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Bamburak et al.

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(54) **METHOD FOR CATEGORIZATION OF MULTIPLE PROVIDERS IN A WIRELESS COMMUNICATIONS SERVICE ENVIRONMENT**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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

This patent is subject to a terminal disclaimer.

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(51) **Int. Cl.**⁷ **H04Q 7/00**; H04Q 9/00

(52) **U.S. Cl.** **455/31.1**; 455/62; 455/161.3; 455/168.1; 455/185.1

(58) **Field of Search** 455/62, 67.1, 67.7, 455/120, 154.1, 154.2, 160.1, 161.1-168.1, 179.1, 180.1, 186.1, 186.2, 185.1, 447, 450, 464, 161.3, 161.2, 422, 551, 552, 31.1

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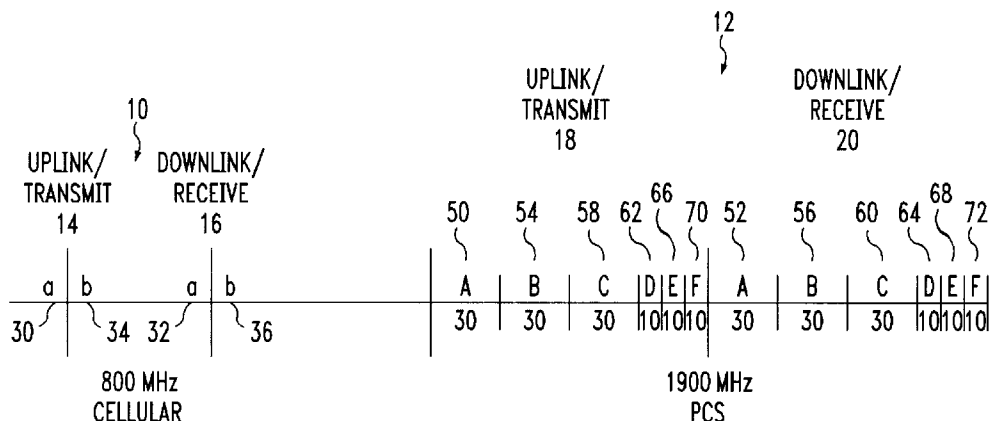
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Primary Examiner—William A. Cuchlinski, Jr.
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(57) **ABSTRACT**

A communication device locates a preferable wireless service provider in a multi-service provider environment using a frequency band search schedule. Initially, the communications device registers with a less preferred service provider in a first frequency band. While remaining registered with the less preferred service provider, the device examines several frequency bands in the order specified by the frequency band search schedule. A frequency band is examined by dividing the frequency band into many sub-bands, and by locating the strongest signal above a threshold within the sub-band being examined. The examination continues until a second frequency band having a more preferred service provider is located. The communication device then registers with the more preferred service provider. The category of service provider may be identified and displayed on the communication device.

