

Title (en)
Antenne apparatus and associated methodology for a multi-band radio device

Title (de)
Antennenvorrichtung und entsprechendes Verfahren für ein Multiband-Radiogerät

Title (fr)
Appareil d'antenne, méthodologie associée pour un dispositif radio multibande

Publication
EP 1973192 A1 20080924 (EN)

Application
EP 07104836 A 20070323

Priority
EP 07104836 A 20070323

Abstract (en)
Antenna apparatus, and an associated methodology, for a multi-frequency-band-capable radio device, such as a quad-band mobile station. The antenna apparatus forms a hybrid strip antenna having a pair of resonant elements. A first resonant element forms a peripheral loop extending about the periphery of a substrate. A meander line extends along a portion of the peripheral loop. And, second resonant element is formed of an L-shaped strip. The peripheral loop is resonant at a set of frequencies, and the L-shaped strip is resonant at a single frequency. Through appropriate selection of the lengths of the resonant elements, the frequencies at which the elements are resonant are controlled.

IPC 8 full level
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Citation (search report)

- [X] EP 1739788 A1 20070103 - RESEARCH IN MOTION LTD [CA]
- [X] WO 0126182 A1 20010412 - SMARTEQ WIRELESS AB [SE], et al
- [X] US 2005270243 A1 20051208 - CAIMI FRANK M [US], et al
- [X] EP 1542313 A1 20050615 - NEC CORP [JP]
- [X] EP 1555717 A1 20050720 - TOSHIBA KK [JP]
- [X] EP 1555715 A1 20050720 - TOSHIBA KK [JP]

Cited by
CN105789902A; EP4007068A1; US8462061B2; US8144065B2; US8164528B2; US8786298B2; WO2011100618A1; WO2013064910A3; US8514132B2; US9502770B2; US8164532B1; US9252487B2; US9431708B2

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DOCDB simple family (application)
EP 07104836 A 20070323; CA 2626819 A 20080320; CN 200810096341 A 20080321; JP 2008074658 A 20080321; KR 20080026401 A 20080321; TW 97110212 A 20080321