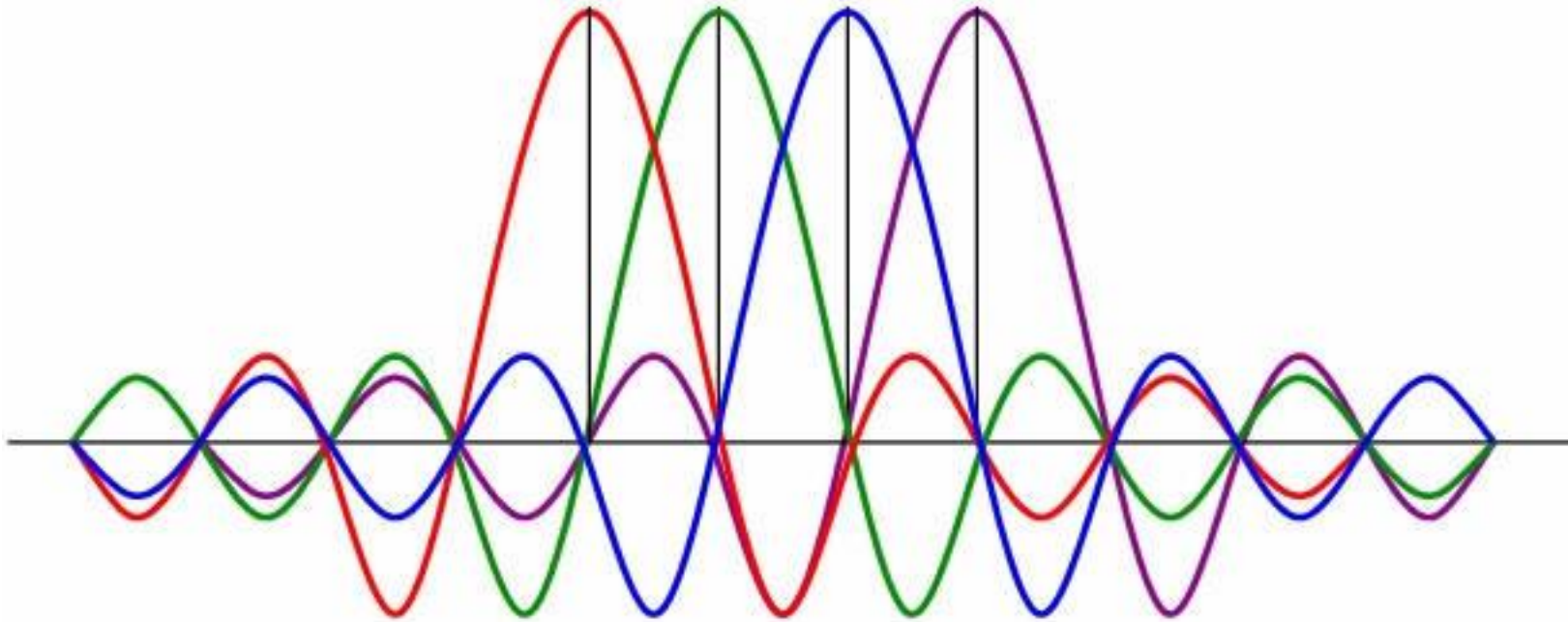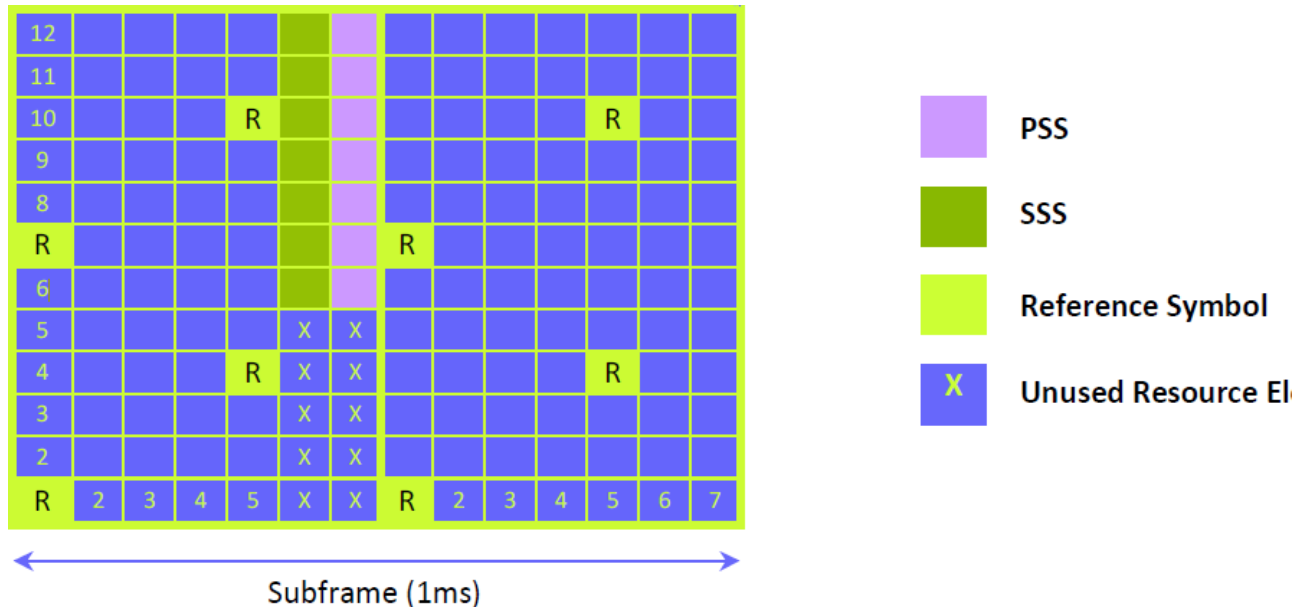# LTE csatornák

