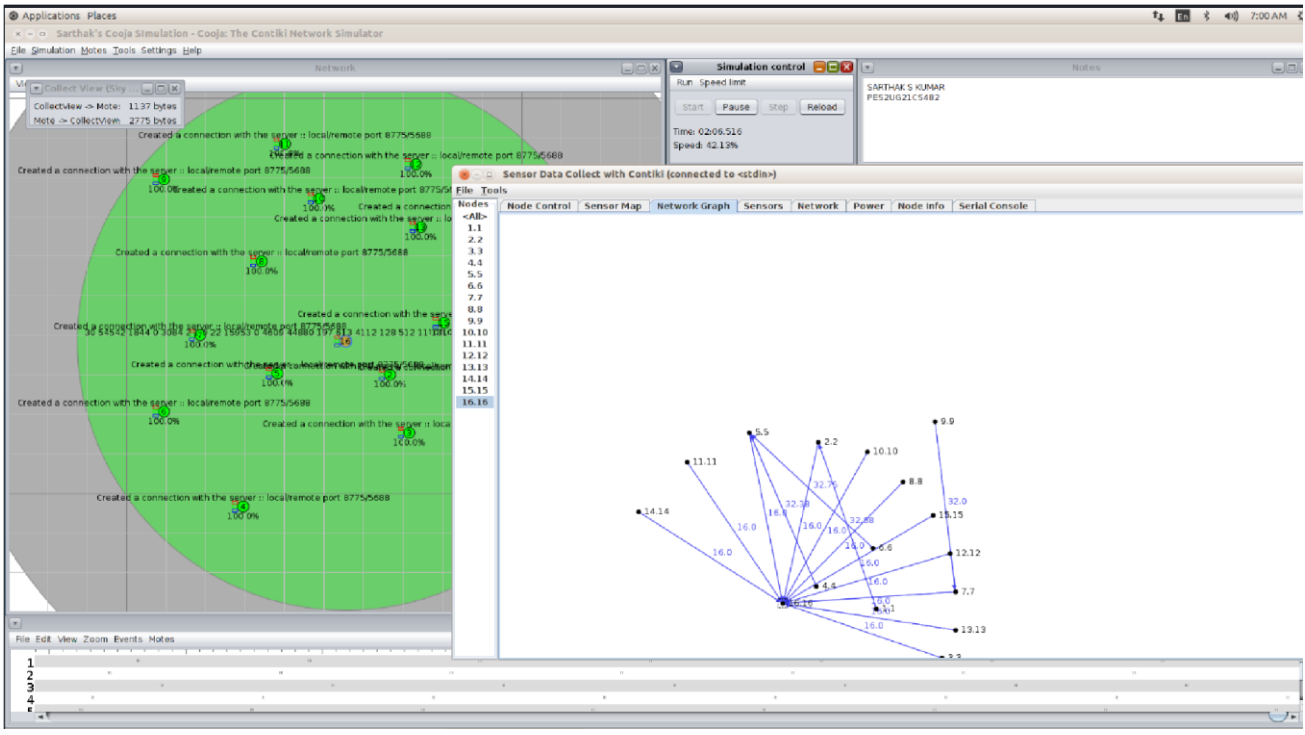
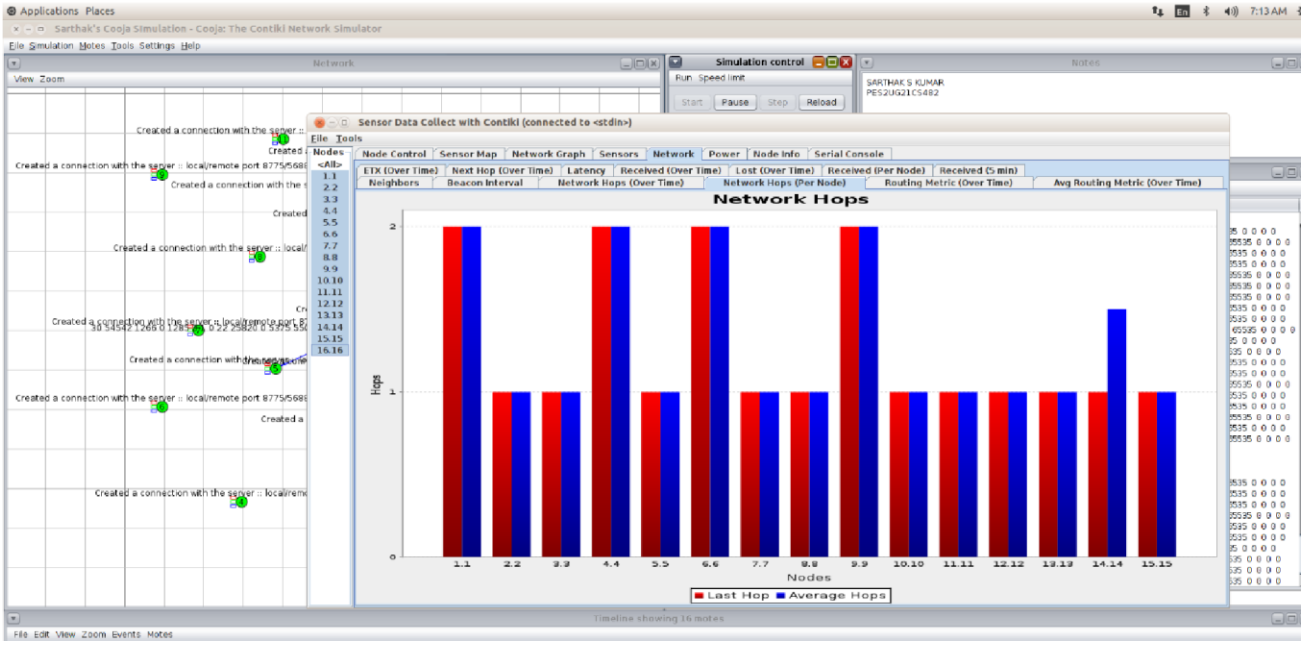
Developing Next-Gen IoT Solutions with Contiki OS and Cooja Simulator

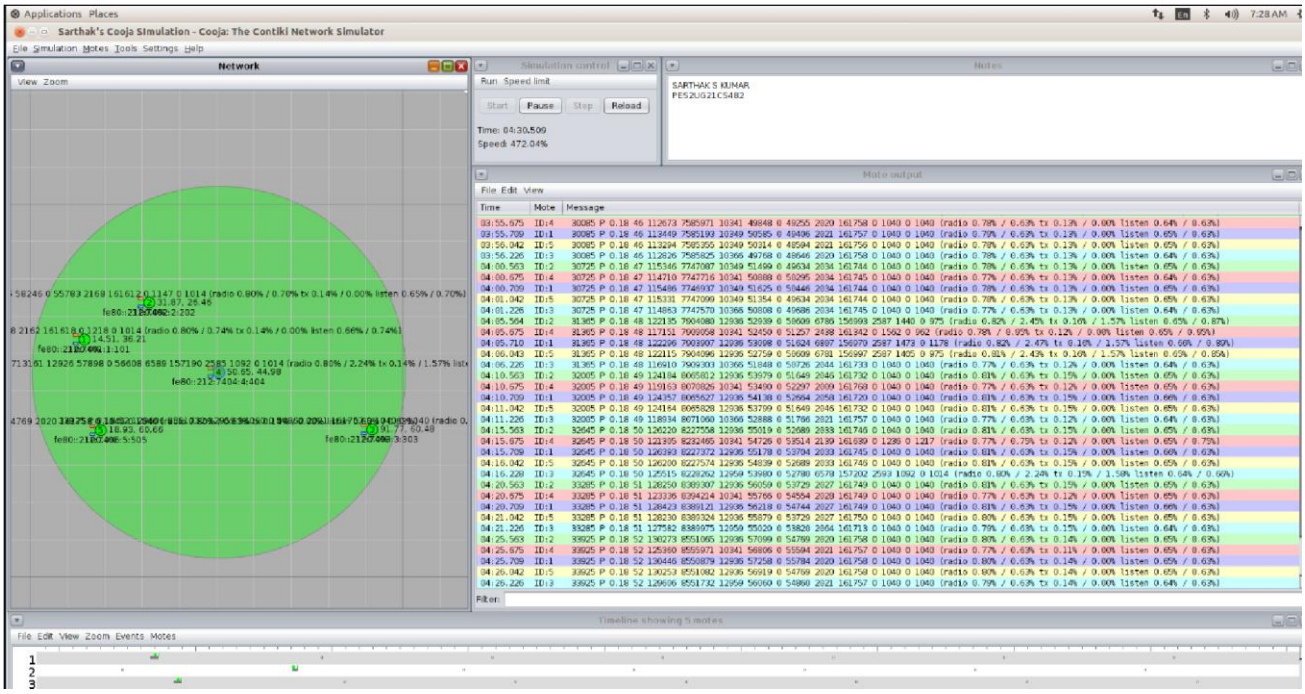
DAY – 2 ASSIGNMENT

NAME: SARTHAK S KUMAR
SRN: PES2UG21CS482
SECTION: H

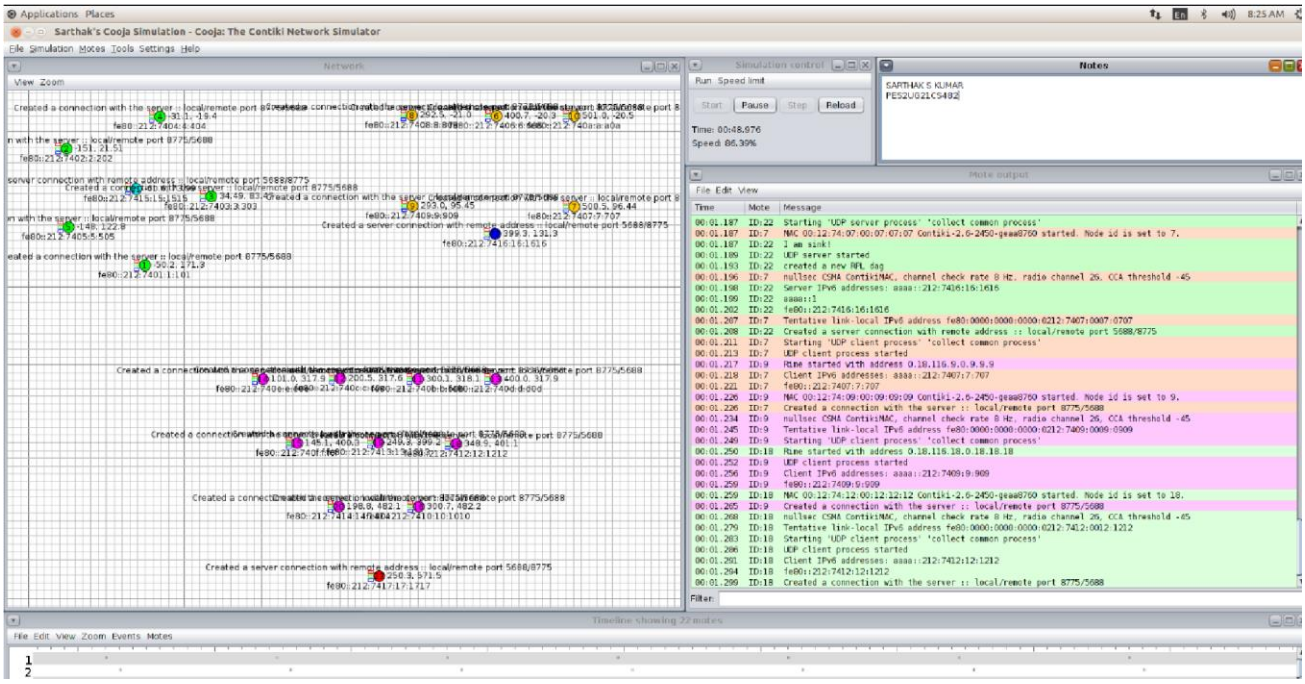
1. COLLECT VIEW:



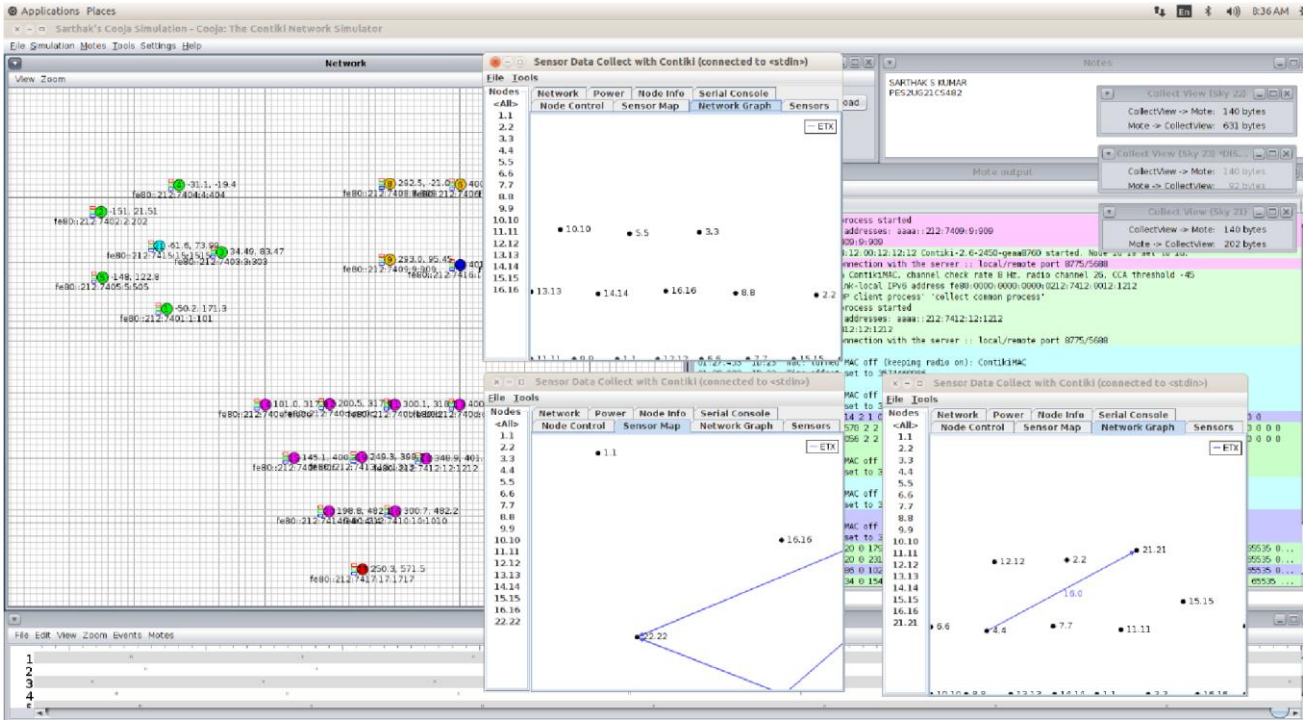

Applications Places
