

## **Regulation on the provision of location information from the caller to the Public Safety Service Point**

### **Preamble**

Under the provisions of paragraph 2 of article 66 of the Electronic Communications Law (LCE), approved by Law no. 16/2022, of August 16, “[c]ompanies offering voice communications services must adopt all necessary measures to ensure uninterrupted access to emergency services”.

Under the terms set out in paragraph 1 of article 67 of the LCE, it constitutes a right of end users of interpersonal communications services based on numbers accessible to the public that allow calls to be made to a number included in a national plan or international numbering system, including users of public payphones, access to emergency services through emergency communications, free of charge and without having to use any means of payment, using the single European payment number emergency '112' or any other national emergency number specified by National Communications Authority (ANACOM) and duly identified in the Plan National Numbering Network (PNN).

Companies that offer interpersonal communications services based on publicly accessible numbers must ensure access to emergency services through emergency communications to the security answering point public (PASP) most appropriate (cf. paragraph a) of no. 2 of article 67 of the LCE) and make available the caller's location information to the most appropriate PASP without delay after the establishment of emergency communication and throughout its duration, as well as, if feasible, ensure that the said PASP can retrieve and manage the information available location information for the person who made the call (cf. paragraph b) of paragraph 2 of Article 67 of the LCE).

Companies that offer interpersonal communications services not accessible to the public public, but which allow calls, from their networks, to a number included in a national or international numbering plan, must guarantee access to services emergency by dialing '112' or any other number

national emergency, and cannot affect any other use (cf. paragraph a) of Article 67.6 of the LCE). These companies must also make available to companies offering interpersonal communications services based on accessible numbers to the public, the location data necessary to fulfill the obligations provided for in the abovementioned paragraph 2 of article 67 of the LCE, in accordance with the accuracy criteria and reliability established by ANACOM and under the terms to be mandatorily foreseen in contracts concluded between both parties for the provision of communications networks and services electronic (cf. paragraph b) of paragraph 6 of article 67 of the LCE).

As regards the criteria of accuracy and reliability of information on the location of the caller to be made available to the most appropriate PASP, it is up to ANACOM to establishment of these criteria (cf. Article 67.4 of the LCE), which must be complied with by the companies mentioned in points 2 and 6 of article 67 of the LCE.

By virtue of the publication of Law No. 16/2022, of August 16, which repeals Law No. 5/2004, of February 10, and approves the current LCE, as well as the technological evolution in the sector of electronic communications and the evolution of the PASP architecture, for *Next Generation 112* (NG112), ANACOM verified the need to proceed with the preparation of this Regulation, (i) to provide for the delivery of emergency communications to the PASP in *Internet Protocol* (IP), using *Session Initiation Protocol* (SIP), (ii) to improve caller location information, (iii) to make this information available information to the PASP following the technical standards and best practices on this matter, taking full advantage of the potential of the SIP and (iv) to establish the criteria of accuracy and reliability of this information.

The information about the location of the caller corresponds to the *“data processed in a public mobile network originating from the network infrastructure or the mobile device, which indicate the geographical position of an end user's mobile terminal equipment and, in a fixed public network, data on the physical address of the network termination point (NTP)»* (cf. paragraph n) of no. 1 of article 3 of the LCE). The PTR, in accordance with paragraph hh) of no. of Article 3 of the LCE is *“the physical point at which the end-user is provided with access to a public electronic communications network and which, in the case of networks involving switching or routing, is identified by a specific network address, which may be associated with the number or name of an end user.*

In this sense, in the fixed public network, the regulation establishes the data relating to the physical address, that is, the address, of the PTR where access to the identified network is provided. by the end user's number, i.e. where the service is offered to that user. The regulation also provides for a set of data complementary to the physical address of the PTR (e.g. room number, living room number, floor number and building name) that allow a more precise location of the caller (for example, in the case of telephone extensions that have a PNN number associated with them).

In the public mobile network, taking into account that most antennas are not omnidirectional, technological evolution and since data coming from the network infrastructure is fundamental to the PASP, the regulation establishes that the cell, where communication emergency is originated, it must be represented in the geometric form of the sector type or, if companies have the necessary capacity, namely through the *Timing Advance (TA)*, in the geometric form of the *arcband type*.

Data from the mobile device may, where technically feasible, be made available through *Advanced Mobile Location (AML)* and/or on signage emergency communication. In the case of AML, the regulation establishes that companies must ensure that the number to which the short message (SMS) is sent, with the respective data is sent, is properly configured in your networks. As far as the availability of data in the signage, it may be necessary to make configurations in the mobile devices, so the regulation establishes that companies must carry out this verification and, if necessary, carry out the necessary coordination with the respective manufacturers.

In view of technological developments and the growing supply of new services, the regulation establishes, if emergency communication is made through:

- a) From the public *Internet*, that the information about the location of the caller to be made available to the PASP, corresponds to the data on the physical address of the PTR or billing;
- b) *Voice over WiFi (VoWiFi)*, which transmits information about the caller's location to be made available to PASP, corresponds to data coming from the infrastructure of the public mobile network relative to the last cell the mobile device was in registered or connected, represented in the geometric form of the sector type, and which must be

the time elapsed since the mobile device was registered or connected to that last cell is provided.

The regulation also provides for the possibility for companies, in addition to the above, to provide the PASP with additional information on the location of the caller, specifically, data relating to the physical address of the cell where the communication takes place emergency is originated – which may be relevant, namely, in indoor cell situations, as they allow obtaining information about the building and the floor(s) that this cell covers and, with that, limits the area where the mobile terminal equipment is located –, as well as data in the form of geographic coordinates. This option allows that companies, when they have this information, can make it available to PASP, thus allowing a more precise location of the caller.

