Claims

1. A method of operation of a wireless device (18) comprising a first reference crystal oscillator (26-1) that operates at a first reference frequency and a second reference crystal oscillator (26-2) that operates at a second reference frequency that is greater than the first reference frequency, comprising:

making (100) a decision to configure a receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2); and

configuring (114) the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2) in accordance with the decision; characterized in that

upon making (100) the decision to configure the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2), causing (112) adaptation of the second reference crystal oscillator (26-2) based on an output of the first reference crystal oscillator (26-1).

2. The method of claim 1 wherein: configuring (114) the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2) comprises connecting (114) a phase locked loop (44) of the receiver (22) of the wireless device (18) to the second reference crystal oscillator (26-2) and configuring (114) the phase locked loop (44) based on the second reference frequency such that a controlled oscillator (46) that is controlled by the phase locked loop (44) provides an output signal at a desired local oscillator frequency.

3. The method of claim 2 further comprising, upon making (100) the decision to configure the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2), activating (108) the first reference crystal oscillator (26-1) and activating (110) the second reference crystal oscillator (26-2) prior to configuring (104) the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2).

4. The method of claim 1 wherein the first reference crystal oscillator (26-1) was previously tuned during a synchronization process in which the wireless device (18) was synchronized to a radio access node (14) in a wireless communication system (10).

5. The method of any one of claims 1 to 4 further comprising, upon making (100) the decision to configure the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2), deactivating (116) the first reference crystal oscillator (26-1).

6. The method of any one of claims 1 to 5 wherein making the decision to use the second reference crystal oscillator (26-2) comprises making the decision if the wireless device (18) is synchronized to a wireless network.

7. The method of claim 1 wherein making (100) the decision to use the second reference crystal oscillator (26-2) comprises making (402) the decision based on a carrier frequency of a signal to be received by the receiver (22) of the wireless device (18).

8. The method of claim 7 wherein making (402) the decision based on the carrier frequency of the signal to be received by the receiver (22) of the wireless device (18) comprises making (402) the decision to use the second reference crystal oscillator (26-2) if the carrier frequency is greater than a predefined or preconfigured threshold.

9. The method of claim 8 wherein the predefined or preconfigured threshold is greater than or equal to 4 gigahertz, GHz.

10. The method of claim 8 wherein the predefined or preconfigured threshold is greater than or equal to 10 gigahertz, GHz.

11. The method of any one of claims 1 to 10 wherein the first reference frequency is less than or equal to 52 megahertz, MHz, and the second reference frequency is greater than or equal to 100 MHz.

12. A wireless device (18) comprising a first reference crystal oscillator (26-1) that operates at a first reference frequency and a second reference crystal oscillator (26-2) that operates at a second reference frequency that is greater than the first reference frequency, the wireless device (18) comprising a control unit (24) adapted to:

make a decision to configure a receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2); and

configure the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2) in accordance with the decision; and characterized in that the control unit (24) is further adapted to:

upon making (100) the decision to configure the receiver (22) of the wireless device (18) to use the second reference crystal oscillator (26-2), cause(112) adaptation of the second reference crystal oscillator (26-2) based on an output of the first reference crystal oscillator (26-1).

13. The wireless device (18) of claim 12 wherein the wireless device (18) is further adapted to operate according to the method of any one of claims 2 to 11.

14. The wireless device of claim 12 or 13 wherein the receiver of the wireless device is adapted to receive signals having a millimeter wave carrier frequency when the wireless device is configured to use the second reference crystal oscillator.

15. The wireless device of any of claims 12 to 14 wherein the wireless device is a User Equipment or a Machine Type Communication Device.