# TEST REPORT FOR FCC

## Shenzhen Gainstrong Technology Co., Ltd.

## Infrared Forehead Thermometer

## Test Model: TG8818H

## Additional Model No.: Please Refer To Page 7

| | | |
|---|---|---|
| Prepared for | : | Shenzhen Gainstrong Technology Co., Ltd. |
| Address | : | 4/F,Building B,Hengmingzhu Industrial Park, Qian Jin Road 2,Baoan District,Shenzhen,Guangdong， China. |
| Prepared by | : | 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 |
| Tel | : | (+86)755-82591330 |
| Fax | : | (+86)755-82591332 |
| Web | : | www.LCS-cert.com |
| Mail | : | webmaster@LCS-cert.com |
| Date of receipt of test sample | : | May 08, 2020 |
| Number of tested samples | : | 1 |
| Serial number | : | Prototype |
| Date of Test | : | May 08, 2020 ~ May 13, 2020 |
| Date of Report | : | May 15, 2020 |

# TEST REPORT FOR FCC
# 47 CFR PART 18 Industrial, Scientific, and Medical Equipment

| | | |
|---|---|---|
| **Report Reference No. .....** | **:** | **LCS200506085AEB** |
| Date Of Issue ..... | : | May 15, 2020 |
| **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 ■<br>Partial application of Harmonised standards □<br>Other standard testing method □ |
| **Applicant's Name .....** | **:** | **Shenzhen Gainstrong Technology Co., Ltd.** |
| Address ..... | : | 4/F,Building B,Hengmingzhu Industrial Park, Qian Jin Road 2,Baoan District,Shenzhen,Guangdong，China. |
| **Test Specification** | | |
| Standard..... | : | **47 CFR PART 18, ANSI C63.4-2014, FCC/OST MP–5** |
| Test Report Form No. ..... | : | LCSEMC-1.0 |
| TRF Originator..... | : | Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Master TRF ..... | : | Dated 2011-03 |



| | | |
|---|---|---|
| **Test Item Description.....** | **:** | **Infrared Forehead Thermometer** |
| Trade Mark..... | : | N/A |
| Test Model ..... | : | TG8818H |
| Ratings..... | : | Input: DC 3V(Battery 2*AAA) |
| **Result .....** | **:** | **Positive** |

| **Compiled by:** | **Supervised by:** | **Approved by:** |
|---|---|---|
| Vera Deng | Jin Wang | Gavin Liang |
| Vera Deng/ File administrators | Jin Wang/ Technique principal | Gavin Liang/ Manager |

# FCC -- TEST REPORT

| | |
|---|---|
| **Test Report No. : LCS200506085AEB** | May 15, 2020<br>Date of issue |

| | | |
|---|---|---|
| Test Model..... | : | TG8818H |
| EUT..... | : | Infrared Forehead Thermometer |
| **Applicant.....** | **:** | **Shenzhen Gainstrong Technology Co., Ltd.** |
| Address..... | : | 4/F,Building B,Hengmingzhu Industrial Park, Qian Jin Road 2,Baoan District,Shenzhen,Guangdong，China. |
| Telephone..... | : | / |
| Fax..... | : | / |
| **Manufacturer.....** | **:** | **Shenzhen Gainstrong Technology Co., Ltd.** |
| Address..... | : | 4/F,Building B,Hengmingzhu Industrial Park, Qian Jin Road 2,Baoan District,Shenzhen,Guangdong，China. |
| Telephone..... | : | / |
| Fax..... | : | / |
| **Factory.....** | : | **Shenzhen Gainstrong Technology Co., Ltd.** |
| Address..... | : | 4/F,Building B,Hengmingzhu Industrial Park, Qian Jin Road 2,Baoan District,Shenzhen,Guangdong，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 | May 15, 2020 | Initial Issue | Jesse Liu |
| | | | |
| | | | |

