

RF Exposure Evaluation

FCC ID: XMF-MID8001

1. Client Information

Applicant : Lightcomm Technology Co., Ltd.
Address : RM 1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP STREET, KWUN TONG, KOWLOON, HONG KONG
Manufacturer : Huizhou Hengdu Electronics Co.,Ltd.
Address : DIP South Area, Huiao Highway, Huizhou, Guangdong, China

2. General Description of EUT

EUT Name	:	MID
Models No.	:	MID8001-IB, DL801W
Models Difference	:	All models are identical in the same PCB layout, interior structure and electrical circuit, The only difference is model name for commercial purpose.
Product Description	:	Operation Frequency: WiFi 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz BLE 2402~2480MHz Bluetooth 2402~2480MHz
	Number of Channel:	WiFi 802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels BLE 40 Channels Bluetooth 79 Channels
	Max Peak Output Power:	WiFi 802.11b: 9.09 dBm 802.11g: 8.95dBm 802.11n (HT20): 8.89dBm 802.11n (HT40): 8.97dBm BLE 5.778 dBm Bluetooth GFSK:4.204dBm 8-DPSK: 4.098dBm
	Antenna Gain:	0 dBi PCB Antenna
	Modulation Type:	WiFi: 802.11b: DSSS (CCK, QPSK,BPSK) 802.11g: OFDM 802.11n: OFDM BLE: GFSK Bluetooth: GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps)

TB-RF-074-1.0

			8-DPSK(3 Mbps)
Power Supply	:	DC power supplied by AC/DC Adapter DC Voltage supplied from Li-ion battery.	
Power Rating	:	Input: AC 100~240V 50/60Hz 0.35A Max Output: 5V 2A DC 3.7V from Li-ion battery	
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 ≤ 5 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $\sqrt{f_{\text{(GHz)}}}$ ≤ 3.0 for 1-g SAR
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $\sqrt{f_{\text{(GHz)}}}$ $\leq 7.5.0$ for 10-g SAR

2. Calculation:

Test separation: 5mm						
WiFi Mode(802.11b)						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	9.03	0	± 0.5	8.97	2.79	3.0
2.437	9.02	0	± 0.5	8.95	2.80	3.0
2.462	9.09	0	± 0.5	9.10	2.86	3.0
WiFi Mode(802.11g)						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.94	0	± 0.5	8.79	2.73	3.0
2.437	8.73	0	± 0.5	8.38	2.61	3.0
2.462	8.95	0	± 0.5	8.81	2.76	3.0
WiFi Mode(802.11n(HT20))						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.89	0	± 0.5	8.69	2.70	3.0
2.437	8.73	0	± 0.5	8.38	2.61	3.0
2.462	8.88	0	± 0.5	8.67	2.72	3.0
WiFi Mode(802.11n(HT40))						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.422	8.97	0	± 0.5	8.85	2.75	3.0
2.437	8.79	0	± 0.5	8.49	2.65	3.0
2.452	8.55	0	± 0.5	8.04	2.52	3.0
BLE Mode						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2402	5.765	0	± 0.5	4.232	1.312	3.0
2442	5.289	0	± 0.5	3.792	1.185	3.0
2480	5.778	0	± 0.5	4.244	1.337	3.0

Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2402	4.204	0	± 0.5	2.954	0.916	3.0
2441	4.037	0	± 0.5	2.842	0.888	3.0
2480	3.989	0	± 0.5	2.811	0.885	3.0
Bluetooth Mode (8-DPSK)						
Frequency (GHz)	Conducted Power (dBm)	Ant Gain (dBi)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	4.098	0	± 0.5	2.883	0.894	3.0
2.441	3.892	0	± 0.5	2.749	0.859	3.0
2.480	3.852	0	± 0.5	2.724	0.858	3.0

So standalone SAR measurements are not required.