Telekom-Control Commission

Mariahilfer Strasse 77-79

A-1060 Vienna, Austria

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Tender documentation for frequency assignments in the frequency ranges of 800 MHz, 900 MHz and 1800 MHz

NON-BINDING TRANSLATION

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1. Objectives of the tender award

Broadband coverage is one of the key issues in the telecommunications sector. The objective is to provide coverage to as many residents as possible across Austria and thereby promote the use of ICT applications (e-learning, e-health, e-government, e-commerce), enabling people across all population groups to participate in public and commercial life.

To this end, a number of initiatives to promote the expansion of broadband networks have been launched at the European and the national level.

In May 2010 the European Commission published the ”Digital Agenda for Europe”. Its central goal is to significantly enhance broadband coverage and increase Internet usage. It aims to bring broadband to all Europeans by 2013, and by 2020 all EU citizens should have access to broadband services providing at least 30 Mbit/s, and 50% of European households should have access to broadband services at a speed of 100 Mbit/s.

The Austrian Government Programme 2008-2013 (Government Programme for the 24th legislative period) also stipulates targets concerning national broadband coverage. Accordingly, the expansion of advanced communications technologies is to be promoted in regions not yet sufficiently covered. One of the aims is that, by 2013, Austria’s population should have Internet access at a speed of at least 25 Mbit/s. Another initiative in this field is the “Broadband Strategy 2020” published by the Austrian Ministry for Transport, Innovation and Technology.

An important contribution towards achieving the coverage goals was the decision taken by policy-makers in 2010 to enable the use of the “digital dividend” (800 MHz band) for mobile networks. Due to their favourable broadcasting characteristics, these frequencies are particularly suitable for rural areas, and thus for expanding mobile broadband services in such areas.

In the present tender award these objectives also play a major role. The possibility of using new technologies (especially LTE) is driving the development of broadband data services. The political goal of providing coverage to rural areas has been the predominant concern in the specification of coverage requirements for the 800 MHz frequency band (the “digital dividend”).

Another important objective is to ensure sustainable competition in the Austrian mobile market in the long run, especially in view of the takeover of Orange Austria Telecommunication GmbH (Orange) by Hutchison 3 G Austria Holdings GmbH, resulting in a reduction of mobile operators in Austria from four to three.

2. Legal framework

The Telekom-Control Commission is conducting a procedure to assign frequencies in accordance with Art. 55 of the Austrian Telecommunications Act 2003 (TKG 2003) in the following frequency bands

- 791–821/832–862 MHz (also referred to below as “800 MHz band” or “800 MHz range”);
- 880–915/925–960 MHz (also referred to below as “900 MHz band” or “900 MHz range”);
- 1710–1785/1805–1880 MHz (also referred to below as “1800 MHz band” or “1800 MHz range”).

2.1. Reservation of frequencies

In the context of the present tender award, frequencies within the range of 800 MHz are reserved for a new entrant.

Frequencies are a scarce asset in the Austrian mobile market. Through the efficient use of the available frequencies, it is to be ensured that the objectives of the TKG 2003 can be met as stipulated in Art. 1 of the cited law, i.e. to provide the population with reliable, low-cost, high-quality and innovative communications and mobile network services. For this reason, any existing but scarce frequencies are to be made available for actual use by the operators in order to enable them to meet the needs of their customers in the best possible way. Such efficient use is geared towards putting a sufficient number of competitors into a position to offer their services on the mobile market and to ensure effective competition.

As stated by the European Commission (EC) in its decision on Case No M.6497 (**Hutchison 3G Austria/Orange Austria**) of 12 December 2012, high barriers to market entry and competition (scarcity of frequencies, availability of sites, landscape protection regulations, environmental concerns, etc.) for mobile operators make it imperative to take appropriate measures towards reducing such entry barriers and providing a realistic chance for a new competitor.

The decision taken by the European Commission in the case of H3G, in conjunction with the reservation of spectrum within the 800 MHz band in the present tender procedure, is suited to remove major market entry barriers, and to counteract any concerns regarding competition, as identified in the course of the EC merger control proceedings and in the proceedings pursuant to Art. 56 Par. 2 TKG 2003 (F1/12). The intention of this package is to provide a new entrant with access to the spectrum, notwithstanding any strategic interests of existing operators. The criteria taken into account in the frequency assignments include both “coverage spectrum” aspects (in the 800 MHz band) as well as “capacity spectrum” aspects (in the 2.6 GHz band). Due to its favourable broadcasting characteristics, the 800 MHz spectrum enables an operator to roll out an LTE network over a large area at low cost. In urban areas a new entrant may use additional capacities of 2.6 GHz frequencies. This combination allows an efficient LTE network roll-out.

The reservation of frequencies in the 800 MHz band is related to the decision in the EC merger control proceedings versus H3G (Case No M.6497),

- to divest 2x10 MHz from the 2.6 GHz band (referred to below as “divestment spectrum”) to a new entrant;
- to divest approximately 2,000 sites no longer needed and/or to provide access to site sharing at H3G sites; and
- to offer national roaming services to new entrants for a period of six years.

The entire package of measures is intended to give a new entrant the chance, as far as economically reasonable, to enter the market and to ensure that the new entrant may use both the reserved spectrum and the divestment spectrum and has access to national roaming and sites.

The reserved spectrum will be assigned to a new entrant in the form of a separate initial assignment procedure (referred to below as “pre-auction”). For the pre-auction, 2x10 MHz will be reserved from the 800 MHz band (these frequencies are referred to below as “reserved spectrum”).

It is important to note that the minimum bid for the reserved spectrum is set at a lower amount than the minimum bid for the remaining spectrum in the 800 MHz band (see Section 4.2). A differentiation in this respect is necessary due to the reduced market value of the spectrum, and due to the fact that the market situation of a new entrant has to be assessed differently from the market situation of an existing mobile operator. Furthermore, this differentiation also reduces the market entry barriers for a new entrant and in this way contributes to ensuring sustainable competition on the Austrian mobile market in the long run.

If none of the bidders is successful in the pre-auction, or if the latter is cancelled due to a lack of participants, the reserved spectrum will be assigned in the course of the main auction; in this case, however, under the same conditions as the remaining spectrum in the 800 MHz range (in particular with respect to coverage requirements and the minimum bid).

As regards the transfer and change of ownership of the reserved spectrum, please refer to the provisions in Section 2.8.

2.2. New entrants

A new entrant within the meaning of this tender documentation is an applicant that does not hold any usage rights in the frequency ranges of 900 MHz, 1800 MHz and 2.1 GHz (1920-1980/2110-2170 MHz) and/or is not affiliated (in terms of ownership law) to any holders of such usage rights in the frequency ranges of 900 MHz, 1800 MHz and 2,1 GHz, during the period between submission of the application in the present procedure and the assignment of the frequencies offered in this procedure by the regulatory authority.

Only new entrants are entitled to participate in the pre-auction and consequently acquire the reserved spectrum offered in the pre-auction. To this end, a specific application for participating in the pre-auction must be filed (see Section 5 and Annex A).

2.3. General conditions under Austrian law

This invitation to tender is being carried out on the basis of the Austrian Telecommunications Act 2003 (TKG 2003, Federal Law Gazette I No. 70/2003 as amended by Federal Law Gazette I No. 102/2011). In addition, Austrian procedural rules and regulations are also applicable, especially the General Administrative Procedures Act of 1991 (AVG; Federal Law Gazette No. 51/1991 as amended by Federal Law Gazette I No. 100/2011).

The Telekom-Control Commission's responsibility for allocating frequencies under Art. 55 TKG 2003 is based on Art. 54 Par. 3 No. 2 in conjunction with Art. 117 No. 10 TKG 2003. Under Art. 54 Par. 3 No. 2 TKG 2003, the regulatory authority is responsible for frequency assignment as well as changing and revoking assignments for those frequencies which are subject to a limitation pursuant to Art. 52 Par. 3 TKG 2003 in the Frequency Utilisation Plan (limit on the number of assignments).

With respect to the frequency ranges concerned herein, these limits were defined in the Ordinance of the Austrian Federal Minister for Transport, Innovation and Technology on the use of frequencies (Federal Law Gazette II No. 307/2005 as amended by Federal Law Gazette II No. 68/2011).

2.4. Frequency assignment procedure

Under Art. 55 Par. 1 TKG 2003, the regulatory authority is required to assign the frequencies placed under its authority to the applicant fulfilling the general prerequisites set out in Art. 55 Par. 2 No. 2 TKG 2003 and guaranteeing the most efficient use of these frequencies. This will be established on the basis of the amount of frequency licence fee offered.

The frequency assignment procedure consists of two parts:

1. Following the receipt of the applications the regulatory authority will review whether the prerequisites according to Art. 55 Par. 2 No. 2 TKG 2003 (see Section 5.3) are fulfilled. Those applicants that do not fulfil the requirements will be excluded from the frequency assignment procedure according to Art. 55 Par. 8 TKG 2003.
2. The second part will be carried out in the form of an auction.

2.5. Collusion

In the context of procedures for the assignment of frequencies, the TKG 2003 repeatedly refers to collusive behaviour.

Art. 55 Par. 8 TKG 2003, in conjunction with Art. 55 Par. 9 TKG 2003, stipulates that in the event that applicants behave collusively before or during the auction procedure, they may be excluded from further participating in the procedure.

The regulatory authority is also entitled to cancel the call for tenders and terminate the procedure at any stage, if it identifies collusive behaviour among applicants and/or an efficient, fair and non-discriminatory procedure cannot be conducted (Art. 55 Par. 12 TKG 2003 No. 1 TKG 2003).

Similarly, threatening competitors or making public participation in the auction, bid amounts or bidding strategies, even prior to the auction procedure, lead to the applicant's exclusion from the procedure.

The auctioneer will take all appropriate measures to prevent collusive behaviour. In particular, attention is drawn to the fact that the bidder has to provide access to the bidder's premises to a

representative of the regulatory authority at any time during the auction.

In the context of potential collusive behaviour, reference is also made to the provisions of general competition law in Austria as well as to Art. 168b of the Austrian Penal Code (StGB).

2.6. Annulment of the tender, discontinuation of the procedure

Under Art. 55 Par. 12 TKG 2003, the regulatory authority is authorised to annul the invitation to tender and discontinue the procedure at any stage for important reasons, especially if

1. the regulatory authority identifies collusive behaviour among applicants and/or an efficient, fair and non-discriminatory procedure cannot be conducted;
2. none or only one of the applicants complies with the requirements under Par. 2;
3. none or only one applicant that complies with the requirements under Par. 2 actually participates in determining the highest bid;
4. the procedure results in the applicants requesting less frequency spectrum than the amount to be allocated.

None of these circumstances justify any claim to remuneration, government authority liability claims notwithstanding.

The authority issuing the invitation to tender may consider the circumstances to constitute good cause if, due to a pending transaction in connection with a change of ownership of market participants of relevance for this tender, the conduct of an open, fair and non-discriminatory procedure cannot be guaranteed.

2.7. Frequency assignment

The frequencies will be assigned by the Telekom-Control Commission within one month after publication of the auction results.

2.8. Transfer of frequencies and change of ownership

Under Art. 56 Par. 1 TKG 2003, operators are also permitted to transfer frequency usage rights. However, such transfers require prior approval by the regulatory authority. Transfers are to be understood as the sale of frequency usage rights (in part or in full) as well as the temporary transfer of such rights.

If the reserved spectrum is assigned in the course of the pre-auction, it will consequently, for a period of five years from the time of allocation of the reserved spectrum, not be permissible for the holder of the related frequency usage rights to transfer such frequencies to a holder of usage rights in the frequency ranges of 900 MHz, 1800 MHz or 2.1 GHz with a market share of more than 10% of all participants in the mobile market, or to a company affiliated (in terms of ownership law) to any of the latter.

If, due to a change of ownership, a holder of usage rights in the frequency ranges of 900 MHz, 1800 MHz or 2.1 GHz with a market share of more than 10% of all participants in the mobile market gains direct or indirect control of the usage rights for the reserved spectrum within a period of five years, that spectrum will be returned to the regulatory authority.

2.9. Site sharing under the TKG 2003

Operators of public communications networks are entitled to site sharing with regard to antenna masts and high-voltage power line masts under Art. 8 Par. 2 TKG 2003. Additional usage rights are set forth in the provisions of Art. 8 TKG 2003.

2.10. National roaming obligation

Operators already holding usage rights in the frequency bands of 900 MHz, 1800 MHz or 2.1 GHz at the time of the tender award and acquiring additional usage rights in the course of the present procedure are obliged to grant a national roaming right for a period of six years from the legal effectiveness of the official assignment to any new entrants (see Section 2.2) that have acquired frequencies in the course of this procedure.

The right to national roaming includes any services and technologies rendered by the host operator via the frequency bands. These services have to be made available to the national roaming partner's customers in the same quality and at the same level of coverage as provided to its own customers.

Upon request by the roaming partner, the host operator is obliged to limit national roaming to specific geographic regions, provided that this is economically reasonable and technically feasible.

An appropriate fee or these national roaming services has to be agreed. If no agreement can be reached, the Telekom-Control Commission will take a decision, notwithstanding any national roaming requirements mentioned in Section 2.1.

3. Objects of the auction

3.1. Frequency blocks

In the present procedure, 28 specific frequency blocks of 2 x 5 MHz within the frequency bands of 800 MHz, 900 MHz and 1800 MHz will be awarded, which for the purpose of the auction procedure are assigned to different categories (A1, A2, A3, B1, B2, B3, C1, C2 and C3).

The following figure illustrates the 800 MHz band with the associated categories and frequency blocks:

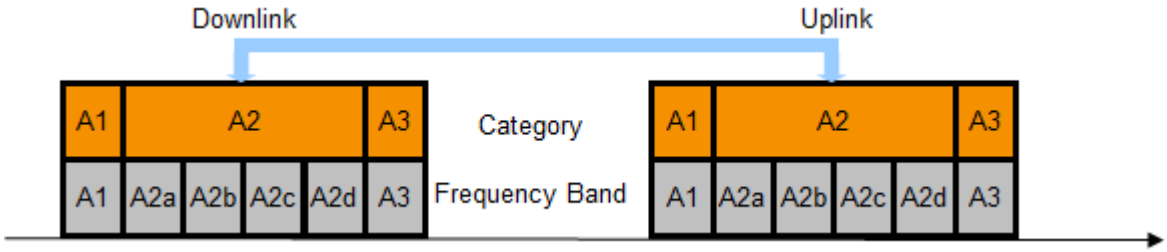


Figure 1: Categories and frequency blocks in the 800 MHz band

The following figure illustrates the 900 MHz band with the associated categories and frequency blocks:

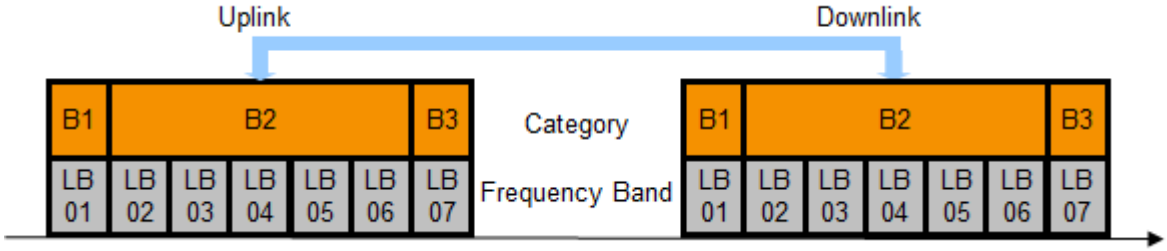


Figure 2: Categories and frequency blocks in the 900 MHz band

The following figure illustrates the 1800 MHz band with the associated categories and frequency blocks:

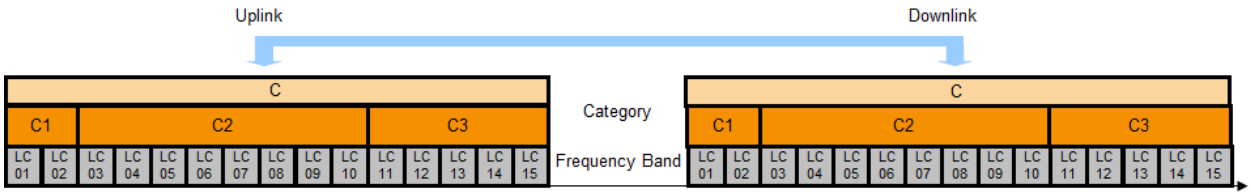


Figure 3: Categories and frequency blocks in the 1800 MHz band

The following tables list the individual categories and associated frequency blocks. The usability of the frequency blocks is dependent on the technical conditions of use and their availability during consecutive periods of time as indicated below.

Category	Frequencies	Block designation
A1	791-796/832-837 MHz	LA01
A2/A3	796-801/837-842 MHz	LA02
	801-806/842-847 MHz	LA03
	806-811/847-852 MHz	LA04
	811-816/852-857 MHz	LA05
	816-821/857-862 MHz	LA06

Table 1: Overview of categories and objects of the auction in the 800 MHz band

Category A2 consists of four abstract frequency blocks in the range of 796-821/837-862 MHz. Category A3 consists of one abstract frequency block in the range of 796-821/837-862 MHz to which higher coverage requirements apply. In the course of the pre-auction, two abstract frequency blocks of the A2 category will be offered to potential new entrants (reserved spectrum). If these blocks are awarded successfully in the pre-auction, only two frequency blocks of the A2 category will be available in the principal stage of the main auction.

Example 1: A bidder acquires the abstract frequency block of the A3 category and an abstract frequency block of the A2 category. This bidder will be assigned a contiguous frequency block of 2x10 MHz in the range of 796-821/837-862 MHz, whereas the actual position will be determined in the assignment stage of the auction. These frequencies are subject to the increased coverage requirements associated with the acquisition of the frequency block in the A3 category.

Example 2: A new entrant acquires the reserved spectrum in the pre-auction. This bidder will be assigned a contiguous frequency block of 2x10 MHz in the range of 796-821/837-862 MHz, whereas the actual position will be determined in the assignment stage of the auction. These frequencies are subject to the coverage requirement applying to the reserved spectrum.

Example 3: A bidder acquires the abstract frequency block of the A3 category and an abstract frequency block of the A3 category. This bidder will be assigned the frequency range of 791-801/832-842 MHz. These frequencies are subject to the increased coverage requirements associated with the acquisition of the frequency block in the A3 category.

Category	Frequencies	Block designation
B1	880-885/925-930 MHz	LB01
B2	885-890/930-935 MHz	LB02
	890-895/935-940 MHz	LB03
	895-900/940-945 MHz	LB04
	900-905/945-950 MHz	LB05
	905-910/950-955 MHz	LB06
B3	910-915/955-960 MHz	LB07

Table 2: Overview of categories and objects of the auction in the 900 MHz band

Category		Frequencies	Block designation
C	C1	1710-1715/1805-1810 MHz	LC01
		1715-1720/1810-1815 MHz	LC02
	C2	1720-1725/1815-1820 MHz	LC03
		1725-1730/1820-1825 MHz	LC04
		1730-1735/1825-1830 MHz	LC05
		1735-1740/1830-1835 MHz	LC06
		1740-1745/1835-1840 MHz	LC07
		1745-1750/1840-1845 MHz	LC08
		1750-1755/1845-1850 MHz	LC09
		1755-1760/1850-1855 MHz	LC10
	C3	1760-1765/1855-1860 MHz	LC11
		1765-1770/1860-1865 MHz	LC12
		1770-1775/1865-1870 MHz	LC13
		1775-1780/1870-1875 MHz	LC14
		1780-1785/1875-1880 MHz	LC15

Table 3: Overview of categories and objects of the auction in the 1800 MHz band

3.2. Beginning and duration of use

Under Art. 54 Par. 11 TKG 2003, frequencies can only be allocated for a limited period of time.

Due to already existing limited usage rights for the frequency bands of 900 MHz and 1800 MHz in terms of time, the frequency blocks will be made available for consecutive periods of time as indicated below.

3.2.1. Time limitation of the 800 MHz band

The frequency blocks in the 800 MHz band (LA01, LA02, LA03, LA04, LA05, LA06) will be assigned as soon as the official frequency assignment decision enters into force, whereas in particular any possible restrictions through usage in neighbouring countries (see Section 3.3.2.1) must be observed.

The assignment of this frequency band will end on 31 December 2029.

3.2.2. Time limitation of the 900 MHz band

The frequency blocks of category B2 (LB02, LB03, LB04, LB05 and LB06) will be assigned for the period from 1 January 2016 to 31 December 2034. The frequency blocks of the categories B1 (LB01) and B3 (LB07) will be assigned for consecutive periods from 1 January 2016, or 1 January 2018, to 31 December 2034, according to the following tables:

Frequency block LB01		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2017	883.3-885 MHz	928.3-930 MHz
1 Jan. 2018 – 31 Dec. 2034	880-885 MHz	925-930 MHz
Entire 5 MHz block available from	1 Jan. 2018	
Note: In connection with using this block in particular, possible restrictions due to its location in the lower end of the frequency band are to be observed (see Section 3.3.3.1).		

Table 4: Time limitation of frequency block LB01

Frequency block LB07		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2017	910-914.1 MHz	955-959.1 MHz
1 Jan. 2018 – 31 Dec. 2034	910-915 MHz	955-960 MHz
Entire 5 MHz block available from		1 Jan. 2018
Note: In connection with using this block, possible restrictions due to its location in the upper end of the frequency band are to be observed (centre frequency, filtering may be required). With respect to the GSM channels 121 to 124, reference is made to the requirement under 3.2 of the TKK decision (F 1/12) to divest the usage rights for these channels.		

