# NINGBO FENGSHENG ELECTRONICS CO., LTD.

# MPE ASSESSMENT REPORT

**Report Type:**
FCC MPE assessment report

**Model:**
SY-AP2, SY-AP2C,
SY-AP3, SY-AP3C,
SY-AP4, SY-AP4C

**REPORT NUMBER:**
200601924SHA-002

**ISSUE DATE:**
October 12, 2020

**DOCUMENT CONTROL NUMBER:**
TTRFFCCMPE-01_V1 © 2018 Intertek

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**TEST REPORT**

Report no.: 200601924SHA-002

| | |
|---|---|
| **Applicant:** | NINGBO FENGSHENG ELECTRONICS CO., LTD.<br>No.87, Guangming North Road, Simen Town,Yuyao City, Zhejiang,China. |
| **Manufacturer:** | NINGBO FENGSHENG ELECTRONICS CO., LTD.<br>No.87, Guangming North Road, Simen Town,Yuyao City, Zhejiang,China. |
| **Factory:** | NINGBO FENGSHENG ELECTRONICS CO., LTD.<br>No.87, Guangming North Road, Simen Town,Yuyao City, Zhejiang,China. |
| **FCC ID:** | ZNEAPP-EA |

**SUMMARY:**

| The equipment complies with the requirements according to the following standard(s) or Specification: |
|---|
| KDB447498 D01 General RF Exposure Guidance v06<br>FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b) |

| **PREPARED BY:** | **REVIEWED BY:** |
|---|---|
|  |  |
| Project Engineer<br>Eric Li | Reviewer<br>Daniel Zhao |

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# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| 200601924SHA-002 | Rev. 01 | Initial issue of report | October 12, 2020 |
| | | | |
| | | | |

# 1 GENERAL INFORMATION

## 1.1 Description of Equipment Under Test (EUT)

| | |
|---|---|
| Product name: | Wi-Fi Cord set, Wi-Fi Power Strip |
| Type/Model: | SY-AP2, SY-AP2C,<br>SY-AP3, SY-AP3C,<br>SY-AP4, SY-AP4C |
| Description of EUT: | EUT is a Wireless socket with WiFi function and there are six models. They have the same wireless module and circuit structure. The difference between SY-AP*series and SY-AP*C series is USB output type ("C" is type C). The difference in SY-AP* series is socket number, * is the number of sockets. SY-AP4 can be separate controlled respectively, each socket can be controlled with one key. After pre-scanning, we select the model SY-AP4 as representative and list the worst results in this report. |
| Rating: | SY-AP2, SY-AP2C, 125V 13A 1625W<br>SY-AP3, SY-AP3C, 125V 15A 1625W<br>SY-AP4, SY-AP4C, 125V 15A 1875W |
| Category of EUT: | Class B |
| EUT type: | ☒ Table top ☐ Floor standing |
| Software Version: | / |
| Hardware Version: | / |
| Sample received date: | July 20, 2020 |
| Date of test: | July 23, 2020~ July 29, 2020 |

## 1.2 Technical Specification

| | |
|---|---|
| Frequency Band: | 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)<br>IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)<br>IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Operating Frequency: | 2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20) |
| Channel Number: | 11 Channels for 802.11b, 802.11g and 802.11n(HT20) |
| Channel Separation: | 5 MHz |
| Antenna: | PCB Antenna, gain is 1.7dBi, there is only one antenna. |

## 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<br>Registration No. CNAS L0139 |
| | FCC Accredited Lab<br>Designation Number: CN1175 |
| | IC Registration Lab<br>Registration code No.: 2042B-1 |
| | VCCI Registration Lab<br>Registration No.: R-4243, G-845, C-4723, T-2252 |
| | A2LA Accreditation Lab<br>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 | - | $3,2 \times 10^4$ | $4 \times 10^4$ | - |
| 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 ≤ 1.0**

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## 2.2 Assessment Results

Power density (S) is calculated according to the formula:
$S = P / (4\pi R^2)$
Where S = power density in $mW/cm^2$
P = Radiated transmit power in mW
G = numeric gain of transmit antenna
R = distance (cm)

As we can see from the test report 200601924SHA-001:
The maximum radiated power = 16.64dBm = 46.13mW;
Here R is chosen to be 20cm,

$S = P / (4\pi R^2) = 46.13/ (4 * 3.14 * 20 * 20) = 0.0092\ mW/cm^2 < 1\ mW/cm^2$

# Appendix I

**TEST REPORT**

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 **********