



TEST REPORT

No. 24T04Z200327-005

for

Samsung Electronics Co., Ltd.

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

Model Name: SM-X117U

with

FCC ID: ZCASM117U

Hardware Version: REV1.0

Software Version: X117U.001

Issued Date: 2025-02-12

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
24T04Z200327-005	Rev.0	1 st edition	2025-02-12

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: 2024-12-10

Testing End Date: 2025-02-12

1.5. Signature



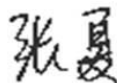
Li Yan

(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

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Postal Code: /
Country: /
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Telephone: +1-201-937-4203
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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
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Telephone: +82-10-2722-4159
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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-X117U
FCC ID	ZCASM117U

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	2404200327UT02a	REV1.0	X117U.001
EUT2	2404200327UT03a	REV1.0	X117U.001
EUT3	2404200327UT35a	REV1.0	X117U.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	HQ-6739SDS	SCUD(Fujian) Electronics Co., LTD.
AE2*	Adapter	EP-T1510	DONGYANG
AE3	Date Cable1 C-C	EP-DN980BWE	Cresyn Electronics(Dongguan)Co.,Ltd.
AE4*	Date Cable A-C	EP-DR140AWE	Samsung Electronics Co.,Ltd
AE5*	Headset	ESH61ASFWE	/
AE6*	PC	/	/
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, AE5, AE6, AE7 and AE8 are not the AE for EUT, provided by the Lab for relevant tests.

3.4. EUT set-ups

Set-up

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT + AE2 + AE3 + AE5	Adapter+ headset
Set.2	EUT + AE2 + AE3	Adapter
Set.3	EUT + AE3 + EUT + AE5	EUT+EUT
Set.4	EUT + AE3 + MHD + AE5	EUT+MHD
Set.5	EUT + AE3 + PC+ AE5	Type C communication with PC
Set.6	EUT + AE4 + PC + SD+ AE5	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	WCDMA Band 5, LTE Band 5, LTE Band 12, LTE Band 13 (Low/Mid/High channel)

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	2023
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. 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)

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	235	Schwarzbeck	2025-08-27	1 year
5	EMI Antenna	3117	00119021	ETS-Lindgren	2025-09-18	1 year
6	Universal Radio Communication Tester	CMW500	159408	R&S	2025-03-26	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
11	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

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)

ANNEX A: EUT parameters

Description	Multi-band GSM/WCDMA/LTE Tablet with Bluetooth, WLAN	
Model name	SM-X117U	
Marketing name	/	
Brand name	SAMSUNG	
Cellular Bands	☐ GSM	/
	☐ CDMA	/
	☒ WCDMA	Bands 1/2/5/8
	☒ LTE	Bands 1/2/3/4/5/7/12/13/20/66
	☐ 5G NR SA	/
	☐ 5G NR NSA	/
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: WCDMA Band 5, LTE Band 5, LTE Band 12, and LTE Band 13.

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.

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 ($\mu\text{V/m}$)		
	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.

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:

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

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

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.

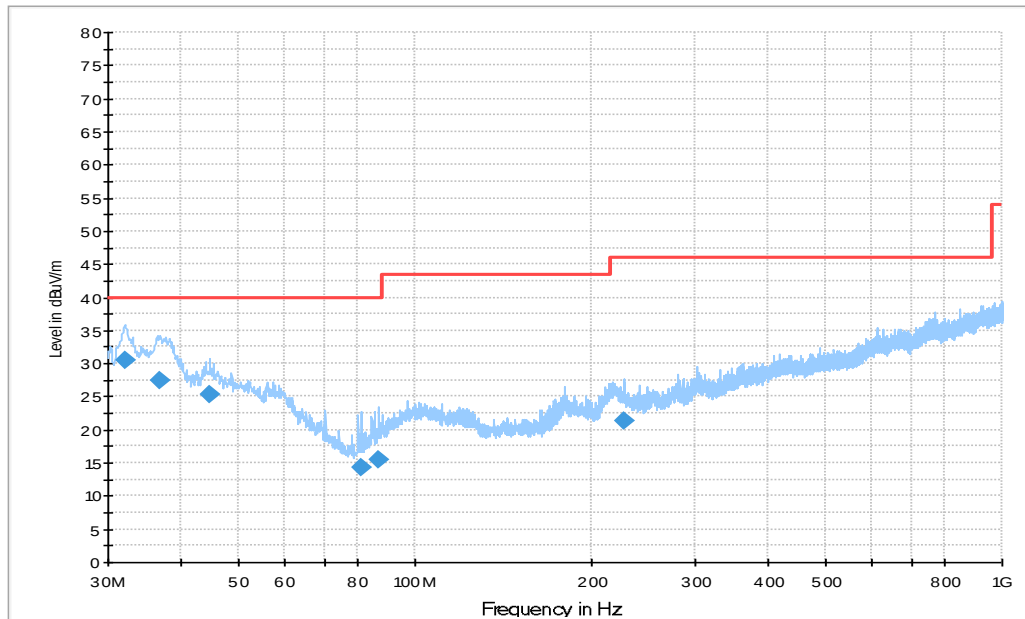


Figure A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
32.137000	30.4	100.0	V	80.0	-1.5	9.6	40.0
36.870000	27.4	100.0	V	10.0	-0.3	12.6	40.0
44.607000	25.2	100.0	V	9.0	0.4	14.8	40.0
81.079000	14.3	205.0	H	106.0	-6.3	25.7	40.0
86.631000	15.6	100.0	V	164.0	-4.3	24.4	40.0
226.63900	21.4	113.0	H	292.0	-0.2	24.6	46.0

