RF Exposure Evaluation Report

APPLICANT	:	**MeiG Smart Technology Co., Ltd**
EQUIPMENT	:	**SLM758**
BRAND NAME	:	**MEIGLink**
MODEL NAME	:	**SLM758**
FCC ID	:	**2APJ4-SLM758**
STANDARD	:	**47 CFR Part 2.1091**
		FCC KDB 447498 D01 v06

We, Sporton International (Kunshan) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Rose Wang

Reviewed by: Rose Wang / Supervisor

Kat Yin

Approved by: Kat Yin / Manager

ACCREDITED
Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

Table of Contents

1. ADMINISTRATION DATA 4
1.1. Testing Laboratory 4
2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) 5
3. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS 6
4. RF EXPOSURE LIMIT INTRODUCTION 8
5. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION 9
5.1. Standalone Power Density Calculation 9
5.2. Collocated Power Density Calculation 10

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA970101	Rev. 01	Initial issue of report	Aug. 30, 2019

1. Administration Data

1.1. Testing Laboratory

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

Testing Laboratory		
Test Firm	Sporton International (Kunshan) Inc.	
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1257	314309

Applicant	
Company Name	MeiG Smart Technology Co., Ltd
Address	3/F, No.88, Qinjiang Road, Xuhui District, Shanghai, China

Manufacturer	
Company Name	MeiG Smart Technology Co., Ltd
Address	3/F, No.88, Qinjiang Road, Xuhui District, Shanghai, China

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	SLM758
Brand Name	MEIGLink
Model Name	SLM758
IMEI	868727040738493
FCC ID	2APJ4-SLM758
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2472 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) LTE: QPSK, 16QAM WLAN 2.4GHz : 802.11b/g/n/ HT20/HT40 WLAN 5GHz : 802.11a/n HT20/HT40 Bluetooth BR/EDR/LE
Antenna Type	Fixed External Antenna
HW Version	SLM758W_MB_V1.00_PCB
SW Version	SLM758A_EQ000_2774.A4190D6.B1056A1_190524_100_V01_T02
EUT Stage	Identical Prototype
Remark: 1. This device support voice function and LTE supports VoLTE operation.	

Comments and Explanations:
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.

3. Maximum RF average output power among production units

<WCDMA>

Mode	Average Power (dBm)		
	WCDMA Band II	WCDMA Band IV	WCDMA Band V
AMR/RMC 12.2Kbps	24.00	24.00	24.00
HSDPA Subtest-1	23.00	23.00	23.00
HSDPA Subtest-2	23.00	23.00	23.00
HSDPA Subtest-3	22.50	22.50	22.50
HSDPA Subtest-4	22.50	22.50	22.50
DC-HSDPA Subtest-1	23.00	23.00	23.00
DC-HSDPA Subtest-2	23.00	23.00	23.00
DC-HSDPA Subtest-3	22.50	22.50	22.50
DC-HSDPA Subtest-4	22.50	22.50	22.50
HSUPA Subtest-1	23.00	23.00	23.00
HSUPA Subtest-2	21.00	21.00	21.00
HSUPA Subtest-3	22.00	22.00	22.00
HSUPA Subtest-4	21.00	21.00	21.00
HSUPA Subtest-5	23.00	23.00	23.00

<LTE>

Mode		Maximum Average power(dBm)
LTE	Band 2	24.50
	Band 4	24.50
	Band 5	24.50
	Band 7	24.50
	Band 12	24.50
	Band 13	24.50
	Band 17	24.50

<WLAN 2.4GHz>

Mode	Maximum Average Power (dBm)
802.11b	16.50
802.11g	15.50
802.11n-HT20	14.00
802.11n-HT40	14.50

<Bluetooth>

Mode		Maximum Average Power (dBm)
Bluetooth	BR/EDR	10.00
	LE	0

<WLAN 5GHz>

Mode		Maximum Average Power (dBm)
WLAN 5.2GHz	802.11a	14.00
	802.11n-HT20	13.00
	802.11n-HT40	11.50
WLAN 5.3GHz	802.11a	13.50
	802.11n-HT20	13.00
	802.11n-HT40	11.50
WLAN 5.5GHz	802.11a	14.00
	802.11n-HT20	13.00
	802.11n-HT40	11.50
WLAN 5.8GHz	802.11a	14.00
	802.11n-HT20	13.00
	802.11n-HT40	11.50

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/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

