**CS 5197/6097 Wireless and Mobile Networking**

**Homework No. 2 dated Wednesday August 30, 2017 (due on Sept 6, 2017 at 6 pm in class)**

**P3.2.** Consider an antenna transmitting a power of 5 W at 900 MHz. Calculate the received power at a distance of 2 km if propagation is taking place in free space.

**P3.4.** The transmission power is 40 W, under a free-space propagation model,

1. What is the transmission power in unit of dBm?
2. The receiver is in a distance of 1000 m; what is the received power, assuming that the carrier frequency  and  ?
3. Express the free space path loss in dB.

**P3.7.** Consider an antenna transmitting at 900 MHz. The receiver is traveling at a speed of 40 km/h. Calculate its Doppler shift if angle  is 410.