

Spectrum Release Plan

Schedule of Future Frequency Awards

NON-BINDING TRANSLATION

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1 Introduction

In the summer of 2015 the Austrian federal government decided (with the resolution adopted by the Council of Ministers on 7 July 2015) to make the 700 MHz band available for mobile telecommunications from the beginning of 2020.¹

On 2 February 2016 the European Commission published a proposal for a decision of the European Parliament and of the Council on the use of the 470–790 MHz frequency band in the Union. In the proposal, 30 June 2020 is named as the deadline for the 700 MHz band to be used for mobile telecommunications. The strategy for a Digital Single Market is aimed at ensuring complete coverage with high-quality internet access for the general public and for businesses. On 26 May 2016 the European Council adopted a general approach on the proposal specified above, determining that – based on duly substantiated reasons – Member States may delay making the band available for up to two years, i.e. until mid-2022. The Council's position was confirmed in principle by the European Parliament's Committee on Industry, Research and Energy (ITRE) on 10 November 2016; the possible reasons that might lead to a delay in making the 700 MHz band available for mobile telecommunications were nevertheless specified in detail.

On 28 April 2016 the Commission also adopted an Implementing Decision on the harmonisation of the 694–790 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Union and for flexible national use in the Union. One of the effects of that legislative act was to define harmonised technical conditions for broadband use of the 700 MHz band.²

An issue related to the frequency range involves the DVB-T2 multiplex licences for simpliTV (MUX D, E and F), which were only awarded in 2013 for a period of ten years and hence are valid until 2023. In addition, KommAustria passed a decision as recently as 13 July 2016 approving the building of radio equipment for MUX E by ORS and granting operating rights until 31 December 2022. One of the reasons given for the decision is the broadcasting use of the frequencies in certain countries neighbouring Austria. KommAustria fears that it will not be possible to complete (with a positive outcome) the international coordination of replacement channels for Vienna in time for 2020. Should this be the case, full coverage in particular of the greater Vienna area with terrestrial television during the period in question (i.e. until 2022) would be jeopardised.

In view of the rapid increase in mobile traffic, the two divisions of RTR published a joint report on the second digital dividend that recommended making the 700 MHz band available for mobile telecommunications as of 1 January 2020; in view of constitutional ownership guarantees, as well as the need to protect trust, the report also advised considering payment of compensation as a means of establishing the legal certainty required for award procedures. The meanwhile amended 2013 Frequency Utilisation Ordinance (*Frequenznutzungsverordnung*) provides for use of the 700 MHz band by mobile telecommunications providers from 1 July 2020.

The usage rights for the 2100 MHz band expire at the end of 2020, and those for the 3400–3600 MHz band at the end of 2019. Moreover, the 3600–3800 MHz, 1500 MHz (core band) and 2300 MHz bands have been identified at European level as harmonised ECS bands. At the WRC-15, the 1500 MHz band was expanded, with the 1427–1452 MHz and 1492–1518 MHz bands being identified worldwide for IMT.

Consequently, award procedures can be expected in the short and medium term for the following frequency ranges.³

¹ Refer to the press release of the Federal Ministry of Transport, Innovation and Technology (BMVIT; available on the BMVIT website).

² http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2016.118.01.0004.01.ENG&toc=OJ:L:2016:118:TOC

³ Refer in this regard to the consultation document, which can be viewed on the regulatory authority's website.

- 700 MHz
- 1500 MHz (core band)⁴
- 1500 MHz (expansion bands)^{5,6}
- 2100 MHz⁷
- 2300 MHz⁸
- 3400–3600 MHz
- 3600–3800 MHz

Regulations regarding the responsibility in the field of frequency administration are derived from Art. 54 Par. 3 of the 2003 Telecommunications Act (TKG 2003). Accordingly, the regulatory authority (Telekom-Control-Kommission, TKK) is responsible for awarding the spectra for which a provision as specified in Art. 52 Par. 3 TKG 2003 has been made in the frequency usage plan (limited number). The Federal Minister of Transport, Innovation and Technology has determined that the number of frequencies in question shall be limited, or it is anticipated that such a decision will be taken. It follows from this that the TKK is responsible for awarding frequencies.

