EMC TEST REPORT

Applicant	Honor Device Co., Ltd.
FCC ID	2AYGCVNE-LX3
Product	Smart Phone
Model	VNE-LX3
Report No.	R2207A0619-E1V2
Issue Date	August 2, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2021)/ ANSI C63.4-2014**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Liu Wei

Prepared by: Liu Wei

Fan Guangchang

Approved by: Fan Guangchang

TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
TEL: +86-021-50791141/2/3
FAX: +86-021-50791141/2/3-8000

Table of Contents

Version	Revision description	Issue Date
Rev.0	Initial issue of report.	July 25, 2022
Rev.1	Update description.	July 29, 2022
Rev.2	Update description and add FM.	August 2, 2022
Note: This revised report (Report No. R2207A0619-E1V3) supersedes and replaces the previously issued report (Report No. R2207A0619-E1V2). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

Number	Test Case	Clause in FCC Rules	Conclusion
1	Radiated Emission	FCC Part15.109, ANSI C63.4-2014	PASS
2	Conducted Emission	FCC Part15.107, ANSI C63.4-2014	PASS
Date of Testing: July 13, 2022 ~July 16, 2022 and August 2, 2022(for FM) Date of Sample Received: July 13, 2022			
Note: All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3 Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Fan Guangchang
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	fanguangchang@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	Honor Device Co., Ltd.
Applicant address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Manufacturer	Honor Device Co., Ltd.
Manufacturer address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

2.2 General information

EUT Description			
Device Type	Portable Device		
Model	VNE-LX3		
SN	A96BNU2625200516		
HW Version	HL1VNEM		
SW Version	2.1.0.34(SP02C900E5R1P1)		
Power Rating	DC 5V from Adapter.		
Connecting I/O Port(s)	Please refer to the User's Manual.		
Antenna Type	Internal Antenna		
Frequency	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824 ~ 849	869 ~ 894
	GSM 1900	1850 ~ 1910	1930 ~ 1990
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	WCDMA Band IV	1710 ~ 1755	2110 ~ 2155
	WCDMA Band V	824 ~ 849	869 ~ 894
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 13	777 ~ 787	746 ~ 756
	LTE Band 26	814 ~ 849	859 ~ 894
	LTE Band 38	2570 ~ 2620	2570 ~ 2620
	LTE Band 66	1710 ~ 1780	2110 ~ 2180
	Bluetooth	2402 ~ 2480	2402 ~ 2480
	Wi-Fi 2.4G	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5G(U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5G(U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5G(U-NII-2C)	5470 ~ 5725	5470 ~ 5725
	Wi-Fi 5G(U-NII-3)	5725 ~ 5850	5725 ~ 5850
	FM	/	87.5 ~ 108

EUT Accessory			
Accessory	**Model**	**Manufacture**	**No.**
Adapter	HW-050200E02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	1
		Honor Device Co., Ltd. (Manufacturer: BYD)	2
	HW-050200B02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	3
		Honor Device Co., Ltd. (Manufacturer: BYD)	4
	HW-050200U02	Honor Device Co., Ltd. (Manufacturer: Huntkey)	5
		Honor Device Co., Ltd. (Manufacturer: BYD)	6
Battery	HB496590EFW	Honor Device Co., Ltd. (Manufacturer: SCUD)	1
		Honor Device Co., Ltd. (Manufacturer: NVT)	2
	HB496590EFW-F	Honor Device Co., Ltd. (Manufacturer: SCUD)	3
		Honor Device Co., Ltd. (Manufacturer: NVT)	4
Data Cable	RY0002	NingBo Broad Telecommunication Co., Ltd.	1
	AU2-CRO013HF	Freeport Resources Enterprises Corp.	2
	2120-00001-0	MING JI ELECTRONICS CO., LTD.	3
	L125UC007-CS-H	LUXSHARE PRECISION INDUSTRY CO., LTD.	4
	CUDU01B-HC451-EH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	5
Earphone	MEND1532B528C00	Jiangxi Lianchuang Hongsheng Electronic Co., LTD.	1
	1293-3283-3.5MM-339	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD.	2
Auxiliary test equipment			
PC	PC Manufacturer: Dell Model: E5450 (SN : P48G001)		

Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.

2. There is more than one Adapter/Battery/Data cable/Earphone, each one should be applied throughout the compliance test respectively, and however, only the worst case (Adapter 6 / Battery 3 /Data cable 1/ Earphone 1) will be recorded in this report.

