

FCC 47 CFR PART 15 SUBPART B

TEST REPORT

Shenzhen Aoyin Innovation Design Co. Ltd.

Foxshot

Test Model: FC01

Prepared for

: Shenzhen Aoyin Innovation Design Co. Ltd

Address

: Room A12, 1st Floor, T6 Area, GuanLongMingYuan, Xili, Nanshan District, Shenzhen City, Guangdong

Prepared by

: Shenzhen LCS Compliance Testing Laboratory Ltd.

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Date of receipt of test sample : October 20, 2017

Number of tested samples : 1

Serial number : Prototype

Date of Test : October 20, 2017~ November11, 2017

Date of Report : November 11, 2017

FCC TEST REPORT**FCC 47 CFR PART 15 SUBPART B****Report Reference No. : LCS170915012AE1**

Date Of Issue..... : November11, 2017

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

Address..... : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, 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..... : Shenzhen Aoyin Innovation Design Co. Ltd**

Address..... : Room A12, 1st Floor, T6 Area, GuanLongMingYuan, Xili, Nanshan District, Shenzhen City, Guangdong

Test Specification

Standard : FCC 47 CFR Part 15 Subpart B, 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..... : Foxshot

Trade Mark..... : Foxshot

Model/ Type Reference..... : FC01

Ratings : DC 3.7V by Li-Ion-Battery

Result : Positive**Compiled by:**

Ace Chai/ File administrators

Supervised by:

Dick Su/ Technique principal

Approved by:

Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS170915012AE1	<u>November11, 2017</u> Date of issue
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Type / Model..... : Foxshot

EUT..... : FC01

Applicant..... : Shenzhen Aoyin Innovation Design Co. Ltd

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Nanshan District, Shenzhen City, Guangdong

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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.

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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

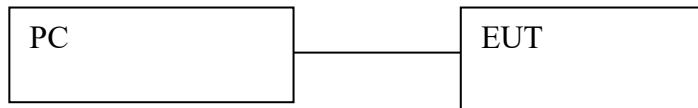
The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC 47 CFR Part 15 Subpart B	Class B	PASS
Radiated disturbance	FCC 47 CFR Part 15 Subpart B	Class B	PASS
N/A is an abbreviation for Not Applicable.			

1.2. Test Modes

Test mode:	
TM 1	Connect to PC, Run emi test soft on the PC to keep data transmission.

1.3. Block Diagram of Test Setup



2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Foxshot
 Test Model : FC01
 Software Version : V1.00
 Hardware Version : V1.00
 Ratings : DC 3.7V by Li-lon-Battery
 WIFI(2.4G Band) :
 Frequency Range : 2412-2462MHz
 Channel Spacing : 5MHz
 Channel Number : 11 Channel for 20MHz bandwidth(2412~2462MHz)
 7 Channel for 40MHz bandwidth(2422~2452MHz)
 Modulation Type : 802.11b: DSSS; 802.11g/n: OFDM
 Antenna Description : Internal Antenna, 2.0 dBi (Max.)
 EUT Clock Frequency : ≤108MHz

2.2. Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Lenovo	ADAPTER for notebook	ADP-90DD B	36001941	VOC
Lenovo	Notebook	B470	WB05067151	VOC

2.3. Description of Test Facility

Site Description
 EMC Lab. : CNAS Registration Number. is L4595.
 FCC Registration Number. is 254912.
 Industry Canada Registration Number. is 9642A-1.
 ESMD Registration Number. is ARCB0108.
 UL Registration Number. is 100571-492.
 TUV SUD Registration Number. is SCN1081.
 TUV RH Registration Number. is UA 50296516-001.
 NVLAP Registration Code is 600167-0.

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	± 4.0 dB ± 3.6 dB
Power disturbance	Level accuracy (30MHz to 300MHz)	± 2.90dB	± 4.5 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.60 dB	± 2.63 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	± 2.63 dB
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 2.63 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	N/A
Mains Harmonic	Voltage	± 0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.510%	N/A
EMF		± 21.59%	N/A

(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%.