During a consultation on the upcoming award procedures, the BMVIT and the regulatory authority (RTR) collected important suggestions and discussed possible approaches. A total of 22 statements were received. The consultation document and a summary of the statements can be viewed on the regulatory authority's website.

In presenting this Spectrum Release Plan (a rough timetable of the awards), the Telekom-Control-Kommission and the BMVIT wish to provide market participants with planning certainty. This legally non-binding plan is intended to reflect the authorities' current assessment of future frequency awards. In no way does the plan prejudice any later Telekom-Control-Kommission decision that might depart from the plan (see also Point 3.6 below).

The content addressed below is also legally non-binding and is therefore without prejudice to any future decisions of the Telekom-Control-Kommission.

⁴ The core band, which includes the 1452–1492 MHz range, was identified for IMT in ITU regions 2 and 3.

⁵ The 1427–1452 MHz and 1492–1518 MHz bands were identified worldwide for IMT and expanded to include the 1500 MHz core band (1452–1492 MHz) at the WRC-15. Hereafter the range is referred to as the 1500 MHz expansion band.

⁶ Depending on any possible specifications in the Frequency Utilisation Ordinance (FNV), needs of the entities at national level requiring frequencies and developments at European level. Refer to the corresponding details in the consultation document.

⁷ Hereafter only the FDD spectrum within the 2100 MHz band will be considered. The 2100 MHz TDD spectrum will be deemed obsolete for mobile telecommunications purposes.

⁸ Depending on any possible specifications in the Frequency Utilisation Ordinance (FNV), needs of the entities at national level requiring frequencies and developments at European level. Refer to the corresponding details in the consultation document.

2 Spectrum Release Plan

The regulatory authority has weighed the arguments presented during the consultation and considered the market development as well as the individual bands, with regard to their availability dates and conditions of use. It is accordingly planned to award the bands in question according to the schedule outlined below.

Table 1: Spectrum Release Plan

Auction	Band/Bands	Publication of tender documentation	Start of auction
2018 auction	3400–3800 MHz	Late 2017 / early 2018	Beginning with or not before Q2 2018
2019 multiband auction	700 / 1500 (core band) / 2100 MHz)	Late 2018 / early 2019	Beginning with or not before Q2 2019
–	2300 MHz	At a time from 2020 onwards yet to be determined depending on need and availability of conditions of use	
–	1500 MHz (expansion band)	At a time from 2020 onwards yet to be determined depending on need and availability of conditions of use	

In view of a number of uncertainties, including when specific bands will be freed, when conditions of use become available, any use in neighbouring countries, possible restrictions on use, or changes to the legal framework (at European or national level) that might oppose the plan, the regulatory authority reserves the right to deviate from the plan.

The regulatory authority specifically reserves the right to hold a single band auction of the 2100 MHz band in or after Q2 2019 instead of the planned multiband auction of 700 / 1500 (core band) / 2100 MHz and to award the 700 MHz band and the 1500 MHz core band at a later date. This is necessary since from today's perspective it is still largely unclear as to when the 700 MHz band will become free in Austria and in certain neighbour countries. The award procedure can only be conducted with the required legal certainty if complete clarity exists that broadcasters will have freed the band by 30 June 2020 and any legal appeals potentially jeopardising use by mobile services as of 1 July 2020 can be ruled out. There should also not be any serious restrictions on the use of the 700 MHz band that would impede an efficient auction procedure. The regulatory authority nonetheless anticipates that all of these circumstances will be fully clarified by early or mid-2018.

The regulatory authority currently assumes that the conditions of use applicable to the individual blocks within one band will be largely identical, allowing the frequency blocks to be grouped as abstract lots into a small number of categories before auctioning off the lots at individual auctions. This allows use of a simultaneous auction procedure with a justifiable level of complexity. The regulatory authority reserves the right to auction off the bands to be awarded within a single auction sequentially if necessary, where such a procedure is required by the conditions of use.

3 Background of the Spectrum Release Plan

3.1 Spectrum demand

To avoid limiting the growth potential of individual providers, the regulatory authority views the timely awarding of frequencies, where available, as a priority objective. Not only does this practice have a positive impact on the quality of services, it also encourages competition.

