

KIO Real Time Location System

Product Sheet

KIO is an Ultra Wideband (UWB) radio based positioning system offering 3D positioning accuracy of 5-30 cm. The system can precisely track any moving object and can be used in a range of applications including warehouse automation and asset management, self-navigation vehicles, sports tracking etc. Specific use cases can be tested using the KIO Evaluation Kit.

KIO system operates in 3.1-4.8 GHz frequency range and uses time-of-flight (ToF) distance measurement technique. UWB radio technology is insensitive to interference and disturbances; low radio transmission level makes it also suitable for sensitive environments. KIO is at least 10 times more accurate compared to widely known Wi-Fi radio field strength fingerprinting or Bluetooth Smart beacons.

Table 1: UWB comparison with alternative positioning technologies

	Wi-Fi	Bluetooth Smart	UWB - ELIKO
Ranging technology	RSSI fingerprinting	Proximity, short range RSSI	ToF multilateration
Developed for positioning	No	Partially	Yes
Measurement error	3-15 m	2-3 m	5-30 cm
Position update rate	1 Hz	1 Hz	20 Hz
Operating range	50 m	5 m	40 m
Frequency band	2.4 GHz ISM	2.4 GHz ISM	3.1-10 GHz UWB ISM
Channel access method	CSMA/CA	CSMA/CA	CSMA/CA
Installation site calibration	Needed	Needed	Not needed
Power consumption	High	Low	Medium

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