

(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 2021/154762 A1

(51) International Patent Classification:

G01N 21/956 (2006.01) *G03F 7/20* (2006.01)
H01L 21/027 (2006.01) *G03F 9/00* (2006.01)
H01L 21/68 (2006.01) *G01J 4/00* (2006.01)

(21) International Application Number:

PCT/US2021/015144

(22) International Filing Date:

26 January 2021 (26.01.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/967,951	30 January 2020 (30.01.2020)	US
63/032,217	29 May 2020 (29.05.2020)	US
16/996,254	18 August 2020 (18.08.2020)	US

(71) Applicant: **KLA CORPORATION** [US/US]; Legal Department, One Technology Drive, Milpitas, California 95035 (US).

(72) Inventors: **GOLOTSVAN, Anna**; Sitvanit 11, 36015 Qiryat Tivon (IL). **TARSHISH-SHAPIR, Inna**; Derech Yad Levanim, 198/13 Neve Shaanan, 3269855 Haifa (IL). **GHINOVKER, Mark**; 69 HaTsyalim Street, Apt 2, 20692 Yoqneam Ilit (IL). **DIRAWI, Rawi**; 6122/10 Nazareth, 1613101 Nazareth (IL).

(74) Agent: **MCANDREWS, Kevin** et al.; KLA CORPORATION, Legal Department, One Technology Drive, Milpitas, California 95035 (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.

(54) Title: COMPOSITE OVERLAY METROLOGY TARGET

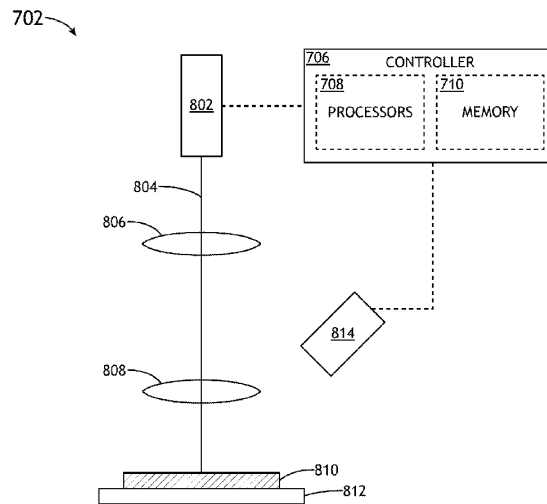


FIG.8A

(57) Abstract: A metrology target includes a first set of pattern elements compatible with a first metrology mode along one or more directions, and a second set of pattern elements compatible with a second metrology mode along one or more directions, wherein the second set of pattern elements includes a first portion of the first set of pattern elements, and wherein the second set of pattern elements is surrounded by a second portion of the first set of pattern elements not included in the second set of pattern elements.

[Continued on next page]

WO 2021/154762 A1

(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))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*