Rapid growth is typical within the sector of mobile and fixed network broadband services. Specifically in mobile services, overall traffic is growing exponentially, with annual rates reaching around 50%, despite moderate declines in call minutes and other services taking over text messaging.⁹ Regional wireless broadband providers also report that they are experiencing substantial growth rates. As a logical consequence, during the consultation certain providers pushed for new bands to be awarded and expiring spectrum to be re-awarded as soon as possible.

In view of this situation, the regulatory authority considers it imperative to soon award those frequencies that are available and ready to be awarded.

3.2 Availability of frequencies

The regulatory authority holds that a band may only be awarded if a harmonised band plan exists, frequency coordination at international level is completed, the band has been freed and the BMVIT determines suitable conditions of use that allow a bidder to evaluate the frequencies within the framework of an auction. These preconditions will not be met in the foreseeable future for the 2300 MHz band and the 1500 MHz expansion band. A harmonised band plan still has not been determined for the 1500 MHz expansion band and it is currently not foreseeable when the frequencies will be ready to be awarded. The 2300 MHz band is presently being used by other services. In Europe an effort is being made towards allowing usage of this band based on licensed shared access but the concept of such a sharing model is very much at an early stage and not yet fully developed. Together with the BMVIT, the regulatory authority has therefore decided to auction off these frequencies after 2020.

Assuming that the conditions governing use of the 3400–3800 MHz range will be available by autumn or winter of 2017, the regulatory authority believes that it will be possible to put this spectrum out to tender as from late 2017 or early 2018. While the 3600–3800 MHz range can be used on assignment, use of the 3400–3600 MHz range is contingent on expiry of the current usage rights after 1 January 2020.

The regulatory authority additionally assumes that the conditions of use for the 2100 MHz band, the 1500 MHz core band and the 700 MHz band will be available in time to hold an auction as from Q2 2019. The 2100 MHz band can be used as of 1 January 2021 after expiry of the current usage rights and the 1500 MHz core band on assignment. At present the regulatory authority assumes that the 700 MHz band will be available for use as of 1 July 2020 as specified in the Frequency Utilisation Ordinance.

A degree of uncertainty exists as to whether broadcasters will be able to free the 700 MHz band in time. This applies to broadcasting use both in Austria and in certain neighbouring countries, the latter case in turn having potential influence on how this band is used and when it is freed by Austrian broadcasters. Moreover, on 13 July 2016 KommAustria issued a decision authorising use of frequencies within this range until the end of 2022. Another frequency assignment decision has provided for broadcasting use of other segments of this band until 2023.

The award procedure can only be conducted with the required legal certainty if absolute clarity exists that broadcasters will have freed the band by 30 June 2020 and any legal action potentially jeopardising use by mobile services as of 1 July 2020 can be ruled out. There should also not be any

⁹ Refer to the Consultation on Future Frequency Awards.

serious restrictions on the use of the 700 MHz band that would impede an efficient auction procedure. Should it turn out that these conditions are not met, the regulatory authority will be forced to postpone awarding the 700 MHz band. As put forth in the European Commission's proposal for a decision of the European Parliament and of the Council on the use of the 470–790 MHz frequency band in the Union, the Member States have until the end of 2017 to complete all agreements required for cross-border spectrum coordination within the Union.¹⁰ Two items should hence be clear by early or mid-2018: when the band will be free for use in Austria and in the affected neighbouring countries; and which restrictions on use could arise as a result of any possible broadcasting use beyond the cut-off date of 30 June 2020.

While the regulatory authority currently expects the band to be free for mobile communications use as of 1 July 2020, we reserve the right to re-evaluate the situation in early or mid-2018. This could result in changes to the Spectrum Release Plan.

3.3 Award procedure

During the consultation the regulatory authority proposed various models for awarding the individual spectra and requested feedback. In the case of the 700 Hz, 1500 MHz, 2100 MHz and 2300 MHz bands, the regulatory authority proposed awarding nationwide rights of use. The consultation participants expressed no objections to this proposal.

