Abstracts

Ni-Au surface finish effects on RF performance

D. Staiculescu, J. Laskar, J. Mendelsohn, E. Sweetman, D. Rudy and I. Anaki. "Ni-Au surface finish effects on RF performance." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1909-1912 vol.4.

We present a simplified analysis of the Nickel-Gold surface finish effects on microstrip conductive losses for boards with different Ni thickness and Ni/Au finish chemistries. Otherwise identical test structures were fabricated with various Ni/Au finishes and different thicknesses. The conductive loss has been extracted from Q measurements on series microstrip resonators. A theoretical model for conductor loss of a two metal layer system has also been proposed. The theoretical approach has been supported with measurement results. For a specific frequency, conductive loss shows an S-curve behavior with Ni thickness.

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