EECS194
Lab1: TelosB Motes

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Introduction to Telos Mote

• Sensor network nodes. Embedded Sensors. Data logger.
• TinyOS, UCB, Arch Rock company
• CC2420, 801.15.4 standard
• IPv6, LoWPAN
• Previous generation: MICA?
• Next generation: EPIC
Connectivity Testing 1

Signal Strength vs. Distance

Distance (cm)

Signal Strength (dBm)

-10 0 100 200 300 400 500 600

-90 -80 -70 -60 -50 -40 -30 -20 -10 0

111 Cory
ESD Bag
Corry Hall 2

SIGNAL STRENGTH vs. DISTANCE

0 -10 200 300 400 500 600

-40 -30 -20 -10 0

-90 -80 -70 -60 -50 -40 -30 -20 -10 0

111 Cory
ESD Bag
Corry Hall 2
Connectivity Testing 2

Closed Up Testing

Distance (cm)

Signal Strength (dBm)
Connectivity Testing Conclusions

• Limitation on signal strength: -90dBm
• Interference sources: materials, obstacles, signal from other sources.
• Environment variable.
• Human ??!!!
• Is it really rssi = k/r^n ?
Hop Testing

No Connection