Abstracts

Error analysis of the unloaded Q-factors of a transmission-type resonator measured by the insertion loss method and the return loss method

Z. Ma and Y. Kobayashi. "Error analysis of the unloaded Q-factors of a transmission-type resonator measured by the insertion loss method and the return loss method." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1661-1664 vol.3.

Two types of measurement methods of the unloaded Q-factor of a microwave resonator, the insertion loss method and the return loss method, are reexamined theoretically and compared experimentally. An error formula is derived to estimate the errors between the unloaded Q-factors measured by the two different methods. Measured results of a stripline resonator verified the derived formula well, and proved that the return loss method is more accurate and reliable than the traditional insertion loss method.

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