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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

Engineering controlled terms: Bar codes Broadband networks Electric lines Radio frequency identification (RFID) Ultra-wideband (UWB)

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1 Nambiar, A.N.
RFID technology: A review of its applications
(2009) *Proceedings of the World Congress on Engineering and Computer Science*, 2, pp. 20-22. Cited 28 times.
(October)

2 Plessky, V.P., Reindl, L.M.
Review on SAW RFID tags

(2010) *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 57 (3), art. no. 5422510, pp. 654-668. Cited 147 times.
doi: 10.1109/TUFFC.2010.1462

View at Publisher

3 Lazaro, A., Ramos, A., Girbau, D., Villarino, R.
Chipless UWB RFID tag detection using continuous wavelet transform
(2011) *Antennas and Wireless Propagation Letters*, 10, pp. 520-523. Cited 52 times.
IEEE

4 Motakabber, S.M.A., Ibrahimy, M.I., Alam, A.H.M.Z.
Development of a position detection technique for UWB chipless RFID tagged object

(2013) *Proceedings - 2013 International Conference on Computer, Electrical and Electronics Engineering: 'Research Makes a Difference', ICCEEE 2013*, art. no. 6634032, pp. 735-738. Cited 5 times.
ISBN: 978-146736231-3
doi: 10.1109/ICCEEE.2013.6634032

View at Publisher

5 Preradovic, S., Balbin, I., Karmakar, N.C., Swiegers, G.
A novel chipless RFID system based on planar multiresonators for barcode replacement

(2008) *2008 IEEE International Conference on RFID (Frequency Identification), IEEE RFID 2008*, art. no. 4519383, pp. 289-296. Cited 76 times.
ISBN: 978-142441712-4
doi: 10.1109/RFID.2008.4519383

View at Publisher

6 Jiang, Z., Excell, P.S., Hejazi, Z.M.
Calculation of distributed capacitances of spiral resonators

(1997) *IEEE Transactions on Microwave Theory and Techniques*, 45 (1), pp. 139-142. Cited 35 times.
doi: 10.1109/22.552045

View at Publisher

7 Ellstein, D., Wang, B., Teo, K.H.
Accurate models for spiral resonators

(2012) *European Microwave Week 2012: "Space for Microwaves", EuMW 2012, Conference Proceedings - 42nd European Microwave Conference, EuMC 2012*, art. no. 6459234, pp. 787-790. Cited 5 times.
ISBN: 978-287487027-9

8 Uddin, M.J., Nordin, A.N., Ibrahimy, M.I., Reaz, M.B.I., Zulkifli, T.Z.A., Hasan, M.A.
Design and simulation of RF-CMOS spiral inductors for ISM band RFID reader circuits

(2009) *2009 IEEE Workshop on Microelectronics and Electron Devices, WMED 2009*, art. no. 4816153, pp. 81-84. Cited 5 times.
ISBN: 978-142443552-4
doi: 10.1109/WMED.2009.4816153

View at Publisher

9 Schmuckle, F.J.
The Method of Lines for the Analysis of Rectangular Spiral Inductors

(1993) *IEEE Transactions on Microwave Theory and Techniques*, 41 (6), pp. 1183-1186. Cited 23 times.
doi: 10.1109/22.238544

View at Publisher

10 Preradovic, S., Karmakar, N.C.
(2012) *Spiral Resonators in Multiresonator-Based Chipless RFID*, pp. 25-51. Cited 2 times.
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