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(71) Applicant: VIASAT, INC. [US/US]; Patent Department,
6155 El Camino Real, Carlsbad, California 92009 (US).

(72) Inventors: GREINKE, Brian G.; Viasat, Inc., c/o Patent
Department, 6155 El Camino Real, Carlsbad, California
92009 (US). BACIGALUPI, John; Viasat, Inc., c/o Patent
Department, 6155 El Camino Real, Carlsbad, California
92009 (US). MILLER, Craig A.; Viasat, Inc., c/o Patent
Department, 6155 El Camino Real, Carlsbad, California
92009 (US). ROBINSON, Parker A.; Viasat, Inc., c/o
Patent Department, 6155 El Camino Real, Carlsbad, Cali-
fornia 92009 (US).

(74) Agent: PUTNAM, Jonathan et al.; Viasat, Inc., c/o Patent
Department, 6155 El Camino Real, Carlsbad, California
92009 (US).

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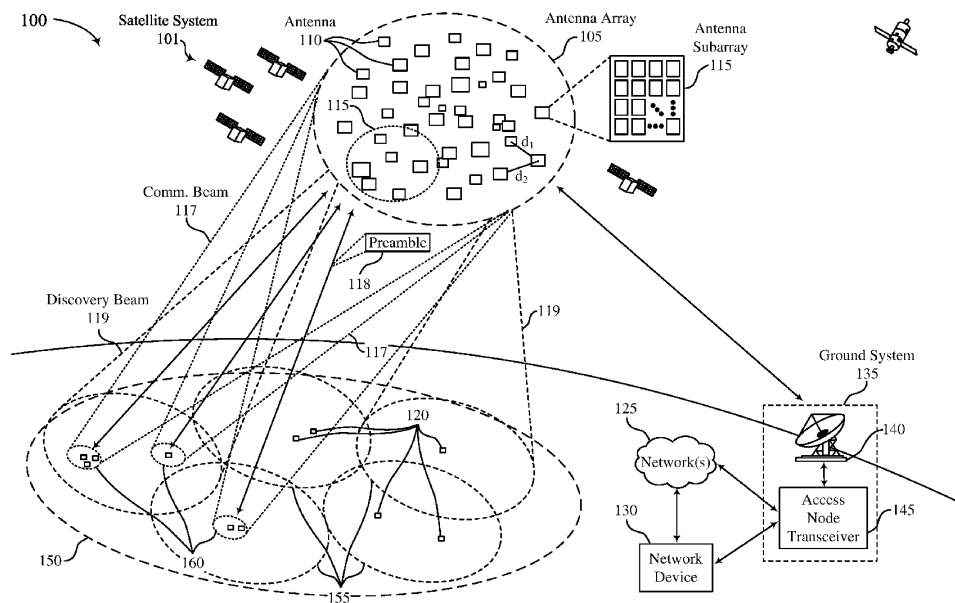


FIG. 1

(57) Abstract: An antenna array may be associated with forming discovery beams within a geographic area, where each discovery beam may be formed by a corresponding set of antennas of the antenna array and cover a discovery area within the geographic area. Preambles transmitted from terminals within a discovery area of a discovery beam may be detected using the antenna array. Based on detecting a preamble using a discovery beam, a presence of a terminal in a corresponding discovery area may be determined. Based on determining the presence of the terminal, signals detected at a second set of antennas of the antenna array may be processed according to beam coefficients to obtain a beam signal of a communication beam that includes a beam coverage area encompassing a position of the terminal. Each detected signal may comprise a respective component of a signal transmitted by the terminal.

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