

# Frequency and pattern reconfigurable dipole-Yagi antenna

## Abstract

A novel dipole-Yagi antenna is presented with pattern and frequency reconfigurable capability. The novel structure is based from Yagi-Uda antenna, consist of dipole as a main radiator and four parasitic metal strips. The parasitic metal strips can be formed to function as part of the radiator, reflector, or director by means of switches. The switches are located at specific position. By bridging the main radiator to the metal strips, frequency reconfiguration can be achieved. Whilst by bridging the strips itself, will results in pattern changing. Three switchable patterns at 2.5 GHz and four switched band at 0.98, 1.5, 2.1, and 2.5 GHz are demonstrated. This antenna exhibits -10 dB return loss and 76-79% efficiency. Good agreement between measured and simulated results is observed. The antenna might be useful for wireless body area networks communication system.