



EMC TEST REPORT

Applicant Honor Device Co., Ltd.
FCC ID 2AYGCTFY-LX2
Product Smart Phone
Model TFY-LX2
Report No. R2201A0038-E1
Issue Date February 16, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2020)/ 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.

Wei Liu

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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: January 13, 2022 ~ January 14, 2022 and February 15, 2022(for FM)			
Date of Sample Received: January 10, 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.			

TFY-LX2 (Report No.: R2201A0038-E1) is a variant model of TFY-LX3 (Report No.: R2201A0036-E1V2). Test values duplicated from Original for variant. There is only tested Radiated Emission, and did not worsen, so they were not recorded in the report.

The difference between model TFY-LX3 and model TFY-LX2 is show in the below table:

	Model	TFY-LX3	TFY-LX2
Licensed Frequency	LTE BAND	B2/B4/B5/B7/B13/B26/B38/B66	B5/B7/B38/B41
	UMTS BAND	B2/B4/B5	B2/B5
	Antenna	The antenna matching and routing are the same. The frequency is different.	The antenna matching and routing are the same. The frequency is different.
RF	RF circuit	The RF circuit of the same frequency is the same.	The RF circuit of the same frequency is the same. the different frequency changed by hardware and some RF parameters. Changes are followed: delete B4/B13/B66 SAWs、Diplexer、 switch and RF matching components.
Others		the same	the same

The detailed product change description please refers to the *Difference Declaration Letter*.

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: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
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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	TFY-LX2		
SN	A7NX011C30000083		
HW Version	HL6TFYM		
SW Version	4.2.0.35(C900E14R1P1)		
Power Rating	DC 3.87V from battery or 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 V	824 ~ 849	869 ~ 894
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 38	2570 ~ 2620	2570 ~ 2620
	LTE band 41	2496 ~ 2690	2496 ~ 2690
	Bluetooth	2400 ~ 2483.5	2400 ~ 2483.5
	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-100225E00	Honor Device Co., Ltd.	1



		(Manufacturer:Huntkey)	
	HW-100225U00	Honor Device Co., Ltd. (Manufacturer:Huntkey)	2
	HW-100225B00	Honor Device Co., Ltd. (Manufacturer:Huntkey)	3
	HN-100225E00	Honor Device Co., Ltd. (Manufacturer: Salcomp)	4
	HN-100225U00	Honor Device Co., Ltd. (Manufacturer: Salcomp)	5
	Battery	HB416492EFW	Honor Device Co., Ltd. (Manufacturer: Sunwoda Electronic Co.,LTD)
HB416492EFW		Honor Device Co., Ltd. (Manufacturer:NVT)	2
Earphone	MEND1532B528A11	Jiangxi Lianchuang Hongsheng Electronic Co., LTD.	1
	1293-3283-3.5mm-339	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD.	2
	EPAB542-2WH05-DH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	3
USB 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
Auxiliary test equipment			
PC	PC Manufacturer: Microsoft Corporation Model: L20170076		
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant. 2. There are more than one Adapter, Battery, Earphone and USB Cable, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter 1, Battery 2, Earphone 1 and USB Cable 3) 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 (2020)

ANSI C63.4 (2014)

2.4 Test Mode

Test Mode	
Mode 1:	Adapter +USB cable+ earphone + Front camera On + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 2:	Adapter +USB cable+ earphone + Front camera On + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 3:	Adapter +USB cable+ earphone + Rear camera On + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode4:	Adapter +USB cable+ earphone + Rear camera On + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 5:	Adapter + USB cable + earphone + Mp4
Mode 6:	Adapter + USB cable + earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 7:	Adapter + USB cable + earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 8:	USB Copy(EUT with PC) + USB cable + earphone
Mode 9:	Front Camera On +earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 10:	Front Camera On +earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 11:	Rear camera On +earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 12:	Rear camera On +earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 13:	Earphone + MP4
Mode 14:	Earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN receiver
Mode 15:	Earphone + GSM/WCDMA/LTE/ Bluetooth/ WLAN Traffic
Mode 16:	FM

During the test, the preliminary test was performed in all modes with all adapters, USB and batteries, mode 8 and mode16 is 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

