

Agenda Item: 17

Source: editor

Title: text proposal to remove pulse shaping from 25.213

Document for: adoption

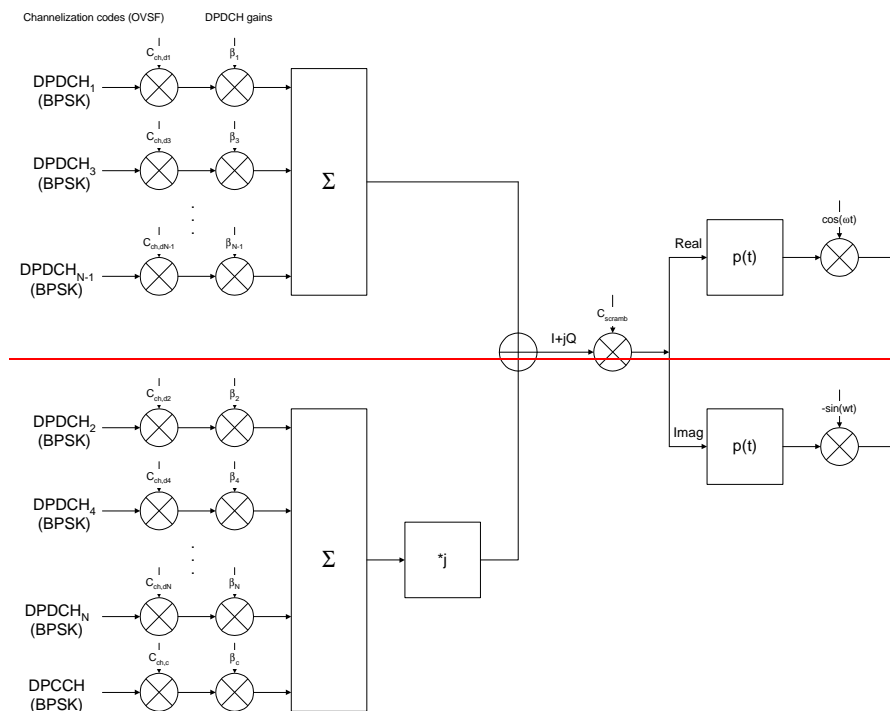
Justification:

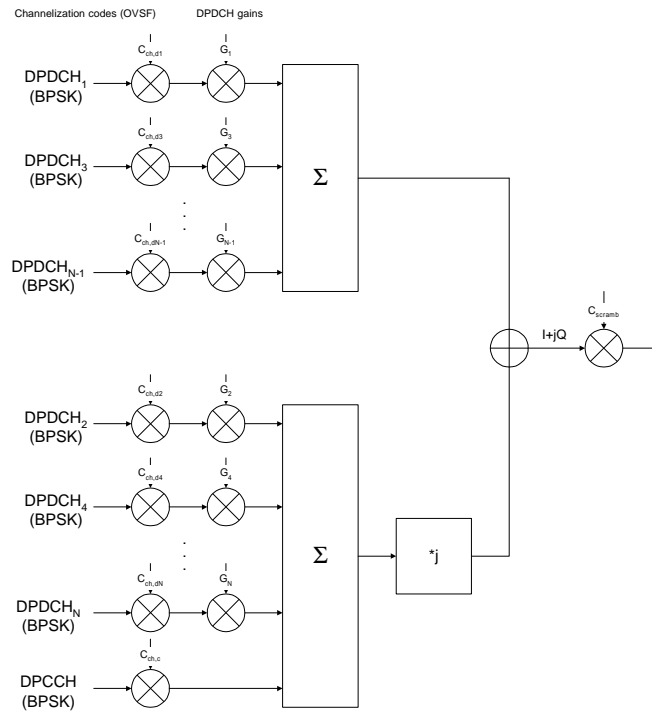
The function of pulse shaping is now the responsibility of WG4 according to the division of responsibility laid down by the RAN.  
Thus pulse shaping (and RF mixing) should be removed from 25.213 which is within WG1 responsibility.

