### **IEEE P802.11 Wireless LANs**

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| Spec Text on Recommended CSD | | | | |
| Date: 2018-07-DD | | | | |
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**Abstract**

This document contains text on “Recommended CSD” to be adopted into Draft 0.4.

**Discussion**

A number of people have provided suggestions on the CSD design, however, the draft does not yet include any text on the CSD design. There is interest within the IEEE in providing examples of CSD design.

This document provides spec text for example CSD designs. This incude the necessary text for the Annex as well as some text in Clause 32 refering to that Annex.

**Straw Poll**

Do you support the Spec Text in this document IEEE 802.11-18/1196r0?

Yes

No

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***Instructions to 802.11ba Editor***

***Editor Instructions: In subclause 32.2.8.3.2 add the text shown in Red.***

**32.2.8.3.2 Cyclic Shift for WUR-Sync field**

Recommended cycle shift diversity (CSD) for the Sync Field, which is constructed from 2 µs MC-OOK symbols, are provided in Annex TBD.

***Editor Instructions: In subclause 32.2.9 add the text shown in Red.***

**32.2.9.1 Cycle Shift for WUR-Data field**

Recommended cycle shift diversity (CSD) for the HDR Data Field, which is constructed from 2 µs MC-OOK symbols, are provided in Annex TBD. Recommended cycle shift diversity (CSD) for the LDR Data Field, which is constructed from 4 µs MC-OOK symbols, are provided in Annex TBD.

***Editor Instructions: For the current text in Draft 0.3 subclaus 32.2.9 convert that text to subclause 32.2.9.2.***

***Editor Instructions: In Annex TBD add the text shown in Red.***

For the Sync field and the HDR Data field, which are both constructed from 2 µs MC-OOK symbols, Table TBD3 provides recommended CSD values for up to eight transmit antennas.

|  |  |
| --- | --- |
| **Number of Transmit Antennas** | **CSD Values (ns)** |
| 1 | [0] |
| 2 | [0, -1000] |
| 3 | [0, -1000, -500] |
| 4 | [0, -1000, -500, -1500] |
| 5 | [0, -1000, -500, -1500, -750] |
| 6 | [0, -1000, -500, -1500, -750, -1250] |
| 7 | [0, -1000, -500, -1500, -750, -1250, -250] |
| 8 | [0, -1000, -500, -1500, -750, -1250, -250, -1750] |

*Table TBD3: Recommended CSD values for the Sync field and HDR Data Fields*

For the LDR Data field, which is constructed from 4 µs MC-OOK symbols, Table TBD4 provides recommended CSD values for up to eight transmit antennas.

|  |  |
| --- | --- |
| **Number of Transmit Antennas** | **CSD Values (ns)** |
| 1 | [0] |
| 2 | [0, -2000] |
| 3 | [0, -2000, -1000] |
| 4 | [0, -2000, -1000, -3000] |
| 5 | [0, -2000, -1000, -3000, -1500] |
| 6 | [0, -2000, -1000, -3000, -1500, -2500] |
| 7 | [0, -2000, -1000, -3000, -1500, -2500, -500] |
| 8 | [0, -2000, -1000, -3000, -1500, -2500, -500, -3500] |

*Table TBD4: Recommended CSD values for the LDR Data Field*