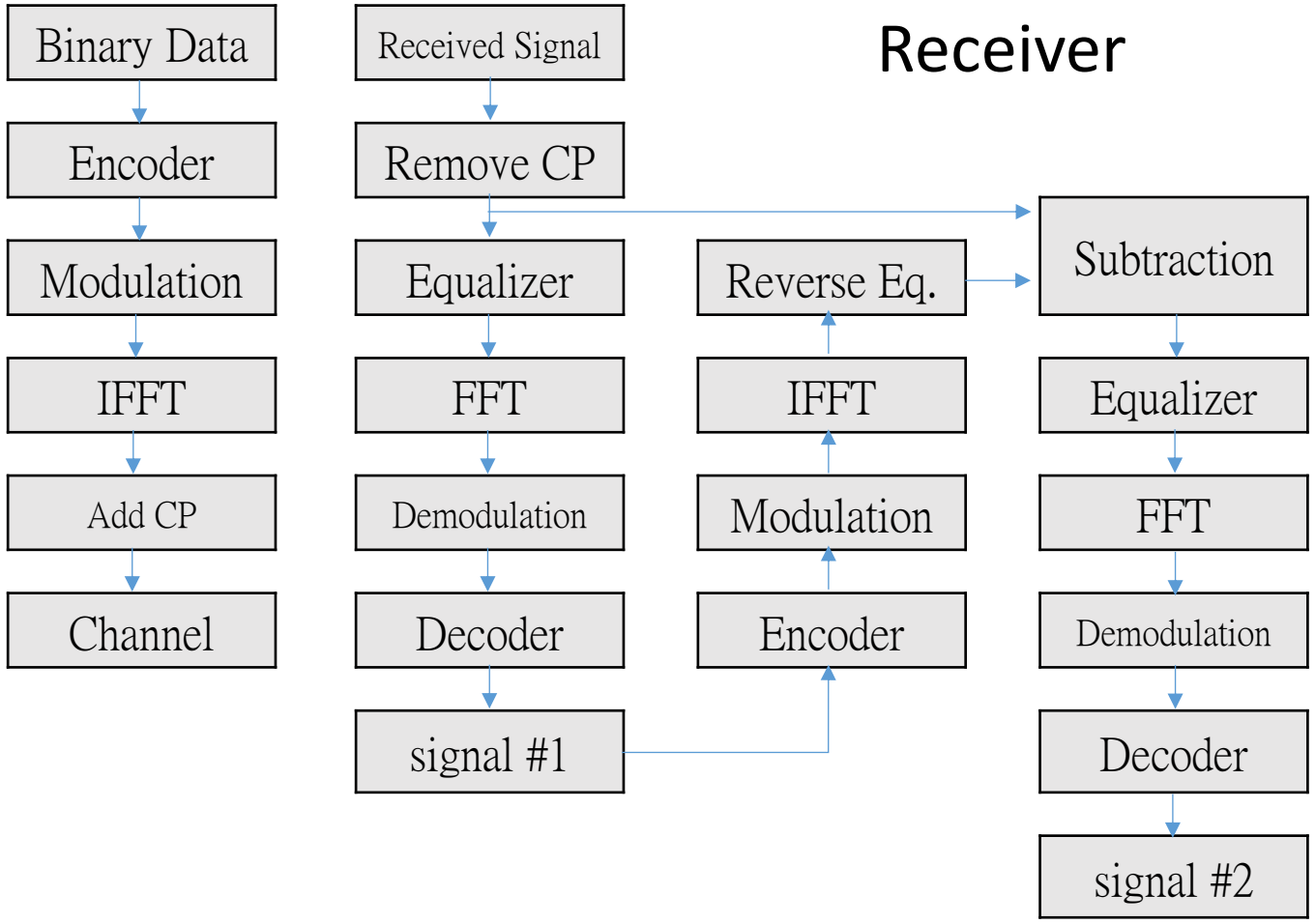
# Progress in SIC Simulation

