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Federal Department of the Environment, Transport, Energy and Communication DETEC

Federal Office of Communications OFCOM
Divison Telecom Services and Post
Section Networks and Services

19 December 2023

Public consultation

regarding

the allocation of mobile radio frequencies available from 2029 for the provision of telecommunication services in Switzerland

BAKOM-D-24B43401/161

Contents

1 Introduction

The Federal Communications Commission (ComCom) has instructed the Federal Office of Communications (OFCOM) to begin preparatory work on the allocation of frequencies available from 2029 for the provision of telecommunication services for third parties.

As a first step, OFCOM is conducting a public consultation in which it invites all interested parties to give feedback on the allocation of mobile radio frequencies which will be available from 2029 for the provision of telecommunication services in Switzerland. The consultation runs until 26 February 2024. The aim is to collect a list of the needs of interested parties regarding the use of mobile frequencies in order to establish whether sufficient frequencies will be available from 1 January 2029. This relates to current frequency usage rights allocated to mobile telecommunication licence holders in 2012, which expire at the end of 2028, and to additional frequencies that may be available for mobile telecommunication in the future.

The volume of data transmitted via mobile devices is constantly increasing. The reasons for this are the high market penetration of smartphones, increasing data use (primarily driven by video services) and the increase in devices and objects that are wirelessly connected to the internet. As a result of these developments, additional frequencies for mobile telecommunication systems (IMT[1]) are likely to be required. Interest in these frequencies has also increased owing to the wide availability of systems and devices. In addition to the mobile telecommunication licence holders who provide networks based on these frequencies, other potential users, such as transport companies and the emergency services, may also be interested in frequency usage rights.

If the present consultation shows that there may not be enough frequencies available to provide telecommunication services, ComCom generally issues a public call for tenders.[2]

[1] International Mobile Telecommunications (IMT), family of mobile radio systems: UMTS (3G), LTE (4G), New Radio (5G), WiMax (IEEE 802.16)

[2] Art. 22*a* TCA

2 Background

2.1 Overview of frequency spectrum of mobile telecommunication licence holders

The three mobile telecommunication licence holders Salt Mobile AG, Sunrise GmbH and Swisscom AG were able to acquire a broad range of frequency usage rights for the provision of public mobile telecommunication services in the award procedures carried out in 2012 and 2019. The duration of the mobile telecommunication licences was set at 15 years in both 2012 and 2019 and will expire on 31 December 2028 and 17 April 2034 respectively.

The licence holders are currently allocated 1020 MHz in the following frequency bands:

Frequency band	Salt	Sunrise	Swisscom
700 MHz FDD	20	10	30
700 MHz SDL	0	10	0
800 MHz FDD	20	20	20
900 MHz FDD	10	30	30
1400 MHz SDL	10	15	50
1800 MHz FDD	50	40	60
2.1 GHz FDD	40	20	60
2.6 GHz FDD	40	50	40
2.6 GHz TDD	0	0	45
3.5 - 3.8 GHz TDD	80	100	120
∑ Auction 2012	160	160	255
∑ Auction 2019	110	135	200
∑ currently allocated	270	295	455

Legend:
Green background: Frequencies allocated in the 2012 auction, valid until 31 December 2028

Blue background: Frequencies allocated in the 2019 auction, valid until 17 April 2034

Σ: Total

Figure 1: Bandwidths in MHz currently allocated to mobile telecommunication licence holders

2.2 Frequency usage rights expiring at the end of 2028

The following frequency usage rights will expire on 31 December 2028:

- 2 x 265 MHz for FDD[3] use, distributed across the five frequency bands 800, 900, 1800, 2100 and 2600 MHz;
- 1 x 45 MHz for TDD[4] use in the 2600 MHz frequency band.

The following chart shows a breakdown of the frequency usage rights of the respective mobile communication licence holders expiring at the end of 2028:

