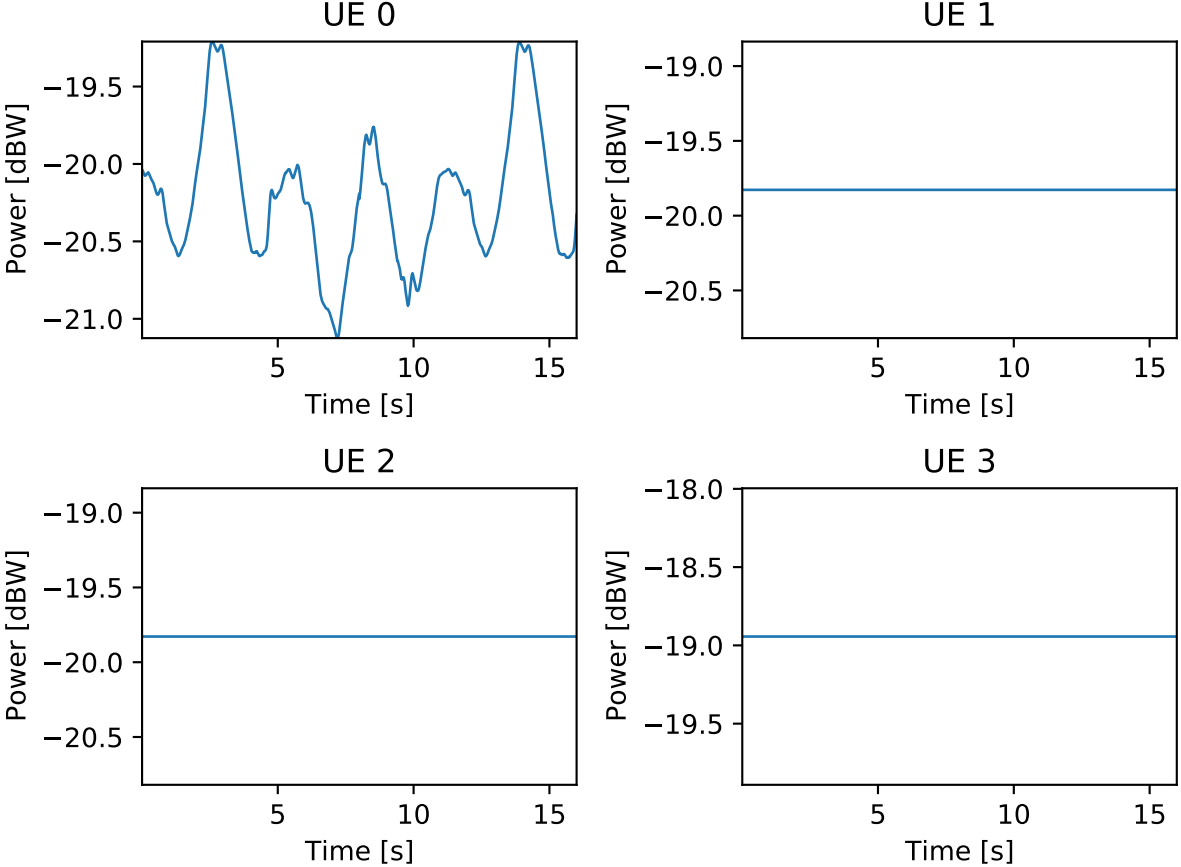
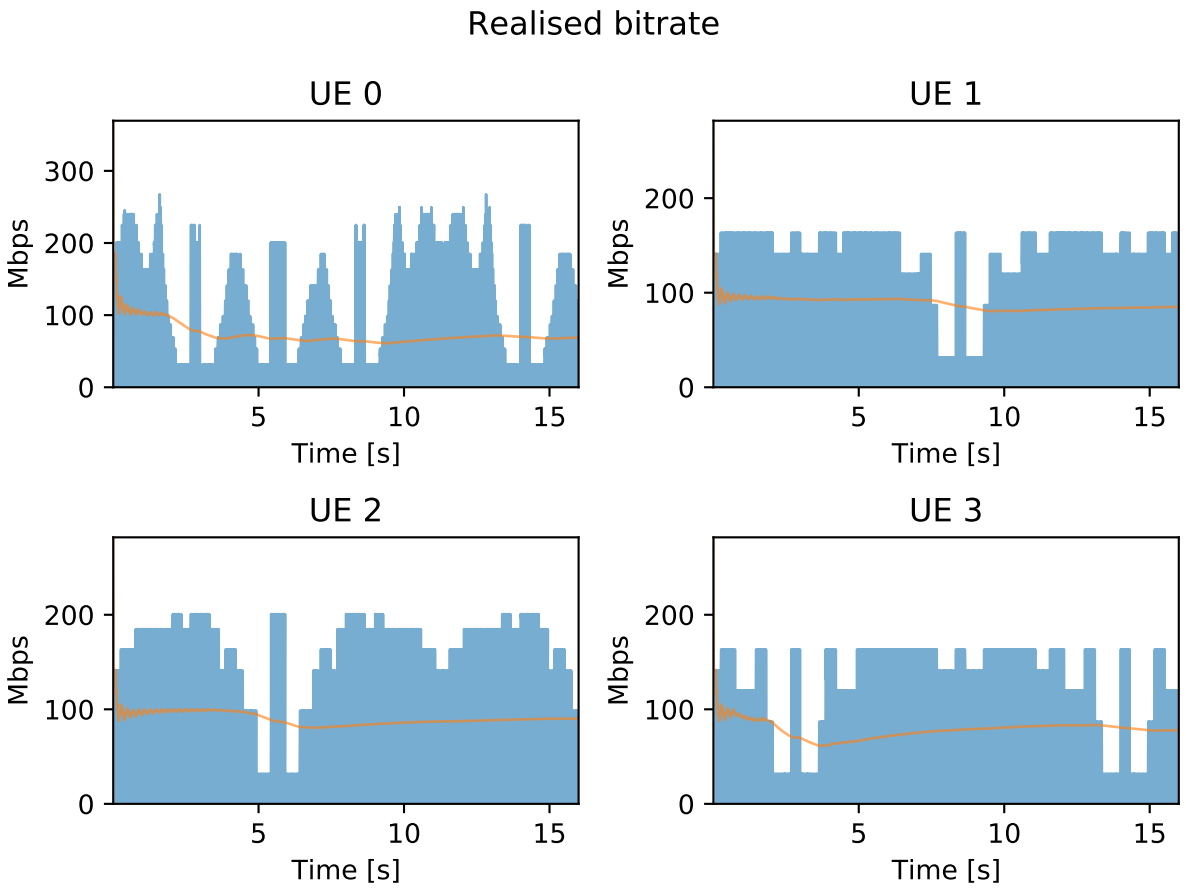
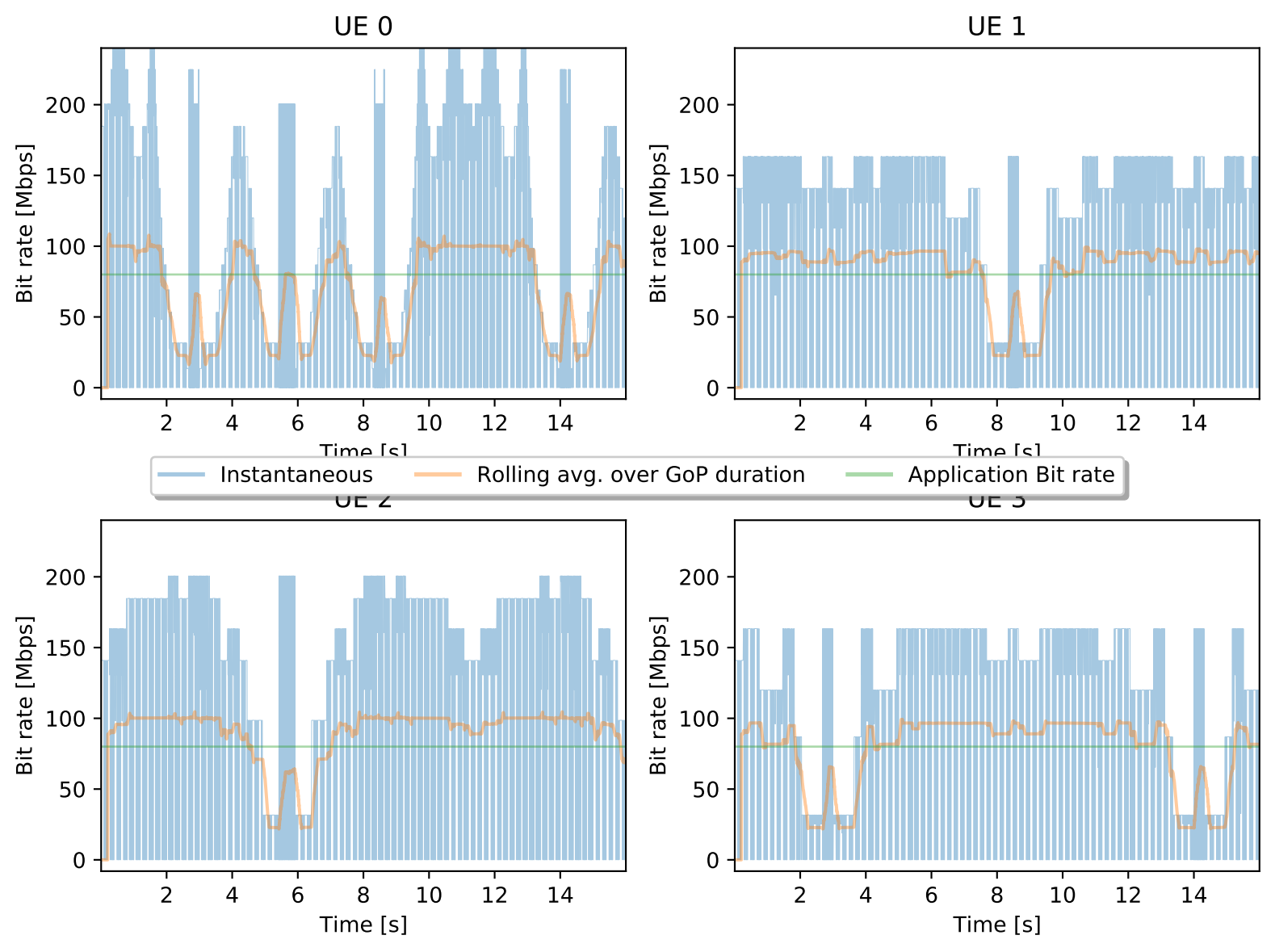
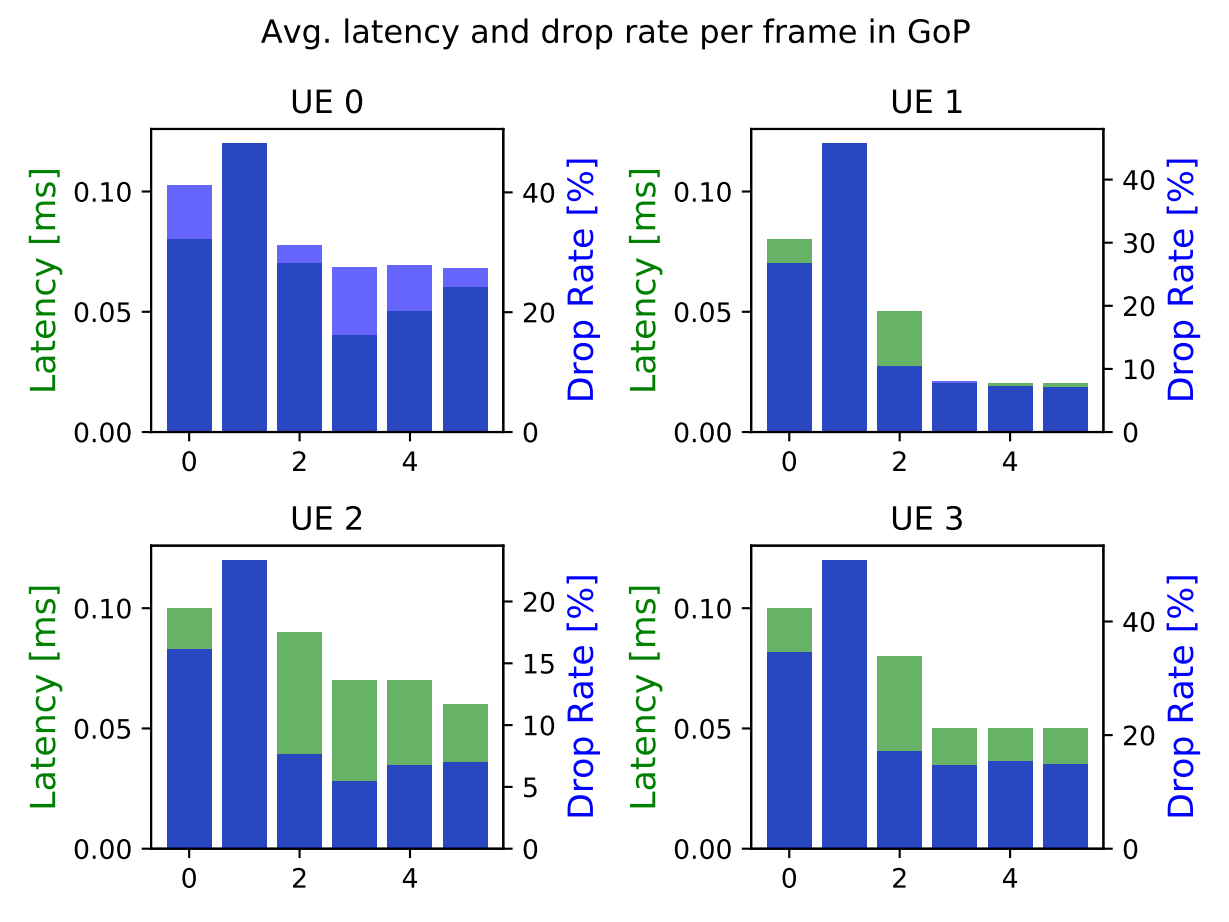
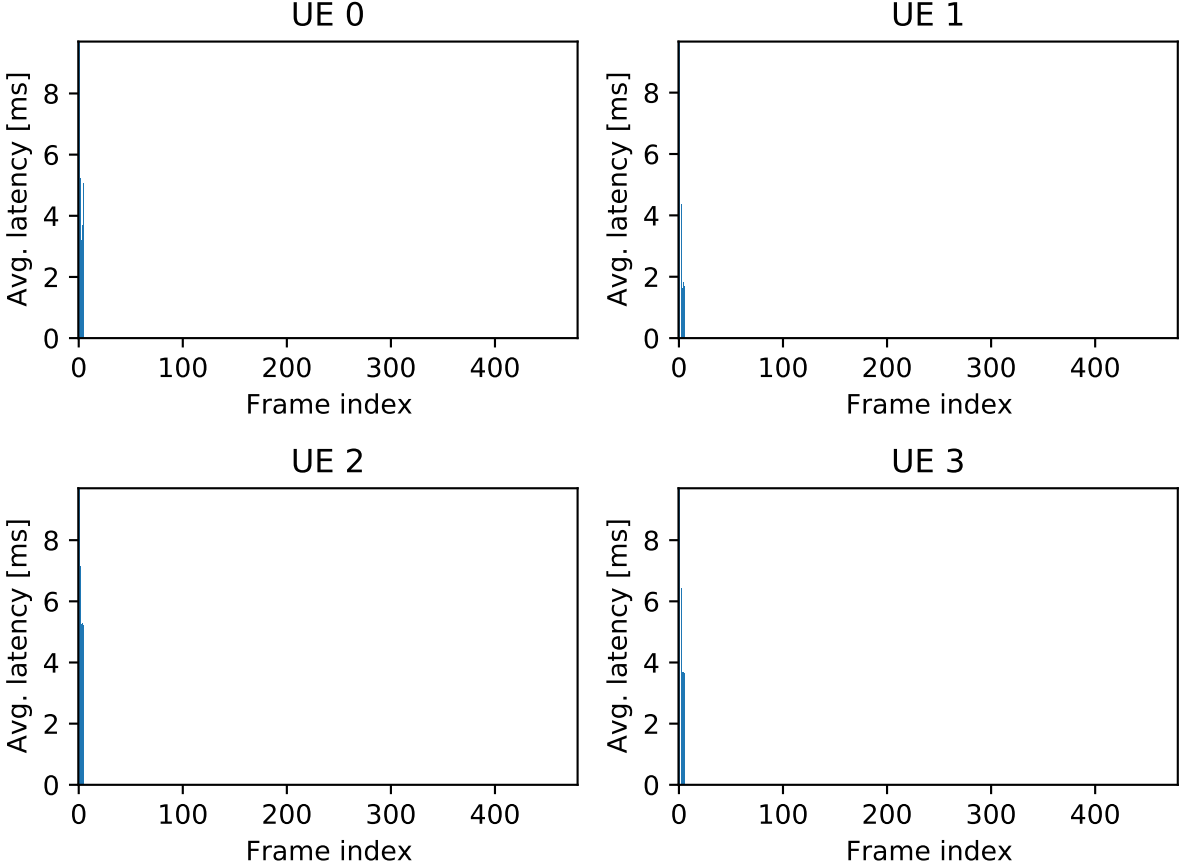
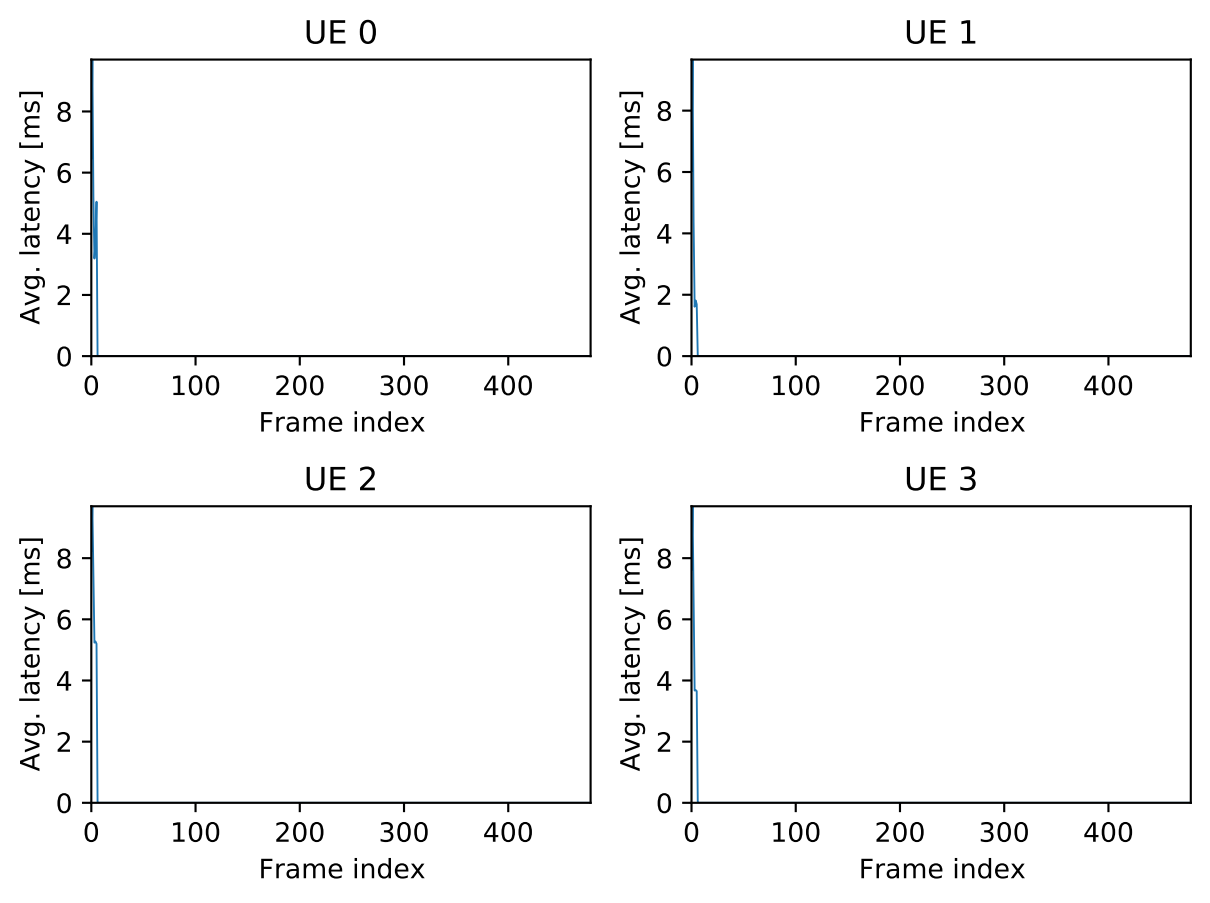

UE 0
Power [dBW]
−19.5
−20.0
−20.5
−21.0
5
10
15
Time [s]
UE 1
Power [dBW]
−19.0
−19.5
−20.0
−20.5
5
10
15
Time [s]
UE 2
Power [dBW]
−19.0
−19.5
−20.0
−20.5
5
10
15
Time [s]
UE 3
Power [dBW]
−18.0
−18.5
−19.0
−19.5
5
10
15
Time [s]

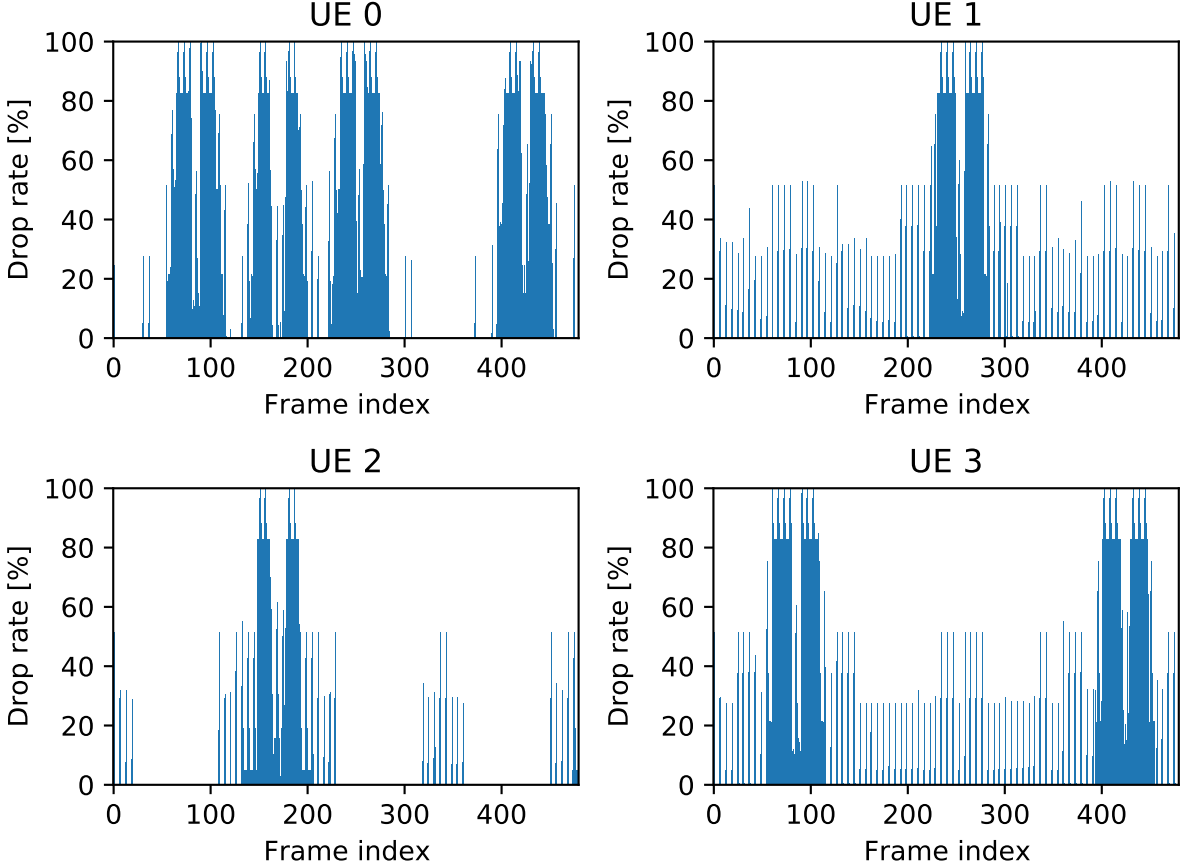

Realised bitrate
UE 0
UE 1
UE 2
UE 3
Mbps
Time [s]
0
100
200
300
5
10
15

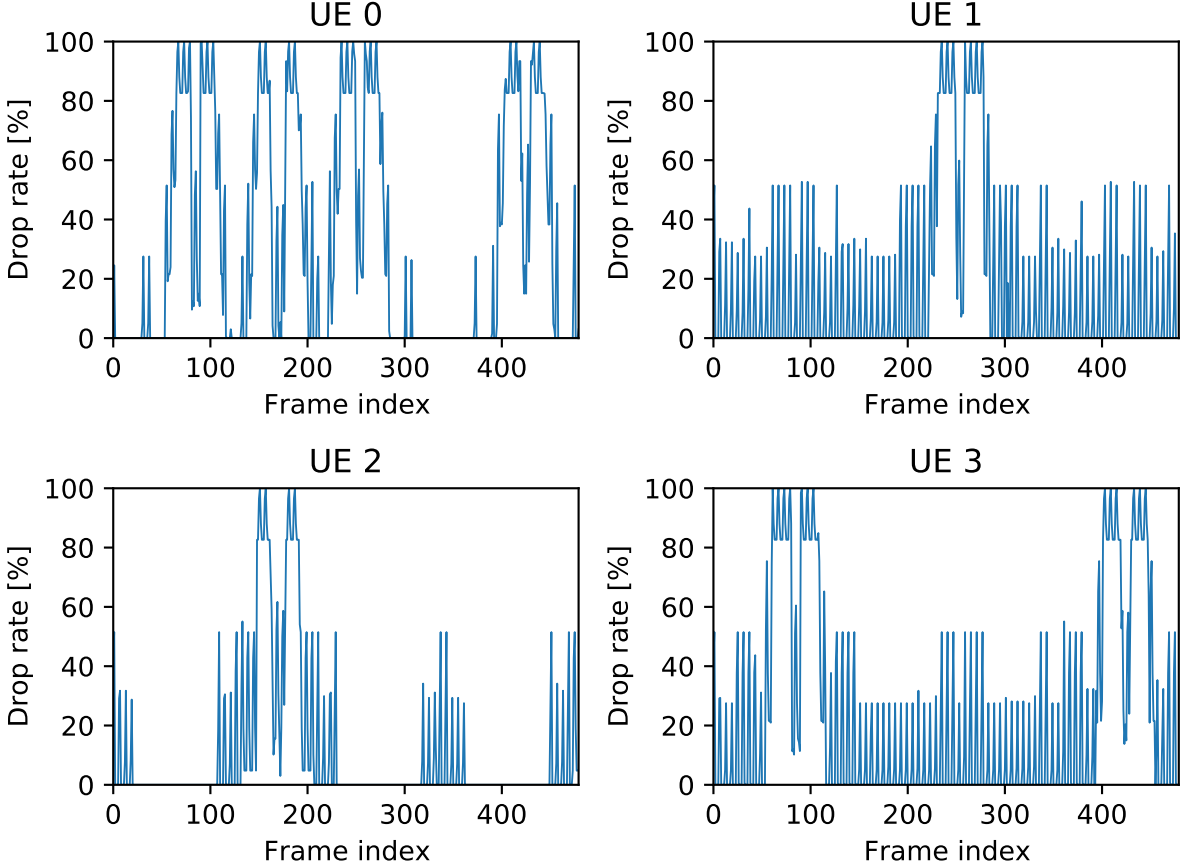

UE 0
UE 1
UE 2
UE 3
Bit rate [Mbps]
Time [s]
0
50
100
150
200
2
4
6
8
10
12
14
Instantaneous
Rolling avg. over GoP duration
Application Bit rate

