Abstracts

A wideband orthogonal-mode junction using a junction of a quad-ridged coaxial waveguide and four ridged sectoral waveguides

H.Z. Zhang. "A wideband orthogonal-mode junction using a junction of a quad-ridged coaxial waveguide and four ridged sectoral waveguides." 2002 Microwave and Wireless Components Letters 12.5 (May 2002 [MWCL]): 172-174.

A wideband orthogonal-mode junction (OMJ) using a quad-ridged circular coaxial waveguide and four single-ridged sectoral waveguides is described. The new structure is used for extracting a wide lower band signal from a coaxial dual-band feed. Theoretical results show that the broadband incoming signal in the quad-ridged coaxial waveguide can be coupled to four single-ridged sectoral waveguides with low reflection. The new structure transforms a complex system to a simple single-ridged sectoral waveguide where multi-band separation can be accomplished by a number of means. The transformation eliminates the interference among the excitation sources and enables the accurate mathematical modeling of the complete system possible.

❑ Return to main document.