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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
25 September 2025 (25.09.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/199037 A1

(51) International Patent Classification:
H04B 7/185 (2006.01) *H04B 1/00* (2006.01)
G01S 19/37 (2010.01) *H04W 84/06* (2009.01)

(21) International Application Number:
PCT/US2025/020244

(22) International Filing Date:
17 March 2025 (17.03.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/566,542 18 March 2024 (18.03.2024) US

(71) Applicant: **KRATOS INTEGRAL HOLDINGS LLC** [US/US]; 10680 Treena Street, 6th Floor, San Diego, California 92131 (US).

(72) Inventor *(for US only)*: **BARBER, Jennifer**; 10680 Treena Street, 6th Floor, San Diego, California 92131 (US).

(72) Inventors: **STANLEY, Annmarie**; 10680 Treena Street, 6th Floor, San Diego, California 92131 (US). **STOLTENBERG, Matthew**; 10680 Treena Street, 6th Floor, San Diego, California 92131 (US). **TOBIAS, Kevin**; 10680 Treena Street, 6th Floor, San Diego, California 92131 (US).

(74) Agent: **MELLOR, Brett, L.** et al.; Mailstop IP Docketing - 22, Kilpatrick Townsend & Stockton LLP, 1100 Peachtree St., Suite 2800, Atlanta, Georgia 30309 (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,

(54) Title: DIGITIZER FOR ACCESS TO NON-TERRESTRIAL NETWORK

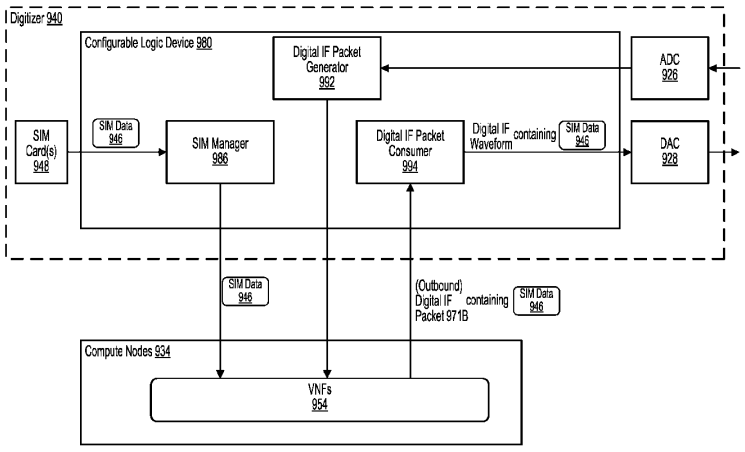


FIG. 9C

(57) Abstract: Described herein are techniques for accessing a 5G/6G non-terrestrial network. A network access challenge is received at compute nodes of a terminal. The compute nodes run one or more VNFs. The network access challenge is sent from the compute nodes to a digitizer of the terminal. The digitizer includes a SIM card. The digitizer generates SIM data based on the network access challenge and data stored in the SIM card. The SIM data includes an authentication response to the network access challenge. The SIM data is sent from the digitizer to the compute nodes. The compute nodes generate a digital IF packet containing the SIM data. The digital IF packet is sent from the compute nodes to the digitizer for wireless transmission of the SIM data to a satellite associated with the non-terrestrial network.

WO 2025/199037 A1

[Continued on next page]

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, 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))*