

RF Exposure Evaluation Declaration

FCC ID: UIDW6
Applicant: ARRIS
Product: Wireless Router
Model No.: W6B, W6U
FCC Classification: 15E 6 GHz Low Power Indoor Access Point (6ID)
15E 6 GHz Subordinate Indoor Device (6PP)
FCC Rule Part(s) FCC Part 2.1091
Test Procedure KDB 447498 D04 Interim General RF Exposure
Guidance v01

Reviewed By:

Vincent Yu

Approved By:

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date	Note
2111RSU095-U2	Rev. 01	Initial Report	04-29-2022	Valid

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1. General Information
1.1. Applicant

ARRIS

3871 LAKEFIELD DR, SUWANEE GA 30024, UNITED STATES

1.2. Manufacturer

ARRIS

3871 LAKEFIELD DR, SUWANEE GA 30024, UNITED STATES

1.3. Testing Facility

<input checked="" type="checkbox"/>	<p>Test Site – MRT Suzhou Laboratory</p> <hr/> <p>Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China</p> <p>Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China</p> <hr/> <p>Laboratory Accreditations</p> <p>A2LA: 3628.01 CNAS: L10551</p> <p>FCC: CN1166 ISED: CN0001</p> <p>VCCI: <input type="checkbox"/>R-20025 <input type="checkbox"/>G-20034 <input type="checkbox"/>C-20020 <input type="checkbox"/>T-20020</p> <p> <input type="checkbox"/>R-20141 <input type="checkbox"/>G-20134 <input type="checkbox"/>C-20103 <input type="checkbox"/>T-20104</p>
<input type="checkbox"/>	<p>Test Site – MRT Shenzhen Laboratory</p> <hr/> <p>Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</p> <hr/> <p>Laboratory Accreditations</p> <p>A2LA: 3628.02 CNAS: L10551</p> <p>FCC: CN1284 ISED: CN0105</p>
<input type="checkbox"/>	<p>Test Site – MRT Taiwan Laboratory</p> <hr/> <p>Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</p> <hr/> <p>Laboratory Accreditations</p> <p>TAF: L3261-190725</p> <p>FCC: 291082, TW3261 ISED: TW3261</p>

1.4. Product Information

Product Name	Wireless Router
Model No.	W6B, W6U
Wi-Fi Specification	802.11a/ax
Power Type	AC/DC Adapter
Operating Temperature	0 ~ 40 °C
Accessories	
1# AC/DC Adapter	Model: WB-24M12FU Input: 100-120V ~ 60Hz, 0.7A Max. Output: 12V, 2A
2# AC/DC Adapter	Model: F24L15-120200SPAU Input: 100-240V ~ 50/60Hz, 0.6A Output: 12.0V, 2.0A, 24.0W
Remark:	
<p>1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.</p> <p>2. Different models are to meet the needs of the market, and the difference is only the appearance color is different, the electrical characteristics are all the same.</p>	

1.5. Device Classification

According to the user manual, the antenna of this device is at least 20cm away from the body of the user, this device is classified as a **Mobile Device**. Therefore, the RF exposure evaluation requirements of FCC Part 2.1091 for mobile device exposure conditions subject to MPE limits.

2. RF Exposure Evaluation

2.1. Test Limits

According to FCC Part 2.1091, A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the RF source's radiating structure(s) and the body of the user or nearby persons.

According to FCC Part 1.1307(b)(3)(i)(C), for the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source Frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1.920 R ²
1.34-30	3.450 R ² /f ²
30-300	3.83 R ²
300-1500	0.0128 R ² f
1500-100,000	19.2 R ²

f = frequency in MHz, R = minimum separation distance in meters.

According to FCC Part 1.1307(b)(3)(ii)(B), in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

2.2. Test Result

Product	Wireless Router
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Max. EIRP (dBm)	Max. ERP (W)	Compliance Distance (R) (m)	Threshold ERP (W)
802.11a/ax	5955 ~ 7095	23.519	0.137	0.2	0.768

Note:

1. $ERP (W) = 10^{[ERP (dBm) - 30]/10} = 10^{[EIRP (dBm) - 2.15 (dB) - 30]/10}$
2. $Threshold ERP (W) = 19.2 * R^2 (W) = 19.2 * 0.2^2 (W) = 0.768 (W)$

Therefore, this device meets the RF Exposure requirements when it is installed and operated with a minimum distance of 20cm between the radiator and user.