Abstracts

Feasibility and commercial viability issues for high-power output multiplexers for space applications

R.R. Mansour, Shen Ye, V. Dokas, B. Jolley, Wei-Cheung Tang and C.M. Kudsia. "Feasibility and commercial viability issues for high-power output multiplexers for space applications." 2000 Transactions on Microwave Theory and Techniques 48.7 (Jul. 2000, Part II [T-MTT] (Special Issue on Microwave and Communication Applications at Low Temperature)): 1199-1208.

The objective of this paper is to address the issues related to the commercial viability of employing high-power high-temperature superconductor (HTS) filters and multiplexers for communication satellites. Experimental results are presented for fully integrated contiguous HTS manifold-coupled output multiplexers. Both hybrid dielectric-resonator HTS filters as well as planar HTS filters are used to construct these multiplexers. The paper provides a detailed analysis of the cooling load of HTS high-power multiplexers, and describes how it varies with the achievable filter Q and the type of I/O RF cables. It also demonstrates the role that the I/O RF cables play in determining the cooling load of HTS subsystems.

❑ Return to main document.