IEEE P802.22
Wireless RANs

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| Proposed Resolution to CID 31 |
| Date: 2014-07-17 |
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Abstract

This document presents a proposed resolution to Comment ID 31 on the multidimentional trellis coded modulation (MD-TCM) in LB commetns for IEEE Draft Std. 802.22b D2.0. The content of this document is potentially included into the updated version of the IEEE 802.22b draft standard.

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# Introduction

 This contribution contains the proposed resolution on the multidimentional trellis coded modulation (MD-TCM) text as a response to the following comment to the IEEE Draft Std. 802.22b D2.0.

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| --- | --- | --- | --- | --- |
| ID | Commenter Name | Type | Comment. | Suggested Remedy |
| 31 | Shigenobu Sasaki | T | K\_MOD for 4D-TCM 48QAM and 4D-TCM 192QAM should be specified. | Put appropriate numbers of K\_\_MOD. |

# Proposed changes

*[Start of proposed changes.]*

***Change Table 226 as indicated.***

Table 226 — Number of coded bit per carrier and normalization factor
for different modulation constellations

|  |  |  |
| --- | --- | --- |
| **Modulation Type** | **NCBPC** | **KMOD** |
| QPSK | 2 |  |
| 16-QAM | 4 |  |
| 64-QAM | 6 |  |
| 256-QAM | 8 |  |
| 4D-TCM 48QAM | 5.5 |  |
| 4D-TCM 48QAM | 7.5 |  |

*[End of proposed changes.]*

**References:**

1. Shigenobu Sasaki, et al., PHY/MAC Proposal for the IEEE 802.22b, IEEE 802.22-12-0091/r1, Nov. 2012
2. L. F. Wei, “Trellis-coded modulation with multidimensional constellations,” IEEE Trans. Info. Theory, vol. 33, No. 4, pp. 483-531, 1987
3. Shigenobu Sasaki and Bingxuan Zhao, “Multidimentional TCM for the IEEE 802.22b,” Doc. IEEE 802.22-13-0153/r0, Sep. 2013
4. IEEE Std. 802.22-2011, July 2011.