Abstracts

Investigations of Complex Modes in a Generalized Bilateral Finline with Mounting Grooves and Finite Conductor Thickness (1989 Vol. I [MWSYM])

A generalized bilateral finline with mounting grooves and finite conductor thickness is analyzed by full-wave mode-matching method. The final nonstandard eigenvalue equation is derived from unknown coefficients in two slot regions. Both relative and absolute convergence analyses of complex modes are performed. The field patterns along the metallized strips are investigated for relative converence studies. Once the optimal ratios of the numbers of expansion terms among different regions are decided, the absolute convergence study is initiated to obtain the minimal number of total modal expansion terms to save computer time. The validity of this approach is confirmed by checking the available complex mode data. Finally, the dispersion characteristics of fundamental, higher order, evanescent, and complex modes are presented for an asymmetric bilateral finline.

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