Abstracts

A Hybrid Integrated L-Band Digital Phase Shifter

R.F. Lee and K.F. Sodomsky. "A Hybrid Integrated L-Band Digital Phase Shifter." 1969 G-MTT International Microwave Symposium Digest of Technical Papers 69.1 (1969 [MWSYM]): 26-30.

This paper presents a description of an L-band dual-channel seven-bit phase shifter which has been developed for a phased-array application. Each channel provides seven-bit phase shifting capability over a 360° range in 2.8° increments. The outputs from the two channels are summed in a combiner which has also been integrated into the overall assembly. The performance requirements for the assembly are as follows: Bandwidth 15%, RMS deviation from nominal phase <= 3.5°, RMS deviation from mean loss <= 0.35 dB, Return loss at each port >= 17 dB. Since this unit would be utilized in large numbers in its intended application and since there are a large number of phase states, it was advantageous to define the unit-to-unit similarity in terms of RMS deviations rather than peak-to-peak limits.

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