IEEE P802.11  
Wireless LANs

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| REVmd SB1 PHY CR—CID 4229 | | | | |
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Abstract

Resolution for REVmd SB1 comment on PHY topic: 4229.

References to page and line numbers are to D3.0.

Change history:

r0 (2020-04-29): Initial draft.

## Comment 4229

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| **CID** | **Commenter** | **Page** | **Clause** | **Comment** | **Proposed Change** |
| 4229 | Mark Rison | 2174.49 | 19.3.2 | "A STA is not required to include all mandatory rates in its operational rate set, and a STA starting a BSS is  not required to include all mandatory rates in the basic rate set." -- there should be equivalent statements for MCSes” | Change the cited text to "A STA is not required to include all mandatory rates/MCSes in its operational rate/MCS set, and a STA starting a BSS is  not required to include all mandatory rates/MCSs in the basic rate/MCS set." |

## Discussion for 4229

The cited text appears as a note at the end of the following text (2174.42):

“A STA shall include the rates from its OperationalRateSet parameter and the rates from the BSSBasicRateSet parameter and the BSS membership selectors from the BSSMembershipSelectorSet parameter in frames it transmits containing Supported Rates and BSS Membership Selectors elements and Extended Supported Rates and BSS Membership Selectors elements according to the rules described in this subclause, except that a nonAP STA may omit the HT and VHT BSS membership selectors, as the (V)HT capabilities are indicated through the presence of a (V)HT Capabilities element.

NOTE 1—A STA is not required to include all mandatory rates in its operational rate set, and a STA starting a BSS is not required to include all mandatory rates in the basic rate set.”

An “operational rate set” is a defined term (192.8):

“operational rate set: The set of data rates that a station (STA) is capable of receiving. The operational rate set is defined locally by the OperationalRateSet parameter of the MLME-START.request or MLMEJOIN.request primitive. The operational rate set of a peer is defined by the data rates (i.e., excluding the MSB of each octet of the (Extended) Supported Rates field) from the peer’s Supported Rates and BSS Membership Selectors element and, if present, the Extended Supported Rates and BSS Membership Selectors element.”

It is convenient to divide the discussion into two parts, one dealing with Class 2 ERP STAs and Class 2 HT STAs, and the other dealing with everything else.

For Class 2 ERP STAs and Class 2 HT STAs (the definitions for which were added after the note above), the draft contains a detailed description of the data rates that a station “supports”: see 2969.31 and 2982.51 respectively. The distinction between a data rate that a STA “supports” and one that it “is capable of receiving” is a fine one in any case. For Class 2 ERP STAs and Class 2 HT STAs, the set of data rates that the STA is required to support has been pared to a bare minimum, and for this case it does not seem to be worth maintaining the distinction. Therefore, it seems worth modifying the note to exclude these cases.

For every other case, the history is tangled. “Operational rate set” is defined, as noted above, but “Operational MCS Set” is not, under any obvious variant. “HTOperationalMCSSet” appears in the draft (3897.27), but it is deprecated. If the changes suggested by the commenter are made, they would require (re-?) introduction of definitions for HT operational MCS set and VHT operationsl MCS set and reversion of HTOperationalMCSSet to non-deprecated status.

Beyond this, the cited text is a note. Even as to operational rates, there does not seem to be an explicit normative statement anywhere in the draft that corresponds to the note as it stands. It may well be permitted, or implied to be permitted, for a STA to omit mandatory MCSs from the set of MCSs it “is capable of receiving”, but before providing an informational note that that is the case, it would be good to be able to point to applicable normative text and to have the required extra definitions available. The comment’s proposed resolution provides none of this. Therefore, it seems that no further change should be made in response to this comment.

## Proposed resolution for 4229

REVISED.

Change “NOTE 1—A STA is not required to include all mandatory rates in its operational rate set, and a STA starting a BSS is not required to include all mandatory rates in the basic rate set.” to “NOTE 1—A STA that is not a Class 2 ERP STA and is not a Class 2 HT STA is not required to include all mandatory rates in its operational rate set, and a STA starting a BSS is not required to include all mandatory rates in the basic rate set.”

(I.e., add “that is not a Class 2 ERP STA and is not a Class 2 HT STA” after the first “A STA” in the note.)

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