

It is therefore the object of the invention to make available to the thus authorized public services such as, for example, the police, a method by which, in a digital cellular mobile telephony network, any users of mobile telephones can be identified and, optionally, their conversations can be intercepted.

This object is achieved by the features of claim 1, and/or by the features of claim 5. Advantageous developments, particularly in respect of the interception of such identified mobile telephones, and also in respect of a simple equipment unit for executing such a method, are disclosed by the sub-claims.

The invention is explained more fully in the following with reference to schematic drawings, using the embodiment example of the known GSM (Global System for Mobile Communications) mobile telephony network, wherein

Fig. 1 shows, in schematic form, the cellular BTS areas, their combination to form so-called LACs, and the ideally close position of the mobile telephone MS to the VBTS, and

Fig. 2 shows, in schematic form, the illustrative possibilities for the connection of a computer notebook to the VBTS and the connection of a test mobile telephone, as well as the modes of transmission to a BTS and the MS.

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The abbreviations and terms used in the following description are standardized (ETR 350 GSM 01.04) and are explained more fully in the corresponding standard

Claims

1. Method for identifying a mobile telephone (MS) in a public digital cellular mobile telephony network,
5 a virtual base station (VBTS) with a test mobile telephone (TMS) connected thereto being operated in spatial proximity to the mobile telephone (MS),
the network base station (BTS1), assigned to the selected location, having the highest power being used to ascertain,
10 through a cell monitoring by means of the test mobile telephone (TMS), the list (BA) of all base stations adjacent to the location,
there being selected therefrom a base station (BTS2), which is adjacent to the base station (BTS1) of highest power
15 assigned to the selected location,
and the virtual base station (VBTS) being then operated on its channel frequency (BCCH) with a power which, at the mobile telephone (MS), is greater than that of the network base station (BTS1) associated with the location, and with
20 an area code which differs from the area code (LAC) associated with the location,
and the mobile telephone (MS) being thereby caused to reselect to the virtual base station (VBTS) and exchange its parameters (IMSI, IMEI) with the latter.

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~~2. Method according to claim 1,~~
~~characterized in that~~
wherein, following the inscription of the mobile telephone (MS) on the virtual base station (VBTS), erroneous data is
30 transmitted on the paging channel (PCH) by the virtual base station until the mobile telephone (MS) performs a base-station reselection to the public network.

32. Method according to claim 21,

characterized in that

from the list (BA) of all adjacent base stations, obtained
in the cell monitoring, there is ascertained at least one
5 adjacent base station whose list (BA) does not contain the
channel used by the virtual base station (VBTS), and this
base station is then entered in the list (BA) emitted by
the virtual base station.

10 43. Method according to any one of the preceding claims,

characterized in that

for the purpose of intercepting the outgoing calls from the
identified mobile telephone (MS), the test mobile telephone
(TMS) is set so that it inscribes on a network base station
15 (BTS),
and, in the case of a call of the mobile telephone (MS) to
be intercepted being received by the virtual base station
(VBTS), the called telephone number is captured and
transferred to the test mobile telephone (TMS), which then,
20 in turn, dials this telephone number in the network and
simultaneously establishes the voice connection between the
test mobile telephone (TMS) and the virtual base station
(VBTS), connected to the mobile telephone (MS) to be
intercepted, via which the established connection can then
25 be intercepted.

54. Method according to any one of the preceding claims,

characterized in that

for the purpose of intercepting the calls received by the
30 identified mobile telephone (MS), the test mobile telephone
(TMS) inscribes with the data of the mobile telephone (MS)
in the public network, so that a call for the mobile
telephone (MS) to be intercepted that is received by the

test mobile telephone (TMS) is forwarded to the mobile telephone via the virtual base station (VBTS).

5 5. Method for identifying a mobile telephone (MS) in a
public digital cellular mobile telephony network,
a virtual base station (VBTS) with a test mobile telephone
(TMS) connected thereto being operated in spatial proximity
to the mobile telephone (MS),
the network base station (BTS1), assigned to the selected
10 location, having the highest power being used to ascertain,
through a cell monitoring by means of the test mobile
telephone (TMS), the list (BA) of all base stations
adjacent to the location,
there being selected therefrom a base station (BTS2), which
15 is adjacent to the base station (BTS1) of highest power
assigned to the selected location,
and the virtual base station (VBTS) being then operated on
its channel frequency (BCCH) with a power which, at the
mobile telephone (MS), is greater than that of the network
20 base station (BTS1) associated with the location, and with
an area code which differs from the area code (LAC)
associated with the location,
and the mobile telephone (MS) being thereby caused to
reselect to the virtual base station (VBTS) and exchange
25 its parameters (IMSI, IMEI) with the latter,
wherein, for the purpose of intercepting the calls received
by the identified mobile telephone (MS), the test mobile
telephone (TMS) inscribes with the data of the mobile
telephone (MS) in the public network, so that a call for
30 the mobile telephone (MS) to be intercepted that is
received by the test mobile telephone (TMS) is forwarded to
the mobile telephone via the virtual base station (VBTS).

6. Method according to claim 5,

characterized in that

following the inscription of the mobile telephone (MS) on
the virtual base station (VBTS), erroneous data is

5 transmitted on the paging channel (PCH) by the virtual base
station until the mobile telephone (MS) performs a base-
station reselection to the public network.

7. Method according to claim 6,

10 **characterized in that**

from the list (BA) of all adjacent base stations, obtained
in the cell monitoring, there is ascertained at least one
adjacent base station whose list (BA) does not contain the
channel used by the virtual base station (VBTS), and this
15 base station is then entered in the list (BA) emitted by
the virtual base station.

8. Method according to any one of claims 5 to 7,

characterized in that

20 for the purpose of intercepting the outgoing calls from the
identified mobile telephone (MS), the test mobile telephone
(TMS) is set so that it inscribes on a network base station
(BTS),

25 and, in the case of a call of the mobile telephone (MS) to
be intercepted being received by the virtual base station
(VBTS), the called telephone number is captured and
transferred to the test mobile telephone (TMS), which then,
in turn, dials this telephone number in the network and
simultaneously establishes the voice connection between the
30 test mobile telephone (TMS) and the virtual base station
(VBTS), connected to the mobile telephone (MS) to be
intercepted, via which the established connection can then
be intercepted.