



Global mobile Suppliers Association

Comments to

Canada Gazette Part I, December 25, 2021

Consultation on a
Policy and Licensing Framework
for Spectrum in the 3800 MHz Band

Notice No. SLPB-006-21

March 21, 2022

GSA Comments to ISED Consultation on 3800 MHz Band

Introduction

GSA¹ congratulates ISED for its intention to auction spectrum in the 3800 MHz band for 5G (IMT) services, which will enable Operators to provide advanced 5G services to Canadian consumers.

Hereby, GSA is pleased to submit comments to Question 1 of Section 6 of ISED Consultation on a Policy and Licensing Framework for Spectrum in the 3800 MHz Band – December 2021.

Benefits of 5G services for Canada

5G will enable a diverse new set of advanced applications beyond the traditional high-speed mobile connections, such as smart cities, Industry automation, intelligent transportation, agriculture, e-health, and many more.

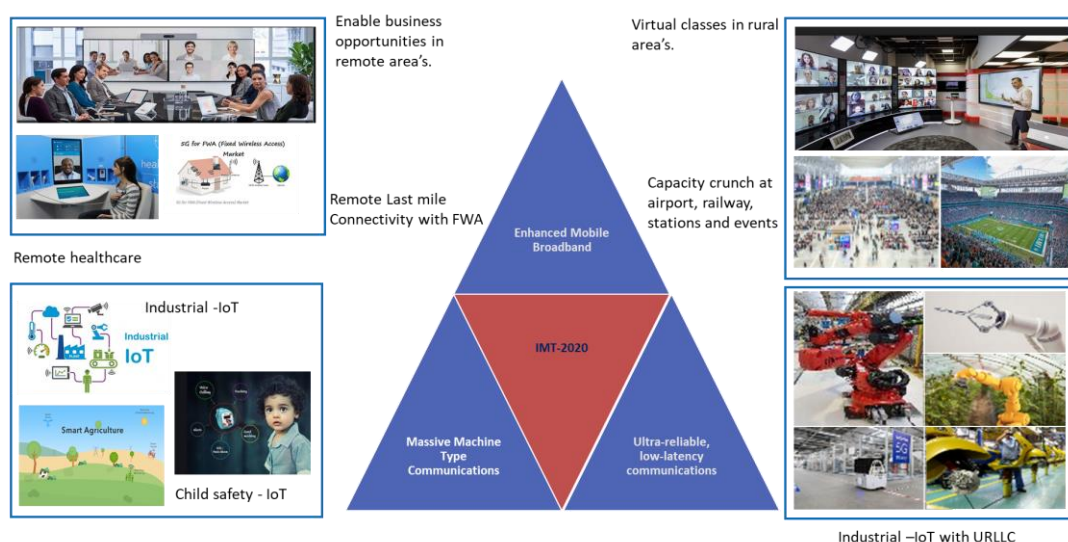


Fig. 1 – 5G Use cases in the economy

5G use cases will provide enhanced mobile broadband services to consumers - supporting advanced applications, such as telework, education, health, entertainment -, and increase jobs and enterprise productivity, as well as reduce carbon emissions.

¹ The GSA (Global mobile Suppliers Association, <https://gsacom.com>) is a not-for-profit industry organization that represents companies across the global mobile ecosystem, engaged in the supply of infrastructure, semiconductors, test equipment, devices, applications, and mobile support services. Our association is a leading source of information, as its industry and market intelligence reports are downloaded by over 200,000 professionals every year. GSA develops strategies and plans, and contributes studies and technical analysis to international, regional, and individual country policymakers and regulators to facilitate the timely availability of spectrum for use by mobile network operators. GSA has a focus group for spectrum topics for technical and regulatory matters of radio spectrum pertaining to the successful evolution of International Mobile Telecommunication (IMT) and associated radiocommunication systems and comprises a team made up of spectrum and regulatory affairs specialists from GSA Executive Member and GSA Member companies. In addition, GSA reports regularly on global spectrum developments.

The 5G revolution will swiftly drive new demands to connect everything everywhere, in all geographical areas, and thus, spectrum in low, mid, and high bands, is key to meet these such connectivity demands.