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Test Report Description

Page

# 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** | **Results** |
| Conducted disturbance at mains terminals | 47 CFR PART 18<br>ANSI C63.4-2014<br>FCC/OST MP–5 | N/A |
| Radiated disturbance | 47 CFR PART 18<br>ANSI C63.4-2014<br>FCC/OST MP–5 | PASS |
| N/A is an abbreviation for Not Applicable. | | |

# 2. GENERAL INFORMATION

## 2.1. Description of Device (EUT)

| | | |
|---|---|---|
| EUT | : | Infrared Forehead Thermometer |
| Trade Mark | : | N/A |
| Test Model | : | TG8818H |
| Additional Model No. | : | BT919, TG8818H-BT, VC888, VC919, HG01 |
| Model Declaration | : | PCB board, structure and internal of these model(s) are the same, So no additional models were tested |
| Power Supply | : | Input: DC 3V(Battery 2*AAA) |
| Hardware Version | : | BRL-BTD-043 |
| Software Version | : | V1.0 |

## 2.2. Description of Test Facility

Site Description
EMC Lab. : FCC Registration Number is 254912.
Industry Canada Registration Number is 9642A.
EMSD 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 Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier: CN0071

## 2.3. 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.

## 2.4. Measurement Uncertainty

| Test | Parameters | Expanded Uncertainty ($U_{lab}$) | Expanded Uncertainty ($U_{cispr}$) |
|---|---|---|---|
| Radiated Emission | Level accuracy (9kHz to 30MHz) | ± 3.68 dB | ±3.1dB |
| Radiated Emission | Level accuracy (30MHz to 1000MHz) | ± 3.48 dB | ± 5.3 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. RADIATED EMISSION MEASUREMENT

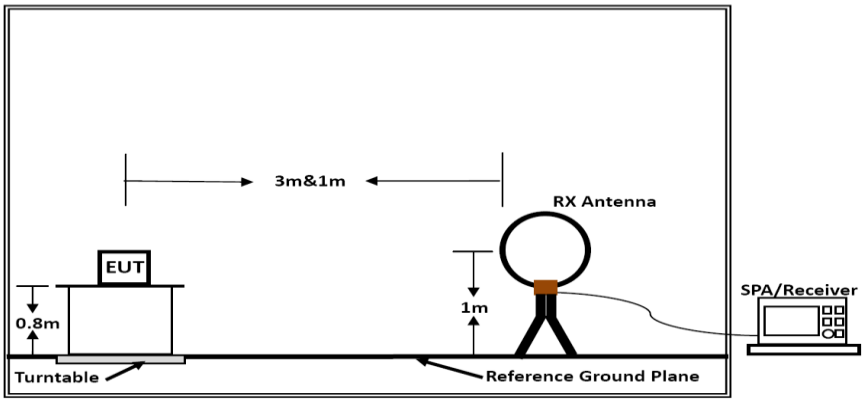
## 3.1. Test Equipment

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

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|---|---|---|---|---|---|
| 1 | EMI Test Software | EZ | EZ-EMC | / | N/A |
| 2 | 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 2019-06-12 |
| 3 | Positioning Controller | MF | MF-7082 | / | 2019-06-12 |
| 4 | By-log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2019-07-25 |
| 5 | Horn Antenna | SCHWARZBECK | BBHA 9120D | 9120D-1925 | 2019-07-01 |
| 6 | EMI Test Receiver | R&S | ESR 7 | 101181 | 2019-06-12 |
| 7 | RS SPECTRUM ANALYZER | R&S | FSP40 | 100503 | 2019-11-14 |
| 8 | AMPLIFIER | QuieTek | QTK | CHM/08090 65 | 2019-07-01 |
| 9 | RF Cable-R03m | Jye Bao | RG142 | CB021 | 2019-06-12 |
| 10 | RF Cable-HIGH | SUHNER | SUCOFLEX 106 | 03CH03-HY | 2019-06-12 |
| 11 | Active Loop Antenna | SCHWARZBECK | FMZB 1519B | 00005 | 2019-07-26 |

