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(71) Applicant: **APPLIED MATERIALS, INC.** [US/US];
3050 Bowers Avenue, Santa Clara, California 95054 (US).

(72) Inventor: **LIN, Chuang-Chia**; 3050 Bowers Avenue, Santa Clara, California 95054 (US).

(74) Agent: **KIMES, Benjamin A.** et al.; LOWENSTEIN SANDLER LLP, One Lowenstein Drive, Roseland, New Jersey 07068 (US).

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(54) Title: SURFACE ACOUSTIC WAVE SENSOR ASSEMBLY

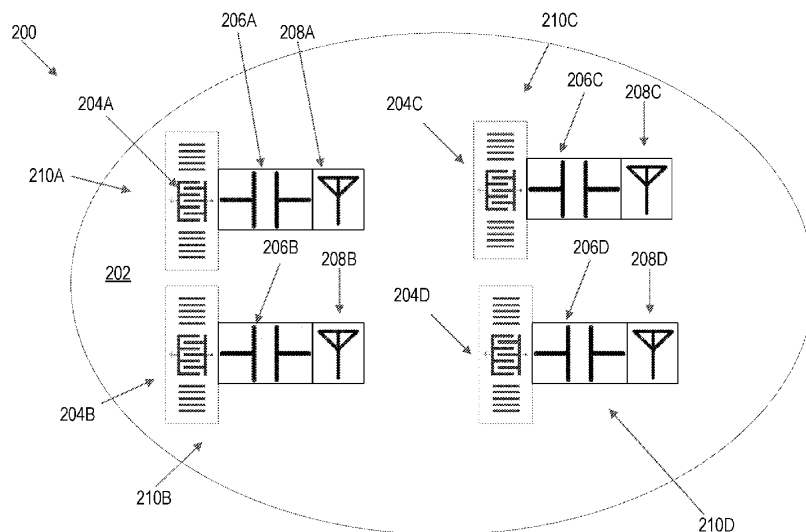


FIG. 2

(57) Abstract: A sensor device that includes an integrated sensor assembly having a surface acoustic wave (SAW) sensor disposed on a piezoelectric substrate. The SAW sensor is adapted to measure an environmental condition of an environment in response to an RF signal. The SAW sensor includes an interdigitated transducer (IDT) formed on a substrate having at least a layer of a piezoelectric material. The SAW sensor includes either one or more SAW reflectors of a second IDT formed on the piezoelectric material. The SAW sensor further includes an RF antenna formed on the piezoelectric material. The SAW sensor and the RF antenna are integrated with one another on the piezoelectric material.

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