

Questionnaire on cross-border agreements (EU and non EU) in the 3.4-3.8 GHz band

5G / MFCN cross-border agreements:

- Do you have some MFCN use which is not in conformity with EU decision (xx) and when this legacy use is expected to switch-off?

Yes, We have some MFCN use which is not in conformity with EU decision, for example, FDD operating mode used by the systems, different channels raster (block size) etc. Some licenses enable the operation of these systems until 2031. Fortunately, most of this band (especially 3600-3800 MHz) will be free from 2022 for 5G implementation.

- What are the status of cross-border agreements applicable to 5G/MFCN in the 3.4-3.8 GHz with each of neighbouring countries (EU and non EU)? Do these agreements include elements regarding synchronization and frame structures? Is there a difficulty regarding the synchronisation with legacy MFCN networks (e.g. WiMax)?

Our cross-border agreements signed with all EU countries do not applicable to the 5G systems. These agreements were signed at a time when the version of the ECC Recommendation (15)01 containing criteria for the coordination of 5G/NR systems was not yet available. We intend to renegotiate them. Of the three neighboring non-EU countries (Russia, Belarus, Ukraine) we signed the Agreement only with Belarus. In the case of Russia and Ukraine the agreements are under negotiation.

None of the agreements contain elements for agreeing on the frame structure. However, each agreement contains provisions allowing for direct arrangements between operators of neighboring countries.

In our opinion, synchronization with legacy MFCN systems will be very difficult or rather impossible.

- How the risk of interference from 5G base station to 5G base station at the border is addressed? Is there any procedure for the case when real interference occurs (e.g. method of measurement, exchange of information, common measures, etc)?

In order to protect against the risk of interference, the predicted emission levels from the base station at the border are established in bilateral agreements. The agreements also contain provisions (e.g. method of measurement, exchange of information, common measures) on how to proceed if an real harmful interference occurs.

5G / others services cross-border agreements:

- Could you describe the elements of cross-border agreements regarding the coexistence between 5G and other services in the 3.4-3.8 GHz band, (concerned services, coexistence method, expected impact on 5G deployment ...)?

The basic element of cross-border agreements is the level of the interference field strength at the border or at a certain distance from the border inside a neighbouring country. This value may vary depending on the type of service or system, the method of implementation (e.g. with or without synchronization). In any case, these elements are taken into account when negotiating the coordination conditions.

Cross border negotiation difficulties (EU and non EU)

- Do you meet any difficulty in current cross border negotiations (EU and non EU)?

In the case of EU countries, we have no major difficulties in the negotiation process. However, there are difficulties in the case of non-EU countries, Ukraine, Belarus and Russia. This is due to different frequency usage in these countries.

In the case of Poland, the greatest difficulties occur with Russia.

- Could such difficulty impact 5G deployment and why?

Yes. Due to the different use of frequencies in neighboring countries, as indicated in the answer above, we may have difficulties in making arrangements with those countries. This may significantly affect the schedule and scope of 5G system implementation in Poland.