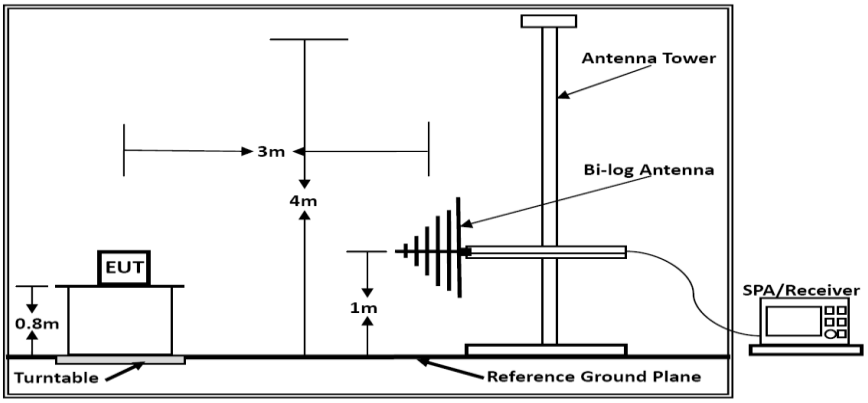
## 3.2. Block Diagram of Test Setup

### 3.2.1. Radiated Emission Test-Up Frequency Below 30MHz




**Below 30MHz**

## 3.2.2.Radiated Emission Test-Up Frequency 30MHz ~ 1GHz




**Below 1GHz**

## 3.3. Radiated Emission Limit

| Equipment | Operating frequency | RF Power generated by equipment (watts) | Field strength limit (uV/m) | Distance (meters) |
|---|---|---|---|---|
| Any type unless otherwise specified (miscellaneous) | Any ISM frequency | Below 500<br>500 or more | 25<br>25 × SQRT(power/500) | 300<br>[1]300 |
| | Any non-ISM frequency | Below 500<br>500 or more | 15<br>15 × SQRT(power/500) | 300<br>[1]300 |
| Industrial heaters and RF stabilized arc welders | On or below 5,725 MHz<br>Above 5,725 MHz | Any<br>Any | 10<br>([2]) | 1,600<br>([2]) |
| Medical diathermy | Any ISM frequency<br>Any non-ISM frequency | Any<br>Any | 25<br>15 | 300<br>300 |
| Ultrasonic | Below 490 kHz | Below 500<br>500 or more | 2,400/F(kHz)<br>2,400/F(kHz) × SQRT (power/500) | 300<br>[3]300 |
| | 490 to 1,600 kHz<br>Above 1,600 kHz | Any<br>Any | 24,000/F(kHz)<br>15 | 30<br>30 |
| Induction cooking ranges | Below 90 kHz<br>On or above 90 kHz | Any<br>Any | 1,500<br>300 | [4]30<br>[4]30 |

## 3.4.Frequency range of measurements

(a) For field strength measurements:

| Frequency band in which device operates (MHz) | Range of frequency measurements | |
|---|---|---|
| | Lowest frequency | Highest frequency |
| Below 1.705 | Lowest frequency generated in the device, but not lower than 9 kHz | 30 MHz. |
| 1.705 to 30 | Lowest frequency generated in the device, but not lower than 9 kHz | 400 MHz. |
| 30 to 500 | Lowest frequency generated in the device or 25 MHz, whichever is lower | Tenth harmonic or 1,000 MHz, whichever is higher. |
| 500 to 1,000 | Lowest frequency generated in the device or 100 MHz, whichever is lower | Tenth harmonic. |
| Above 1,000 | .....do | Tenth harmonic or highest detectable emission. |

## 3.5. 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.

## 3.6. Operating Condition of EUT

3.6.1.Setup the EUT as shown in Section 3.2.
3.6.2.Let the EUT work in test mode (1) and measure it.

## 3.7. 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 and FCC/OST MP–5 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 300kHz.

