

Bestway (Hong Kong) International Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

S200206,
S300206

REPORT NUMBER:

220300150SHA-003

ISSUE DATE:

October 26, 2022

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-200206

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
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Reviewer
Wakeyou Wang

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Revision History

Report No.	Version	Description	Issued Date
220300150SHA-003	Rev. 01	Initial issue of report	October 26, 2022

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	SPA
Type/Model:	S200206, S300206
Description of EUT:	EUT is a Wireless SPA with BLE and WIFI functions, there are two models, both of them are the same except the physical size and filter, we test the model of S300206 as representative and list the worst results in 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:	June 27, 2022
Date of test:	June 28 , 2022~ July 6, 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

TEST REPORT

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 220300150SHA-001&220300150SHA-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,

TEST REPORT

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 *****