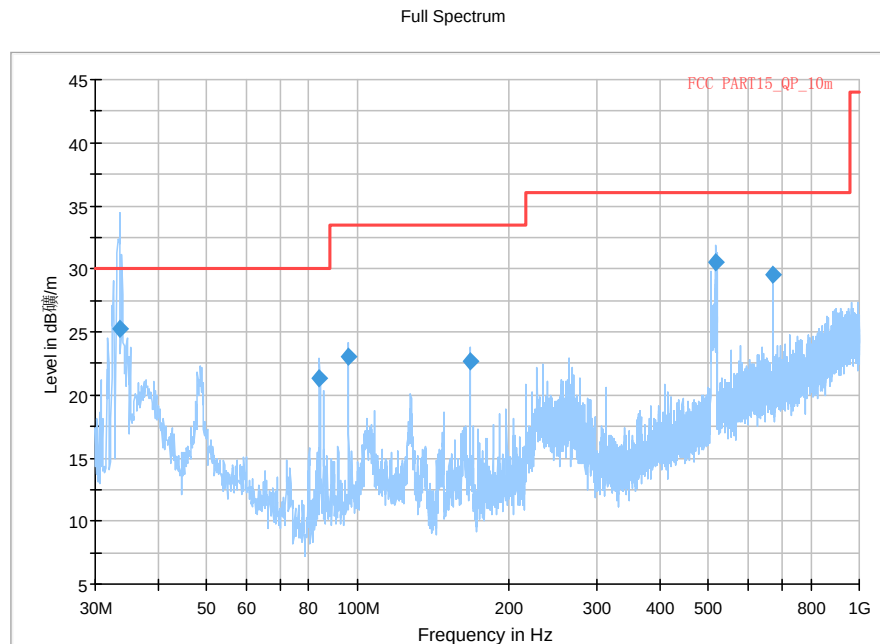


Fig A.7 Radiated Emission from 30MHz to 1GHz

Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
33.709000	25.23	30.00	4.77	1000.0	120.000	225.0	V	210.0
84.089000	21.31	30.00	8.69	1000.0	120.000	291.0	V	65.0
96.080000	23.00	33.50	10.52	1000.0	120.000	102.0	V	63.0
168.151000	22.68	33.50	10.84	1000.0	120.000	106.0	V	178.0
519.268000	30.55	36.00	5.47	1000.0	120.000	225.0	V	-21.0
671.983000	29.54	36.00	6.48	1000.0	120.000	225.0	V	171.0

