US006215982B1

(54) **WIRELESS COMMUNICATION METHOD AND DEVICE WITH AUXILIARY RECEIVER FOR SELECTING DIFFERENT CHANNELS**

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( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(51) Int. Cl.$^7$ ................................................ H04B 15/00
(52) **U.S. Cl.** .............................. **455/63**; 455/452; 455/561
(58) **Field of Search** ............................. 455/63, 454, 452, 455/561, 62, 513, 514, 161.1, 161.2, 161.3, 132, 134, 135; 375/220

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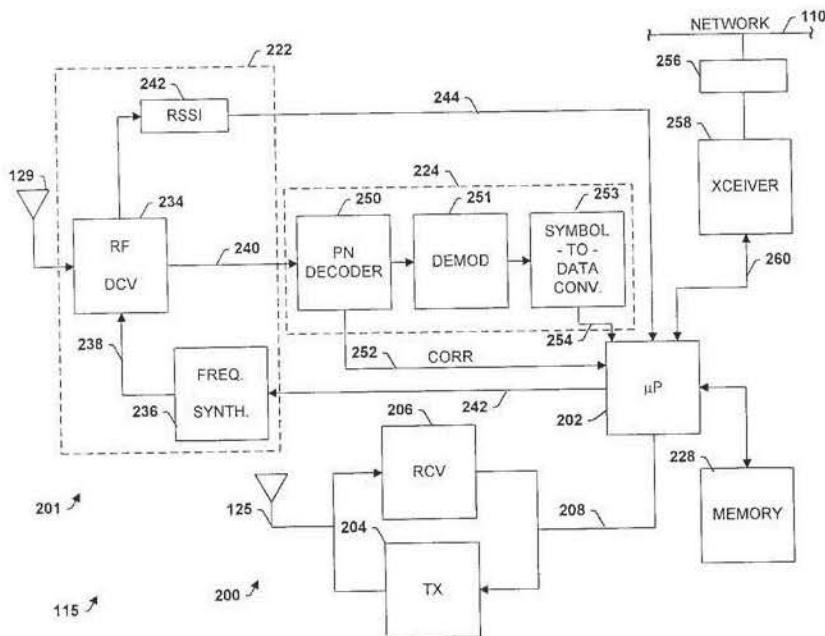| | | | | |
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(57) **ABSTRACT**