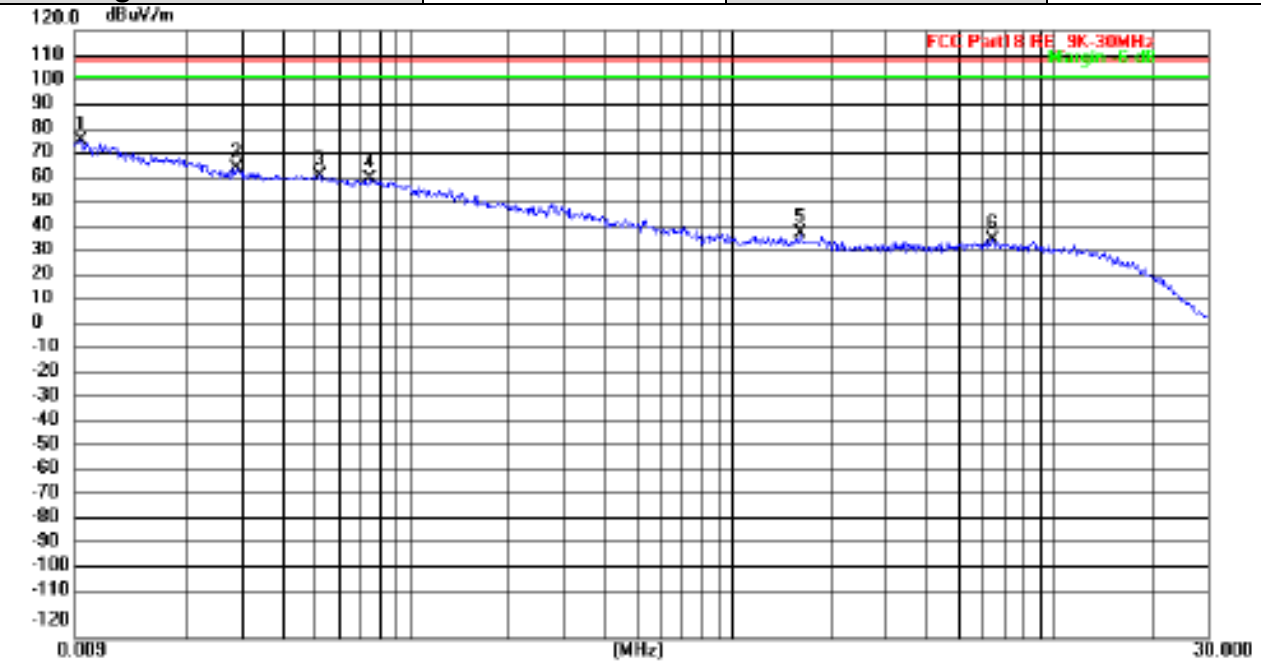
The frequency range from 9kHz to 1000MHz is checked.