2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards
FCC Code CFR47 Part15B (2021)
ANSI C63.4-2014

2.4 Test Mode

Test Mode	
Mode 1	Adapter +USB cable+ earphone + Front camera On +GNSS RX +GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 2	Adapter +USB cable+ earphone + Front camera On +GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 3	Adapter +USB cable+ earphone + Rear camera On +GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 4	Adapter +USB cable+ earphone + Rear camera On +GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 5	Adapter + USB cable + earphone + Mp4
Mode 6	Adapter + USB cable + earphone + Mp3
Mode 7	Adapter + USB cable + earphone + GNSS Rx+ LTE receiver
Mode 8	Adapter + USB cable + earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 9	USB Copy(EUT with PC) + USB cable + earphone
Mode 10	Front Camera On +earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 11	Front Camera On +earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 12	Rear camera On +earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 13	Rear camera On +earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 14	Earphone + MP4
Mode 15	Earphone + MP3
Mode 16	Earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 17	Earphone + GNSS Rx +GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 18	Adapter+ USB+EUT +Fm(98mhz)+Earphone

During the test, the preliminary test was performed in all modes with all adapters, Data cable, Earphone and batteries, mode 6 and mode 18 for RE and mode 9 for CE are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

3 Test Case Results

3.1 Radiated Emission

Ambient condition

Temperature	Relative humidity	Pressure
15°C~35°C	30%~60%	101.5kPa

Methods of Measurement

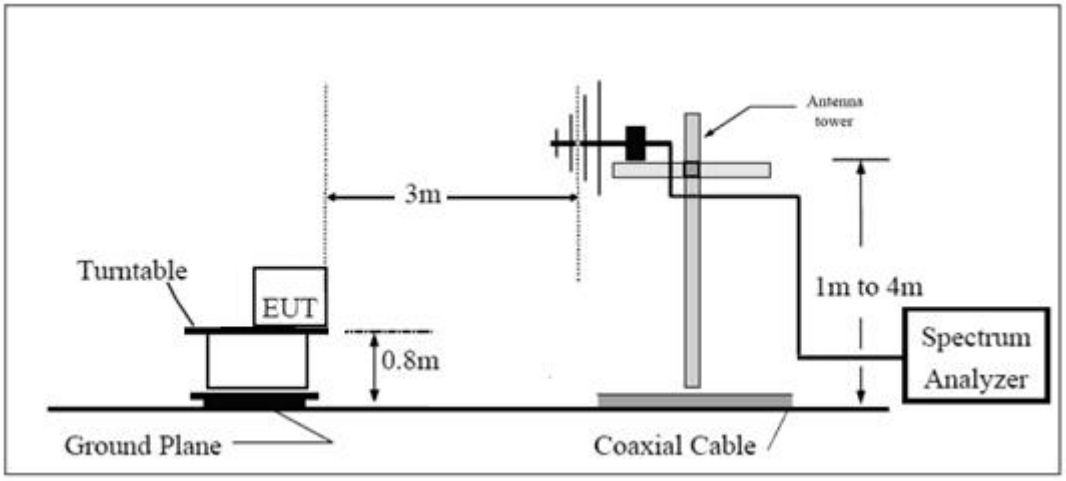
The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated signal level.
The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.
Set the spectrum analyzer in the following:

Below 1GHz:
RBW=100 kHz / VBW=300 kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK Detector: RBW=1MHz / VBW=3MHz/ Sweep=AUTO
(b) AVERAGE Detector: RBW=1MHz / VBW=3MHz / Sweep=AUTO

