

PNG ISOC wireless workshop  
Wireless Calculation Exercises

1-

What is 400mW in dBm?

How about 1000mW?

2 -

We have two islands 42KM appart. What is the Freespace loss between them at 2.412ghz?

Given a -90dBm receive sensitivity and 26dBm tx power what antenna gain we need to achive a 10dB link budget ?

At 42KM what is the radius of the fresnel zone at the center point?

What is the height of the earth at the midpoint?

3 -

We're trying to decide wether to provision a 5KM link using either using either 802.11b/g (channel-1 2.412ghz) or 802.11a (channel 100 5.62ghz). What is the free space loss for each?

We've decided to run it at 5.62ghz. Our radio's have 400mW tx and 11dB gain antennas. What is our link budget?