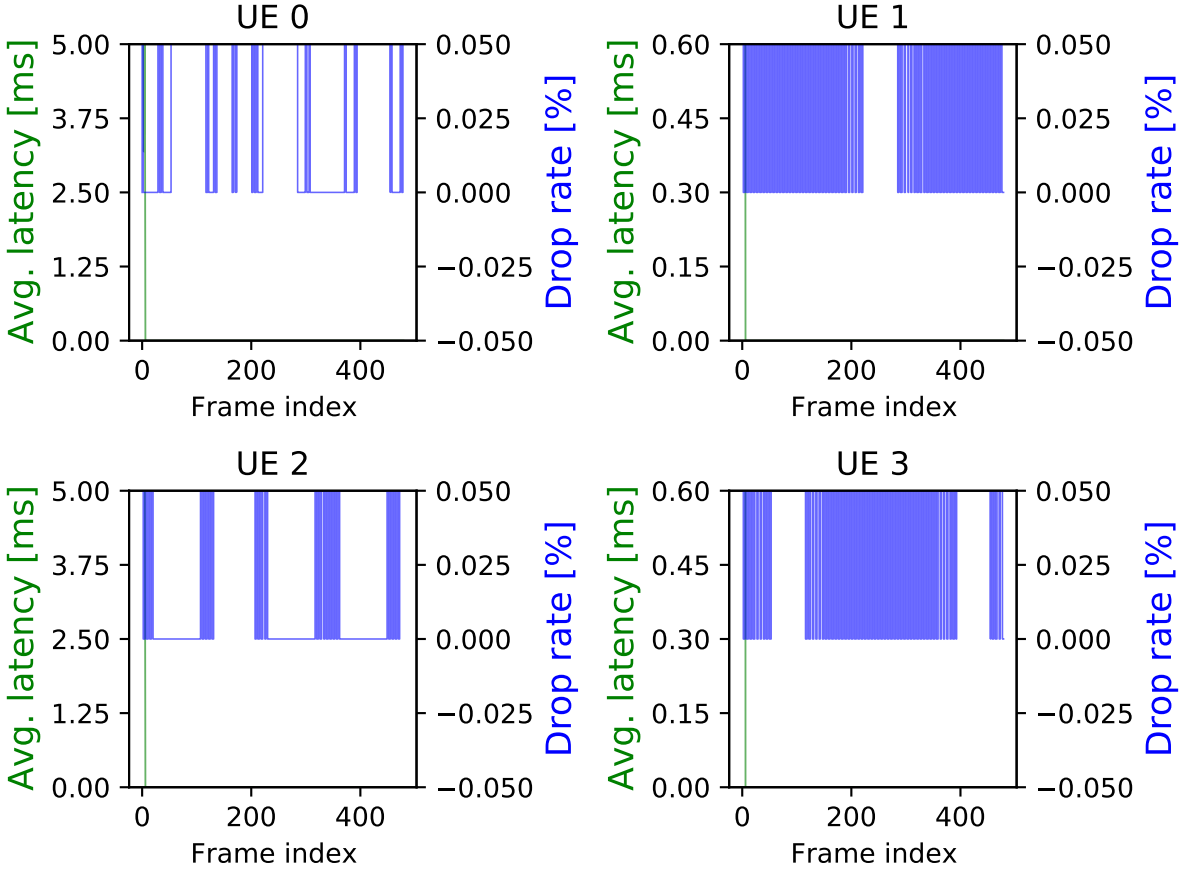

Avg. latency and drop rate per frame in GoP
UE 0
UE 1
UE 2
UE 3
Latency [ms]
Drop Rate [%]
0.00
0.05
0.10
0
2
4
0
10
20
30
40
5
15

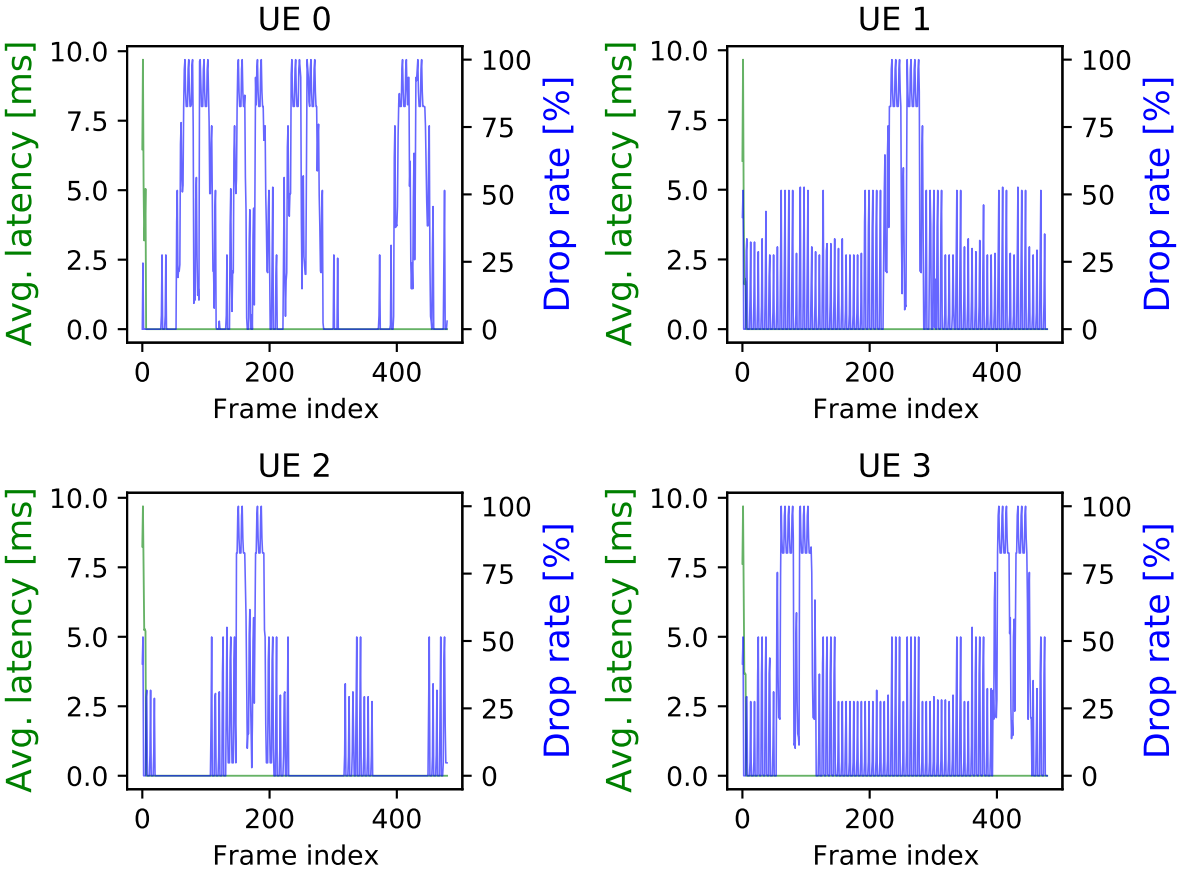

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Frame index
0
2
4
6
8
0
100
200
300
400

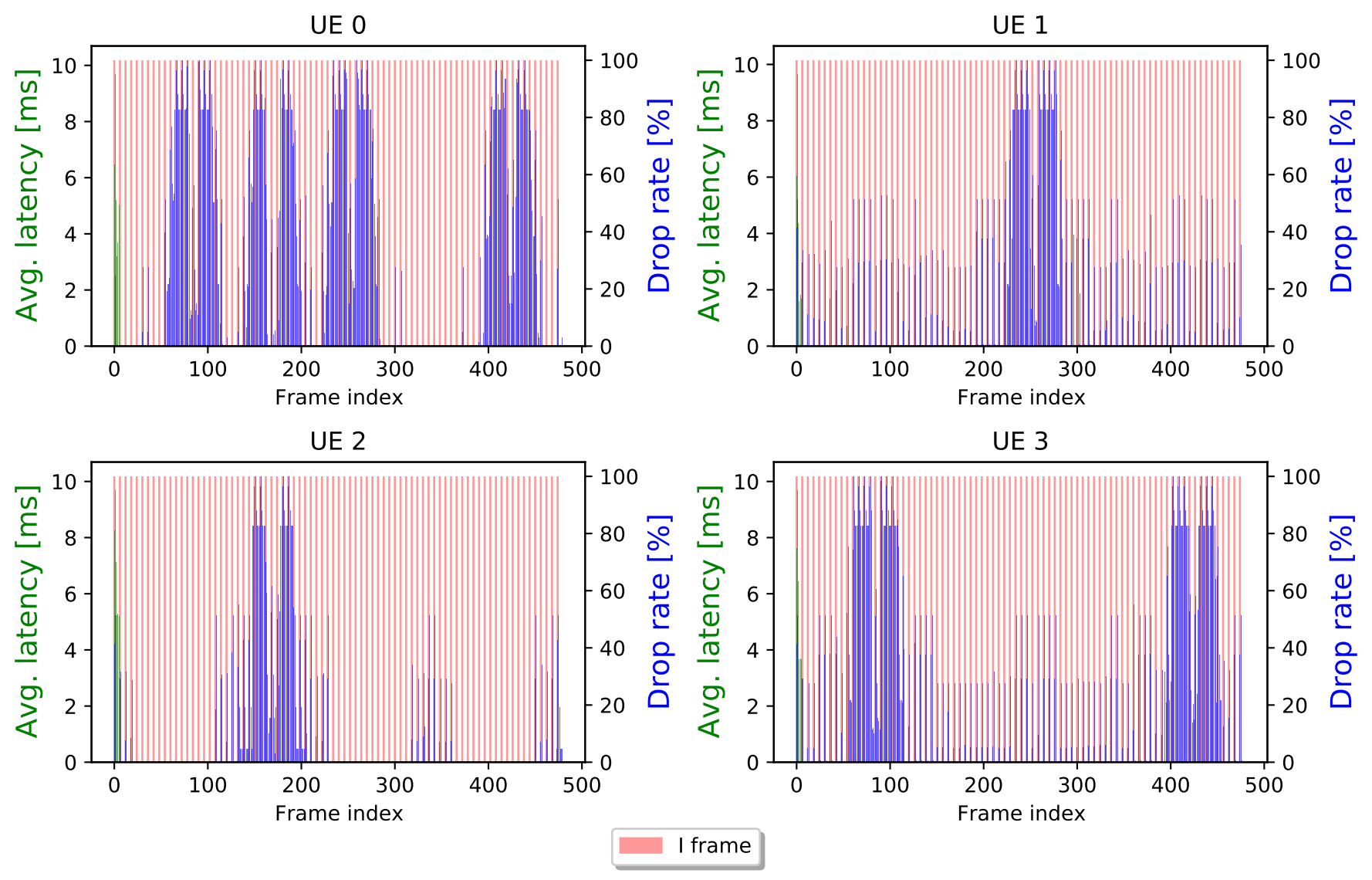

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Frame index
0
2
4
6
8
0
100
200
300
400

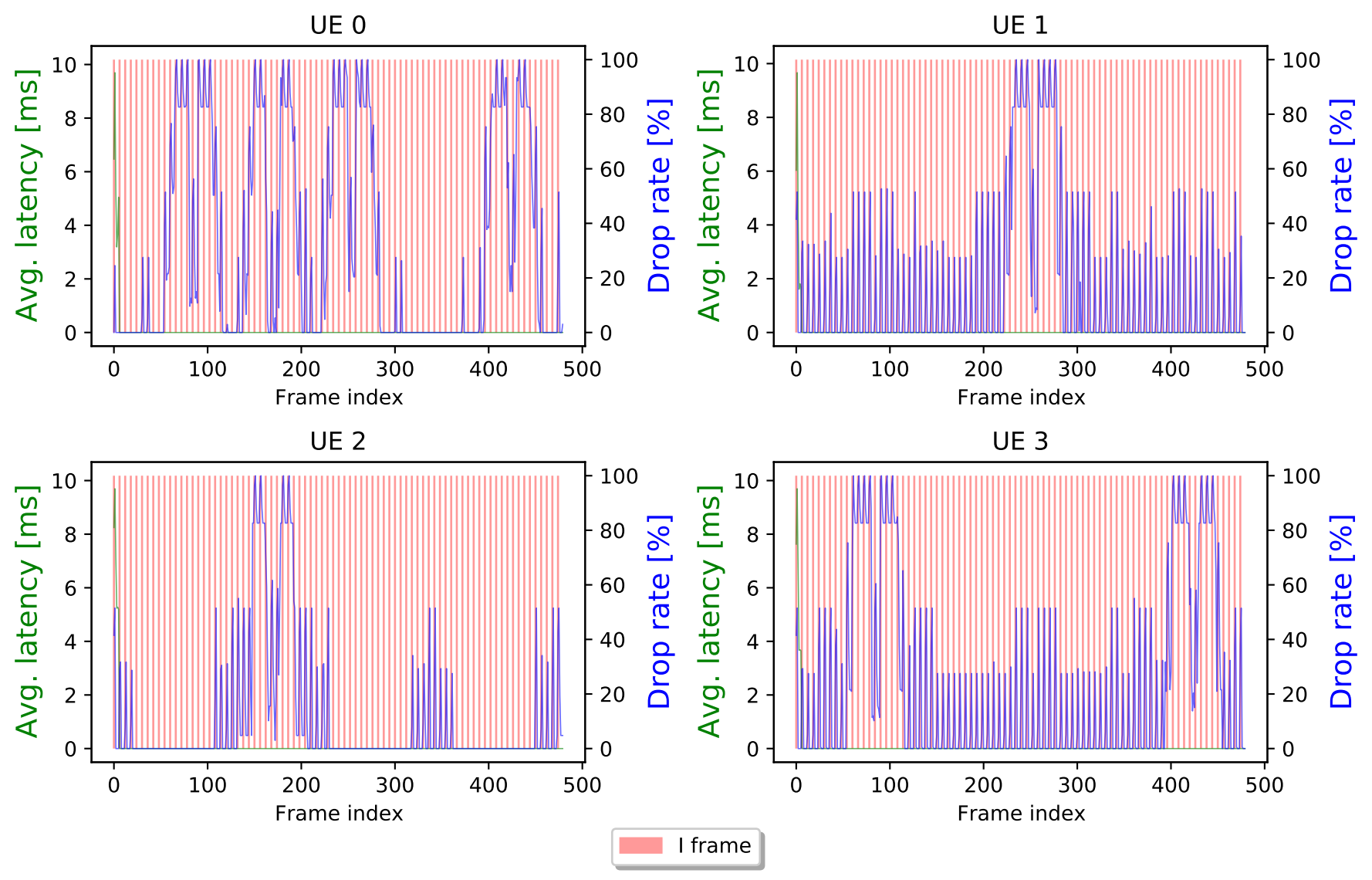

UE 0
UE 1
UE 2
UE 3
Drop rate [%]
Frame index
0
20
40
60
80
100
0
100
200
300
400

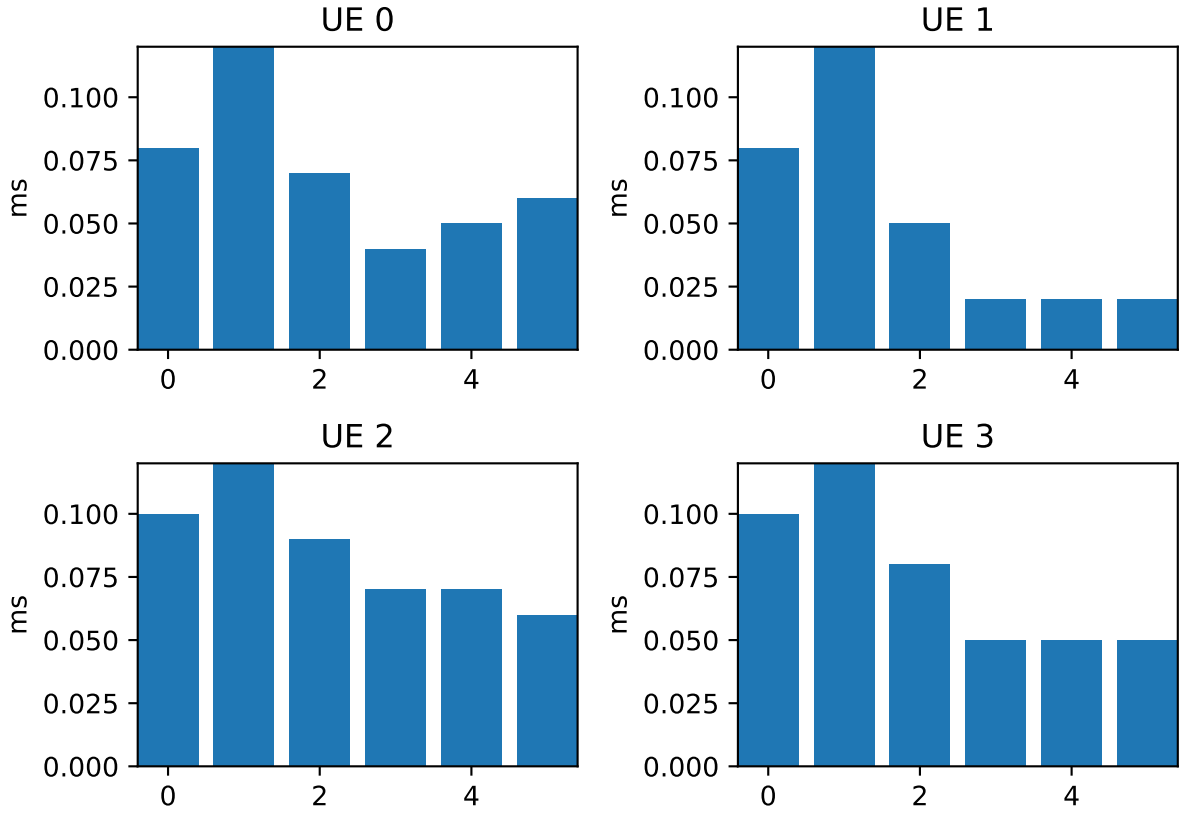

UE 0
UE 1
UE 2
UE 3
Drop rate [%]
Frame index
0
20
40
60
80
100
0
100
200
300
400

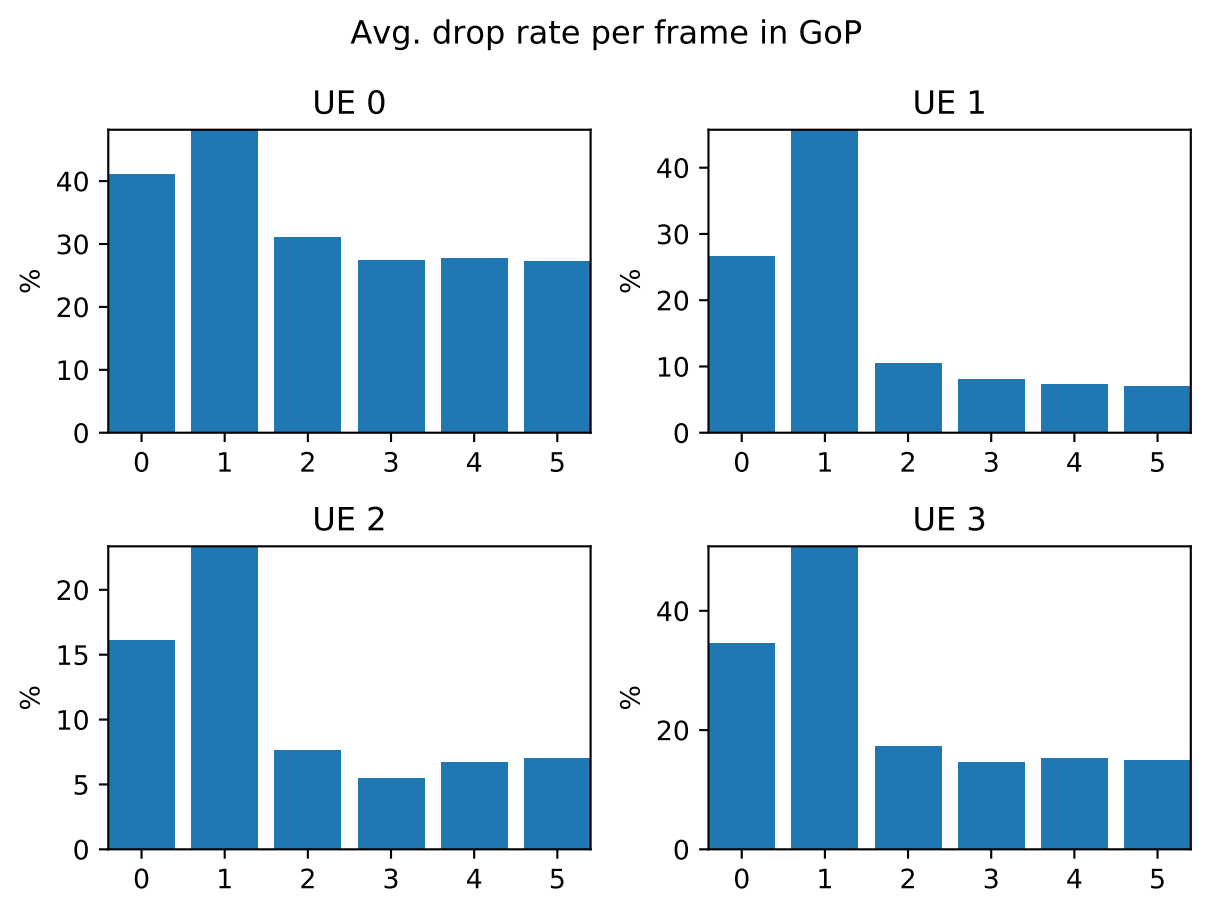

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Drop rate [%]
Frame index
0.00
1.25
2.50
3.75
5.00
0.15
0.30
0.45
0.60
−0.050
−0.025
0.000
0.025
0.050
0
200
400

