

Bestway (Hong Kong) International Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

S100204,
S100205

REPORT NUMBER:

191102629SHA-002

ISSUE DATE:

March 25, 2020

DOCUMENT CONTROL NUMBER:

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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-100205

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:**REVIEWED BY:**

Project Engineer
Eric Li



Reviewer
Daniel Zhao

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Revision History

| Report No. | Version | Description | Issued Date |
|------------------|---------|-------------------------|----------------|
| 191102629SHA-002 | Rev. 01 | Initial issue of report | March 25, 2020 |
| | | | |
| | | | |

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

| | |
|-----------------------|---|
| Product name: | SPA |
| Type/Model: | S100204, S100205 |
| Description of EUT: | EUT is a Wireless SPA with WiFi function, there are two models, both of them are the same except the plug of the power cord, the model of S100204 is for IC, the model of S100205 is for FCC, we test the model of S100205 as representative and list the worst results in this report. |
| Rating: | 100-120v~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: | March 17, 2020 |
| Date of test: | March 18, 2020~ March 24, 2020 |

1.2 Technical Specification

| | |
|----------------------|--|
| Frequency Range: | 2400MHz ~ 2483.5MHz |
| Support Standards: | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20) |
| 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) |
| Channel Number: | 2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20) |
| Data Rate: | 11 Channels for 802.11b, 802.11g and 802.11n(HT20) |
| Channel Separation: | 5 MHz |
| Antenna Information: | PCB 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 |

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 191102629SHA-001:

The maximum radiated power = 15.54dBm = 35.81 mW;

Here R is chosen to be 20cm,

$$S = P / (4\pi R^2) = 35.81 / (4 * 3.14 * 20 * 20) = 0.0071 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

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 *****