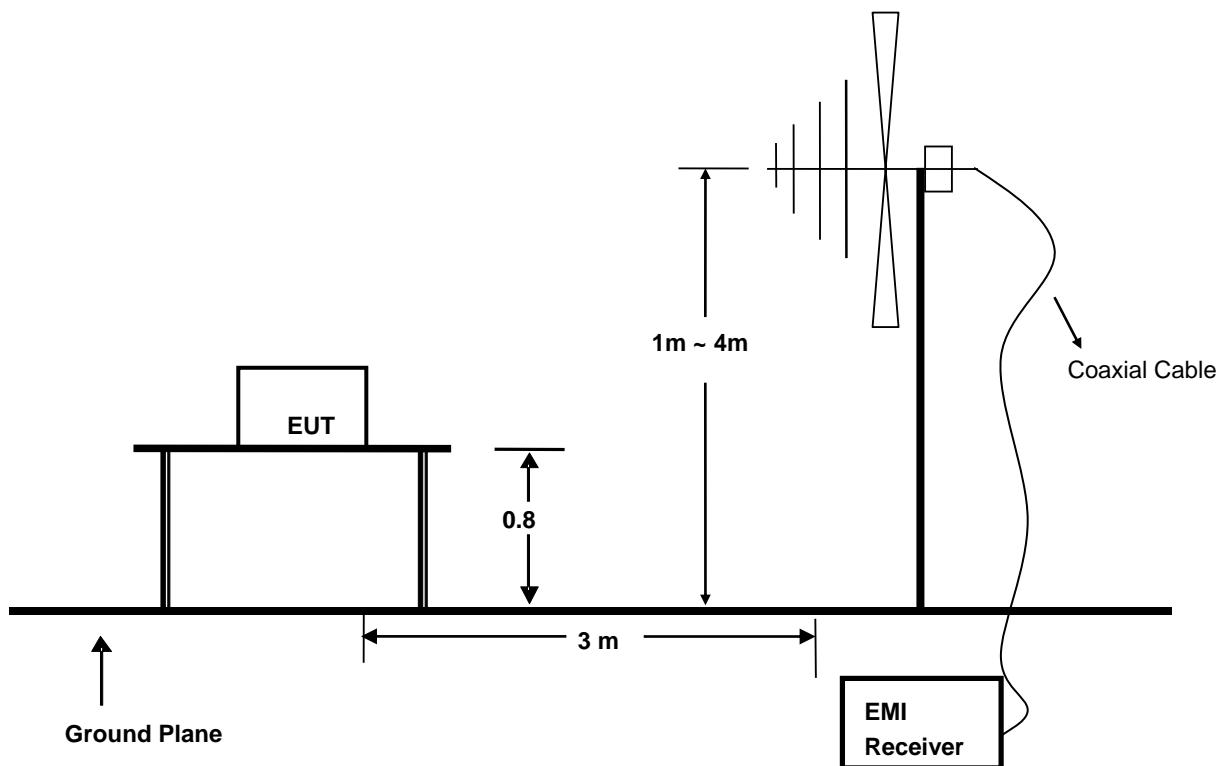
3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

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

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2017-06-17
2	EMI Test Receiver	ROHDE & SCHWARZ	ESR 7	101181	2017-06-17
3	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2017-04-17
4	EMI Test Software	AUDIX	E3	N/A	2017-06-17
5	Positioning Controller	MF	MF-7082	/	2017-06-17

3.2. Block Diagram of Test Setup



3.3. Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μ V/m	dB(μ V)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

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.

3.4.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.

3.5.Operating Condition of EUT

3.5.1.Setup the EUT as shown in Section 3.2.

3.5.2.Let the EUT work in test mode (Discharge) and measure it.

3.6.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.