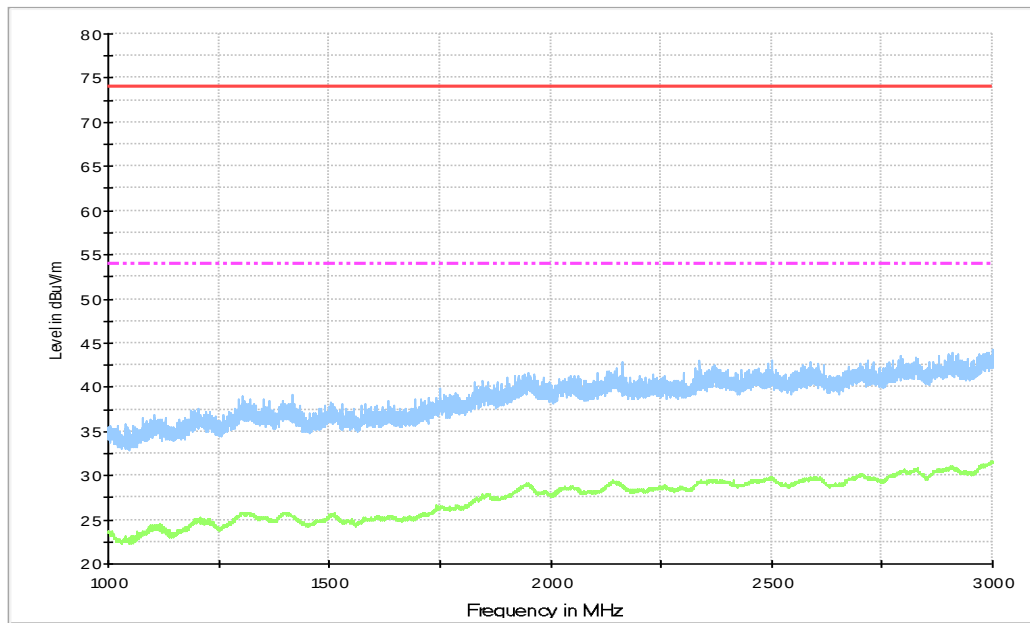


Figure A.2 Radiated Emission from 1GHz to 3GHz

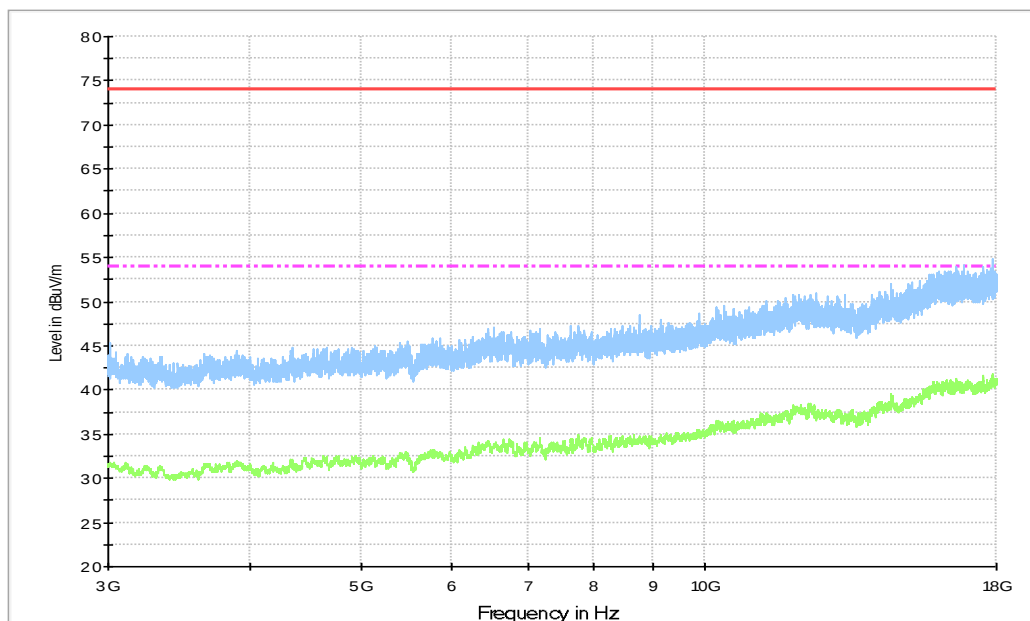


Figure A.3 Radiated Emission from 3GHz to 18GHz

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)
17882.500	41.73	-21.0	40.5	22.18	54.00	12.27	V
17889.000	41.66	-21.0	40.5	22.12	54.00	12.34	V
17891.500	41.64	-21.0	40.5	22.14	54.00	12.36	V
17886.500	41.63	-21.0	40.5	22.09	54.00	12.37	V
17543.000	41.58	-20.9	40.8	21.70	54.00	12.42	V
17884.000	41.57	-21.0	40.5	22.02	54.00	12.43	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)
17891.000	54.8	-21.0	40.5	35.32	74.00	19.17	H
16825.500	54.1	-22.5	41.4	35.23	74.00	19.88	H
16603.500	54.0	-22.4	41.3	35.09	74.00	19.96	V
17538.000	54.0	-20.8	40.8	34.07	74.00	19.99	H
17867.000	53.9	-21.3	40.5	34.63	74.00	20.15	V
17893.000	53.8	-21.0	40.5	34.36	74.00	20.17	H

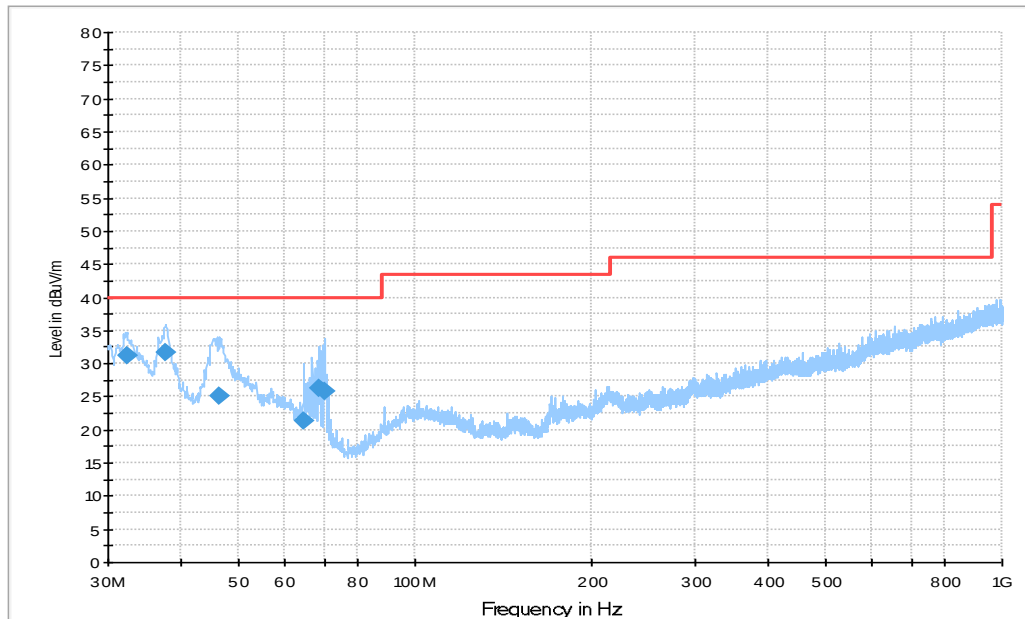


Figure A.4 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
32.288000	31.3	100.0	V	164.0	-1.4	8.7	40.0
37.586000	31.7	100.0	V	94.0	-0.3	8.3	40.0
46.390000	25.2	100.0	V	17.0	0.4	14.8	40.0
64.709000	21.5	100.0	V	286.0	-2.1	18.6	40.0
68.900000	26.2	225.0	V	106.0	-3.8	13.8	40.0
70.452000	25.7	113.0	V	164.0	-4.5	14.3	40.0

