

DECISION
ON THE LIMITATION OF THE NUMBER OF RIGHTS OF USE OF
FREQUENCIES IN THE 450 MHz, 800 MHz, 900 MHz, 1800 MHz,
2.1 GHz AND 2.6 GHz BANDS AND DEFINITION OF THE
RESPECTIVE ALLOCATION PROCEDURE

1. Framework

There is currently a relevant set of frequency bands reserved and available for electronic communications services and for the provision of the Land Mobile Service (LMS), as announced within the scope of the National Table of Frequency Allocations (NTFA) 2010-2011, approved by determination of ICP-ANACOM of 07.07.2011¹.

In effect, the following frequency bands are reserved and available for electronic communications services, according to relevant European Decisions: 791 - 821 MHz / 832 - 862 MHz (800 MHz band), 880 - 890 MHz / 925 - 935 MHz (900 MHz band), 1710 - 1785 MHz / 1805 - 1880 MHz (1800 MHz band) and 2500 – 2690 MHz (2.6 GHz band).

In addition, the following frequencies are reserved and available for the provision of LMS: 455,80625 - 457.45 MHz / 465.80625 - 467.45 MHz (450 MHz band) and 1900 - 1910 MHz (2.1GHz band).

In any of the abovementioned bands, the allocation of the rights of use of frequencies as announced in the NTFA 2010-2011 is exigible.

In this context, it is recalled that within the scope of the public consultation of the NTFA relative to 2007², an expression of interest was promoted with regards to the reservation of frequencies for the LMS operation in the **450 MHz, 900 MHz** and **1800 MHz** frequency bands. As a result of this

¹ Available at <http://www.anacom.pt>

² Available at <http://www.anacom.pt/render.jsp?contentId=1071344>

market auscultation, ICP-ANACOM considered that spectrum in the 450 MHz band should, namely, be made available to the market. It also considered the availability of free spectrum in the 900 MHz band (designated as "Extended GSM"), complemented with other bands, possibly in higher frequencies, which could allow more localised solutions to be designed to respond to situations of greater traffic demand, in particular in the 2.1 GHz and 2.6 GHz frequency bands. It should also be noted, with respect to the 1800 MHz spectrum, that there were available in the NTFA, since 2002/2003, 150 channels(2 x 30 MHz) reserved for the provision of the land mobile service by the existing providers, having been decided, from 2007 onwards, to eliminate that condition, with the following footnote *"Allocation process resulting from the Decision of ICP-ANACOM, taking into account, among others, the expression of interest that is promoted in this publication (Annex 5), as well as relevant European decisions on this matter"*. Therefore, ICP-ANACOM, having assessed the comments received and following the recent announcement of the industry/operators of technological developments/equipment in the 1800 MHz, is of the opinion that the provision of the entire spectrum in the 1800 MHz (i.e. 2x57 MHz) band is adequate.

With regards to the 450 MHz frequency band, a public tender was held, which took place between 2008 and 2009, at the end of which no right of use was allocated, and as such the spectrum in this frequency band remains free.

With regards to the 2500-2690 MHz frequency band (**2.6 GHz**), by determination of the Management Board of ICP-ANACOM, of 11.12.2008³, the launch of a public consultation was approved, which set out to collect the opinion of various intervenients in the market (manufacturers, operators, users and others), considering that the expressions of interest received would constitute a relevant contribution in the preparation of the decision on the future framework that would define the means of allocation and use of this band. This consultation also took into account the positions

³ Available at <http://www.anacom.pt/render.jsp?contentId=776018>

debated in international organisations, namely within the European Union (EU) and the European Conference of Postal and Telecommunications Administrations (CEPT). ICP-ANACOM concluded, following analysis of the contributions received, that the market would be allowed to combine the 2.6 GHz band with the remaining spectrum available, although no closed aggregations of radio spectrum would be defined a priori, giving the various intervenients in the market the opportunity to, in the same selection process, be able to define the aggregation that best suited them, based on what was available (at the time, 1800 MHz and 2.1 GHz frequencies).

