What is claimed is:

1. A power generator, comprising:

a plurality of amplifier blocks, each including a plurality of amplifiers; and

a combiner to combine modulated signals output from the plurality of amplifier blocks to generate a radio frequency (RF) power signal to be provided to a load, wherein the plurality of amplifier blocks are configured to outphase the modulated power signals based upon at least one phase angle, and wherein each of the plurality of amplifier blocks is configured to perform discrete modulation to generate a respective one of the modulated power signals, the discrete modulation including selecting different combinations of the plurality of amplifiers to change the RF power signal in discrete steps.

2. The power generator of claim 1, wherein each of the plurality of amplifiers is configured to generate a fixed voltage.

3. The power generator of claim 1, wherein each of the plurality of amplifiers is configured to operate in switched-mode.

4. The power generator of claim 1, wherein the different combinations of the plurality of amplifiers are configured to implement a predetermined sequence of discrete step changes in the RF power signal.

5. The power generator of claim 1, wherein each of the plurality of amplifier blocks is configured to generate a corresponding one of the modulated power signals based on at least one modulated power supply voltage.

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6. The power generator of claim 5, further comprising a discrete drain modulator configured to modulate the power supply voltage via a discrete drain modulation.

7. The power generator of claim 1, further comprising an impedance transformer configured to change an output impedance of the combiner to match an impedance of the load.

8. The power generator of claim 7, wherein:

the impedance transformer comprises a tunable matching network; and

the tunable matching network is configured to change the output impedance of the combiner in discrete steps to match changes in the impedance of the load.

9. The power generator of claim 8, wherein tunable matching network is configured to vary one or more shunt reactances to change the output impedance of the combiner in discrete steps to match changes in the impedance of the load.

10. The power generator of claim 7, wherein:

the output impedance of the combiner changes when different combinations of the plurality of power amplifiers are selected for each one of the plurality of amplifier blocks, and

the impedance transformer converts the changing output impedance of the combiner to match the impedance of the load.

11. The power generator of claim 1, wherein each of the plurality of amplifier blocks are configured to operate in common mode.

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12. The power generator of claim 1, wherein at least one of the plurality of amplifier blocks is configured to receive a signal, the signal controlling an on state or an off state of the at least one of the plurality of amplifier blocks to change the RF power signal in discrete steps.

13. The power generator of claim 12, wherein the discrete step changes of the RF power signal caused by selecting different combinations of the plurality of amplifiers is different from the discrete step change of the RF power signal caused by controlling the on state or the off state of the at least one of the plurality of amplifier blocks.

14. The power generator of claim 1, wherein the load includes a plasma generator.

15. A method for managing power, comprising:

generating a first modulated power signal from a first amplifier block;

generating a second modulated power signal from at least a second amplifier block;

outphasing the first and second modulated power signals based on a phase angle; and

generating an RF power signal for a load based on the outphased first and second modulated power signals, wherein generating the first modulated power signal includes switching different combinations of a plurality of amplifiers in the first amplifier block and generating the second modulated power signal includes switching different combinations of a plurality of amplifiers in the second amplifier block.

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16. The method of claim 15, wherein the different combinations includes different numbers of switching amplifiers in the first amplifier block and different numbers of switching amplifiers in the second amplifier block.

17. The method of claim 16, wherein the different combinations of the plurality of amplifiers are configured to implement a predetermined sequence of discrete step changes in the RF power signal.

18. The method of claim 15, further comprising:

inputting at least a first supply voltage to the first amplifier block; and

inputting at least a second supply voltage to the second amplifier block,

wherein the first and second supply voltages are discrete drain modulated voltages.

19. The method of claim 15, further comprising:

changing an output impedance of a combiner to match an impedance of the load,

wherein the combiner generates the RF power signal based on the outphased first and second modulated power signals.

20. The method of claim 15, further comprising:

changing an output impedance of a combiner to match an impedance load,

wherein the combiner generates the RF power signal based on the outphased first and second modulated power signals, and has an impedance which changes based on changes in a number of switching power amplifiers in the first amplifier block.

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