



FCC SDoC TEST REPORT

Zhenjiang Electronics (Shenzhen) Co., LTD.

Cord Extension Set

Test Model: QY02

Additional Model No.: QY01

Prepared for

Address

: Zhenjiang Electronics (Shenzhen) Co., LTD.

: 401, Building 2, No. 39, Hengling North Road, Nianfeng Community, Pingdi Street, Longgang District, Shenzhen China

Prepared by

Address

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Date of receipt of test sample

: March 04, 2022

Number of tested samples

: 1

Sample number

: 220301121A

Serial number

: Prototype

Date of Test

: March 04, 2022 ~ April 13, 2022

Date of Report

: April 14, 2022





FCC SDoC TEST REPORT

FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014

Report Reference No. : LCS220301121AEA

Date Of Issue..... : April 14, 2022

Testing Laboratory Name..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Address..... : Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure.... : Full application of Harmonised standards Partial application of Harmonised standards Other standard testing method

Applicant's Name..... : Zhenjiang Electronics (Shenzhen) Co., LTD.

Address..... : 401, Building 2, No. 39, Hengling North Road, Nianfeng Community, Pingdi Street, Longgang District, Shenzhen China

Test Specification

Standard..... : FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014

Test Report Form No..... : LCSEMC-1.0

TRF Originator..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2011-03

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Test Item Description..... : Cord Extension Set

Test Model : QY02

Trade Mark..... : N/A

Ratings..... : Input: AC 100-125V, 60Hz, 15A, 1875W Max
Output: DC 5V, 2.4A, Max 12W

Result : Positive

Compiled by:

Kevin Huang

Supervised by:

Jin Wang

Approved by:

Gavin Liang

Kevin Huang/ Administrator

Jin Wang/ Technique principal

Gavin Liang/ Manager



FCC SDOC-- TEST REPORT

Test Report No. : LCS220301121AEA	<u>April 14, 2022</u> Date of issue
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Test Model	: QY02
EUT.....	: Cord Extension Set
Applicant	: Zhenjiang Electronics (Shenzhen) Co., LTD.
Address.....	: 401, Building 2, No. 39, Hengling North Road, Nianfeng Community, Pingdi Street, Longgang District, Shenzhen China
Telephone.....	: /
Fax.....	: /
Manufacturer	: Zhenjiang Electronics (Shenzhen) Co., LTD.
Address.....	: 401, Building 2, No. 39, Hengling North Road, Nianfeng Community, Pingdi Street, Longgang District, Shenzhen China
Telephone.....	: /
Fax.....	: /
Factory	: Zhenjiang Electronics (Shenzhen) Co., LTD.
Address.....	: 401, Building 2, No. 39, Hengling North Road, Nianfeng Community, Pingdi Street, Longgang District, Shenzhen China
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 6: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



Revision History

Revision	Issue Date	Revisions	Revised By
000	April 14, 2022	Initial Issue	Gavin Liang



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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014	Class B	PASS
Radiated disturbance	FCC 47 CFR Part 15 Subpart B, Class B(SDoC), ANSI C63.4 -2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

Test mode:		
Mode 1	Operate in USB mode	Record



2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Cord Extension Set

Trade Mark : N/A

Test Model : QY02

Additional Model No. : QY01

Model Declaration : The number of socket holes is 4 and 6. In addition, the internal structure of PCB is the same. All models are tested and this report shows only the worst data

Power Supply : Input: AC 100-125V, 60Hz, 15A, 1875W Max
Output: DC 5V, 2.4A, Max 12W

Highest internal frequency (Fx) : $F_x > 1 \text{ GHz}$

Highest internal frequency (Fx)	Highest measured frequency
$F_x \leq 108 \text{ MHz}$	1 GHz
$108 \text{ MHz} < F_x \leq 500 \text{ MHz}$	2 GHz
$500 \text{ MHz} < F_x \leq 1 \text{ GHz}$	5 GHz
$F_x > 1 \text{ GHz}$	$5 \times F_x$ up to a maximum of 6 GHz

NOTE 1 For FM and TV broadcast receivers, F_x is determined from the highest frequency generated or used excluding the local oscillator and tuned frequencies.