With respect to the 2.1 GHz band, it is noted that by determination of 4.2.2009, ICP-ANACOM decided to repeal, following the renunciation submitted by SONAECON, S.A., the respective right of use of the block of 5 MHz of UMTS TDD frequencies, corresponding to the 1900-1905 MHz frequencies, that had been consigned to the company for the operation of the UMTS system. This block, plus the one resulting from the withdrawal of the license of ONI WAY – Infocomunicações, S.A., in particular in the UMTS TDD sub-band, totals 2 blocks of 5 MHz available in the 2.1 GHz band.

Going back to the spectrum in the 900 MHz and 1800 MHz band, it should be noted that within the scope of the NTFA 2009-2010, following the public consultation launched through the determination of the Management Board of 23.12.2009⁴, and taking into account the process of refarming of that spectrum and the publication of Directive 2009/114/EC⁵, and of Decision 2009/766/EC⁶ the technological restrictions in relation to the designated GSM spectrum in said bands were eliminated, allowing the use of UMTS in addition to GSM. The recent Decision 2011/251/EU⁷ that amends Decision

⁴ Available at <http://www.anacom.pt/render.jsp?contentId=1001855>

⁵ Directive 2009/114/EC of the European Parliament and of the Council, of 16 September 2009, which amends Directive 87/372/EEC of the Council on the frequency bands to be allocated for the coordinated introduction of pan-European public cellular digital land mobile communications in the Community.

⁶ Commission Decision 2009/766/EC, of 16 October 2009, relative to the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing electronic communications services in the Community.

⁷ Commission Decision 2011/251/EU of 18 April 2011 that amends Commission Decision 2009/766/EC, of 16 October 2009, relative to the harmonisation of the 900 MHz

2009/766/EC, allows the implementation of LTE and WiMAX technologies, provided the conditions of coexistence identified in said Decision are respected. It must also be ensured that all these systems provide adequate protection to the other systems that operate in adjacent bands.

Finally, with regards to the 800 MHz frequency band, ICP-ANACOM, by determination of 16.12.2010⁸ and following the adequate public consultation procedure launched on 28.09.2010⁹, decided: (i) to designate and provide the 790 – 862 MHz band for electronic communications services in conformity with Decision 2010/267/EU¹⁰ and carry out the corresponding amendment to NTFA and (ii) provide the said band before 2015 depending on the definition of technical and geographic conditions aimed at compatibilising, namely, the uses of Spain and Morocco. It should be noted that the process of substitution of channel 67 by channel 56¹¹ is underway, thus allowing the release at a time that is compatible with the start of the selection procedure for the allocation of rights of use of frequencies in the 790 - 862 MHz band.

It is based on this framework relative to the various frequency bands available, in particular the 450 MHz, 800MHz, 900 MHz, 1800 MHz, 2.1 GHz and 2.6 GHz bands, that the present draft decision is conducted.

2. Responsibilities and powers of ICP-ANACOM

Within the scope of its regulatory functions provided for in the ECL (Law of Electronic Communications - Law no. 5/2004, of 10 February) and in its Statutes, annexed to Decree-Law no. 309/2001, of 7 December, ICP-ANACOM is responsible for managing and planning the radio spectrum

and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community.

⁸ Available at <http://www.anacom.pt/render.jsp?contentId=1064178>

⁹ Available at <http://www.anacom.pt/render.jsp?contentId=1053883>

¹⁰ Commission Decision 2010/267/EU, 6 May 2010, on harmonised technical conditions of use in the 790-862 MHz frequency band for terrestrial systems capable of providing electronic communications services in the European Union.

¹¹ See <http://www.anacom.pt/render.jsp?contentId=1076945>

according to the criteria of spectrum availability, the guarantee of conditions of effective competition in relevant markets and the effective and efficient use of frequencies (see article 15 of the ECL and article 6, no. 1, subparagraph c) of the Statutes).

