

## Documentation Sheet



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**Title** EM Performance Analysis of Tri-layer Metamaterial FSS for Radome Applications

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**Abstract**

*This report presents an EM performance analysis of the tri-layer metamaterial FSS using TLTM method. The transmission characteristics at normal incidence show very good band pass characteristics inside the operational band along with excellent roll-off characteristics outside the band. The proposed MTM-FSS structure exhibits very good bandpass (> 95%) characteristics over a wide frequency range 4.4-10 GHz at normal incidence. The transmission and reflection characteristics are also studied at higher incidence angles (30°, 45°, 60°, 70°, and 80°) for TE polarization. Further, the transmission characteristics are investigated at incidence angle 30° for different separations between the rings of the split ring resonator and radii of wire structures of MNG and ENG layer, respectively. It is found that the band pass characteristics can be tuned by varying the unit cell dimensions of the SRR.*