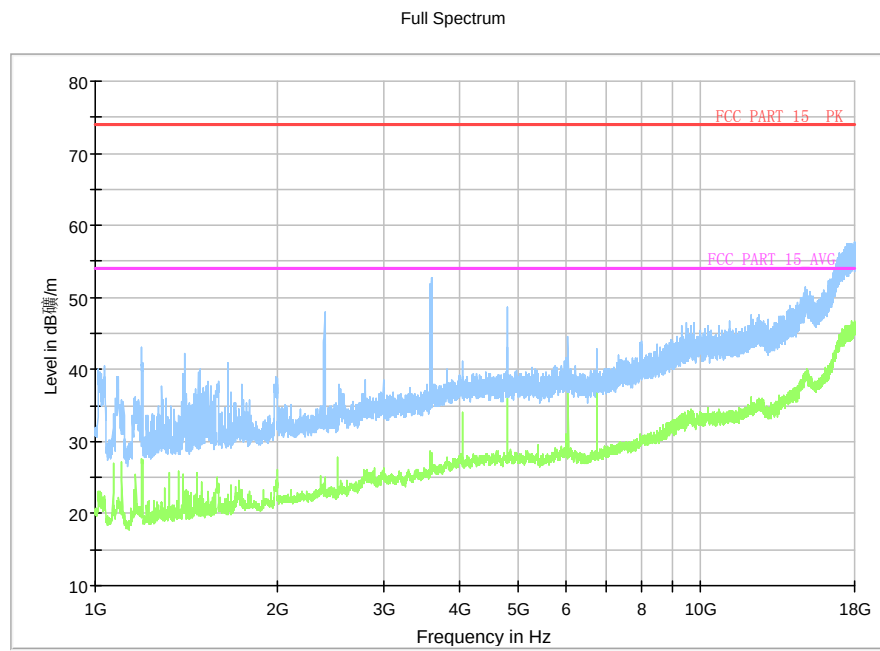


Fig A.8 Radiated Emission from 1GHz to 18GHz

OTG Charging Mode, Set.11

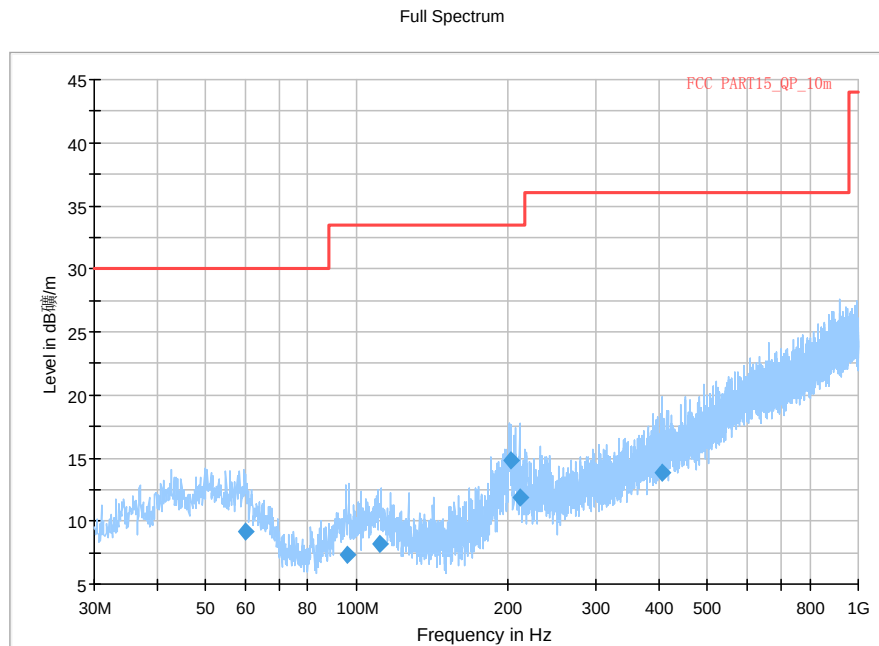


Fig A.9 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
60.199000	9.21	30.00	20.79	1000.0	120.000	278.0	V	77.0
95.928000	7.27	33.50	26.25	1000.0	120.000	279.0	V	284.0
111.485000	8.16	33.50	25.36	1000.0	120.000	104.0	V	277.0
202.872000	14.84	33.50	18.68	1000.0	120.000	125.0	V	63.0
211.653000	11.92	33.50	21.60	1000.0	120.000	125.0	V	30.0
406.452000	13.88	36.00	22.14	1000.0	120.000	103.0	V	69.0