## 3.8. Radiated Emission Noise Measurement Result

**PASS.**

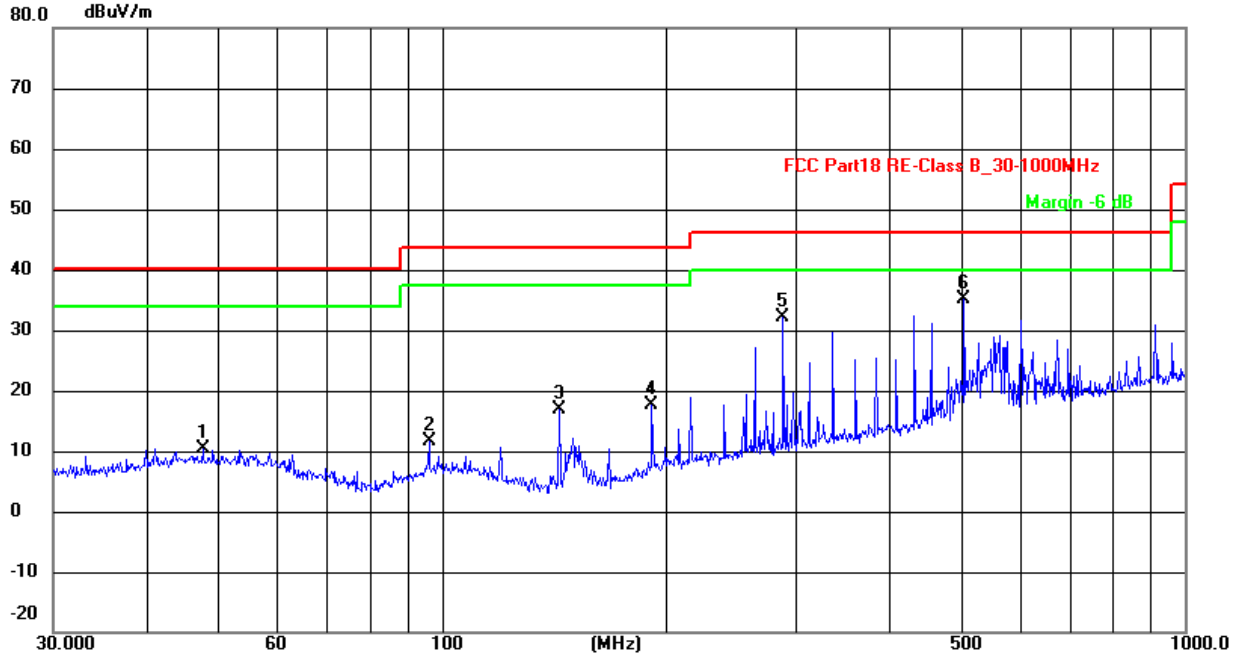
The scanning waveforms please refer to the next page.

| Test Model | TG8818H | Test Mode | Working |
|---|---|---|---|
| Environmental Conditions | 23.8℃, 54.4%RH | Detector Function | Quasi-peak |
| Test Engineer | David Luo | Distance | 3m |