The publication of the NTFA by ICP-ANACOM is an essential and encompassing instrument of the exercise of these powers. In conformity with article 16 of the ECL, the NTFA must contain: 1) the frequency bands and the number of channels already allocated; 2) the frequency bands reserved and to be provided in the following years, specifying the cases in which the rights of use are exigible, as well as the respective allocation process; and 3) the frequencies whose rights of use are likely to be transmissible.

In addition, the limitation of the number of rights of use of frequencies to be allocated is permissible (see article 31 of the ECL), but only when it is necessary to guarantee the efficient use of the frequencies, regarding which ICP-ANACOM must, in its decision, consider the need to maximise the benefits for users and facilitate the development of competition.

In order to limit the number of rights of use of frequencies to be allocated in the 450 MHz, 800 MHz, 900 MHz, 1800 MHz, 2.1 GHz and 2.6 GHz frequency bands it must: 1) promote the general consultation procedure set out in article 8 of the ECL, hearing, namely, the users and consumers; 2) publish a decision, based on duly reasoned grounds, to limit the allocation of rights of use, defining simultaneously the allocation procedure, which can be of competitive or comparative selection, namely auction or tender; and 3) initiate the procedure for the presentation of applications for rights of use under the terms defined.

When there is a limitation of the number of rights of use, the selection procedures and criteria must be objective, transparent, non-discriminatory and proportional, taking into account the regulatory objectives set out in article 5 of the ECL.

In those cases in which the allocation of rights of use is subject to competitive or comparative selection procedures, ICP-ANACOM is responsible for approving the regulations of allocation of the rights of use of frequencies, except when the rights of use to be allocated refer to frequencies accessible, for the first time, within the scope of electronic communications or, if not, are destined to be used for new services, in which case the Government is responsible for approving the regulations (see article 35, nos. 4 and 5 of the ECL). In this particular case, ICP-ANACOM is responsible for approving the respective selection regulation.

ICP-ANACOM must in its activity permanently pursue a set of regulatory objectives of which it highlights, in this context, the promotion of competition in the offer of electronic communications networks and services, of resources and connected services and encourage an efficient use and ensure an effective management of the frequencies(see article 5, no. 1, sub-paragraph a) and no. 2, sub-paragraph d) of the ECL), seeking to guarantee the technological neutrality of the regulation.

3. Frequencies available

As already mentioned, the following frequency bands are reserved and available for electronic communications services, according to relevant European Decisions: 791 – 821 MHz / 832 – 862 MHz (800 MHz), 880 – 890 MHz / 925 – 935 MHz (900 MHz), 1710 – 1785 MHz / 1805 – 1880 MHz (1800 MHz) and 2500 – 2690 MHz (2.6 GHz).

In addition, the following frequencies are reserved and available for the provision of LMS: 455.80625 – 457.45 MHz / 465.80625 – 467.45 MHz (450 MHz) and 1900 – 1910 MHz (2.1 GHz). ICP-ANACOM, in line with the progressive implementation of the concepts of technological neutrality and services, does not obstruct, in this case too, the provision of electronic communications services, provided the fulfilment of the obligations resulting from the Radiocommunications Regulation (RR) of the ITU (International Telecommunications Union) and the NTFA - which identify these bands within the scope of the Land Mobile Service (LMS) - is ensured.