Regarding the provision of information about the caller's location to the PASP, the regulation establishes that the respective data must be transported and encoded using the *Presence Information Data Format Location Object* (PIDF-LO). The PIDF-LO provides a flexible means of representing this data and allows the provision of different types of data (e.g. physical address, sector, *arcband*, geographic coordinates), in the same PIDF-LO or in different PIDF-LO, of structured and standardized form, thus enabling the provision of more and better information, which is essential for the provision of emergency services.

This option, in addition to standardizing, facilitating and simplifying the provision process and, mainly, the reception of this information, is aligned with technical standards and with best practices on providing location information caller making the emergency communication (such as, *Caller location in NG112 End-to-end approach from the European Emergency Number Association – EENA*).

In the case of the public mobile network, the regulation establishes the availability of data coming from the network infrastructure, in a complementary way to the PIDF-LO. Thus, redundancy is provided to the PASP so that, in the event of a possible failure (for example, the PIDF-LO or the NG112 architecture), can maintain the ability to obtain the geographical position of the end user's mobile terminal equipment (e.g., resort to the previous architecture).

Regarding the establishment of accuracy and reliability criteria, ANACOM took into account the parameters specified in Delegated Regulation (EU) 2023/444 of 16 December 2022, the *EENA Recommendation on emergency caller location information criteria for mobile originated emergency communications*, a statistical information contained in EENA's *AML report card 2023 Update* and the statistical information relating to caller location information that is currently made available to PASP. In this sense, the criteria of accuracy and reliability were adjusted to the reality of Portugal.

In view of the improvements in the establishment and transmission of information about the location of the caller, as set out in this regulation, ANACOM will monitor this matter with the aim of, within two years from the date of its entry into force, force, evaluate the aforementioned criteria and, if justified, review them.

In establishing the technical aspects present in the regulation, ANACOM sought follow, whenever possible, the technical standards applicable to this matter, thus ensuring compatibility between the transport of information by the companies and their reception in the PASP systems, which also implement the same technical standards.

Finally, aware that companies need time to implement the provisions of the regulation, a period of 12 months is established for its entry into force and a additional period of 6 months for companies, if necessary, to make the information about the location of the caller under the terms set out in the regulation, in what refers only to emergency communications made through the fixed public network, of the public *Internet* and the public mobile network in the case of 2G and 3G.

With a view to drafting this regulation, the Board of Directors of ANACOM, on 22 November 2022, decided to initiate the regulatory procedure amending Regulation No. 99/2009 of 23 February, relating to the provision to authorities responsible for emergency services of information on the location of the person calling the single European emergency number 112, and ordered the publication of this procedure, under the terms set forth in paragraph 1 of Article 98 of the Code of Administrative Procedure.

On 1 March 2024, it was approved by the ANACOM Board of Directors and submitted to public consultation the draft regulation on the provision of information on the caller's location to the PASP. After the publication of this project in the 2nd series of the Official Gazette, through Notice No. 6829/2024/2 of March 28, 2024, the public consultation period was extended by two periods, each of 5 working days. After the deadline for the aforementioned public consultation, this The Authority analyzed and considered the statements received in due time, which were duly considered in the approval of this regulation, including the respective assessment of the report which, for all legal purposes, underpins the choices of the ANACOM adopted in this regulation. The report, as well as the statements received, safeguarding information of a confidential nature, are published on the institutional website of this Authority .

Therefore, within the scope of the powers provided for in paragraph *l*) of paragraph 1 of article 8 of the Statutes of ANACOM, approved by Decree-Law no. 39/2015, of March 16, under the provided for in paragraphs 1, 2, 4 and 6 of article 67 and subparagraph *v*) of paragraph 1 of article 113, all of Electronic Communications Law, approved by Law No. 16/2022, of August 16, the ANACOM's Board of Directors, in the exercise of the powers conferred in the terms provided for in paragraph 1 of article 10 of Law no. 16/2022, of August 16, and in paragraph *a*) of Article 9.2, Article 10 and Article 26.1 *b*) of its Statutes, approved, by resolution of August 13, 2024, this regulation regarding the provision of information about the caller's location to the Service Point of Public Security.

**Regulation on the provision of location information  
from the caller to the Public Safety Service Point**

**CHAPTER I**

**General provisions**

Article 1

**Object**

This Regulation establishes:

- a) The principles and rules relating to the information to be made available to the Point of The most appropriate Public Safety Assistance, regarding the location of the caller making the emergency communication using the single European emergency number '112' or any other national emergency number specified by the National Communications Authority, duly identified in the National Numbering Plan;
- (b) the technical specifications relating to emergency communications and caller location information, as set out in Annex I and Annex II, which are an integral part of this regulation;
- c) The criteria for accuracy and reliability of the information on the caller's location to be made available to the most appropriate Public Security Service Point, as set out in Annex III and which forms an integral part of this document. regulation.

## Article 2

### **Scope**

Under the provisions of paragraphs 2 and 6 of article 67 of the Electronic Communications Law, approved by Law No. 16/2022, of August 16, they must comply with the provisions of this regulation:

- a) Companies that offer interpersonal communications services based on publicly accessible numbers, which allow calls to be made to a number included in a national or international numbering plan, including payphones public;
- b) Companies offering non-accessible interpersonal communications services to the public, but which allow calls to be made, from their networks, to a number included in a national or international numbering plan.

## Article 3

### **Acronyms, acronyms and definitions**

1 – For the purposes of the provisions of this regulation, the following acronyms shall apply:  
and acronyms:

- a) AML – *Advanced Mobile Location*;
- b) ANACOM – National Communications Authority;
- c) IMEI – *International Mobile Equipment Identity*;
- d) LCE – Electronic Communications Law;
- e) MSD – *Minimum Set of Data*;
- f) PTR – Network Termination Point;
- g) PASP – Public Security Service Point;

h) PNN – National Numbering Plan;

i) SMS – *Short Message Service*;

j) VoWiFi – *Voice over WiFi*.