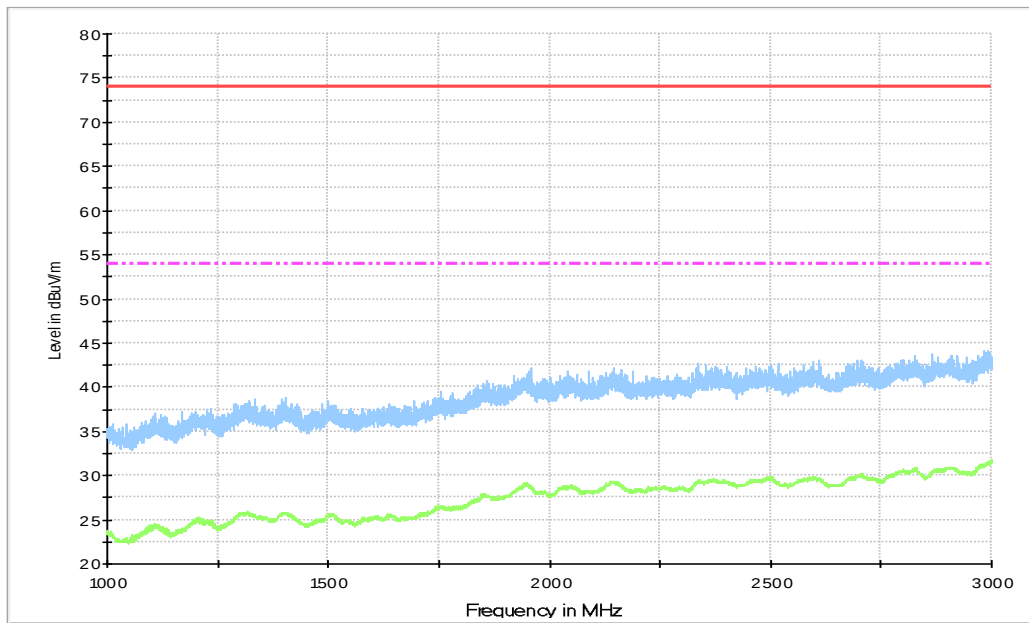


Figure A.5 Radiated Emission from 1GHz to 3GHz

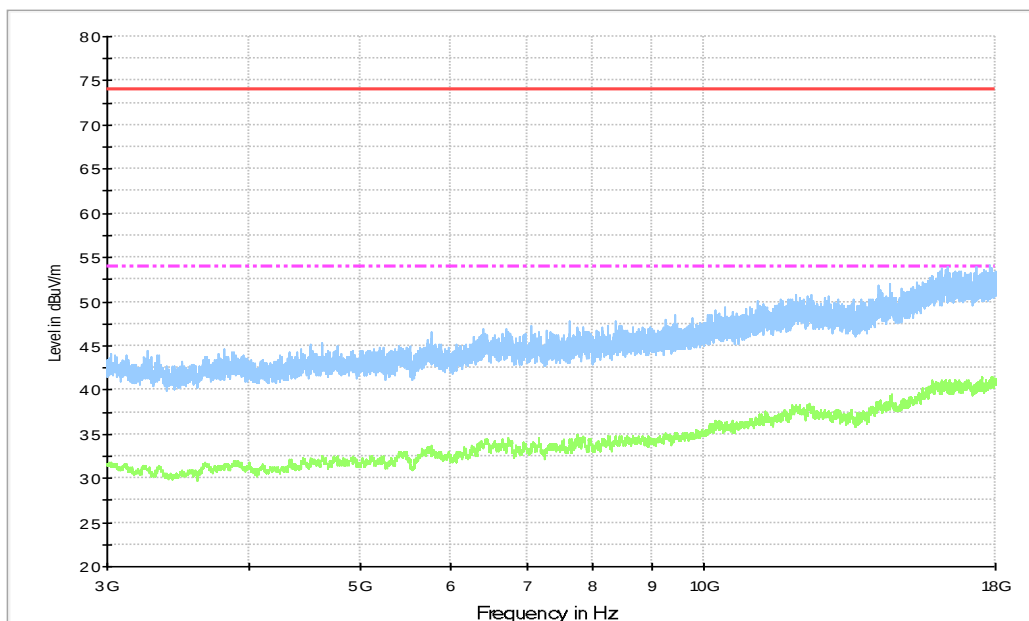


Figure A.6 Radiated Emission from 3GHz to 18GHz

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)
17540.500	41.53	-20.7	40.8	21.44	54.00	12.47	H
17888.000	41.51	-21.0	40.5	21.97	54.00	12.49	V
17890.000	41.51	-21.0	40.5	21.98	54.00	12.49	V
17886.000	41.50	-21.0	40.5	21.95	54.00	12.50	V
17541.500	41.48	-20.8	40.8	21.47	54.00	12.52	H
17887.500	41.47	-21.0	40.5	21.93	54.00	12.53	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)
17777.500	54.1	-21.5	40.6	34.95	74.00	19.93	V
16358.000	54.0	-22.7	40.9	35.81	74.00	20.04	H
17346.500	53.9	-21.9	40.8	34.98	74.00	20.12	H
17890.500	53.8	-21.0	40.5	34.23	74.00	20.25	H
17880.000	53.7	-21.0	40.5	34.15	74.00	20.28	V
16155.500	53.7	-22.9	41.0	35.62	74.00	20.30	V

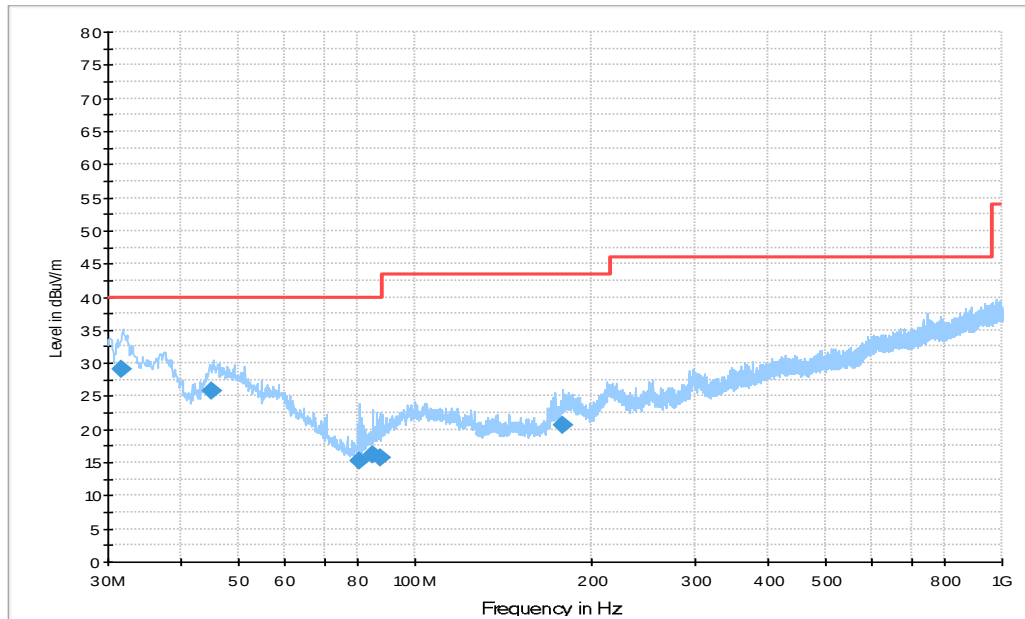


Figure A.7 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
31.706000	29.1	100.0	V	-3.0	-1.7	10.9	40.0
45.129000	25.9	100.0	V	22.0	0.4	14.1	40.0
80.540000	15.3	225.0	H	248.0	-6.5	24.7	40.0
84.922000	16.3	119.0	V	177.0	-5.0	23.7	40.0
87.056000	15.8	100.0	V	177.0	-4.2	24.2	40.0
178.01900	20.6	113.0	V	0.0	-2.6	22.9	43.5