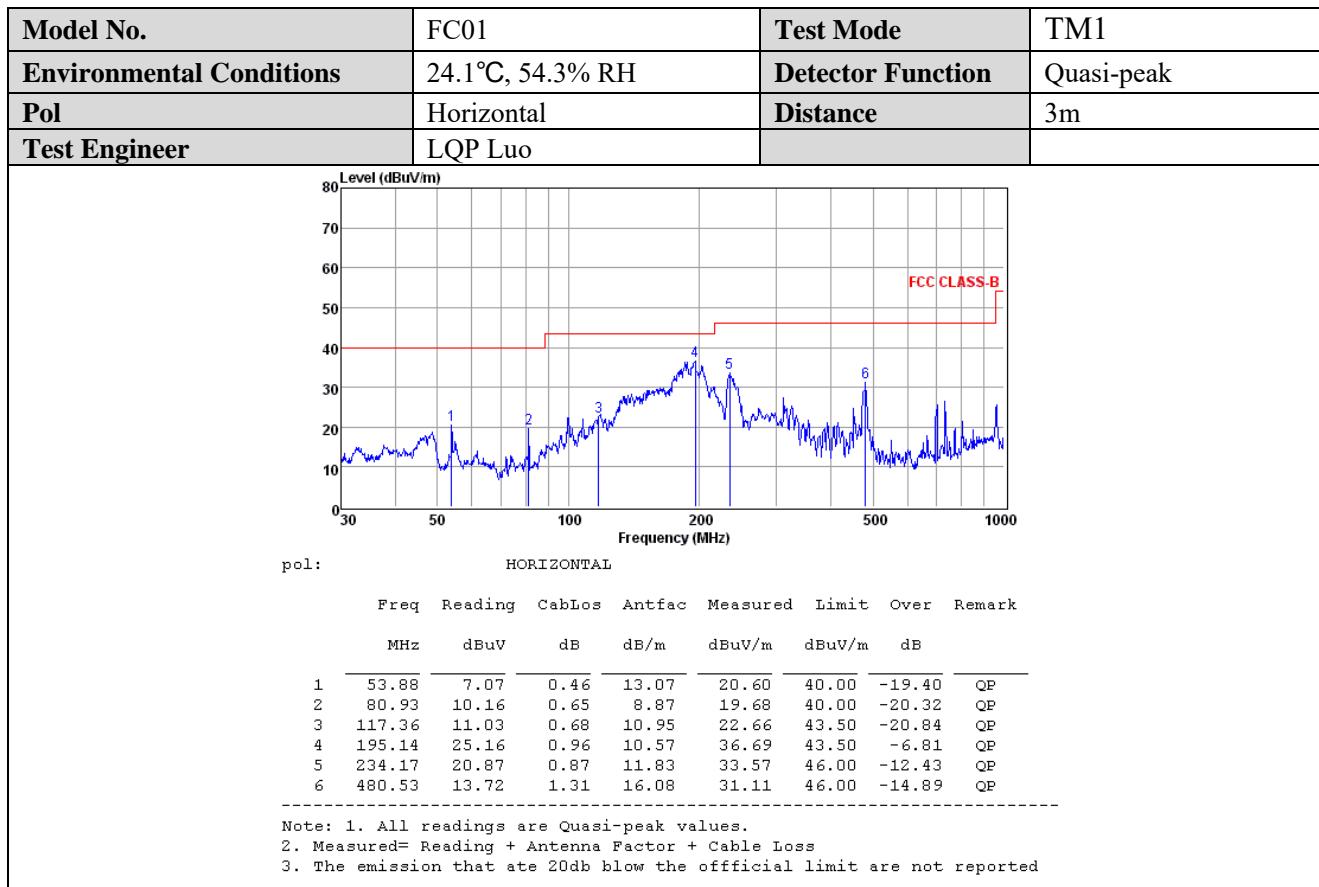
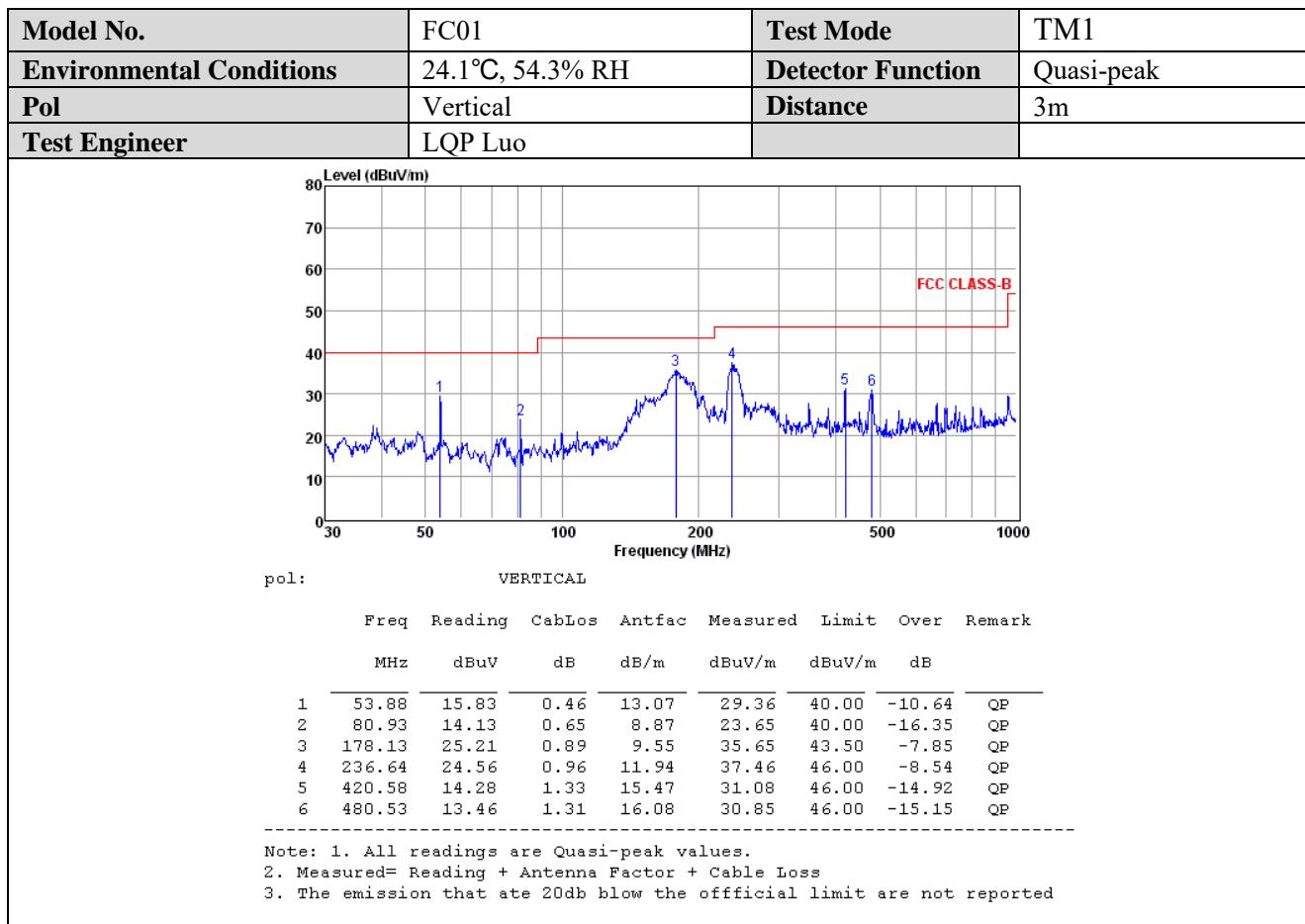
The bandwidth of the EMI test receiver is set at 120kHz.