Where F_x is unknown, the radiated emission measurements shall be performed up to 6 GHz.



2.2. Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate
---	---	---	---	---

2.3 External I/O Cable

I/O Port Description	Quantity	Cable
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2.4. Description of Test Facility

Site Description

EMC Lab. : NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.
Test Firm Registration Number: 254912.



2.4. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.5. Measurement Uncertainty

Test	Parameters	Expanded Uncertainty (U _{lab})	Expanded Uncertainty (U _{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3. TEST RESULTS

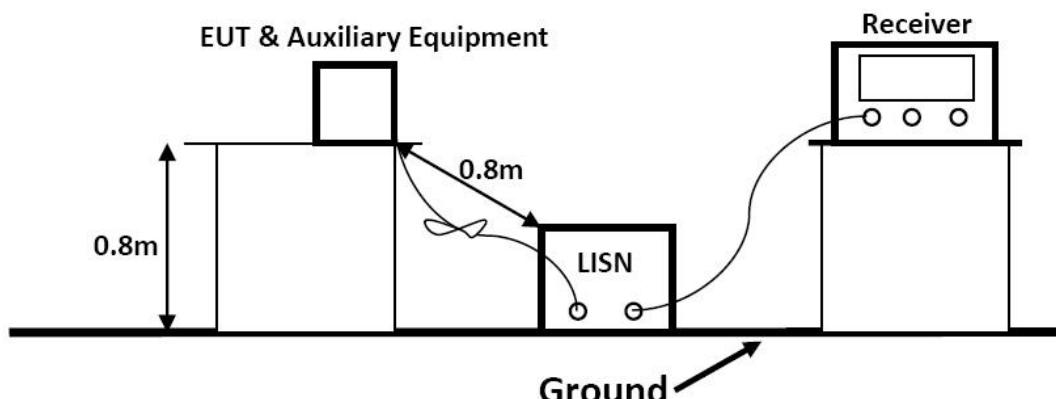
3.1. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Software	Farad	EZ	/	N/A	N/A
2	EMI Test Receiver	R&S	ESR3	102311	2022-03-15	2023-03-14
3	Artificial Mains	R&S	ENV216	101288	2021-06-21	2022-06-20
4	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2021-06-21	2022-06-20
5	Impedance Stabilization Network	TESEQ	ISN T800	45130	2021-12-01	2022-11-30

3.1.2. Block Diagram of Test Setup



3.1.3. Test Standard

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)			Limit (dB μ V)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0

NOTE1-The lower limit shall apply at the transition frequencies.
NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

3.1.4. EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.



3.1.5.Operating Condition of EUT

- 3.1.5.1.Setup the EUT as shown on Section 3.1.2
- 3.1.5.2.Turn on the power of all equipments.
- 3.1.5.3.Let the EUT work in measuring Mode 1 and measure it.

