



(51) International Patent Classification:

H04L 27/04 (2006.01) H04L 27/20 (2006.01)
G06F 9/30 (2018.01) H04L 27/26 (2006.01)
G06F 9/38 (2018.01) H04L 27/36 (2006.01)
H04L 27/12 (2006.01)

(21) International Application Number:

PCT/US2021/033905

(22) International Filing Date:

24 May 2021 (24.05.2021)

(25) Filing Language:

English

(26) Publication Language:

English

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

(72) Inventors: **JARRIEL, Jeffrey, David**; c/o Kratos Integral Holdings, LLC, 10680 Trenea Street, 6th Floor, San Diego, California 92131 (US). **SUTTON, Daniel, Joseph**; c/o Kratos Integral Holdings, LLC, 10680 Trenea Street, 6th Floor, San Diego, California 92131 (US). **STOLTENBERG, Matthew, James**; c/o Kratos Integral Holdings, LLC, 10680 Trenea Street, 6th Floor, San Diego, California 92131 (US). **KING, Brandon, Gregory**; c/o

Kratos Integral Holdings, LLC, 10680 Trenea Street, 6th Floor, San Diego, California 92131 (US).

(74) Agent: **CATANESE, Mark, W.** et al.; c/o Procopio, Cory, Hargreaves & Savitch LLP, 525 B Street, Suite 2200, San Diego, California 92101 (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, IT, 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,

(54) Title: SYSTEMS AND METHODS FOR SIGNAL MODULATION OF A PLURALITY OF DOWNLINK SIGNALS REPRESENTATIVE OF A COMMUNICATION SIGNAL

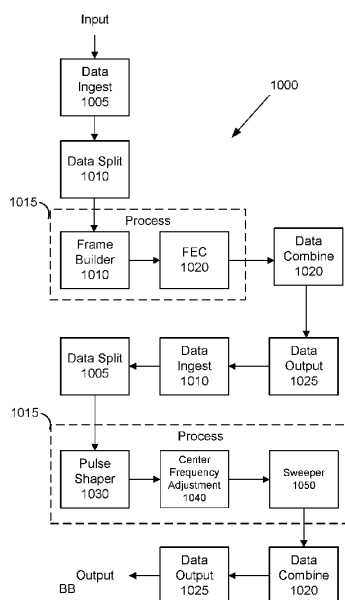


FIG. 10

(57) Abstract: Embodiments of systems and methods for modulating a downlink signals representative of a communication signal are provided herein. An example method comprises receiving an input signal; in a first one or more processing blocks in a one or more processors, performing a first modulation operation on first data packets of the input signal based on a modulation scheme for a receiver of the downlink signal; in a second one or more processing blocks in the one or more processors in parallel with the first one or more processing blocks, performing a second modulation operation on second data packets of the input signal based on the modulation scheme; and generating a waveform as the downlink signal based on performing the first and second modulation operations.

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))*