**ABSTRACT**

A new method to reconfigure, tune or program an antenna with the help of pervoskites materials is elaborated. The method relies on the changing dielectric properties of the perovskite materials with incorporating polymer. Using pure Sr(NO3)2, TiO2, C4H6MnO4.4H2O and C6H8O7.H2O as a starting precursors to synthesize SrMn0.5Ti0.5O3  as a cubic perovskite material. The polyethylene glycol (PEG) was impregnated with the above precursor mixture and the resultant compound is PEG doped SrMn0.5Ti0.5O3 through solution combustion method. The phase purity, crystal structure, homogeneity, functional groups and surface morphology of SrMn0.5Ti0.5O3  and PEG doped SrMn0.5Ti0.5O3 perovskites were analysed through XRD, FTIR and FESEM analysis. The dielectric constant of the metal oxide polymer composite was investigated at various frequencies from 3 GHz to 10 GHz through Vector Network Analyzer (VNA). From VNA results, it is observed that the PEG doped SrMn0.5Ti0.5O3 exhibits higher dielectric constant than the parent compound. Hence, the polymer present in the perovskites improves the stability and the dielectric behavior of the polymer metal oxide composite, which seems to be excellent substrate for micro-strip antenna applications.