2 – For the purposes of the provisions of this regulation, the following definitions apply:  
constants of the LCE, with the following definitions also being applicable:

- a) “Company code”, the set of digits that identifies the company that provides information about the caller's location to the PASP plus adequate;
- b) «eCall», the emergency call to number '112' made from the vehicle, as provided for in Article 3(2) of Regulation (EU) 2015/758;
- (c) ‘emergency number’ means the single European emergency number ‘112’ or any other national emergency number specified by ANACOM, duly identified in the PNN;
- d) “Forwarding number” means the set of digits that allows forwarding emergency communication to the most appropriate PASP;
- e) “VoWiFi” means the functionality made available by the company offering the service mobile phone, which allows you to make and receive calls using mobile networks WiFi access, with Internet connection , as an alternative to the public mobile network.

#### Article 4

#### **Cooperation**

The companies referred to in Article 2 shall cooperate with each other and with the authorities. competent by the emergency services, with a view to providing the PASP with more suitable for the most accurate and reliable information about the caller's location, respecting by current legislation and framework.

## **CHAPTER II**

### **Principles and rules**

#### **Article 5**

##### **General principles and rules**

For the purposes of implementing paragraphs 2 and 6 of Article 67 of the LCE, the companies referred to in Article 2 must:

- a) Ensure, within the limits of technical feasibility, the establishment of the most accurate information accurate and reliable information about the caller's location to be made available to the PASP more adequate;
- b) Keep up to date the sources of information that establish information on the caller location;
- c) Ensure that calling line identification, whenever available, corresponds to the number from which the emergency communication is made, the which must be transported to the most suitable PASP, under the terms set out in point 2.3 of Annex I;
- d) Ensure that the number from which the emergency communication is made and which is displayed on the calling line identification, allows the reception of return communications, with a view to dealing with the emergency situation;
- e) Ensure that the IMEI of the mobile device from which the communication is made emergency, whenever available, is transported to the most suitable PASP, under the terms set out in point 2.4 of Annex I.

## Article 6

### Specific principles and rules

1 – For the purposes of implementing paragraph 2 of article 67 of the LCE, the companies referred to in paragraph a) of Article 2, must:

- a) Implement solutions and technical standards that guarantee the interoperability and compatibility with the architecture and systems of PASP, as well as implementing the technical aspects provided for in Annex I;
- b) Correct any errors detected and identified in a timely manner for which you are responsible. reported by the competent authorities by the emergency services;
- w) Ensure that associated with the provision of location information from the caller to the most suitable PASP, the identification of the company that makes it available;
- d) Provide the most appropriate PASP with information on the location of the caller in a non-discriminatory manner, avoiding any treatment differentiated in establishment, transmission, precision and reliability information relating to its end users and other end users.

2 – For the purposes of paragraph d) of the previous number, “*other users*” are considered. company’s “*finals*” :

- 1. In the fixed public network, end users who use public payphones;
- 2. In the public mobile network, end users:
  - i) Itinerant (*roaming-in*) that are supported by the network;
  - ii) Who use the network, without being authenticated, to carry out the emergency communication.

3 – For the purposes of implementing paragraph 6 of article 67 of the LCE, the companies referred to in paragraph b) of Article 2, must:

- the) Ensure that access to emergency services by dialing the emergency number does not require the prior dialing of any access code to the external line;
  
- b) Ensure, in the case of telephone extensions that have an associated number of the PNN, that this number is displayed in the calling line identification, when an emergency communication is made and not the main line number to which that extension is associated;
  
- w) Make available to the companies referred to in paragraph a) of article 2 with which have entered into a contract for the provision of communications networks and services electronic, the information and elements necessary to ensure the compliance with the provisions of this regulation.

## Article 7

### **Company code**

- 1 – For the purposes of implementing the provisions of paragraph c) of paragraph 1 of article 6, the following is designated:  
the company code, which consists of three numeric digits in the format  
«FFF».
  
- 2 – The company code is unique for each company that provides the most appropriate PASP information about the caller's location, regardless of the network where the emergency communication is made.
  
- 3 – ANACOM shall assign, manage and revoke the company code.
  
- 4 – ANACOM notifies the authorities of the assignment and revocation of the company code competent by the emergency services.
  
- 5 – The companies referred to in paragraph a) of article 2, with the exception of those that subcontract the provision of information in the cases provided for in Article 15, must:
  - the) Request ANACOM, through an application, to assign a company code;

- b) Ensure the transport of the company code to the most appropriate PASP, under the terms set out in point 2.1 of Annex I, when they make available caller location information relative to your users  
finals and, if applicable:
  - i) To other end users, in accordance with the provisions of paragraph 2 of article 6th;
  - ii) To end users of the companies referred to in Article 2( b) with which have entered into a contract for the provision of networks and services electronic communications.

## Article 8

### **Forwarding number**

For the purposes of implementing paragraph a) of paragraph 2 of article 67 of the LCE, the companies referred to in Article 2( a) , must:

- a) Ensure that the routing number corresponds to the format provided in the point 2.2.1 of Annex I, taking into account:
  - i) The emergency number to which the emergency communication is made;
  - ii) The type of emergency communication;
  - iii) The geographic area where the emergency communication originates.
- b) Coordinate with the competent authorities for emergency services, which Most suitable PASP for where emergency communication should be forwarded, taking into account the provisions of the previous paragraph;
- c) Ensure that the forwarding number is transported to the most appropriate PASP, under the terms set out in point 2.2.2 of Annex I, in emergency communications carried out by its end users and, if applicable:
  - i) By other end users, in accordance with the provisions of paragraph 2 of article 6;

- ii) By end users of the companies referred to in Article 2 (b) with whom they have entered into a contract for the provision of networks and services.  
electronic communications.