OFDM Subcarriers
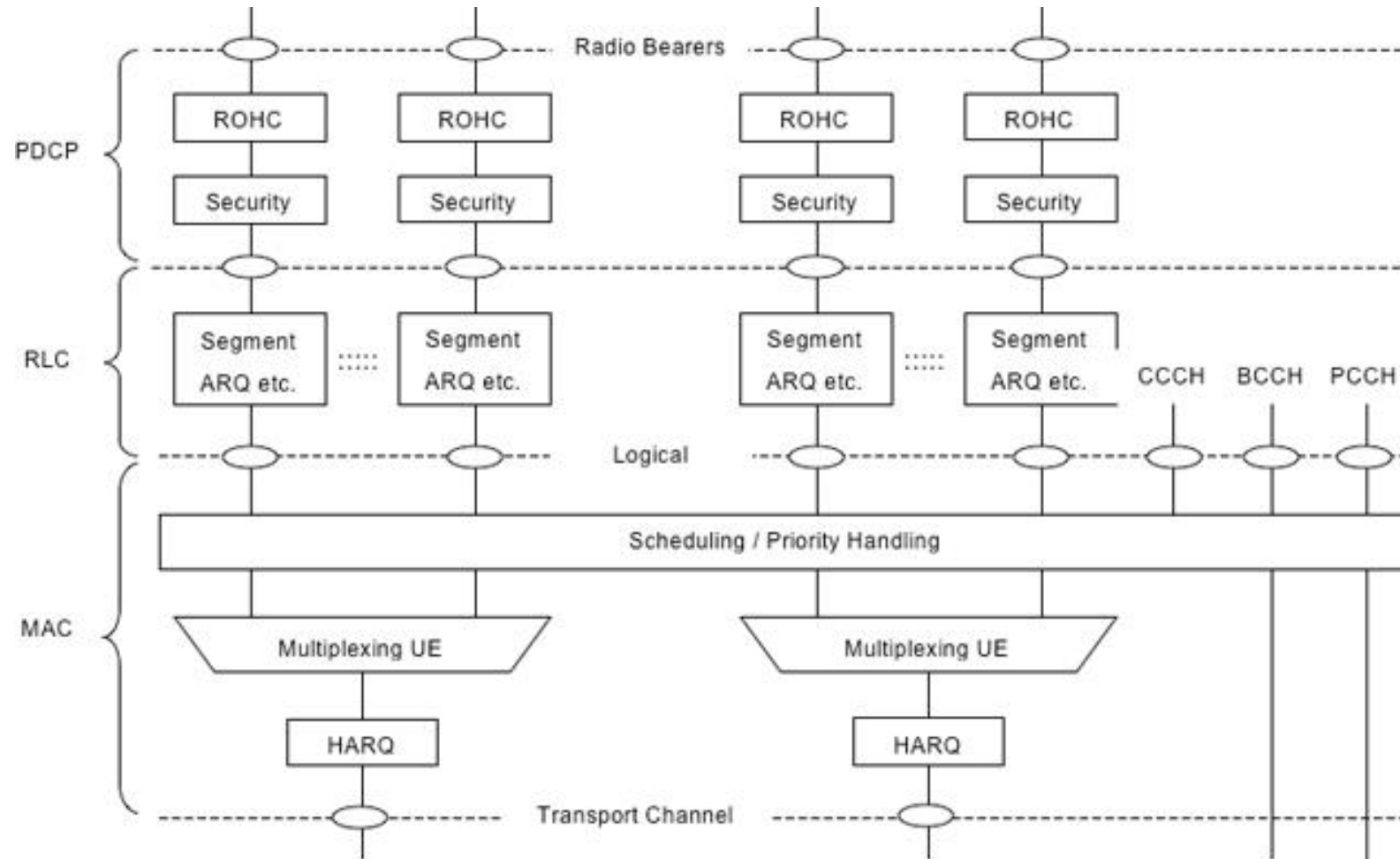
Synchronization

- Two cell search procedures in LTE
  - for initial synchronization
  - for detecting neighbor cells in preparation for handover
- Dedicated Signals
  - Primary Synchronization Sequence (PSS)
  - Secondary Synchronization Sequence (SSS)
- Synchronization signals are transmitted twice per 10 ms radio frame.

