



Plan
for Future Awards
of Harmonised ECS Spectrum for
Mobile and Broadband Use

2022–2026 Spectrum Release Plan

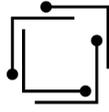
NON-BINDING TRANSLATION

Federal Minister for Agriculture, Regions and Tourism

Telekom-Control-Kommission

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1 Introduction

In 2016, the regulatory authority published a *Spectrum Release Plan* for the period up to 2020 and successfully completed two 5G auctions in accordance with this declaration of intent. As part of these spectrum awards, two key 5G pioneer bands were assigned (700 MHz and 3.4–3.8 GHz). The award of the third pioneer band (26 GHz) is still pending.

The 26 GHz band has been identified as the European 5G pioneer band above 24 GHz for new high-capacity and innovative business models. Where clear demand exists, the European legal framework (EECC) envisages the awarding of at least 1 GHz. To better estimate demand for frequencies in the 26 GHz band, the regulatory authority carried out an initial consultation procedure in 2019. As that procedure did not at the time reveal a clear demand for the spectrum, the regulatory authority decided not to award the band in the near future. Another consultation was held in mid-2021 to survey concerns including spectrum needs. The responses were a key source of input for this Spectrum Release Plan.

As regards the longer term, proposals have been made to use other frequency ranges alongside the 26 GHz band for mobile and broadband services:

- Remaining 3410–3800 MHz spectrum
- 2.6 GHz
- 2.3 GHz
- 42 GHz
- 6 GHz
- 60 GHz

These bands were additionally proposed for discussion during the consultation.

Together with the Federal Ministry of Agriculture, Regions and Tourism (BMLRT), the regulatory authority has considered the input from the consultation and subsequently drafted a general plan for future spectrum awards, the 2022–2026 Spectrum Release Plan. The plan is aimed at ensuring planning reliability for all stakeholders. This plan, which is not legally binding, is intended to reflect the spectrum awards that the authorities anticipate will be needed in future. In no way does the plan prejudice any later Telekom-Control-Kommission decision that might depart from the plan, a proviso which similarly applies to the details presented below.

In accordance with the TKG 2021, the regulatory authority is now responsible for awarding harmonised ECS spectrum (for mobile and broadband use), where the spectrum use plan does not specify general authorisation as applicable (unlicensed usage). This means that in all likelihood, depending on allocations, at least a portion of the spectrum listed in the Spectrum Release Plan will fall within the TTK's scope of responsibility.

2 2022–2026 Spectrum Release Plan

The regulatory authority has considered the arguments presented during the consultation, market developments, and the scheduled availability of the individual bands together with their usage conditions. The resulting plans call for the bands in question to be awarded based on the timetable as outlined below.

Bands addressed in the consultation	Time frame	Note
26 GHz (1.6 GHz) Remaining 3.4–3.8 GHz spectrum	First half of 2023	<ul style="list-style-type: none"> • Early award of 26 GHz sub-band spectrum (probably 1.6 GHz) and remaining 3.4–3.8 GHz spectrum • Various authorisation procedures possible
2.3 GHz ^a 2.6 GHz 6 GHz ^a (26 GHz) ^a	2025	<ul style="list-style-type: none"> • Timely award before expiry of the rights of use for the 2.6 GHz band at the end of 2026 • 2.6 GHz band to be awarded simultaneously with spectrum from the 2.3 GHz and 6 GHz ranges, depending on availability
42 GHz 60 GHz 26 GHz ^a	From 2026	<ul style="list-style-type: none"> • Other spectrum addressed in the consultation • To be awarded under the following Spectrum Release Plan

^a Depending on availability

Table 1: Plan for future awards of harmonised ECS spectrum for mobile and broadband use

Within the period covered by this Spectrum Release Plan, two spectrum award time slots are defined, namely the first half of 2023 and the year 2025. The plan foresees awarding one portion of the 26 GHz band in the first half of 2023, along with the remaining available spectrum in the 3.4–3.8 GHz range. An earlier award is not realistic in view of the steps to be taken and the preparations required under law, including ordinances defining spectrum use and quantity limitations as well as selection procedures, consultations and similar activities.

The regulatory authority expects roughly 1.6 GHz to become available in the 26 GHz band for assignment in the near future. One portion of this spectrum will be available for local connectivity, such as for campus solutions and industrial use. Depending on the rules specified in the ordinance limiting spectrum quantity, the remaining spectrum will be assigned by means of either a selection procedure or an administrative procedure involving local licensing.

