



EMC TEST REPORT

Applicant XCHENG TECH CO., LIMITED
FCC ID 2AZ4F-T0511-T5
Product PDA
Brand Kobile
Model T0511;T5;T05;T05_ROW
Report No. R2111A1062-E1V1
Issue Date April 28, 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.

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	April 2, 2022
Rev.1	Update Applicant.	April 28, 2022
Note: This revised report (Report No. R2111A1062-E1V1) supersedes and replaces the previously issued report (Report No. R2111A1062-E1). Please discard or destroy the previously issued report and dispose of it accordingly.		



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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 1, 2022 ~January 12, 2022			
Date of Sample Received: November 25, 2021			
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: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
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E-mail: fanguangchang@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Applicant and Manufacturer Information

Applicant	XCHENG TECH CO., LIMITED
Applicant address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China
Manufacturer	XCHENG TECH CO., LIMITED
Manufacturer address	ROOM 401F, Building 5, No.3000 LONG DONG Avenue, Pudong New District, Shanghai, China

2.2 General information

EUT Description			
Device Type	Movable Device		
Model	T0511;T5;T05;T05_ROW		
IMEI	IMEI1:354721087287473 IMEI2:354721087288026		
HW Version	MT6761		
SW Version	V01		
Power Rating	DC 3.85V from battery		
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 17	704 ~ 716	734 ~ 746
	LTE Band 41	2535 ~ 2655	2535 ~ 2655
	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-3)	5725 ~ 5850	5725 ~ 5850
	NFC	13.56	13.56
EUT Accessory			
Adapter 1	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: WI-RD-191105-001 Input: 100-240V~50/60Hz 0.3A Output: 5.0V ---2.0A		
Adapter 2	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: TPA-59050200BU01-C Input: 100-240V~50/60Hz 0.3A Output: 5.0V ---2.0A		
Adapter 3	Manufacturer: SHENZHENG EAST SUN ELECTRONIC CO.,LTD Model: TPA-23A050200UU02-C Input: 100-240V~50/60Hz 0.3A Output: 5.0V ---2.0A		
Battery	Manufacturer: Zhongshan Tianmao Battery Co.,Ltd Model: BP1826-3 DC 3.85V, 4500mAh		
USB Cable	Manufacturer: Shenzhen HuaJiaShengMing Technology Co.,Ltd Model: 262202110B0011		
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, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter 2) will be recorded in this report. 3. Customer declaration, The four products are the same, except for model. Only T0511 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 + GSM/WCDMA/LTE/ Bluetooth/ WLAN/NFC receiver
Mode 2:	Adapter + USB cable + GSM/WCDMA/LTE/ Bluetooth/ WLAN/NFC Traffic
Mode 3:	Adapter + USB cable + Mp4
Mode4:	Adapter + USB cable + play video
Mode 5:	Adapter + USB cable + rear/front camera
Mode 6:	USB Copy(EUT with PC) + USB cable

During the test, the preliminary test was performed in all modes with all adapters, USB Cable and battery, mode 5 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:

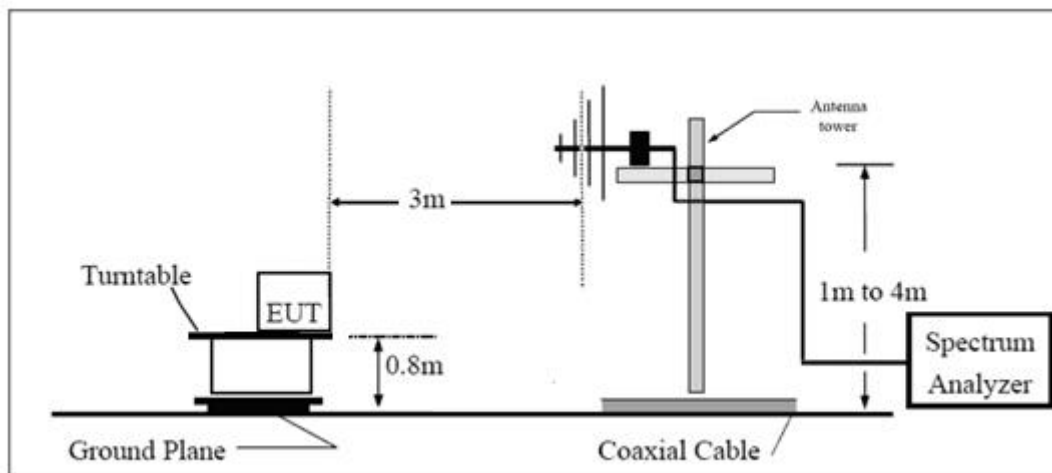
(a) PEAK Detector: RBW=1MHz / VBW=3MHz/ Sweep=AUTO

