

# 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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Release Control Record

| Issue No.            | Reason for Change | Date Issued   |
|----------------------|-------------------|---------------|
| SFBGDY-WTW-P24080280 | Initial release   | Aug. 21, 2024 |
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## FCC SAR Exclusion Report

### 1. Summary of Maximum SAR Value

| Equipment Class | Mode      | Highest Reported SAR <sub>1g</sub> (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<br>(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.

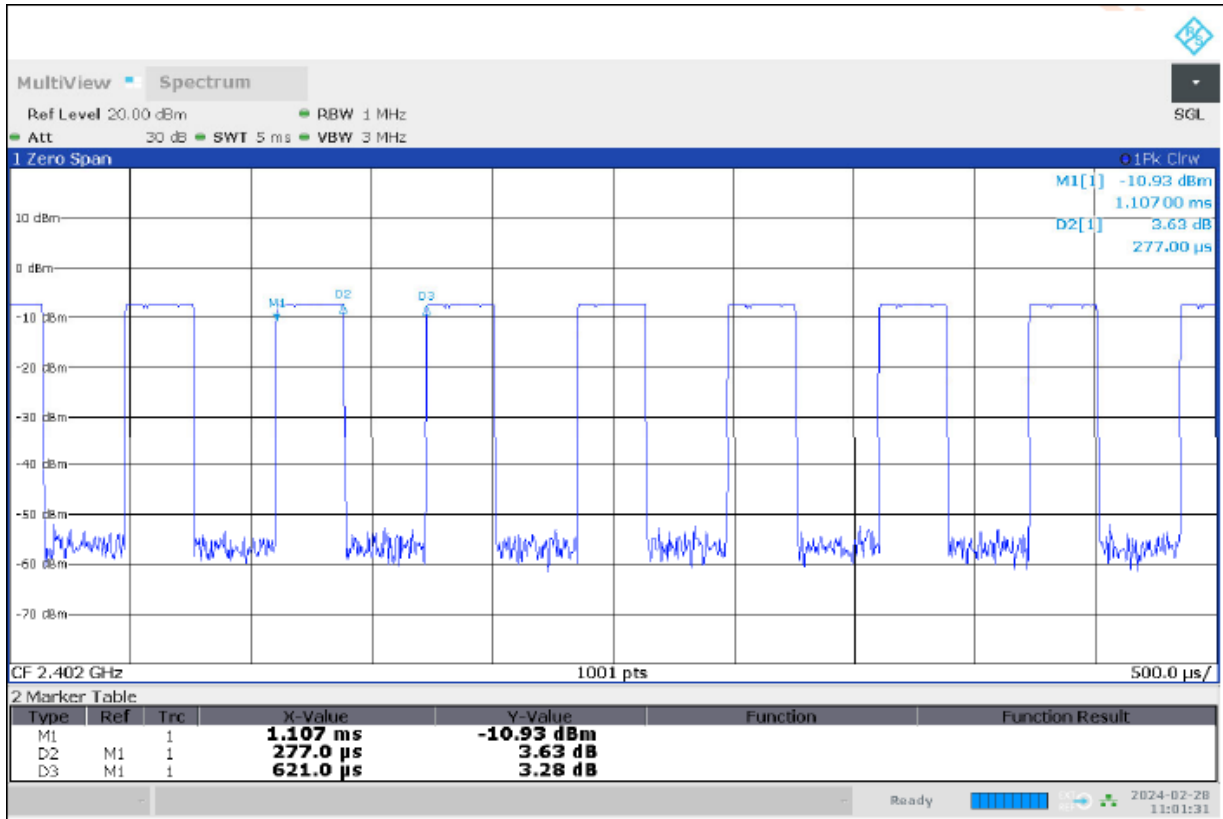
| Bluetooth |         |                 |              |
|-----------|---------|-----------------|--------------|
| Mode      | Channel | Frequency (MHz) | Max. Tune-up |
| BT LE     | 0       | 2402            | 3.5          |
|           | 19      | 2440            | 3.5          |
|           | 39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

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### 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                                       |

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### 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:

**Taiwan Huaya Lab:**

Add: No. 19, Huaya 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan  
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The road map of all our labs can be found in our web site also.

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