Just test unique measurement high-tech
The new radio Demo Kit 2.0 by *Metirionic*

1 Core IP / USP

Metirionic (*MIC*) provides technology for wireless measurement of distance, angle and time offset between radio nodes, which complements the characteristics of other technologies (GPS, UWB, RFID, Ultra Sound and Infrared).

2 Advantages of the *MIC* technology – demonstrated with the kit

The Demo Kit

comprises 2 radio devices or nodes for direct access to the *MIC* IP
- hereby, distances and angles can be simultaneously, stably and accurately measured
- ranging even works in non-line-of-sight as well as in complex environment
  - e.g. through several walls, in tunnels and buildings, long distances
- highly flexible indoor AND outdoor operation

utilizes the Microchip AT86RF215; in particular the following features
- wireless data communication according to IEEE 802.15.4
- signal vector measurement capabilities

offers a high link budget of up to 140dB
- utilizing high sensitive modulations along with an additional antenna frontend (PA: 100 mW, LNA: 2dB(NF))

demonstrates conformance to FCC and CE rules

visualizes multiple reflective propagation paths – suitable for passive object detection (radar)

operates in license-free ISM bands with focus on 2.4 GHz

The GUI

provides graphical representations of the measurements
- distance over time with different filters, e.g. for predictions (Kalman, Velocity etc.)
- waterfall graphs of measured channel impulse responses for different measurement methods
- various engineering views (magnitude, phase over frequency)

enables the configuration of various parameters
- e.g. transmission power, antenna and frequencies

supports an assessment of the interference situation during the operation

3 What's new – even more benefits

- Increased measurement speed
- Improved accuracy and multipath robustness
- High RF output power operation in conformance with FCC and CE
- New signal low-noise amplifier and power amplifier for increased transmission and output power
- Longer battery life (up to 8 hours)

4 What comes next

- Improved distance + angle of arrival

- Quality measures for each measurement on display

- High precision measurements of time offsets between two nodes with accuracy (< 1ns)

- Demo Kit 2.0 – wireless distance measurement in combination with Bluetooth® Low Energy

Bluetooth®   **◆ IEEE**

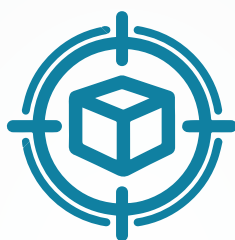## 5 Application classes of the tech for *Metirionic's* customers

Security & Safety

Point to Point - Position Finder (distance & angle)

- finding lost people in buildings
- protecting workers on machineries
- drone application (outdoor measuring)

Asset Tracking

Point to Multi-Point - RTLS (multiple distances & angles with single measurement)

- tracking goods in storages
- tracking vehicles
- tracking livestock

Radar

Radar Applications (presence & motion detection)

- surveillance of parking garages
- guidance in supermarkets
- movement profiles in public spaces

6 More detailed information

On our website you will find more about our great technology & services:

www.metirionic.com

7 Contact for questions and ordering

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We know the distance.

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