3.1.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is investigated

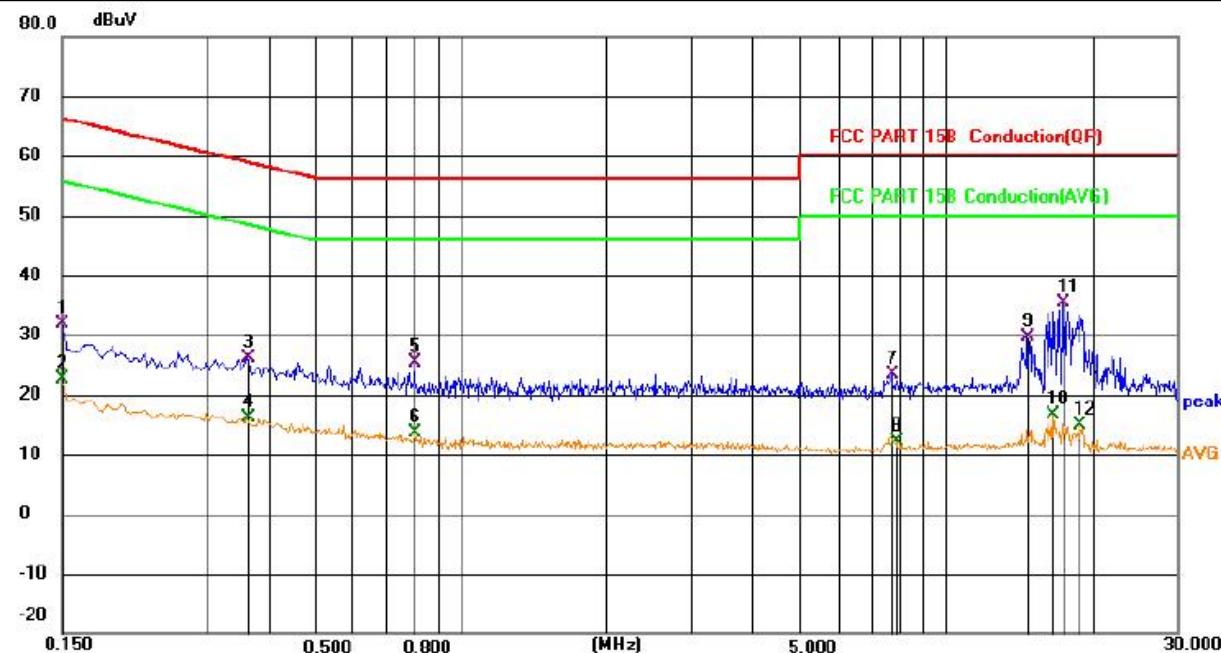
3.1.7.Test Results

PASS.

The test result please refer to the next page.

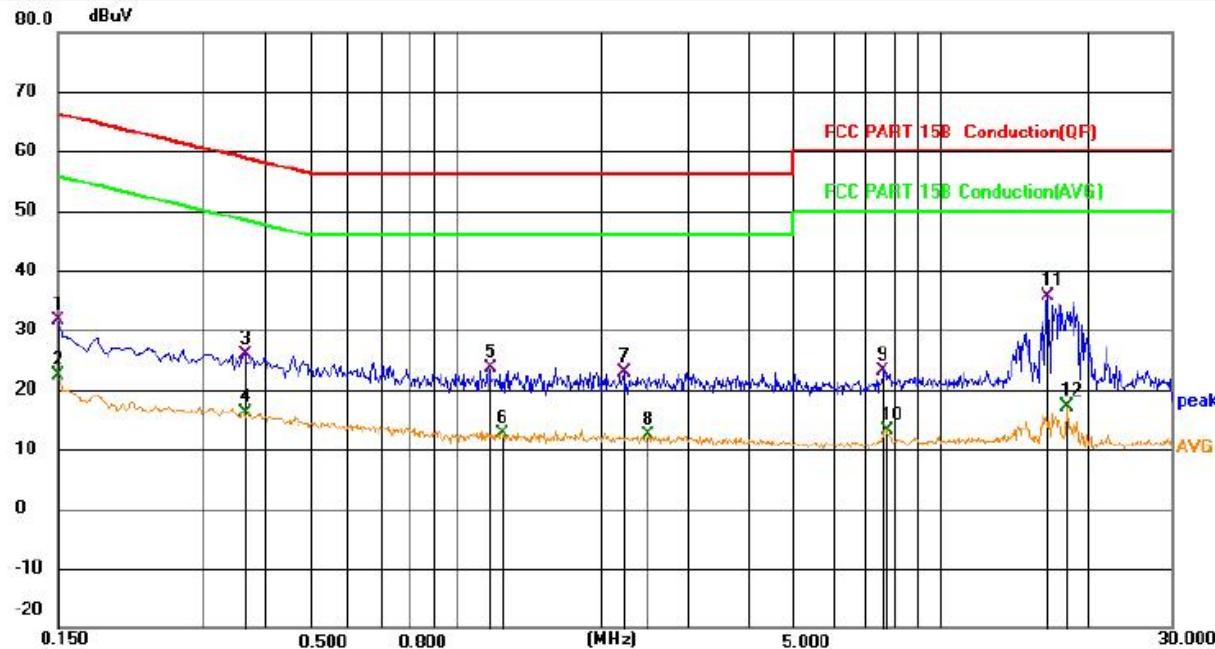


Test Model	QY02	Test Mode	Mode 1
Environmental Conditions	22.5°C, 53.7% RH	Test Engineer	Kay Hu
Pol	Line	Test Voltage	AC 120V/60Hz