Table 5: Time limitation of the frequency block LB07

3.2.3. Time limitation of the 1800 MHz band

The 1800 MHz band is divided into the categories C1, C2 and C3, and in the second round of the assignment stage additionally into category C (includes all the frequency blocks in the 1800 MHz band).

The frequency blocks in the 1800 MHz frequency band will be assigned as soon as the official frequency assignment decision enters into force, i.e. for consecutive periods of time from 1 January 2016, or 1 January 2018, or 1 January 2020, in each case to 31 December 2034.

3.2.3.1. Time limitation of the 1800 MHz band, C1 category

The frequency blocks of category C1 (LC01 and LC02) will be assigned from 1 January 2016 to 31 December 2034.

3.2.3.2. Time limitation of the 1800 MHz band, C2 category

Category C2 comprises the frequency blocks LC03, LC04, LC05, LC06, LC07, LC08, LC09 and LC10.

Frequency block LC03		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2019	1720-1722.7 MHz	1815-1817,7 MHz
1 Jan. 2020 – 31 Dec. 2034	1720-1725 MHz	1815-1820 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 6: Time limitation of the frequency block LC03

Frequency block LC04		
Period	**Uplink**	**Downlink**
1 Jan. 2020 – 31 Dec. 2034	1725-1730 MHz	1820-1825 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 7: Time limitation of the frequency block LC04

Frequency block LC05		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2017	1731.3-1734.1 MHz	1826.3-1829.1 MHz
1 Jan. 2018 – 31 Dec. 2019	1731.3-1735 MHz	1826.3-1830 MHz
1 Jan. 2020 – 31 Dec. 2034	1730-1735 MHz	1825-1830 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 8: Time limitation of the frequency block LC05

Frequency block LC06		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2017 *)	1739.7-1740 MHz	1834.7-1835 MHz
1 Jan. 2018 – 31 Dec. 2034	1735-1740 MHz	1830-1835 MHz
Entire 5 MHz block available from		1 Jan. 2018
*) Note: Due to the low bandwidth of 0.3 MHz, this range can actually be used in this period only in combination with adjacent frequency blocks.		

Table 9: Time limitation of the frequency block LC06

Frequency block LC07		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2019	1740-1744.1 MHz	1835-1839.1 MHz
1 Jan. 2020 – 31 Dec. 2034	1740-1745 MHz	1835-1840 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 10: Time limitation of the frequency block LC07

Frequency block LC08		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2019	1747.7-1750 MHz	1842.7-1845 MHz
1 Jan. 2020 – 31 Dec. 2034	1745-1750 MHz	1840-1845 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 11: Time limitation of the frequency block LC08

Frequency block LC09		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2019	1750-1750.5 MHz	1845-1845.5 MHz
1 Jan. 2020 – 31 Dec. 2034	1750-1755 MHz	1845-1850 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 12: Time limitation of the frequency block LC09

Frequency block LC10		
Period	**Uplink**	**Downlink**
1 Jan. 2016 – 31 Dec. 2017	1755.1-1758.1 MHz	1850.1-1853.1 MHz
1 Jan. 2018 – 31 Dec. 2019	1755.1-1760 MHz	1850.1-1855 MHz
1 Jan. 2020 – 31 Dec. 2034	1755-1760 MHz	1850-1855 MHz
Entire 5 MHz block available from		1 Jan. 2020

Table 13: Time limitation of the frequency block LC10

3.2.3.3. Time limitation of the 1800 MHz band, C3 category

Category C3 comprises the frequency blocks LC11, LC12, LC13, LC14 and LC15.

Frequency block LC11		
Period	**Uplink**	**Downlink**
1 Jan. 2018 – 31 Dec. 2034	1760-1765 MHz	1855-1860 MHz
Entire 5 MHz block available from		1 Jan. 2018

Table 14: Time limitation of the frequency block LC11

Frequency block LC12		
Period	**Uplink**	**Downlink**
1 Jan. 2018 – 31 Dec. 2034	1765-1770 MHz	1860-1865 MHz
Entire 5 MHz block available from	1 Jan. 2018	

Table 15: Time limitation of the frequency block LC12

Frequency block LC13		
Period	**Uplink**	**Downlink**
1 Jan. 2018 – 31 Dec. 2034	1770-1775 MHz	1865-1870 MHz
Entire 5 MHz block available from	1 Jan. 2018	

Table 16: Time limitation of the frequency block LC13

Frequency block LC14		
Period	**Uplink**	**Downlink**
1 Jan. 2018 – 31 Dec. 2034	1775-1780 MHz	1870-1875 MHz
Entire 5 MHz block available from	1 Jan. 2018	

Table 17: Time limitation of the frequency block LC14

Frequency block LC15		
Period	**Uplink**	**Downlink**
From frequency assignment to 31 Dec. 2017	1781.5-1785 MHz	1876.5-1880 MHz
1 Jan. 2018 – 31 Dec. 2034	1780-1785 MHz	1875-1880 MHz
Entire 5 MHz block available from	1 Jan. 2018	
Note: In connection with using this block, possible restrictions due to its location in the upper end of the frequency band are to be observed (centre frequency, filtering may be required).		

Table 18: Time limitation of the frequency block LC15

3.3. Terms of use

In the following, the terms of use concerning the allocation of the frequency ranges

- 791-821/832-862 MHz (800 MHz band);
- 880-915/925-960 MHz (900 MHz band); and
- 1710-1785/1805-1880 MHz (1800 MHz band)

are specified:

Pursuant to Art. 52 Par. 3 TKG 2003, as last amended, the Frequency Utilisation Plan (Annex to the Frequency Utilisation Ordinance as amended by Federal Law Gazette (BGBl.) II No. 068/2011) stipulates that the number of frequencies which can be assigned in the above-mentioned frequency ranges is limited. Consequently, pursuant to Art. 54 Par. 3 No. 2 TKG 2011, as last amended, the regulatory authority is in charge of assigning those frequencies.

(1) The available frequency spectrum is to be used in accordance with the relevant decision in each case by the European Commission on "terrestrial systems capable of providing electronic communications services". The following decisions of the European Commission shall apply:

- 800 MHz: Commission Decision of 6 May 2010, no. 2010/267/EU (see Annex F.4)
- 900/1800 MHz: Commission Decision of 16 October 2009, no. 2009/766/EC (see Annex F.5), amended by the Commission Implementing Decision of 18 April 2011, no. 2011/251/EU (see Annex F.6).

3.3.1. Fundamental stipulations

(1) In general, the provisions of the Radio Regulations (RR) in the version approved by the World Radio Conference 2012 (WRC-12), and in particular the provisions of the Annexes to the decisions of the European Commission listed in Section 3.3, apply to the use of these frequencies.

(2) The frequency spectrum to be allocated is divided into paired blocks of 2x5 MHz each (5 MHz in both the lower and upper band).

(3) The individual frequency ranges are partitioned as follows:

• 800 MHz: 791-821 MHz (referred to below as "800 MHz lower band"), paired with 832-862 MHz (referred to below as "800 MHz upper band")

• 900 MHz: 880-915 MHz (referred to below as "900 MHz lower band"), paired with 925-960 MHz (referred to below as "900 MHz upper band")

• 1800 MHz: 1710-1785 MHz (referred to below as "1800 MHz lower band"), paired with 1805-1880 MHz (referred to below as "1800 MHz upper band")

(4) The frequencies will be assigned only for use throughout the entire territory of Austria.

(5) Frequencies in the 800 MHz band will be assigned by allocating contiguous paired frequency blocks with a bandwidth of n x 2x5 MHz to each operator, whereas the multiple n must be an integral number.

(6) Following the expiration of all usage rights for a band already assigned before this assignment procedure, frequencies in the 900 and 1800 MHz bands will be assigned by allocating contiguous paired frequency blocks with a bandwidth of n x 2x5 MHz to each operator, whereas the multiple n must be an integral number.

(7) According to lit. A Par. 1 b of the Annex to the Commission Decision of 6 May 2010 (2010/267/EU), in the assignment to and use by the operators, the frequency ranges of 791-821/832-862 MHz are available for Frequency-Division Duplexing use (referred to below as "FDD"). The duplex spacing is 41 MHz, with base station transmission (uplink) located in the 800 MHz (832-862 MHz) upper part of the band and base station transmission (downlink) located in the 800 MHz (791-821 MHz) lower part of the band.

(8) According to Article 3 and Article 5 of the Commission Decision of 16 October 2009 (2009/766/EC), in the assignment to, and use by the operators, the frequency ranges of 900 MHz and 1800 MHz are required to be generally available for Frequency Division Duplexing use (referred to below as "FDD"). In the 900 MHz frequency range, the duplex spacing is 45 MHz, with base station transmission (uplink) located in the 900 MHz (880-915 MHz) lower part of the band and base station transmission (downlink) located in the 900 MHz (925-960 MHz) upper part of the band. In the 1800 MHz frequency range, the duplex spacing is 95 MHz, with base station transmission (uplink) located in the 1800 MHz (1710-1785MHz) lower part of the band and base station transmission (downlink) located in the 1800 MHz (1805-1880 MHz) upper part of the band.

(9) The installation and operation of base stations is governed by the specifications for each frequency range and radio application, as specified in the air interface descriptions FSB-LM001, FSB-LM002, FSB-LM027, FSB-LM028 and FSB-LM029. Currently the descriptions FSB-LM027, FSB-LM028 and FSB-LM029 are still at the conceptual stage (see Annex F.19, F.20 and F.21).

(10) For the calculation of the maximum field strength limit at the national border as specified in Section 3.3.2, the calculation programme as described in the HCM Agreement (Zagreb 2010) "Harmonised Calculation Method – HCM" is relevant and forms an integral part of the terms of use. The calculation programme is available from the website of the administration in charge of the general coordination agreement with the neighbouring administrations "HCM-Agreement (Zagreb 2010)", http://hcm.bundesnetzagentur.de/http/englisch/verwaltung/index_europakarte.htm. The topographical data required for the application of the HCM programme (STM3_HCM_E ...) and the "HCM-Agreement (Zagreb 2010)" are available there as well.

3.3.2. Frequency use near national borders

(1) If possible, the limits indicated hereunder may be amended based on any additional coordination procedures carried out by the Telecommunications Authority in accordance with potential future requirements as defined by the relevant European bodies and/or in accordance with bilateral or multilateral agreements with the neighbouring telecommunications authorities concerned.

(2) Agreements between national operators and the corresponding operators in the neighbouring countries with respect to individual amendments in the vicinity of national borders, while permitted nonetheless require the approval of the telecommunications authority in charge. More detailed provisions can be found in the applicable agreements in each case.

3.3.2.1. 800 MHz frequency band

(1) Austria's neighbouring countries handle the provision of spectrum for electronic communications services in the frequency range of 791-821/832-862 MHz in different ways, meaning that in some of the neighbouring countries this frequency range is currently used for terrestrial broadcasting services. In general, it can be assumed that in the worst case, a maximum field strength limit of 15 dBµV/m at the border with reference to a bandwidth of 5 MHz and 10% of the time, 50% of antenna locations and an antenna height of 3 m (based on the calculation method defined in the most recent version of Recommendation ITU-R P.1546) will be sufficient as a trigger value in order to avoid mutual harmful interference.

3.3.2.1.1. National borders with Germany, Liechtenstein and Switzerland

(1) In border regions and on elevated sites near the border with Germany, Liechtenstein and Switzerland, base stations may be operated without coordination with a neighbouring country, if the field strength does not exceed a value of 59 dBµV/m in the reference bandwidth of 5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 41 dBµV/m in the reference bandwidth of 5 MHz at a height of 3 m above ground at a distance of 6 km beyond the border.

(2) Annex F.1 contains the corresponding agreements with the aforementioned neighbouring countries; any additional technical specifications in those agreements also form an integral part of the technical terms of use.

3.3.2.1.2. National borders with Slovakia, Hungary, Slovenia, Croatia and the Czech Republic

(1) In border areas and on elevated sites near the border with Slovakia, Hungary, Slovenia, Croatia and the Czech Republic base stations may be operated without coordination with a neighbouring country, if the field strength does not exceed a value of 55 dBµV in the reference bandwidth of 5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 29 dBµV/m in the reference bandwidth of 5 MHz at a height of 3 m above ground at a distance of 6 km beyond the border.

(2) Annex F.2 and F.3 contain the corresponding agreements with the aforementioned neighbouring countries; any additional technical specifications in these agreements also form an integral part of the technical terms of use.

3.3.2.1.3. National border with Italy

(1) The terms of use of the frequency range in the border region with Italy as well as the usage possibilities to be expected there have been clarified in principle, but not yet stipulated in their final form through an agreement. In the event that an agreement is signed, the conditions can be assumed to be the same as those as set out in Section 3.3.2.1.1.

3.3.2.2. 900 MHz and 1800 MHz frequency bands

(1) In contrast to the specifications for the 800 frequency range (see Section 3.3.2.1), the technologies used in the border regions are of relevance in the frequency ranges of 900 MHz and 1800 MHz. This is due to the provisions under Article 3 and 5 of the Commission Decision of 16 October 2009 (2009/766/EC) – protection of adjacent GSM systems (in geographic terms and in terms of frequency) – and the existing agreements (currently mainly preferential frequency agreements for GSM) with all neighbouring countries.

(2) According to Commission Decision of 16 October 2009 (2009/766/EC), as amended by the Commission Implementing Decision of 18 April 2011 (2011/251/EU), other technologies

than GSM may also be used within these frequency ranges. The Annex to the latter aforementioned Commission document explicitly mentions technologies such as UMTS, WiMAX and LTE. In addition, other terrestrial technologies not listed there may be used, provided it can be ensured that

a) such systems can be operated in parallel to GSM systems without interference;

b) such systems can be operated within the national territory and in the neighbouring countries without interference from the other systems mentioned above.

3.3.2.2.1. GSM technology

(1) In border regions and on elevated sites near the border with neighbouring countries the following regulations apply to the use of GSM technology: an overview of the preferential and non-preferential frequency spectrum is included in Annexes F.7 to F.14; Annexes F.15 and F.16 contain a graphic overview of the preferential frequencies allocation. It has been agreed between Austria and its neighbouring countries that in the event of technology changes within the 900 MHz and 1800 MHz frequency ranges in the vicinity of the national border, agreements based on new mobile communications technologies will be made in line with the ”equal access approach” and applied following the expiration of the current GSM frequency allocation from 2015 onwards. Therefore, the GSM allocations from the 1990s can be expected to expire from 2015 onwards.

3.3.2.2.1.1. 900 MHz frequency band

- **Non-preferential frequency:** Base stations can be operated without coordination, if the field strength does not exceed a value of 19 dBµV/m at a height of 3 m above ground at the borderline between two countries.

- **Preferential frequency:** Base stations can be operated without coordination, if the field strength does not exceed a value of 19 dBµV/m at a height of 3 m above ground at a distance of 15 km beyond the national border.

3.3.2.2.1.2. 1800 MHz frequency band

- **Non-preferential frequency spectrum:** Base stations can be operated without coordination, if the field strength does not exceed a value of 25 dBµV/m at a height of 3 m above ground at the borderline between two countries.

- **Preferential frequency spectrum:** Base stations can be operated without coordination, if the field strength does not exceed a value of 25 dBµV/m at a height of 3 m above ground at a distance of 15km beyond the national border.

3.3.2.2.2. UMTS technology

3.3.2.2.1. 900 MHz frequency band

(1) UMTS base stations can be operated without coordination, if the field strength does not exceed a value of 35 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries.

(2) In the border region to Slovakia as well as Hungary, Slovenia and Croatia, UMTS base stations can be operated without coordination, if operating agreements have been concluded with all the relevant operators in the border regions concerned (two or three country case). The field strength must not, however, exceed a value of 59 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 31 dBµV/m/5 MHz at a distance of 6 km beyond the national border.

(3) Additional specifications concerning the border region to Slovakia as well as the border

region to Hungary, Slovenia and Croatia can be found in the corresponding agreement (Annex F.17).

3.3.2.2.2.2. 1800 MHz frequency band

(1) UMTS base stations can be operated without coordination, if the field strength does not exceed a value of 41 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries.

(2) In the border region to Slovakia as well as Hungary, Slovenia and Croatia, UMTS base stations can be operated without coordination, if operating agreements have been concluded with all the relevant operators in the border regions concerned (two or three countries). The field strength must not, however, exceed a value of 65 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 37 dBµV/m/5 MHz at a distance of 6 km beyond the national border.

(3) Additional specifications concerning the border region to Slovakia as well as the border region to Hungary, Slovenia and Croatia can be found in the corresponding agreement (Annex F.17).

3.3.2.2.3. LTE, WiMAX and other technologies pursuant to Section 3.3.2.2 no. 2

(1) The investigations regarding the use of other technologies (such as LTE and WiMAX) within the 900 MHz and 1800 MHz frequency ranges have been completed within the European Conference of Postal and Telecommunications Administrations (CEPT) and their findings have been incorporated in the ECC Recommendation ECC/REC/(08)02.

(2) From the revised edition of ECC/REC/(08)02 the following maximum levels regarding field strength in the border region in dependency of the frequency range are apparent:

- Within the 900 MHz frequency range, the field strength must not exceed a value of 59 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 35 dBµV/m/5 MHz at a distance of 9 km beyond the national border.

- Within the 1800 MHz frequency range the field strength must not exceed a value of 65 dBµV/m/5 MHz at a height of 3 m above ground at the borderline between two countries, and a value of 41 dBµV/m/5 MHz at a distance of 9 km beyond the national border.

(3) The limits indicated under (2) are subject to future bilateral or multilateral agreements and may be amended based on any coordination procedures carried out by the Telecommunications Authority in accordance with potential future requirements as defined by the relevant European bodies and/or in accordance with bilateral or multilateral agreements with the neighbouring telecommunications authorities concerned.

3.3.3. Potential usage restrictions due to radio applications in adjacent frequency bands

3.3.3.1. GSM-R

(1) To protect GSM-R in the vicinity of railways, when planning its network, the operator of the frequency block of 880-885/925-930 MHz is to take into account the relevant specifications aimed at avoiding mutual interference that are contained in the ECC Report 162.

3.3.3.2. Measures concerning the coexistence of mobile communications and broadcasting services at the band edge of 791 MHz

(1) In order to protect radio applications in the frequency bands below 791 MHz, the Telecommunications Authority may order specific adaptations to the terms and conditions of use for frequencies, frequency blocks or regions.

In order to avoid mutual interference, Annex F.18 lists further information regarding the current use of DVB-T, possible measures to reduce this interference as well as the technical specifications of DVB-T and DVB-T2 required for the coexistence of broadcasting and mobile communications services.

3.3.3.3. Measures enabling coexistence with other applications

(1) The responsibility of the Telecommunications Authority for other (cable-linked) applications in communications networks is based on Art. 73 Par. 3 TKG 2003 as last amended in conjunction with Art. 8 and Art. 15 of the Electromagnetic Compatibility Ordinance (EMC Ordinance) as last amended.

(2) In order to avoid mutual harmful interference between mobile communications and other wire-bound applications (cable TV networks and other home installations), the following standards representing the state of the art are to be considered in the evaluation of other cable-linked applications. In the case of interference to mobile communications, the Telecommunications Authority may take action according to Art. 15 of the EMC Ordinance as last amended. In the case of interference to other cable-linked applications caused by mobile communications, this interference of other cable-linked applications must be accepted if unavoidable due to the state of the art. Lists of standards and other requirements describing the state of the art can be found in the following Austrian standards:

- ÖVE/ÖNORM EN 50529-1 (version: 2011-12-01); and
- ÖVE/ÖNORM EN 50529-2 (version: 2011-12-01).

(3) In the case that cable-linked applications within the frequency range of 791-821/832-862 MHz correspond to the state of the art and are disturbed by mobile communications, the following measures may remedy the interference:

- Frequency range of 791-821 MHz
    - Reduction of the transmitting power of a base station sector
    - Increase of the effective power by the cable-TV operator
    - Alternative access technologies (e.g. satellite) provided by the mobile operator
    - Use of DVB-C receivers (set-top boxes, cable modems) with adequate EMC immunity
    - Avoiding the use of DVB-C receivers that pass the cable TV signal through a broadband amplifier;
    - Use of coaxial cables with adequate EMC immunity.
- Frequency range of 832-862 MHz
    - Information and recommendation to users regarding the mutual effects of mobile

communications in the 800 MHz frequency range and cable TV reception.

3.3.4. Quarterly reporting on base stations

(1) The data on the active base stations of broadband systems are required to be reported to the competent office of the Austrian Ministry for Transport, Innovation and Technology (Frequency Office) on a quarterly basis. Following the assignment of frequencies by the regulatory authority, the Austrian Ministry for Transport, Innovation and Technology will provide detailed information on the data format to the operators.

(2) Notwithstanding no. 1 above, the operational data of base stations that are to be operated in the 800 MHz band must be reported to the Frequency Office six weeks BEFORE putting the stations into operation.

3.3.5. Other international bases for frequency planning and use

(1) Furthermore, the documents below published by the European Conference of Postal and Telecommunications Administrations (CEPT) are to be regarded as critical information for frequency planning and use:

- ECC Decision ECC/DEC/(09)03
- ECC Decision ECC/DEC/(06)13
- ERC Decision ERC/DEC/(95)03
- ECC Recommendation ECC/REC/(11)04
- ECC Recommendation ECC/REC/(08)02
- ECC Recommendation ECC/REC/(05)08
- CEPT Report 042
- CEPT Report 041
- CEPT Report 031
- CEPT Report 030
- CEPT Report 029
- ECC Report 162
- ECC Report 148
- ECC Report 146
- ECC Report 138
- ECC Report 096
- ECC Report 082
- ERC Report 100
- ERC Report 031

These documents are available from the website of the European Communications Office at http:// www.cept.org/ECO (menu option “Deliverables”) or at http://www.ecodocdb.dk/

(2) ETSI standards are available at http://www.etsi.org/.