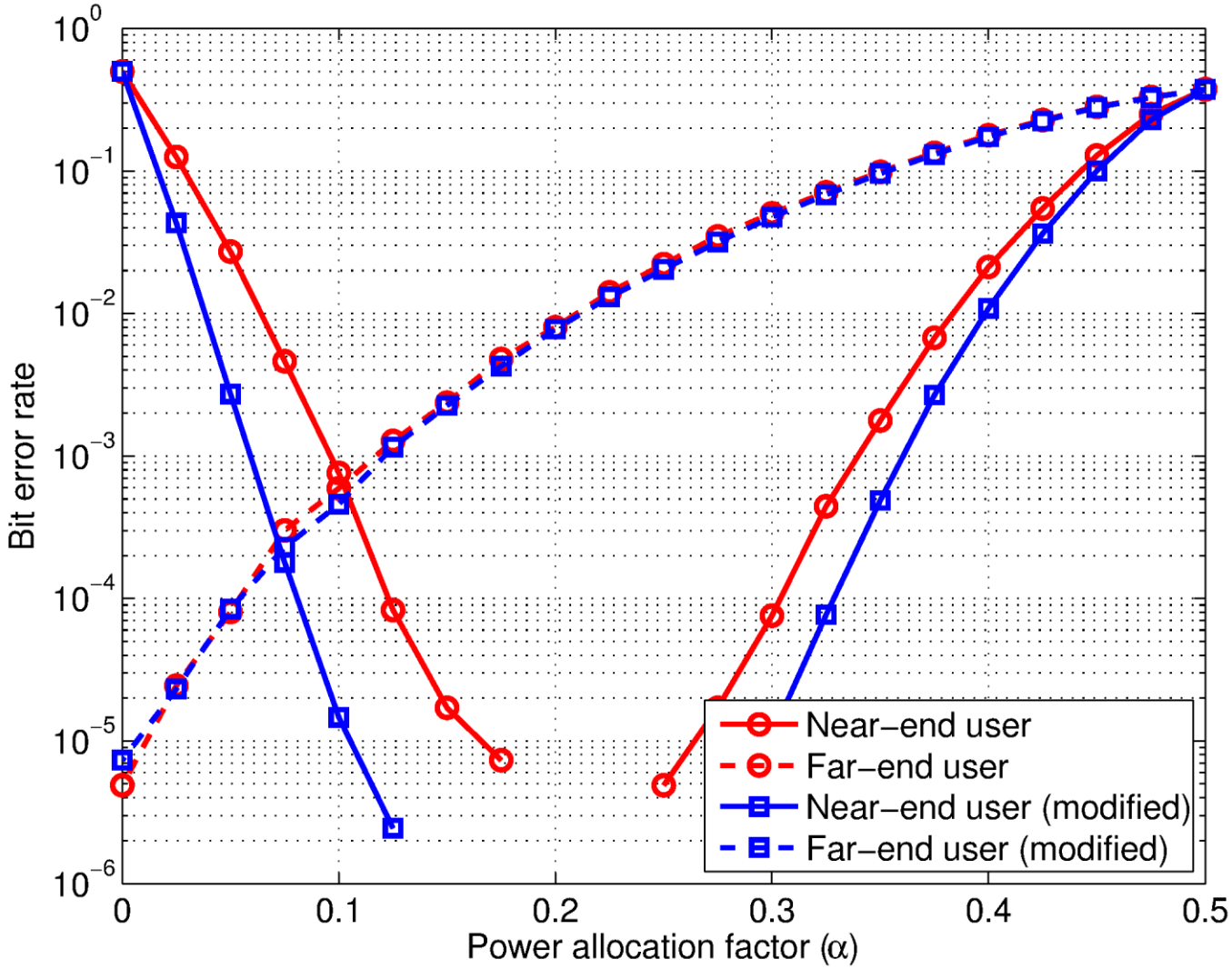
Modify equalizer (FDE), encoder (support code rate n/m)