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin
			Level	Factor	ment		
		MHz	dBuV	dB	dBuV	dBuV	dB
1		0.1500	12.15	19.76	31.91	66.00	-34.09
2		0.1500	2.82	19.76	22.58	56.00	-33.42
3		0.3616	6.45	19.77	26.22	58.69	-32.47
4		0.3616	-3.59	19.77	16.18	48.69	-32.51
5		0.8025	5.51	19.79	25.30	56.00	-30.70
6		0.8070	-6.27	19.79	13.52	46.00	-32.48
7		7.7281	3.36	20.02	23.38	60.00	-36.62
8		7.9261	-7.97	20.03	12.06	50.00	-37.94
9		14.7166	9.00	20.53	29.53	60.00	-30.47
10		16.5751	-4.12	20.71	16.59	50.00	-33.41
11	*	17.4211	14.44	20.85	35.29	60.00	-24.71
12		18.9106	-6.08	20.99	14.91	50.00	-35.09

Test Model	QY02	Test Mode	Mode 1
Environmental Conditions	22.5°C, 53.7% RH	Test Engineer	Kay Hu
Pol	Neutral	Test Voltage	AC 120V/60Hz



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin
			Level	Factor	ment		
		MHz	dBuV	dB	dBuV	dBuV	dB
1		0.1500	11.92	19.76	31.68	66.00	-34.32
2		0.1500	2.65	19.76	22.41	56.00	-33.59
3		0.3661	6.18	19.76	25.94	58.59	-32.65
4		0.3661	-3.64	19.76	16.12	48.59	-32.47
5		1.1716	3.93	19.79	23.72	56.00	-32.28
6		1.2391	-7.16	19.79	12.63	46.00	-33.37
7		2.2156	3.05	19.83	22.88	56.00	-33.12
8		2.4946	-7.57	19.84	12.27	46.00	-33.73
9		7.6336	3.21	20.00	23.21	60.00	-36.79
10		7.7686	-6.84	20.02	13.18	50.00	-36.82
11	*	16.6066	15.06	20.65	35.71	60.00	-24.29
12		18.2400	-3.73	20.79	17.06	50.00	-32.94

