



TESTING LABORATORY  
CERTIFICATE #4820.01



## FCC PART 15B

## TEST REPORT

For

### Zhejiang Focus-On Import and Export Co., Ltd

11F, Binhai Building, 480 Jiangnan Dadao, Binjiang District, Hangzhou, China

**FCC ID: INC-FOKH-0200**

|                                        |                                                                                                                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Type:</b><br>Original Report | <b>Product Type:</b><br>WIRELESS THERMOMETER                                                                                                                                                                                                          |
| <b>Report Number:</b>                  | RXM180616051-00                                                                                                                                                                                                                                       |
| <b>Report Date:</b>                    | 2018-06-26                                                                                                                                                                                                                                            |
| <b>Reviewed By:</b>                    | Jerry Zhang<br>EMC Manager                                                                                                                                                                                                                            |
| <b>Test Laboratory:</b>                | Bay Area Compliance Laboratories Corp. (Dongguan)<br>No.69 Pulongcun, Puxinhu Industry Area,<br>Tangxia, Dongguan, Guangdong, China<br>Tel: +86-769-86858888<br>Fax: +86-769-86858891<br><a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a> |

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>EUT Name:</b>                        | WIRELESS THERMOMETER     |
| <b>EUT Model:</b>                       | KH-0200                  |
| <b>FCC ID:</b>                          | INC-FOKH-0200            |
| <b>Rated Input Voltage:</b>             | DC3V from battery        |
| <b>The Highest Operating Frequency:</b> | 433.94MHz                |
| <b>External Dimension:</b>              | 80mm(L)*30mm(W)*141mm(H) |
| <b>Serial Number:</b>                   | 180616051                |
| <b>EUT Received Date:</b>               | 2018.6.20                |

### Objective

This report is prepared on behalf of *Zhejiang Focus-On Import and Export Co., Ltd* in accordance with FCC Part 15B Part 2, Part J, and Part 15, Subpart A and B of the Federal Communications Commission's rules..

The objective is to determine the compliance of EUT with: FCC Part 15B class B.

### Related Submittal(s)/Grant(s)

Part of system submittal with FCC ID:INC-FOKH-T12.

### Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

### Measurement Uncertainty

| Parameter                         | Measurement Uncertainty                                                                                              |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Unwanted Emissions, radiated      | 30M~200MHz: 4.55 dB, 200M~1GHz: 5.92 dB, 1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB |
| Temperature                       | ±1°C                                                                                                                 |
| Humidity                          | ±5%                                                                                                                  |
| AC Power Lines Conducted Emission | 3.12 dB (150 kHz to 30 MHz)                                                                                          |

### **Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218,the FCC Designation No. : CN1220.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062D.

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was tested in operating mode.

### Equipment Modifications

No modification was made to the EUT.

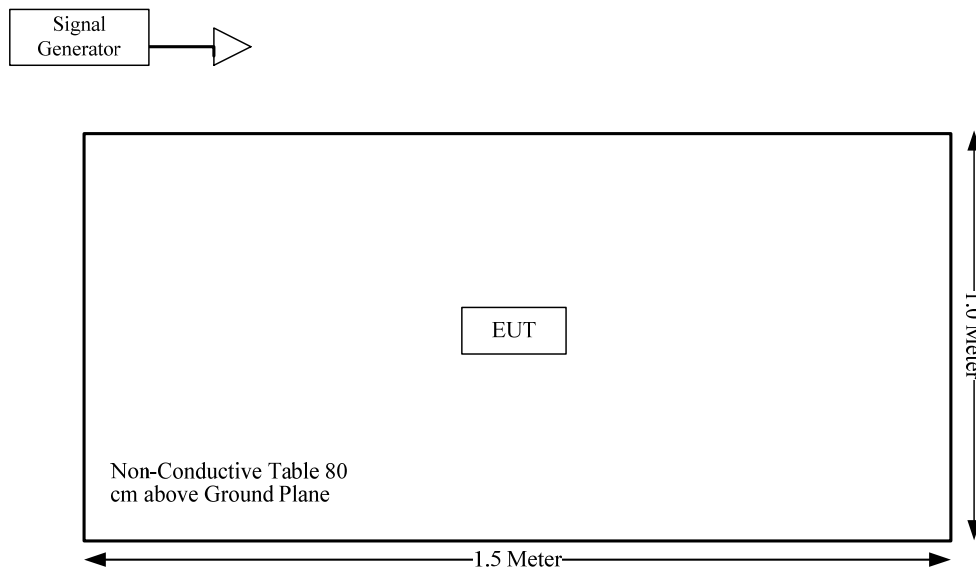
### EUT Exercise Software

No software was used to testing.

