Abstracts

Room temperature thin film Ba/sub x/Sr/sub 1-x/TiO/sub 3/ Ku-band coupled microstrip phase shifters: effects of film thickness, doping, annealing and substrate choice

F.W. Van Keuls, C.H. Mueller, F.A. Miranda, R.R. Romanofsky, C.L. Canedy, S. Aggarwal, T. Venkatesan, R. Ramesh, J.S. Horwitz, W. Chang and W.J. Kim. "Room temperature thin film Ba/sub x/Sr/sub 1-x/TiO/sub 3/ Ku-band coupled microstrip phase shifters: effects of film thickness, doping, annealing and substrate choice." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 737-740 vol.2.

We report on measurements taken on thirteen Ku-band coupled microstrip phase shifters (CMPS) using thin ferroelectric films of Ba/sub x/Sr/sub 1-x/TiO/sub 3/. This CMPS design is a recent innovation designed to take advantage of the high tunability and tolerate the high dielectric constant of ferroelectric films at Ku- and K-band frequencies. These devices are envisioned as a component in low-cost steerable beam phased array antennas. Comparisons are made between devices with differing film thickness, annealed vs. unannealed, Mn-doped vs. undoped, and also substrates of LaAlO/sub 3/ and MgO.

❑ Return to main document.