

PHY related EPoC Motions

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Motion 1: Cyclic Prefix (CP) Duration

- The cyclic prefix duration is configurable and is independently chosen for the downstream transmission and the upstream transmission. The allowed values are listed in the tables.

- Supporters:

Downstream	
CP size (samples)	CP size (μ s)
192	0.9375
256	1.25
512	2.5
768	3.75
1024	5

Upstream	
CP size (samples)	CP size (μ s)
192	0.9375
256	1.25
320	1.5625
384	1.875
448	2.1875
512	2.5
576	2.8125
640	3.125
768	3.75
832	4.0625
896	4.375
960	4.6875
1024	5
1088	5.3125
1152	5.625
1280	6.25

Motion 2: OFDM Windowing

- A raised cosine windowing function shall be applied (for details see slide 4 and slide 6 in “montreuil_01a_0113.pdf”. The amount of overlap T_p shall be configurable. In terms of samples, possible values for T_p are 0, 32, 64, 128, 192, and 256.

- Supporters:

Motion 3: Upstream Channel Bandwidth

- The RF bandwidth of an upstream channel shall be 192 MHz. The definition of exclusion bands will allow for smaller channels when there are not 192 MHz of spectrum available.

- Supporters:

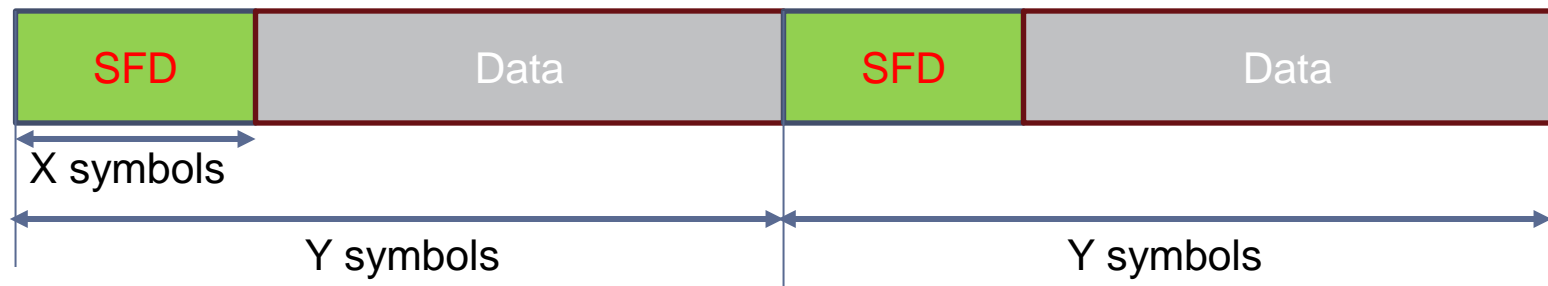
Motion 4: PHY Link Channel Requirements

- Any proposal for the PHY link channel (PLC) shall satisfy:
 - The PLC must be detectable by a new CNU trying to join the network
 - For the detection of the PLC, the CNU doesn't need any information on OFDM channel frequency usage, FFT size and CP size
 - PLC is transparent to the MAC
 - No additional jitter and latency
 - No additional buffering requirements
 - Center frequency of PLC is not necessarily the same as center frequency of the corresponding OFDM channel

- Supporters:

Motion 5: Downstream PLC Structure

- The PLC shall be composed of a Start-of-Frame Delimiter (SFD) and a data section, which are subsequent in time.
 - The repetition of the SFD shall be aligned with the repetition of the regular pilot pattern, i.e. the SFD repeats every Y symbols, where Y is also the number of symbols in a downstream frame.
 - Each 192MHz downstream channel is provided with its own dedicated PLC.
- Supporters:



Motion 6: Definition of Markers

- A marker
 - is a known sequence of modulated symbols (in frequency domain)
 - The Marker shares the same resources as regular data symbols
 - No dedicated control channel
 - Markers do not overwrite pilots and vice-versa
 - is specific for each possible active profile

- Supporters:

Motion 7: Usage of Markers (Upstream)

- The beginning of a burst is indicated by a start marker
 - The start marker indicates the profile that is used
 - The end of a burst is indicated by an end marker
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- Supporters:

Motion 8: Usage of Markers (TDD Downstream)

- The marker identifies when a profile starts. The marker is placed at the beginning of each profile burst.

- Supporters:

Motion 9: Pre-Equalization

- Each CNU shall enable pre-equalization base on feedback from the CLT.

- Supporters:

thank you