

# RF EXPOSURE REPORT

Report No.: DDT-B21081103-1E02

|                             |   |                                                                                      |
|-----------------------------|---|--------------------------------------------------------------------------------------|
| <b>Applicant</b>            | : | Beijing Orion Star Technology Co., Ltd.                                              |
| <b>Applicant Address</b>    | : | Room A-2570, 2nd Floor, No. 30, Shixing Street, Shijingshan District, Beijing China. |
| <b>Equipment Under Test</b> | : | AI Delivery Robot                                                                    |
| <b>Model No.</b>            | : | OS-R-DR01                                                                            |
| <b>Trade Mark</b>           | : | ORIONSTAR                                                                            |
| <b>FCC ID</b>               | : | 2A3BD-OSRDR01                                                                        |
| <b>Manufacturer</b>         | : | Beijing Orion Star Technology Co., Ltd.                                              |
| <b>Manufacturer Address</b> | : | Room A-2570, 2nd Floor, No. 30, Shixing Street, Shijingshan District, Beijing China. |

Issued By: Tianjin Dongdian Testing Service Co., Ltd.

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# REPORT

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## Test Report Declare

|                             |   |                                                                                      |
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| <b>Applicant</b>            | : | Beijing Orion Star Technology Co., Ltd.                                              |
| <b>Address</b>              | : | Room A-2570, 2nd Floor, No. 30, Shixing Street, Shijingshan District, Beijing China. |
| <b>Equipment under Test</b> | : | AI Delivery Robot                                                                    |
| <b>Model No.</b>            | : | OS-R-DR01                                                                            |
| <b>Trade Mark</b>           | : | ORIONSTAR                                                                            |
| <b>Manufacturer</b>         | : | Beijing Orion Star Technology Co., Ltd.                                              |
| <b>Address</b>              | : | Room A-2570, 2nd Floor, No. 30, Shixing Street, Shijingshan District, Beijing China. |

**Standard Used:**

KDB447498 D01 General RF Exposure Guidance v06

**We Declare:**

The equipment described above is tested by Tianjin Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided **test compliance** with the requirement of the above FCC standards.

|                         |                    |                      |                               |
|-------------------------|--------------------|----------------------|-------------------------------|
| <b>Report No:</b>       | DDT-B21081103-1E02 |                      |                               |
| <b>Date of Receipt:</b> | Sep. 13, 2021      | <b>Date of Test:</b> | Sep. 13, 2021 ~ Oct. 15, 2021 |

**Prepared By:**

Leon Li

**Leon Li/Engineer****Approved By:**

Aaron Zhang

**Aaron Zhang/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

## Revision History

| Rev. | Revisions     | Issue Date    | Revised By |
|------|---------------|---------------|------------|
| ---  | Initial issue | Oct. 15, 2021 |            |
|      |               |               |            |