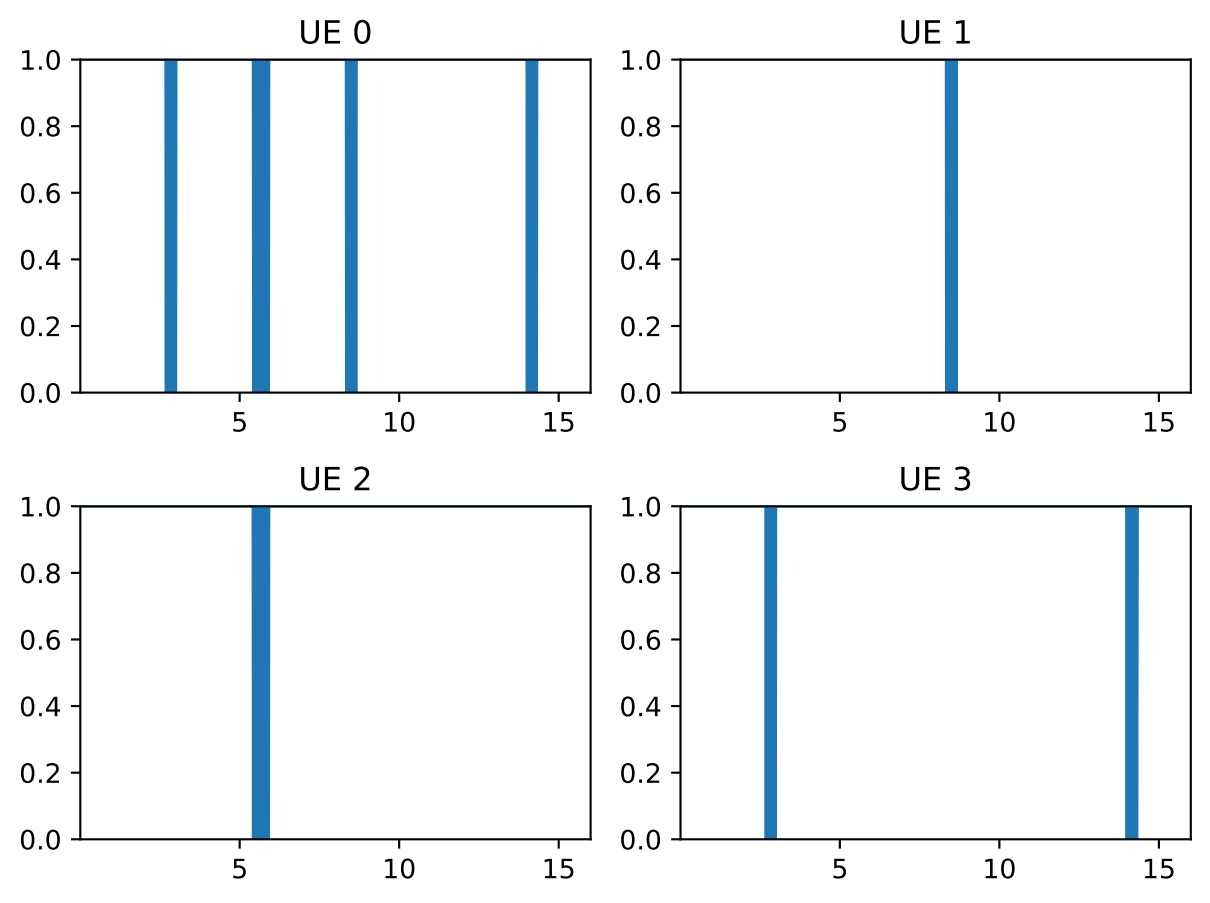

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Drop rate [%]
Frame index
0.0
2.5
5.0
7.5
10.0
0
25
50
75
100
0
200
400

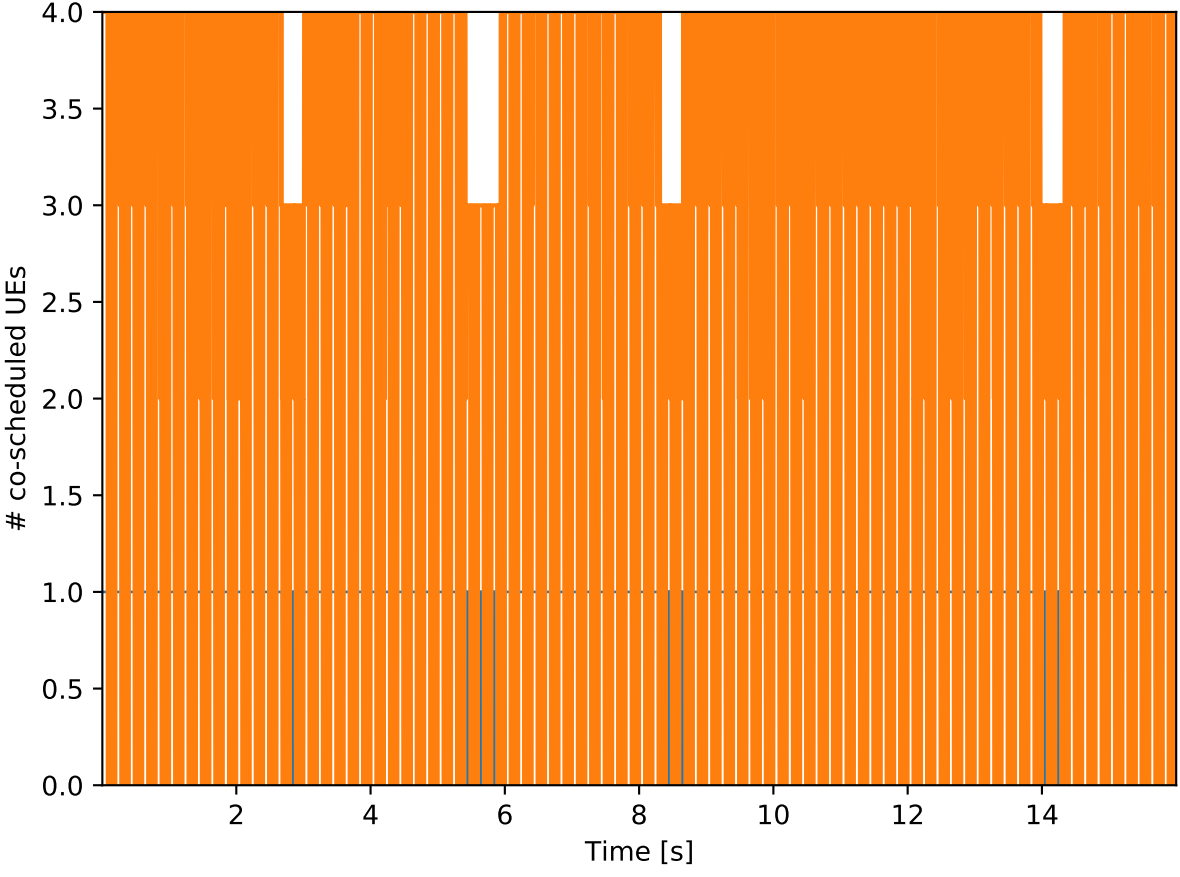

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Drop rate [%]
Frame index
0
2
4
6
8
10
0
20
40
60
80
100
0
100
200
300
400
500
I frame

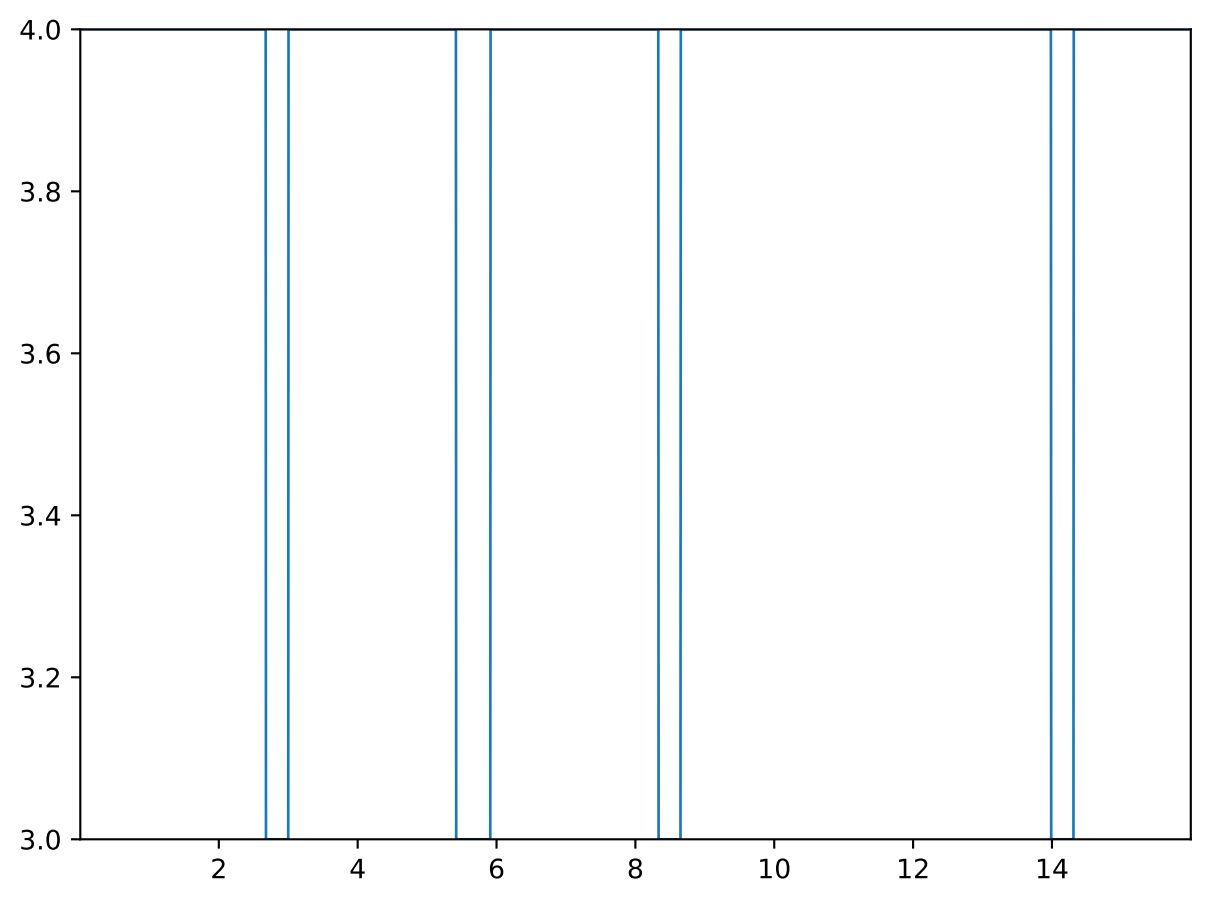

UE 0
UE 1
UE 2
UE 3
Avg. latency [ms]
Drop rate [%]
Frame index
0
100
200
300
400
500
0
2
4
6
8
10
0
20
40
60
80
100
I frame

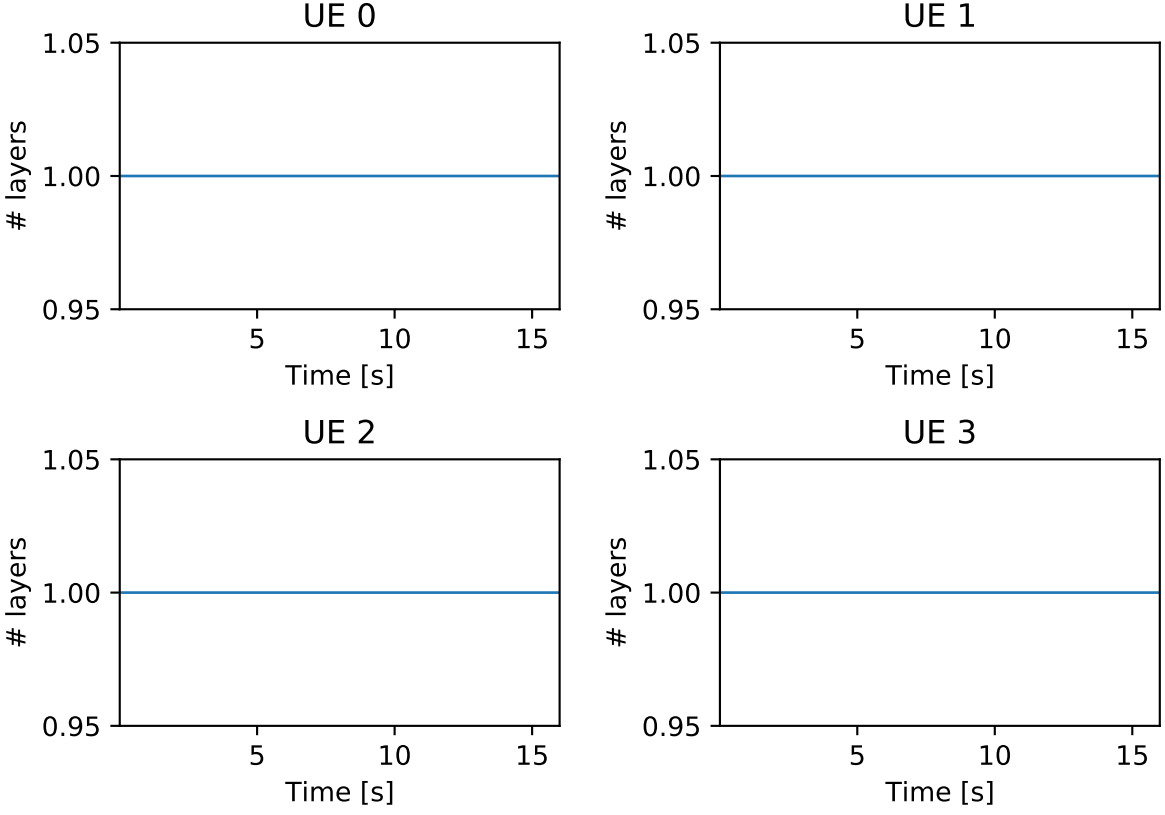

Avg. Latency per frame in GoP
UE 0
UE 1
UE 2
UE 3
ms
0.000
0.025
0.050
0.075
0.100
0
2
4

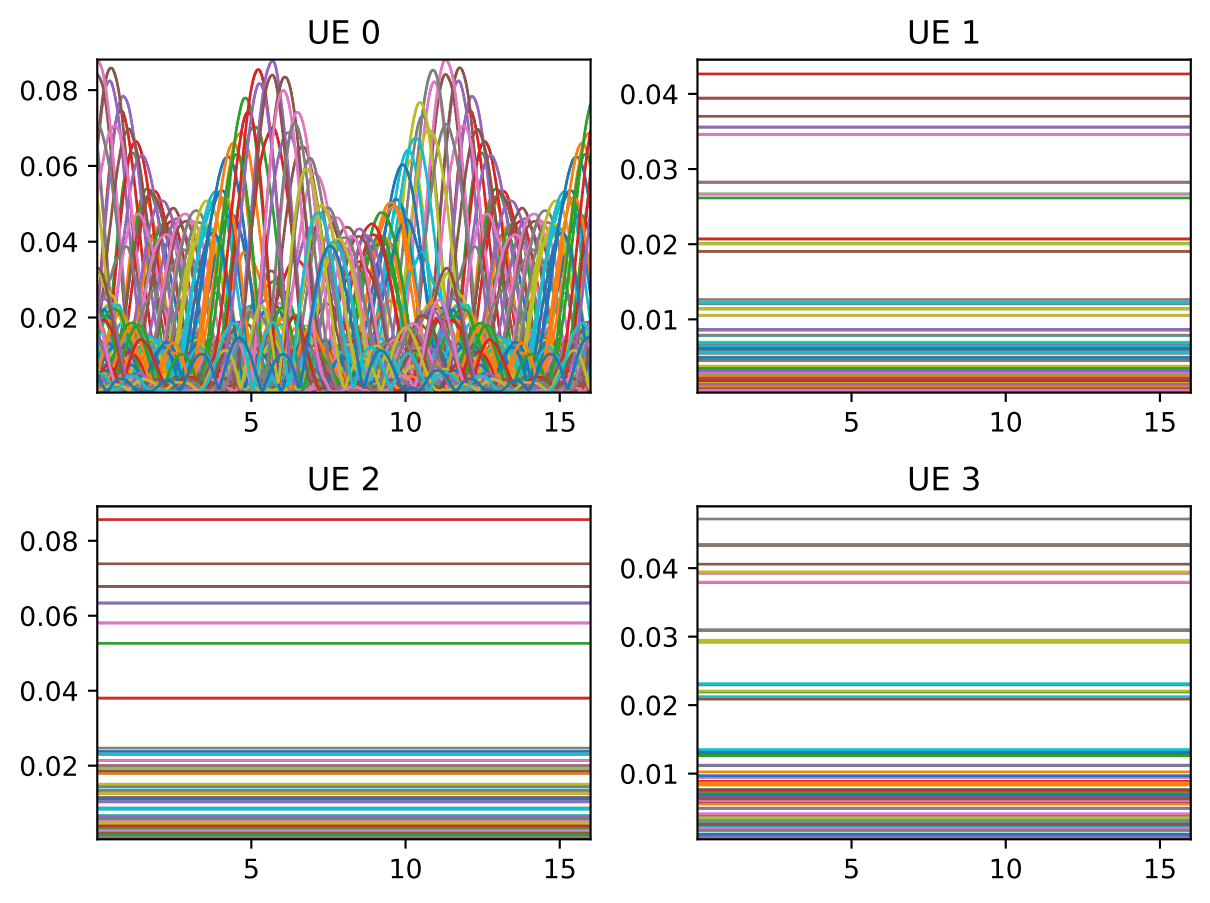

Avg. drop rate per frame in GoP
UE 0
UE 1
UE 2
UE 3
%
0
1
2
3
4
5
10
20
30
40
15

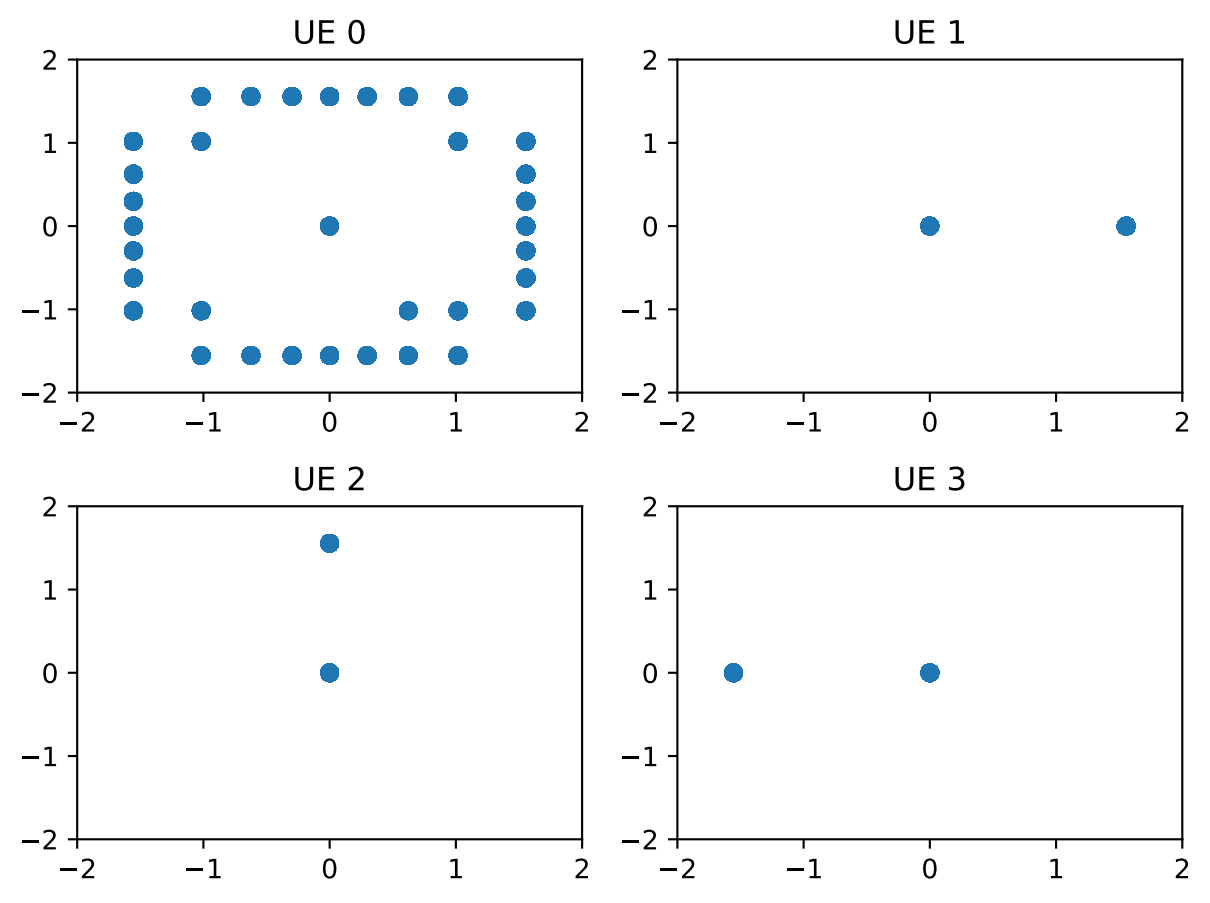

UE 0
UE 1
UE 2
UE 3
1.0
0.8
0.6
0.4
0.2
0.0
5
10
15

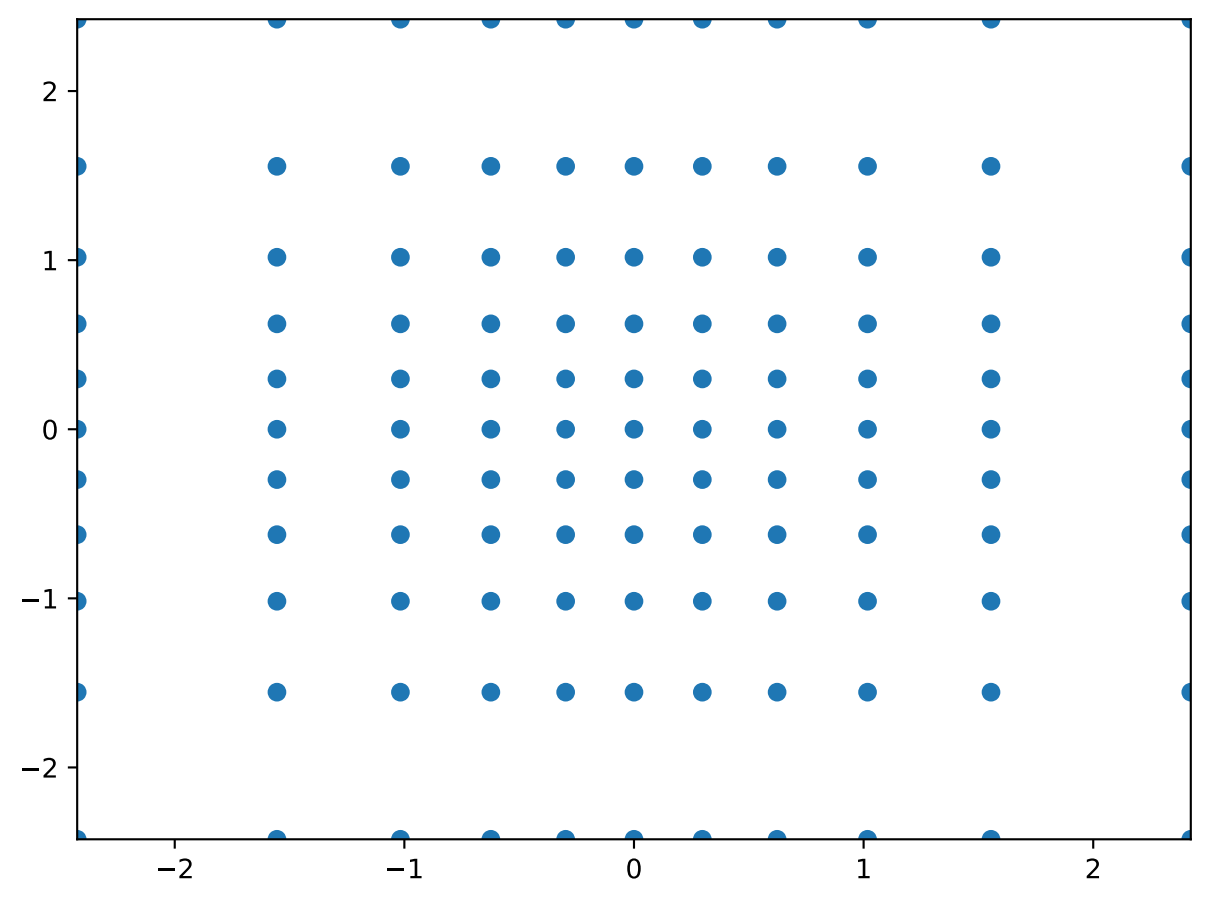

4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
co-scheduled UEs
2
4
6
8
10
12
14
Time [s]