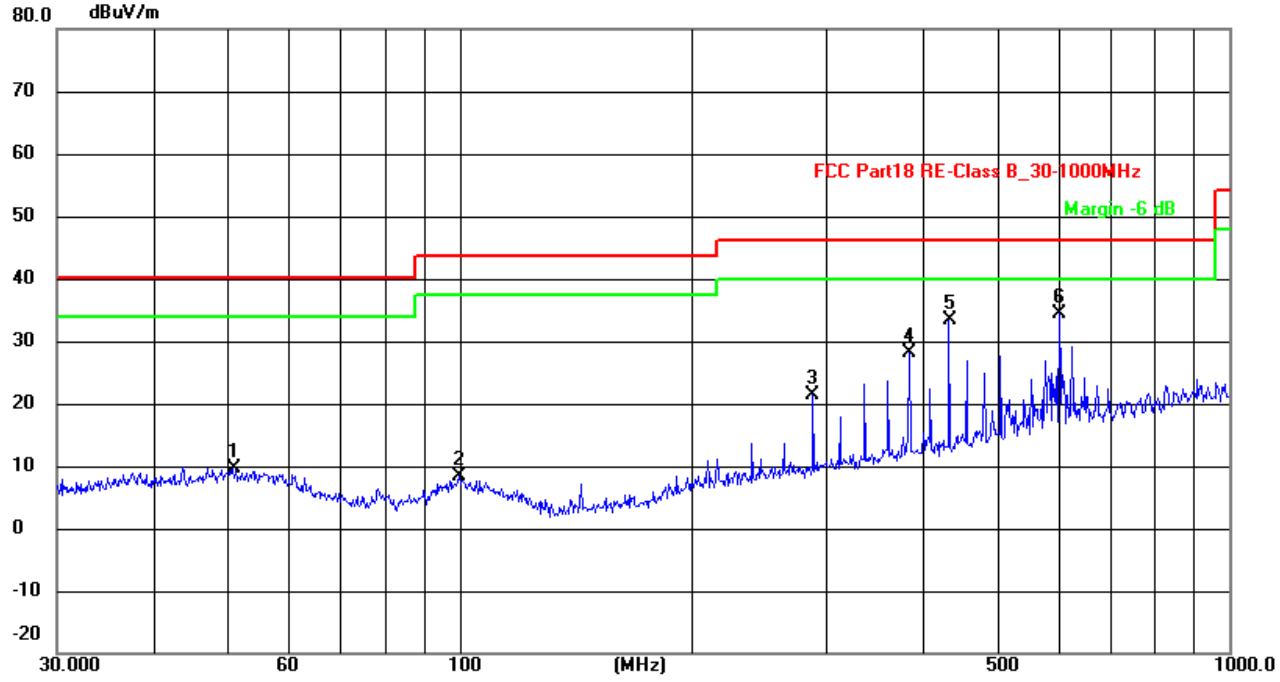

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.0094 | 76.51 | 0.21 | 76.72 | 107.96 | -31.24 | QP |
| 2 | 0.0287 | 65.63 | 0.24 | 65.87 | 107.96 | -42.09 | QP |
| 3 | 0.0523 | 62.76 | 0.24 | 63.00 | 107.96 | -44.96 | QP |
| 4 | 0.0747 | 60.98 | 0.24 | 61.22 | 107.96 | -46.74 | QP |
| 5 | 1.6176 | 39.36 | 0.26 | 39.62 | 107.96 | -68.34 | QP |
| 6 | 6.4235 | 37.49 | 0.28 | 37.77 | 107.96 | -70.19 | QP |

| Test Model | TG8818H | Test Mode | Working |
|---|---|---|---|
| Environmental Conditions | 23.8℃, 54.4%RH | Detector Function | Quasi-peak |
| Pol | Vertical | Distance | 3m |
| Test Engineer | David Luo | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) |
|---|---|---|---|---|---|---|---|---|
| 1 | 47.6586 | 26.79 | -16.42 | 10.37 | 40.00 | -29.63 | QP | |
| 2 | 96.0986 | 30.66 | -18.98 | 11.68 | 43.50 | -31.82 | QP | |
| 3 | 143.8295 | 38.65 | -21.87 | 16.78 | 43.50 | -26.72 | QP | |
| 4 | 191.7450 | 36.72 | -18.97 | 17.75 | 43.50 | -25.75 | QP | |
| 5 | 287.9904 | 48.14 | -15.92 | 32.22 | 46.00 | -13.78 | QP | |
| 6 | 504.7062 | 46.52 | -11.36 | 35.16 | 46.00 | -10.84 | QP | |

| Test Model | TG8818H | Test Mode | Working |
|---|---|---|---|
| Environmental Conditions | 23.8℃, 54.4%RH | Detector Function | Quasi-peak |
| Pol | Horizontal | Distance | 3m |
| Test Engineer | David Luo | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 50.7637 | 26.22 | -16.51 | 9.71 | 40.00 | -30.29 | QP |
| 2 | 99.8777 | 26.85 | -18.38 | 8.47 | 43.50 | -35.03 | QP |
| 3 | 287.9904 | 37.21 | -15.92 | 21.29 | 46.00 | -24.71 | QP |
| 4 | 383.9318 | 41.89 | -13.68 | 28.21 | 46.00 | -17.79 | QP |
| 5 | 432.5457 | 46.02 | -12.70 | 33.32 | 46.00 | -12.68 | QP |
| 6 | 601.4265 | 43.67 | -9.27 | 34.40 | 46.00 | -11.60 | QP |

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

## 4. PHOTOGRAPHS OF TEST SETUP

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

## 5. EXTERNAL PHOTOGRAPHS OF THE EUT

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

## 6. INTERNAL PHOTOGRAPHS OF THE EUT

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

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