
Remarks

These remarks are submitted in response to the Non-Final Office Action of January 29, 2014. At the time of the Office Action, claims 1-27 were pending. Amendments have been made to claims 1-2, 10, 13, 15-17, 25, and 27 in the present Office Action. No new matter has been added.

I. Allowable Subject Matter

Claims 16-17, 25 and 27 have been amended to overcome the 112 rejections noted below. Accordingly, claims 16-27 are in condition for allowance.

II. Claim Rejections Under 35 U.S.C § 112

Claims 1-27 were rejected under 35 U.S.C. 112, second paragraph. Based on the amendments to claim(s) 1, 2, 10, 13, 15-17, 25 and 27 withdrawal of this rejection is respectfully requested. The amendments to claims 15 and 27 are supported by the specification and drawings and by way of illustration paragraph 23 of the specification reproduced below.

Various embodiments disclosed herein are directed to antenna systems for electronic communications devices having two or more antennas operating simultaneously. As discussed in greater detail below, the antenna system includes a printed circuit board assembly having a ground plane and a first antenna and a second balanced antenna provided on the printed circuit board assembly. The first antenna is fed from a portion of the printed circuit board assembly such that the ground plane of the printed circuit board assembly serves as a counterpoise for the first antenna. The second balanced antenna has dipole ends configured and oriented to generally minimize coupling to the ground plane of the printed circuit board to increase isolation between the first antenna and the second balanced antenna. In one or more embodiments, the peak near fields created by each antenna do not substantially overlap, thereby reducing the increase in SAR that may otherwise occur when both antennas are used to transmit simultaneously.

III. Claim Rejections Under 35 U.S.C § 102

Claims 1, 2, 4, and 7 were rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Rutfors et al. (US 2003/0189519 A1).

Rutfors does not describe or suggest a second balanced antenna provided on the printed circuit board assembly, said second balanced antenna having dipole ends being excitable to an

electrical potential of equal magnitude and opposite sign, resulting in an approximately neutral potential at the ground plane to approximately minimize coupling to the ground plane of the printed circuit board assembly to increase isolation between the first antenna and the second balanced antenna as recited in claim 1.

Accordingly, Rutfors does not anticipate claim 1 or dependent claims 2-15. Claims 1-15 are therefore in condition for allowance.

IV. Claim Rejections Under 35 U.S.C § 103

Claims 6 and 12 were rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rutfors (US 2003/0189519 A1). At least by virtue of their dependency on claim 1, Rutfors does not render claims 6 or 12 obvious. Claims 6 and 12 are therefore in condition for allowance.

Claims 3, 8, 9 and 14 were rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rutfors (US 2003/0189519 A1) in view of Ollikainen (US 2007/0285319 A1). At least by virtue of their dependency on claim 1, Rutfors and Ollikainen do not render claims 3, 8, 9 or 14 obvious. Claims 3, 8, 9 and 14 are therefore in condition for allowance.

Claims 5 and 11 were rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rutfors (US 2003/0189519 A1) in view of Ali et al. (US 8,044,863 B2). At least by virtue of their dependency on claim 1, Rutfors and Ali do not render claims 5 or 11 obvious. Claims 5 and 11 are therefore in condition for allowance.

Claim 13 was rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Rutfors (US 2003/0189519 A1) in view of Bell (US 5,189,434). Rutfors and Bell do not render claim 13 obvious. Claim 13 is therefore in condition for allowance.

