

RF TEST REPORT

FCC ID: 2BMR3-DC420

Test Report No.....: RF240911007-01-001

Product(s) Name.....: MINI PC

Model(s).....: DC420, DC520, DC530, DC540, X1800M, X1900M, X2840M, X4010M, X4125M, X5095M, X59130M, X59140M, X53130M, X53140M, X55130M, X55140M, X57130M, X57140M, X8100M, X8300M, X8350M, X8400M, X8500M, X8600M, X8700M, X9100M, X9300M, X9350M, X9400M, X9500M, X9600M, X9700M, X9900M, X5380M, X5390M, X53100M, X53110M, X53120M, X5580M, X5590M, X55100M, X55110M, X55120M, X5780M, X5790M, X57100M, X57110M, X57120M, X5980M, X5990M, X59100M, X59110M, X59120M

Trade Mark.....: N/A

Applicant.....: Shenzhen Share Technology Co.,Ltd

Address.....: Room301-302 ChuangZhao Industrial Park NO.49 Ziheng West Rd Kengzi Town Pingshan New Area, Shenzhen

Receipt Date.....: 2024.12.18

Test Date.....: 2024.12.19~2024.12.27

Issued Date.....: 2024.12.30

Standards.....: 47 CFR FCC Part 15, Subpart C(Section 15.247); ANSI C63.10:2013

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

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Table of Contents

History of this test report.....	4
1. General Information	5
1.1 Applicant.....	5
1.2 Manufacturer	5
1.3 Basic Description of Equipment Under Test.....	5
1.4 Transmit Operating Mode.....	6
2. Summary of Test Results	7
2.1 Summary of Test Items	7
2.2 Application of Standard	7
2.3 Test Instruments.....	8
2.4 Test Mode.....	9
2.5 Test Condition	10
2.6 Duty Cycle of Test Signal	10
2.7 Measurement Uncertainty	13
2.8 Test Location	13
2.9 Description of Support Units.....	13
3. Test Procedure And Results	14
3.1 AC Power Line Conducted Emission.....	14
3.1.1 Limit.....	14
3.1.2 Test Procedure	14
3.1.3 Test Setup	14
3.1.4 Test Result	15
3.2 Radiated Emission and Band Edge.....	17
3.2.1 Limit.....	17
3.2.2 Test Procedure	17
3.2.3 Test Setup	18
3.2.4 Test Result	20
3.3 Spurious Emission at Antenna Port.....	42

3.3.1	Limit	42
3.3.2	Test Procedure	42
3.3.3	Test Setup	43
3.3.4	The Result	44
3.4	6dB Bandwidth	66
3.4.1	Limit	66
3.4.2	Test Procedure	66
3.4.3	Test Setup	66
3.4.4	Test Result	67
3.5	Maximum conducted output power	81
3.5.1	Limit	81
3.5.2	Test Procedure	81
3.5.3	Test Setup	81
3.5.4	Table of Parameters of Text Software Setting.....	82
3.5.5	The Result	83
3.6	Power Spectral Density	84
3.6.1	Limit	84
3.6.2	Test Procedure	84
3.6.3	Test Setup	84
3.6.4	The Result	85

History of this test report

Original Report Issue Date: 2024.12.30

- ☒ No additional attachment
- ☐ Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. General Information

1.1 Applicant

Shenzhen Share Technology Co.,Ltd

Room301-302 ChuangZhao Industrial Park NO.49 Ziheng West Rd Kengzi Town Pingshan New Area, Shenzhen

1.2 Manufacturer

Shenzhen Share Technology Co.,Ltd

Room301-302 ChuangZhao Industrial Park NO.49 Ziheng West Rd Kengzi Town Pingshan New Area, Shenzhen

