

RF Exposure

BABT TCB

Balfour House,
Churchfield Road,
Walton-on-Thames,
Surrey, KT12 2TD

ATTN: Reviewing Engineer

RF exposure information for the equipment VWAND (FCC ID: 2AAHG1)

Models: **SVW-10-1021B**
SVW-10-1021W

1. Introduction:

The device **VWAND** (FCC ID: **2AAHG1**) is designed to be used in portable exposure conditions.

This product integrates an **RN-42** Bluetooth 2.1 + EDR module (FCC ID: **T9J-RN42**). The **RN-42** Bluetooth 2.1 + EDR module is granted with a modular approval.

The antenna used for **VWAND** transmitter and the antenna used for the **RN-42** Bluetooth 2.1 + EDR module are co-located and can transmit simultaneously.

2. SAR limits:

According to § 2.1093 (d) (2) the limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue

3. Compliance criteria:

3.1. Standalone compliance criteria.

Individual transmitters are deemed to comply with § 2.1093 requirements if the output power of the transmitter meets the conditions specified in section 4.3.1 (Standalone SAR test exclusion) considerations of the document "KDB 447498 D01 General RF Exposure Guidance v05r01".

3.2. Simultaneous transmission compliance criteria

According to section 4.3.2. (Simultaneous transmission SAR test exclusion considerations) of the document "KDB 447498 D01 General RF Exposure Guidance v05r01" when the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

When the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion:

- $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})^x \cdot [\sqrt{f(\text{GHz})}]$
W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

4. Compliance calculations:

4.1. Standalone transmission - VWAND (FCC ID: 2AAHG1)

Equipment transmits at 13.561 MHz with a maximum field strength of 47.27 dB μ V/m@3m. This field strength is equivalent to a eirp of 15.98983006 nW (0.000000016 mW).

According to formulation given in section 4.3.1 3) (Standalone SAR test exclusion considerations for frequencies below 100 MHz), the power threshold at 13.561 MHz for distances ≤ 5 mm is 443 mW.

Equipment output power is far below of the power threshold and so that it is deemed to comply with exposure requirements.

Estimated SAR according to formulation: (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm) $\cdot[\sqrt{f(\text{GHz})/x}]$ W/kg for test separation distances ≤ 50 mm; is:

0.00000005

4.2. Standalone transmission – RN-42 (FCC ID: T9J-RN42)

Equipment transmits in frequency range 2402-2480 MHz with a maximum output power of 4 mW.

According to formulation given in section 4.3.1 3) (Standalone SAR test exclusion considerations for frequencies below 100 MHz, the power threshold at 2402-2480 MHz for distances ≤ 5 mm is 10 mW.

Equipment output power is far below of the power threshold and so that it is deemed to comply with exposure requirements.

Estimated SAR according to formulation: (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm) $\cdot[\sqrt{f(\text{GHz})/x}]$ W/kg for test separation distances ≤ 50 mm; is:

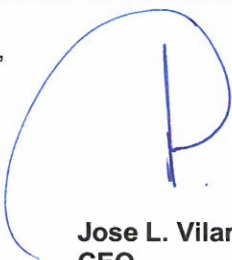
0.16797883

4.3. Simultaneous transmission

Estimated SAR for VWAND (FCC ID: 2AAHG1) + Estimated SAR for RN-42 (FCC ID: T9J-RN42) = 0.00000005 W/Kg + 0.16797883 W/Kg = 0.16797888 W/Kg ≤ 1.6 W/Kg

Aggregated SAR is far below the limit and so that the equipment complies with RF exposure requirements.

Sincerely,



Name: **Jose L. Vilar**
Position: **CEO**
Company: **Sistelnetworks S.L.**
Address: **Ronda Narciso Monturiol 6, Dpcho. 109B, 46980 Paterna (Valencia), Spain**
Telephone: **+34961366533**
Fax: **+34961318383**
Email: jlvilas@siselbanda.es