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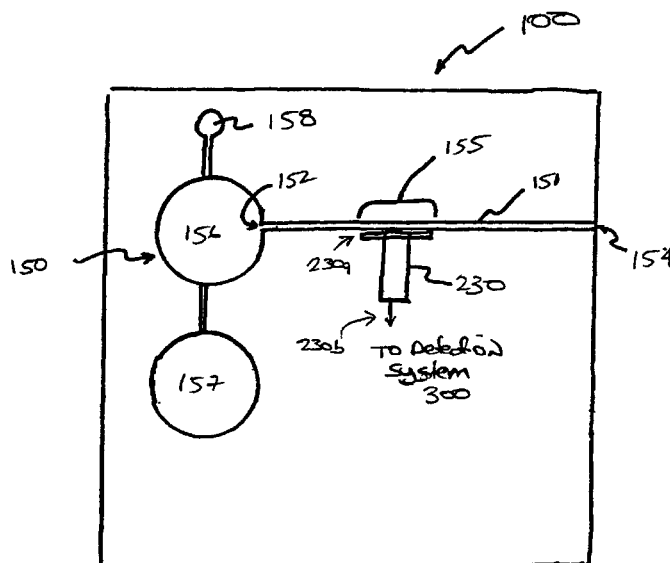
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(54) Title: SYSTEM AND METHOD FOR DETECTING AND IDENTIFYING MOLECULAR EVENTS IN A TEST SAMPLE



(57) Abstract: A molecular detection system for detecting the presence or absence of a molecular event within a test sample includes a fluid reservoir, a signal source, a measurement probe, and a signal detector. The measurement probe includes a probe head and a connecting end. The probe head is configured to electromagnetically couple an incident test signal to the test sample within the detection region of the fluid reservoir. The interaction of the incident test signal with the test sample produces a modulated test signal, at least a portion of which the probe head is configured to recover. The system further includes a signal detector that is coupled to the connecting end of the measurement probe and configured to recover the modulated test signal.