

Mutual Coupling Reduction between Patch Antenna Array Elements Using Metamaterial Z Shaped Resonators

Authors : Oossama Tabbabi, Mondher Labidi, Fethi Choubani, J. David

Abstract : Modern wireless communication systems require compact design, low cost and simple structure antennas to insure reliability, agility, and high efficiency characteristics. This paper presents a microstrip antenna array designed for 8 GHz applications. To reduce the mutual coupling effects, a Z shape metamaterial structure was imprinted in the microstrip antenna array composed of two elements. Simulation results show the improvement of mutual coupling by adding Z shape metamaterial structure to the antenna substrate. The proposed structure reduces mutual coupling by 19 dB. The simulation has been performed by using HFSS simulator.

Keywords : antenna array, compact design, modern wireless communication, mutual coupling effects

Conference Title : ICCIT 2016 : International Conference on Computer and Information Technology

Conference Location : Istanbul, Türkiye

Conference Dates : February 15-16, 2016