
Agenda item:	AdHoc #24 HSDPA
Source:	Motorola
Title:	Physical Layer Structure for HSDPA – Text Proposal for Section 6.1
Document for:	Approval

Introduction: In this contribution, text proposal on Basic Physical Layer Structure for HSDPA is proposed.

6.1 Basic Physical Structure <frame length, update rates spreading codes, etc>

On the physical layer, HSDPA transmission should be carried out on a set of downlink physical channels (codes) shared by users at least in the time domain and possibly also in the code domain.

6.1.1 HSDPA physical-layer structure in the code domain

~~In the code domain, it has been proposed that HSDPA transmission would use a fixed spreading factor and multi-code transmission. In the code domain, it has been proposed that HSDPA transmission would use a fixed spreading factor (SF) and multi-code transmission as shown in Figure 1. The value of M and SF to be used for HSDPA in Figure 1 are TBD. The remaining codes (after it has been assigned for HSDPA) will be used for supporting common channels, dedicated channels associated with HSDPA and voice users. With this structure, the data rate is a function of number of multicodes as opposed to SF in case of Release-99 DSCH. The available codes for HSDPA may either be assigned to a single user or to multiple users over a HSDPA frame if code-multiplexing is used. The number of multicodes assigned for HSDPA should be based on operator requirements and complexity of the UE.~~

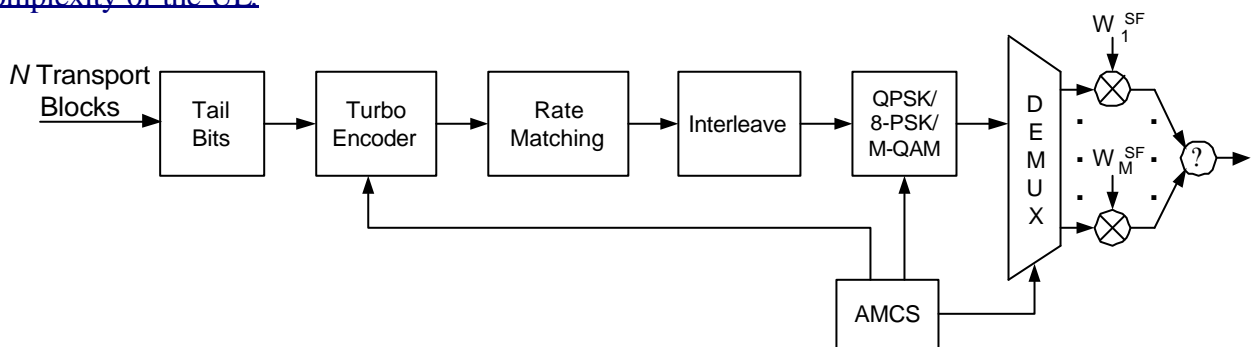


Figure 14. HSDPA - Physical Layer Structure

The selection of such a fixed HSDPA spreading factor should be based on an evaluation of the impact on

- Performance
- UE complexity
- Flexibility (granularity in the overall allocation of capacity for HSDPA transmission)

Considerations should also be made on to what possible extent there could be any additional flexibility advantages in supporting a variable spreading factor for HSDPA, and compare these with the impact on complexity etc.

Also, with respect to CRC insertion, consideration should be given to whether to have one CRC attachment per TTI or CRC attached to each transport block (similar to Release-99).