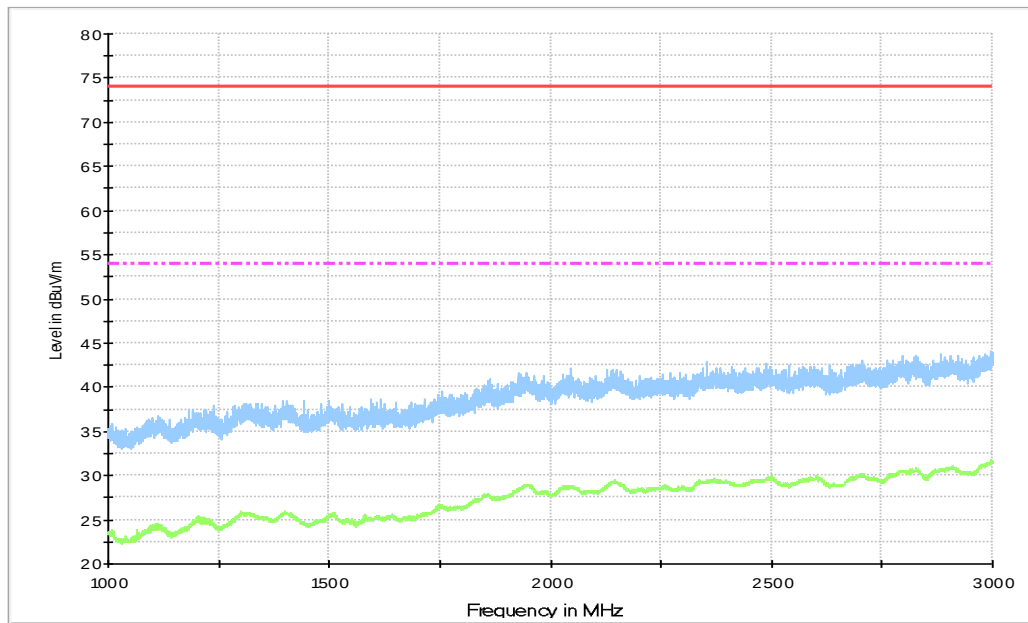


Figure A.8 Radiated Emission from 1GHz to 3GHz

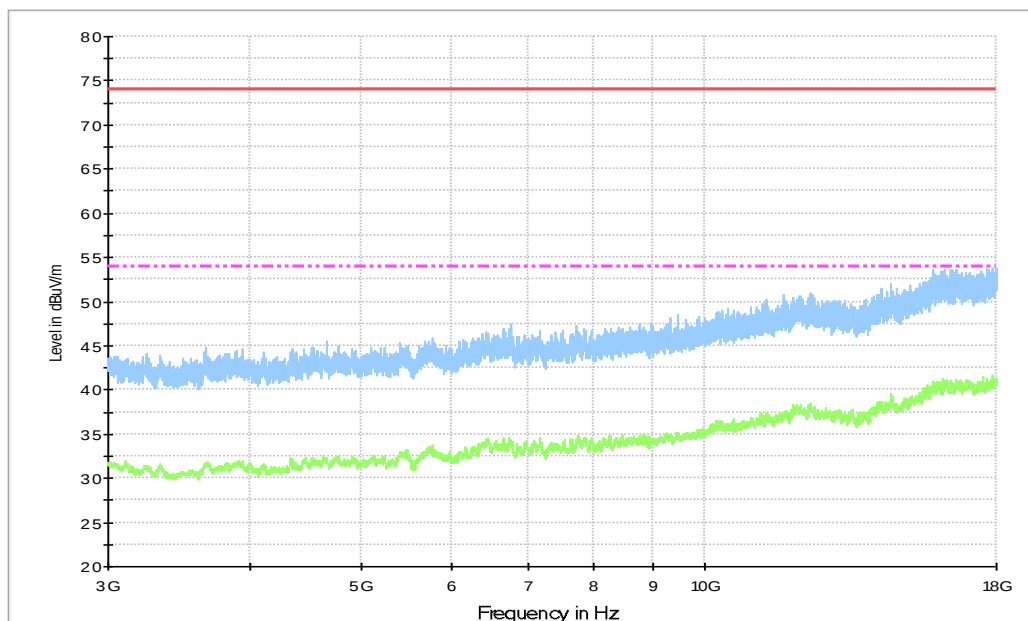


Figure A.9 Radiated Emission from 3GHz to 18GHz

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)
17880.000	41.63	-21.0	40.5	22.06	54.00	12.37	H
17891.000	41.59	-21.0	40.5	22.08	54.00	12.41	V
17887.500	41.58	-21.0	40.5	22.04	54.00	12.42	H
17886.500	41.52	-21.0	40.5	21.98	54.00	12.48	H
17541.000	41.49	-20.7	40.8	21.44	54.00	12.51	V
17883.500	41.47	-21.0	40.5	21.91	54.00	12.53	H

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)
17998.000	53.8	-21.2	40.6	34.38	74.00	20.24	H
17889.000	53.7	-21.0	40.5	34.21	74.00	20.26	V
17679.500	53.7	-21.2	40.5	34.42	74.00	20.27	H
17872.000	53.7	-21.3	40.5	34.40	74.00	20.32	H
15820.000	53.7	-23.9	40.8	36.71	74.00	20.33	H
16602.000	53.7	-22.4	41.3	34.71	74.00	20.34	H

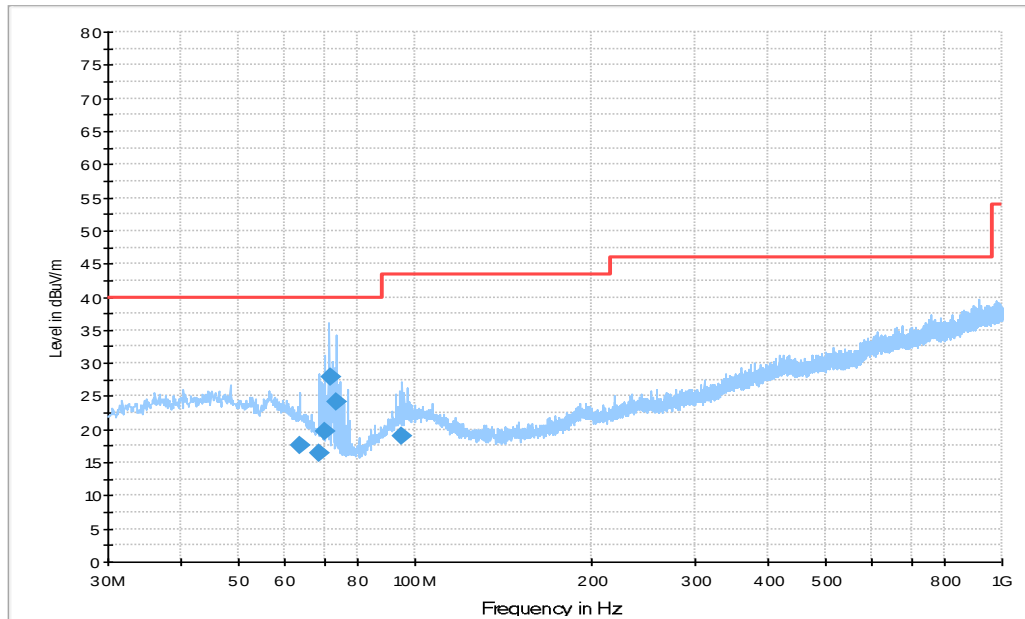


Figure A.10 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
63.739000	17.6	100.0	V	22.0	-1.8	22.4	40.0
68.700000	16.5	225.0	H	90.0	-3.7	23.5	40.0
70.238000	19.8	225.0	H	286.0	-4.4	20.2	40.0
71.596000	27.9	225.0	H	286.0	-5.1	12.1	40.0
73.379000	24.1	225.0	H	93.0	-5.7	15.9	40.0
95.084000	19.0	205.0	H	87.0	-1.7	24.5	43.5

