

**Agenda Item:** 7.5 ?  
**Source:** NTT DoCoMo  
**Title:** Proposed Introduction of BCCH-C and BCCH-V  
**Document for:** Decision

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## 1. INTRODUCTION

In the last WG2 meeting, introduction of two types of BCCH, BCCH-C and BCCH-V, was proposed by ARIB but was kept FFS, waiting for further clarification. This contribution describes the reasons to introduce the two types of BCCH. Based on the discussion, it proposes to apply BCCH-C and BCCH-V to the 3GPP specifications.

## 2. DISCUSSION

In general, the following two types of information are broadcast by BCCH.

- Information which is not changed except for system configuration change (e.g., Non-access stratum information including PLMN ID, LAI, etc., information on the structure of common transport channels, information on neighbour cells, etc.)
- Information which changes relatively frequently based on e.g., the traffic level in the cell and information that UE needs to access in short time (e.g., Up-link interference level, restriction information, and admission control information).

The first type of information basically needs to be accessed by UEs only upon the detection of each cell. UEs memorize the information and act based on the information while they are in the cell. Upon the change of such information, UEs are informed and access the BCCH to receive the updated information.

The second type of information needs to be accessed by UEs much more often. For example, the up-link interference level needs to be accessed relatively frequently when UEs are on common transport channels. UEs decide the initial transmission power based on the information when they access the network through RACH. The information is also used when UEs decide the target cell for handover. The cell to which the up-link transmission power can be smaller should have higher priority. Finally, the restriction information needs to be accessed so that any restriction imposed on the system is detected by the UEs as soon as possible.

Based on the understanding of the existence of the above two types of information, having the two types of BCCH, BCCH-C (Constant) and BCCH-V (Variable), each of which carries one of the above two types of information, has the following advantage.

- UEs do not need to decode all the information on BCCH when they need to access the above second type of information. Thus, processing in UEs can be reduced and the access to the system can be quicker.

BCCH-V should be broadcast more frequently than BCCH-C so that the access to the information by the UEs can be quicker.

## 3. PROPOSAL

Based on the above discussion, it is proposed to apply the two types of BCCH to the 3GPP specifications. Specifically, the following text in S2.01 should be modified.

- Section 7.3.1.1.1.1 "Control Channels," under BCCH (second and third sentences).

The BCCH ~~may be~~ is further divided into two types, BCCH-Constant (BCCH-C) and BCCH-Variable (BCCH-V). BCCH-C ~~would then~~ transmits relatively many layer 3 information elements, which do not change, except for change of system information. BCCH-V ~~would~~ transmits layer 3 information elements which change frequently and which a UE has to receive in short time (e.g. downlink power level, uplink interference level, etc.). ~~The split of BCCH is ffs.~~