

## Badge Tag V2

**Product name: Badge Tag V2 SA91004005**

Specifications:

<b>Frequency:</b>	905-917.14MHz ISM license free band
<b>Number of Channels:</b>	16
<b>Modulation:</b>	2-FSK
<b>Channel bandwidth:</b>	800 KHz
<b>EIRP:</b>	Up to 17dBm, digitally controlled
<b>Communication protocol:</b>	N3.
<b>Transmission:</b>	Event base and on demand
<b>External interfaces:</b>	3 user buttons, buzzer, GPS receiver.
<b>Internal sensors:</b>	Motion, temperature sensors.
<b>Antenna Gain:</b>	0 dBi

### RF EXPOSURE

In compliance with FCC Section 1.1307 (b) (1) for FCC RF exposure:

1. Badge Tag V2 operates in worst case condition with 0.5% duty cycle @ 17dBm peak power, meaning  $17\text{dBm} + 10 \cdot \log(0.5/100) = -6\text{dBm}$  average power, equivalent to 0.25mW ; this is the source based time averaged maximum conducted power of channel, including tune-up tolerance.
2. The highest operating frequency 917.14GHz and  $\sqrt{f(\text{GHz})} = 0.958$
3. The distance between the EUT antenna and human body is 23.7mm, see measurement dY in picture below.
4. **SAR test exclusion** is based on the following calculation according to the KDB procedure:  
$$[(\text{max. power of channel, including tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g ,}$$
$$[0.25 / 23.7] * \sqrt{917.14} = 0.011 \leq 3.0$$