### Local Support Equipment List and Details

| Manufacturer | Description      | Model | Serial Number |
|--------------|------------------|-------|---------------|
| HP           | Signal Generator | 1026  | 320408        |

### Block Diagram of Test Setup



**Test Equipment List**

| Manufacturer   | Description       | Model                  | Serial Number | Calibration Date | Calibration Due Date |
|----------------|-------------------|------------------------|---------------|------------------|----------------------|
| R&S            | EMI Test Receiver | ESCI                   | 100224        | 2017-12-11       | 2018-12-11           |
| Farad          | Test Software     | EZ-EMC                 | V1.1.4.2      | N/A              | N/A                  |
| Sunol Sciences | Antenna           | JB3                    | A060611-1     | 2017-11-10       | 2020-11-10           |
| Unknown        | Coaxial Cable     | C-NJNJ-50              | C-0400-01     | 2017-09-05       | 2018-09-05           |
| Unknown        | Coaxial Cable     | C-NJNJ-50              | C-0075-01     | 2017-09-05       | 2018-09-05           |
| Unknown        | Coaxial Cable     | C-NJNJ-50              | C-1000-01     | 2017-09-05       | 2018-09-05           |
| HP             | Amplifier         | 8447D                  | 2727A05902    | 2017-09-05       | 2018-09-05           |
| Agilent        | Spectrum Analyzer | E4440A                 | SG43360054    | 2018-01-04       | 2019-01-04           |
| ETS-Lindgren   | Horn Antenna      | 3115                   | 000 527 35    | 2016-01-05       | 2019-01-04           |
| Unknown        | Coaxial Cable     | C-SJSJ-50              | C-0800-01     | 2017-09-05       | 2018-09-05           |
| MITEQ          | Amplifier         | AFS42-00101800-25-S-42 | 2001271       | 2017-09-05       | 2018-09-05           |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Environmental Conditions**

|                           |                       |
|---------------------------|-----------------------|
| <b>Temperature:</b>       | 25.9~29.3 °C          |
| <b>Relative Humidity:</b> | 38~43%*               |
| <b>ATM Pressure:</b>      | 101.3~ 101.4kPa       |
| <b>Tester:</b>            | Blake Yang,Vern Shen  |
| <b>Test Date:</b>         | 2018.06.23~2018.06.29 |

**SUMMARY OF TEST RESULTS**

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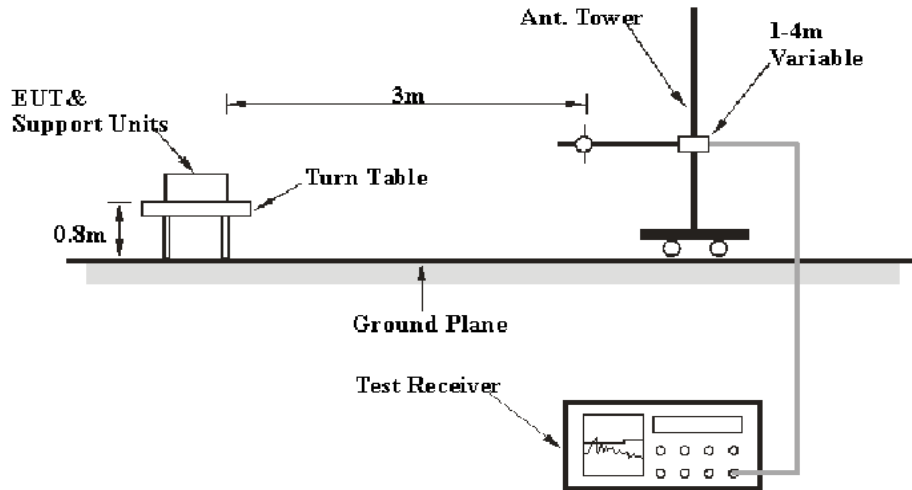
| Rule and Clause | Description of Test | Test Result     |
|-----------------|---------------------|-----------------|
| FCC §15.107     | Conducted emissions | Not applicable* |
| FCC §15.109     | Radiated emissions  | Compliance      |