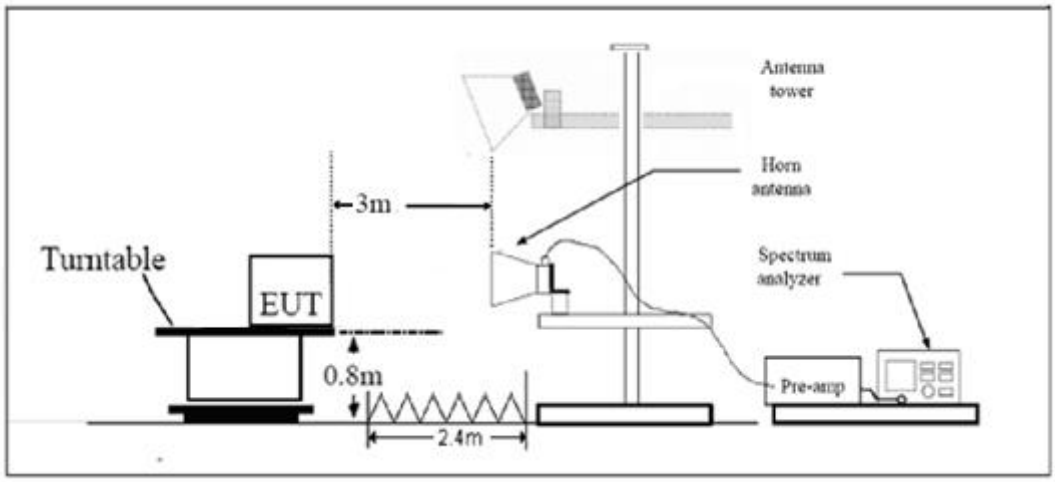
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

Test Setup

Below 1GHz



Above 1GHz



Note: Area side: 2.4mX3.6m

Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast.

Limits

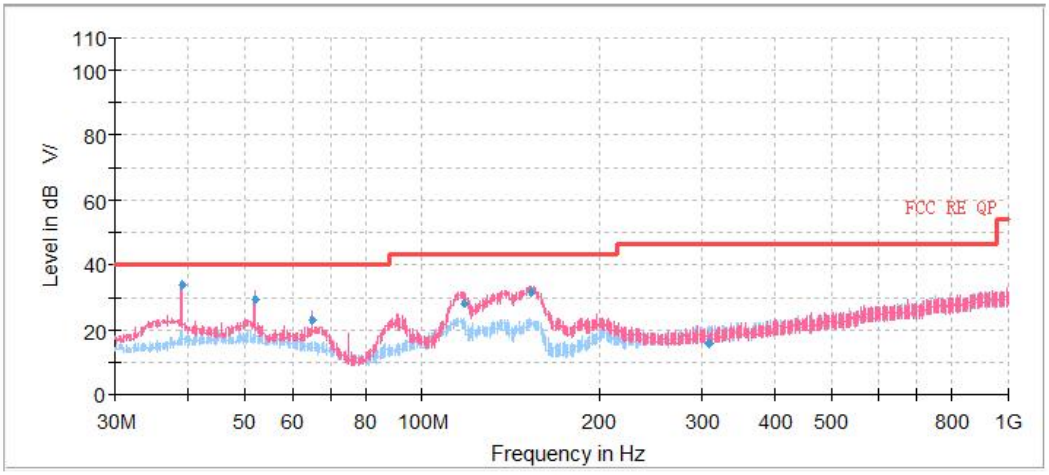
Class B

Frequency (MHz)	Field Strength (dBμV/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5th harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. The Emissions in the frequency band 18GHz – 40GHz is more than 20dB below the limit are not reported.

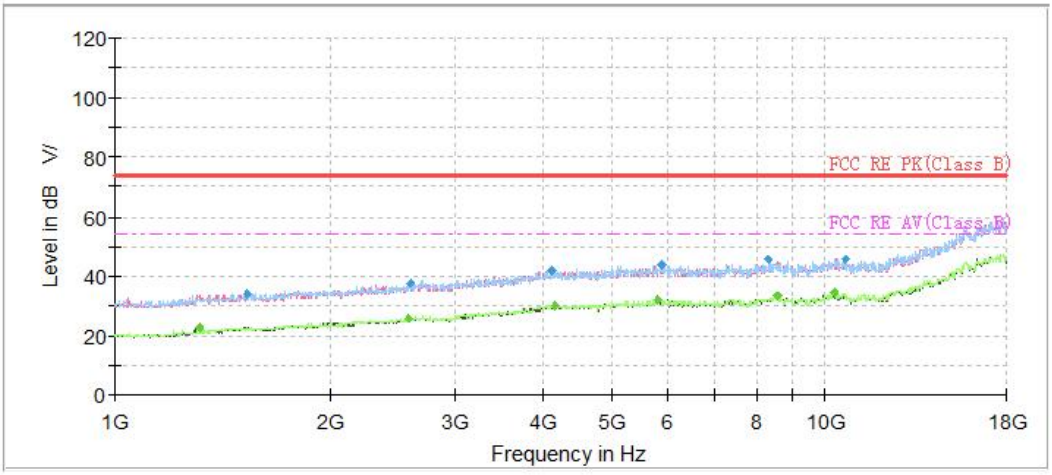
The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.
A font (Level in dB V/)in the test plot =(level in dB μ V/m)



Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
38.99	33.58	40.00	6.42	1000.00	100.0	V	117.00	19
51.99	29.13	40.00	10.87	1000.00	125.0	V	30.00	20
64.98	23.26	40.00	16.74	1000.00	100.0	V	290.00	18
117.69	28.03	43.50	15.47	1000.00	100.0	V	133.00	17
153.46	31.43	43.50	12.07	1000.00	100.0	V	93.00	15
308.51	15.59	46.00	30.41	1000.00	100.0	H	275.00	20

Remark: 1. Correction Factor = Antenna factor + Insertion loss(cable loss+ amplifier gain)
2. Margin = Limit – Quasi-Peak



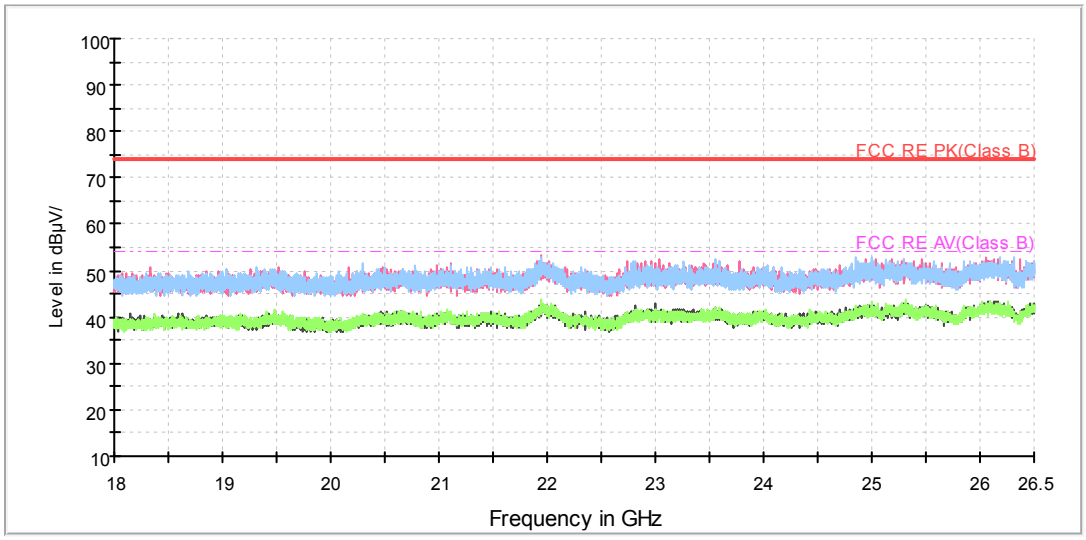
Radiated Emission from 1GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1312.38	---	23.02	54.00	30.98	500.00	100.0	V	314.00	-17
1531.25	34.03	---	74.00	39.97	500.00	200.0	V	15.00	-15
2587.38	---	25.68	54.00	28.32	500.00	100.0	H	149.00	-10
2602.25	37.49	---	74.00	36.51	500.00	200.0	H	227.00	-10
4128.00	41.86	---	74.00	32.14	500.00	200.0	V	241.00	-3
4157.75	---	30.34	54.00	23.66	500.00	100.0	H	317.00	-3
5813.13	---	32.20	54.00	21.80	500.00	100.0	H	243.00	0
5876.88	43.46	---	74.00	30.54	500.00	100.0	H	185.00	0
8324.88	45.44	---	74.00	28.56	500.00	100.0	H	185.00	3
8541.63	---	33.20	54.00	20.80	500.00	100.0	H	308.00	4
10279.88	---	34.17	54.00	19.83	500.00	100.0	H	295.00	5
10643.25	45.60	---	74.00	28.40	500.00	100.0	H	47.00	5

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss+ amplifier gain)
2. Margin = Limit – Quasi-Peak