## 1. General information

### 1.1. Description of Equipment

|                  |                                                                     |                                                  |           |           |                             |     |   |    |     |     |
|------------------|---------------------------------------------------------------------|--------------------------------------------------|-----------|-----------|-----------------------------|-----|---|----|-----|-----|
| EUT Description  | AI Delivery Robot                                                   |                                                  |           |           |                             |     |   |    |     |     |
| Model Number     | OS-R-DR01                                                           |                                                  |           |           |                             |     |   |    |     |     |
| Trade Mark       | ORIONSTAR                                                           |                                                  |           |           |                             |     |   |    |     |     |
| IMEI             | 860195052149025                                                     |                                                  |           |           |                             |     |   |    |     |     |
| Serial Number    | Radiation: K02ECNC0AA021822728A<br>Conduction: K02ECNC0AA021822Q24C |                                                  |           |           |                             |     |   |    |     |     |
| Hardware Version | OS-R-DR01S                                                          |                                                  |           |           |                             |     |   |    |     |     |
| Software Version | Orionstar 6.17                                                      |                                                  |           |           |                             |     |   |    |     |     |
| Frequency band   | UMTS                                                                | Tx (MHz)                                         |           | Rx (MHz)  | Supported Channel Bandwidth |     |   |    |     |     |
|                  | Band II                                                             | 1850-1910                                        |           | 1930-1990 | 5MHz                        |     |   |    |     |     |
|                  | Band IV                                                             | 1710-1755                                        |           | 2110-2155 | 5MHz                        |     |   |    |     |     |
|                  | Band V                                                              | 824-849                                          |           | 869-894   | 5MHz                        |     |   |    |     |     |
|                  | E-UTRA                                                              | Duplex Mode                                      | Tx (MHz)  | Rx (MHz)  | Supported Channel Bandwidth |     |   |    |     |     |
|                  |                                                                     |                                                  |           |           | 1.4                         | 3   | 5 | 10 | 15  | 20  |
|                  | Band 2                                                              | FDD                                              | 1850-1910 | 1930-1990 | ☑                           | ☑   | ☑ | ☑  | ☑   | ☑   |
|                  | Band 4                                                              | FDD                                              | 1710-1755 | 2110-2155 | ☑                           | ☑   | ☑ | ☑  | ☑   | ☑   |
|                  | Band 5                                                              | FDD                                              | 824-849   | 869-894   | ☑                           | ☑   | ☑ | ☑  | --- | --- |
|                  | Band 7                                                              | FDD                                              | 2500-2570 | 2620-2690 | ---                         | --- | ☑ | ☑  | ☑   | ☑   |
|                  | Band 12                                                             | FDD                                              | 699-716   | 729-746   | ☑                           | ☑   | ☑ | ☑  | --- | --- |
|                  | Band 13                                                             | FDD                                              | 777-787   | 746-756   | ---                         | --- | ☑ | ☑  | --- | --- |
|                  | Band 25                                                             | FDD                                              | 1850-1915 | 1930-1995 | ☑                           | ☑   | ☑ | ☑  | ☑   | ☑   |
|                  | Band 26                                                             | FDD                                              | 814-849   | 859-894   | ☑                           | ☑   | ☑ | ☑  | ☑   | --- |
|                  | Band 38                                                             | TDD                                              | 2570-2620 | 2570-2620 | ---                         | --- | ☑ | ☑  | ☑   | ☑   |
|                  | Band 41                                                             | TDD                                              | 2496-2690 | 2496-2690 | ---                         | --- | ☑ | ☑  | ☑   | ☑   |
|                  | WLAN_1 2.4G                                                         | Frequency (MHz)                                  |           |           | Supported Channel Bandwidth |     |   |    |     |     |
|                  | IEEE 802.11b                                                        | 2412-2462                                        |           |           | 20MHz                       |     |   |    |     |     |
|                  | IEEE 802.11g                                                        | 2412-2462                                        |           |           | 20MHz                       |     |   |    |     |     |
|                  | IEEE 802.11n-HT20                                                   | 2412-2462                                        |           |           | 20MHz                       |     |   |    |     |     |
|                  | IEEE 802.11n-HT40                                                   | 2422-2452                                        |           |           | 40MHz                       |     |   |    |     |     |
|                  | WLAN_1 5G                                                           | Frequency (MHz)                                  |           |           | Supported Channel Bandwidth |     |   |    |     |     |
|                  | IEEE 802.11a                                                        | 5180-5240<br>5260-5320<br>5500-5700<br>5745-5825 |           |           | 20MHz                       |     |   |    |     |     |
|                  | IEEE 802.11n-HT20                                                   | 5180-5240<br>5260-5320<br>5500-5700<br>5745-5825 |           |           | 20MHz                       |     |   |    |     |     |
|                  | IEEE 802.11n-HT40                                                   | 5190-5230<br>5270-5310<br>5510-5670<br>5755-5795 |           |           | 40MHz                       |     |   |    |     |     |
|                  | IEEE 802.11ac-HT20                                                  | 5180-5240<br>5260-5320<br>5500-5700<br>5745-5825 |           |           | 20MHz                       |     |   |    |     |     |

