



## **FCC TEST REPORT**

**For**

**Guangzhou Baiyun District Decheng Electric Appliance Factory**

**Intelligent Sensor Liquid Dispenser**

Model No. :8829, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807, 8808, 8809,  
8810, 8811,8812, 8813, 8814, 8815, 8816, 8817, 8818, 8819, 8820,  
8821, 8822, 8823,8824, 8825, 8826, 8827, 8828, 8830, 8831, 8832,  
8833, 8834, 8835,8836, 8837, 8838, 8839, 8840, 8841, 8842, 8843,  
8844, 8845, 8846, 8847,8848, 8849, 8850, 8851, 8852, 8853, 8854,  
8855, 8856, 8857, 8858, 8859,8860, 8861, 8862, 8863, 8864, 8865,  
8866, 8867, 8868, 8869, 8870, 8871,8872, 8873, 8874, 8875, 8876,  
8878, 8879, 8880

Prepared for : Guangzhou Baiyun District Decheng Electric Appliance Factory

Address : Dingbang Intelligent Industrial Park, South Shating Road,  
Taihe Town, Baiyun District, Guangzhou, Guangdong,  
China

Prepared By : Shenzhen SAIL Testing Technology Co.,Ltd

Address : Room 416, 4 / F, Miyungu AI Center, Block B, Wuzhou Xintiandi,  
6038 Longgang Avenue,Shenzhen,P.R.China

Report Number : HZE200629-4036

Date of Receipt : July 1, 2020

Date of Test : June 29, 2020

Date of Report : July 1, 2020

## TABLE OF CONTENTS

Description	Page
Test Report Declaration.....	3
<b>1. Summary of standards and results.....</b>	<b>4</b>
1.1. Description of Standards and Results.....	4
<b>2. GENERAL INFORMATION.....</b>	<b>4</b>
2.1. Description of Device (EUT).....	4
2.2. Tested Supporting System Details.....	5
2.3. Block Diagram of connection between EUT and simulators.....	5
2.4. Test Facility.....	6
2.5. Measurement Uncertainty.....	6
2.6 Test mode Description.....	7
<b>3. POWER LINE CONDUCTED Emission test.....</b>	<b>7</b>
3.1. Test Equipment.....	7
3.2. Block Diagram of Test Setup.....	7
3.3. Power Line Conducted Emission Test Limits.....	8
3.4. Configuration of EUT on Test.....	8
3.5. Operating Condition of EUT.....	8
3.6. Test Procedure.....	8
3.7. Conducted Disturbance at Mains Terminals Test Results.....	9
<b>4. Radiated emission Test.....</b>	<b>12</b>
4.1. Test Equipment.....	12
4.2. Block Diagram of Test Setup.....	12
4.3. Radiated Emission Limit.....	13
4.4. EUT Configuration on Test.....	13
4.5. Operating Condition of EUT.....	14
4.6. Test Procedure.....	14
4.7. Radiated Disturbance Test Results.....	15
<b>5. Photos of the EUT.....</b>	<b>18</b>



## TEST REPORT VERIFICATION

Applicant : Guangzhou Baiyun District Decheng Electric  
Appliance Factory

Manufacturer : Guangzhou Baiyun District Decheng Electric  
Appliance Factory

EUT Description : Intelligent Sensor Liquid Dispenser

(A) Model No. : 8829, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807,  
8808, 8809, 8810, 8811, 8812, 8813, 8814, 8815, 8816,  
8817, 8818, 8819, 8820, 8821, 8822, 8823, 8824, 8825,  
8826, 8827, 8828, 8830, 8831, 8832, 8833, 8834, 8835,  
8836, 8837, 8838, 8839, 8840, 8841, 8842, 8843, 8844,  
8845, 8846, 8847, 8848, 8849, 8850, 8851, 8852, 8853,  
8854, 8855, 8856, 8857, 8858, 8859, 8860, 8861, 8862,  
8863, 8864, 8865, 8866, 8867, 8868, 8869, 8870, 8871,  
8872, 8873, 8874, 8875, 8876, 8878, 8879, 8880

(B) Trademark : N/A

(C) Ratings Supply : DC 5V

(D) Test Voltage : DC 5V

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart B Class B 2016, ANSI C63.4-2014

The device described above is tested by Shenzhen SAIL Testing Technology Co.,Ltd to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen SAIL Testing Technology Co.,Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen SAIL Testing Technology Co.,Ltd

Tested by (name +  
signature).....:

Tom Zhu  
Test Engineer

*Tom Zhu*

Approved by (name +  
signature).....:

Frank Hu  
Project Manager

*Frank Hu*



Date of  
issue..... July 1, 2020



# 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
Power Line Conducted Emission Test	FCC Part 15:2016 ANSI C63.4:2014	Class B	PASS
Radiated Emission Test	FCC Part 15:2016 ANSI C63.4:2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