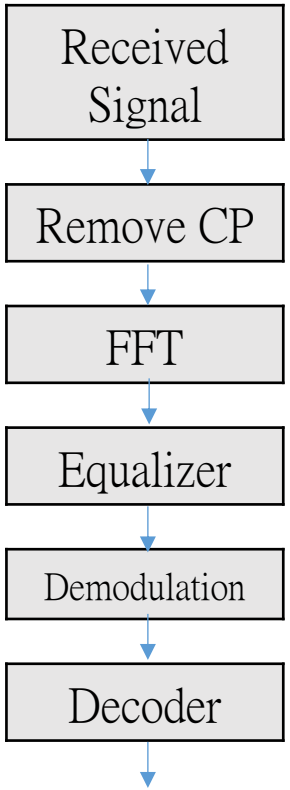
# System Architecture

- Transmitter



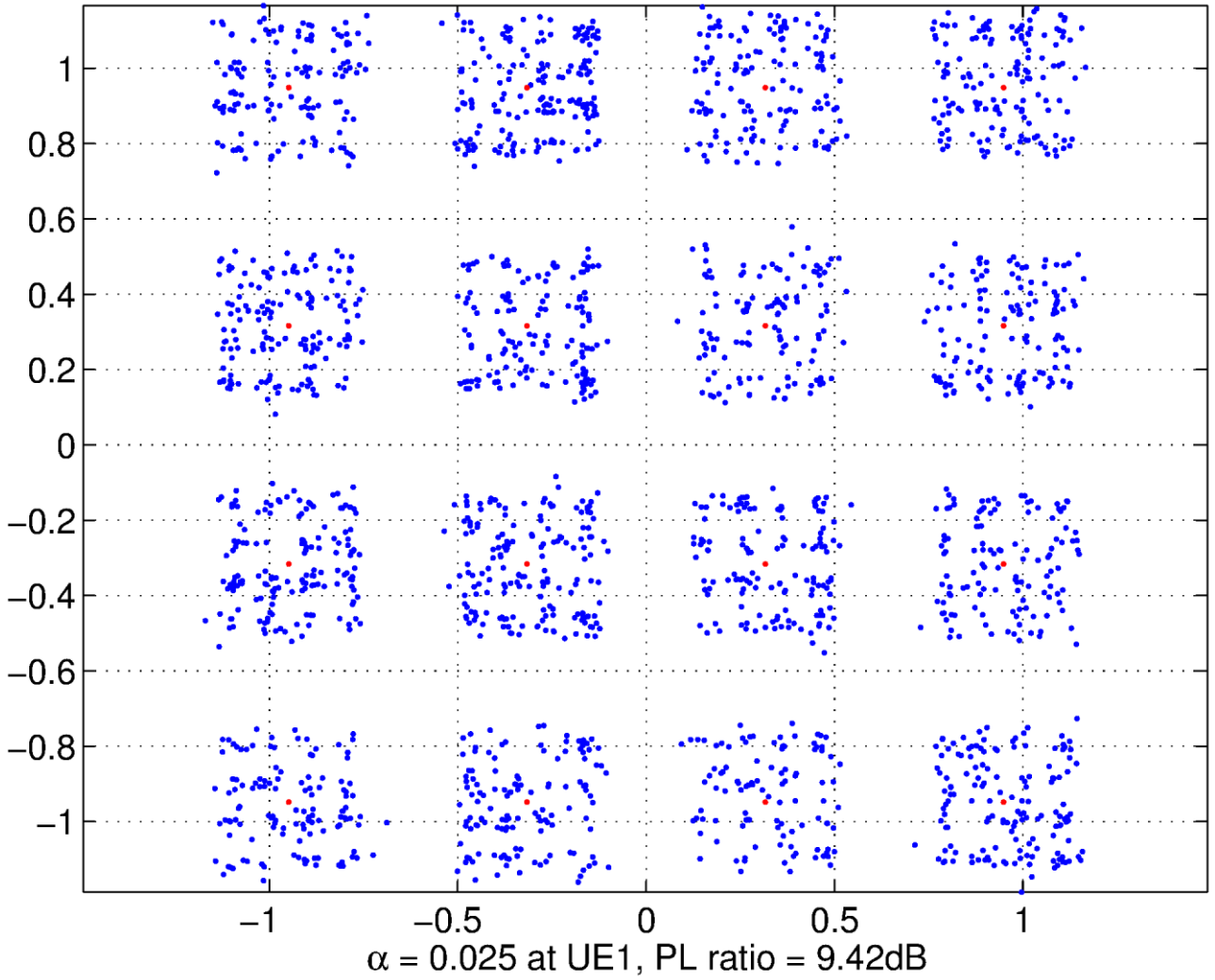
