



TEST REPORT

No. I22Z70125-EMC09

for

Samsung Electronics Co., Ltd.

Notebook PC

Model name: NP755XDA

with

FCC ID: ZCANP755XDA

Hardware Version: REV1.0

Software Version: Windows10-Pro

Issued Date: 2022-06-10

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

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I22Z70125-EMC09	Rev.0	1 st edition	2022-06-10

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 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 (Huayuan North Road)

Address: No. 52 Huayuan North Road, Haidian District, Beijing 100191, P.R. China

1.3. Testing Environment

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

1.4. Project data

Testing Start Date: 2022-03-28
Testing End Date: 2022-06-09

1.5. Signature



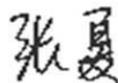
Li Yan

(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.
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City: /
Postal Code: /
Country: /
Contact: Jenni Chun
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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	Notebook PC
Model name	NP755XDA
FCC ID	ZCANP755XDA

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	2270125UT12a	REV1.0	Windows10-Pro
EUT2	2270125UT16a	REV1.0	Windows10-Pro
EUT3	2270125UT21a	REV1.0	Windows10-Pro
EUT4	2270125UT31a	REV1.0	Windows10-Pro
EUT5	2270125UT32a	REV1.0	Windows10-Pro

*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	/	/
AE2	HDMI Cable	/	/
AE3	Display	/	/
AE4	Mobile HD	/	USB
AE5	Mobile HD	/	USB
AE6	Mobile HD	/	Type-C
AE7	SD card	/	/
AE8	Headset	/	/
AE9	Data Cable	/	/
AE10	Battery	/	/

Note: The USB cables are shielded.

3.4. General Description

Equipment under Test (EUT) is a model of Notebook PC with integrated antenna.

It consists of normal options: lithium battery and charger.

Samples undergoing test were selected by the client.

Manual and specifications of the EUT were provided to fulfil the test.

The device contains receivers which tune and operate between 30MHz-960MHz in the following bands: WCDMA BAND 5, LTE BAND 5, LTE BAND 12, LTE BAND 13 and LTE BAND 26.

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

3.5. Key component list

Item	Spec.	Vendor	Vendor Model
CPU	Intel Tiger Lake-U 15W(I7)	Intel	Intel® Core™ i7-1165G7 Processor
	Intel Tiger Lake-U 15W(I5)	Intel	Intel® Core™ i5-1135G7 Processor
WLAN	802.11 ax 2x2	Intel	AX201.D2WG.SNVW
LTE	/	Fibocom	L850-GL
Memory	LPDDR4X 8GB	SEC	K4U6E3S4AA-MGCR
			K4U6E3S4AB-MGCL
	LPDDR4X 16GB	SEC	K4UBE3D4AA-MGCR
			K4UBE3D4AB-MGCL
SSD	256G M.2 2280 PCIe(NVMe)	SEC	MZVLQ256HBJD-00BKN
		SSSTC	CL1-8D256
		Western Digital (WD)	SDBPNPZ-256G-1004
	512G M.2 2280 PCIe(NVMe)	SEC	MZVLQ512HBLU-00BKN
		SSSTC	CL1-8D512
		Western Digital (WD)	SDBPNPZ-512G-1004
GDDR6	GDDR6 2GB	SEC	K4Z80325BC-HC14
DPK	DPK	MS	/
LCD	15.6" FHD IPS	BOE	LM156LF5L03
	15.6" FHD TN		NT156FHM-N61
	15.6" FHD TFT		NE156FHM-NS0
Battery	54W	SDI	AA-PBSN4AF
			AA-PBSN4AT
Adaptor	65W Type-C Brick	SOLU-M	EP-TA865
Antenna	/	Speed	/

Note: EUT1, EUT2, EUT3, EUT4 and EUT5 correspond to the configurations of different key components.

3.6. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT1+AE1 +AE2+AE3+AE4+AE5+AE6+AE7+AE8+AE9	EUT1+ Adapter1
Set.2	EUT2+AE1 +AE2+AE3+AE4+AE5+AE6+AE7+AE8+AE9	EUT2+ Adapter1
Set.3	EUT3+AE1 +AE2+AE3+AE4+AE5+AE6+AE7+AE8+AE9	EUT3+ Adapter1
Set.4	EUT4+AE1 +AE2+AE3+AE4+AE5+AE6+AE7+AE8+AE9	EUT4+ Adapter1
Set.5	EUT5+AE1 +AE2+AE3+AE4+AE5+AE6+AE7+AE8+AE9	EUT5+ Adapter1

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.

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber SAC 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 M Ω
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< \pm 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 M Ω
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(Huayuan North Road)
2	Conducted Emission	15.107(a)	A.2	P	CTTL(Huayuan North Road)

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESCI	100344	R&S	2023-03-21	1 year
2	LISN	ENV216	101200	R&S	2022-05-30 2023-05-30	1 year
3	Test Receiver	ESW44	103023	R&S	2022-10-28	1 year
4	EMI Antenna	VULB 9163	9163-302	Schwarzbeck	2022-12-28	1 year
5	EMI Antenna	3115	00167250	ETS-Lindgren	2022-07-01	1 year
6	Universal Radio Communication Tester	CMW500	116588	R&S	2022-12-20	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 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 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 /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.

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

A.1.2 EUT Operating Mode

The EUT exercise program was tested using the Burn-in test program for windows.

The system was configured for testing in a typical mode that a customer would normal use.

Cables were attached to each of the available I/O ports. Where applicable, peripherals were attached to the I/O cables. All the external I/O ports were exercised.

LABTM software is used to let the EUT to continuously copy data to external (Hard Disk & SD card) storage media, read and erase the data after copy action was finished. During the test, the a pattern of “H” characters was written to display on the LCD panel; the camera was in video mode; the music was repetitively played through the headset; the WIFI and BT function was on and worked in receiver 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.

A.1.3 Measurement Limit

Frequency range (MHz)	Field strength limit ($\mu\text{V}/\text{m}$)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

Note: the above limit is for 3 meters test distance. 10 meters' limit is got by converting.

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

A.1.4 Test Condition

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

A.1.5 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

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

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

Measurement uncertainty (worst case): 30MHz-1GHz: 5.15dB, 1GHz-18GHz: 5.54dB, $k=2$.

