

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 $T_{\max} = 110 \times 80\mu s = 8.8\text{ms}$. The tag can be configured to transmit its location as frequently as once per second, with a period $P = 1\text{s}$.

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

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

Yours Faithfully



Franco de Lorenzo
VP of Engineering
Ekahau

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Ekahau Inc,

USA (Head Quarters)
1851 Alexander Bell Drive | Suite 105 | Reston, VA 20191
Tel: 1-866-4EKAHAU | Fax: 1-703-860-2028
sales-americas@ekahau.com

Europe (Sales, R&D, Product Management)
Hiilikatu 3 | 00180 Helsinki, Finland
Tel: +358-20-743 5910 | Fax: +358-20-743 5919
sales-europe@ekahau.com

APAC (Regional office)
B38, Tower 8, Imperial Cullinan
10 Hoi Fai Road, Tai Kok Tsui | Hong Kong
Tel: +852 9227 8406 | sales-asia@ekahau.com