A simplified auction procedure with flexible regional borders was proposed by the regulatory authority for segments of the 3600–3800 MHz spectrum. This proposal was widely rejected by the consultation participants. The consultation revealed that the preconditions defined by the regulatory authority for using such a procedure do not exist. The regulatory authority will consequently auction this spectrum off together with the 3400–3600 MHz range and award individual usage rights (in pre-defined regions if appropriate).

3.4 Bundling of bands

As part of the consultation, the regulatory authority posed several questions on the subject of value interdependencies among bands and possible bundling options. Considering the arguments presented and the objectives of the award procedure, the regulatory authority believes the following bundling options would be effective:

- The joint awarding of the entire 3400–3800 MHz spectrum in one auction: The participants' statements revealed that the blocks within this range represent close substitutes in part and that awarding the frequencies jointly would enhance the bidders' flexibility. Joint awarding of the entire spectrum would for example support providers already active in the 3400–3600 MHz band in their decision as to whether to relocate services to the upper end of the band. It is also expected that current differences in the availability of technologies will be only temporary. In the regulatory authority's view, these and other arguments presented during the consultation speak for jointly awarding the entire 3400–3800 MHz range.
- Joint awarding of the 700 MHz band and the 1500 MHz core band: The 1500 MHz core band can be used exclusively as a downlink band (SDL). Such use is closely tied to the availability and use of frequencies below 1 GHz, such as the 700 MHz band. Complementary relationships exist between these two bands, and jointly awarding them in one auction would mitigate aggregation risks.
- The frequency assignments in the 2100 MHz band expire at the end of 2020. Pointing to the need to establish investment security early on, the consultation participants suggest awarding the 2100 MHz band in 2018/2019. The regulatory authority expects the 700 MHz band to be available for mobile telecommunications as of 1 July 2020 in accordance with the Frequency Utilisation Ordinance. Thus, the award procedures for the 700 MHz band, the 1500 MHz core

¹⁰ Mid-2018 was also mentioned during Council talks.

band and the 2100 MHz band all fall within the same time frame. The regulatory authority also recognises that value interdependencies among the bands exist which justify a joint award procedure. Whereas an existing provider cannot replace all current holdings in the 2100 MHz band with other spectrum due to lock-in effects, that provider can certainly substitute some of the frequencies with others. Beyond that, complementary value relationships of a general kind exist between coverage spectrum (i.e. frequencies below 1 GHz) and capacity spectrum (i.e. frequencies above 1 GHz). To allow the bidders at the auction greater flexibility in this regard, and to mitigate aggregation and substitutions risks, the regulatory authority considers it useful to award the 2100 MHz band together with the 700 MHz band and the 1500 MHz core band.

3.5 Time of auctions

The regulatory authority has identified the conditions listed below as relevant for planning the schedule of the individual auctions:

- In order for the Telekom-Control-Kommission (TKK) to put a band out to tender, that band has to be available (e.g. recently freed for use).
- In order to enable the bidders to evaluate the frequencies to be auctioned off, conditions of use must be in place that are not subject to change and are specified with sufficient clarity. An efficient auction procedure should also not be impeded by any temporary restrictions on use that would result in conditions of use that would differ highly among frequency blocks within one band.
- Where the frequencies are unable to be used immediately after assignment, the auction should be scheduled for a suitable time period prior to actual frequency use. In cases involving frequency bands with rights of use set to expire (i.e. 2100 MHz, 3400–3600 MHz), the regulatory authority wishes to comply with the current usage rights holders' request for investment security by awarding the bands early enough prior to expiry of the licences. In cases involving new bands, and where the frequencies are unable to be used immediately after assignment, the regulatory authority considers it justified to award the frequencies about one year prior to use. One reason for this is to provide the spectrum holders with sufficient lead time for network planning and expansion, making it highly probable that the providers will indeed use the frequencies as soon as they are able to. Another consideration is to reduce the time between payment and use of the frequencies to a reasonable period, thereby avoiding unnecessary exposure of the bidders to valuation and financing risks.
- The regulatory authority wishes to provide the bidders with enough time to prepare for each auction. The regulatory authority believes that the Spectrum Release Plan should provide for at least a six-month time interval (or better still a one-year interval) between two successive auctions.