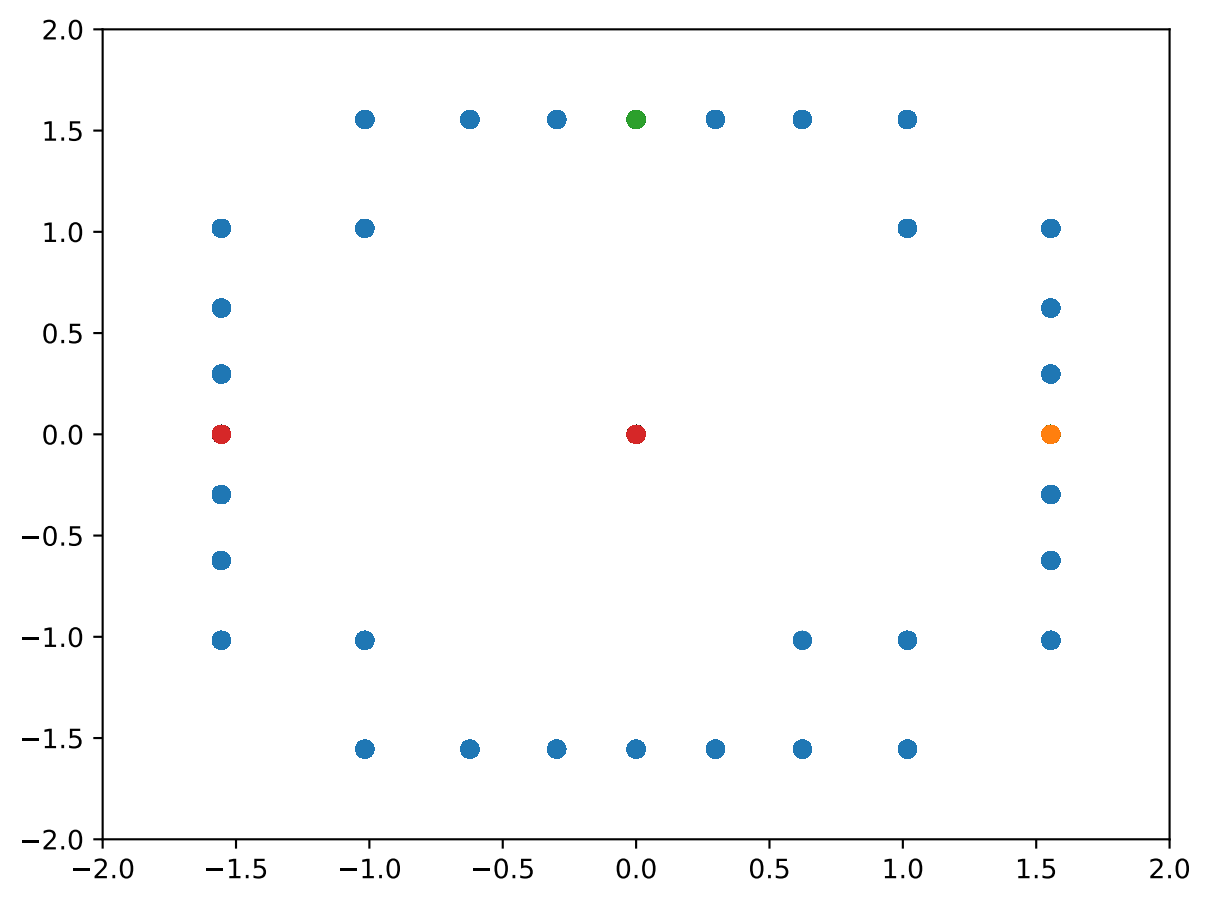

4.0
3.8
3.6
3.4
3.2
3.0
2
4
6
8
10
12
14

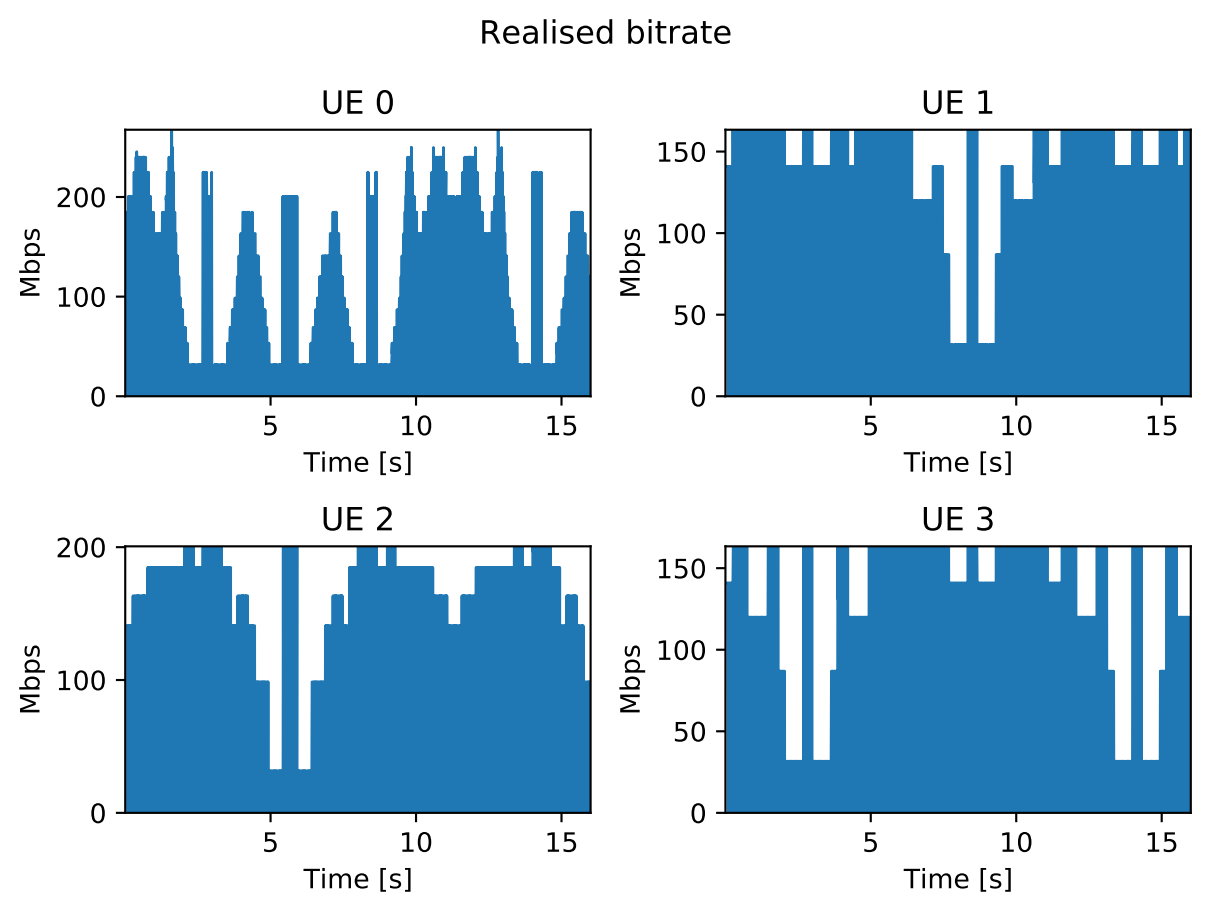

Number of layers per UE
UE 0
UE 1
UE 2
UE 3
layers
Time [s]
1.05
1.00
0.95
5
10
15

