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Liu

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(54) **X-RAY DETECTORS SUPPORTED ON A SUBSTRATE HAVING A SURROUNDING METAL BARRIER**

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H01L 51/44	(2006.01)
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(58) **Field of Classification Search**

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See application file for complete search history.

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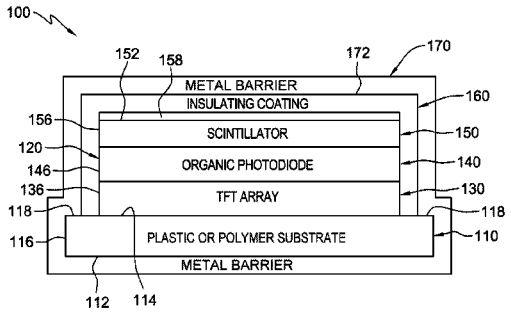
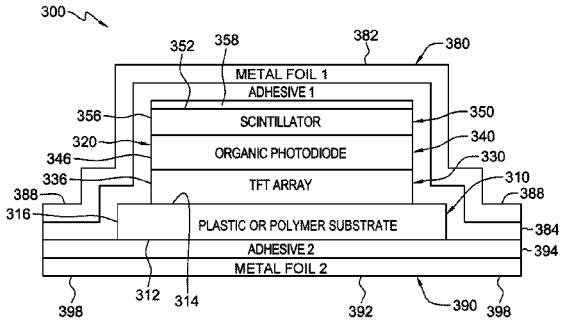
(57) **ABSTRACT**

An X-ray detector assembly includes a polymeric substrate having a lower surface and an upper surface, and an X-ray detector disposed on the upper surface of the substrate. The X-ray detector includes a thin-film-transistor array disposed on the substrate, an organic photodiode disposed on the thin-film-transistor array, and a scintillator disposed on the organic photodiode. A metal barrier extends substantially over an upper surface of the scintillator, substantially over peripherally-extending edges of the scintillator, the organic photodiode, and the thin-film-transistor array, and substantially over the lower surface of the substrate.

34 Claims, 6 Drawing Sheets