# 2. GENERAL INFORMATION

## 2.1. Description of Device (EUT)

Description : Intelligent Sensor Liquid Dispenser

Model Number : 8829

Trademark : N/A

Applicant : Guangzhou Baiyun District Decheng Electric Appliance Factory  
Address : Dingbang Intelligent Industrial Park, South Shating Road,  
Taihe Town, Baiyun District, Guangzhou, Guangdong,  
China

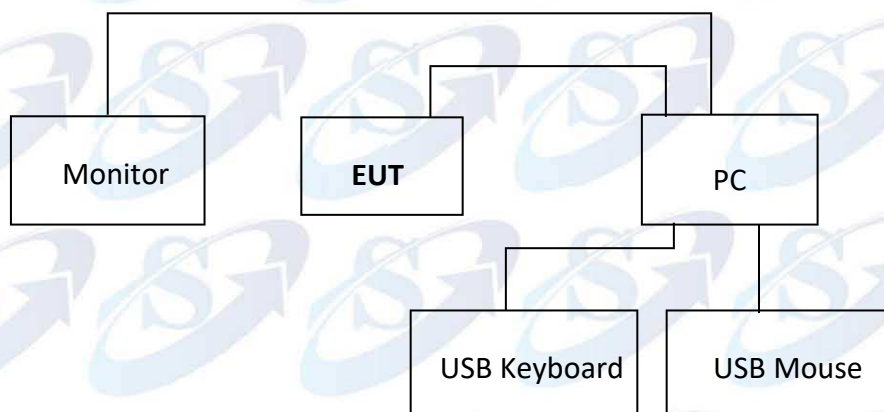
Manufacturer : Guangzhou Baiyun District Decheng Electric Appliance Factory  
Address : Dingbang Intelligent Industrial Park, South Shating Road,  
Taihe Town, Baiyun District, Guangzhou, Guangdong,  
China

Sample Type : Prototype production

## 2.2. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number
1.	PC	DELL	N/A	N/A
2.	Monitor	DELL	N/A	N/A
3.	Mouse	DELL	N/A	N/A
4.	Keyboard	DELL	N/A	N/A
1.	PC	DELL	N/A	N/A

## 2.3. Block Diagram of connection between EUT and simulators



**EUT: Intelligent Sensor Liquid Dispenser**



## 2.4. Test Facility

### 2.4.1. Laboratory Name:

Shenzhen SAIL Testing Technology Co.,Ltd

### 2.4.2. Site Location :

18th,4F New Village Gushu  
Park,Bao'an District,Shenzhen 518000,P.R.China

### 2.4.3. Test Facility

JAN 01, 2012 File on Federal Communication Commission  
Registration Number:177635

September 11, 2011 Certificated by IC  
Registration Number: 8513 B

## 2.5. Measurement Uncertainty

(95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.50dB
Uncertainty for Radiation Emission test	3.04 dB (Distance: 3m Polarize: V)
	3.02 dB (Distance: 3m Polarize: H)
Uncertainty for Radiation Emission test (1GHz-18GHz)	3.56 dB (Distance: 3m Polarize: V)
	3.84 dB (Distance: 3m Polarize: H)
Uncertainty for test site temperature and humidity	0.6℃
	3%

## 2.6 Test mode Description

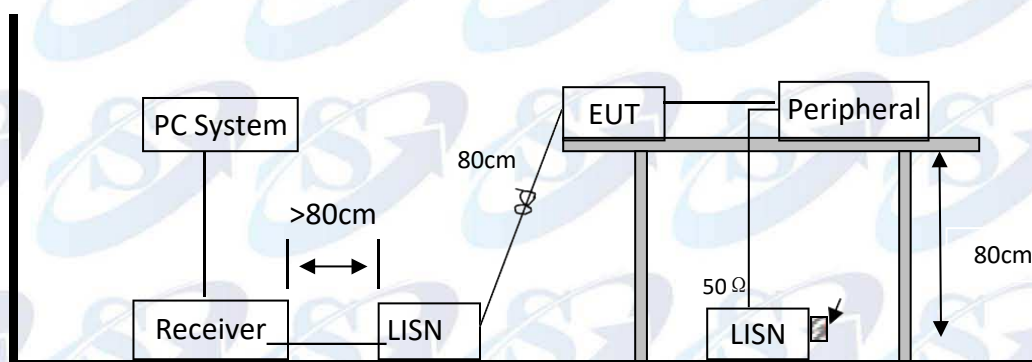
No.	Test Mode
※1.	Running
Note: ※1. is worst case mode, so this report only reflected the worst mode	

## 3. POWER LINE CONDUCTED EMISSION TEST

### 3.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100843	Sep.24, 14	1 Year
2.	L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	Sep.24, 14	1 Year
3.	L.I.S.N.#2	Kyoritsu	KNW-242C	8-1920-1	Sep.24, 14	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	Sep.24, 14	1 Year
5.	RF Cable	Schwarzbeck	9111505/200	5995-12-16 1-6890#	Sep.24, 14	1 Year
6.	Coaxial Switch	Schwarzbeck	CX-210	N/A	Sep.24, 14	1 Year
7.	Pulse Limiter	Schwarzbeck	VTSD9516F	9618	Sep.24, 14	1 Year

### 3.2. Block Diagram of Test Setup





### 3.3. Power Line Conducted Emission Test Limits

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

Notes: 1. Emission level=Read level+LISN factor-Preamplifier factor+Cable loss

2\* Decreasing linearly with logarithm of frequency.

