WHAT IS CLAIMED IS:

1. A communications apparatus comprising:

a first antenna;

a first serial configuration of a first power amplifier and a first matching network;

a second serial configuration of a second power amplifier and a second matching network;

a switching element for switchably selecting the first or the second serial configuration for supplying a signal to the first antenna;

the first and the second power amplifiers supplying a respective first signal of a first power and a second signal of a second power different than the first power to the first antenna for transmitting; and

the first and the second matching networks presenting respective first and second impedances to the respective first and second power amplifiers, the first and the second impedances responsive respectively to a power-related parameter of the first and the second signals.

2. The communications apparatus of claim 1 wherein the first matching network transforms the first impedance to an impedance presented in a direction toward the first antenna, and the second matching network transforms the second impedance to an impedance presented in a direction toward the first antenna.

3. The communications apparatus of claim 1 further comprising:

a second antenna;

a third serial configuration of a third power amplifier and a third matching network;

a fourth serial configuration of a fourth power amplifier and a fourth matching network;

a second switching element for switchably selecting the third or the fourth serial configuration to supply a signal to the second antenna;

the third and the fourth power amplifiers supplying a respective third signal of a third power and a fourth signal of a fourth power different than the third power to the second antenna for transmitting;

the third and the fourth matching networks presenting a respective third and fourth impedance to the third and the fourth power amplifiers, the third and the fourth impedances responsive respectively to the third power and the fourth power; and

the first antenna operating in a first frequency band and the second antenna operating in a second frequency band different than the first frequency band.

4. The communications apparatus of claim 3 further comprising a first receiver selectably responsive to the first antenna and a second receiver selectably responsive to the second antenna.

5. The communications apparatus of claim 1 wherein the first impedance presents a load impedance that optimizes the efficiency or the power added efficiency of the first power amplifier and the second impedance presents a load impedance that optimizes the efficiency or the power added efficiency of the second power amplifier.

6. The communications apparatus of claim 1 wherein the power-related parameter comprises a power amplifier output power, an operating frequency of the communications apparatus or a voltage standing wave ratio on a conductive path between the first and the second power amplifiers and the first antenna.

7. A communications apparatus comprising:

an antenna;

a signal combiner;

a first serial configuration of a first power amplifier and a first matching network;

a second serial configuration of a second power amplifier and a second matching network;

a first switching element for switchably selecting the first or the second serial configuration to supply a signal to the antenna through the signal combiner;

the first and the second power amplifiers supplying a respective first transmitted signal of a first power and a second transmitted signal of a second power different than the first power to the antenna for transmitting;

the first and the second matching networks presenting respective first and second impedances to the first and second power amplifiers, the first and the second impedances

responsive respectively to a power-related parameter of the first and the second transmitted signals; and

a first receiver for receiving a first received signal from the signal combiner.

8. The communications apparatus of claim 7 wherein the first matching network transforms the first impedance to an impedance presented in a direction toward the antenna and the second matching network transforms the second impedance to an impedance presented in a direction toward the antenna.

9. The communications apparatus of claim 7 wherein the first impedance presents a load impedance to the first power amplifier that optimizes the efficiency or the power added efficiency of the first power amplifier and the second impedance presents a load impedance to the second power amplifier that optimizes the efficiency or the power added efficiency of the second power amplifier.

10. The communications apparatus of claim 7 further comprising a first duplexer permitting a signal to pass between the combiner and the first receiver or between the combiner and the switching element.

11. The communications apparatus of claim 7 further comprising:

a third serial configuration of a third power amplifier and a third matching network;

a fourth serial configuration of a fourth power amplifier and a fourth matching network;

a second switching element for switchably selecting the third or the fourth serial configuration to supply a signal to the antenna through the signal combiner;

the third and the fourth power amplifiers supplying a respective third transmitted signal of a third power and a fourth transmitted signal of a fourth power different than the third power to the antenna for transmitting;

the third and the fourth matching networks presenting respective third and fourth impedances to the third and the fourth power amplifiers, the third and the fourth impedances responsive respectively to the third and the fourth power;

a second receiver for receiving a second received signal from the signal combiner; and

the first and the second transmitted signals and the first received signal in a first frequency band and the third and the fourth transmitted signals and the second received signal in a second frequency band.