1.3 Basic Description of Equipment Under Test

Sample No.	POC240911007-S001	
Equipment Name	MINI PC	
Model Name	DC420, DC520, DC530, DC540, X1800M, X1900M, X2840M, X4010M, X4125M, X5095M, X59130M, X59140M, X53130M, X53140M, X55130M, X55140M, X57130M, X57140M, X8100M, X8300M, X8350M, X8400M, X8500M, X8600M, X8700M, X9100M, X9300M, X9350M, X9400M, X9500M, X9600M, X9700M, X9900M, X5380M, X5390M, X53100M, X53110M, X53120M, X5580M, X5590M, X55100M, X55110M, X55120M, X5780M, X5790M, X57100M, X57110M, X57120M, X5980M, X5990M, X59100M, X59110M, X59120M	
Test Model	DC420	
Model difference	Only the model name is different	
Trade Mark	N/A	
Power Supply	DC 12V from adapter	
Adapter Information	Model: HKA03612030-7K Input: 100-240V~ 50/60Hz, 1.0A Output: 12V=3.0A, 36.0W Manufacturer: Shenzhen Hangjia Chiyuan Electric Co., Ltd.	
Operate temperature	0℃-45℃	
EUT Stage	○ Product Unit	● Final-Sample
Operating Band and Conducted Output Power (Max power)	2400MHz ~ 2483.5MHz	●IEEE 802.11b:16.67dBm(0.046W)
Product Type	IEEE 802.11b/g/n: WLAN (SISO)	
Nominal Bandwidth	20MHz / 40MHz	
Modulation	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM	
Data Rate (Mbps)	IEEE 802.11b mode : 1/2/5.5/11 IEEE 802.11g mode : 6/9/12/18/24/36/48/54 IEEE 802.11n mode : up to 150	
Antenna gain	0.82dBi	
Antenna type	External Antenna	

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400MHz ~ 2483.5 MHz	01	2412MHz	07	2442MHz
	02	2417MHz	08	2447MHz
	03	2422MHz	09	2452MHz
	04	2427MHz	10	2457MHz
	05	2432MHz	11	2462MHz
	06	2437MHz	/	/

Seven channels are provided for 802.11n (40MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400MHz ~ 2483.5 MHz	03	2422 MHz	07	2442MHz
	04	2427MHz	08	2447MHz
	05	2432MHz	09	2452MHz
	06	2437MHz	/	/

1.4 Transmit Operating Mode

Transmit Operating Mode						Transmit Multiple Antennas					
☒	Operating mode 1 (single antenna)					☒	1TX				
☐	Operating mode 2 (multiple antenna, no beam forming)					☐	2TX	☐	3TX	☐	4TX
☐	Operating mode 3 (multiple antenna, with beam forming)					☐	2TX	☐	3TX	☐	4TX
☒	802.11b	Operating mode	☒	1TX	☐	2TX	☐	3TX			
☒	802.11g	Operating mode	☒	1TX	☐	2TX	☐	3TX			
☒	802.11n(20MHz)	Operating mode	☒	1TX	☐	2TX	☐	3TX			
☒	802.11n(40MHz)	Operating mode	☒	1TX	☐	2TX	☐	3TX			

2. Summary of Test Results

2.1 Summary of Test Items

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Test item	FCC Clause	Results	Remarks
AC Power Conducted Emission	15.207	Pass	Meet the requirement of the limit
Radiated Emission and Band Edge Measurement	15.205/15.209 /15.247(d)	Pass	Meet the requirement of the limit
Spurious Emission at Antenna Port	15.247(d)	Pass	Meet the requirement of the limit
6dB Bandwidth	15.247(a)(2)	Pass	Meet the requirement of the limit
Maximum Conducted Power	15.247(b)	Pass	Meet the requirement of the limit
Power Spectral Density	15.247(e)	Pass	Meet the requirement of the limit
Antenna Requirements	15.203	Compliance	Note
Note: The EUT has an external antenna and the antenna connector is designed RP-SMA antenna interface.			