-----start of text proposal -----

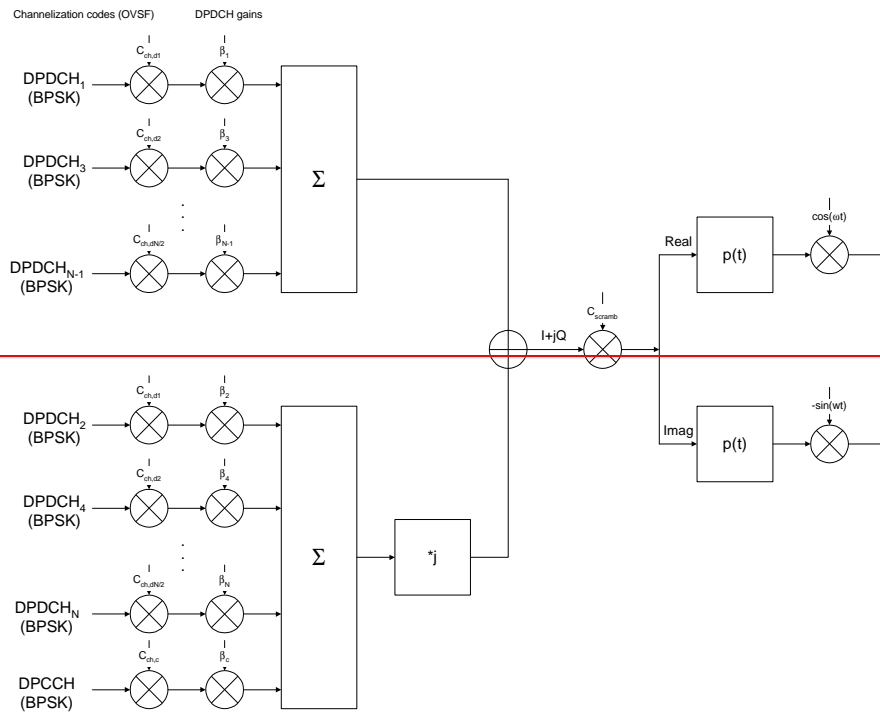
## 4.1 Overview

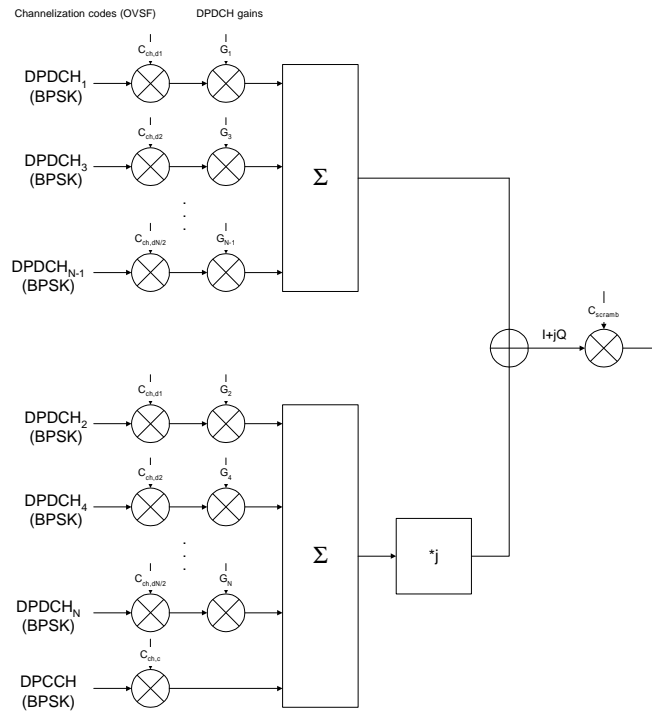
Spreading is applied after modulation ~~and before pulse shaping~~. It consists of two operations. The first is the channelization operation, which transforms every data symbol into a number of chips, thus increasing the bandwidth of the signal. The number of chips per data symbol is called the Spreading Factor (SF). The second operation is the scrambling operation, where a scrambling code is applied to the spread signal.