3.3.6. Protection of direction finders

(1) In order to protect the stationary direction finders of the Telecommunications Authorities, the maximum field strength caused by any radio transmitter at the locations of the stationary direction finders must not exceed the limit of 105 dBµV/m (measured at each system-specific bandwidth).

(2) An up-to-date list of the locations of direction finders to be protected is available from the website of the Austrian Ministry for Transport, Innovation and Technology under http://www.bmvit.gv.at (Telecommunications section; in German).

3.3.7. Admissible centre frequencies within the 900 and 1800 MHz ranges

In order to ensure that an operator acquiring only one or several non-contiguous 5 MHz frequency blocks will also be able to use these for UMTS, the following provisions are stipulated on the basis of the channel raster specified for UMTS in the ETSI TS125.101 standard: Such an operator may use non-contiguous frequency bands with UMTS centre frequency separation of 2.6 MHz to the lower and of 2.4 MHz to the upper edge of the frequency spectrum assigned to that operator.

This will apply from the point of time when an assignment of frequencies made in accordance with the present procedure enters into force for the next higher frequency band.

The operator of the next higher frequency band must ensure that separation from the centre frequency or edge of the channel is maintained according to Commission Decision of 16 October 2009 (2009/766/EC, cf Annex F.5), amended by Commission Implementing Decision of 18 April 2011 (2011/251/EU, see Annex F.6). In case an operator acquires two or more contiguous frequency blocks, that operator must observe a frequency separation of 2.6 MHz from the upper and lower edges of the frequency spectrum when UMTS is used.

Operators may conclude agreements specifying other values for centre frequency separations to be applied with adjacent frequencies,

- as long as the band edges of the 900 MHz and/or 1800 MHz band are not affected; and
- competition is not restricted thereby.

Any agreements of this type must be submitted to the Telecommunications Authority and the regulatory authority without delay.

3.3.8. Restrictions through existing usage rights

Any assignment in the frequency bands of 900 MHz and 1800 MHz according to this procedure is subject to the following provisions: Any user of frequencies resulting from this assignment procedure is obliged to maintain a certain value of separation from the assignment holder of adjacent frequencies in order to avoid any radio interference. This obligation only applies at the band edge between different assignment holders.

The assignment holder according to this procedure must observe the following separation values:

- when using GSM: 0.3 MHz between the GSM centre frequency and the band edge;
- when using UMTS: 2.7 MHz between the UMTS centre frequency and the band edge;
- when using LTE: 0.2 MHz between the LTE channel edge and the band edge;
- when using WiMax: 0.2 MHz between the WiMax channel and the band edge;
- when using other technologies according to Section 3.3.2.2 no. 2, a separation ensuring sufficient protection of the adjacent frequency used.

Operators may conclude agreements specifying other values for frequency separations to be

applied with adjacent frequencies,

- as long this is agreed within the band edges of the 900 MHz and/or 1800 MHz bands; and

- competition is not restricted thereby.

Any agreements of this type must be submitted to the Telecommunications Authority and the regulatory authority without delay.

3.4. Coverage requirements

Each frequency assignment holder is required to ensure a certain coverage level for the frequency spectrum allocated to it in the course of this procedure, by means of an independently operated network.

A network is assumed to be operated independently, if the following network components are operated directly by the mobile operator (i.e. the holder of the frequency usage rights):

- the most important components of the network, in any case the base stations and related control units;

- the major network components of the core network, i.e. switching and routing equipment and the related subscriber databases.

The “level of coverage” (or “coverage level”) is defined as the percentage of the resident population covered in relation to the total resident population. For the 800 MHz frequency band, a certain number of municipalities to be covered is stipulated in addition, whereas increased coverage requirements are envisaged for the frequency block of the A3 category, with the aim of enhancing mobile broadband coverage in rural areas not yet sufficiently covered.

The following sections contain detailed information on the coverage requirements for each frequency band.

3.4.1. Coverage requirements for existing mobile operators

These requirements refer to applicants that are granted usage rights in the present procedure and that are not new entrants (see Section 2.2).

3.4.1.1. 800 MHz frequency band

If one or more frequency packages of the A1, A2 (with the exception of the reserved spectrum assigned in the pre-auction) or A3 category is/are assigned to an operator, it has to meet the following minimum coverage requirements:

1. For 25% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads (basic coverage). This criterion must be met using only frequencies in the 800 MHz band. The required coverage level must be reached within three years from the time of legal effectiveness of the frequency assignment.

2. For 95% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads. This criterion need not be met using only frequencies in the 800 MHz band. In this case,

equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.1 GHz, 2.6 GHz). The required coverage level must be reached within three years from the time of legal effectiveness of the frequency assignment.

3. Upon assignment of the frequency package of the A3 category, the operator must provide coverage to 120 of the municipalities listed in Annex H and 60 of those listed in Annex I within 1.5 years from the time of legal effectiveness of the frequency assignment. Within three years from the time of legal effectiveness of the assignment of the frequency package of the A3 category, the operator must provide coverage to 240 of the municipalities listed in Annex H and 120 of those listed in Annex I. If, in addition to the frequency block of the A3 category, other frequency blocks of the A1 or A2 category are assigned, the increased coverage requirement associated with the frequency block of the A3 category will apply. This criterion must be met using only frequencies in the 800 MHz band.

4. Upon assignment of at least one of the frequency packages of the A1 or A2 category (with the exception of the reserved spectrum), the operator must provide coverage to 30 of the municipalities listed in Annex H and 60 of those listed in Annex I within 1.5 years from the time of legal effectiveness of the frequency assignment. Within three years from the time of legal effectiveness of the assignment of the frequency package of the A1 or A2 category, the operator must provide coverage to 60 of the municipalities listed in Annex H and 120 of those listed in Annex I. This criterion must be met using only frequencies in the 800 MHz band.

A municipality is considered to be covered by the operator as specified in nos. 3 and 4, where at least 50% of the resident population has indoor coverage and 90% of the population has outdoor coverage, provided by the frequencies assigned from the 800 MHz band with a minimum bandwidth according to the following table:

Number of assigned frequency blocks in the A1, A2 and A3 categories	Indoor		Outdoor	
	Downlink	Uplink	Downlink	Uplink
1	1 Mbit/s	0.25 Mbit/s	1 Mbit/s	0.25 Mbit/s
two or more	2 Mbit/s	0.5 Mbit/s	2 Mbit/s	0.5 Mbit/s

Table 19: Required minimum bandwidth in the 800 MHz band as specified in nos. 3 and 4

3.4.1.2. 900 MHz frequency band

If one or more frequency packages of the B1, B2 or B3 category is/are assigned to an operator, it has to meet the following minimum coverage criteria:

1. For 25% of the population communication services must be provided at an outdoor end-user data transmission rate of 12.2 kbit/s (e.g. voice telephony). This coverage criterion must be met using only frequencies in the 900 MHz band. This basic coverage level must be reached at the latest 1.5 years after a complete 5 MHz block allocated in the course of this tender procedure is available to the frequency assignment holder in the B1, B2 or B3 category.

2. In addition, for 98% of the population communication services must be provided at an outdoor end-user data transmission rate of 12.2 kbit/s (e.g. voice telephony). This criterion need not be met using only frequencies in the 900 MHz band. In this case, equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.1 GHz, 2.6 GHz). The coverage level must be reached 1.5 years after a complete 5 MHz block allocated in the course of this tender procedure is available to the frequency assignment holder in the B1, B2 or B3 category.

3. For 95% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads. This criterion need not be met using only frequencies in the 900 MHz band. In this case, equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.1 GHz, 2.6 GHz). The coverage level must be reached at the latest 1.5 years after two complete 5 MHz blocks allocated in the course of this tender procedure are available to the frequency assignment holder in the B1, B2 or B3 category.

3.4.1.3. 1800 MHz frequency band

If one or more frequency packages of the C1, C2 or C3 category is/are assigned to an operator, it has to meet the following minimum coverage criteria:

1. For 25% of the population communication services (basic coverage) must be provided at an outdoor end-user data transmission rate of 12.2 kbit/s (e.g. voice telephony). This criterion must be met using only frequencies in the 1800 MHz band. The coverage level must be reached at the latest 1.5 years after a complete 5 MHz block allocated in the course of this tender procedure is available to the frequency assignment holder in the C1, C2 or C3 category.

2. In addition, for 90% of the population communication services must be provided at an outdoor end-user data transmission rate of 12.2 kbit/s (e.g. voice telephony). This criterion need not be met using only frequencies in the 1800 MHz band. In this case, equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.1 GHz, 2.6 GHz). The coverage level must be reached 1.5 years after a complete 5 MHz block allocated in the course of this tender procedure is available to the frequency assignment holder in the C1, C2 or C3 category.

3. For 90% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads. This criterion need not be met using only frequencies in the 1800 MHz band. In this case, equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.1 GHz, 2.6 GHz). The coverage level must be

reached at the latest 1.5 years after two complete 5 MHz blocks allocated in the course of this tender procedure are available to the frequency assignment holder in the C1, C2 or C3 category.

3.4.2. Coverage requirements for new entrants

The coverage requirements specified below apply only to new entrants (see Section 2.2) to which usage rights are allocated in the course of this tender procedure.

3.4.2.1. 800 MHz frequency band

3.4.2.1.1. Reserved spectrum

If a successful bidder of the pre-auction is awarded only the reserved spectrum offered in the pre-auction, this bidder has to meet the following minimum coverage requirements:

1. For 10% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads (basic coverage). This criterion must be met using only frequencies in the 800 MHz band. The required coverage level must be reached within two years of legal effectiveness of the frequency assignment.

2. For 25% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads (basic coverage). This criterion must be met using only frequencies in the 800 MHz band. The required coverage level must be reached within four years of legal effectiveness of the frequency assignment.

3. For 95% of the population communication services must be provided at an outdoor end-user data transmission rate of 1 Mbit/s for downloads and 250 kbit/s for uploads. This criterion need not be met using only frequencies in the 800 MHz band. In this case, equivalent coverage can be reached using all frequency bands additionally allocated to the frequency assignment holder (e.g. 2.6 GHz). The required coverage level must be reached within eight years of legal effectiveness of the frequency assignment.

3.4.2.1.2. Spectrum not or not exclusively reserved

If

- a successful bidder in the pre-auction is awarded blocks in the 800 MHz band in addition to the reserved spectrum; or

- a new entrant that did not participate in the pre-auction or was not successful in the pre-auction is awarded one or more frequency packages of the A1, A2 or A3 category,

the following timelines apply to the coverage requirements specified in Section 3.4.1.1:

Coverage requirement defined in	Timeline for new entrants
Section 3.4.1.1, no. 1	4 years instead of 3 years

Section 3.4.1.1, no. 2	6 years instead of 3 years
Section 3.4.1.1, no. 3	3 years instead of 1.5 years and 6 years instead of 3 years
Section 3.4.1.1, no. 4	3 years instead of 1.5 years and 6 years instead of 3 years

Table 20: Timelines for the 800 MHz frequency band

In addition, the coverage requirement for the reserved spectrum applies according to Section 3.4.2.1.1 no. 1, if the new entrant is awarded the reserved spectrum offered in the pre-auction.

3.4.2.2. 900 MHz frequency band

If a new entrant is awarded one or more frequency packages of the B1, B2 or B3 category, the following modified timelines apply to the coverage requirements specified in Section 3.4.1.2:

Coverage requirement defined in	Timeline for new entrants
Section 3.4.1.2, no. 1	3 years instead of 1.5 years
Section 3.4.1.2, no. 2	4 years instead of 1.5 years
Section 3.4.1.2, no. 3	4 years instead of 1.5 years

Table 21: Timelines for the 900 MHz frequency band

3.4.2.3. 1800 MHz frequency band

If a new entrant is awarded one or more frequency packages of the C1, C2 or C3 category, the following modified timelines apply to the coverage requirements specified in Section 3.4.1.3:

Coverage requirement defined in	Timeline for new entrants
Section 3.4.1.3, no. 1	3 years instead of 1.5 years
Section 3.4.1.3, no. 2	4 years instead of 1.5 years
Section 3.4.1.3, no. 3	4 years instead of 1.5 years

Table 22: Timelines for the 1800 MHz frequency band

3.4.3. Verification and review of coverage levels

As part of the review of coverage level achievement, the frequency assignment holder must submit the results of simulation calculations performed using recognised simulation tools. The base stations in operation as of the reference date as well as their technical parameters will be taken as the basis for these calculations. Capacity utilisation levels for radio communication cells and quality parameters which are realistic and based on real measurement data are to be used as input parameters for the simulation calculations.

If indoor coverage is to be provided, an additional attenuation rate of 20 dB compared to the attenuation in the case of outdoor measurements in stationary operation 1.5 m above ground with common devices has to be included in the simulation calculation.

The theoretically resulting coverage level must be determined on the basis of the simulation calculations submitted. In the coverage level calculations raster cells according to the "ArcAustria Microraster 100 A" ("Residential population" section) in its most recent version or comparable geodata are to be used as population units (i.e. the smallest areas covered or not covered). A raster cell is considered to be covered if the geometrical centre of the cell is covered. If this centre point is not publicly accessible, and coverage at this point cannot be verified for this reason, the nearest point publicly accessible has to be used for coverage verification.

The resident population covered in a specific municipality is to be calculated by adding up the populations of all raster cells covered in that municipality. The resident population covered in Austria is to be calculated by adding up the population of all raster cells covered. The resident population covered – expressed as a percentage of the total population of the respective municipality or Austria – will be the resulting level of coverage. For the boundaries of municipalities, the status published by Statistics Austria as of 31 December 2012 applies. Amalgamations of communities that entered into force at a later point of time are disregarded.

The illustration below provides an example of how to calculate the resident population covered.

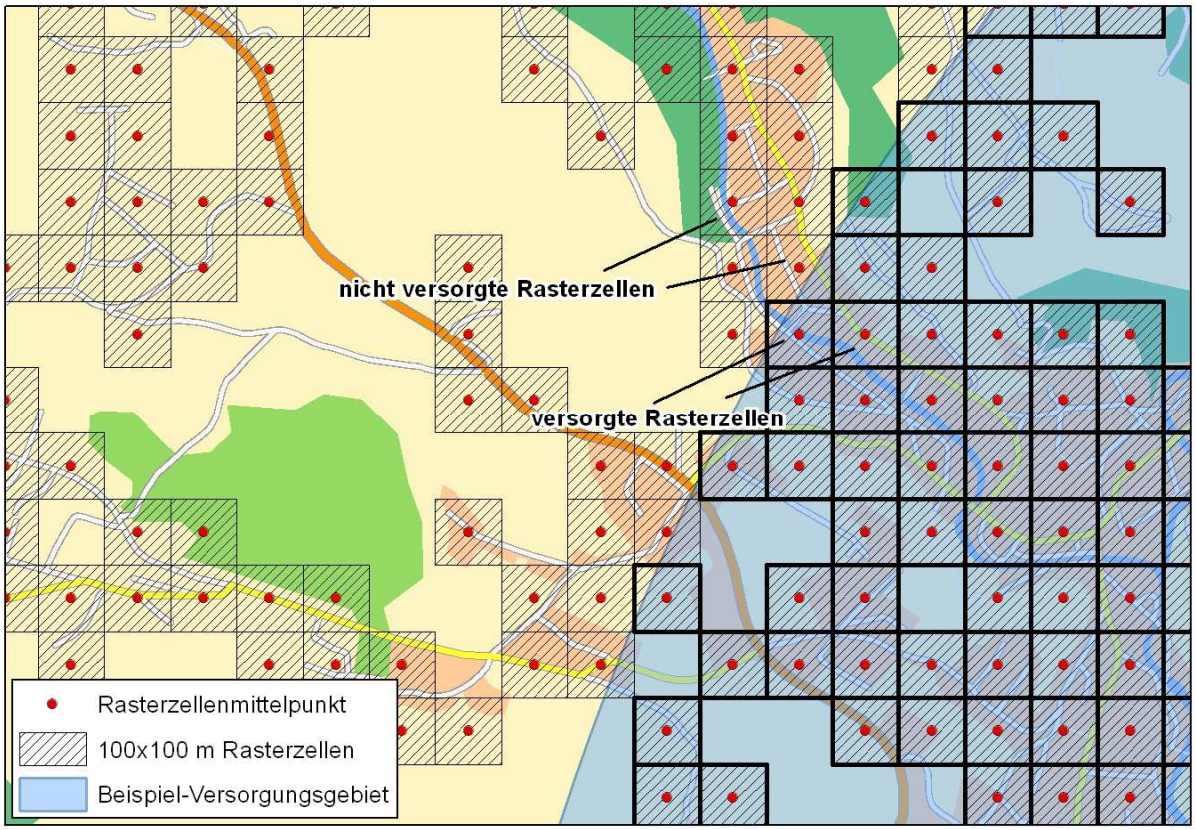


Figure 4: Example of raster cells covered and not covered

In order to verify coverage levels for the individual frequency bands, frequency assignment holders are required to submit the following documentation in electronic form to the Telekom-Control Commission no later than four weeks after the applicable reference date (resulting from the deadlines for meeting the individual coverage requirements and/or later reviews):

- A list of all base station locations including the relevant geocoded data (GIS format, vector graphics) and an indication of the frequency blocks used in each cell (sector);
- Traffic figures and capacity utilisation of cells (sectors);
- Other essential input parameters for simulation calculations;
- A map of Austria with base station locations and covered areas (GIS format, vector graphics);
- A list of raster cells covered and the coverage level calculated on that basis.

The Telekom-Control Commission may take measurements to verify coverage levels at any time. The costs of this verification process are to be borne by the frequency assignment holder.

When taking these measurements, the minimum standards concerning the quality of data and/or voice services must be met as specified below.

3.4.3.1. Minimum data service quality

The required bandwidth is given as a net value (overhead is excluded). The net bandwidth is to be measured using a non-compressible test file, the transmission of which requires three minutes by default when sent at the respective minimum speed. If the test file is transmitted within the given time or faster, the test is considered successfully completed.

3.4.3.2. Minimum voice service quality

If the operator uses the frequencies to offer voice telephony, the following minimum quality requirements must be met:

1. Minimum quality for voice services
   The speech quality for at least 90% of on-net calls has to reach a MOS-LQO value of at least 3.0 (measured according to ITU-T P.863).

2. Unsuccessful call ratio
   The share of unsuccessful calls ("unsuccessful call ratio" according to chapter 6.4.1 of ETSI EG 202 057-3) must not exceed 4% for on-net calls.

3. Dropped call ratio
   The share of unsuccessful calls ("dropped call ratio" as defined in chapter 6.4.2 of ETSI EG 202 057-3) must not exceed 3% for on-net calls. If measurements are taken on the basis of test calls, the nominal call duration must be 180 seconds.

3.4.4. Penalties in case of non-fulfilment of coverage requirements

Operators failing to meet the coverage requirements are required pay the penalties listed below.

3.4.4.1. Penalties in case of non-fulfilment of basic coverage

Operators failing to meet the coverage requirement of 25% of basic coverage set out in Sections 3.4.1.1, 3.4.1.2, 3.4.1.3 (no. 1 each) and new entrants failing to meet the corresponding requirements set out in Sections 3.4.2.1.2, 3.4.2.2, 3.4.2.3 are required to pay the penalties listed in the following table:

Coverage actually achieved	Penalty
<15%	EUR 25 million
≥ 15% and < 20%	EUR 20 million
≥ 20% und < 25%	EUR 15 million

Table 23: Penalties in case of non-fulfilment of basic coverage

If the required basic coverage is not achieved in more than one frequency band, the penalty must paid for each frequency band.

The penalties will be due annually for the period from the applicable coverage requirement reference date onward until the frequency assignment holder has reached the required coverage level. The penalty will also be charged in cases where a frequency assignment holder

falls below a previously attained coverage level.

3.4.4.2. Penalties in case of non-fulfilment of the coverage requirement for municipalities

Operators failing to meet the coverage requirement for municipalities set out in Section 3.4.1.1, (nos. 3 and 4) and new entrants failing to meet the corresponding requirements in Section 3.4.2.1.2 are required to pay a penalty of EUR 40,000 for each municipality where the coverage level is below the defined minimum.

The penalty will be due annually for the period from the applicable coverage requirement reference date onward until the frequency assignment holder has reached the required coverage level. The penalty will also be charged in cases where a frequency assignment holder falls below a previously attained coverage level.

3.4.4.3. Penalties for communication services at an end-user data transmission rate of 12.2 kbit/s

Operators failing to meet the coverage requirement for communication services at an end-user data transmission rate of 12.2 kbit/s set out in Sections 3.4.1.2 and 3.4.1.3 (no. 2 each) and new entrants failing to meet the corresponding requirements set out in Sections 3.4.2.2 and 3.4.2.3 are required to pay the penalties listed in the following table:

Coverage requirement defined in	Coverage actually achieved	Penalty
900 MHz frequency band: Section 3.4.1.2, no. 2 Section 3.4.2.2	< 90%	EUR 25 million
	≥ 90% and < 95%	EUR 20 million
	≥ 95% and < 98%	EUR 15 million
1800 MHz frequency band: Section 3.4.1.3, no. 2 Section 3.4.2.3	< 70%	EUR 25 million
	≥ 70% and < 80%	EUR 20 million
	≥ 80% and < 90%	EUR 15 million

Table 24: Penalties for communication services at an end-user data transmission rate of 12.2 kbit/s

The penalties will be due annually for the period from the applicable coverage requirement reference date onward until the frequency assignment holder has reached the required coverage level. The penalty will also be charged in cases where a frequency assignment holder falls below a previously attained coverage level.