[3] FDD: Frequency division duplex

[4] TDD: Time division duplex

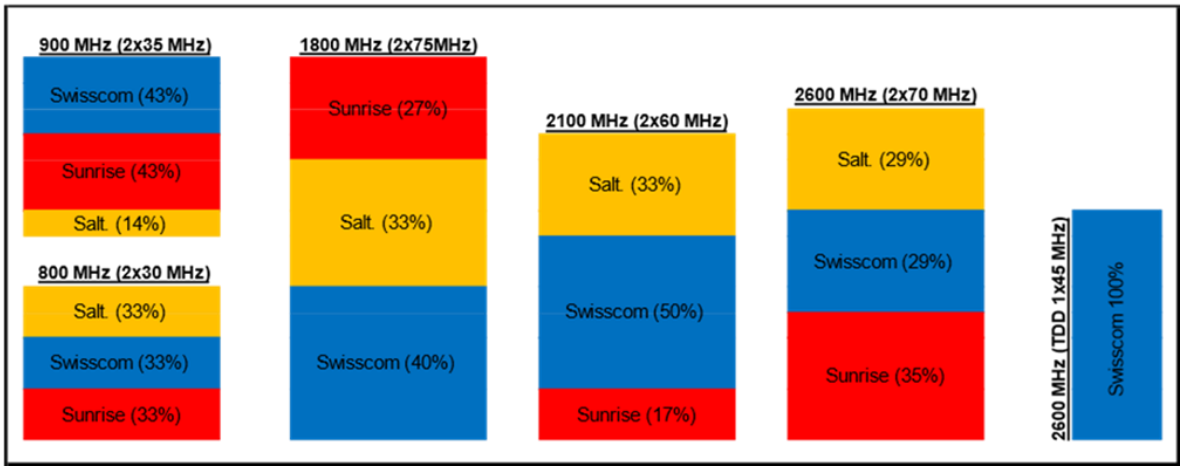

Figure 2: Shares of operators Salt, Sunrise and Swisscom in the frequency usage rights due to expire in 2028

2.3 Technology neutrality of mobile telecommunication licences

The frequency usage rights allow the free choice of mobile communication technology subject to the harmonised standards.[5] This means that mobile telecommunication licence holders have the freedom to use the technologies that best meet their individual needs, e.g. 2G, 3G, 4G, 5G, 6G (technology neutrality). This encourages the efficient use of the spectrum and also emphasises the importance to the national economy of an advanced mobile communication infrastructure.

Technology neutrality makes it easier for licence holders to switch technologies in the existing mobile networks during the term of the mobile telecommunication licences. The replacement of 2G operations during the period of the current mobile telecommunication licences is practically complete and 3G is currently being replaced. Innovative approaches such as network slicing or non-terrestrial networks (NTN) are leading to the replacement of older technologies. With network slicing, virtual mobile networks can be operated within a physical network. NTN allows coverage to be improved in more remote areas. However, the use of NTNs in Europe is currently not possible due to a lack of international and national radio regulations.

3 Possible new frequency ranges for mobile telecommunication

3.1 Introduction

New developments and digitalisation mean that additional frequencies are likely to be required for mobile telecommunications (IMT[6]). New frequency ranges may therefore become available in Switzerland in the next few years.

Any allocation of frequencies for mobile telecommunications in the national frequency allocation plan (NFAP)[7] does not necessarily mean that these frequencies will be available to licence holders or service providers. OFCOM manages the frequency spectrum and must ensure equal access to it.[8] It

[5] ETSI EN 301 908; IMT cellular networks; Harmonised standard for access to radio spectrum;
[6] International Mobile Telecommunications (IMT), family of mobile radio systems: UMTS (3G), LTE (4G), New Radio (5G), WiMax (IEEE 802.16)
[7] In the NFAP, frequency ranges for mobile telecommunications are labelled MOBILE and MFCN/IMT.
[8] Art. 25 TCA.

may segment the frequency allocations in the mobile telecommunication sector according to need and make them available for use by interested parties.

It is therefore not yet clear whether any new frequency ranges for mobile communications in Switzerland can be made available in the next allocation. Nonetheless, the interested parties are already being asked in this consultation what their frequency needs are.

3.2 Frequencies in the 6GHz range

At the World Radiocommunication Conference (WRC-23), it was decided to allocate the 6 GHz band (6425 - 7125 MHz) to mobile radio (IMT) and RLAN[9] in addition to the existing radio services. There is no corresponding allocation in the USA, India and China. The technical and regulatory conditions are now being worked out at European level. It should be noted that this frequency range in Switzerland is currently assigned to radio relay links and partly to satellite communication, and has already been partially allocated. The joint use of this frequency range will mean that restrictions (e.g. in geographical terms, restriction to conurbations, indoor use) will be necessary in the event of any future use for mobile communications.

