

Basic Radio Physics Exercises

Network Startup Resource Center
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Electromagnetic Waves

- What's the wavelength at
 - 2.4 GHz
 - 5.8 GHz
 - 900 MHz

Electromagnetic Waves

- What is the polarization of the electromagnetic field emitted by a dipole?

Satellite Math

- What's the one-way delay for waves to:
 - Geostationary Orbit at 36,000 km
 - Medium Earth Orbit at 8,000 km
 - Low Earth Orbit at 1,200 km
- How long does a ping (round-trip) take?



Radio Protocol Timeouts

- If a radio protocol has a timeout window of 50 microseconds:
 - What's the longest link you can make?

Light

- What's the wavelength of
 - Visible Light
 - Single Mode Fiber Optic laser
 - Multi-Mode Fiber Optic laser

Radio Wave Propagation

- What frequency works through trees?
 - 2.4 GHz
 - 5.8 GHz
 - 900 MHz

dB / mW Conversion

- What's the value in dB for:
 - 0mW
 - 10mW
 - 100mW
- What's the value in Watts (mW) for:
 - 2dBm
 - 12dBm
 - 27dBm

Questions/Discussion?

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