|                     |   |                                                                                                      |                                                                                                                                                                      |          |                             |      |
|---------------------|---|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------|------|
|                     | : | IEEE 802.11ac-HT40                                                                                   | 5190-5230<br>5270-5310<br>5510-5670<br>5755-5795                                                                                                                     |          | 40MHz                       |      |
|                     | : | IEEE 802.11ac-HT80                                                                                   | 5210<br>5290<br>5530<br>5775                                                                                                                                         |          | 80MHz                       |      |
|                     | : | WLAN_2 2.4G                                                                                          | Frequency (MHz)                                                                                                                                                      |          | Supported Channel Bandwidth |      |
|                     | : | IEEE 802.11b                                                                                         | 2412-2462                                                                                                                                                            |          | 20MHz                       |      |
|                     | : | IEEE 802.11g                                                                                         | 2412-2462                                                                                                                                                            |          | 20MHz                       |      |
|                     | : | IEEE 802.11n-HT20                                                                                    | 2412-2462                                                                                                                                                            |          | 20MHz                       |      |
|                     | : | IEEE 802.11n-HT40                                                                                    | 2422-2452                                                                                                                                                            |          | 40MHz                       |      |
| UMTS Release        | : | Release 8                                                                                            |                                                                                                                                                                      |          |                             |      |
| UMTS Power class    | : | Class 3                                                                                              |                                                                                                                                                                      |          |                             |      |
| E-UTRA Release      | : | Release 10                                                                                           |                                                                                                                                                                      |          |                             |      |
| E-UTRA UE Category  | : | Category 4                                                                                           |                                                                                                                                                                      |          |                             |      |
| Type of modulation  | : | UMTS                                                                                                 | WCDMA:<br>UL: BPSK<br>DL: QPSK                                                                                                                                       |          |                             |      |
|                     | : | E-UTRA                                                                                               | UL: QPSK&16QAM<br>DL: QPSK&16QAM                                                                                                                                     |          |                             |      |
|                     | : | IEEE 802.11b                                                                                         | DSSS (CCK, DQPSK, DBPSK)                                                                                                                                             |          |                             |      |
|                     | : | IEEE 802.11g                                                                                         | OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                                                                                      |          |                             |      |
|                     | : | IEEE 802.11n<br>HT20, HT40                                                                           | OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                                                                                      |          |                             |      |
|                     | : | IEEE 802.11a                                                                                         | OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                                                                                      |          |                             |      |
|                     | : | IEEE 802.11ac<br>HT20, HT40, HT80                                                                    | OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)                                                                                                                              |          |                             |      |
| Smart Condition     | : | WCDMA                                                                                                | <input checked="" type="checkbox"/> SISO <input type="checkbox"/> MIMO <input type="checkbox"/> Diversity                                                            |          |                             |      |
|                     | : | E-UTRA                                                                                               | <input checked="" type="checkbox"/> SISO <input type="checkbox"/> MIMO <input type="checkbox"/> Diversity                                                            |          |                             |      |
|                     | : | WLAN_1 2.4G                                                                                          | <input checked="" type="checkbox"/> SISO (802.11b/g/n)<br><input checked="" type="checkbox"/> MIMO (802.11n)<br><input type="checkbox"/> Diversity (802.11b/g/n)     |          |                             |      |
|                     | : | WLAN_1 5G                                                                                            | <input checked="" type="checkbox"/> SISO (802.11a/n/ac)<br><input checked="" type="checkbox"/> MIMO (802.11n/ac)<br><input type="checkbox"/> Diversity(802.11a/n/ac) |          |                             |      |
|                     | : | WLAN_2 2.4G                                                                                          | <input checked="" type="checkbox"/> SISO (802.11b/g/n)<br><input type="checkbox"/> MIMO (802.11n)<br><input type="checkbox"/> Diversity (802.11b/g/n)                |          |                             |      |
| Antenna Type        | : | WCDMA & E-UTRA & WLAN_1: Fixed Internal Dedicated FPCB Antenna<br>WLAN_2: Fixed Internal ROD Antenna |                                                                                                                                                                      |          |                             |      |
| Antenna Information | : | Mode                                                                                                 | Band                                                                                                                                                                 | Antenna1 | Antenna2                    | MIMO |
|                     | : | WCDMA                                                                                                | Band II                                                                                                                                                              | 3.79dBi  | N/A                         | N/A  |
|                     |   |                                                                                                      | Band IV                                                                                                                                                              | 4.13dBi  | N/A                         | N/A  |
|                     |   |                                                                                                      | Band V                                                                                                                                                               | -1.51dBi | N/A                         | N/A  |
|                     | : | E-UTRA                                                                                               | LTE Band2                                                                                                                                                            | 3.79dBi  | N/A                         | N/A  |
|                     |   |                                                                                                      | LTE Band 4                                                                                                                                                           | 4.13dBi  | N/A                         | N/A  |
|                     |   |                                                                                                      | LTE Band 5                                                                                                                                                           | -1.51dBi | N/A                         | N/A  |
|                     |   |                                                                                                      | LTE Band 7                                                                                                                                                           | 4.32dBi  | N/A                         | N/A  |
|                     |   |                                                                                                      | LTE Band 12                                                                                                                                                          | 1.11dBi  | N/A                         | N/A  |
| LTE Band 13         |   |                                                                                                      | 1.11dBi                                                                                                                                                              | N/A      | N/A                         |      |

