RF Exposure Evaluation

FCC ID: 2ABEPTW1066

1. Client Information

Applicant	:	Shenzhen Tianzheng Hongye Technology Co.Ltd.
Address	:	Building C, Guancheng High-tech Science and Technology Park, Zhenxing Road, Carp River Industrial Zone, Lou Village, Gongming Town, Guangming New District, Shenzhen City, Guangdong Province, China
Manufacturer	:	Shenzhen Tianzheng Hongye Technology Co.Ltd.
Address	:	Building C, Guancheng High-tech Science and Technology Park, Zhenxing Road, Carp River Industrial Zone, Lou Village, Gongming Town, Guangming New District, Shenzhen City, Guangdong Province, China

2. General Description of EUT

EUT Name	:	10.1 inch MID	
Models No.	:	TM101A550L, TM101A530L, TM101A520L, TW1066G	
Model Difference	:	All 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: Bluetooth:2402~2480MHz WIFI: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz	
		Number of Channel:	Bluetooth:79 Channels BLE: 40 channels WIFI: 802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
		Max Peak Output Power:	Bluetooth: 4.745 dBm(GFSK) BLE: -2.725 dBm WIFI: 802.11n (HT20): 9.50 dBm
		Antenna Gain:	2.09 dBi FPC Antenna
		Modulation Type:	Bluetooth: GFSK(1 Mbps) π/4-DQPSK(2 Mbps) 8-DPSK(3 Mbps) BLE:GFSK WIFI: 802.11b: DSSS 802.11g: OFDM 802.11n: OFDM
Power Supply	:	DC Voltage supplied from AC/DC adapter DC power by Li-ion Battery	

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

Power Rating	**:**	Adapter 1#(TEKA018-0502500UK 1509): Input: AC 100~240V 50/60Hz 0.5A Output: 5V/2.5A Adapter 2#(TEKA018-0502500UK 1510): Input: AC 100~240V 50/60Hz 0.5A Output: 5V/2.5A DC 3.7V from 45.6Wh 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	9.23	3	±0.5	9.397	2.919	**3.0**
2.437	9.22	3	±0.5	9.376	2.927	**3.0**
2.462	9.28	3	±0.5	9.506	2.983	**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	9.18	3	±0.5	9.290	2.885	**3.0**
2.437	9.11	3	±0.5	9.141	2.854	**3.0**
2.462	9.28	3	±0.5	9.506	2.983	**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	9.12	3	±0.5	9.204	2.846	**3.0**
2.437	9.12	3	±0.5	9.204	2.861	**3.0**
2.462	9.20	3	±0.5	9.333	2.929	**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	9.14	3	±0.5	9.204	2.865	**3.0**
2.437	9.14	3	±0.5	9.204	2.874	**3.0**
2.452	9.26	3	±0.5	9.462	2.963	**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
2.402	4.564	3	±0.5	3.209	0.995	**3.0**
2.441	4.745	3	±0.5	3.346	1.045	**3.0**
2.480	4.724	3	±0.5	3.330	1.049	**3.0**
Bluetooth Mode (π /4-DQPSK)						
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	4.532	3	±0.5	3.186	0.987	**3.0**
2.441	4.739	3	±0.5	3.341	1.044	**3.0**
2.480	4.694	3	±0.5	3.307	1.041	**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	3.441	3	±0.5	2.478	0.768	**3.0**
2.441	3.552	3	±0.5	2.542	0.794	**3.0**
2.480	3.454	3	±0.5	2.485	0.783	**3.0**
BLE(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
2.402	-2.749	3	±0.5	0.596	0.185	**3.0**
2.442	-2.725	3	±0.5	0.599	0.187	**3.0**
2.480	-3.450	3	±0.5	0.507	0.160	**3.0**

So standalone SAR measurements are not required.