IEEE P802.11  
Wireless LANs

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| S1G PHY Resolution | | | | |
| Date: 2021-09-13 | | | | |
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Abstract

This submission shows

* Resolutions for comments from TGm draft 0.0
* 1 CID: 447

Revisions:

* Rev 0: Initial version of the document.

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| --- | --- | --- | --- | --- |
| **CID** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 447 |  | I am super-confused about the multiple dimensions  here, and which combinations are possible:  1) Type: sounding NDP v. NDP CMAC PPDU v. normal PPDU  2) Format: S1G v S1G\_DUP\_1M v S1G\_DUP\_2M  3) Preamble: S1G\_1M v S1G\_SHORT v S1G\_LONG  4) CH\_BANDWIDTH: CBW1 to CBW16 in powers of 2  So for example here Table 23-1 suggests the presence of a partial AID  is dependent on format and bandwidth, but not directly on type or preamble.  But it seems there's no partial AID  in the S1G\_1M preamble either, per Figure 23-16--Structure of the 6 symbol SIG field of S1G\_1M PPDU.  So is Table 23-1 in error (incomplete)? | As it says in the comment | Revised.  The partial AID is included in S1G\_SHORT preamble and S1G\_LONG preamble for single transmission.   * S1G\_SHORT preamble is carried in S1G PPDU of 2/4/8/16 MHz bandwidth and S1G 2 MHz Duplicate PPDU of 4/8/16 MHz bandwidth. * S1G\_LONG preamble for single user is carried for S1G PPDU of 2/4/8/16 MHz bandwidth.   S1G\_1M preamble does not carry the Partial AID and so it falls on the Otherwise condition. No error in the parameter PARTIAL\_AID. The commentor seemed to consider that S1G indicates S1G\_1M preamble. S1G turns out to be one of PPDU formats.  However, the Table 23-1 does not fully describe the PREAMBLE\_TYPE by missing S1G\_1M preamble, the corresponding part should be updated.  TGm Editor: Incorporate the changes according to 11-21-0734-00-00m-S1G PHY Resolution |

***Discussion***

For the parameter FORMAT and the parameter CH\_BANDWIDTH,

* S1G indicates S1G PPDU over 1/2/4/8/16 MHz bandwidth.
  + Duplication is not applicable to this format.
* S1G\_DUP\_1M indicates S1G 1 MHz Duplicate PPDU over 2/4/8/16 MHz bandwidth.
* S1G\_DUP\_2M indicates S1G 2 MHz Duplicate PPDU over 4/8/16 MHz bandwidth.

For the parameter PREAMBLE\_TYPE,

* S1G\_1M\_PREAMBLE (not defined in TXVECTOR) is used for
  + S1G PPDU of 1 MHz bandwidth and
  + S1G 1 MHz Duplicate PPDU of 2/4/8/16 MHz bandwidth.
* S1G\_SHORT\_PREAMBLE is used for
  + S1G PPDU of 2/4/8/16 MHz bandwidth for single user
  + S1G 2 MHz Duplicate PPDU of 4/8/16 MHz bandwidth.
* S1G\_LONG\_PREAMBLE is used for
  + S1G PPDU of 2/4/8/16 MHz bandwidth for either single user or multi-user.

For NDP with no data as below, NDP Indication is to differentiate the PPDU from an NDP CMAC PPDU. (e.g. Set to 0 to indicate that the PPDU is not an NDP CMAC PPDU)

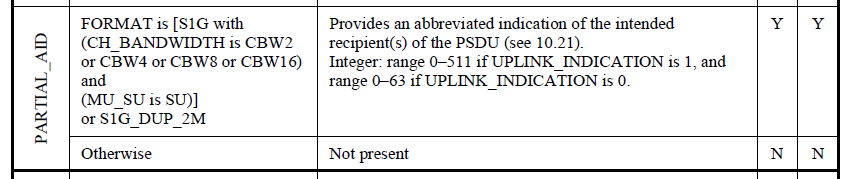
* NDP CMAC PPDU
  + NDP\_INDICATION = 1
  + S1G\_SHORT preamble and S1G\_1M preamble
  + ….
* PPDU except for NDP CMAC PPDU
  + NDP\_INDICATION = 0
  + ….

Turning to the parameter PARTIAL\_AID, the partial AID is carried in S1G\_SHORT preamble and S1G\_LONG preamble for single transmission. The description of the PARTIAL\_AID reflects the highlighted as below.

* S1G\_SHORT preamble is used for S1G PPDU of 2/4/8/16 MHz bandwidth and S1G 2 MHz Duplicate PPDU of 4/8/16 MHz bandwidth.
* S1G\_LONG preamble for single user is used for S1G PPDU of 2/4/8/16 MHz bandwidth.

🡺 FORMAT is [S1G with (CH\_BANDWIDTH is CBW2 or CBW4 or CBW8 or CBW16) and (MU\_SU is SU)] to cover yellow highlighted.

🡺 or S1G\_DUP\_2M to cover green highlighted.



Moreover, the commentor is correct that S1G\_1M preamble does not carry the Partial AID and so it falls on the Otherwise condition. No error in the parameter PARTIAL\_AID. S1G in the Table indicates S1G PPDU (not indicating S1G\_1M preamble).

However, the Table 23-1 does not fully describe the PREAMBLE\_TYPE by missing S1G\_1M preamble, the corresponding part should be updated.

***To TGme Editor: P3300L19 update the description as below.***

***------------- Begin Text Changes ---------------***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * TXVECTOR and RXVECTOR parameters (11ah) | | | | |
| Parameter | Condition | Value | **TXVECTOR** | **RXVECTOR** |
|  |  |  |  |  |
| PREAMBLE\_TYPE | FORMAT is S1G and  (CH\_BANDWIDTH is CBW2 or CBW4 or CBW8 or CBW16) | Determine the type of preamble of the S1G PPDU.  Enumerated type:  S1G\_SHORT\_PREAMBLE indicates the short preamble defined in 23.3.8.2.2 (S1G\_SHORT preamble).  S1G\_LONG\_PREAMBLE indicates the long preamble defined in 23.3.8.2.3 (S1G\_LONG preamble). | Y | Y |
| (FORMAT is S1G and CH\_BANDWIDTH is CBW1) or  FORMAT is S1G\_DUP\_1M | Set to S1G\_1M\_PREAMBLE defined in 23.3.8.3 (Format for 1 MHz). | Y | Y |
| FORMAT is S1G\_DUP\_2M | Set to S1G\_SHORT\_PREAMBLE. | Y | Y |
| Otherwise | Not present | N | N |
|  |  |  |  |  |
| Partial\_AID | ~~FORMAT is [S1G with~~  ~~(CH\_BANDWIDTH is CBW2 or CBW4 or CBW8 or CBW16) and (MU\_SU is SU)]~~  ~~or S1G\_DUP\_2M~~  (FORMAT is S1G, CH\_BANDWIDTH is CBW2 or CBW4 or CBW8 or CBW16, and MU\_SU is SU)  or  FORMAT is S1G\_DUP\_2M | Provides an abbreviated indication of the intended recipient(s) of the PSDU (see 10.21).  Integer: range 0–511 if UPLINK\_INDICATION is 1, and  range 0–63 if UPLINK\_INDICATION is 0. | Y | Y |
| Otherwise | Not present | N | N |
|  |  |  |  |  |

***------------- End Text Changes ------------------***