

# Sensen Group Co., Ltd.

## MPE ASSESSMENT REPORT

**Report Type:**

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

**Model:**

CPW-20000, CPW-30000, CPW-50000, CPW-75000

**REPORT NUMBER:**

180100164SHA-002

**ISSUE DATE:**

August 7, 2018

**DOCUMENT CONTROL NUMBER:**

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**Applicant:** Sensen Group Co., Ltd.  
No. 61-79, Baima Road, Maa, Dinghai District, Zhoushan, Zhejiang, China

**Manufacturer:** Sensen Group Co., Ltd.  
No. 61-79, Baima Road, Maa, Dinghai District, Zhoushan, Zhejiang, China

**Manufacturing site:** Sensen Group Co., Ltd.  
No. 61-79, Baima Road, Maa, Dinghai District, Zhoushan, Zhejiang, China

**FCC ID:** 2AP95-CPW

**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:**

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**REVIEWED BY:**

Reviewer  
Daniel Zhao

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## Revision History

Report No.	Version	Description	Issued Date
180100164SHA-002	Rev. 01	Initial issue of report	August 7, 2018

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

Product name:	Water filter
Type/Model:	CPW-20000, CPW-30000, CPW-50000, CPW-75000
Description of EUT:	EUT is a product with WiFi function. EUT has four models, they have the same WiFi module.
Rating:	120V~, 60Hz
EUT type:	<input type="checkbox"/> Table top <input checked="" type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	June 1, 2018
Date of test:	June 1, 2018 ~ July 16, 2018

### 1.2 Technical Specification

Frequency Range:	2400MHz ~ 2483.5MHz
Support Standards:	802.11b, 802.11g, 802.11n(HT20)
Type of Modulation:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n(HT20): OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20)
Data Rate:	802.11b: Up to 11Mbps 802.11g: Up to 54Mbps 802.11n(HT20): Up to MCS7
Channel Separation:	5 MHz

### 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
	NVLAP Accreditation Lab NVLAP LAB CODE: 200849-0
	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 <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	$87/f^{1/2}$	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  $\leq 1.0$**

**TEST REPORT****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<sup>2</sup>

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 180100164SHA-001:

The maximum conducted power = 12.01dBm, antenna gain = -0.8dBi, PG = 11.21dBm = 13.21mW

Here R is chosen to be 20cm,

$$S = PG / (4\pi R^2) = 13.21 / (4 * 3.14 * 20 * 20) = 0.0026 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

## 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 \*\*\*\*\*