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

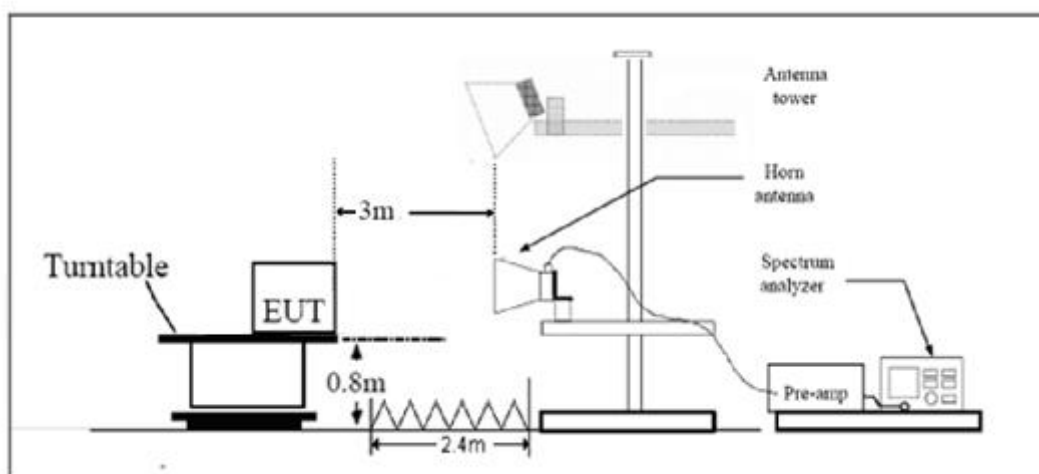
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

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

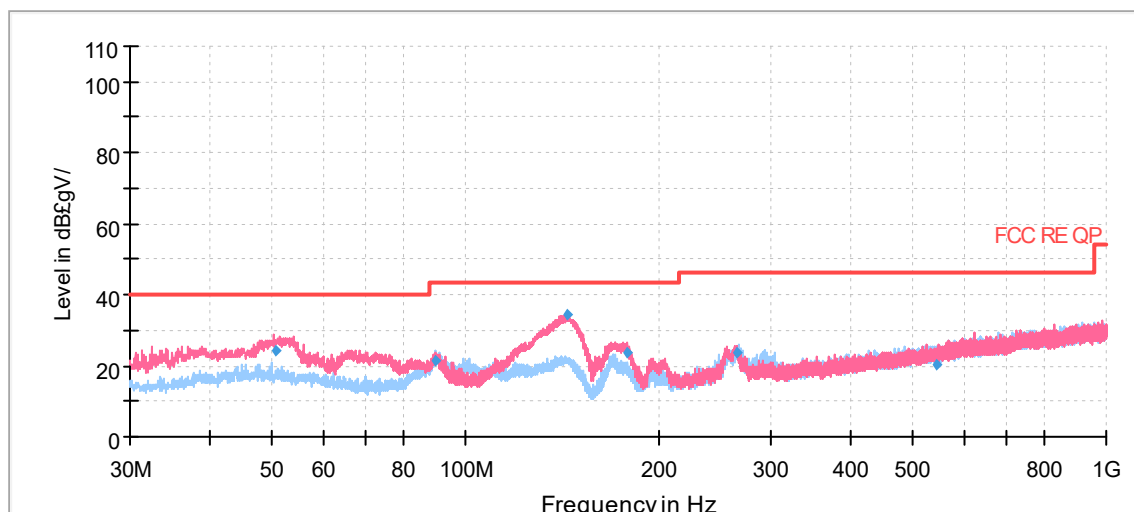
Test Results

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)