Set.1 with RX mode WCDMA B5

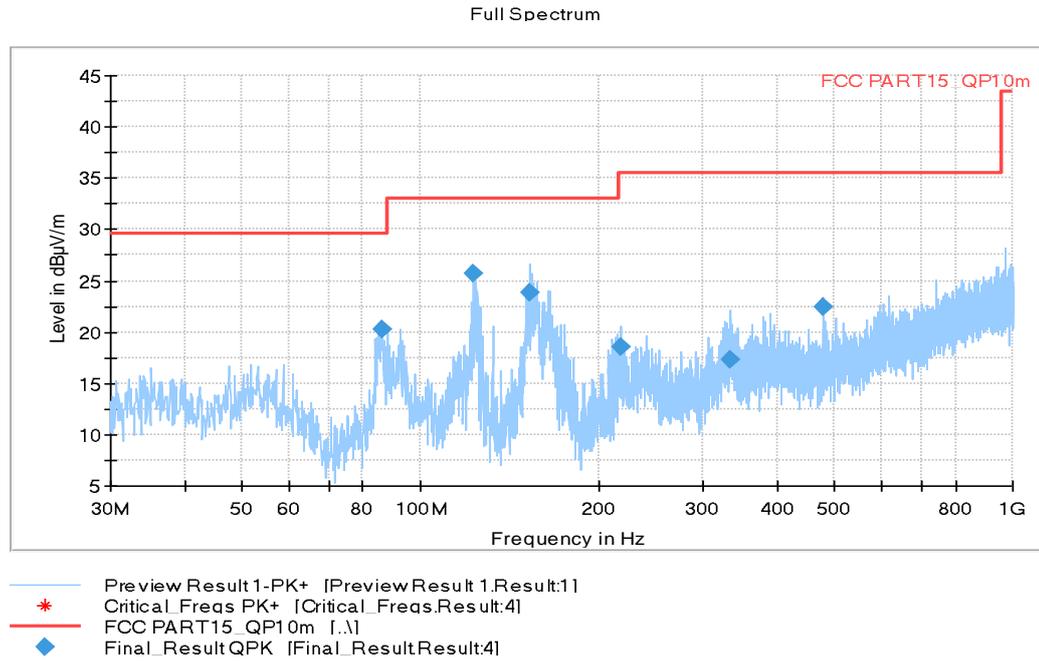


Figure A.1 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
86.35700	20.33	29.54	9.21	2000.0	120.000	175.0	V	88.0
122.7320	25.74	33.06	7.32	2000.0	120.000	125.0	V	310.0
153.0930	23.82	33.06	9.24	2000.0	120.000	125.0	V	-20.0
217.8890	18.60	35.56	16.96	2000.0	120.000	325.0	H	172.0
333.3190	17.37	35.56	18.19	2000.0	120.000	100.0	V	165.0
479.9830	22.49	35.56	13.07	2000.0	120.000	100.0	V	11.0

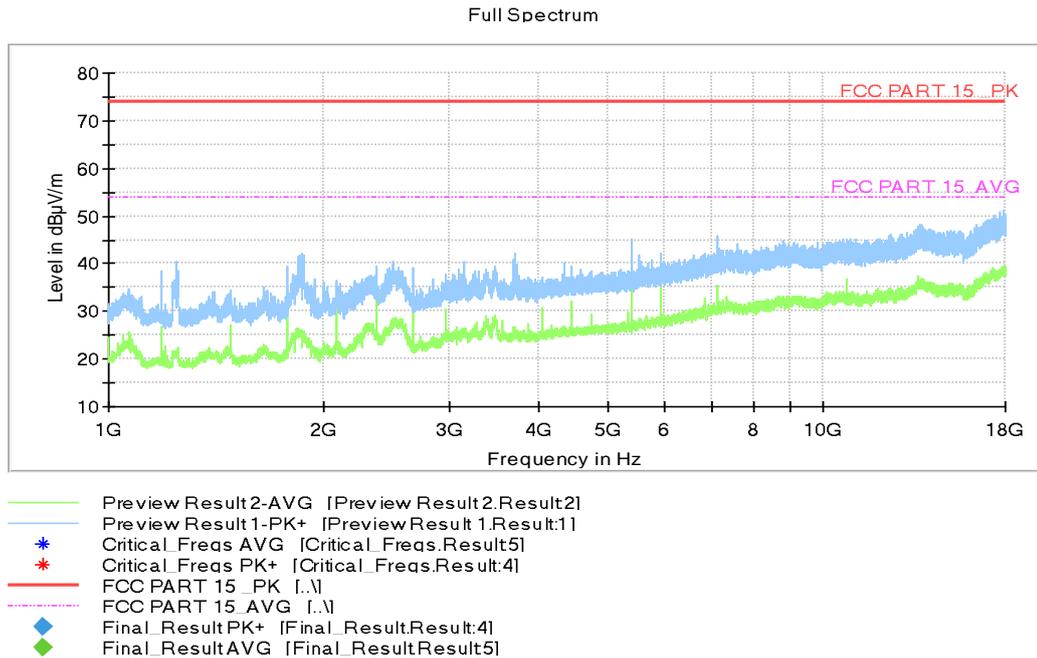


Figure A.2 Radiated Emission from 1GHz to 18GHz

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)
1781.660	32.1	-39.8	26.2	45.733	54.0	21.9	H
2078.820	31.0	-39.7	27.3	43.423	54.0	23.0	V
2375.980	34.1	-39.7	28.0	45.826	54.0	19.9	V
2672.800	31.3	-39.8	28.8	42.210	54.0	22.7	V
5400.620	41.0	-38.4	34.0	45.406	54.0	13.0	H
5939.860	36.4	-38.1	34.4	40.139	54.0	17.6	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)
1187.680	38.6	-40.0	24.0	54.570	74.0	35.4	V
1240.380	40.3	-39.8	24.2	55.904	74.0	33.7	V
1865.300	42.1	-39.8	26.5	55.386	74.0	31.9	V
3701.640	42.3	-39.3	31.5	50.126	74.0	31.7	V
5400.620	45.3	-38.4	34.0	49.706	74.0	28.7	V
7127.820	46.0	-36.9	36.2	46.606	74.0	28.0	V