The regulatory authority plans to conduct an additional award procedure in 2025. In this case, the 2.6 GHz band will certainly be awarded, with the related licences expiring at the end of 2026. Depending on availability, spectrum within the 2.3 GHz and 6 GHz ranges could be awarded simultaneously.

Beyond that, the schedule for awarding 26 GHz spectrum has not yet been defined (see section 3.3). One option that cannot be ruled out for 2025 is that of simultaneously awarding individual 26 GHz frequencies that become available.

This leaves the other spectrum bands addressed in the consultation (42 GHz, 60 GHz, remaining 26 GHz frequencies and 3.8–4.2 GHz), which are not part of this Spectrum Release Plan and will not be awarded before 2026.

In view of a number of uncertainties, the regulatory authority reserves the right to deviate from the plan. Such variables include: when certain bands are freed up or conditions of use become available, potential restrictions on use or developments opposing the plan that might stem from legal frameworks (at European or national level).

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3 Background

3.1 Legal requirements

European policymakers have clearly committed to awarding the three 5G pioneer bands, specifically at least 1 GHz of the 26 GHz band and all of the other ranges, within the very short term. The end of 2020 is the deadline set in the EECC. Austria awarded the 700 MHz band in 2020, while most of the 3.4–3.8 GHz range was assigned in 2019.

To fully meet these goals, awarding at least 1 GHz of the 26 GHz band as well as the remaining 3.4–3.8 GHz spectrum will be necessary as soon as possible.

The other spectrum ranges addressed in the consultation are not subject to any legal provisions as regards an assignment date.

3.2 Spectrum demand

The 2019 consultation on the 26 GHz band did not at the time reveal any short-term need for this spectrum. Yet the consultation participants did express their opinion that demand would grow over time.

The consultation in mid-2021, by contrast, showed that participants were now interested both in 26 GHz spectrum and in the remaining 3.4–3.8 GHz frequencies.

However, no real interest was expressed in an imminent award of the spectrum within the other bands discussed in the consultation.

3.3 Availability of frequencies

The spectrum in the 3.4–3.8 GHz range that was not assigned during the 2019 award is currently not in use. As a result, these frequencies are available to be awarded in 2023.

A 26 GHz sub-band is presently used for FDD microwave radio, mostly for linking base stations. The consultation participants unanimously favour the use of the entire band for ECS services, at least over the medium to longer term. On the other hand, consultation feedback also confirms the impossibility of freeing up the band in the near future, which would be a legal prerequisite for awarding the entire band. The regulatory authority anticipates the short-term availability, for assignment, of roughly 1.6 GHz, specifically 600 MHz at the upper edge and 1 GHz at the lower end. The award schedule thereafter will depend on when the band is freed up. The consultation has brought to light a strong willingness to prematurely relinquish FDD microwave use of the band ahead of schedule, at least in high-demand areas. Awards of the remaining 26 GHz frequencies will need to accommodate this process.

The other spectrum bands addressed in the consultation (42 GHz, 60 GHz and 3.8–4.2 GHz) are not part of this Spectrum Release Plan and will not be awarded before 2026.

3.4 Joint awards

As part of the consultation, the regulatory authority posed several questions relating to value interdependencies among bands and possible bundling options. In light of the arguments presented, the regulatory authority considers the following bundling options to be expedient:

- Joint award of all mid-band spectrum; these constitute substitute frequencies. This would apply to the 2.3, 2.6 and 6 GHz bands. The consultation participants concur with this plan.
- The remaining 3.4–3.8 GHz spectrum would not be awarded simultaneously with the spectrum referred to above. Legal requirements as well as demand suggest the need to award these frequencies sooner. On top of this, the value of these frequencies as mutual substitutes, while existing in principle, becomes highly relative when considering their propagation characteristics. Only in few regions would a usable amount of 3.4–3.8 GHz spectrum actually be available.

3.5 Award scheduling

In the authority's experience, preparations for award procedures pursuant to the TKG 2003 take between one and a half and two years, including consultations as requested by the industry. The new legal framework (TKG 2021) also requires additional procedural steps. Accordingly, scheduling the two awards about two years apart would seem appropriate.