3GPP TSG-RAN Working Group 1 Meeting No.9
November 30 – December 3, Dresden, Germany

Agenda Item: TDD Ad Hoc
Source: Siemens AG
Title: **TFCI for S-CCPCH in TDD Mode**
Document for: Decision

Introduction

Up to now for TDD mode the usage of TFCI in S-CCPCH was disabled in WG1 specification. Currently, there are some reasons for introduction of TFCI also for S-CCPCH:

- Liaison Statement from TSG RAN WG2 revealed, that WG2 expects numerous different Transport Formats on FACH and PCH (Section 3 of TDoc 3GPP TSG RAN WG1(99)F64, presented at WG1#8).
- TFCI for S-CCPCH is available in FDD-mode and thus making it available in TDD mode supports the common higher layer concept.
- At ongoing TSG RAN WG2 meeting in Sophia Antipolis, an analogue document is presented to support TFCI in S-CCPCH in Layer 2.

Proposal

We propose to introduce TFCI for S-CCPCH according to the Text proposals below. If inclusion is supported by Ad Hoc 1 group, appropriate CRs will be provided by the proponents.

5.3.2   Secondary common control physical channel (S-CCPCH)

PCH and FACH as described in section 4.1.2 are mapped onto one or more secondary common control physical channels (S-CCPCH). In this way the capacity of PCH and FACH can be adapted to the different requirements.

5.3.2.1 Spreading codes

The S-CCPCH uses fixed spreading with a spreading factor SF = 16 as described in section 5.2.1.1.

5.3.2.2 Burst Types

The burst types 1 or 2 as described in section 5.2.2 are used for the S-CCPCHs. ~~No TFCI is~~ TFCI may be applied for S-CCPCHs.

4.2.12 Multiplexing of different transport channels onto one CCTrCH, and mapping of one CCTrCH onto physical channels

Different transport channels can be encoded and multiplexed together into one Coded Composite Transport Channel (CCTrCH). The following rules shall apply to the different transport channels which are part of the same CCTrCH:

1) Transport channels multiplexed into one CCTrCh should have co-ordinated timings in the sense that transport blocks arriving from higher layers on different transport channels of potentially different transmission time intervals shall have aligned transmission time instants as shown in figure 4-6.
2) Different CCTrCHs cannot be mapped onto the same physical channel.
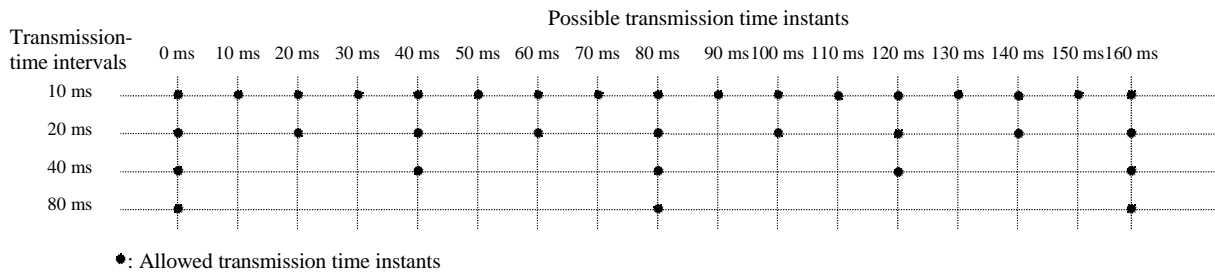3) One CCTrCH shall be mapped onto one or several physical channels.

Figure 4-6: Possible transmission time instants regarding CCTrCH

4) Dedicated Transport channels and common transport channels cannot be multiplexed into the same CCTrCH.
5) For the common transport channels, only the FACH and PCH may belong to the same CCTrCH.
6) Each CCTrCH carrying a BCH shall carry only one BCH and shall not carry any other Transport Channel.
7) Each CCTrCH carrying a RACH shall carry only one RACH and shall not carry any other Transport Channel.

Hence, there are two types of CCTrCH

CCTrCH of dedicated type, corresponding to the result of coding and multiplexing of one or several DCH.

CCTrCH of common type, corresponding to the result of the coding and multiplexing of a common channel, i.e. RACH and USCH in the uplink and DSCH, BCH, FACH or PCH in the downlink, respectively.

Transmission of TFCI is possible for CCTrCH containing Transport Channels of:

- Dedicated type
- USCH type
- DSCH type
- FACH and/or PCH type.

~~There may be one TFCI for each CCTrCH of dedicated type as well as for USCH- and DSCH-CCTrCHs.~~

4.2.12.1   Allowed CCTrCH combinations for one UE

4.2.12.1.1   Allowed CCTrCH combinations on the uplink

The following CCTrCH combinations for one UE are allowed, also simultaneously:

1) several CCTrCH of dedicated type
2) several CCTrCH of common type

4.2.12.1.2   Allowed CCTrCH combinations on the downlink

The following CCTrCH combinations for one UE are allowed, also simultaneously:

3) several CCTrCH of dedicated type
4) several CCTrCH of common type