



LOW-FREQUENCY LOCALIZATION AND IDENTIFICATION SYSTEM WITH ZIGBEE NETWORK

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Abstract- Location awareness is important in health care. One way of generating this is a low-frequency radio frequency identification (RFID) location system that has been developed. The system tracks RFID tags with a quad antenna matrix that is placed under the floor surface. The tag can be also used to receive alarms and send acknowledgements via a ZigBee network. This article discusses the requirements of this kind of a tag, its structure, and its location accuracy. The demonstrated RFID system can locate people and items inside the building with an accuracy of 1.1 ± 0.5 m (S. D.).

Index terms: localization, Elderly care, RFID, Low frequency, ZigBee, Near-field imaging