Not applicable\*: the device was powered by battery

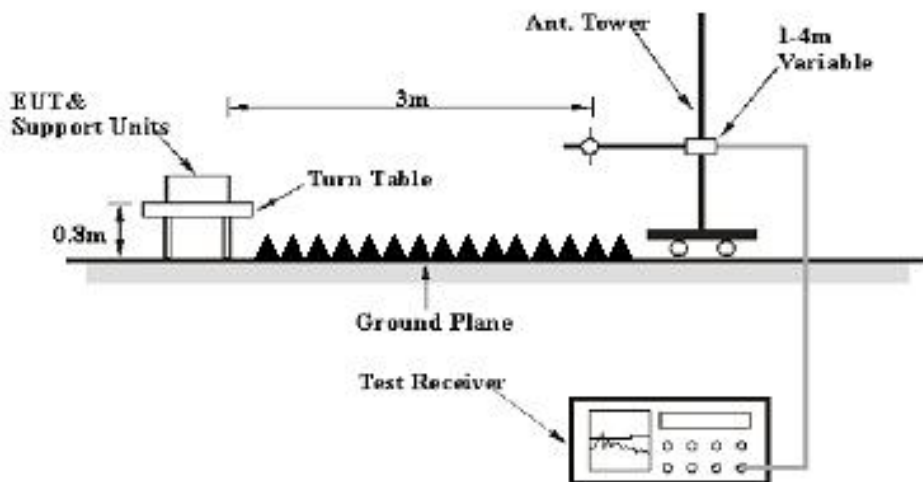
## RADIATED EMISSIONS

### EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed at the 3 meters distance, above 1GHz were performed at the 3 meters, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

## EMI Test Receiver Setup

The system was investigated from 30 MHz to 2 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

| Frequency Range   | RBW     | Video B/W | IF B/W  | Measurement |
|-------------------|---------|-----------|---------|-------------|
| 30 MHz – 1000 MHz | 120 kHz | 300 kHz   | 120 kHz | QP          |
| Above 1 GHz       | 1 MHz   | 3 MHz     | /       | Peak        |
|                   | 1 MHz   | 10Hz      | /       | AVG         |

## Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

## Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Meter Reading+ Corrected

Note:

Corrected = Antenna Factor + Cable Loss - Amplifier Gain

or

Corrected = Antenna Factor + Cable Loss + Insertion loss of attenuator - Amplifier Gain

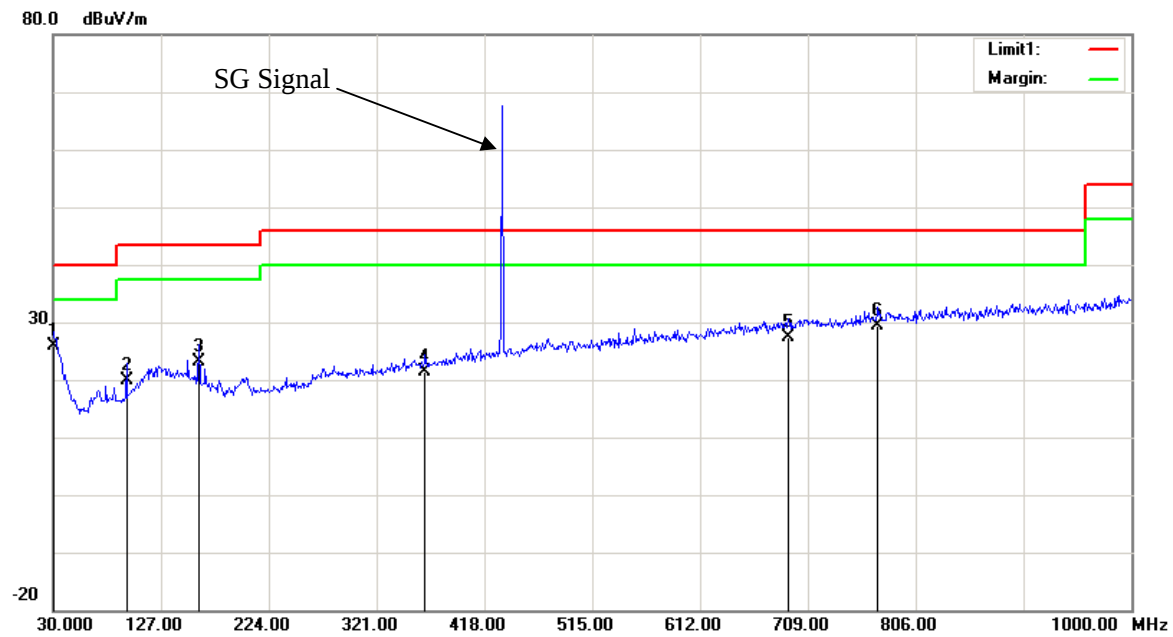
The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Result}$$

