IN THE CLAIMS

Each claim of the present application is set forth below with a parenthetical notation immediately following the claim number indicating the current claim status. The Examiner's entry of the claim amendments, as shown in marked-up form below, under Section 1.121 is respectfully requested.

1. (CURRENTLY AMENDED) An antenna comprising:

a dielectric substrate having a first surface and a second surface spaced-apart from and substantially parallel to the first surface;

a first monopole element disposed on the first surface, wherein the first monopole element comprises a conductive region bounded by at least three~~four~~ sides for exhibiting broad band resonance characteristics; ~~and~~

a first ground plane disposed on the first surface proximate the first monopole element;

a second ground plane disposed on the second surface; and

a plurality of conductive vias passing through the dielectric substrate for interconnecting the first and the second ground planes.

2. (ORIGINAL) The antenna of claim 1 wherein the first ground plane is disposed on the first surface and spaced apart from the first monopole element.

3. (CANCEL)

4. (ORIGINAL) The antenna of claim 1 wherein the dielectric substrate comprises a second surface spaced-apart from and substantially parallel to the first surface, the antenna further comprising a second monopole element disposed on the second surface and a plurality of conductive vias passing through the dielectric substrate for interconnecting the first and the second monopole elements.

5. (ORIGINAL) The antenna of claim 4 wherein the first and the second monopole elements are substantially similar in shape and are disposed in a parallel aligned relationship.

6. (ORIGINAL) The antenna of claim 1 wherein the first monopole element comprises a shaped region to provide multiple current flow paths for producing broad band resonance characteristics.

7. (ORIGINAL) The antenna of claim 5 wherein a shape of the first monopole element is selected from among a quadrilaterally-shaped region and a polygonally-shaped region.

8. (ORIGINAL) The antenna of claim 1 further comprising a transmission line connected to the first monopole element for providing a signal to the first monopole element when the antenna is operative in a transmitting mode and for accepting a signal from the first monopole element when the antenna is operative in a receiving mode.

9. (ORIGINAL) The antenna of claim 8 wherein the transmission line and the first ground plane are disposed on the first surface, and wherein the transmission line is proximate the first ground plane.

10. (ORIGINAL) The antenna of claim 1 wherein the first monopole element comprises a region bounded by a plurality of linear and curved segments.

11. (ORIGINAL) The antenna of claim 1 wherein the first ground plane comprises an edge proximate the first monopole element, and wherein the first monopole element is spaced apart from the edge to control a distributed capacitance formed between the first monopole element and the first ground plane.

12. (ORIGINAL) The antenna of claim 1 wherein the dielectric substrate is formed from a flexible material.

13. (ORIGINAL) The antenna of claim 1 wherein a radiation pattern of the first monopole element is omnidirectional.

14. (ORIGINAL) The antenna of claim 1 wherein a signal polarization of the first monopole element is linear.

15. (ORIGINAL) The antenna of claim 1 further comprising a transmission line connected to the first monopole element along a first boundary edge of the first monopole element, wherein the first boundary edge is shaped to provide an impedance match between the transmission line and the first monopole element.

16. (ORIGINAL) The antenna of claim 15 wherein the first monopole element further comprises a second boundary edge spaced in a direction away from the first boundary edge, wherein the second boundary edge is shaped to provide an impedance match between the first monopole element and air.

17. (ORIGINAL) The antenna of claim 1 wherein the first ground plane is disposed on the first surface and spaced-apart from the first monopole element, the antenna further comprising a transmission line disposed on the first surface and connected to the first monopole element, wherein the transmission line is disposed proximate the first ground plane, and wherein the first ground plane comprises an edge proximate the first monopole element, and wherein the transmission line extends beyond the edge, and wherein an angle formed between the edge and the transmission line is selected to achieve a desired antenna radiation pattern.

18. (ORIGINAL) The antenna of claim 17 wherein the angle is about 90°.

19. (ORIGINAL) The antenna of claim 17 wherein a shape of the edge is symmetric in the region where the transmission line extends beyond the edge.

20. (ORIGINAL) The antenna of claim 1 wherein the first ground plane is disposed on the first surface and spaced-apart from the first monopole element, the first ground plane comprising an edge proximate the first monopole element, and wherein a shape of the edge is selected to provide desired antenna operational parameters.

