

KIO RTLS Small Cell

Technical Specifications

KIO RTLS Small Cell configuration ensures positioning accuracy of 5 cm or less and is suitable for a range of micro-positioning applications.

Operational distance	10 m line-of-sight (LoS)
Distance measurement error	± 2.5 cm for all distances
Positioning accuracy	≤ 5 cm
Ranging rate	max 20 Hz – μUSB powered tag and anchor
Operational frequency range	3.1 - 4.8 GHz, 900 MHz signal bandwidth
RF transmission	Signal level -41.3 dBm/MHz LDC max 5% of RF channel utilization time Onboard omnidirectional antenna
Ranging scheme	Time-of-Flight multilateration
Certification	FCC Certification - parts 15.503, 15.509, 15.209, 15.109 CE Certification - EN 302 065-1, EN 301 489-1, EN 301 489-33
Communication standard	IEEE 802.15.4-2011-UWB
Communication data rates	6.8 Mbps, half-duplex
Host interface	μUSB 2.0 12 Mbit/s
Power source	5 V DC, μUSB ≤ 500mA for the standard cabled connection
Power consumption	259 mW, 70 mA
Device dimensions	85x55x15 mm USB powered tag & anchor
Operating temperature range	-20...+55 °C for the μUSB powered tag and anchor

Device weight	36 g – μ USB powered tag and anchor
Optional features	3.3 V UART interface, mating connector Phoenix FMC 1.5/4-STF-3.81 Accelerometer and Gyroscope
Maximum number of tags	1 Hz update rate – 140 tags
Data collection	Available from both the tags and the anchors. If the installation includes more than four anchors and anchor-only data collection, data should be collected from every 4 th anchor.
System scale-up	Each anchor covers 15-25m ² , depending on the shape of the room and obstacles. Expanding the tracking area requires a new 4-anchor set. Each tag always needs to be connected with at least one A, B, C and D anchor to ensure high-precision ranging.