10 Claims, 6 Drawing Sheets



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FIG. 1

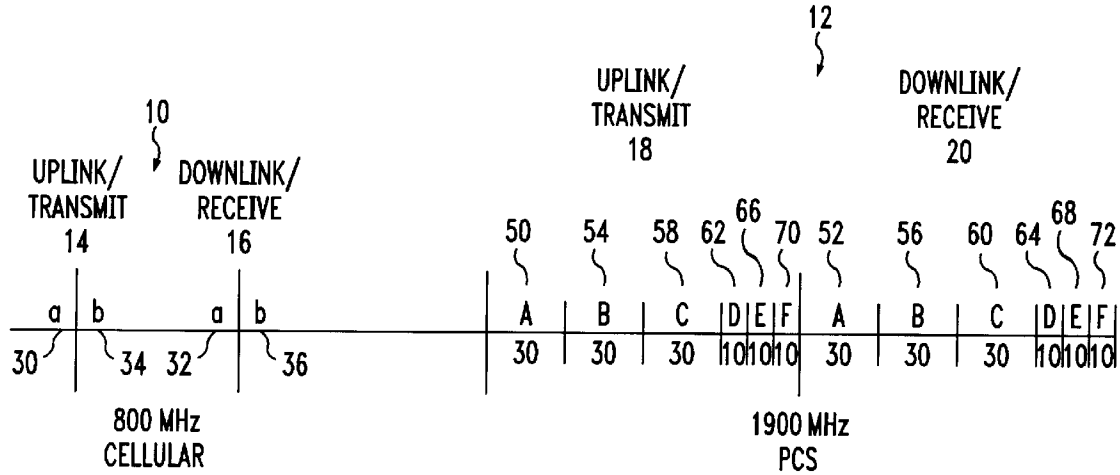


FIG. 2

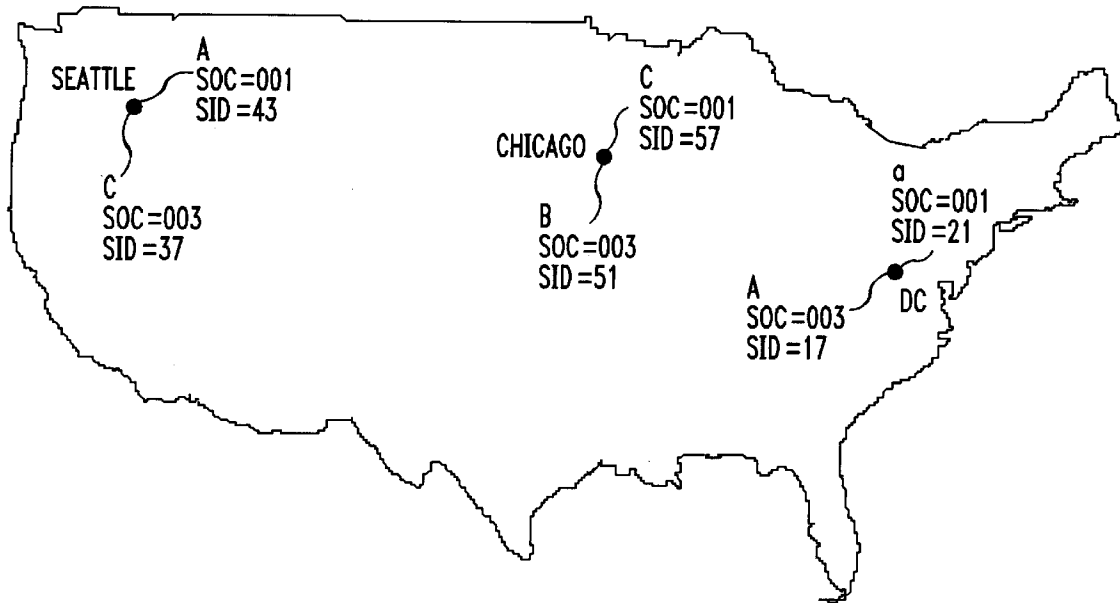


FIG. 3

