TEST REPORT

No. 24T04Z200172-008

for

Samsung Electronics Co., Ltd.

Multi-band GSM/WCDMA/LTE/5GNR Mobile Phone with Bluetooth, WLAN

Model Name: SM-A166P/DS

with

FCC ID: ZCASMA166P

Hardware Version: REV1.0

Software Version: A166P.001

Issued Date: 2024-09-03

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:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z200172-008	Rev.0	1st edition	2024-09-03

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 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA 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: 2024-08-01

Testing End Date: 2024-08-26

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)

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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 Person:	Jenni Chun
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Telephone:	+1-201-937-4203
Fax	/

2.2. Manufacturer Information

Company Name:	Samsung Electronics. Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea
City:	/
Postal Code:	/
Country:	/
Contact Person:	Kobe Cho
Contact Email	ggobi.cho@samsung.com
Telephone:	+82-10-2722-4159
Fax	/

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

3.1. About EUT

Description	Multi-band GSM/WCDMA/LTE/5GNR Mobile Phone with Bluetooth, WLAN
Model name	SM-A166P/DS
FCC ID	ZCASMA166P

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*	IMEI/SN	HW Version	SW Version
EUT1	2404200172UT17a	REV1.0	A166P.001
EUT2	2404200172UT18a	REV1.0	A166P.001

*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*	Name	Model	Manufacturer
AE1	Battery	W3-S-S	SCUD (FUJIAN) Electronics Co., Ltd.
AE2*	Adapter	EP-TA800	DONGGUAN SOLUM ELECTRONICS CO.,LTD
AE3-1	Date Cable1 C-C	EP-DN980BWE	R.e.tech Electronics (Huizhou) Co., Ltd.
AE3-2	Date Cable2 C-C	EP-DN980BWE	Cresyn Electronics(Dongguan)co;Ltd.
AE3-3	Date Cable3 C-C	EP-DN980BWE	Cresyn electronics(Dongguan)Co;Ltd.
AE4*	Date Cable C-A	EP-DR140AWE	Cresyn Electronics(Dongguan)co;Ltd.
AE5*	Headset	QL6601A	Quancheng Electronics
AE6*	PC	CM33	/
AE7*	SD card	/	/
AE8*	MHD	/	/

* The USB cables are shielded.

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

*AE2, AE4 and A5 are not the AE for EUT, provided by the client for relevant tests.

*AE6, AE7 and AE8 are not the AE for EUT, provided by the Lab for relevant tests.

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3.4. EUT set-ups

Set-up

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT + AE1 + AE3-1/2/3	Adapter
Set.2	EUT +AE5	headset
Set.3	EUT + AE3-1/2/3 + EUT	EUT+EUT
Set.4	EUT + AE3-1/2/3 + MHD	EUT+MHD
Set.5	EUT + AE3-1/2/3 + PC	Type C communication with PC
Set.6	EUT + AE4 + PC + SD	USB communication with PC+SD

Test mode

Mode No.	Operating mode	Remarks
mode.1	MP4 Play	RE, CE
mode.2	Front Camera	RE, CE
mode.3	Rear Camera	RE, CE
mode.4	OTG Phone to Phone	RE only
mode.5	OTG + Mobile HD+MP4	RE only
mode.6	USB DATA (TYPE C)	RE, CE
mode.7	USB DATA (USB, SD TO PC)	RE, CE
mode.8	CXX RX mode	GSM850, WCDMA Band 5, LTE Band 5, LTE Band 12, LTE Band 17, LTE Band 26, 5G NR Band5, band26 (Low/Mid/High channel)

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4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters are supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC 47 CFR 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.

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5. 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)	B.1	P	**CTTL(BDA)**
2	Conducted Emission	15.107(a)	B.2	P	**CTTL(BDA)**

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6. Test Facilities Utilized

Test Equipment

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURER	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESU26	100376	R&S	2025-06-06	1 year
2	Test Receiver	ESCI	100766	R&S	2025-04-18	1 year
3	LISN	ENV216	101459	R&S	2025-05-18	1 year
4	BiLog Antenna	VULB9163	302	Schwarzbeck	2024-08-28	1 year
5	EMI Antenna	3117	00119024	ETS-Lindgren	2024-09-13	1 year
6	Universal Radio Communication Tester	CMW500	169743	R&S	2025-01-25	1 Year
7	Universal Radio Communication Tester	SP9500	20482	StarPoint	2024-11-06	2 Years
8	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
9	Keyboard	KU-1601	2048361	Lenovo	N/A	N/A
10	Mouse	EMS-537A	8021S3MC	Lenovo	N/A	N/A
11	PC	M4000e-17	M706RMW2	Lenovo	N/A	N/A
12	PC	T14S	PC-1RP0TY	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

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7. Measurement Uncertainty

Where relevant, the following measurement uncertainty (worse case) levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Location 1: CTTL (huayuan North Road)

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	4.72dB(*k*=2)
	1GHz-18GHz	4.84dB(*k*=2)
Conducted Emission	150kHz-30MHz	3.08dB(*k*=2)

Location 2: CTTL (BDA)

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	5.73dB(*k*=2)
	1GHz-18GHz	5.58dB(*k*=2)
Conducted Emission	150kHz-30MHz	3.10dB(*k*=2)

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ANNEX A: EUT parameters

Description	Multi-band GSM/WCDMA/LTE/5GNR Mobile Phone with Bluetooth, WLAN	
Model name	SM-A166P/DS	
Marketing name	Galaxy A16	
Brand name	SAMSUNG	
Cellular Bands	☐GSM	Bands 850/900/1800/1900MHz
	☐CDMA	/
	☒WCDMA	Bands 1/2/4/5/8
	☒LTE	Bands 1/2/3/4/5/7/8/12/17/20/26/28/38/40/41/66
	☒5G NR SA	Bands 1/3/5/7/8/26/2840/41/66/77/78
	☒5G NR NSA	Refer to the manufacturer's specifications
Unlicensed Radio	☒Wi-Fi 2.4GHz	802.11b/g/n(20MHz)
	☒Wi-Fi 5GHz	802.11a/n(20MHz,40MHz)/ac(20MHz,40MHz,80MHz)
	☒Wi-Fi 5.8GHz	802.11a/n(20MHz,40MHz)/ac(20MHz,40MHz,80MHz)
	☒Bluetooth	☒EDR ☐BLE4 ☒BLE5
Other	☒GNSS	☒GPS ☐BDS ☒Gallileo ☐Glonass
	☐FM ☒MP3 ☒MP4 ☒Camera ☒USB ☒NFC ☒External memory	

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, LTE Band 17, LTE Band 26, 5G NR Band5 and 5G NR Band26.

For more EUT information please refers to the manufacturer's specifications or user's manual.

Disclaimer: The EUT information provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

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ANNEX B: MEASUREMENT RESULTS

B.1 Radiated Emission

Reference

FCC: CFR Part 15.109(a).

B.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator 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 and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions. 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.

For the test setup photographs please see the test setup photos document.

B.1.2 EUT Operating Mode

The EUT is operating in the USB mode, charging mode, MP3, MP4, CAMERA, OTG, SD and cellular RX 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 Annex A, 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.

B.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.

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B.1.4 Test Condition

Voltage（V）	Frequency（Hz）
120	60

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

B.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: all the set-up and operating mode list in section 3.4 were tested, only the worst test data are showed in this section.

