

KIO RTLS Regular Cell

Technical Specifications

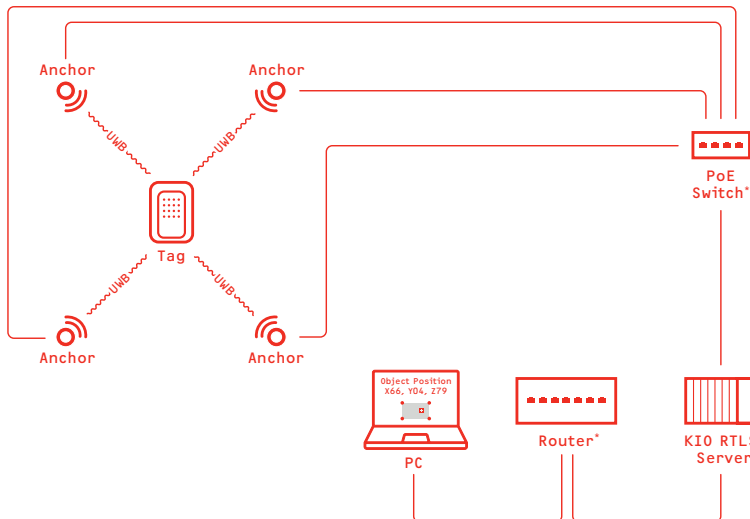
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The KIO RTLS consists of battery-powered tags, anchors, the KIO RTLS Server and the KIO RTLS Manager. The anchors have power over ethernet (PoE) and Wi-Fi connectivity options.

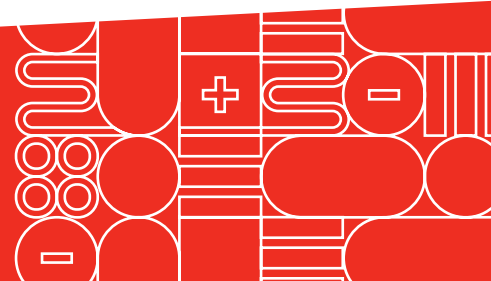


*Not necessary in the Wi-Fi setup

General System Features	
Anchor density	One anchor after every 33 m in line-of-sight (LoS), cell covers ca 1000 m ² , depending on the shape of the room and obstacles.
Tag operational distance	Up to 50 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 ± 25 cm 95% of the time better than ± 40 cm
Positioning accuracy	Better than ± 30 cm over the cell area
Maximum number of tags per cell ¹	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 10px; background: linear-gradient(to right, red, orange);"></div> <div style="margin-left: 10px;">10 Hz update rate – 4 tags</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 100px; height: 10px; background: linear-gradient(to right, red, orange);"></div> <div style="margin-left: 10px;">4 Hz update rate – 10 tags</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 100px; height: 10px; background: linear-gradient(to right, red, orange);"></div> <div style="margin-left: 10px;">1 Hz update rate – 40 tags</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 100px; height: 10px; background: linear-gradient(to right, red, orange);"></div> <div style="margin-left: 10px;">Once per minute – 2300 tags</div> </div>

The specifications are subject to change without notice.

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



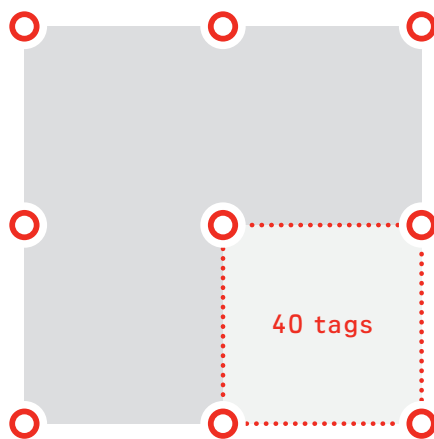
RF parameters	
Operational frequency range	3.3 to 4.7 GHz (UWB channel 4)
Signal level	-41.3 dBm/MHz
Ranging scheme	Time-of-Flight multilateration with automatic anchor and cell selection

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

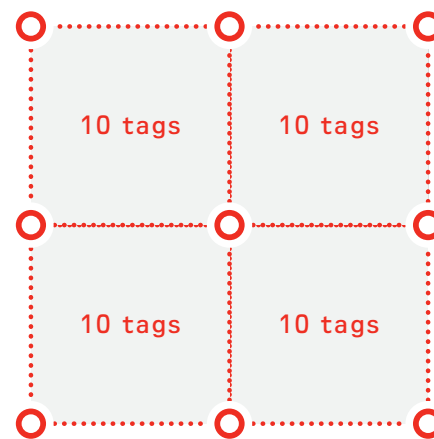
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Maximum number of tags per cell at 1 Hz²

Single cell setup



Multi cell setup with shared anchors



○ – Anchor

² All the tags are simultaneously working with the same update rate.

