

## RF EXPOSURE REPORT



**FCC Applicant:** MICHELIN NORTH AMERICA (US) INC.  
One Parkway South, Greenville, South Carolina 29615,  
United States

**Manufacturer:** MFP MICHELIN  
23 Place des Carmes-Deschaux - 63040 Clermont-Fd  
Cedex9 - France

**Product Name:** WiFi Module

**Brand Name:** MICHELIN

**Model No.:** MI5-TI01

**Model Difference:** N/A

**Report Number:** ER/2021/90053

**FCC ID** FI5-WL18DBMOD

**Issue Date:** June 23, 2022

**Date of EUT Received:** October 5, 2021

Approved By

John Yeh

**We hereby certify that:**

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091.

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
ER/2021/90053	00	Original.	April 6, 2022	Karen Huang	*
ER/2021/90053	01	Update FCC applicant address, product name and maximum output power and add manufacturer information.	June 23, 2022	Susan Lin	*

**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 of Host

Product Name:	WiFi Module
Brand Name:	MICHELIN
Model No.:	MI5-TI01
Model Difference:	N/A
Hardware Version:	model RV5-01
Firmware Version:	S.4.1.x
EUT Series No.:	050748
Power Supply:	24Vdc

### 1.2 Antenna Information:

#### 1.2.1 WLAN 2.4GHz

Antenna Type	Freq.	Peak Antenna Gain (dBi)	Worst Antenna Gain
All-In-One	2.4GHz	-0.2	-

**Note:**

- Antenna information is provided by the applicant.

#### 1.2.2 WLAN 5GHz

Antenna Type	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
All-In-One	5150~5250	-3.2	-
	5250~5350		
	5470~5725		
	5725~5850		

**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 <sup>2</sup> )	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 <sup>2</sup> )	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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail	Power Density / Limit	Collocated MPE
WLAN 2.4G	2437.00	20	17.5	-0.20	53.70	0.011	1.000	Pass	0.011	V
WLAN 5G	5580.00	20	19.5	-3.20	42.66	0.008	1.000	Pass	0.008	V

## 2.3 Collocated Power Density Calculation

### FCC Collocated MPE

Max WLAN 2.4G PD / Limit	Max WLAN 5G PD / Limit	$\Sigma$ (Power Density / Limit) of WLAN 2.4G + WLAN 5G
0.011	0.008	0.019

#### Note:

1.  $\Sigma$ (Power Density / Limit): This is a summation of [(Power Density for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)].
2. Considering the collocated transmitters, the aggregated (Power Density /limit) is smaller than 1, and MPE of collocated transmitters is compliant

~ End of Report ~

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