

Proposal for a PAR for Higher Speed PHY extensions to 802.11 Standard

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The proposal presented below is specific to Higher Rate extensions to 802.11 standard in 2.4 GHz band. It does not address much higher speeds (say, above 10 Mbit/s) in new frequency bands, for which a separate PAR will be provided. The proposed separation is important because of different nature and different time scale of work on those issues.

Project Title:

Higher Speed PHY extensions to 802.11 Standard

Scope of the Proposed Standard:

To develop new higher rate extensions to the Physical Layer (PHY) of 802.11 Standard. Currently both FH and DS PHYs have a multirate structure with 2 rates (1 Mbit/s and 2 Mbit/s) supported. Both PHY support a common header structure for all rates and rate indication in the packet header with signaling capability for rates higher than available today. The MAC of the 802.11 is ready for supporting PHYs with multiple-rates capability. The work will concentrate on extensions to PHYs which preserve the spirit of the current multirate structure as to serve a compatible extensions to 802.11 Standard.

Purpose of the Proposed Standard:

To extend the capability of the 802.11 Standard as to address the needs of users who are willing to trade shorter range for higher speed, without resorting to equipment based on standards other than 802.11.

Target Completion Date:

31 Dec. 1997

Conformance with Standards Development Criteria

Broad Market Potential:

The market potential of the new proposed extensions will draw on the market potential of 802.11 itself. The proposed extensions will augment the market potential of 802.11 devices as users will not need to resort to non-802.11 solutions to address their higher-speed demands.

Compatibility:

The new proposed extensions will be compatible with the existing 802.11 PHYs and consequently with the MAC layer of 802.11 and upper layers of 802.

Distinct Identity:

The new proposed extensions will not have a distinct identity in the sense that it will be differentiated from 802.11. The new extensions will complement 802.11 with higher capabilities within the current framework of mandatory basic rates and optional higher rates. The distinction will be among the 802.11 products which support the basic rates and those which support some of the optional rates as well.

Technical and Economic Feasibility:

There is at least one method proposed (3 Mbit/s FH PHY) which implements such an extension to 802.11 successfully in a real-life product. This method was presented in a FH Higher Speed Study Group and was forwarded by it to the FH PHY Group. The DS Group will participate in this effort according to the progress among the participating members.