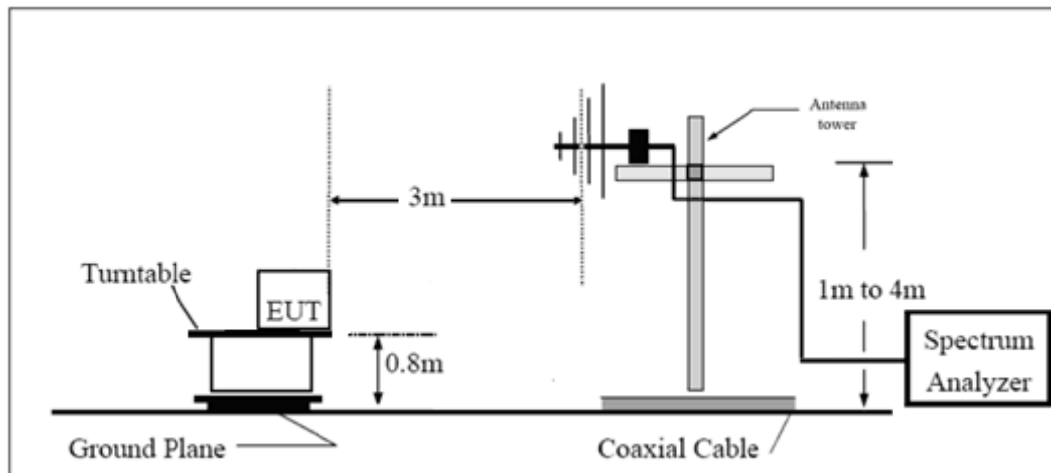
(b) AVERAGE Detector: RBW=1MHz / VBW=3MHz / Sweep=AUTO

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.

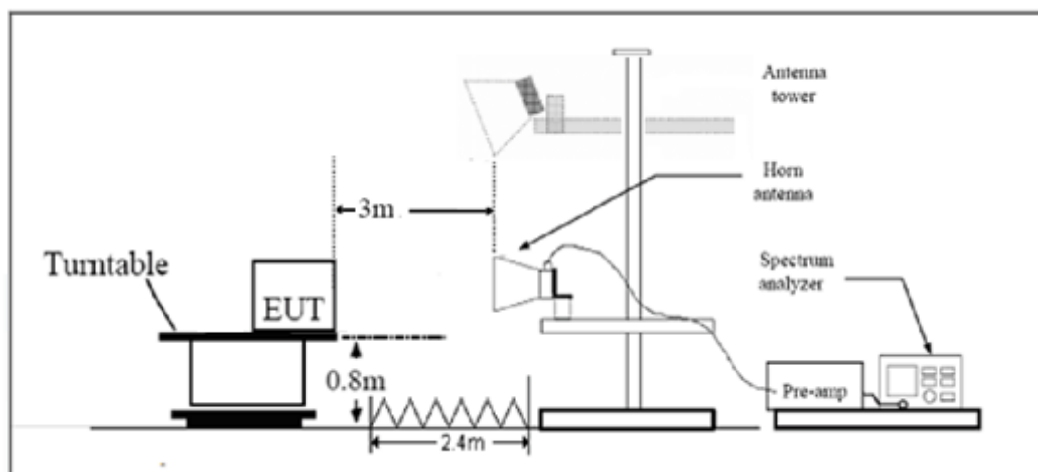
During the test, EUT is connected to a laptop via a USB cable in the case of Transfer Data mode. The EUT is used as the peripheral equipment of the PC. The data is transferred from EUT to PC; PC is connected to server via a long LAN cable.

Test Setup

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 (dB μ V/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
1000-5 th harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
30MHz~200MHz	4.17 dB
200MHz~1000MHz	4.84 dB
1GHz~18GHz	4.35 dB

