

“A new compact half-disc monopole antenna (HDMA) for UWB communications systems”

Mohamed Nabil Srifi, Otman El-Mrabet and Mohamed Essaïdi

Abstract – In this paper, we present a novel half-disc monopole antenna for ultra-wideband applications. The proposed antenna gives a bandwidth of 2.3 to 6.1 GHz for $S_{11} < -10\text{dB}$, and satisfies the voltage standing wave ratio requirement of less than 2.0 in the frequency band. The proposed antenna consists of a half-disc monopole antenna with rectangular step. Rectangular and inverted-U slots have been studied for the bandwidth improvement. Design and performances are analyzed. The HFSS 3-D EM solver and CST-Microwave Studio are employed for design simulation.