

KIO RTLS Regular Cell Technical Specifications

eliko

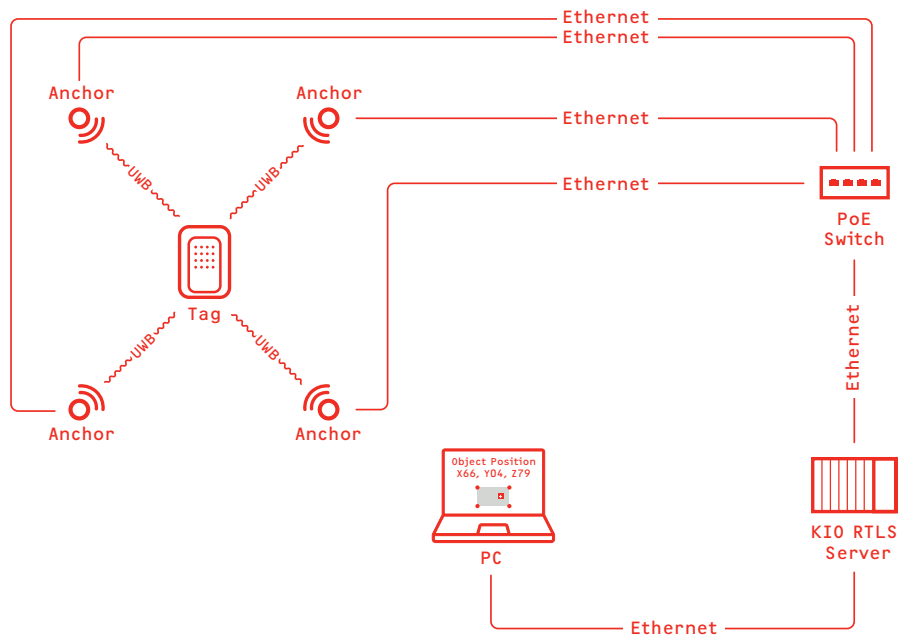
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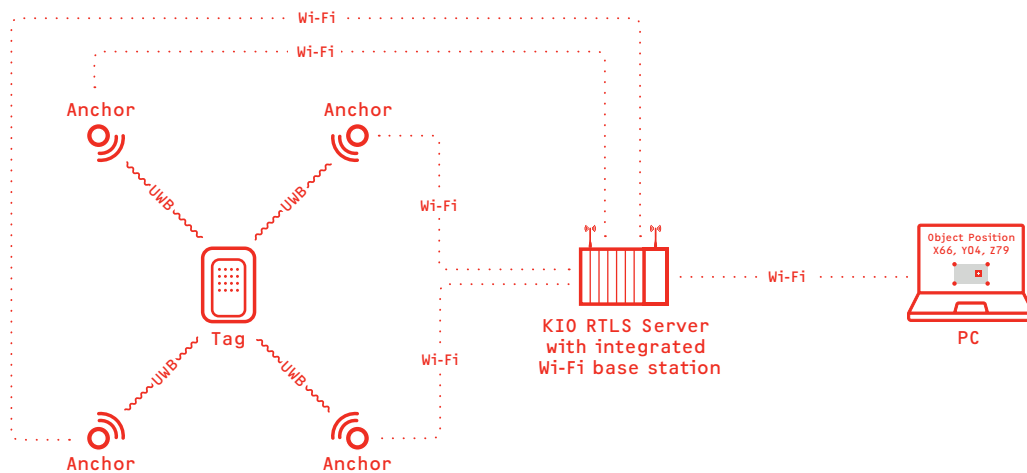
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The KIO RTLS consists of battery-powered tags, anchors, the KIO RTLS Server and the KIO RTLS Manager. The anchors come with both Ethernet and Wi-Fi connectivity options.

