



August 4th, 2022

Telecommunications Authority of Trinidad and Tobago
#5 Eighth Avenue Extension, off Twelfth Street,
Barataria, Republic of Trinidad and Tobago.

Mailed to: consultation@tatt.org.tt

Ref.: Consultative Document on the Framework for Fifth Generation (5G) Public Mobile Telecommunication Networks (First of Two Rounds).

Dear Sirs,

5G Americas is¹ grateful to the Telecommunications Authority of Trinidad and Tobago (TATT) for the opportunity to present our comments on the current state of public policies for mobile services in Trinidad and Tobago.

The comments expressed by 5G Americas are based upon the following publications²:

- "Fixed Wireless Access with 5G Networks". November 2021.
- "Implementación de redes 5G en América Latina: recomendaciones para fomentar su despliegue". October 2021.
- "Mercado secundario de espectro en América Latina". June 2022.
- "Panorama del espectro de bandas medias para redes móviles en América Latina". June 2022.
- "Bandas de ondas milimétricas (mmWave) para 5G en América Latina y el Caribe". May 2022.
- "Mid-band Spectrum & the Coexistence with Radio Altimeters". July 2021.

Item 6.2 – Spectrum Plan for Accommodation of Public Mobile Telecommunications Services (PMTS)

5G Americas agrees with the proposal to review the four millimeter wave ranges (mmWave) listed in the item number 6.2 and suggest considering additional mmWave capacity in the 66 – 71 GHz band (identified for IMT – WRC 2019) and the 28 GHz band (27.5 – 28.35 GHz, standardized as band n261). In the Americas, the 28 GHz band is licensed for mobile services

¹ 5G Americas is a telecommunications industry association that advocates for the promotion and development of a favorable ecosystem for mobile broadband technologies in the Americas. To achieve this, we are committed to working with government agencies, regulatory bodies, international telecommunications standard development organizations, and other global wireless technology stakeholders throughout the Americas to promote and share knowledge for the successful implementation of mobile broadband technologies, including the allocation of spectrum for mobile services and the development of coherent, fair, and effective regulatory policies.

² 5G Americas' publications are available on <https://brechacero.com/white-papers/> and <https://www.5gamericas.org/white-papers/>



in the United States, Puerto Rico, the US Virgin Islands and Uruguay, while regulators in Costa Rica, Panama and Peru study the feasibility of the band for IMT systems.

5G Framework Policy Statement 3 - The 3.7–4.2 GHz range is not under consideration for inclusion in the 5G Framework at this time, due to the risk of adverse effects on radio altimeters when operating in the 5G C-Band.

Mid-band spectrum is helping networks operators deploy 5G around the world along thanks to new assignments in ranges including 3.3 – 4.2 GHz (3GPP band n77), 3.3 – 3.8 GHz (3GPP band n78) and 4.4 – 5.0 GHz (3GPP band n79). Some authorities have defined precautionary regulations considering the operation of aeronautical radio altimeters in the 4.2 – 4.4 GHz band. In the United States, some regulations were defined for mobile networks in a portion of the C-Band (3.7 GHz) and a 220 MHz guard band was deemed sufficient.

Japan licensed spectrum in the 3.6 – 4.1 GHz and 4.5 – 4.6 GHz bands for mobile services on a national basis and only some restrictions were issued to operations in the upper 100 MHz, along with a prohibition to install base stations within 100 – 200 meters around the approach route on airports (approximately 1 kilometer of separation). South Korea licensed spectrum of the 3,410 – 3,700 MHz band in 2018 and is planning to assign blocks in the 3.7 – 4.0 GHz range for 5G, considering a guard band of 200 MHz considering radio altimeter operations in the 4.2 – 4.4 GHz band.

The United Kingdom allocated the 3.8 – 4.2 GHz band for local licenses of low and mid-power operations without restrictions to height and location of antennas. The Spectrum Committee of the European Commission reported on Meeting 74 (RSC#74) that no safety risks were identified regarding the operation of 5G sites and aeronautical radio altimeters.

Considering the international references on 5G and radio altimeters coexistence, the proposal to exclude the 3.7 – 4.2 GHz band from 5G consideration would establish a larger restriction in Trinidad and Tobago to mid-band spectrum access. 5G Americas suggests considering a further analysis and a specific consultation on the matter. Any restrictions deemed necessary for 5G and radio altimeter coexistence should be based in evidence (tests, studies) to avoid regulations that can complicate 5G network rollouts and/or increase network costs.

5G Framework Policy Statements 4 and 5 - Additional mid-band spectrum in the 3.4–3.7 GHz range will be allocated to PMTS with spectrum caps to be determined; An additional 5MHz x 2 in the 850MHz band and 25MHz x 2 in the AWS Band will be allocated for IMT, to be used by PMTS operators.

