

# RF EXPOSURE REPORT

## CERTIFICATE OF CONFORMITY

**FCC Rule Part: FCC Part 2 (Section 2.1091)**

**Report No.:** MFCFQC-WTW-P25050598

**FCC ID:** 2A3ULBTA1

**Product Name:** BTA1 TV Transmitter

**Brand Name:** SENNHEISER

**Model No.:** BTA1

**Received Date:** 2025/5/27

**Test Date:** 2025/6/16

**Issued Date:** 2025/7/24

**Applicant:** Sonova Consumer Hearing GmbH

**Address:** Am Labor 1, 30900 Wedemark, Germany

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**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 33383, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:**

**Approved by:**



**, Date:**

2025/7/24

Jeremy Lin / Project Engineer

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Prepared by : Celine Chou / Senior Specialist



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## Release Control Record

Issue No.	Description	Date Issued
MFCFQC-WTW-P25050598	Original release.	2025/7/24

## 1 Certificate

**Product Name:** BTA1 TV Transmitter

**Brand Name:** SENNHEISER

**Model No.:** BTA1

**Sample Status:** Engineering sample

**Applicant:** Sonova Consumer Hearing GmbH

**Test Date:** 2025/6/16

**FCC Rule Part:** FCC Part 2 (Section 2.1091)

**Standard:** KDB 447498 D04 Interim General RF Exposure Guidance v01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, 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 RF characteristics under the conditions specified in this report.

## 2 Applicable RF Exposure Limit

§ 1.1310 Radiofrequency radiation exposure limits.

(a) Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b) of this part within the frequency range of 100 kHz to 6 GHz (inclusive).

(b) The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.

(c) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

### (e) Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields

#### ➤ Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	<30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	<30
30-300	27.5	0.073	0.2	<30
300-1,500	...	...	f/1500	<30
1,500-100,000	...	...	1.0	<30

f = frequency in MHz. \* = Plane-wave equivalent power density.

#### ➤ Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6

f = frequency in MHz. \* = Plane-wave equivalent power density.

MPE-based Exemption – §1.1307(b)(3)(i)(C)

- The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.
- Table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

RF Source frequency (MHz)	Minimum Distance		Threshold ERP (watts)
	$\lambda_L/ 2\pi$	$\lambda_H/ 2\pi$	
0.3-1.34	159 m–35.6 m		1,920 $R^2$ .
1.34-30	35.6 m–1.6 m		3,450 $R^2/f^2$ .
30-300	1.6 m–159 mm		3.83 $R^2$ .
300-1,500	159 mm–31.8 mm		0.0128 $R^2f$ .
1,500-100,000	31.8 mm–0.5 mm		19.2 $R^2$ .
R must be at least $\lambda/2\pi$ , where $\lambda$ is the free-space operating wavelength in meters.			

### 3 General Description

Test Item Description	TV Transmitter
Product Name	BTA1 TV Transmitter
Brand Name	SENNHEISER
Model No.	BTA1
Status of EUT	Engineering sample
Power Ratings	Input: 5 Vdc, 1000 mA (from Type C - USB interface) Output: 5 Vdc, 500 mA (USB-C for charging port)
Power Supply (Nominal & Testing)	5 Vdc, 1000 mA (from Type C - USB interface)
Operating Temperature Range	0 °C – +40 °C
Modulation Type	BLE: GFSK
Transmission Technology	BLE: DSSS
Technology	Bluetooth
Operating Frequency	BLE 1M: 2402 – 2480 MHz BLE 2M: 2404 – 2478 MHz (excluding 2426 MHz) (for Frequency Band: 2400-2483.5 MHz)
Number of Channel	BLE 1M: 40 BLE 2M: 37
Channel Spacing	BLE: 2 MHz
Channel Bandwidth	BLE 1M: 80 MHz BLE 2M: 74 MHz
Data Transfer Rate	BLE 4.0: 1 Mbps BLE 5.4: 2 Mbps
HW Version	A2
SW Version	V6.2.3
Output Power	2.564 mW (4.09 dBm)
Cable Supplied / Device Ports	1.2m shielded USB cable without core 1.2m unshielded audio cable without core 1.2m optical cable without core

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

## 4 Test Results

Environmental Conditions:	24°C, 64% RH	Tested By:	Match Tsui
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### MPE-based Exemption §1.1307(b)(3)(i)(C)

Operation Mode	Frequency Band (MHz)	Average Power (mW)	Antenna Gain (dBi)	Maximum ERP (mW)	Distance (cm)	Limit Threshold (mW)	Test Result
BLE	2402-2480	2.477	1.69	2.228	20	768	Pass

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

## 5 Conclusion

Source-base time average power is below Exemption Criteria and/or Routine Evaluation MPE thresholds, therefore the device is compliant FCC RF exposure requirement.

## 6 Construction Photos of EUT

Please refer to the attached file (CFQC-WTW-P25050598 (EUT photo)).

## 7 Information of 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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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

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