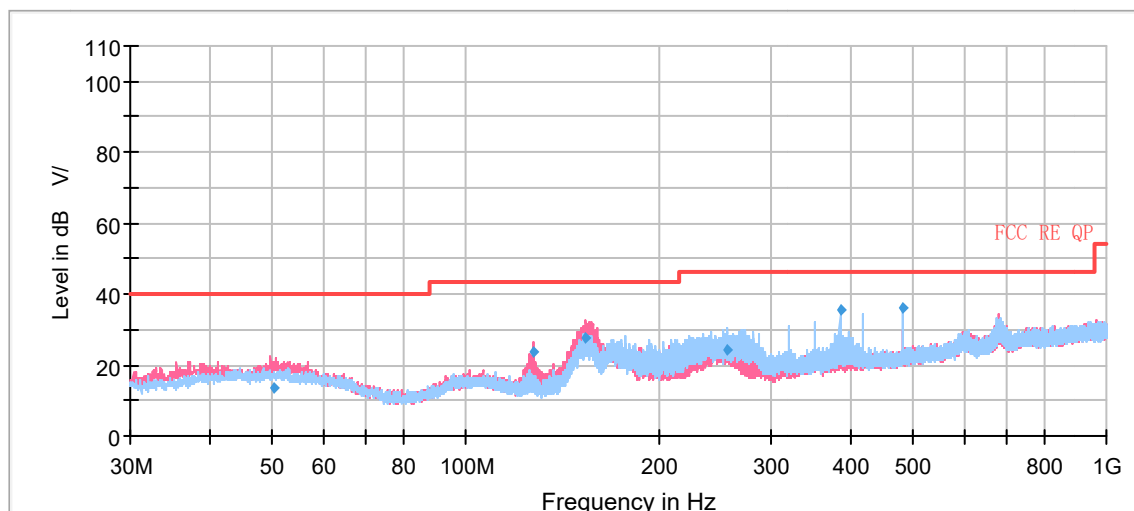
Test Results

Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier.

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 μ V/m) in the test plot =(level in dB μ V/m)

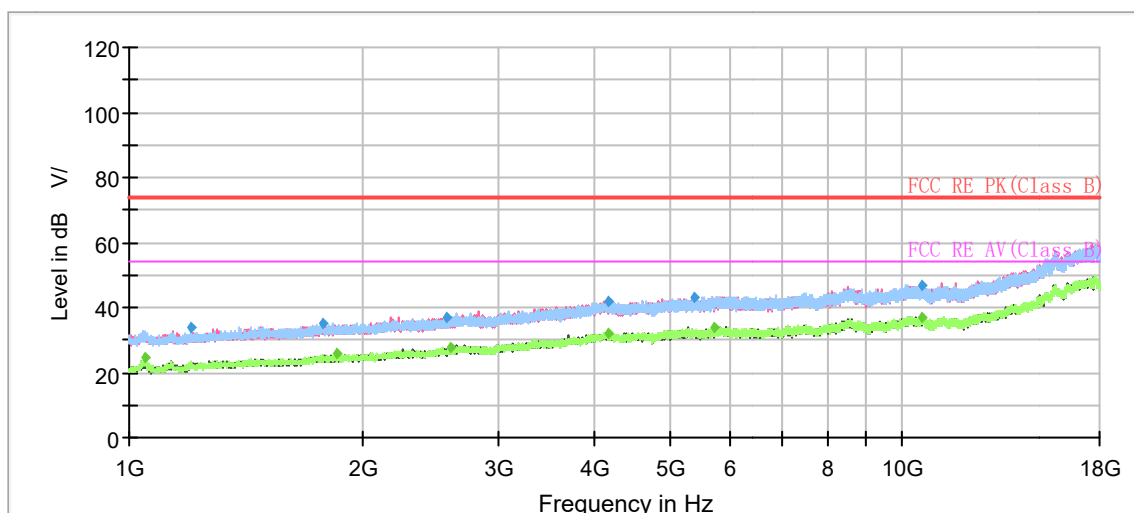


Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
50.163333	13.79	40.00	26.21	100.0	V	52.0	21
128.010000	23.88	43.50	19.62	100.0	V	73.0	15
154.218667	27.80	43.50	15.70	100.0	V	83.0	15
256.097667	24.47	46.00	21.53	125.0	H	107.0	20
383.985333	35.52	46.00	10.48	100.0	H	342.0	23
479.990667	35.95	46.00	10.05	100.0	H	193.0	24