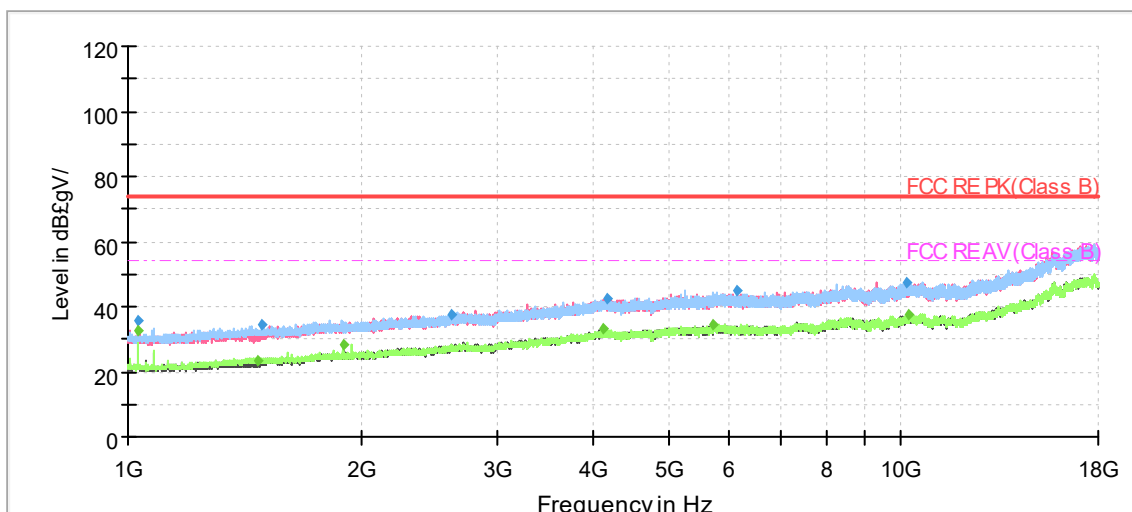


Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
50.768333	24.53	40.00	15.47	100.0	V	256.0	21
89.895000	21.60	43.50	21.90	225.0	H	167.0	16
144.219333	34.50	43.50	9.00	100.0	V	42.0	15
178.424333	23.62	43.50	19.88	100.0	V	22.0	16
264.431000	23.57	46.00	22.43	100.0	V	335.0	20
545.244333	20.10	46.00	25.90	125.0	V	153.0	25

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)
1031.733333	---	32.34	54.00	21.66	100.0	V	213.0	-19
1031.733333	35.69	---	74.00	38.31	100.0	V	213.0	-19
1472.033333	---	23.65	54.00	30.35	100.0	H	18.0	-16
1489.033333	34.47	---	74.00	39.53	100.0	H	33.0	-16
1895.900000	---	28.56	54.00	25.44	100.0	H	162.0	-14
2617.266667	37.63	---	74.00	36.37	200.0	H	0.0	-10
4118.366667	---	33.03	54.00	20.97	200.0	H	4.0	-3
4162.000000	42.18	---	74.00	31.82	200.0	H	17.0	-3
5712.966667	---	34.51	54.00	19.49	200.0	V	302.0	0
6118.700000	45.06	---	74.00	28.94	100.0	H	309.0	0
10196.433333	47.26	---	74.00	26.74	200.0	V	50.0	5
10242.333333	---	37.70	54.00	16.30	200.0	V	58.0	5