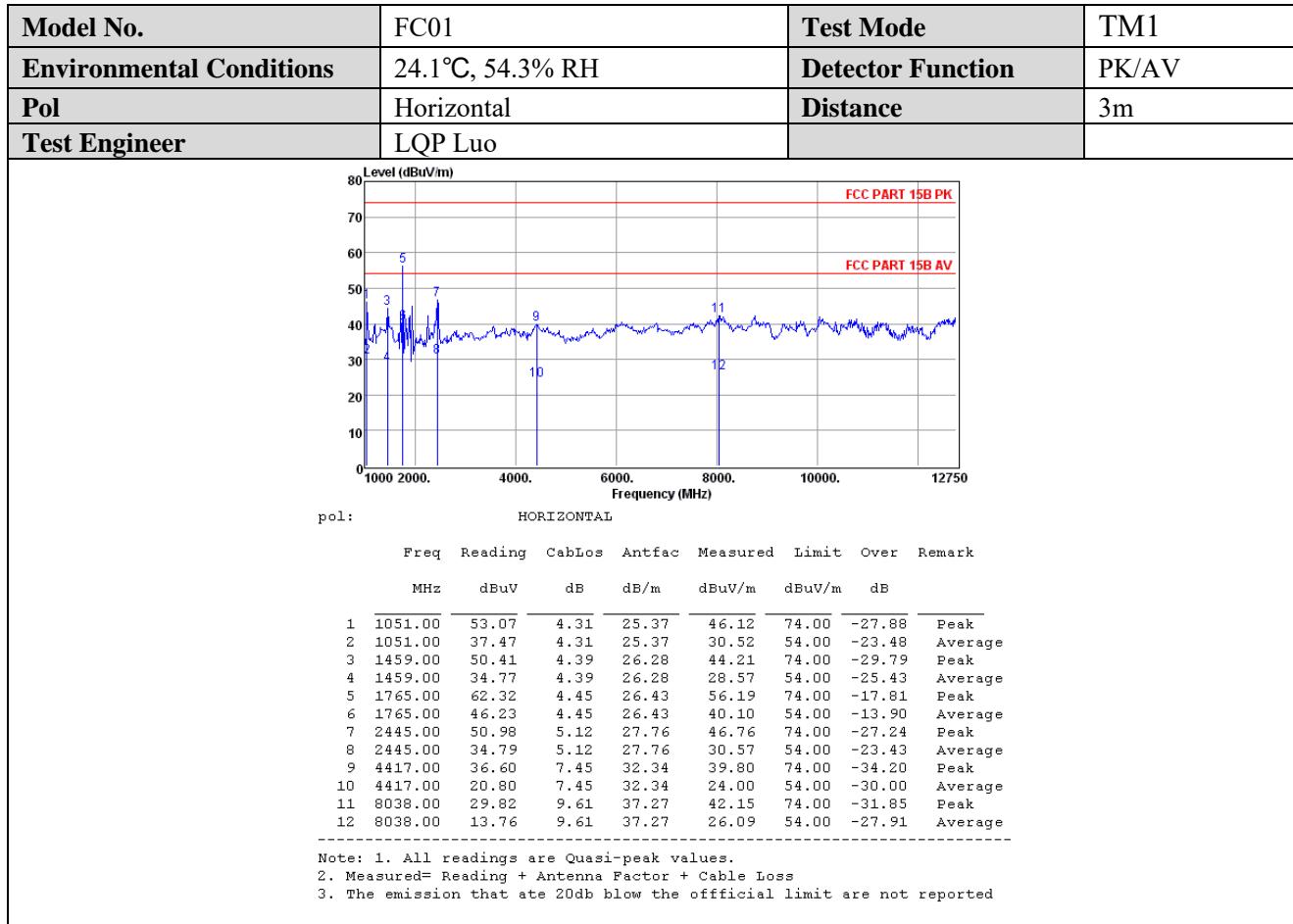
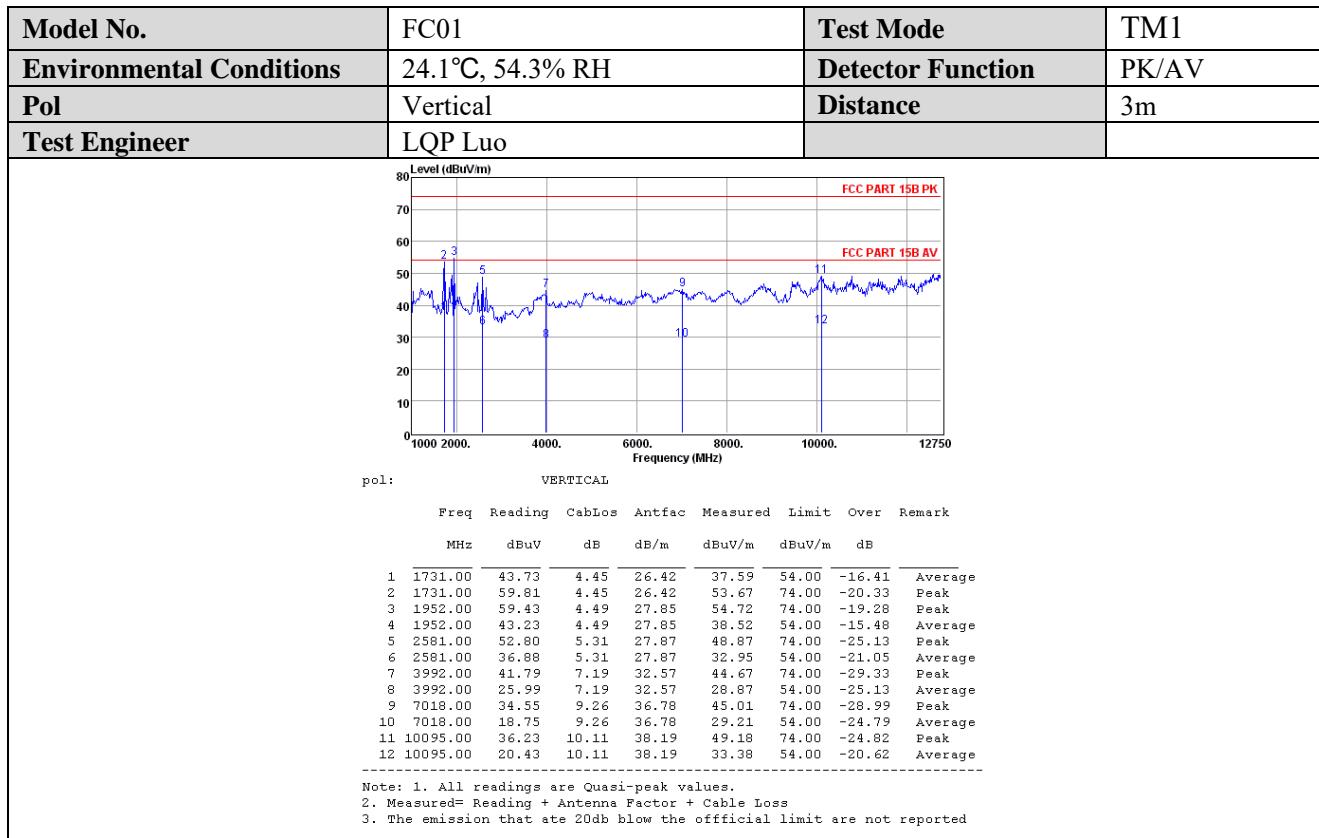
The frequency range from 30MHz to 1000MHz is checked.