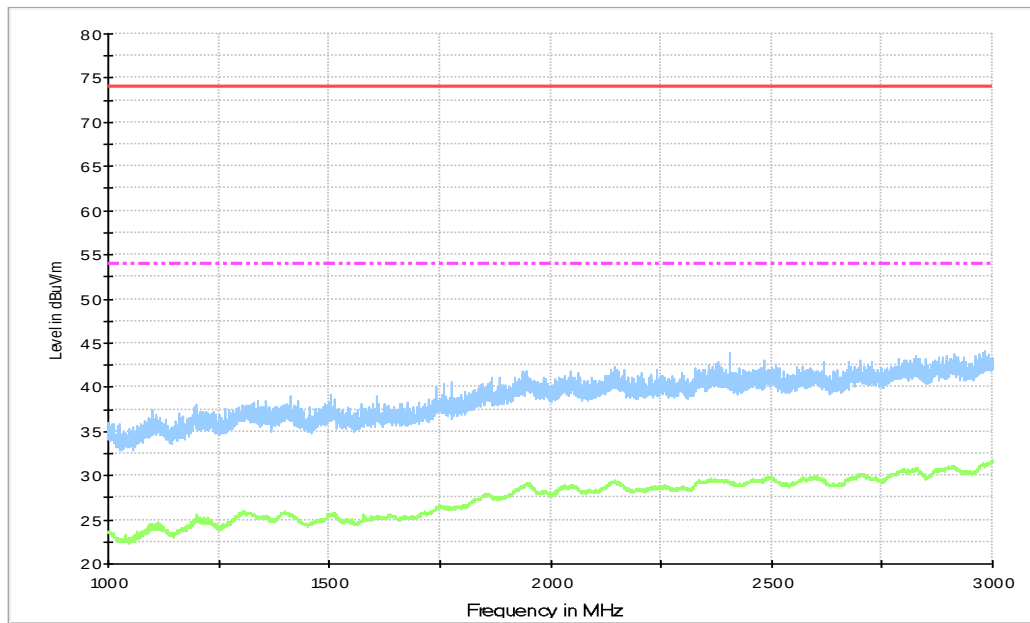


Figure A.11 Radiated Emission from 1GHz to 3GHz

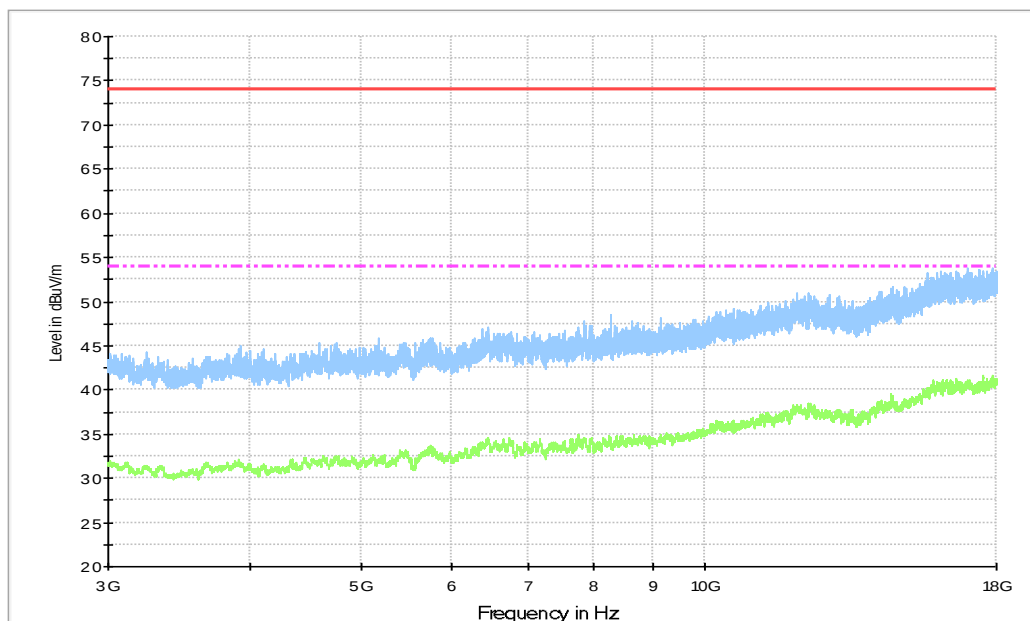


Figure A.12 Radiated Emission from 3GHz to 18GHz

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)
17890.500	41.65	-21.0	40.5	22.13	54.00	12.35	V
17540.500	41.60	-20.7	40.8	21.50	54.00	12.40	H
17540.000	41.59	-20.6	40.8	21.45	54.00	12.41	V
17541.500	41.57	-20.8	40.8	21.57	54.00	12.43	H
17541.000	41.57	-20.7	40.8	21.52	54.00	12.43	H
17886.500	41.52	-21.0	40.5	21.98	54.00	12.48	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)
17014.500	53.8	-22.1	41.1	34.82	74.00	20.20	H
17889.000	53.8	-21.0	40.5	34.22	74.00	20.25	H
17865.000	53.6	-21.3	40.5	34.35	74.00	20.42	V
17362.500	53.6	-21.9	40.7	34.74	74.00	20.42	V
17404.500	53.6	-21.8	40.7	34.69	74.00	20.45	H
17874.500	53.5	-21.2	40.5	34.17	74.00	20.47	V

