Oregon State University

2012 URC

RF Communication Systems & FCC Licensing Overview

**Still Image Transmission System**

* Communications standard
  + IEEE 802.15.4
* Operating bandwidth
  + 2.4000GHz - 2.4835GHz
* RF transmission in specified bandwidth
  + YES
* RF reception in specified bandwidth
  + YES
* Transmission power
  + +17.8dBm
* Vehicle ERP
  + +23.8dBm
* Base station ERP
  + +29.8dBm
* Duty cycle
  + Intermittent transmission during operation
  + Inactive on demand
* FCC bandwidth allocation
  + ISM
* FCC licensing requirements
  + None

**Video Transmission System**

* Communications standard
  + Analog FM
* Operating bandwidth
  + 980MHz - 1040MHz
* RF transmission in specified bandwidth
  + YES
* RF reception in specified bandwidth
  + NO
* Transmission power
  + +37dBm
* Vehicle ERP
  + +43dBm
* Duty cycle
  + Always transmitting during operation
  + Inactive on demand
* FCC bandwidth allocation
  + Aeronautical radionavigation
* FCC licensing requirements
  + Technician's license required
  + License holder: Matt Shuman

**Control & Telemetry Transmission System**

* Communication standard
  + Proprietary FHSS
* Operating bandwidth
  + 2.4000GHz - 2.4835GHz
* Transmission power
  + +30dBm
* Vehicle ERP
  + +36dBm
* Base station ERP
  + +42dBm
* Duty cycle
  + Intermittent transmission during operation
  + Inactive on demand
* FCC bandwidth allocation
  + ISM
* FCC licensing requirements
  + None