## **CHAPTER III**

### **Caller location**

#### **Article 9**

##### **Caller location information**

- 1 – The information about the caller's location must match, when the emergency communication is carried out through:
- a) From the fixed public network, to data on the physical address of the PTR, in accordance with as provided for in point 3.2 of Annex I;
  - b) From the public mobile network, including VoWiFi, to data indicating the position geographic location of the end user's mobile terminal equipment:
    - i) Coming from the network infrastructure, as provided for in point 3.3 and in the case of VoWiFi, as provided for in point 3.4, both from Annex I;
    - ii) From the mobile device;
    - iii) Regarding the physical address of the PTR, as provided for in point 3.2. of Annex I, when the service provision corresponds to the telephone service in a fixed location.
  - c) From the public *Internet* , to the best data on the location of the caller, among the following:

- (i) data on the physical billing address associated with the service of the number carrying out the emergency communication, in accordance with the provisions of point 3.2 of Annex I;
- ii) Data on the physical address of the PTR associated with the service number that makes the emergency communication, according to the provided for in point 3.2 of Annex I.

2 – Information about the caller's location may, additionally and in

in addition to that provided for in the previous number, corresponding to:

- a) Data on the physical address of the cell where the communication takes place emergency arises, in accordance with the provisions of point 3.2 of Annex I;
- b) Data relating to geographic coordinates, in accordance with the provisions of point 3.5 of Annex I.

## Article 10

### **End users who are not consumers**

The companies referred to in Article 2 (a) , when they are responsible for configuration and management of the telephone extensions of your end users that are not consumers, must:

- a) Ensure that access to emergency services by dialing the number emergency, does not require prior dialing of any line access code external;
- b) Ensure, when the telephone extension has a PNN number associated with it, that this number is displayed on the calling line identification when the call is made emergency communication and not the main line number to which that extension is associated;
- c) Ensure that the PNN number associated with the telephone extension is displayed in the identification of the calling line when the communication is made

emergency, allows the reception of return communications with a view to dealing with the emergency situation.

## Article 11

### **Providing information about the caller's location**

1 – For the purposes of implementing paragraph *b)* of paragraph 2 of article 67 of the LCE, companies referred to in Article 2( a) , must make available to the most appropriate PASP:

- a) Depending on the network where the emergency communication originates, the information on the location of the caller provided for in Article 9(1) and under the terms set out in point 3.1 of Annex I;
- b) In addition to what is referred to in the previous paragraph and whenever available, the information on the location of the caller provided for in Article 9(2) and under the terms set out in point 3.1 of Annex I;
- c) In addition to what is referred to in paragraph *a)* and when the communication of emergency is carried out through the public mobile network, including VoWiFi, information on the location of the caller provided for in point 2.2 and under the terms provided for in point 2.1, both, of Annex II;
- d) In addition to the data on the physical address of the PTR and when the emergency communication is carried out through telephone extensions, the data provided for in point 3.2.2 of Annex I:
  - i) If they are established when they are responsible for the configuration and management of telephone extensions;
  - ii) If they are made available to them by end users that are not consumers, when they are not responsible for configuration and management of telephone extensions.
- e) Updated data from the mobile device throughout the duration of emergency communication.

2 – For the purposes of implementing paragraph *b)* of paragraph 6 of article 67 of the LCE, the companies referred to in paragraph *b)* of article 2 must make available to the companies referred to in paragraph *a)* of article 2 with which they have entered into a contract for the provision of electronic communications networks and services:

- a) Depending on the network where emergency communication is carried out, the information on the location of the caller in accordance with the provisions of paragraph 1. 1 of Article 9;
- b) In addition to what is referred to in the previous paragraph and whenever available, the information on the location of the caller in accordance with the provisions of paragraph 1. 2 of Article 9;
- c) In addition to the data on the physical address of the PTR and when the emergency communication is carried out through telephone extensions, the data provided for in point 3.2.2 of Annex I;
- d) Updated data from the mobile device throughout the duration of emergency communication.

3 – The companies referred to in paragraph *a)* of article 2 must make available to the PASP more adequate:

- a) Information on the location of the caller, as provided for in paragraph 1, relating to its end users and, if applicable, to other end users in accordance with the provisions of paragraph 2 of article 6;
- b) Information about the caller's location provided by companies referred to in Article 2( b) with which they have entered into a contract for the provision of electronic communications networks and services:
  - i) Under the terms set out in point 3.1 of Annex I;
  - ii) In a non-discriminatory manner, avoiding any differential treatment in the transmission of information relating to its end users and to end users of these companies.

4 – The companies referred to in Article 2 must ensure that the data from the mobile device are made available without any alteration to the PASP adequate.

## Article 12

### **Mobile device**

1 – For the purposes of implementing subparagraph *ii*) of paragraph *b*) of paragraph 1 of article 9, paragraph *e*) of paragraph 1 and paragraph *d*) of paragraph 2, both of article 11, the companies referred to in Article 2, where applicable, must:

- the) Coordinate with mobile device manufacturers to ensure settings required for devices to make available, whenever technically feasible, data indicating its geographical position when it is an emergency communication was made;
- b) Coordinate with the competent authorities for emergency services frequency that must be configured on mobile devices so that make available, whenever technically feasible, the data indicating their geographic position throughout the duration of the emergency communication.

2 – The companies referred to in article 2, when applicable, must coordinate with the mobile device manufacturers to ensure the necessary configurations for devices to make available, whenever technically feasible, the elements provided for in points 2.4 and 2.5 of Annex I.

## Article 13

### **AML and eCall**

The companies referred to in Article 2, where applicable, must ensure:

- a) Providing the AML SMS to the most appropriate PASP, including, whenever technically feasible for roaming end users ;

- b) Providing the most appropriate PASP with the MSD generated by the *eCall device*, under the terms set out in the applicable rules and decisions;
- c) That the MSD generated by the *eCall device* and the AML SMS are made available without any changes to the most appropriate PASP.

