# RF EXPOSURE EVALUATION REPORT

| | | |
|---|---|---|
| **FCC ID** | : | **2ABOF-G1-BN5ASI002** |
| **Equipment** | : | **Base Node (BN)** |
| **Brand Name** | : | **Tarana** |
| **Model Name** | : | **G1BN5ASI002** |
| **Marketing Name** | : | **G1-BN5ASI002** |
| **Applicant** | : | **Tarana Wireless<br>590 Alder Drive, Milpitas, CA 95035** |
| **Manufacturer** | : | **Tarana Wireless<br>590 Alder Drive, Milpitas, CA 95035** |
| **Standard** | : | **47 CFR Part 2.1091** |

**We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 2.1091 and it complies with applicable limit.**

**Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.**

**The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full**

Cona Huang

**Approved by: Cona Huang / Deputy Manager**

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# History of this test report

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FA063029 | Rev. 01 | Initial issue of report | Dec. 30, 2020 |
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# 1. Description of Equipment Under Test (EUT)

| Product Feature & Specification | |
|---|---|
| EUT Type | Base Node (BN) |
| Brand Name | Tarana |
| Model Name | G1BN5ASI002 |
| Marketing Name | G1-BN5ASI002 |
| FCC ID | 2ABOF-G1-BN5ASI002 |
| Wireless Technology and Frequency Range | 5G B1: 5150 MHz ~ 5250 MHz<br>5G B4: 5725 MHz ~ 5825 MHz |
| SW Version | SYS.A3.B10.XXX.0.561.008.01 |
| EUT Stage | Identical Prototype |

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

**Reviewed by: Jason Wang**

**Report Producer: Paula Chen**

## 2. Maximum RF average output power among production units

| Mode | Maximum Average Power (dBm) |
|---|---|
| 5G B1 | 6.2 |
| 5G B4 | 6.3 |

## 3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density ($mW/cm^2$) | Averaging time (minutes) |
|---|---|---|---|---|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0-30 | 1842/f | 4.89/f | *(900/f2) | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | f/300 | 6 |
| 1500-100,000 | | | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | f/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$\mathbf{S = \frac{PG}{4\pi R^2}}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

# 4. Radio Frequency Radiation Exposure Evaluation

## 4.1. Standalone Power Density Calculation

| Band | Antenna Gain (dBi) | Maximum Power (dBm) | Maximum EIRP (dBm) | Maximum EIRP (W) | Average EIRP (mW) | Power Density at 20cm (mW/cm^2) | Limit (mW/cm^2) |
|---|---|---|---|---|---|---|---|
| 5G B1 | 16.5 | 6.2 | 22.7 | 0.19 | 186.21 | 0.037 | 1.000 |
| 5G B4 | 16.4 | 6.3 | 22.7 | 0.19 | 186.21 | 0.037 | 1.000 |

## Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.