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

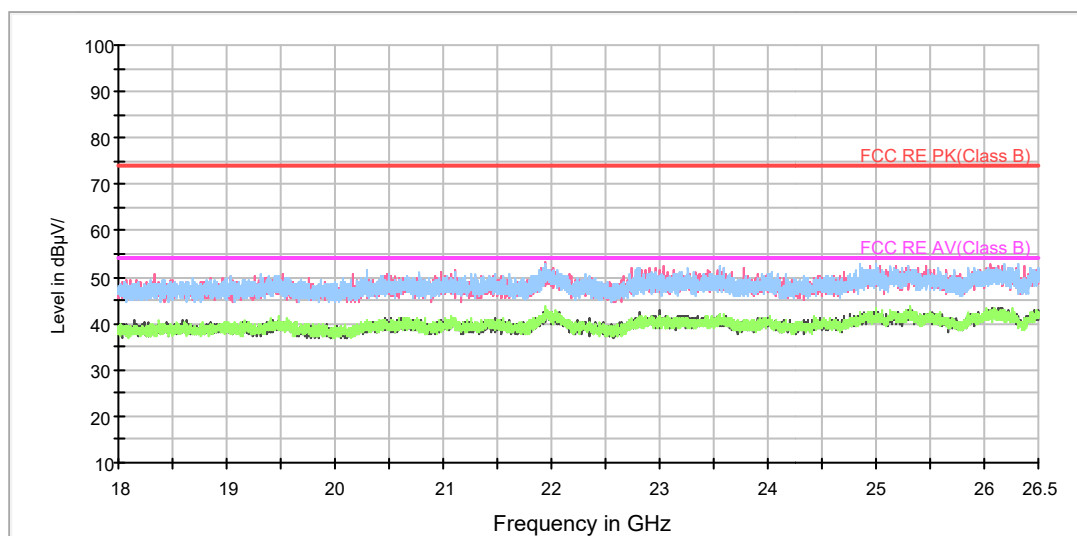
2. Margin = Limit – Quasi-Peak



Radiated Emission from 1GHz to 18GHz

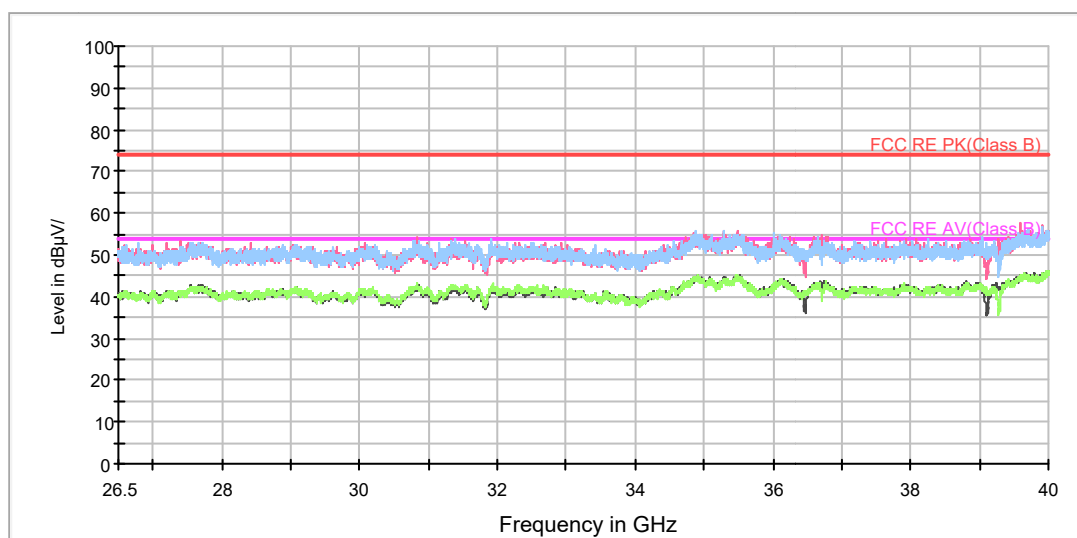
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1048.166667	---	24.58	54.00	29.42	100.0	H	220.0	-19
1199.466667	33.97	---	74.00	40.03	100.0	H	236.0	-18
1784.833333	35.33	---	74.00	38.67	200.0	V	212.0	-14
1854.533333	---	25.67	54.00	28.33	100.0	V	163.0	-14
2573.066667	37.13	---	74.00	36.87	100.0	V	84.0	-10
2611.600000	---	27.59	54.00	26.41	100.0	H	322.0	-10
4159.166667	---	32.28	54.00	21.72	100.0	V	227.0	-3
4178.433333	41.85	---	74.00	32.15	100.0	H	354.0	-3
5366.166667	43.22	---	74.00	30.78	100.0	V	0.0	-1
5720.900000	---	34.10	54.00	19.90	200.0	H	12.0	0
10625.966667	---	37.19	54.00	16.81	200.0	H	169.0	5
10628.233333	46.92	---	74.00	27.08	200.0	H	58.0	5