## CHAPTER IV

### Accuracy and reliability criteria

#### Article 14

##### Accuracy and reliability

- 1 – Under the terms of paragraph 4 of article 67 of the LCE, the criteria are established accuracy and reliability of information about the caller's location make available to the most appropriate PASP, under the terms set out in Annex III.
- 2 – For the purposes of implementing paragraphs b) of paragraphs 2 and 6 of article 67 of the LCE, companies referred to in Article 2 must comply with the criteria of accuracy and reliability of information about the caller's location when communication emergency is carried out through:
  - a) From the fixed public network, in accordance with the provisions of point 2 of Annex III;
  - b) The public mobile network, in accordance with the provisions of point 3 of Annex III;
  - c) The public *Internet* , in accordance with the provisions of point 4 of Annex III.
- 3 – Within a maximum period of two years from the date of entry into force of this regulation, ANACOM, in conjunction with the competent authorities by emergency services, assesses the accuracy and reliability criteria set out in Annex III and, if justified, to their review.

## **CHAPTER V**

### **Subcontracting**

#### Article 15

##### **Subcontracting and access to the mobile network**

- 1 – In the fixed public network and on the public *Internet*, the companies referred to in paragraph a) of article 2 may ensure compliance with the provisions of this regulation through means subcontracted to third parties.
  
- 2 – In the public mobile network, companies that provide access to the mobile network to companies referred to in Article 2( a) that directly or indirectly support each other in their wholesale offer, they must provide information on the location of the caller to the most appropriate PASP, under the terms set out in paragraph 1 of article 11, in relation to the end users of these companies.
  
- 3 – In the cases provided for in the previous numbers, the subcontracted companies, when make information about the caller's location available to the PASP more suitable must:
  - the) Avoid any differential treatment in the establishment, transmission, the accuracy and reliability of information relating to its end users and to the end users of subcontracting companies;
  
  - b) Ensure the transport of your company code, under the terms set out in point 2.1 of Annex I, when they provide information relating to end users of subcontracting companies.
  
- 4 – Subcontracting companies are responsible for full and punctual compliance of the obligations provided for in this regulation, even if, for the respective compliance, subcontract the services of other companies under the terms set out in this article.

## **CHAPTER VI**

### **Supervision and sanctions regime**

#### Article 16

##### **Oversight**

ANACOM is responsible for monitoring compliance with the provisions of this regulation.

#### Article 17

##### **Sanctions regime**

Violations of the provisions of this regulation are punishable under paragraph v) of No. 3 of article 178 of the LCE.

## **CHAPTER VII**

### **Final and transitional provisions**

#### Article 18

##### **Revocation rule**

Regulation No. 99/2009 of 23 February is hereby repealed.

## Article 19

### **Entry into force and transitional provision**

1. This Regulation shall enter into force 12 months after its publication in the Official Gazette.  
of the Republic, without prejudice to the provisions of the following numbers.
2. The companies referred to in Article 2( a) , with regard to communications  
emergency calls made through the fixed public network, the public mobile network in the  
case of 2G and 3G, and the public *Internet* , must make available to the most appropriate PASP  
information on the location of the caller in accordance with this Regulation,  
within a maximum period of 6 months from the date of entry into force of this document.  
regulation.
3. For the purposes of the previous number and until the most appropriate PASP is made available  
information about the location of the caller under this Regulation,  
the companies referred to in Article 2 (a) must comply with the following for this purpose:  
provided for in Regulation No. 99/2009 of 23 February.

August 13, 2024 - The Chairwoman of the Board of Directors, Sandra Marisa Santos  
Maximian Nights

## **Annex I**

### **Technical specification**

Emergency communications have specificities with regard to configuration of signaling messages and features that are not found in the other forms of communication, such as information about the location of the caller and calling line identification, which must be maintained throughout the forwarding of this communication.

To this end, this Annex specifies the aspects relating to communications of emergency with regard to the information that must be carried in *Session Initiation Protocol* (SIP), without prejudice to what is contained in the applicable technical standards and recommendations, namely ETSI TS 103 479 and ETSI ES 203 283, as well as information on the location of the caller that must be transported in SIP and encoded using the *Presence Information Data Format – Location Object*.

#### **1 Acronyms and acronyms**

- a) 3GPP – *3rd Generation Partnership Project*;
- b) ANACOM – National Communications Authority;
- c) ETSI – *European Telecommunications Standards Institute*;
- d) GML – *Geography Markup Language*;
- e) IETF – *Internet Engineering Task Force*;
- f) IMEI – *International Mobile Equipment Identity*;
- g) PASP – Public Security Service Point;
- h) PIDF-LO – *Presence Information Data Format – Location Object*;
- i) PNN – National Numbering Plan;
- j) PTR – Network Termination Point;

- k) RFC – *Request for Comments*;
- l) SIP – *Session Initiation Protocol*;
- m) TS – *Technical Specification*;
- n) URI – *Uniform Resource Identifier*;
- o) URN – *Uniform Resource Name*;
- p) XML – *Extensible Markup Language*;
- q) VoWiFi – *Voice over WiFi*.

## **2 SIP**

The SIP protocol must be used to establish emergency communication with the most suitable PASP, as well as in making available, to the most suitable PASP, the information about the caller's location.

Without prejudice to what is stated in the technical standards and best practices applicable to this matter, the information provided for in points 2.1 to 2.5 must be carried in accordance with the one referred to in these points.

### **2.1 Company Identification**

The organization code must be carried in the '*SIP header*' «**Organization**» (RFC 3261) which must be inserted in the '*SIP request*' «**INVITE**».