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Set.1+Mode3, Rear Camera

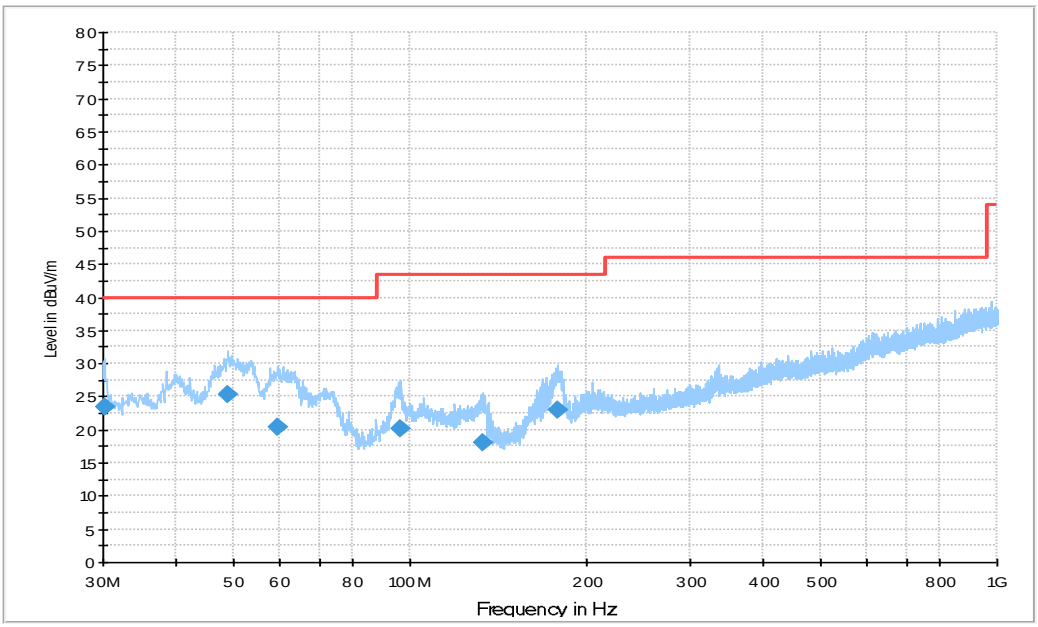

Figure A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
30.154000	23.6	100.0	V	22.0	-1.7	16.4	40.0
48.972000	25.2	100.0	V	75.0	0.4	14.8	40.0
59.291000	20.4	125.0	V	22.0	0.4	19.6	40.0
96.234000	20.1	113.0	V	22.0	-1.2	23.4	43.5
133.21100	18.1	100.0	V	22.0	-4.0	25.4	43.5
178.68400	23.0	100.0	V	22.0	-2.5	20.5	43.5

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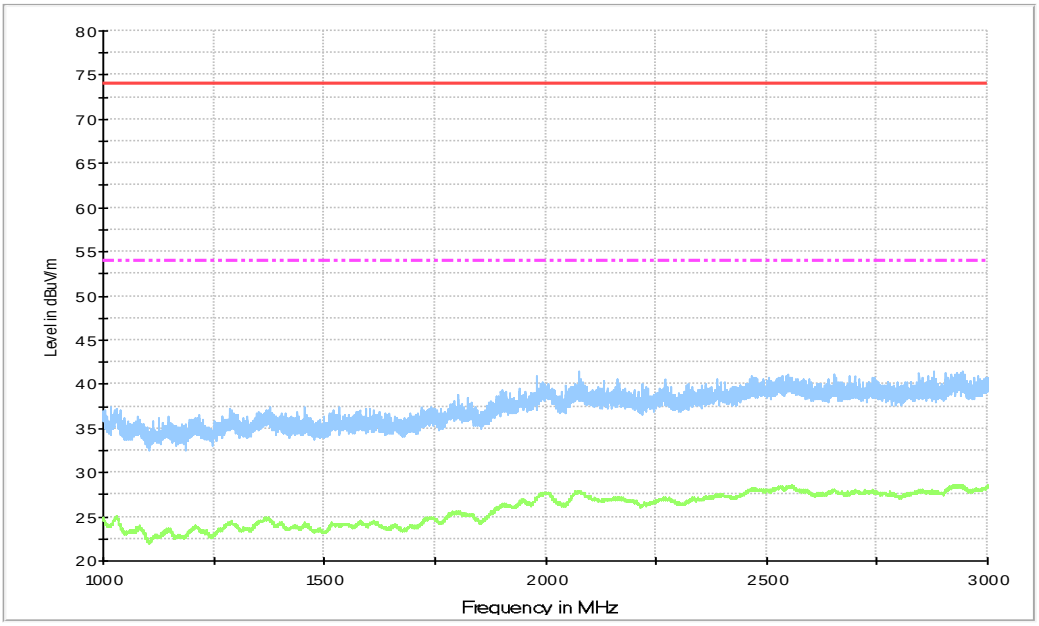

Figure A.2 Radiated Emission from 1GHz to 3GHz

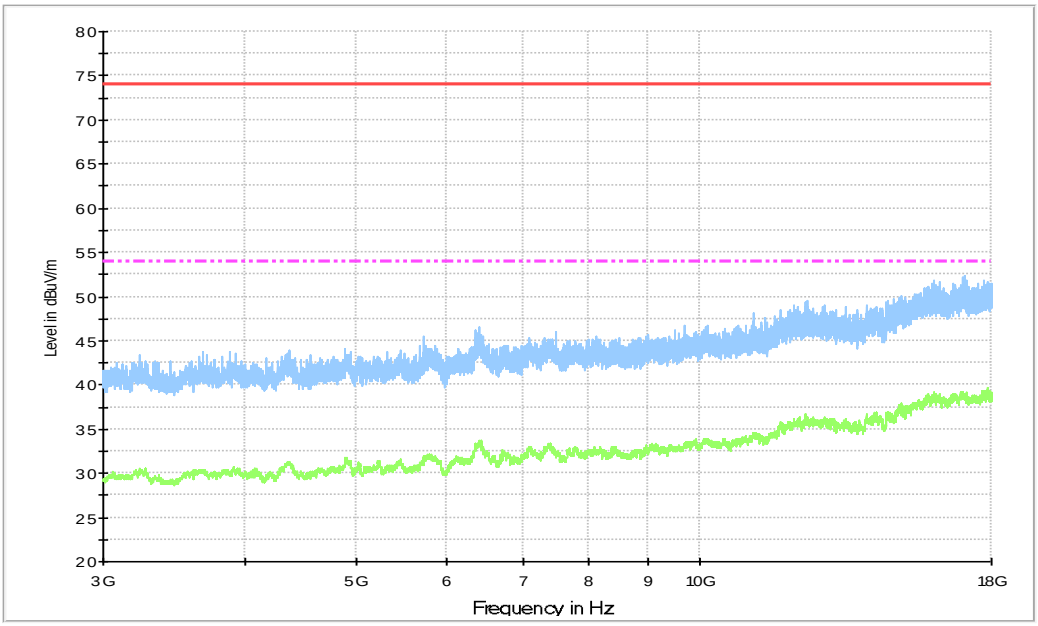

Figure A.3 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
17829.500	39.37	-23.0	40.5	21.89	54.0	14.6	V
17829.000	39.34	-23.1	40.5	21.89	54.0	14.7	V
17831.500	39.31	-23.0	40.5	21.83	54.0	14.7	V
17828.000	39.27	-23.1	40.5	21.89	54.0	14.7	V
17885.500	39.20	-23.4	40.5	22.12	54.0	14.8	V
17830.500	39.20	-23.0	40.5	21.70	54.0	14.8	V

Peak detector result

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)
16926.000	51.7	-24.4	41.2	34.90	74.0	22.3	V
16925.000	51.7	-24.4	41.2	34.88	74.0	22.3	V
17881.500	51.7	-23.4	40.5	34.60	74.0	22.3	V
17075.500	51.6	-24.4	40.9	35.08	74.0	22.4	V
16914.000	51.6	-24.4	41.3	34.67	74.0	22.4	V
16952.500	51.5	-24.1	41.2	34.39	74.0	22.5	V

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Set.1+Mode2+Mode8, Front Camera + RX LTE Band 12

