

PHY Checklist Update

IEEE P802.3bn EPoC PHY Task Force

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Checklists

TECHNICAL DECISIONS

Downstream Decisions

Parameter	DOWNSTREAM	Comments
Frequency range	FDD: DS 54 MHz to at least 1212 MHz TDD: 10 MHz to 277 MHz, 750 MHz to 1800 MHz	FDD [TD #72], TDD [TD #85, #86] T.B.D. study for >1200 MHz
Modulation	OFDM	[TD #2]
Reference Time Period	1 / (204.8) MHz	[TD #74]
FFT size	4096, 8192	[TD #74]
Subcarrier spacing	25, 50 KHz	[TD #17, #74]
FFT Period	20, 40 uSec	[TD #74]
OFDM blocks	N blocks of 192 MHz channels, N=?	[TD #8 for N>1]
CP	DS: 192, 256, 512, 768, 1024 samples	[TD #78]
Windowing	Raised cosine. 0, 32, 64, 128, 192, and 256 samples	[TD #23]
Subcarrier grouping		FDD / TDD, MMP?
Sub-Channel	Phy Link Channel	[TD #11, #12, #13, #53]
Framing / Bursts		FDD Continuous? versus TDD Burst?
Windowing	Raised cosine. 0, 32, 64, 128, 192, and 256 samples	[TD #23]
Continuous Pilots	BPSK modulated with a pseudo random binary sequence (PRBS) of length 2^{13}	[TD #67, #79]
Scattered Pilots		
Bit loading / Modulation Rate	16, 64, 128, 256, 512, 1024, 2048, 4096 QAM	[TD #6]
FEC	Active: 1 LDPC code size / rate adopted Passive: T.B.D.	[TD #81]
Time / Freq interleaver		
PAPR technique		
Exclusion rules	Yes	[based on TD #14, #35, #58, #69, #70, #71]

Upstream Decisions

Parameter		Comments
Frequency range	FDD: US 10 MHz to at least 234 MHz TDD: 10 MHz to 277 MHz, 750 MHz to 1800 MHz	FDD [TD #72] TDD [TD #85, #86] NOTE: expect 10MHz to be revisited
Modulation	OFDMA	[TD #2]
Reference Time Period	1 / (204.8) MHz	[TD #74]
FFT size	4096, 8192	[TD #74]
Subcarrier spacing	25, 50 KHz	[TD #17, #74]
FFT Period	20, 40 uSec	[TD #74]
OFDM blocks	N blocks of 192 MHz channels, N=?	[TD #8 for N>1]
CP	US: 192, 256, 320, 384, 512, 650, 768, 832, 896, 960, 1024, 1088, 1152, 1280 samples	[TD #78]
Windowing	Raised cosine. 0, 32, 64, 128, 192, and 256 samples	[TD #23]
Subcarrier group		FDD / TDD, MMP, "burst profiles", etc?
Sub-Channel		PHY Link channel ?
Framing / Burst		Burst
Preamble, Sync		
Continuous Pilots		
Scattered Pilots		
Bit loading / Modulation Rate	16, 64, 128, 256, 512, 1024 QAM	[TD #6]
FEC	Active: 3 LDPC code sizes / rates adopted Passive: T.B.D.	[TD #81]
Time / Freq interleaver		
PAPR technique		
Exclusion rules	Yes	[based on TD #14, #35, #58, #69, #70, #71]

PHY Link Decisions

Parameter	PHY Link	Comments
Frequency range / rules		
Modulation	OFDM downstream / OFDMA upstream	[TD #2, #x]
Reference Time Period	1 / (204.8) MHz	[TD #74]
FFT size	4096, 8192	[TD #74]
Subcarrier spacing	25, 50 KHz	[TD #17, #74]
FFT Period	20, 40 uSec	[TD #74]
OFDM sub-carriers / rules		
CP / Symbol Duration	Auto-detect / Same as data channel	[TD #12, #13]
Windowing		
Framing	Preamble (with start of frame delimiter) and PLC frame	[TD #38]
Preamble, Sync		
Continuous Pilots		
Scattered Pilots		
Bit loading / Modulation Rate	16 QAM	[TD #6]
FEC / Error Protection	LDPC(384,288) code	[TD #75]
Time interleaver		
PAPR technique		
Exclusion rules		

Thank You!