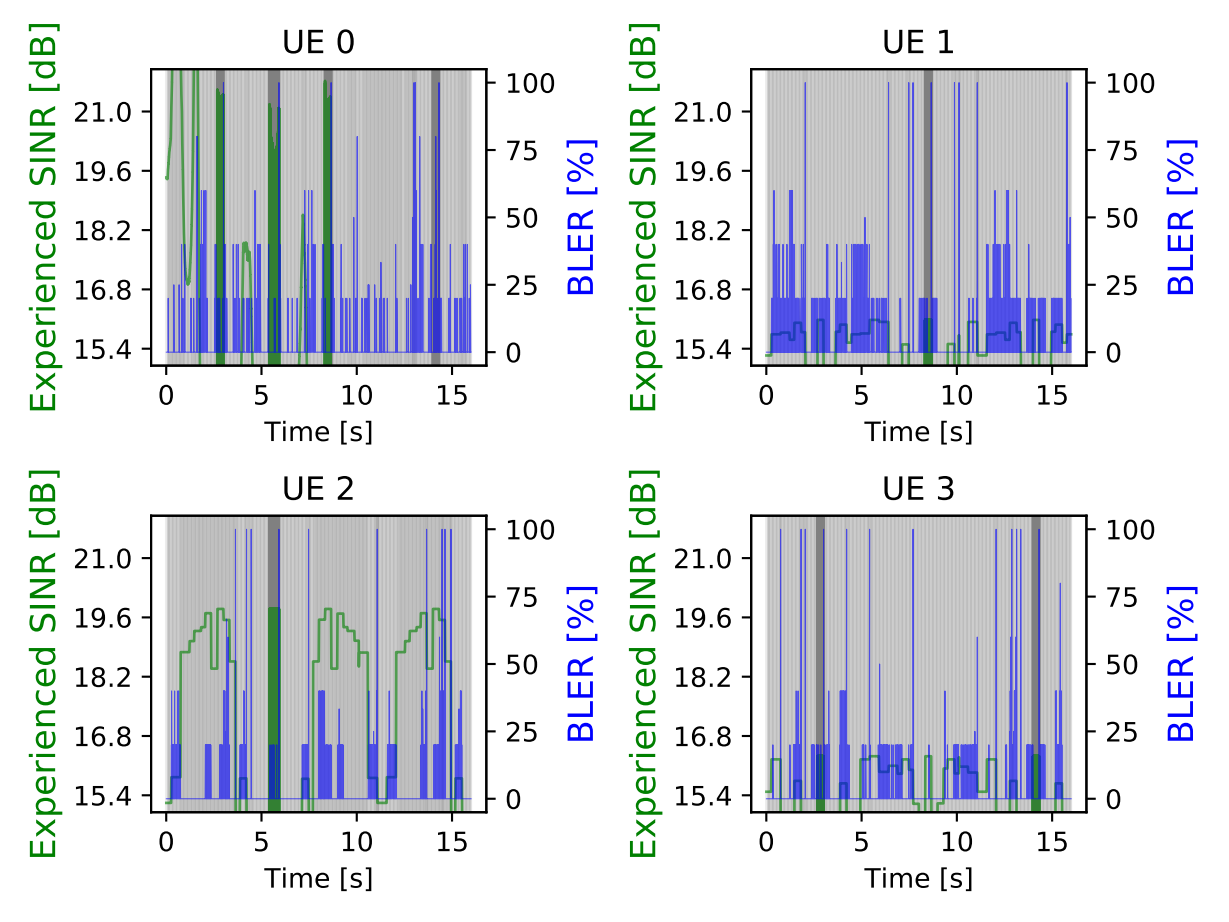

UE 0
UE 1
UE 2
UE 3
0.08
0.06
0.04
0.02
0.04
0.03
0.02
0.01
5
10
15

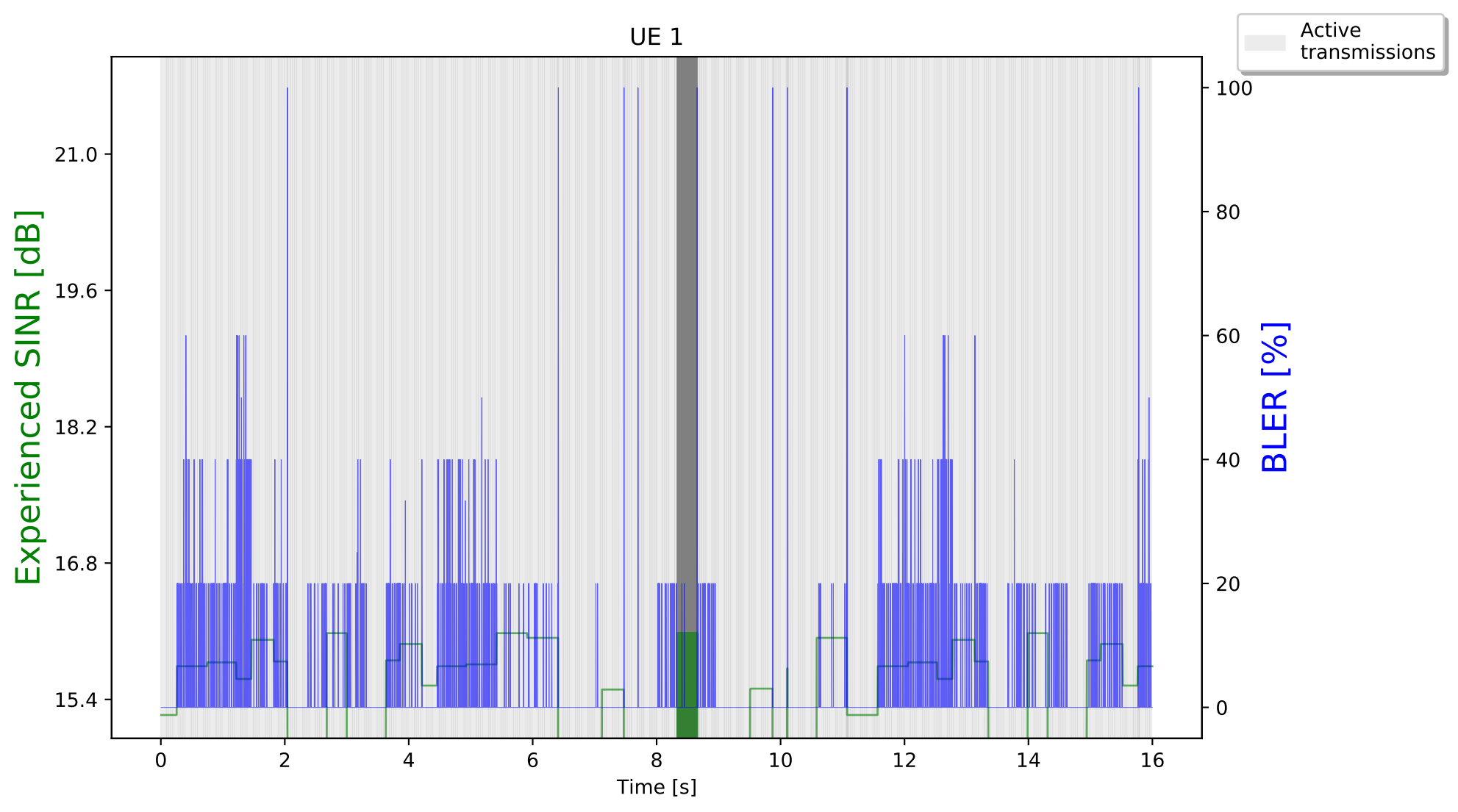

UE 0
UE 1
UE 2
UE 3
2
1
0
−1
−2
−2
−1
0
1
2

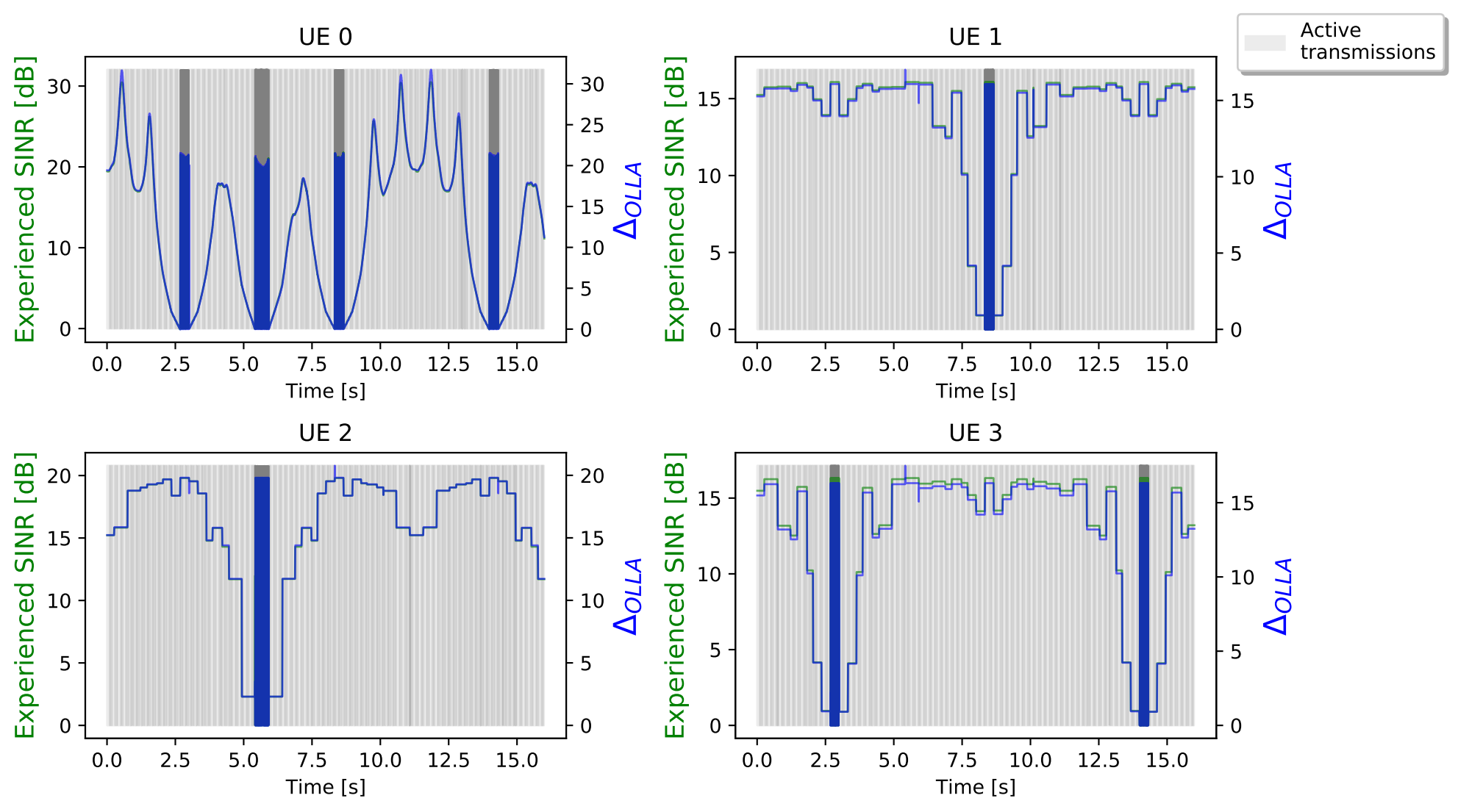

2
1
0
−1
−2
−2
−1
0
1
2

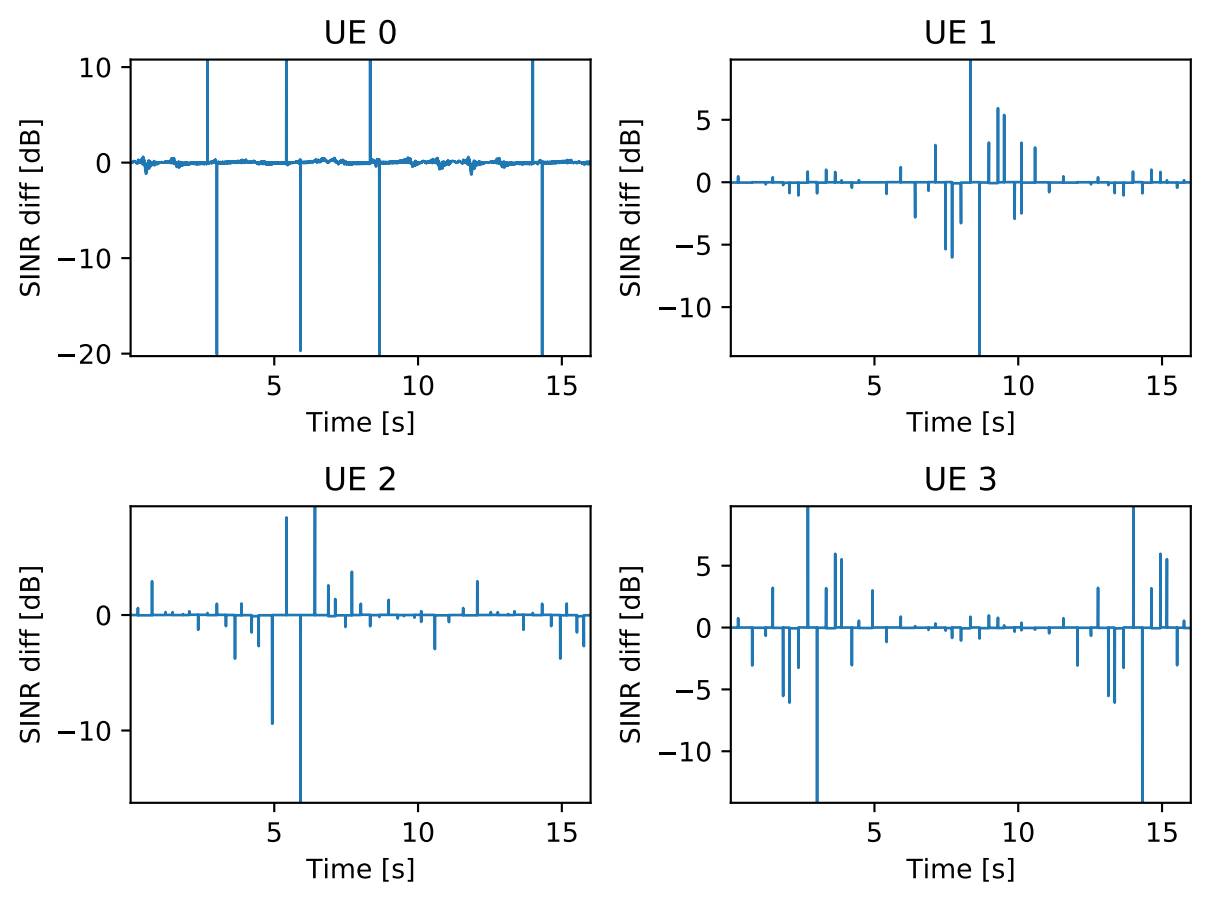

2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0

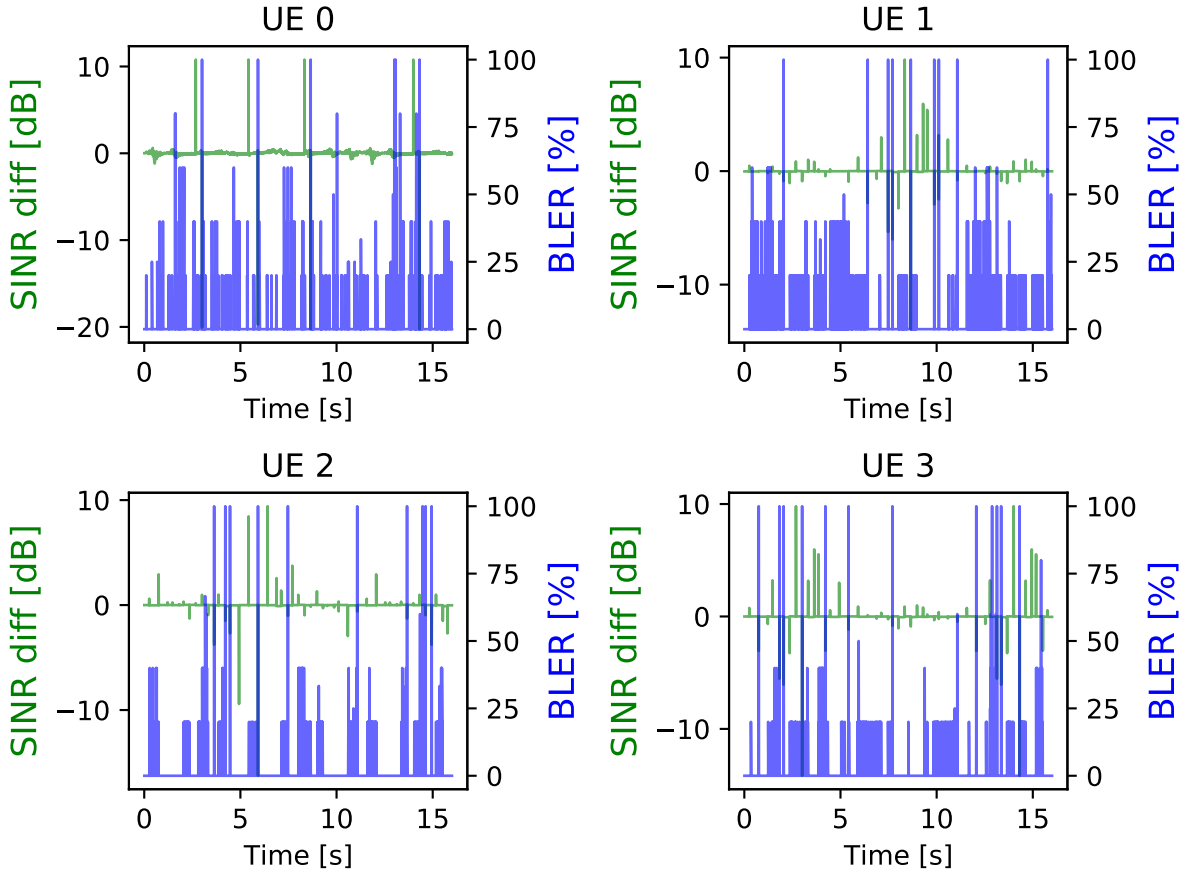

Realised bitrate
UE 0
UE 1
UE 2
UE 3
Mbps
Time [s]
0
50
100
150
200
5
10
15

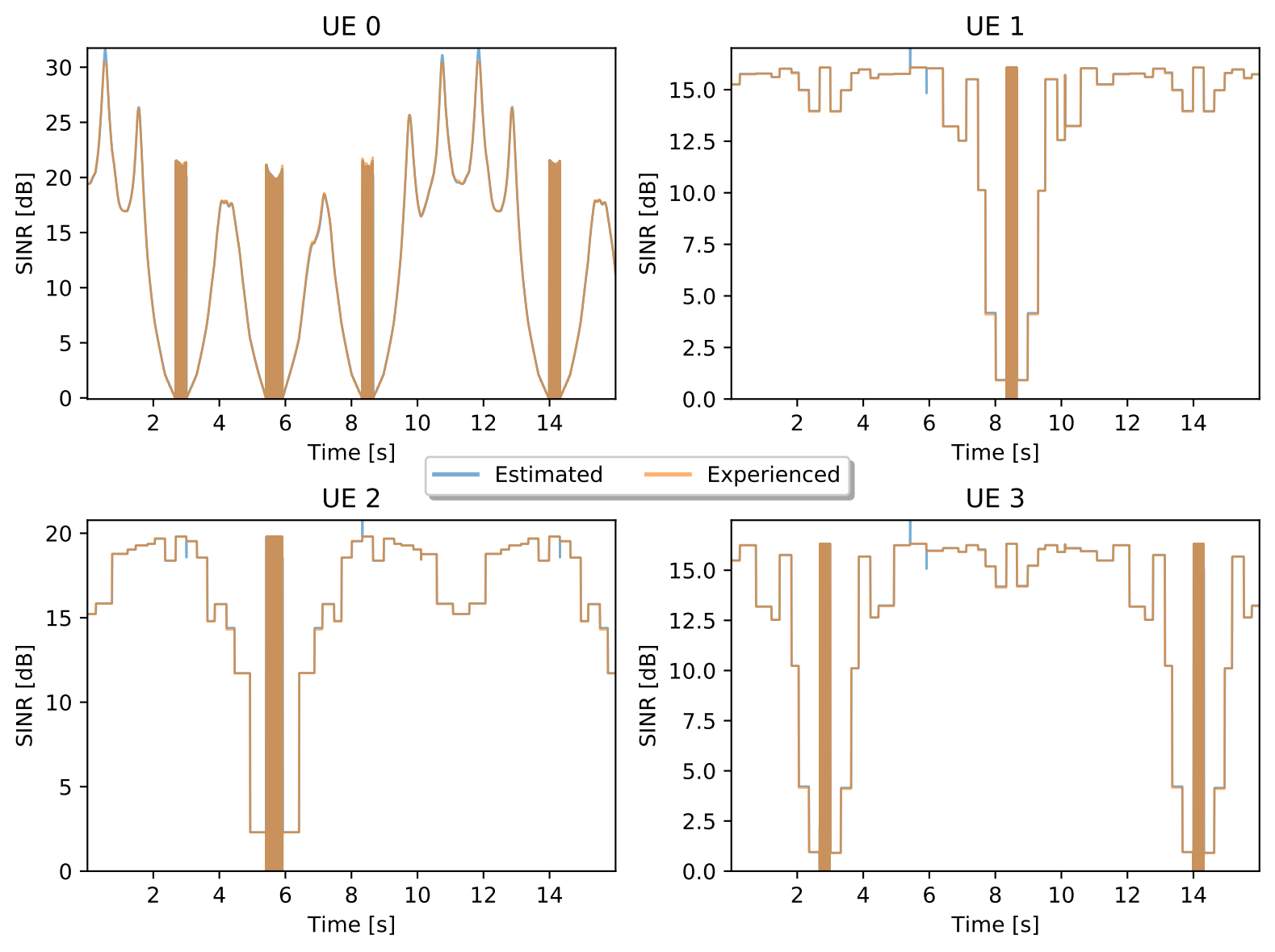

UE 0
UE 1
UE 2
UE 3
Experienced SINR [dB]
BLER [%]
Time [s]
21.0
19.6
18.2
16.8
15.4
100
75
50
25
0
0
5
10
15

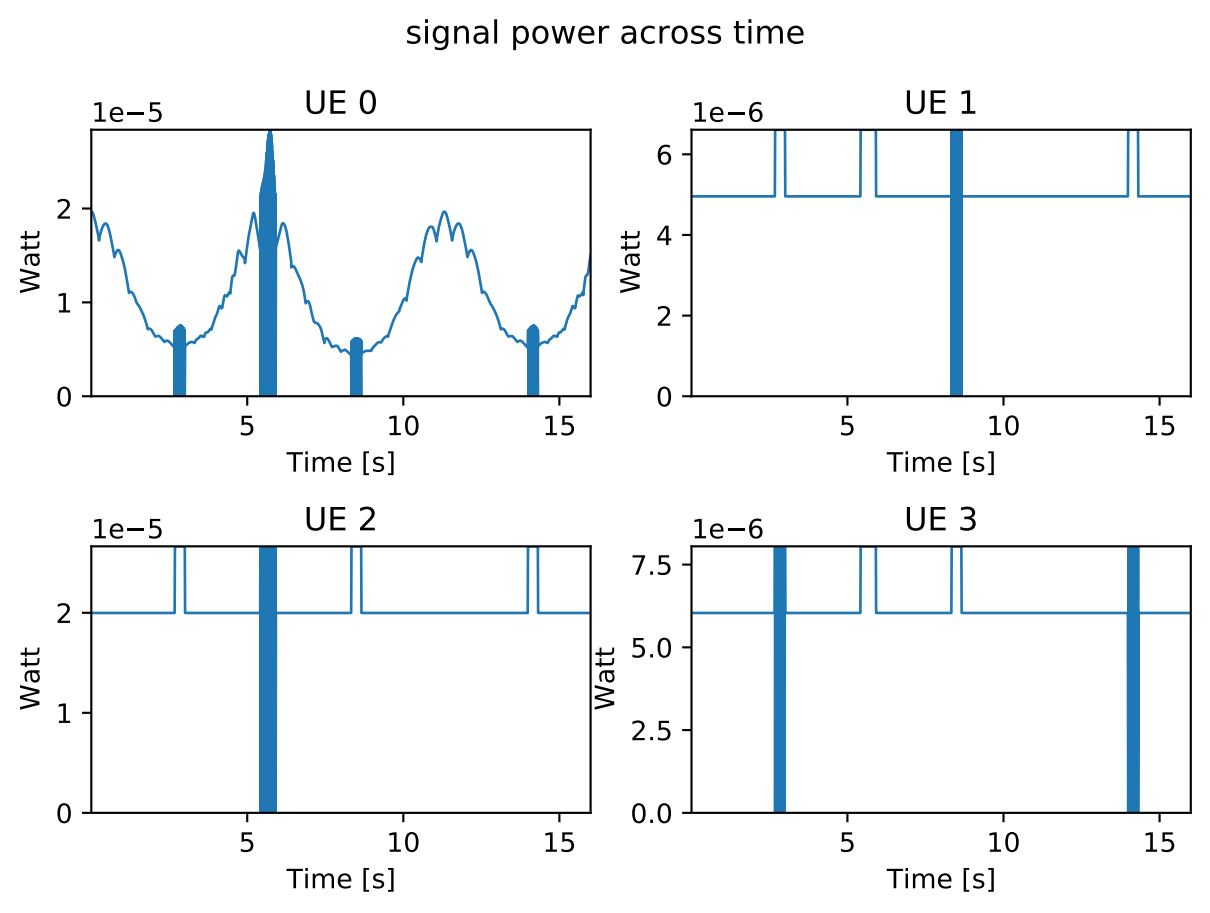

UE 1
Active transmissions
Experienced SINR [dB]
BLER [%]
Time [s]
21.0
19.6
18.2
16.8
15.4
100
80
60
40
20
0
0
2
4
6
8
10
12
14
16

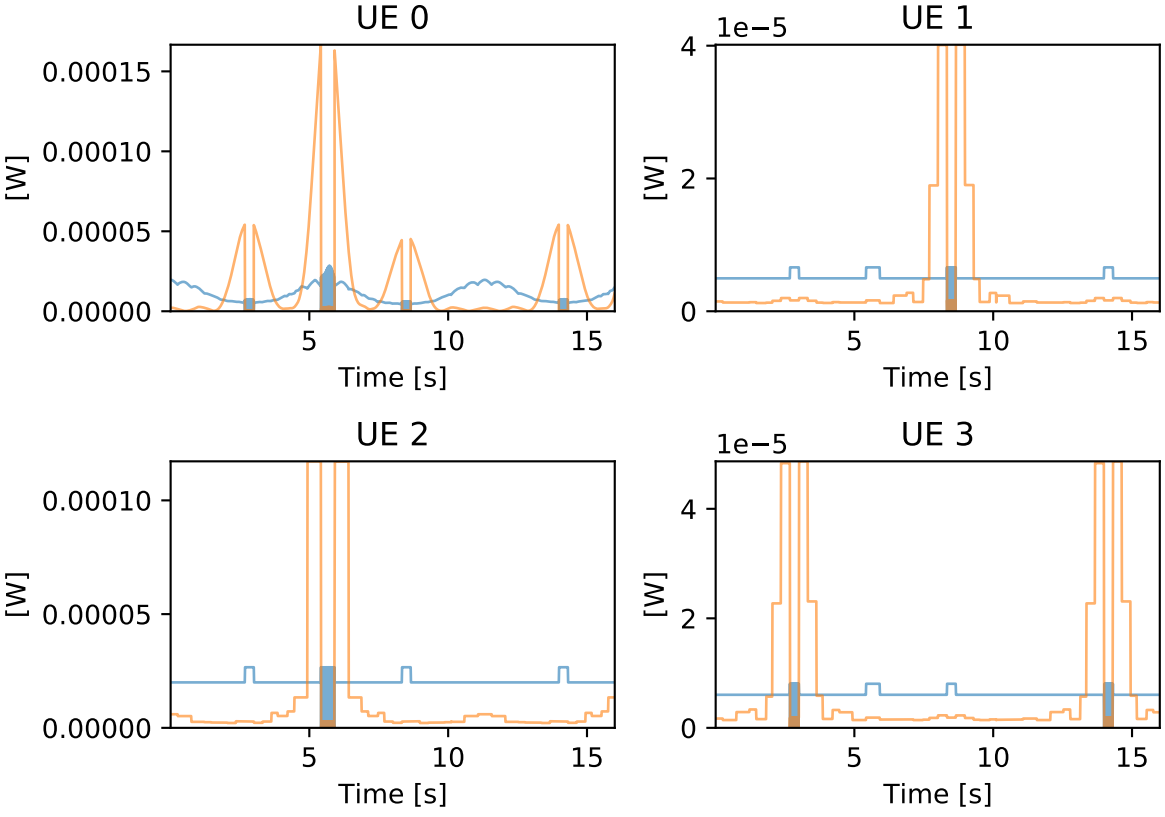

UE 0
UE 1
UE 2
UE 3
Active transmissions
Experienced SINR [dB]
Δ_{OLLA}
Time [s]
0.0
2.5
5.0
7.5
10.0
12.5
15.0

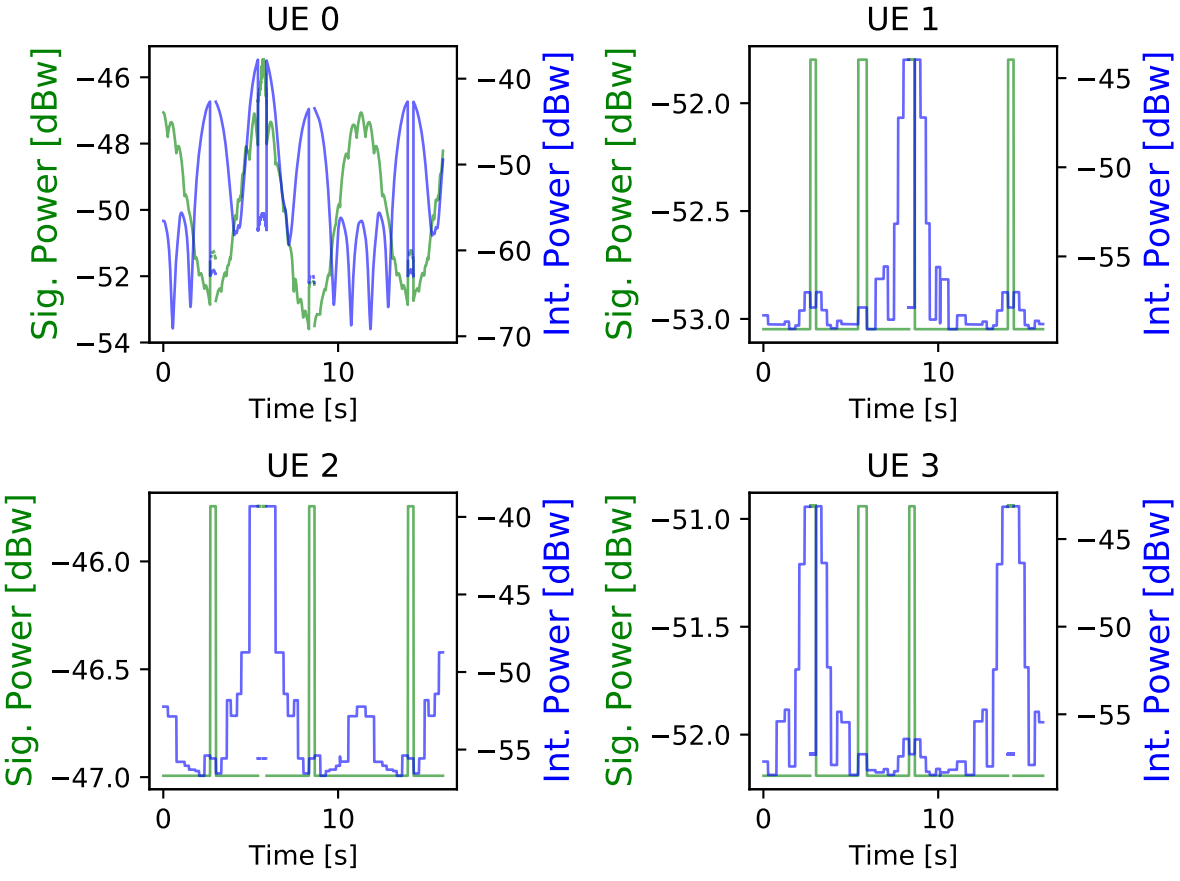

UE 0
UE 1
UE 2
UE 3
SINR diff [dB]
Time [s]
10
0
−10
−20
5
15

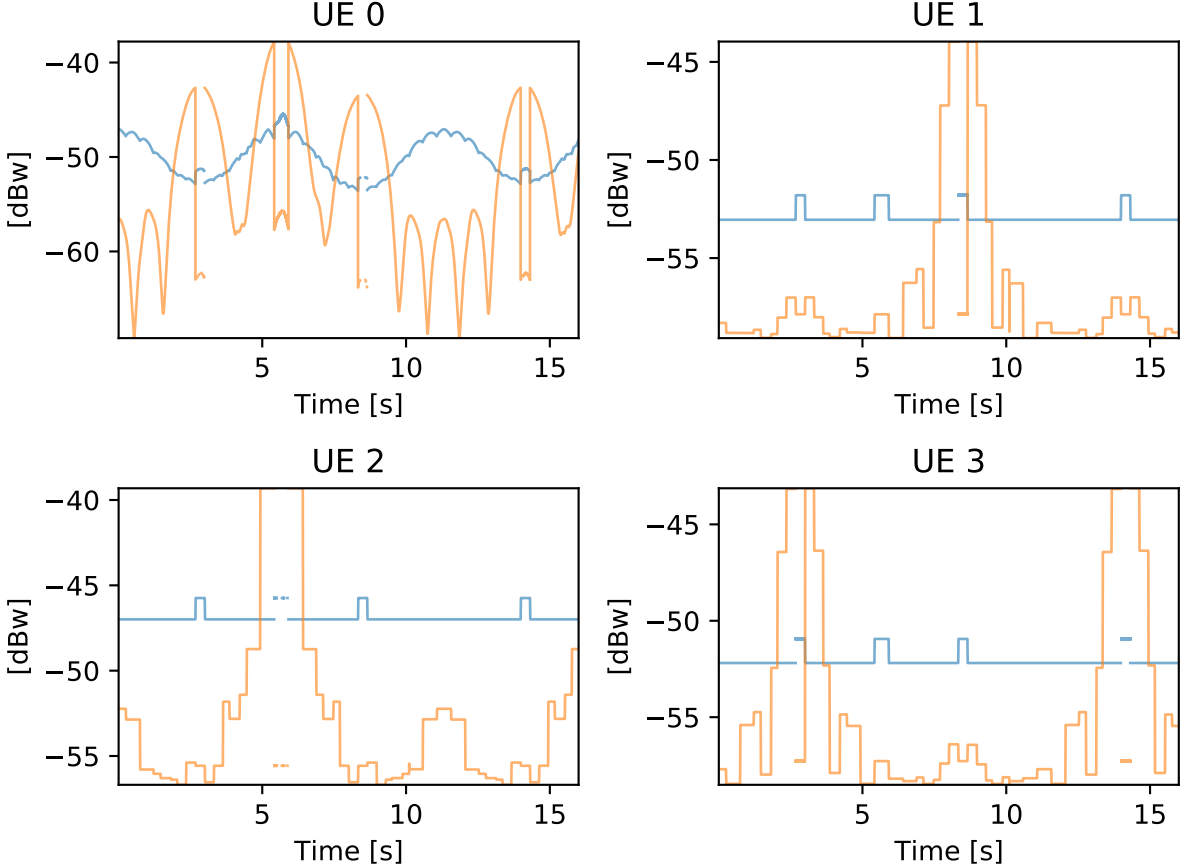

UE 0
UE 1
UE 2
UE 3
SINR diff [dB]
BLER [%]
Time [s]
10
0
−10
−20
100
75
50
25
0
5
10
15

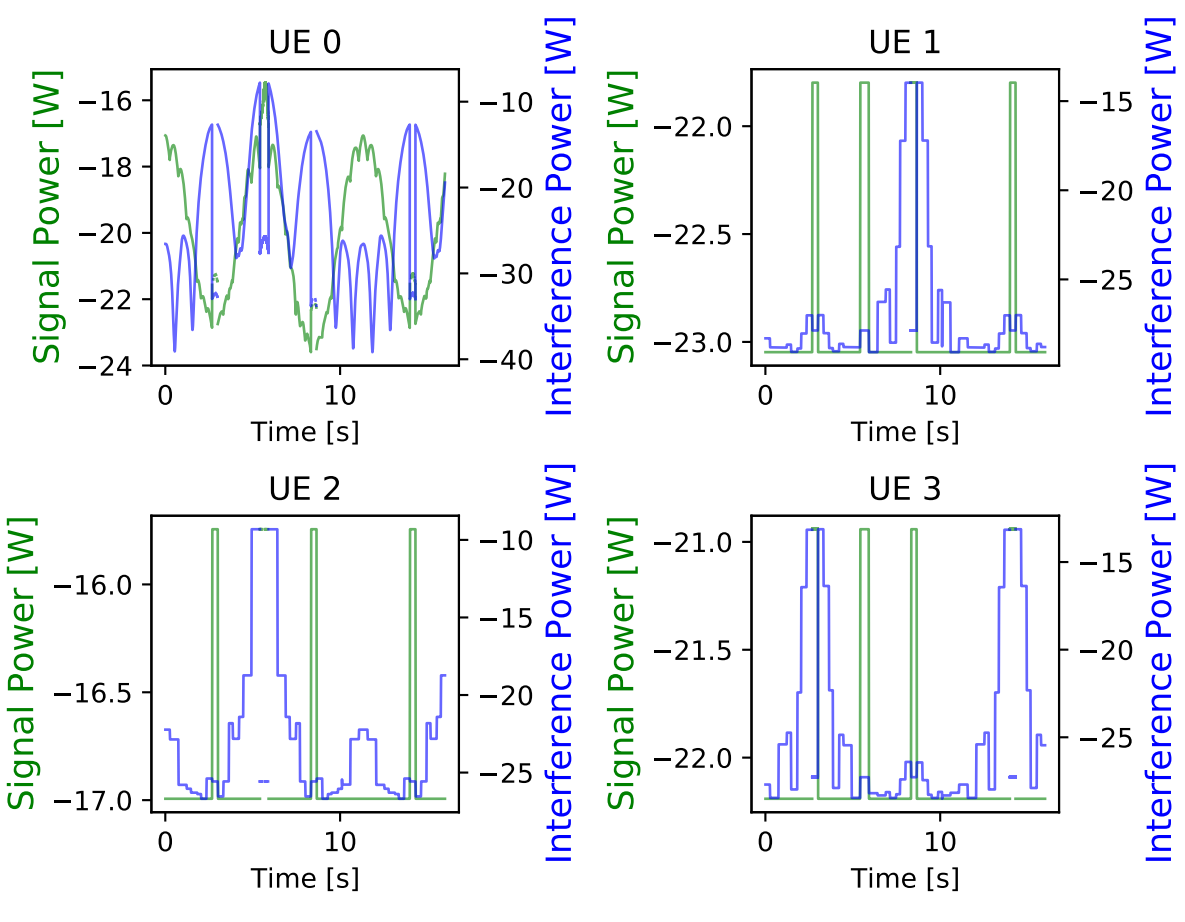

UE 0
UE 1
UE 2
UE 3
SINR [dB]
Time [s]
Estimated
Experienced

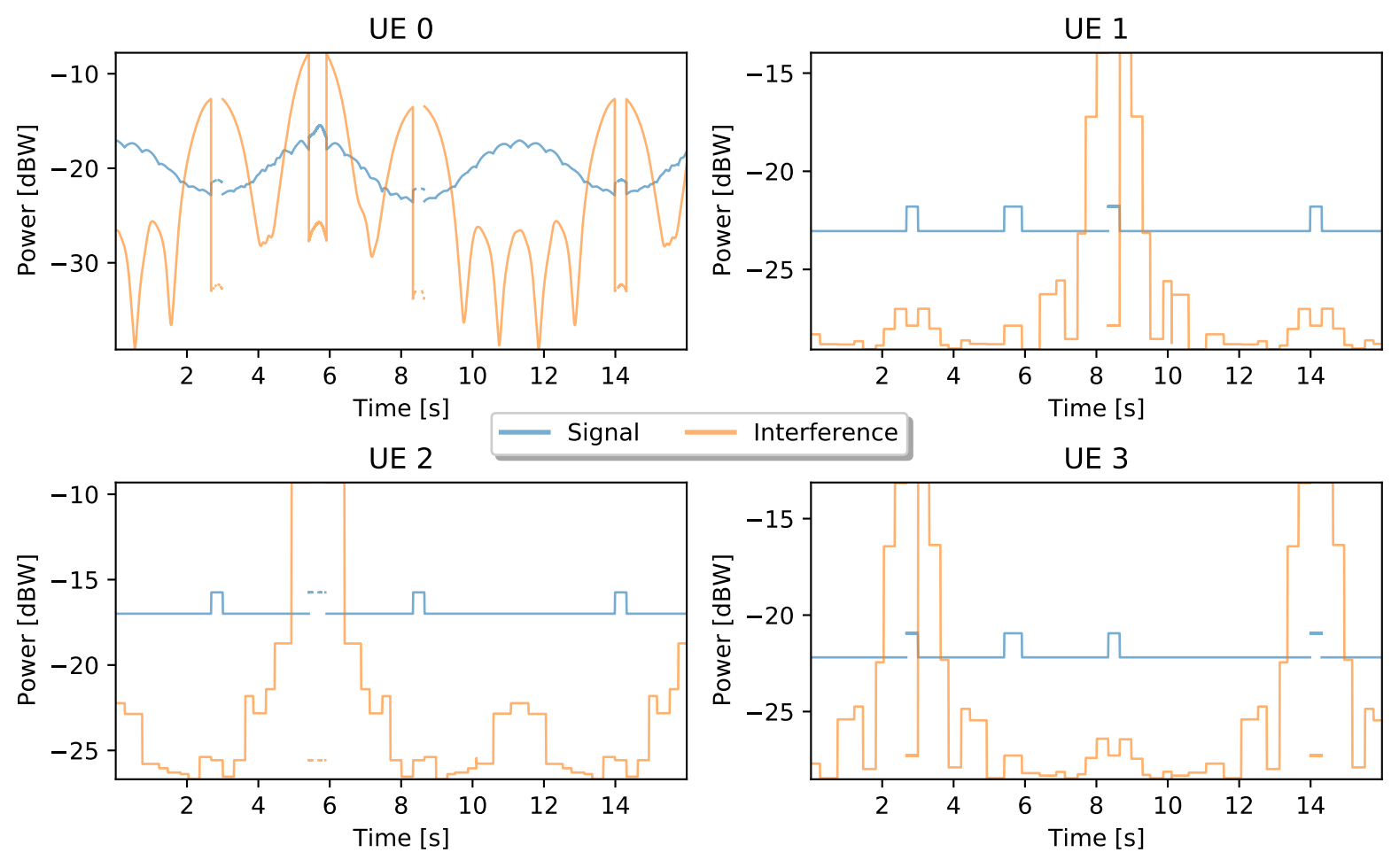

signal power across time
UE 0
1e−5
Watt
Time [s]
UE 1
1e−6
Watt
Time [s]
UE 2
1e−5
Watt
Time [s]
UE 3
1e−6
Watt
Time [s]

