

IEEE Standard Definitions of Fundamental Waveguide Terms

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Waveguide Standards Committee
of the
IEEE Microwave Theory and Techniques Society

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Foreword

(This Foreword is not a part of IEEE Std 146-1980, IEEE Standard Definitions of Fundamental Waveguide Terms.)

The Waveguide Standards Committee of the Microwave Theory and Techniques Society (MTT-S) was formed in 1968 following direction from the IEEE to associate this work with the appropriate technical group. The committee membership was drawn partly from the original Antenna and Waveguide Standards Committee which developed Definitions of Terms for Antennas and Waveguides, (IEEE Std 146-1953, formerly 53 IRE 2.S1). The antenna terms were later separated from the waveguide terms and incorporated into Definitions of Terms for Antennas, (IEEE Std 145-1973), by the Antenna Standards Committee of the IEEE Antenna and Propagation Society (AP-S).

The fundamental waveguide terms have been refined and brought up to date in this standard, which is a companion to the recently published Definitions of Terms for Waveguide Components (IEEE Std 147-1979). The linear and passive waveguide component terms covered by IEEE Std 147-1979 will soon be supplemented by another companion standard covering non-linear, active, and nonreciprocal Waveguide Components, scheduled for completion in 1981.

The above mentioned microwave waveguide standards contain definitions of terms which have been coordinated and compared with similar definitions in the vocabularies of other IEEE groups as well as of international standards commissions. The resulting definitions represent the consensus and judgement of the IEEE MTT Society.

In these definitions, ~~emphasis has been placed~~ on waveguides (hollow uniconductor transmission lines) and only a few apply to the planar transmission lines (stripline, microstrip, slotline, etc.) which have dominated microwave circuit technology in recent years. Standardization of terminology is very much needed, and steps are being taken to form subcommittees to generate definitions in this growing area.

Because these standards are generated by volunteer MTT-S members it takes several years to complete each standard, and by the time of publication a standard may be incomplete because of the rapid growth of technology. This means that the standards must be revised periodically, making the work of our standards committees a continuous process of defining, refining, and revising. "Old Standards Committee people never die, they just lose their definitions."

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