

**IEEE P802.11
Wireless LANs**

DRAFT

OFDM Performance Comparison Submission Template

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Introduction

This document summarizes the key performance parameters of the 5 GHz OFDM proposal.

General Description

Parameter	Value(s)
Data Rates Supported	30, 20, 15, 10, 5 Mbps
Channel Spacing	15 MHz
Center Frequencies	5170, 5185, 5200, 5215, 5230, 5270, 5285, 5300, 5315, 5330, 5745, 5760, 5775, 5790, 5805
Power Levels	Lower band: 30 mW. Middle band: 150 mW. Upper band: 600 mW. Channels at band edges need to backoff an extra 4 dB to achieve a 57 dBr spectral suppression at the band edges.
Sensitivities	-86 dBm at 20 Mbps, -91 dBm at 10 Mbps
CCA threshold	-80 dBm
Clock Rate accuracy	40 ppm
Carrier Frequency accuracy	40 ppm
Waveform implementation accuracy specification method	
Power Backoff in RF PA	5 dB from the saturation level
Implementation Complexity	5 (LOW) [derk, private communication]

Per-Rate Feature Summary

Parameter			
Data rate	20 Mbps	15 Mbps	10 Mbps
ECC method	rate $\frac{1}{2}$ code	rate $\frac{3}{4}$	rate $\frac{1}{2}$
Interleaving method	block of 192 bits	144 bits	96 bits
Suggested minimal sensitivity	-80	-83	-85
Suggested Co-Channel rejection	-12	-10	-10
Suggested Adjacent Channel rejection	15	17	17
Suggested Alternate Channel rejection	50	50	50
Implementation Accuracy			

Per-Rate Performance Summary

Parameter			
Data rate	20 Mbps	15 Mbps	10 Mbps
Eb/No at PER=10%, AWGN, 64b	8 dB	7 dB	7 dB
Trms at PER=10%, noise free, 64b	300 ns	325 ns	525 ns
Eb/No @ 20%, with Trms @ 10%, 64b	20 dB	18 dB	17
Eb/No at PER=10%, AWGN, 1000b	10.5 dB	8.5 dB	7.5
Trms at PER=10%, noise free, 1000b	200 ns	250 ns	450 ns
Eb/No @ 20%, with Trms @ 10%, 1000b	20 dB	19 dB	18 dB
CCI immunity [dB]	-10 dB	-8 dB	-6 dB
ACI immunity [dB]	18 dB	20 dB	20 dB
CW jammer immunity [dB]	-7 dB	-5 dB	-3 dB
Narrowband Gaussian noise immunity [dB]	-8 dB	-6 dB	-4 dB
Phase noise tolerance, (BW=50 kHz), rad ² [dBc] at which PER becomes 10%	-14 dBc	-10 dBc	-8 dBc