

FCC SAR Exclusion Report

Report No. : SFBGDY-WTW-P24080280

Applicant : STORZ & BICKEL GmbH

Address : In Grubenäcker 5-9 78532 Tuttlingen Germany

Product : Portable Vaporizer

FCC ID : 2APJE-SBVY

Brand : STORZ & BICKEL GmbH

Model No. : VENTY

FCC Rule Part : CFR §2.1093

Standards : IEEE Std 1528:2013, KDB 865664 D01 v01r04, KDB 865664 D02 v01r02,
KDB 447498 D04 Interim General RF Exposure Guidance v01

Sample Received Date : Aug. 13, 2024

Date of Evaluation : Aug. 14, 2024

Lab Address : No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location : No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City, Taiwan

FCC Accredited No. : TW0003

CERTIFICATION: The above equipment have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch – Lin Kou Laboratories**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies.

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Table of Contents

Release Control Record	3
1. Summary of Maximum SAR Value	4
2. Description of Equipment Under Test	5
3. SAR Measurement Evaluation	5
3.1 Maximum Output Power	5
3.2 Time-Avg. Power calculation	6
3.3 SAR Testing Exclusions	7
4. Information on the Testing Laboratories	8



Release Control Record

Issue No.	Reason for Change	Date Issued
SFBGDY-WTW-P24080280	Initial release	Aug. 21, 2024

FCC SAR Exclusion Report

1. Summary of Maximum SAR Value

Equipment Class	Mode	Highest Reported SAR _{1g} (W/kg)
DTS	Bluetooth	Not Required

Note:

1. The SAR criteria (**Head & Body: SAR-1g1.6 W/kg, and Extremity: SAR-10g 4.0 W/kg**) for general population/uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992.

Test Reference Guidance: FCC-19-126

FCC SAR Exclusion Report

2. Description of Equipment Under Test

EUT Type	Portable Vaporizer
FCC ID	2APJE-SBVY
Brand Name	STORZ & BICKEL GmbH
Model Name	VENTY
Tx Frequency Bands (Unit: MHz)	Bluetooth : 2402 ~ 2480
Uplink Modulations	Bluetooth : GFSK
Antenna Type	Chip Antenna
Antenna Peak Gain	1.3 dBi
EUT Stage	Engineering Sample

Note: The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

3. SAR Measurement Evaluation

3.1 Maximum Output Power

The maximum conducted power (Unit: dBm) including tune-up tolerance is shown as below.

Bluetooth			
Mode	Channel	Frequency (MHz)	Max. Tune-up
BT LE	0	2402	3.5
	19	2440	3.5
	39	2480	3.5

FCC SAR Exclusion Report

3.2 Time-Avg. Power calculation.

<Considerations Related to EUT Duty Cycle>

Its duty factor was calculated as below, it specified and designed from manufacturer when devices operate at normal usage condition.



Time-domain plot for Bluetooth transmission signal

The duty factor of Bluetooth signal has been calculated as following.

$$\text{Duty Factor} = \text{Pulse Width} / \text{Total Period} = 277 / 621 = 44.61\%$$

The calculation of time-averaged power with duty cycle are performed as below.

<The calculation of time-averaged power with duty cycle>

Mode	Max. Tune-up (dBm)	Max. Tune-up (mW)	Duty Cycle (%)	Scaled and Averaged Max. Tune-up Power (mw)
BT LE	3.5	2.239	44.61	0.999

FCC SAR Exclusion Report

3.3 SAR Testing Exclusions

According to KDB 447498 D04 Interim General RF Exposure Guidance v01, the SAR test exclusion condition is based on either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater, and the minimum test separation distance required for the exposure conditions. The SAR exclusion threshold is determined by the following formula.

1. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequency from 0.3 GHz to 6 GHz (inclusive).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Mode	Frequency (GHz)	Maximum Tune Up Power or ERP (mW)	EUT to User Head		
			Ant. to Surface (mm)	Calculated Result (mW)	Require SAR Testing?
BT LE	2.48	0.999	138	1509.25	No

Mode	Frequency (GHz)	Maximum Tune Up Power or ERP (mW)	EUT to User Hands		
			Ant. to Surface (mm)	Calculated Result (mW)	Require SAR Testing?
BT LE	2.48	0.999	5	6.79	No

Note:

1. When the device output power is less than the power threshold shown in above table, the SAR testing exclusion is applied.
2. Units for d are cm and units for f are GHz.
3. The Calculated Result is scaling x2.5 for extremity exclusion threshold.

Summary:

Since the SAR testing for all device orientations apply SAR test exclusion per KDB 447498, SAR testing for this device is not required.

4. Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The road map of all our labs can be found in our web site also.

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