

# RF EXPOSURE EVALUATION REPORT

**FCC ID** : 2ABOF-G1-RN5ASI002  
**Equipment** : Residential Node (RN)  
**Brand Name** : Tarana Wireless  
**Model Name** : G1RN5ASI002  
**Marketing Name** : G1-RN5ASI002  
**Applicant** : Tarana Wireless  
: 590 Alder Drive, Milpitas, CA 95035  
**Manufacturer** : Tarana Wireless  
: 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



Approved by: Cona Huang / Deputy Manager



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## History of this test report

Report No.	Version	Description	Issued Date
FA0N0327	Rev. 01	Initial issue of report	Dec. 31, 2020

**1. Description of Equipment Under Test (EUT)**

Product Feature & Specification	
EUT Type	Residential Node (RN)
Brand Name	Tarana Wireless
Model Name	G1RN5ASI002
Marketing Name	G1-RN5ASI002
FCC ID	2ABOF-G1-RN5ASI002
Wireless Technology and Frequency Range	5G B1: 5150 MHz ~ 5250 MHz 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	21
5G B4	21

## **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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
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
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
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
300-1500			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:

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

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
5G B1	13.5	21.0	34.5	2.82	2818.38	0.561	1.000
5G B4	14.1	21.0	35.1	3.24	3235.94	0.644	1.000

#### **Conclusion:**

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