Percentage of Transmission-Time of Power Amplifier in DTX

Mirza Nazrul Alam

Supervisor: Prof. Riku Jäntti

Test Case Scenario

- UE =7
- Poisson Packet Arrival
- Packet Size=500 Byte
- QAM 64
- FDD
- Symbol per RB=84

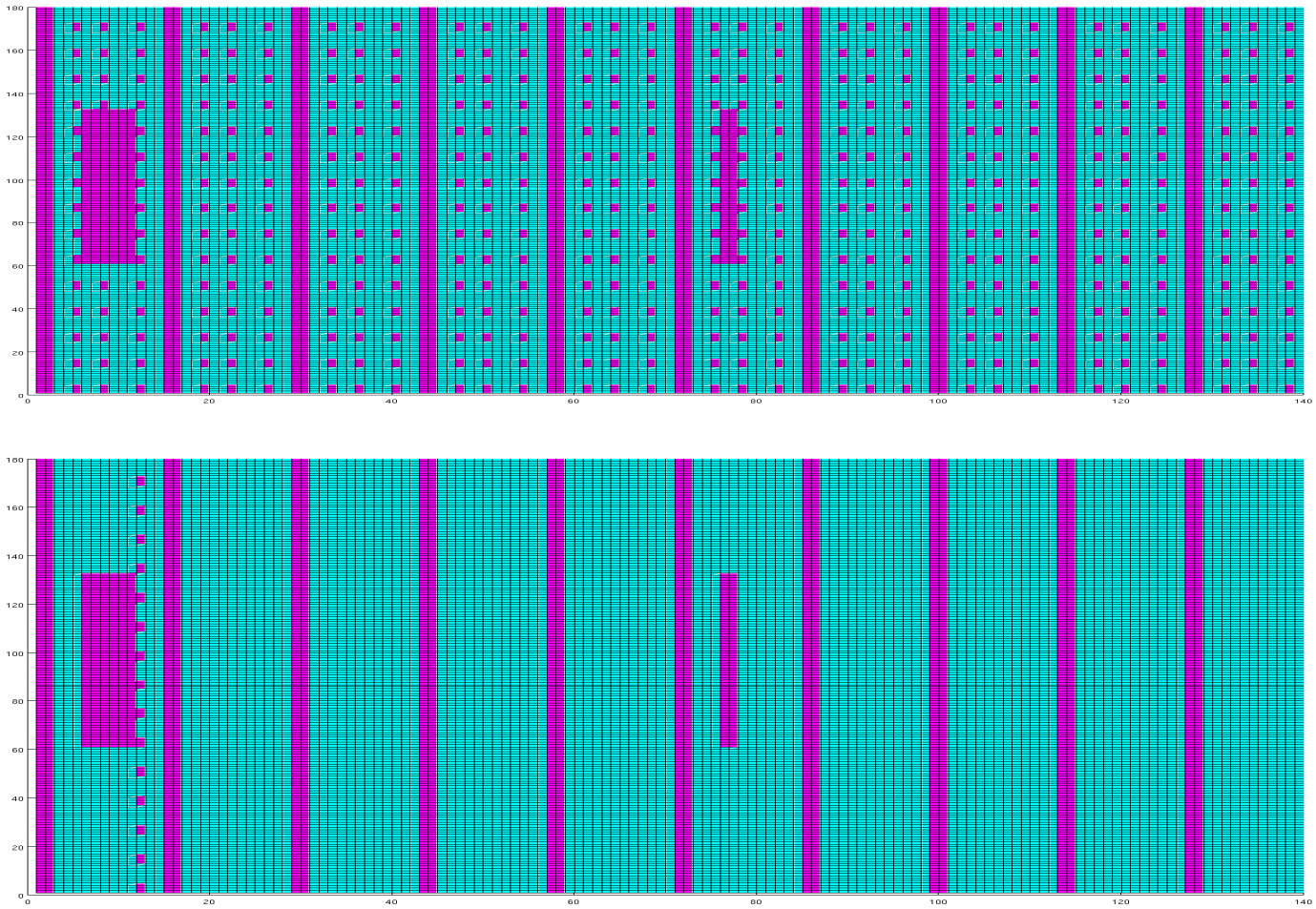