**Test Data**

Please refer to following table and plots:

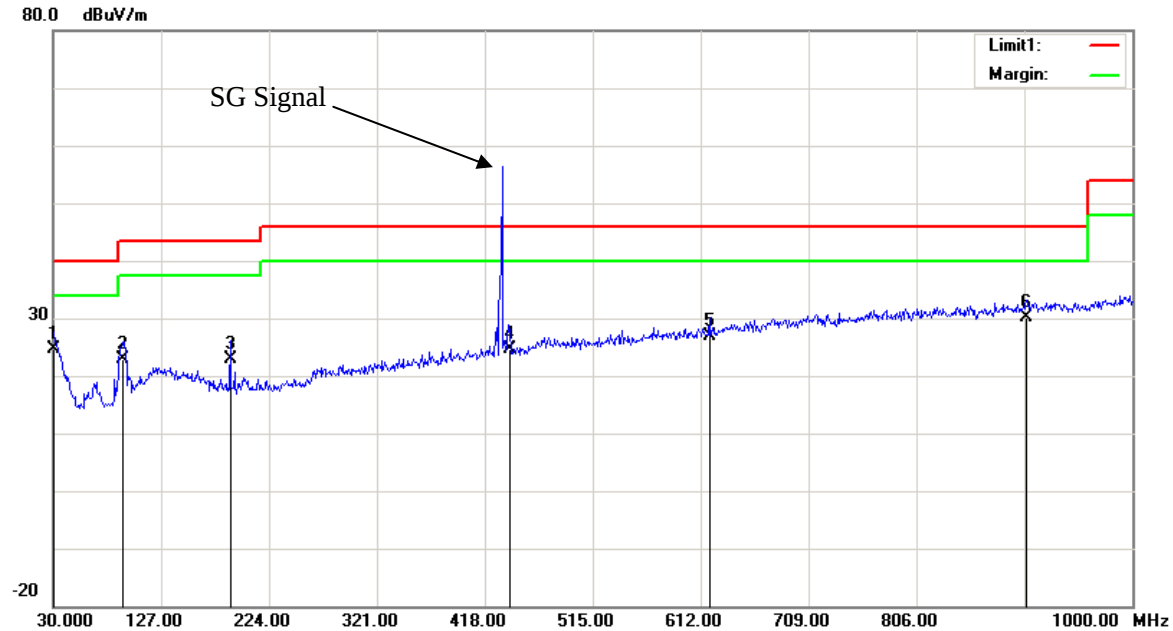
|                   |                                 |                      |                   |
|-------------------|---------------------------------|----------------------|-------------------|
| <b>Condition:</b> | <b>FCC Class B 3M Radiation</b> | <b>Polarization:</b> | <b>Horizontal</b> |
| <b>EUT:</b>       | <b>WIRELESS THERMOMETER</b>     | <b>Power:</b>        | <b>DC 3V</b>      |
| <b>Model:</b>     | <b>KH-0200</b>                  | <b>Distance:</b>     | <b>3m</b>         |
| <b>Test Mode:</b> | <b>Operating</b>                |                      |                   |



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Corrected<br>dB/m | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|-----|--------------------|-------------------|----------|-------------------|--------------------|-------------------|----------------|
| 1   | 30.0000            | 24.25             | QP       | 1.55              | 25.80              | 40.00             | 14.20          |
| 2   | 95.9600            | 29.97             | QP       | -10.07            | 19.90              | 43.50             | 23.60          |
| 3   | 160.9500           | 29.21             | QP       | -6.11             | 23.10              | 43.50             | 20.40          |
| 4   | 364.6500           | 24.04             | QP       | -2.74             | 21.30              | 46.00             | 24.70          |
| 5   | 691.5400           | 24.58             | QP       | 2.92              | 27.50              | 46.00             | 18.50          |
| 6   | 772.0500           | 25.16             | QP       | 4.34              | 29.50              | 46.00             | 16.50          |