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

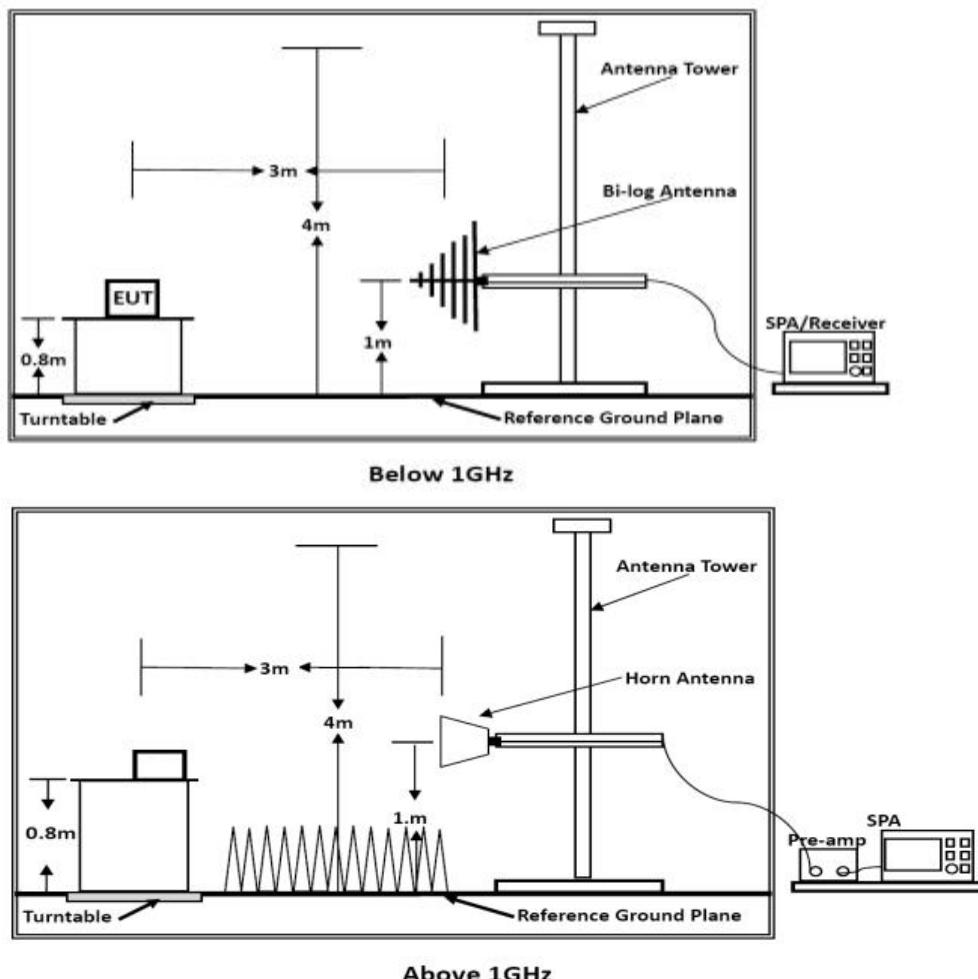
3.2. Radiated emission Measurement

3.2.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Software	Farad	EZ	/	N/A	N/A
2	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2021-06-21	2022-06-20
3	Positioning Controller	MF	MF7082	MF78020803	2021-06-21	2022-06-20
4	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-07-25	2024-07-24
5	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-07-01	2024-06-30
6	EMI Test Receiver	R&S	ESR3	102312	2021-06-21	2022-06-20
7	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2021-11-16	2022-11-15
8	Broadband Preamplifier	/	BP-01M18G	P190501	2021-06-21	2022-06-20

3.2.2. Block Diagram of Test Setup





3.2.3. Radiated Emission Limit (Class B)

Limits for Radiated Disturbance Below 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54

Remark: (1) Emission level (dB) μ V = 20 log Emission level μ V/m
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

Limits for Radiated Emission Above 1GHz

Frequency (MHz)	Distance (Meters)	Peak Limit (dB μ V/m)	Average Limit (dB μ V/m)
Above 1000	3	74	54

***Note: The lower limit applies at the transition frequency.

3.2.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.2.5. Operating Condition of EUT

3.2.5.1. Setup the EUT as shown in Section 3.2.2.

3.2.5.2. Let the EUT work in test Mode 1 and measure it.

3.2.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

3.2.7. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver



Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB/VB 200Hz/1KHz for QP/AVG
Start ~ Stop Frequency	150kHz~30MHz / RB/VB 9kHz/30KHz for QP/AVG
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average
RB / VB (Emission in non-restricted band)	1MHz / 1MHz for Peak, 1 MHz / 1/B kHz for Average

The frequency range from 30MHz to 1000MHz and above 1000MHz is checked.

