RF TECHNOLOGIES®

DUTY CYCLE INFORMATION

The Wi-Fi Tag has no pushbutton and the firmware ensures that it can only be on the maximum of 4.4ms in rare circumstances. Typically the packets will be much less than the maximum stated and they never transmit these packets faster than 5 seconds. A typical scenario would be a packet smaller than the maximum possible packet every few minutes.

The power density, S, generated by some value of EIRP at a given distance, d, is related by the following:

$$S = EIRP / (4*pi*d^2)$$

The distance, given a maximum EIRP of 22.67dBm (185mW), at which the radiated power density of the EUT is equal to the human RF exposure limit is 2.96cm from the antenna.

Normally the device would transmit a short burst every few minutes. The worst case burst length is roughly 4.4ms. For the duty cycle test, the EUT was configured to transmit this worst case packet every 100ms for ease of testing. Therefore, the correction factor should be roughly 27dB. Given a max output power of 22.67dBm, the output power would be average -5.23dBm (0.3mW). The EUT should therefore be exempt from SAR evaluation due to the fact that the output power is below 24.37mW threshold after duty cycle adjustment.

We would like it to be considered a portable device so that down the road we could use the system for people location. Initially, we are not going to support location of people because it is much more difficult to do so accurately, but we would like the ability to do so in the future.

Regards,

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