3.2 Conducted Emission

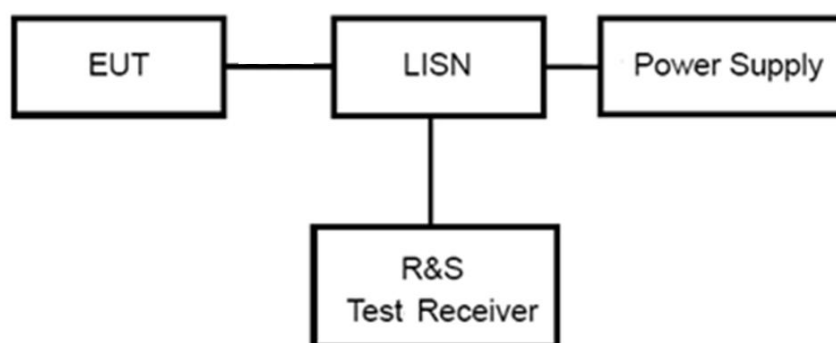
Ambient condition

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.

Test Setup



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

Limits

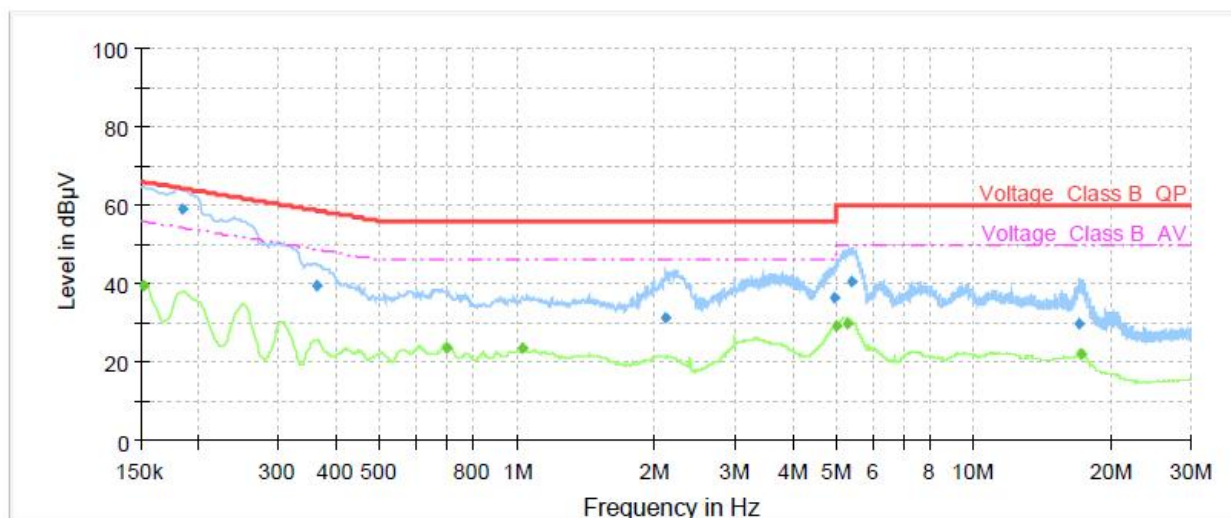
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

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.