The following table thus presents the quantity of spectrum available for allocation:

Band designation	Spectrum	Quantity of spectrum
450 MHz	455.80625 - 457.45 MHz / 465.80625 - 467.45 MHz	Paired 2 x 1.25 MHz
800 MHz	791 - 821 MHz / 832 - 862 MHz	Paired: 2 x 30 MHz
900 MHz	880 - 890 MHz / 925 - 935 MHz	Paired 2 x 10 MHz
1800 MHz	1710 - 1785 MHz / 1805 - 1880 MHz	Paired 2 x 57 MHz
2,1 GHz	1900 - 1910 MHz	Not paired 2 blocks of 5 MHz
2.6 GHz	2500 - 2690 MHz	Paired 2 x 70 MHz + Not paired 50 MHz

Table 1 – Quantity of spectrum available for allocation

Taking into account the international framework, namely the publication of a set of Decisions at a European Union level relative to the 800/900/1800/2600 MHz bands, with imposition of dates for their designation and availability for terrestrial systems capable of providing electronic communications services in a harmonised manner in the European Union, summarised in the following table:

Band – EC Decision	Publication Date	Implementation Date
2.6 GHz (2008/477/EC)	13/6/2008	13/12/2008
900 MHz and 1800 MHz (2009/766/EC)	16/10/2009	9/5/2010
800 MHz (2010/267/EU)	6/5/2010	2013 to 2015 (indicated in the Spectrum Policy Programme)

Table 2 – Relevant Community Decisions

Given that, in addition, it is considered that this availability of spectrum allows creating the necessary foundations to respond to the challenges launched, on 20/9/2010, by the European Union within the scope of the *“Draft decision of the European Parliament and of the Council that establishes the first radio spectrum policy programme”*, crucial for the implementation of the Digital Agenda for Europe¹², which aims to ensure rapid access to the Internet via broadband in the future knowledge-based economy;

Considering also the number of expressions of interest in the use of these bands, clear in the responses received within the scope of the public consultation on the NTFA 2010-2011, as well as within the scope of the public consultations mentioned in section 1, and given the need to (i) guarantee an efficient use of frequencies, (ii) maximise benefits for users and (iii) facilitate the development of competition, ICP-ANACOM intends to provide the bands identified in Table 1 for applications within the scope of publicly available terrestrial electronic communications networks and services, according to the principles of technological neutrality and services, without prejudice to the allocations identified in the NTFA.

¹² COM(2010) 245, of 19.5.2010.

The spectrum identified above will be provided in lots with the following sizes:

Band designation	Quantity of spectrum	Lots
450 MHz	Paired 2 x 1,25 MHz	1 lot of 2 x 1.25 MHz
800 MHz	Paired: 2 x 30 MHz	6 lots of 2 x 5 MHz
900 MHz	Paired 2 x 10 MHz	2 lots of 2 x 5 MHz
1800 MHz	Paired 2 x 57 MHz	9 lots of 2 x 5 MHz and 3 lots of 2 x 4 MHz
2,1 GHz	Not paired 2 x 5 MHz	2 lots of 5 MHz
2.6 GHz	Paired 2 x 70 MHz + Not paired 50 MHz	14 lots of 2 x 5 MHz + 2 lots of 25 MHz

Table 3 – Number and size of lots per frequency band

The dimensioning of the lots in each one of the frequency bands aims to provide an equilibrium between the minimum viability of a commercial operation and the need for flexibility in the choice of quantity of spectrum intended. It is also intended to create conditions so that there is an effective use of the spectrum and so that various entities can commercially exploit these frequency bands.

3.1. Technical conditions associated to the frequencies

Associated to the rights of use allocated to the frequency bands identified above, there will be a set of technical conditions and/or restrictions, which are summarised below.

3.1.1. Conditions for the 450 MHz frequency band

In relation to the 450 MHz frequency band, the entities that come to hold the rights of use of this spectrum will have to align the technology they intend to implement with the radiocommunications systems/services that operate in the adjacent bands, namely¹³:

- Private Networks;
- Mobile Trunking Services;
- Local Paging;
- Broadcasting Service (BS): analog (PAL/G) - until 2012 - and other networks which may be implemented in the future within this radio communication service - e.g. DVD-H.

The radio parameters, where they exist, associated to these systems can be consulted in the radio interfaces published by ICP-ANACOM within the scope of Decree-Law 192/2000, of 18 August¹⁴.

