

6 GHz in MENA

Mobile evolution in 6.425–7.125 GHz



The MENA region is home to some of the most advanced 5G markets globally. By the end of 2026, 5G is projected to account for nearly three-quarters of total mobile connections across the GCC, amongst the highest adoption rates worldwide. Meanwhile, other economies across North Africa and the Levant are growing rapidly and are expected to catch up by the end of this decade.

As adoption expands so will the demand for spectrum, especially mid-bands for city-wide and indoor capacity. The full availability of the upper 6 GHz band (6.425–7.125 GHz) for mobile networks is crucial to support continued growth and set the stage for next-generation 6G services.



MID-BANDS AND MOBILE DATA OVERVIEW

Data demand is rising

In the future, 6G will use 200–400 MHz channels

Mid-bands are indoor and outdoor

Digital development needs macro-cell full-power 6 GHz

In the GCC, data per connection between 2024 and 2030

**2024 → 38 GB/MONTH PER CONNECTION TO
2030 → 58 GB/MONTH PER CONNECTION**

In Other MENA countries, data per connection between 2024 and 2030

**2024 → 8 GB/MONTH PER CONNECTION TO
2030 → 20 GB/MONTH PER CONNECTION**



PEAK 6 GHz TRIAL SPEEDS:

12 GBPS



IN THE GLOBAL SELECTION OF CITIES IN THIS REPORT:

The average economic benefit of **FULL-POWER LICENSED MOBILE IN UPPER 6 GHz** is

7x 

GREATER THAN UNLICENSED

71%



of mobile data use is indoors and

29%



is outdoors

85%

of indoor connectivity is provided by mid-bands with



15%

coming from low bands

71%



of urban indoor 5G use is provided by 3.5 GHz



Mid-band 4G download speeds are

3x

higher than on low-bands

3.5 GHz 5G DOWNLOAD SPEEDS ARE



7x

TIMES HIGHER THAN LOW BANDS AND

2.5x

HIGHER THAN LOWER MID-BANDS

IN THE MENA SELECTION OF CITIES STUDIED IN THIS REPORT:

Wi-Fi use:

48%

WI-FI 4

30%

WI-FI 5

22%

WI-FI 6

Technology migration will enhance efficiency

LESS THAN

1%



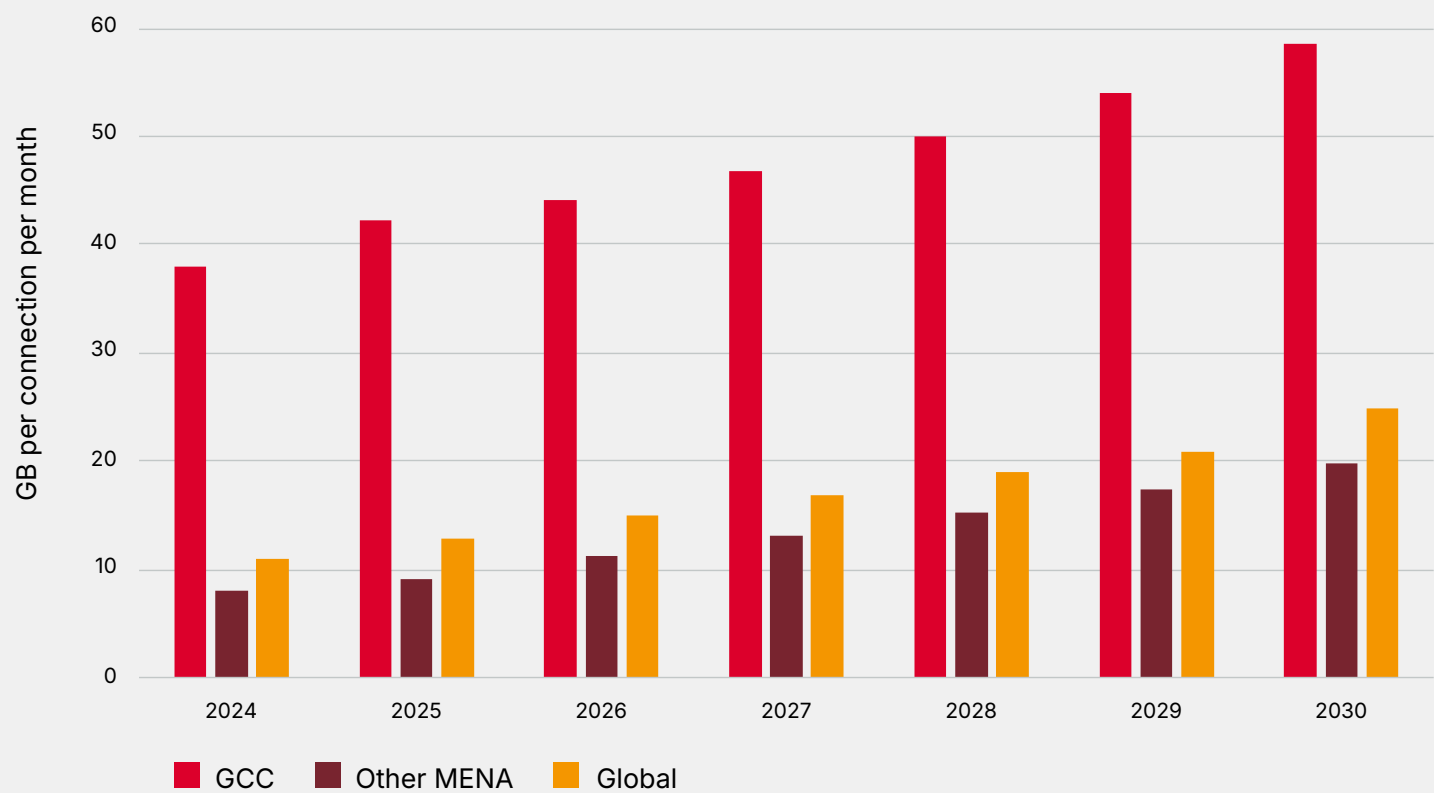
of Wi-Fi 6 and Wi-Fi 7 use is provided by 6 GHz

