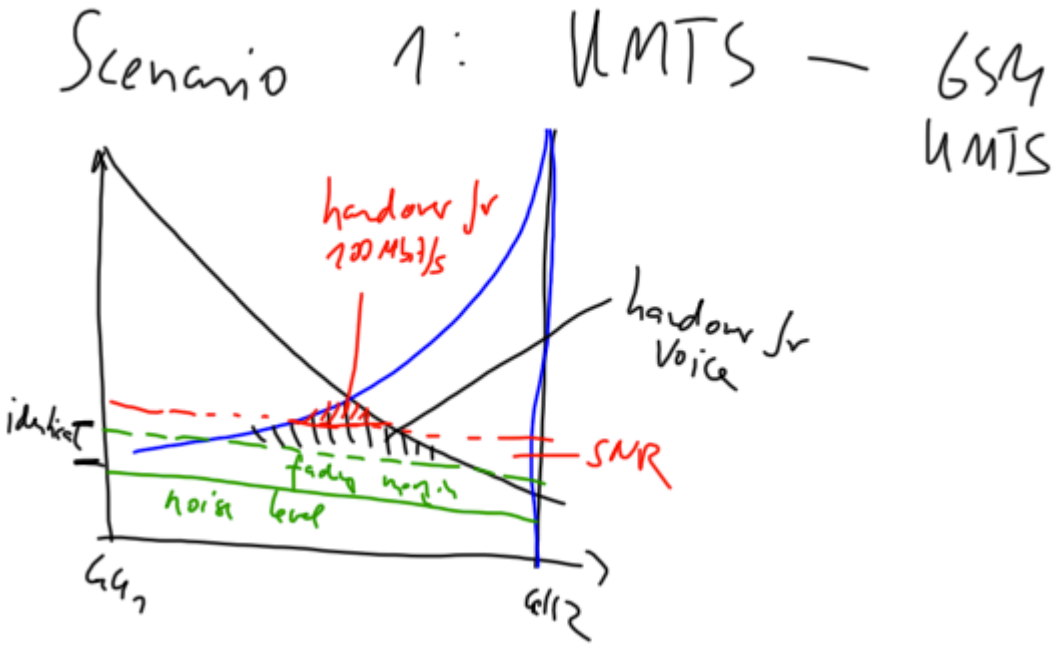
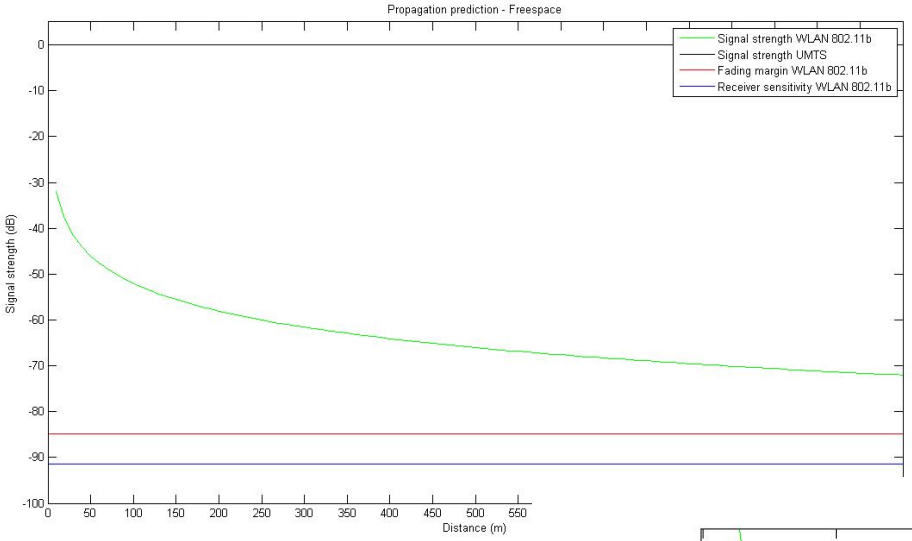
Wireless Handover Simulations