3.1.2. Conditions for the 800 MHz frequency band

For the 790 - 862 MHz frequency band, the implementation of the conditions identified in Decision 2010/267/EU is relevant, with emphasis on the following:

- The EIRP power limits for the base stations will be limited to +56dBm/5MHz, in order to limit the probability of interferences, namely with the stations of Spain and the systems operating in adjacent bands;
- Adoption of the out-of block emission limits over frequencies below 790 MHz for base stations in accordance with the limits indicated in Table 4 of Decision 2010/267/EU regarding case A.

¹³ In view of the allocation identified in the NTFA in force

¹⁴ Available at <http://www.anacom.pt/render.jsp?contentId=933559>

A relevant aspect is related with the operation and geographic restrictions of this frequency band, namely:

- Firstly, it is necessary to note that the use of this frequency band may only take place after the switch-off of the analogue television network, set for 26 April 2012, as laid out in the Resolution of the Council of Ministers no. 26/2009.
- Next, according to the conclusions of the public consultation on the designation and availability of this band for electronic communications services, it was emphasised that the availability of the same before 2015 would be dependent on the definition of technical and geographic conditions, aimed at compatibility, namely, with the uses of Spain and Morocco¹⁵. After 31 December 2014, other technical conditions (which are expected to be less demanding) will be applicable within the scope of the cross-border coordination between networks, in conformity with ¹⁶ Decision 2010/267/EU, that come to be installed, with the definition of these conditions still being finalised, in terms of CEPT¹⁷.
- Therefore, the networks that come to be implemented in Portugal in this band (in the period between switch-off and 31 December 2014) have to coexist, namely with radio stations. In this respect, it is important to distinguish two aspects:
 1. The protection of the broadcasting stations that operate in Spain and Morocco, and

¹⁵ It should be noted that the recent public information with respect to the availability of the 790-862 MHz frequency band in Spain, according to Decision 2010/267/EU, points towards the anticipation of this date for 2014.

¹⁶ It is recalled that within the scope of Decision 2010/267/EU, terrestrial systems capable of providing electronic communications that do not include high-power broadcasting stations are at stake. Likewise, it is important to note that the technical conditions of this Decision are optimised for the fixed and/or mobile communications networks operation.

¹⁷ Recommendation (11)04 of CEPT on this issue is in the process of a public consultation, with its final adoption planned for the middle of the current year.

2. The possible interference caused by the broadcasting stations in the networks that come to be implemented in Portugal in the 800 MHz band.

For the protection of broadcasting stations operating in Spain and Morocco, a maximum field strength level of 25 dBuV/m is established at the border.¹⁸

The technical characteristics of the stations operating in both Spain and Morocco are contained in the Geneva Agreement (ITU GE06).¹⁹ Therefore, protection against interferences, stemming from stations operating within the areas of influence of those emissions, can not be ensured.²⁰ It should be noted that, in Spain, the emission of the broadcasting service stations will take place, at the latest, until 31 December 2014. In addition, the installed stations in Portugal may not cause interference in television broadcasting service stations of Spain and Morocco.

3.1.3. Conditions for 900 MHz and 1800 MHz frequency bands

As previously mentioned, within the scope of refarming of the GSM 900/1800 spectrum and as a result of the publication of Directive 2009/114/EC and Decision 2009/766/EC, the technological restrictions in relation to the designated GSM spectrum in the 880 - 915 MHz and 925 - 960 MHz band and in the 1710 - 1785 MHz and 1805 - 1880 MHz band were eliminated, allowing the implementation of other terrestrial systems capable of providing electronic communications services and that can coexist with GSM systems. Therefore, in the annex of said Decision 2009/766/EC the UMTS system was identified and, more recently, the LTE

¹⁸ Value established in accordance with Geneva 06 Agreement (ITU RRc-06). The field strength has a reference antenna height of 10 meters, from the earth, 1% of the time and 50% of the locations.