Subframe (1ms)

PSS
SSS
Reference Symbol
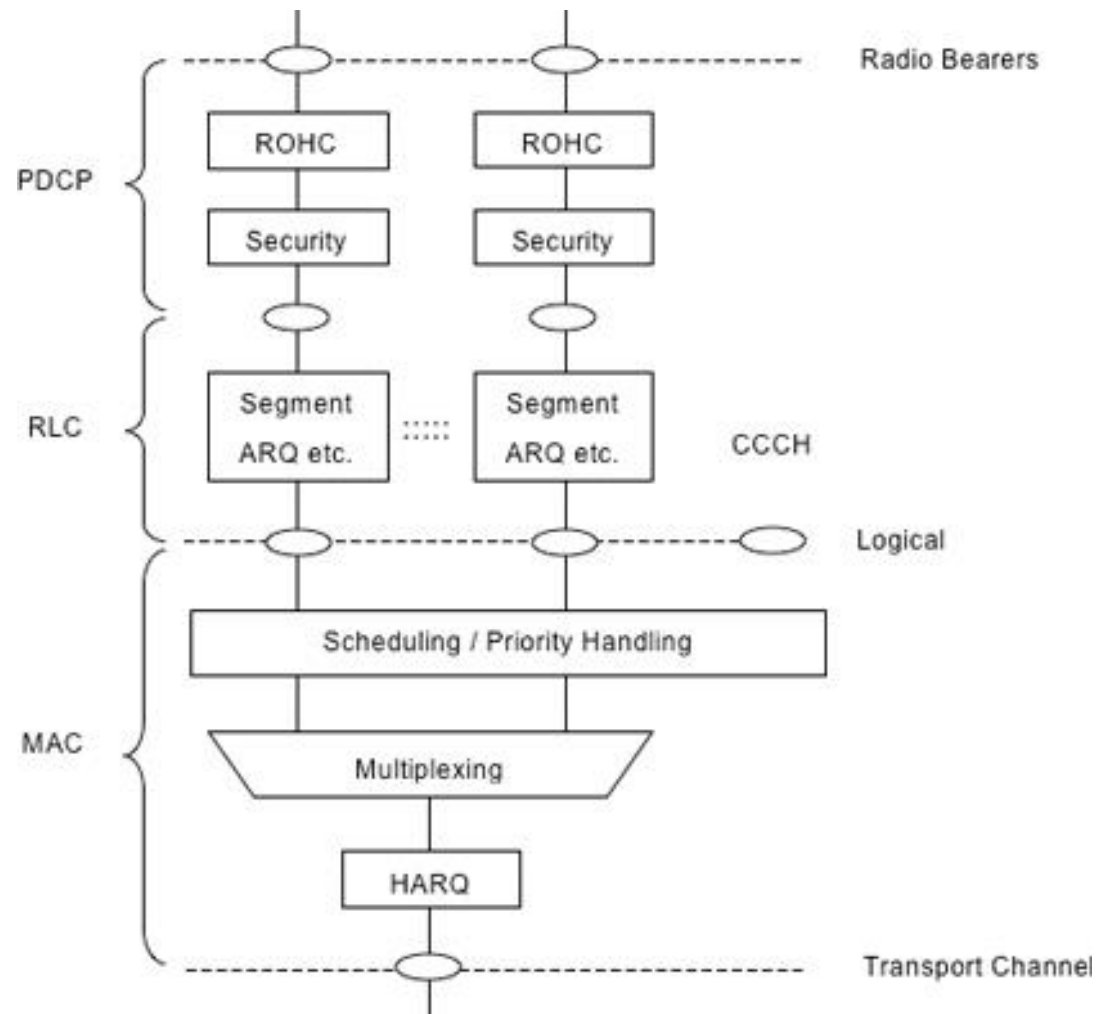X Unused Resource El

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LTE Channels

- **Logical Channels** : Define **whattype** of information is transmitted over the air, e.g. traffic channels, control channels, system broadcast, etc. Data and signalling messages are carried on logical channels between the RLC and MAC protocols.