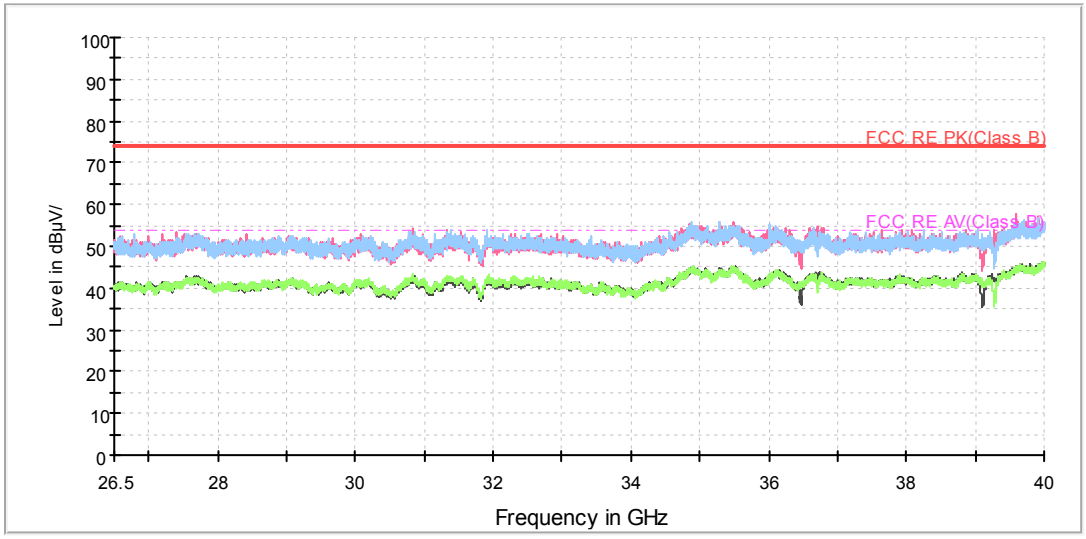
A font (Level in dBµV/)in the test plot =(level in dB µ V/m)

RE 18-26.5GHz PK+AV



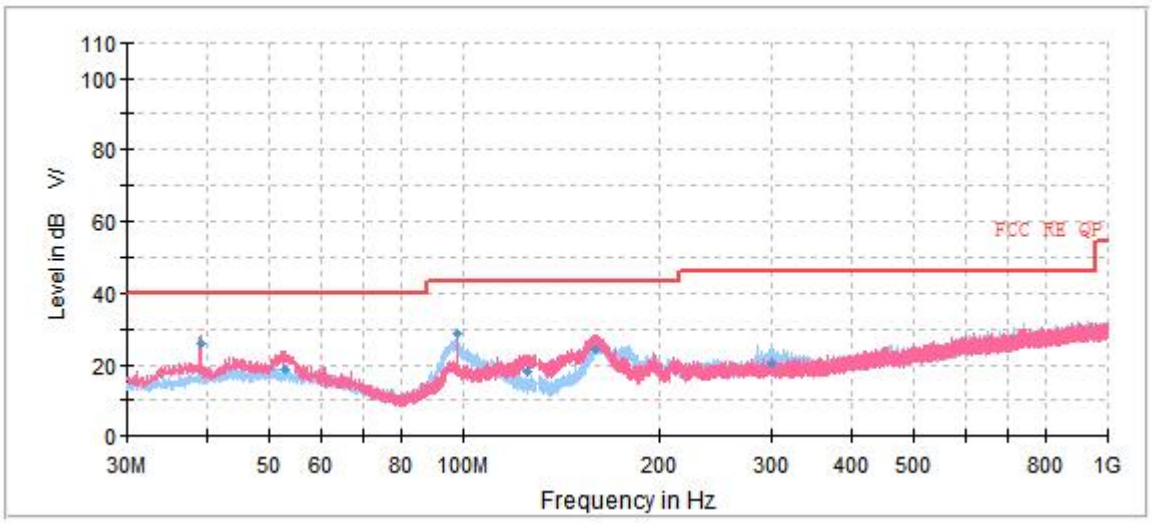
Radiated Emission from 18GHz to 26.5GHz

RE 26.5-40GHz PK+AV



Radiated Emission from 26.5GHz to 40GHz

FM



Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
38.99	26.23	40.00	13.77	1000.00	100.0	V	61.00	19
52.98	18.51	40.00	21.49	1000.00	100.0	V	100.00	20
98.00	28.61	43.50	14.89	1000.00	225.0	H	0.00	18
126.30	18.26	43.50	25.24	1000.00	100.0	V	309.00	16
159.27	24.15	43.50	19.35	1000.00	100.0	V	278.00	15
299.18	20.40	46.00	25.61	1000.00	100.0	H	273.00	20

