(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
04 September 2025 (04.09.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/184647 A1

(51) International Patent Classification:
H04B 7/06 (2006.01) *H01Q 3/46* (2006.01)

(21) International Application Number:
PCT/US2025/018114

(22) International Filing Date:
03 March 2025 (03.03.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/560,087 01 March 2024 (01.03.2024) US

(71) Applicant: **ASCENDARC, INC.** [US/US]; 10140 SW Allen Blvd, Suite C, Beaverton, Oregon 97005 (US).

(72) Inventor: **MCLAIN, Christopher**; 7324 SW 32nd Ave, Portland, Oregon 97219 (US).

(74) Agent: **BALES, Jennifer**; 1520 Euclid Circle, Lafayette, Colorado 80026 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UY, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,

(54) **Title:** RECONFIGURABLE ANALOG WIDE BEAM FORMING NETWORK

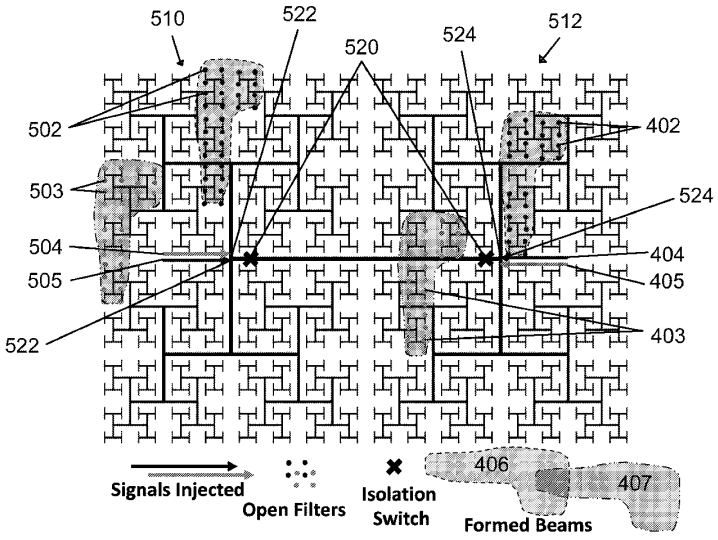


Figure 5

(57) **Abstract:** A reconfigurable, analog wide beam forming/receiving network may be implemented with low cost, low power printed circuit board technology. This network uses a H-tree or similar network to distribute signals to many feeds with equal path length, phase, delay and loss. Switches or filters are then used to select which feeds on the focal plane of a reflector system receive the signals and form the beams in the far field. Additional flexibility can be formed by using switches and filters to sub-divide the network and form multiple beams of the same frequency in different regions of the coverage area.

[Continued on next page]

WO 2025/184647 A1

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*