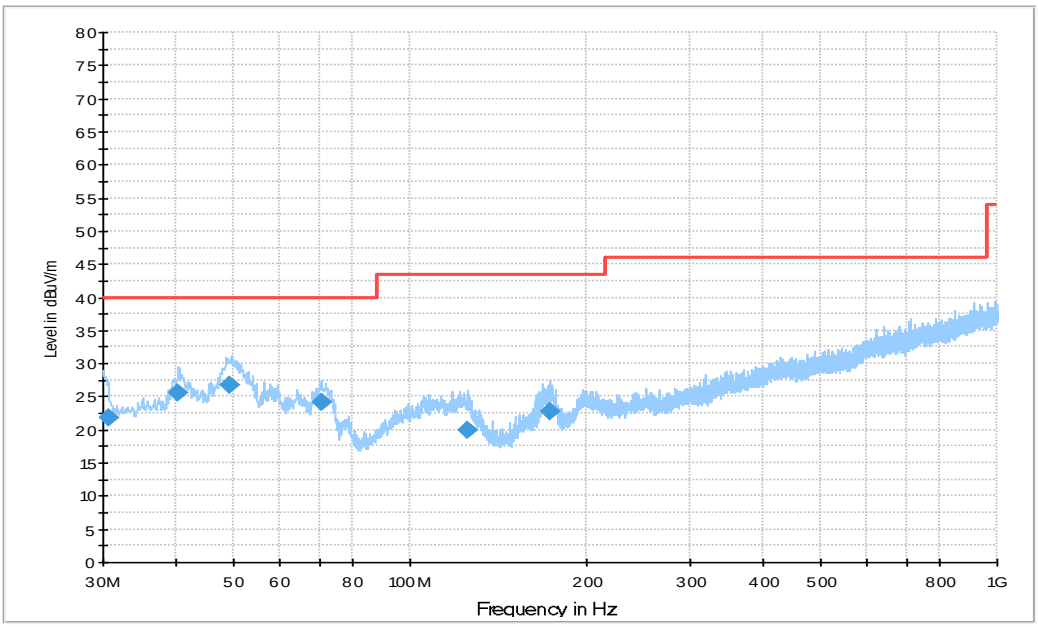

Figure A.4 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
30.662000	21.7	100.0	V	16.0	-1.5	18.3	40.0
40.376000	25.6	100.0	V	292.0	0.4	14.4	40.0
49.457000	26.8	100.0	V	74.0	0.4	13.2	40.0
70.663000	24.1	100.0	V	260.0	-3.7	15.9	40.0
125.75900	20.0	125.0	V	22.0	-3.7	23.5	43.5
172.97500	22.7	100.0	V	196.0	-2.9	20.8	43.5

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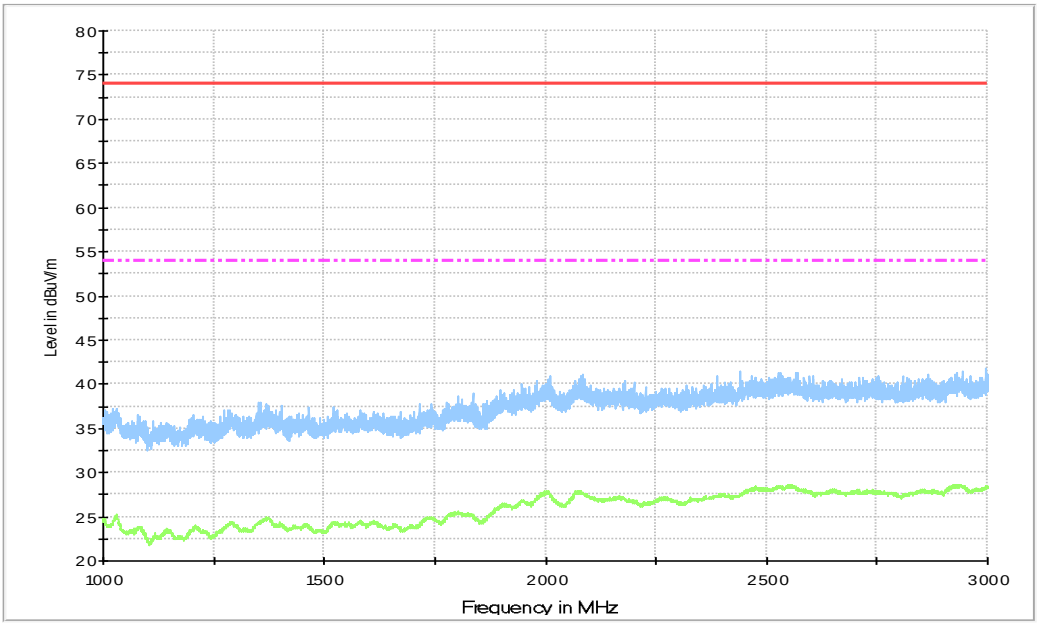

Figure A.5 Radiated Emission from 1GHz to 3GHz

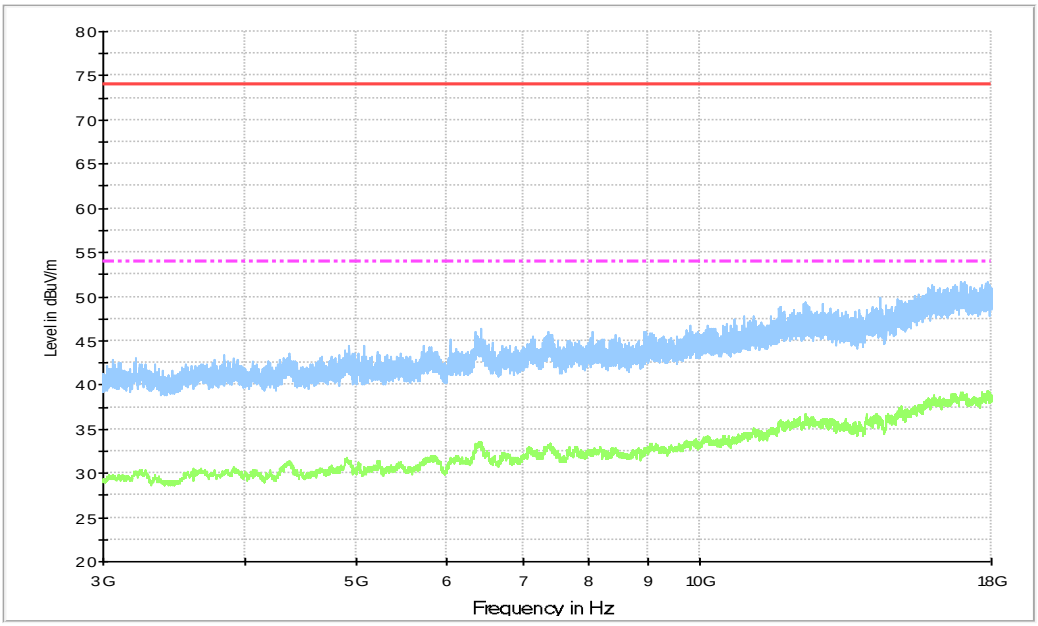

Figure A.6 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
17828.500	39.63	-23.1	40.5	22.22	54.0	14.4	V
17892.000	39.50	-23.4	40.5	22.44	54.0	14.5	V
17828.000	39.43	-23.1	40.5	22.05	54.0	14.6	V
17831.500	39.40	-23.0	40.5	21.93	54.0	14.6	V
17829.500	39.39	-23.0	40.5	21.91	54.0	14.6	V
17884.000	39.39	-23.4	40.5	22.31	54.0	14.6	V

Peak detector result

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)
17044.000	52.4	-24.5	41.0	35.91	74.0	21.6	V
17003.500	52.2	-24.2	41.1	35.30	74.0	21.8	V
17021.500	51.9	-24.2	41.1	35.11	74.0	22.1	V
16016.000	51.9	-25.0	40.9	35.97	74.0	22.1	V
17135.500	51.8	-24.4	40.9	35.36	74.0	22.2	V
17698.000	51.8	-23.9	40.6	35.11	74.0	22.2	V

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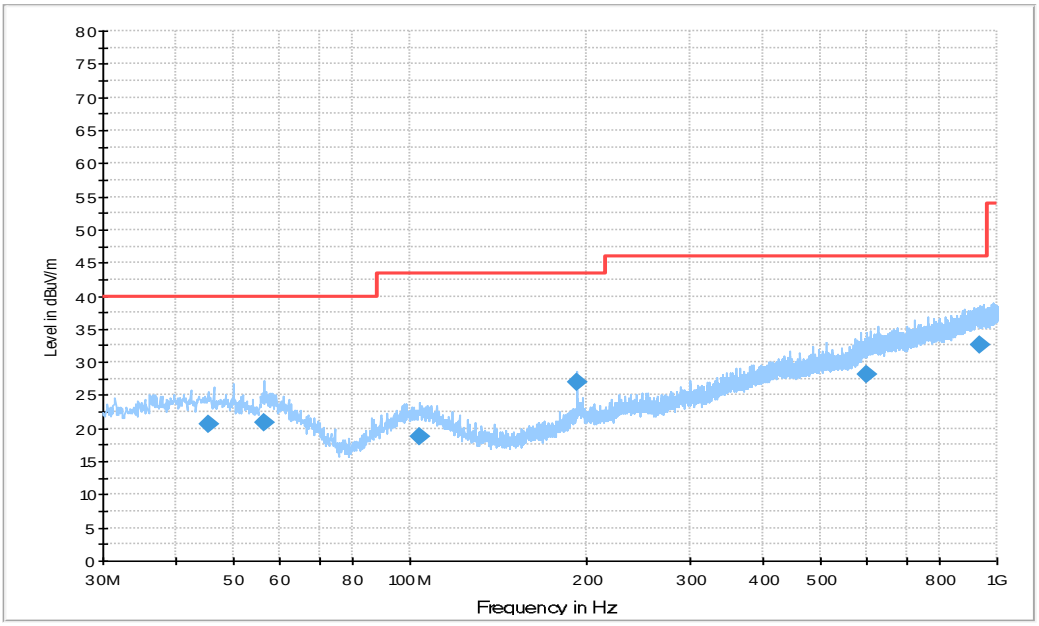

