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Agenda Item: AH21
Source: CWTS
To: TSG RAN WG1
Title: Channel coding
Document for: Discussion and Approval

Introduction

This document describes the channel coding rate in low chip rate TDD option.

Conclusion

It's proposed to discuss and include the following text proposal into the clause 8.1.3 Channel coding of TR25.928.

----- changes to TR25.928 begin -----

8.1.3 Channel coding

[Description:]

Usage of coding scheme and coding rate for the different types of TrCH is shown in table 1. In low chip rate TDD option, the coding scheme and coding rate of most type of TrCH are common with the high chip rate TDD.. Only BCH/PCH is a little different , it is mapped onto two code channels of the DL time slot. Rate 1/3 Convolutional coding is used for BCH and PCH.

[Rational:]

Usage of coding scheme and coding rate for the different types of TrCH is shown in table 1. In low chip rate TDD option, BCH/PCH is mapped onto two physical channels of the DL time slot. If the usage of coding scheme and coding rate is 1/2 Convolutional coding, repeating as rate matching would be needed. So, it is used 1/3 Conv. coding as the coding scheme, [this will lead to a better payload.](#)

Table 1: Usage of channel coding scheme and coding rate

Type of TrCH	Coding scheme	Coding rate
BCH, PCH	Convolutional coding	1/3
RACH	Convolutional coding	1/2
DCH, DSCH, FACH, USCH		
	Turbo coding	1/3
	No coding	

The coding scheme and coding rate of other TrCH are common with high chip rate TDD and the following subclause can be mentioned as “common with high rate TDD”:

8.1.3.1 Convolutional Coding

8.1.3.2 Turbo coding

8.1.3.2.1 Turbo coder

8.1.3.2.2 Trellis termination in turbo code

8.1.3.2.3 Turbo code internal interleaver

[Explanation difference:]

In high chip rate option, the coding scheme and coding rate of BCH/PCH is 1/2 Conv. coding. While in the low chip rate option, it is used 1/3 Conv. coding as the coding scheme and coding rate of BCH and PCH in low chip rate TDD option.

----- changes to TR25.928 end -----