

# TEST REPORT

**Product Name** : Alarm Host  
**Model Number** : PG-A01, PG-A02  
**FCC ID** : 2AIT9PA-PG-A01

**Prepared for** : SZ PGST CO., LTD  
**Address** : No.9 Building, Huafu Industrial Park, Huachang Road,  
Longhua District, Shenzhen, Guangdong, China

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**Report Number** : EDG2410170046E00302R  
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**Date of issue** : Jan 20, 2025

## Table of Contents

|                                    |   |
|------------------------------------|---|
| 1. TEST RESULT CERTIFICATION ..... | 3 |
| 2. EUT SPECIFICATION .....         | 5 |
| 3. TEST REQUIREMENT: .....         | 6 |
| RF EXPOSURE EVALUATION .....       | 6 |
| 4. MEASUREMENT RESULT .....        | 7 |



## 1. TEST RESULT CERTIFICATION

Applicant : SZ PGST CO., LTD  
Address : No.9 Building, Huafu Industrial Park, Huachang Road, Longhua District, Shenzhen, Guangdong, China  
Manufacturer : SZ PGST CO., LTD  
Address : No.9 Building, Huafu Industrial Park, Huachang Road, Longhua District, Shenzhen, Guangdong, China  
Factory : SZ PGST CO., LTD  
Address : No.9 Building, Huafu Industrial Park, Huachang Road, Longhua District, Shenzhen, Guangdong, China  
EUT : Alarm Host  
Model Name : PG-A01, PG-A02  
Trademark : N/A

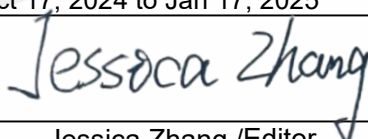
Measurement Procedure Used:

| APPLICABLE STANDARDS  |             |
|-----------------------|-------------|
| STANDARD              | TEST RESULT |
| § 15.247(i), § 2.1091 | PASS        |

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1091.

The test results of this report relate only to the tested sample identified in this report

Date of Test : Oct 17, 2024 to Jan 17, 2025

Prepared by :   
Jessica Zhang /Editor

Reviewer :   
Warren Deng /Supervisor

Approved & Authorized Signer :   
Sam Lv / Manager

Modified History

| Version | Report No.           | Revision Date | Summary         |
|---------|----------------------|---------------|-----------------|
|         | EDG2410170046E00302R | /             | Original Report |
|         |                      |               |                 |
|         |                      |               |                 |



## 2. EUT Specification

| Characteristics                       | Description                                                                                                               |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Product:</b>                       | Alarm Host                                                                                                                |
| <b>Model Number:</b>                  | PG-A01, PG-A02<br>All products are identical except the model number and shape. Here we selected PG-A01 for all the test. |
| <b>Sample:</b>                        | 2#                                                                                                                        |
| <b>Device Type:</b>                   | 2.4G WIFI<br>433.9MHz                                                                                                     |
| <b>Data Rate:</b>                     | 802.11b<br>802.11g<br>802.11n(20MHz channel bandwidth)<br>802.11n(40MHz channel bandwidth)                                |
| <b>Modulation:</b>                    | DSSS with DBPSK/DQPSK/CCK for 802.11b;<br>OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;<br>ASK for 433.9MHz              |
| <b>Operating Frequency Range(s) :</b> | 2412-2462MHz for 802.11b/g/n(HT20);<br>2422-2452MHz for 802.11n(HT40);<br>433.9MHz                                        |
| <b>Number of Channels:</b>            | 11 channels for 802.11b/g/n(HT20);<br>7 Channels for 802.11n(HT40);<br>1 channel for 433.9MHz                             |
| <b>Transmit Power Max:</b>            | 2.4G WIFI:16.29 dBm(0.042560 W)<br>433.9MHz:49.80dBuV@3m                                                                  |
| <b>Antenna Type:</b>                  | 2.4G WIFI:PCB antenna<br>433.9MHz:Spring antenna                                                                          |
| <b>Antenna Gain:</b>                  | 2.4G WIFI:1.37 dBi<br>433.9MHz:-3.0 dBi                                                                                   |
| <b>Power supply:</b>                  | DC 5V from adapter or DC3.7V built-in battery                                                                             |
| <b>Evaluation applied:</b>            | <input checked="" type="checkbox"/> MPE Evaluation<br><input type="checkbox"/> SAR Evaluation                             |