**Condition:** FCC Class B 3M Radiation  
**EUT:** WIRELESS THERMOMETER  
**Model:** KH-0200  
**Test Mode:** Operating

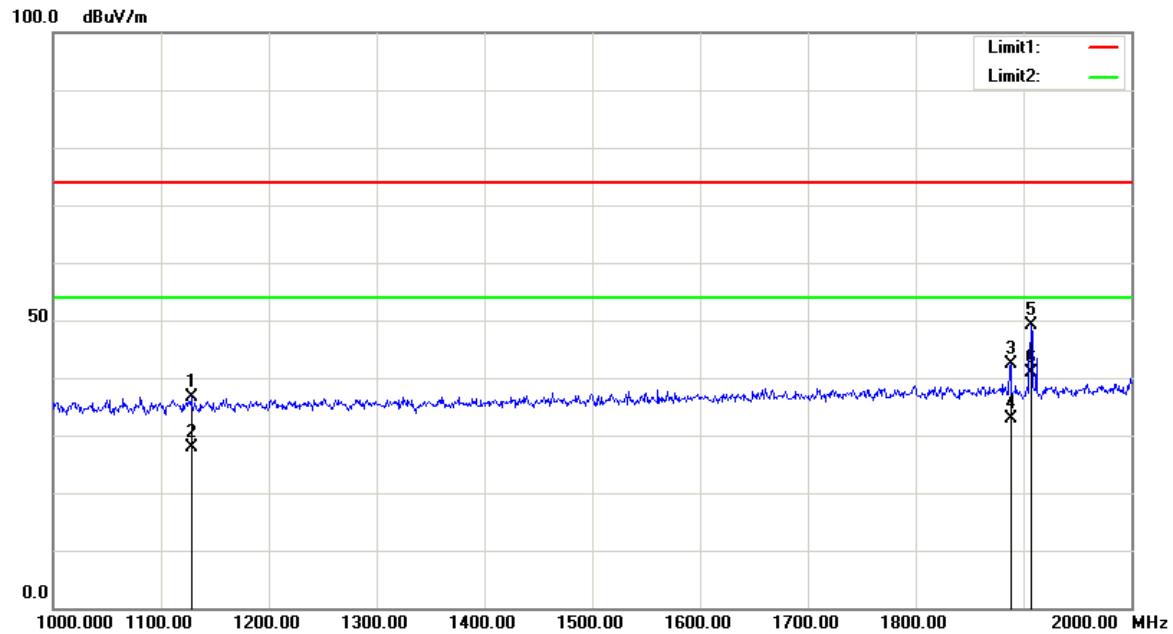
**Polarization:** Vertical  
**Power:** DC 3V  
**Distance:** 3m



| No. | Frequency<br>(MHz) | Reading<br>(dB $\mu$ V) | Detector | Corrected<br>dB/m | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|-----|--------------------|-------------------------|----------|-------------------|--------------------------|-------------------------|----------------|
| 1   | 30.0000            | 23.15                   | QP       | 1.55              | 24.70                    | 40.00                   | 15.30          |
| 2   | 93.0500            | 33.74                   | QP       | -10.84            | 22.90                    | 43.50                   | 20.60          |
| 3   | 189.0800           | 30.36                   | QP       | -7.36             | 23.00                    | 43.50                   | 20.50          |
| 4   | 440.3100           | 25.95                   | QP       | -1.25             | 24.70                    | 46.00                   | 21.30          |
| 5   | 619.7600           | 25.61                   | QP       | 1.39              | 27.00                    | 46.00                   | 19.00          |
| 6   | 904.9400           | 23.78                   | QP       | 6.32              | 30.10                    | 46.00                   | 15.90          |