2.2 Application of Standard

47 CFR FCC Part 15, Subpart C (Section 15.247)

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10:2013

2.3 Test Instruments

Radiated Emissions							
No .	Equipment	Manufacturer	Type No.	Serial No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal. Due date (yyyy/mm/dd)
1	Test receiver	Rohde&Schwarz	ESU	100184	JLE011	2024/4/24	2025/4/23
2	Log periodic antenna	Schwarzbeck	VULB 9168	1151	JLE012	2024/4/20	2025/4/19
3	Low frequency amplifier	/	LNA 0920N	2014	JLE023	2024/4/24	2025/4/23
4	High frequency amplifier	Schwarzbeck	BBV 9718	284	JLE024	2024/4/24	2025/4/23
5	Horn Antenna	SCHWARZBEC K	BBHA 9120 D	9120D-12 73	JLE028	2024/4/20	2025/4/19
6	Temp&Humid ity Recorder	Meideshi	JR900	/	JLE021	2024/4/24	2025/4/23
7	Horn Antenna	SCHWARZBEC K	BBHA 9170	9170#685	JLE029	2024/7/15	2025/7/14
8	Loop Antenna	SCHWARZBEC K	FMZB15 19B	00029	JLE030	2024/7/15	2025/7/14
9	Broadband preamplifier	Schwarzbeck	BBV9721	9721-019	JLE025	2024/4/24	2025/4/23
10	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
Conducted Emission							
1	LISN	Rohde&Schwarz	ENV216	100075	JLE002	2024/4/24	2025/4/23
2	ISN	Schwarzbeck	CATE 5 8158	#171	JLE003	2024/4/24	2025/4/23
3	Test receiver	Rohde&Schwarz	ESCI	100718	JLE010	2024/4/24	2025/4/23
4	Pulse limiter	Rohde&Schwarz	ESH3-Z2	102299	JLE047	2024/4/24	2025/4/23
5	Temp&Humid ity Recorder	Meideshi	JR900	/	JLE020	2024/4/24	2025/4/23
6	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
RF Conducted Emission							
1	MXA Signal Analyzer	Keysight	N9021B	MY60080 169	JLE050	2024/4/20	2025/4/19
2	RF Control Unit	dsusoft	JS0806-2	21G8060 449	JLE053	2024/4/20	2025/4/19
3	power supply unit	dsusoft	JS0806-4 ADC	N/A	JLE055	2024/4/20	2025/4/19
4	VXG Signal Generator	Keysight	M9384B	MY61270 787	JLE051	2024/4/20	2025/4/19
5	EXG Analog Signal Generator	Keysight	N5173B	MY59101 282	JLE052	2024/4/20	2025/4/19
6	Wideband Radio Communicati on Tester	Rohde&Schwarz	CMW500	1201.000 2K50-116 064-Dt	JLE054	2024/4/20	2025/4/19
7	Test software	dsusoft	JS1120-3 Ver.3.2.22.0				

2.4 Test Mode

Test Items	Mode	Data Rate	Channel
AC Power Conducted Emission	802.11b	1Mbps	01
Radiated Emission and Band Edge Measurement	802.11b	1Mbps	01/06/11
	802.11g	6Mbps	01/06/11
	802.11n20SISO	MCS0	01/06/11
	802.11N40SISO	MCS0	03/06/09
Spurious Emission at Antenna Port	802.11b	1Mbps	01/06/11
	802.11g	6Mbps	01/06/11
	802.11n20SISO	MCS0	01/06/11
	802.11N40SISO	MCS0	03/06/09
6dB Bandwidth	802.11b	1Mbps	01/06/11
	802.11g	6Mbps	01/06/11
	802.11n20SISO	MCS0	01/06/11
	802.11N40SISO	MCS0	03/06/09
Maximum Conducted Power	802.11b	1Mbps	01/06/11
	802.11g	6Mbps	01/06/11
	802.11n20SISO	MCS0	01/06/11
	802.11N40SISO	MCS0	03/06/09
Power Spectral Density	802.11b	1Mbps	01/06/11
	802.11g	6Mbps	01/06/11
	802.11n20SISO	MCS0	01/06/11
	802.11N40SISO	MCS0	03/06/09

Note: For AC Power Conducted Emission and Radiated Emission below 1GHz, only worst case was recorded.

2.5 Test Condition

Applicable to	Environmental conditions	Input Power	Tested by
AC Power Conducted Emission	23.3°C, 49% RH	AC 120V/60Hz	Freedom Zhuo
Radiated Emission and Band Edge Measurement	23.4°C, 52% RH	AC 120V/60Hz	Lemon He
Spurious Emission at Antenna Port	23.4°C, 50% RH	DC 12V	Albert Fan
6dB Bandwidth	23.4°C, 50% RH	DC 12V	Albert Fan
Maximum Conducted Power	23.4°C, 50% RH	DC 12V	Albert Fan
Power Spectral Density	23.4°C, 50% RH	DC 12V	Albert Fan

Note: Adapter supply voltage AC 120V/60Hz.

