

BROADCAST CHANNEL ENHANCEMENT WITH POLAR CODE

ABSTRACT

A method of new radio physical broadcast channel (NR-PBCH) bit mapping is proposed. The method comprises the steps of generating a plurality of information bits by a transmitter in a mobile communication network; performing a bit mapping for the plurality of information bits such that the set of timing-related bits having a predefined order; encoding the plurality of information bits using a Polar encoder, and broadcasting the encoded bits over an allocated physical broadcast channel (PBCH) wherein the plurality of information bits contains a set of timing-related bits comprising ten system frame number (SFN) bits and a half radio frame bit that are known to the plurality of receivers under the one or more conditions. The transmitter performs a bit scrambling, a cyclic redundancy check (CRC) attachment, and an interleaving on the plurality of information bits.

FIG. 1