**Condition:** FCC Part 15 Class B  
**EUT:** WIRELESS THERMOMETER  
**Model:** KH-0200  
**Test Mode:** Operating

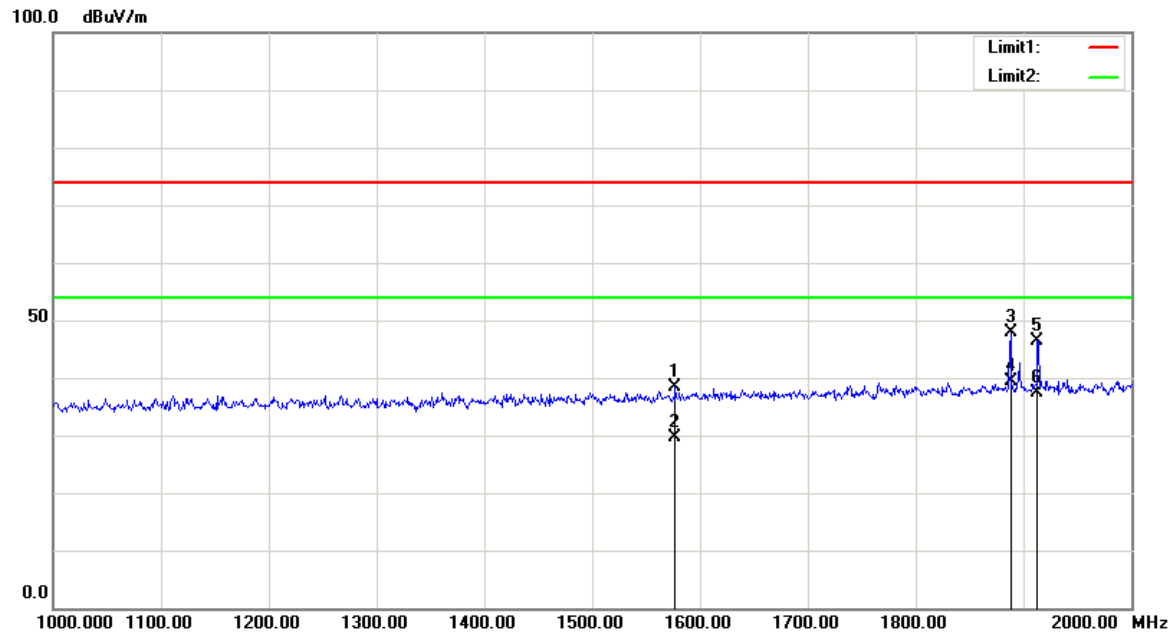
**Polarization:** Horizontal  
**Power:** DC 3V  
**Distance:** 3m



| No. | Frequency<br>(MHz) | Reading<br>(dB $\mu$ V) | Detector | Corrected<br>dB/m | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|-----|--------------------|-------------------------|----------|-------------------|--------------------------|-------------------------|----------------|
| 1   | 1128.500           | 46.77                   | peak     | -10.19            | 36.58                    | 74.00                   | 37.42          |
| 2   | 1128.500           | 38.12                   | AVG      | -10.19            | 27.93                    | 54.00                   | 26.07          |
| 3   | 1888.000           | 49.87                   | peak     | -7.57             | 42.30                    | 74.00                   | 31.70          |
| 4   | 1888.000           | 40.53                   | AVG      | -7.57             | 32.96                    | 54.00                   | 21.04          |
| 5   | 1907.500           | 56.62                   | peak     | -7.51             | 49.11                    | 74.00                   | 24.89          |
| 6   | 1907.500           | 48.32                   | AVG      | -7.51             | 40.81                    | 54.00                   | 13.19          |

**Condition:** FCC Part 15 Class B  
**EUT:** WIRELESS THERMOMETER  
**Model:** KH-0200  
**Test Mode:** Operating

**Polarization:** Vertical  
**Power:** DC 3V  
**Distance:** 3m



| No. | Frequency<br>(MHz) | Reading<br>(dB $\mu$ V) | Detector | Corrected<br>dB/m | Result<br>(dB $\mu$ V/m) | Limit<br>(dB $\mu$ V/m) | Margin<br>(dB) |
|-----|--------------------|-------------------------|----------|-------------------|--------------------------|-------------------------|----------------|
| 1   | 1577.500           | 47.19                   | peak     | -8.81             | 38.38                    | 74.00                   | 35.62          |
| 2   | 1577.500           | 38.44                   | AVG      | -8.81             | 29.63                    | 54.00                   | 24.37          |
| 3   | 1888.000           | 55.48                   | peak     | -7.57             | 47.91                    | 74.00                   | 26.09          |
| 4   | 1888.000           | 46.87                   | AVG      | -7.57             | 39.30                    | 54.00                   | 14.70          |
| 5   | 1913.500           | 53.93                   | peak     | -7.49             | 46.44                    | 74.00                   | 27.56          |
| 6   | 1913.500           | 44.85                   | AVG      | -7.49             | 37.36                    | 54.00                   | 16.64          |

\*\*\*\*\*END OF REPORT\*\*\*\*\*