

# Bestway Inflatables & Material Corp.

# **MPE ASSESSMENT REPORT**

## **Report Type:**

FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

#### Model:

54185E

#### **REPORT NUMBER:**

190402507SHA-003

### **ISSUE DATE:**

July 1, 2019

#### **DOCUMENT CONTROL NUMBER:**

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Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North) Caohejing Development Zone Shanghai 200233, China

Telephone: 86 21 6127 8200

www.intertek.com

Report no.: 190402507SHA-003

**Applicant:** Bestway Inflatables & Material Corp.

No. 3065 Cao An Road, Shanghai, China

Manufacturer: Bestway Inflatables & Material Corp.

No. 3065 Cao An Road, Shanghai, China

Manufacturing site: Bestway (Nantong) Recreation Corp.

No.8 West Huimin Road, Rugao Economic Development Zone,

Jiangsu, China

Product Name: SPA

Type/Model: 54185E

**FCC ID:** 2ACGN-BW54185

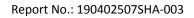
#### **SUMMARY:**

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 DY:	KEVIEWED DY:	
Wade zhang	Doinn	
Project Engineer	Reviewer	
Wade 7hang	Daniel 7hao	

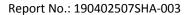
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# **Revision History**

Report No.	Version	Description	Issued Date	
190402507SHA-003	Rev. 01	Initial issue of report	July 1, 2019	





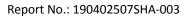
## **1 GENERAL INFORMATION**

# 1.1 Description of Equipment Under Test (EUT)

Product name:	SPA
Type/Model:	54185E
Description of EUT:	The EUT is a SPA which was install a WIFI module.
Rating:	110~120VAC 60Hz, 12A
Software Version:	/
Hardware Version:	/
Sample received date:	May 20, 2019
Date of test:	May 20, 2019 ~ June 28, 2019

## 1.2 Technical Specification

Frequency Range:	2412MHz ~ 2462MHz			
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20, IEEE 802.11n-HT40			
	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)			
Type of Modulation:	IEEE 802.11n-HT40: OFDM (64-QAM, 16-QAM, QPSK, BPSK)			
	11 Channels for 802.11b, 802.11g and 802.11n(HT20)			
Channel Number:	7 Channels for 802.11n(HT40)			
	IEEE 802.11b: Up to 11 Mbps			
	IEEE 802.11g: Up to 54 Mbps			
	IEEE 802.11n-HT20: Up to MCS7			
Data Rate:	IEEE 802.11n-HT40: Up to MCS7			
Channel Separation:	5 MHz			
Antenna:	Internal antenna, 2.0dBi Peak gain			

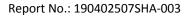




# 1.3 Description of Test Facility

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,	CNAS Accreditation Lab Registration No. CNAS L0139
certified, or accredited by these	FCC Accredited Lab Designation Number: CN1175
organizations:	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02





## 2 MPE Assessment

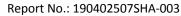
Test result: Pass

## 2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength	H-field strength B-field		Equivalent plane wave	
	(V/m)	(A/m)	(uT)	power density	
				$S_{eq}$ (W/m <sup>2</sup> )	
0-1 Hz	-	$3.2 \times 10^4$	$4 \times 10^{4}$	-	
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 <sup>1/2</sup>	0,73/f	0,92/f	-	
10-400 MHz	28	0,073	0,092	2	
400-2 000 MHz	1,375 f <sup>1/2</sup>	0,0037 f <sup>1/2</sup>	0,0046 f <sup>1/2</sup>	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  $\leq$  1.0





### 2.2 Assessment Results

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

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

Where  $S = power density in mW/cm^2$ 

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

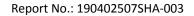
R = distance (cm)

As we can see from the test report 190402507SHA-001:

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.

Frequency band	Ро	Power Antenna Gain		R	S	Limits	
(MHz)	dBm	mW	dBi	(Numeric)	(cm)	(mW/cm²)	(mW/cm²)
2412 - 2462	18.71	74.30	2	1.58	20	0.023	1

Note: 1 mW/cm2 from 1.310 Table 1





## **Appendix I**

To satisfy ECC DE avacture requirements, a congration distance of 20 cm or more should

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.

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