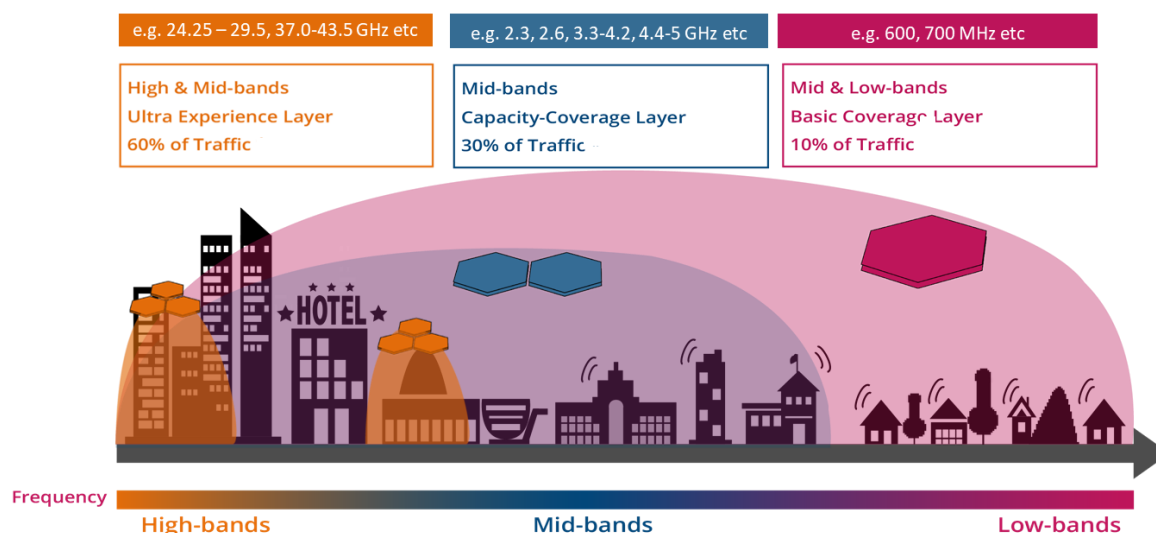


Fig. 2 – 5G Spectrum for Coverage, Capacity and Ultra Experience

In particular, the mid bands spectrum - including C-Band – is fundamental for enabling Operators to achieve an optimum balance between capacity and coverage to provide the best 5G service experience in citywide environments, and additionally, enhance indoor coverage from outdoor base stations.

Coexistence with aeronautical radionavigation systems

Section 6, Question 1:

ISED is seeking comments on its proposal to extend the mitigation measures described in SRSP-520 to protect radio altimeters from flexible use operations in the 3500 MHz band to flexible use operations in the 3800 MHz band (3650-3900 MHz). This extension is proposed until domestic and international studies are completed.

GSA comments:

- a) GSA does not recommend ISED to extend the existing SRSP-520 mitigation measures to protect radio altimeters from flexible use operations in the 3500 MHz band (3450-3650 MHz) to flexible use operations in the 3800 MHz band (3650-3900 MHz). Considering the ongoing developments towards more accurate assessment of the coexistence between 5G and radio altimeters operating at 4.2-4.4 GHz, including lab tests and field trials by ISED, it is premature to decide for extending the mentioned mitigation measures to the 3800 MHz band. Implementing such measures in that band would certainly limit the performance of 5G services, resulting in less benefits of 5G to population and businesses.

The flexible use operations in the 3800 MHz band (3650-3900 MHz) are separated from radio altimeters operating in the 4200-4400 MHz band by at least 300 MHz, which should be enough separation for the co-existence of both services without the need to implement any mitigation measures.

As of December 2021, GSA database shows ² that 218 operators have received licenses and are deploying or have deployed mobile networks in C-Band spectrum in the range of 3300-4200 MHz using 3GPP n77/n78 bands, which support the largest number of devices among all 5G bands.