The applicant declare the operating environment of EUT as below:

Normal conditions: DC 12V, 0~45°C

2.6 Duty Cycle of Test Signal

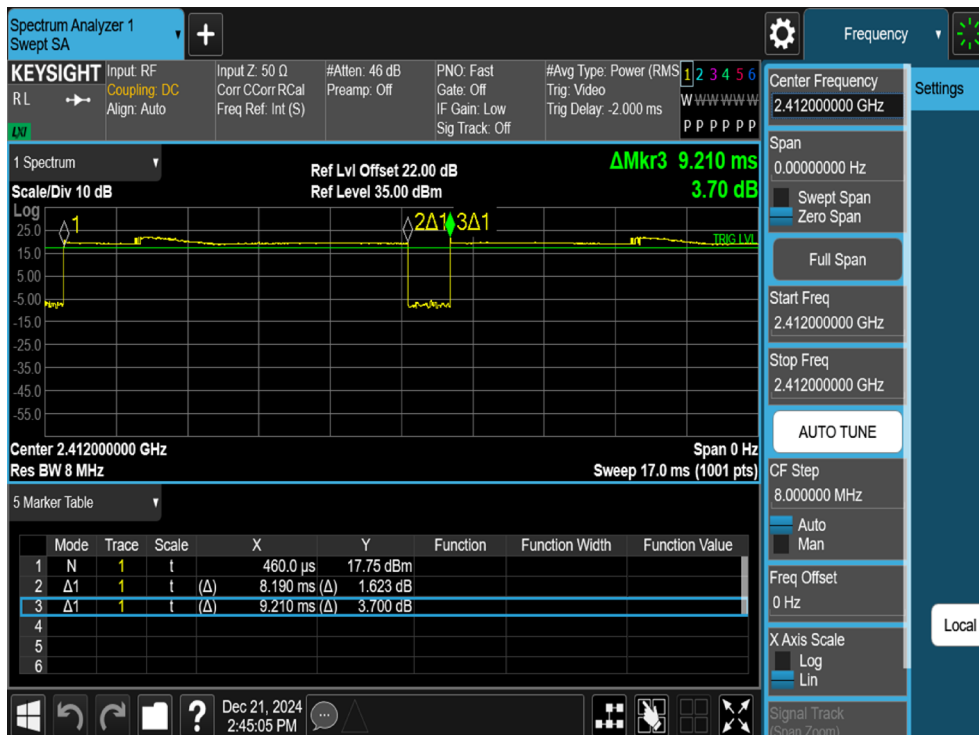
If duty cycle is $\geq 98\%$, duty factor is not required.

If duty cycle is $< 98\%$, duty factor shall be considered.

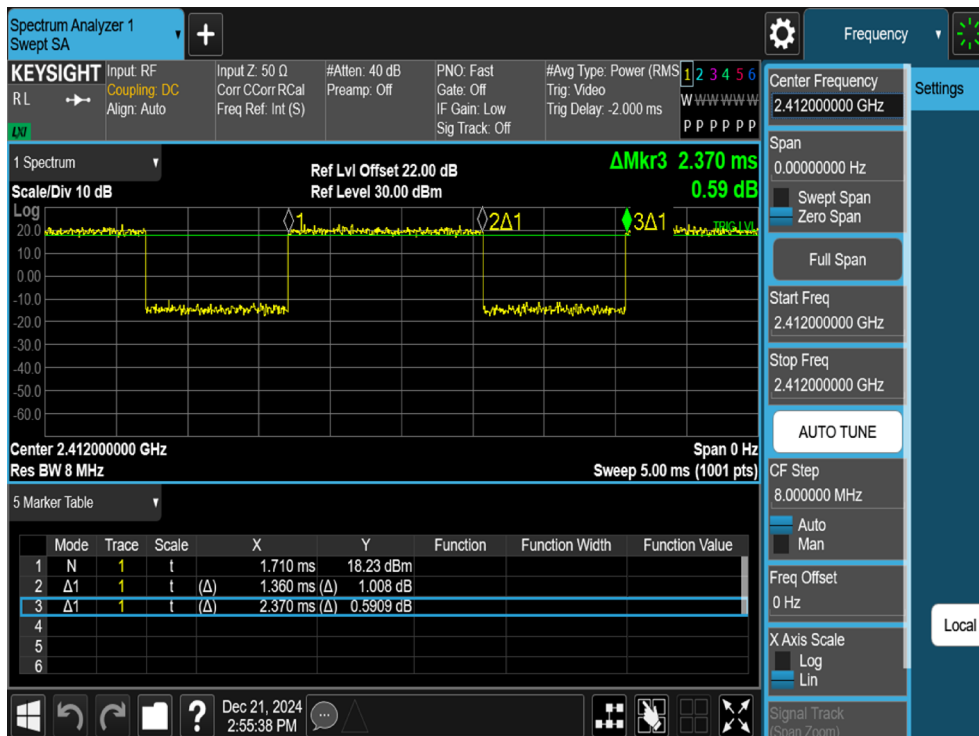
All the duty factor of other test mode have been considered.

