Re: Path Loss over distance...

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- *From*: JeffHazen@xxxxxxxxx
- *Date*: 27 Feb 2006 17:07:03 −0800

Hi,

You're correct that the gain would increase the distance. It occurred to me last night after I wrote my comment what your problem really is. Your transmit power, 20 dB, is an error. If you transmit 20 dB (100 Watts) at 2.45 GHz, the local regulating bodies will probably shut you down. It should be read 20 dBm instead, which is 20 dB with respect to 1 mW, or 100 mW. This would be 30 dB below what you were calculating for your link margin. I think this will account for your correct distance.

You're correct that the fade margin is included in the Friis Transmission formula, but usually this has to do with loss due to vegetation, rain, buildings, and the height of your antenna−−which affects how far it can transmit over the horizon. Only the last one would apply to you, because you said you wanted to calculate in an open field. There are several books out there that help you calculate this margin, but mine (_Radiowave Propagation for PCS_) is at work right now.

I hope my previous comment about dBm will help you.

Jeff Hazen, Wireless Engineer

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