RE 18-26.5GHz PK+AV

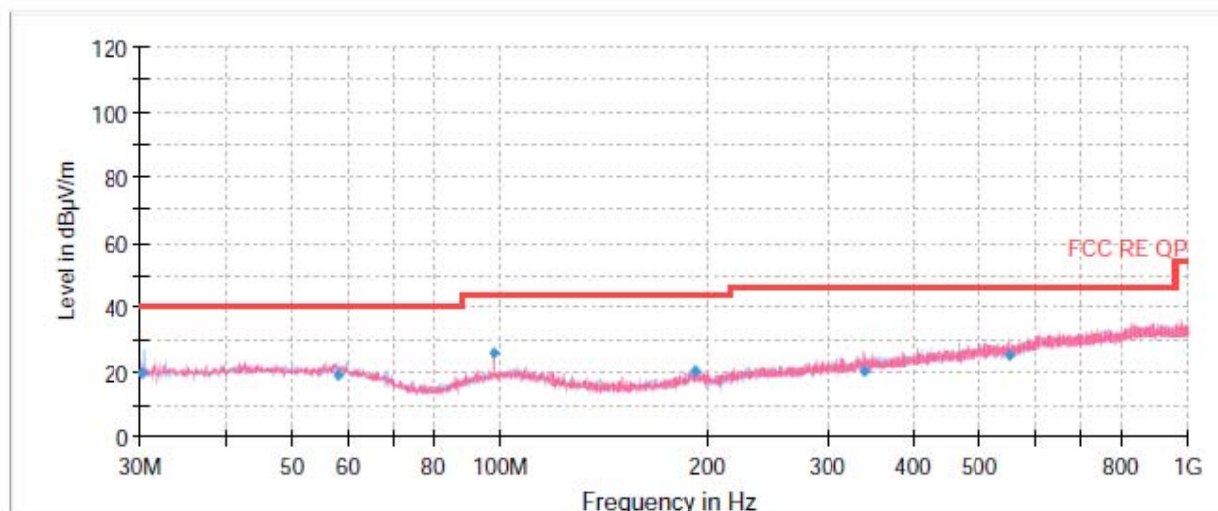


Radiated Emission from 18GHz to 26.5GHz

RE 26.5-40GHz PK+AV



Radiated Emission from 26.5GHz to 40GHz

FM


Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
30.16	19.63	40.00	20.37	1000.00	190.0	H	235.00	12
58.01	18.78	40.00	21.22	1000.00	100.0	H	108.00	14
97.98	25.89	43.50	14.61	1000.00	100.0	V	102.00	13
191.99	20.39	43.50	23.11	1000.00	125.0	H	92.00	12
338.50	20.48	46.00	25.52	1000.00	100.0	H	276.00	16
552.59	24.99	46.00	21.01	1000.00	213.0	V	50.00	20

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

2. Margin = Limit – Quasi-Peak

3.2 Conducted Emission

Ambient condition

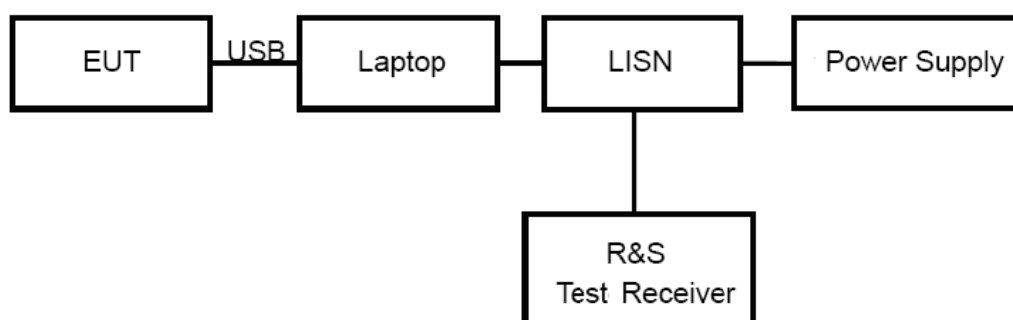
Temperature	Relative humidity	Pressure
15°C~35°C	30%~60%	101.5kPa