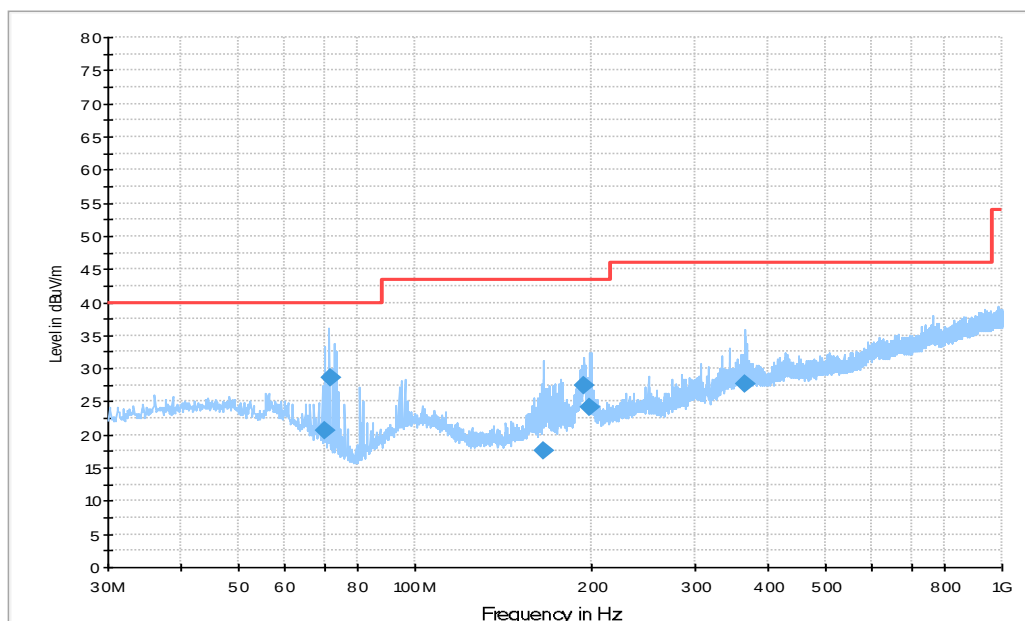


Figure A.13 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
70.178000	20.7	100.0	H	93.0	-4.4	19.3	40.0
71.596000	28.7	125.0	H	93.0	-5.1	11.3	40.0
166.09400	17.5	206.0	H	270.0	-3.1	26.0	43.5
194.02400	27.4	125.0	H	292.0	-0.6	16.1	43.5
199.07400	24.2	100.0	H	286.0	-1.1	19.3	43.5
365.81100	27.7	100.0	H	260.0	4.4	18.3	46.0

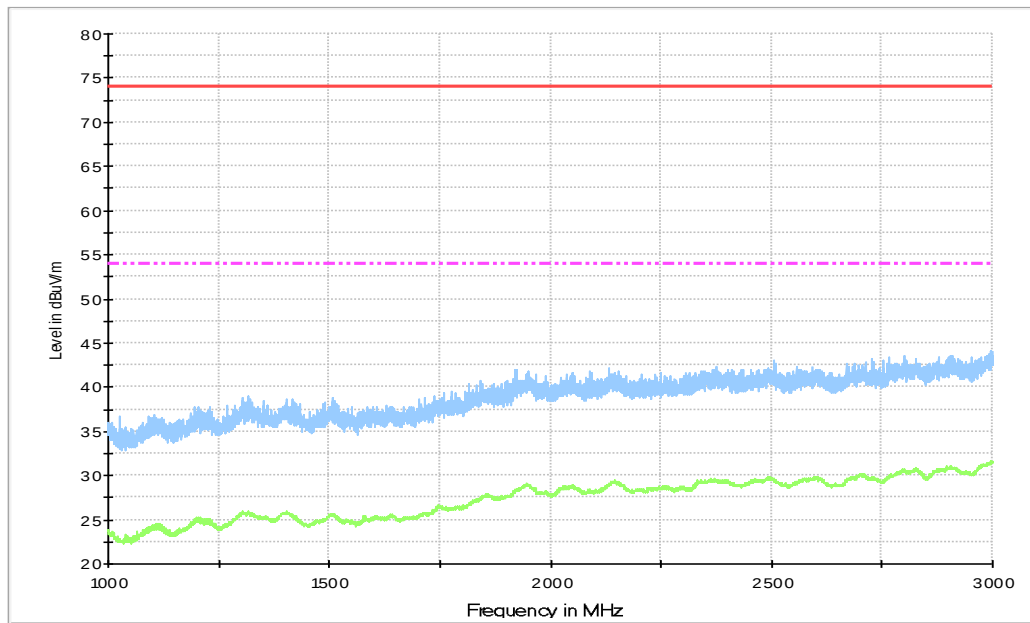


Figure A.14 Radiated Emission from 1GHz to 3GHz

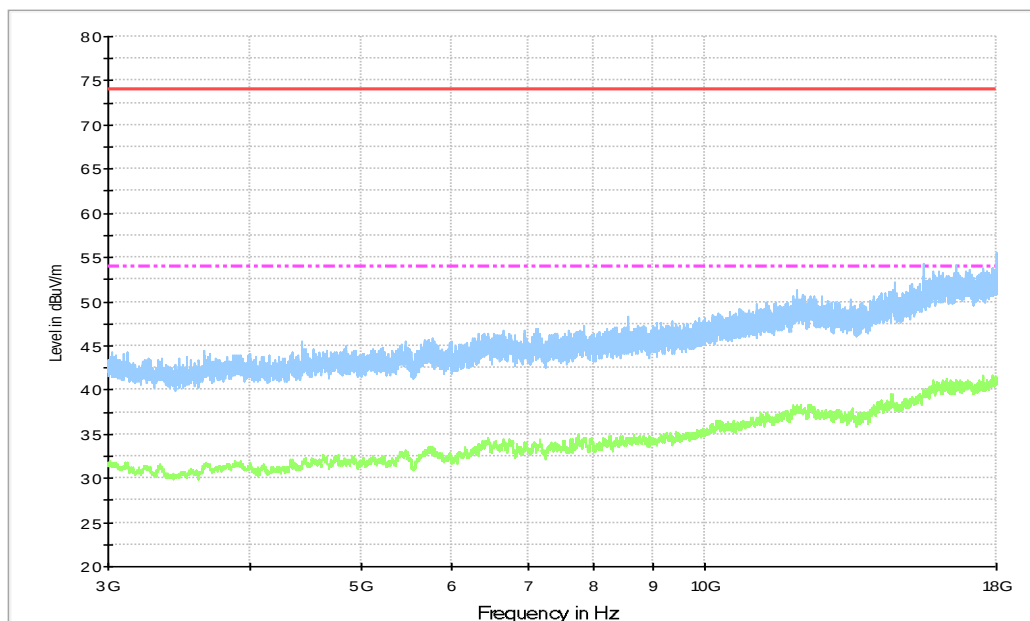


Figure A.15 Radiated Emission from 3GHz to 18GHz

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)
17885.500	41.62	-21.0	40.5	22.08	54.00	12.38	V
17888.000	41.58	-21.0	40.5	22.05	54.00	12.42	V
17540.000	41.58	-20.6	40.8	21.44	54.00	12.42	H
17883.000	41.57	-21.0	40.5	22.02	54.00	12.43	V
17544.500	41.56	-21.0	40.8	21.80	54.00	12.44	V
17891.000	41.55	-21.0	40.5	22.04	54.00	12.45	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)
17993.500	55.5	-21.1	40.6	35.99	74.00	18.52	V
15533.000	54.3	-24.4	40.4	38.31	74.00	19.71	V
16604.500	54.2	-22.4	41.3	35.23	74.00	19.82	V
17538.500	53.9	-20.8	40.8	33.87	74.00	20.14	H
17850.500	53.9	-21.2	40.5	34.55	74.00	20.14	V
17883.000	53.7	-21.0	40.5	34.19	74.00	20.26	V

