

RF EXPOSURE REPORT



FCC Applicant: AzureWave Technologies, Inc.
8F., No. 94, Baozhong Rd., Xindian Dist., New Taipei City,
Taiwan 23144

FCC Manufacturer: AzureWave Technologies, Inc.
8F., No. 94, Baozhong Rd., Xindian Dist., New Taipei City,
Taiwan 23144

Product Name: IEEE 802.11ah Wireless LAN Module

Brand Name: AzureWave

Model No.: AW-HM593

Model Difference: N/A

Report Number: TESA2403000132ES

FCC ID TLZ-HM593

Date of EUT Received: March 13, 2024

Issue Date: May 13, 2024

John Yeh

Approved By

John Yeh

We hereby certify that:

The above equipment was evaluated by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091, KDB 447498 D01 v06.

The results of this report relate only to the sample identified in this report.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History					
Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2403000132ES	00	Original	April 3, 2024	Violetta Tang	
TESA2403000132ES	01	1. Added the used KDB version on the cover page 2. Corrected max. antenna gain information and calculation result	May 13, 2024	Violetta Tang	*

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	IEEE 802.11ah Wireless LAN Module
Brand Name:	AzureWave
Model No.:	AW-HM593
Model Difference:	N/A
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	F854F679DAEC
Power Supply:	3.3V or 5V

1.2 Evaluation site

Laboratory	Site Address	FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	<input type="checkbox"/> No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	<input checked="" type="checkbox"/> No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	<input type="checkbox"/> 1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Nei Hu District, Taipei City, 222 Taiwan.	TW0029	23862	

1.3 Antenna Information:

Freq. (MHz)	Peak Antenna Gain (dBi)
902 – 928	2.34

Note: Antenna information is provided by the applicant.

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2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission’s guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

$$S = PG / 4\pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

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2.2 Power Density Calculation (Worst Case)

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail	Power Density / Limit
902~928	915	20	21.35	2.34	233.88	0.0466	0.610	Pass	0.076

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

~ End of Report ~

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