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(54) **Title:** TRANSMISSIONS USING SPREADING CODES

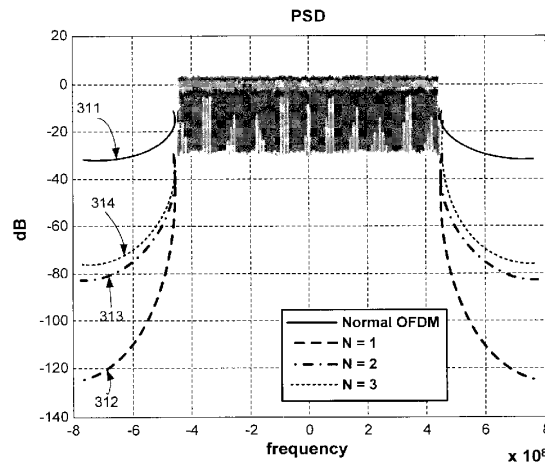


FIG. 3B

(57) **Abstract:** Methods, systems, and devices related to reducing out-of-band emissions for Orthogonal Frequency-Division Multiplexing (OFDM) technology are described. In one representative aspect, a method for wireless communication includes obtaining N groups of spread data by multiplying N groups of data with N spreading codes, combining the N groups of spread data into a data sequence, modulating the data sequence onto 2K subcarriers, and transmitting the modulated data sequence. In particular, an individual spreading code of the N spreading codes comprises 2K elements organized as a sequence of K pairs, wherein the pairs comply with at least one of (1) two elements in a pair have a 180-degree phase difference or (2) corresponding elements in neighboring pairs have a 180-degree phase difference. N and K are integers greater than 1 and N is less than 2K.

[Continued on next page]

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