Remark: 1. Correction Factor = Antenna factor + Insertion loss(cable loss+ amplifier gain)

2. Margin = Limit – Quasi-Peak

3.2 Conducted Emission

Ambient condition

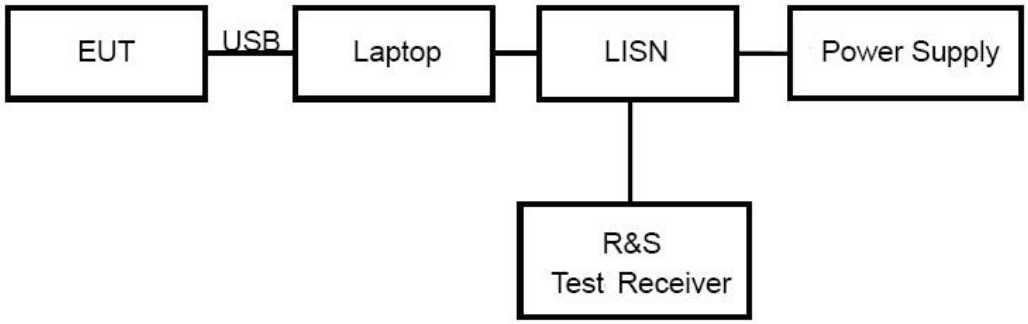
Temperature	Relative humidity	Pressure
15°C~35°C	30%~60%	101.5kPa

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

During the test, EUT is connected to a laptop via a USB cable in the case of Transfer Data mode. The EUT is used as the peripheral equipment of the PC. The data is transferred from EUT to PC; PC is connected to server via a long LAN cable.

Test Setup



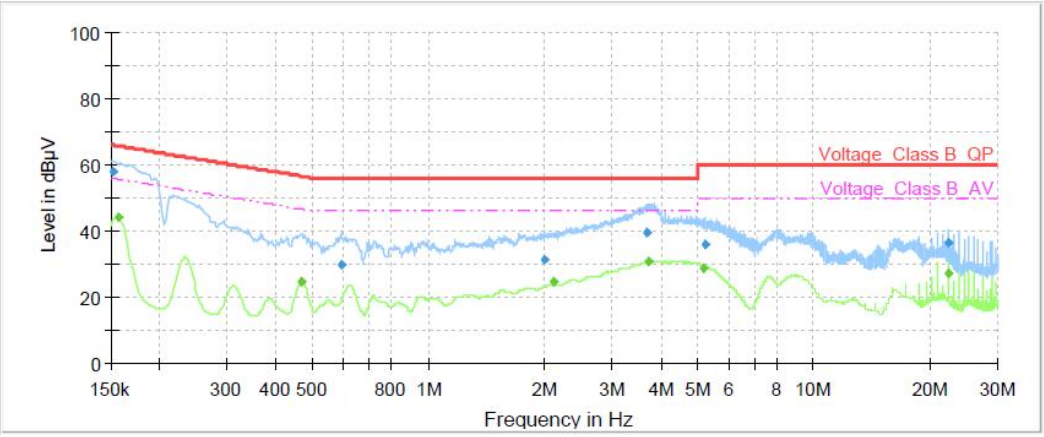
Note: Power Supply is AC Power source and it is used to change the voltage 120V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(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.		

Test Results

Following plots, Blue trace uses the peak detection; Green trace uses the average detection.