12. The communications apparatus of claim 7 wherein the power-related parameter comprises a power amplifier output power, an operating frequency of the communications device or a voltage standing wave ratio on a conductive path between the power amplifier and the antenna.

13. A communications apparatus comprising:

a transmitting antenna;

a receiving antenna;

a first serial configuration of a first power amplifier and a first matching network for producing a first signal, the first power amplifier operating in a first frequency band;

a second serial configuration of a second power amplifier and a second matching network for producing a second signal the second power amplifier operating in a second frequency band;

a first switching element for switchably supplying the first signal or the second signal to the transmitting antenna;

a first receiver;

a second receiver; and

a second switching element for switchably directing a signal received at the receiving antenna to the first receiver or the second receiver.

14. The communications apparatus of claim 13 further comprising an isolation structure intermediate the transmitting antenna and the receiving antenna.

15. The communications apparatus of claim 14 wherein the isolation structure further comprises a conductive structure disposed between the transmitting antenna and the receiving antenna.

16. The communications apparatus of claim 13 further comprising a dielectric substrate, wherein the transmitting and the receiving antennas each comprise a conductive structure disposed on the dielectric substrate and the isolation structure comprises a conductive structure disposed between the transmitting and the receiving antennas.

17. The communications apparatus of claim 13 wherein a signal polarization of the transmitting antenna is different from a signal polarization of the receiving antenna.

18. The communications apparatus of claim 13 wherein the first matching network presents a load impedance to the first power amplifier responsive to a power-related parameter of the first power amplifier and the second matching network presents a load impedance to the second power amplifier responsive to a power-related parameter of the second power amplifier.

19. The communications apparatus of claim 18 wherein the power-related parameter of the first power amplifier or the power-related parameter of the second power amplifier comprises a power amplifier output power, an operating frequency of the communications device or a voltage standing wave ratio on a conductive path between the power amplifier and the transmitting antenna.

20. The communications apparatus of claim 18 wherein the load impedance presented by the first matching network to the first power amplifier for controlling an efficiency or a power added efficiency of the first power amplifier signal and the load impedance presented by the second matching network to the second power amplifier for controlling an efficiency or a power added efficiency of the second power amplifier.

21. The communications apparatus of claim 13 wherein the first matching network comprises a controllable first matching network for presenting a controllable load impedance to the first power amplifier responsive to a power-related parameter of the first power amplifier, and wherein the second matching network comprises a controllable second matching network for presenting a controllable load impedance to the second power amplifier responsive to a power-related parameter of the second power amplifier.

22. A communications apparatus comprising:

a transmitting antenna;

a receiving antenna;

a first serial configuration of a first power amplifier and a first matching network, the first power amplifier producing a first signal for transmitting from the transmitting antenna;

a second serial configuration of a second power amplifier and a second matching network, the second power amplifier producing a second signal for transmitting from the transmitting antenna;

a third serial configuration of a third power amplifier and a third matching network, the third power amplifier producing a third signal for transmitting from the transmitting antenna;

a fourth serial configuration of a fourth power amplifier and a fourth matching network, the fourth power amplifier producing a fourth signal for transmitting from the transmitting antenna;

a first switching element for switchably selecting the first, the second, the third or the fourth signal for transmitting from the transmitting antenna;

the first and the second signals in a first frequency band and having a respective first and second power, the third and the fourth signals in a second frequency band and having a respective third and fourth power; and

the first, the second, the third and the fourth matching networks presenting respective first, second, third and fourth load impedances to the respective first, second, third and fourth power amplifiers responsive to a power related parameter of the respective first, second, third and fourth power amplifier.

