# RF Exposure MPE

| | |
|---|---|
| **Report Reference No.....** : | **CTA25031100203** |
| **FCC ID..... :** | **2A35W-H96MAXPJ-X6** |
| Compiled by ( position+printed name+signature) . : | File administrators Joan Wu |
| Supervised by ( position+printed name+signature) . : | Project Engineer Zoey Cao |
| Approved by ( position+printed name+signature) . : | RF Manager Eric Wang |
| Date of issue ..... : | Mar. 17, 2025 |


| | |
|---|---|
| **Testing Laboratory Name.....:** | **Shenzhen CTA Testing Technology Co., Ltd.** |
| Address.....: | Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China |
| **Applicant's name.....:** | **Shenzhen Haochuangyi Technology Co.,Ltd** |
| Address.....: | 1101, Building 6, Changyi Industrial Plant, No.1 Lirong Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen, China |
| Standard.....: | **47CFR §1.1310**<br>**47CFR §2.1091**<br>**KDB447498 D01 General RF Exposure Guidance v06** |



| | |
|---|---|
| **Test item description .....:** | **H96Max PJ-X6** |
| Manufacturer .....: | Shenzhen Haochuangyi Technology Co.,Ltd |
| Trade Mark ..... | N/A |
| Model/Type reference .....: | H96 Max |
| Rating .....: | AC 100-240V, 50/60Hz |
| Result .....: | **PASS** |

# TEST REPORT

| | | |
|---|---|---|
| Equipment under Test | : | H96Max PJ-X6 |
| Model /Type | : | H96Max PJ-X6 |
| Listed Models | : | N/A |
| **Applicant** | : | **Shenzhen Haochuangyi Technology Co.,Ltd** |
| Address | : | 1101, Building 6, Changyi Industrial Plant, No.1 Lirong Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen, China |
| **Manufacturer** | : | **Shenzhen Haochuangyi Technology Co.,Ltd** |
| Address | : | 1101, Building 6, Changyi Industrial Plant, No.1 Lirong Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen, China |

| | |
|---|---|
| **Test Result**: | **PASS** |

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

# Contents

# 1 TEST STANDARDS

The tests were performed according to following standards:

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
FCC KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures.
FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.
FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices

# 2 SUMMARY

## 2.1 General Remarks

| | | |
|---|---|---|
| Date of receipt of test sample | : | Mar. 11, 2025 |
| | | |
| Testing commenced on | : | Mar. 11, 2025 |
| | | |
| Testing concluded on | : | Mar. 17, 2025 |

## 2.2 Product Description

| | |
|---|---|
| Product Name: | H96Max PJ-X6 |
| Model/Type reference: | H96Max PJ-X6 |
| Power supply: | AC 100-240V, 50/60Hz |
| Testing sample ID: | CTA250311002-1# (Engineer sample)<br>CTA250311002-2# (Normal sample) |
| Hardware version: | V1.0 |
| Software version: | V1.0 |
| **Bluetooth :** | |
| Supported Type: | Bluetooth BR/EDR |
| Modulation: | GFSK, π/4DQPSK, 8DPSK |
| Operation frequency: | 2402MHz~2480MHz |
| Channel number: | 79 |
| Channel separation: | 1MHz |
| Antenna type: | PIFA antenna |
| Antenna gain: | 2.16 dBi |
| **2.4GWIFI :** | |
| Supported type: | 802.11b/802.11g/802.11n(H20)/ 802.11n(H40)/802.11ax(H20)/ 802.11ax(H40) |
| Modulation: | 802.11b: DSSS<br>802.11g/802.11n(H20)/ 802.11n(H40)/802.11ax(H20)/ 802.11ax(H40): OFDM |
| Operation frequency: | 802.11b/802.11g/802.11n(H20)/802.11ax(H20): 2412MHz~2462MHz<br>802.11n(H40)/802.11ax(H40): 2422MHz~2452MHz |
| Channel number: | 802.11b/802.11g/802.11n(H20)/802.11ax(H20): 11<br>802.11n(H40)/802.11ax(H40):7 |
| Channel separation: | 5MHz |
| Antenna type: | PIFA antenna |
| Antenna gain: | 2.16 dBi |

## 2.3 Special Accessories

The following is the EUT test of the auxiliary equipment provided by the laboratory:

| Description | Manufacturer | Model | Technical Parameters | Certificate | Provided by |
|---|---|---|---|---|---|
| / | / | / | / | / | / |

## 2.4 Modifications

No modifications were implemented to meet testing criteria.

