

RF Exposure Evaluation Report

APPLICANT : MeiG Smart Technology Co., Ltd
EQUIPMENT : LTE Cat 1 Module
BRAND NAME : MEIGLink
MODEL NAME : SLM310
FCC ID : 2APJ4-SLM310
STANDARD : 47 CFR Part 1.1307(b)

The product evaluation date was started from Sep. 14, 2023 and completed on Sep. 14, 2023. We, Sporton International Inc. (Kunshan), would like to declare that the device has been evaluated in accordance with 47 CFR Part1.1307(b), and pass the limit. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.



Approved by: Si Zhang

Sporton International Inc. (Kunshan)

***No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China***



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA373101	Rev. 01	Initial issue of report.	Nov. 15, 2023
FA373101	Rev. 02	Revised LTE Band 26 frequency range.	Nov. 16, 2023



1. Administration Data

1.1. Testing Laboratory

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-KS	CN1257	314309

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

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

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	LTE Cat 1 Module
Brand Name	MEIGLink
Model Name	SLM310
FCC ID	2APJ4-SLM310
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz
Mode	GPRS LTE: QPSK, 16QAM
Antenna Gain	GSM850 : 2.81 dBi GSM1900 : 2.04 dBi LTE Band 2 : 2.04 dBi LTE Band 4 : 2.92 dBi LTE Band 5 : 2.81 dBi LTE Band 7 : 2.16 dBi LTE Band 25 : 2.04 dBi LTE Band 26 : 3.08 dBi LTE Band 38: 2.03 dBi LTE Band 41: 3.36 dBi
Antenna Type	WWAN: Glue Stick Antenna
HW Version	V1.00
SW Version	V61_U03
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Comments and Explanations:

1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF average output tune up power among production units

<GSM>

Mode	Burst average power(dBm)	
	GSM850	GSM1900
GPRS 1 Tx slot	35.0	32.0
GPRS 2 Tx slots	31.0	28.0
GPRS 3 Tx slots	29.0	27.0
GPRS 4 Tx slots	28.0	25.0

<LTE>

Mode		Maximum Average power(dBm)
LTE	Band 2	25.0
	Band 4	25.0
	Band 5	25.0
	Band 7	25.0
	Band 25	25.0
	Band 26	25.0
	Band 38	25.0
	Band 41	25.0

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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
3.0-30	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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
GPRS 850 (1 Tx slot)	824.2	2.81	35.00	37.810	760.326	0.151	0.549
GPRS 850 (2 Tx slots)	824.2	2.81	31.00	33.810	603.949	0.120	0.549
GPRS 850 (3 Tx slots)	824.2	2.81	29.00	31.810	568.853	0.113	0.549
GPRS 850 (4 Tx slots)	824.2	2.81	28.00	30.810	603.949	0.120	0.549
GPRS 1900 (1 Tx slot)	1850.2	2.04	32.00	34.040	319.154	0.064	1.000
GPRS 1900 (2 Tx slots)	1850.2	2.04	28.00	30.040	253.513	0.050	1.000
GPRS 1900 (3 Tx slots)	1850.2	2.04	27.00	29.040	300.608	0.060	1.000
GPRS 1900 (4 Tx slots)	1850.2	2.04	25.00	27.040	253.513	0.050	1.000
LTE Band 2	1850.7	2.04	25.00	27.040	505.825	0.101	1.000
LTE Band 4	1710.7	2.92	25.00	27.920	619.441	0.123	1.000
LTE Band 5	824.7	2.81	25.00	27.810	603.949	0.120	0.550
LTE Band 7	2502.5	2.16	25.00	27.160	519.996	0.104	1.000
LTE Band 26	824.7	3.08	25.00	28.080	642.688	0.128	0.550
LTE Band 25	1850.7	2.04	25.00	27.040	505.825	0.101	1.000
LTE Band 38	2572.5	2.03	25.00	27.030	504.661	0.100	1.000
LTE Band 41	2498.5	3.36	25.00	28.360	685.488	0.136	1.000

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

Conclusion:

According to 47 CFR §1.1307(b), the RF exposure analysis concludes that the RF Exposure is FCC compliant.

-----THE END-----