### 3. Test Requirement:

## RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

| Frequency Range(MHz)                                         | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density(mW/cm <sup>2</sup> ) | Average Time |
|--------------------------------------------------------------|------------------------------|------------------------------|------------------------------------|--------------|
| <b>(A) Limits for Occupational/Control Exposures</b>         |                              |                              |                                    |              |
| <b>300-1500</b>                                              | --                           | --                           | <b>F/300</b>                       | <b>6</b>     |
| <b>1500-100000</b>                                           | --                           | --                           | <b>5</b>                           | <b>6</b>     |
| <b>(B) Limits for General Population/Uncontrol Exposures</b> |                              |                              |                                    |              |
| <b>300-1500</b>                                              | --                           | --                           | <b>F/1500</b>                      | <b>6</b>     |
| <b>1500-100000</b>                                           | --                           | --                           | <b>1</b>                           | <b>30</b>    |

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$ = Power density in mW/cm<sup>2</sup>

$P_{out}$ =output power to antenna in mW

$G$ = Numeric gain of the antenna relative to isotropic antenna

$\pi$ =3.1416

$R$ = distance between observation point and center of the radiator in cm

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## 4. Measurement Result

Antenna gain:

2.4G: 1.37 dBi

| Channel Freq. (MHz) | modulation | conducted power | Tune-up power (dBm) | Max           |        | Antenna |         | Evaluation result | Power density Limits |
|---------------------|------------|-----------------|---------------------|---------------|--------|---------|---------|-------------------|----------------------|
|                     |            | (dBm)           |                     | tune-up power |        | Gain    |         | (mW/cm2 )         | (mW/cm2)             |
|                     |            |                 |                     | (dBm)         | (mW)   | (dBi)   | Numeric |                   |                      |
| 2412                | 11B        | 16.29           | 16±1                | 17            | 50.119 | 1.37    | 1.37    | 0.0137            | 1                    |
| 2437                |            | 15.71           | 16±1                | 17            | 50.119 | 1.37    | 1.37    | 0.0137            | 1                    |
| 2462                |            | 14.46           | 14±1                | 15            | 31.623 | 1.37    | 1.37    | 0.0086            | 1                    |
| 2412                | 11G        | 15.55           | 15±1                | 16            | 39.811 | 1.37    | 1.37    | 0.0109            | 1                    |
| 2437                |            | 14.9            | 15±1                | 16            | 39.811 | 1.37    | 1.37    | 0.0109            | 1                    |
| 2462                |            | 13.6            | 14±1                | 15            | 31.623 | 1.37    | 1.37    | 0.0086            | 1                    |
| 2412                | 11N20SISO  | 14.37           | 14±1                | 15            | 31.623 | 1.37    | 1.37    | 0.0086            | 1                    |
| 2437                |            | 13.72           | 14±1                | 15            | 31.623 | 1.37    | 1.37    | 0.0086            | 1                    |
| 2462                |            | 12.44           | 12±1                | 13            | 19.953 | 1.37    | 1.37    | 0.0054            | 1                    |
| 2422                | 11N40SISO  | 13.26           | 13±1                | 14            | 25.119 | 1.37    | 1.37    | 0.0069            | 1                    |
| 2437                |            | 12.44           | 12±1                | 13            | 19.953 | 1.37    | 1.37    | 0.0054            | 1                    |
| 2452                |            | 11.26           | 11±1                | 12            | 15.849 | 1.37    | 1.37    | 0.0043            | 1                    |

433.9MHz

Antenna gain: -3.0 dBi

| Channel Freq. (MHz) | modulation | Max Field Strength | peak output power (dBm) | Tune-up power (dBm) | Max   |           | Antenna   |          | Evaluation result | Power density Limits |
|---------------------|------------|--------------------|-------------------------|---------------------|-------|-----------|-----------|----------|-------------------|----------------------|
|                     |            | tune-up power      |                         |                     | Gain  |           | (mW/cm2 ) | (mW/cm2) |                   |                      |
|                     |            | (dBuV/m)           |                         |                     | (dBm) | (mW)      |           |          | (dBi)             | Numeric              |
| 433.9               | ASK        | 49.8               | -45.43                  | -45±1               | -44   | 0.0000398 | -3.00     | 0.50     | 0.0000000039694   | 0.2893               |

According to KDB 447498, no stand-alone required for WIFI antenna, and no simultaneous SAR measurement is required.

\*\*\* End of Report \*\*\*