**Figure 1 Spreading/modulation for uplink DPDCH/DPCCH for user services less than or equal to 1024kbps in the 5MHz band**



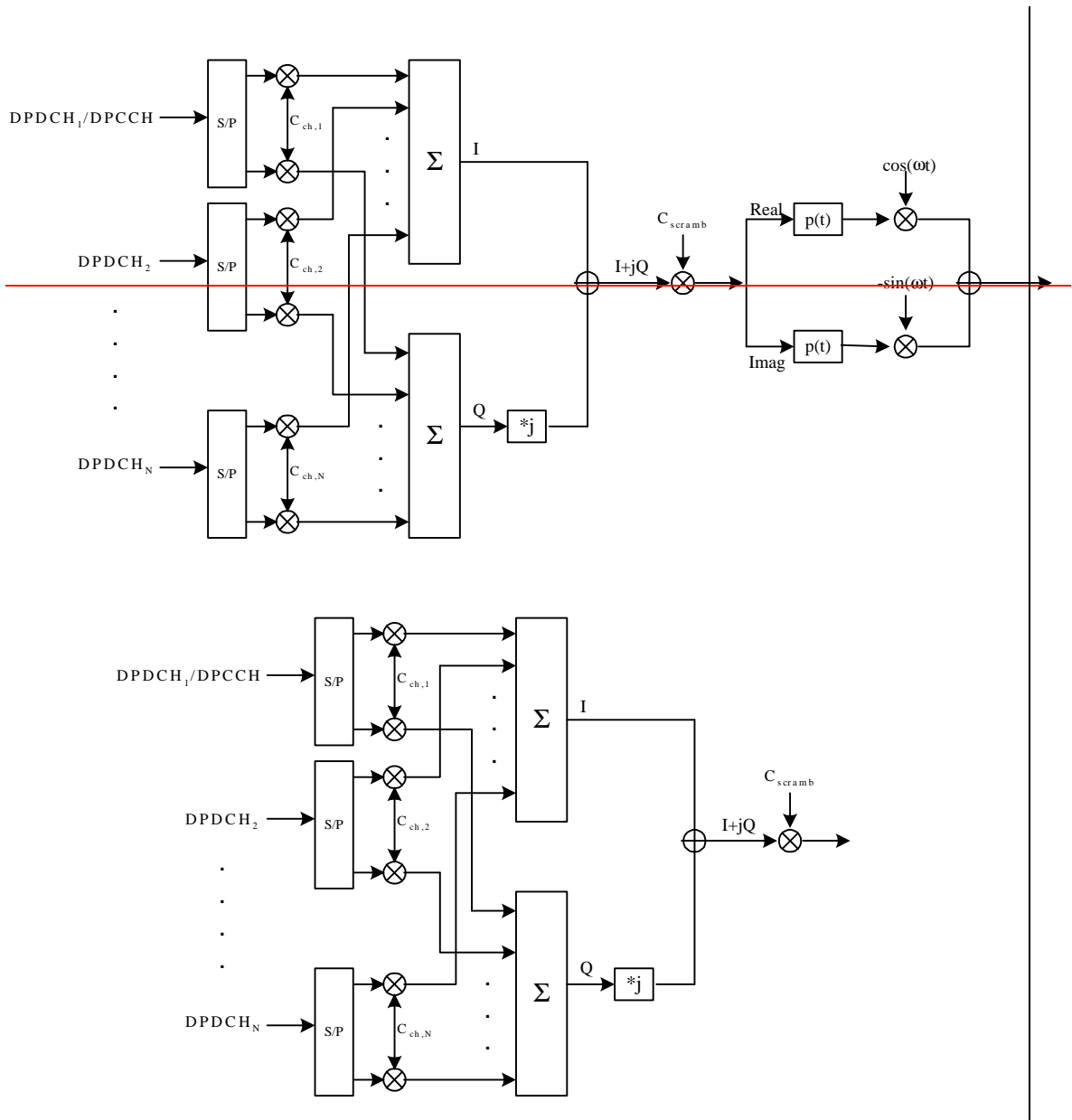


**Figure 2. Spreading/modulation for uplink DPDCCH/DPCCH for user services at 2048kbps in the 5MHz band**

#### 4.4.2 — Pulse shaping

The pulse shaping filters are root raised cosine (RRC) with roll off  $\alpha=0.22$  in the frequency domain.

