**East West University**

**Department of CSE**

**Lab Report 01**

**CSE 453**

**Wireless Networking**

**Submitted To:**

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1. **How is the coverage in Kista area according to your simulation results? What is the received signal level in Kista?**

**Ans:**

Rx level from Nacka transmitter to Kista = 243.45 μV which is greater than threshold 200 μV. So, the coverage area for receiver Kista area is good.

1. **What is the received signal level in Arlanda? Can you listen to the P4 radio at Arlanda airport?**

**Ans:** The received signal level in Arlanda is 91.93 μV which is less than threshold value 200 μV. So, I can’t listen P4 radio at Arlanda airport.

1. **What is the reception limit in kilometers approximately? To find the approximate coverage radius, you can drag your mouse across the screen to make a line segment. Then you can read out the length of the segment in the information bar at the bottom of the screen.**

**Ans:** Reception limit in kilometers approximately 30.148 Km.

1. **Briefly explain your solution method and results.**

**Ans:**

* Transmitters transmit power 75 dBm. Keep the antenna type omni.ant. Antenna gain 2dBi. Antenna height: 250 meters.
* Then changed the receiver threshold at 200 μV.
* Make a unit Nacka Transmitter and enter LAT LON or QRA and put the coordinates given on manual. N59º 17’ 45’’, E18º 10’33’’.
* Made another unit Kista receiver and enter LAT LON or QRA and put the coordinates given on manual. N59º 24’16’’, E17º 56’57’’.
* Made another unit Arlanda airport receiver and enter LAT LON or QRA and put the coordinates given on manual. N59º 24’16’’,
* EIRP (radial range) maximum 50. Link direction Centre Tx - Mobile Rx.

**Results:**

**Nacka to Kista receiver:** 17.6 Km.

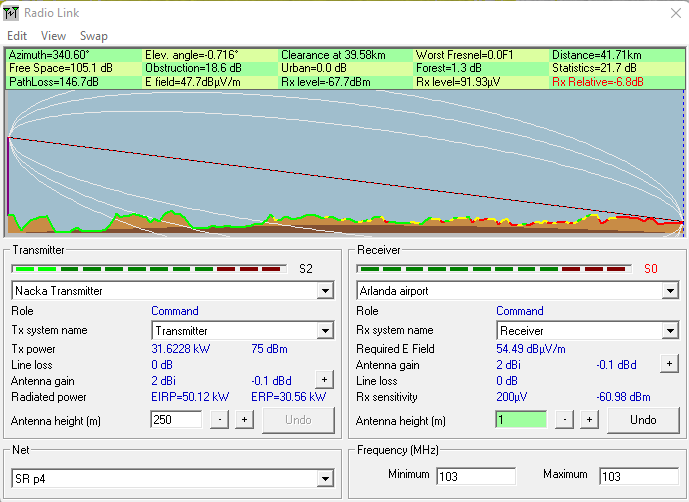
**Nacka to Arlanda airport receiver:** 41.7Km.

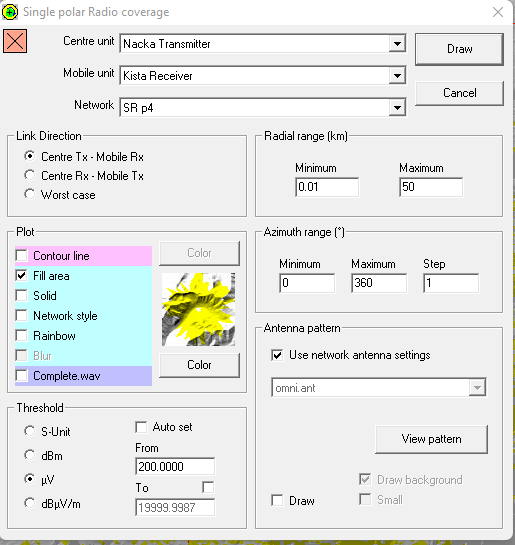
1. **Include screenshots of the Radio Link results for both links as well as Single Polar radio coverage plot of the Nacka transmitter (see Appendix on how to produce the polar coverage plot).**

**Ans:**

Graphical user interface

Description automatically generated



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**Graphical user interface, application

Description automatically generated**