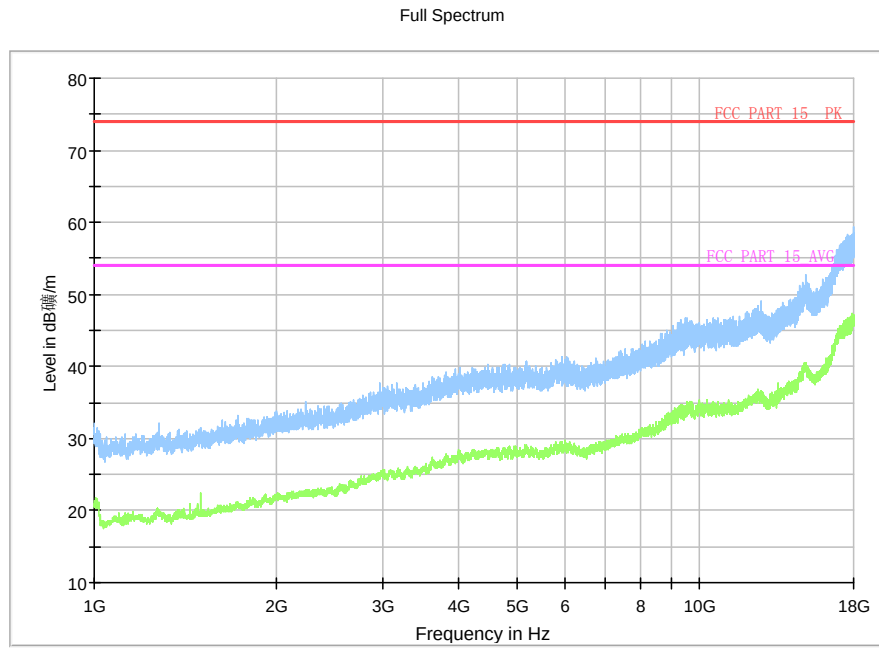


Fig A.10 Radiated Emission from 1GHz to 18GHz

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. 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 M4000E-17, and the serial number of the PC is M706GWXD. 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: $U = 3.38 \text{ dB}$, $k=2$.

Charging Mode, Set.7

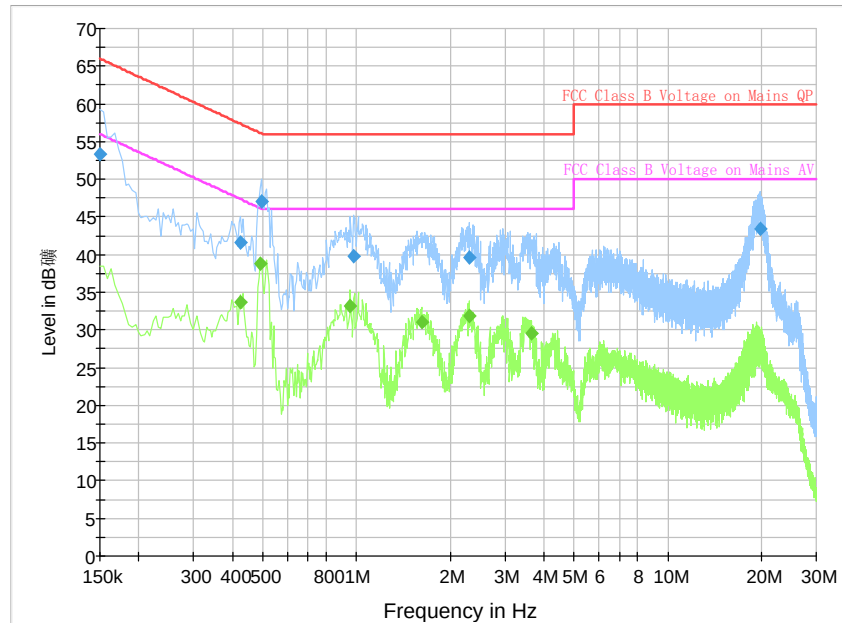


Fig A.11 Conducted Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	53.3	2000.0	9.000	On	L1	30.7	12.7	66.0	
0.424500	41.6	2000.0	9.000	On	L1	19.8	15.8	57.4	
0.496500	47.0	2000.0	9.000	On	L1	19.8	9.1	56.1	
0.978000	39.8	2000.0	9.000	On	L1	19.7	16.2	56.0	
2.301000	39.6	2000.0	9.000	On	L1	19.6	16.4	56.0	
19.747500	43.4	2000.0	9.000	On	N	19.9	16.6	60.0	

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.424500	33.6	2000.0	9.000	On	L1	19.8	13.7	47.4	
0.492000	38.7	2000.0	9.000	On	L1	19.8	7.4	46.1	
0.955500	33.2	2000.0	9.000	On	L1	19.7	12.8	46.0	
1.621500	31.1	2000.0	9.000	On	L1	19.6	14.9	46.0	
2.301000	31.9	2000.0	9.000	On	L1	19.6	14.2	46.0	
3.651000	29.6	2000.0	9.000	On	L1	19.6	16.4	46.0	