Sarthak's Cooja Simulation - Cooja: The Contiki Network Simulator
File Simulation Motes Tools Settings Help
Network
View Zoom
Simulation control
Run Speed limit
Start Pause Step Reload
Notes
SARTHAK S KUMAR
PES2UG21CS482
Sensor Data Collect with Contiki (connected to <stdin>)
File Tools
Node Control Sensor Map Network Graph Sensors Network Power Node Info Serial Console
ETX (Over Time) Next Hop (Over Time) Latency Received (Over Time) Lost (Over Time) Received (Per Node) Received (5 min)
Neighbors Beacon Interval Network Hops (Over Time) Network Hops (Per Node) Routing Metric (Over Time) Avg Routing Metric (Over Time)
Nodes
<All>
1.1
2.2
3.3
4.4
5.5
6.6
7.7
8.8
9.9
10.10
11.11
12.12
13.13
14.14
15.15
16.16
Network Hops
Hops
0
1
2
1.1 2.2 3.3 4.4 5.5 6.6 7.7 8.8 9.9 10.10 11.11 12.12 13.13 14.14 15.15
Nodes
Last Hop
Average Hops
Timeline showing 16 motes
File Edit View Zoom Events Motes



2. POWERTRACE Program



3. **Topology - Tree, Star & Mesh:**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Node Info
Serial Console
Node Control
Sensor Map
Network Graph
Sensors
ETX
SARTHAK S KUMAR
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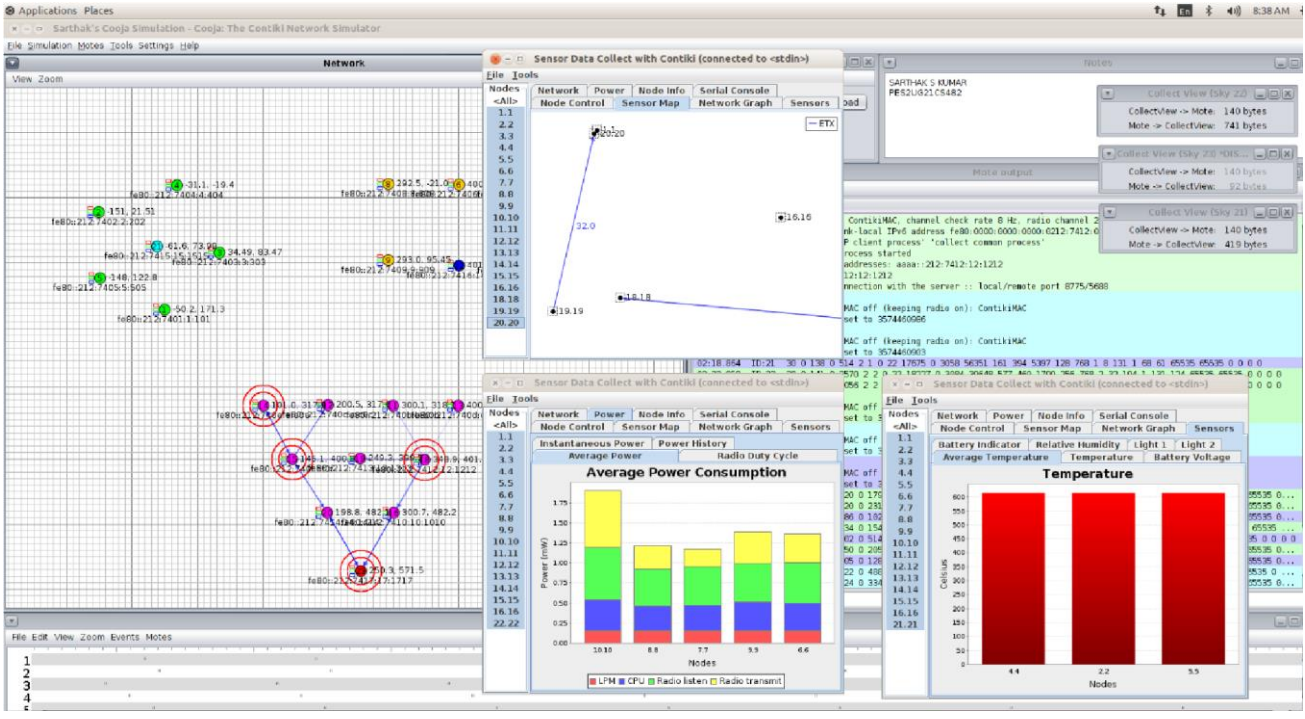