Set.2 with RX mode LTE B5

Full Spectrum

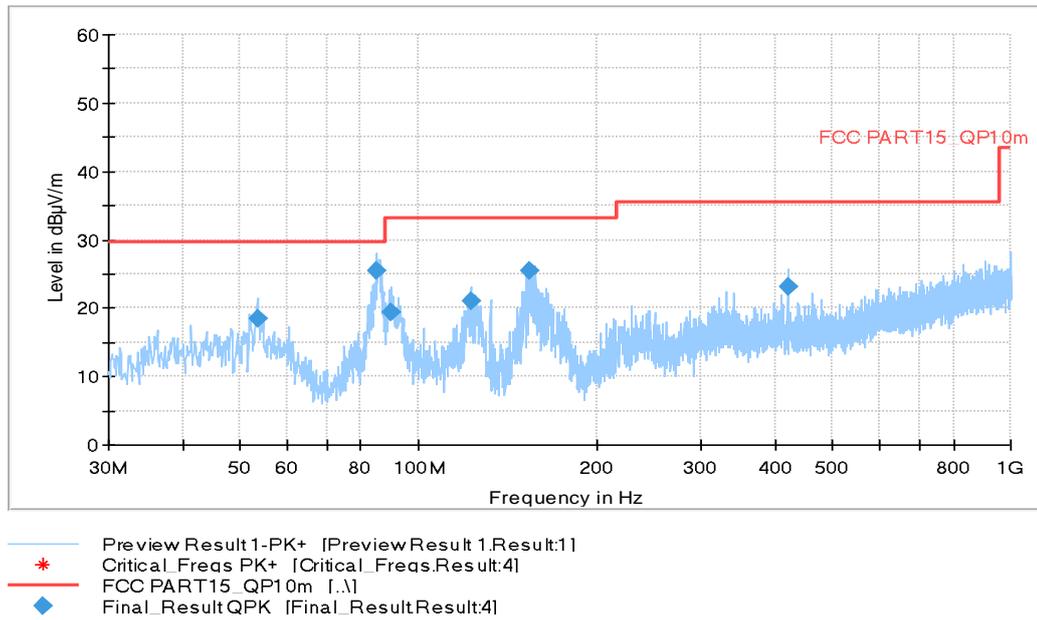


Figure A.3 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
53.57100	18.39	29.54	11.15	2000.0	120.000	125.0	V	45.0
84.99900	25.40	29.54	4.14	2000.0	120.000	125.0	V	310.0
90.23700	19.36	33.06	13.70	2000.0	120.000	109.0	V	185.0
122.4410	20.90	33.06	12.16	2000.0	120.000	275.0	V	162.0
153.5780	25.56	33.06	7.50	2000.0	120.000	100.0	V	140.0
420.0370	23.21	35.56	12.35	2000.0	120.000	111.0	H	33.0

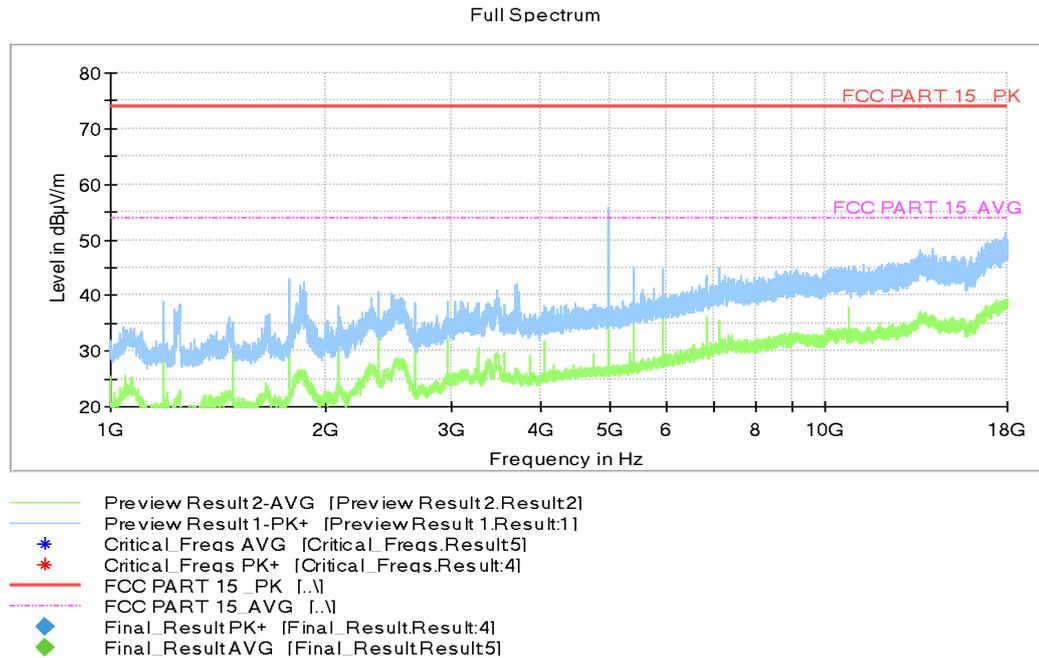


Figure A.4 Radiated Emission from 1GHz to 18GHz

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)
1187.680	34.1	-40.0	24.0	50.070	54.0	19.9	V
1781.660	34.7	-39.8	26.2	48.333	54.0	19.3	V
2375.980	34.2	-39.7	28.0	45.926	54.0	19.8	V
4959.980	50.7	-38.9	33.2	56.338	54.0	3.3	H
5400.620	40.9	-38.4	34.0	45.306	54.0	13.1	V
5939.860	39.7	-38.1	34.4	43.439	54.0	14.3	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)
1188.020	38.6	-40.0	24.0	54.570	74.0	35.4	H
1781.660	43.0	-39.8	26.2	56.633	74.0	31.0	V
1861.560	42.3	-39.8	26.5	55.586	74.0	31.7	V
3701.640	42.0	-39.3	31.5	49.826	74.0	32.0	V
4959.300	55.7	-38.9	33.2	61.338	74.0	18.3	V
5400.620	45.1	-38.4	34.0	49.506	74.0	28.9	H

Set.3 with RX mode LTE B12

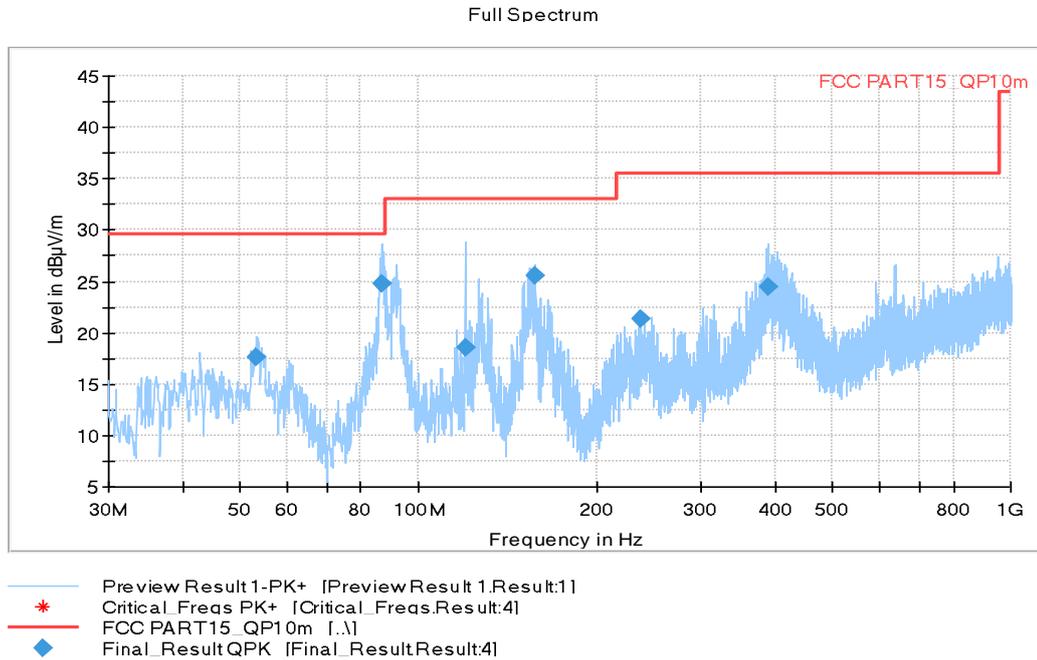


Figure A.5 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
53.37700	17.57	29.54	11.97	2000.0	120.000	225.0	H	274.0
86.74500	24.75	29.54	4.79	2000.0	120.000	125.0	V	98.0
120.0160	18.51	33.06	14.55	2000.0	120.000	109.0	V	60.0
156.8760	25.59	33.06	7.47	2000.0	120.000	101.0	V	165.0
237.9680	21.30	35.56	14.26	2000.0	120.000	109.0	V	142.0
390.2580	24.38	35.56	11.18	2000.0	120.000	100.0	V	11.0