A wireless communication device and method which includes the introduction of a auxiliary receiver or transceiver which is included in a base station or mobile terminal in addition to a transceiver used to communicate between devices. The auxiliary receiver or transceiver serves to monitor substantially continuously the noise conditions on available communication channels other than the channel currently being utilized for communication between devices. Whenever the noise conditions on the current channel goes above a preset threshold level, for example, the base station or mobile terminal is informed by virtue of the operation of the auxiliary receiver or transceiver of the best alternative channel to which to change.
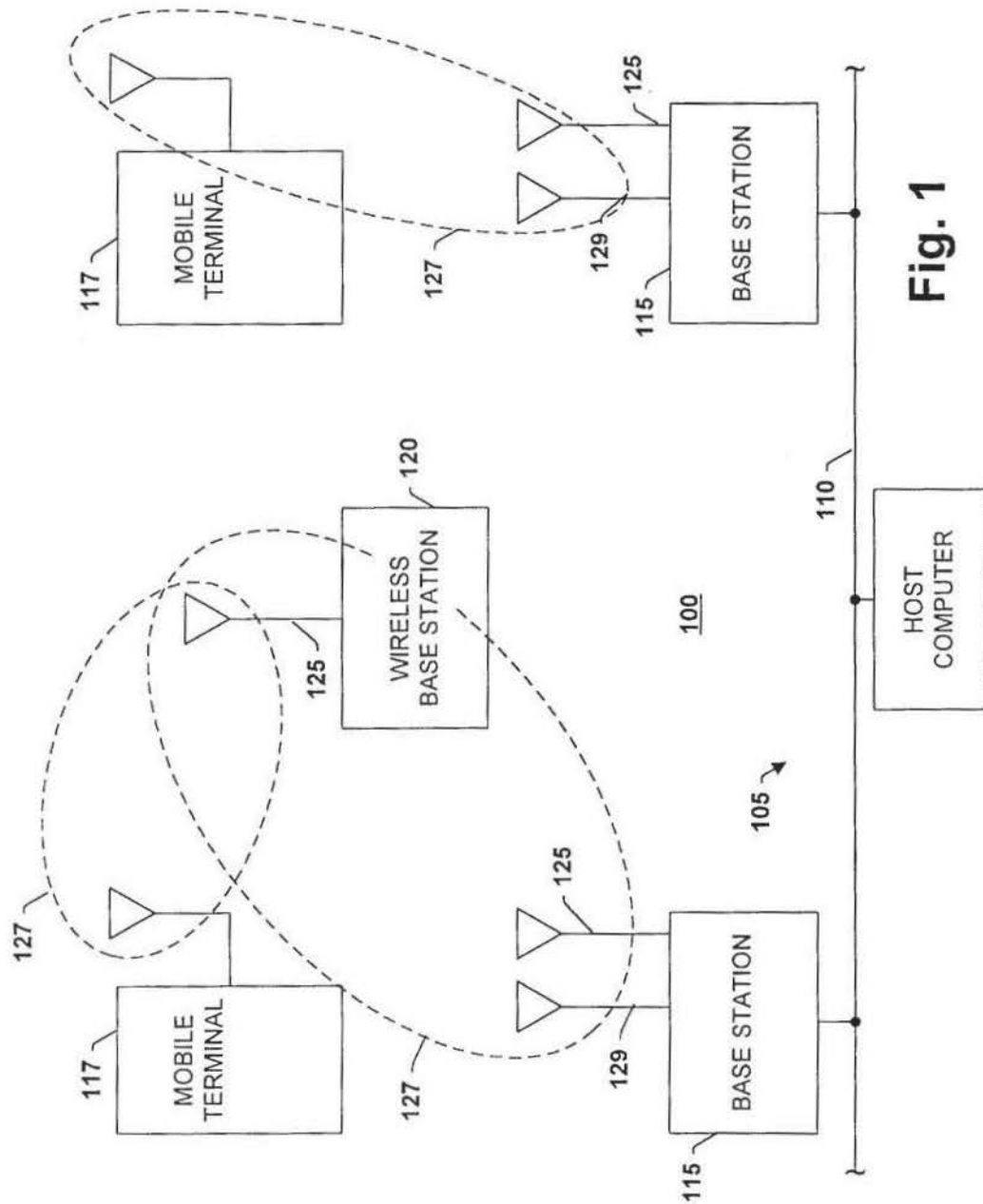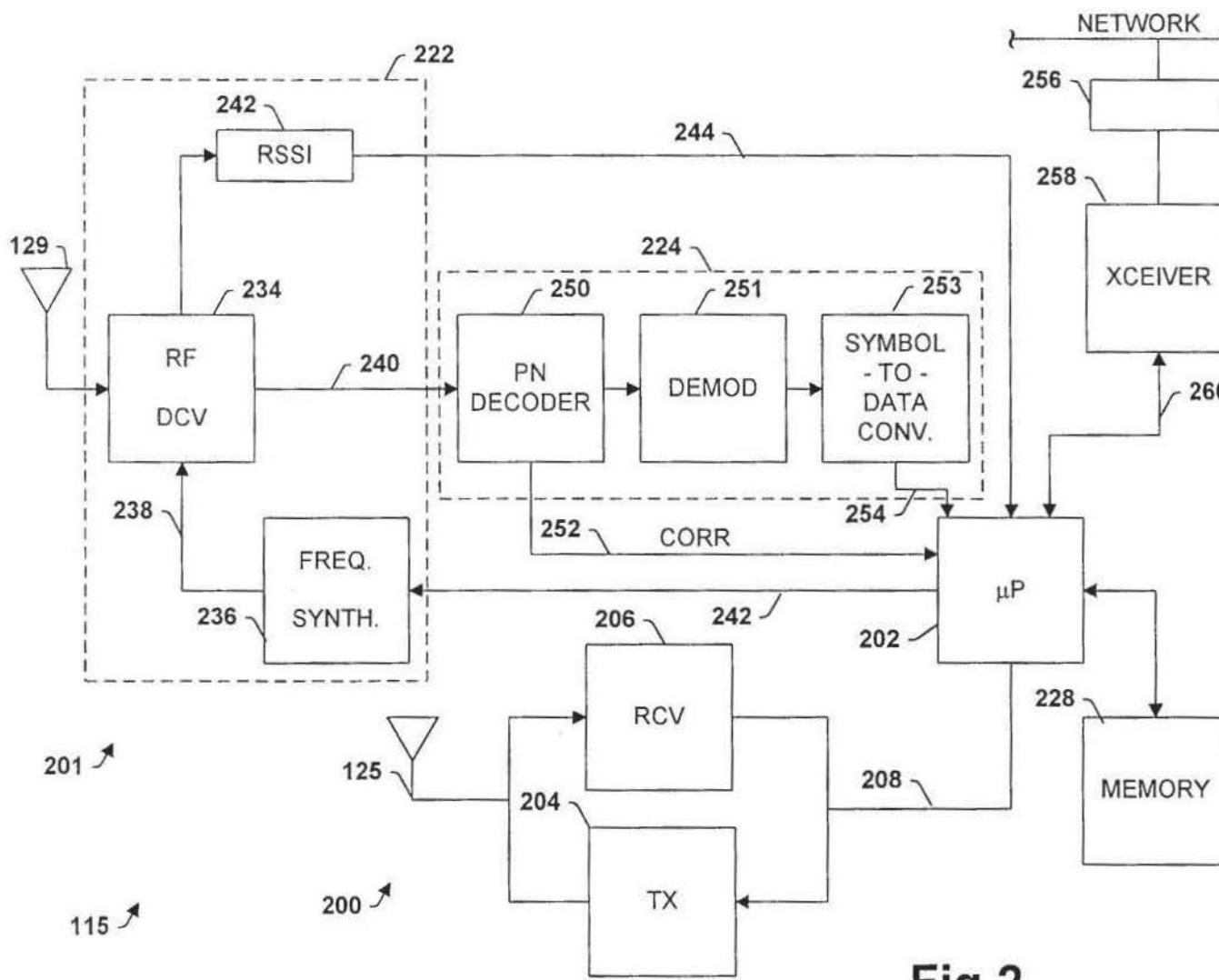
**38 Claims, 8 Drawing Sheets**

