

Analysis of radiation efficiency effects on UWB MIMO tree-antenna positioning

Abstract

A novel design and miniaturize antenna has been proposed and analyzed for Ultra-Wideband (UWB) application with integration of Multi-Input Multi-Output (MIMO) technique. The configuration study is made on two symmetrical designs with minimum inter element spacing of 53 mm on the same negative Taconic substrate. Both elements have tree shape radiating element consists of seven small circles surrounding single circle. The tree-antenna of MIMO (0° -R), MIMO (180° -R) and MIMO (0° -U) with different element orientation have been studied towards radiation efficiency performance. All designs and simulations are carried out by CST Microwave Studio. The proposed antenna is examined both numerically and experimentally.