

Bestway (Hong Kong) International Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

S400204,S400205

REPORT NUMBER:

220901729SHA-003

ISSUE DATE:

November 21, 2022

DOCUMENT CONTROL NUMBER:

TTRFFCCMPE-01_V1 © 2018 Intertek



Applicant: Bestway (Hong Kong) International Ltd.
SUITE 713, 7/FLOOR, EAST WING, TSIM SHA TSUI CENTRE, 66 MODY ROAD, KOWLOON, HONG KONG

Manufacturer: Bestway (Hong Kong) International Ltd.
SUITE 713, 7/FLOOR, EAST WING, TSIM SHA TSUI CENTRE, 66 MODY ROAD, KOWLOON, HONG KONG

Factory: Bestway (Nantong) Recreation Corp.
No. 8 Hui Min West Road, Economic Development Zone, Rugao, Jiangsu 226500, P.R. China

FCC ID: 2AS3R-400205

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:



Project Engineer
Damon Ding

REVIEWED BY:



Reviewer
Eric Li

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Revision History

| Report No. | Version | Description | Issued Date |
|------------------|---------|-------------------------|-------------------|
| 220901729SHA-003 | Rev. 01 | Initial issue of report | November 21, 2022 |
| | | | |
| | | | |

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

| | |
|-----------------------|---|
| Product name: | SPA |
| Type/Model: | S400204,S400205 |
| Description of EUT: | EUT is a Wireless SPA with BLE and WIFI functions, There are two models. The two models are the same. We tested all of models and put the worst test data into this report. |
| Rating: | 110-120V~60Hz,12A |
| Category of EUT: | Class B |
| EUT type: | <input type="checkbox"/> Tabletop <input checked="" type="checkbox"/> Floor standing |
| Software Version: | / |
| Hardware Version: | / |
| Sample received date: | October 21, 2022 |
| Date of test: | October 21, 2022~ November 21, 2022 |

1.2 Technical Specification

| | |
|---------------------|---|
| Frequency Band: | 2400MHz ~ 2483.5MHz |
| Support Standards: | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20, IEEE 802.11n-HT40 |
| Type of Modulation: | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n-HT20: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n-HT40: OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Channel Number: | 11 Channels for 802.11b, 802.11g and 802.11n(HT20) 7 Channels for 802.11n(HT40) |
| Channel Separation: | 5 MHz |
| Antenna: | FPC Antenna, 2.0dBi |

| | |
|----------------------|-----------------------------|
| Frequency Band: | 2402MHz to 2480MHz |
| Support Standards: | Bluetooth Low Energy |
| Type of Modulation: | GFSK |
| Channel Number: | 40 |
| Channel Separation: | 2MHz |
| Antenna Information: | FPC Antenna, gain is 2.0dBi |

1.3 Description of Test Facility

| | |
|------------|--|
| Name: | Intertek Testing Services Shanghai |
| Address: | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China |
| Telephone: | 86 21 61278200 |
| Telefax: | 86 21 54262353 |

| | |
|---|--|
| The test facility is recognized, certified, or accredited by these organizations: | CNAS Accreditation Lab Registration No. CNAS L0139 |
| | FCC Accredited Lab Designation Number: CN1175 |
| | IC Registration Lab Registration code No.: 2042B-1 |
| | VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252 |
| | A2LA Accreditation Lab Certificate Number: 3309.02 |

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2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

| Frequency range | E-field strength (V/m) | H-field strength (A/m) | B-field (uT) | Equivalent plane wave power density S_{eq} (W/m ²) |
|-----------------|------------------------|------------------------|---------------------|--|
| 0-1 Hz | - | $3,2 \times 10^4$ | 4×10^4 | - |
| 1-8 Hz | 10 000 | $3,2 \times 10^4/f^2$ | $4 \times 10^4/f^2$ | - |
| 8-25 Hz | 10 000 | 4 000/f | 5 000/f | - |
| 0,025-0,8 kHz | 250/f | 4/f | 5/f | - |
| 0,8-3 kHz | 250/f | 5 | 6,25 | - |
| 3-150 kHz | 87 | 5 | 6,25 | - |
| 0,15-1 MHz | 87 | 0,73/f | 0,92/f | - |
| 1-10 MHz | $87/f^{1/2}$ | 0,73/f | 0,92/f | - |
| 10-400 MHz | 28 | 0,073 | 0,092 | 2 |
| 400-2 000 MHz | $1,375 f^{1/2}$ | $0,0037 f^{1/2}$ | $0,0046 f^{1/2}$ | f/200 |
| 2-300 GHz | 61 | 0,16 | 0,20 | 10 |

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

2.2 Assessment Results

Power density (S) is calculated according to the formula:

$$S = P / (4\pi R^2)$$

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 220901729SHA-001&220901729SHA-002:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

| Mode | Frequency band | Max Power | Antenna Gain | R | S | Limits |
|-----------|----------------|-----------|--------------|------|-----------------------|-----------------------|
| | (MHz) | dBm | dBi | (cm) | (mW/cm ²) | (mW/cm ²) |
| Bluetooth | 2402 -2480 | 0.60 | 2.0 | 20 | 0.0004 | 1 |
| WIFI | 2412-2462 | 17.84 | 2.0 | 20 | 0.0192 | 1 |

Note: 1 mW/cm² from 1.310 Table 1

The sum of the MPE ratios for all simultaneously transmitting is $0.0004/1+0.0192/1=0.020 < 1.0$

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

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Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

***** END *****