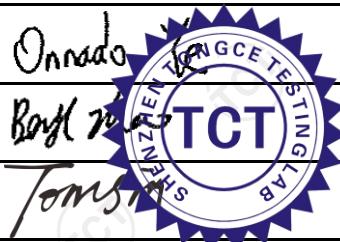


TEST REPORT

| | |
|--|---|
| FCC ID. | 2BMBU-NODEX100 |
| Test Report No. | TCT241118E045 |
| Date of issue | Dec. 12, 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 | HELIOQ INC. |
| Address | 254 Chapman Rd, Ste 208 #20159, Newark, DELAWARE 19702 |
| Manufacturer's name | HELIOQ INC. |
| Address | 254 Chapman Rd, Ste 208 #20159, Newark, DELAWARE 19702 |
| Standard(s) | FCC CFR Title 47 Part 1.1307 |
| Product Name | Helioq NodeX Computing Server |
| Trade Mark | N/A |
| Model/Type reference | NodeX 100, NodeX 200, NodeX 300, S-DA004 |
| Rating(s) | Adapter Information: MODEL: CS-1204000 INPUT: AC 100-240V, 50/60Hz, 2A Max. OUTPUT: DC 12.0V, 4.0A, 48.0W |
| Date of receipt of test item | Nov. 18, 2024 |
| Date (s) of performance of test | Nov. 18, 2024 ~ Dec. 12, 2024 |
| Tested by (+signature) | Onnado YE |
| Check by (+signature) | Beryl ZHAO |
| Approved by (+signature) : | Tomsin |



General disclaimer:

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1. General Product Information

1.1. EUT description

| | |
|-----------------------------------|--|
| Product Name | Helioq NodeX Computing Server |
| Model/Type reference | NodeX 100 |
| Sample Number | TCT241118E026-0101 |
| Operation Frequency | For BT/BLE: 2402MHz~2480MHz For 2.4G WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)/802.11ax(HE20)) 2422MHz~2452MHz (802.11n(HT40)/802.11ax(HE40)) For 5G WIFI: Band 1: 5180 MHz ~ 5240 MHz Band 3: 5745 MHz ~ 5825 MHz |
| Modulation Type | For BT: GFSK, π/4-DQPSK, 8DPSK For BLE: GFSK For 2.4G WIFI: 802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n: Orthogonal Frequency Division Multiplexing(OFDM) For 5G WIFI: 256QAM, 64QAM, 16QAM, BPSK, QPSK |
| Antenna Type | FPC Antenna |
| Antenna Gain | For BT/BLE: 3.53dBi For 2.4G WIFI: Antenna 1: 3.53dBi Antenna 2: 3.05dBi For 5G WIFI: Band 1: Antenna 1: 3.03dBi, Antenna 2: 2.57dBi Band 3: Antenna 1: 3.11dBi, Antenna 2: 2.48dBi |
| Rating(s) | Adapter Information: MODEL: CS-1204000 INPUT: AC 100-240V, 50/60Hz, 2A Max. OUTPUT: DC 12.0V, 4.0A, 48.0W |

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 | NodeX 100 | <input checked="" type="checkbox"/> |
| Other models | NodeX 200, NodeX 300, S-DA004 | <input type="checkbox"/> |

Note: NodeX 100 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names, solid state drive capacity and appearance color. So the test data of NodeX 100 can represent the remaining models.

2. General Information

2.1. Test environment and mode

| | | |
|-----------------------|---|--|
| Item | Normal condition | |
| Temperature | +25°C | |
| Voltage | AC 120V | |
| Humidity | 56% | |
| Atmospheric Pressure: | 1008 mbar | |
| Test Mode: | | |
| Transmitting 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 §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Remark: 1)

SISO mode:

For BT: The maximum output power for antenna is 8.96dBm (7.87mW) at 2441MHz, 3.53dBi antenna gain(with 2.25 numeric antenna gain.)

For BLE: The maximum output power for antenna is -1.78dBm (0.66mW) at 2440MHz, 3.53dBi antenna gain(with 2.25 numeric antenna gain.)

For 2.4G WIFI: The maximum output power for antenna is 13.58dBm (22.80mW) at 2452MHz, 3.53dBi antenna gain(with 2.25 numeric antenna gain.)

For 5G WIFI: The maximum output power for antenna is 15.29dBm (33.81mW) at 5795MHz, 3.11dBi antenna gain(with 2.05 numeric antenna gain.)

MIMO mode:

For 2.4G WIFI: The maximum output power is in 802.11n(HT40) mode at 2452MHz, for total power is 16.15dBm (41.21mW), 3.53dBi antenna gain(with 2.25 numeric antenna gain)

For 5G WIFI: The maximum output power is in 802.11ac(VHT40) mode at 5795MHz, for total power is 17.46dBm (55.72mW), 3.11dBi antenna gain(with 2.05 numeric antenna gain)

- 2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where $E = \text{Field Strength in Volts / meter}$

$P = \text{Power in Watts}$

$G = \text{Numeric antenna gain}$

$d = \text{Distance in meters}$

$S = \text{Power Density in milliwatts / square centimeter}$

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields: $S=0.000199 \times P \times G$

SISO mode:

| Mode | Power(mW) | numeric antenna gain | Power density (mW/cm ²) | Limit (mW/cm ²) | Result |
|-----------|-----------|----------------------|-------------------------------------|-----------------------------|--------|
| BT | 7.87 | 2.25 | 0.003524 | 1.0 | PASS |
| BLE | 0.66 | 2.25 | 0.000296 | | |
| 2.4G WIFI | 22.80 | 2.25 | 0.010209 | | |
| 5G WIFI | 33.81 | 2.05 | 0.013793 | | |

MIMO mode:

| Maximum Emissions Level | | | | | |
|-------------------------|-----------|----------------------|-------------------------------------|-----------------------------|--------|
| Mode | Power(mW) | numeric antenna gain | Power density (mW/cm ²) | Limit (mW/cm ²) | Result |
| 2.4G WIFI | 41.21 | 2.25 | 0.018452 | 1.0 | PASS |
| 5G WIFI | 55.72 | 2.05 | 0.022731 | | |

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