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

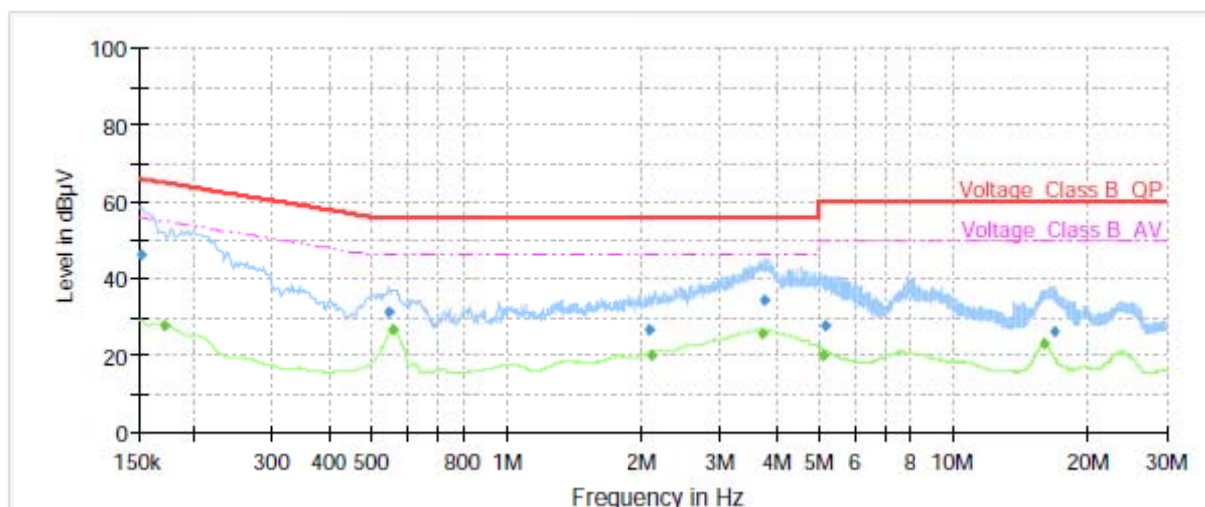
Frequency (MHz)	Conducted Limits(dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U = 2.57$ dB.