23. The communications apparatus of claim 22 further comprising an isolation structure intermediate the transmitting antenna and the receiving antenna.

24. The communications apparatus of claim 22 wherein the isolation structure comprises a conductive structure disposed between the transmitting antenna and the receiving antenna.

25. The communications apparatus of claim 22 further comprising a dielectric substrate, wherein the transmitting and the receiving antennas each comprise a conductive structure disposed on the dielectric substrate and the isolation structure comprises a conductive structure disposed between the transmitting and the receiving antennas.

26. The communications apparatus of claim 22 wherein a signal polarization of the transmitting antenna is different from a signal polarization of the receiving antenna.

27. The communications apparatus of claim 22 wherein the first, second, third and fourth impedances optimize the efficiency or the power added efficiency of the respective first, second, third and fourth power amplifiers.

28. The communications apparatus of claim 22 wherein the power-related parameter comprises a power amplifier output power, an operating frequency of the communications device or a voltage standing wave ratio on a conductive path between the power amplifier and the transmitting antenna.

29. The communications apparatus of claim 22 wherein the first matching network comprises a controllable first matching network for presenting a controllable load impedance to the first power amplifier responsive to a power-related parameter of the first power amplifier, and wherein the second matching network comprises a controllable second matching network for presenting a controllable load impedance to the second power amplifier responsive to a power-related parameter of the second power amplifier.

30. A communications apparatus comprising:

a first antenna having a resonant frequency in a first frequency band;

a second antenna having a resonant frequency in a second frequency band;

a first and a second power amplifier respectively supplying a first and a second signal for transmitting;

a switching element for switchably supplying the first or the second signal for transmitting to the first antenna or to the second antenna responsive to the frequency of the first and the second signal for transmitting; and

an impedance controller for controlling the impedance of the first and the second antennas responsive to a power-related parameter.

31. The communications apparatus of claim 30 further comprising a first and a second receiver connected to the switching element for supplying a signal received at the first or the second antenna to the first or the second receiver responsive to a frequency of the signal received at the first or the second antenna.

32. The communications apparatus of claim 30 wherein the impedance controller controls the impedance of the first and the second antennas responsive to the

respective power related parameter of the first and the second power amplifier to control the power added efficiency or the efficiency of the first and the second power amplifiers.

33. The communications apparatus of claim 30 further comprising a first and a second matching network disposed between the respective first and second power amplifiers and the switching element, the first and the second matching networks and the impedance controller operative to control the power added efficiency or the efficiency of the first and the second power amplifiers.

34. The communications apparatus of claim 30 wherein the first and the second matching networks and the impedance controller cooperate to control a load impedance of the first and the second power amplifiers to broaden a signal bandwidth of the first and the second signals for transmitting.

35. The communications apparatus of claim 30 wherein the impedance controller controls the impedance of the first and the second antennas by controlling lumped reactive components or distributed reactive components operative with the first or the second antenna.

36. A communications apparatus comprising:

a first antenna having a resonant frequency in a first frequency band;

a second antenna having a resonant frequency in a second frequency band, the first and the second antennas presenting an antenna impedance less than about 50 ohms at a respective resonant frequency;

a signal combiner connected to the first and the second antennas;

a first and a second power amplifier respectively supplying a first and a second signal for transmitting; and

a first switching element for switchably supplying the first or the second signal for transmitting to the signal combiner, the signal combiner supplying the first or the second signal for transmitting to the first antenna or to the second antenna responsive to the frequency of the first and the second signal for transmitting; and

a first and a second matching network disposed between the respective first and second power amplifiers and the switching element, the first and the second matching

networks operative to control the power added efficiency or the efficiency of the first and the second power amplifiers.

37. The communications apparatus of claim 36 further comprising a first and a second receiver connected to the first switching element for supplying a signal received at the first or the second antenna to the first or the second receiver responsive to a frequency of the signal received at the first or the second antenna.

38. The communications apparatus of claim 36 wherein the first and the second matching networks control the power added efficiency or the efficiency of the first and the second power amplifiers according to a power-related parameter.