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

### 3.4. Configuration of EUT on Test

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

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipment.

3.5.3. Let the EUT work in test mode (Running) and measure it.

### 3.6. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N. #2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4-2003 on conducted Emission test.

The bandwidth of test receiver (R&S TEST RECEIVER ESCI) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked. The test results are reported on Section 3.7.



### 3.7. Conducted Disturbance at Mains Terminals Test Results

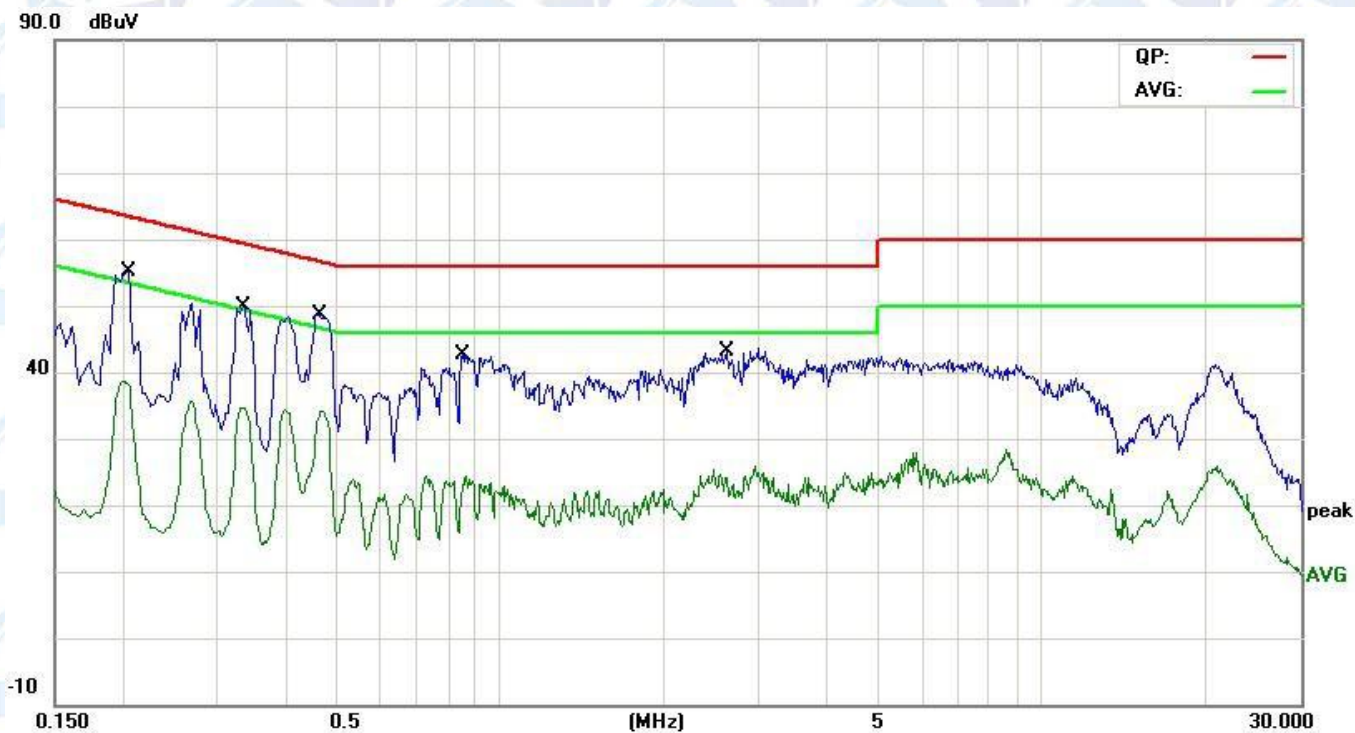
**PASS.** (All emissions not reported below are too low against the prescribed limits.)

The EUT with the following test mode was tested and read QP values and average values, the test results are listed in next pages.

