

**Agenda Item:** AdHoc 1  
**Source:** Siemens AG  
**Title:** Beacon Function in TDD sync case 3  
**Document for:** Discussion

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## 1 Introduction

Within the UTRA TDD system two beacons are defined for sync case 2 only. However, in order to ensure a reliable intersystem handover from GSM to UTRA TDD, a second beacon should be defined for sync case 3 also. This second beacon can be easily found within the monitoring window which is provided in GSM.

The beacon function is currently defined in CR001r1 for TS25.221, TDoc R1-99I84. We propose to modify the CR001r1 in such a way that it includes also the second beacon for sync case 3.

## 2 Textproposal for TS25.221 (to be included in 25.221-CR001r2)

### 5.3.1.4 Beacon function

The P-CCPCH shall provide a beacon function, i.e.

- it is transmitted with reference power,
- it is transmitted without beamforming,
- it uses midamble  $m^{(1)}$  exclusively in this time slot to simplify measurements,
- it uses burst type 1.

The P-CCPCH may be transmitted in a multiframe structure, i.e. it is transmitted not in every radio frame. In order to enable continuous measurements, all physical channels that are allocated to the same time slot and to the same channelisation code  $a_{Q=16}^{(k=1)}$  as the P-CCPCH, i.e. share the position in a multiframe pattern, shall also provide the beacon function as it is defined above.

In sync case 2 [and 3](#), cf. 5.3.4, the beacon function shall be provided in two time slots within one radio frame.

Therefore, all physical channels that are allocated [to the channelisation code  \$a\_{Q=16}^{\(k=1\)}\$  and](#) to the time slot #k+8 [\(in case 2\) or to the time slot #i+8 \(in case 3\), respectively](#), shall also provide the beacon function.

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### 5.3.4 The physical synchronisation channel (PSCH)

In TDD mode code group of a cell can be derived from the synchronisation channel. Additional information, received from higher layers on SCH transport channel, is also transmitted to the UE in PSCH in case 3 from below. In order not to limit the uplink/downlink asymmetry the PSCH is mapped on one or two downlink slots per frame only.

There are three cases of PSCH and P-CCPCH allocation as follows:

- Case 1) PSCH and P-CCPCH allocated in TS#k, k=0...14
- Case 2) PSCH allocated in two TS: TS#k and TS#k+8, k=0...6; P-CCPCH allocated in TS#k.
- Case 3) PSCH allocated in two TS, TS#k and TS#k+8, k=0...6, and the P-CCPCH allocated in TS#i, i=0...6+4, pointed by PSCH. Pointing is determined via the SCH from the higher layers.

These three cases are addressed by higher layers using the SCCH in TDD Mode. The position of PSCH (value of k) in frame can change on a long term basis in any case.