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| Title | [Modification of training sequence of subchannelization] | |
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| Re: | | |
| Abstract | This document contains analysis and proposal for preamble of the OFDM sub-channelization system. | |
| Purpose | This proposal provide and proposal for preamble of the OFDM sub-channelization system. | |
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5. Change to clause 5.6 in [1]

Replace the paragraph:

If in the UL, if the allocation spans less than the whole OFDM symbol (i.e. when subchannelization is used), the preamble carriers that do not fall within the subchannels allocated shall not be transmitted.

With:

If in the UL, if the allocation spans only one sub-channel, the following preamble vector is used in conjunction with subchannelization transmissions, and the preamble carriers that do not fall within the subchannels allocated shall not be transmitted.

$$P_{1\text{subch}}(-100:100)=\{$$

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------------|
| -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | | [-100:-89] subch1 |
| -1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | [-88:-76] subch2 |
| 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | | [-75:-64] subch3 |
| 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | [-63:-51] subch4 |
| 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | | [-50:-39] subch1 |
| -1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | -1 | [-38:-26] subch2 |
| 0 | -1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | 1 | | [-25:-14] subch3 |
| 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | [-13:-1] subch4 |
| 0 | | | | | | | | | | | | | |
| 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | [1:13] subch1 |
| 1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | [14:25] subch2 |
| -1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | [26:38] subch3 |
| 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | | [39:50] subch4 |
| 0 | -1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | [51:63] subch1 |
| 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | | [64:75] subch2 |
| -1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | [76:88] subch3 |
| 0 | -1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | | [89:100] subch4 |

$$\}*\sqrt{2}*\sqrt{2})$$

If the allocation spans only two sub-channels, the following preamble vector is used in conjunction with subchannelization transmissions, and the preamble carriers that do not fall within the subchannels allocated shall not be transmitted.

$$P_{2\text{subch}}(-100:100)=\{$$

| | | | | | | | | | | | | | |
|----|----|----|---|----|----|----|----|----|----|----|----|----|--------------------------|
| -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | | [-100:-89] subch1+subch3 |
| -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | [-88:-76] subch2+subch4 |
| 0 | -1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | | [-75:-64] subch1+subch3 |
| 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | [-63:-51] subch2+subch4 |
| 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | | [-50:-39] subch1+subch3 |
| -1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | [-38:-26] subch2+subch4 |
| 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | | [-25:-14] subch1+subch3 |
| 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | [-13:-1] subch2+subch4 |
| 0 | | | | | | | | | | | | | |
| 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | [1:13] subch1+subch3 |
| 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | | [14:25] subch2+subch4 |
| -1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 0 | -1 | [26:38] subch1+subch3 |
| 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | 1 | | [39:50] subch2+subch4 |
| 0 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | [51:63] subch1+subch3 |
| -1 | 0 | -1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | | [64:75] subch2+subch4 |
| -1 | 0 | -1 | 0 | -1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | [76:88] subch1+subch3 |
| 0 | 1 | 0 | 1 | 0 | 1 | 0 | -1 | 0 | -1 | 0 | -1 | | [89:100] subch2+subch4 |

$$\}*\sqrt{2}*\sqrt{2})$$

6. Conclusion

The proposal sequences have lower and lower PAPR and have no any effect of interpolation

| | |
|-------------|-----------------|
| Sub-channel | PAPR (proposal) |
|-------------|-----------------|

1+3
2+4

3.0551dB
3.0582dB