Charging Mode, Set.8

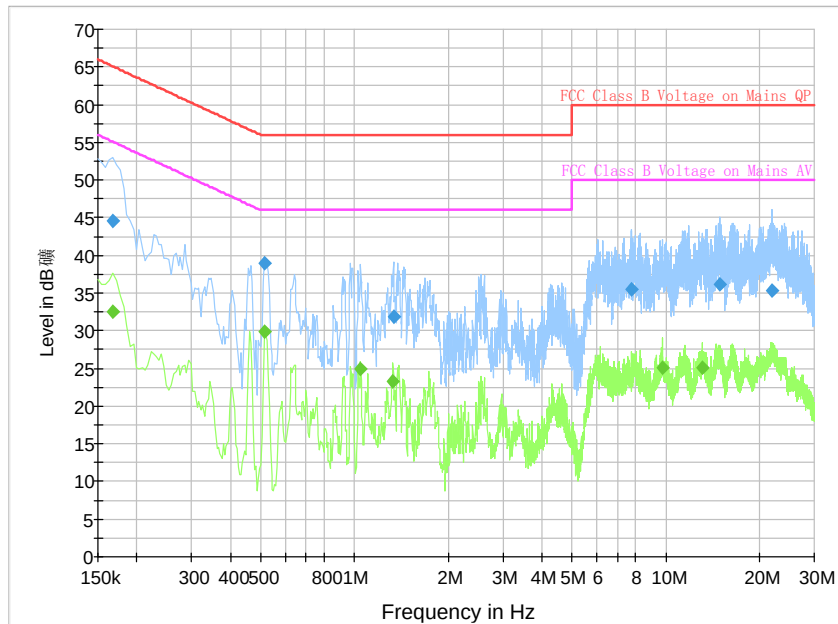


Fig A.12 Conducted Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.168000	44.5	2000.0	9.000	On	L1	26.8	20.6	65.1	
0.514500	39.0	2000.0	9.000	On	L1	19.8	17.0	56.0	
1.333500	31.9	2000.0	9.000	On	L1	19.6	24.1	56.0	
7.768500	35.5	2000.0	9.000	On	L1	19.7	24.5	60.0	
14.923500	36.1	2000.0	9.000	On	L1	19.8	23.9	60.0	
22.024500	35.3	2000.0	9.000	On	L1	19.9	24.7	60.0	

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.168000	32.5	2000.0	9.000	On	L1	26.8	22.6	55.1	
0.514500	29.8	2000.0	9.000	On	L1	19.8	16.2	46.0	
1.045500	24.9	2000.0	9.000	On	L1	19.7	21.1	46.0	
1.329000	23.2	2000.0	9.000	On	L1	19.6	22.8	46.0	
9.744000	25.1	2000.0	9.000	On	L1	19.7	24.9	50.0	
13.159500	25.2	2000.0	9.000	On	L1	19.8	24.8	50.0	

Charging Mode, Set.9

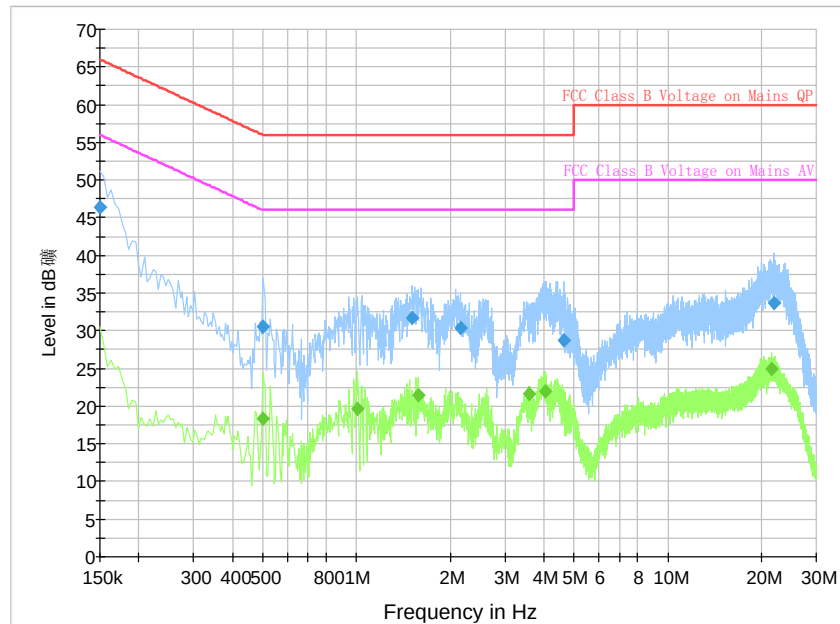


Fig A.13 Conducted Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.150000	46.5	2000.0	9.000	On	L1	30.7	19.5	66.0	
0.501000	30.6	2000.0	9.000	On	L1	19.8	25.4	56.0	
1.513500	31.7	2000.0	9.000	On	L1	19.6	24.3	56.0	
2.152500	30.3	2000.0	9.000	On	L1	19.6	25.7	56.0	
4.627500	28.6	2000.0	9.000	On	L1	19.6	27.4	56.0	
22.015500	33.6	2000.0	9.000	On	L1	19.9	26.4	60.0	