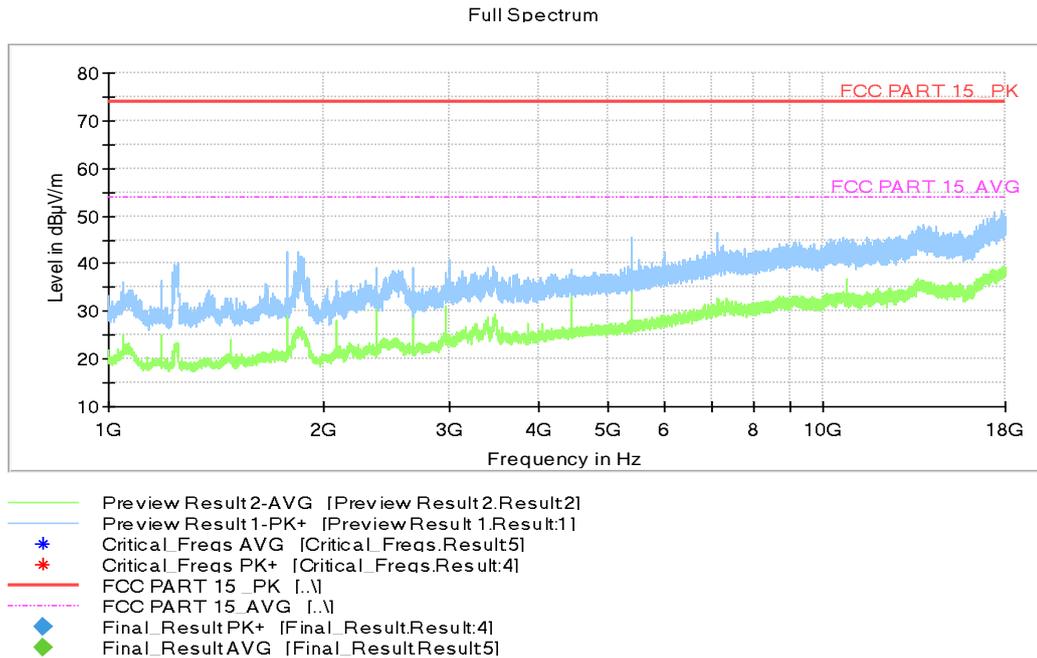


Figure A.6 Radiated Emission from 1GHz to 18GHz

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)
1782.000	32.6	-39.8	26.2	46.233	54.0	21.4	V
2375.980	31.2	-39.7	28.0	42.926	54.0	22.8	H
2672.800	32.6	-39.8	28.8	43.510	54.0	21.4	V
2970.300	31.0	-39.6	29.9	40.720	54.0	23.0	V
4455.080	33.0	-39.1	32.4	39.664	54.0	21.0	V
5400.960	41.3	-38.4	34.0	45.706	54.0	12.7	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)
1250.920	40.0	-39.8	24.2	55.568	74.0	34.0	H
1782.000	42.5	-39.8	26.2	56.133	74.0	31.5	H
1844.220	42.5	-39.8	26.4	55.876	74.0	31.5	H
2997.840	40.6	-39.5	30.0	50.151	74.0	33.4	V
5400.620	45.5	-38.4	34.0	49.906	74.0	28.5	H
7127.820	46.4	-36.9	36.2	47.006	74.0	27.6	H

Set.4 with RX mode WCDMA B5

Full Spectrum

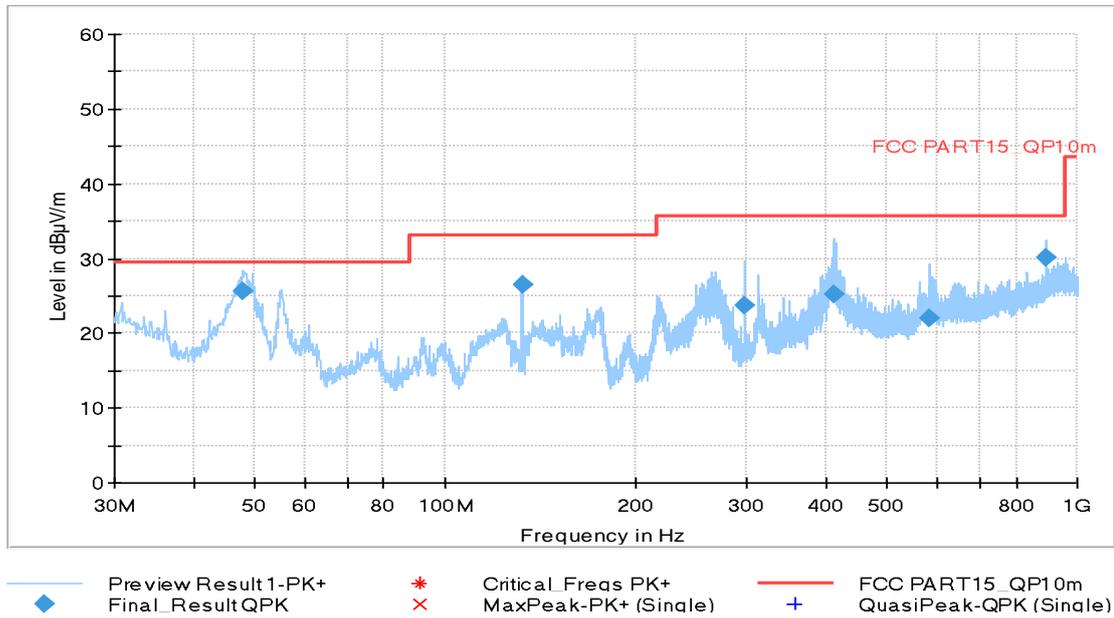
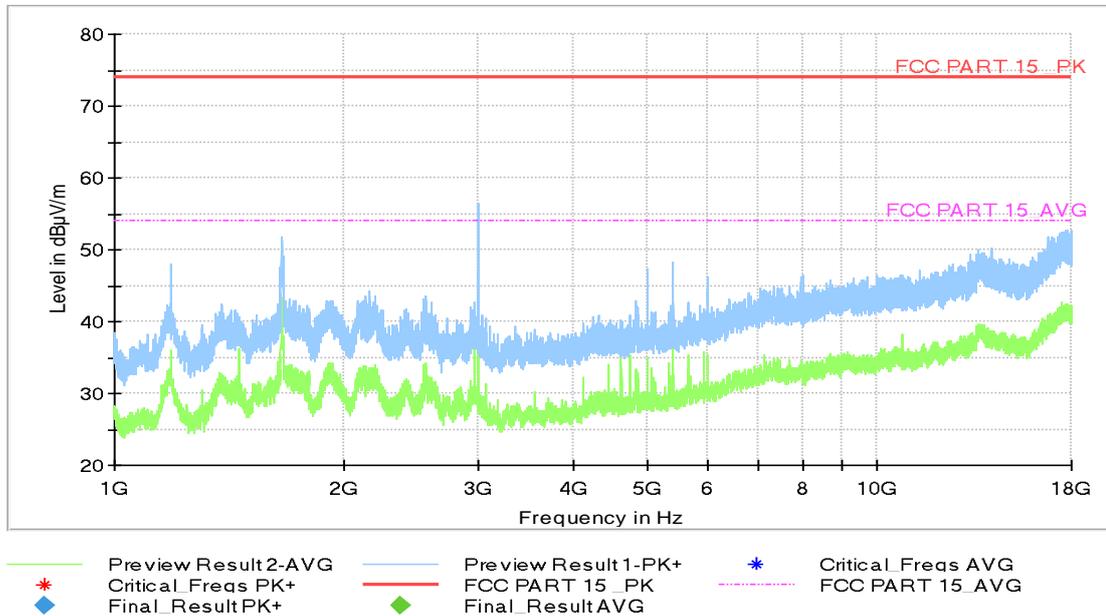