### **2.2 Forwarding number**

#### **2.2.1 Format**

The forwarding number format is defined as follows:

Table I-1: Routing Number Format

Country Code	Emergency Number	Type of communication	Geographical area
+351	ABC	Z	xy

Where:

- a) The 'abc' field refers to the emergency number to which the emergency communication should be sent. emergency is carried out, unless otherwise indicated by the competent authorities by emergency services.
- b) The 'Z' field refers to the type of emergency communication:
- i) Z = '2', in the case of a call;
  - ii) Z = '6', in the case of a manual *eCall* ; and
  - iii) Z = '7', in the case of an automatic *eCall* .
- c) The 'xy' field refers to the geographic area where the emergency communication is originated, corresponding to the last two digits of the '2xy' ranges of the PNN, with exception of:
- i) xy = '00', if it is not possible to determine the geographic area where the emergency communication was originated or ensure the reliability of the information about the caller's location;
  - ii) xy = '10', if the emergency communication originates in the geographic area from Lisbon; and
  - iii) xy = '20', if the emergency communication originates in the geographic area from Porto.

Notes:

- In relation to point (a), the field 'abc' corresponds to the single European emergency number '112' or any other specified national emergency number by ANACOM, duly identified in the PNN;

- Regarding point c), in the case of geographical areas with more than one range numbering, the 'xy' field must match the last two digits of any one of the respective ranges. For example, in the case of the geographical area of Braga the field 'xy' must match either '53' or '57'.

### 2.2.2 Transportation

The routing number must be carried in the '**Request-URI**' of the '*SIP request*' «**INVITE**», according to the format of Table I-1. In cases where the device initiates the emergency communication with «**Request-URI**» containing the service URN, by example, "*urn:service:sos*", this should be replaced with the forwarding number.

The format of the «**Request-URI**» must be '*TEL URI*' (RFC3966) or '*SIP URI*' with indication from "*user=phone*" (RFC3261).

### 2.3 Calling line identification

The calling line identification must be carried in the '*SIP header*' «**P-Asserted-Identity**» (RFC 3325) which must be inserted in the '*SIP request*' «**INVITE**», when the network where the emergency communication originated authenticated the end user, without prejudice than what is stated in the '*SIP header*' «**From**» or «**P-Preferred-Identity**».

The calling line identification must correspond to the number of the national or international numbering plan validated by the network and from which the communication is made.  
emergency.

In cases where the network where the emergency communication originated did not authenticate the end user, the '*SIP header*' «**P-Asserted-Identity**» should not be inserted into the '*SIP request*' «**INVITE**».

## 2.4 IMEI

The IMEI of the mobile device must be carried in the *instance-id* parameter in the form of IMEI URN (RFC 7254) from the '*SIP header*' «**Contact**» which should be inserted into the '*SIP request*' «**INVITE**». The format of *the instance-id* should take the form of "*urn:gsm:imei:<imeival>*", where *imeival* corresponds to the IMEI of the mobile device.

The IMEI of the mobile device from which the emergency communication is made may to be:

the) Provided by the device, as previously provided (3GPP TS 23.003);

b) Obtained through the network, when the network has this capacity, and if the mobile device has not made it available, be transported in accordance with the previously provided.

## 2.5 Cell-info-age

The *cell-info-age* for the last cell the mobile device was registered to or on, when emergency communication is originated through another means of access other than the public mobile network, as is the case with VoWiFi, must be carried on the *cell-info-age* parameter of the '*SIP header*' «**Cellular-Network-Info**» which must be entered in the '*SIP request*' «**INVITE**». The *cell-info-age* corresponds to the time, in seconds, elapsed since the mobile device was registered or connected to that last cell.

The *cell-info-age* can be:

the) Provided by the device, as previously provided (TS 124 229);

b) Obtained through the network, and if the mobile device does not have it, made available, be transported in accordance with the above.

### 3 Caller location information

The information about the location of the caller corresponds to the data processed in a network public mobile data from the network infrastructure or the mobile device, which indicate the geographical position of an end user's mobile terminal equipment and, in a network fixed public, data on the physical address of the PTR.

#### 3.1 Provision of information (PIDF-LO)

Data relating to information about the caller's location must be transported by value (*Location-by-Value*) in the 'SIP body' and must be encoded using PIDF-LO (RFC 4119 and RFC 5491) where the format is based on XML (RFC 3863).

When caller location information is made available, it must be carried in 'SIP requests' (e.g. «**INVITE**», «**re-INVITE**» or «**UPDATE**») the 'SIP header' «**Geolocation**» (RFC 6442) must be inserted containing the reference *content id* (cid) (RFC 2392) corresponding to the '**Content-ID**' of the 'SIP body', where find the respective data.

#### 3.2 Physical address

Information about the location of the caller when it corresponds to data about the physical address, namely the PTR, this data must be represented in the PIDF-LO as of the "**civic**" *type*, taking into account the provisions of points 3.2.1 and 3.2.2.

The data relating to the physical address and the structure of the XML containing this data, must be encoded according to RFC 4119 and RFC 5139.

##### 3.2.1 Physical Address – General

The information about the physical address must be as complete as possible in order to allow accurately identify the location of the caller. In this sense, they are defined in Table

I-2 the minimum data that must be made available to the most appropriate PASP and respective “*label*” where they must appear.

Table I-2: Minimum data

Given	« <i>label</i> » according to RFC 4119 and RFC 5139
Location	A3
Household	A6
Address suffix	STS
Port number	HNO
Postal code	PRÇA
Postal designation	PCN

In addition to the previous data, when applicable, they must be made available to the most appropriate PASP is the data contained in Table I-3 and the respective *label* where must be included, in accordance with the aforementioned RFCs.

Table I-3: Additional data

Given	« <i>label</i> » according to the RFC 4119 and RFC 5139
HNS Port Number Suffix	
To walk	FLR
Apartment	UNIT
Building	BLD
Entity, company or establishment	NAM

Without prejudice to this data, the most appropriate data may be made available to the PASP additional, in accordance with the aforementioned RFC, which allow for better localization of the caller, unless there is any incompatibility with the PASP systems.

