

RF Exposure Evaluation

FCC ID: 2ADVS-ML131

1. Client Information

Applicant : Mego Optoelectronics (Tianjin) Co., Ltd.
Address : 202-1Unit, BuildingD, Hi-Tech Haitai innovation Base, Tianjin, China
Manufacturer : Tianjin Greatstrongind Opticalelectric Industrial Co., Ltd.
Address : 7H, Hua Chuang Building, No.8 JinPing Road, Nankai District, Tianjin, China

2. General Description of EUT

EUT Name	:	LED Pico Projector
Models No.	:	ML131, ML132, ML133, ML134, ML135 ,ML136, ML137, ML138, ML139, G2, G3, G4, G5, G6, G7, G8, G9, G10, G20, G30, G50, G80
Brand Name	:	MEGO/MEGAPOWER
Model Difference	:	All the other models are identical in the same PCB layout, interior structure and electrical circuits, The only difference is model name for commercial purpose.
Product Description	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11 n(HT40): 2422MHz~2452MHz
	:	Number of Channel: 802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
	:	Max Peak Output Power: 802.11b: 9.03 dBm 802.11g: 9.04 dBm 802.11n (HT20): 9.06 dBm 802.11n (HT40): 8.99dBm
	:	Antenna Gain: 0 dBi FPC Antenna
	:	Modulation Type: 802.11b: DSSS (CCK, QPSK, BPSK) 802.11g: OFDM 802.11n: OFDM
Power Supply	:	DC power supplied by AC/DC Adapter DC Voltage supplied from Li-ion battery.
Power Rating	:	Input: AC 100~240V 50/60Hz 1.0A Max DC 7.4V 10Wh from Li-ion battery Output: DC 12V 2000mA
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note: More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.
 - (1) Clause 4.3: General SAR test reduction and exclusion guidance
 - Sub clause 4.31: Standalone SAR test exclusion considerations
 - 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 50 mm are determined by:
$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}]}{\leq 3.0 \text{ for 1-g SAR}}$$

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}]}{\leq 7.5.0 \text{ for 10-g SAR}}$$

2.

Calculation:

802.11b Mode						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	TX Power (mW)	Calculation Value	Threshold Value
2.412	9.03	0	± 0.5	8.97	2.788	3.0
2.437	9.01	0	± 0.5	8.93	2.789	3.0
2.462	8.96	0	± 0.5	8.83	2.771	3.0
802.11g Mode						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	TX Power (mW)	Calculation Value	Threshold Value
2.412	9.02	0	± 0.5	8.95	2.781	3.0
2.437	9.04	0	± 0.5	8.99	2.808	3.0
2.462	8.93	0	± 0.5	8.77	2.752	3.0
802.11n(HT20) Mode						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	TX Power (mW)	Calculation Value	Threshold Value
2.412	9.00	0	± 0.5	8.91	2.768	3.0
2.437	9.05	0	± 0.5	9.02	2.815	3.0
2.462	9.06	0	± 0.5	9.04	2.836	3.0
802.11n(HT40) Mode						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	TX Power (mW)	Calculation Value	Threshold Value
2.422	8.97	0	± 0.5	8.85	2.755	3.0
2.437	8.99	0	± 0.5	8.89	2.776	3.0
2.452	8.96	0	± 0.5	8.83	2.766	3.0

So standalone SAR measurements are not required.