3.7.Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.





4. AC POWER LINE CONDUCTED EMISSIONS

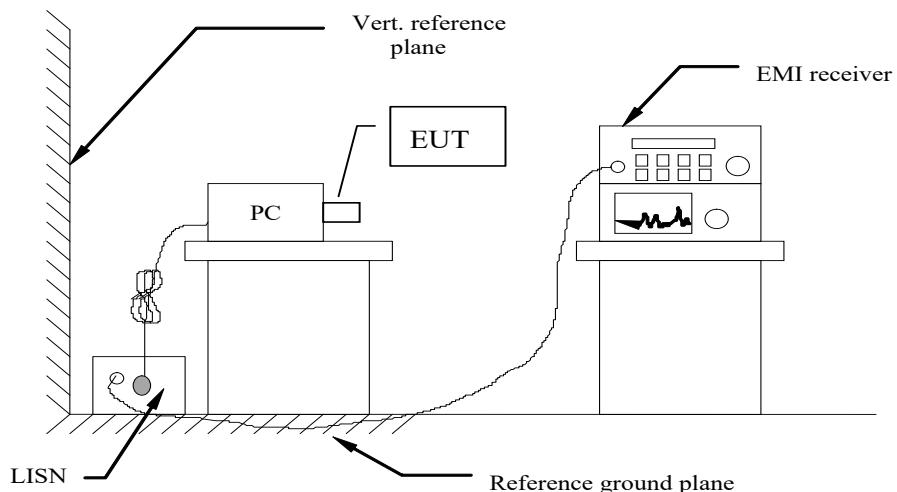
4.1 Standard Applicable

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.

