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(54) **Title:** METHOD AND APPARATUS FOR MODULATION OF MILLIMETER WAVES AND PREAMBLE DESIGN

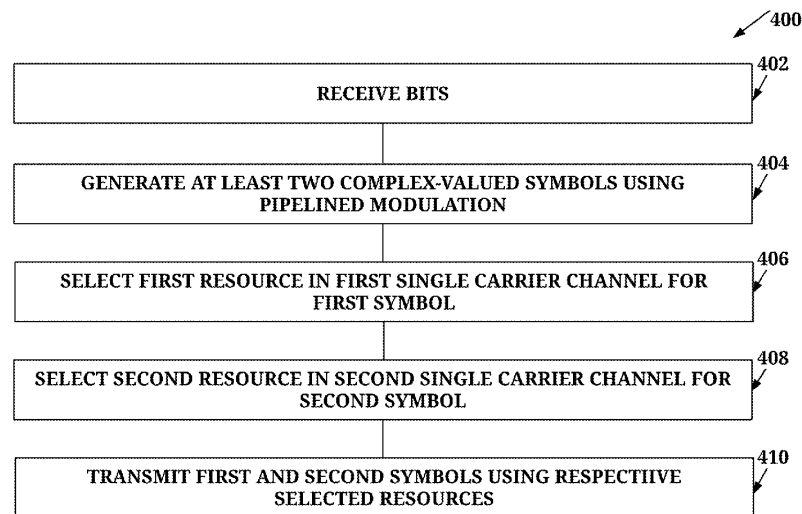


FIG. 4

(57) **Abstract:** Modulating millimeter waves may be embodied via a plurality of means. In at least one embodiment of the process disclosed herein, the process includes receiving, at a transmitter, a set of bits. The process also includes generating at least two complex-valued symbols based on the set of bits using a pipelined modulation at least in part by (i) mapping the set of bits to a first symbol using a first constellation mapping and (ii) mapping the set of bits to a second symbol using a second constellation mapping. The process also includes selecting a first data communication resource in a first single carrier channel for the first symbol and selecting a second data communication resource in a second single carrier channel for the second symbol. The process also includes transmitting, via the transmitter, the first and second symbols using the respective selected data communication resources.

[Continued on next page]

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