Annex I indicate the different ranges of the frequency band of 3300-4200 MHz used today in over eighty countries around the world, in which no mitigation measures have been implemented, and where commercial aircrafts from all over the world – including Canadian aircrafts - continue operating without experiencing any degradation, nor security incidents related to interference to altimeters.

- b) ISED and involved Canadian authorities should continue monitoring developments to ensure the safety of air travelers which is a foremost priority, and in case any mitigation measure is considered necessary, it should be based on scientific evidence and real-world experience.
- c) As both services have a primary service allocation and are separated at least 300 MHz away, if coexistence issues arise, both mobile and aviation industries should take responsibility for the operation of their existing and future systems within the spectrum allocated to their services. For example, if interference is due to inefficient filters in the radio altimeters systems, the aviation industry should take responsibility for upgrading the involved radio altimeters. This includes replacing or adding additional filtering to any poor performing altimeters before end of 2023, when 3.8 GHz spectrum is expected to become operational. This would ensure the safety of Canadians air travelers.
- d) GSA recommends ISED to define the policy and licensing framework for the 3800 MHz band by the third quarter of 2022 to provide guidance to potential bidders participating in the 3800 MHz spectrum auction scheduled for the first quarter of 2023.
- e) At the same time, GSA recommends ISED to publish the 3800 MHz band Radio Standard Specification (RSS) by the third quarter of 2022, to allow enough time to mobile system manufacturers to develop equipment for the 3800 MHz band.
- f) If possible, ISED should consider releasing conditions similar to the Radio Standard Specification (RSS) for the 3500 MHz band to have one radio system support both 3500 MHz and 3800 MHz bands and ensure large economies of scale in benefit of consumers.
- g) For the same reasons above explained, GSA recommends ISED to consider relaxing the temporary mitigation measures implemented in the flexible use service operating in the 3500 MHz band in Canada, since they are the strictest requirements compared to many other countries where Canadian flights land, and where mobile services operate without any mitigation measures.

² GSA 2021 5G Spectrum, networks, and devices - <https://gsacom.com/webinar/gsa-snapshot-5g-year-in-review/>

ANNEX I

National Spectrum Positions: Spectrum in the C-Band (March 2022)

Fig. 1 – National Spectrum Positions C-Band in CEPT & RCC (ITU Region 1)

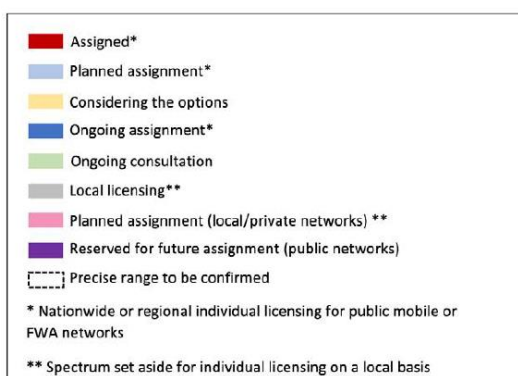


Fig. 2 – National Spectrum Positions C-Band in Middle East and Africa (ITU Region 1)