# Modified Receiver



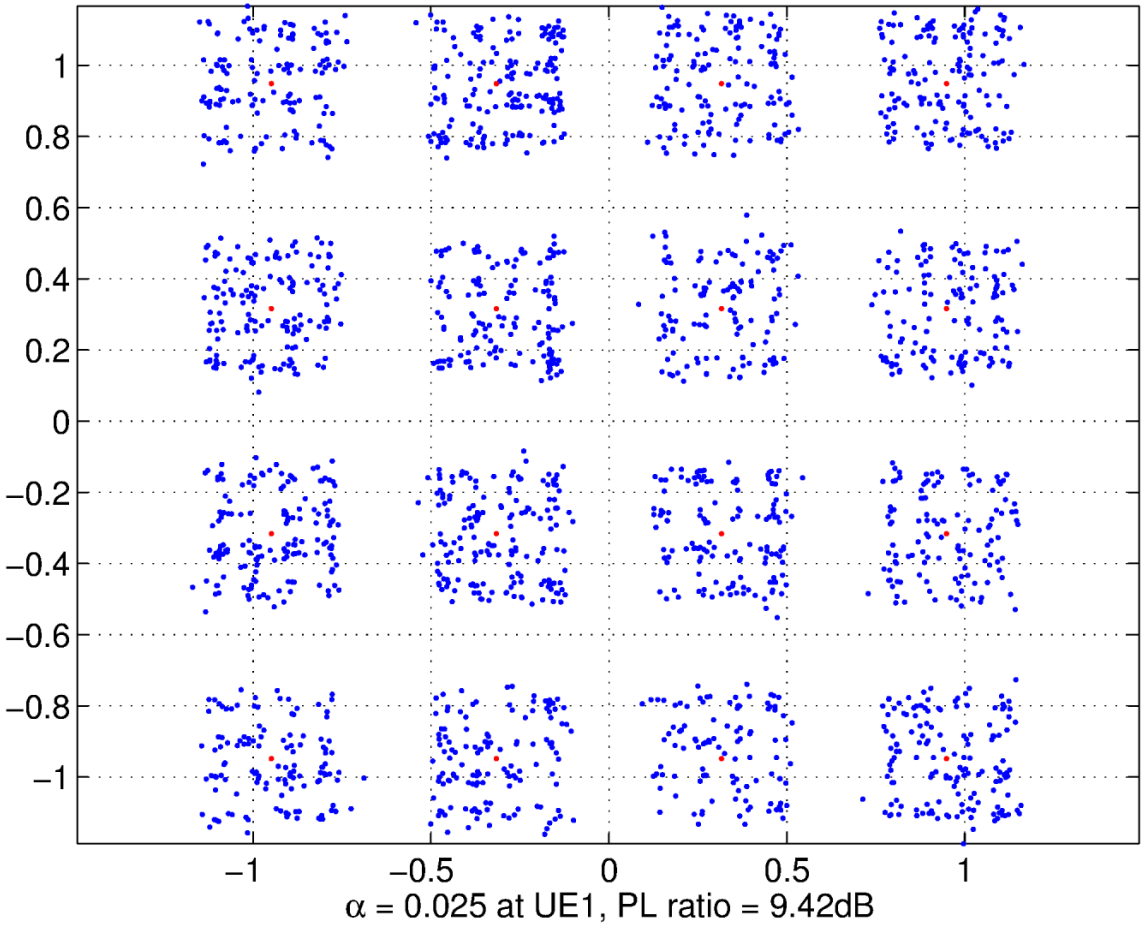



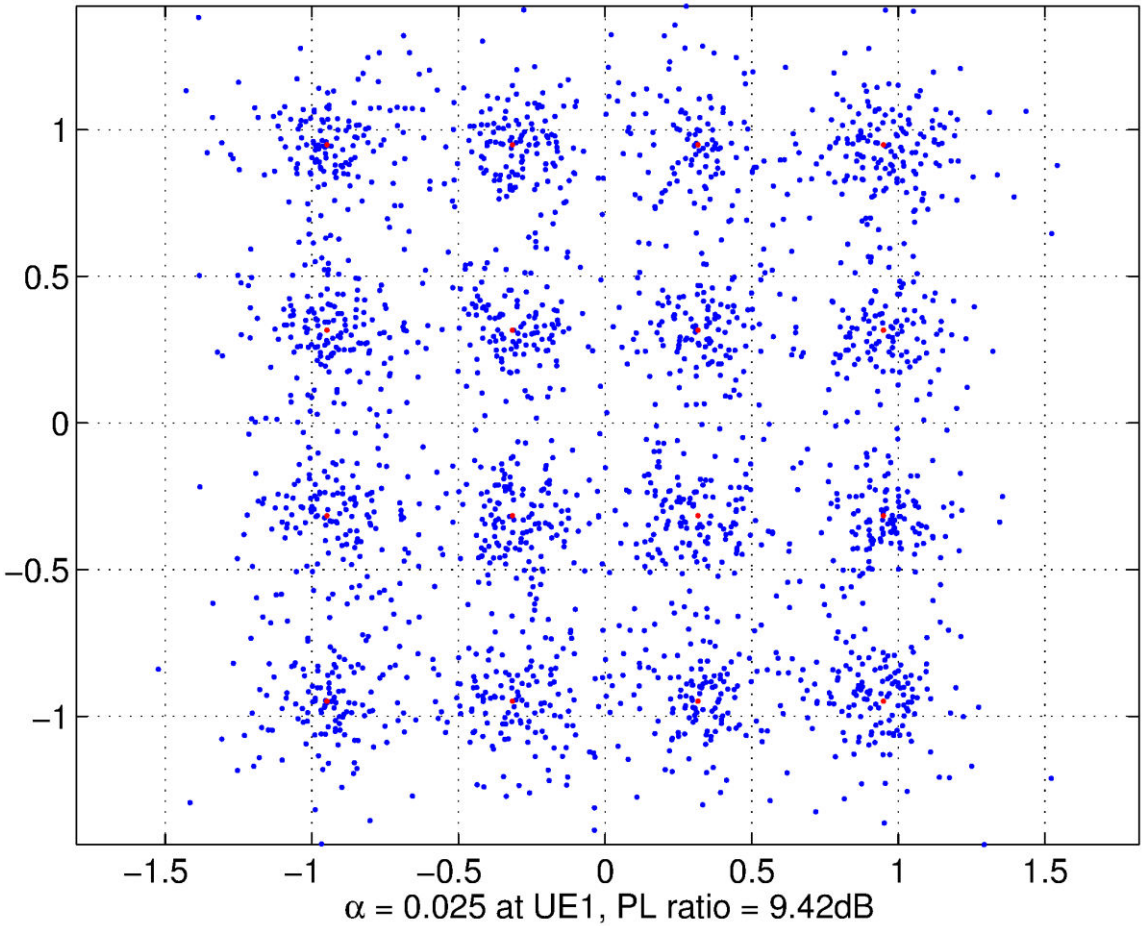
# Verify power allocation factor (UE1)

- Pathloss Ratio(9.42dB)
- ITU pedestrian channel(3km/s)
- 4000 random samples
- 16QAM

