

MPE TEST REPORT

Applicant	MeiG Smart Technology Co., Ltd
FCC ID	2APJ4-SLM927D
Product	LTE Module
Brand	MEIGLink
Model	SLM927D
Report No.	R2411A1659-M1
Issue Date	December 27, 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.

Prepared by: Wei Fangying

Approved by: Xu Kai

Eurofins TA Technology (Shanghai) Co., Ltd.

Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

Table of Contents

1	Test Laboratory	3
1.1	Notes of the Test Report.....	3
1.2	Test Facility.....	3
1.3	Testing Location.....	3
1.4	Laboratory Environment	3
2	Description of Equipment Under Test	4
3	Maximum Output Power (Measured) /Tune up and Antenna Gain	6
4	MPE Limit.....	7
5	RF Exposure Evaluation Result.....	9
	ANNEX A: The EUT Appearance	11

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
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: <https://www.eurofins.com/electrical-and-electronics>
E-mail: Kain.Xu@cpt.eurofinscn.com

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

General Technologies

EUT Description			
Model	SLM927D		
Lab internal SN	R2411A1659/S01		
Hardware Version	SLM927D_MB_V1.01		
SW Version	V01_T04		
Frequency	Band	TX (MHz)	RX (MHz)
	WCDMA Band II	1850 ~ 1910	1930 ~ 1990
	WCDMA Band IV	1710 ~ 1755	2110 ~ 2155
	WCDMA Band V	824 ~ 849	869 ~ 894
	LTE Band 2	1850 ~ 1910	1930 ~ 1990
	LTE Band 4	1710 ~ 1755	2110 ~ 2155
	LTE Band 5	824 ~ 849	869 ~ 894
	LTE Band 7	2500 ~ 2570	2620 ~ 2690
	LTE Band 12	699 ~ 716	729 ~ 746
	LTE Band 13	777 ~ 787	746 ~ 756
	LTE Band 17	704 ~ 716	734 ~ 746
	LTE Band 25	1850 ~ 1915	1930 ~ 1995
	LTE Band 26	814 ~ 849	859 ~ 894
	LTE Band 41	2496 ~ 2690	2496 ~ 2690
	LTE Band 66	1710 ~ 1780	2110 ~ 2180
	LTE Band 71	663 ~ 698	617 ~ 652
	Bluetooth	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 2.4GHz	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5GHz (U-NII-1)	5150 ~ 5250	5150 ~ 5250

	Wi-Fi 5GHz (U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5GHz (U-NII-2C)	5470 ~ 5725	5470 ~ 5725
	Wi-Fi 5GHz (U-NII-3)	5725 ~ 5850	5725 ~ 5850
Date of Testing	November 15, 2024 ~ December 12, 2024		
Date of Sample Received	November 15, 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) /Tune up and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by

$$\text{Numeric gain (G)} = 10^{(\text{antenna gain}/10)}$$

Band	Maximum Tune up Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
WCDMA Band II	25.00	316.228	4.02	2.523
WCDMA Band IV	25.00	316.228	4.00	2.512
WCDMA Band V	25.00	316.228	3.52	2.249
LTE Band 2	25.00	316.228	4.02	2.523
LTE Band 4	25.00	316.228	4.00	2.512
LTE Band 5	25.00	316.228	3.52	2.249
LTE Band 7	25.00	316.228	5.19	3.304
LTE Band 12	25.00	316.228	3.65	2.317
LTE Band 13	25.00	316.228	3.15	2.065
LTE Band 17	25.00	316.228	3.65	2.317
LTE Band 25	25.00	316.228	4.02	2.523
LTE Band 26	25.00	316.228	3.52	2.249
LTE Band 41	25.00	316.228	5.77	3.776
LTE Band 66	25.00	316.228	4.00	2.512
LTE Band 71	25.00	316.228	3.19	2.084
Wi-Fi 2.4GHz	22.00	158.489	3.95	2.483
Wi-Fi 5GHz	18.00	63.096	1.52	1.419
Band	Output Power (Measured)		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Bluetooth	10.91	12.331	3.95	2.483
Bluetooth LE	6.58	4.550	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 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	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/f ²)	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/f ²)	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 300~1500 MHz is $f/1500$, for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
WCDMA Band II	0.549
WCDMA Band IV	1.000
WCDMA Band V	1.000
LTE Band 2	1.000
LTE Band 4	1.000
LTE Band 5	0.549
LTE Band 7	1.000
LTE Band 12	0.466
LTE Band 13	0.518
LTE Band 17	0.469
LTE Band 25	1.000
LTE Band 26	0.543
LTE Band 41	1.000
LTE Band 66	1.000
LTE Band 71	0.442
Wi-Fi 2.4GHz	1.000
Wi-Fi 5GHz	1.000
Bluetooth	1.000
Bluetooth LE	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/cm²)

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 Tune up (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE Ratio
WCDMA Band II	25.00	4.02	29.020	797.995	0.159	0.549	0.289
WCDMA Band IV	25.00	4.00	29.000	794.328	0.158	1.000	0.158
WCDMA Band V	25.00	3.52	28.520	711.214	0.141	1.000	0.141
LTE Band 2	25.00	4.02	29.020	797.995	0.159	1.000	0.159
LTE Band 4	25.00	4.00	29.000	794.328	0.158	1.000	0.158
LTE Band 5	25.00	3.52	28.520	711.214	0.141	0.549	0.258
LTE Band 7	25.00	5.19	30.190	1044.720	0.208	1.000	0.208
LTE Band 12	25.00	3.65	28.650	732.825	0.146	0.466	0.313
LTE Band 13	25.00	3.15	28.150	653.131	0.130	0.518	0.251
LTE Band 17	25.00	3.65	28.650	732.825	0.146	0.469	0.311
LTE Band 25	25.00	4.02	29.020	797.995	0.159	1.000	0.159
LTE Band 26	25.00	3.52	28.520	711.214	0.141	0.543	0.261
LTE Band 41	25.00	5.77	30.770	1193.988	0.238	1.000	0.238
LTE Band 66	25.00	4.00	29.000	794.328	0.158	1.000	0.158
LTE Band 71	25.00	3.19	28.190	659.174	0.131	0.442	0.297
Wi-Fi 2.4GHz	22.00	3.95	25.950	393.550	0.078	1.000	0.078
Wi-Fi 5GHz	18.00	1.52	19.520	89.536	0.018	1.000	0.018
Bluetooth	10.91	3.95	14.860	30.620	0.006	1.000	0.006
Bluetooth LE	6.58	3.95	10.530	11.298	0.002	1.000	0.002
Note: R = 20cm $\pi = 3.1416$ The MPE Ratio = Mac Result ÷ Limit Value							

So the simultaneous transmitting antenna pairs as below:

TER = Wi-Fi 2.4GHz Antenna MPE ratio + Wi-Fi 5GHz Antenna MPE ratio + Bluetooth Antenna MPE ratio + WWAN Antenna MPE ratio = 0.078 + 0.018 + 0.006 + 0.313= 0.415<1

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

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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