If operators fail to meet the coverage requirements for communication services at an end-user data transmission rate of 12.2 kbit/s for several frequency bands, the penalty for each frequency band will be determined and only the higher penalty in each case will be due.

Example 1: An operator has usage rights for the 900 MHz band and the 1800 MHz band. The operator reaches a coverage level of 91%: 81% for the 900 MHz band and 63% for the 1800 MHz band. The coverage requirements associated with the usage rights for the 1800 MHz band are met, but the coverage requirements associated with the usage rights for the 900 MHz band are not met. A penalty of EUR 20 million will be due.

Example 2: An operator has usage rights for the 900 MHz band and the 1800 MHz band. The operator reaches a coverage level of 99%: 88% for the 900 MHz band and 34% for the 1800 MHz band. Both the coverage requirements associated with the usage rights for the 900 MHz band and those associated with the 1800 MHz band have been met.

Example 3: An operator has usage rights for the 900 MHz band and the 1800 MHz band. The operator reaches a coverage level of 72%: 67% for the 900 MHz band and 27% for the 1800 MHz band. Neither the coverage requirements associated with the usage rights for the 900 MHz band nor those associated with the 1800 MHz band have been met. A penalty of EUR 25 million for both the coverage requirement for the 900 MHz band and that for the 1800 MHz band are due, the resulting penalty will be EUR 25 million.

Example 4: An operator has usage rights for the 900 MHz band and the 1800 MHz band. The operator reaches a coverage level of 85%: 80% for the 900 MHz band and 27% for the 1800 MHz band. Neither the coverage requirements associated with the usage rights for the 900 MHz band nor those associated with the 1800 MHz band have been met. A penalty of EUR 25 million for the coverage requirement for the 900 MHz band and a penalty of EUR 15 million for the coverage requirement for the 1800 MHz band are due.

3.4.4.4. Penalties for communication services at an end-user data transmission rate of 1 Mbit/s (0.25 Mbit/s)

Operators failing to meet the coverage requirement for communication services at an end-user data transmission rate of 1 Mbit/s (0.25 Mbit/s) set out in Sections 3.4.1.2 und 3.4.1.3 (no. 3 each) and new entrants failing to meet the corresponding requirements set out in Sections 3.4.2.2 and 3.4.2.3 no. 3, and if the requirements for the reserved spectrum of Section 3.4.2.1.1 no. 3 are not met, are required to pay the penalties listed in the following table, – depending on the coverage level actually reached:

Coverage requirement defined in	Coverage actually achieved	Penalty
800 MHz frequency band: Section 3.4.1.1, no. 2 Section 3.4.2.1.2 Section 3.4.2.1.1, no. 3	< 80%	EUR 25 million
	≥ 80% and < 90%	EUR 20 million
	≥ 90% and < 95%	EUR 15 million
900 MHz frequency band: Section 3.4.1.2, no. 3 Section 3.4.2.2	< 80%	EUR 25 million
	≥ 80% and < 90%	EUR 20 million
	≥ 90% and < 95%	EUR 15 million
1800 MHz frequency band: Section 3.4.1.3, no. 3 Section 3.4.2.3	< 70%	EUR 25 million
	≥ 70% and < 80%	EUR 20 million
	≥ 80% and < 90%	EUR 15 million

Table 25: Penalties for communication services at an end-user data transmission rate of 1 Mbit/s (0.25 Mbit/s)

The penalty will be due annually for the period from the applicable coverage requirement reference date onward until the frequency assignment holder has reached the required coverage level. The penalty will also be charged in cases where a frequency assignment holder falls below a previously attained coverage level.

If operators fail to meet the coverage requirements for communication services at an end-user data transmission rate of 1 Mbit/s (0.25 Mbit/s) for several frequency bands, the penalty for each frequency band will be determined and only the higher penalty in each case will be due.

3.4.4.5. Penalties with respect to basic coverage of the reserved spectrum

Operators failing to meet the coverage requirement for basic coverage of the reserved spectrum set out in Section 3.4.2.1.1 (nos. 1 and 2) and new entrants failing to meet the corresponding coverage requirement set out in Section 3.4.2.1.2 (for the reserved spectrum) are required to pay the penalties listed in the following table, depending on the coverage level actually reached:

Coverage requirement defined in	Coverage actually achieved	Penalty
Section 3.4.2.1.1, no. 1	< 10%	EUR 10 million
Section 3.4.2.1.1, no. 2	<15%	EUR 25 million
	≥ 15% and < 20%	EUR 20 million
	≥ 20% und < 25%	EUR 15 million

Table 26: Penalties with respect to basic coverage of the reserved spectrum

The penalty will be due annually for the period from the applicable coverage requirement reference date onward until the frequency assignment holder has reached the required coverage level. The penalty will also be charged in cases where a frequency assignment holder falls below a previously attained coverage level.

4. Auction design: fundamentals

4.1. General

The auction procedure will be carried out in the form of a combinatorial clock auction. The procedure consists of:

- a pre-auction, in which the frequencies reserved for potential new entrants in the 800 MHz band are awarded as an abstract frequency block; and
- a main auction, consisting of a principal stage (or allocation stage) during which the number of frequency blocks is determined that each successful bidder will receive in each of the categories available to all bidders; and
- the assignment stage, in which the specific frequency blocks are allocated to the winners of the pre-auction and the principal stage.

The frequency blocks in the 1800 MHz band will be allocated separately for the period from 2013 to the end of 2019 (referred to as the transition period) and from 2020 until the end of the licencing term.

The pre-auction and the principal stage of the main auction each consist of a number of open rounds of bidding (clock stage) and a sealed-bid stage.

- The bidders admitted to the pre-auction can indicate in each of the open-bidding rounds whether they wish to acquire at the current price the frequencies reserved for new entrants. They can then submit a final bid for those frequencies in the sealed-bid stage. The bidder with the highest bid wins the auction. The price to be paid by the winning bidder will be determined by the second-highest bid, or where only one bidder participates in the pre-auction, the minimum bid.
- In the principal stage of the main auction the bidders can submit a combinatorial package bid for frequency blocks by specifying the number of (abstract) frequency blocks in each category they wish to acquire at the current price. Once the clock stage has been completed, the bidders may submit supplementary package bids for (other) combinations of abstract frequency blocks in the sealed-bid stage. The winning combination of bids which maximises the revenue will then be determined algorithmically from all bids submitted during the principal stage; at most one bid from each bidder (from all bids submitted during the clock stage and the sealed-bid stage) will be included in the winning combination. The winning bidders will be those whose bids are included in the winning combination (maximising the total auction revenues) of package bids. The winning bidders will receive the number of frequency blocks indicated in their winning bids in each category at the respective “base prices”. These base prices will be determined on the basis of a modified second price rule and are the lowest prices the winning bidders (together) would have had to offer in order to still be successful (minimum core prices). Moreover, the base price of each winning bid must be at least as high as the sum of minimum bids (start bid or minimum bids) for the frequency blocks included in the respective package.

The second stage of the main auction will consist of two sealed-bid rounds of bidding in which bidders can submit package bids on various combinations of specific frequency blocks which are compatible with the number of frequency blocks won by the successful bidders in the principal stage or in the pre-auction.

- In the first bidding round the frequency blocks in the 1800 MHz band will be assigned for the period from 2013 to the end of 2019. As some pre-existing licences for these

frequencies will not have expired at the time of the auction, some of those frequency blocks will not be (fully) available for use during that period. In category C2 the frequency ranges assigned will not necessarily be contiguous. In the other two categories, contiguous frequencies will be assigned.

- In the second bidding round, the contiguous frequency ranges in the 800 MHz and the 900 MHz bands (where necessary) and in the 1800 MHz band (categories C1 to C3) will be simultaneously assigned for the period from 2020. For the purpose of assigning the frequency blocks in the 1800 MHz band for the period starting in 2020, the blocks won in the categories C1 to C3 will be added up for each bidder in the principal stage, i.e. the categories C1 to C3 will be combined into one single category C, in which contiguous frequency ranges are assigned (starting from 2020).

The winning bidders will receive the specific frequency blocks as indicated in their successful bids in each category at the respective “top-up" prices. The top-up prices will also be determined on the basis of a modified second price rule. Before the second bidding round, the bidders will be informed of the result of the first round, i.e. the assignment of the frequency blocks for the transition phase.

The total price to be paid by each winning bidder results from the sum of the prices of the pre-auction, the principal stage of the main auction and the assignment stage of the main auction.

The maximum amount of spectrum which a bidder can acquire is limited by the bidding eligibility requested by that bidder on the one hand, and by the spectrum caps defined by the Telekom-Control Commission on the other (see Sections 4.3 and 4.4).

In addition to these constraints, combinatorial bids are subject to an additional restriction in the principal stage of the main auction: one bid may contain block B1 or block B3, but not both.

The auctioneer will be the Telekom-Control Commission or a member appointed by the Commission. The Telekom-Control Commission may also appoint employees of RTR’s Telecommunications and Postal Services Division to carry out the auction.

A legally non-binding introduction to the combinatorial clock auction can be found in Annex E; a legally non-binding introduction to the pre-auction can be found in Annex G.

In accordance with Art. 55 Par. 9 (last sentence) TKG 2003, the detailed rules governing the auction procedure will be delivered to the applicants participating in the auction at least two weeks before the start of the auction. However, the Telekom-Control Commission plans to serve the Rules of Procedure as soon as possible after the end of the tender submission period and publish even earlier on RTR’s website additional information on the frequency auction as well as a legally non-binding version of the auction rules.

4.2. Minimum bid

Under Art. 55 Par. 4 TKG 2003, the tender documentation can also include information on the minimum frequency licence fee to be offered.

This information is to be based on the amount of the frequency assignment fees which are likely to be charged for the frequencies allocated. If considered appropriate in view of the actual market value of the frequencies, the principle of using the frequency assignment fees as a basis for determining the minimum bid can be abandoned in justified cases.

The explanatory notes on Art. 55 Par. 4 TKG 2003 contain the following provision: if the regulatory authority does not use the assignment fee as the basis for determining the minimum bid, the authority must in any case refer to national and international reference values to determine the amount.

Taking into consideration the principles for determining the minimum bid laid down in Art. 55 Par. 4 TKG 2003, the minimum bids per 2x5 MHz block in the corresponding category in the principal stage of the main auction are as follows:

Category	Minimum bid in EUR
A1	32,000,000
A2	32,000,000
A3	32,000,000
B1	23,400,000
B2	29,900,000
B3	23,400,000
C1	14,600,000
C2	8,800,000
C3	11,400,000

Table 27: Minimum bid amount per frequency block

The minimum bid for the entire reserved spectrum is EUR 45,600,000 in the pre-auction. The minimum bid in the assignment stage is EUR 0.

4.3. Bidding eligibility and eligibility points

The following eligibility points are assigned to the frequency blocks:

Category	Eligibility points
A1	2 eligibility points per block
A2	2 eligibility points per block
A3	2 eligibility points per block
B1	2 eligibility points per block
B2	2 eligibility points per block
B3	2 eligibility points per block
C1	1 eligibility point per block
C2	1 eligibility point per block
C3	1 eligibility point per block

Table 28: Eligibility points per frequency block

The reserved spectrum of the pre-auction is associated with four eligibility points.

A participant's bidding eligibility determines the maximum number of frequency packages for which that participant can submit a package bid in the principal stage. Bidders are allowed to be active on any combination of frequency blocks as long as the total eligibility points of the frequency blocks in a package bid do not exceed the bidder's current bidding eligibility.

> *Example: A bidder submitting a package bid for two blocks of category A2, one block of category B2 and three blocks of category C3 is active on 2*2+1*2+3*1 = 9 eligibility points.*

The bidding eligibility for the pre-auction and the principal stage of the main auction must be secured by a bank guarantee (see Section 5.3.5) at the time of filing the application. Due to the spectrum caps, the maximum number of eligibility points that can be reached is 21, including the pre-auction. A minimum of four eligibility points is required for participation in the pre-auction. For the first round of the principal stage of the main auction, four eligibility points will be subtracted from the winner of the reserved spectrum in the pre-auction. Bidding eligibility in the further course of the auction is governed by the auction rules (specifically the activity rules).

4.4. Spectrum caps

In order to ensure a competitive market structure and to prevent monopolisation of the spectrum, the following spectrum caps apply to the principal stage of the main auction: Bidders in the principal stage of the main auction must not submit (combinatorial) package bids that, including the spectrum won in the pre-auction, contain

- a spectrum exceeding 2x70 MHz, i.e. a package bid may contain a maximum of 14 frequency blocks (for a winner of the pre-auction the maximum is 12 frequency blocks) of the categories A1, A2, A3, B1, B2, B3, C1, C2 and C3;
- a spectrum exceeding 2x35 MHz below 1GHz, i.e. a package bid may contain a maximum of seven frequency blocks (for a winner of the pre-auction the maximum is five frequency blocks) of the categories A1, A2, A3, B1, B2 and B3;
- a spectrum exceeding 2x20 MHz in the 800 MHz band, i.e. a package bid may contain a maximum of four frequency blocks (for a winner of the pre-auction the maximum is two frequency blocks) of the categories A1, A2 and A3;
- a spectrum exceeding 2x30 MHz in the 900 MHz band, i.e. a package bid may contain a maximum of six frequency blocks of the categories B1, B2 und B3.

5. Assignment procedure

5.1. Steps in the assignment procedure and schedule

As mentioned in Section 2.4, the frequency assignment procedure is divided into two stages. In the first stage, the regulatory authority will check whether the applications fulfil the criteria stipulated in Art. 55 Par. 2 No. 2 TKG 2003 (in accordance with Art. 55 Par. 1 and Par. 2 No. 2 TKG 2003). Those applicants who do not fulfil the prerequisites pursuant to Art. 55 Par. 2 No. 2 TKG 2003 will be excluded from the frequency assignment procedure in accordance with Art. 55 Par. 8 TKG 2003.

The table below contains the most important timelines and dates in the assignment procedure.

Activity	**Date**
Publication of invitation to tender	19 March 2013
Questions to be submitted by	8 April 2013, 12:00 noon local time (CET)
Questions to be answered by the TKK	Planned for 30 April 2013
End of tender submission period	10 June 2013, 01:00 p.m. local time (CET)
Admission to the auction	Planned for August 2013
Auction procedure	Planned for September 2013
Frequency assignment	Probably within one month after the end of the auction

Table 29: Assignment procedure schedule

5.2. Requirements in the assignment procedure

5.2.1. Submission of application for pre-auction

The applicant for the reserved spectrum that is to be awarded in the pre-auction must be a new entrant (see Section 2.2) and meet the requirements specified in Section 5.2 of this tender document.

A specific application must be filed for participating in the pre-auction (see Annex A). For additional information that may be required, please refer to Section 5.3 of the application.

5.2.2. Legal personality of applicant

The applicant must be a physical person or legal entity who/which is fully capable of entering into legally binding contracts as specified in Art. 9 of the Austrian General Administrative Procedures Act (AVG).

5.2.3. Affiliated companies

1. It is not admissible for several companies that are affiliated with one another under Art. 228 in conjunction with Art. 244 UGB or Art. 15 AktG and Art. 115 GmbHG, or in the form described under Art. 7 KartG 2005 (directly or indirectly) to submit an application.

The same applies when applicants are affiliated with each other in another way which could lead to one applicant directly or indirectly exercising influence over another applicant in a manner which has a substantial effect on competition (e.g. by syndicate agreements, cooperation agreements, takeover agreements, etc.; this also applies to the stage before the necessary approvals are granted).

Whether or not such influence is present is to be reviewed on a case-by-case basis. It is definitely considered to be present where a significant stake as specified in Articles 91 et seq. BörseG is held.

2. Applications of companies holding stakes in other companies that are already active on the Austrian mobile market (e.g. joint ventures) are admissible only if their compliance with antitrust laws has been verified and/or the appropriate regulatory approvals have been obtained, whereas the provisions of no. 1 above will be applicable.

When assessing individual cases, the regulatory authority will also take into consideration whether the applicants are currently in the process of a merger or demerger. In such cases, previous decisions made by competition authorities (at both the national and EU levels) are to be taken into special consideration (e.g. restrictions imposed in permits regarding the execution of a merger, etc.).

Should two or more companies which are affiliated in the manner described above apply for frequencies, the applicant who submitted the application first will be admitted for participation in the frequency auction. If the applications are submitted on the same day, the decision as to which of the applicants will be admitted to the frequency auction will be taken by drawing lots.

5.2.4. Changes in ownership structure

Throughout this procedure, changes in the person submitting an application, or any and all substantial changes (direct or indirect) in the stakes held in a company submitting an application will require the permission of the regulatory authority. Permission will be granted in cases where the company's full competitive independence from other applicants is also maintained after the changes are effected. In any case, a change exceeding the percentage limits set forth in Art. 91 et seq. BörseG or the initial acquisition of a significant stake as defined in Art. 91 et seq. BörseG, with the exception of purely financial stakes, will be considered a substantial change. Should an applicant effect such a change in the person, company or the ownership of the company applying to participate in the auction, the applicant in question will be excluded from the assignment procedure.

All applicants are required to inform the Telekom-Control Commission of any proceedings of authorities for monopoly/cartel affairs (both pending and to be expected) pertaining to their ownership structure and to include in their applications any and all decisions made in this regard. All changes in ownership structure carried out in order to fulfil such obligations are to be reported to the Telekom-Control Commission immediately, even after submission of the application.

Art. 56 Par. 2 TKG 2003 apply with regard to changes in the ownership structure of companies which are allocated frequency usage rights in a procedure under Art. 55 TKG 2003.

5.2.5. Rights to application documents

In submitting an application for frequency assignment, the applicant irrevocably agrees to allow the Telekom-Control Commission to use – without restriction – all information and documents received in connection with the application for the purposes of the assignment procedure, for the review of compliance with the official assignment decision, and for all procedures otherwise associated with the frequency assignment.

5.2.6. Clarifications

For the purpose of preparing their applications, interested parties who have paid the fee of EUR 300 for the provision of tender documentation will be allowed to submit questions to the Telekom-Control Commission regarding the tender documentation during a question-and-answer period. The Telekom-Control Commission reserves the right to decide whether questions are answered in each individual case.
Questions to the Telekom-Control Commission can be sent – by e-mail only – to tkfreq@rtr.at with the subject "F 1/11 – Questions concerning tender" by 8 April 2013 12:00 noon local time (date and time of receipt). The regulatory authority plans to answer questions in writing by 30 April 2013 (date of dispatch).
The questions submitted to the Telekom-Control Commission will be collected and forwarded, along with the corresponding answers, to all interested parties listed above without disclosure of the names of the parties who posed the questions.
If the Telekom-Control Commission considers it necessary or appropriate to pose questions to applicants, the applicant irrevocably agrees in submitting the application to reply to such inquiries and submit the requested additional information within the appropriate period specified in each case by the Telekom-Control Commission.

5.2.7. Inquiries and consultants

In the course of this tender procedure, the Telekom-Control Commission may call in consultants in the course of their inquiries and investigations (Art. 55 Par. 11 TKG 2003). This also applies (but in no way exclusively) to inquiries related to the clarification issues mentioned in Section 5.2.6, inquiries related to the review of eligibility criteria under Art. 55 Par. 2 No. 2 TKG 2003, and support in the course of the auction procedure.

5.2.8. Inspection of records

Upon request, all applicants will be allowed to inspect records to the same extent. The right to inspect records does not include those components of records which, if inspected, would cause damage to justified interest of a party or third parties, or endanger the authority's performance of its duties, or compromise the purpose of the procedure. No separate appeals against the refusal to allow an inspection of records will be permitted (Art. 17 AVG).
The Telekom-Control Commission acknowledges the fact that in the course of this procedure a large amount of information will be provided and that the inspection of these records may damage the legitimate interests of parties to the procedure or those of third parties. In addition, the procedure may involve information which, if viewed by one of the parties, could endanger the fulfilment of the regulatory authority's duties or frustrate the purpose of the procedure. The Telekom-Control Commission thus reserves the right to deny parties the right to inspect such parts of the records.
In particular, the Telekom-Control Commission assumes that, with regard to the possibility of collusive behaviour, the announcement of the applicants' names prior to the completion of the auction may compromise the purpose of the procedure. Therefore, the Telekom-Control Commission will not publish the names of the applicants, and this information will not be made available in the inspection of records prior to the completion of the auction. Once the auction

has ended, all information will be made available to the applicants, but with due attention to the protection of company and trade secrets.
In order to ensure the confidentiality of sensitive information provided by the applicants, the applicants are to label all data regarded as company or trade secrets accordingly in their applications. In addition, a copy of the application is to be submitted in which the company and trade secrets have been omitted; in this version of the application, it must be made obvious that those elements have been removed. The Telekom-Control Commission furthermore reserves the right to deny parties the right to inspect other records pursuant to Art. 17 Par. 3 AVG. Likewise, the Telekom-Control Commission reserves the right to allow the inspection of records which are labelled by the applicants as company or trade secrets if damage to the legitimate interests of a party or third party is not expected to arise from allowing such an inspection.

Art. 125 TKG 2003 as well as Austrian Administrative Court Ruling 2002/03/0273 of 25 February 2004 shall be applied with regard to company or trade secrets.
The applicants undertake to use any information on other applicants obtained in the course of this procedure exclusively for the purposes of the procedure and not to announce such information publicly.

5.2.9. Publication

The Telekom-Control Commission plans to publish a legally non-binding version of the auction rules and the results of the auction on RTR's website.