- **Transport Channels** : Define **howis** something transmitted over the air, e.g. what are encoding, interleaving options used to transmit data. Data and signalling messages are carried on transport channels between the MAC and the physical layer.

- **Physical Channels** : Define **whereis** something transmitted over the air, e.g. first N symbols in the DL frame. Data and signalling messages are carried on physical channels between the different levels of the physical layer.

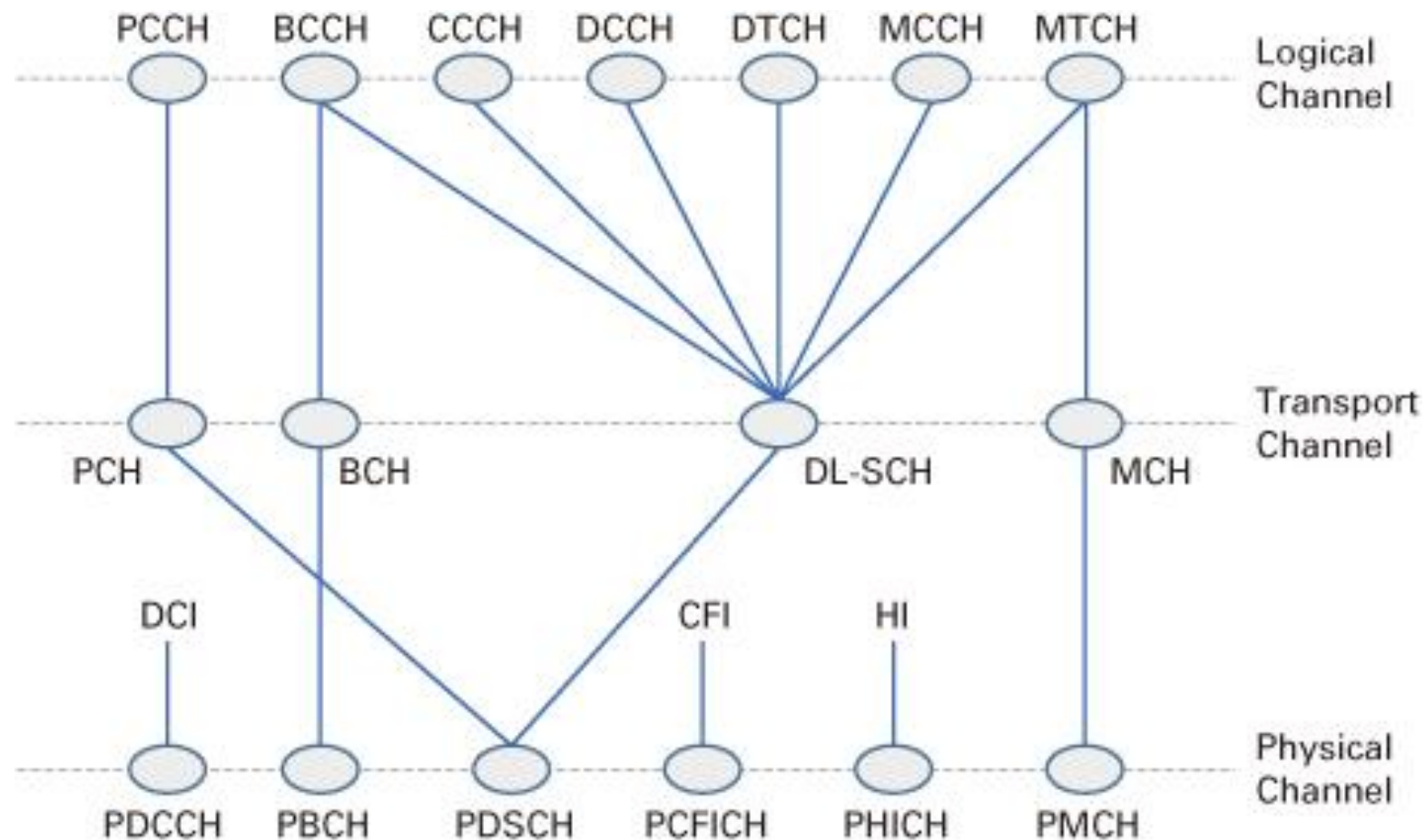# Layer2 - downlink

Layer2 - uplink

Logical channels

- Define the data-transfer services offered by the MAC layer

- Carries data and signalling messages B

- SAP - between the RLC and MAC protocols

- Divided into control channels and traffic channels

Transport channels

- Data and signalling messages are carried on transport channels between the MAC and the physical layer

- Transport Channels are distinguished by the ways in which the transport channel processor manipulates them

Channel mapping - downlink

Channel mapping - uplink