3.3 Frequencies in the millimetre wave range 26GHz and 40GHz

The 24.25–27.50GHz and 40.5–43.5GHz frequency ranges are referred to in telecommunications as the 26GHz band and 40GHz band respectively and are generally categorised as millimetre waves. Both frequency bands are already harmonised at European level. However, before these frequencies can be made available in Switzerland, the necessary conditions must first be created at national level (e.g. changes to the NFAP, RIR, NIRO and associated guidelines). These frequency ranges in Switzerland are currently allocated and partially assigned to radio relay links, satellite communication and other telecom services.

[9] Radio Local Area Network

Questionnaire

Publication information

The statements submitted will be published on OFCOM's website. OFCOM endeavours to publish documents barrier-free in accordance with the Disability Discrimination Act (DDA; SR 151.3). Please therefore submit your statements both as a Word file and PDF.

Should your statements contain confidential information, please also submit a version without this information. The content covered must be clearly described and reasons given as to why the information is confidential. Confidentiality interests must be kept to a minimum. The non-confidential version will be published on the website.

Administrative information

Please answer the questions below and give reasons for your answers.

Please send the completed questionnaire until **26 February 2024** to the following address (electronic version):

Email: tp-nd@bakom.admin.ch

Federal Office of Communications
Networks and Services Section
Zukunftsstrasse 44
2501 Biel/Bienne

Respondent's details

Name of the company/organisation/authority: Salt Mobile SA

Contact person (first name and surname):

Street: Rue du Caudray 4

Postcode, city: 1020 Renens

Tel.:

Email:

General questions

Swiss mobile networks play a critical role in everyday digital life, as well as in business, mobility and public safety, they are even generally considered as critical infrastructure. And they will continue to be a key asset to the digitisation of Switzerland. The current state of the art is therefore promising in our view, as the three licensees operate high-performance mobile networks and in turn Switzerland enjoys world-class mobile connectivity.

Yet, it has been a long journey: at Salt we have seen our mobile traffic multiplied 100-fold and we have carried out more than 12'400 network operations since 2012, when all available mobile frequencies were awarded anew. And the future will certainly be challenging, Swiss mobile networks will need to continue to improve in order to cope with the increasing communication demands while operating at the extremely stringent provisions on electromagnetic radiation in Switzerland.

In this context, we believe it is crucial to preserve and ensure continuity in the world-class development of Swiss mobile networks and we are thus in favour of a direct allocation with the same current distribution of all bands awarded in 2012. The current allocation is balanced as compared to each licensee's market share. In addition, hypothetical applications from 4th entrants are not real applications worth considering and carving out spectrum holdings would in any case disrupt the critical high-performance levels of the existing mobile networks.

For new frequency bands, we recommend a clock auction including sufficient set-aside blocks and caps. We would like to note that during the last 5G auction carried out in 2019, Swisscom just bid for as many blocks as possible throughout each and every round.

More broadly, the extremely stringent provisions on electromagnetic radiation applied for decades under a precautionary principle and opposition against new antenna sites and even upgrades are preventing the 5G technology from being deployed to its full potential in Switzerland and would make additional frequency bands useless in practice. Thus, electromagnetic radiation provisions should be reviewed prior to the renewal of existing frequency bands or the allocation of any new frequency bands to ensure that no operator is left with insufficient signal strength, by providing proper radiation levels and designing a concerted and collaborative allocation to each licensee on each location.

1. How do you think the market will develop long term (mobile technology / applications / end devices / mobile traffic volume etc.)?

   The Swiss mobile market continues to grow, with the number of postpaid subscribers increasing by c. 5% YoY[10] underpinned by population increase along with additional mobile penetration and connected devices. In parallel, we have seen a continued sharp growth in data traffic and mobile usage patterns.

10 Mobile postpaid subscribers as reported by the 3 Swiss MNOs

When it comes to Salt, our mobile data traffic has multiplied 100-fold since 2012, when all available mobile networks were awarded anew. In the same time period, Salt carried out more than 12'400 network operations, whether new sites or sites upgrades in a relentless effort to improve the quality of our mobile network.

Going forward, the high performing Swiss mobile networks offering state-of-the-art coverage and data transfer rates will need to continue to improve in order to cope with the increasing communication demands, future services and technologies:

a. Digital-savvy users growing and replacing older generations will increase the sheer amount of data users;

b. Increasing adoption of new telecommunication technologies like Internet of Things and Virtual Reality;

c. New applications like, for instance, the so-called "Killer App" (unified app like Weibo/WeChat in China) which has been expected for a while, the evolution of ChatGPT from text to image and video searching, as well as Elon Musk's willingness to create an AI-driven life assistant will continue to fuel the explosion of mobile data traffic.