5.3. Information to be included in the application

Under Art. 55 Par. 1 TKG 2003, the regulatory authority is to allocate the frequencies placed under its authority to applicants that fulfil the general prerequisites under Par. 2 No. 2 of the cited law.
In order to determine whether applicants fulfil the prerequisites indicated in Art. 55 Par. 2 No. 2 TKG, the Commission will require information on the applicant's organisational structure. This information includes accurate information on the applicant's legal and financial situation as well as the applicant's ownership structure.

5.3.1. Information on the applicant

Wherever applicable, the application documents are to contain the following information on the applicant:

a) Name (company), place of incorporation (address), date and place of establishment including a current excerpt from the Commercial Register (or from a comparable register maintained in the applicant's country of incorporation and equivalent to the Austrian Commercial Register);

b) Type and number of capital shares, nominal value of capital shares as well as voting and dividend rights associated with any and all types of shares;

c) Subscribed capital per type of capital share, accurate information on the stakeholders at the time the application is submitted, as well as any and all foreseeable changes in this respect;

d) Number, value and rights (including conversion rights) of any and all options, certificates of entitlement, preferred stock or debt capital as well as any other securities issued by the applicant;

e) The company's articles of incorporation in their current version;

f) A description of the applicant's business activities;

g) The name of the applicant's authorised recipient, who must fulfil the requirements set forth in Art. 9 of the Austrian Service of Documents Act (ZustG), along with his/her telephone and fax numbers as well as postal and e-mail addresses (see also Section 5.3.8);

h) Any and all other information which, if mentioned or omitted, could substantially influence the Telekom-Control Commission's decision in the review to be carried out prior to the frequency assignment procedure in compliance with Art. 55 Par. 2 No. 2 TKG 2003.

Should the information indicated above not be provided in its entirety, the Telekom-Control Commission will request the missing information as it deems necessary for the purpose of making a decision. In this context, the Telekom-Control Commission may also request additional information as it deems necessary for this purpose.

5.3.2. Information on the applicant's stakeholders, shareholders, etc.

For each stakeholder, shareholder, bearer of options, of certificates of entitlement, of preferred stock, of debt capital or of other securities issued by the applicant, the information indicated under Items a) to d) in Section 5.3.1 lit. a) to d) (with the required information under Item d) referring to the respective company instead of the applicant) as well as f) and h) is to be submitted wherever applicable.

In addition, the following is to be indicated/described for each of these parties:

i) Relationship to the applicant (e.g. number and type of capital shares or securities held), syndicate / consortium agreements;

j) Group parent company/companies, superordinate group company/companies (where applicable).

In cases where capital shares or other securities issued by the applicant are held for a third party by persons acting as trustees or in other similar functions, these circumstances are to be noted in the application, and the aforementioned details are to be provided for the actual economic owner.

5.3.3. Additional description of ownership structure for superordinate companies holding substantial interests

In the event that multiple superordinate stakeholders (e.g. shareholders, bearers of options, of certificates of entitlement, of preferred stock, of debt capital or of other securities issued by the applicant) hold a consolidated interest of 25% or more in the applicant (ultimate owner principle) without holding a direct stake in the applicant, these interests must be described in the application.

In this context, the information required in Section 5.3.2 of this document is to be provided on each company which holds a consolidated interest of at least 25% in the applicant, regardless of the superordinate level at which this interest is held.

Therefore, the information required in Section 5.3.2 of this document must also be provided for companies which hold a stake of 25% or more in the applicant not through a specific investment in *one* of the companies superordinate to the applicant but through consolidation of multiple

superordinate interests in multiple companies superordinate to the applicant.

In cases where capital shares or other securities issued by the applicant which correspond to an interest of 25% or more – even if these are held indirectly through superordinate interests – are held for third parties by persons acting as trustees or in another similar function, these circumstances are to be noted in the application, and the aforementioned information is to be provided on the actual economic owner.

The information required in this section can be illustrated using tables or diagrams which show direct and indirect interests as well as the type of control over the applicant (especially the type of interest held). In depicting such interests, applicants are to ensure that these depictions enable the Telekom-Control Commission to identify any economic interrelationships through which one applicant may exert substantial competitive influence on another applicant (or other applicants) directly or indirectly.

Should the information indicated above not be provided in its entirety, the Telekom-Control Commission will request the missing information as it deems necessary for the purpose of making a decision. In this context, the Telekom-Control Commission may also request additional information as it deems necessary for this purpose.

5.3.4. Information on consortia

In the case of consortia or joint ventures, the following additional information is required:

The type of relationship among the members as well as detailed information on:

- Syndicate agreements, consortium agreements;
- Joint venture agreements;
- Letters of intent;
- Stakeholder agreements.

In addition, the information indicated in Section 5.3.2 is to be included in the application for all consortium members.

Should the information indicated above not be provided in its entirety, the Telekom-Control Commission will request the missing information as it deems necessary for the purpose of making a decision. In this context, the Telekom-Control Commission may also request additional information as it deems necessary for this purpose.

5.3.5. Bank guarantee

All applicants must secure the requested bidding eligibility by means of an abstract bank guarantee, payable at first demand, from a bank in good credit standing (see Annex B).

The required amount of the bank guarantee is calculated by multiplying the requested number of eligibility points by EUR 5,000,000. If the requested bidding eligibility is not completely backed by the bank guarantee, the bidding eligibility will be reduced to the number of points actually secured by the bank guarantee. At least the original of that bank guarantee must be enclosed with the application.

In addition, the following rules apply to the amount of the bank guarantee securing the bids in the pre-auction as well as in the principal stage of the main auction:

Bank guarantee	Maximum bids in the pre-auction and/or the principal stage of the main auction
Less than EUR 10 million	EUR 20 million
EUR 10 million and higher	EUR 40 million
EUR 20 million and higher	EUR 80 million
EUR 40 million and higher	EUR 160 million
EUR 80 million and higher	EUR 320 million
EUR 160 million and higher	EUR 640 million
EUR 320 million and higher	Unlimited

Table 30: Maximum bid amounts in the pre-auction and/or the principal stage of the main auction

For the principal stage of the main auction, four eligibility points will be subtracted from the winner of the pre-auction, i.e. from the number of eligibility points requested in its application. The maximum bid amount for bids in the principal stage of the main auction will be reduced for the winner of the pre-auction by the price paid for the reserved spectrum.

Additional bank guarantees can be submitted during the auction. However, each bidder's eligibility will remain unaffected by any additional bank guarantees presented.

For cases in which bank guarantees are presented during the auction, such guarantees must be submitted by 12:00 noon local time (CET) on the business day preceding the bidding (Monday to Friday) in order to ensure sufficient time for the necessary verification procedures. Additional guarantees must be issued by the same bank which issued the guarantee enclosed with the application.

In this context, it is necessary to note that, due to the design of the auction, the sealed-bid stage for supplementary bids may already take place on the second day of the auction. In such a case, it would be necessary to present additional bank guarantees by 12:00 noon on the first day of the auction.

> *Example: A bidder applies for four eligibility points and presents a bank guarantee in the amount of EUR 40 million. The bidder will thus be entitled to submit bids in the maximum amount of EUR 160 million.*

The bank guarantee must contain the official frequency assignment decision directed at the applicant in line with this tender procedure as the only condition for its effectiveness. The guarantee must name the Federal Government of the Republic of Austria as beneficiary and be valid from 1 September 2013 (at the latest) to at least 31 January 2014. Additional bank guarantees submitted at a later point in time must be valid from the day on which they are presented until at least 31 January 2014.

In the assignment stage, bidders will not be required to secure bids with bank guarantees.

The Telekom-Control Commission reserves the right to require additional bank guarantees or security without indicating reasons for such requirements.

Once the procedure has been completed, bank guarantees will be returned to those applicants to whom the requested frequencies are not allocated. As for applicants who do acquire frequencies in this procedure, the bank guarantees will be returned once the frequency licence fee has been paid in full.

A sample text for a bank guarantee is provided in Annex B.

5.3.6. Information on technical capabilities, quality of services and coverage requirements

Under Art. 55 Par. 2 No. 2 TKG 2003, there must be no reason to believe that the applicant will fail to provide the planned service, especially with regard to service quality and coverage requirements. In addition, the applicant must possess the technical capabilities necessary to provide such services. The information required in the following sections is intended to aid the regulatory authority in reviewing these prerequisites.

Applicants will be required to demonstrate that they fulfil the applicable prerequisites.

In demonstrating such fulfilment, applicants must include the following points:

- Description of planned use of spectrum (indication of the band taking into account, if applicable, the divestment spectrum, services, technologies, data transmission rates, quality, availability);
- Planned coverage levels per frequency band over the entire validity period of the assignment;
- Number of base stations per frequency band over the entire validity period of the assignment;
- Capabilities and experience in the planning and operation of radio networks.

5.3.7. Information on financial strength

Applicants will be required to prove that they have the financial resources necessary to build and operate a radio communications network.

In this context, applicants should pay special attention to the fact that their financial strength and stability must also be in line with the amount of the frequency licence fee offered.

With regard to financial strength, application documents are required to contain the following information:

5.3.7.1. Business plan / balance sheet

Applicants are required to submit a business plan for the business area(s) in which the frequencies applied for are to be used, based on their strategy, their overall market assessment as well as their estimates of business operations in the next three years, starting with the date of use of the respective frequency.

The business plan can be structured in any way the applicant chooses. However, the following information should be clearly visible in the structure used:

- Which services are to be offered in which frequency band?
- Which technologies will be used in which band?
- As of when are these services to be offered?

5.3.7.2. Financing

Applicants are also required to provide information on how they will raise the funds for the frequency licence fee. Financing must be in line with the financial resources of the operator. For this purpose, the following information is required:

- Schedule and sources of equity capital, including planned issues of company capital;
- Debt capital: credit lines, available collateral, duration and lenders for all loans in the first four years after frequency assignment.

5.3.8. Authorised recipient

Upon submitting an application, physical persons whose registered primary residence is not in Austria or legal entities which are not incorporated in Austria are required to name an authorised recipient as defined in Article 9 of the Austrian Service of Documents Act (*ZustG*; Federal Law Gazette No. 200/1982 as amended by Federal Law Gazette I No. 111/2010; (see Section 5.3.1). An unrestricted authorisation of the recipient must be signed by official representatives of the company and included with the application documents. In cases of a change or recipient, a new unrestricted authorisation is to be sent to the Telekom-Control Commission without delay.

5.3.9. Application form

The application form (see Annex A) must be fully completed and signed before submission.

5.3.10. Declaration of completeness

Properly completed written applications must contain all of the information required in Section 5.3. In addition, a declaration of completeness (Annex D) has to be enclosed with the application to confirm that it contains complete and accurate indications of all information requested in this tender document as well as all information relevant to the Telekom-Control Commission's evaluation of the objective facts.

5.4. Submission of application for frequency assignment

Please send applications to:

Telekom-Control Commission
Mariahilfer Strasse 77-79
A-1060 Vienna
Austria

The complete application for frequency assignment must be received by the Telekom-Control Commission in a sealed envelope or package labelled “F1/11 – Frequenzzuteilungsantrag” by 10 June 2013 12:00 noon local time. Applications received after this deadline will be disregarded. The application for frequency assignments can be filed either by post, by courier or in person. If it is delivered in person, it is absolutely necessary to make an appointment. Appointments are to be made by e-mail (tkfreq@rtr.at) for the next day by 12:00 noon of the preceding day at the latest. Making appointments and delivering documents in person are possible on business days only. In this context, specific reference is also made to Section 5.2.3.

The original of the application for frequency assignment is to be submitted in writing in German along with an electronic copy (e.g. on CD-ROM, USB stick). Required enclosures such as annual reports and maps will also be accepted in English.

The amendment or withdrawal of applications after the application deadline is not permitted (Art. 55 Par. 6 TKG 2003).

5.5. Checklist for application documents

Applicants are asked to structure their applications for frequency assignment according to the following checklist:

- Application form (see Annex A);
- Information on organisational structure;
- Information on technical capabilities, quality of services and coverage requirements (see Section 5.3.6);
- Information on financial strength (see Section 5.3.7);
- Bank guarantee (see sample in Annex B);
- Authorisation of recipient (see Section 5.3.8 and sample in Annex C);
- Declaration of completeness (see Section 5.3.10 and sample in Annex D).

6. Costs and fees

6.1. Frequency licence fee

The successful applicants are to effect payment of the frequency licence fee determined in the course of the auction within four weeks after the frequency assignment decision takes legal effect.

The frequency licence fee does not include value-added tax.

In the case of non-payment (including delayed or incomplete payments) of the frequency licence fee, the frequency assignment will be rendered void. Notwithstanding the condition mentioned above, the Federal Republic of Austria has the right in such cases to draw the bank guarantee or to collect the unpaid portion of the frequency licence fee by means of administrative enforcement.

6.2. Spectrum fees

In accordance with Art. 82 TKG 2003, spectrum fees for the use of frequencies are also to be paid by the network operators. These fees are defined in the Telecommunications Fees Ordinance (Federal Law Gazette II No. 29/1998 as last amended by Federal Law Gazette II No. 108/2011). These fees will be prescribed by the Telecommunications Offices when the operation permit is issued.

6.3. Consultancy costs

At any point in this procedure, the regulatory authority may call in experts or consultants, whose fees, just as any additional cash expenses, are required to be paid by the applicant to whom frequencies are allocated. If there is more than one applicant, the costs have to be split on a pro rata basis.

These costs will be prescribed in the official frequency assignment decision and be due within four weeks of receipt of the official decision.

A. Application form

Application form for frequency assignments in the frequency ranges of 800 MHz, 900 MHz and 1800 MHz.

Applicant

Address

Bidding eligibility

I (we) wish to apply for a bidding eligibility of _____ (in words:

_____) points.

Security

An original of the instrument securing the bidding eligibility in the amount of

EUR _____ (in words: _____)

is enclosed with this application.

Only for new entrants:

Participation in pre-auction:

I (we) wish to apply for participation in the pre-auction and to express my (our) interest in the reserved spectrum as well as in acquiring the divestment spectrum.

☐ (Please check as appropriate)

Date (official company signature)

B. Sample bank guarantee

Bank name
Address

Republic of Austria
c/o Telekom-Control Commission
Mariahilfer Strasse 77-79
A-1060 Vienna

Guarantee Number ……..

Bank XX hereby provides the Republic of Austria with an irrevocable guarantee declaration as stated below.

The bank is aware of the fact that the company (……..) is applying as part of the ongoing tender procedure for the assignment of frequencies in the 800 MHz, 900 MHz and 1800 MHz frequency bands. In accordance with Section 5.3.5 of the Telekom-Control Commission's tender documentation dated 19 March 2013, the company (……) is required to submit an abstract bank guarantee from a bank in good credit standing in order to secure the bidding eligibility requested in the application.

Bank XX hereby guarantees the Republic of Austria, without reviewing the underlying legal relationship and waiving any objections arising from said relationship, to effect payment up to a total amount of

EUR XX
(in words: XX euros)

to the bank account named by the Republic of Austria upon first written request, on the condition that frequencies are allocated to the company (…….) following this tender procedure. The fulfilment of this condition is considered verified when the Republic of Austria confirms the assignment in the written request for payment.

This guarantee cannot be drawn on before 1 September 2013.

This guarantee shall expire automatically once this document has been returned to Bank XX, but at the latest on 31 January 2014 even if this document is not returned, unless it is redeemed by the beneficiary (by way of registered letter or courier service) at the latest on that date.

Claims arising from this guarantee can only be assigned, pledged or transferred to third parties with the bank's express consent.

Date (official company signature)

C. Sample authorisation of recipient

Authorisation of recipient

Company XXXX hereby authorises Ms./Mr. XXX XXX to take receipt of all correspondence related to Procedure F1/11 for the assignment of frequencies in the 800 MHz, 900 MHz and 1800 MHz frequency bands.

Contact information for Ms./Mr. XX XXX:

Street and number
Postal code, place
Telephone: +43…
Fax +43….
E-mail: ….@....

Date (official company signature)

D. Sample declaration of completeness

To
Telekom-Control Commission
Mariahilfer Strasse 77-79
A-1060 Vienna
Austria

Name and address of applicant

Re: Application in Procedure F1/11

The applicant hereby declares the following:

The information and documents requested in the tender document F 1/11 and required for the evaluation of the application in the frequency assignment procedure in compliance with the relevant provisions of European Community law and all applicable Austrian legal regulations, especially those of the Telecommunications Act (TKG), have been included completely and truthfully in this application, even in cases where said information is not expressly requested in the invitation to tender.

In particular, with regard to

- the ownership structure of the applicant;
- the planned means of financing; and
- the business plan,

no additional agreements, covenants, side agreements or relevant facts other than those disclosed in the application exist which could influence the evaluation of this application.

Date (official company signature)

E. Introduction to the combinatorial clock auction

1 Framework

This section presents a legally non-binding introduction to the combinatorial clock auction in order to provide applicants with a basic understanding of the auction procedure. The legally binding rules of the auction will be sent to applicants in due course prior to the start of the auction.

The scenarios described in the examples are fictitious and are not intended to reflect any specific characteristics of Procedure F1/11.

2 CCA structure

Figure 5: The CCA main stages

The combinatorial clock auction (CCA) will consist of two separate auctions (stages). In the first stage, known as the **principal stage**, (abstract) frequency blocks will be auctioned off in different categories (e.g. frequency blocks of one frequency range may constitute elements of one category). The principal stage will serve to determine how many (abstract) frequency blocks each winning bidder receives in each category. The number of categories can also be one.

In the second stage, known as the **assignment stage**, the specific frequency blocks will be assigned. Only the successful bidders from the principal stage will be eligible to participate in the second stage. In this stage, bidders will be allowed to bid on all specific frequency blocks in line with the results of the principal stage and the assignment rules.

The total price to be paid by each winning bidder is calculated as the sum of the prices from the two stages of the auction.

3 Principal stage

During the principal stage, the frequency blocks to be allocated will be grouped in different categories. If a category contains more than one block, the blocks in this category will be auctioned off as abstract blocks. The number of categories can also be one. The principal stage will consist of three steps.

Figure 6: Procedure of the principal stage

The first step is the **bidding process**. During the bidding process, which may comprise one or several rounds of bidding, bidders can submit package bids for various combinations of frequency blocks in the different categories (see Info Box below). All these bids remain active bids and will be considered when the auction result is determined. Once the bidding process has been completed, the next step is to **determine the winners**, where an algorithm will be used to determine the combination of bids among all package bids submitted which maximises the auction revenues; this combination will include no more than one package bid per bidder. The winning bidders will be those whose bids are part of the winning combination of package bids. The winning bidders will receive the number of frequency blocks indicated in their respective winning bids.

In the course of **price determination**, which is the third step, the prices to be paid will be determined simultaneously for all winning bidders. These prices are referred to as base prices and will be determined using a modified second price rule; they represent the lowest prices the winning bidders would have had to offer (jointly) in order for their respective bids to be successful (minimum core prices).

Info Box: Combinatorial bids in the principal stage

During the principal stage, bidders submit combinatorial package bids for (abstract) frequency blocks in the different categories. These bids are defined by multiple parameters, specifically the maximum bid amount and the number of frequency blocks per category which the bidder would like to acquire at that price (NB: The number of blocks may also be zero).

If a combinatorial bid is part of the winning combination at the end of this auction, then each winning bidder will receive precisely the number of frequency blocks in each category indicated in the bidder's winning package bid.

In the course of the principal stage, bidders can enter a large number of (different) package bids, but no more than one of those bids will be taken as part of the combination which maximises the revenues from the auction.

3.1 Step 1: The bidding process

In the principal stage, the bidding process will be carried out in two bidding stages, i.e. the **clock stage** and the **sealed-bid stage**.

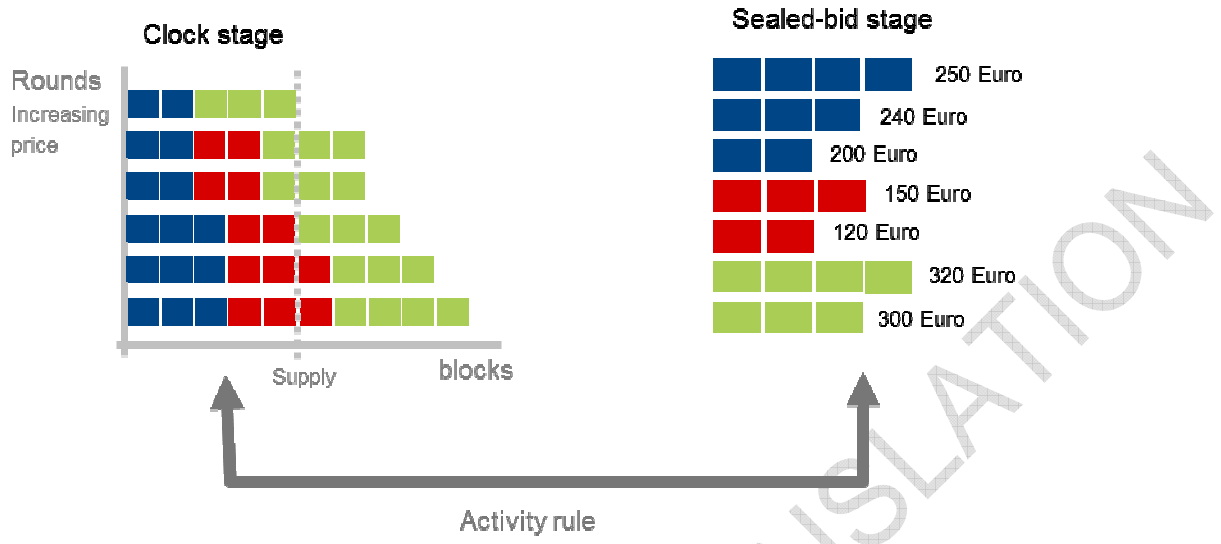


Figure 7: The bidding process

The **clock stage** refers to an open bidding stage with one or more rounds in which each bidder can submit a combinatorial package bid for frequency blocks. Bidders can do so by nominating the number of frequency blocks they wish to acquire at the respective price in the given round (see Info Box on the clock stage below). If in a clock round the number of blocks demanded exceeds the number of blocks available, the price will be raised and another clock round will take place. In the course of the clock stage, bidders are allowed to reduce the demanded number of frequencies but must not increase it (see Info Box on activity rules for the clock stage). The clock stage will end once all excess demand is eliminated in all categories, that is, once the number of frequency blocks demanded by bidders no longer exceeds the number of blocks available.

