# Abstracts

## 2-bit MEMS distributed X-band phase shifters

*J.S. Hayden and G.M. Rebeiz. "2-bit MEMS distributed X-band phase shifters." 2000 Microwave and Guided Wave Letters 10.12 (Dec. 2000 [MGWL]): 540-542.*

A wideband distributed coplanar-waveguide (CPW) phase shifter has been developed for X-band operation. The design is based on the distributed MEMS transmission line (DMTL) loaded with MEMS bridges and MIM capacitors. A 2-bit distributed phase shifter was fabricated on a 500-/spl mu/m quartz substrate, and achieved a true-time delay operation from 1 to 20 GHz with a reflection coefficient less than -11 dB from 2 to 20 GHz and above. Insertion loss is dominated by a low-Q MIM capacitor (14 at 10 GHz) and the effect of this Q is shown, Increasing the MIM capacitor Q will result in an excellent 2-bit phase shifter with wideband performance at X-band frequencies.

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