

For each subframe (1 ms), the MAC passes one (or two) transport blocks to the PHY. This transport block must be entirely transmitted by the PHY in this subframe.

Transport
block
payload
bits

The transport block size can vary a lot (16 to 97,896 bits) and is determined part by the channel quality (MCS index), see 3GPP TS 36.213 Table 7.1.7.2.1-1, and part by the scheduler (number of allocated physical resource blocks for a specific user).

LTE Downlink transmitter model

...this happens in the base station

0100010011...

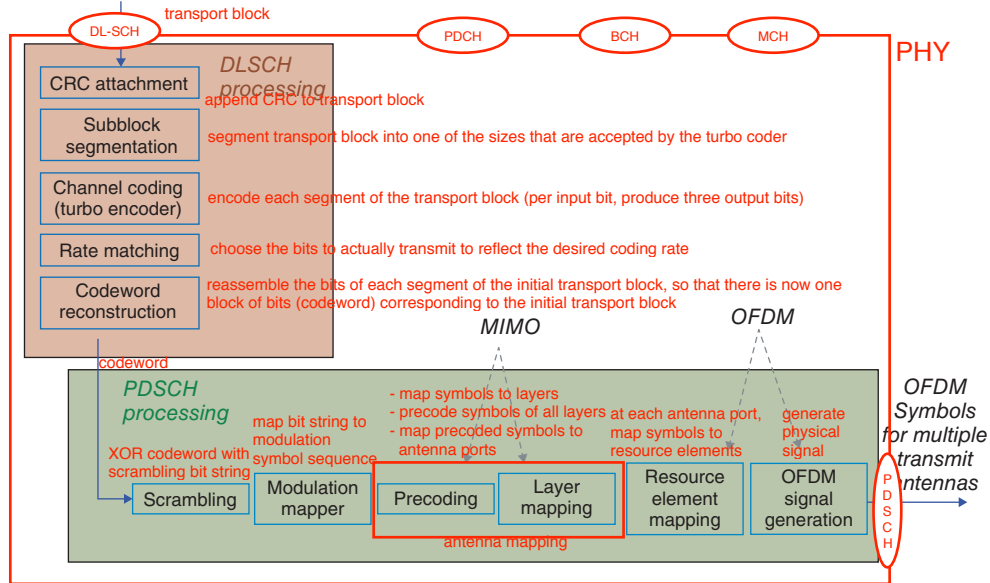


Figure 1.2 Physical layer specifications in LTE

DLSCH: downlink shared channel (transport channel)

PDSCH: physical downlink shared channel (physical channel)

layer = transmission on a SHARED time-frequency resource
e.g four layers means four independent transmissions on the same time-frequency resource