Info Box: The clock stage

The clock stage is a clock auction. In a clock auction, the auctioneer sets the price for an item (e.g. a frequency block) and the bidders indicate whether and how many items they wish to purchase at that price. If there are multiple interested parties, or if there is higher demand for the items than the number of items available, the auctioneer increases the price, and the bidders again indicate whether and how many items they would be willing to purchase at the current price.

The process ends once the excess demand is completely eliminated, that is, once the number of items demanded by bidders no longer exceeds the number of items available.

Once the clock stage has ended, a **sealed-bid stage** will take place. In that stage bidders can both increase their bids from the clock stage and bid on combinations of frequency blocks for which they did not submit a bid in the clock stage. However, under the **activity rules**, supplementary bids will be limited on the basis of the bids from the clock stage. Bidders cannot bid for combinations of frequency blocks other than those they would have been allowed to bid for in the clock stage. Package bids submitted in the sealed-bid stage are additionally subject to

a (relative) price cap (see below), with the exception of the package bids submitted by bidders in the very last clock round. The sealed-bid stage allows bidders to respond to demand and price developments and bid, for example, for additional frequency blocks not sold in the clock stage.

The figure below shows the bidding process in the form of a flow chart.

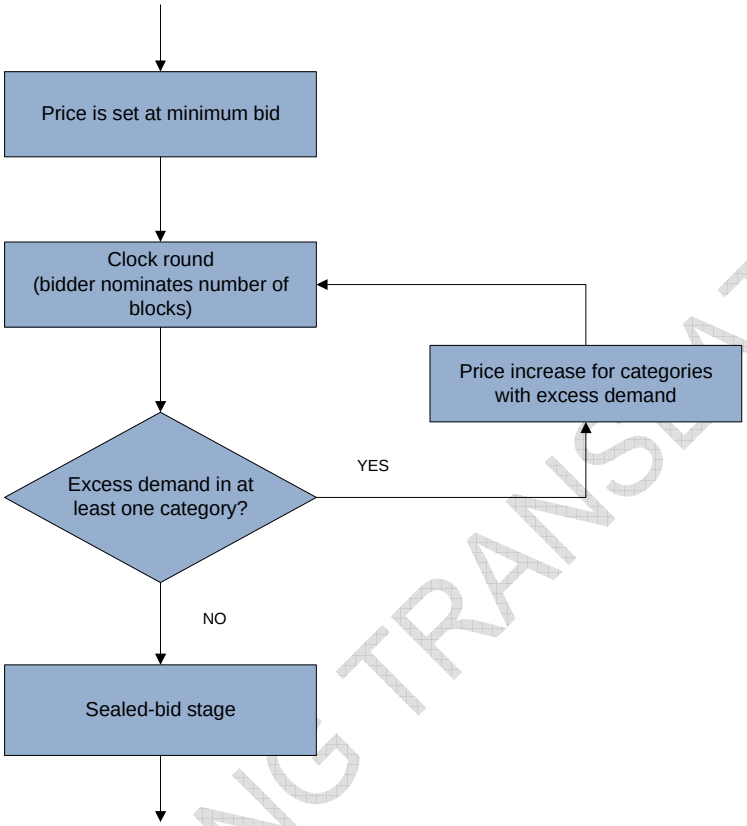


Figure 8: Flow chart of the bidding process in the principal stage

3.1.1 Example with one category

In a given category, there are four abstract frequency blocks to be allocated (see Figure 9). The bidders may submit package bids for any number of abstract frequency blocks.

Figure 9: Available abstract frequency blocks

The clock stage starts at a price in the amount of the minimum bid of EUR 10 for one block. The bidders can then submit package bids by nominating the number of blocks they wish to acquire at the current price. In this example, Bidder 1 submits a package bid for three blocks with a bid amount (package price) of EUR 30 (number of blocks multiplied by the current price).

Figure 10: Bidder 1's package bid in the first round

In addition to Bidder 1, two other bidders submit package bids. Bidder 2 submits a package bid for four abstract frequency blocks, while Bidder 3 submits a bid for two blocks (see Figure 11).

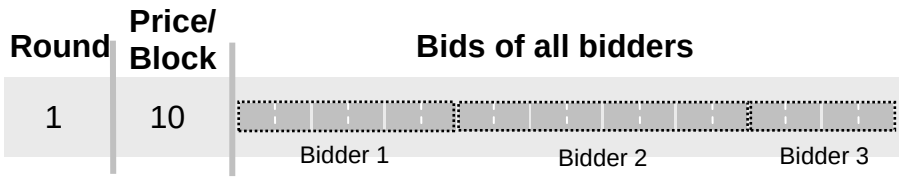


Figure 11: Package bids from all bidders in the first round

At the end of the round, the auctioneer evaluates the bids received and determines whether there is still excess demand (ED). Excess demand is considered to exist when the total number of blocks demanded exceeds the number of blocks available. If there is excess demand, then the auctioneer will raise the price per frequency block and announce the next round of bidding. In this example, the three bidders demanded a total of nine frequency blocks in the first round of the clock stage. The excess demand thus amounts to five blocks (see Figure 12).

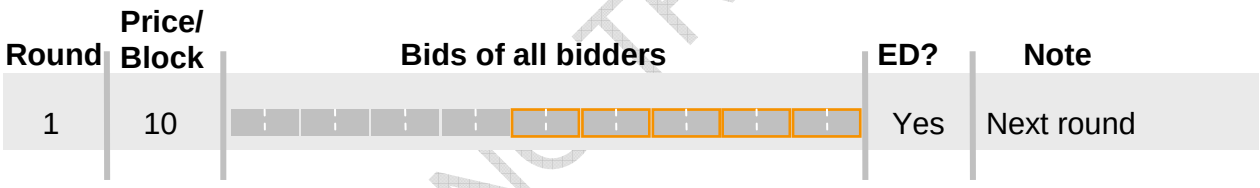


Figure 12: Results of the first round

The auctioneer then raises the price (in this case to EUR 15) and announces the next round of bidding. The bidders again indicate the number of frequency blocks they wish to acquire at that price. In the example, Bidder 1 submits a package bid for three blocks at a package price of EUR 45. The auctioneer once again calculates the excess demand, increases the price and starts the next round of bidding (see Figure 13).

In Round 8, at a price of EUR 45 per block, Bidder 1 reduces its demand to two blocks. This also reduces Bidder 1's bidding eligibility for the ensuing clock rounds; Bidder 1 can then only bid on two blocks in the ensuing rounds of the clock stage (see Info Box below). Bidder 1 then bids on two blocks until the 10th round (see Figure 13).

Info Box: Activity rules for the clock stage with one category

A **bidder's eligibility** determines the maximum number of frequency blocks on which a bidder can bid (or be active) in any one round. Each frequency block is assigned one eligibility point. During the clock stage, each bidder is allowed to be active on any combination of frequency blocks as long as the total eligibility points of those frequency blocks do not exceed that individual bidder's current bidding eligibility.

Each bidder's eligibility for the first round of the clock phase is determined by the information in the bidder's application. In subsequent rounds, the current eligibility of each bidder is determined by the activity rules. The **activity** of a bidder in a given round is defined as the total bidding points assigned to the frequency blocks on which the bidder submits a combinatorial package bid during a given round. The eligibility in a given round is equal to the bidder's activity in the previous round, i.e. in a given round a bidder must not bid on a larger number of blocks than in the previous round.

Round	Price/Block	Bid	ED?	Note
1	10		Yes	Next round
2	15		Yes	Next round
3	20		Yes	Next round
…	…			
7	40		Yes	Next round
8	45		Yes	Next round
9	50		Yes	Next round
10	55		No	Reduction of blocks demanded by other bidders; end of the clock stage

Figure 13: Bidder 1's package bids during the clock stage

In the tenth round, the total number of blocks demanded by all bidders no longer exceeds the number of blocks available (see Figure 14).

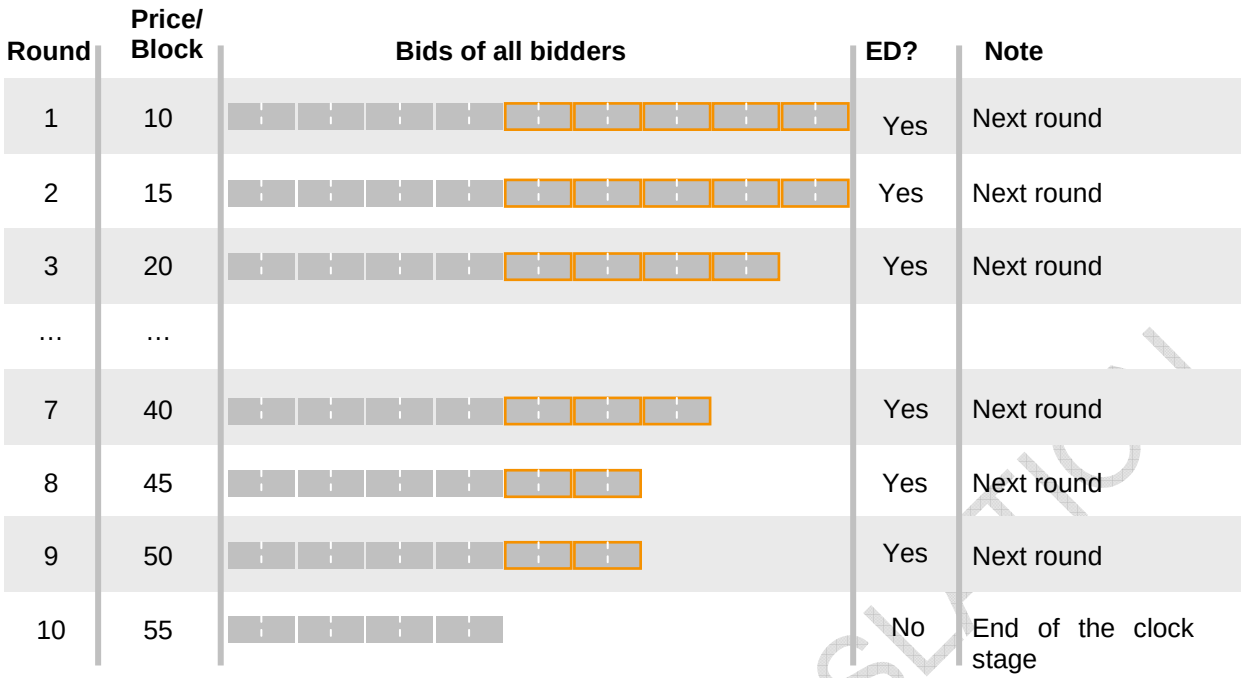


Figure 14: Results of rounds during the clock stage

This marks the end of the clock stage and the start of the sealed-bid stage, in which bidders can submit supplementary bids. In placing these bids, the bidders must indicate the desired number of blocks as well as the package price. However, the supplementary bids are subject to the activity rules (see Info Box below on the activity rules for supplementary bids).

Info Box: Activity rules for supplementary bids

In the sealed-bid stage, the bidder may submit a supplementary bid on any combination of blocks on which it bid – or would have been able to bid – during the clock stage. The package bid submitted in the final round of the clock stage can be increased by any amount. If the last bid was submitted in an earlier round of the clock stage, the bidder may only increase its last clock stage bid to the prices bid in the round immediately following the round in which the last clock stage bid was submitted.

Supplementary bids for any other combinations of frequency blocks are subject to a relative price cap. The price cap for a certain **Combination C** is based on the last clock round in which the bidder would have been able to bid on that combination, that is, the round in which it reduced its bidding eligibility. This round is referred to as the **anchor round**.

The actual bid submitted by the bidder during that round was, however, for a different combination. That combination is referred to as **Anchor Combination C'**. In the third step, the **anchor bid** is determined; this bid refers to the highest bid ever submitted for the anchor combination.

Finally, the **value difference** (i.e. the difference in package prices) between Combination C (for which the supplementary bid is submitted) and Anchor Combination C' is calculated on the basis of the prices bid during the anchor round.

This results in the price cap for Combination C as follows:

Maximum bid for C = anchor bid + value difference between C and C' in the anchor round

Accordingly, the supplementary bid for Combination C must not be higher than the corresponding anchor bid plus the value difference between Combination C and the corresponding Anchor Combination C' at the prices in the anchor round.

In the example cited here, Bidder 1 can increase its bid from the last clock round (two blocks at a package price of EUR 110) by any amount. Bidder 1 thus submits a bid of EUR 200 (see Figure 15).

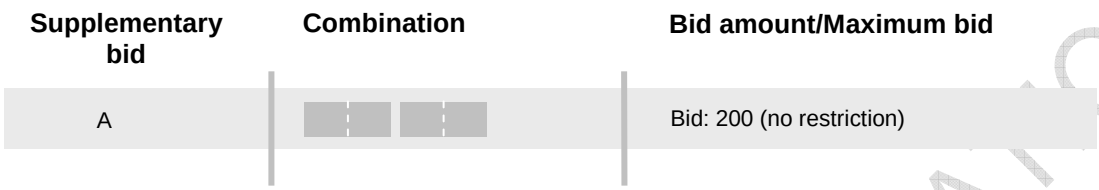


Figure 15: Supplementary bid based on package bid from last clock round

A supplementary bid for three blocks is subject to a price cap. The anchor round in this case is Round 8, that is, the last round in which the bidder would have been able to bid on three blocks. The anchor combination – i.e. the combination on which s/he actually bid in the anchor round – is the package bid for two blocks (see Figure 16). The anchor bid – i.e. the highest bid entered for the anchor combination – amounts to EUR 200 (supplementary bid for two blocks).

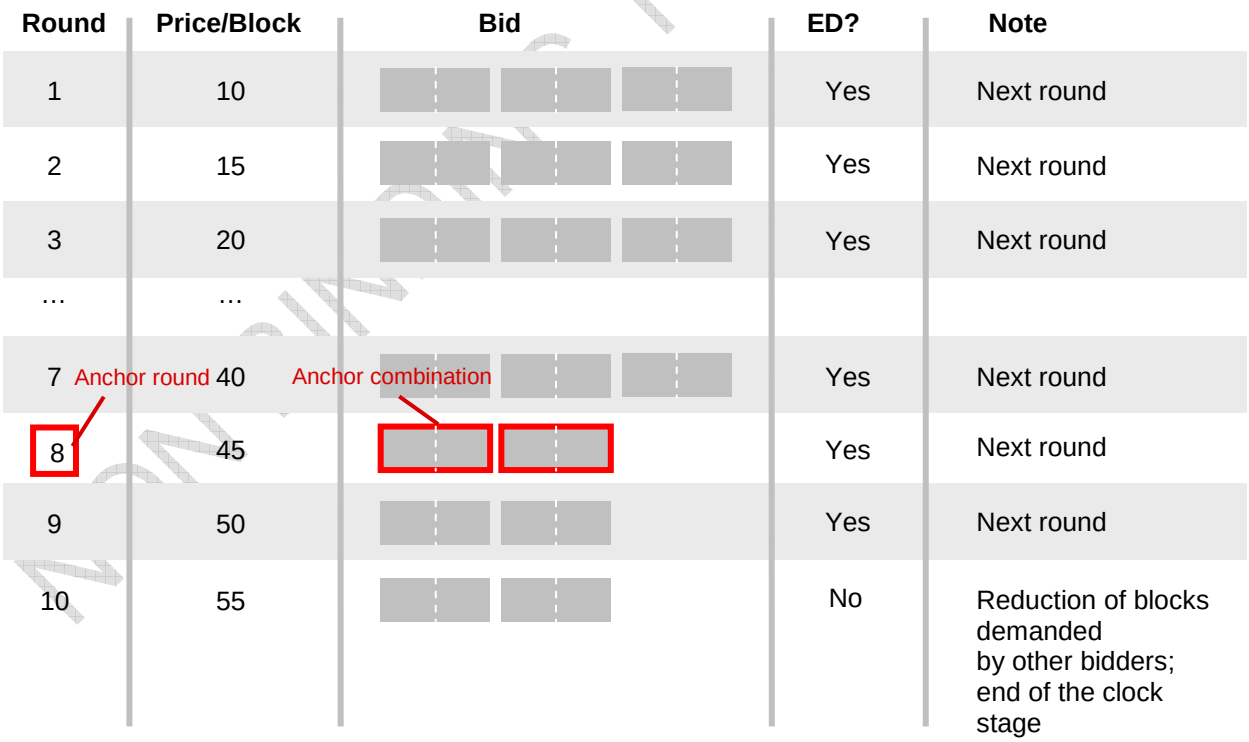


Figure 16: Anchor round and anchor combination for a supplementary bid on three blocks

The value difference (difference in package prices) between three and two blocks at the prices in the anchor round amounts to EUR 45. The maximum bid for three blocks is then calculated as the anchor bid plus the value difference between three and two blocks at the prices in the

anchor round. Accordingly, the maximum bid comes to EUR 245 (= 200 + 45).

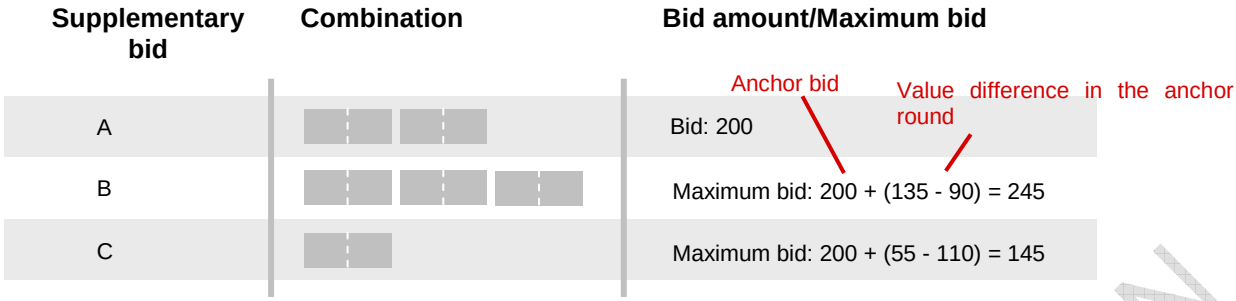


Figure 17: Price cap for Bidder 1's supplementary bids

The maximum bid for one block is calculated in an analogous manner. The anchor round is now Round 10, that is, the last round in which the bidder could have bid on one block. The anchor combination is the package bid for two blocks. The anchor bid amounts to EUR 200. Therefore, this bidder can submit a supplementary bid of up to EUR 145 (= 200 – 55; see Figure 17).

3.1.2 Example with two categories

A total of six abstract frequency blocks in Category A and six abstract frequency blocks in Category B are available. The abstract frequency blocks in Category A are valued at two eligibility points, while those in Category B are worth one eligibility point. For the first round of bidding, Bidder 1 requested a bidding eligibility of four eligibility points.

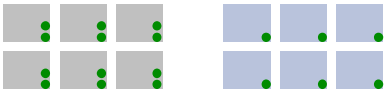


Figure 18: Available frequency blocks in the two categories

The clock stage starts at a price of EUR 20 for a frequency block in Category A and EUR 6 for a frequency block in Category B. With a bidding eligibility of four points, Bidder 1 can bid on any combination of frequency blocks in the two categories in the first round as long as the total number of eligibility points assigned to those blocks does not exceed the bidder's bidding eligibility. In this example, Bidder 1 bids on one frequency block in Category A and two frequency blocks in Category B (see Figure 19). The package bid amounts to EUR 32 (20 + 2 x 6).

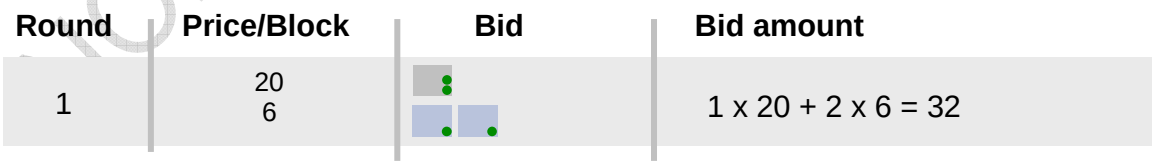


Figure 19: Bidder 1's package bid in the first round

At the end of the round, the auctioneer evaluates the bids received and calculates the excess demand in each category. If there is excess demand in a given category, then the auctioneer will raise the price per frequency block in that category and announce the next round of bidding. In this example, the excess demand after the first round amounts to three blocks in Category A and six blocks in Category B (see Figure 20).

Round	Price/ Block	Bids of all bidders	ED?	Note
1	20 6		Yes Yes	Next round

Figure 20: Results of the first round

The auctioneer then raises the price in each category (to EUR 22 and EUR 8 respectively) and announces the next round of bidding. The bidders again indicate the number of frequency blocks they wish to acquire at those prices. In the second round, Bidder 1 submits a package bid for two blocks in Category A with a package price of EUR 44 and is therefore active on four eligibility points, as in the previous round (see Figure 21). The auctioneer once again calculates the excess demand in each category, and (because there is still excess demand) then increases the price and starts the next round of bidding.

