EPON Protocol over Coax

TDD sub-Task Force Closing Report

Steve Shellhammer (Qualcomm)

Motion #19

The standard shall support a TDD Guard Time in positive integer multiples of 1.25 µs, starting at 1.25 µs to at least 10 µs.

- Moved: Bill K.
- Second: Saif
- Yes 17
- No 0
- Abstain 5

- Technical Motion >= 75%

Motion #20

The TDD downstream and upstream time windows will be characterized by an integer multiple of the symbol duration, which is equal to the inverse of the sub-carrier spacing plus the cyclic prefix duration.

- Moved: Bill K.
- Second: Saif
- Yes; 14
- No: 0
- Abstain: 9

- Technical Motion >= 75%

Backup

Motion #(n+2) (Too early)

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

The downstream time window shall be configurable from a minimum of 1 unit to a maximum of TBD units

- Moved:
- Second:
- Yes
- No
- Abstain

- Technical Motion >= 75%

Motion #(n+3) (Too early)

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

The upstream time window shall be configurable from a minimum of 1 unit to a maximum of TBD units

- Moved:
- Second:
- Yes
- No
- Abstain

- Technical Motion >= 75%

eStraw Poll #tdd_1

Temporal Resolution Value Question:

What temporal resolution value (ΔT) 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 µsec:	0	(0.0%)
1) 1.25 µsec:	3	(60.0%)
2) 2.5 µsec:	1	(20.0%)
3) 5 µsec:	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 µsec:	3	(60.0%)
1) 3.75 µsec:	1	(20.0%)
2) 5.0 µsec:	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 µsec:	0	(0.0%)
1) 2 symbols = 41.875 to 50 µsec:	0	(0.0%)
2) 4 symbols = 83.75 to 100 µsec:	3	(75.0%)
3) 8 symbols = 167.5 to 200 µsec:	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 µsec:	0	(0.0%)
1) 2 symbols = 81.875 to 90 µsec:	1	(25.0%)
2) 4 symbols = 163.75 to 180 µsec:	3	(75.0%)
3) 8 symbols = 327.5 to 360 µsec:	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 µs) 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