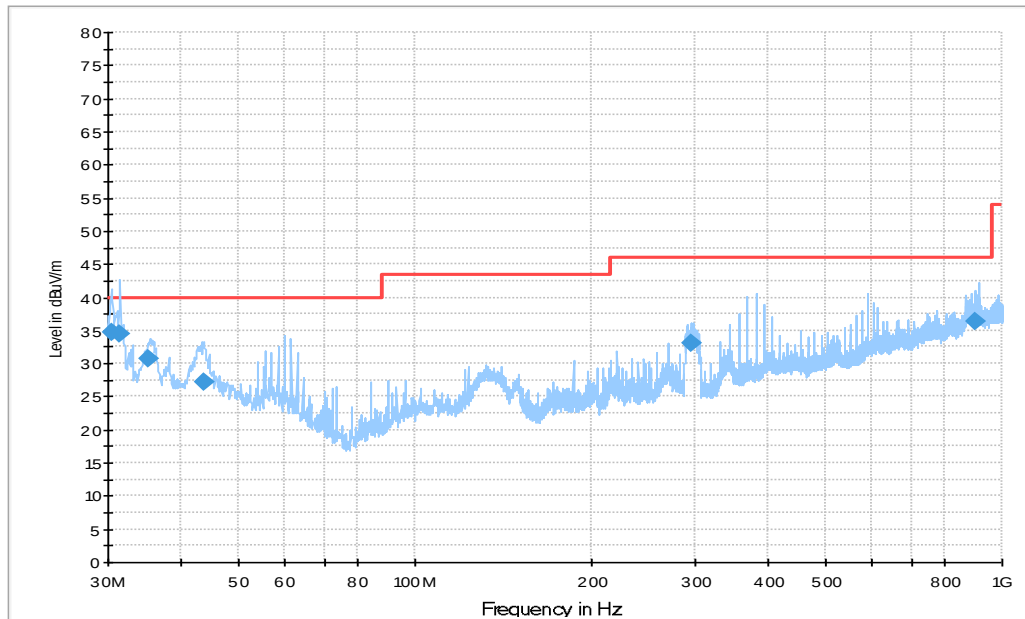


Figure A.16 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
30.468000	34.8	113.0	V	22.0	-2.3	5.2	40.0
31.475000	34.5	125.0	V	93.0	-1.8	5.5	40.0
35.144000	30.7	100.0	V	254.0	-0.8	9.3	40.0
43.757000	27.1	100.0	V	112.0	0.3	12.9	40.0
296.32200	33.1	100.0	H	0.0	1.5	12.9	46.0
899.02600	36.3	100.0	V	10.0	13.1	9.7	46.0

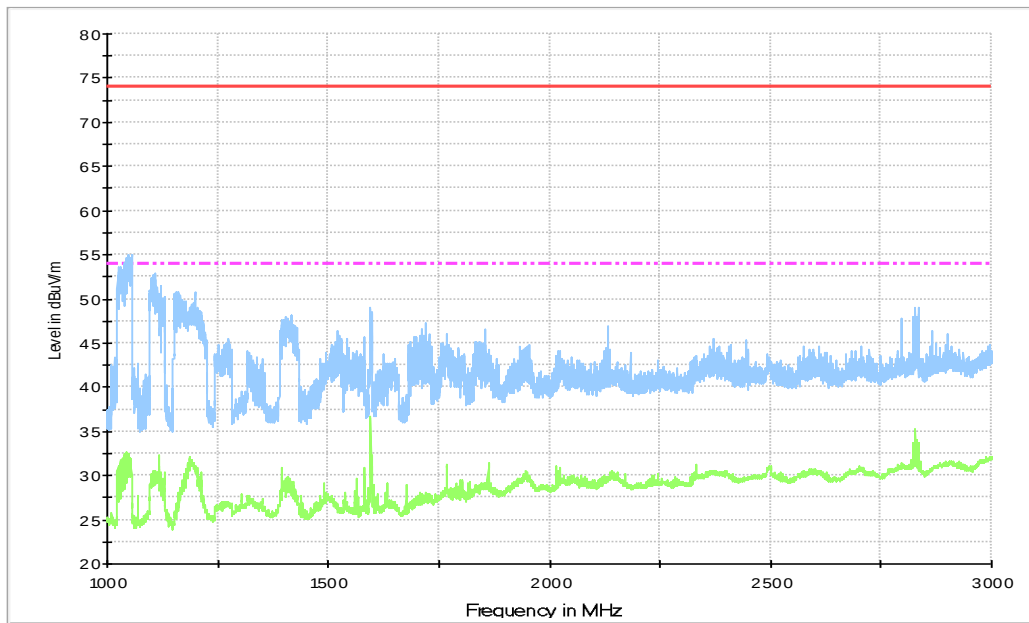


Figure A.17 Radiated Emission from 1GHz to 3GHz

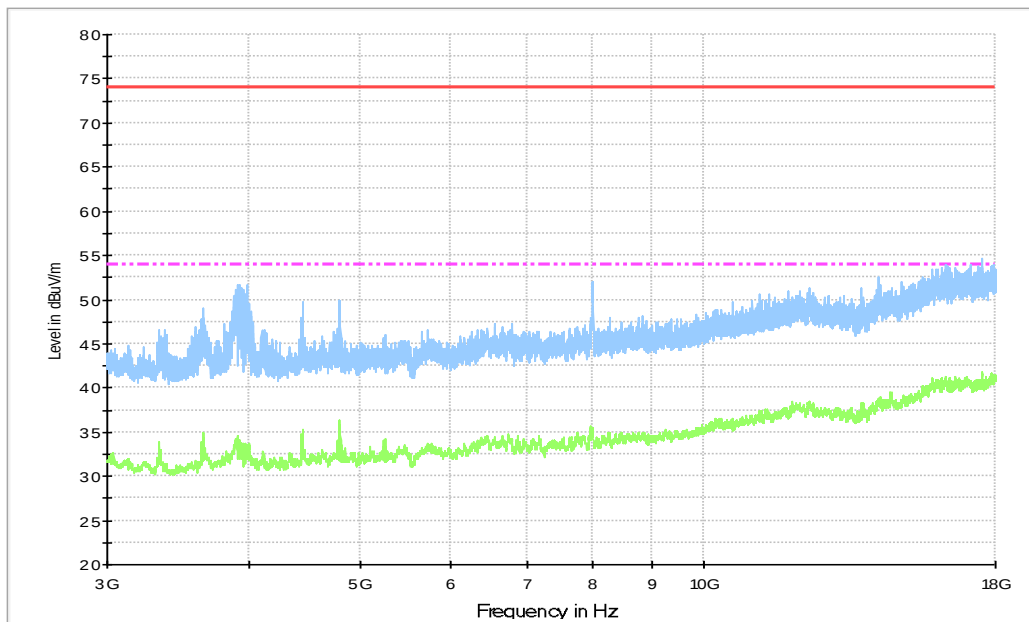


Figure A.18 Radiated Emission from 3GHz to 18GHz

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)
1044.200	32.68	-37.4	26.8	43.35	54.00	21.32	V
1596.400	36.65	-36.2	27.9	44.94	54.00	17.35	V
2828.600	35.36	-33.7	32.4	36.60	54.00	18.64	V
3638.500	35.04	-33.8	33.2	35.67	54.00	18.96	V
4451.500	34.59	-32.6	33.6	33.61	54.00	19.41	V
4796.500	35.78	-33.0	33.9	34.83	54.00	18.22	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)
1049.200	55.0	-37.4	26.7	65.68	74.00	19.05	V
1106.600	52.8	-37.4	27.3	63.00	74.00	21.17	V
2828.600	49.0	-33.7	32.4	50.27	74.00	24.98	V
3898.500	51.7	-33.9	33.5	52.11	74.00	22.30	V
4796.500	50.0	-33.0	33.9	49.03	74.00	24.02	V
7983.000	52.1	-31.0	35.7	47.40	74.00	21.92	V

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

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.

