

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

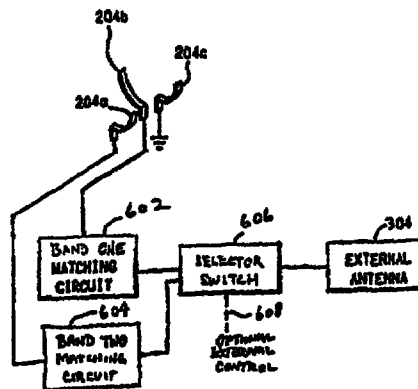
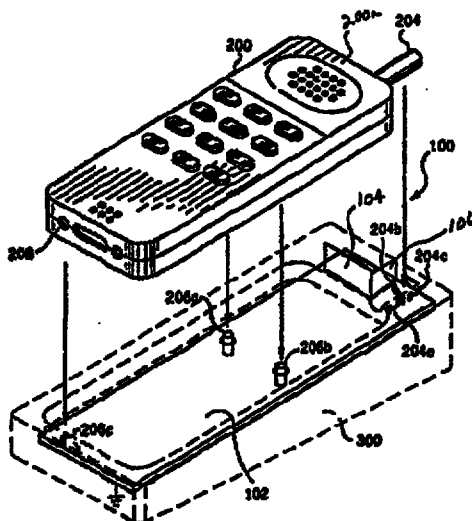


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H01Q 1/24, H03H 7/46, H04B 1/38		(11) International Publication Number: WO 98/25323
A1		(43) International Publication Date: 11 June 1998 (11.06.98)
(21) International Application Number: PCT/US97/21600		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, VZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).
(22) International Filing Date: 25 November 1997 (25.11.97)		
(30) Priority Data: 760,024 4 December 1996 (04.12.96) US		
(71) Applicant (for all designated States except US): QUALCOMM INCORPORATED [US/US]; 6455 Lusk Boulevard, San Diego, CA 92121 (US).		
(72) Inventor; and (75) Inventor/Applicant (for US only): MALDONADO, David [-/US]; 3321 Ash Street, San Diego, CA 92102 (US).		
(74) Agents: OGROD, Gregory, D. et al.; Qualcomm Incorporated, 6455 Lusk Boulevard, San Diego, CA 92121 (US).		

Published
With international search report.

(54) Title: **DUAL-BAND ANTENNA COUPLER FOR A PORTABLE RADIOTELEPHONE**



(57) Abstract

A dual-band antenna coupler (100) for use in an adapter for portable radiotelephone (200). A plurality of curved bands of metal (204a-c) are positioned on a ground plane (102), with at least two of the plurality of curved bands (204a, 204b) of metal being electrically isolated from the ground plane (102) so as to couple radio frequency (RF) signals to and from the antenna (204) of the portable radiotelephone (200). The isolated curved bands (204a, 204b) of metal couple RF signals between the antenna (204) of the portable radiotelephone and first and second matching circuits (602, 604) designed to match the portable radiotelephone antenna (204) at each of the respective frequency bands. A selector switch (606) coupled to the output of the matching circuits (602, 604) selects the appropriate matching circuit output for connection to an external antenna (304). The adapter also includes at least one ground pin (206a-c) mounted on the ground plane (102). When the portable radiotelephone (200) is interfaced with the antenna coupler (100), the ground pin (206a-c) makes electrical contact with a ground reference connection on the portable radiotelephone (202a, 202b, 208).