

RF Exposure Report

Report No.: MFBCKS-WTW-P23080370

FCC ID: NKR-UMCSTD35HN

Model No.: UMC-STD35HN

Received Date: 2023/8/17

Test Date: 2023/8/29 ~ 2023/11/21

Issued Date: 2024/1/4

Applicant: Wistron NeWeb Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
33383, TAIWAN

**FCC Registration /
Designation Number:** 788550 / TW0003



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

| | |
|--|----------|
| Release Control Record | 3 |
| 1 Certificate of Conformity | 4 |
| 2 RF Exposure | 5 |
| 2.1 Limits for Maximum Permissible Exposure (MPE)..... | 5 |
| 2.2 MPE Calculation Formula | 5 |
| 2.3 Classification | 5 |
| 3 Calculation Result of Maximum Conducted Power | 6 |

Release Control Record

| Issue No. | Description | Date Issued |
|----------------------|-------------------|-------------|
| MFBCKS-WTW-P23080370 | Original release. | 2024/1/4 |

1 Certificate of Conformity

Product: Automotive 5G-NR NAD

Brand: WNC

Test Model: UMC-STD35HN

Sample Status: Engineering sample

Applicant: Wistron NeWeb Corporation

Test Date: 2023/8/29 ~ 2023/11/21

FCC Rule Part: FCC Part 2 (Section 2.1091)

Standards: KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, 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 RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** 2024/1/4
Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** 2024/1/4
Jeremy Lin / Project Engineer

2 RF Exposure

2.1 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 | | | | |
| 300-1500 | ... | ... | F/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

F = Frequency in MHz

2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 29cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result of Maximum Conducted Power

| Mode | Tune-up power (dBm) | Gain (dBi) | EIRP (dBm) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------------------|---------------------|------------|------------|---------------|-------------------------------------|-----------------------------|
| GSM 850 | 35.00 | 2.63 | 37.63 | 29 | 0.548 | 0.549 |
| GSM 1900 | 32.00 | 2.03 | 34.03 | 29 | 0.239 | 1.000 |
| WCDMA Band 2 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| WCDMA Band 4 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| WCDMA Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.550 |
| LTE Band 2 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| LTE Band 4 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 |
| LTE Band 7 | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 |
| LTE Band 12 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.466 |
| LTE Band 13 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.519 |
| LTE Band 14 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.527 |
| LTE Band 17 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.471 |
| LTE Band 25 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| LTE Band 26 (814-824 MHz) | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.543 |
| LTE Band 26 (824-849 MHz) | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 |
| LTE Band 41 | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 |
| LTE Band 66 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| LTE Band 71 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 |
| SA 5G NR n2 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| SA 5G NR n5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 |
| SA 5G NR n7 | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 |
| SA 5G NR n41 | 28.00 | 2.26 | 30.26 | 29 | 0.100 | 1.000 |
| SA 5G NR n66 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 |
| SA 5G NR n71 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 |
| SA 5G NR n77, 78 (3450-3550 MHz) | 28.00 | 2.62 | 30.62 | 29 | 0.109 | 1.000 |
| SA 5G NR n77 (3700-3980 MHz) | 28.00 | 2.62 | 30.62 | 29 | 0.109 | 1.000 |

| Mode | | Tune-up power (dBm) | Gain (dBi) | EIRP (dBm) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) | Co-located Ratio<1 |
|----------------|-------------|---------------------|------------|------------|---------------|-------------------------------------|-----------------------------|--------------------|
| ENDC 5G NR n2 | | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 | - |
| ENDC n2 | LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | 0.148 |
| | LTE Band 13 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.519 | 0.133 |
| | LTE Band 71 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 | 0.147 |
| ENDC 5G NR n5 | | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | - |
| ENDC n5 | LTE Band 66 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 | 0.148 |
| ENDC 5G NR n7 | | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 | - |
| ENDC n7 | LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | 0.150 |
| | LTE Band 12 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.466 | 0.144 |
| ENDC 5G NR n41 | | 28.00 | 2.26 | 30.26 | 29 | 0.100 | 1.000 | - |
| ENDC n41 | LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | 0.200 |
| | LTE Band 26 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.543 | 0.201 |
| | LTE Band 71 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 | 0.199 |
| ENDC 5G NR n66 | | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 | - |
| ENDC n66 | LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | 0.148 |
| | LTE Band 12 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.466 | 0.142 |
| | LTE Band 13 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.519 | 0.133 |
| ENDC 5G NR n71 | | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 | - |
| ENDC n71 | LTE Band 2 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 | 0.147 |
| | LTE Band 7 | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 | 0.149 |
| | LTE Band 66 | 25.00 | 2.03 | 27.03 | 29 | 0.048 | 1.000 | 0.147 |
| ENDC 5G NR n77 | | 28.00 | 2.62 | 30.62 | 29 | 0.109 | 1.000 | - |
| ENDC n77 | LTE Band 5 | 25.00 | 2.63 | 27.63 | 29 | 0.055 | 0.549 | 0.209 |
| | LTE Band 13 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.519 | 0.194 |
| ENDC 5G NR n78 | | 28.00 | 2.62 | 30.62 | 29 | 0.109 | 1.000 | - |
| ENDC n78 | LTE Band 7 | 25.00 | 2.26 | 27.26 | 29 | 0.050 | 1.000 | 0.159 |
| | LTE Band 12 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.466 | 0.203 |
| | LTE Band 71 | 25.00 | 1.63 | 26.63 | 29 | 0.044 | 0.443 | 0.208 |

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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