Test Mode	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11B	2412	8.19	9.21	88.93
11G	2412	1.36	2.37	57.38
11N20SISO	2412	1.27	2.28	55.70
11N40SISO	2412	0.63	1.64	38.41

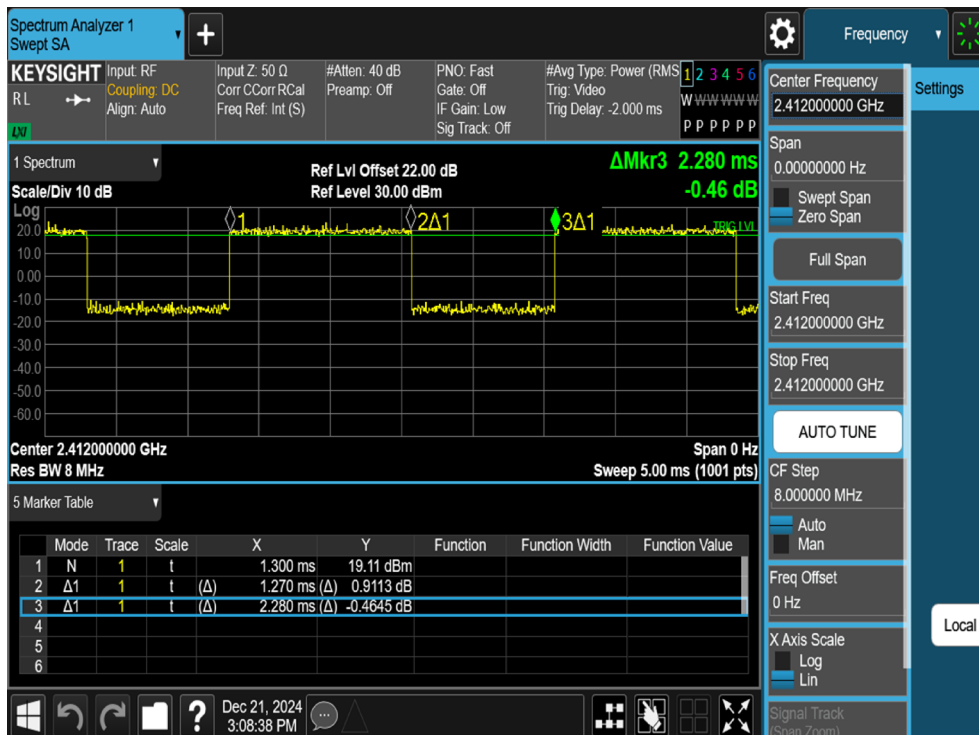
11B_Ant1_2412



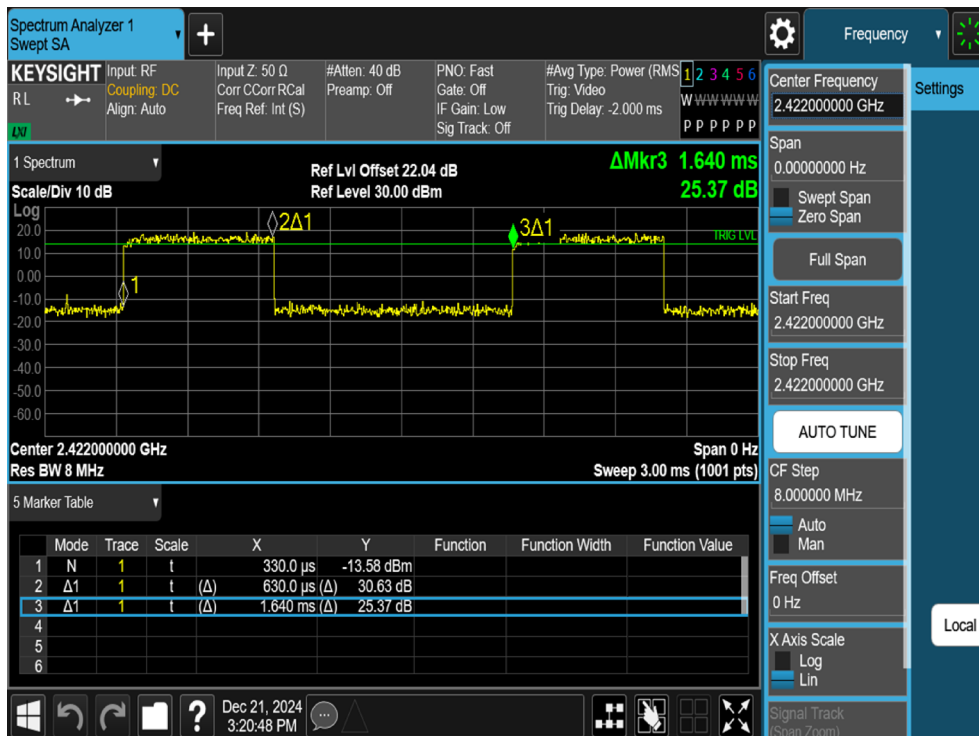
11G_Ant1_2412



11N20SISO_Ant1_2412



11N40SISO_Ant1_2422



2.7 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 102\text{kHz}$
RF power conducted	$\pm 0.377\text{dB}$
Power Spectral Density	$\pm 0.743\text{dB}$
Conducted Spurious Emission	$\pm 1.328\text{dB}$
Conducted emission(9kHz~30MHz) AC main	$\pm 2.68\text{dB}$
Radiated emission(9kHz~30MHz)	$\pm 2.74\text{dB}$
Radiated emission (30MHz~1GHz)	$\pm 4.22\text{dB}$
Radiated emission (1GHz~18GHz)	$\pm 5.06\text{dB}$
Radiated emission (18GHz~40GHz)	$\pm 4.98\text{dB}$

2.8 Test Location

Company:	Shenzhen Haiyun Standard Technical CO., Ltd.
Address:	No. 110-113, 115, 116, Block B, Jinyuan Business Building, Bao'an District, Shenzhen, China
CNAS Registration Number:	CNAS L18252
