EECE 588 Spring 2019 Homework 2

Due: 3/26/19 in Class (2:00 pm)

EE 20182737

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**1.**

**2.**

* The polarization of the helical antenna, sense of rotation

RHEP

* The polarization of the transmitting aircraft, sense of rotation

LHEP

* Polarization loss

**3.**

Half-wave dipole antenna: 150 MHz (2 m), 100 V -> 1 m dipole

**4.**

Prob. Calculate the maximum power transmitted from the station to the vehicle

Assume:

1. The antennas polarization matched
2. No matching/reflection losses, maximum efficiencies
3. The antennas are pointed along the direction of maximum directivity

Base station:

1. Dipole antenna, maximum directivity: 2.286 dB
2. Power source capable of transmitting 10W
3. 1900 MHz

Vehicle:

1. 1 km away
2. Dipole antenna, maximum gain: 5.286 dB

Solve:

By Friis transmission formula