***MMSE ALL Results:***

|  |  |
| --- | --- |
| K=4 | N=4 |
| N=8 | K=8 |
| N=16 | K=16 |
| N=32 | K=32 |
| Combined: | K=64 |
|  | Combined: |
|  |  |

2)

|  |  |
| --- | --- |
| K=8 | N=8 |
| N=16 | K=16 |
| N=32 | K=32 |
| N=64 | K=64 |
| Combine: | Combined: |
|  |  |

For) 16

|  |  |
| --- | --- |
| K=16 | N=16 |
| N=32 | K=32 |
| N=64 | K=64 |
| N=96 | K=96 |
| Combine: | Combine: |

For) 32

|  |  |
| --- | --- |
| K=32 | N=32 |
| N=32 | K=32 |
| N=64 | K=64 |
| N=96 | K=96 |
| Combine: | Combine: |

For) 64

|  |  |
| --- | --- |
| K=64 | N=64 |
| N=64 | K=64 |
| N=96 | K=96 |
| N=128 | K=128 |
| Combine: | Combines: |

**B)ZERO FORCING :**

|  |  |
| --- | --- |
| FOR K=4 | N=4 |
| 1. N=8 | K=8 |
| 1. N=16 | K=16 |
| N=32 | K=32 |
| N=64 | K=64 |
| COMBINED | COMBINED |
| K=8 | N=8 |
| N=16 | K=16 |
| N=32 | K=32 |
| N=64 | K=64 |
| COMBINED | COMBINED |
| K=16 | N=16 |
| N=32 | K=32 |
| N=64 | K=64 |
| N=96 | K=96 |
| COMBINED | COMBINED |
| K=32 | N=32 |
| N=32 | K=32 |
| N=64 | K=64 |
| N=96 | K=96 |
| COMBINED | COMBINED |
| K=64 | N=64 |
| N=64 | K=64 |
| N=96 | K=96 |
| N=128 | K=128 |
| COMBINED | COMBINED |

Massive mimo :having a single antennas at the user side

Mimo : we having a 2 antennas at the user side in 4g and 5g basically