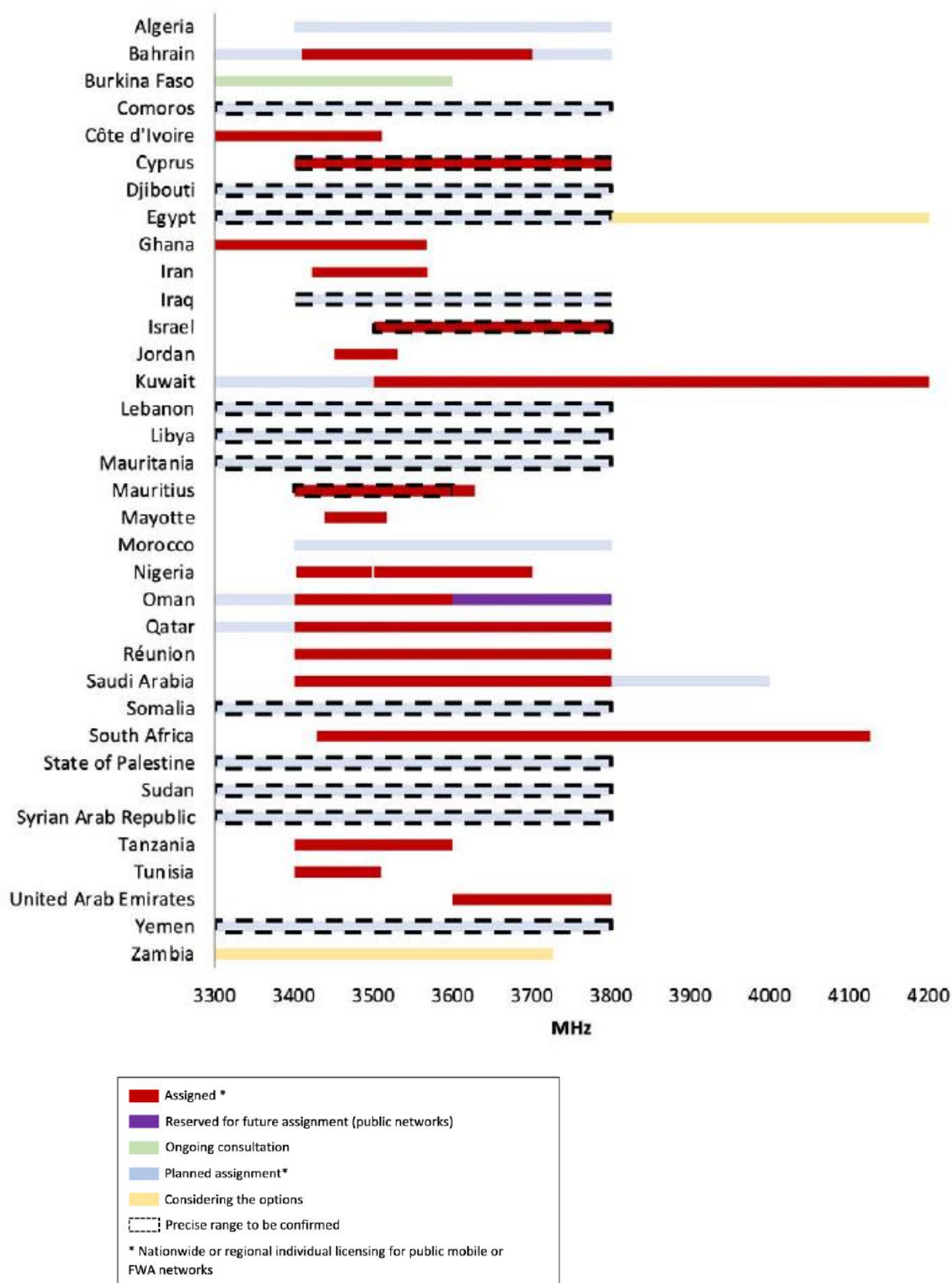


Fig. 3 – National Spectrum Positions C-Band in the Americas (ITU Region 2)

