

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
05 August 2021 (05.08.2021)



(10) International Publication Number
WO 2021/154212 A1

(51) International Patent Classification:

H01Q 3/20 (2006.01) *H01Q 19/19* (2006.01)
H01Q 1/12 (2006.01)

(21) International Application Number:

PCT/US2020/015393

(22) International Filing Date:

28 January 2020 (28.01.2020)

(25) Filing Language:

English

(26) Publication Language:

English

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

(72) Inventor: COSTA, Luis; Viasat, Inc., c/o Patent Department, 6155 El Camino Real, Carlsbad, California 92009 (US).

(74) Agent: PLATT, John H.; Snell & Wilmer L.L.P., 400 E. Van Buren St., Phoenix, Arizona 85004-2202 (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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,

KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, MK, MT, NL, NO, PL, PT, RO, RS, SE, 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))

(54) Title: ANTENNA WITH LOW-COST STEERABLE SUBREFLECTOR

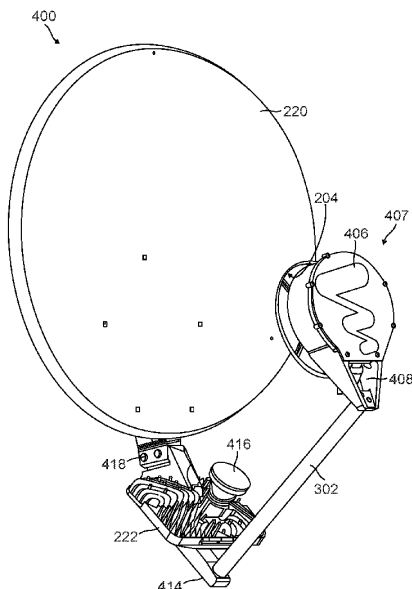


FIG. 4

(57) Abstract: Methods of antenna pointing and antenna assemblies implementing those methods are disclosed. An example method includes providing a user terminal antenna assembly including an antenna and an auto-peak device. The antenna includes a reflector, a subreflector, and a feed, the feed oriented relative to the reflector and the subreflector to produce a beam. The antenna further includes a tilt assembly to tilt the subreflector relative to the reflector and the feed. The method further includes providing a control signal to tilt the subreflector in a plurality of tilt positions to move the beam while measuring corresponding signal strength of a signal communicated via the antenna at each of the plurality of tilt positions. Additionally, the method includes selecting a tilt position from the plurality of tilt positions based on a measured signal strength, and providing the control signal to tilt the subreflector to the selected tilt position.

WO 2021/154212 A1