CIRCULAR SHAPE METAMATERIAL ANTENNA WITH DEFECTED GROUND STRUCTURE (DGS)

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ABSTRACT

This paper presents a Circular Shape Metamaterial Antenna with Defected Ground Structure (DGS) at operating frequency of 5.4GHz. The construction of circular-shape DGS at ground plane contributes the metamaterial features to the antenna. Conventional antenna with and without DGS structure has been simulated, fabricated and measured. The simulation design has been done using Computer Simulation Technology (CST) microwave studio and both antenna were fabricated on RO3003 substrate with dielectric constant 3 and 0.75mm height. The proposed antenna was enhancing the performance the antenna in term of return loss and directivity. The minimum specification of return loss from simulated result is -10dB cutoff.

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