|              |                  |                                |          |         |         |
|--------------|------------------|--------------------------------|----------|---------|---------|
|              |                  | LTE Band 25                    | 3.76dBi  | N/A     | N/A     |
|              |                  | LTE Band 26                    | -1.51dBi | N/A     | N/A     |
|              |                  | LTE Band 38                    | 4.32dBi  | N/A     | N/A     |
|              |                  | LTE Band 41                    | 4.32dBi  | N/A     | N/A     |
|              | WLAN_1 2.4G      | IEEE 802.11b                   | 1.32dBi  | 0.37dBi | N/A     |
|              |                  | IEEE 802.11g                   | 1.32dBi  | 0.37dBi | N/A     |
|              |                  | IEEE 802.11n HT20, HT40        | 1.32dBi  | 0.37dBi | 3.88dBi |
|              | WLAN_1 5G        | IEEE 802.11a                   | 2.88dBi  | 1.55dBi | N/A     |
|              |                  | IEEE 802.11n HT20, HT40        | 2.88dBi  | 1.55dBi | 5.28dBi |
|              |                  | IEEE 802.11ac HT20, HT40, HT80 | 2.88dBi  | 1.55dBi | 5.28dBi |
|              | WLAN_2 2.4G      | IEEE 802.11b                   | 2.00dBi  | N/A     | N/A     |
|              |                  | IEEE 802.11g                   | 2.00dBi  | N/A     | N/A     |
|              |                  | IEEE 802.11n HT20, HT40        | 2.00dBi  | N/A     | N/A     |
| Power Supply | Internal battery |                                |          |         |         |

## 1.2. Assess laboratory

Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China., 300385

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**NVLAP** (National Voluntary Laboratory Accreditation Program) CODE: 500036-0

**CNAS** (China National Accreditation Service for Conformity Assessment) CODE: L13402

**FCC** Designation Number: CN5004; FCC Test Firm Registration Number: 368676

**ISED** (Innovation, Science and Economic Development Canada) Company Number: 27768

Conformity Assessment Body Identifier: CN0125

**VCCI** Facility Registration Number: C-20089, T-20093, R-20125, G-20122

## 2. RF Exposure Evaluation

### 2.1. Requirement

Systems operating under the provisions of FCC 47 CFR 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 guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

| Frequency range (MHz)                                    | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (i) Limits for Occupational/Controlled Exposure          |                               |                               |                                     |                          |
| 0.3-3.0                                                  | 614                           | 1.63                          | *(100)                              | ≤6                       |
| 3.0-30                                                   | 1842/f                        | 4.89/f                        | *(900/f <sup>2</sup> )              | <6                       |
| 30-300                                                   | 61.4                          | 0.163                         | 1.0                                 | <6                       |
| 300-1,500                                                |                               |                               | f/300                               | <6                       |
| 1,500-100,000                                            |                               |                               | 5                                   | <6                       |
| (ii) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3-1.34                                                 | 614                           | 1.63                          | *(100)                              | <30                      |
| 1.34-30                                                  | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | <30                      |
| 30-300                                                   | 27.5                          | 0.073                         | 0.2                                 | <30                      |
| 300-1,500                                                |                               |                               | f/1500                              | <30                      |
| 1,500-100,000                                            |                               |                               | 1.0                                 | <30                      |

f = frequency in MHz. \* = Plane-wave equivalent power density.

Note1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

## 2.2. Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (mW)

**G** = EUT Antenna numeric gain (numeric)=

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance,  $d=0.2$  m, as well as the gain of the used antenna, the RF power density can be obtained.