39. The communications apparatus of claim 38 wherein the power-related parameter comprises a power amplifier output power, an operating frequency of the communications apparatus or a voltage standing wave ratio.

40. A modular communications apparatus comprising:

a dielectric substrate;

a radiating structure disposed on a surface of the substrate;

an electronics module disposed within the dielectric substrate, the electronics module comprising:

a power amplifier;

signal receiving components;

fixed length transmission lines connecting the radiating structure and the electronics module, a length of each transmission line selected to present a desired impedance at an input and an output terminal of each transmission line without requiring separate impedance matching elements.

41. The modular communications apparatus of claim 40 wherein the desired impedance is less than 50 ohms.

42. The modular communications apparatus of claim 40 wherein the desired impedance comprises an output impedance for matching an output impedance of the power amplifier or the signal receiving components to which the transmission line is connected.

43. The modular communications apparatus of claim 40 further comprising a fiber optics element for supplying signals to and receiving signals from the electronics module.

44. The modular communications apparatus of claim 40 wherein each fixed length transmission line presents a fixed phase shift over a transmission line length.

45. A method for manufacturing a plurality of communications apparatus modules, comprising:

providing a dielectric substrate;

forming a radiating structure on the substrate;

forming receiving and transmitting components within the substrate;

determining an impedance of the receiving and transmitting components;

forming transmission lines within the substrate for interconnecting the radiating structure and the receiving and transmitting components, transmission line lengths selected to match the impedance of the receiving and transmitting components.

46. A communications apparatus comprising:

a first antenna for operation in a first frequency band;

a second antenna for operation in a second frequency band;

a first and a second transmit/receive switch;

a first receiver and a first power amplifier for operation in the first frequency band, the first receiver and the first power amplifier switchably connected to the first antenna through the first transmit/receive switch; and

a second receiver and a second power amplifier for operation in the second frequency band, the second receiver and the second power amplifier switchably connected to the second antenna through the second transmit/receive switch;

47. The communications apparatus of claim G1 further comprising a first filter interposed between the first antenna and the first switching element for attenuating signals out of the first frequency band and a second filter interposed between the second antenna and the second switching element for attenuating signals out of the second frequency band.

48. The communications apparatus of claim G1 further comprising a first matching network for controlling the impedance seen by first power amplifier and a second

matching network for controlling the impedance seen by the second power amplifier to control the power added efficiency or the efficiency of the respective first and second power amplifiers.

49. The communications apparatus of claim G1 further comprising an impedance controller for controlling the impedance of the first and the second antennas responsive to a power-related parameter.

50. A communications apparatus comprising:

a first serial connection of a first antenna, a first filter and a first receiver for operation in a first frequency band;

a second serial connection of a second antenna, and a first power amplifier for operation in the first frequency band;

a third serial connection of a third antenna, a second filter and a second receiver for operation in a second frequency band;

a fourth serial connection of a fourth antenna and a second power amplifier for operation in the second frequency band; and

wherein the first and second filters attenuate signals out of the respective first and second frequency bands.

51. The communications apparatus of claim H1 further comprising a first matching network for controlling the impedance seen by first power amplifier and a second matching network for controlling the impedance seen by the second power amplifier to control the power added efficiency or the efficiency of the respective first and second power amplifiers.

52. An antenna for use in a communications device, comprising:

one or more resonant elements presenting a first resonant frequency responsive to operation of the communications device in a first frequency band, wherein the first resonant frequency is within a highest frequency band in which the communications device is capable of operating; and

an antenna controller for controlling one or more antenna operating parameters to present a second resonant frequency responsive to operation of the communications device in a second frequency band.

53. The antenna of claim 52 wherein the operating parameters comprise one of resonant frequency and antenna terminal impedance.

54. The antenna of claim 52 wherein operation in the first frequency band is at a first power level and operation in the second frequency band is at a second power level different from the first power level.