Temperature: 24°C      Humidity: 56%

The details of test mode is as follows:

No.	Test Mode
1.	Running

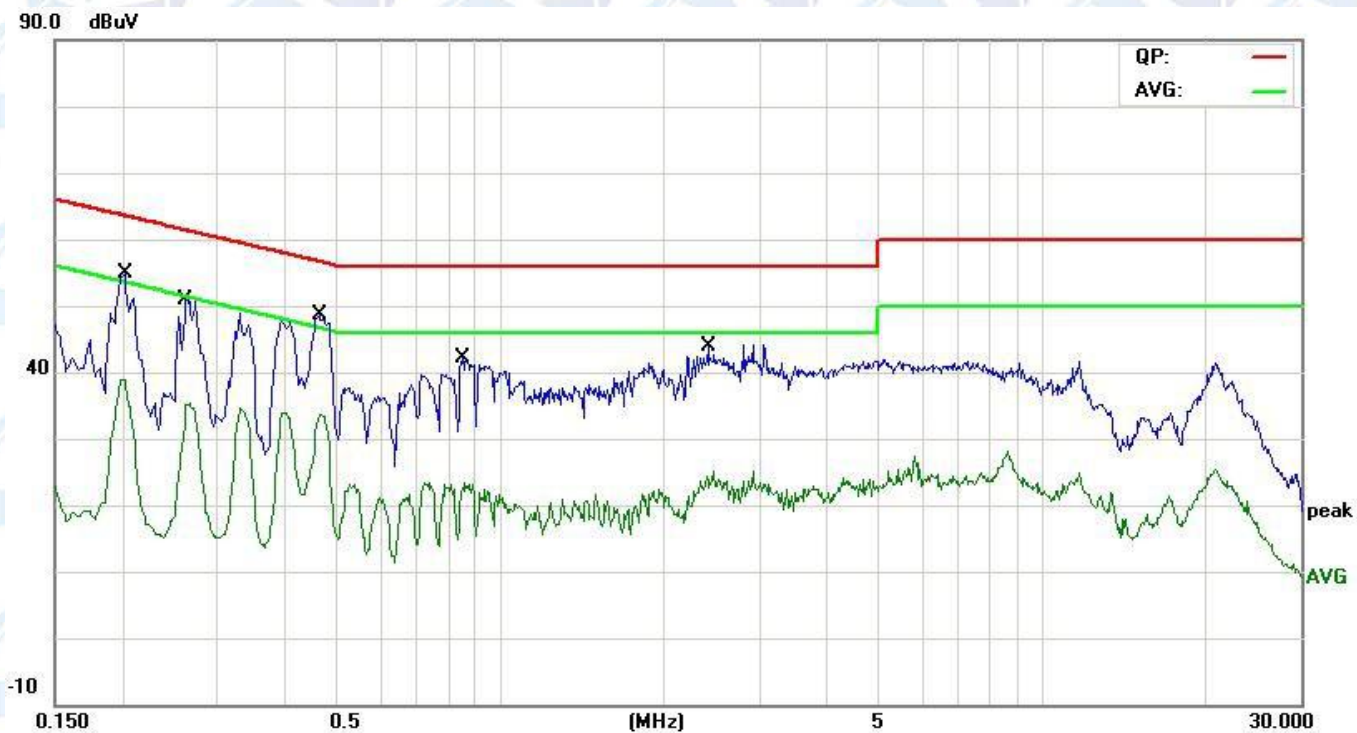


Limit: FCC PART 15 B QP

Phase: **L1**

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2060	39.11	10.12	49.23	63.36	-14.13	QP	
2		0.2060	24.78	10.12	34.90	53.36	-18.46	AVG	
3		0.3339	35.14	10.08	45.22	59.35	-14.13	QP	
4		0.3339	24.20	10.08	34.28	49.35	-15.07	AVG	
5	*	0.4620	36.38	10.03	46.41	56.66	-10.25	QP	
6		0.4620	23.44	10.03	33.47	46.66	-13.19	AVG	
7		0.8500	28.91	10.09	39.00	56.00	-17.00	QP	
8		0.8500	12.20	10.09	22.29	46.00	-23.71	AVG	
9		2.6099	26.91	10.06	36.97	56.00	-19.03	QP	
10		2.6099	12.37	10.06	22.43	46.00	-23.57	AVG	





Limit: FCC PART 15 B QP

Phase: **N**

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2020	41.20	10.02	51.22	63.52	-12.30	QP	
2		0.2020	28.33	10.02	38.35	53.52	-15.17	AVG	
3		0.2644	36.42	10.02	46.44	61.29	-14.85	QP	
4		0.2644	24.99	10.02	35.01	51.29	-16.28	AVG	
5	*	0.4620	36.08	10.02	46.10	56.66	-10.56	QP	
6		0.4620	23.19	10.02	33.21	46.66	-13.45	AVG	
7		0.8500	28.12	10.09	38.21	56.00	-17.79	QP	
8		0.8500	11.37	10.09	21.46	46.00	-24.54	AVG	
9		2.4140	27.51	10.05	37.56	56.00	-18.44	QP	
10		2.4140	12.68	10.05	22.73	46.00	-23.27	AVG	