¹⁹ Available at <http://www.itu.int/ITU-R/terrestrial/broadcast/plans/ge06/index.html>

²⁰ Available at <http://www.itu.int/ITU-R/index.asp?category=study-groups&rlink=rjtq5-6&lang=en>.

and WiMAX systems were identified in Decision 2011/251/EU, which amends Decision 2009/766/EC.

It should be noted that this Decision also foresees the possibility of the Member States designating these bands for other terrestrial systems other than those listed in the said annex (UMTS), provided they assure that such systems can coexist with GSM and UMTS, in both national territory and in the territory of neighbouring Member States. In this connection, CEPT has finalised compatibility studies (CEPT 40 and 41 reports²¹) in order to be able to include the LTE and WiMAX in the annex of said Decision, which is expected to happen soon.

Therefore, to ensure the coexistence between the various networks, it is necessary to apply the technical parameters set out in Decision 2009/766/EC.

3.1.4. Conditions for the 2.1 GHz frequency band

The relevant technical conditions for this band are currently laid out in Decision CEPT ECC (06)01. It should be noted that the spectrum in the 2.1 GHz frequency band was recently the subject of studies by CEPT, in response to a mandate from the European Union of June 2009, for the definition of less restrictive technical conditions in the 1900 - 1980 MHz / 2010 - 2025 MHz / 2110 - 2170 MHz bands, culminating in Report 39 of CEPT. However, more studies by CEPT on these bands are expected to be undertaken, the result of which will determine the adoption of possible measures of harmonisation at a European Union level.

²¹ Available at www.ero.dk

3.1.5. Conditions for the 2.6 GHz frequency band

With regards to the 2.6 GHz spectrum, Decision 2008/477/EC²², in addition to designating and providing, in a regime of non-exclusivity, this frequency band for terrestrial systems capable of providing electronic communications services, identifies in its annex a set of parameters and/or technical requisites, with emphasis on the following:

- FDD and TDD spectrum availability in multiples of 5 MHz;
- Spectrum availability for operation in FDD mode: uplink in 2500-2570 MHz sub-band and downlink in 2620-2690 MHz sub-band;
- 2570 - 2620 MHz spectrum availability for operation in TDD mode;
- The TDD spectrum of this band (2570 – 2620 MHz sub-band) presents some constraints relative to the compatibility between TDD/FDD operations, as well as between non-synchronised TDD operations. As already highlighted during the public consultation relative to the 2.6 GHz band, there will be blocks of 5 MHz that will be subject to more conservative restrictions (known as restricted blocks), whose EIRP will be a maximum of +25dBm/5MHz. On the other hand, any use of a restricted block is subject to an additional risk of interferences;
- The EIRP power limits for TDD and FDD base stations will be limited to +61 dBm/5 MHz.
- The technical parameters, indicated by the “block edge mask” (BEM), will be applied as an essential component of the necessary conditions to ensure coexistence in the absence of bilateral or multilateral agreements between neighbouring networks, without prejudice to the application of less restrictive technical parameters in case an agreement in that sense is reached between the operators of those networks.

²² Decision 2008/477/EC, 13 June 2008, on the harmonisation of the 2500-2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community.

Based on the results of the said public consultation, in which ICP-ANACOM received various proposals regarding the minimum spectrum to enable a TDD operation (with emphasis on the proposals of 1 lot of 50 MHz or lots of 20 MHz), it is considered that the option of 2 lots of 25 MHz is the one that is most appropriate in the current spectrum availability scenario. This option enables, on the one hand, the competitive operation of various TDD networks and, on the other hand, makes a more efficient use of spectrum in that the definition of lots with a lower quantity of spectrum than 2 x 25 MHz would imply the definition of blocks with a more conditioned use ("restricted blocks") or possibly even the creation of guard bands between TDD operations.

