

(12) United States Patent

Daudelin et al.

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| (54) | METHOD AND SYSTEM FOR MONITORING |
|------|----------------------------------|
| | AN OPERATIONAL AREA OF A |
| | SUBSCRIBER STATION |

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(51) **Int. Cl.**⁷ **H04Q 7/20**; H04M 1/66

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Field of Search 455/410, 411, 455/423, 456.1, 432.1, 67.11, 67.16, 421,

435.1; 340/5.2, 5.8

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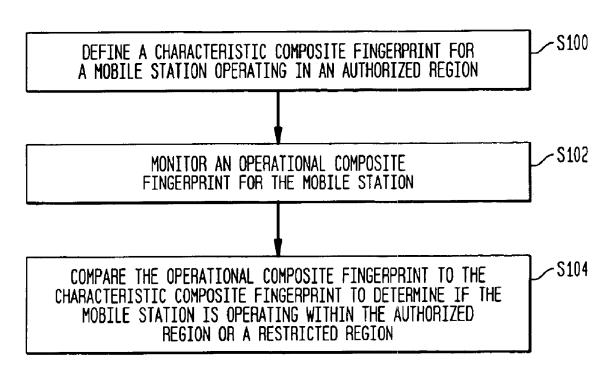
^{*} cited by examiner

Primary Examiner-Erika A. Gray

ABSTRACT

A system and method for monitoring the operational area of one or more subscriber stations in a wireless system facilitates determining whether subscriber stations are operating in their authorized coverage areas or not. The system and method first defines a characteristic composite fingerprint for a subscriber station associated with the operation of a subscriber station in an authorized coverage area. An operational area monitor monitors an operational composite fingerprint for the subscriber station. The monitor or another network element compares the operational composite fingerprint to the characteristic composite fingerprint to determine if the subscriber station is operating within the authorized coverage area or the restricted coverage area.

25 Claims, 7 Drawing Sheets





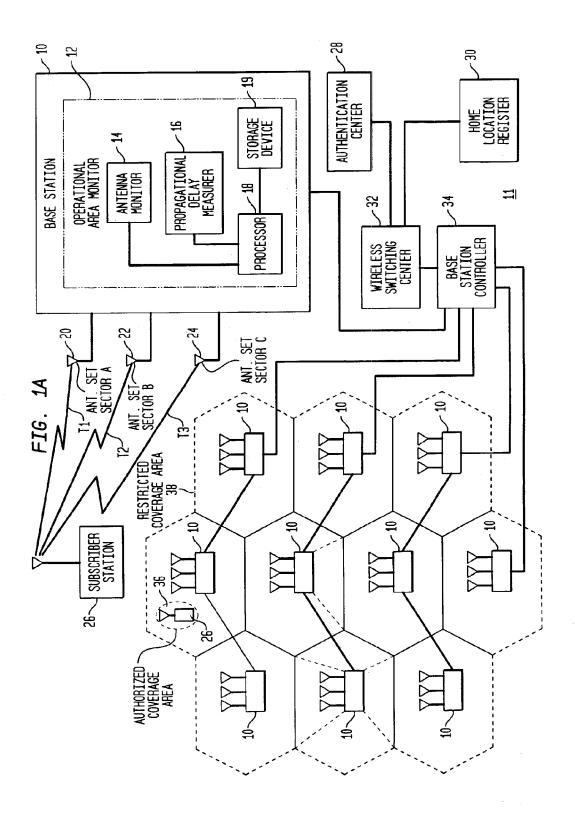




FIG. 1B

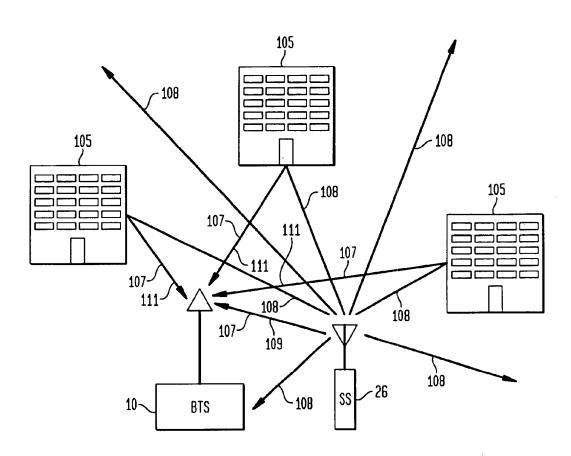


FIG. 2

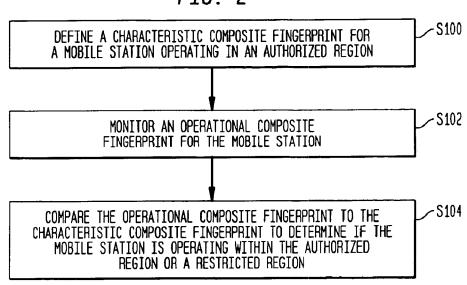


FIG. 3

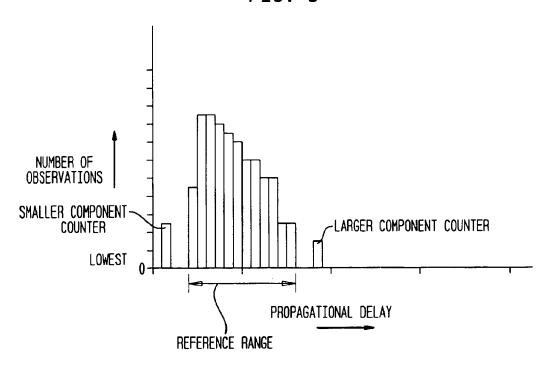
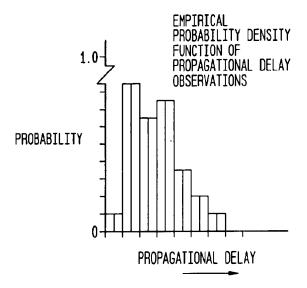




FIG. 4



NUMBER OF OBSERVATIONS

FIRST SECTOR SECOND SECTOR ANTENNA SET

OBSERVATION OF RECEIVE SIGNALS



DOCKET

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