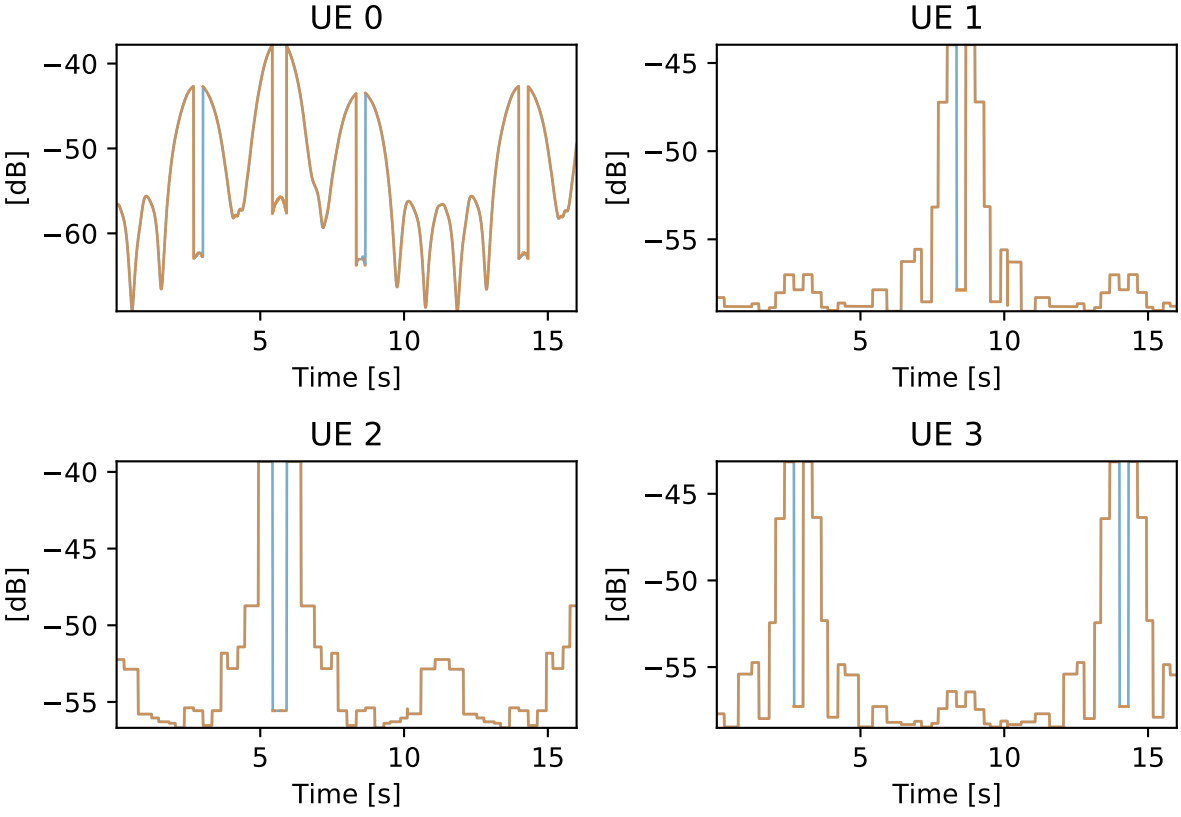

Signal Power vs Interference
UE 0
UE 1
UE 2
UE 3
[W]
Time [s]
1e−5
0.00000
0.00005
0.00010
0.00015
0
2
4
5
10
15

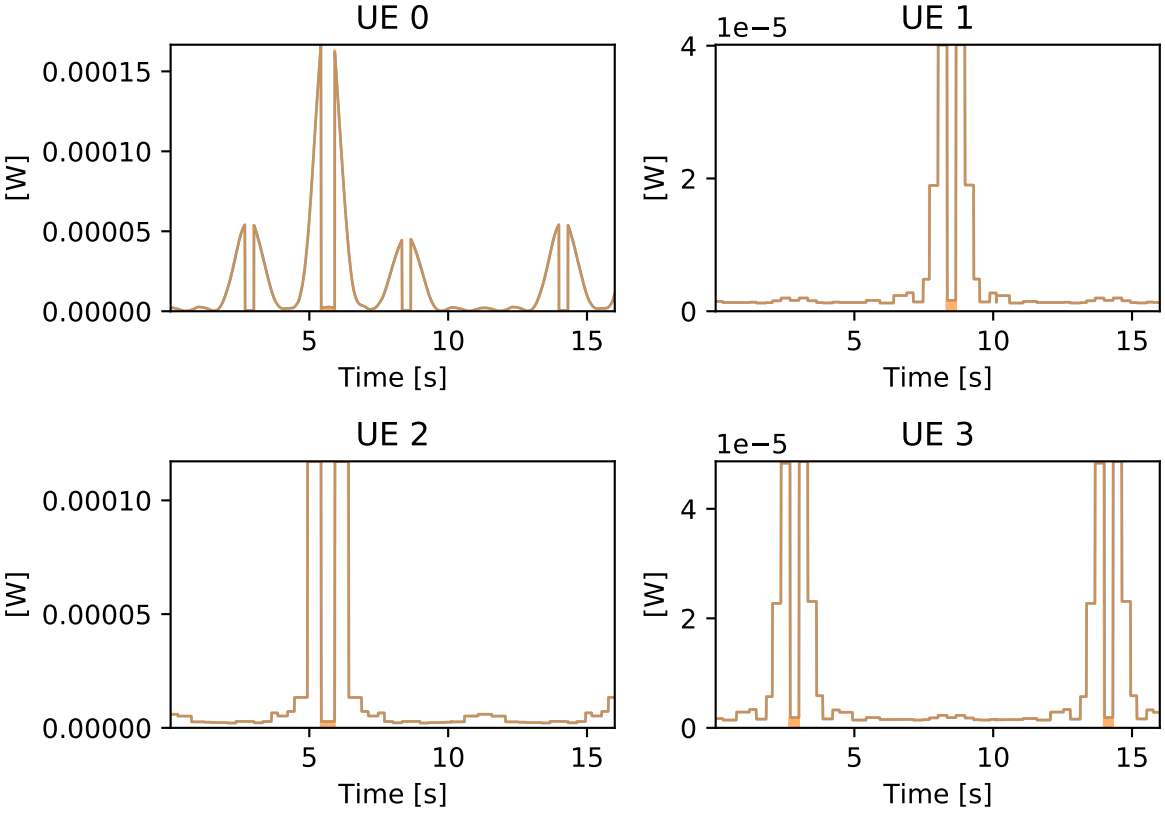

UE 0
UE 1
UE 2
UE 3
Sig. Power [dBw]
Int. Power [dBw]
Time [s]
−46
−48
−50
−52
−54
−40
−50
−60
−70
−52.0
−52.5
−53.0
−45
−50
−55
−46.0
−46.5
−47.0
−51.0
−51.5
−52.0
0
10

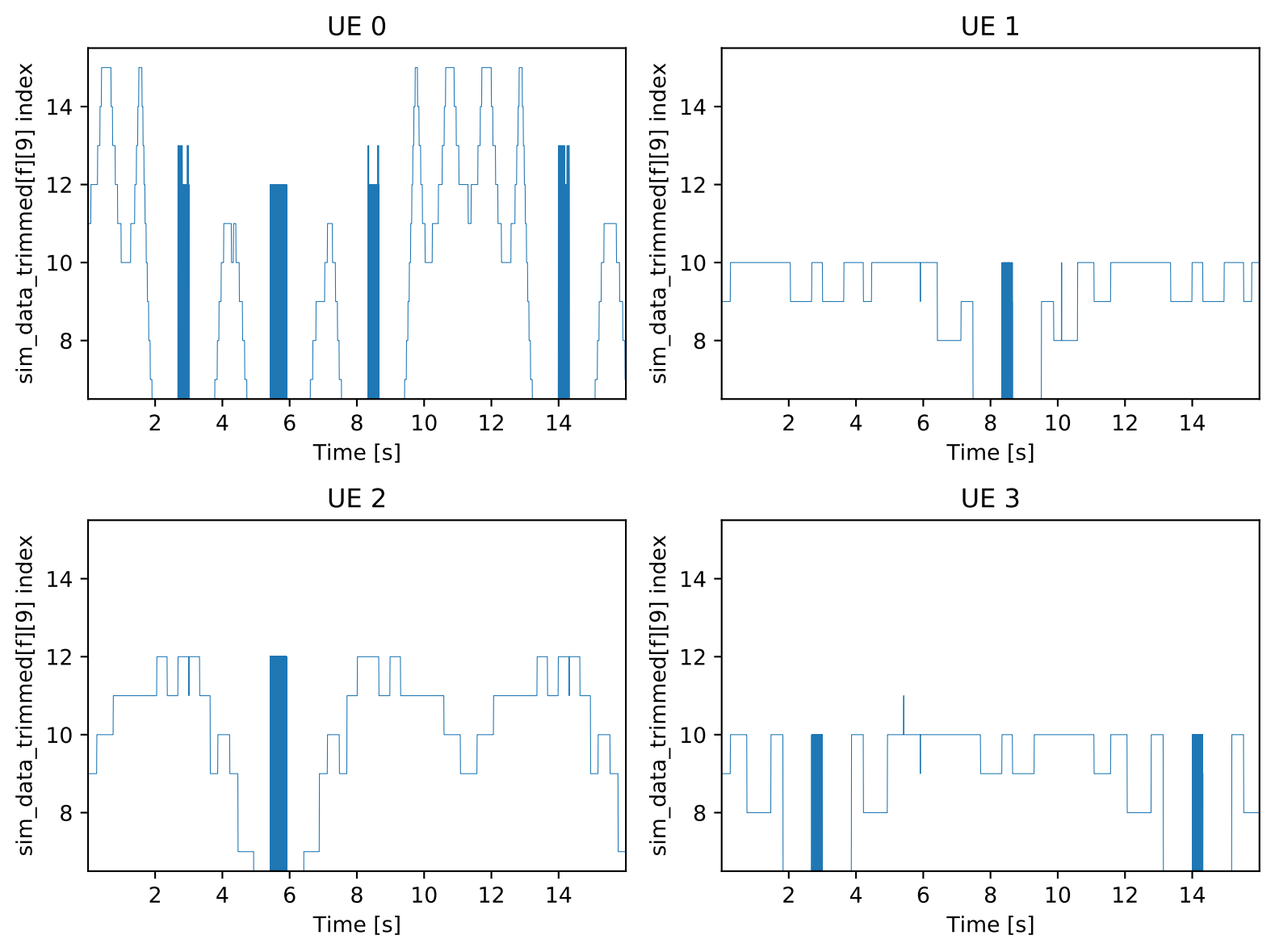

UE 0
UE 1
UE 2
UE 3
[dBw]
Time [s]
−40
−45
−50
−55
−60
5
10
15

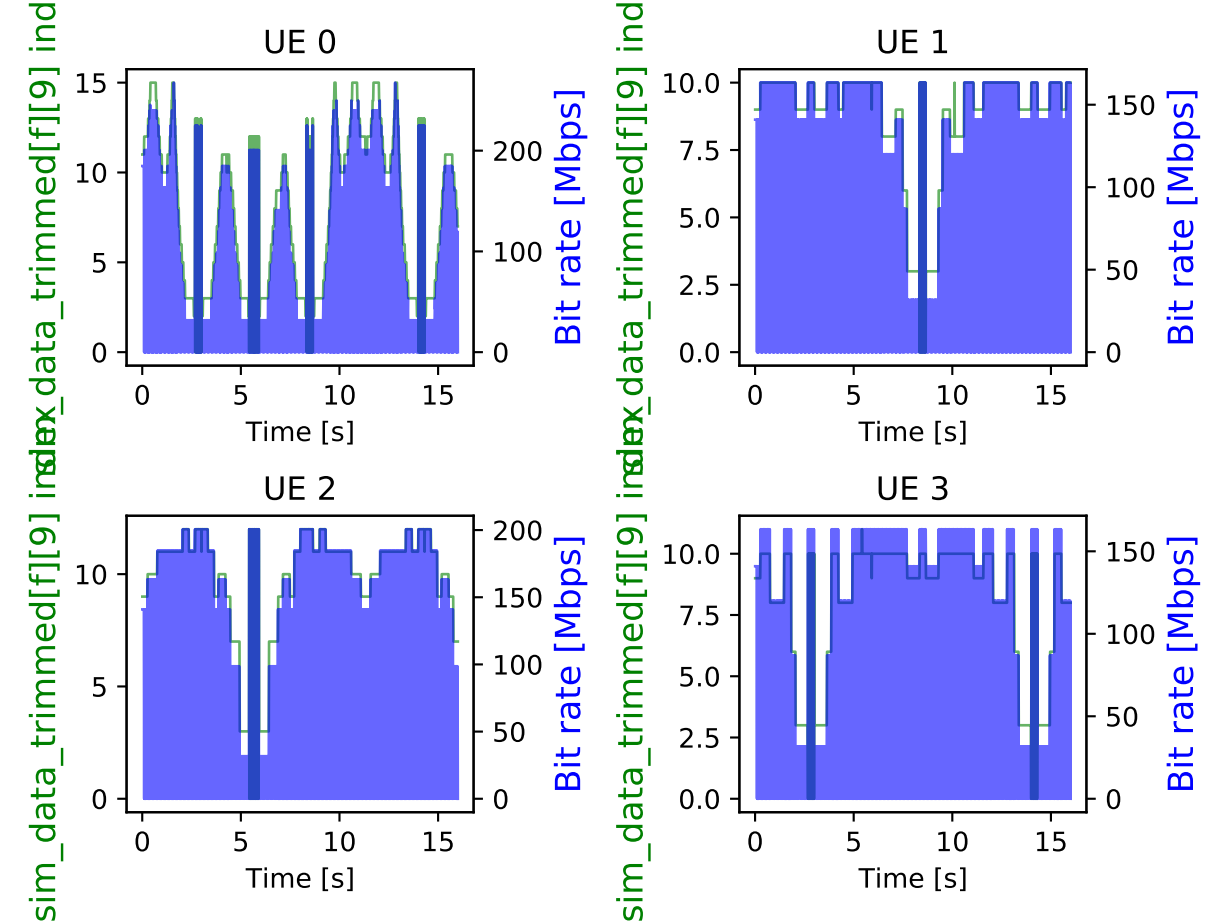

UE 0
UE 1
UE 2
UE 3
Signal Power [W]
Interference Power [W]
Time [s]
−16
−18
−20
−22
−24
−10
−20
−30
−40
−22.0
−22.5
−23.0
−15
−20
−25
−16.0
−16.5
−17.0
−21.0
−21.5
−22.0
0
10

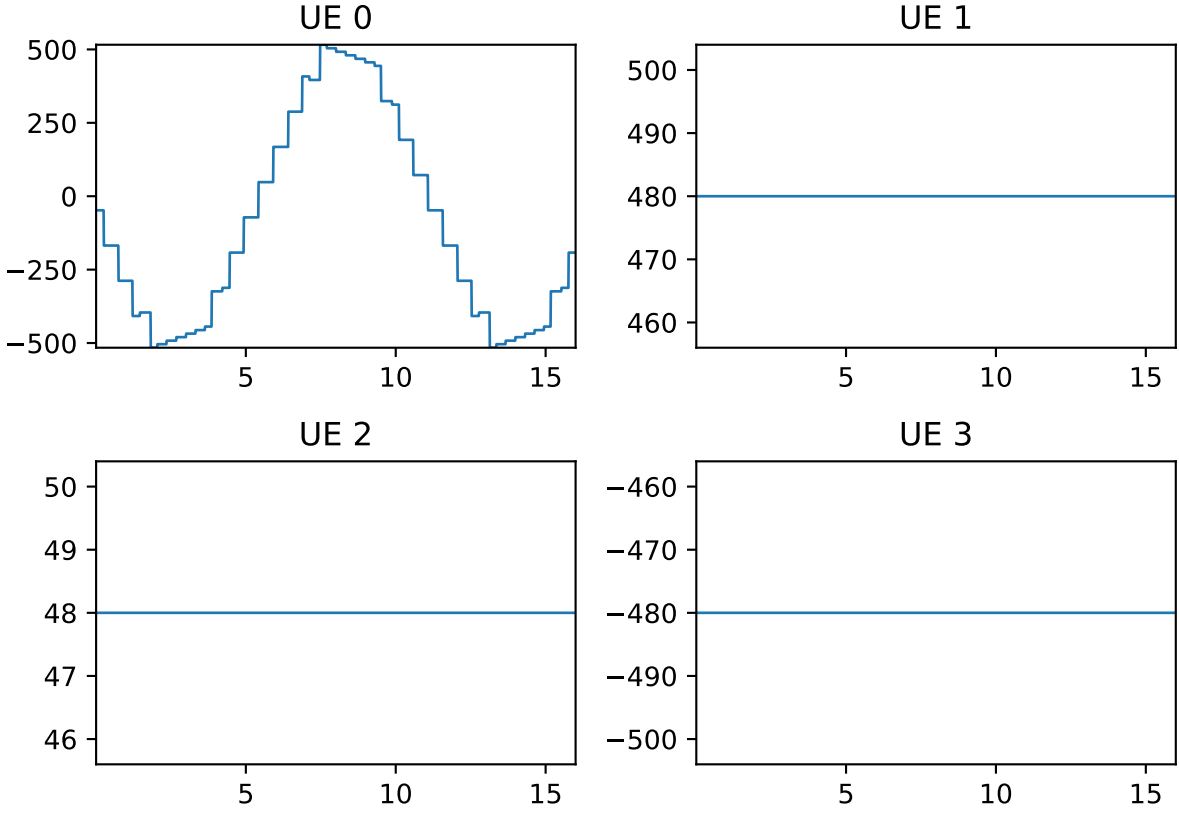

UE 0
UE 1
UE 2
UE 3
Power [dBW]
Time [s]
Signal
Interference

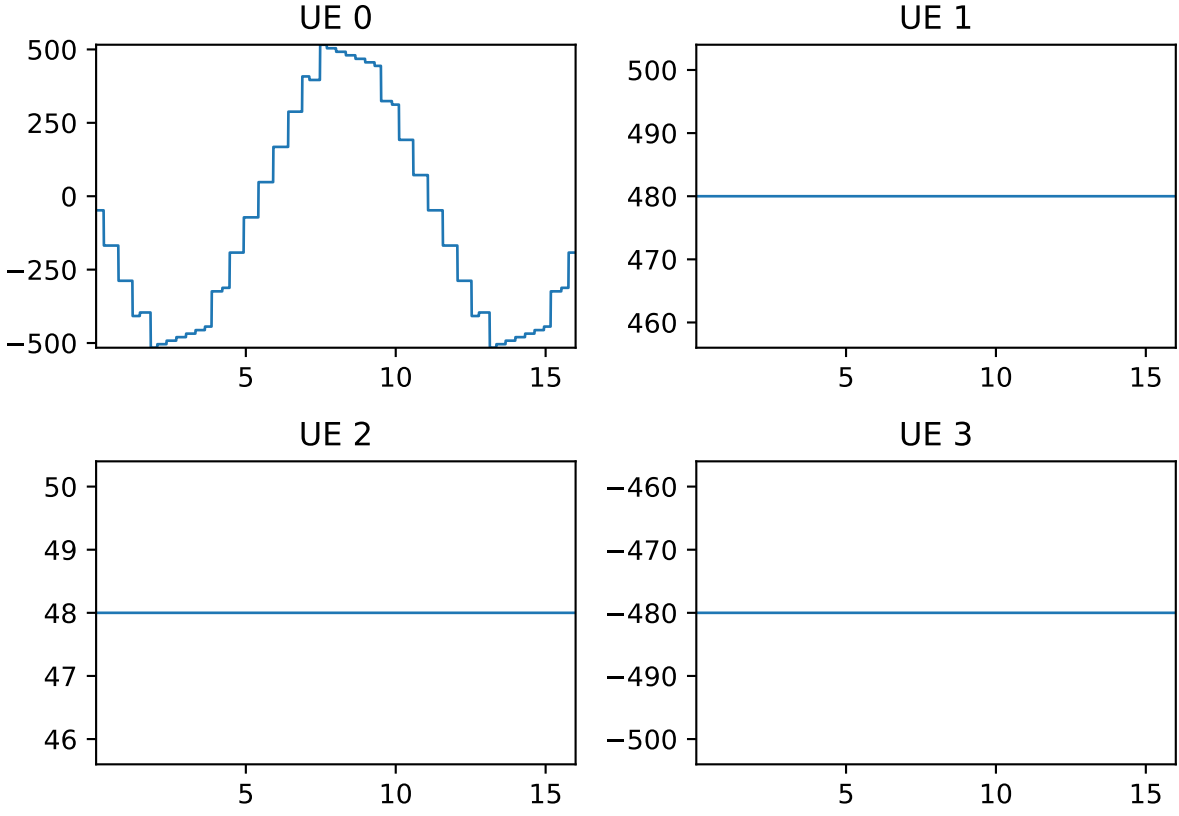

Estimated vs real interference
UE 0
UE 1
UE 2
UE 3
[dB]
Time [s]
−40
−45
−50
−55
−60
5
10
15

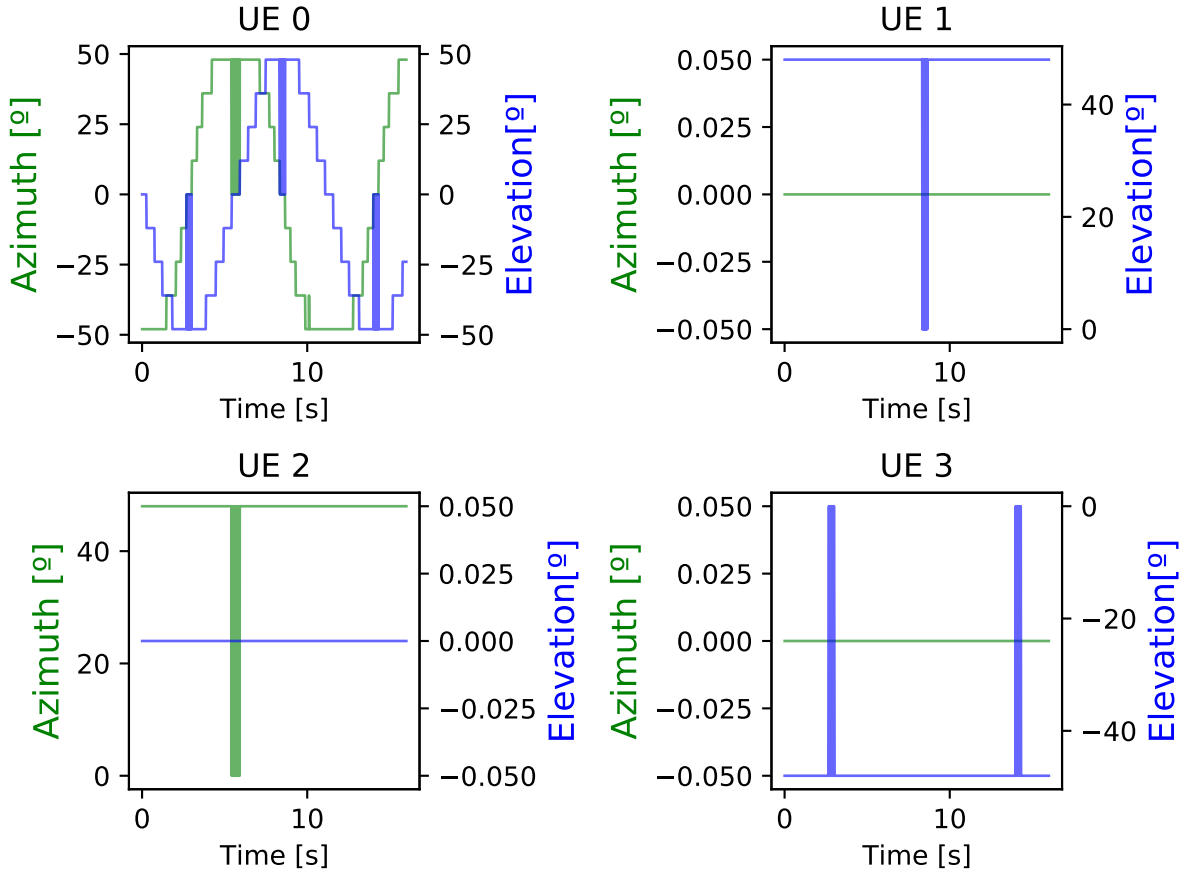

Estimated vs real interference
UE 0
UE 1
UE 2
UE 3
[W]
Time [s]
1e−5
0.00000
0.00005
0.00010
0.00015
0
2
4
5
10
15

