Abstracts

Design of small and broad-band internal antennas for IMT-2000 mobile handsets

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The objective of this paper is to design some small broad-band internal antennas for third-generation International Mobile Telecommunications-2000 (IMT-2000) mobile handsets. By introducing substrates of low dielectric constants and electromagnetically coupling two shorted microstrip patch elements, of either rectangular or semidisc shape, both compactness and broad bandwidth can be achieved. These novel internal antennas for IMT-2000 mobile handsets incorporate only one single probe feed in a driven patch element, white the broad-band feature is obtained by realizing dual-frequency operation. The typical impedance behavior and far-field radiation pattern characteristics of eight different antenna configurations are discussed theoretically and experimentally.

❑ Return to main document.