### 3.2.2 Physical address – Additional information

In addition to the data referred to in the previous point, when available and applicable (for example, in the case of telephone extensions), the data contained in Table I-4 and the respective *label* where they must be made available to the most appropriate PASP appear, in accordance with the aforementioned RFC.

Table I-4: Additional data.

Given	« <i>label</i> » according to RFC 4119 and RFC 5139
Building	BLD
Type of location	PLC
To walk	FLR
Room	LOC
Room	ROOM
Workplace	SEAT

Without prejudice to this data, data may be made available to the most appropriate PASP: additional, in accordance with the aforementioned RFC, which allow for better localization of the caller, unless there is any incompatibility with the PASP systems.

### 3.3 Public mobile network infrastructure

The caller's location information when it matches the data coming from the public mobile network infrastructure, that is, to the cell where the communication emergency is originated, this data must be represented in the PIDF-LO as «**Geodetic**» type through the geometric shape (*Geodetic Shape Representation*) «*arcband*» (RFC 5491).

Data originating from the public mobile network infrastructure must be represented in accordance with the provisions of point 3.3.1, except when companies have ability to determine the area within the respective cell where the terminal equipment

is located, namely through *Timing Advance*, and in these cases must be represented in accordance with the provisions of point 3.3.2.

### 3.3.1 Sector

This geometric shape allows, through the representation of the theoretical coverage area of the respective cell, obtain the area where the mobile terminal equipment is located (Figure I-1).

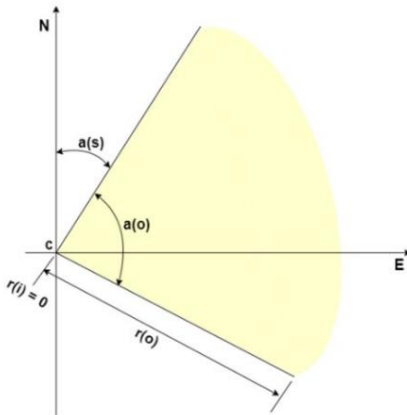


Figure I-1: Sector.

For this purpose, the data indicated in the figure are as follows:

- i)  $a(s)$  – initial angle of the cell relative to geographic north;
- ii)  $a(o)$  – cell opening angle;
- iii)  $r(o)$  – theoretical radius of the cell;
- iv)  $r(i)$  – 0 meters;
- v)  $c$  – cell location.

The data relating to the «sector» and the structure of the XML containing this data must be determined and encoded according to the «*arcband*» *Geodetic Shape Representation*, i.e. in accordance with RFC 5491 and the «*GML 3.1.1 PIDF-LO Shape Application Schema for use by the Internet Engineering Task Force (IETF)*».

### 3.3.2 Arcband

This geometric shape allows, through the representation of an inner radius –  $r(i)$  – and an outer radius –  $r(o)$  – to indicate the area, within the respective cell, where the mobile terminal equipment is located (Figure I-2).

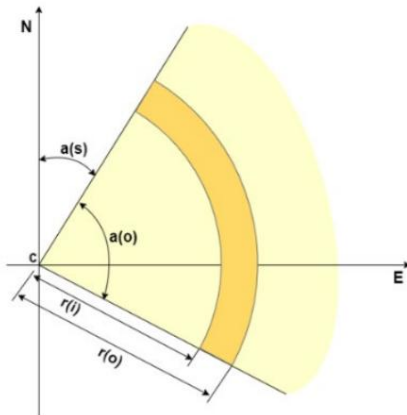


Figure I-2: *Arcband*.

For this purpose, the data indicated in the figure are as follows:

- i)  $a(s)$  – initial angle of the cell relative to geographic north;
- ii)  $a(o)$  – cell opening angle;
- iii)  $r(o)$  – maximum distance from the mobile terminal equipment to point  $c$ ;
- iv)  $r(i)$  – minimum distance from the mobile terminal equipment to point  $c$ ;
- v)  $c$  – cell location.

The data relating to the «*arcband*» and the structure of the XML containing this data must be determined and encoded according to RFC 5491 and the «*GML 3.1.1 PIDF-LO Shape Application Schema for use by the Internet Engineering Task Force (IETF)*».

### 3.4 VoWiFi

When emergency communication originates over VoWiFi, the data coming from the public mobile network infrastructure must match the data from the last cell to which it was connected.

the mobile device has been registered or connected and must be represented in accordance with the provisions of point 3.3.1.

Since this is information related to the last cell, information about the time elapsed since the mobile device was last registered or connected to that cell, as provided for in point 2.5.

### **3.5 Geographic coordinates**

When the caller's location information matches coordinates geographic areas, the respective data must be represented in the PIDF-LO as of the type «**Geodetic**» through the geometric shape (*Geodetic Shape Representation*) «*point*» (RFC 5491).

The data relating to geographic coordinates and the structure of the XML containing these data must be determined and encoded according to RFC 5491 and «*GML 3.1.1 PIDF-LO Shape Application Schema for use by the Internet Engineering Task Force (IETF)*».

## **Annex II**

### **Technical specification – Additional information**

This annex specifies additional information about the location of the caller, originating from the public mobile network infrastructure, and the solution relating to its provision to the most appropriate Public Security Service Point (PASP).

This information is complementary to that referred to in Annex I, in order to provide the PASP redundancy so that in the event of a possible failure (e.g. of *Presence Information Data Format Location Object* – PIDF-LO – or *Next Generation* architecture 112), thus maintaining the ability to obtain the geographic position of the equipment end user's mobile terminal (e.g., fall back to the previous architecture).

#### **1 Acronyms and acronyms**

- a) SIP – *Session Initiation Protocol*;
- b) WGS84 – *World Geodetic System 1984*.

#### **2 Caller location information**

Caller location information is data processed in a public mobile network originating from the network infrastructure or the mobile device, which indicates the geographical position of an end user's mobile terminal equipment and, in a fixed public network, data on the physical address of the network termination point.