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)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
WCDMA Band II	1852.4	7.00	24.00	31.000	1.259	1258.925	0.251	1.000
WCDMA Band IV	1712.4	5.50	24.00	29.500	0.891	891.251	0.177	1.000
WCDMA Band V	826.4	6.50	24.00	30.500	1.122	1122.018	0.223	0.551
LTE Band 2	1850.7	7.00	24.50	31.500	1.413	1412.538	0.281	1.000
LTE Band 4	1710.7	5.50	24.50	30.000	1.000	1000.000	0.199	1.000
LTE Band 5	824.7	6.50	24.50	31.000	1.259	1258.925	0.251	0.549
LTE Band 7	2502.5	7.00	24.50	31.500	1.413	1412.538	0.281	1.000
LTE Band 12	699.7	6.00	24.50	30.500	1.122	1122.018	0.223	0.466
LTE Band 13	779.5	6.00	24.50	30.500	1.122	1122.018	0.223	0.518
LTE Band 17	706.5	6.00	24.50	30.500	1.122	1122.018	0.223	0.469
2.4GHz WLAN	2412.0	0.00	16.50	16.500	0.045	44.668	0.009	1.000
5.2GHz WLAN	5180.0	1.00	14.00	15.000	0.032	31.623	0.006	1.000
5.3GHz WLAN	5260.0	1.00	14.00	15.000	0.032	31.623	0.006	1.000
5.5GHz WLAN	5500.0	1.00	14.00	15.000	0.032	31.623	0.006	1.000
5.8GHz WLAN	5745.0	1.00	14.00	15.000	0.032	31.623	0.006	1.000
Bluetooth	2402.0	0.00	10.00	10.000	0.010	10.000	0.002	1.000

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

5.2. Collocated Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
WCDMA Band II	1852.4	6.00	24.00	30.0	1.00	1000.00	0.199	1.000	0.199
WCDMA Band IV	1712.4	5.50	24.00	29.5	0.89	891.25	0.177	1.000	0.177
WCDMA Band V	826.4	6.00	24.00	30.0	1.00	1000.00	0.199	0.551	0.361
LTE Band 2	1850.7	6.00	24.50	30.5	1.12	1122.02	0.223	1.000	0.223
LTE Band 4	1710.7	5.50	24.50	30.0	1.00	1000.00	0.199	1.000	0.199
LTE Band 5	824.7	6.00	24.50	30.5	1.12	1122.02	0.223	0.549	0.407
LTE Band 7	2502.5	6.00	24.50	30.5	1.12	1122.02	0.223	1.000	0.223
LTE Band 12	699.7	6.00	24.50	30.5	1.12	1122.02	0.223	0.466	**0.479**
LTE Band 13	779.5	6.00	24.50	30.5	1.12	1122.02	0.223	0.518	0.431
LTE Band 17	706.5	6.00	24.50	30.5	1.12	1122.02	0.223	0.469	0.476
WLNA2.4GHz Band	2412.0	0.00	16.50	16.5	0.04	44.67	0.009	1.000	**0.009**
5.2GHz WLAN	5180.0	1.00	14.00	15.0	0.03	31.62	0.006	1.000	0.006
5.3GHz WLAN	5260.0	1.00	14.00	15.0	0.03	31.62	0.006	1.000	**0.006**
5.5GHz WLAN	5500.0	1.00	14.00	15.0	0.03	31.62	0.006	1.000	0.006
5.8GHz WLAN	5745.0	1.00	14.00	15.0	0.03	31.62	0.006	1.000	0.006
Bluetooth	2402.0	0.00	10.00	10.0	0.01	10.00	0.002	1.000	**0.002**

WWAN Power Density / Limit	WLAN2.4GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WWAN+WLAN2.4GHz+ Bluetooth
0.479	0.009	0.002	0.490
WWAN Power Density / Limit	**WLAN 5GHz Power Density / Limit**	**Bluetooth Power Density / Limit**	**Σ(Power Density / Limit) of WWAN + WLAN 5GHz + Bluetooth**
0.479	0.006	0.002	0.487

Note:

1. For colocation analysis, LTE Band 12 is chosen for summation due to the highest (power density/limit) among all WWAN wireless modes.
2. Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + WLAN + Bluetooth.
3. Considering the WWAN module collocation with the WLAN and Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant.

Conclusion:

Based on 47 CFR §2.1091 and FCC KDB 447498 D01 v06, the analysis concludes that this product when transmitting in standalone within a host device, is compliant with the FCC RF exposure requirements in mobile exposure condition, provided the conducted power and antenna gain do not exceed the limits for each given frequency band per wireless technology as follow table:

Device	Band	Frequency (MHz)	Maximum Conducted Power (dBm)	Standalone Maximum Antenna Gain (dBi)	Collocated Maximum Antenna Gain (dBi)
WWAN	WCDMA Band II	1852.4	24.00	7.00	6.00
	WCDMA Band IV	1712.4	24.00	5.50	5.50
	WCDMA Band V	826.4	24.00	6.50	6.00
	LTE Band 2	1850.7	24.50	7.00	6.00
	LTE Band 4	1710.7	24.00	5.50	5.50
	LTE Band 5	824.7	24.50	6.50	6.00
	LTE Band 7	2502.5	24.50	7.00	6.00
	LTE Band 12	699.7	24.50	6.00	6.00
	LTE Band 13	779.5	24.50	6.00	6.00
	LTE Band 17	706.5	24.50	6.00	6.00
WLAN/BT	WLAN2.4GHz	2412.0	16.50	0.00	0.00
	WLAN5GHz	5180.0	14.00	1.00	1.00
	Bluetooth	2402.0	10.00	0.00	0.00