

Duty cycle explanation for Ekahau A5 WiFi location tag

To whom it may concern,

The Ekahau A5 WiFi location tag transmits its location updates in blink mode during which the tag can transmit up to a maximum of 10 blinks per channel (burst mode). This operation will require the radio TX to be on for a duration $T = 80\mu s$.

If all allowed channels are used (1-11) the maximum amount of $10 \times 11 = 110$ blinks will be transmitted with every location update. In this case the TX will be ON for time $T_{max} = 110 \times 80\mu s = 8.8ms$. The tag can be configured to transmit its location as frequently as once per second, with a period $P = 1s$.

The max duty cycle that the tag can be operated to is:

$$D = \frac{T}{P} \times 100\% = \frac{0.0088s}{1s} \times 100\% = 0.88\%$$

Yours Faithfully



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