In Round 3, Bidder 1 bids on four blocks in Category B, a combination which also totals four eligibility points. Later, in Round 8, Bidder 1 bids on a combination worth only three eligibility points (one block in Category A and one block in Category B) for the first time. This decision reduces Bidder 1's bidding eligibility to three points for the ensuing rounds, meaning that from then on, that bidder can only be active on combinations worth a total of three eligibility points (see Info Box below).

Info Box: Activity rules during the clock stage with more than one category

A **bidder's eligibility** determines the maximum number of frequency blocks on which that bidder can be active in any one round. During the clock stage, a bidder will be allowed to be active on any combination of frequency blocks in different categories as long as the total bidding points of all frequency blocks in a package bid do not exceed that bidder's current bidding eligibility.

Each bidder's eligibility for the first round of the clock phase is determined by the information in the bidder's application. In subsequent rounds, the current eligibility of each bidder is determined by the activity rules. The **activity** of a bidder in a given round is defined as the total bidding points assigned to the frequency blocks on which the bidder submits a combinatorial package bid during a given round. The eligibility in a given round is equal to the bidder's activity in the previous round.

Consequently, if bidders take full advantage of their bidding eligibility, they can bid on different combinations of blocks in different rounds without reducing their bidding eligibility.

In the final round of the clock stage, the bidder bids on one block of Category A and one block of Category B (see Figure 21).

Round	Price/Block	Bid	ED?	Note
1	20 6		Yes Yes	Next round
2	22 8		Yes Yes	Next round
3	24 10		Yes Yes	Next round
…	…			
7	32 18		Yes Yes	Next round
8	34 20		Yes Yes	Next round
9	36 22		No Yes	Next round
10	36 24		No No	Reduction of blocks demanded by other bidders; end of the clock stage

Figure 21: Bidder 1's package bids during the clock stage

In Round 9, there is no longer any excess demand in Category A, but there is still excess demand in Category B (see Figure 22). This means that only the price of frequency blocks in Category B is increased (from EUR 22 to EUR 24 in this example). In Round 10, the excess demand is eliminated in both categories, thus ending the clock stage.

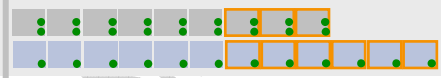
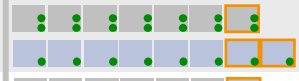
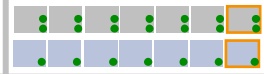
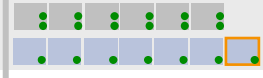
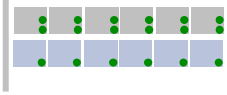
Round	Price/ Block	Bids of all bidders	ED?	Note
1	20 6		Yes Yes	Next round
2	22 8		Yes Yes	Next round
3	24 10		Yes Yes	Next round
…	…			
7	32 18		Yes Yes	Next round
8	34 20		Yes Yes	Next round
9	36 22		No Yes	Next round
10	36 24		No No	End of the clock stage

Figure 22: Package bids during the clock stage

The bidders can then submit supplementary bids in the sealed-bid stage. In placing these bids,

the bidders must indicate the desired number of blocks as well as the package price. In this stage, bidders may submit a supplementary bid on any combination of blocks on which they bid – or would have been able to bid – during the clock stage. The package bid from the final round of the clock stage can be increased by any amount. The supplementary bids for any other combinations of blocks are subject to a price cap (maximum bid).

In the example cited here, Bidder 1 can increase its package bid for one block in Category A and one block in Category B from the last clock round by any amount. The bidder's last bid during the clock stage was EUR 60. The bidder increases this package bid to EUR 140. (see Figure 23).

The bidder would now like to submit a supplementary bid for two frequency blocks in Category A, which requires four bidding points. The anchor round – i.e. the last round in which the bidder could have bid on a combination worth four bidding points – is Round 8. The anchor combination is the package bid for one block in Category A and one block in Category B, and the anchor bid is the highest bid submitted for the anchor combination. In this case, the anchor bid is the supplementary bid of EUR 140. The value difference between two frequency blocks in Category A and the anchor combination equals EUR 14 (2 x 34 – (20 + 34)). The maximum bid which the bidder can submit for two frequency blocks in Category A is calculated as the anchor bid plus the value difference, that is, EUR 154 (140 + 14).

Supplementary bid	Combination	Bid amount/Maximum bid
A		Bid: 140 (no restriction)
B		Maximum bid: 140 + (2 x 34 - (34 + 20)) = 154
C		Maximum bid: 140 + (4 x 20 - (34 + 20)) = 166

Figure 23: Supplementary bids and maximum bids for Bidder 1

The maximum bid for four blocks in Category B is calculated in an analogous manner. Once again, the anchor round is Round 8; the anchor combination is a package bid for one block in Category A and one block in Category B. The anchor bid is EUR 140. The value difference between two frequency blocks in Category B and the anchor combination equals EUR 26 (4 x 20 – (20 + 34)). Therefore, the bidder can submit a maximum bid of EUR 166 (= 140 + 26) for four frequency blocks in Category B.

3.2 Step 2: Determination of winning bidders

After the end of the sealed-bid stage, the auctioneer will determine the combination which maximises the auction's revenues from all bids submitted during the clock stage and the sealed-bid stage (and which can be satisfied with the available blocks). This combination will include no more than one combinatorial package bid per bidder.

Let us assume that two blocks (in one category) are available and three bidders submit the package bids for one block and two blocks each as shown in Table 31. Bidder A, for example, bids EUR 10 for one block, and EUR 11 for both blocks. Bidder C bids EUR 5 for one block, and EUR 15 for both blocks.

Bidder	**Bid for 1 block**	**Bid for 2 blocks**
Bidder A	EUR 10	EUR 11
Bidder B	EUR 10	EUR 12
Bidder C	EUR 5	EUR 15

Table 31: Package bids of Bidders A, B and C

In the course of determining the winning bidders, the combination which maximises the auction's revenues is now determined subject to the constraint that no more than one bid of a bidder will be considered. The following table shows the allocation of frequency blocks to the various bidders that can be accommodated for the spectrum available.

Number of blocks which the bidder will receive			Revenue	
Bidder A	Bidder B	Bidder C	Revenue	Combination of bids
2 blocks	0 block	0 block	EUR 11	Bid for 2 blocks Bidder A
0 block	2 blocks	0 block	EUR 12	Bid for 2 blocks Bidder B
0 block	0 block	2 blocks	EUR 15	Bid for 2 blocks Bidder C
1 block	1 block	0 block	EUR 20	Bid 1 block A and bid 1 block B
1 block	0 block	1 block	EUR 15	Bid 1 block A and bid 1 block C
0 block	1 block	1 block	EUR 15	Bid 1 block B and bid 1 block C
1 block	0 block	0 block	EUR 10	Bid for 1 block Bidder A
0 block	1 block	0 block	EUR 10	Bid for 1 block Bidder B
0 block	0 block	1 block	EUR 5	Bid for 1 block Bidder C

Table 32: Possible allocation with respective revenues

The allocation option highlighted in blue is the one which (unambiguously) maximises the auction's revenues. It is the combination of the package bid submitted by Bidder A on one block and by Bidder B on one block. The total revenues from this combination amount to EUR 20. No other feasible combination of package bids yields higher revenues.

The winning bidders will receive the number of frequency blocks indicated in their respective winning bids.

3.3 Step 3: Determination of prices

In the course of price determination in the principal stage, the “base prices” are determined. Base prices are determined using the general logic of a second price rule in a Vickrey auction. The winning bidder does not pay the price bid, but the lowest amount which ensures that no other bidder outbids that bidder. In a Vickrey auction, that amount is the second-highest bid.

In the example below, three bidders bid on one frequency block (see Table 33). The highest bidder is Bidder A with a bid of EUR 10. The second-highest bid (EUR 8) comes from Bidder B. The price to be paid by Bidder A is therefore EUR 8.

Bidder	**Bid**
Bidder A	EUR 10
Bidder B	EUR 8
Bidder C	EUR 5

Table 33: Bids for one frequency block

Transposing this procedure onto the combinatorial clock auction requires a modification of the second price rule. The rule is amended in such a way that maximum bid reductions are calculated in order to ensure that there is no alternative combination of bidders and bids which would yield higher revenues from the auction.

How much is the maximum bid reduction which can be granted to Bidder A in the example above? In order to calculate the reduction, we theoretically eliminate the winning bidder (Bidder A) from the auction. In this case, the maximum revenues from the auction would be EUR 8. Therefore, Bidder A can be granted a bid reduction in the amount of the difference in revenues, namely EUR 2 (see Figure 24). This ensures that no other bidder has submitted a higher bid than Bidder A’s bid minus the reduction, and that the winning bidder covers its opportunity costs with the price paid.

Maximum revenue if bidder A takes part	10
MINUS	-
Maximum revenue if bidder A doesn’t take part	8
Maximum bid reduction for bidder A	2

Figure 24: Bid reduction for Bidder A

The two examples below serve to explain the adaptation of this rule to the combinatorial clock auction. Let us assume that there are three bidders (Bidder A, Bidder B and Bidder C) who are bidding on a total of two frequency blocks (in one category). Bidder A bids EUR 10 for one block, Bidder B bids EUR 10 for one block, and Bidder C bids EUR 5 for one block (see Table 34).

Bidder	Bid for 1 block	Bid for 2 blocks
Bidder A	EUR 10	-
Bidder B	EUR 10	-
Bidder C	EUR 5	-

Table 34: Bids submitted by bidders

The maximum bid reductions are calculated as in the previous example. The combination which maximises the total revenues is that in which Bidder A receives one block and Bidder B receives one block; the bids generate revenues totalling EUR 20. In turn, the opportunity costs (individual Vickrey prices) for the allocation of one block to Bidder A can be calculated by theoretically eliminating Bidder A from the auction. In such a case, Bidder C would win the block, and the total value of bids would drop from EUR 20 to EUR 15.

Maximum revenue if bidder A takes part	20
MINUS	-
Maximum revenue if bidder A doesn't take part	15
Maximum bid reduction for bidder A	5

Figure 25: Bid reduction for Bidder A

This means that the maximum bid reduction which can be granted to Bidder A is EUR 5. The same applies to Bidder B, meaning that the base prices both bidders have to pay equal EUR 5 each.

However, there are cases where the individual Vickrey prices are not sufficient to outbid a package bid. In such cases, an additional price rule is applied. In contrast to the example above, let us now assume that Bidder C submits a package bid of EUR 15 for both frequency blocks (see Table 35).

Bidder	Bid for 1 block	Bid for 2 blocks
Bidder A	EUR 10	-
Bidder B	EUR 10	-
Bidder C	-	EUR 15

Table 35: Bids submitted by bidders with package bid on two blocks of Bidder C

The combination which maximises the total value is again EUR 20. Bidders A and B receive one block each. On the basis of their individual opportunity costs, the two bidders could each be granted a maximum bid reduction of EUR 5. However, if both bidders paid their Vickrey prices in each case, then they would be outbid by Bidder C. Therefore, in addition to the condition that each individual bidder must cover their opportunity costs, another condition is necessary: Taken together, the prices paid by the two bidders must be high enough that no other combination of bids generates a higher value. This means that the two bidders together have to pay at least a total of EUR 15 in order to (jointly) outbid Bidder C. In this context, a "fair" distribution of the difference to the individual Vickrey prices is carried out. Therefore, each bidder pays a base price of EUR 7.50.

A precise description of the mathematical procedure used to determine base prices will be provided in the Rules of Procedure for the auction.

4 Assignment stage

In the course of the assignment stage, specific frequency blocks are assigned to the winning bidders of the principal stage. Bidding takes place in a sealed-bid round, where the winning bidders of the principal stage can submit package bids for the specific frequency blocks in line with the results of the principal stage and the assignment rules. The auction software generates a complete list of all assignment options of specific blocks for each winning bidder.

In the example below, it is assumed that 10 frequency blocks are being auctioned off. The specific blocks are labelled as follows (see 26).

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10

Figure 26: Specific frequency blocks

In this example, it is assumed that the rules stipulate the assignment of contiguous frequency ranges to the winning bidders and that unsold blocks also form a contiguous range, whereas the position within the spectrum could be anywhere.

It is assumed that the following winning bidders emerged from the principal stage:

- Alan: three blocks;
- Ben: five blocks;
- Unsold: two blocks.

According to this scenario, there are six different potential bandplans that are in line with the results of the principal stage and the assignment rules (see Figure 27). For example, Alan may be assigned blocks A1 to A3 and Ben blocks A4 to A8. Alternatively, Alan could be assigned blocks A3 to A5 and Ben blocks A6 to A10. All of the ten bandplans are in line with the results of the principal stage and the assignment rules. The bids submitted in the assignment stage determine which one of these bandplans will ultimately be implemented.

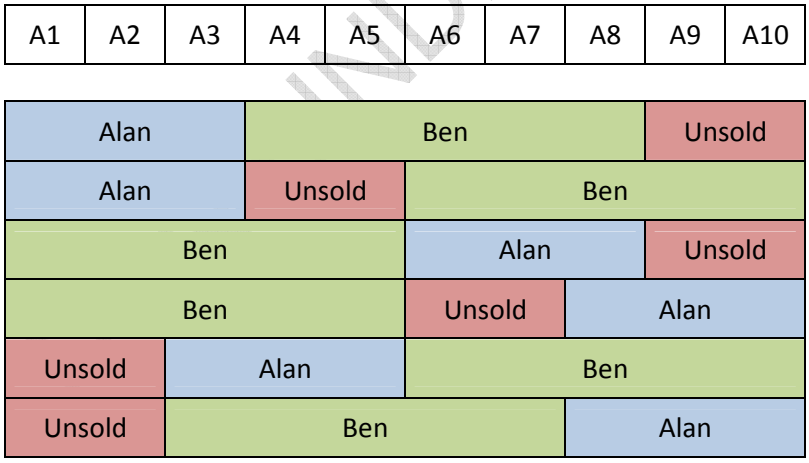


Figure 27: Possible bandplans

This results in different assignment options for each bidder (specific frequency blocks and/or positions in the frequency band).

Consequently, Alan has the following four assignment options:

- Option 1: blocks A1-A3
- Option 2: blocks A3-A5
- Option 3: blocks A6-A8
- Option 4: blocks A8-A10

Ben has the following four assignment options:

- Option 1: blocks A1-A5
- Option 2: blocks A3-A7
- Option 3: blocks A4-A8
- Option 4: blocks A6-A10

The unsold block may be placed at the following four positions within the band:

- Option1: blocks A1-A2
- Option 2: blocks A4-A5
- Option 3: blocks A6-A7
- Option 4: blocks A9-A10

The bidders may then submit bids for each option. The minimum bid in the assignment stage is EUR 0. For each option on which a bidder does not bid, a bid in the amount of the minimum bid is automatically assumed.

At the end of this round, the auctioneer will determine the combination of package bids which generates the highest revenues. Each winning bidder will be assigned the frequency blocks specified in the bid included in the winning combination and will pay a “top-up” price, which is also determined on the basis of the modified second price rule.

F. Annexes to the terms of use

Annex F.1: Agreement 800 MHz Austria, Germany, Liechtenstein and Switzerland

Annex F.2: Agreement 800 MHz Austria, Slovakia, Hungary, Slovenia and Croatia

Annex F.3: Agreement 800 MHz Austria and the Czech Republic

Annex F.4: Commission Decision of 6 May 2010 (2010/267/EU)

Annex F.5: Commission Decision of 16 October 2009 (2009/766/EC)

Annex F.6: Commission Decision of 18 April 2011 (2011/251/EU)

Annex F.7: Preferential frequency agreement 900 MHz 1

Annex F.8: Preferential frequency agreement 900 MHz 2

Annex F.9: Preferential frequency agreement 900 MHz 3

Annex F.10: Preferential frequency agreement 900 MHz 4

Annex F.11: Preferential frequency agreement 900 MHz 5

Annex F.12: Preferential frequency agreement 1800 MHz 1

Annex F.13: Preferential frequency agreement 1800 MHz 2

Annex F.14: Preferential frequency agreement 1800 MHz 3

Annex F.15: Overview preferential channels 900 MHz

Annex F.16: Overview preferential channels 1800 MHz

Annex F.17: Agreement 900/1800 MHz Austria, Slovakia, Hungary, Slovenia, Croatia, Romania, Serbia and the Ukraine

Annex F.18: Info on coexistence of mobile communications and broadcasting services at the band edge

Annex F.19: Draft air interface description FSB-LM027

Annex F.20: Draft air interface description FSB-LM028

Annex F.21: Draft air interface description FSB-LM029

The annexes can be found in the German version.

G. The pre-auction

This section presents a legally non-binding introduction to the procedure followed in the pre-auction in order to provide applicants with a basic understanding of the auction procedure. The legally binding rules of the auction will be sent to applicants in due course prior to the start of the auction.

The pre-auction is carried out as a combinatorial clock auction with only one auction object (and one category). Although the same auction procedure (including software and algorithms) as in the main auction is applied, the fact that only one frequency block is auctioned off entails a number of simplifications in comparison with the main auction (see Annex E on the main auction). The pre-auction comprises only a principal stage, but not an assignment stage. Specific frequency blocks are assigned during the assignment stage of the main auction.

The principal stage will begin with the clock stage, which refers to an open bidding stage with one or more rounds in which each bidder can indicate whether they wish to acquire the frequency block at the respective price in the given round. Bidders who do not submit a bid (or a "zero bid") in the clock round will be excluded from further participation in the clock stage. The clock stage will end once all excess demand is eliminated, that is, no more than one bidder is willing to acquire the block at the current price in the given round.

Once the clock stage has ended, a sealed-bid stage will take place in which bidders may raise their clock bids. In the sealed-bid stage, bidders who were active in the last round of the clock stage may freely choose the amount of their bids. Bidders who were no longer active in the last round of the clock stage may increase their bids, but in that case the bid cannot exceed the price in the last clock round in which the bidder would have been able to submit a bid.

After the end of the sealed-bid stage, the auctioneer will determine the bid with the highest bid amount from among all bids submitted during the clock stage and the sealed-bid stage. To this end, the auction procedure described in Annex E will be followed to determine the winning bidder; the procedure is simpler, however, because there is only one auction object. The bidder submitting the highest bid wins the auction. If two or more bidders have submitted the highest bids in the same amount, the decision will be taken by drawing lots.

The prices will be determined using the modified second price rule described in Annex E, which makes actual calculation significantly simpler as well. The price to be paid by the winning bidder is

- the second-highest bid amount in the event that several bidders have submitted bids for the reserved spectrum; or
- otherwise the minimum bid.

