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3.3.6 The relationship between the Laplace transform, the Fourier transform, and the z-transform3.4 UWB signal-processing issues and algorithms; 3.5 Detection and amplification; 3.6 Summary; 4 Ultra wideband channel modeling; 4.1 A simplified UWB multipath channel model; 4.1.1 Number of resolvable multipath components; 4.1.2 Multipath delay spread; 4.1.3 Multipath intensity profile; 4.1.4 Multipath amplitude-fading distribution; 4.1.5 Multipath arrival times; 4.2 Path loss model; 4.2.1 Free space loss; 4.2.2 Refraction; 4.2.3 Reflection; 4.2.4 Diffraction; 4.2.5 Wave clutter
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5.3.3 On-off keying

Sommario/riassunto

Ultra Wideband (UWB) is the hot new topic in wireless communication engineering today. High-speed communication over short distances using sub-nanosecond pulses, rather than conventional sinusoidal waves, has paved the way for cheap wireless transceivers, capturing the imagination of both academics and engineers in industry alike. Ultra Wideband Signals and Systems in Communication Engineering focuses on the basic signal processing that underlies current and future ultra wideband systems ensuring this text will be essential reading even as UWB applications mature and change or regulatio