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### Spiral resonator for ultra wide band chipless RFID tag (Conference Paper)

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#### Abstract

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The chipless resonator tags are at the forefront of the conventional barcode replacement research. The tag is still larger in dimension and a matter of concern for the researchers. The resonator tag comprised with two separate antennas working as Tx and Rx, one transmission line and resonators. The resonators have various types of shapes. Recently one rectangular resonator tag is proposed for UWB RFID detection. Here one study is performed to compare the rectangular spiral with the circular spiral to see the effect in terms of space reduction. One rectangular spiral and one circular spiral at the same resonance frequency (2.5GHz) are designed in CST MWS. The result shows a reduction in area of 9.8% while using circular resonator instead of rectangular resonator but with the cost of wideness of the bandwidth. © 2014 IEEE.

#### Author keywords

barcode chipless tag CST MWS resonator RFID UWB

#### Indexed keywords

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 Ultra-wideband (UWB)

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- Circular resonators
- CST MWS
- Rectangular resonator
- Reduction in area
- Resonance frequencies
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- UWB

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