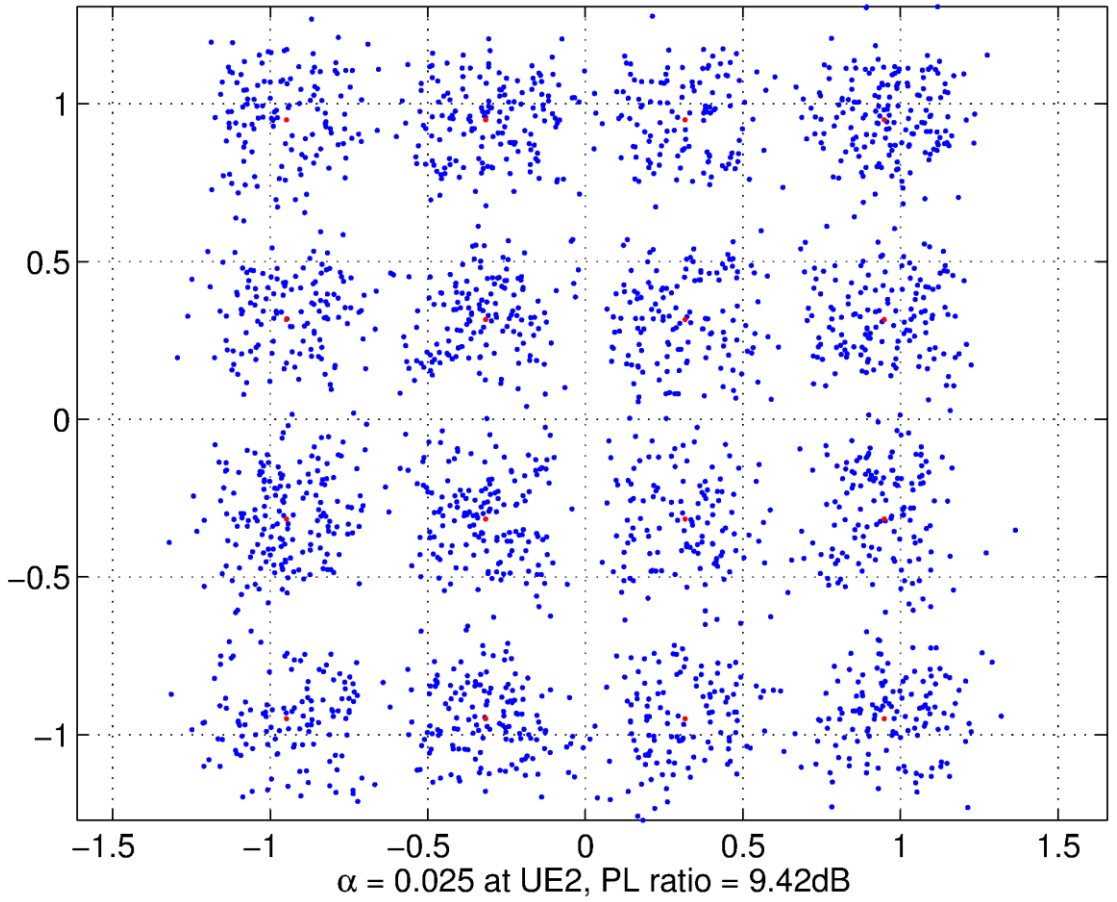


# Verify power allocation factor (UE1)



# Verify power allocation factor (UE2)



# 3gpp - Simulation Parameters

**Table C.1 Simulation assumptions for LTE-A coexistence**

| Parameter | Assumption (common) |
|---|---|
| Environment | Macro cell, Urban area, Uncoordinated deployment |
| Carrier frequency | 2000 MHz |
| Cellular layout | Hexagonal grid, 19 cell sites, 57 sectors with BTS in the corner of the cell , 65-degree sectored beam. |
| BTS antenna gain (include feeder loss) | 15 dBi |
| BTS antenna frontback ratio ($A_m$) | 20 dB |
| BTS antenna height | 30 m |
| Inter-site distance | 750 m |
| Pathloss model | $128.1+37.6\log10(r) + 21*\log_{10}(f_c/2.0)$ |
| log-normal fade shadow | 10 dB |
| Shadowing correlation | Between cells: 0.5, Between sectors: 1.0 |
| MCL (including antenna gain) | 70 dB |
| Handover margin | 3 dB |
| white noise power density | -174 dBm/Hz |
| BTS noise figure | 5 dB |
| UE noise figure | 9 dB |
| Scheduling algorithm | Round Robin |

| Parameter | Assumption (LTE-A) |
|---|---|
| system bandwidth | 40 MHz |
| BS max Tx power | 49 dBm |
| UE max Tx power | 23 dBm |
| UE min Tx power | -40 dBm |
| Power control algorithm | Fractional TPC |