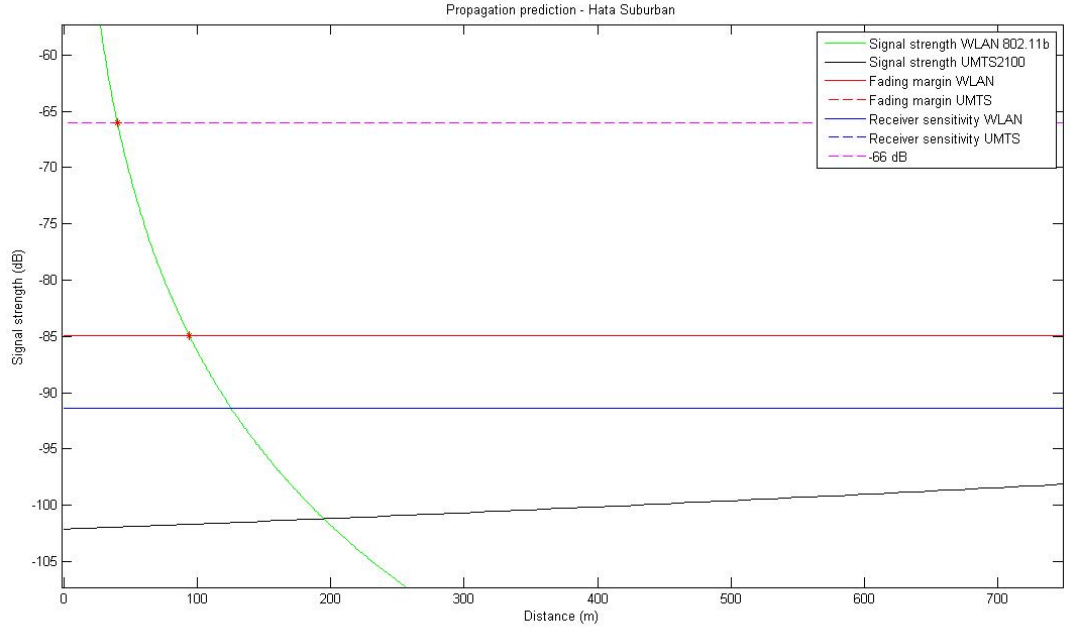
Scenario 1

- 3 minutes and 50 seconds to complete handover (GSM - UMTS)



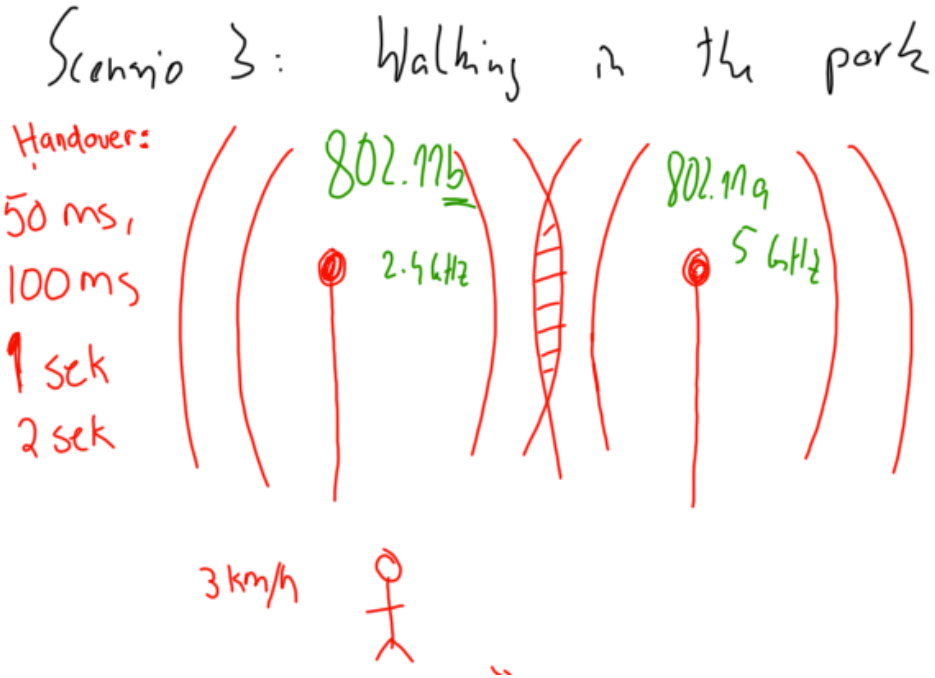
Scenario 2


Propagation prediction - Freespace
Signal strength WLAN 802.11b
Signal strength UMTS
Fading margin WLAN 802.11b
Receiver sensitivity WLAN 802.11b
Signal strength (dB)
Distance (m)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
0
50
100
150
200
250
300
350
400
450
500
550


Propagation prediction - Hata Suburban
Signal strength WLAN 802.11b
Signal strength UMTS2100
Fading margin WLAN
Fading margin UMTS
Receiver sensitivity WLAN
Receiver sensitivity UMTS
-66 dB
Signal strength (dB)
Distance (m)
-60
-65
-70
-75
-80
-85
-90
-95
-100
-105
0
100
200
300
400
500
600
700

Scenario 3

- We never hit the fading margin, and should have no problems doing handovers.



Another scenarios

- Driving through a tunnel
- Signal source is moving
- We are moving up the hill

World description

$$L = L_{FSL} + A_{MU} - H_{MG} - H_{BG} - \sum K_{correction}$$

System parameters

- Other model to compare
- Precise results ?
- Good parameters = success ?
- Wave interference

Technical changes

- Phisical elements imperfecitons
- Many system users
- Information about signal

$$L = L_{FSL} + A_{MU} - H_{MG} - H_{BG} - \sum K_{correction}$$

Exotic model

More detailed simulations?