Performance Evaluation of Omni-Directional Circular UWB Disc Antenna Conformed on a Cylindrical Surface

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Abstract : The cylindrical geometry can offer certain desirable antenna characteristics that are not provided by planar elements. In this paper a conformal omni-directional circular disc antenna which is mounted on a cylindrical surface feeding by a microstrip line is presented and proven to operate equally well compared to its planar rival. The return losses and the radiation pattern characteristics of the proposed antenna are studied using the commercially available electromagnetic software CST studio suiteTM , and high frequency structure simulator HFSS. Compared with the planar shape and the cylindrical conformal antenna existing, the proposed structure possesses an important wideband which is needed for many wearable electronics applications.

Keywords : Conformal antenna, UWB antenna, CST simulator, HFSS simulator.