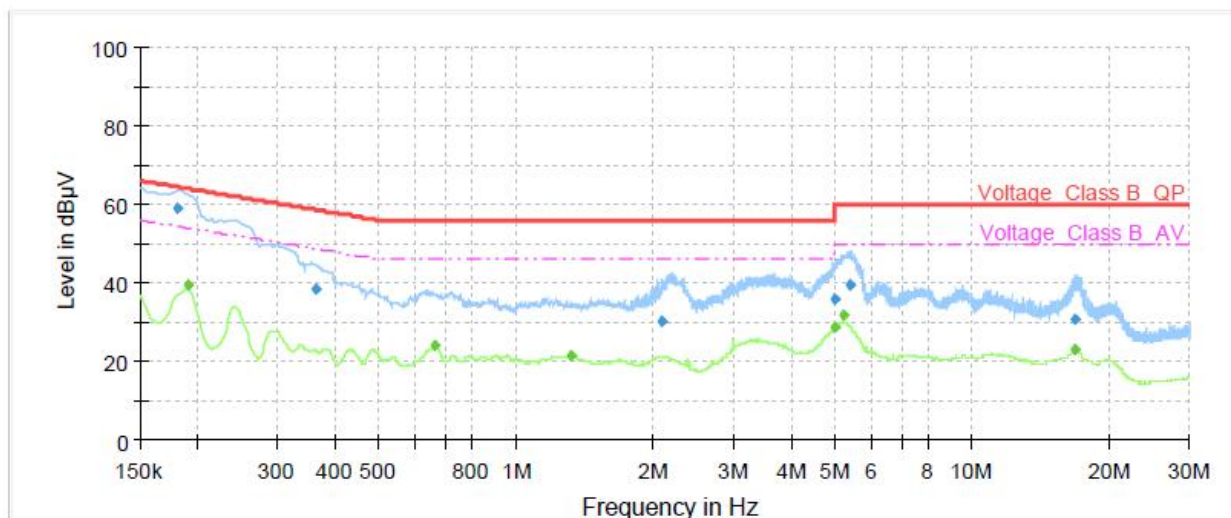


Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.15	---	39.28	55.88	16.60	70.00	9.000	L1	ON	21
0.18	59.11	---	64.31	5.20	70.00	9.000	L1	ON	21
0.36	39.68	---	58.64	18.96	70.00	9.000	L1	ON	21
0.70	---	23.81	46.00	22.19	70.00	9.000	L1	ON	20
1.03	---	23.38	46.00	22.62	70.00	9.000	L1	ON	20
2.12	31.52	---	56.00	24.48	70.00	9.000	L1	ON	20
4.96	36.26	---	56.00	19.74	70.00	9.000	L1	ON	19
5.00	---	29.48	46.00	16.52	70.00	9.000	L1	ON	19
5.27	---	29.81	50.00	20.19	70.00	9.000	L1	ON	19
5.40	40.66	---	60.00	19.34	70.00	9.000	L1	ON	19
17.01	29.87	---	60.00	30.13	70.00	9.000	L1	ON	20
17.22	---	22.27	50.00	27.73	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)
0.18	58.87	---	64.42	5.55	70.00	9.000	N	ON	21
0.19	---	39.40	54.02	14.62	70.00	9.000	N	ON	21
0.36	38.26	---	58.64	20.38	70.00	9.000	N	ON	21
0.66	---	24.23	46.00	21.77	70.00	9.000	N	ON	20
1.32	---	21.78	46.00	24.22	70.00	9.000	N	ON	20
2.09	30.03	---	56.00	25.97	70.00	9.000	N	ON	20
4.98	35.71	---	56.00	20.29	70.00	9.000	N	ON	19
5.00	---	28.52	46.00	17.48	70.00	9.000	N	ON	19
5.23	---	31.87	50.00	18.13	70.00	9.000	N	ON	19
5.39	39.36	---	60.00	20.64	70.00	9.000	N	ON	19
16.89	---	23.08	50.00	26.92	70.00	9.000	N	ON	20
16.89	30.69	---	60.00	29.31	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	100816	2021-05-15	2022-05-14
Trilog Antenna	SCHWARZBECK	VULB 9163	1023	2020-05-05	2023-05-04
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
EMI Test Receiver	R&S	ESR	102389	2021-06-04	2022-06-03
LISN	R&S	ENV216	102191	2020-12-13	2022-12-12
EMI Test Receiver	R&S	ESR	101667	2021-05-15	2022-05-14
Test software	EMC32	R&S	9.26.01	/	/
Test software	EMC32	R&S	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.