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(54) Title: SYSTEM AND METHOD FOR TRANSMITTING RADIO FREQUENCY RADIATION

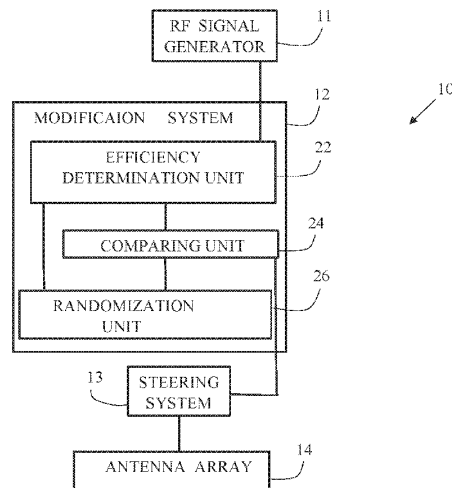


FIG. 1

(57) **Abstract:** A transmission system and method for transmitting radio frequency (RF) radiation in a predetermined direction at a sequence of K frequencies by an antenna array. The system includes an RF signal generator configured for generating electrical signals having an initial amplitude and an initial phase through transmission channels corresponding to antenna elements of the antenna array at the sequence of K frequencies. The system also includes a modification system, configured for obtaining optimal electrical signals for which a transmission efficiency coefficient of the transmission system is equal to or greater than a predetermined threshold value, and a steering system configured for (i) receiving the optimal electrical signals, (ii) generating steering electrical signals related to the optimal electrical signals and (iii) relaying the steering electrical signals to the antenna array to form a steered beam for transmission in the predetermined direction.

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