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.501000	18.3	2000.0	9.000	On	L1	19.8	27.7	46.0	
1.009500	19.6	2000.0	9.000	On	L1	19.7	26.4	46.0	
1.576500	21.4	2000.0	9.000	On	L1	19.6	24.6	46.0	
3.574500	21.6	2000.0	9.000	On	L1	19.6	24.4	46.0	
4.047000	21.9	2000.0	9.000	On	L1	19.6	24.1	46.0	
21.525000	24.9	2000.0	9.000	On	L1	19.9	25.1	50.0	

USB Mode, Set.10

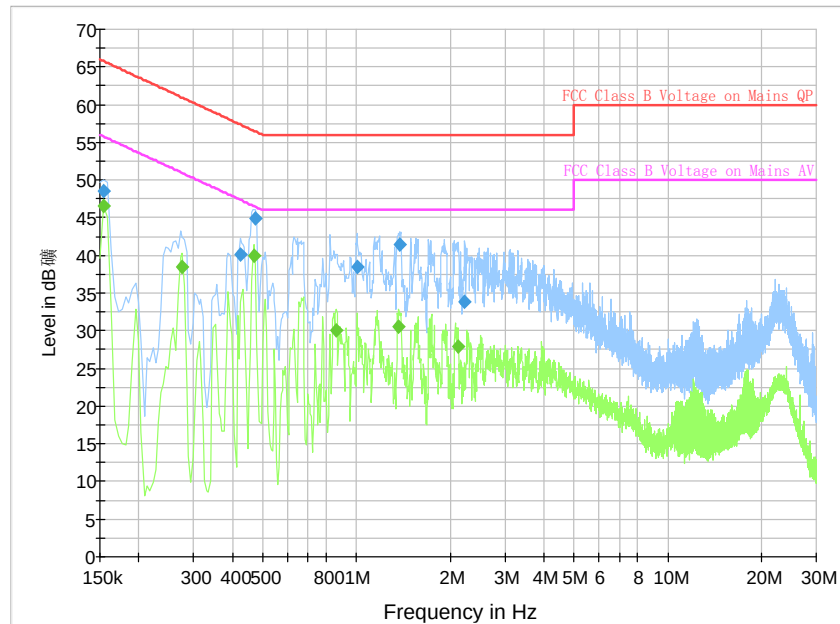


Fig A.14 Conducted Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.154500	48.6	2000.0	9.000	On	L1	29.7	17.1	65.8	
0.424500	40.2	2000.0	9.000	On	L1	19.8	17.2	57.4	
0.474000	44.9	2000.0	9.000	On	L1	19.8	11.5	56.4	
1.005000	38.4	2000.0	9.000	On	N	19.7	17.6	56.0	
1.378500	41.4	2000.0	9.000	On	L1	19.6	14.6	56.0	
2.229000	33.8	2000.0	9.000	On	N	19.6	22.2	56.0	

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.154500	46.5	2000.0	9.000	On	L1	29.7	9.2	55.8	
0.276000	38.5	2000.0	9.000	On	L1	19.8	12.5	50.9	
0.469500	40.0	2000.0	9.000	On	L1	19.8	6.6	46.5	
0.861000	30.0	2000.0	9.000	On	L1	19.7	16.0	46.0	
1.369500	30.6	2000.0	9.000	On	N	19.6	15.4	46.0	
2.130000	28.0	2000.0	9.000	On	N	19.6	18.0	46.0	

ANNEX B: PERSONS INVOLVED IN THIS TESTING

Test Item	Test Software and Version	Software Vendor	Test operator
Conducted Emission	EMC32 V8.5.2	R&S	Shi Suolan
Radiated Emission	EMC32 V9.01.00	R&S	Yan Hanchen Wang Huan Li Pengfei

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