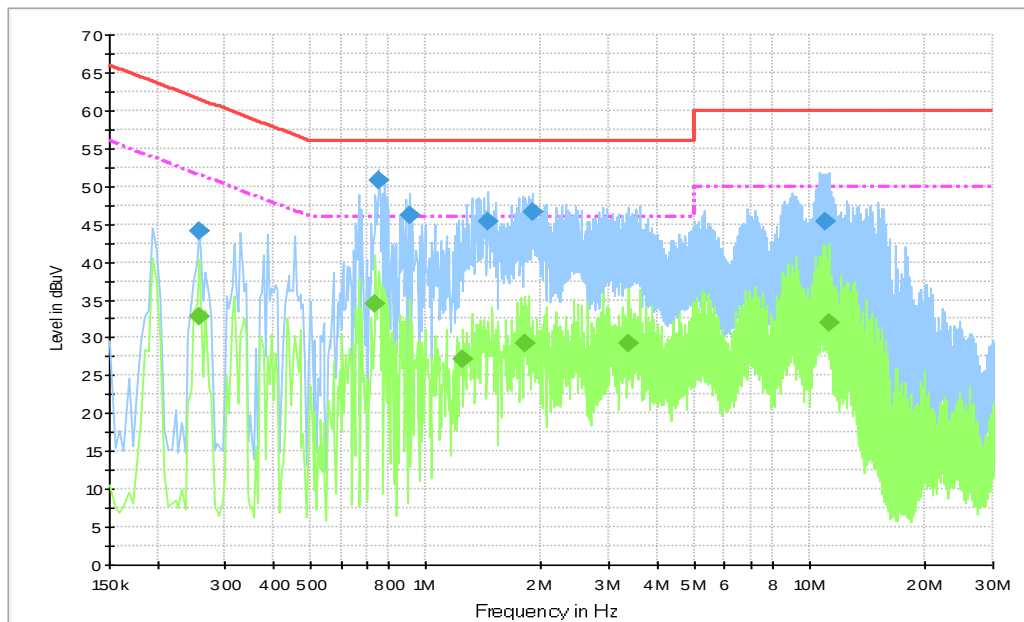
Figure A.19 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.249000	46.4	2000.0	9.000	L1	20.0	15.3	61.8
0.433500	43.4	2000.0	9.000	L1	20.1	13.8	57.2
0.766500	47.8	2000.0	9.000	N	20.1	8.2	56.0
1.846500	44.9	2000.0	9.000	N	20.0	11.1	56.0
3.574500	44.4	2000.0	9.000	L1	19.8	11.6	56.0
11.364000	47.8	2000.0	9.000	L1	20.0	12.2	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.267000	30.4	2000.0	9.000	N	20.1	20.8	51.2
0.433500	28.4	2000.0	9.000	L1	20.1	18.8	47.2
0.766500	31.8	2000.0	9.000	L1	20.0	14.2	46.0
1.774500	32.0	2000.0	9.000	L1	19.8	14.0	46.0
3.574500	30.9	2000.0	9.000	L1	19.8	15.1	46.0
11.364000	37.2	2000.0	9.000	L1	20.0	12.8	50.0



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

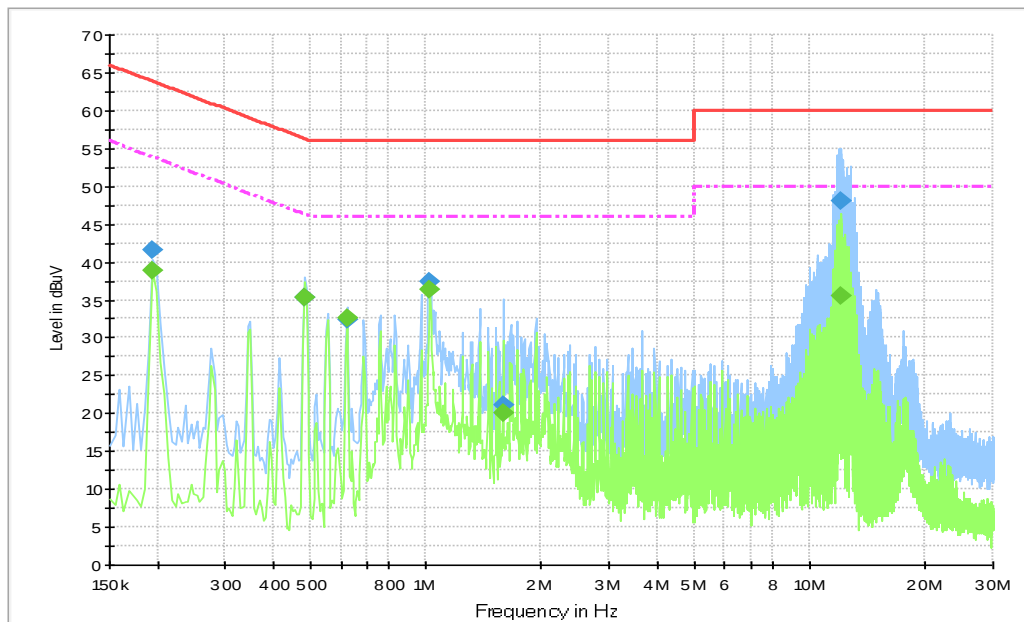
Figure A.20 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.258000	44.1	2000.0	9.000	L1	20.0	17.4	61.5
0.757500	50.8	2000.0	9.000	L1	20.0	5.2	56.0
0.906000	46.1	2000.0	9.000	L1	19.9	9.9	56.0
1.455000	45.4	2000.0	9.000	L1	19.9	10.6	56.0
1.891500	46.6	2000.0	9.000	L1	19.8	9.4	56.0
10.968000	45.3	2000.0	9.000	L1	20.0	14.7	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.258000	32.8	2000.0	9.000	L1	20.0	18.7	51.5
0.739500	34.5	2000.0	9.000	L1	20.0	11.5	46.0
1.243500	27.3	2000.0	9.000	L1	19.9	18.7	46.0
1.801500	29.3	2000.0	9.000	L1	19.8	16.7	46.0
3.385500	29.2	2000.0	9.000	L1	19.8	16.8	46.0
11.188500	32.1	2000.0	9.000	L1	20.0	17.9	50.0



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	41.5	2000.0	9.000	L1	20.0	22.3	63.8
0.483000	35.3	2000.0	9.000	N	20.2	21.0	56.3
0.622500	32.4	2000.0	9.000	N	20.1	23.6	56.0
1.023000	37.4	2000.0	9.000	N	20.0	18.6	56.0
1.590000	21.1	2000.0	9.000	N	20.0	34.9	56.0
12.097500	48.1	2000.0	9.000	L1	20.0	11.9	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.195000	38.8	2000.0	9.000	L1	20.0	15.0	53.8
0.483000	35.3	2000.0	9.000	N	20.2	11.0	46.3
0.622500	32.5	2000.0	9.000	N	20.1	13.5	46.0
1.023000	36.3	2000.0	9.000	N	20.0	9.7	46.0
1.590000	20.1	2000.0	9.000	L1	19.8	25.9	46.0
12.097500	35.4	2000.0	9.000	N	20.2	14.6	50.0

ANNEX C: Persons involved in this testing

Test Item	Tester
Radiated Emission	Sun Tianyuan
Conducted Emission	Yan Xaorui

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