#### 4.4.32 Modulation



**Figure 11. Spreading/modulation for downlink DPCH.**

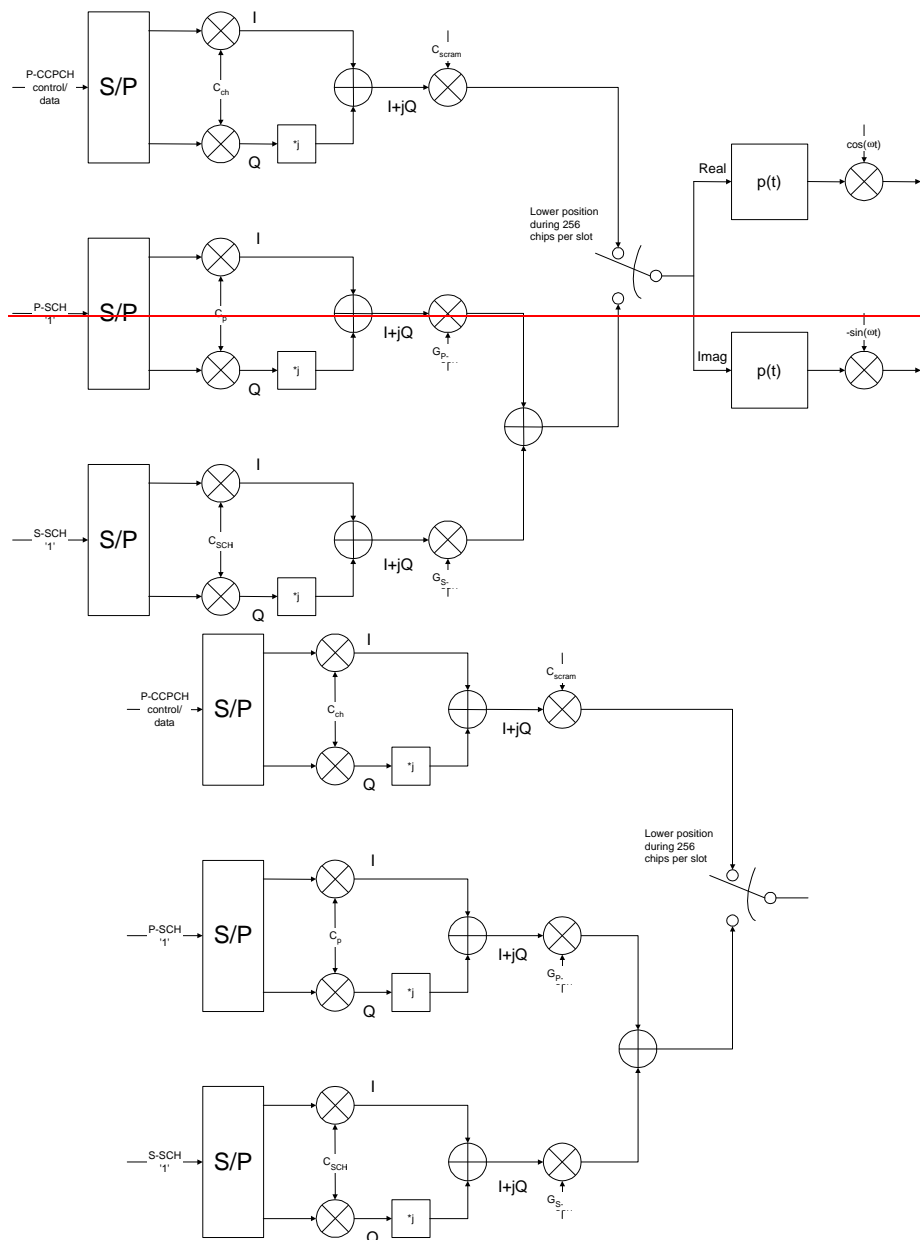


Figure 12. Spreading and modulation for SCH and P-CCPCH

### 5.3.2 Pulse shaping

The pulse shaping filters are root raised cosine (RRC) with roll off  $\alpha=0.22$  in the frequency domain.  
 <Editor's note: pulse shaping will be moved to appropriate WG4 documentation.>

### 5.3.32 Modulation

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