

TSG-RAN Working Group 1 meeting #19
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Agenda item: R99
Source: InterDigital Comm. Corp.
Title: Known TFCI for the TDD Special Burst
Document for: Decision

1 Introduction

In TDD Special Bursts are required for periodic DTX transmissions and establishment of dedicated physical channels. The Special Burst is recognized by a “known” TFCI. This TFCI is currently specified as the TFCI that corresponds to “no transport blocks” as defined in 25.331. In order to define this TFCI in the UE and Node-B it is necessary to signal TF’s for all TrCH’s within the particular CCTrCH that indicate no TB’s, and the corresponding TFC in the TFCS. This additional signalling can be avoided with a hard coded TFCI as is used in FDD for similar purposes (UL DPDCH establishment).

2. Specific changes

This CR proposes to fill TFCI with all “0” in alignment with FDD.

- 1) Fill out the above form. The symbols above marked \approx contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.5 Discontinuous transmission (DTX) of Radio Frames

Discontinuous transmission (DTX) is applied in up- and downlink individually for each CCTrCH in case the total bit rate after transport channel multiplexing differs from the total channel bit rate of the dedicated physical channels allocated to a CCTrCH.

Rate matching is used in order to fill resource units completely, that are only partially filled with data. In the case that after rate matching and multiplexing no data at all is to be transmitted in a resource unit the complete resource unit is discarded from transmission. This applies also to the case where only one resource unit is allocated and no data has to be transmitted.

4.5.1 Use of Special Bursts fo DTX

In case there are no transport blocks provided for transmission by higher layers for any given CCTrCH after link establishment, then a Special Burst shall be transmitted in the first allocated frame of the transmission pause. If there is a consecutive period of $\lceil N_OUTSYNC_IND/2 - 1 \rceil$ frames without transport blocks provided by higher layers, then another special burst shall be generated and transmitted at the next possible frame. This pattern shall be continued until transport blocks are provided for the CCTrCH by the higher layers.

This special burst shall have the same slot format as the burst used for data provided by higher layers. The special burst is filled with an arbitrary bit pattern, contains a TFCI and TPC bits if inner loop PC is applied and is transmitted for each CCTrCH individually on the physical channel which is defined to carry the TFCI. The TFCI of the special burst if filled with "0" bits, ~~shall indicate that there were no transport blocks provided for transmission by higher layers as defined in [15]~~. The transmission power of the special burst shall be the same as that of the substituted physical channel of the CCTrCH carrying the TFCI.

4.5.2 Use of Special Bursts for Initial Establishment

Upon initial establishment and either 160 ms following detection of in-sync, or until the first transport block is received from higher layers, both the UE and the Node B shall transmit the special burst for each CCTrCH for each assigned resource which was scheduled to include a TFCI.