The challenges ahead will have to be met while operating at the extremely stringent provisions on electromagnetic radiation in Switzerland.

2. The issue of integrating non-terrestrial (satellite-based) networks into mobile networks (direct connection between terminal device and satellite) will be addressed at the next World Radiocommunication Conference in 2027. How do you envisage developments and the possible integration of such networks, and what effect will they have?

   We are expecting integration of NTN as of 2024 as a complement to terrestrial networks. The direct effect is outdoor coverage everywhere, erasing white spots for terrestrial networks and enabling calls in emergency situations. NTN integration is also a solution to hardening of mobile networks.

   Currently, NTNs are capacity-limited, but we expect that it will improve when dedicated, non-mobile bands spectrum is freed up for it. We nonetheless believe that it will stay complementary to terrestrial networks.

3. How do you envisage the use of certain mobile radio frequency bands[11] in airspace (e.g. for drones) going forward, and what will its impact be?

   We do not think any part of the existing mobile radio frequency bands allocated to Mobile Network Operators should be attributed to drones given the constrain constraints mobile networks face from a capacity and coverage standpoint.

4. What is your view on the use of Fixed Wireless Access (FWA)[12] and which frequencies do you consider to be fundamentally appropriate? And which one are particularly well suited?

   Salt is currently only using FWA as a complement to FTTH, the best possible technology for broadband connectivity. We believe that FWA will never be a technology capable of

[11] See ECC Decision (22)07 (cept.org)

[12] Wireless broadband coverage of households via the stationary use of outdoor antennas on buildings, from which signals are brought into the buildings via cable

competing on par with optical fiber networks and thus Switzerland should strive for maximum FTTH coverage.

In those areas not covered by FTTH, typically in low-density rural areas, FWA will continue to be an alternative technology most likely competing with satellite-based networks in the future.

From this perspective, the current high bands in use for 4G+ and 5G (1800, 2100, 2600 and 3500 and in the future 6000) are in our view the most appropriate ones for FWA. We note that our Gigabox product based on FWA is currently using these bands.

In contrast, we don't believe that the millimetre bands are well suited to FWA, due to their limited range propagation. In addition, there is no viable device ecosystem supporting these bands at present. The combination of these factors means that the use case for these bands in mobile networks is unproven at present and that an award of the bands at this stage is premature. Delaying the award of these bands until there is a proven use case should thus enable Switzerland to derive the most efficient use from mmWave spectrum in the long term.

Questions about the planned frequency allocation procedure in 2027

5. What type of allocation procedure (auction, criteria-based allocation, direct allocation) should be used to allocate the frequency bands? Should all frequency bands be allocated using the same type of procedure?

   We believe the current spectrum allocation seems balanced and should be satisfactory for the three licensees and their end customers. We are therefore in favour of a direct allocation with the same current distribution of all bands, which would in turn guarantee continuity in the needed high-performance levels of the Swiss mobile networks. Reserve prices shall take into account the downward trend in the price per MHz, as more spectrum has been released over the last technology cycles.

   In addition, we believe that a hypothetical 4th entrant in 2027 would not be able to comply with the conditions of use currently stipulated in the licences, notably serve at least 50% of the Swiss population with mobile communication via own infrastructure, given that

   a) The development of the existing mobile networks along with the extremely stringent provisions on electromagnetic radiation and opposition against new antenna sites prevent more and more new entrants from fulfilling the above-mentioned conditions of use. Objections against build permits for new antenna sites going up to the federal court can easily take more than 3 years;

   b) In the past, 4th entrants were not real applications worth considering (either did not satisfy the procedure in 2012 or walked away in the first round in 2019).

   Regardless, carving out spectrum holdings currently in use for a hypothetical 4th player would inevitably disrupt the mobile networks of the three licensees and hamper the user experience and digital service levels in the everyday lives of Swiss consumers.

   For new frequency bands, we recommend a clock auction including sufficient set-aside blocks assigning equal minimum spectrum holdings at reserve price to the three licensees as well as caps on the remaining blocks to be auctioned. We would like to note that during the last 5G auction carried out in 2019, Swisscom just bid for as many blocks as possible throughout each and every round.