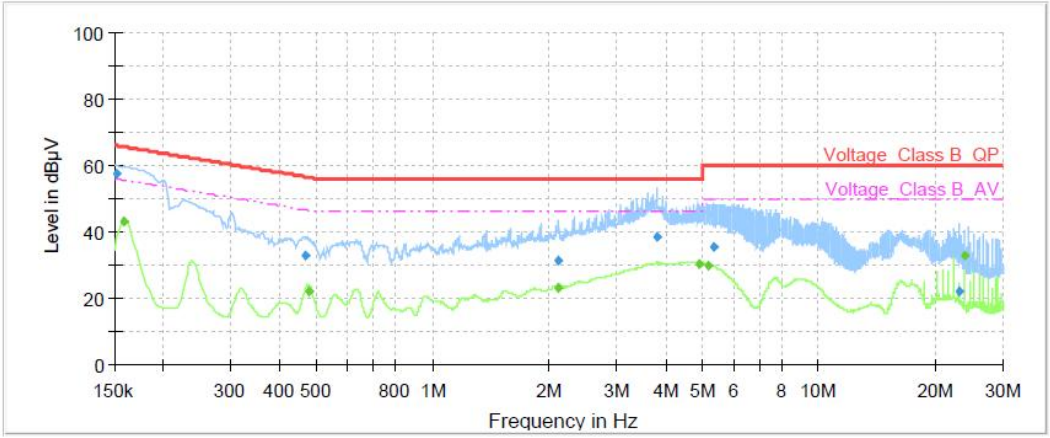


Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	57.78	---	65.88	8.10	1000.00	9.000	N	ON	21
0.16	---	44.32	55.63	11.31	1000.00	9.000	N	ON	21
0.47	---	24.69	46.52	21.83	1000.00	9.000	N	ON	20
0.59	29.89	---	56.00	26.11	1000.00	9.000	N	ON	20
1.99	31.52	---	56.00	24.48	1000.00	9.000	N	ON	20
2.12	---	24.50	46.00	21.50	1000.00	9.000	N	ON	20
3.70	39.67	---	56.00	16.33	1000.00	9.000	N	ON	19
3.73	---	30.54	46.00	15.46	1000.00	9.000	N	ON	19
5.15	---	28.90	50.00	21.10	1000.00	9.000	N	ON	19
5.20	35.78	---	60.00	24.22	1000.00	9.000	N	ON	19
22.38	36.55	---	60.00	23.45	1000.00	9.000	N	ON	20
22.39	---	27.30	50.00	22.70	1000.00	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

L line

Conducted Emission from 150 KHz to 30 MHz



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	57.67	---	65.88	8.21	1000.00	9.000	L1	ON	21
0.16	---	43.13	55.52	12.39	1000.00	9.000	L1	ON	21
0.47	32.89	---	56.60	23.71	1000.00	9.000	L1	ON	20
0.48	---	22.26	46.40	24.14	1000.00	9.000	L1	ON	20
2.12	---	23.24	46.00	22.76	1000.00	9.000	L1	ON	20
2.12	31.37	---	56.00	24.63	1000.00	9.000	L1	ON	20
3.81	38.41	---	56.00	17.59	1000.00	9.000	L1	ON	19
4.90	---	30.19	46.00	15.81	1000.00	9.000	L1	ON	19
5.14	---	29.80	50.00	20.20	1000.00	9.000	L1	ON	19
5.32	35.22	---	60.00	24.78	1000.00	9.000	L1	ON	19
23.01	22.20	---	60.00	37.80	1000.00	9.000	L1	ON	20
23.83	---	33.05	50.00	16.95	1000.00	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 KHz to 30 MHz

4 Uncertainty Measurement

Case	Uncertainty	Factor k
Radiated Emission 30MHz – 200MHz	4.17 dB	1.96
Radiated Emission 200MHz – 1GHz	4.84 dB	1.96
Radiated Emission 1GHz – 18GHz	4.35 dB	1.96
Radiated Emission 18GHz – 26.5GHz	5.90 dB	1.96
Radiated Emission 26.5GHz – 40GHz	5.92 dB	1.96
Conducted Emission	2.57 dB	2

5 Main Test Instruments

Name of Equipment	Manufacturer	Type/Model	Serial Number	Calibration Date	Expiration Time
Radiated Emission					
EMI Test Receiver	R&S	ESR	102389	2022-05-25	2023-05-24
Signal Analyzer	R&S	FSV40	100816	2021-12-12	2022-12-11
TRILOG Broadband Antenna	SCHWARZBECK	9163	1023	2020-05-05	2023-05-04
Horn Antenna	Schwarzbeck	BBHA 9120D	430	2021-07-26	2024-07-25
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2019-12-24	2022-12-23
Software	R&S	EMC32	9.26.01	/	/
Conducted Emission					
Artificial main network	R&S	ENV216	102191	2020-12-13	2022-12-12
EMI Test Receiver	R&S	ESR	101667	2022-05-25	2023-05-24
Software	R&S	EMC32	10.35.10	/	/

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

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.