|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Transmission range=1000m | | | | | |
| UE: number of users | First-hop Bandwidth:  MHZ | Second-hop  right-side  Bandwidth:  MHZ | | Second-hop  left-side  Bandwidth:  MHZ | Successful transmission ratio |
| 1800 | 10 | x | | x | 56% |
| 1800 | 10 | 10 multiplex | | | 99.98% |
| 1800 | 10 | 5 | | 5 | 95.90% |
| 1800 | 5 | x | | x | 39.67% |
| 1800 | 5 | 5 multiplex | | | 77.88% |
| 1800 | 6 | x | | x | 45.74% |
| 1800 | 6 | 4 multiplex | | | 76.97%  84.46% |
| 1800 | 7 | x | x | | 52.13% |
| 1800 | 7 | 3 |  | | 78.25% |
| 1800 | 8 | x | | x | 54.26% |
| 1800 | 8 | 2 multiplex | | | 70.90% |
| 1200 | 5 | x | | x | 54.26% |
| 1200 | 5 | 5 multiplex | | | 100% |
| 1200 | 6 | x | x | | 57.54% |
| 1200 | 6 | 4 multiplex | | | 99.82% |
| 1200 | 7 | x | x | | 64.89% |
| 1200 | 7 | 3 multiplex | | | 93.49% |
| 1200 | 8 | x | x | | 67.02% |
| 1200 | 8 | 2 multiplex | | | 84.93% |
| 1200 | 10 | x | x | | 71.28% |

1. Different bandwidth in first hop

|  |  |  |
| --- | --- | --- |
| Transmission range=1000m | | |
| UE: number of users | First-hop Bandwidth:  MHZ | Successful transmission ratio |
| 1800 | 10 | 56% |
| 1800 | 8 | 54.26% |
| 1800 | 7 | 52.13% |
| 1800 | 6 | 45.74% |
| 1800 | 5 | 39.67% |
| 1200 | 5 | 54.26% |
| 1200 | 6 | 57.54% |
| 1200 | 7 | 64.89% |
| 1200 | 8 | 67.02% |
| 1200 | 10 | 71.28% |

1. 20MHZ used in both first-hop and second-hop

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Transmission range=1000m | | | | |
| UE: number of users | First-hop Bandwidth:  MHZ | Second-hop  right-side  Bandwidth:  MHZ | Second-hop  left-side  Bandwidth:  MHZ | Successful transmission ratio |
| 1800 | 10 | 5 | 5 | 95.90% |
| 1800 | 10 | 10 multiplex | | 99.98% |

3.10MHZ used in both first-hop and second-hop

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Transmission range=1000m | | | | |
| UE: number of users | First-hop Bandwidth:  MHZ | Second-hop  right-side  Bandwidth:  MHZ | Second-hop  left-side  Bandwidth:  MHZ | Successful transmission ratio |
| 1800 | 5 | 5 multiplex | | 77.72% |
| 1800 | 6 | 4 multiplex | | 76.84% |
| 1800 | 8 | 2 multiplex | | 70.90% |
| 1200 | 5 | 5 multiplex | | 100% |
| 1200 | 6 | 4 multiplex | | 99.82% |
| 1200 | 7 | 3 multiplex | | 93.49% |
| 1200 | 8 | 2 multiplex | | 84.93% |



: received signal power.

: interference.

: noise power.

BW: bandwidth.

When BW decreased, is decreased. Then SINR is increased.

SINR is increased with decreased BW.





With the increased CQI, the threshold SINR is increased. SINR increased with the decreased distance.