

RF Exposure Evaluation

Test report

**On Behalf of
VTIN TECHNOLOGY Co.,Limited**

**For
3-mode single keyboard
Model No.: PC304A**

FCC ID: 2AIL4-PC304A

Prepared for : VTIN TECHNOLOGY Co.,Limited
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1 General Description of EUT

Product Name	3-mode single keyboard
Model/Type reference	PC304A
Trade Mark	VICTSING
FCC ID	2AIL4-PC304A
Hardware Version	VER 2.0
Software Version	V1.8
2.4GHz	
Operation frequency	2403MHz—2480MHz
Channel number	16
Modulation Technology	GFSK
BLE	
Operation frequency:	2402MHz ~ 2480MHz
Channel separation:	2MHz
Channel number:	40
Modulation Technology:	GFSK
EDR	
Version:	Supported EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	1.8dBi
Power supply:	DC 3.7V from battery

2 RF Exposure Compliance Requirement

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}$$

Where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The results is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

3 EUT RFExposure

Antenna Gain: 1.8dBi

Define the minimum distance: 5mm

GFSK(2.4GHz)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2403MHz)	5.06	6±1	7	5.012	1.554	3.0
Middle (2441MHz)	5.516	6±1	7	5.012	1.566	
Highest (2480MHz)	6.418	6±1	7	5.012	1.579	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Note: For maximum peak conducted output power, please refer to test report HK2009222669-1E

GFSK(BLE)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.979	-3±1	-2	0.631	0.196	3.0
Middle (2440MHz)	-2.954	-3±1	-2	0.631	0.197	
Highest (2480MHz)	-2.098	-3±1	-2	0.631	0.199	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Note: For maximum peak conducted output power, please refer to test report HK2009222669-2E

EDR

DH5						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	3.978	4±1	5	3.162	0.980	3.0
Middle (2441MHz)	3.536	4±1	5	3.162	0.988	
Highest (2480MHz)	3.302	4±1	5	3.162	0.996	
2DH5						
Lowest (2402MHz)	3.642	4±1	5	3.162	0.980	3.0
Middle (2441MHz)	3.212	4±1	5	3.162	0.988	
Highest (2480MHz)	3.047	4±1	5	3.162	0.996	

3DH5						
Lowest (2402MHz)	4.03	4±1	5	3.162	0.980	3.0
Middle (2441MHz)	3.654	4±1	5	3.162	0.988	
Highest (2480MHz)	3.511	4±1	5	3.162	0.996	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Note: For maximum peak conducted output power, please refer to test report HK2009222669-3E