



Low-Band Spectrum for 5G

5G capacity for digital inclusion

Low-band spectrum is the cornerstone of digital equality and a driver of broad and affordable connectivity. It is vital to giving rural communities equitable access to the services available in urban areas and pushing towards digital inclusion goals. It can provide 5G speeds in rural areas and help to provide a consistent 5G user data.




Low band gaining momentum
40 operators from 27 countries have launched 5G using low-band spectrum

The additional capacity in the 600 MHz band leads to:


 Improvement in rural and deep-indoor 5G speeds **30 to 50%**

 Reduction in the cost of extending 5G to rural populations **33%**

Benefits of low-band spectrum:

 Reduce cost of covering roads for 5G-connected vehicles

 Improve digital equality with 5G speed in rural areas

 Consistent speeds: deep indoors and in hard-to-reach urban areas

 Improve the business case for 5G fixed wireless access (FWA)

 Enable smart agriculture, notably precision farming

 5G capacity solution for areas where mid-bands do not reach

Low-bands at WRC-23

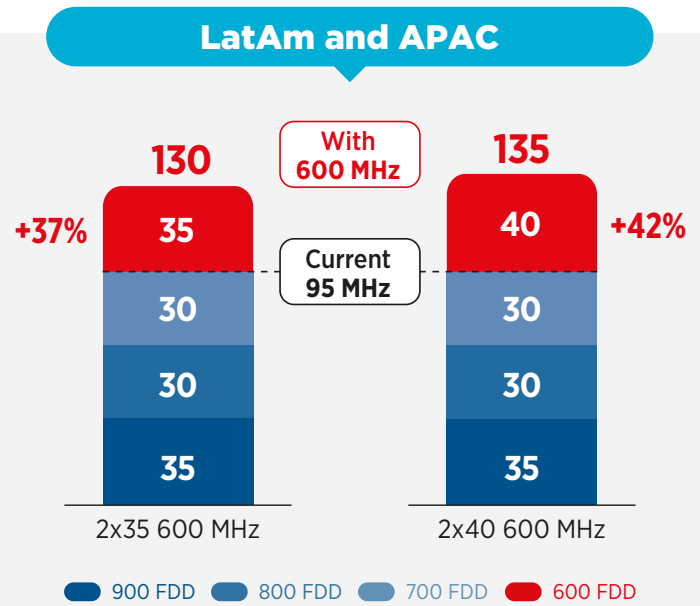
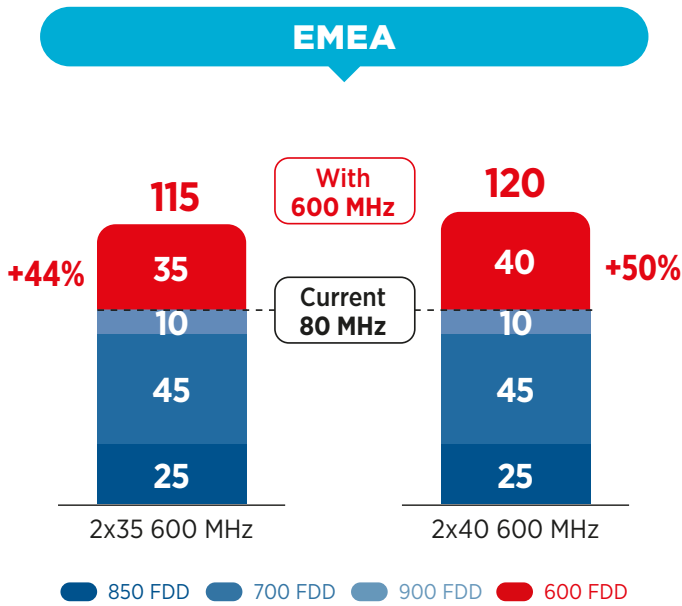
WRC-23 Agenda Item 1.5 will review IMT spectrum and needs in the band 470-960 MHz in Africa, Europe, the Middle East and CIS countries: ITU Region 1. A mobile allocation in 470-694 MHz, with the possibility of an IMT identification, is needed to allow:


Long-term planning of spectrum below 1 GHz to help 5G lower the digital divide.


Development of sub-1 GHz spectrum for better rural and in-building connectivity.


Development of video content distribution mechanisms going into the 2030s.

Download speed increase with 600 MHz per region



Speed increases through 600 MHz are a result of the direct relationship between the amount of spectrum and the downlink and uplink 5G speeds which users experience.

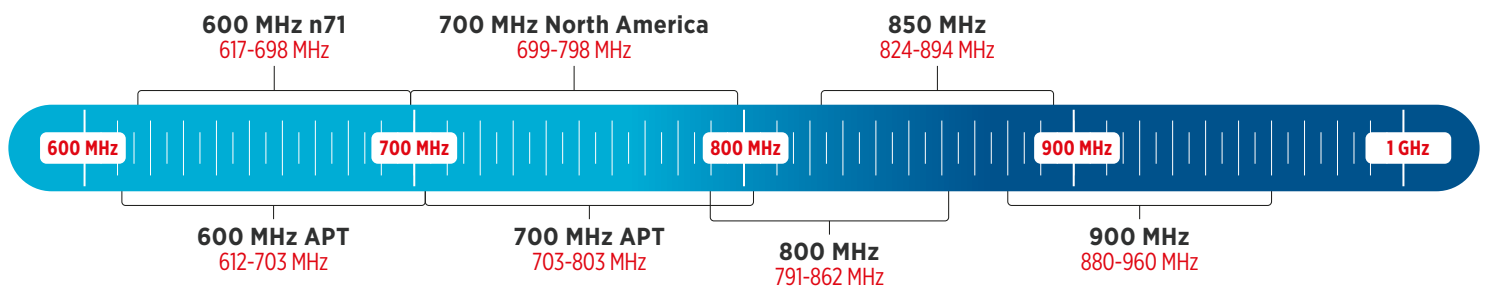
600 MHz



600 MHz: 5G capacity

Countries in all Regions are moving forward with additional low-band spectrum. Development of the 600 MHz band began in the US and Canada, while Asia is considering complementary alternatives to maximise the 600 MHz band.

Regional low-band variations



Sub 1-GHz demand

600 MHz

WRC-23 and development for 5G in Americas and APAC

700 MHz

Heavy use for 4G in some areas; development for 5G.

800 MHz

Widespread use for LTE providing 4G connectivity.

850/900 MHz

2G core bands; refarmed for 3G; 4G and 5G development.