



# RADIO EXPOSURE TEST REPORT

**FCC ID** : 2ABOF-G1RN6AHI042  
**Equipment** : RNv SYSTEM (6 GHz)  
**Brand Name** : Tarana  
**Model Name** : RNv SYSTEM (6 GHz)  
**Model Number** : G1RN6AHI042  
**Applicant** : Tarana Wireless, Inc.  
630 Alder Drive ,Milpitas , CA 95035 , USA  
**Manufacturer** : Tarana Wireless, Inc.  
630 Alder Drive ,Milpitas , CA 95035 , USA  
**Standard** : 47 CFR Part 2.1091

The product was received on Dec. 23, 2024, and testing was started from Feb. 06, 2025 and completed on Mar. 11, 2025. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

  
Approved by: Sam Chen

**Sportun International Inc. Hsinchu Laboratory**  
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



## Table of Contents

<b>History of this test report .....</b>	.3
<b>Summary of Test Result .....</b>	4
<b>1 General Description .....</b>	5
1.1 EUT General Information .....	5
1.2 Antenna Information .....	5
1.3 Table for Permissive Change .....	5
1.4 Accessories .....	6
1.5 Testing Location .....	6
<b>2 Maximum Permissible Exposure .....</b>	7
2.1 Limit of Maximum Permissible Exposure .....	7
2.2 MPE Calculation Method.....	7
2.3 Calculated Result and Limit.....	8

### Photographs of EUT v01



## History of this test report



## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

**Disclaimer:**

1. The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.
2. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.

Reviewed by: Sam Chen

Report Producer: Muse Chan



## 1 General Description

### 1.1 EUT General Information

RF General Information				
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type	
RF 5GHz	5725-5850	5755 / 5795 / 5825 / 5755+5795 / 5785+5825	QPSK	
RF 6GHz	5925-6425	5965 / 6165 / 6405 / 5965+6005 / 6165+6205 / 6365+6405 / 5965+6405	QPSK	
	6525-6875	6545 / 6685 / 6855 / 6545+6585 / 6685+6725 / 6815+6855 / 6545+6855		

### 1.2 Antenna Information

Ant.	Ant. CH	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
							5GHz UNII 3	6GHz UNII 5	6GHz UNII 7
1	0	1	Accton	KG755	Patch array	MMCX	20.0	20.5	20.4
	1	2	Accton	KG755	Patch array	MMCX	20.0	20.5	20.4
	2	3	Accton	KG755	Patch array	MMCX	20.0	20.5	20.4
	3	4	Accton	KG755	Patch array	MMCX	20.0	20.5	20.4

Note 1: The EUT is driving cross-polarized antenna: CH 1, 3 is vertical and CH 0, 2 is horizontal. Minimum number of spatial stream (Nss) is 2. it doesn't need to evaluate array gain.

Note 2: The above information was declared by manufacturer.

Note 3: **For 5GHz function (4TX/4RX):**

Port 1, 2, 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, 2, 3 and Port 4 could transmit/receive simultaneously.

**For 6GHz function (4TX/4RX):**

Port 1, 2, 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, 2, 3 and Port 4 could transmit/receive simultaneously.

### 1.3 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA4D1172

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Changing the MPE calculation method 2. Updating the MPE distance to "58cm" from "123cm". 3. Changing applicant and manufacturer's company address to "630 Alder Drive ,Milpitas , CA 95035 , USA" from "590 Alder Drive ,Milpitas , CA 95035 , USA"	Maximum Permissible Exposure



## 1.4 Accessories

<b>Accessories</b>			
<b>Equipment Name</b>	<b>Brand Name</b>	<b>Model Name</b>	<b>Rating</b>
PoE	PHIHONG	POE60U-BTA	INPUT: 100-240V~1.5A, 50-60Hz OUTPUT: 56V, 0.535A, 30W

## 1.5 Testing Location

<b>Testing Location Information</b>			
Test Lab. : Sporton International Inc. Hsinchu Laboratory			
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)	TEL: 886-3-656-9065	FAX: 886-3-656-9085
Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.			



## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
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) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
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

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Method

The MPE was calculated at 58 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

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

**P** = RF output power (W)

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

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

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



## 2.3 Calculated Result and Limit

### Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	Maximum Source based Time Average Power (dBm)	Maximum Source based Time Average EIRP Power (dBm)	Maximum Source based Time Average EIRP Power (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Ratio (S/Limit)
5.8G;D1D	20.00	29.84	26.05	46.05	40.27170	58	0.95263	1.00000	0.95263
6.2G;D1D	20.50	15.45	11.66	32.16	1.64437	58	0.03890	1.00000	0.03890
6.7G;D1D	20.40	15.55	11.76	32.16	1.64437	58	0.03890	1.00000	0.03890

### Simultaneous Transmission Analysis Mode: RF 5GHz + RF 6GHz

Mode	DG (dBi)	Power (dBm)	Maximum Source based Time Average Power (dBm)	Maximum Source based Time Average EIRP Power (dBm)	Maximum Source based Time Average EIRP Power (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Ratio (S/Limit)
5.8G;D1D	20.00	29.84	26.05	46.05	40.27170	58	0.95263	1.00000	0.95263
6.2G;D1D	20.50	15.45	11.66	32.16	1.64437	58	0.03890	1.00000	0.03890
Sum Ratio	0.99153								
Ratio Limit	1								

Note 1: According to operation description the maximum transmission duty cycle is 41.83%.

Tune-up power scaling: 35.95dBm (Max. EIRP) – 3.79 (Duty Cycle) = 32.16dBm (EIRP).

Note 2: As required by Part2.1091(c), time-average effective radiated power applies to power density calculation.  
Note 3: The above antenna gain was declared by manufacturer.

THE END