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(57) Abstract :

A low cost, low profile RF sensor antenna is developed to measure the ambient radiations arising from different RF devices operating/supposed to be operative in the current 4G/future 5G wireless communication bands. It is developed on a 1.6 mm thick FR4 substance of size 135 mm x 130 mm, permittivity 4.4 and loss tangent 0.02. It is backed by a PEC reflector plane of dimension 165 mm x 155 mm, when the distance between the antenna and reflector plane is 95 mm. Four Teflon rods are used at the four corners of the antenna to maintain the distance and support the sensor antenna over the reflector plane. The antenna is placed at a distance of 15 mm from x = 0 axis and 10 mm from y = 0 axis with respect to the reflector plane. The proposed RF sensor antenna is also capable of measuring the E-field strength and SAR of a mobile handset in a residential environment.

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