Tentative Minutes of the Direct Sequence PHY Sub Group, September 1994

IEEE 802.11 COMMITTEE

29 Aug. 1994
DS PHY Monday PM
    attendees:
    Jan Boer
    Paul Struhsaker
    Jeff Rackowitz
    Farrakli Mohammadi
    Maurice France
    Al Petrick
    John Fakatselis

    Jan Boer moves to accept the July minutes
    Maurice F seconds
        5 for, 0 against, 0 abstain

Changes to CCA:
Jan Boer proposes two levels
        -80 dbm for TX power > 100mW
        - 70 dbm for TX power <= 100mW
After debate the consensus is:
        append 10.4.8.4
         a)
        -80 dBm for Tx power > 100mW
        -76 dBm for 50 mW <TX power<= 100mW
        -70 dbm for Tx power <= 50 mW
        d) the ED detection time will be less than or equal to 25 usec
        b) 11 ms
        c) change to 2 resulting in 22 ms
        change last paragraph from -67 dBm to "appropriate energy detect threshold"
discussion to 10.4.6.6 add
        The time from transition of PMD_TXE from TX to RX until the radio is in receive mode
as indicated by the exposed CCA signal shall be less than or equal to 25 usec. A receiver input signal above
the ED threshold described in section 10.4.8.4 shall be present at the receiver immediately following the TX
to RX transition

    New point: length vs usec in lengthfield in PLCP ... we need to keep with bits
    Potentially strike 10.4.8.5 as ambiguous and untestable

30 Sept. 1994
         attendees:
         Jan Boer
         Paul Struhsaker
         Jeff Rackowitz
         Farrakli Mohammadi
         Maurice France
         Al Petrick
         John Fakatselis
         Masahiro Ohki
         James Harrer

         DS PHY AM meeting

         Jeff presented data on hardware requirements levied by the short RX to TX turnaround time
         he is correct.

         Discuss the final version of changes. 10.4.8.5, 10.4.8.4, etc.

Maurice F moves that we open 10.4.6.6 modify it with the following text and close the issue:
The time from transition of PMD_TXE from the TX state to the RX state until the radio is in receive mode
as indicated by the exposed CCA signal being less than or equal to 35 usec. A receiver input signal 3dB
above the ED threshold described in section 10.4.8.4 shall be present at the receiver.
Friendly amendment by Jan Boer
The TX to RX turnaround time shall be less than 10 usec including the power down ramp specified in
section 10.4.7.7.
Conformance shall be demonstrated as (continue with the text)
The final version now reads:
The TX to RX turnaround time shall be less than 10 usec including the power down ramp specified in
section 10.4.7.7.
Conformance shall be demonstrated as The time from transition of PMD_TXE from the TX state to the RX
state until the radio is in receive mode as indicated by the exposed CCA signal being less than or equal to
35 usec. A receiver input signal 3dB above the ED threshold described in section 10.4.8.4 shall be present
at the receiver.
Jan Boer seconds
 3 for , 0 against, 1 abstain.

10.4.6.10
Jan Boer moves that we change 10.4.6.10 to the following and close the issue:
Maurice: seconds
Two temperature ranges for full operation compliance to the DS PHY are specified. Type 1 is defined as
0° C to 40° C is designated for office environments. Type 2 is defined as -30° C to 70° C and is
designated for industrial environments.4 for, 0 against, 0 abstentions.

Maurice F moves to delete 10.4.8.5 untestable specification
Jeff R seconds
no discussion
5 for, 0 against, 0 abstentions

Al P motions to change CCA as follows and close this open issue:
Maurice F seconds
changes as follows:

a)   -80 dBm for Tx power > 100mW
                       -76 dBm for 50 mW <TX power<= 100mw
                       -70 dbm for Tx power <= 50 mW

b) 11 ms

c) change count to 2 resulting in 22 ms

d) the ED detection time will be less than or equal to 25 use

change last paragraph from -67 dBm to "appropriate energy detect threshold"

add e) The CCA state machine shall be reset upon transition from the TX state to the RX state

discussion ... still a little worried about operational use.

3 for, 0 against, 2 abstain. passed.

break for lunch.

Afternoon session 30 Sept. 1994

Al P motions that we accept the following text for 10.4.7.8 and close the issue:

Maurice F seconds

The RF carrier suppression, measured at the channel center frequency, shall be at least 15 dB below the peak SIN(x)/x power spectrum. The RF Carrier Suppression shall be measured transmitting an all 1's data sequence with the scrambler disabled using QPSK modulation. A 100 kHz resolution bandwidth shall be used to perform this measurement.

friendly amendment using QPSK modulation

discussion ... none

4 for , 0 against, 1 abstain.

Maurice moves that we accept the text in 10.4.7.9 and close the issue

Al P seconds

discussion .. not 0.35 error and the count = 1000 were typo errors corrected prior to this motion.

5 for, 0 against, 0 abstain

Maurice motions to open amend and close 10.4.7.4

       add dBr (dB relative to SinX/X) and replace dBc

       add 100KHz resolution BW for making the measurements

       make all frequencies relative to the channel center frequency fc

Al P seconds

       no discussion

5 for, 0 against, 0 abstain.

Close for the day

Wednesday AM Session Aug. 31 1994

Jan B motions to open amend and close 10.4.7.8 as follows

       change all 1's sequence to a repetitive 0101 sequence to ensure 90 deg phase transitions.

AL P seconds

       discussion

4 for , 0 against, 0 abstain

Paul S asks group if any items in sections 10.6, 10.7 , 05 10. 8 are open

       NO they closed

straw poll show of hands that the items are closed, 4 for, 0 against 0 abstain.

PLCP

Jan Boer motions to change signaling bit to represent 100Kb/s increments in 10.2.3.3
Maurice seconds
discussion ...
5 for 0 against 0 abstain

Jan Boer motions to 10.2.4 that the scrambler be initialized to all 1's prior to transmission.
          no changes are required for reception.
Maurice seconds.
discussion ...
2 for , 1 against, 2 abstain cannot open.

Jan moves to open issue 10.2.4
Maurice seconds
        2 for , 1 against, 2 abstain. not opened remains closed.

Ask to accept document 050r4 to be moved at the plenary session to be included into document as a
working document.
Paul S motions
Jan Boer seconds
4 for 1 against.

DS PHY THURS. AM session.

        Editing the text of 94/050r4 for typographical, grammatical, and content errors.

        Jan Boer moves that we accept all the text changes discussed this morning
            to include edits to the PMD primitives and field definitions.
             Minor text edits to the PLCP language
            Inclusion of a temporary set of MIB variables to be updated prior to the next session
            as document 050R5.
AL P seconds
5 for, 0 against, 0 abstain.

finish this AM session with discussion about the joint PHY meeting.