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RF Exposure Evaluation Report

Report No. :	CQASZ20190800040EX-04
Applicant:	VTIN TECHNOLOGY Co.,Limited
Address of Applicant:	UNIT D 16/F ONE CAPITAL PLACE 21 LUARD ROAD WAN CHAI, Hong Kong
Manufacturer:	VTIN TECHNOLOGY Co.,Limited
Address of Manufacturer:	UNIT D 16/F ONE CAPITAL PLACE 21 LUARD ROAD WAN CHAI, Hong Kong
Equipment Under Test (EUT):	
Product:	wireless mouse
Test Model No.:	PC254A
Brand Name:	VICTSING
FCC ID:	2AIL4-PC254A
Standards:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2019-07-30 to 2019-08-28
Test Result :	**PASS***

Tested By: Tom Chen.

(Tom Chen)

Reviewed By: Aaron Ma

(Aaron Ma)

Approved By: Jack Ai

(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD 华夏准测 APPROVED

* In the configuration tested, the EUT complied with the standards specified above.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190800040EX-04	Rev.01	Initial report	2019-08-28

2 Contents

3 General Information

3.1 Client Information

Applicant:	VTIN TECHNOLOGY Co.,Limited
Address of Applicant:	UNIT D 16/F ONE CAPITAL PLACE 21 LUARD ROAD WAN CHAI, Hong Kong
Manufacturer:	VTIN TECHNOLOGY Co.,Limited
Address of Manufacturer:	UNIT D 16/F ONE CAPITAL PLACE 21 LUARD ROAD WAN CHAI, Hong Kong

3.2 General Description of EUT

Product Name:	wireless mouse
Test Model No.:	PC254A
Trade Mark:	VICTSING
Hardware Version:	V2.0
Software Version:	V1.8
2.4G	
Operation Frequency:	2402-2480MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	16
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
EUT Power Supply:	battery: 1.5V

BT5.0	
Operation Frequency:	2402-2480MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
EUT Power Supply:	battery: 1.5V

EDR/BDR	
Bluetooth Version:	V3.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79

Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
EUT Power Supply:	battery: 1.5V

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation[17]
The result 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

4.1.3 EUT RF Exposure

2.4G						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-9.002	-7.0	-7.0	0.200	0.026	3.0
Middle (2441MHz)	-8.738	-7.0	-7.0	0.200	0.026	
Highest (2480MHz)	-7.746	-7.0	-7.0	0.200	0.025	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

BT5.0						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.769	-3.0	-3.0	0.501	0.065	3.0
Middle (2440MHz)	-3.532	-3.0	-3.0	0.501	0.064	
Highest (2480MHz)	-3.073	-3.0	-3.0	0.501	0.064	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

BT3.0

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.364	-3.0	-3.0	0.501	0.066	3.0
Middle (2441MHz)	-3.780	-3.0	-3.0	0.501	0.064	
Highest (2480MHz)	-4.531	-4.0	-4.0	0.398	0.050	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Pi/4DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.259	-2.0	-2.0	0.631	0.081	3.0
Middle (2441MHz)	-2.598	-2.0	-2.0	0.631	0.081	
Highest (2480MHz)	-3.363	-2.0	-2.0	0.631	0.080	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-2.240	-2.0	-2.0	0.631	0.081	3.0
Middle (2441MHz)	-2.578	-2.0	-2.0	0.631	0.081	
Highest	-3.392	-2.0	-2.0	0.631	0.080	

(2480MHz)						
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190800040EX-01 , CQASZ20190800040EX-02 and CQASZ20190800040EX-03