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IMT spectrum in sub-6 GHz bands is relevant to increase network capacity in the short term. Mid-band spectrum is significant for 5G because of the higher bandwidth some bands can provide while allowing superior propagation compared to mmWave spectrum. Currently, 5G networks are being deployed in the 3.3 – 3.8 GHz band in various countries and more mid-band spectrum for IMT is being studied in the whole 3.3 – 4.2 GHz range, and the 4.9 GHz band. 5G Americas suggests considering the 3.3 – 3.8 GHz in 5G spectrum planning and a further analysis on the feasibility of the 3.3 – 4.2 GHz band as potential IMT capacity for future networks.

5G Americas applauds TATT's proposal to increase the availability of spectrum in the 850 MHz and AWS bands and suggests considering an analysis of other sub-6 GHz ranges to determine the availability of additional frequencies. Other sub-6 GHz ranges that could be considered as capacity for 5G are the 600 MHz and the "L-Band" (1418 – 1527 MHz).

5G Framework Policy Statement 6 - Frequency allocations, licensing approaches and frequency assignment plans for any additional bands allocated to accommodate 5G fixed wireless access will be added to the BWA spectrum plan.

5G networks can provide more broadband options through fixed-wireless access (FWA) and according to a forecast by ABI Researched cited in 5G Americas' white paper "*Fixed Wireless Access with 5G Networks*" 5G FWA is the broadband technology with more growth potential towards 2026 and is expected to surpass 58 million global subscribers by then. Also, 5G FWA can have positive effects in rural and urban areas by providing a new option for broadband access based in reliable and secure infrastructure, and an alternative to other type of fixed (wired) networks in rural locations.

5G FWA services can benefit from mid-band and mmWave spectrum by leveraging the higher bandwidth for "last mile" connectivity and Integrated Access Backhaul (IAB), a functionality that enables a self-backhauling alternative for networks over mmWave spectrum. These aspects of 5G FWA require access to sufficient harmonized spectrum and avoid the exclusion of valuable spectrum resources (3.3 – 4.2 GHz and mmWave spectrum). 5G Americas suggests considering an approach towards 5G FWA that enables spectrum license holders to flexibly allocate part of their spectrum portfolio to fixed-wireless services according to technical and financial feasibility.

5G Framework Policy Statement 7 - The bands identified for mobile 5G in the PMTS spectrum plan under policy statement 4 will be removed from the BWA spectrum plan.

5G Americas suggest considering the inclusion of the 3.7 – 4.2 GHz band in the PMTS spectrum plan. See previous comments to Item 6.2 and Policy Statement 3.



5G Framework Policy Statement 8 - This spectrum caps for the 2.5 GHz and 3.5 GHz bands will be increased by at least 25MHz, to allow more spectrum to existing operators.

5G Americas suggests considering a cap that allows between 80 and 100 MHz of continuous spectrum in the 3.5 GHz band by license holder to promote a more efficient use of spectrum for 5G networks.

5G Framework Policy Statement 12 - The Authority will oversee the deployment of all radio-communications sites by developing a Position Paper on the Regulation and Administration of Telecommunications Sites for operators and the general public. This Paper will address issues such as utility colocations, picocells, lamp sites, rooftop sites, small cells and road reserve sites, and will be subject to consultation, in keeping with the Procedures for Consultation in the Telecommunications and Broadcasting Sectors of Trinidad and Tobago.

5G Americas welcomes the proposal and public policies consistent with achieving more densified mobile networks. 5G Americas suggests considering the incorporation an analysis of current barriers to infrastructure deployment and possible solutions to allow not only the rollout of more base stations (including small cells) but also of more fiber infrastructure. 5G Americas also suggests including best practices in infrastructure authorizations (positive administrative silence, single window for authorizations).

5G Framework Policy Statement 14 - The Authority may use auctions, direct assignments and/or price methodologies for the pricing of spectrum for 5G, with the requisite consideration of the availability of information and data, economic value, efficient allocation of spectrum resources and other relevant and reasonable factors. The current Fees Regulations allows for the use of auctions to determine the licence fee for 5G.

5G Americas is respectful of the TATT's attributions to determine spectrum assignment mechanisms and suggests considering procedures that promote transparency, legal certainty, and participation. The consultation of the terms and conditions of new spectrum public offers can help the authorities design assignment mechanisms that incentivize participation.

5G Americas suggests considering the benefits of licensing more spectrum for mobile services with procedures that allow the license holders to exchange spectrum payments for coverage goals and/or projects aimed to reduce the digital divide. In Latin America, Colombia's Law 1978/2019 authorized non-economic components for spectrum tenders, and in 2019 the Government auctioned the 700 MHz with a mechanism that required an economic and coverage bid. In 2022, the Colombian Government extender spectrum



licenses (1.9 GHz) that includes payments with coverage goals. In 2021, the 5G Tender in Brazil licensed new spectrum and less of the 10% of the total spectrum value will be collected in the form of spectrum fees. Most of the spectrum value will be paid by license holders with coverage goals and connectivity projects for the Government and public schools. Spectrum valuation could also take into account the differences between rural and urban network deployments to adjust the spectrum value and reflect fairer methodologies.

Without further ado, I greet you sincerely.

A handwritten signature in black ink, appearing to read "José F. Otero Muñoz".

José F. Otero Muñoz

Vicepresident Latin America & the Caribbean

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