

RF Exposure Evaluation Report

APPLICANT : MeiG Smart Technology Co., Ltd
EQUIPMENT : SLM757
BRAND NAME : MeiG Smart Technology Co., Ltd
MODEL NAME : SLM757A
FCC ID : 2APJ4-SLM757A
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.



Approved by: Mark Qu / Manager



Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone,
Jiangsu Province 215335, 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
FA891203	Rev. 01	Initial issue of report	Nov. 29, 2018



1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	Sporton International (Kunshan) Inc.
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958

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	SLM757
Brand Name	MeiG Smart Technology Co., Ltd
Model Name	SLM757A
FCC ID	2APJ4-SLM757A
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 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 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	AMR/RMC 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
HW Version	SLM757PA_MB_V1.01_PCB
SW Version	SLM757PQA_EQ000_2EE0.1F7D165.5C3175F_180924_100_V01_T07
EUT Stage	Production Unit
Remark: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

**3. Maximum RF average output power among production units****<WCDMA/LTE >**

Mode		Maximum Average power(dBm)
WCDMA	Band II	24.00
	Band IV	24.00
	Band V	24.00
LTE	Band 2	23.00
	Band 4	24.00
	Band 5	23.00
	Band 12	24.00
	Band 13	24.00
	Band 17	24.00

<WLAN 2.4GHz>

Mode		Maximum Average Power (dBm)
2.4GHz	802.11b	16.50
	802.11g	15.00
	802.11n-HT20	13.50
	802.11n-HT40	12.00

<WLAN 5GHz>

Mode		Maximum Average Power (dBm)
5.2GHz	802.11a	13.00
	802.11n-HT20	12.50
	802.11n-HT40	11.50
5.3GHz	802.11a	13.50
	802.11n-HT20	12.50
	802.11n-HT40	11.00
5.5GHz	802.11a	13.50
	802.11n-HT20	12.50
	802.11n-HT40	11.50
5.8GHz	802.11a	13.50
	802.11n-HT20	12.50
	802.11n-HT40	11.50



Band / Mode	Average Power (dBm)			
	BR / EDR			LE
	1M	2M	3M	GFSK
Bluetooth	10.00	8.00	8.00	4.50



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/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)	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	-2.00	24.00	22.0	0.16	158.49	0.032	1.000	0.032
WCDMA Band IV	1712.4	-2.00	24.00	22.0	0.16	158.49	0.032	1.000	0.032
WCDMA Band V	826.4	-3.00	24.00	21.0	0.13	125.89	0.025	0.551	0.045
LTE Band 2	1850.7	-2.00	23.00	21.0	0.13	125.89	0.025	1.000	0.025
LTE Band 4	1710.7	-2.00	24.00	22.0	0.16	158.49	0.032	1.000	0.032
LTE Band 5	824.7	-3.00	23.00	20.0	0.10	100.00	0.020	0.550	0.036
LTE Band 12	699.7	-3.00	24.00	21.0	0.13	125.89	0.025	0.466	0.054
LTE Band 13	779.5	-3.00	24.00	21.0	0.13	125.89	0.025	0.520	0.048
LTE Band 17	706.5	-3.00	24.00	21.0	0.13	125.89	0.025	0.471	0.053
WLNA2.4GHz Band	2412.0	0	16.50	16.5	0.04	44.67	0.009	1.000	0.009
5.2GHz WLAN	5180.0	1.00	13.00	14.0	0.03	25.12	0.005	1.000	0.005
5.3GHz WLAN	5260.0	1.00	13.50	14.5	0.03	28.18	0.006	1.000	0.006
5.5GHz WLAN	5500.0	1.00	13.50	14.5	0.03	28.18	0.006	1.000	0.006
5.8GHz WLAN	5745.0	1.00	13.50	14.5	0.03	28.18	0.006	1.000	0.006
Bluetooth	2402.0	0	10	10.0	0.01	10.00	0.002	1.000	0.002

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.

**5.2. Collocated Power Density Calculation**

WWAN Power Density / Limit	WLAN2.4GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WWAN+WLAN2.4GHz+Bluetooth
0.054	0.009	0.002	0.065
WWAN Power Density / Limit	WLAN5GHz Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WWAN+WLAN5GHz+Bluetooth
0.054	0.006	0.002	0.062

Note:

1. 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.
2. 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:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.