## 4. RADIATED EMISSION TEST

### 4.1. Test Equipment

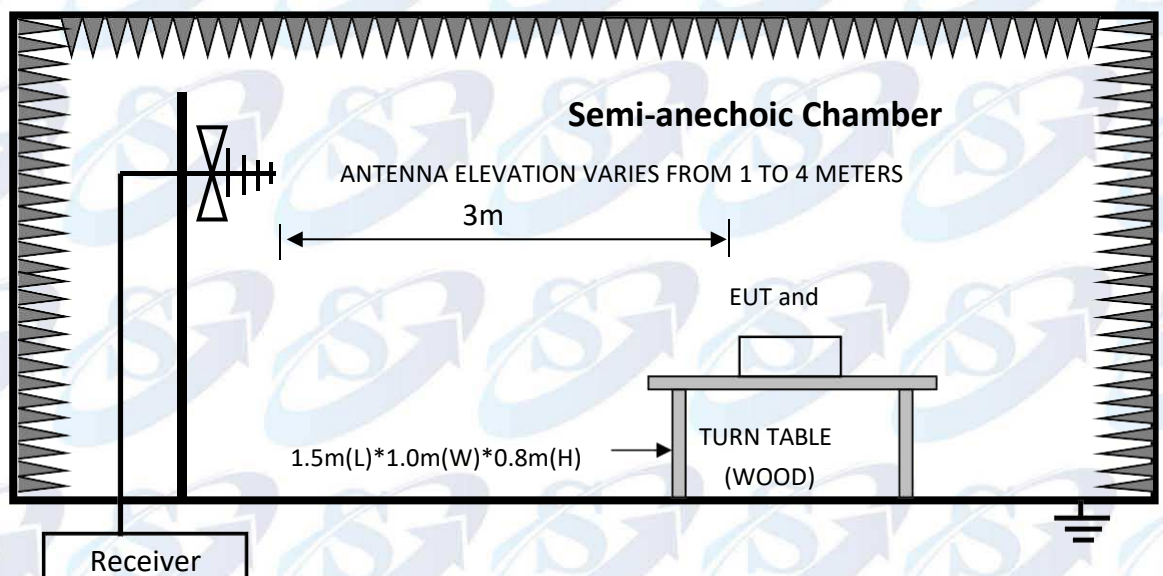
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Test Receiver	Rohde&Schwarz	ESCI	101165	Sep.24, 14	1 Year
2	Amplifier	Schwarzbeck	BBV9743	9743-019	Sep.24, 14	1 Year
3	Bilog Antenna	Schwarzbeck	VULB 9168	9168-438	Sep.24, 14	1 Year
4	RF Cable	Schwarzbeck	AK9515E	95891-2m	Sep.24, 14	1 Year
5	RF Cable	Schwarzbeck	AK9515E	95891-11m	Sep.24, 14	1 Year
6	RF Cable	Schwarzbeck	AK9515E	95891-0.5m	Sep.24, 14	1 Year

For frequency range 1GHz~5GHz (At Semi Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY49510055	Sep.24, 14	1 Year
2	Horn Antenna	Schwarzbeck	BBHA 9120 D	BBHA 9120 D(1201)	Sep.24, 14	1 Year
3	Amplifier	Quietek	AP-180C	CHM-060201 2	Sep.24, 14	1 Year
4	RF Cable	Resenberger	Cable 4	N/A	Sep.24, 14	1 Year
5	RF Cable	Resenberger	Cable 5	N/A	Sep.24, 14	1 Year
6	RF Cable	Resenberger	Cable 6	N/A	Sep.24, 14	1 Year