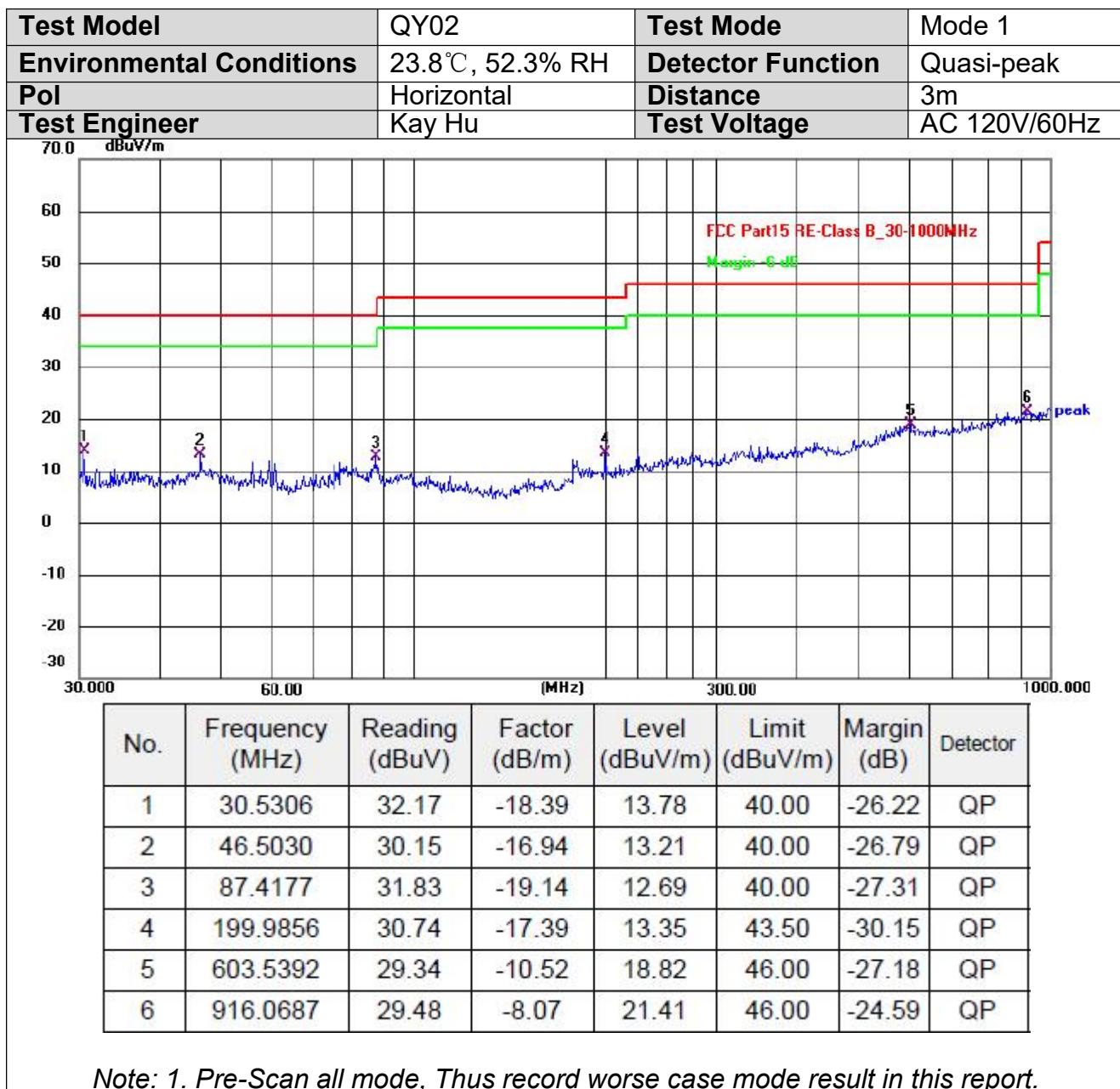
3.2.8. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.



Test Model	QY02	Test Mode	Mode 1				
Environmental Conditions	23.8°C, 52.3% RH	Detector Function	Quasi-peak				
Pol	Vertical	Distance	3m				
Test Engineer	Kay Hu	Test Voltage	AC 120V/60Hz				
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.4238	30.40	-18.40	12.00	40.00	-28.00	QP
2	75.4464	32.43	-19.69	12.74	40.00	-27.26	QP
3	199.9856	30.62	-17.39	13.23	43.50	-30.27	QP
4	322.1886	28.58	-14.35	14.23	46.00	-31.77	QP
5	588.9051	29.68	-10.63	19.05	46.00	-26.95	QP
6	945.4399	28.88	-7.87	21.01	46.00	-24.99	QP





Test Model	QY02	Test Mode	Mode 1 (Above 1GHz)
Environmental Conditions	23.8°C, 52.3% RH	Detector Function	Peak + AV
Pol	Vertical	Distance	3m
Test Engineer	Kay Hu	Test Voltage	AC 120V/60Hz

