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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, 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, 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.

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- (54) **Title:** USING DEFECT MODELS TO ESTIMATE DEFECT RISK AND OPTIMIZE PROCESS RECIPES

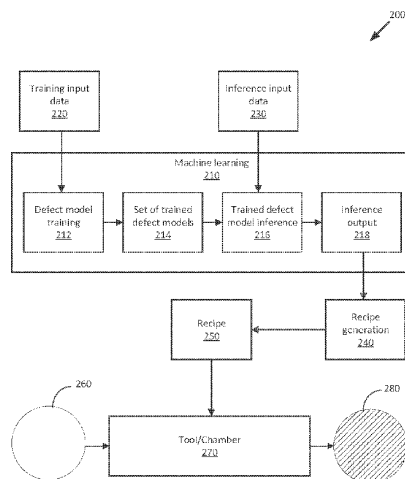


FIG. 2

- (57) **Abstract:** A system includes a memory and a processing device, operatively coupled to the memory, to perform operations including receiving, as input to a trained machine learning model for identifying defect impact with respect to at least one type defect type, data associated with a process related to electronic device manufacturing. The data associated with the process comprises at least one of: an input set of recipe settings for processing a component, a set of desired characteristics to be achieved by processing the component, or a set of constraints specifying an allowable range for each setting of the set of recipe settings. The operations further include obtaining an output by applying the data associated with the process to the trained machine learning model. The output is representative of the defect impact with respect to the at least one defect type.

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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