PoE Setup

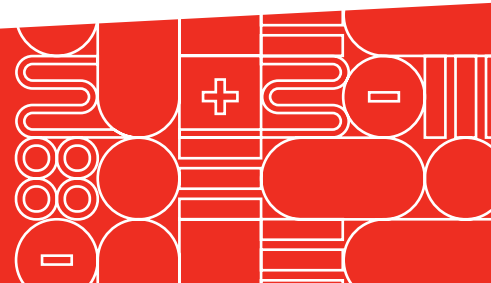


Wi-Fi Setup



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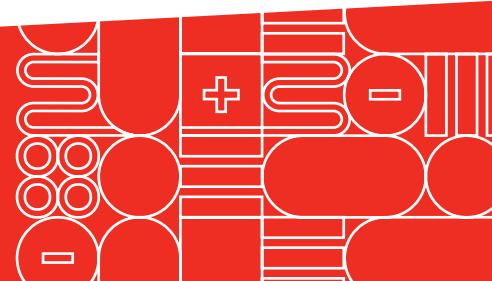
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General System Features	
Anchor density	One anchor after every 50 m in line-of-sight (LoS), cell covers ca 2500 m ² , depending on the shape of the room and obstacles
Tag operational distance	Up to 70 m from the anchor
Anchors per cell	4-10 – additional anchors improve the positioning accuracy in non-LoS situations but reduce the maximum update rate
Distance measurement accuracy	Better than ±10 cm over full operational distance
Distance measurement precision	70% of the time better than ±2.5 cm 95% of the time better than ±5 cm
Positioning precision	70% of the time better than ±7 cm 95% of the time better than ±14 cm
Positioning accuracy	Better than ±30 cm over the cell area
Maximum number of tags per cell ¹	<p>40 Hz update rate – 2 tags</p> <p>20 Hz update rate – 4 tags</p> <p>10 Hz update rate – 8 tags</p> <p>1 Hz update rate – 80 tags</p> <p>Once per minute – 4800 tags</p>
Dynamic update rate	Support for dynamic update rate, which decreases the update rate of standstill tags. This increases the battery life and allows to use more tags in a cell. Contact Eliko for more information.

All values are given for anchor hardware 4.0, tag hardware 5.5 and firmware version 2.0.

¹ All tags are simultaneously working with the same update rate.

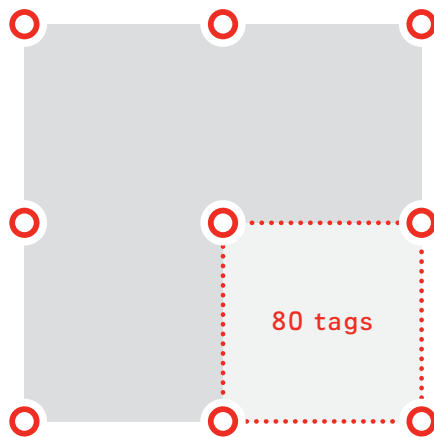


RF parameters	
Operational frequency range	3.3 to 4.7 GHz (UWB channel 4)
Signal level	-41.3 dBm/MHz
Ranging scheme	Time-of-Flight trilateration with automatic anchor and cell selection

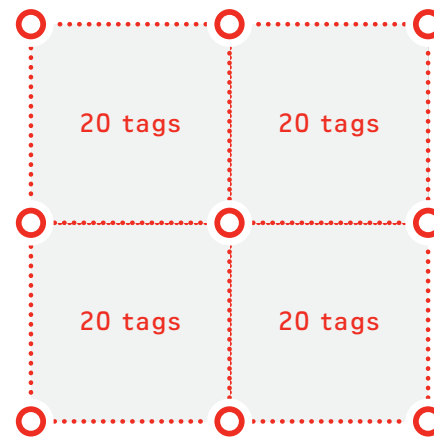
Standards and certifications	
Certification	CE Certification – EN 302 065-1, EN 301 489-1, EN 301 489-33
Communication standard	IEEE 802.15.4-2011-UWB (PHY)

Maximum number of tags per cell at 1 Hz²

Single cell setup



Multi cell setup with shared anchors



○ – Anchor

² All tags are simultaneously working with the same constant update rate. Contact Eliko for dynamic update rate options.