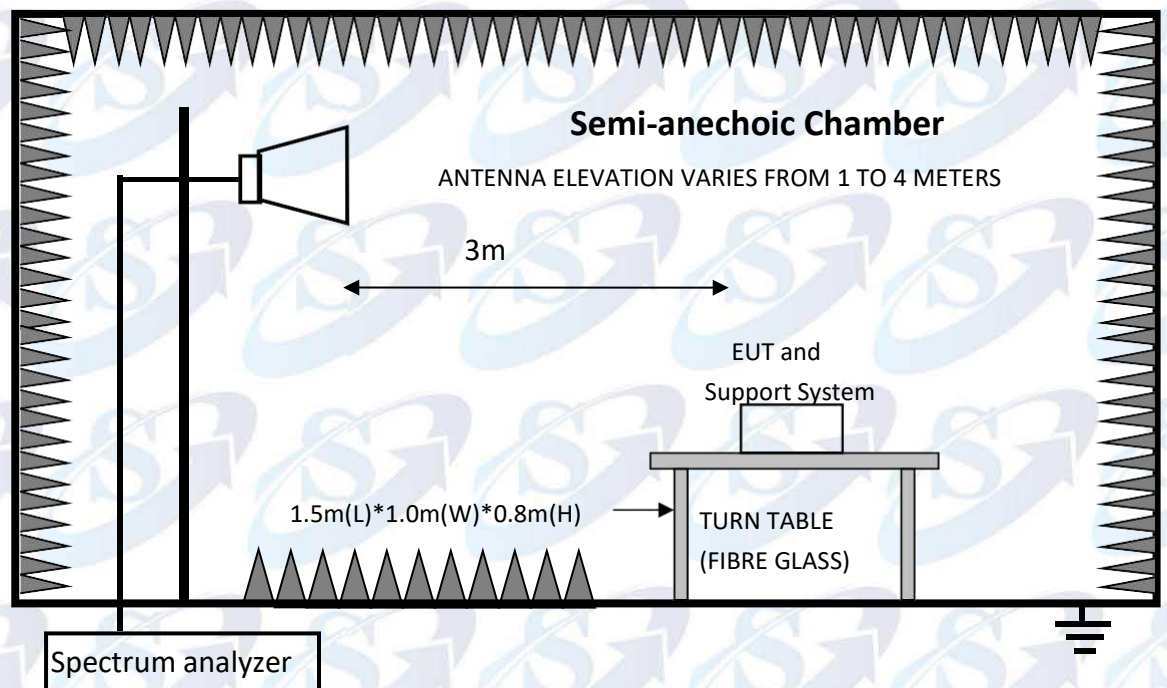
### 4.2. Block Diagram of Test Setup

#### 4.2.1. In Semi Anechoic Chamber (3m) Test Setup Diagram for 30MHz~1000MHz





#### 4.2.2. In Semi Anechoic Chamber (3m) Test Setup Diagram for 1-5GHz



#### 4.3. Radiated Emission Limit

Frequency MHz	Distance (Meters)	Field Strengths Limits dB( $\mu$ V)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0
1000 ~ 5000	3	74(Peak) 54(Average)

Remark: (1) Emission level = Read level+Antenna Factor-Preamp Factor +Cable Loss

- (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.

#### 4.4. EUT Configuration on Test

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

4.4.1. Support Equipment: As Tested Supporting System Detail, in Section 2.2.



#### 4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2.

4.5.2. Turn on the power of all equipment.

4.5.3. Let the EUT work in test mode (Running) and test it.

#### 4.6. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4-2003 on Radiated Emission test.

The bandwidth setting on the test receiver (ROHDE&SCHWARZ TEST RECEIVER ESCI) is 120 kHz.

The resolution bandwidth of the Agilent Spectrum Analyzer E4407B was set at 1MHz. (For above 1GHz)

The frequency range from 30MHz to 1000MHz was pre-scanned with a peak detector and all final readings of measurement from Test Receiver are Quasi-Peak values.

The frequency range from 1GHz to 5GHz was checked with peak and average detector, measurement distance is 3m in 3m chamber.

Finally, selected operating situations at Anechoic Chamber measurement, all the test results are listed in section 4.7.



#### 4.7. Radiated Disturbance Test Results

**PASS.** (All emissions not reported below are too low against the prescribed limits.)

##### **For frequency range 30MHz~1000MHz**

The EUT with the following test mode was tested and read Q.P values, the test results are listed in next pages.