Figure A.7 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
45.309000	20.7	100.0	V	164.0	0.7	19.3	40.0
56.561000	20.8	100.0	V	-10.0	1.1	19.2	40.0
104.10500	18.7	100.0	V	-17.0	-0.5	24.8	43.5
192.01000	26.9	100.0	H	112.0	-0.6	16.6	43.5
601.43000	28.2	125.0	H	254.0	9.7	17.8	46.0
931.61200	32.7	100.0	H	22.0	13.8	13.3	46.0

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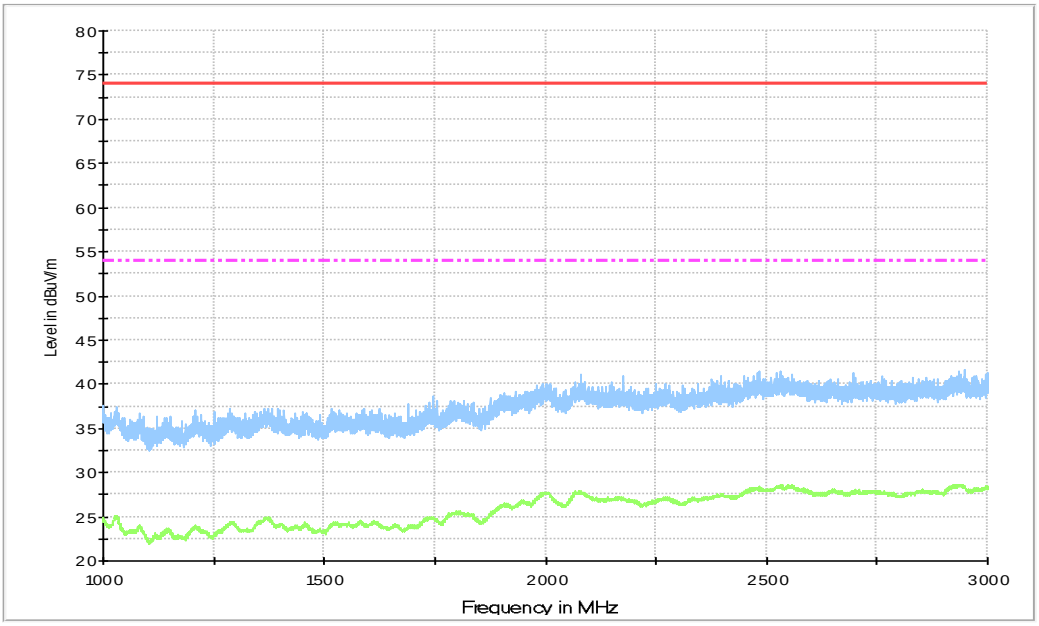

Figure A.8 Radiated Emission from 1GHz to 3GHz

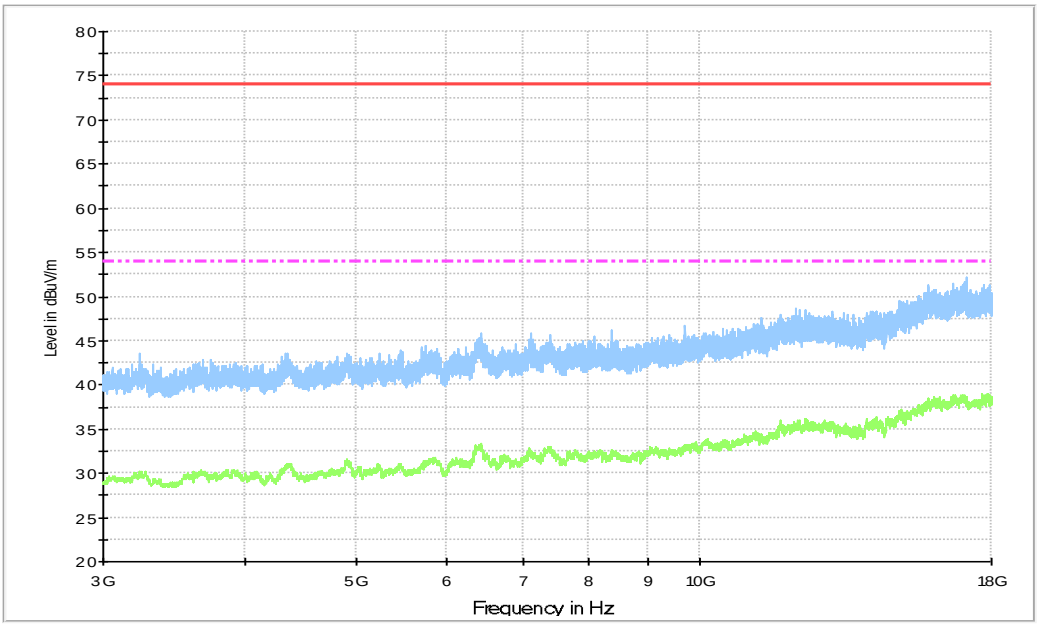

Figure A.9 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
17829.000	39.04	-23.1	40.5	21.59	54.0	15.0	V
17875.500	39.01	-23.5	40.5	22.04	54.0	15.0	V
17830.000	38.99	-23.0	40.5	21.48	54.0	15.0	V
17839.500	38.96	-23.2	40.5	21.70	54.0	15.0	V
17683.500	38.92	-23.5	40.6	21.83	54.0	15.1	V
17894.500	38.92	-23.5	40.5	21.88	54.0	15.1	V

Peak detector result

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)
17097.500	52.3	-24.4	40.9	35.75	74.0	21.7	V
17021.000	51.7	-24.2	41.1	34.80	74.0	22.3	H
17070.500	51.6	-24.2	41.0	34.80	74.0	22.4	H
16644.500	51.5	-24.6	41.4	34.72	74.0	22.5	H
17041.500	51.5	-24.6	41.0	35.05	74.0	22.5	V
17899.000	51.4	-23.5	40.5	34.36	74.0	22.6	H

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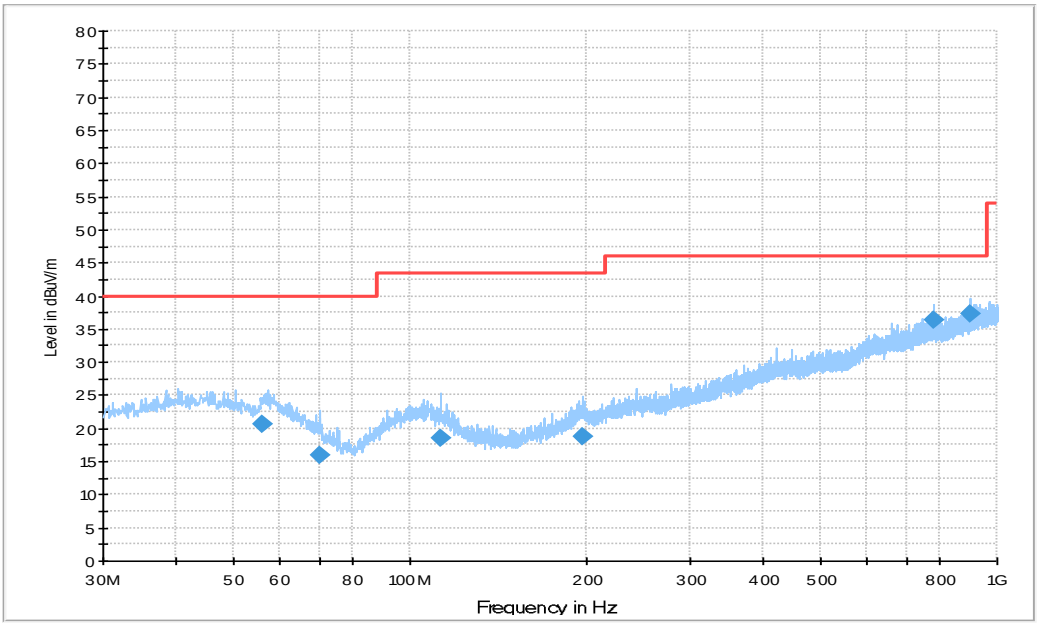

