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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
30 August 2012 (30.08.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/115912 A2

(51) International Patent Classification:
H01L 21/00 (2006.01) *H01L 21/66* (2006.01)

(21) International Application Number:
PCT/US2012/025827

(22) International Filing Date:
20 February 2012 (20.02.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/445,164 22 February 2011 (22.02.2011) US
13/399,805 17 February 2012 (17.02.2012) US

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(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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,

[Continued on next page]

(54) Title: DESIGN BASED DEVICE RISK ASSESSMENT

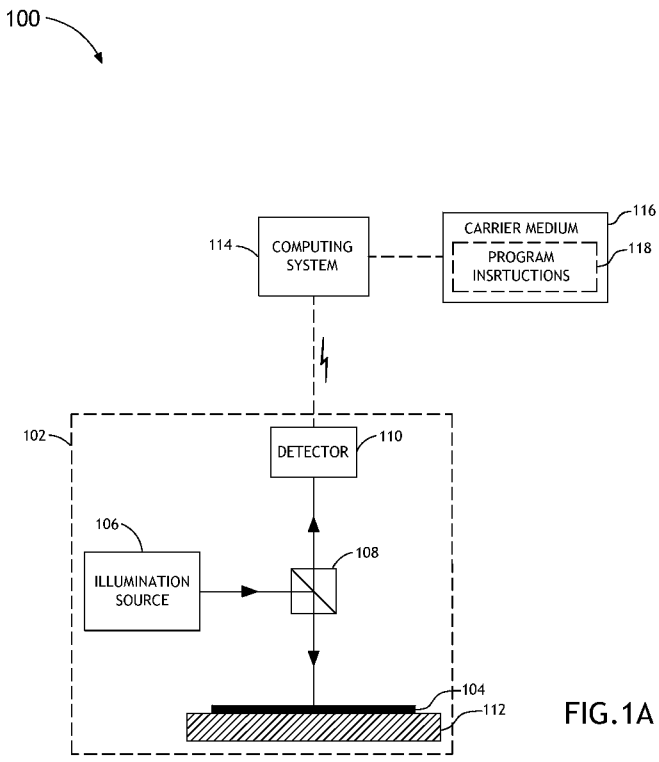


FIG.1A

(57) Abstract: The present invention includes defining a multiple patterns of interest utilizing design data of the device; generating a design based classification database, the DBC database including design data associated with each of the POIs; receiving one or more inspection results; comparing the inspection results to each of the plurality of POIs in order to identify an occurrence of at least one of the POIs in the inspection results; determining yield impact of each POI utilizing process yield data; monitoring a frequency of occurrence of each of the POIs and the criticality of the POIs in order to identify process excursions of the device; and determining a device risk level by calculating a normalized polygon frequency for the device utilizing a frequency of occurrence for each of the critical polygons and a criticality for each of the critical polygons, the critical polygons defined utilizing design data of the device.

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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, ML, MR, NE, SN, TD, TG).

Published:

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