Test Results

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

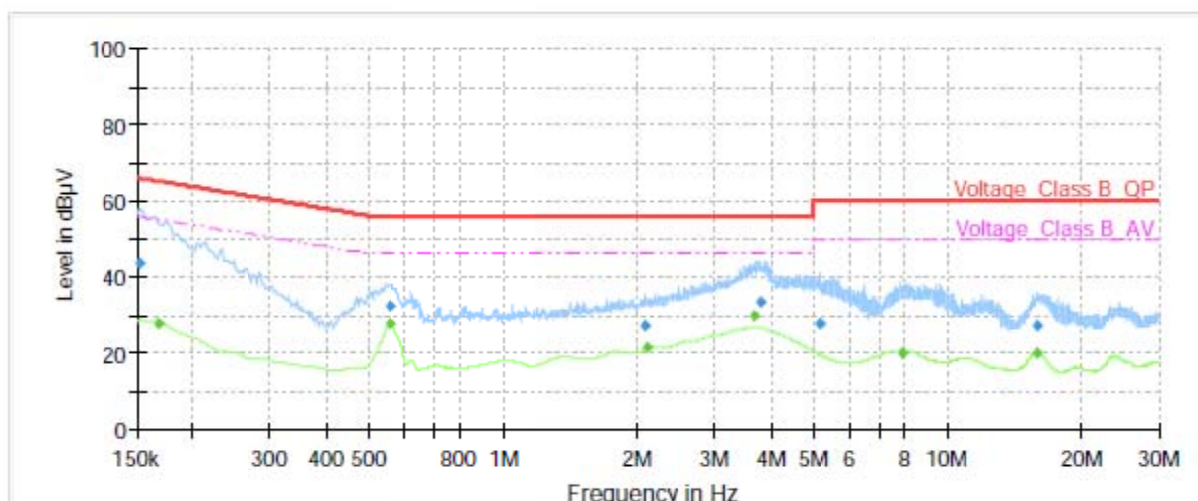


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	46.15	---	65.88	19.73	70.0	9.000	L1	ON	21
0.17	---	27.62	54.95	27.33	70.0	9.000	L1	ON	21
0.55	31.22	---	56.00	24.78	70.0	9.000	L1	ON	20
0.56	---	26.88	46.00	19.12	70.0	9.000	L1	ON	20
2.09	26.61	---	56.00	29.39	70.0	9.000	L1	ON	20
2.12	---	19.93	46.00	26.07	70.0	9.000	L1	ON	20
3.74	---	25.79	46.00	20.21	70.0	9.000	L1	ON	19
3.76	34.13	---	56.00	21.87	70.0	9.000	L1	ON	19
5.13	---	19.80	50.00	30.20	70.0	9.000	L1	ON	19
5.15	27.69	---	60.00	32.31	70.0	9.000	L1	ON	19
16.01	---	23.14	50.00	26.86	70.0	9.000	L1	ON	20
16.79	26.17	---	60.00	33.83	70.0	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line

Conducted Emission from 150 KHz to 30 MHz

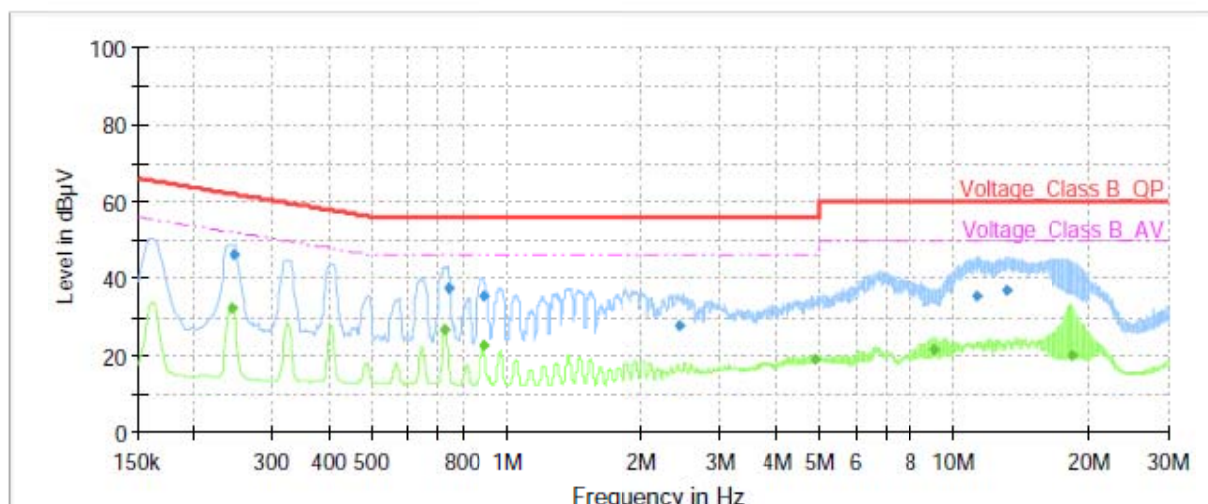


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	43.51	---	65.88	22.37	70.0	9.000	N	ON	21
0.17	---	27.46	55.06	27.61	70.0	9.000	N	ON	21
0.56	---	27.75	46.00	18.25	70.0	9.000	N	ON	20
0.56	32.24	---	56.00	23.76	70.0	9.000	N	ON	20
2.10	27.43	---	56.00	28.57	70.0	9.000	N	ON	20
2.12	---	21.65	46.00	24.35	70.0	9.000	N	ON	20
3.68	---	29.74	46.00	16.26	70.0	9.000	N	ON	19
3.80	33.49	---	56.00	22.51	70.0	9.000	N	ON	19
5.19	27.45	---	60.00	32.55	70.0	9.000	N	ON	19
7.95	---	20.05	50.00	29.95	70.0	9.000	N	ON	20
15.94	27.06	---	60.00	32.94	70.0	9.000	N	ON	20
15.96	---	20.20	50.00	29.80	70.0	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 KHz to 30 MHz