Figure A.10 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
56.173000	20.7	100.0	H	164.0	1.0	19.3	40.0
70.058000	16.0	125.0	V	-16.0	-3.4	24.0	40.0
112.54400	18.5	125.0	V	-16.0	-1.3	25.0	43.5
196.21800	18.7	100.0	V	292.0	-0.3	24.8	43.5
780.06100	36.4	100.0	H	292.0	11.8	9.6	46.0
900.11000	37.2	100.0	H	68.0	13.4	8.8	46.0

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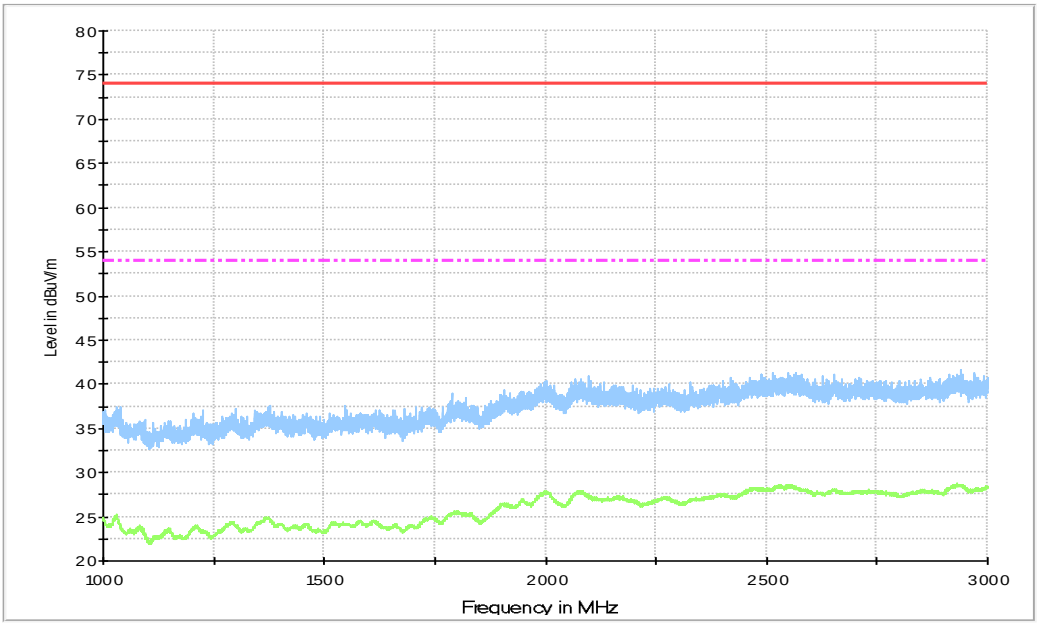

Figure A.11 Radiated Emission from 1GHz to 3GHz

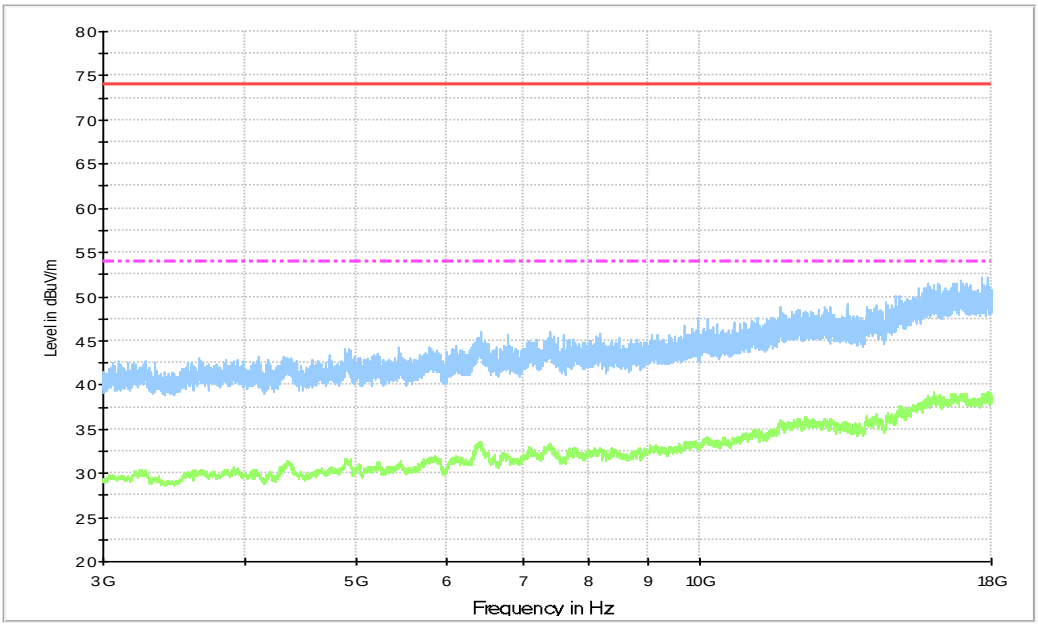

Figure A.12 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
17830.000	39.24	-23.0	40.5	21.73	54.0	14.8	V
17889.500	39.20	-23.4	40.5	22.13	54.0	14.8	V
16015.500	39.17	-25.0	40.9	23.27	54.0	14.8	H
17831.500	39.15	-23.0	40.5	21.68	54.0	14.8	V
17829.000	39.15	-23.1	40.5	21.71	54.0	14.8	V
17831.000	39.14	-23.0	40.5	21.65	54.0	14.9	V

Peak detector result

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)
16616.500	52.4	-24.9	41.4	35.85	74.0	21.6	V
17304.000	52.2	-24.3	40.8	35.67	74.0	21.8	V
16354.000	51.9	-25.0	41.0	35.86	74.0	22.1	H
15961.500	51.9	-25.2	40.9	36.08	74.0	22.1	H
16322.500	51.8	-24.8	40.9	35.72	74.0	22.2	H
17478.500	51.8	-24.3	40.6	35.54	74.0	22.2	V

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Set.5+Mode6, USB DATA

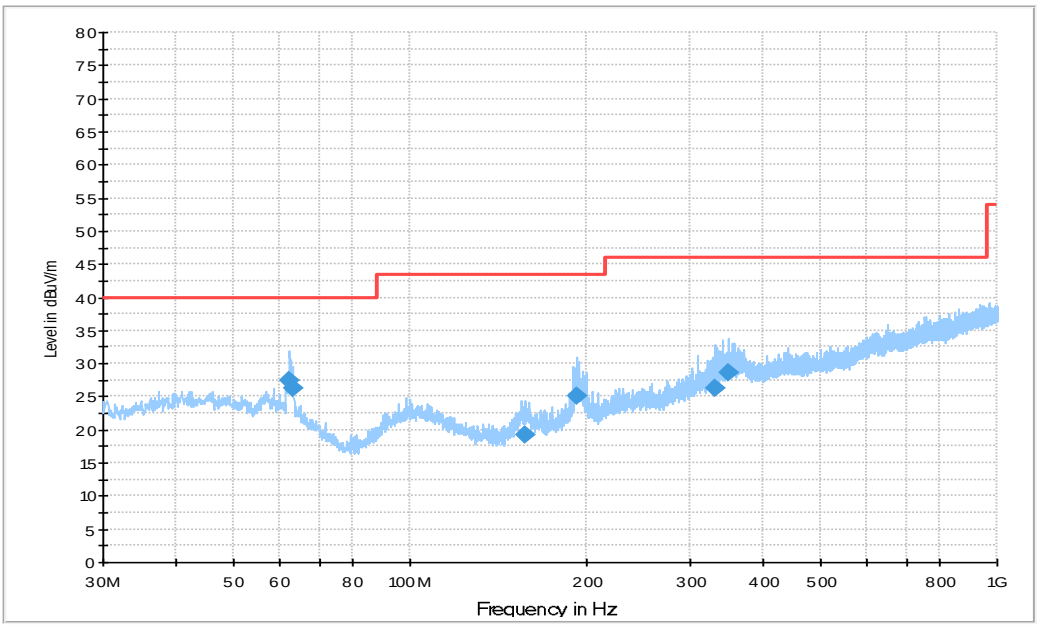

Figure A.13 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
62.381000	27.3	113.0	V	-22.0	-0.7	12.7	40.0
63.060000	26.3	113.0	V	0.0	-0.9	13.7	40.0
156.73900	19.3	125.0	H	270.0	-3.9	24.2	43.5
192.66600	25.1	125.0	H	260.0	-0.5	18.4	43.5
331.77000	26.3	125.0	H	292.0	3.3	19.7	46.0
349.69500	28.6	100.0	H	292.0	4.3	17.4	46.0