90.0 dBuV/m

80

70

60

50

40

30

20

10

0

-10

FCC Part 15 RE-Class B_1-6GHz-PEAK

FCC Part 15 RE-Class B_1-6GHz-AVG

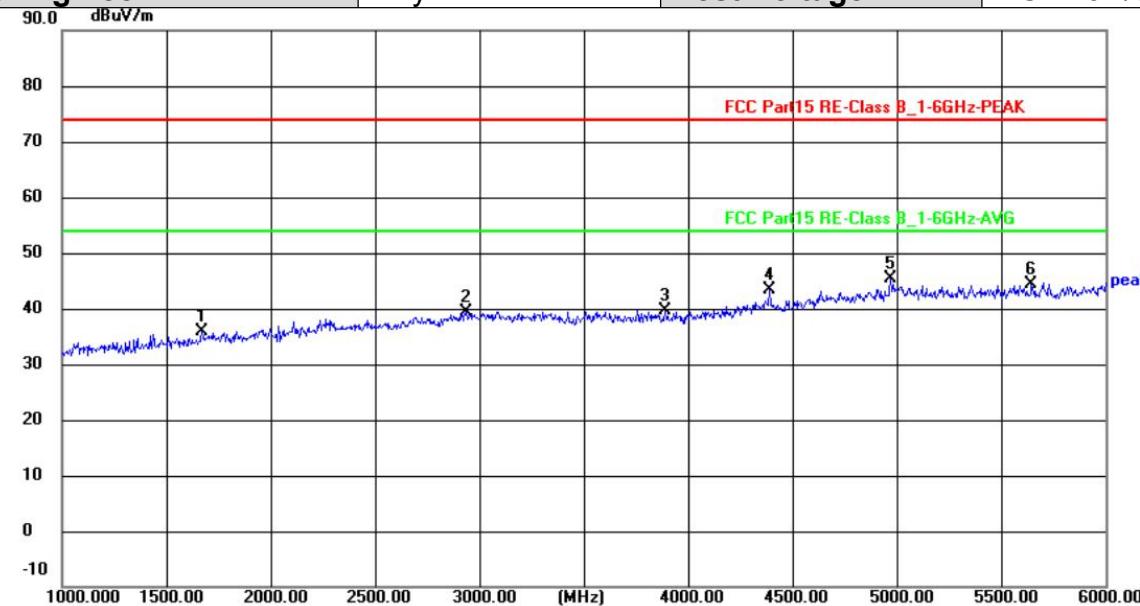
1 2 3 4 5 6 peak

1000.000 1500.000 2000.000 2500.000 3000.000 3500.000 4000.000 4500.000 5000.000 5500.000 6000.000 [MHz]

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2225.000	49.45	-12.31	37.14	74.00	-36.86	peak
2	3010.000	49.86	-9.58	40.28	74.00	-33.72	peak
3	3705.000	48.65	-9.06	39.59	74.00	-34.41	peak
4	4245.000	49.46	-7.59	41.87	74.00	-32.13	peak
5	5020.000	48.51	-4.08	44.43	74.00	-29.57	peak
6	5990.000	49.12	-3.68	45.44	74.00	-28.56	peak



Test Model	QY02	Test Mode	Mode 1 (Above 1GHz)
Environmental Conditions	23.6°C, 52.5% RH	Detector Function	Peak + AV
Pol	Horizontal	Distance	3m
Test Engineer	Kay Hu	Test Voltage	AC 120V/60Hz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1670.000	50.32	-14.44	35.88	74.00	-38.12	peak
2	2935.000	49.31	-9.82	39.49	74.00	-34.51	peak
3	3890.000	48.35	-8.74	39.61	74.00	-34.39	peak
4	4390.000	50.34	-7.01	43.33	74.00	-30.67	peak
5	4970.000	49.69	-4.26	45.43	74.00	-28.57	peak
6	5645.000	47.62	-3.35	44.27	74.00	-29.73	peak

Note: 1. Pre-Scan all mode, Thus record worse case mode result in this report.

Please refer to separated files for Test Setup Photos of the EUT.



4. TEST SETUP PhotographS of eut

Please refer to separated files for Test Setup Photos of the EUT.

5. Exterior Photographs of the eut

Please refer to separated files for External Photos of the EUT.

6. INTERIOR Photographs of the eut

Please refer to separated files for Internal Photos of the EUT.

-----THE END OF TEST REPORT-----