##### **2.1 Provision of information**

Data relating to information about the caller's location must be carried in the '*SIP header*' «**diversion**» or «**history-info**» (depending on the option of the company providing the information) which must be inserted in the '*SIP request*' «**INVITE**» and must be encoded in the following format **FFGMMSSggmmssRR**.

Table II-1 details each of the fields in the respective format.

Table II-1: Format.

Description	Field	Meaning/Component
Mobile operator identification code	FF	Possible values: 00 to 99, where:  11 – NOS Communications, S.A. (NOS)  12 – MEO - Communications and Multimedia Services, SA (MEO)  13 – Vodafone Portugal – Personal Communications, SA (Vodafone)  99 – Other mobile operators
Cell location	GG	Degrees
	MM	Minutes
	SS	Seconds
	gg	Degrees
	mm	Minutes
	ss	Seconds
Theoretical cell radius	RR	Dimension and shape of uncertainty  Possible values: 00 to 99

## 2.2 Public mobile network infrastructure

The caller's location information when it matches the data coming from the public mobile network infrastructure, that is, to the cell where the communication emergency signal is originated or, in the case of VoWiFi to the last cell where the mobile device has been registered or connected, this data must be represented through the form geometrical representation of a "circle" (Figure II-1).

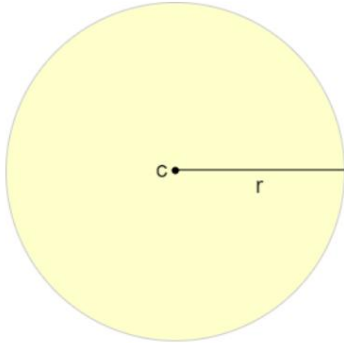


Figure II-1: Geometric representation of the circle type.

For this purpose, the data indicated in the figure are as follows:

- $r$  – theoretical radius of the cell;
- $c$  – location of the cell, expressed in geographic coordinates, encoded in according to the WGS84 standard.

The theoretical radius of the cell indicates the size and shape of the uncertainty, and the value of this radius should be coded according to the RR values shown in the respective table mobile operator that provides the information (Table II-2).

Table II-2: RR values.

NOS and Vodafone	
RR	Ray
00	< 100 m
01	< 250 m
02	< 500 m
03	< 1 km
04	< 2 km
05	< 4 km
06	< 10 km
07	< 20 km
08	< 30 km
09	> 30 km

MEO and others mobile operators	
RR	Ray
00	< 100 m
01	< 250 m
02	< 500 m
03	< 750 m
04	< 1 km
05	< 2 km
06	< 4 km
07	< 10 km
08	< 20 km
09	> 20 km

## **Annex III**

### **Accuracy and reliability criteria**

This Annex establishes the criteria for the accuracy and reliability of information on the caller location applicable to emergency communications made via public fixed network, public mobile network and public *Internet*.

#### **1 Acronyms and acronyms**

- a) PASP – Public Security Service Point;
- b) PTR – Network Termination Point.

#### **2 Fixed public network**

##### **2.1 Accuracy criterion**

In the fixed public network, the criterion of accuracy of information about the caller's location must be expressed in the form of information related to the physical address of the PTR.

In this sense, it is established that the criterion of accuracy of information about the location of the caller, corresponds to the data about the physical address of the PTR, according to the provided for in point 3.2 of Annex I.

##### **2.2 Reliability criterion**

In the fixed public network, the reliability criterion of information on the location of the caller must be expressed in terms of the success rate, in percentage, of the technical solution or combination of technical solutions in establishing and transmitting to the most appropriate PASP the information on the caller's location corresponding to the accuracy criterion.

In this sense, it is established that the reliability criterion must be 95%, meaning that in at least 95% of emergency communications originating in the fixed public network, the information on the caller's location corresponds to the accuracy criterion.

established in the previous point.

### **3 Public mobile network**

#### **3.1 Accuracy criterion**

In the public mobile network, the accuracy criterion for caller location information should be expressed in meters to indicate the maximum radius of the search area.

horizontal.

In this sense, it is established that the criterion of accuracy of information about the location from the caller corresponds, at most, to 100 meters.

When the service offering refers to telephone service at a fixed location, the criterion of accuracy corresponds to that established in point 2.1.

#### **3.2 Reliability criterion**

In the public mobile network, the reliability criterion of information on the location of the caller should be expressed in terms of the success rate, in percentage, of the solution technique or combination of technical solutions in the establishment and transmission to Most suitable PASP from a search area matching the accuracy criterion.

In this sense, it is established that the reliability criterion must be 60%, meaning that at least 60% of emergency communications originate on the public network mobile, the information about the caller's location meets the accuracy criterion established in the previous point, taking into account the combination of data from the mobile device and data originating from the public mobile network infrastructure, in accordance with the provisions of point 3.3 of Annex I and point 2.2 of Annex II.

When the service offering refers to telephone service at a fixed location, the reliability criterion corresponds to that established in point 2.2.

## **4 Public Internet**

### **4.1 Accuracy criterion**

On the public *Internet*, the criterion for accuracy of caller location information should be expressed in the form of information related to the physical address of the PTR or billing address associated with the service of the number making the emergency communication.

In this sense, it is established that the accuracy criterion of the information on the caller's location corresponds to the data on the physical address of the PTR or billing address associated with the service of the number that makes the emergency communication, in accordance with the provisions of point 3.2 of Annex I.

### **4.2 Reliability criterion**

On the public *Internet*, the reliability criterion for caller location information must be expressed in terms of the success rate, in percentage, of the technical solution or the combination of technical solutions in the establishment and transmission to the PASP more adequate information about the location of the caller corresponding to the criterion of precision.

In this sense, it is established that the reliability criterion must be 95%, meaning that at least 95% of emergency communications originate on the public *Internet*, the caller's location information meets the accuracy criteria established in the previous point.