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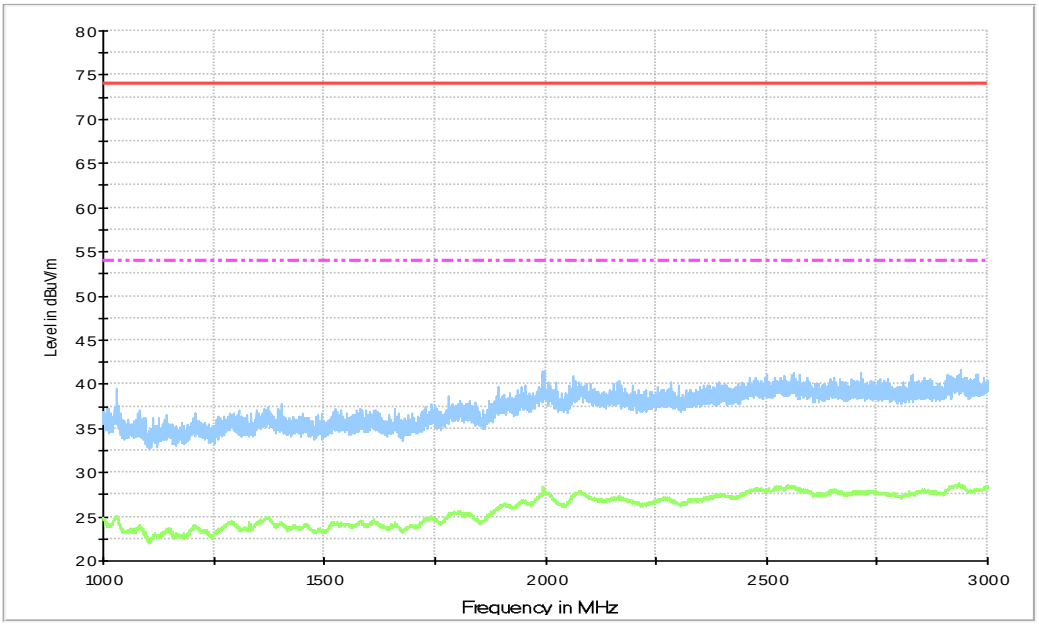

Figure A.14 Radiated Emission from 1GHz to 3GHz

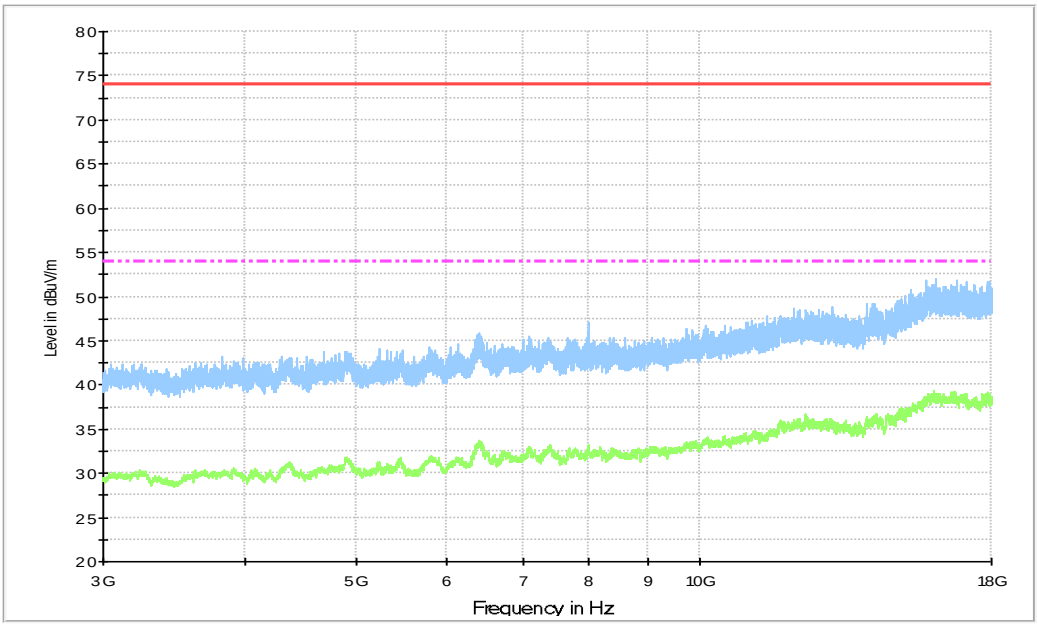

Figure A.15 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
16020.000	39.30	-24.9	40.9	23.33	54.0	14.7	V
16015.500	39.27	-25.0	40.9	23.38	54.0	14.7	V
16019.000	39.24	-24.9	40.9	23.28	54.0	14.8	V
16017.500	39.23	-25.0	40.9	23.30	54.0	14.8	V
16711.000	39.19	-24.4	41.5	22.10	54.0	14.8	V
16017.000	39.19	-25.0	40.9	23.26	54.0	14.8	V

Peak detector result

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)
16109.000	52.0	-24.9	40.9	36.00	74.0	22.0	V
15801.000	51.8	-25.6	40.9	36.51	74.0	22.2	V
16807.000	51.8	-24.9	41.3	35.37	74.0	22.2	V
17897.000	51.7	-23.5	40.5	34.72	74.0	22.3	V
17888.500	51.7	-23.4	40.5	34.66	74.0	22.3	V
17108.500	51.7	-24.3	40.9	35.06	74.0	22.3	H

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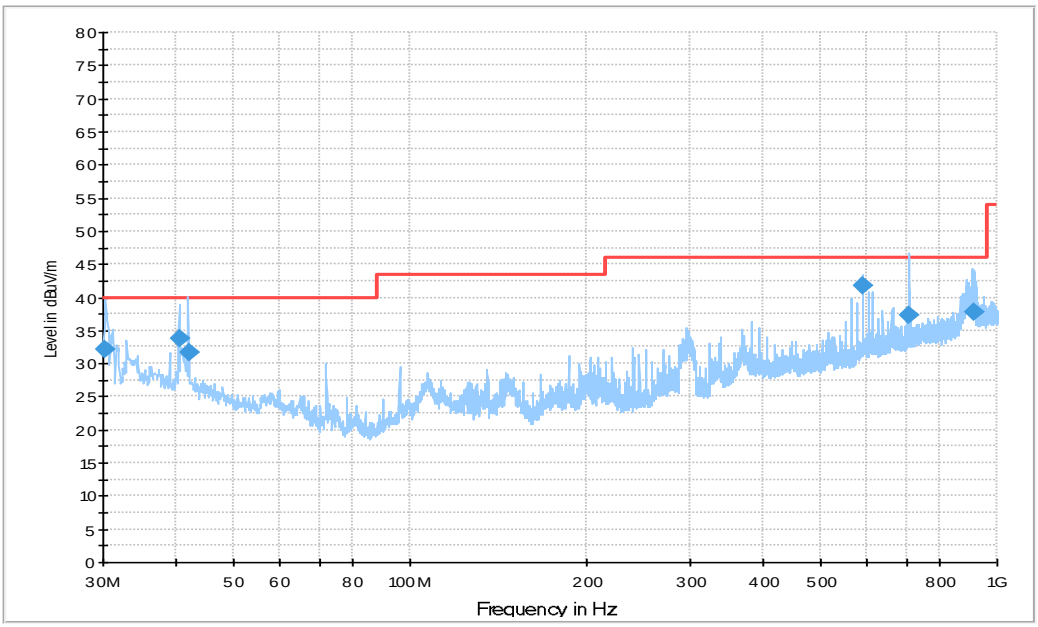

