APPLICATION NOTE

Velocity of Propagation

This is a measure of how fast a signal travels along a line. A radio signal travels in free space at the speed of light, approximately 3x108 m/sec. A signal travels in a transmission line at much less than this. In twisted pair cable the Velocity of Propagation may be between 40% and 75% of the velocity in free space. There is a direct relationship between Velocity of Propagation (V) and Wavelength:

$$V = lf$$

Vp is often stated either as a percentage of the speed of light or as time-to distance. When the time-to-distance figure is used, it may be known as Propagation Delay, and will be expressed as ns/100m or ms/km.

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