Fig. 1

Fig.2

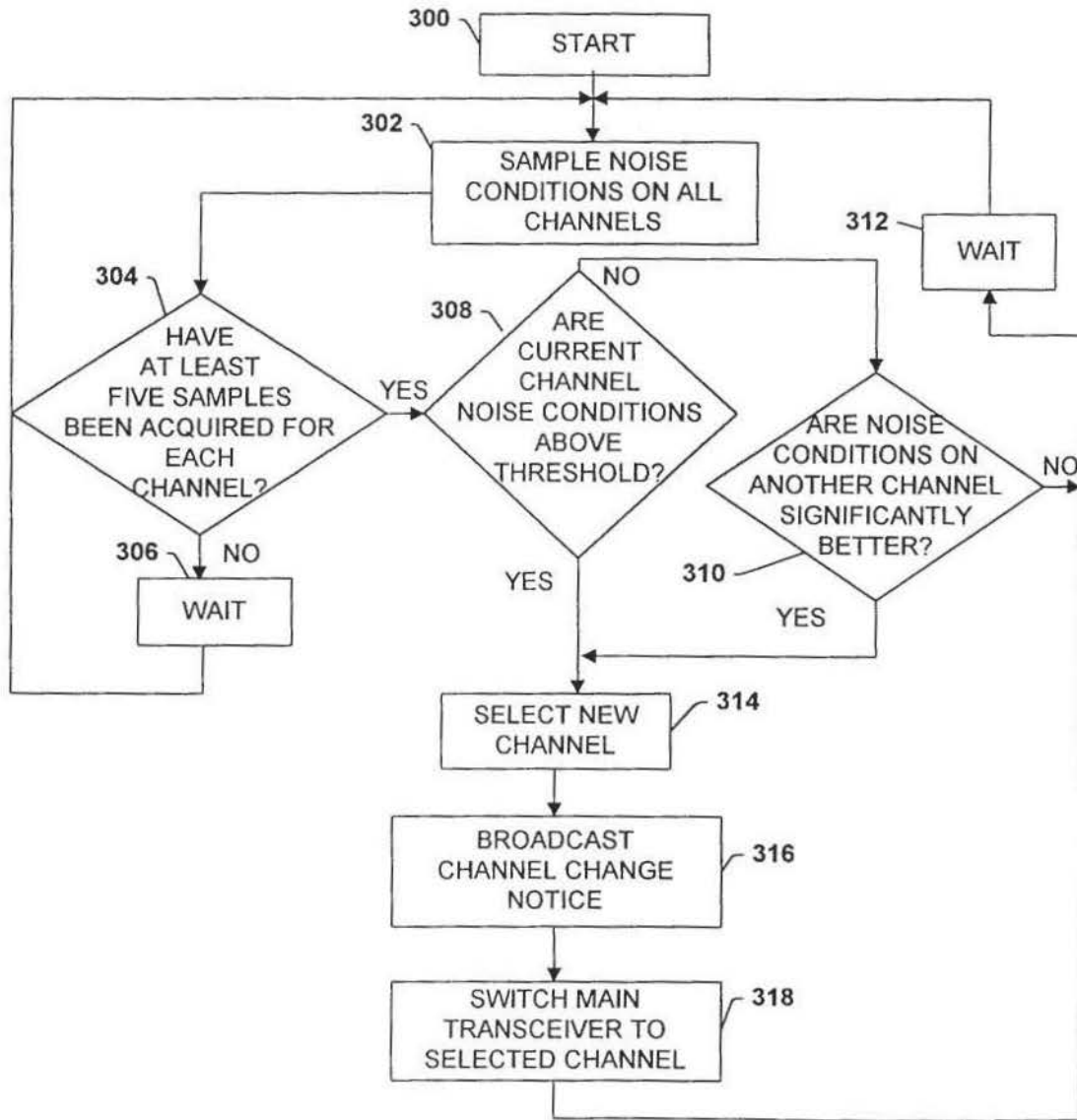| CHANNEL | 266 ↘ RSSI Avg. for Most Recent Sample (Non-Correlated) | 268 ↘ RSSI Avg. for Most Recent Sample (Correlated) | 270 ↘ RSSI Avg. for Most Recent Five Samples (Non-Correlated) | 272 ↘ RSSI Avg. for Most Recent Five Samples (Correlated) | 274 Bea Rec Duri Rec Sam (Yes |
|---------|---|---|---|---|---|
| A | | | | | |
| B | | | | | |
| C | | | | | |
| D | | | | | |
| E | | | | | |

264 ↗

# Fig. 3

Fig. 4

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