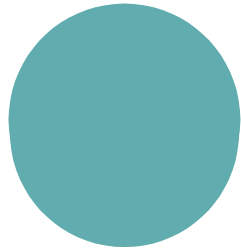


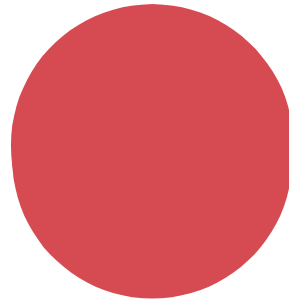


Energistyrelsen



Information Memorandum

Annex D



Draft 2100 MHz Licence

**1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz
Auction**

2021

Annex D: Draft licence in the 2100 MHz frequency band

A draft licence and the associated technical information are indicated below:

- Draft licence to use frequencies in the frequency band 2100 MHz (1920-1980 MHz and 2110-2170 MHz band) and annexes containing technical conditions for using these frequencies, and legal conditions.

[Licensee]

Licence [no.] to use frequencies in the frequency bands [1920-1980] MHz and [2110-2170] MHz

Following an auction, [name of licence holder] (hereinafter referred to as the licensee) is granted a licence to use the following radio frequencies (band limits):

[1920-1980] MHz	Base station receiving frequency
[2110-2170] MHz	Base station transmitting frequency

The licence is issued in pursuance of section 10 of the Act on Radio Frequencies, cf. Consolidated Act No. 1100 of 10 August 2016 (Frequency Act), as changed by Act no. 1833 of 8 December 2020.

Licence terms and conditions

The licence shall enter into force on 1 February 2022 and expire on 31 January 2042.

Upon expiry, the licence shall lapse without further notice.

Pursuant to section 10(3) and sections 14 and 15 of the Frequency Act, the following terms and conditions shall apply to the licence:

- 1) The frequencies may be used throughout Denmark, which shall mean Danish land territory and Danish territorial waters, cf. Executive Order No. 242 of 21 April 1999 on Delimitation of Danish Territorial Waters (as subsequently amended).
- 2) The maximum permissible isotropically radiated power (EIRP) per antenna from a base station not using AAS: P (e.i.r.p.) ≤ 65 dBm/5 MHz.
- 3) The maximum permissible total radiated power (TRP) per cell from a base station using AAS: P (trp) ≤ 57 dBm/5 MHz.
- 4) Base station emissions shall comply with the relevant harmonised standard in the ETSI EN 301 908 series applicable to the technology chosen.

- 5) The licensee shall comply with the technical requirements that appear from the Annex to Commission Implementing Decision 2020/667/EU amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920-1980 MHz and 2110-2170 MHz.
- 6) However, subject to agreement with holders of licences in frequency bands adjacent to the present licence, the licensee may depart from the technical requirements mentioned in clauses 4 and 5 regarding unwanted emissions within the frequency band concerned. This is based on the condition that technical conditions in relation to other licensees and neighbouring countries are complied with, and that the agreement does not affect frequency users other than the parties to the agreement.
- 7) The licensee shall comply with such agreements as might be concluded from time to time between Denmark and other countries on the use of 1920-1980 MHz and 2110-2170 MHz, including coordination agreements with Germany and Sweden.
- 8) In the sub-band 2100-2110 MHz, frequency use in the band [2110-2170] MHz shall conform to [the equivalent in-band requirements from 2020/667/EU]
- 9) In the sub-band 2170-2180 MHz, frequency use in the band [2110-2170] MHz shall conform to [the equivalent in-band requirements from 2020/667/EU]
- 10) Frequency use in the band [2110-2170] MHz shall conform to the spurious requirements above 2180 MHz and below 2100 MHz respectively as defined for the land mobile service in ERC Recommendation 74-01.
- 11) The licensee shall fulfil the usage requirements specified in Annex 1 to this licence not later than 1 February 2024.
- 12) The licensee shall fulfil the coverage obligation specified in Annex 3 to this licence not later than 1 February 2024.
- 13) As instalments on the licence price, the licensee shall pay DKK [amount] to the Danish Energy Agency or the authority responsible at the time, each year during the period from [2022 to 2030 / 2024 to 2032], both years inclusive. This amount is the total instalment for the frequency licences issued to the licensee in the [1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands]. Thus the amount appears from each individual licence, but shall be paid once only.

