

(54) Title of the invention : RESONATOR BASED SYSTEM FOR THE ESTIMATION OF ADULTERATION

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(57) Abstract :
 The present disclosure relates to a resonator based system (100) for the estimation of adulteration. The system (100) has a housing (102) configured with one or more antennas (104), a sensing unit (108), a network analyzer (110), a spectrum analyzer (112), a pumping unit (114), and a processing unit (116). The one or more antennas (104) are configured on a on a substrate (106) embedded with a micro channel for liquid sample inspection. Additionally, the pumping unit (114) delivers the liquid sample into the substrate (106), while the sensing unit (108) measures the dielectric property of the liquid sample. Further, the one or more antennas (104) produce a resonant frequency shift based to be observed by the spectrum analyzer (112). Moreover, the network analyzer (110) monitors the scattering attributes of the sensing unit (104) while, the processing unit (116) controls the sensing unit (108), and the pumping unit (114).

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