Figure A.16 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
30.311000	32.2	113.0	V	9.0	-1.6	7.8	40.0
40.496000	33.8	100.0	V	164.0	0.4	6.2	40.0
42.011000	31.8	100.0	V	90.0	0.5	8.2	40.0
589.80700	41.9	125.0	V	196.0	9.3	4.1	46.0
706.57800	37.3	100.0	H	170.0	10.8	8.7	46.0
915.99500	37.8	100.0	V	0.0	13.7	8.2	46.0

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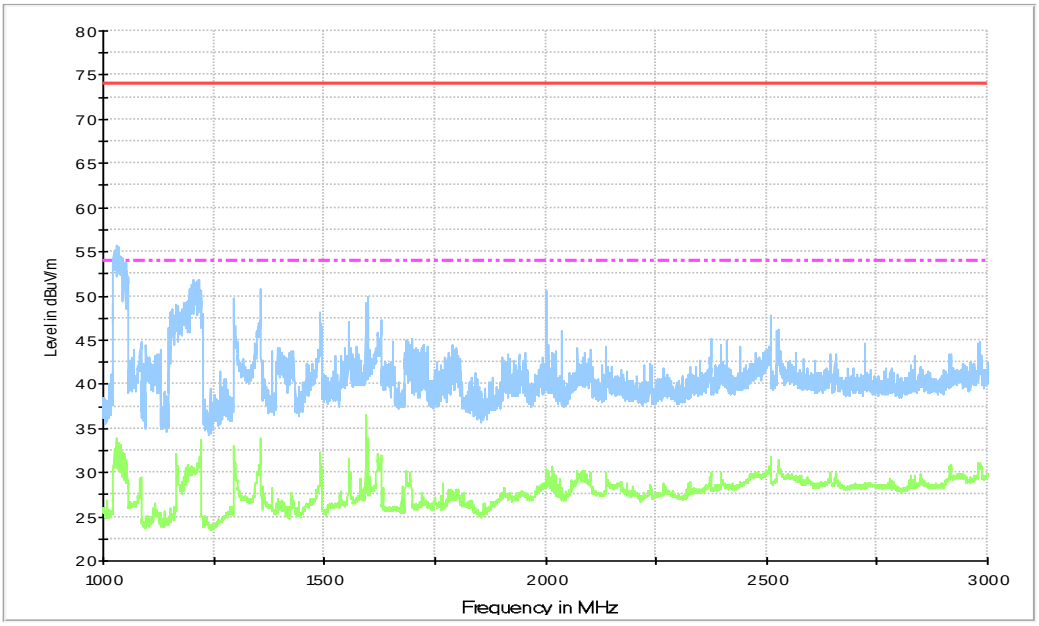

Figure A.17 Radiated Emission from 1GHz to 3GHz

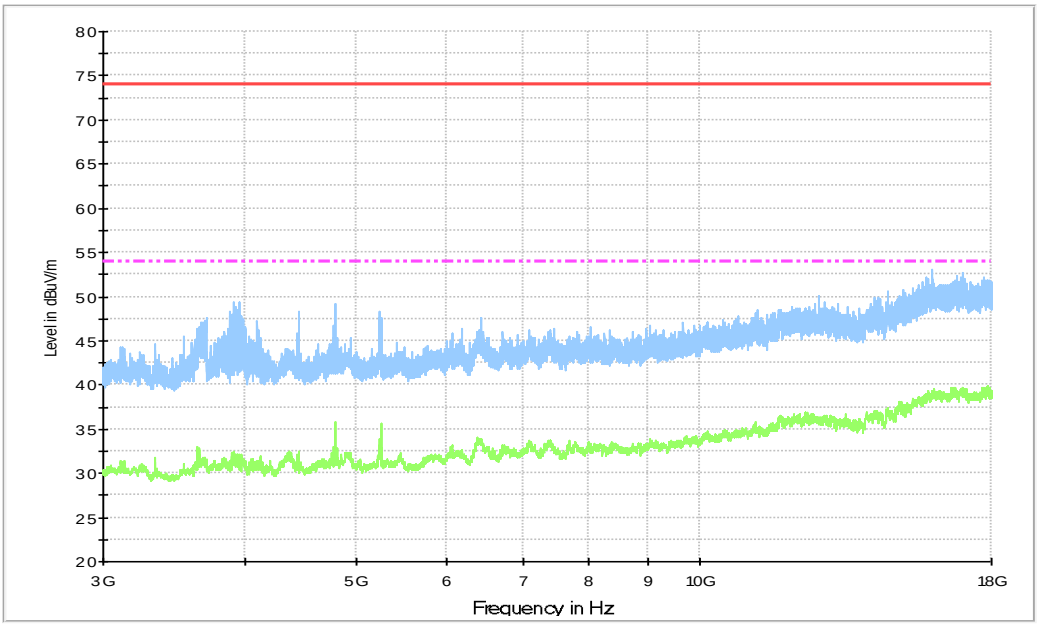

Figure A.18 Radiated Emission from 3GHz to 18GHz

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Average detector result

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)
1030.400	33.86	-37.7	28.7	42.79	54.0	20.1	V
1356.200	33.87	-37.7	28.9	42.62	54.0	20.1	V
1595.400	36.46	-37.8	28.5	45.73	54.0	17.5	V
3634.000	32.64	-34.6	33.0	34.28	54.0	21.4	V
4791.000	35.86	-34.2	34.0	36.13	54.0	18.1	V
5252.000	35.72	-34.4	34.2	35.96	54.0	18.3	V

Peak detector result

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)
1034.200	55.5	-37.9	28.6	64.74	74.0	18.5	V
1213.000	51.7	-37.9	27.8	61.78	74.0	22.3	V
2001.200	50.6	-36.6	31.6	55.66	74.0	23.4	V
3951.000	49.3	-34.6	33.1	50.80	74.0	24.7	V
4791.000	49.3	-34.2	34.0	49.52	74.0	24.7	V
5246.500	47.7	-34.3	34.2	47.75	74.0	26.3	V

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B.2 Conducted Emission

Reference

FCC: CFR Part 15.107(a).

B.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.

For the test setup photographs please see the test setup photos document.

B.2.2 EUT Operating Mode

The EUT is operating in the USB mode, charging mode, MP3, MP4, CAMERA, SD and cellular RX 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.

B.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		

B.2.4 Test Condition in charging mode

Voltage（V）	Frequency（Hz）
120	60

RBW/IF bandwidth	Sweep Time(s)
9kHz	1

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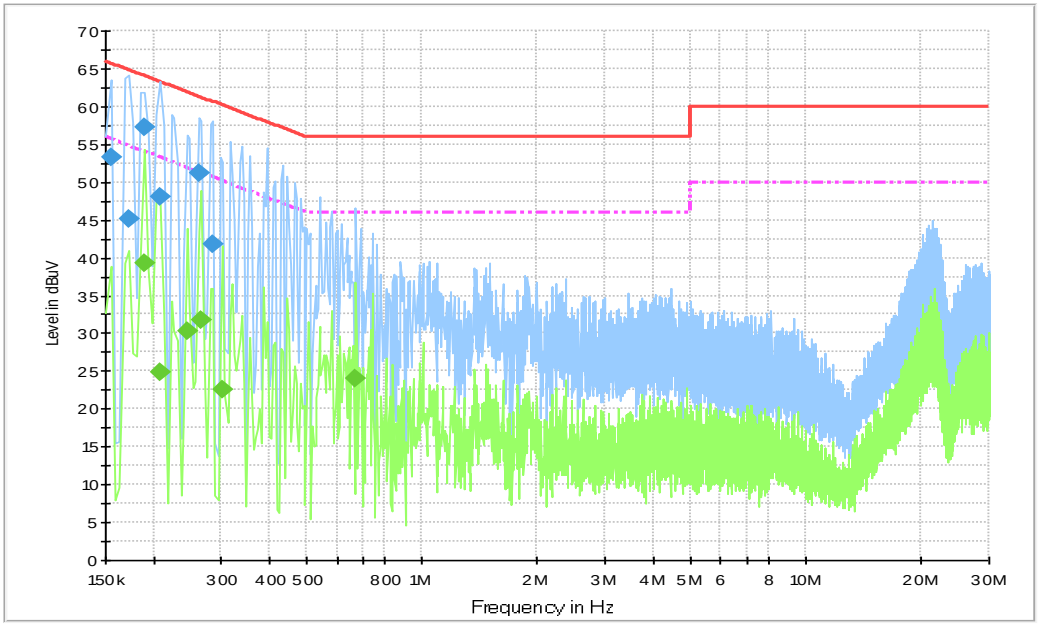
B.2.5 Measurement Results

Note: all the set-up and operating mode list in section 3.4 were tested, only the worst test data are showed in this section.

