

Source: WG1
Title: Liaison statement on Error Correction Coding for FACH
To: RAN WG2
Cc: RAN WG3, RAN WG4

RAN WG1 has discussed the Error Correction Coding scheme for FACH. WG1 came to the conclusion that a flexible coding scheme should be adopted for the FACH which has resulted in the options of turbo coding and of no coding now being available for the FACH. Please note that access attempt on FACH shall always be encoded with convolutional coding. Low end terminals are not required to support turbo encoding.

The reasons for this conclusion are:

1. Turbo coding has under several conditions a better performance than Convolutional coding.
2. UE complexity could be reduced. For higher rate FACH the UE does not need to have a high-speed Convolutional decoder (2Mbps, 384kbps etc).
3. UTRAN flexibility is increased. The network can select the most appropriate coding scheme for different services that might be supported by FACH.

WG1 is also considering the introduction of this option for TDD.

WG1 has revised TS 25.212 section 4.2.1 Channel coding in the following way:

Table 1: Error Correction Coding Parameters

Transport channel type	Coding scheme	Coding rate
BCH	Convolutional code	1/2
PCH		
FACH		
RACH		1/3, 1/2 or no coding
CPCH		
DCH	Turbo Code	1/3 or no coding
CPCH		
DCH		

<u>Transport channel type</u>	<u>Coding scheme</u>	<u>Coding rate</u>
<u>BCH</u>	<u>Convolutional code</u>	<u>1/2</u>
<u>PCH</u>		
<u>FACH</u>		
<u>RACH</u>		
<u>CPCH, DCH, DSCH, FACH</u>		<u>1/3, 1/2</u>
	<u>Turbo Code</u>	<u>1/3</u>
	<u>No coding</u>	