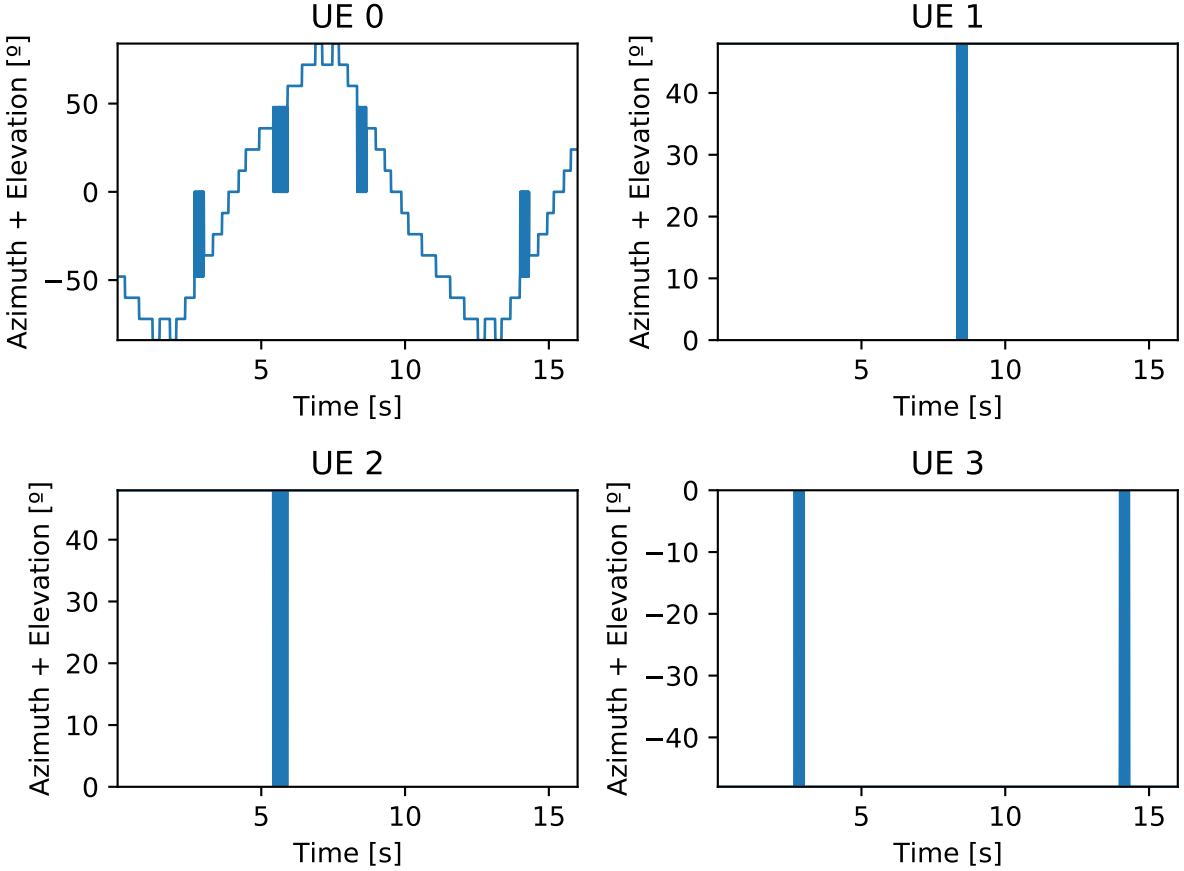

UE 0
UE 1
UE 2
UE 3
sim_data_trimmed[f][9] index
Time [s]
8
10
12
14
2
4
6
8
10
12
14

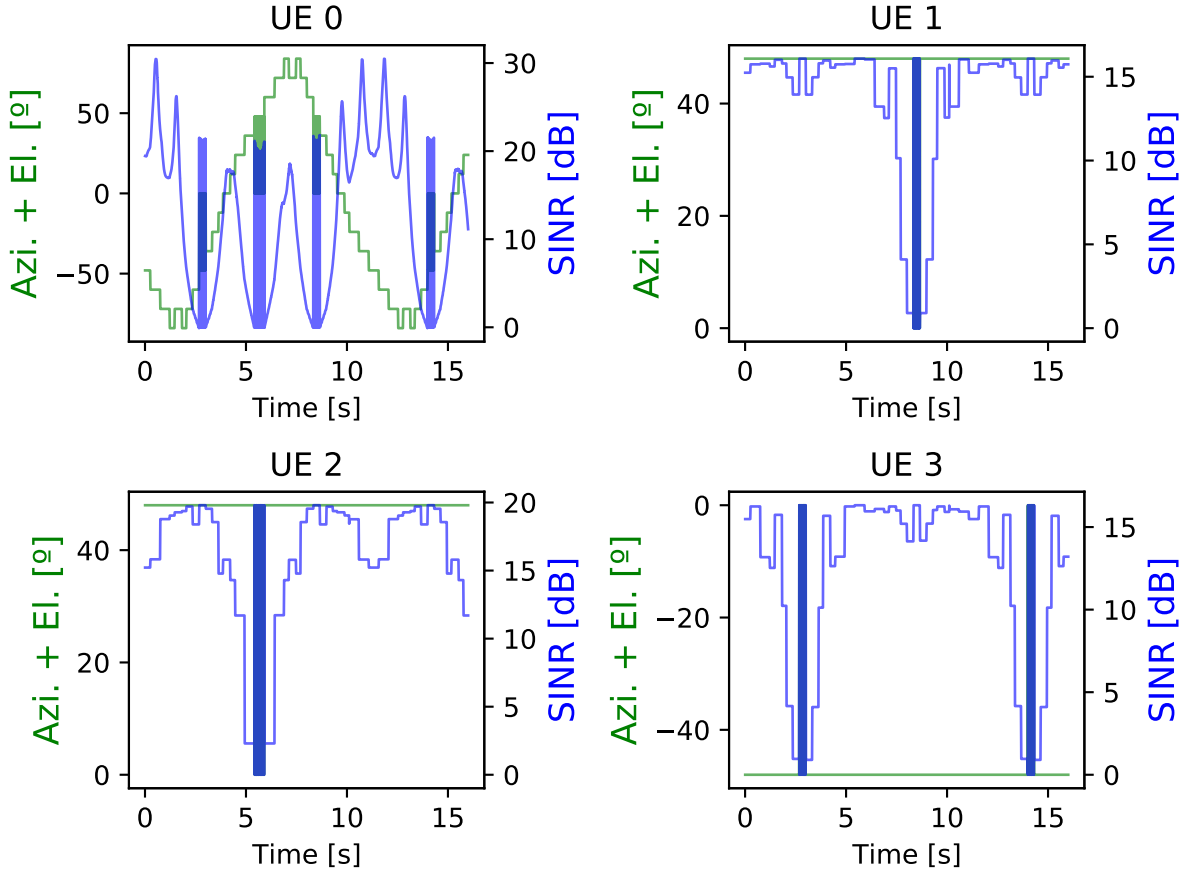

UE 0
UE 1
UE 2
UE 3
Time [s]
Bit rate [Mbps]
sim_data_trimmed[f][9] index

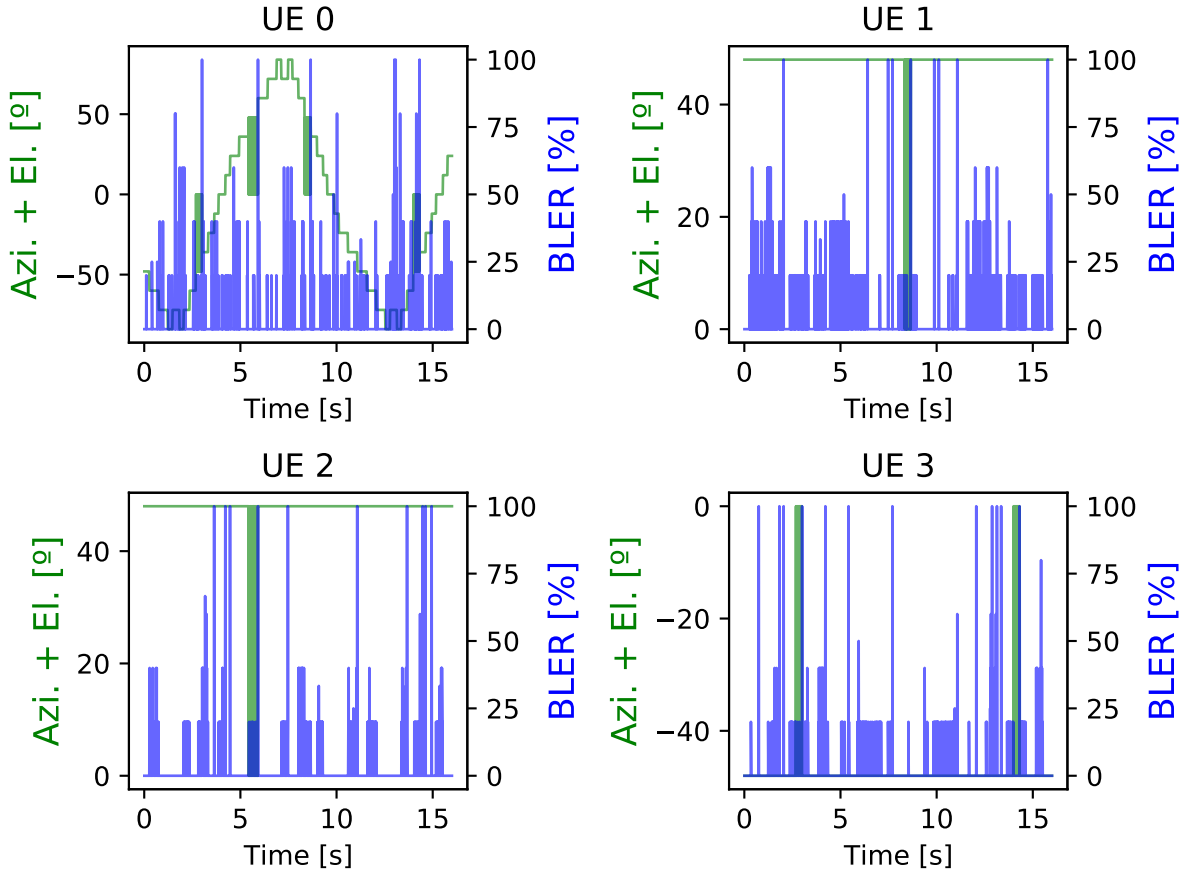

Formula: azi + ele x 10
UE 0
UE 1
UE 2
UE 3
500
250
0
−250
−500
490
480
470
460
50
49
48
47
46
−460
−470
−480
−490
5
10
15

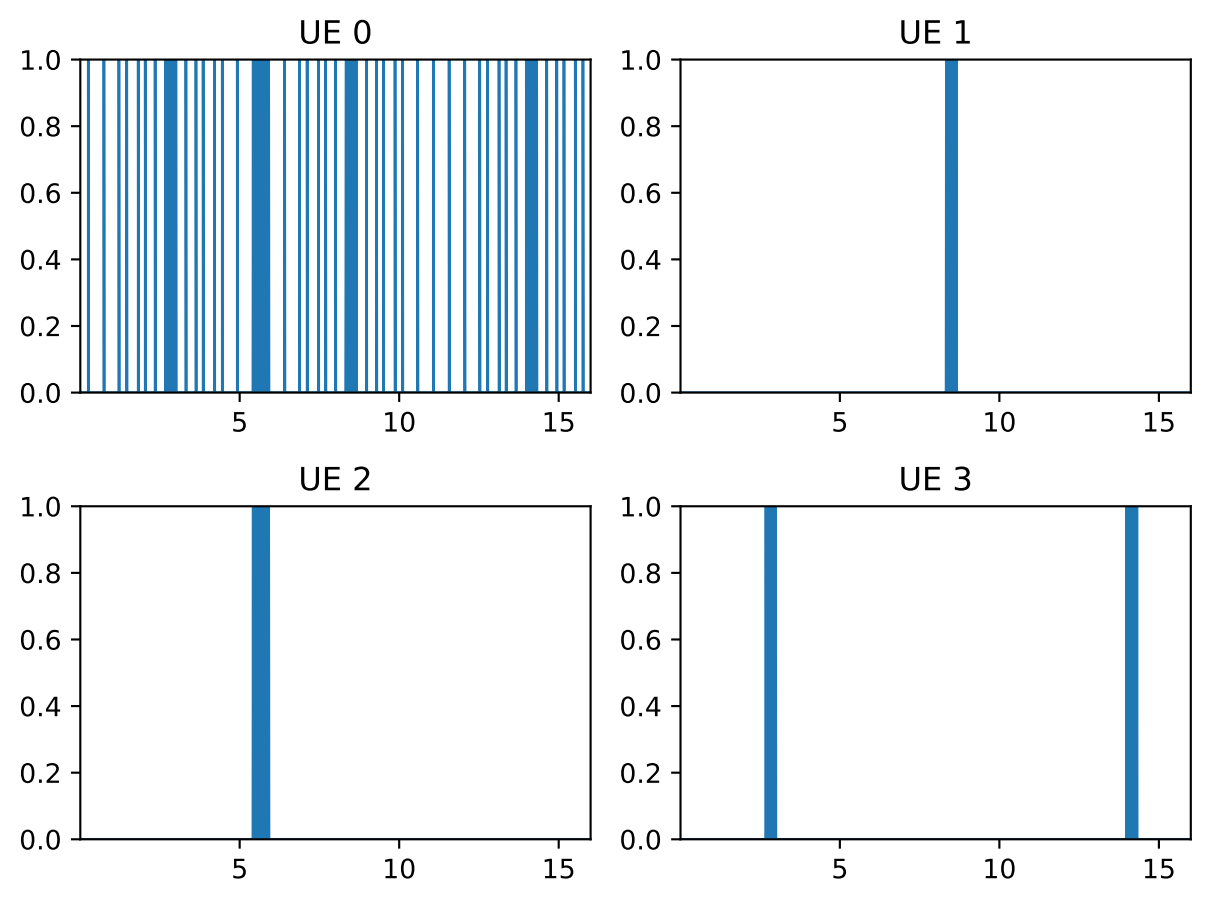

Formula: azi + ele x 10
UE 0
UE 1
UE 2
UE 3
500
250
0
−250
−500
490
480
470
460
50
49
48
47
46
−460
−470
−480
−490
5
10
15

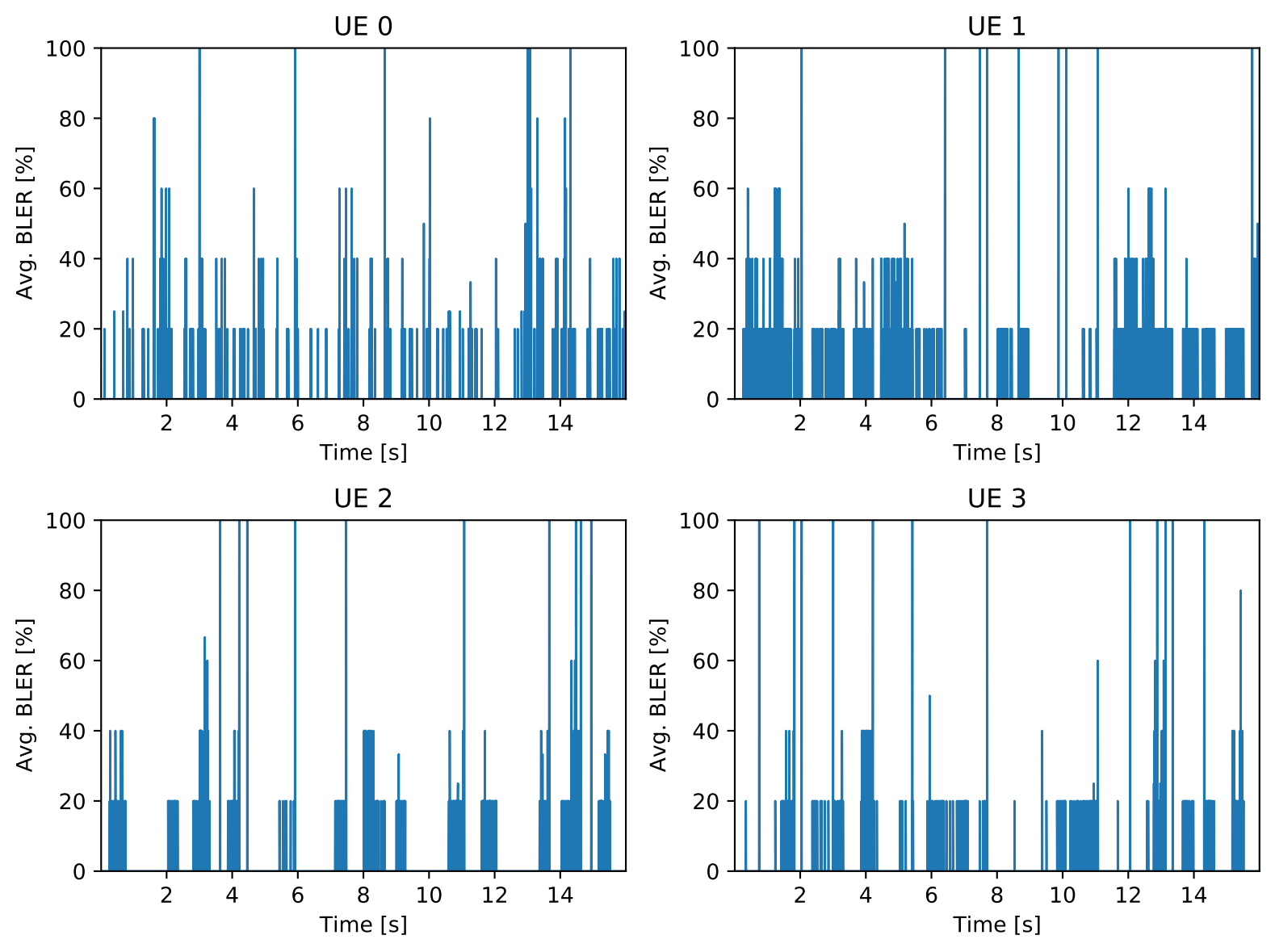

UE 0
Azimuth [º]
Elevation[º]
Time [s]
UE 1
Azimuth [º]
Elevation[º]
Time [s]
UE 2
Azimuth [º]
Elevation[º]
Time [s]
UE 3
Azimuth [º]
Elevation[º]
Time [s]

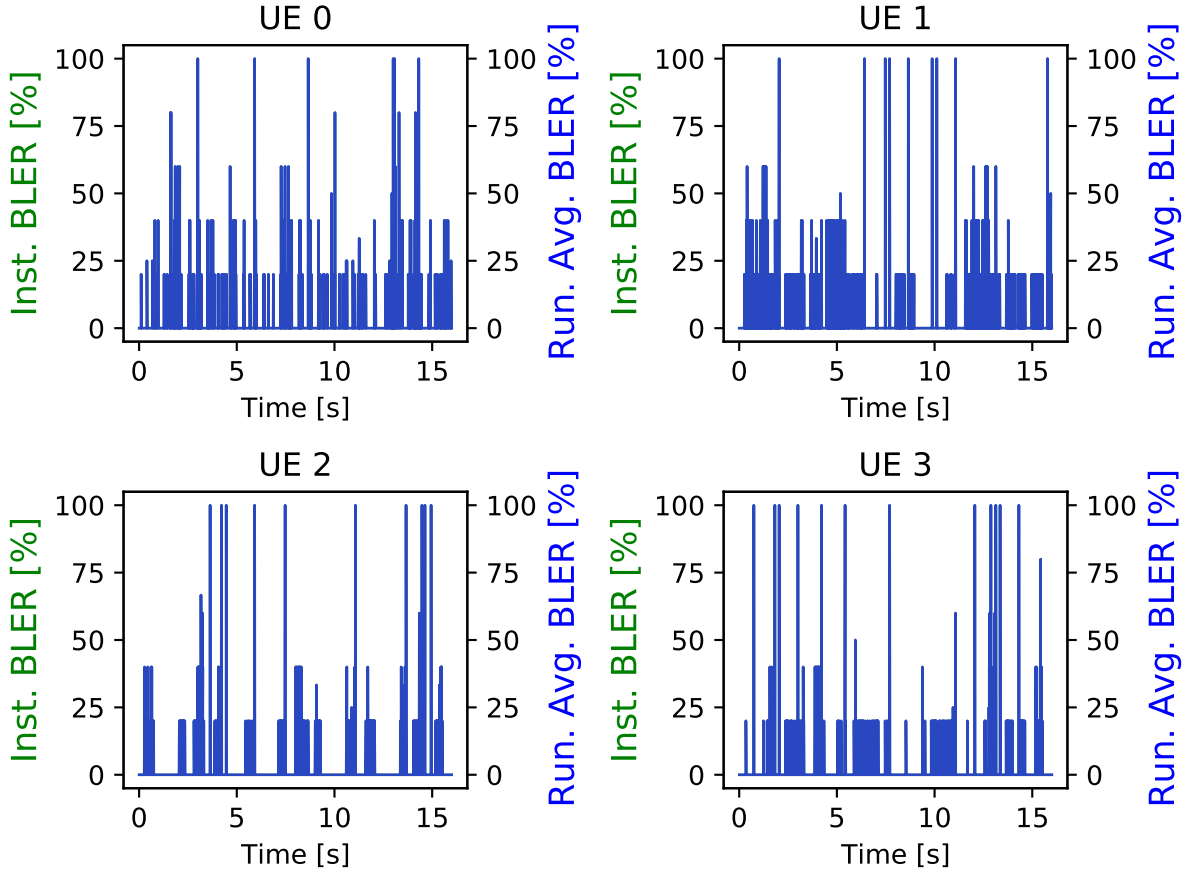

UE 0
Azimuth + Elevation [º]
50
0
−50
5
10
15
Time [s]
UE 1
Azimuth + Elevation [º]
40
30
20
10
0
5
10
15
Time [s]
UE 2
Azimuth + Elevation [º]
40
30
20
10
0
5
10
15
Time [s]
UE 3
Azimuth + Elevation [º]
0
−10
−20
−30
−40
5
10
15
Time [s]

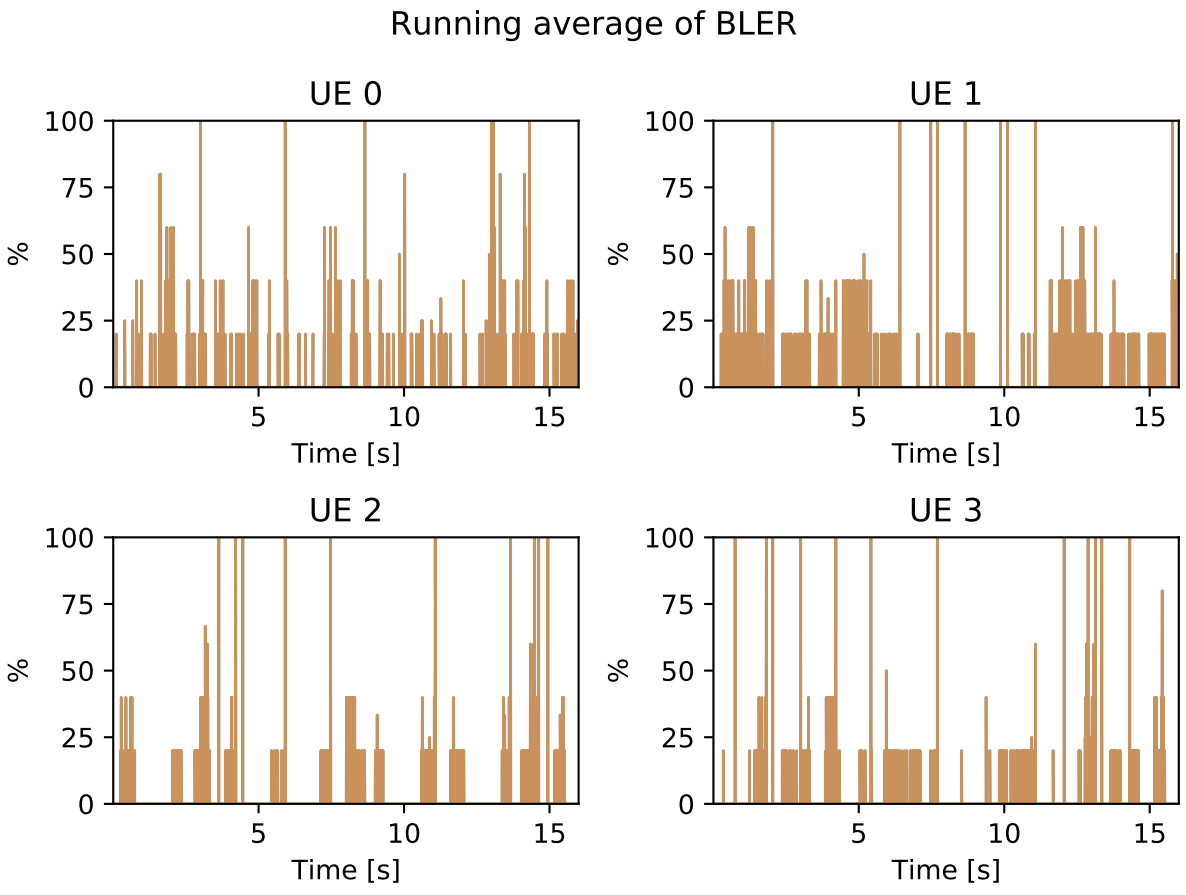

UE 0
UE 1
UE 2
UE 3
Azi. + El. [º]
SINR [dB]
Time [s]

