Claims

What is claimed is:

1. A communication device comprising:

a plurality of power amplifiers in a radio frequency transmit chain;

a selection criterion determination circuit configured to determine a criterion for which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used;

a power amplifier selection circuit configured to determine ~~for every~~which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain~~, whether the power amplifier~~ should be used based on the determined criterion; and

a transmitter configured to use the one or more power amplifiers for which it has been determined that they should be used for transmitting data,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time.

2. The communication device of claim 1, further comprising:

a single common variable gain amplifier configured to be used with each of the plurality of power amplifiers in the radio frequency transmit chain.

~~3. The communication device of claim 1, further comprising:~~

~~a selection criterion determination circuit configured to determine a criterion for which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used.~~

~~4. The communication device of claim 3,~~

~~wherein the power amplifier selection circuit is further configured to determine which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used based on the determined criterion.~~

~~5. The communication device of claim 3,~~

~~wherein the criterion comprises an indicator.~~

~~6~~3. The communication device of claim 1 or 2~~claim 5~~,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, ~~a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time, or~~and a power amplifier index.

~~7~~4. The communication device of any one of claims 1 to 3~~claim 1~~, further comprising:

a switch configured to selectively connect the determined one or more power amplifiers in a transmission path of the communication device.

~~8~~5. The communication device of any one of claims 1 to 4~~claim 1~~,

wherein at any time, one or more power amplifiers of the communication device are used.

~~9~~6. A method for controlling a communication device, the method comprising:

determining a criterion for which one or more power amplifiers of a plurality of power amplifiers in a radio frequency transmit chain of the communication device should be used;

determining which one or more ~~for every~~ power amplifier of the plurality of power amplifiers in athe radio frequency transmit chain ~~of the communication device, whether the power amplifier~~ should be used based on the determined criterion;

and

using the one or more power amplifiers for which it has been determined that they should be used for transmitting data,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time.

~~10~~7. The method of claim ~~9~~6,

wherein a single common variable gain amplifier configured to be used with each of the plurality of power amplifiers in the radio frequency transmit chain.

~~11. The method of claim 9, further comprising:~~

~~determining a criterion for which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used.~~

~~12. The method of claim 11, further comprising:~~

~~determining which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used based on the determined criterion.~~

~~13. The method of claim 11,~~

~~wherein the criterion comprises an indicator.~~

~~14~~8. The method of claim ~~13~~6 or 7,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, ~~a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time, or~~and a power amplifier index.

~~15~~9. The method of any one of claims 6 to 8~~claim 9~~, further comprising:

selectively connecting the determined one or more power amplifiers in a transmission path of the communication device.

~~16~~10. A selection criterion determination circuit configured to determine a criterion for which one or more power amplifiers of a plurality of power amplifiers in a radio frequency transmit chain in a communication device should be used,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of amplifiers in the radio frequency transmit chain should be used for which fraction of time.

~~17. The selection criterion determination circuit of claim 16,~~

~~wherein the criterion comprises an indicator.~~

~~18~~11. The ~~method~~selection criterion determination circuit of claim ~~17~~10,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, ~~a sharing factor indicating which of the plurality of amplifiers in the radio frequency transmit chain should be used for which fraction of time, or~~and a power amplifier index.

~~19~~12. The selection criterion determination circuit of claim ~~16~~10 or 11,

wherein the selection criterion determination circuit is configured to be provided in the communication device ~~(100)~~.

~~20~~13. The selection criterion determination circuit of claim ~~16~~10 or 11,

wherein the selection criterion determination circuit is configured to be provided in a further communication device ~~(102)~~ in communication with the communication device.

Claims

What is claimed is:

1. A communication device comprising:

a plurality of power amplifiers in a radio frequency transmit chain;

a selection criterion determination circuit configured to determine a criterion for which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used;

a power amplifier selection circuit configured to determine which one or more power amplifiers of the plurality of power amplifiers in the radio frequency transmit chain should be used based on the determined criterion; and

a transmitter configured to use the one or more power amplifiers for which it has been determined that they should be used for transmitting data,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time.

2. The communication device of claim 1, further comprising:

a single common variable gain amplifier configured to be used with each of the plurality of power amplifiers in the radio frequency transmit chain.

3. The communication device of claim 1 or 2,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, and a power amplifier index.

4. The communication device of any one of claims 1 to 3, further comprising:

a switch configured to selectively connect the determined one or more power amplifiers in a transmission path of the communication device.

5. The communication device of any one of claims 1 to 4,

wherein at any time, one or more power amplifiers of the communication device are used.

6. A method for controlling a communication device, the method comprising:

determining a criterion for which one or more power amplifiers of a plurality of power amplifiers in a radio frequency transmit chain of the communication device should be used;

determining which one or more power amplifier of the plurality of power amplifiers in the radio frequency transmit chain should be used based on the determined criterion;

and

using the one or more power amplifiers for which it has been determined that they should be used for transmitting data,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of power amplifiers in the radio frequency transmit chain should be used for which fraction of time.

7. The method of claim 6,

wherein a single common variable gain amplifier configured to be used with each of the plurality of power amplifiers in the radio frequency transmit chain.

8. The method of claim 6 or 7,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, and a power amplifier index.

9. The method of any one of claims 6 to 8, further comprising:

selectively connecting the determined one or more power amplifiers in a transmission path of the communication device.

10. A selection criterion determination circuit configured to determine a criterion for which one or more power amplifiers of a plurality of power amplifiers in a radio frequency transmit chain in a communication device should be used,

wherein the criterion comprises an indicator comprising at least a sharing factor indicating which of the plurality of amplifiers in the radio frequency transmit chain should be used for which fraction of time.

11. The selection criterion determination circuit of claim 10,

wherein the indicator further comprises at least one of a signal to noise ratio of a communication of the communication device, and a power amplifier index.

12. The selection criterion determination circuit of claim 10 or 11,

wherein the selection criterion determination circuit is configured to be provided in the communication device.

13. The selection criterion determination circuit of claim 10 or 11,

wherein the selection criterion determination circuit is configured to be provided in a further communication device in communication with the communication device.