CAB identifier	CN0145
A2LA Certificate Number	6823.01
Telephone:	0755-26024411

2.9 Description of Support Units

No.	Equipment	Model	Manufacturer	Series No
1	Flat Panel Monitor	S2721QS	DELL	/
2	Mouse	DOK-680U	LENOVO	701E8328
3	Earphone	E1	LENOVO	/
4	USB Disk	32GB	Kingston	/
5	Keyboard	SK-8827	LENOVO	21R1ADL
6	Printer	MJPMYTJHT01	Xiaomi	/

3. Test Procedure And Results

3.1 AC Power Line Conducted Emission

3.1.1 Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

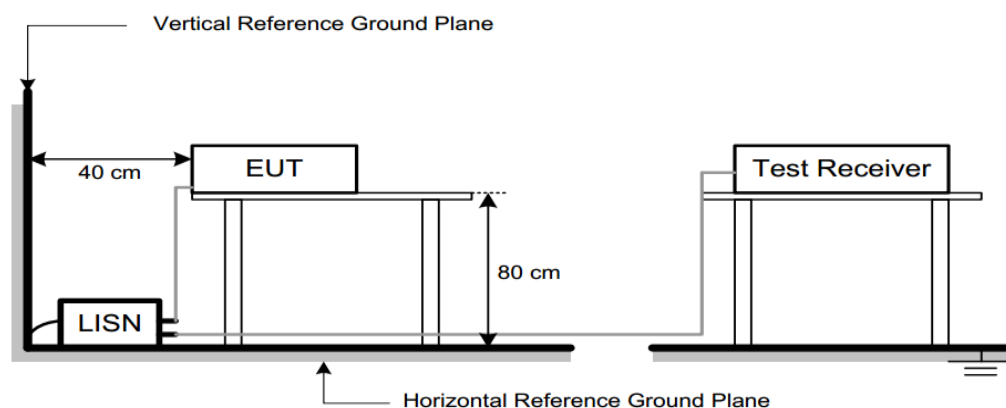
3.1.2 Test Procedure

Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☐ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme

Note: ● : Test ○ : No Test

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

3.1.3 Test Setup



3.1.4 Test Result

Note:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Measurement = Reading + Correct Factor.
3. Over = Measurement – Limit

We only recorded the data of the worst mode. Please see the following:

150kHz~30MHz	Worst Case Operating Mode: 11B Channel 01
Line	

