

A Compact Wearable Slot Antenna for LTE and WLAN Applications

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Abstract : In this paper, a compact wide-band, ultra-thin and flexible slot antenna intended for wearable applications is presented. The presented antenna is designed to provide Wireless Local Area Network (WLAN) and Long Term Evolution (LTE) connectivity. The presented design exhibits a relatively wide bandwidth (1600-3500 MHz below -6 dB impedance bandwidth limit). The antenna is positioned on a 33 mm x 30 mm flexible substrate with a thickness of 50 μ m. Antenna properties, such as the far-field radiation patterns, scattering parameter S_{11} are provided. The presented compact, thin and flexible design along with excellent radiation characteristics are deemed suitable for integration into flexible and wearable devices.

Keywords : wearable electronics, slot Antenna, LTE, WLAN

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