- 14) In case of failure to pay an instalment in due time, interest shall accrue from the due date until the date on which payment is effected, in accordance with the Act on Interest¹.
- 15) The licensee shall provide at any time a demand guarantee in relation to the Danish State, issued by a bank or insurance company which does not control, nor is controlled by, the licensee, nor is controlled by a person who controls the licensee, and which is registered in the European Economic Area and has a minimum long-term debt rating from Standard & Poors or Fitch Rating of at least A or from Moody's Investors Service Limited of at least A2. The guarantee shall at any time be for an amount equivalent to the sum of three annual instalments payable on the licence price, cf. clause 68 in the Decision by the Danish Energy Agency of 22 December 2020 on the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz Auction, cf. Annex 2, however in such a manner that the guarantee shall be reduced by the instalments that are paid over the last three years of the repayment period. The guarantee shall be effective from the date of issue of the licence and shall at any time be effective in the period when the following three instalments fall due for payment. Other terms appear from the guarantee payable on demand as signed by the licensee.
- 16) The licensee shall notify the Danish Energy Agency, or the authority responsible at the time in question, without undue delay in the event that the bank or insurance company that has provided the guarantee mentioned above no longer has the credit rating stated.

Further details

The licence shall be subject to the provisions of Acts and Executive Orders that specify rules for holders of frequency licences. At the time of issuing the licence, the provisions of the following Executive Orders are particularly relevant:

- Executive Order No. 1849 of 8 December 2020 on Licences to Use Radio Frequencies, and
- Executive Order No. 1129 of 1 December 2009 on the Transfer and Return of Certain Licences to Use Radio Frequencies.

The frequencies may only be used in radio equipment that complies with the Act on Radio Equipment and Electromagnetic Matters and rules issued in pursuance thereof, including requirements for the use of radio equipment that complies with the essential requirements and the regulated interfaces.

Under section 21 of the Frequency Act, the licence may be transferred in its entirety without prior approval. Transfer or return of part of the licence shall be subject to approval by the Danish Energy Agency, cf. section 1 of Executive Order No. 1129 of 1 December 2009 on the Transfer and Return of Certain Licences to Use Radio Frequencies.

¹ Consolidated Act No. 459 of 13 May 2014 on Interest Accruing on Delayed Payments etc.

Under section 5 of Executive Order No. 1849 of 8 December 2020 on Licences to use Radio Frequencies, the licensee shall notify the Danish Energy Agency of its plans to transfer the licence or parts thereof before such transfer takes place. Information about current plans for lease or transfer will be published in the Frequency Register on the Danish Energy Agency's website.

The Danish Energy Agency will collect frequency charges, cf. section 50 of the Frequency Act. The charges are fixed annually in the Finance Act. An invoice for the frequency charge will be sent separately.

The Danish Energy Agency shall revoke the licence if the licensee fails to pay frequency charges due, cf. section 25 of the Frequency Act.

The Danish Energy Agency may decide that a licensee who has the possibility of offering electronic communications network in an area using spectrum, shall accommodate any reasonable request of giving access to the licensee's existing passive infrastructure or entering into an agreement on roaming for offer of electronic communications services in the area, cf. section 22 a of the Frequency Act.

In certain cases the Danish Energy Agency may modify terms in the licence or revoke the licence, cf. section 23 and section 24 of the Frequency Act.

If the Licensee grossly violates the Frequency Act, rules laid down in pursuance of the Act, or terms in the licence, cf. section 26 of the Frequency Act, the Danish Energy Agency may revoke the licence.

Upon return of its licence to the Danish Energy Agency, the licensee may terminate future rights and obligations not yet due by paying not later than the date of return an amount equivalent to 30% of the licence price, or, if payment of a smaller amount of the licence price is outstanding, then such smaller amount. Thus a return of the licence shall not imply that the licence price will be repaid.

The Danish Energy Agency may impose on the licensee the sanctions that follow from the Danish Energy Agency's Decision of 22 December 2020 on the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz Auction, appended as Annex 2 to this licence. Annex 2 thus specifies the sanction options that may be adopted in case of violation of the payment terms of this licence and for matters relating to the auction process if the Danish Energy Agency becomes aware of such violations after issuing this licence, refer in particular to clauses 81-82 and 86-93 in Annex 2.

Relevant Acts and Executive Orders may be found on the Danish Energy Agency's website under: <http://www.ens.dk>

No supplement to the licence will be issued if the rules mentioned above are changed.

In regard to matters relating to the licence, the venue applicable to the licensee shall be in Denmark. If the venue of a licensee is not in Denmark, the agreed venue of the licensee will be the Danish Energy Agency's venue.

