

# TDD sub-Task Force Opening Report

Steve Shellhammer (Qualcomm)

# Conference Calls

- The TDD sub-TF conference calls
  - Mondays
  - 10:30-11:30 AM Eastern Time
- Calls held since May Meeting
  - June 17
  - June 24
  - July 1
  - July 8
- Minutes sent to email reflector

## Summary of Calls

- June 17
  - TDD Cycle – Steve Shellhammer (Qualcomm)
- June 24
  - TDD Cycle Updated – Steve Shellhammer (Qualcomm)
- July 1
  - Discussed TDD Cycle
  - Straw Polls
- July 8
  - Discussed TDD Cycle
  - Straw Polls

## Plan for the Week

- Motions on TDD Cycle
  - Candidate Motions in the following slides
- eStraw Poll Results in Backup

## Motion #n

The standard shall support provisioning of the TDD Guard Time (in  $\mu\text{s}$ ) for the following values, 1.25, 2.5, 3.75, 5.0, 6.25, ... TBD

- Moved:
  - Second:
  - Yes
  - No
  - Abstain
- 
- Technical Motion  $\geq 75\%$

## Motion #(n+1)

The units for measuring the TDD downstream time window will be the sum of the symbol duration (20  $\mu$ s for 4k FFT or 40  $\mu$ s for 8k FFT) plus the cycle prefix duration.  $T = T_S + T_{CP}$

The downstream time window shall be configurable from a minimum of 4 units to a maximum of TBD units

- Moved:
  - Second:
  - Yes
  - No
  - Abstain
- 
- Technical Motion  $\geq 75\%$

## Motion #(n+2)

The units for measuring the TDD upstream time window will be the sum of the symbol duration (20  $\mu$ s for 4k FFT or 40  $\mu$ s for 8k FFT) plus the cycle prefix duration.  $T = T_S + T_{CP}$

The upstream time window shall be configurable from a minimum of 4 units to a maximum of TBD units

- Moved:
  - Second:
  - Yes
  - No
  - Abstain
- 
- Technical Motion  $\geq 75\%$

# Motion #(n+3)

motion

- Moved:
  - Second:
  - Yes
  - No
  - Abstain
- 
- Technical Motion  $\geq 75\%$

# Backup – eStraw Polls

## eStraw Poll #tdd\_1

### Temporal Resolution Value Question:

What temporal resolution value ( $\Delta T$ ) do think we should use in specifying the values of the guard time?

Vote type: Single answer selection per voter.

Summary of votes per answer (percent of total):

0) 0.625 $\mu$ sec:	0	(0.0%)
1) 1.25 $\mu$ sec:	3	(60.0%)
2) 2.5 $\mu$ sec:	1	(20.0%)
3) 5 $\mu$ sec:	0	(0.0%)
4) Other (explain in comments):	1	(20.0%)

Total votes = 5

## Comments: #tdd\_1

Marek Hajduczenia

- I believe the values should be negotiated and not prescribed by the standard.

## eStraw Poll #tdd\_2

### Minimum Guard Time Question:

What is the minimum guard time that should be specified in the standard?

Vote type: Single answer selection per voter.

Summary of votes per answer (percent of total):

0) 2.5 $\mu$ sec:	3	(60.0%)
1) 3.75 $\mu$ sec:	1	(20.0%)
2) 5.0 $\mu$ sec:	0	(0.0%)
3) Other (explain in comments):	1	(20.0%)

Total votes = 5

## Comments: #tdd\_2

Marek Hajduczenia

- I believe these parameters could be negotiated during the link-up process

## eStraw Poll #tdd\_3

### **4K FFT minimum downstream time window Question:**

For the 4k FFT version what value do you believe should be the minimum configurable downstream time window (measured in symbols including cyclic prefix)?

Vote type: Single answer selection per voter.

Summary of votes per answer (percent of total):

0) 1 symbol = 20.9375 to 25 $\mu$ sec:	0	(0.0%)
1) 2 symbols = 41.875 to 50 $\mu$ sec:	0	(0.0%)
2) 4 symbols = 83.75 to 100 $\mu$ sec:	3	(75.0%)
3) 8 symbols = 167.5 to 200 $\mu$ sec:	1	(25.0%)

Total votes = 4

## eStraw Poll #tdd\_4

### **8K FFT minimum downstream time window Question:**

For the 8k FFT version what value do you believe should be the minimum configurable downstream time window (measured in symbols including cyclic prefix)?

Vote type: Single answer selection per voter.

Summary of votes per answer (percent of total):

0) 1 symbol = 40.9375 to 45 $\mu$ sec:	0	(0.0%)
1) 2 symbols = 81.875 to 90 $\mu$ sec:	1	(25.0%)
2) 4 symbols = 163.75 to 180 $\mu$ sec:	3	(75.0%)
3) 8 symbols = 327.5 to 360 $\mu$ sec:	0	(0.0%)

Total votes = 4

## Provisioning and Equipment Requirements

- The sub-TF decided to first agree on the values of the TDD cycle that can be provisioned and then decide what is required in the EPoC equipment
  - This allows for future equipment to meet more challenging parameter values (as was done in EPON for laser-on)

## Straw Poll (July 8)

The standard shall support provisioning of the TDD Guard Time (in  $\mu\text{s}$ ) for the following values, 1.25, 2.5, 3.75, 5.0, 6.25, ... TBD

Yes	9
No	0

## Straw Poll (July 8)

The standard shall support provisioning of the TDD Downstream Time window measured in multiples of the symbol plus cyclic prefix duration. The standard shall support from 1 symbol plus cyclic prefix up to 255 symbols plus cyclic prefix for 4k FFT, and up to 127 symbols plus cyclic prefix for 8k FFT.

Yes	3
No	1
Abstain	5