21. (ORIGINAL) The antenna of claim 1 wherein the dielectric substrate comprises an interior conductive layer substantially parallel to the first surface, and wherein the ground plane is formed from the interior conductive layer.

22. (CURRENTLY AMENDED) An antenna system comprising:

a dielectric substrate having a first surface;

first and second spaced–apart monopole elements disposed on the first surface;

a first signal feed connected to the first monopole element and a second signal feed connected to the second monopole element; and

a first ground plane disposed proximate the first and the second monopole elements.

23. (ORIGINAL) The antenna system of claim 22 wherein the first ground plane is disposed on the first surface, and wherein the dielectric substrate further comprises a

second surface spaced-apart from and substantially parallel to the first surface, the antenna system further comprising a second ground plane on the second surface and a plurality of conductive vias passing through the dielectric substrate for interconnecting the first and the second ground planes.

24. (ORIGINAL) The antenna system of claim 22 wherein the dielectric substrate comprises a second surface spaced-apart from and substantially parallel to the first surface, the antenna system further comprising third and fourth monopole elements disposed on the second surface and a first plurality of conductive vias passing through the dielectric substrate for interconnecting the first and the third monopole elements and a second plurality of conductive vias passing through the dielectric substrate for interconnecting the second and the fourth monopole elements.

25. (ORIGINAL) The antenna of claim 24 wherein the first and the third monopole elements and the second and the fourth monopole elements are substantially similar in shape and are disposed in a parallel aligned relation.

26. (ORIGINAL) The antenna of claim 22 wherein the first and the second monopole elements each comprise a shaped conductive region to provide multiple current flow paths for creating broad band resonance characteristics.

27. (ORIGINAL) The antenna system of claim 26 wherein the first and the second monopole elements each comprise a quadrilaterally-shaped conductive region.

28. (ORIGINAL) The antenna system of claim 26 wherein the first and the second monopole elements each comprise a polygonally-shaped conductive region.

29. (ORIGINAL) The antenna system of claim 22 further comprising first and second signal transmission lines on the first surface each connected to one of the first and the second monopole elements.

30. (ORIGINAL) The antenna system of claim 29 wherein the first and the second signal transmission lines are disposed proximate the first ground plane.

31. (ORIGINAL) The antenna system of claim 22 wherein the first and the second monopole elements each comprise a conductive region bounded by a plurality of linear and curved segments.

32. (ORIGINAL) The antenna system of claim 22 wherein the first ground plane is disposed on the first surface and further comprises an edge proximate the first and the second monopole elements, and wherein the first and the second monopole elements are spaced apart from the edge to control a distributed capacitance formed between the first and the second monopole elements and the first ground plane.

33. (ORIGINAL) The antenna system of claim 22 wherein a material of the dielectric substrate is flexible.

34. (ORIGINAL) The antenna system of claim 22 wherein a radiation pattern of the first and the second monopole elements is omnidirectional.

35. (ORIGINAL) The antenna system of claim 22 wherein a signal polarization of the first and the second monopole elements is linear.

36. (ORIGINAL) The antenna system of claim 22 further comprising first and second transmission lines each connected to the first and the second monopole elements at an edge of each of the first and the second monopole elements, respectively, wherein the edge is shaped to provide an impedance match between the first and the second transmission lines and the respective one of the first and the second monopole elements.

37. (ORIGINAL) The antenna system of claim 22 wherein each one of the first and the second monopole elements further comprises a distal edge spaced in a direction away from the ground plane, and wherein the distal edge of each of the first and the second monopole elements is shaped to provide an impedance match between the respective first and second monopole elements and air.

38. (CURRENTLY AMENDED) The antenna system of claim 22~~1~~ wherein the first ground plane is disposed on the first surface, the antenna system further comprising first and second transmission lines disposed on the first surface and connected respectively to the first and the second monopole elements, wherein each of the first and the second transmission lines is disposed proximate the first ground plane, and wherein the first ground plane comprises an edge proximate the first and the second monopole elements, and wherein the first and the second transmission lines extend beyond the edge, and wherein an angle formed between the edge and the first and the second transmission lines is selected to achieve a desired antenna radiation pattern.