With regards to the definition of lots proposed by ICP-ANACOM, the following blocks are deemed as restricted blocks:

- The first 5 MHz block of the first 25 MHz lot;
- The first 5 MHz block of the second 25 MHz lot (in case the TDD lots belong to another operator or in the absence of synchronisation of TDD networks);
- The last 5 MHz block of the second 25 MHz lot.

4. Selection procedure

Bearing in mind the need to guarantee the efficient use of frequencies, taking into account their scarcity, corresponding to a much higher expected level of demand relative to the number of rights to be allocated, as evidenced by the responses received within the scope of various public consultations held and identified above, as well as the need to simultaneously guarantee the maximisation of benefits for the users and the promotion of the development of competition, ICP-ANACOM is of the opinion that it should limit the number of rights to be allocated for the use of the frequencies at stake.

Given that the ECL defines that the selection procedure can be by public tender or by auction, ICP-ANACOM is of the opinion that this last mode is the most adequate to select the entities to whom rights of use of frequencies will be allocated.

Given the flexibility of implementation that one intends to provide – among others, through the possibility (i) of operation of different services (on the basis of the principle of neutrality of services), (ii) of the use of different technologies (on the basis of the principle of technological neutrality) and (iii) of the flexible attribution of spectrum in various bands taking into account the needs of each operator –, as well as the need to approximate the value of the spectrum in question to the reality of the market, it is understood that the selection procedure that is more appropriate for the purpose of selection of entities to whom rights of use of frequencies will be allocated, is the auction procedure.

The option for the auction process presents itself, in this case, as a form of potentially more transparent spectrum allocation for all interested parties, interfering less in the business plans of operators and in their creativity, stimulating the efficient use of spectrum and decreasing the motivation for inconsistent allocations of this resource.

It should also be highlighted that the majority of European countries have implemented, or is in the process of implementing, the auction as a selection mechanism for the bands in question, namely:

Country	Bands	Quantity of spectrum assigned [MHz]
Austria	2.6 GHz	190
Germany	800 MHz, 1800 MHz, 2 GHz and 2.6 GHz	>350
Denmark	2.1 GHz and 2.6 GHz	200
Holland	2.6 GHz	130
Finland	2.6 GHz	190
Sweden	2.6 GHz	190
Norway	2.6 GHz	190

Table 4 – European countries that have implemented the auction as a selection mechanism

5. Decision

In light of the above, the Management Board of ICP-ANACOM, within the scope of the powers provided for in sub-paragraphs c) and f) of article 6 of its Statutes, annexed to Decree-Law no. 309/2001, of 7 December, to pursue regulatory objectives provided for in article 5 of Law no. 5/2004, of 10 February, in particular in sub-paragraph a) of no. 1 and in sub-paragraph d) of no. 2, both of said article 5, and under articles 8, 15, 16 and 31 of said Law no. 5/2004, hereby determines:

1. Limit the number of rights of use of frequencies, for the provision of publicly available terrestrial electronic communications services, by:
 - a. One right of use of 2×1.5 MHz in the 450 MHz frequency band;
 - b. Up to six rights of use of 2×5 MHz in the 800 MHz frequency band;
 - c. Up to two rights of use of 2×5 MHz in the 900 MHz frequency band;
 - d. Up to 9 rights of use of 2×5 MHz in the 1800 MHz frequency band and up to 3 rights of use of 2×4 MHz in the same band;
 - e. Up to two rights of use of 5 MHz (spectrum not paired) in the 2.1 GHz frequency band;
 - f. Up to 14 rights of use of 2×5 MHz and up to two rights of use of 25 MHz (spectrum not paired) in the 2.6 GHz frequency band.
2. Define that the allocation procedure of the rights of use of frequencies mentioned in the previous number is that of an auction.
3. Amend the NTFA in force, in order to reflect the provisions in the previous numbers in conformity.

Lisbon, July 2011.