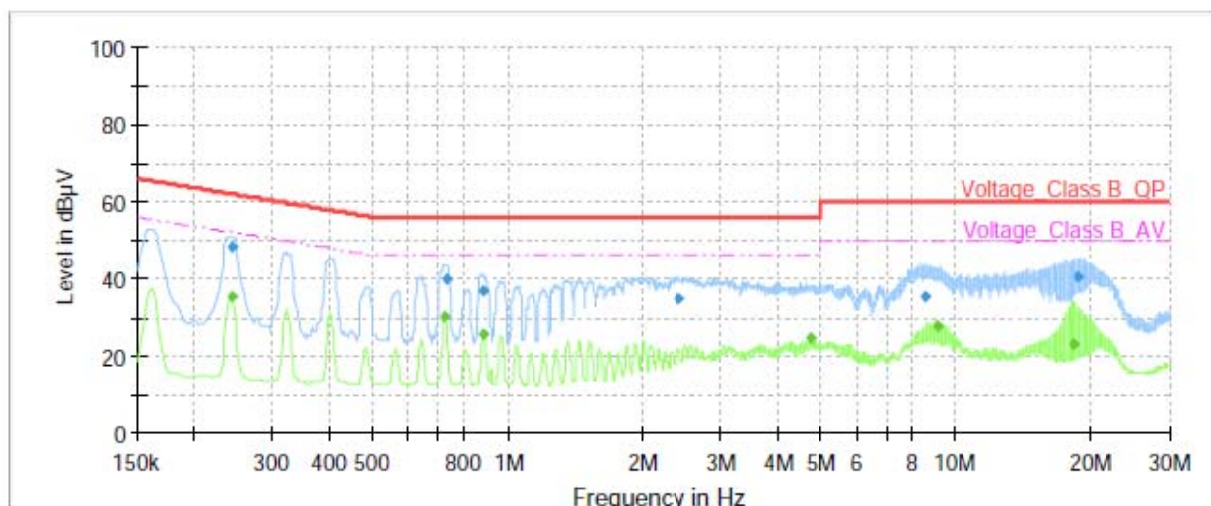


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.24	---	32.50	52.02	19.52	70.00	9.000	L1	ON	21
0.24	46.07	---	61.94	15.87	70.00	9.000	L1	ON	21
0.73	---	26.49	46.00	19.51	70.00	9.000	L1	ON	20
0.74	37.50	---	56.00	18.50	70.00	9.000	L1	ON	20
0.89	---	22.55	46.00	23.45	70.00	9.000	L1	ON	20
0.89	35.22	---	56.00	20.78	70.00	9.000	L1	ON	20
2.42	27.93	---	56.00	28.07	70.00	9.000	L1	ON	19
4.91	---	18.85	46.00	27.15	70.00	9.000	L1	ON	19
9.02	---	21.74	50.00	28.26	70.00	9.000	L1	ON	20
11.24	35.51	---	60.00	24.49	70.00	9.000	L1	ON	20
13.02	36.69	---	60.00	23.31	70.00	9.000	L1	ON	20
18.28	---	19.85	50.00	30.15	70.00	9.000	L1	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)
0.24	---	35.63	52.02	16.39	70.00	9.000	N	ON	21
0.24	48.41	---	62.02	13.61	70.00	9.000	N	ON	21
0.72	---	30.36	46.00	15.64	70.00	9.000	N	ON	20
0.73	39.95	---	56.00	16.05	70.00	9.000	N	ON	20
0.88	---	25.87	46.00	20.13	70.00	9.000	N	ON	20
0.88	36.82	---	56.00	19.18	70.00	9.000	N	ON	20
2.40	34.74	---	56.00	21.26	70.00	9.000	N	ON	20
4.72	---	24.53	46.00	21.47	70.00	9.000	N	ON	19
8.51	35.52	---	60.00	24.48	70.00	9.000	N	ON	20
9.11	---	27.63	50.00	22.37	70.00	9.000	N	ON	20
18.30	---	22.85	50.00	27.15	70.00	9.000	N	ON	20
18.78	40.44	---	60.00	19.56	70.00	9.000	N	ON	20

Remark: Correct factor=cable loss + LISN factor

N line

Conducted Emission from 150 KHz to 30 MHz

4 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Spectrum Analyzer	R&S	FSV40	15195-01-00	2021-05-15	2022-05-14
EMI Test Receiver	R&S	ESCI	100948	2021-05-15	2022-05-14
Trilog Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Horn Antenna	R&S	HF907	102723	2020-08-11	2023-08-10
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
EMI Test Receiver	R&S	ESR	101667	2021-05-16	2022-05-15
LISN	R&S	ENV216	101171	2020-12-13	2022-12-12
Bore Sight Antenna mast	ETS	2171B	00058752	/	/
Test software	EMC32	R&S	9.26.0	/	/

*****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.



ANNEX C: Product Change Description

The Product Change Description are submitted separately.