IEEE P802.11
Wireless LANs

*PAR 802.11b as approved

IEEE Standards Board:
Project Authorization Request (PAR) Form

1. Sponsor Date of Request: 1997-10-23
2. Assigned Project Number: 802.11b
3. PAR Approval Date: 9 Dec. 1997

4. Project Title, Copyright Agreement, and Working Group for this Project

I will write/revise a Standards Publication with the following TITLE: STANDARD [FOR] Information Technology—Telecommunications and information exchange between systems—Local and Metropolitan networks—Specific requirements—Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Higher speed Physical Layer (PHY) extension in the 2.4 GHz band

I hereby acknowledge my appointment as Official Reporter (usually the W.G. Chair) to the IEEE P802.11, Working Group for Wireless LANs

In consideration of my appointment and the publication of the Standards Publication identifying me, at my option, as an Official Reporter, I agree to avoid knowingly incorporating in the Standards Publication any copyrighted or proprietary material of another without such other's consent and acknowledge that the Standards Publication shall constitute a "work made for hire" as defined by the Copyright Act, and, that as to any work not so defined, I agree to and do hereby transfer any right or interest I may have in the copyright to said Standards Publication to the IEEE

Signature of Official Reporter: _ was signed on Oct 23, 1997 *

Name of Working Group Chair: Vic Hayes
Title: Chair, IEEE P802.11
Company: Lucent Technologies Nederland B.V.
Nieuwegein 3431 JZ
the Netherlands

5. Describe This Project:

I. Update an existing PAR Yes X No
(Indicate PAR Number/Approval Date.)
Is this project in ballot now? Yes X No

II. NEW STANDARD
REVISION of an existing standard. (Indicate Standard Number and Year):
X SUPPLEMENT to an existing standard (Indicate Standard Number and Year): IEEE Std 802.11-1997

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III. Full Use (5-year life cycle)
    Trial Use (2-year life cycle)

IV. TARGET COMPLETION DATE for submittal to IEEE Standards Review Committee (REVCOM): 31 December 1999

6. Scope of Proposed Project: To develop a higher speed PHY extension to 802.11 operating in the 2.4 GHz band. Refer to the attachment for the complete scope.

7. Purpose of Proposed Project: To extend the performance and the range of applications of the 802.11 compatible networks in the 2.4 GHz band by increasing the data rate achievable by such devices. This technology will be beneficial for improved access to fixed network LAN and internetwork infrastructure (including access to other wireless LANs) via a network of access points, as well as creation of high performance ad-hoc networks. See the attachment for a note.

8. Sponsor: Computer Society

Society/Committee: Computer Society/LMSC

9.

*(a.1) Are you aware of any patents relevant to this project? 
    X Yes (Attach Expl.)
    No
    Yes (Attach Expl.)
    No

*(a.2) Are you aware of any copyrights relevant to this project? 
    X Yes (Attach Expl.)
    No

*(a.3) Are you aware of any trademarks relevant to this project? 
    X Yes (Attach Expl.)
    No

*(b) Are you aware of any other standards or projects with a similar scope? 
    X Yes (Attach Expl.)
    No
    Yes (Attach Expl.)
    Do not know

*(c) Is this standard intended to form the basis of an international project? 
    X Yes (Attach Expl.)
    No

*(d) Is this project intended to focus on health, safety or environmental issues? 
    X Yes (Attach Expl.)
    No
    Do not know

10. Proposed Coordination/Recommended Method of Coordination

I. Mandatory Coordination
    SCC 10 (IEEE Dictionary) and IEEE Staff Editorial Review by Circulation of Drafts
    SCC 14 (Quantities, Units and Letter symbols) by Circulation of Drafts

II. IEEE Coordination requested by Sponsor: *

COORDINATION				METHOD OF COORDINATION

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US TAG for JTC1/SC6/WG1&3

- Additional Coordination Requested by Others:
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11. Submitted By:

* 
Signature of Submitter: __ was signed on ______________________
Date: __ 30 Oct 97____

IEEE Member No: 05572953
Name: Jim Carlo

Company: Texas Instruments
9208 Heatherdale Drive
Dallas TX 76243-6332
USA

Telephone: +1 214 480 2524
FAX: +1 214 480 2611
e-mail: jcarlo@ti.com

DO NOT WRITE BELOW THIS LINE

Signature IEEE Officer: __ was signed by Don Loughry on __ Date: 9 Dec. 1997

Title: __ V.P. Standards______________________________

Revised: ____________________________
Scope of the Project

The scope of this project is to develop a higher speed PHY extension to 802.11 operating in the 2.4 GHz band.

The project will evaluate the possibility of taking advantage of the provisions for rate expansion that are in place on the current standard PHYs.

The 802.11 MAC defines a mechanism for operation of stations supporting different data rates in the same area. The current 802.11 standard already defines the basic rates of 1 Mbit/s and 2 Mbit/s for both Frequency Hopping (FH) and Direct Sequence (DS) PHYs. The two rates are supported by having same header for both rates with length and rate information passed in the header at the lowest ("basic") rate; then the body of the packet is transmitted at the rate chosen and with the corresponding modulation method.

The header structure of the two PHYs already supports passing rate information up to 4.5 Mbit/s (in 0.5 Mbit/s increments) for FH and up to 25.5 Mbit/s (in 0.1 Mbit/s increments) for DS. The proposed PAR targets further developing the provisions for enhanced data rate capability of 802.11 networks.

The 802.11 MAC incorporates already the interpretation of this information and the computation of expected packet duration even if the specific station does not support the rate at which the packet was sent.

The 802.11 MAC is compatible and will accommodate the higher PHY rates.

Compatibility with 802.11 MAC

The 802.11 PAR mentions that the MAC will be capable of operation in the 1-20 Mbit/s range. The 802.11 MAC will be reviewed for its capability to support rates up to about 10 Mbit/s targeted by the extended modulation methods.

Data rate

The data rates targeted by this project are at least 3 Mbit/s for FH PHY and at least 8 Mbit/s for DS PHY.

Radio Spectrum Availability

The proposed extensions will operate in the already allocated 2.4 GHz ISM band, in which 802.11 is already defined.

IEEE P802.11 will correspond with regulatory bodies worldwide in order to try to assure that the proposed extension will be applicable geographically as widely as possible.

Purpose

The purpose of project 802.11a is also for higher data rates, however, that project is for operation in the 5 GHz band, whereas this project is for operation in the 2.4 GHz band.

Patents

The Working Group will adhere to the IEEE patent policy.