* Decreasing linearly with the logarithm of the frequency

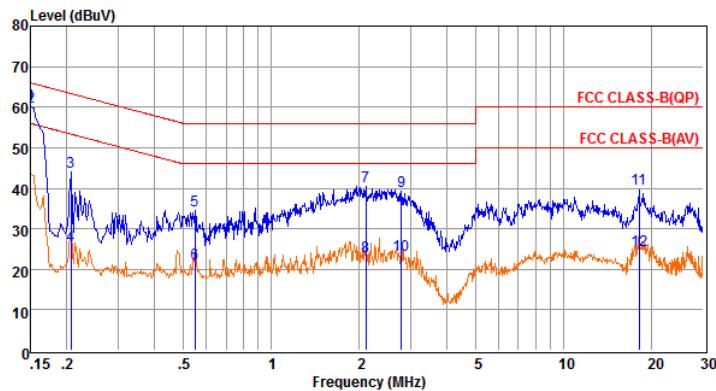
4.2 Block Diagram of Test Setup



4.3 Test Results

PASS

The test data please refer to following page.

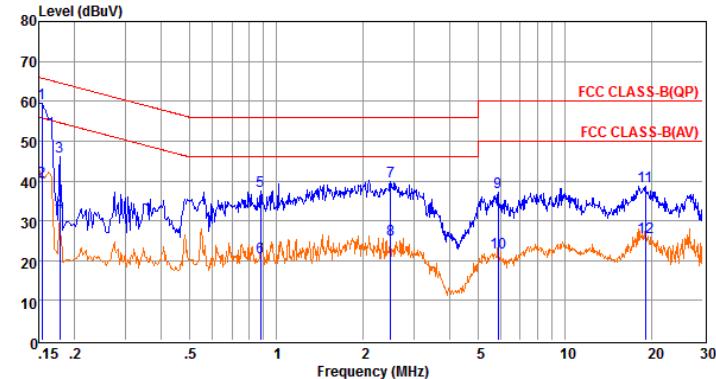
AC Conducted Emission AC Mains @ 120V/60Hz @ TM1 (worst case)**Neutral**

Pol: NEUTRAL

Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15	40.99	9.70	0.02	10.00	60.71	66.00	-5.29
2	0.15	40.44	9.70	0.02	10.00	60.16	66.00	-5.84
3	0.21	24.43	9.59	0.03	10.00	44.05	63.36	-19.31
4	0.21	6.23	9.59	0.03	10.00	25.85	63.36	-37.51
5	0.55	14.70	9.62	0.04	10.00	34.36	56.00	-21.64
6	0.55	1.79	9.62	0.04	10.00	21.45	56.00	-34.55
7	2.11	20.78	9.63	0.05	10.00	40.46	56.00	-15.54
8	2.11	3.48	9.63	0.05	10.00	23.16	56.00	-32.84
9	2.78	19.71	9.64	0.05	10.00	39.40	56.00	-16.60
10	2.78	3.87	9.64	0.05	10.00	23.56	56.00	-32.44
11	18.14	19.79	9.81	0.11	10.00	39.71	60.00	-20.29
12	18.14	4.79	9.81	0.11	10.00	24.71	60.00	-35.29

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.

2. The emission levels that are 20dB below the official limit are not reported.

Line

Pol: LINE

Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.15	40.00	9.58	0.02	10.00	59.60	65.78	-6.18
2	0.15	20.16	9.58	0.02	10.00	39.76	65.77	-26.01
3	0.18	26.33	9.61	0.02	10.00	45.96	64.59	-18.63
4	0.18	12.50	9.61	0.02	10.00	32.13	64.59	-32.46
5	0.88	17.77	9.63	0.04	10.00	37.44	56.00	-18.56
6	0.88	1.10	9.63	0.04	10.00	20.77	56.00	-35.23
7	2.49	20.24	9.64	0.05	10.00	39.93	56.00	-16.07
8	2.49	5.55	9.64	0.05	10.00	25.24	56.00	-30.76
9	5.87	17.53	9.66	0.06	10.00	37.25	60.00	-22.75
10	5.87	2.20	9.66	0.06	10.00	21.92	60.00	-38.08
11	19.02	18.94	9.75	0.12	10.00	38.81	60.00	-21.19
12	19.02	5.95	9.75	0.12	10.00	25.82	60.00	-34.18

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.

2. The emission levels that are 20dB below the official limit are not reported.

5. TEST SETUP PHOTOGRAPHS OF EUT

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

6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

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

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