MPE TEST REPORT

Applicant	MeiG Smart Technology Co., Ltd
FCC ID	2APJ4-SNM909
Product	Smart Module
Brand	MEIGLink
Model	SNM909
Report No.	R2410A1558-M1V1
Issue Date	November 12, 2024

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 1.1310.** The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	November 11, 2024
Rev.1	Update data and information.	November 12, 2024
Note: This revised report (Report No.: R2410A1558-M1V1) supersedes and replaces the previously issued report (Report No.: R2410A1558-M1). Please discard or destroy the previously issued report and dispose of it accordingly.		

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company:	Eurofins TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 20%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	MeiG Smart Technology Co., Ltd
Applicant address	2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao'an District, Shenzhen City.
Manufacturer	MeiG Smart Technology Co., Ltd
Manufacturer address	2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao'an District, Shenzhen City.

General Technologies

EUT Description			
Model	SNM909		
SN	M90943AAYC112800629		
Hardware Version	V1.00		
Software Version	T16		
Frequency	Band	TX (MHz)	RX (MHz)
	Bluetooth	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 2.4G	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5G (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5G (U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5G (U-NII-2C)	5470 ~ 5725	5470 ~ 5725
	Wi-Fi 5G (U-NII-3)	5725 ~ 5850	5725 ~ 5850
Date of Testing	October 29, 2024 ~ November 7, 2024		
Date of Sample Received	October 21, 2024		
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

3 Maximum Output Power (Measured) and Antenna Gain

Band	Maximum Output Power (Measured)		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Wi-Fi 2.4G	20.42	110.154	3.95	2.483
Wi-Fi 5G (U-NII-1)	16.70	46.774	1.46	1.400
Wi-Fi 5G (U-NII-2A)	16.04	40.179	1.52	1.419
Wi-Fi 5G (U-NII-2C)	16.70	46.774	1.48	1.406
Wi-Fi 5G (U-NII-3)	16.89	48.865	1.48	1.406
Bluetooth	11.82	15.205	3.95	2.483
Bluetooth (Low Energy)	7.08	5.105	3.95	2.483

4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

TABLE 1 – LIMITS FOR MAXIMUN PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3-30	1842/f	4.89/f	*(900/f2)	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				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm^2)
Wi-Fi 2.4GHz	1.000
Wi-Fi 5GHz	1.000
Bluetooth	1.000

5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01，this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

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

Where: S = power density (in appropriate units, e.g. mW/cm^2)
P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)
G = the numeric gain of the antenna
R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

Band	Maximum Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm^2)	Limit Value (mW/cm^2)	The MPE Ratio
Wi-Fi 2.4G	20.42	3.95	24.370	273.527	0.054	1.000	**0.054**
Wi-Fi 5G (U-NII-1)	16.70	1.46	18.160	65.464	0.013	1.000	0.013
Wi-Fi 5G (U-NII-2A)	16.04	1.52	17.560	57.016	0.011	1.000	0.011
Wi-Fi 5G (U-NII-2C)	16.70	1.48	18.180	65.766	0.013	1.000	0.013
Wi-Fi 5G (U-NII-3)	16.89	1.48	18.370	68.707	0.014	1.000	**0.014**
Bluetooth	11.82	3.95	15.770	37.757	0.008	1.000	**0.008**
Bluetooth (Low Energy)	7.08	3.95	11.030	12.677	0.003	1.000	0.003
Note: **R** = 20cm **π**= 3.1416 The MPE Ratio = Mac Result÷Limit Value							

So the simultaneous transmitting antenna pairs as below:
TER = Wi-Fi 2.4G Antenna MPE ratio + Wi-Fi 5G Antenna MPE ratio + Bluetooth Antenna MPE ratio
= 0.054 + 0.014+ 0.008 = 0.076

Note: For transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

********END OF REPORT ********