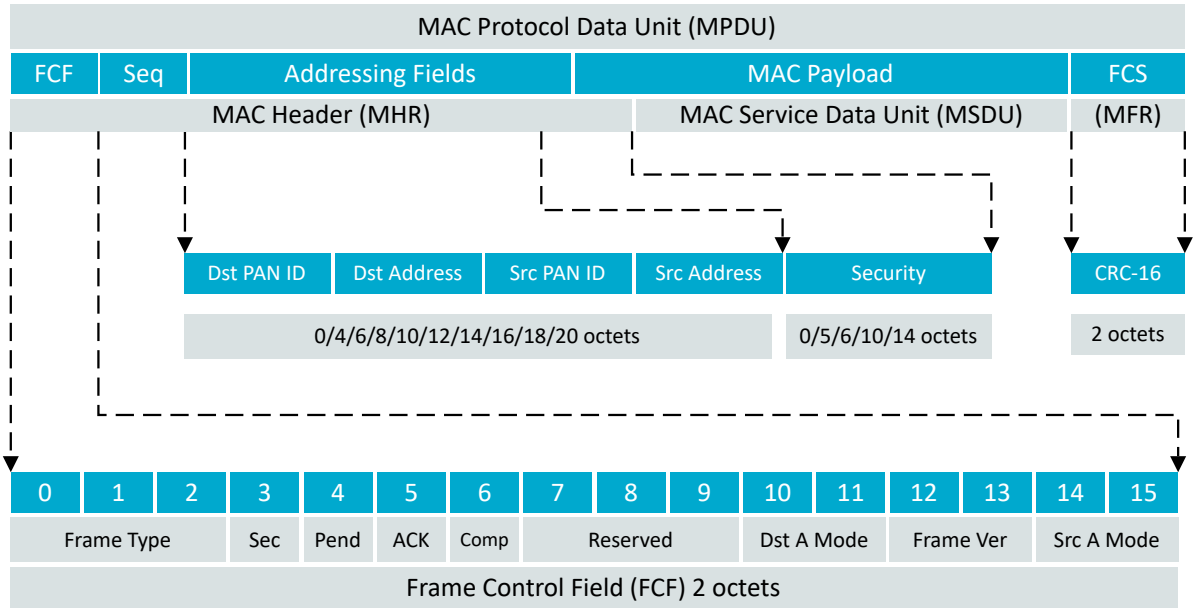

Figure 124: IEEE 802.15.4 frame format (MPDU)

The two FCF octets contain information about the frame type, addressing, and other control flags. This field is decoded when using the assisted operating modes offered by RADIO.

The sequence number is a single octet in size and is unique for a frame. It is used in the associated acknowledgement frame sent upon successful frame reception.

The addressing field can be zero (acknowledgement frame) or up to 20 octets in size. The field is used to direct packets to the correct recipient and denote its origin. IEEE 802.15.4 bases its addressing on networks being organized in PANs with 16-bit identifier and nodes having a 16-bit or 64-bit address. In the assisted receive mode, these parameters are analyzed for address matching and acknowledgement.

The MAC payload carries the data of the next higher layer, or in the case of a MAC command frame, information used by the MAC layer itself.

The two last octets contain the 16-bit ITU-T CRC. The FCS is calculated over the MAC header (MHR) and MAC payload (MSDU) parts of the frame. This field is calculated automatically when sending a frame, or indicated in the CRCSTATUS register when a frame is received. If configured, this feature is maintained autonomously by the CRC module.

8.17.12.2 Operating frequencies

IEEE 802.15.4 defines 16 channels in the 2450 MHz frequency band. The channels are numbered from 11 to 26, each with a width of 5 MHz.

To choose the correct channel center frequency, the FREQUENCY register must be programmed according to the following table.