Collect View (Sky 22)
CollectView -> Mote: 140 bytes
Mote -> CollectView: 631 bytes
Collect View (Sky 21)
CollectView -> Mote: 140 bytes
Mote -> CollectView: 202 bytes
Mote output
File Edit View Zoom Events Motes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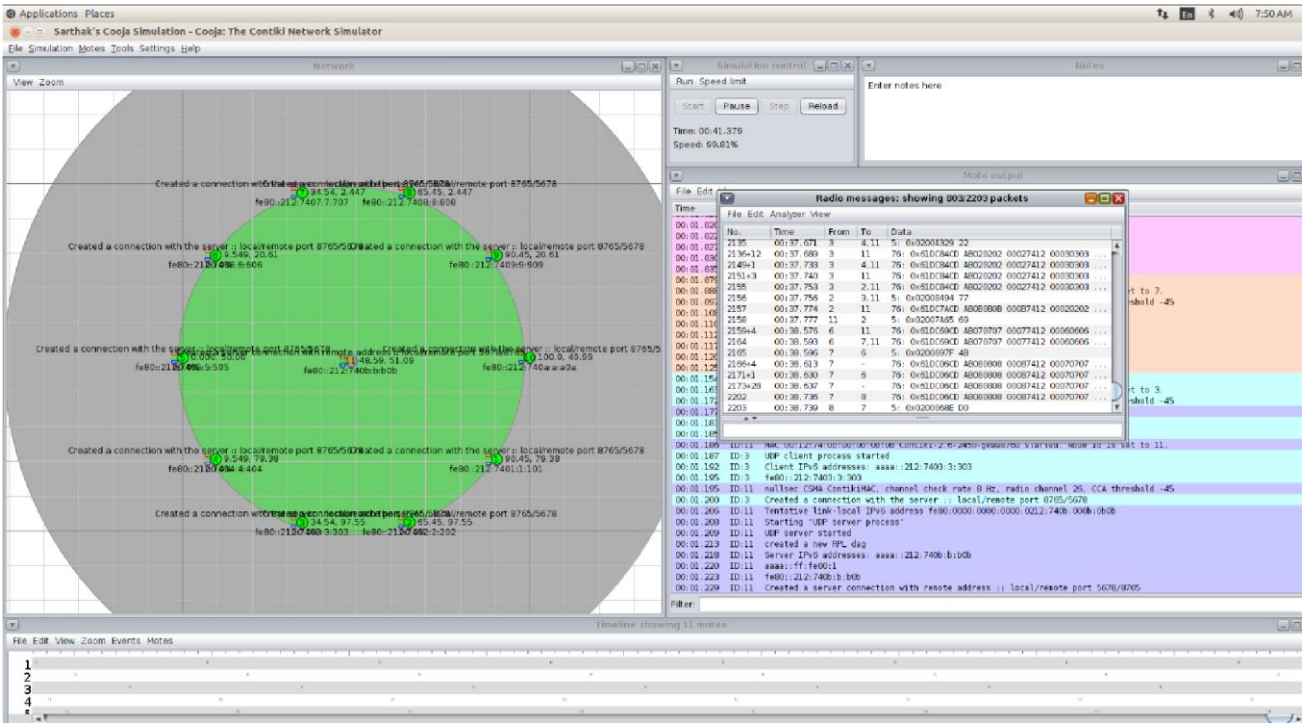
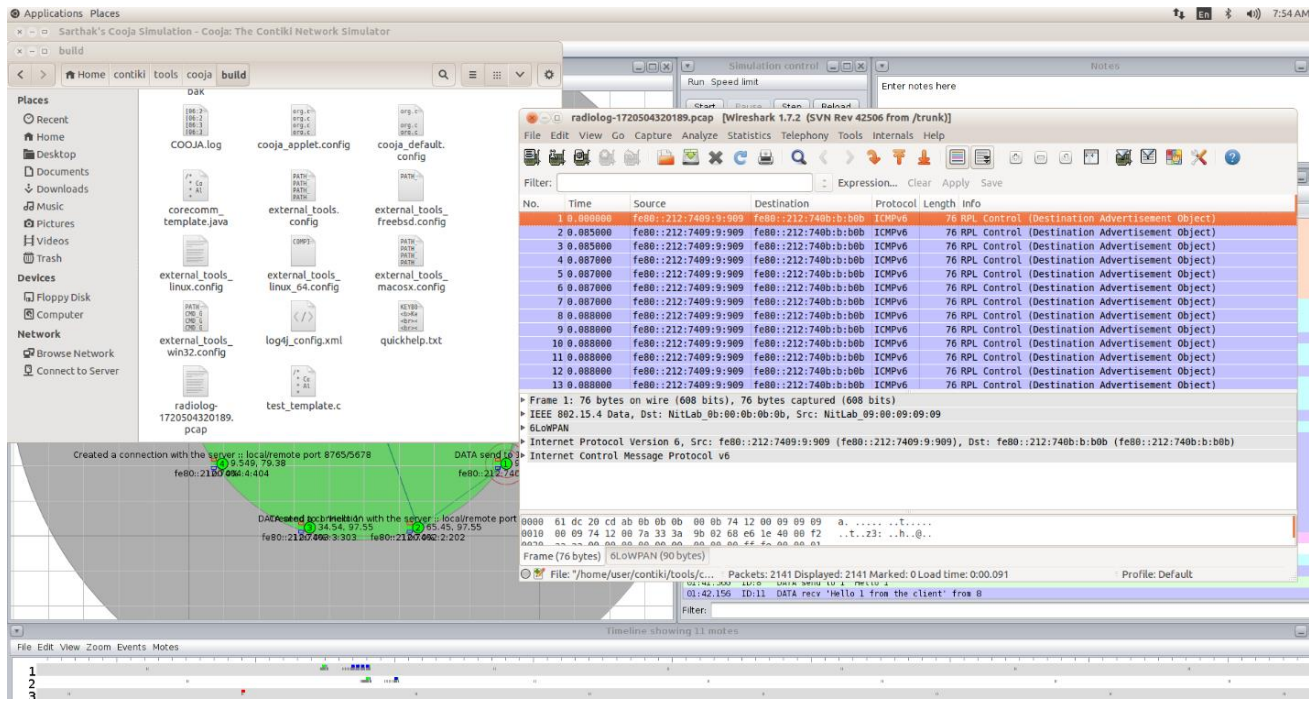
File Simulation Motes Tools Settings Help
Network
View Zoom
Sensor Data Collect with Contiki (connected to <stdin>)
File Tools
Nodes
Network
Power
Node Info
Serial Console
Node Control
Sensor Map
Network Graph
Sensors
ETX
SARTHAK S KUMAR
PES2UG21CS482
Collect View (Sky 22)
CollectView -> Mote: 140 bytes
Mote -> CollectView: 741 bytes
Collect View (Sky 21)
CollectView -> Mote: 140 bytes
Mote -> CollectView: 419 bytes
Mote output
Instantaneous Power
Power History
Average Power
Radio Duty Cycle
Average Power Consumption
Power (mW)
Nodes
LPM
CPU
Radio listen
Radio transmit
Battery Indicator
Relative Humidity
Light 1
Light 2
Average Temperature
Temperature
Battery Voltage
Temperature
Celsius
Nodes
File Edit View Zoom Events Motes

4. Pcap Program:





5. Varying Transmission (Tx) & Interference Range