

Agenda Item: AH21
Source: CWTS
To: TSG RAN WG1
Title: Beacon function for 1.28Mcps TDD
Document for: Discussion and Approval

1 Summary

For the purpose of measurement, a beacon function is provided by particular physical channels. Certain physical characteristics are required for beacon function, such as transmitted with reference power and without beamforming. The location of physical channels with beacon function is determined by such requirements. And in 1.28Mcps TDD, all physical channels that are allocated to channelisation code $c_{Q?16}^{(k?1)}$ and $c_{Q?16}^{(k?2)}$ in TS#0 and DwPCH fulfil these requirements and shall provide the beacon function.

2 Proposal

It's proposed to discuss and include the following text proposal into the clause 6.5 Beacon function of physical channels of working CR 25.221 [characteristics of physical channels](#).

6.5 Beacon function characteristics of physical channels

For the purpose of measurements, physical channels at particular locations (time slot, code) shall have particular physical characteristics, called beacon characteristics. Physical channels with beacon characteristics are called beacon channels. The location of the beacon channels is called beacon location. The beacon channels shall provide the beacon function, i.e. a reference power level at the beacon location, regularly existing in each subframe. Thus, beacon channels must be present in each subframe.

6.5.1 Location of physical channels with beacon function

The beacon location is described as follows :

The beacon function shall be provided by the physical channels that are allocated to channelisation code $c_{Q?16}^{(k?1)}$ and $c_{Q?16}^{(k?2)}$ in TS#0.

Note that by this definition the P-CCPCH always has beacon characteristics.

6.5.2 Physical characteristics of the beacon function

The beacon channels shall have the following physical characteristics. They:

- are transmitted with reference power;
- are transmitted without beamforming;
- use midamble $m^{(1)}$ and $m^{(2)}$ exclusively in this time slot

The reference power corresponds to the sum of the power allocated to both midambles $m^{(1)}$ and $m^{(2)}$. Two possibilities exist:

- If no Block STTD antenna diversity is applied to P-CCPCH, all the reference power of any beacon channel is allocated to $m^{(1)}$.

- If Block STTD antenna diversity is applied to P-CCPCH, for any beacon channel midambles $m^{(1)}$ and $m^{(2)}$ are each allocated half of the reference power. Midamble $m^{(1)}$ is used for the first antenna and $m^{(2)}$ is used for the diversity antenna. Block STTD encoding is used for the data in P-CCPCH, see [9]; for all other beacon channels identical data sequences are transmitted on both antennas.