

TEST REPORT

FCC ID.	2A9LJ-CIAO
Test Report No.	TCT240619E046
Date of issue	Oct. 09, 2024
Testing laboratory	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name	Meferi Technologies Co., Ltd.
Address	4F, A6, Tianfu Software Park, No. 1129, Century City Road, High-tech Zone, 610041, Chengdu, Sichuan, 610041 China
Manufacturer's name ...	Meferi Technologies Co., Ltd.
Address	4F, A6, Tianfu Software Park, No. 1129, Century City Road, High-tech Zone, 610041, Chengdu, Sichuan, 610041 China
Standard(s)	KDB 447498 D01 General RF Exposure Guidance v06
Product Name	INTELLIGENT SHOPPER ASSISTANT
Trade Mark	MEFERI
Model/Type reference	CIAO, MS35, MS35P, MS35T, MS35H, MS35L, MS35S, CIAO plus
Rating(s)	Refer to EUT description of page 3
Date of receipt of test item	Jun. 19, 2024
Date (s) of performance of test	Jun. 19, 2024 ~ Oct. 09, 2024
Tested by (+signature) ...	Aaron MO
Check by (+signature)	Beryl ZHAO
Approved by (+signature):	Tomsin

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1. General Product Information

1.1. EUT description

Product Name.....:	INTELLIGENT SHOPPER ASSISTANT
Model/Type reference.....:	CIAO
Sample Number.....:	TCT240619E003-0101
Operation Frequency	For BT/BLE: 2402MHz~2480MHz For NFC: 13.56MHz
Modulation Type.....:	For BT: GFSK, $\pi/4$ -DQPSK, 8DPSK For BLE: GFSK
Antenna Type.....:	FPC Antenna
Antenna Gain.....:	For BT/BLE: 1.37dBi For NFC: 0dBi
Rating(s).....:	Adapter Information: Model: HJ-12010000 Input: AC 100-240V, 50/60Hz, 2.0A Output: DC 12.0V, 10.0A 120.0W Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	CIAO	☒
Other models	MS35, MS35P, MS35T, MS35H, MS35L, MS35S, CIAO plus	☐

Note: CIAO is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of CIAO can represent the remaining models.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	DC 3.7V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Innovation, Science and Economic Development Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Test Results and Measurement Data

According to KDB 447498 D01 General RF Exposure Guidance v06, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidance.

The 1-g SAR test exclusion thresholds:

- a) For 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR, where
- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation
 - When the minimum test separation distance is < 5 mm, a distance of 5 mm according is applied to determine SAR test exclusion.
 - The result is rounded to one decimal place for comparison
- b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g test exclusion thresholds are determined by the following (also illustrated in Appendix B):
- 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f_{(\text{MHz})}/150)]\}$ mW, for 100 MHz to 1500 MHz
 - 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz
- c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):
- 1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f_{(\text{MHz})})]$
 - 2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$

• BDR+EDR:

Channel	Frequency (GHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 00	2.402	6.29	5.5±1	6.5	4.47	5	1.38	3.0

• BLE(1M):

Channel	Frequency (GHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 00	2.402	6.06	5.5±1	6.5	4.47	5	1.38	3.0

• BLE(2M):

Channel	Frequency (GHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 19	2.440	6.24	5.5±1	6.5	4.47	5	1.40	3.0

• NFC:

Frequency (MHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	SAR Exclusion threshold per 4.3.1 c)2) in mW
13.56	-49.48	-50±1	-49	0.00001	5	442.97

Note: $E[\text{dB}\mu\text{V/m}] = 51.75$

computational formula

$\text{EIRP}[\text{dBm}] = E[\text{dB}\mu\text{V/m}] + 20 \log(d[\text{m}]) - 104.77;$

Conducted Power = EIRP-6

Result:

Base on the calculation value, No SAR measurement is required.

*******END OF REPORT*******