



Maximum Permissible Exposure Evaluation

FCC ID: 2A6YC-M8

1. Client Information

Applicant	:	Shenzhen meterle photoelectric Technology Co., Ltd.
Address	:	7th floor, no.10-5, Minsheng 1st Road, Baoyuan community, Shiyan street, Bao'an District, Shenzhen, China
Manufacturer	:	Shenzhen Feng Ruixiang Intelligent Technology Co., Ltd.
Address	:	302, Building 6, no.4 Zhongxing road, Zhangge community, Fucheng street, Longhua district, Shenzhen, Guangdong, P.R.China

2. General Description of EUT

EUT Name	:	Projector
Models No.	:	M8-F, M8-A, M8-B, M8-C, M8-D, M8-E, M8-G, M8-TPH, M7, M7-02, M6, M9, M10, M20, M30, Z1, Z3, Z5, P18, H1, H6
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance color.
Product Description	:	Operation Frequency: Bluetooth 5.1(BDR+EDR): 2402MHz~2480MHz 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz-2452MHz
Power Rating	:	Input: 100-240V~50/60Hz
Software Version	:	N/A
Hardware Version	:	STM6710WLK
Connecting I/O Port(S)	:	Please refer to the User's Manual
Remark	:	the MPE report used the EUT-2(RW-C-202205-0019-1-2#).

MPE Calculations

1. Antenna Gain:

Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
Bluetooth	N/A	N/A	PCB	-0.58

Antenna	Brand	Model Name	Type	Antenna Gain(dBi)
2.4G WIFI	N/A	N/A	Internal	2.0

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

4. Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$

5. Standalone MPE Evaluation:

Bluetooth

Mode	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
GFSK	2402	0.18	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2441	0.29	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2480	-0.57	0±1	1	-0.58	0.8749	20	0.0002	1.0000
π/4-DQPSK	2402	0.96	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2441	0.88	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2480	0.17	0±1	1	-0.58	0.8749	20	0.0002	1.0000
8-DPSK	2402	-0.56	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2441	-0.64	0±1	1	-0.58	0.8749	20	0.0002	1.0000
	2480	-1.35	-1±1	0	-0.58	0.8749	20	0.0001	1.0000

Mode	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
802.11b	2412	17.04	17±1	18	2.0	1.5848	20	0.0198	1.0000
	2437	17.49	17±1	18	2.0	1.5848	20	0.0198	1.0000
	2462	17.55	17±1	18	2.0	1.5848	20	0.0198	1.0000
802.11g	2412	17.89	17±1	18	2.0	1.5848	20	0.0198	1.0000
	2437	18.14	18±1	19	2.0	1.5848	20	0.025	1.0000
	2462	18.34	18±1	19	2.0	1.5848	20	0.025	1.0000
802.11n(HT20)	2412	18.04	18±1	19	2.0	1.5848	20	0.025	1.0000
	2437	18.38	18±1	19	2.0	1.5848	20	0.025	1.0000
	2462	18.39	18±1	19	2.0	1.5848	20	0.025	1.0000
802.11n(HT40)	2422	14.07	14±1	15	2.0	1.5848	20	0.0099	1.0000
	2437	14.21	14±1	15	2.0	1.5848	20	0.0099	1.0000
	2452	14.40	14±1	15	2.0	1.5848	20	0.0099	1.0000

Remark:

1. Output power including turn-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.
4. Only the worst power was evaluated for each wireless function

6. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

7. Summary simultaneous transmission information

The sample supports two antennas for BT and WLAN. The BT and WLAN can transmit simultaneous.

The BT/WLAN are the different antenna

According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

\sum of MPE ratios ≤ 1.0

8. Summary simultaneous transmission results

BT + 2.4G Wifi Maximum Simultaneous transmission MPE Ratios is

$0.0002+0.025=0.0252 \leq 1.0$.

9. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF REPORT-----