Abstracts

High Average Power S-Band Digital Phase Shifter

R.A. Moore, G.M. Kern and L.F. Cooper. "High Average Power S-Band Digital Phase Shifter." 1974 Transactions on Microwave Theory and Techniques 22.6 (Jun. 1974 [T-MTT] (Special Issue on Microwave Control Devices for Array Antenna Systems)): 626-634.

A 100-kW-peak Z-kW-average-power liquid-cooled ferrite digital phase shifter has been constructed using beryllia cooling of the ferrite toroid to meet single axis scanned array requirements. The phase-shift cross section external to the ferrite toroids is completely filled with the beryllia. Experiments indicate that the maximum temperature rise in the ferrite is no greater than 45° C. In tests using flux drive to 2 kW, the phase shifter exhibits a maximum phase drift of ±6° for 90° differential phase shift. The differential phase shift versus frequency varies less than ±0.5° for a 3-percent bandwidth.

❑ Return to main document.