OBJECTIVE

% Transmission Time of PA

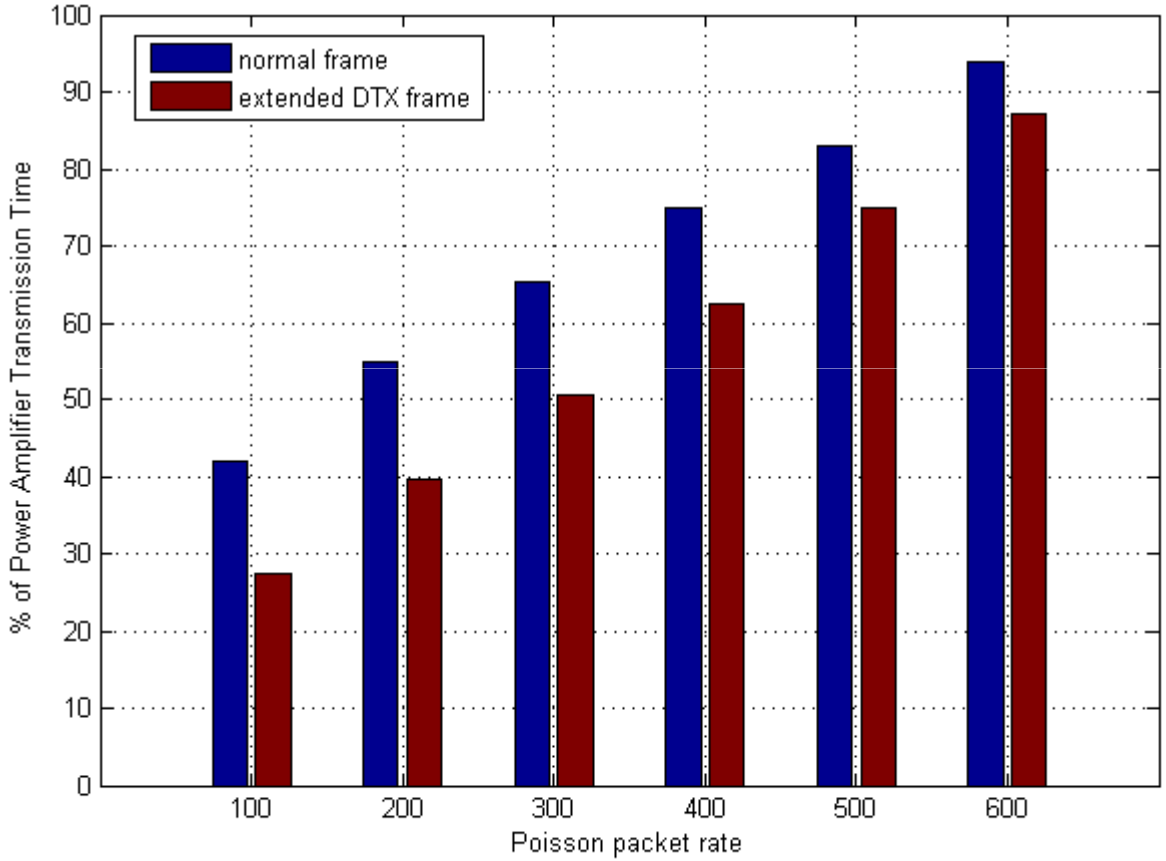
=(Total operational Time- sleep duration)/Total operational Time

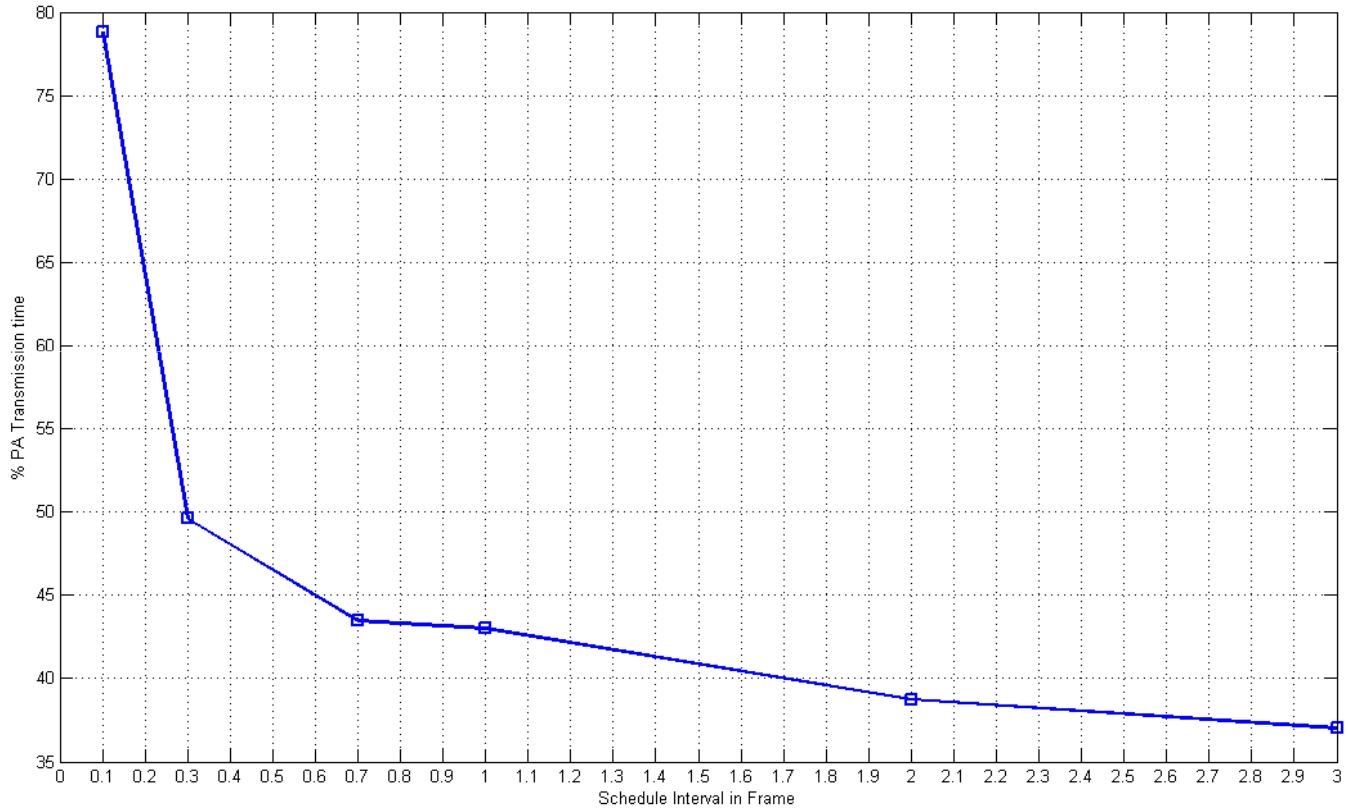
Target Parameter: packet rate, Scheduling Interval, Band width of eNB