The 2300 MHz band and the expansion bands within the 1500 MHz band will not meet these conditions if awarded before 2020. The regulatory authority expects the conditions of use for the 3400–3800 range in autumn or winter of 2017. Taking into account normal preparation time and the minimum periods defined by law, the regulatory authority plans to publish an invitation to tender for the frequencies in late 2017 or early 2018 and to hold the auction in Q2 2018 at the earliest.

Taking into account an appropriate time interval between the auctions as well as the expected availability of the 700 MHz band in mid-2020, the regulatory authority plans to publish an invitation to tender for the 700 / 1500 (core band) / 2100 MHz bands in late 2018 or early 2019 and to begin the auction in Q2 2019 at the earliest.

3.6 Deviations from the Spectrum Release Plan

In view of a number of uncertainties, including when certain bands will be freed, when conditions of use become available, any use in neighbouring countries, possible restrictions on use, or changes to the legal framework (at European or national level) that might oppose the plan, the regulatory authority

reserves the right to deviate from the plan. The regulatory authority specifically reserves the right to hold a single band auction of the 2100 MHz band in or after Q2 2019 instead of the planned multiband auction of 700 / 1500 (core band) / 2100 MHz and to award the 700 MHz band and the 1500 MHz core band at a later date (cf. Section 3.2).

The regulatory authority currently assumes that the conditions of use applicable to the individual blocks within one band will be largely identical, allowing the frequency blocks to be grouped as abstract lots into a small number of categories before auctioning off the lots in the individual auctions. This allows use of a simultaneous auction procedure with a justifiable level of complexity. The regulatory authority reserves the right to auction off the bands to be awarded within a single auction sequentially if necessary, if such a procedure is specified in the conditions of use.

4 Evaluation

The regulatory authority performed a qualitative evaluation of various spectrum release plans. The proposals listed below were considered:

- the plans presented in the document summarising the results of the consultation;
- the Spectrum Release Plan presented in Chapter 2;
- an alternative spectrum release plan proposed by the regulatory authority. Besides an auction of the 3400–3800 MHz range in or after Q2 2018, this plan proposes a separate auction of the 2100 MHz band in early or mid-2019 and a multiband auction including the 700 MHz band and the 1500 MHz core band at some time after 2020 (depending on availability of the 700 MHz band).

The regulatory authority based the evaluation on these criteria:

- TKK's objectives in awarding spectrum (efficiency of frequency use, competition, legal risk, improved broadband coverage, investment security)
- Demand structure (similar or differing bidder groups)
- Efficiency of the procedure
- Justifiable level of complexity
- Consultation participants' preferences

In the regulatory authority's view, the proposed Spectrum Release Plan best satisfies these criteria. The objectives of efficient use of frequencies, improved broadband coverage, encouraging competition and of investment security are best served by awarding all bands as soon as they become ready and by bundling bands with an interdependence in terms of value. While considerable one-off costs are associated with the award procedures (including consulting on auction design, software adaptation and hardware), bundling the bands that are ready to be awarded into two auctions improves procedure efficiency compared with exclusively single band auctions. The regulatory authority nonetheless expects the complexity of the procedures to be limited to a justifiable measure. Conversely, in view of the more strongly varying demand for spectrum in the 3400–3800 Hz range (on the part of mobile network operators and regional broadband service providers), a separate auction of this band is required. Where parties to the consultation expressed clear and substantiated preferences, this Spectrum Release Plan accommodates many of those preferences.

At this stage, the uncertainty of when the 700 MHz band will be freed for use and become available is the only factor leading to a partially less favourable rating in terms of legal and investment security. This is a calculated risk, though, inasmuch as the European Union has specified that all coordination plans for the 700 MHz band have to be completed and the related agreements concluded by the end of 2017/mid-2018; this will soon render a clear picture of when the 700 MHz band will be available and of any potential temporary restrictions on its use. The regulatory authority also assumes that the issue of the remaining term of licences for frequencies assigned to broadcasters will be resolved no later than when those spectra are put out to tender.