Figure A.7 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
47.94500	25.68	29.54	3.86	2000.0	120.000	98.0	V	176.0
132.3350	26.56	33.06	6.50	2000.0	120.000	125.0	V	315.0
296.9440	23.60	35.56	11.96	2000.0	120.000	175.0	V	136.0
413.6350	25.26	35.56	10.30	2000.0	120.000	196.0	H	266.0
583.8700	21.89	35.56	13.67	2000.0	120.000	175.0	H	53.0
891.0690	30.15	35.56	5.41	2000.0	120.000	100.0	H	4.0

Full Spectrum


Figure A.8 Radiated Emission from 1GHz 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)
1187.680	36.1	-40.0	24.0	52.070	54.0	17.9	V
1454.580	36.2	-39.9	24.8	51.326	54.0	17.8	H
1658.580	43.2	-39.9	25.6	57.478	54.0	10.8	V
2969.960	37.9	-39.6	29.9	47.620	54.0	16.1	V
2996.820	35.5	-39.5	30.0	45.051	54.0	18.5	H
5399.940	42.6	-38.5	34.0	47.047	54.0	11.4	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)
1187.680	48.0	-40.0	24.0	63.970	74.0	26.0	V
1655.520	51.7	-39.9	25.6	65.978	74.0	22.3	V
2994.780	56.5	-39.5	30.0	66.051	74.0	17.5	H
4993.640	47.3	-38.8	33.3	52.766	74.0	26.7	H
5400.620	48.1	-38.4	34.0	52.506	74.0	25.9	V
13551.780	50.0	-32.7	39.7	42.943	74.0	24.0	V

Set.5 with RX mode LTE B12

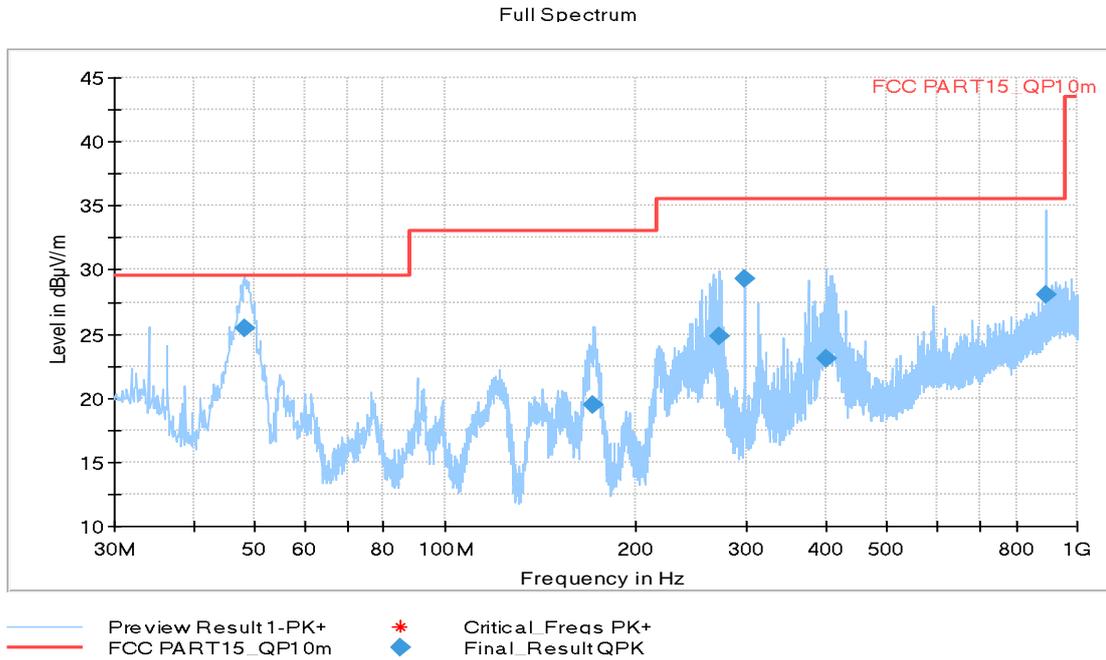


Figure A.9 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)
48.13900	25.45	29.54	4.09	2000.0	120.000	98.0	V	55.0
171.8140	19.44	33.06	13.62	2000.0	120.000	107.0	V	271.0
270.9480	24.82	35.56	10.74	2000.0	120.000	106.0	V	66.0
296.9440	29.32	35.56	6.24	2000.0	120.000	125.0	V	147.0
400.5400	23.07	35.56	12.49	2000.0	120.000	181.0	H	265.0
891.0690	28.03	35.56	7.53	2000.0	120.000	106.0	H	136.0