39. (ORIGINAL) The antenna system of claim 38 wherein the angle is about 90°.

40. (ORIGINAL) The antenna system of claim 38 wherein a shape of the edge is symmetric in a region where the first and the second transmission lines extend beyond the edge.

41. (ORIGINAL) The antenna system of claim 22 wherein the first ground plane is disposed on the first surface and further comprises an edge proximate the first and the second monopole elements, and wherein a shape of the edge is selected to provide desired antenna operational parameters.

42. (ORIGINAL) The antenna system of claim 22 wherein each one of the first and the second monopole elements comprises a conductive region have a polygonal shape for providing a plurality of resonant frequencies.

43. (ORIGINAL) The antenna system of claim 22 wherein the first and the second monopole elements are spaced apart to provide spatial diversity.

44. (ORIGINAL) The antenna system of claim 22 wherein the first and the second monopole elements are oriented to provide signal polarization diversity.

45. (ORIGINAL) The antenna system of claim 22 wherein an operative one of the first and the second monopole elements is selected in response to a measured signal metric.

46. (ORIGINAL) The antenna system of claim 22 wherein the first ground plane is disposed on the first surface.

47. (ORIGINAL) A wireless communications device for receiving and transmitting radio frequency signals, comprising:

a dielectric substrate;

electronic components mounted on the dielectric substrate;

first and second spaced–apart monopole elements disposed on the dielectric substrate;

a ground plane proximate the first and the second monopole elements;

a measuring component for determining a signal quality metric for each of the first and the second monopole elements; and

a selecting component responsive to the measuring component for selecting the first or the second monopole element for receiving or transmitting the radio frequency signal based on a one of the first and the second monopole elements having the better signal quality metric.

48. (ORIGINAL) The wireless communications device of claim 47 wherein the first and the second monopole elements are oriented to provide spatial diversity in receiving and transmitting the radio frequency signals.

49. (ORIGINAL) The wireless communications device of claim 47 wherein the first and the second monopole elements are oriented to provide signal polarization diversity in receiving and transmitting the radio frequency signals.

50. (ORIGINAL) The wireless communications device of claim 47 wherein the electronic components further comprise a compensation network for providing a resonance condition of the first and the second monopole elements.

51. (CURRENTLY AMENDED) A method for forming an antenna system, comprising:

providing a dielectric substrate having a first surface;

forming first and second spaced-apart conductive regions on the first surface; ~~and~~

forming a first ground plane proximate the first and the second conductive regions; and;

forming a first signal feed connected to the first monopole element and a second signal feed connected to the second monopole element.

52. (ORIGINAL) The method of claim 51 wherein the first and the second conductive regions comprise monopole elements.

53. (ORIGINAL) The method of claim 51 wherein the step of forming the first and the second conductive regions comprises applying conductive material on the first surface.

54. (ORIGINAL) The method of claim 51 wherein the dielectric substrate comprises conductive material on the first surface, and wherein the step of forming the first and the second conductive regions comprises removing regions of the conductive material

such that the remaining conductive material comprises the first and second conductive regions.

55. (ORIGINAL) The method of claim 51 wherein the step of forming the first ground plane comprises forming the first ground plane on the first surface by disposing conductive material on the first surface.

56. (ORIGINAL) The method of claim 51 wherein the dielectric substrate comprises conductive material on the first surface, and wherein the step of forming the first ground plane comprises removing conductive material from the first surface such that the remaining conductive material comprises the first ground plane.

57. (ORIGINAL) The method of claim 51 wherein the dielectric substrate further comprises a second surface parallel to the first surface, and further comprising forming a second ground plane and third and fourth spaced-apart conductive regions on the second surface, wherein a shape of the third and the fourth conductive regions is substantially similar to a shape of the first and the second conductive regions, and wherein the third and the fourth conductive regions are disposed underlying and substantially aligned with the first and the second conductive regions, respectively.

58. (NEW) The antenna system of claim 22 operative in a first mode wherein one of the first and the second monopole elements is operative in response to a measured signal metric or operative in a second mode wherein both the first and the second monopole elements are operative, and wherein in both the first and the second modes the first and the second monopole elements operate in conjunction with the first signal feed and the second signal feed, respectively.