

Table 1 Simulation parameters

Basic parameters	3GPP TS 38.101 Clause 5.2.3.1.1 Test 4-1
Modified parameters	No precoding, same information bit payload and binary channel bits for every slot, correlated receive antenna noise
Data type	Floating point
Channel estimation, synchronization and noise covariance matrix estimation	Perfect
Equalizer type	MIMO decoder
LDPC decoder	Belief propagation with 12 iterations

For simplicity, a noise covariance matrix of $\begin{bmatrix} 1 & \beta^{1/9} & \beta^{4/9} & \beta \\ \beta^{1/9*} & 1 & \beta^{1/9} & \beta^{4/9} \\ \beta^{4/9*} & \beta^{1/9*} & 1 & \beta^{1/9} \\ \beta^* & \beta^{4/9*} & \beta^{1/9*} & 1 \end{bmatrix}$ is applied with $\beta = 0.3874$ for medium correlated case and $\beta = 0.9$ for high correlated case.

Table 2 Required SNR (dB) at 70% of the maximum throughput for medium correlated noise

Modulation schemes and MIMO correlation matrix configurations	Low	Medium-A	Medium	High	Simulation duration (10 ms)
QPSK	-8	8.5	13.6	17.9	100
16QAM	3.3	-	-	-	50
64QAM	11.1	-	-	-	10
256QAM	18.5	-	-	-	10
Note	-				

Table 3 Required SNR (dB) at 70% of the maximum throughput for high correlated noise

Modulation schemes and MIMO correlation matrix configurations	Low	Medium-A	Medium	High	Simulation duration (10 ms)
QPSK	-31.3	-11	0.8	1.7	100
16QAM	-13.6	-	-	-	50
64QAM	-0.3	-	-	-	10
256QAM	13.2	-	-	-	10

Note

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github.com/c1119/5G-NR-DL-BB-ALGS