Full Spectrum

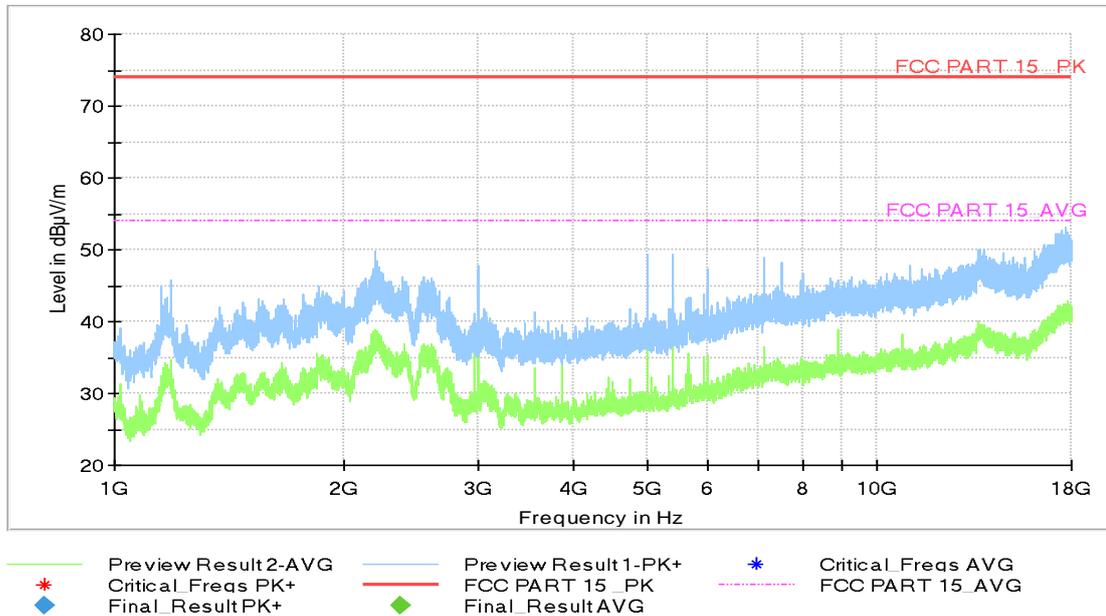


Figure A.10 Radiated Emission from 1GHz to 18GHz

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)
1170.680	34.1	-39.9	24.0	50.058	54.0	19.9	V
2197.820	38.8	-39.8	27.6	50.951	54.0	15.2	H
2997.840	36.8	-39.5	30.0	46.351	54.0	17.2	H
3860.760	33.7	-39.2	32.0	40.948	54.0	20.3	H
4993.640	36.0	-38.8	33.3	41.466	54.0	18.0	V
5400.620	43.7	-38.4	34.0	48.106	54.0	10.3	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)
1187.7	45.9	-40.0	24.0	61.870	74.0	28.1	V
2196.8	49.8	-39.8	27.6	61.951	74.0	24.2	V
2997.8	47.8	-39.5	30.0	57.351	74.0	26.2	V
4989.2	49.4	-38.8	33.3	54.866	74.0	24.6	V
5400.6	49.3	-38.4	34.0	53.706	74.0	24.7	H
7127.8	48.9	-36.9	36.2	49.506	74.0	25.1	V

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.

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

A.2.2 EUT Operating Mode

The EUT exercise program was tested using the Burn-in test program for windows.

The system was configured for testing in a typical mode that a customer would normal use.

Cables were attached to each of the available I/O ports. Where applicable, peripherals were attached to the I/O cables. All the external I/O ports were exercised.

LABTM software is used to let the EUT to continuously copy data to external (Hard Disk & SD card) storage media, read and erase the data after copy action was finished. During the test, the a pattern of “H” characters was written to display on the LCD panel; the camera was in video mode; the music was repetitively played through the headset; the WIFI and BT function was on and worked in receiver mode.

A.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency

A.2.4 Test Condition in charging mode

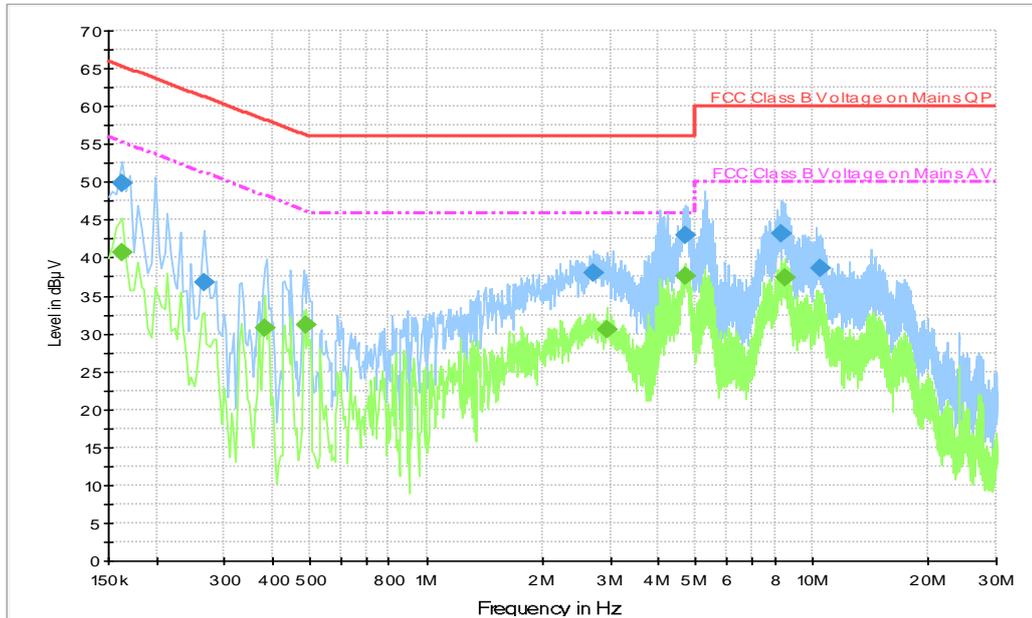
Voltage (V)	Frequency (Hz)
120	60

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

A.2.5 Measurement Results

Measurement uncertainty: $U= 3.08$ dB, $k=2$.