Set.1+Mode3



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

Figure A.19 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	53.3	2000.0	9.000	N	20.2	12.4	65.8
0.172500	45.1	2000.0	9.000	L1	20.1	19.7	64.8
0.190500	57.3	2000.0	9.000	N	20.0	6.7	64.0
0.208500	48.1	2000.0	9.000	N	20.0	15.2	63.3
0.262500	51.2	2000.0	9.000	N	20.1	10.2	61.4
0.285000	41.8	2000.0	9.000	N	20.1	18.9	60.7

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190500	39.3	2000.0	9.000	N	20.0	14.7	54.0
0.208500	24.9	2000.0	9.000	N	20.0	28.4	53.3
0.244500	30.3	2000.0	9.000	L1	20.0	21.6	51.9
0.267000	31.8	2000.0	9.000	L1	20.0	19.5	51.2
0.303000	22.6	2000.0	9.000	L1	20.0	27.6	50.2
0.672000	24.0	2000.0	9.000	L1	20.0	22.0	46.0

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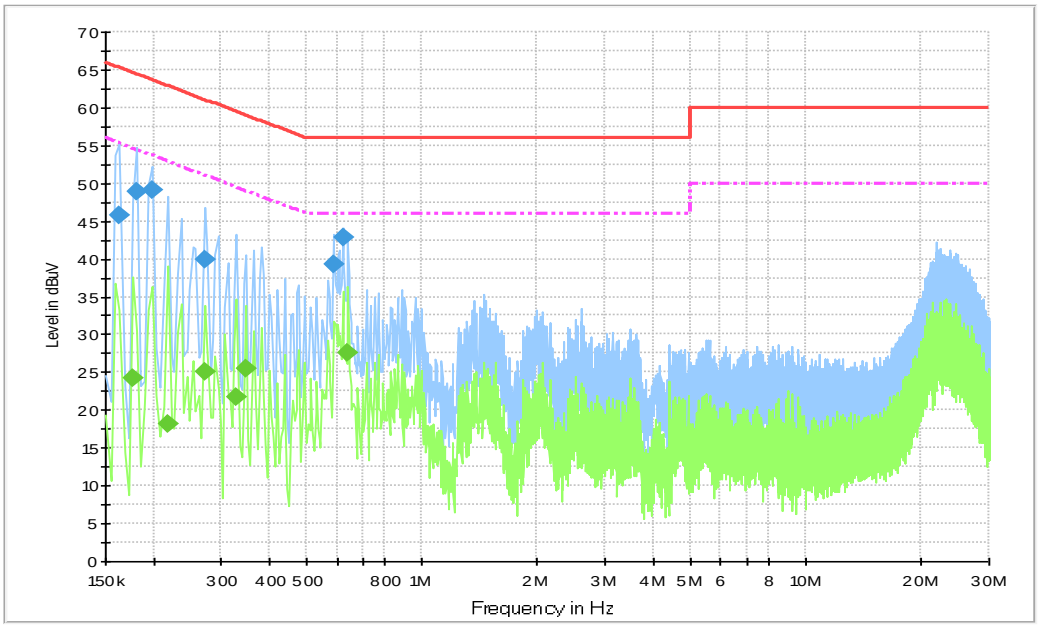
Set.1+Mode2+ Mode8



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

Figure A.20 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.163500	45.7	2000.0	9.000	L1	20.1	19.6	65.3
0.181500	49.0	2000.0	9.000	L1	20.1	15.5	64.4
0.199500	49.2	2000.0	9.000	L1	20.0	14.4	63.6
0.271500	40.0	2000.0	9.000	L1	20.0	21.1	61.1
0.586500	39.4	2000.0	9.000	L1	20.0	16.6	56.0
0.622500	42.8	2000.0	9.000	L1	20.0	13.2	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.177000	24.3	2000.0	9.000	L1	20.0	30.3	54.6
0.217500	18.3	2000.0	9.000	N	20.1	34.7	52.9
0.271500	25.2	2000.0	9.000	L1	20.0	25.9	51.1
0.330000	21.7	2000.0	9.000	N	20.1	27.7	49.5
0.348000	25.4	2000.0	9.000	L1	20.0	23.6	49.0
0.640500	27.6	2000.0	9.000	L1	20.0	18.4	46.0

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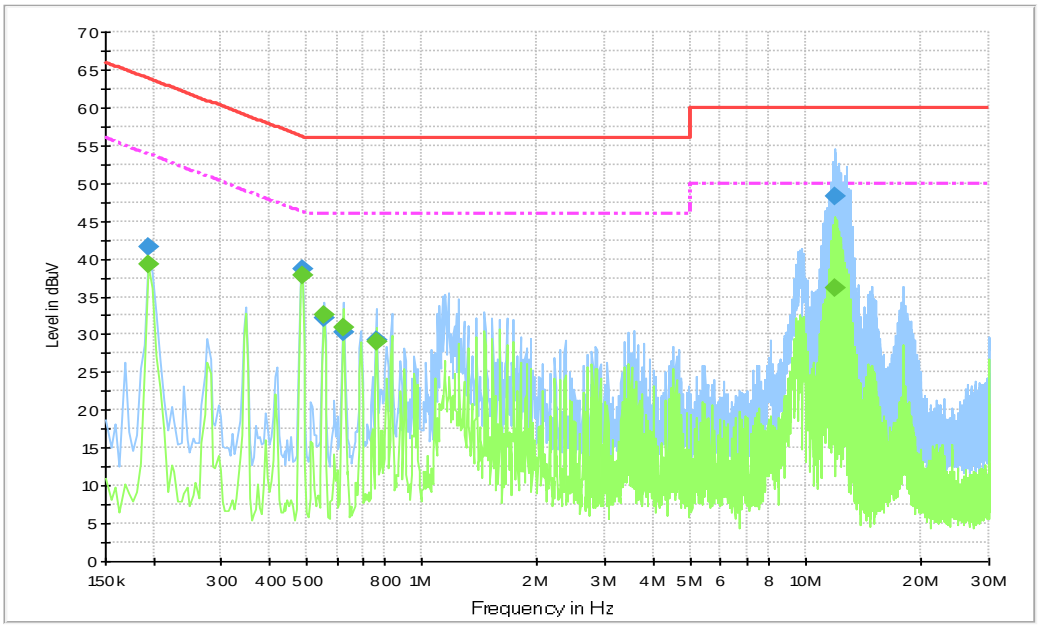
Set.6+Mode7+Mode8



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

Figure A.21 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.195000	41.6	2000.0	9.000	N	20.1	22.2	63.8
0.487500	38.6	2000.0	9.000	N	20.2	17.6	56.2
0.555000	32.3	2000.0	9.000	N	20.2	23.7	56.0
0.622500	30.4	2000.0	9.000	N	20.1	25.6	56.0
0.762000	29.2	2000.0	9.000	N	20.1	26.8	56.0
11.881500	48.2	2000.0	9.000	L1	20.0	11.8	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.195000	39.2	2000.0	9.000	N	20.1	14.6	53.8
0.487500	37.9	2000.0	9.000	N	20.2	8.4	46.2
0.555000	32.6	2000.0	9.000	L1	20.0	13.4	46.0
0.622500	30.9	2000.0	9.000	L1	20.0	15.1	46.0
0.762000	29.1	2000.0	9.000	L1	20.0	16.9	46.0
11.971500	36.1	2000.0	9.000	L1	20.0	13.9	50.0

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ANNEX C: Persons involved in this testing

Test Item	Tester
Radiated Emission	Sun Tianyuan
Conducted Emission	Yan Xaorui

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

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