# MPE Test Report

| | |
|---|---|
| **Report No.:** | OKA-ESH-P21050486B-4 |
| **FCC ID:** | 2AYF8-YBEA10A |
| **Product:** | Electric Scooter |
| **Model:** | EA10A |
| **Received Date:** | May.25, 2021 |
| **Test Date:** | May.25 to Jul.11.2021 |
| **Issued Date:** | Jul.12.2021 |
| **Applicant:** | Zhejiang Okai Vehicle Co., Ltd. |
| **Address:** | No. 9, Xinxing Road, Xinbi Town, Jinyun County, Zhejiang, China |
| **Manufacturer:** | Zhejiang Okai Vehicle Co., Ltd. |
| **Address:** | No. 9, Xinxing Road, Xinbi Town, Jinyun County, Zhejiang, China |
| **Issued By:** | BUREAU VERITAS ADT (Shanghai) Corporation |
| **Lab Address:** | No. 829, Xinzhuan Road, Shanghai, P.R.China (201612) |

ACCREDITED
Test Lab
Cert 2343.01

## Table of Contents

**Release Control Record**

| Issue No. | Description | Date Issued |
|---|---|---|
| OKA-ESH-P21050486B-4 | Original release | Jul.12, 2021 |

## 1 Certificate of Conformity

**Product:** Electric Scooter

**Brand:** OKAI

**Model:** EA10A

**Applicant:** Zhejiang Okai Vehicle Co., Ltd.

**Test Date:** May.25 to Jul.11.2021

**Standards:** **FCC Part 2 (Section 2.1091)**
**KDB 447498 D01 General RF Exposure Guidance v06**
**IEEE C95.1-1992**

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** Yuan Zhang , **Date:** Jul.12.2021

Yuan ZHANG

Project Engineer

**Approved by :** , **Date:** Jul.12.2021

Daniel SUN

EMC Lab Manager

# 2 General Information

## 2.1 General Description of EUT

**BLE**

| | |
|---|---|
| Product | Electric Scooter |
| Brand | OKAI |
| Test Model | EA10A |
| Power Rating | Powered by battery;<br>AC Adaptor for battery:<br>INPUT: 100-240Vac,50/60Hz 2A<br>OUTPUT: 42Vdc,2A |
| Modulation Type | GFSK |
| Modulation Technology | Bluetooth Low Energy 4.2&5.0 |
| Operating Frequency | 2402MHz ~ 2480MHz |
| Number of Channel | 40 |
| Antenna Type | PCB Antenna |
| Antenna Connector | -- |
| Antenna Gain | Ant:3.32dBi |

Note:

1. For more details, please refer to the User's manual of the EUT.

## NFC

| | |
|---|---|
| Product | Electric Scooter |
| Brand | OKAI |
| Test Model | EA10A |
| Power Rating | Powered by battery;<br>AC Adaptor for battery:<br>INPUT: 100-240Vac,50/60Hz 2A<br>OUTPUT: 42Vdc,2A |
| Modulation Type | ASK |
| Modulation Technology | NFC |
| Operating Frequency | 13.56MHz |
| Number of Channel | 1 |
| Antenna Type | Coil Antenna |
| Antenna Connector | -- |

Note:

1. For more details, please refer to the User's manual of the EUT.

# 3 RF Exposure

## 3.1 Limits For Maximum Permissible Exposure (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density ($mW/cm^2$) | Average Time (minutes) |
|---|---|---|---|---|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 300-1,500 | - | - | F/1500 | 30 |
| 1,500-100,000 | - | - | 1.0 | 30 |

F = Frequency in MHz

## 3.2 MPE Calculation Formula

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

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

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

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

## 3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as Mobile Device.

## 3.4 Calculation Result of Maximum Permissible Exposure

| Frequency Band (MHz) | Max. Conducted output power(dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 2402-2480 | 2.68 | 3.32 | 20 | 0.000792411 | 1 |

**Conclusion:**

**The calculation result of MPE is less than the limit.**

**--- END ---**