Set.1



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

Figure A.11 Conducted Emission

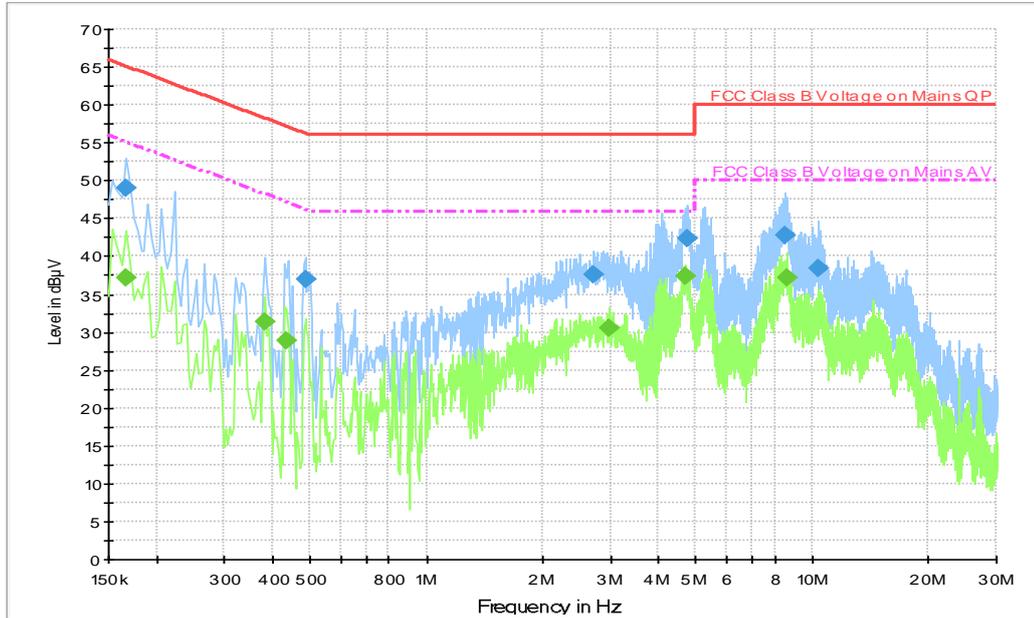
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.162000	49.9	5000.0	9.000	On	L1	20.0	15.4	65.4
0.266000	36.8	5000.0	9.000	On	N	19.8	24.4	61.2
2.718000	38.1	5000.0	9.000	On	L1	19.5	17.9	56.0
4.690000	42.9	5000.0	9.000	On	N	19.7	13.1	56.0
8.310000	43.1	5000.0	9.000	On	N	19.7	16.9	60.0
10.466000	38.6	5000.0	9.000	On	N	19.8	21.4	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.162000	40.7	5000.0	9.000	On	L1	20.0	14.7	55.4
0.382000	30.8	5000.0	9.000	On	N	19.9	17.4	48.2
0.490000	31.2	5000.0	9.000	On	L1	19.9	15.0	46.2
2.938000	30.6	5000.0	9.000	On	L1	19.5	15.4	46.0
4.702000	37.6	5000.0	9.000	On	N	19.7	8.4	46.0
8.538000	37.4	5000.0	9.000	On	N	19.8	12.6	50.0

Set.2



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

Figure A.12 Conducted Emission

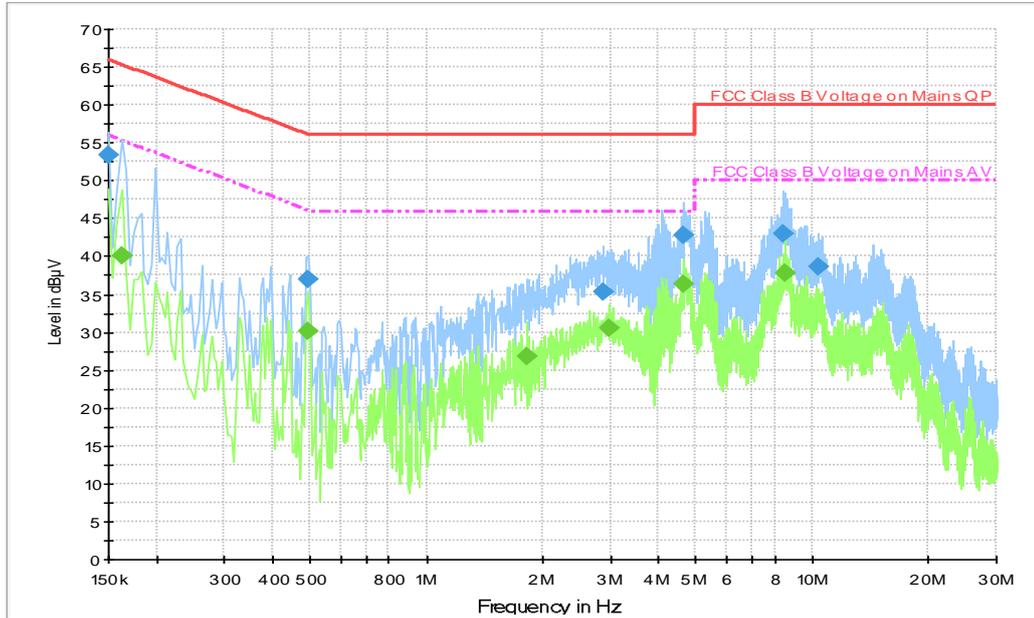
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	49.1	5000.0	9.000	On	N	19.7	16.1	65.2
0.486000	37.0	5000.0	9.000	On	L1	19.9	19.2	56.2
2.726000	37.6	5000.0	9.000	On	L1	19.5	18.4	56.0
4.750000	42.3	5000.0	9.000	On	N	19.7	13.7	56.0
8.474000	42.9	5000.0	9.000	On	N	19.8	17.1	60.0
10.406000	38.4	5000.0	9.000	On	N	19.8	21.6	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	37.2	5000.0	9.000	On	N	19.7	18.0	55.2
0.382000	31.3	5000.0	9.000	On	N	19.9	16.9	48.2
0.434000	28.8	5000.0	9.000	On	L1	19.9	18.4	47.2
2.990000	30.6	5000.0	9.000	On	L1	19.5	15.4	46.0
4.674000	37.3	5000.0	9.000	On	N	19.7	8.7	46.0
8.618000	37.2	5000.0	9.000	On	N	19.8	12.8	50.0

