Shenzhen Toby Technology Co., Ltd.

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)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
         [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤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.