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(54) SPECTRUM SHAPING METHOD FOR GENERATING SIGNAL HAVING ALMOST CONSTANT ENVELOPE IN COMMUNICATION SYSTEM, AND TRANSMITTER PERFORMING SAME

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(57) **ABSTRACT**

Provided is a discrete Fourier transform (DFT)-spread orthogonal frequency division multiplexing (OFDM) transmission method and transmitter including a phase shifter configured to generate a pi/2-binary phase shift keying (BPSK) symbol vector by phase-shifting a vector including M BPSK symbols, a DFT spreader configured to generate a DFT-spread pi/2-BPSK symbol vector by spreading the pi/2-BPSK symbol vector using an M-point DFT matrix, a circular extender configured to generate a circularly extended pi/2-BPSK symbol vector by periodically extending the DFT-spread pi/2-BPSK symbol vector, a frequency domain spectrum shaper configured to generate a frequency domain spectrum shaped pi/2-BPSK symbol vector by multiplying each element of the circularly extended pi/2-BPSK symbol vector by each element of a first shaping vector, and a subcarrier allocator configured to allocate the frequency domain spectrum shaped pi/2-BPSK symbol vector to subcarriers in an allocated frequency range.