Set.3



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

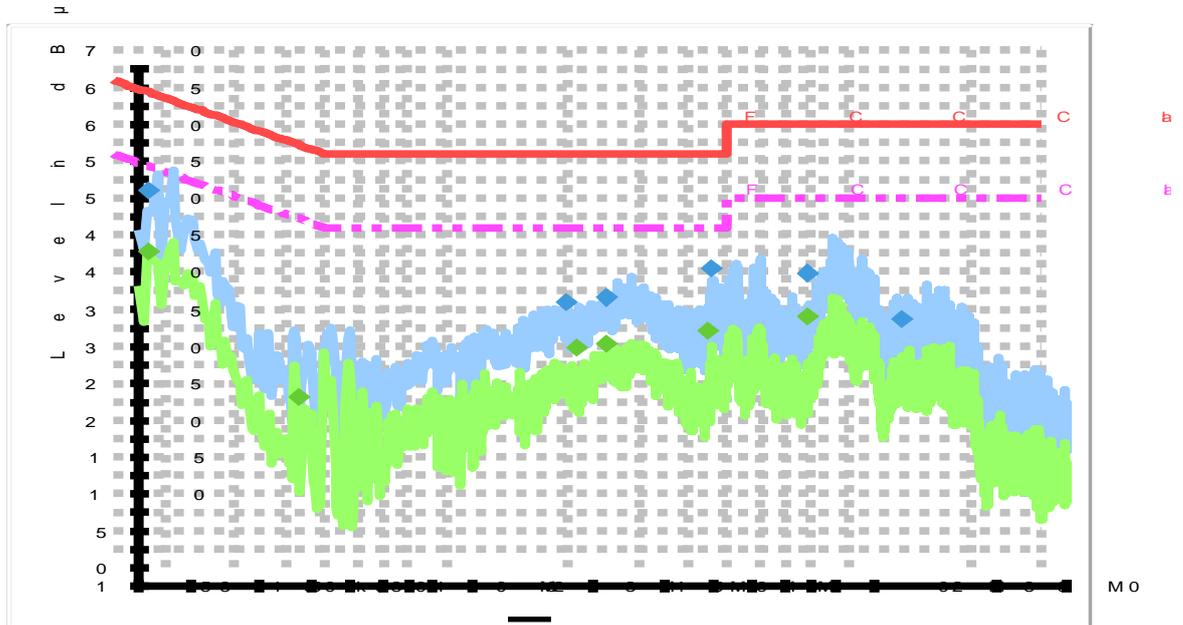
Figure A.13 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	53.4	5000.0	9.000	On	N	20.0	12.6	66.0
0.494000	37.1	5000.0	9.000	On	N	20.0	19.0	56.1
2.862000	35.3	5000.0	9.000	On	N	19.7	20.7	56.0
4.662000	42.7	5000.0	9.000	On	N	19.7	13.3	56.0
8.394000	43.0	5000.0	9.000	On	N	19.7	17.0	60.0
10.406000	38.7	5000.0	9.000	On	N	19.8	21.3	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.162000	40.1	5000.0	9.000	On	N	19.6	15.2	55.4
0.494000	30.0	5000.0	9.000	On	N	20.0	16.1	46.1
1.818000	26.7	5000.0	9.000	On	L1	19.5	19.3	46.0
2.978000	30.5	5000.0	9.000	On	N	19.7	15.5	46.0
4.634000	36.3	5000.0	9.000	On	N	19.7	9.7	46.0
8.506000	37.9	5000.0	9.000	On	N	19.8	12.1	50.0

Set.4


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

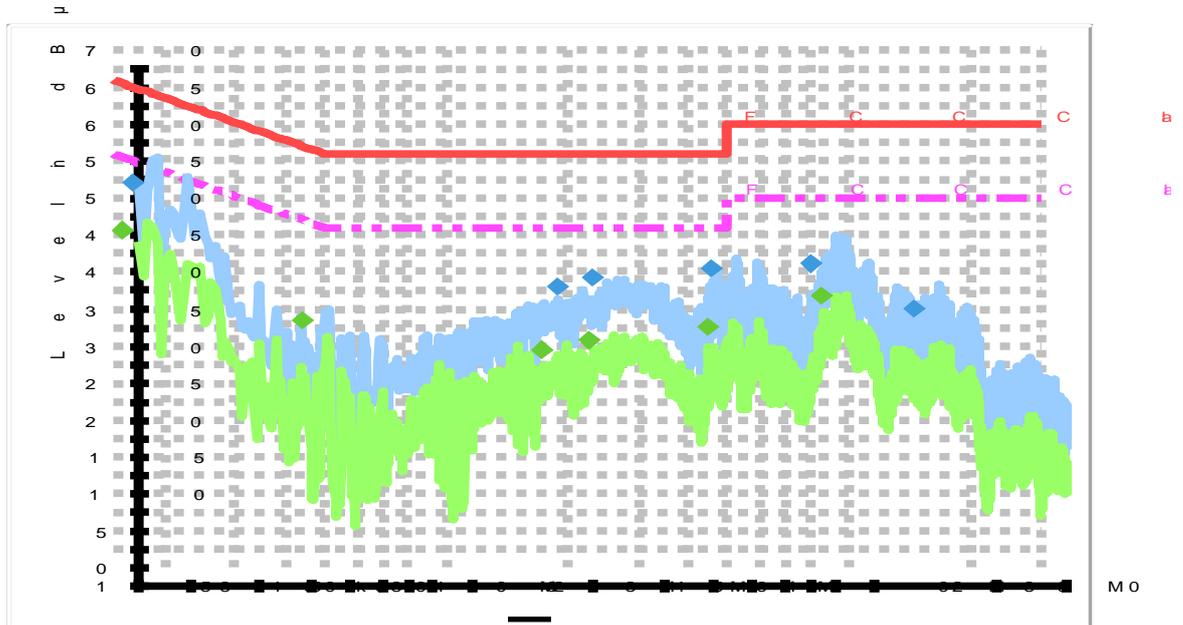
Figure A.14 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.182000	51.2	5000.0	9.000	On	L1	19.8	13.2	64.4
1.982000	36.0	5000.0	9.000	On	L1	19.6	20.0	56.0
2.498000	36.7	5000.0	9.000	On	N	19.6	19.3	56.0
4.530000	40.5	5000.0	9.000	On	N	19.5	15.5	56.0
7.874000	40.0	5000.0	9.000	On	N	19.6	20.0	60.0
13.358000	33.6	5000.0	9.000	On	N	19.5	26.4	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.182000	42.8	5000.0	9.000	On	L1	19.8	11.6	54.4
0.430000	23.0	5000.0	9.000	On	L1	19.8	24.2	47.3
2.106000	29.7	5000.0	9.000	On	L1	19.6	16.3	46.0
2.498000	30.3	5000.0	9.000	On	N	19.6	15.7	46.0
4.446000	32.0	5000.0	9.000	On	N	19.5	14.0	46.0
7.874000	34.1	5000.0	9.000	On	N	19.6	15.9	50.0

Set.5


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

Figure A.15 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	52.0	5000.0	9.000	On	N	19.6	13.1	65.2
1.898000	38.0	5000.0	9.000	On	L1	19.6	18.0	56.0
2.314000	39.4	5000.0	9.000	On	L1	19.6	16.6	56.0
4.522000	40.5	5000.0	9.000	On	N	19.5	15.5	56.0
8.070000	41.1	5000.0	9.000	On	N	19.6	18.9	60.0
14.458000	35.1	5000.0	9.000	On	N	19.6	24.9	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	45.6	5000.0	9.000	On	L1	19.8	10.0	55.6
0.438000	33.4	5000.0	9.000	On	L1	19.8	13.7	47.1
1.722000	29.5	5000.0	9.000	On	L1	19.6	16.5	46.0
2.246000	30.8	5000.0	9.000	On	L1	19.6	15.2	46.0
4.450000	32.6	5000.0	9.000	On	N	19.5	13.4	46.0
8.478000	36.9	5000.0	9.000	On	N	19.6	13.1	50.0



ANNEX B: Persons involved in this testing

Test Item	Tester
Radiated Emission	DING Zai, ZHANG Tianli, LI Pengfei, Yan Hanchen
Conducted Emission	ZHANG Tianli, Chen Tianwei

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