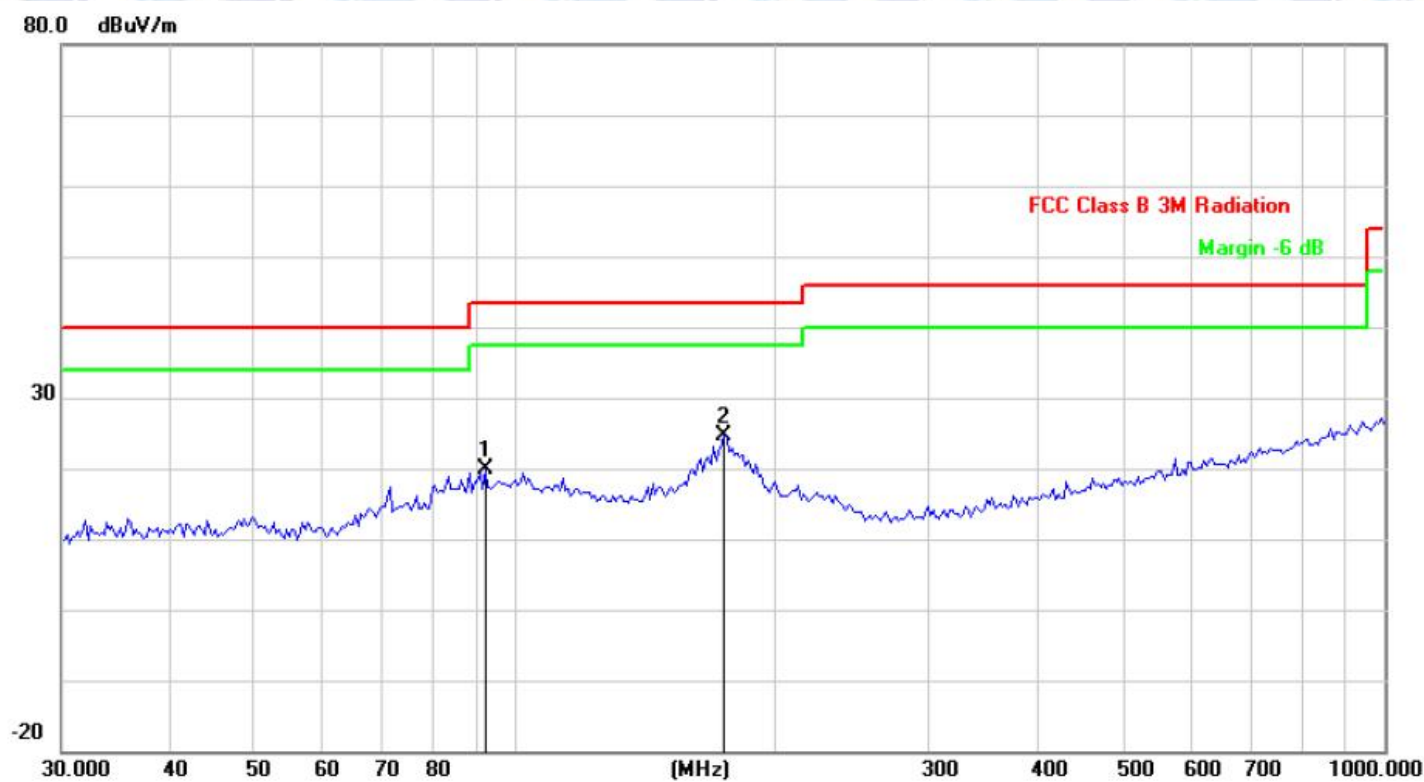
Temperature: 24.2°C      Humidity: 54%

The details of test mode is as follows:

No.	Test Mode
1.	Running

##### **For frequency range 1GHz~5GHz**

The highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. So the frequency rang 1GHz-5GHz radiation test not applicable.