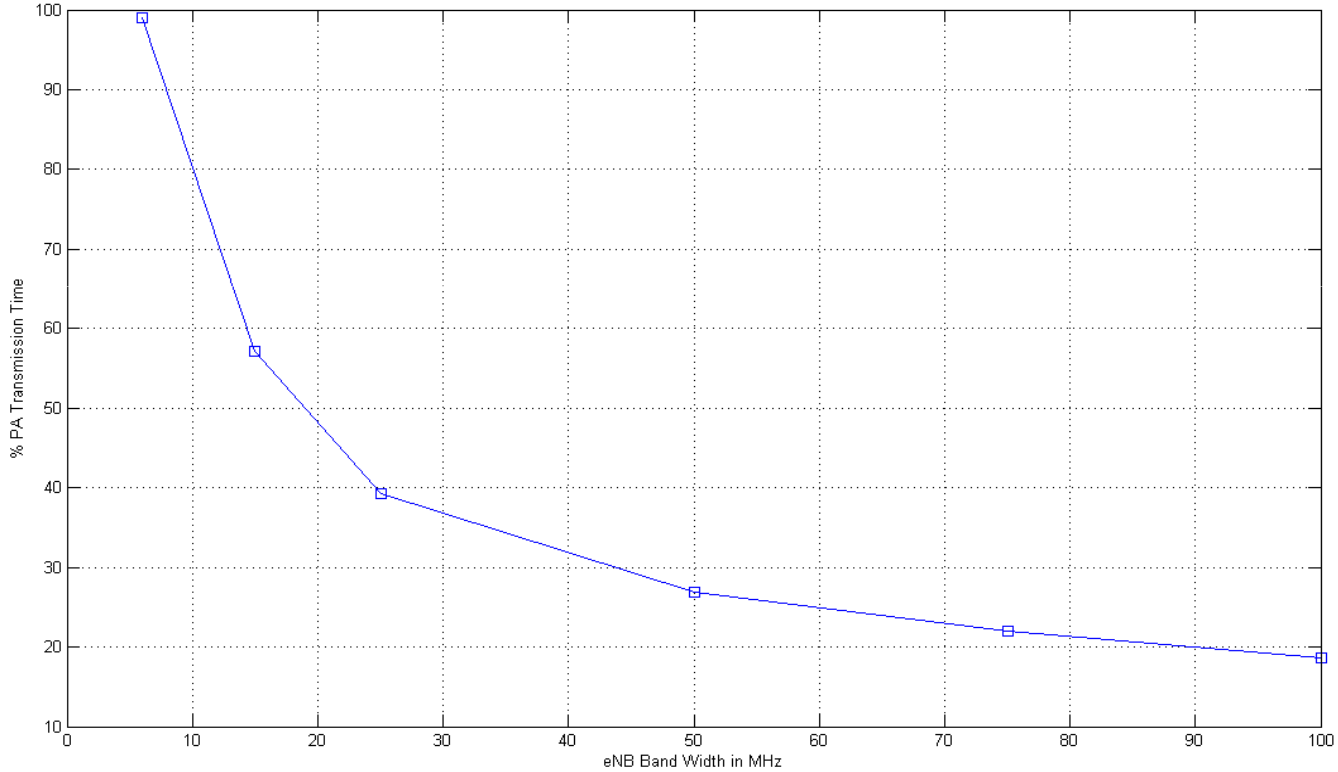
Frame in Downlink



Results


normal frame
extended DTX frame
% of Power Amplifier Transmission Time
Poisson packet rate
0
10
20
30
40
50
60
70
80
90
100
100
200
300
400
500
600


% PA Transmission time
Schedule Interval in Frame
80
75
70
65
60
55
50
45
40
35
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3


% PA Transmission Time
eNB Band Width in MHz
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100

THANKS