H. Municipalities Annex H

Municipality ID	Municipality	Province
10407	Heiligenbrunn	Burgenland
10408	Kukmirn	Burgenland
10420	Großmürbisch	Burgenland
10421	Inzenhof	Burgenland
10423	Tschanigraben	Burgenland
10424	Heugraben	Burgenland
10425	Rohr im Burgenland	Burgenland
10426	Bildein	Burgenland
10427	Rauchenwart	Burgenland
10428	Moschendorf	Burgenland
10505	Minihof-Liebau	Burgenland
10507	Neuhaus am Klausenbach	Burgenland
10510	Weichselbaum	Burgenland
10512	Mühlgraben	Burgenland
10704	Deutsch Jahrndorf	Burgenland
10726	Potzneusiedl	Burgenland
10806	Kaisersdorf	Burgenland
10826	Unterrabnitz-Schwendgrab.	Burgenland
10827	Weingraben	Burgenland
10828	Oberloisdorf	Burgenland
10922	Schachendorf	Burgenland
10931	Badersdorf	Burgenland
10932	Schandorf	Burgenland
20321	Lesachtal	Kärnten
20503	Deutsch-Griffen	Kärnten
20506	Glödnitz	Kärnten
20511	Hüttenberg	Kärnten
20622	Mörtschach	Kärnten
20723	Stockenboi	Kärnten
20802	Diex	Kärnten
21001	Albeck	Kärnten
21008	St.Urban	Kärnten
21010	Steuerberg	Kärnten
30510	Ertl	Niederösterreich
30516	Hollenstein an der Ybbs	Niederösterreich
30521	Neustadtl an der Donau	Niederösterreich
30524	Opponitz	Niederösterreich
30526	St.Georgen am Reith	Niederösterreich
30715	Hundsheim	Niederösterreich
30802	Andlersdorf	Niederösterreich
30819	Glinzendorf	Niederösterreich
30834	Mannsdorf an der Donau	Niederösterreich
30913	Moorbad Harbach	Niederösterreich
30915	Haugschlag	Niederösterreich
30917	Hirschbach	Niederösterreich
31016	Hardegg	Niederösterreich
31101	Altenburg	Niederösterreich
31103	Burgschleinitz-Kühnring	Niederösterreich
31111	Japons	Niederösterreich
31302	Albrechtsberg/Gr.Krems	Niederösterreich
31321	Krumau am Kamp	Niederösterreich
31324	Lichtenau im Waldviertel	Niederösterreich

Municipality ID	Municipality	Province
31326	Maria Laach am Jauerling	Niederösterreich
31340	St.Leonhard am Hornerwald	Niederösterreich
31346	Straß im Straßertale	Niederösterreich
31350	Weinzierl am Walde	Niederösterreich
31351	Weißenkirchen i.d.Wachau	Niederösterreich
31401	Annaberg	Niederösterreich
31406	Kleinzell	Niederösterreich
31408	Mitterbach am Erlaufsee	Niederösterreich
31409	Ramsau	Niederösterreich
31502	Artstetten-Pöbring	Niederösterreich
31506	Dorfstetten	Niederösterreich
31528	Nöchling	Niederösterreich
31535	Raxendorf	Niederösterreich
31540	St.Martin-Karlsbach	Niederösterreich
31541	St.Oswald	Niederösterreich
31542	Schönbühel-Aggsbach	Niederösterreich
31551	Texingtal	Niederösterreich
31609	Fallbach	Niederösterreich
31611	Gaubitsch	Niederösterreich
31636	Niederleis	Niederösterreich
31801	Altendorf	Niederösterreich
31825	Prigglitz	Niederösterreich
31827	Raach am Hochgebirge	Niederösterreich
31830	St.Corona am Wechsel	Niederösterreich
31836	Schwarzau im Gebirge	Niederösterreich
31906	Frankenfels	Niederösterreich
31923	Michelbach	Niederösterreich
31938	St.Margarethen/Sierning	Niederösterreich
31939	Schwarzenbach a.d.Pielach	Niederösterreich
32004	Gresten-Land	Niederösterreich
32007	Puchenstuben	Niederösterreich
32010	Reinsberg	Niederösterreich
32011	St.Anton an der Jeßnitz	Niederösterreich
32012	St.Georgen an der Leys	Niederösterreich
32212	Ludweis-Aigen	Niederösterreich
32308	Gutenstein	Niederösterreich
32312	Hollenthon	Niederösterreich
32321	Miesenbach	Niederösterreich
32322	Muggendorf	Niederösterreich
32324	Rohr im Gebirge	Niederösterreich
32325	Bromberg	Niederösterreich
32503	Bärnkopf	Niederösterreich
32506	Grafenschlag	Niederösterreich
32509	Großgöttfritz	Niederösterreich
32511	Gutenbrunn	Niederösterreich
32514	Kirchschlag	Niederösterreich
32515	Kottes-Purk	Niederösterreich
32517	Martinsberg	Niederösterreich
32519	Altmelon	Niederösterreich
32521	Rappottenstein	Niederösterreich
32522	Sallingberg	Niederösterreich
32523	Schönbach	Niederösterreich
32528	Traunstein	Niederösterreich
32529	Waldhausen	Niederösterreich

Municipality ID	Municipality	Province
40403	Auerbach	Oberösterreich
40409	Geretsberg	Oberösterreich
40410	Gilgenberg am Weilhart	Oberösterreich
40414	Hochburg-Ach	Oberösterreich
40420	Maria Schmolln	Oberösterreich
40436	St.Johann am Walde	Oberösterreich
40439	St.Radegund	Oberösterreich
40444	Treubach	Oberösterreich
40445	Überackern	Oberösterreich
40613	Pierbach	Oberösterreich
40810	Heiligenberg	Oberösterreich
40821	Pollham	Oberösterreich
40911	Oberschlierbach	Oberösterreich
41104	Dimbach	Oberösterreich
41108	Bad Kreuzen	Oberösterreich
41113	Münzbach	Oberösterreich
41121	St.Nikola an der Donau	Oberösterreich
41122	St.Thomas am Blasenstein	Oberösterreich
41307	Auberg	Oberösterreich
41311	Hörbich	Oberösterreich
41314	Kirchberg ob der Donau	Oberösterreich
41315	Klaffer am Hochficht	Oberösterreich
41324	Oberkappel	Oberösterreich
41327	Pfarrkirchen i.Mühlkreis	Oberösterreich
41329	Neustift im Mühlkreis	Oberösterreich
41340	Schönegg	Oberösterreich
41405	Dorf an der Pram	Oberösterreich
41406	Eggerding	Oberösterreich
41407	Engelhartszell	Oberösterreich
41412	Mayrhof	Oberösterreich
41415	Rainbach im Innkreis	Oberösterreich
41420	St.Roman	Oberösterreich
41423	Schardenberg	Oberösterreich
41427	Vichtenstein	Oberösterreich
41604	Eidenberg	Oberösterreich
41733	Rutzenham	Oberösterreich
41815	Pennewang	Oberösterreich
50318	Hintersee	Salzburg
50501	Göriach	Salzburg
50502	Lessach	Salzburg
50505	Muhr	Salzburg
50511	Thomatal	Salzburg
50514	Weißpriach	Salzburg
50515	Zederhaus	Salzburg
60205	Etmißl	Steiermark
60206	Frauenberg	Steiermark
60214	St.Ilgen	Steiermark
60215	St.Katharein a.d.Laming	Steiermark
60220	Tragöß	Steiermark
60306	Freiland/Deutschlandsberg	Steiermark
60308	Garanas	Steiermark
60310	Greisdorf	Steiermark
60311	Gressenberg	Steiermark
60316	Kloster	Steiermark

Municipality ID	Municipality	Province
60320	Marhof	Steiermark
60321	Osterwitz	Steiermark
60338	Trahütten	Steiermark
60340	Wernersdorf	Steiermark
60342	Wielfresen	Steiermark
60401	Auersbach	Steiermark
60402	Aug-Radisch	Steiermark
60405	Baumgarten bei Gnas	Steiermark
60409	Eichkögl	Steiermark
60413	Frannach	Steiermark
60414	Frutten-Gießelsdorf	Steiermark
60415	Glojach	Steiermark
60419	Grabersdorf	Steiermark
60424	Kapfenstein	Steiermark
60427	Kohlberg	Steiermark
60429	Krusdorf	Steiermark
60432	Maierdorf	Steiermark
60439	Perlsdorf	Steiermark
60445	Raning	Steiermark
60454	Unterauersbach	Steiermark
60513	Stein	Steiermark
60615	Großstübing	Steiermark
60616	Gschnaidt	Steiermark
60643	Schrems bei Frohnleiten	Steiermark
60647	Stiwoll	Steiermark
60649	Tulwitz	Steiermark
60650	Tyrnau	Steiermark
60701	Blaindorf	Steiermark
60705	Ebersdorf	Steiermark
60719	Mönichwald	Steiermark
60729	Saifen-Boden	Steiermark
60730	St.Jakob im Walde	Steiermark
60733	St.Lorenzen am Wechsel	Steiermark
60735	Schachen bei Vorau	Steiermark
60740	Siegersdorf b.Herberstein	Steiermark
60741	Sonnhofen	Steiermark
60742	Stambach	Steiermark
60744	Tiefenbach bei Kaindorf	Steiermark
60746	Vornholz	Steiermark
60747	Waldbach	Steiermark
60802	Bretstein	Steiermark
60807	St.Wolfgang-Kienberg	Steiermark
60808	St.Anna am Lavantegg	Steiermark
60815	Pusterwald	Steiermark
60817	Reisstraße	Steiermark
60906	Kleinlobming	Steiermark
60909	Rachau	Steiermark
60911	St.Marein bei Knittelfeld	Steiermark
61003	Berghausen	Steiermark
61006	Eichberg-Trautenburg	Steiermark
61026	Pistorf	Steiermark
61028	Ratsch an der Weinstraße	Steiermark
61035	St.Ulrich am Waasen	Steiermark
61042	Sulztal a.d.Weinstraße	Steiermark

Municipality ID	Municipality	Province
61112	Radmer	Steiermark
61205	Altenmarkt bei St.Gallen	Steiermark
61209	Donnersbachwald	Steiermark
61211	Gams bei Hieflau	Steiermark
61219	Johnsbach	Steiermark
61221	Landl	Steiermark
61229	Oppenberg	Steiermark
61230	Palfau	Steiermark
61241	St.Nikolai im Sölktal	Steiermark
61251	Wildalpen	Steiermark
61302	Altenberg an der Rax	Steiermark
61304	Kapellen	Steiermark
61310	Mürzsteg	Steiermark
61404	Krakaudorf	Steiermark
61405	Krakauhintermühlen	Steiermark
61406	Krakauschatten	Steiermark
61407	Kulm am Zirbitz	Steiermark
61410	Mühlen	Steiermark
61418	Ranten	Steiermark
61419	Rinegg	Steiermark
61420	St.Blasen	Steiermark
61425	St.Peter am Kammersberg	Steiermark
61428	Schöder	Steiermark
61429	Schönberg-Lachtal	Steiermark
61435	Zeutschach	Steiermark
61501	Bierbaum am Auersbach	Steiermark
61603	Gallmannsegg	Steiermark
61604	Geistthal	Steiermark
61605	Gößnitz	Steiermark
61606	Graden	Steiermark
61607	Hirschegg	Steiermark
61608	Kainach bei Voitsberg	Steiermark
61614	Modriach	Steiermark
61616	Pack	Steiermark
61623	Södingberg	Steiermark
61703	Arzberg	Steiermark
61708	Fischbach	Steiermark
61711	Gasen	Steiermark
61717	Haslau bei Birkfeld	Steiermark
61720	Hohenau an der Raab	Steiermark
61724	Kulm bei Weiz	Steiermark
61728	Miesenbach bei Birkfeld	Steiermark
61731	Naas	Steiermark
61732	Naintsch	Steiermark
61733	Neudorf bei Passail	Steiermark
61741	Ratten	Steiermark
61743	Rettenegg	Steiermark
61744	St.Kathrein am Hauenstein	Steiermark
61749	Stenzengreith	Steiermark
61754	Waisenegg	Steiermark
70217	St.Leonhard im Pitztal	Tirol
70314	Gries im Sellrain	Tirol
70317	Gschnitz	Tirol
70347	St.Sigmund im Sellrain	Tirol

Municipality ID	Municipality	Province
70349	Schmirn	Tirol
70415	St.Jakob in Haus	Tirol
70504	Brandenberg	Tirol
70516	Mariastein	Tirol
70519	Niederndorferberg	Tirol
70523	Rettenschöss	Tirol
70611	Kaunertal	Tirol
70625	Spiss	Tirol
70711	Iselsberg-Stronach	Tirol
70713	Kartitsch	Tirol
70721	Obertilliach	Tirol
70723	Prägraten	Tirol
70726	St.Veit in Defereggen	Tirol
70727	Schlaiten	Tirol
70733	Untertilliach	Tirol
70812	Gramais	Tirol
70815	Hinterhornbach	Tirol
70818	Jungholz	Tirol
70823	Namlos	Tirol
70825	Pfafflar	Tirol
70911	Gallzein	Tirol
70929	Steinberg am Rofan	Tirol
80107	Bürserberg	Vorarlberg
80109	Fontanella	Vorarlberg
80124	Sonntag	Vorarlberg
80209	Damüls	Vorarlberg
80212	Eichenberg	Vorarlberg
80229	Möggers	Vorarlberg
80237	Sibratsgfäll	Vorarlberg

I. Municipalities Annex I

Municipality ID	Municipality	Province
10311	Oslip	Burgenland
10320	Loretto	Burgenland
10401	Bocksdorf	Burgenland
10404	Gerersdorf-Sulz	Burgenland
10410	Neustift bei Güssing	Burgenland
10415	Stinatz	Burgenland
10416	Strem	Burgenland
10417	Tobaj	Burgenland
10418	Hackerberg	Burgenland
10422	Kleinmürbisch	Burgenland
10501	Deutsch Kaltenbrunn	Burgenland
10506	Mogersdorf	Burgenland
10509	St.Martin an der Raab	Burgenland
10803	Frankenau-Unterpullendorf	Burgenland
10804	Großwarasdorf	Burgenland
10809	Lockenhaus	Burgenland
10817	Pilgersdorf	Burgenland
10818	Piringsdorf	Burgenland
10902	Bernstein	Burgenland
10903	Deutsch Schützen-Eisenbg	Burgenland
10906	Hannersdorf	Burgenland
10908	Kohfidisch	Burgenland
10911	Mariasdorf	Burgenland
10924	Unterkohlstätten	Burgenland
10926	Weiden bei Rechnitz	Burgenland
10928	Wolfau	Burgenland
20435	Techelsberg/Wörther See	Kärnten
20515	Liebenfels	Kärnten
20519	Micheldorf	Kärnten
20531	Weitensfeld im Gurktal	Kärnten
20534	Frauenstein	Kärnten
20610	Heiligenblut	Kärnten
20703	Arriach	Kärnten
20810	Neuhaus	Kärnten
20911	Preitenegg	Kärnten
30503	Ardagger	Niederösterreich
30609	Furth an der Triesting	Niederösterreich
30703	Berg	Niederösterreich
30813	Eckartsau	Niederösterreich
30846	Parbasdorf	Niederösterreich
30904	Eggern	Niederösterreich
30910	Bad Großpertholz	Niederösterreich
30912	Großschönau	Niederösterreich
30929	Reingers	Niederösterreich
30940	Waldenstein	Niederösterreich
31001	Alberndorf im Pulkautal	Niederösterreich
31019	Heldenberg	Niederösterreich
31021	Hohenwarth-Mühlbach a.M.	Niederösterreich
31041	Schrattenthal	Niederösterreich
31110	Irnfritz	Niederösterreich
31114	Meiseldorf	Niederösterreich
31117	Pernegg	Niederösterreich

Municipality ID	Municipality	Province
31119	Röhrenbach	Niederösterreich
31121	Rosenburg-Mold	Niederösterreich
31123	St.Bernhard-Frauenhofen	Niederösterreich
31129	Weitersfeld	Niederösterreich
31130	Straning-Grafenberg	Niederösterreich
31204	Großmugl	Niederösterreich
31301	Aggsbach	Niederösterreich
31303	Bergern/Dunkelsteinerwald	Niederösterreich
31319	Jaidhof	Niederösterreich
31330	Mühldorf	Niederösterreich
31411	St.Aegyd am Neuwalde	Niederösterreich
31414	Türnitz	Niederösterreich
31507	Dunkelsteinerwald	Niederösterreich
31511	Hofamt Priel	Niederösterreich
31513	Hürm	Niederösterreich
31523	Maria Taferl	Niederösterreich
31525	Münichreith-Laimbach	Niederösterreich
31534	Pöggstall	Niederösterreich
31546	Weiten	Niederösterreich
31550	Zelking-Matzleinsdorf	Niederösterreich
31803	Aspangberg-St.Peter	Niederösterreich
31805	Breitenstein	Niederösterreich
31834	Schrattenbach	Niederösterreich
31841	Trattenbach	Niederösterreich
31843	Warth	Niederösterreich
31844	Wartmannstetten	Niederösterreich
31904	Brand-Laaben	Niederösterreich
31907	Gerersdorf	Niederösterreich
31920	Loich	Niederösterreich
32009	Randegg	Niederösterreich
32109	Großriedenthal	Niederösterreich
32216	Raabs an der Thaya	Niederösterreich
32222	Waldkirchen an der Thaya	Niederösterreich
32309	Hochneukirchen-Gschaidt	Niederösterreich
32314	Kirchschlag/Buckl.Welt	Niederösterreich
32317	Lichtenegg	Niederösterreich
32335	Wiesmath	Niederösterreich
32502	Arbesbach	Niederösterreich
32508	Groß Gerungs	Niederösterreich
32516	Langschlag	Niederösterreich
32520	Pölla	Niederösterreich
32525	Schweiggers	Niederösterreich
40407	Feldkirchen b.Mattighofen	Oberösterreich
40425	Moosdorf	Oberösterreich
40440	St.Veit im Innkreis	Oberösterreich
40512	Stroheim	Oberösterreich
40608	Königswiesen	Oberösterreich
40610	Leopoldschlag	Oberösterreich
40611	Liebenau	Oberösterreich
40619	Schönau im Mühlkreis	Oberösterreich
40621	Unterweißenbach	Oberösterreich
40804	Eschenau im Hausruckkreis	Oberösterreich
40825	St.Georgen b.Grieskirchen	Oberösterreich
40834	Wendling	Oberösterreich

Municipality ID	Municipality	Province
40906	Klaus an der Pyhrnbahn	Oberösterreich
40914	Rosenau am Hengstpaß	Oberösterreich
41004	Eggendorf im Traunkreis	Oberösterreich
41101	Allerheiligen/Mühlkreis	Oberösterreich
41112	Mitterkirchen im Machland	Oberösterreich
41115	Pabneukirchen	Oberösterreich
41117	Rechberg	Oberösterreich
41119	St.Georgen am Walde	Oberösterreich
41125	Waldhausen im Strudengau	Oberösterreich
41126	Windhaag bei Perg	Oberösterreich
41205	Eitzing	Oberösterreich
41206	Geiersberg	Oberösterreich
41210	Kirchdorf am Inn	Oberösterreich
41226	St.Georgen b.Obernberg/I	Oberösterreich
41301	Afiesl	Oberösterreich
41302	Ahorn	Oberösterreich
41305	Arnreit	Oberösterreich
41325	Oepping	Oberösterreich
41333	St.Oswald bei Haslach	Oberösterreich
41335	St.Stefan am Walde	Oberösterreich
41336	St.Ulrich im Mühlkreis	Oberösterreich
41403	Brunnenthal	Oberösterreich
41409	Esternberg	Oberösterreich
41410	Freinberg	Oberösterreich
41411	Kopfing im Innkreis	Oberösterreich
41413	Münzkirchen	Oberösterreich
41417	St.Aegidi	Oberösterreich
41428	Waldkirchen am Wesen	Oberösterreich
41429	Wernstein am Inn	Oberösterreich
41508	Laussa	Oberösterreich
41509	Losenstein	Oberösterreich
41510	Maria Neustift	Oberösterreich
41512	Reichraming	Oberösterreich
41610	Haibach im Mühlkreis	Oberösterreich
41616	Ottenschlag im Mühlkreis	Oberösterreich
41625	Vorderweißenbach	Oberösterreich
41725	Pitzenberg	Oberösterreich
41728	Pühret	Oberösterreich
41748	Weißenkirchen i.Attergau	Oberösterreich
41801	Aichkirchen	Oberösterreich
41813	Neukirchen bei Lambach	Oberösterreich
50203	Annaberg im Lammertal	Salzburg
50211	St.Koloman	Salzburg
50413	Hüttschlag	Salzburg
50419	St.Martin a.Tennengebirge	Salzburg
50604	Fusch/Großglocknerstr.	Salzburg
60208	Halltal	Steiermark
60301	Aibl	Steiermark
60313	Großradl	Steiermark
60326	St.Josef(Weststeiermark)	Steiermark
60332	Soboth	Steiermark
60334	Stainztal	Steiermark
60336	Sulmeck-Greith	Steiermark
60408	Edelstauden	Steiermark

Municipality ID	Municipality	Province
60431	Lödersdorf	Steiermark
60434	Mitterlabill	Steiermark
60436	Oberdorf am Hochegg	Steiermark
60437	Oberstorcha	Steiermark
60443	Poppendorf	Steiermark
60448	St.Anna am Aigen	Steiermark
60451	Stainz bei Straden	Steiermark
60502	Bad Blumau	Steiermark
60505	Großsteinbach	Steiermark
60507	Hainersdorf	Steiermark
60605	Edelsgrub	Steiermark
60621	Höf-Präbach	Steiermark
60627	Langegg bei Graz	Steiermark
60637	Rohrbach-Steinberg	Steiermark
60639	St.Bartholomä	Steiermark
60641	St.Oswald b.Plankenwarth	Steiermark
60645	Semriach	Steiermark
60658	Zwaring-Pöls	Steiermark
60712	Hartl	Steiermark
60713	Hofkirchen bei Hartberg	Steiermark
60717	Lafnitz	Steiermark
60718	Limbach bei Neudau	Steiermark
60723	Pöllauberg	Steiermark
60724	Puchegg	Steiermark
60725	Rabenwald	Steiermark
60726	Riegersberg	Steiermark
60734	St.Magdalena am Lemberg	Steiermark
60738	Schönegg bei Pöllau	Steiermark
60743	Stubenberg	Steiermark
60812	Oberweg	Steiermark
60816	Reifling	Steiermark
60904	Gaal	Steiermark
61009	Gamlitz	Steiermark
61010	Glanz	Steiermark
61019	Kitzeck im Sausal	Steiermark
61020	Lang	Steiermark
61024	Oberhaag	Steiermark
61030	St.Andrä-Höch	Steiermark
61033	St.Nikolai im Sausal	Steiermark
61037	Schloßberg	Steiermark
61038	Seggauberg	Steiermark
61039	Spielfeld	Steiermark
61044	Vogau	Steiermark
61104	Hieflau	Steiermark
61212	Gössenberg	Steiermark
61220	Kleinsölk	Steiermark
61236	Ramsau am Dachstein	Steiermark
61248	Weißenbach an der Enns	Steiermark
61303	Ganz	Steiermark
61314	Stanz im Mürztal	Steiermark
61409	Mariahof	Steiermark
61415	Oberwölz Umgebung	Steiermark
61434	Winklern bei Oberwölz	Steiermark
61504	Eichfeld	Steiermark

Municipality ID	Municipality	Province
61509	Klöch	Steiermark
61602	Edelschrott	Steiermark
61610	Kohlschwarz	Steiermark
61621	St.Martin a.Wöllmißberg	Steiermark
61624	Stallhofen	Steiermark
61709	Fladnitz an der Teichalm	Steiermark
61710	Floing	Steiermark
61712	Gersdorf an der Feistritz	Steiermark
61722	Koglhof	Steiermark
61725	Labuch	Steiermark
61735	Oberrettenbach	Steiermark
61745	St.Kathrein am Offenegg	Steiermark
61746	St.Margarethen a.d.Raab	Steiermark
61750	Strallegg	Steiermark
70311	Gnadenwald	Tirol
70362	Vals	Tirol
70366	Wattenberg	Tirol
70418	Schwendt	Tirol
70527	Thiersee	Tirol
70610	Kaunerberg	Tirol
70704	Anras	Tirol
70706	Außervillgraten	Tirol
70709	Hopfgarten in Defereggen	Tirol
70712	Kals am Großglockner	Tirol
70819	Kaisers	Tirol
70827	Pinswang	Tirol
70903	Brandberg	Tirol
80102	Blons	Vorarlberg
80234	Schröcken	Vorarlberg
80238	Sulzberg	Vorarlberg