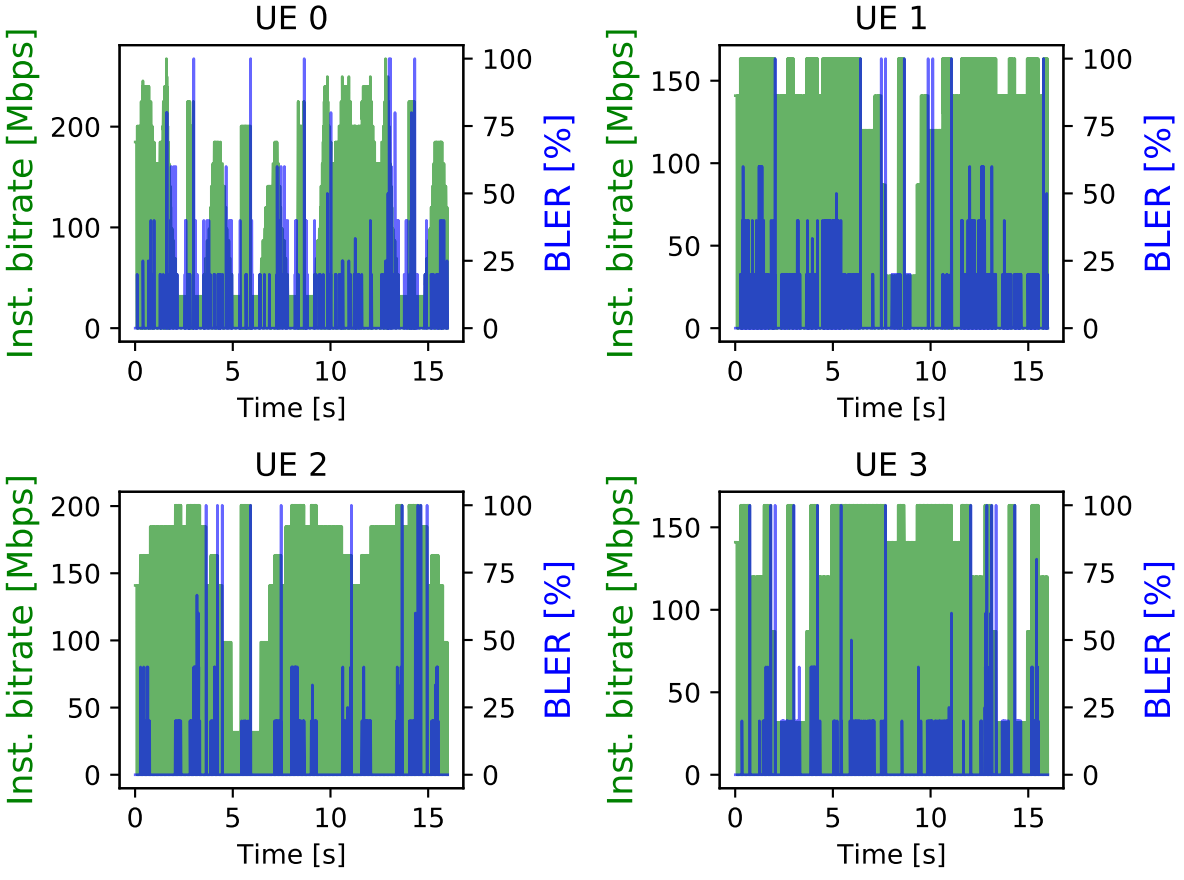

UE 0
UE 1
UE 2
UE 3
Azi. + El. [º]
BLER [%]
Time [s]
50
0
−50
40
20
0
−20
−40
100
75
50
25
0
5
10
15

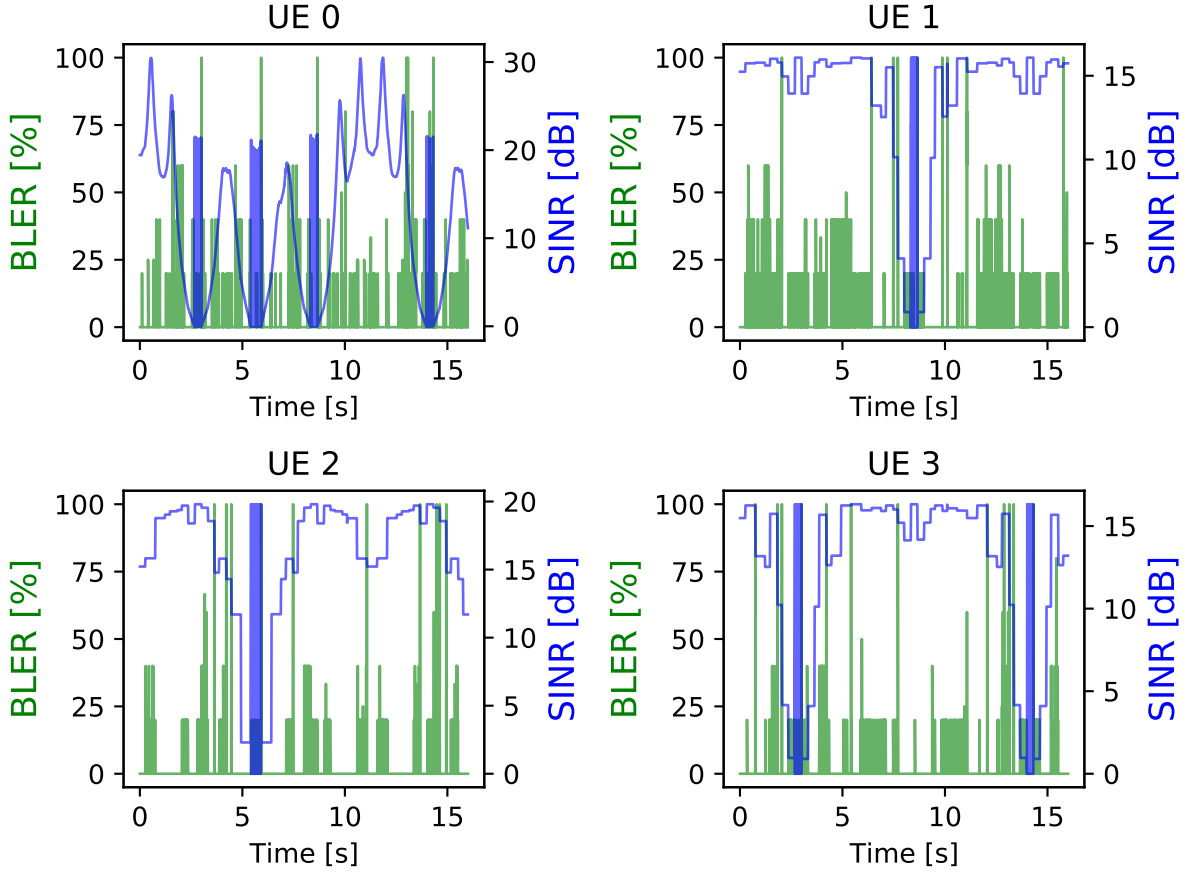

UE 0
UE 1
UE 2
UE 3
1.0
0.8
0.6
0.4
0.2
0.0
5
10
15

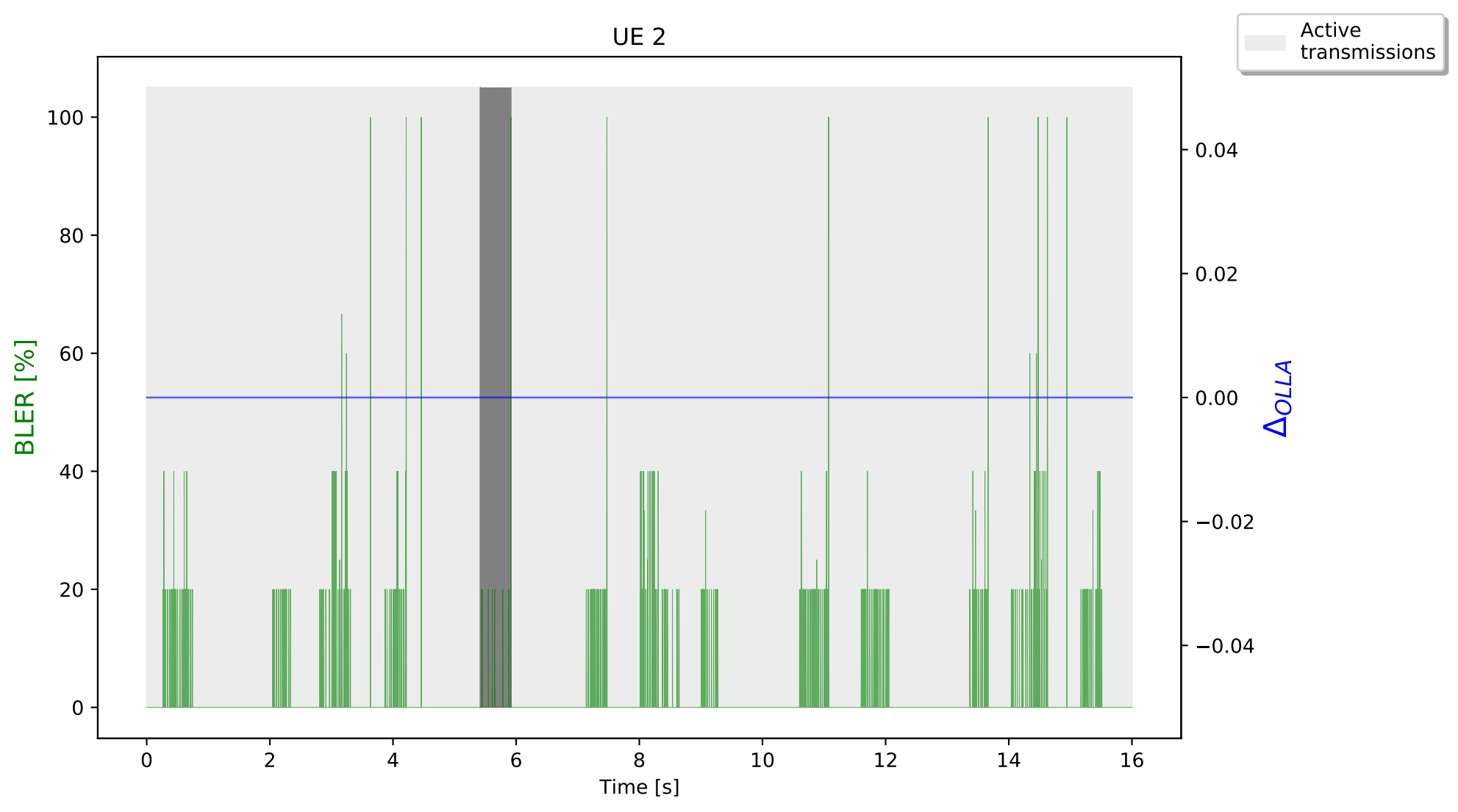

UE 0
UE 1
UE 2
UE 3
Avg. BLER [%]
Time [s]
0
20
40
60
80
100
2
4
6
8
10
12
14

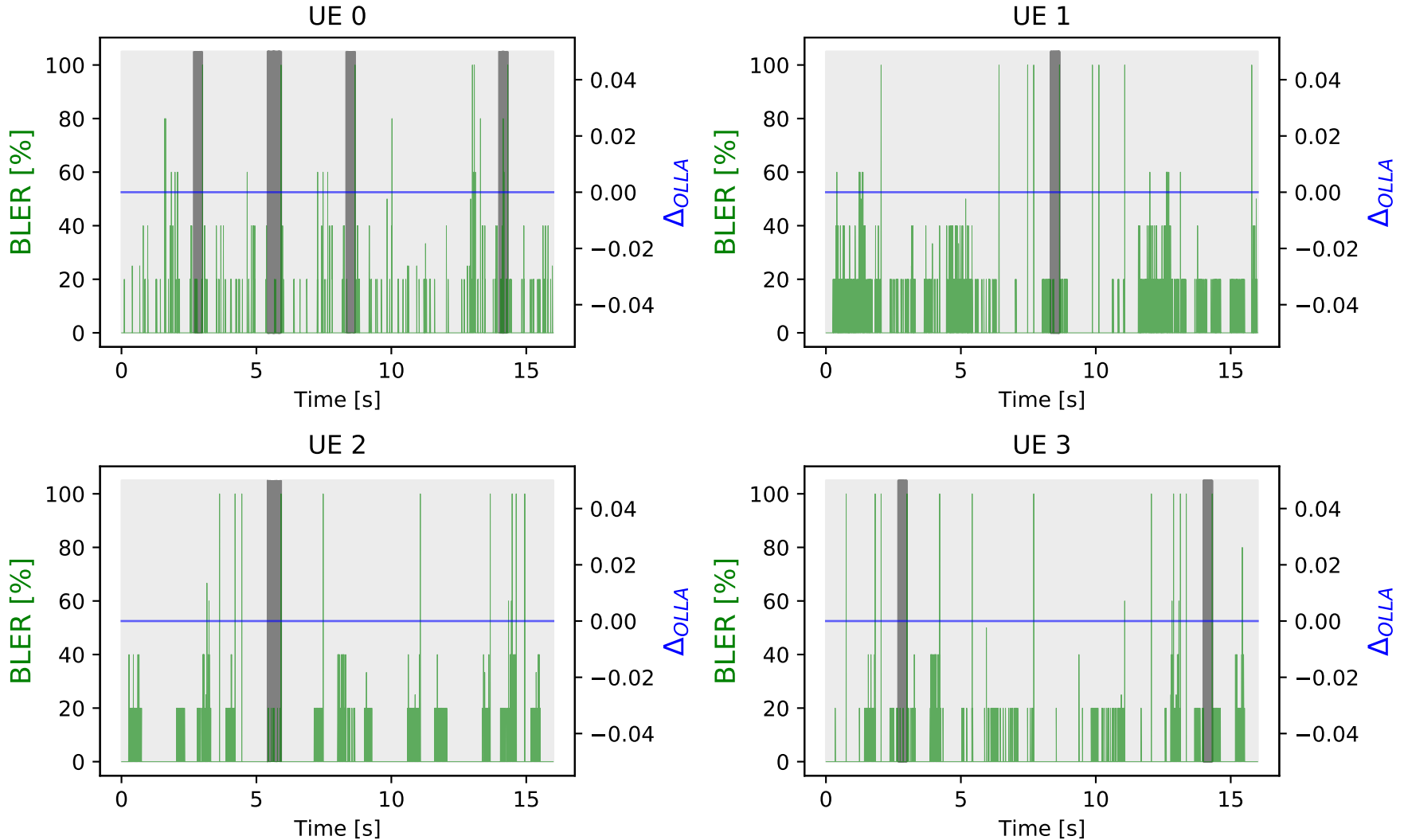

UE 0
UE 1
UE 2
UE 3
Inst. BLER [%]
Run. Avg. BLER [%]
Time [s]
0
25
50
75
100
0
5
10
15

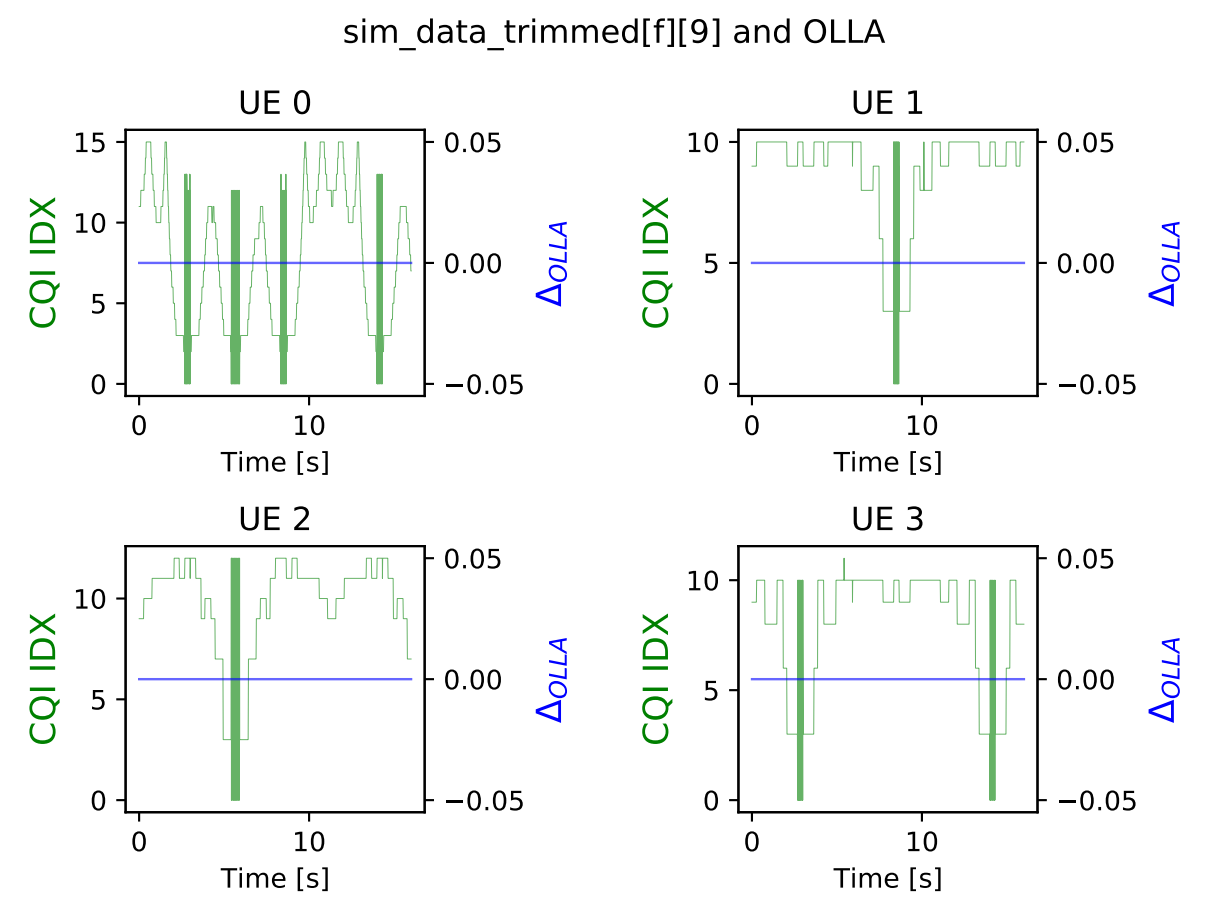

Running average of BLER
UE 0
UE 1
UE 2
UE 3
100
75
50
25
0
%
5
10
15
Time [s]

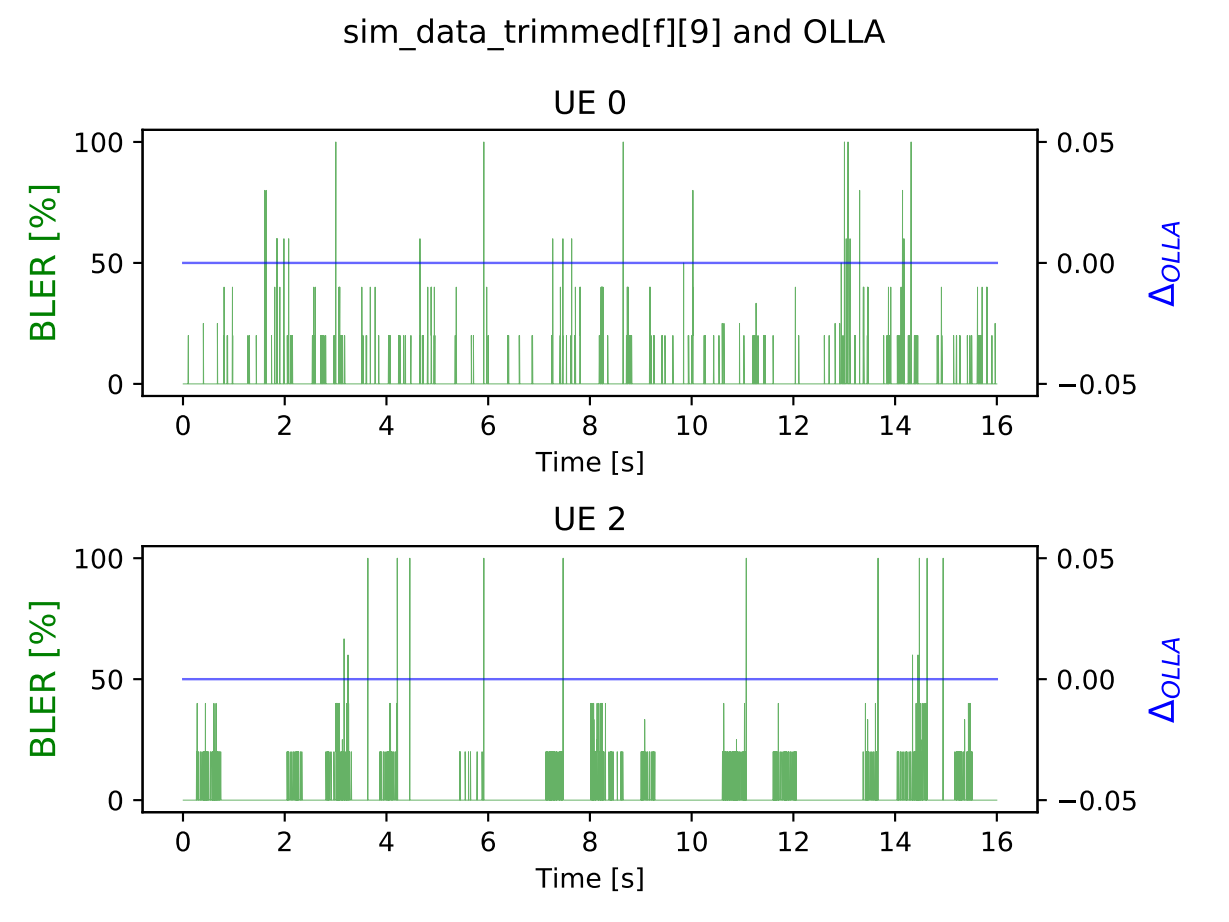

UE 0
UE 1
UE 2
UE 3
Inst. bitrate [Mbps]
BLER [%]
Time [s]
0
5
10
15
0
25
50
75
100
0
50
100
150
200


UE 0
UE 1
UE 2
UE 3
BLER [%]
SINR [dB]
Time [s]
0
25
50
75
100
0
5
10
15
20
30


UE 2
Active transmissions
BLER [%]
Δ_{OLLA}
Time [s]
0
20
40
60
80
100
0.04
0.02
0.00
−0.02
−0.04
0
2
4
6
8
10
12
14
16


UE 0
UE 1
UE 2
UE 3
BLER [%]
Δ_{OLLA}
Time [s]
0
20
40
60
80
100
0.04
0.02
0.00
−0.02
−0.04
0
5
10
15


sim_data_trimmed[f][9] and OLLA
UE 0
UE 1
UE 2
UE 3
CQI IDX
Δ_{OLLA}
Time [s]
0
5
10
15
0.05
0.00
−0.05


sim_data_trimmed[f][9] and OLLA
UE 0
BLER [%]
100
50
0
0.05
0.00
−0.05
Δ_{OLLA}
0
2
4
6
8
10
12
14
16
Time [s]
UE 2
BLER [%]
100
50
0
0.05
0.00
−0.05
Δ_{OLLA}
0
2
4
6
8
10
12
14
16
Time [s]