

Abstracts

Loss Reduction in Superconducting Microstrip-Like Transmission Lines

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A mode-matching analysis is applied to microstrip-like transmission lines to determine the dielectric and conductor loss. In microstrip using normal metals and typical low-loss dielectrics, the conductor loss dominates the dielectric loss. For microstrip employing superconductors, the dielectric loss is shown to be dominant. Further reductions in overall loss must come in the dielectric loss. Superconducting suspended substrate and ridged microstrip are analyzed to determine the dielectric loss reduction available and the effect of the reductions on the conductor loss.

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