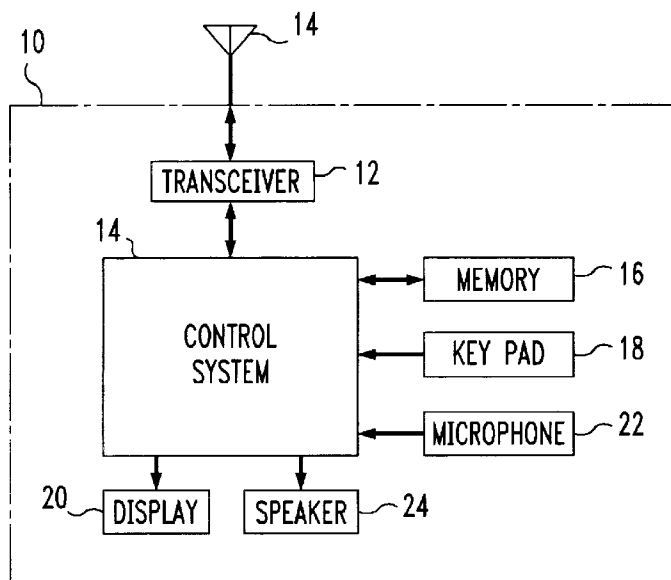


FIG. 4

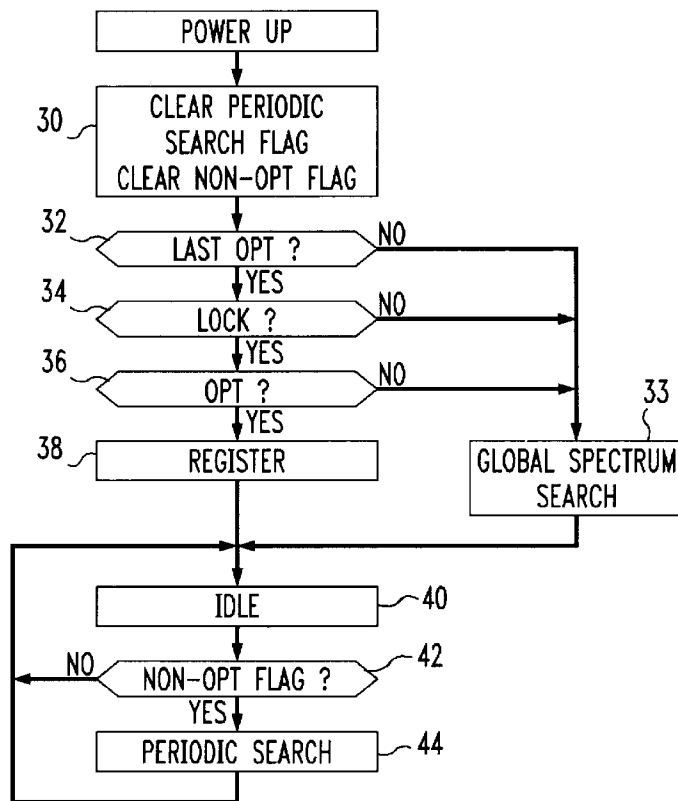
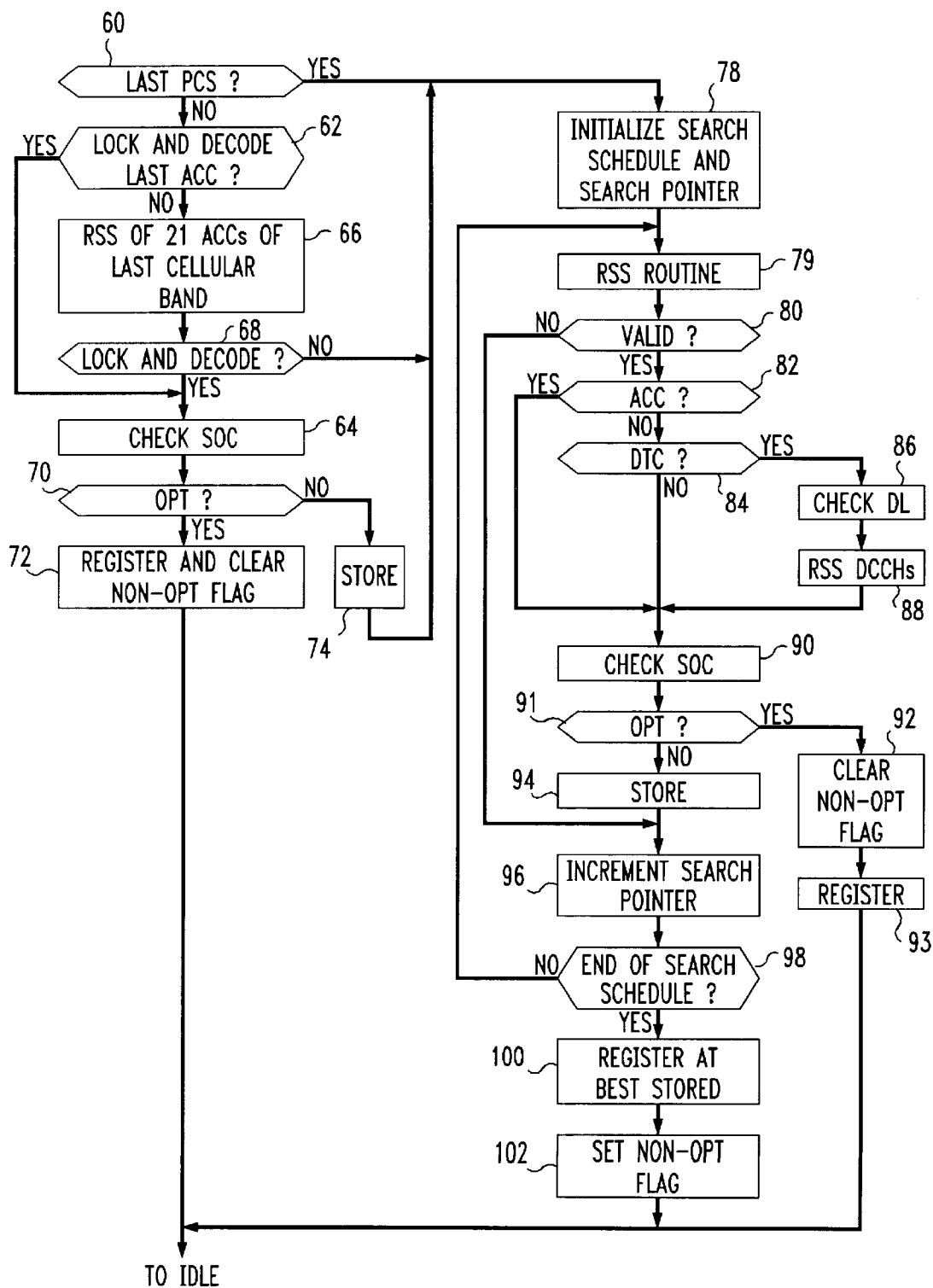


FIG. 5



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