

Improving the Gain of a Multiband Antenna by Adding an Artificial Magnetic Conductor Metasurface

Authors : Amira Bousselmi

Abstract : This article presents a PIFA antenna designed for geolocation applications (GNSS) operating on 1.278 GHz, 2.8 GHz, 5.7 GHz and 10 GHz. To improve the performance of the antenna, an artificial magnetic conductor structure (AMC) was used. Adding the antenna with AMC resulted in a measured gain of 4.78 dBi. The results of simulations and measurements are presented. CST Microwave Studio is used to design and compare antenna performance. An antenna design methodology, design and characterization of the AMC surface are described as well as the simulated and measured performances of the AMC antenna are then discussed. Finally, in Section V, there is a conclusion.

Keywords : antenna multiband, global navigation system, AMC, Galeleo

Conference Title : ICWOCN 2022 : International Conference on Wireless and Optical Communications Networks

Conference Location : Zurich, Switzerland

Conference Dates : July 28-29, 2022