

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 under Section 1.121 is respectfully requested.

1-3. (CANCELLED)

4. (CURRENTLY AMENDED) An antenna apparatus ~~operative with a power amplifier, responsive to a power control signal,~~ the antenna apparatus comprising:

~~an active element antenna for transmitting signals, the antenna having an input impedance; supplied by the power amplifier, a power amplifier supplying a signal to the antenna for transmitting, the power amplifier having an variable output power responsive to a power control signal, and a power amplifier output impedance responsive thereto a variable output impedance, variable according to the output power; wherein the power amplifier is responsive to the power control signal for producing the variable output power; and~~

an antenna impedance controller responsive to the power control signal, or to the power amplifier output power, or to the power amplifier output impedance; and

controllable structural elements controllable by the antenna impedance controller, an impedance controlling element for determining controlling the antenna input impedance and therefore the impedance into which the power amplifier operates by modifying the antenna input impedance or by transforming the antenna input impedance, the impedance controlling element responsive to the power amplifier variable output power or the power amplifier variable output impedance for controlling the impedance into which the power amplifier operates to increase the power amplifier efficiency.

5.-9. (CANCELLED)

10. (CURRENTLY AMENDED) A wireless communications device producing a power control signal, the device comprising:

~~an antenna for transmitting signals, the antenna having an input impedance;~~

~~a power amplifier supplying a signal to the antenna for transmitting, the power amplifier having a variable output power responsive to a power control signal and responsive thereto a variable output impedance according to the output power; , wherein the power amplifier is responsive to the power control signal for producing the variable output power; and~~

an antenna having an input impedance, the antenna comprising:

a radiating element antenna for transmitting the signal supplied by the power amplifier;

an antenna impedance controller responsive to the power control signal, to the power amplifier output power, or to the power amplifier output impedance; and

controllable structural elements controllable by the antenna impedance controller for determining the antenna input impedance and therefore the impedance into which the power amplifier operates to increase the power amplifier efficiency.

~~an impedance controlling element for controlling the impedance into which the power amplifier operates by modifying the antenna input impedance or by transforming the antenna input impedance to increase the power amplifier efficiency, the impedance controlling element responsive to an operating parameter of the power amplifier or responsive to a characteristic of the first signal.~~

11. (CANCELLED)

12. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the antenna impedance controller controls the input impedance is modified to maintain the input impedance between a first and a second value by changing characteristics of the controllable structural elements.

13. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the ~~characteristic of the signal comprises a power level or a standing wave ratio, and wherein the~~ input impedance into which the power amplifier operates is continuously controlled to maintain the power amplifier efficiency substantially at a predetermined efficiency.

14. (CANCELLED)

15. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the controllable structural elements antenna ~~further~~ comprises a radiating element and a feed terminal connected to the radiating element, thereto, and wherein the antenna impedance controller controlling element controls the input impedance ~~an operating parameter of the antenna~~ by modifying ~~comprising~~ a location of the feed terminal on the radiating element.

16. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the controllable structural elements antenna ~~further~~ comprises a radiating element and a ground terminal connected between the radiating element and a ground, and wherein the antenna impedance controller controlling element controls the input impedance ~~an operating parameter of the antenna~~ by modifying ~~comprising~~ a location of the ground terminal on the radiating element.

17. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the controllable structural elements antenna ~~further~~ comprises a radiating element, ~~a~~ feed terminal connected to the radiating element and a ground terminal connected between the radiating element and a ground, and wherein the antenna impedance controller controlling element controls the input impedance of the antenna by modifying a distance between the feed terminal and the ground terminal or a location of one or both of the feed terminal and the ground terminal on the radiating element.

18. (CURRENTLY AMENDED) The wireless communications device of claim 10 further comprising transmitting circuits for producing an information signal supplied to the power amplifier, wherein the power amplifier supplies the signal in

response to the information signal, and wherein the transmitting circuits produce a control signal input to the antenna impedance controller ~~controlling element~~ for controlling the antenna input impedance, ~~into which the power amplifier operates.~~

19. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the power amplifier supplies a control signal to the antenna impedance controller ~~controlling element~~ for use by the antenna impedance controller ~~controlling element~~ to control the controllable structural elements and thereby the antenna input impedance, ~~into which the power amplifier operates~~, wherein the control signal represents an operating parameter of the power amplifier or a characteristic of the signal.

20. (CURRENTLY AMENDED) The wireless communications device of claim 10 wherein the antenna impedance controller is further responsive characteristic of the signal comprises one of the power level of the signal and to a voltage standing wave ratio of the signal for use by the antenna impedance controller for controlling the input impedance of the antenna.

21.-24. (CANCELLED)

25. (PREVIOUSLY PRESENTED) The wireless communications device of claim 10 further comprising a manually operated control element for controlling the impedance into which the power amplifier operates in response to manual manipulation of the control element.

26-58. (CANCELLED)