## 2.3. Estimation result

| Mode            | Band              | Output power (dBm) | Output power (mW) | Antenna Gain (dBi) | Antenna Gain (Linear) | MPE Value (mW/cm <sup>2</sup> ) | MPE ratio | MPE Limit (mW/cm <sup>2</sup> ) |
|-----------------|-------------------|--------------------|-------------------|--------------------|-----------------------|---------------------------------|-----------|---------------------------------|
| WCDMA           | Band II           | 25                 | 316.23            | 3.79               | 2.39                  | 0.150564                        | 0.150564  | 1.00                            |
|                 | Band IV           | 25                 | 316.23            | 4.13               | 2.59                  | 0.162825                        | 0.162825  | 1.00                            |
|                 | Band V            | 25                 | 316.23            | -1.51              | 0.71                  | 0.044434                        | 0.080888  | 0.55                            |
| E-UTRA          | LTE Band2         | 25                 | 316.23            | 3.79               | 2.39                  | 0.150564                        | 0.150564  | 1.00                            |
|                 | LTE Band 4        | 25                 | 316.23            | 4.13               | 2.59                  | 0.162825                        | 0.162825  | 1.00                            |
|                 | LTE Band 5        | 25                 | 316.23            | -1.51              | 0.71                  | 0.044434                        | 0.080888  | 0.55                            |
|                 | LTE Band 7        | 25                 | 316.23            | 4.32               | 2.70                  | 0.170106                        | 0.170106  | 1.00                            |
|                 | LTE Band 12       | 25                 | 316.23            | 1.11               | 1.29                  | 0.081231                        | 0.174315  | 0.47                            |
|                 | LTE Band 13       | 25                 | 316.23            | 1.11               | 1.29                  | 0.081231                        | 0.156816  | 0.52                            |
|                 | LTE Band 25       | 25                 | 316.23            | 3.76               | 2.38                  | 0.149527                        | 0.149527  | 1.00                            |
|                 | LTE Band 26       | 25                 | 316.23            | -1.51              | 0.71                  | 0.044434                        | 0.081882  | 0.54                            |
|                 | LTE Band 38       | 25                 | 316.23            | 4.32               | 2.70                  | 0.170106                        | 0.170106  | 1.00                            |
|                 | LTE Band 41       | 25                 | 316.23            | 4.32               | 2.70                  | 0.170106                        | 0.170106  | 1.00                            |
| WLAN1_2.4G ANT1 | IEEE 802.11b      | 19                 | 79.43             | 1.32               | 1.36                  | 0.021415                        | 0.021415  | 1.00                            |
|                 | IEEE 802.11g      | 16                 | 39.81             | 1.32               | 1.36                  | 0.010733                        | 0.010733  | 1.00                            |
|                 | IEEE 802.11n HT20 | 16                 | 39.81             | 1.32               | 1.36                  | 0.010733                        | 0.010733  | 1.00                            |
|                 | IEEE 802.11n HT40 | 10                 | 10.00             | 1.32               | 1.36                  | 0.002696                        | 0.002696  | 1.00                            |

