

SAR Exemption Evaluation

Applicant VivaChek Biotech (Hangzhou) Co., Ltd.
FCC ID 2APAPVIM220H
Product BioSieve™ ToxiSmart FIA Reader
Brand BioSieve™
Model VIM220H
Report No. R2308A0886-S2
Issue Date February 23, 2024

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1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 20%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	VivaChek Biotech (Hangzhou) Co., Ltd.
Applicant address	Level 2, Block 2, 146 East Chaofeng Rd. Yuhang Economy Development Zone Hangzhou 311100 Zhejiang PR.China
Manufacturer	VivaChek Biotech (Hangzhou) Co., Ltd.
Manufacturer address	Level 2, Block 2, 146 East Chaofeng Rd. Yuhang Economy Development Zone Hangzhou 311100 Zhejiang PR.China

General Technologies

EUT Description	
EUT Stage	Identical Prototype
Model	VIM220H
Lab internal SN	R2308A0886/S01
Hardware Version	V1.0.0
Software Version	V1.0.0
Antenna Type	Ceramic Chip Antenna
Date of Testing	September 5, 2023 ~ December 21, 2023
Date of Sample Received	August 2, 2023
Note: The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.	

Wireless Technology and Frequency Range

Wireless Technology		Modulation	Operating Mode	Tx (MHz)
Bluetooth LE	2.4G		Version 5.0	2402 ~2480

3 Test Specification, Methods and Procedures

Reference Standards

KDB 447498 D01 General RF Exposure Guidance v06

4 Output Power

Note: The **Output Power** please refers to the RF report (Report No.: R2308A0886-R1V1).

Test Mode	Duty cycle	Duty cycle correction Factor (dB)
Bluetooth LE (1M)	0.632	1.99
Bluetooth LE (2M)	0.333	4.78

Note: when Duty cycle ≥ 0.98 , Duty cycle correction Factor not required.

Test Mode	Carrier frequency (MHz)/ Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)
Bluetooth (Low Energy) (1M)	2402/CH0	-0.36	1.63
	2440/CH19	-0.01	1.98
	2480/CH39	-0.24	1.75
Bluetooth (Low Energy) (2M)	2402/CH0	-3.04	1.74
	2440/CH19	-2.72	2.06
	2480/CH39	-3.20	1.58

Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor

5 Standalone SAR Test Exclusion Considerations

Per KDB 447498 D01, 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:

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

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Per KDB 447498 D01, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Band	Configuration	Frequency (MHz)	Distance (mm)	MAX Power (dBm)	Ratio	SAR test exclusion thresholds	Evaluation
Bluetooth LE	Body	2480	5	2.06	0.51	3	No
	Extremity SAR	2480	5	2.06	0.51	7.5	No

Note: Based on SAR test exclusion, all values meet the SAR test exclusion thresholds and are exempt from routine evaluation.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

*****END OF REPORT *****