

FCC ID: 2ACWNZSR6783 ZoneSafe Control Unit


RF Exposure Limits

In line with the requirements for FCC certification the following information is provided for reference purposes.

The ZoneSafe Control Unit (P/N: ZSR6783-FCC) has an intentional transmitter at 125kHz, and as-such there are no applicable rules for RF exposure. However, the Control Unit also contains a 2.4GHz WLAN module (FCC ID: R68XPICOW) that is subject to assessment for RF exposure.

For completeness the following calculations have been prepared:

1. The ZoneSafe Control Unit should always be greater than 20cm from a person at all times, therefore it is considered to be a "Mobile" device.
2. FCC RF Exposure Limit for a mobile device is 1.0mW/cm²
3. The WLAN module's RF Exposure calculation (taken from the FCC report) is 0.08198 mW/cm², therefore the WLAN module meets the requirements at only 8.2% of the limit (1.0 mW/cm²).
4. From the test house report, the maximum RF output of the Control Unit was measured at 108.58 dB μ V/m at 3m.
5. Using the FCC's basic calculation, this is extrapolated 0.2m as 155.6 dB μ V/m.
6. 155.6 dB μ V/m equates to 60.4 V/m
7. A limit of exposure for the general public at 125 kHz does not exist, so using the nearest available limit of 614 V/m at 300 kHz.
8. Therefore 60.4 V/m is 9.8% of the 614 V/m limit.
9. Combining the 8.2% of the WLAN module and the 9.8% of the Control Unit's RF output gives a total of only 18% (0.17998) of the RF exposure limit.
10. The device is only at 18% of the RF Exposure limits, and is therefore compliant.

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