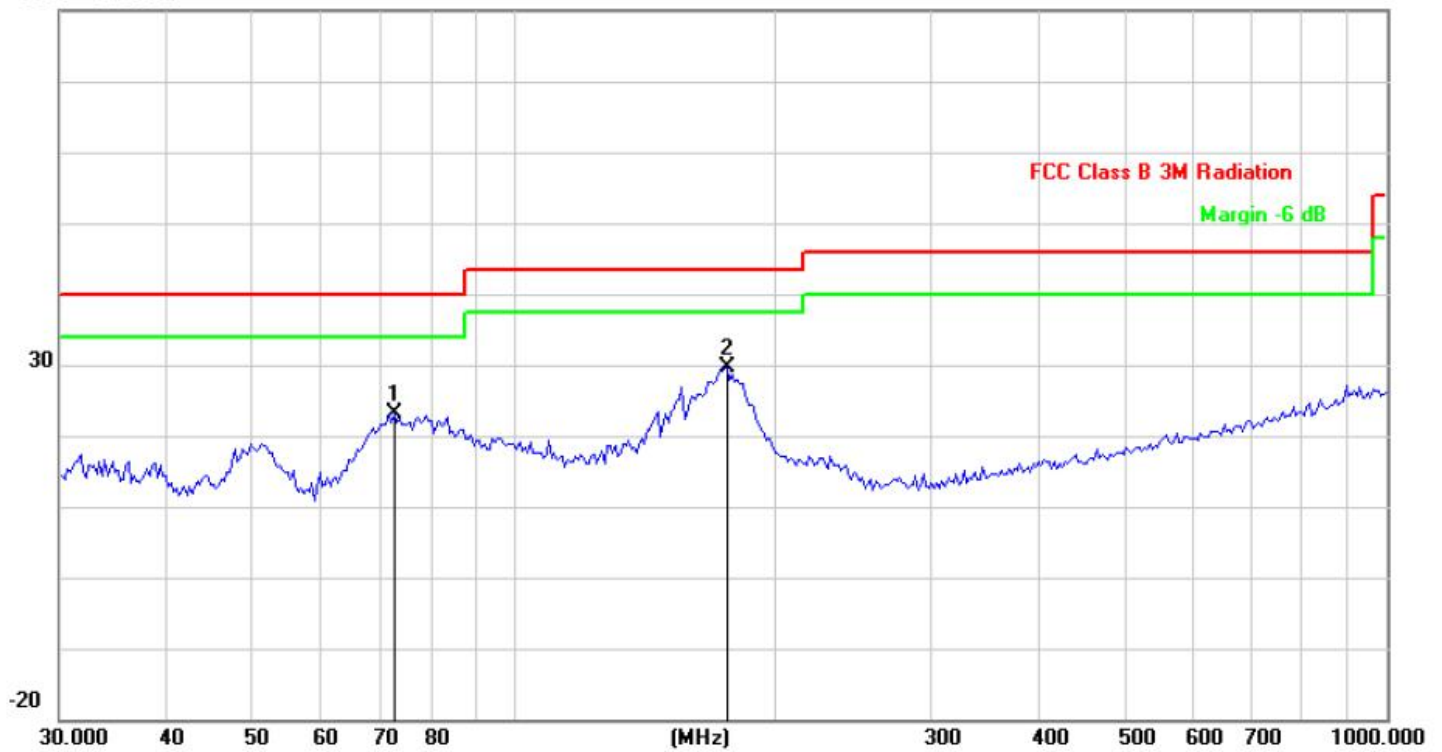
Limit: FCC Part15 B 3M Radiation

Polarization: **Horizontal**

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/	Margin dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		92.3462	37.05	-17.15	19.90	43.50	-23.60	peak			
2	*	173.8146	42.23	-17.57	24.66	43.50	-18.84	peak			



80.0 dBuV/m

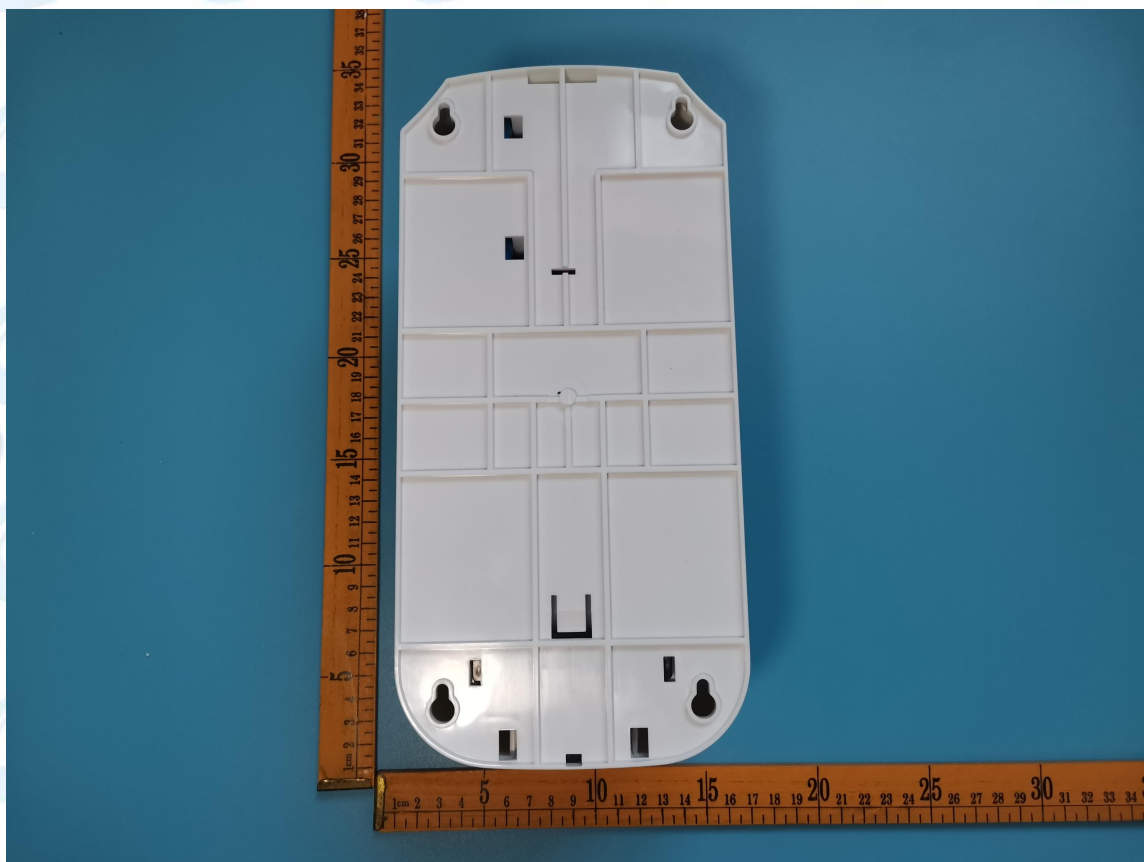


Limit: FCC Part15 B 3M Radiation

Polarization: *Vertical*

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/	Margin dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		72.7203	35.02	-11.88	23.14	40.00	-16.86	peak			
2	*	175.0404	39.04	-9.49	29.55	43.50	-13.95	peak			

## 5. PHOTOS OF THE EUT







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