6. If an award procedure is organised, do you intend to participate?

Salt will participate in the procedure and we reiterate our recommendation of a procedure based on a direct allocation of the bands currently in use by the three licensees combined with a clock action including sufficient set-aside blocks and caps for new bands as explained.

7. An initial award procedure is planned for 2027 and a second one will probably be held in 2032. What is your position on the intended procedure?

   We think a direct allocation should be done in 2027 ensuring continuity in all bands currently in use. We would like to note that following the direct procedure in 2027, in a second stage there is an opportunity to reshuffle the allocation of the allocated blocks in order to create larger contiguous carriers while retaining the current share of spectrum holdings.

   At this point in time, i.e. 2027, we recommend making available to mobile networks some additional frequency bands:

   a. 700MHz in the upper 6GHz as contemplated in the consultation, coupled with

   b. 15 MHz in the L-Band extended lower band, currently idle

   c. 100MHz in 2300MHz currently allocated to private radio as opposed to many other countries

   d. 100MHz in 3.5GHz currently allocated to private networks with a limited level of use

   In contrast, we believe that the allocation of the 26 GHz and 40 GHz millimetre wave ranges should be postponed to a later stage once there is a clear ecosystem in place. We reiterate that these bands are not suitable for FWA in our view.

Questions about mobile radio licences available from 2029 and conditions

8. How long should the new mobile radio licences be valid for?

   We believe the frequencies should be assigned for 15 years, the common practice in the industry, in order to provide the licensees with a sufficiently long planning horizon and long-view allowing them to plan securely the development of their networks.

9. What is your opinion about conditions of use such as service coverage, cybersecurity, safety communication? Should the current conditions be supplemented with further conditions and if so, which ones?

   When introducing new bands, we believe the conditions of use currently stipulated in the licences should be maintained, in particular serve at least 50% of the Swiss population with mobile communication via own infrastructure. In our view, when it comes to the bands currently in use this threshold has become obsolete and should be greater. Any new entrant should be able to demonstrate upfront its concrete plans for achieving these conditions of use and comply with credit guarantee obligations.

   In addition, electromagnetic radiation provisions should be reviewed prior to the allocation and renewal of any frequency bands to ensure that no operator is left with insufficient signal strength, by providing proper radiation levels and designing a concerted and collaborative allocation to each licensee on each location. We would therefore recommend the introduction of a NIS-fairness concept set-up to prevent the incumbent from abusing its dominant position in acquiring an excessive amount of NIS which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

Also, the concept of technology neutrality of the license that is set forth in paragraph 2.3 to encourage the efficient use of the spectrum and emphasise the importance to the national economy of an advanced mobile communication infrastructure should be clearly enforced. The three licensees have had to adapt as a result of the 5G bands awarded in 2019 (introduction of a specific flag in the permit xml, impossibility of setting flexible attribution including mid-bands and C-band, etc…), even though the concept of neutrality was in principle applicable.

Lastly, the federal, cantonal and local authorities should support the development of networks as there has been a negative attitude towards the NIR following the 2019 procedure by many cantons and communes. Federal authorities have not followed up on the attribution of frequencies and subsequent payment with the necessary regulatory, communication and political support. This situation should be avoided prior to the allocation of any new frequency bands.

Detailed questions about available frequencies

As a general statement, we believe that the current spectrum allocation is balanced and should be satisfactory for the three licensees and their end customers. We are therefore in favour of a direct allocation with the same current distribution of all bands, which would in turn guarantee continuity in the needed high-performance levels of the Swiss mobile networks.

We would like to note that following a direct allocation, in a second stage there is an opportunity to reshuffle the current spectrum holdings in order to create larger contiguous carriers. Yet, when it comes to low-bands, it encompasses the frequency awarded in both 2012 and 2019 procedures.

800MHz (Band 20)

10. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

11. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

[redacted]

Our usage of frequencies and the effects of the allocated amount are business secrets

12. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

13. What else should be taken into account when allocating this frequency band?

A cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

900MHz (Band 8)

14. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

15. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

[redacted]

Our usage of frequencies and the effects of the allocated amount are business secrets

16. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

17. What else should be taken into account when allocating this frequency band?

A cap mechanism should be setup to prevent the incumbent abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

1800MHz (Band 3)

18. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

19. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

[redacted]

Our usage of frequencies and the effects of the allocated amount are business secrets

20. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

21. What else should be taken into account when allocating this frequency band?

Non-Terrestrial Networks need to be considered.

A cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

2100MHz (Band 1)

22. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

23. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

[redacted]

Our usage of frequencies and the effects of the allocated amount are business secrets

24. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

25. What else should be taken into account when allocating this frequency band?

A cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

2600MHz (Band 7)

26. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

27. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

[redacted]

Our usage of frequencies and the effects of the allocated amount are business secrets

28. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

29. What else should be taken into account when allocating this frequency band?

A cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

2600MHz TDD (Band 38)

30. How great do you think your demand for frequencies in this bandwidth will be from 2029?

[redacted]

Our demand is a strategic decision and therefore a business secret

31. If you were already allocated frequencies in this bandwidth in the 2012 allocation procedure, would you like to continue using them to the same extent? What effect would it have if you were no longer allocated the same frequencies or received fewer in this bandwidth?

Not applicable, as we were not allocated frequencies in this band in the 2012 allocation procedure.

32. In your opinion, is there a minimum requirement and if so, how great is it?

[redacted]

Our minimum requirement is a stratetic decision and therefore a business secret

33. What else should be taken into account when allocating this frequency band?

N/A.

Detailed questions on possible new frequency bands

It is not yet known to what extent these frequency bands will be available in Switzerland in the future.

6GHz (Band 104)

34. How do you rate the attractiveness and the economic and social benefits of this frequency band?

    Mobile networks will be capacity-stricken in the future based on the evolution of data usage. In that light we believe that band 104 (Upper 6GHz) has to be awarded to the mobile ecosystem and the attribution to RLAN should be limited.

35. Are you interested in usage rights in this frequency range? If so, what are your requirements?

    [redacted]

    Our interest and our requirements are strategic business secrets

36. For which application and coverage scenarios are these frequencies suitable?

    [redacted]

    Our applications and coverage scenarios are strategic business secrets

37. Do network equipment and terminal devices that can be used in this frequency range already exist? If not, when can they be expected?

    Equipment does not exist yet but following the WRC23 decision of attributing the Upper 6GHz to Mobile Telephony an ecosystem is likely to evolve in the coming years given that this is the next band for additional macro-layer capacity. We therefore think the rights in this frequency range should be awarded in the 2027 procedure.

38. What other aspects need to be considered in this frequency band?

    Our requirements are strategic business secrets

    [redacted] To balance spectrum holding, Salt recommends the introduction of spectrum caps which prevent the incumbent operator from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

26GHz (Band 258)

39. How do you rate the attractiveness and the economic and social benefits of this frequency band?

    We do not think the ecosystem for this band is ready and it's very early to rate its attractiveness. It should be pushed back to the 2032 procedure to give time to the ecosystem to develop.

40. Are you interested in usage rights in this frequency range? If so, what are your requirements?

    [redacted]

    Our interest and our requirements are strategic business secrets

41. For which application and coverage scenarios are these frequencies suitable?

    We do not see a short-term application or coverage scenario that fits Switzerland's specificities.

42. Do network equipment and terminal devices that can be used in this frequency range already exist? If not, when can they be expected?

    Only few devices support this band and even the latest iPhones for Europe (e.g. Model A3102) do not support it - a strong indication for the lack of interest at European levels at this stage. We do not see a short-term application or coverage scenario that fits Switzerland's specificities.

43. What other aspects need to be considered in this frequency band?

    Set-aside blocks and a cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

40GHz (Band 259)

44. How do you rate the attractiveness and the economic and social benefits of this frequency band?

    We do not think the ecosystem for this band is ready and it's very early to rate its attractiveness. It is, in our opinion, even less attractive than the Band 258 and it should be pushed back to the 2032 procedure to give time to the ecosystem to develop.

45. Are you interested in usage rights in this frequency range? If so, what are your requirements?

    [redacted]

    Our interest and our requirements are strategic business secrets

46. For which application and coverage scenarios are these frequencies suitable?

    We do not see a short-term application or coverage scenario that fits Switzerland's specificities.

47. Do network equipment and terminal devices that can be used in this frequency range already exist? If not, when can they be expected?

    CPEs do exist but we do not see a short-term application or coverage scenario that fits Switzerland's specificities.

48. What other aspects need to be considered in this frequency band?

    Set-aside blocks and a cap mechanism should be setup to prevent the incumbent from abusing its dominant position to acquire an excessive amount of spectrum which would in turn harm competition in the Swiss market by creating capacity constraints for the other operators.

Further remarks

49. Do you have other remarks, suggestions, etc.?

No further comment.