|                    |                               |    |       |      |      |          |          |      |
|--------------------|-------------------------------|----|-------|------|------|----------|----------|------|
| WLAN1_2.4G<br>ANT2 | IEEE<br>802.11b               | 19 | 79.43 | 0.37 | 1.09 | 0.017208 | 0.017208 | 1.00 |
|                    | IEEE<br>802.11g               | 16 | 39.81 | 0.37 | 1.09 | 0.008624 | 0.008624 | 1.00 |
|                    | IEEE<br>802.11n<br>HT20       | 16 | 39.81 | 0.37 | 1.09 | 0.008624 | 0.008624 | 1.00 |
|                    | IEEE<br>802.11n<br>HT40       | 10 | 10.00 | 0.37 | 1.09 | 0.002166 | 0.002166 | 1.00 |
| WLAN1_2.4G<br>MIMO | IEEE<br>802.11n<br>HT20 MIMO  | 19 | 79.43 | 3.88 | 2.44 | 0.038612 | 0.038612 | 1.00 |
|                    | IEEE<br>802.11n<br>HT40 MIMO  | 13 | 19.95 | 3.88 | 2.44 | 0.009699 | 0.009699 | 1.00 |
| WLAN1_5G<br>ANT1   | IEEE<br>802.11a               | 14 | 25.12 | 2.88 | 1.94 | 0.009699 | 0.009699 | 1.00 |
|                    | IEEE<br>802.11n<br>HT20       | 14 | 25.12 | 2.88 | 1.94 | 0.009699 | 0.009699 | 1.00 |
|                    | IEEE<br>802.11n<br>HT40       | 9  | 7.94  | 2.88 | 1.94 | 0.003067 | 0.003067 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT20      | 16 | 39.81 | 2.88 | 1.94 | 0.015372 | 0.015372 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT40      | 9  | 7.94  | 2.88 | 1.94 | 0.003067 | 0.003067 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT80      | 9  | 7.94  | 2.88 | 1.94 | 0.003067 | 0.003067 | 1.00 |
| WLAN1_5G<br>ANT2   | IEEE<br>802.11a               | 14 | 25.12 | 1.55 | 1.43 | 0.007140 | 0.007140 | 1.00 |
|                    | IEEE<br>802.11n<br>HT20       | 14 | 25.12 | 1.55 | 1.43 | 0.007140 | 0.007140 | 1.00 |
|                    | IEEE<br>802.11n<br>HT40       | 9  | 7.94  | 1.55 | 1.43 | 0.002258 | 0.002258 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT20      | 16 | 39.81 | 1.55 | 1.43 | 0.011317 | 0.011317 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT40      | 9  | 7.94  | 1.55 | 1.43 | 0.002258 | 0.002258 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT80      | 9  | 7.94  | 1.55 | 1.43 | 0.002258 | 0.002258 | 1.00 |
| WLAN1_5G           | IEEE<br>802.11n<br>HT20 MIMO  | 17 | 50.12 | 5.28 | 3.37 | 0.033629 | 0.033629 | 1.00 |
|                    | IEEE<br>802.11n<br>HT40 MIMO  | 11 | 12.59 | 5.28 | 3.37 | 0.008447 | 0.008447 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT20 MIMO | 19 | 79.43 | 5.28 | 3.37 | 0.053299 | 0.053299 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT40 MIMO | 11 | 12.59 | 5.28 | 3.37 | 0.008447 | 0.008447 | 1.00 |
|                    | IEEE<br>802.11ac<br>HT80 MIMO | 11 | 12.59 | 5.28 | 3.37 | 0.008447 | 0.008447 | 1.00 |

|            |                   |    |       |      |      |          |          |      |
|------------|-------------------|----|-------|------|------|----------|----------|------|
| WLAN2_2.4G | IEEE 802.11b      | 18 | 63.10 | 2.00 | 1.58 | 0.019894 | 0.019894 | 1.00 |
|            | IEEE 802.11g      | 17 | 50.12 | 2.00 | 1.58 | 0.015802 | 0.015802 | 1.00 |
|            | IEEE 802.11n HT20 | 15 | 31.62 | 2.00 | 1.58 | 0.009971 | 0.009971 | 1.00 |
|            | IEEE 802.11n HT40 | 16 | 39.81 | 2.00 | 1.58 | 0.012552 | 0.012552 | 1.00 |

Maximum Simultaneous transmission MPE Ratio for Main communication and WLAN1 and WLAN2:

Maximum Simultaneous transmission MPE Ratio for WCDMA and WLAN2:

| Maximum MPE ratio WCDMA | Maximum MPE ratio WLAN2_2.4G | $\Sigma$ MPE ratios | Limit | Results |
|-------------------------|------------------------------|---------------------|-------|---------|
| 0.162825                | 0.019894                     | 0.182719            | 1.000 | Pass    |

Maximum Simultaneous transmission MPE Ratio for E-UTRA and WLAN2:

| Maximum MPE ratio E-UTRA | Maximum MPE ratio WLAN2_2.4G | $\Sigma$ MPE ratios | Limit | Results |
|--------------------------|------------------------------|---------------------|-------|---------|
| 0.174315                 | 0.019894                     | 0.194209            | 1.000 | Pass    |

Maximum Simultaneous transmission MPE Ratio for WLAN1\_2.4G and WLAN2:

| Maximum MPE ratio WLAN1_2.4G | Maximum MPE ratio WLAN2_2.4G | $\Sigma$ MPE ratios | Limit | Results |
|------------------------------|------------------------------|---------------------|-------|---------|
| 0.021415                     | 0.019894                     | 0.041309            | 1.000 | Pass    |

Maximum Simultaneous transmission MPE Ratio for WLAN1\_5G and WLAN2:

| Maximum MPE ratio WLAN1_5G | Maximum MPE ratio WLAN2_2.4G | $\Sigma$ MPE ratios | Limit | Results |
|----------------------------|------------------------------|---------------------|-------|---------|
| 0.053299                   | 0.019894                     | 0.073193            | 1.000 | Pass    |

Note: The estimation distance is 20 cm.

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold.

**END OF REPORT**