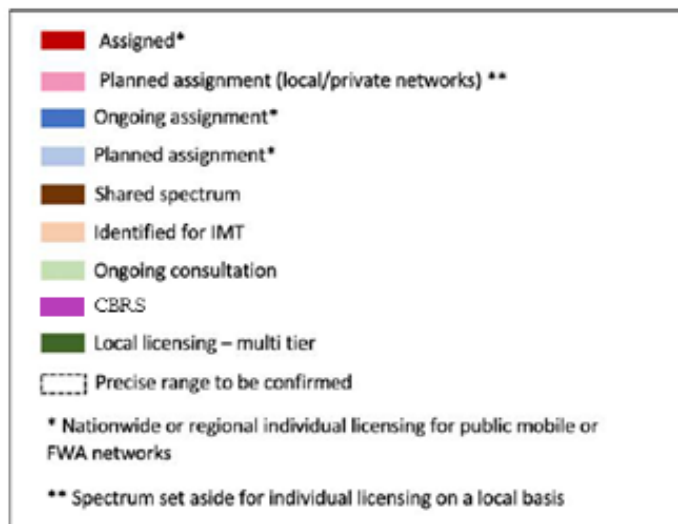
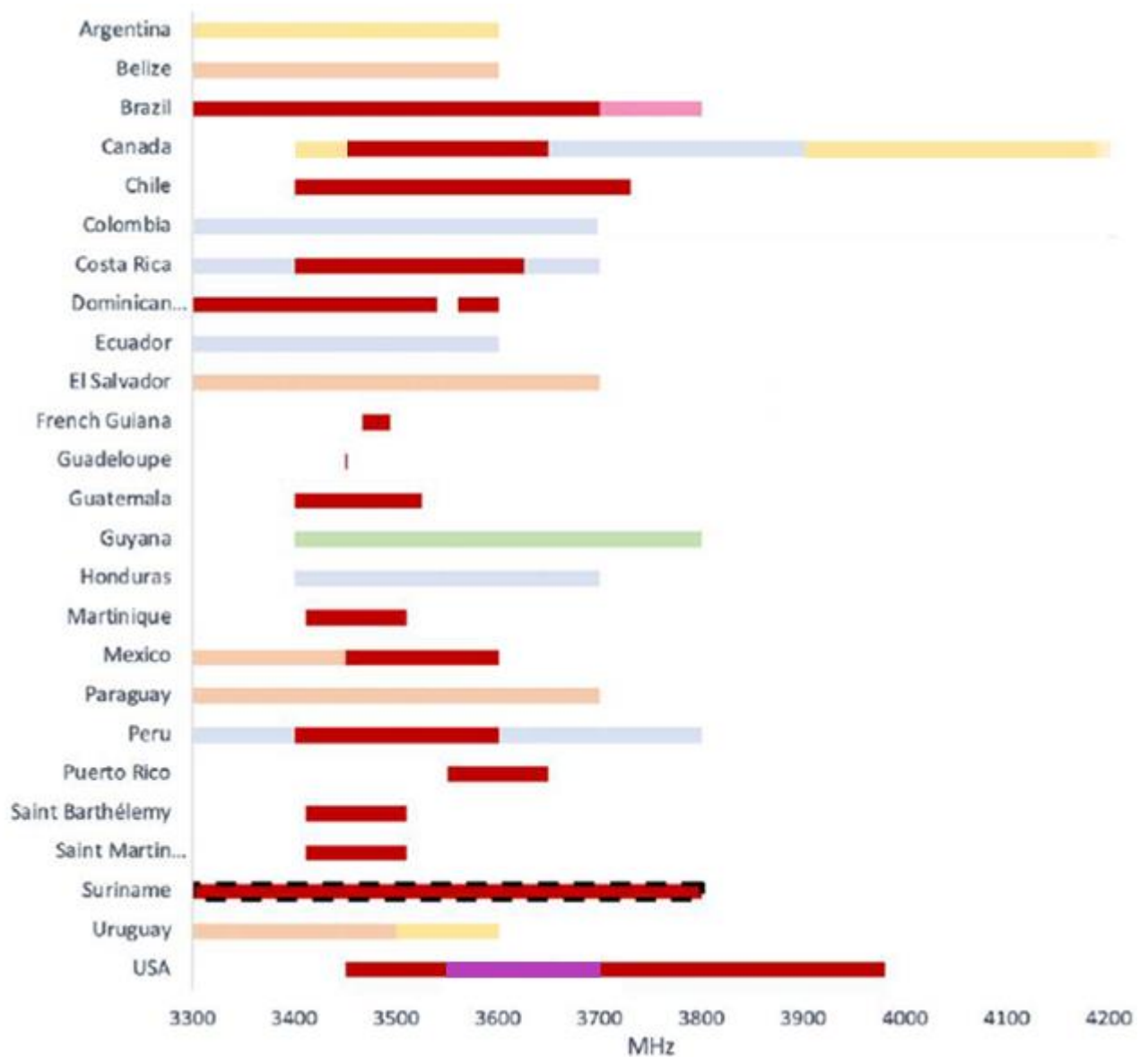


Fig. 4 – National Spectrum Positions C-Band in Asia-Pacific (ITU Region 3)

