

Multiband Slot-loaded Dipole Antenna for WLAN and LTE-A Applications

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Abstract: A multiband printed dipole antenna for wireless local area network (WLAN) and long-term evolution-advanced (LTEA) applications is investigated here. Its multiband characteristic is enabled by the Y-slot present in the upper arm of the dipole, while the antenna's dimensions are $(0.08\lambda_0 \times 0.384\lambda_0)$ at the lowest operating frequency. It features bandwidth of 14.6% centered at 2.4GHz, and ~30.5% centered at 5.5GHz for WLAN operation. An additional bandwidth of 6.9% centered at 3.5GHz supporting LTE-A applications is also featured. Besides being compact, the proposed antenna radiates omnidirectionally with a gain of up to 4.09dBi. Simulations and measurements are in good agreement.

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