# 3 TEST ENVIRONMENT

## 3.1 Address of the test laboratory

**Shenzhen CTA Testing Technology Co., Ltd.**
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,
Fuhai Street, Bao'an District, Shenzhen, China

## 3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
**FCC-Registration No.: 517856 Designation Number: CN1318**

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**A2LA-Lab Cert. No.: 6534.01**
Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.
The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

## 3.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

| Test | Range | Measurement Uncertainty | Notes |
|---|---|---|---|
| Radiated Emission | 9KHz~30MHz | 3.02 dB | (1) |
| Radiated Emission | 30~1000MHz | 4.06 dB | (1) |
| Radiated Emission | 1~18GHz | 5.14 dB | (1) |
| Radiated Emission | 18-40GHz | 5.38 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 2.14 dB | (1) |
| Output Peak power | 30MHz~18GHz | 0.55 dB | (1) |
| Power spectral density | / | 0.57 dB | (1) |
| Spectrum bandwidth | / | 1.1% | (1) |
| Radiated spurious emission (30MHz-1GHz) | 30~1000MHz | 4.10 dB | (1) |
| Radiated spurious emission (1GHz-18GHz) | 1~18GHz | 4.32 dB | (1) |
| Radiated spurious emission (18GHz-40GHz) | 18-40GHz | 5.54 dB | (1) |

# 4 Test limit

## 4.1 Requirement

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density ($mW/cm^2$) | Averaging Time (minute) |
|---|---|---|---|---|
| Limits for Occupational/Controlled Exposure | | | | |
| 0.3 – 3.0 | 614 | 1.63 | (100) * | 6 |
| 3.0 – 30 | 1842/f | 4.89/f | ($900/f^2$)* | 6 |
| 30 – 300 | 61.4 | 0.163 | 1.0 | 6 |
| 300 – 1500 | / | / | f/300 | 6 |
| 1500 – 100,000 | / | / | 5 | 6 |

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density ($mW/cm^2$) | Averaging Time (minute) |
|---|---|---|---|---|
| Limits for Occupational/Controlled Exposure | | | | |
| 0.3 – 3.0 | 614 | 1.63 | (100) * | 30 |
| 3.0 – 30 | 824/f | 2.19/f | ($180/f^2$)* | 30 |
| 30 – 300 | 27.5 | 0.073 | 0.2 | 30 |
| 300 – 1500 | / | / | f/1500 | 30 |
| 1500 – 100,000 | / | / | 1.0 | 30 |

F=frequency in MHz
*=Plane-wave equivalent power density

## 4.2 MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

**$S=PG/4\pi R^2$**
Where: S=power density
P=power input to antenna
G=power gain of the antenna in the direction of interest relative to an isotropic radiator
R=distance to the center of radiation of the antenna

## 4.3 Conducted Power Results

| Type | Channel | Output power (dBm) |
|---|---|---|
| GFSK | 00 | -1.97 |
| | 39 | -2.58 |
| | 78 | -3.05 |
| π/4DQPSK | 00 | -2.85 |
| | 39 | -3.47 |
| | 78 | -3.89 |
| 8DPSK | 00 | -2.86 |
| | 39 | -3.41 |
| | 78 | -3.87 |

| Type | Channel | Output power PK (dBm) |
|---|---|---|
| 802.11b | 01 | 14.38 |
| | 06 | 13.10 |
| | 11 | 13.75 |
| 802.11g | 01 | 12.46 |
| | 06 | 12.78 |
| | 11 | 12.49 |
| 802.11n(HT20) | 01 | 12.94 |
| | 06 | 12.49 |
| | 11 | 12.27 |
| 802.11n(HT40) | 03 | 12.20 |
| | 06 | 11.90 |
| | 09 | 13.10 |
| 802.11ax(HT20) | 01 | 12.71 |
| | 06 | 12.68 |
| | 11 | 12.37 |
| 802.11ax(HT40) | 03 | 12.12 |
| | 06 | 11.90 |
| | 09 | 13.14 |

## 4.4 Manufacturing tolerance

| Mode | Max. Peak Conducted Output Power (dBm) | Max. tune-up |
|---|---|---|
| BT | -1.97 | -1.0±1 |
| 2.4GWIFI | 14.38 | 14.0±1 |

## 4.5 Standalone MPE Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is refer to section 2.2, the RF power density can be obtained.

| Modulation Type | Output power | | Antenna Gain (dBi) | Antenna Gain (linear) | MPE ($mW/cm^2$) | MPE Limits ($mW/cm^2$) |
|---|---|---|---|---|---|---|
| | dBm | mW | | | | |
| BT | 0.0 | 1.0000 | 2.16 | 1.6444 | 0.0003 | 1.0000 |
| 2.4GWIFI | 15.0 | 31.6228 | 2.16 | 1.6444 | 0.0104 | 1.0000 |

*Remark:*
*1. Output power (Peak) including turn-up tolerance;*
*2. MPE evaluate distance is 20cm from user manual provide by manufacturer.*
*3. BT and WLAN can be active at the same time, but only with interleaving of packages switched on board level. That means that they cannot transmit at the same time.*

## 4.6 Simultaneous Transmission for MPE Result

N/A

# 5 Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device Threshold per KDB 447498 D01v06

********** End of Report **********