Danish Energy Agency, [dd Mm 2021]

Janni Torp Kjærgaard

/Maria Schmidt Jensen

Annex 1: Requirements for using frequencies in the frequency band [xx MHz]

Terms

Antennas and transmitting and receiving equipment capable of using the frequencies specified in the licence shall be installed by the licensee not later than 1 February 2024 at a minimum of 100 mast positions. The equipment at the relevant mast positions shall be connected to the necessary telecommunications infrastructure in such a way as to enable the licensee, via the relevant mast positions, to offer at least one electronic communications service (at the licensee's own discretion) to end-users by using the frequencies specified in the licence.

Supervision

The licensee shall forward, not later than 1 May 2024, a survey to the Danish Energy Agency specifying the mast positions at which antennas and transmitting and receiving equipment have been installed such that at least one electronic communications service can be offered to end-users by using the frequencies specified in the licence. In the survey, the licensee shall indicate the geographical coordinates of the mast positions and the type of the installed transmitting and receiving equipment.

Annex 2: Decision by the Danish Energy Agency of 22 December 2020 on the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz Auction

[Reference is made to Annex B to the Information Memorandum.]

Annex 3: Coverage obligation for using frequencies in the frequency bands [xx MHz]

Terms

The licensee shall ensure provision, not later than 1 February 2024, of a mobile voice service and a mobile broadband service with an outdoor download speed of at least 30 Mbit/s and an upload speed of at least 3 Mbit/s. The coverage obligation applies in the coverage areas specified in the licence, and in each individual coverage area at least 90% of the area shall be covered, cf. Annex 4.

The coverage obligation can be fulfilled by using frequencies governed by this licence or other frequencies available to the licensee. The coverage obligation may be fulfilled via national roaming agreements.

In quite exceptional cases where a licensee cannot ensure provision of a mobile voice service or a mobile broadband service in accordance with the requirements above for reasons outside the control of the licensee, including environmental, preservation-related or quite exceptional radio planning conditions, the Danish Energy Agency, subject to application and after having received proper documentation, may relax the coverage terms for specific coverage areas.

In case the Danish Energy Agency, in connection with the disposal of frequency bands other than the 2100 MHz band, issues frequency licences subject to coverage obligations, the Agency may relax the coverage terms, including cases in which the areas correspond wholly or partly with coverage areas in other frequency licences, or where other frequency licences specify higher requirements for offered broadband speeds etc.

Supervision and documentation for fulfilling the coverage obligation

The licensee shall provide documentation that the coverage obligation has been fulfilled. This implies that the licensee shall forward documentation that it is possible to provide an outdoor download speed of at least 30 Mbit/s and an upload speed of at least 3 Mbit/s when using their broadband service. In case the licensee can document fulfilment of that part of the coverage obligation which relates to a mobile broadband service, that part of the coverage obligation which relates to a mobile voice service is also regarded as having been fulfilled, provided that the licensee can document offering a service that enables voice via a broadband connection, for example Voice over LTE (VoLTE).

Documentation of compliance with the coverage obligation shall consist of both coverage calculations/simulations and specific measurements confirming such calculations/simulations.

When preparing calculations/simulations, the licensee can use the method that it finds most suitable, taking into account the technology used and the implementation of the network. Calculations may for example be made with the same model as that used for calculating the mobile coverage reported for

the use of Tjekditnet.dk to the Danish Energy Agency. The licensee can provide documentation for the functioning of the network with chosen technical parameters, or it can simulate the service level (grade-of-service) that it can deliver in the network with the chosen technical parameters and other operational parameters. These parameters are, for example: Transmitting power, propagation model, link budget, geographical distribution of users, number of simultaneous users, usage pattern etc.

Calculations/simulations shall be verified by concrete measurements. The measurements in question shall be made in a radio-related environment (i.e. ground conditions), over distances and with equipment matching the conditions applicable in relation to the user. Information about the calculation model, measuring results and degree of correlation between the calculation model and the measuring results shall be included in the material to be sent by the licensee to the Danish Energy Agency in connection with the supervision. Thus the licensee shall make a sufficient number of measurements to be able to verify the results of the calculation model, and measurements may be made gradually as the infrastructure is rolled out.

The licensee shall forward documentation to the Danish Energy Agency for fulfilment of the coverage obligation not later than 1 May 2024.

Annex 4: Areas subject to coverage obligations in the licence

[Reference is made to Annex L to the Information Memorandum for coverage obligations associated with the 2100 MHz frequency band.]