Data growth

Mobile and fixed operators will need to manage significant traffic growth on their networks over the next decade. Global mobile traffic growth in 2023 was the largest of any year to date. The 2023 increase alone exceeded the entire absolute traffic level recorded in 2018. Looking ahead, average data use is expected to roughly double between 2024 and 2030 in MENA.

The absolute increases in network traffic will keep climbing each year, and it is important for regulators and policymakers to recognise that it's the growing volume of traffic, not the slowing growth rate, that will strain networks. Additional mobile spectrum in the upper 6 GHz band can support this growth in MENA.

Figure 1
MENA mobile data usage (GB per connection per month)



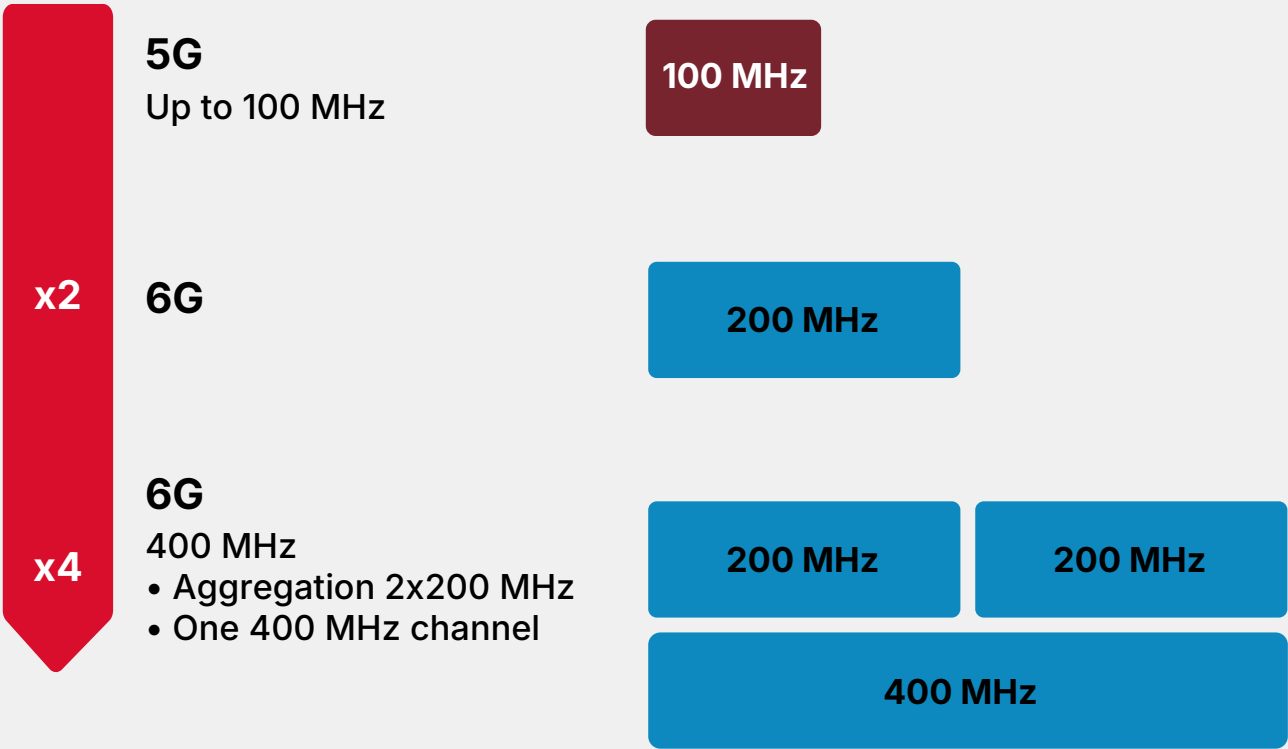
Source: GSMAi

Planning 6 GHz for the future

Each mobile generation has used wider channel sizes than the one before, from 1.25 MHz 2G channels to the 100 MHz channels used for 5G. The 6G era in the 2030s will use 200–400 MHz channels in mid-bands to cater for capacity and speeds required to deliver services and applications.

6 GHz will be able to provide some of this capacity. The 700 MHz available in the upper 6 GHz band can only provide the lower end of the 200–400 MHz range in a typical three-operator market. However, it is still the most likely way to support sufficient channel sizes in MENA.

Figure 2
New channel sizes for new generations



Socio-economic benefits

In 2024, GSMAi studied the potential economic benefits of three different policy options for the upper 6 GHz band in nine countries around the world.

- licensed mobile use (Scenario 1)
- unlicensed RLAN use (Scenario 2)
- enabling shared use by reducing the power levels of mobile deployments (Scenario 3).

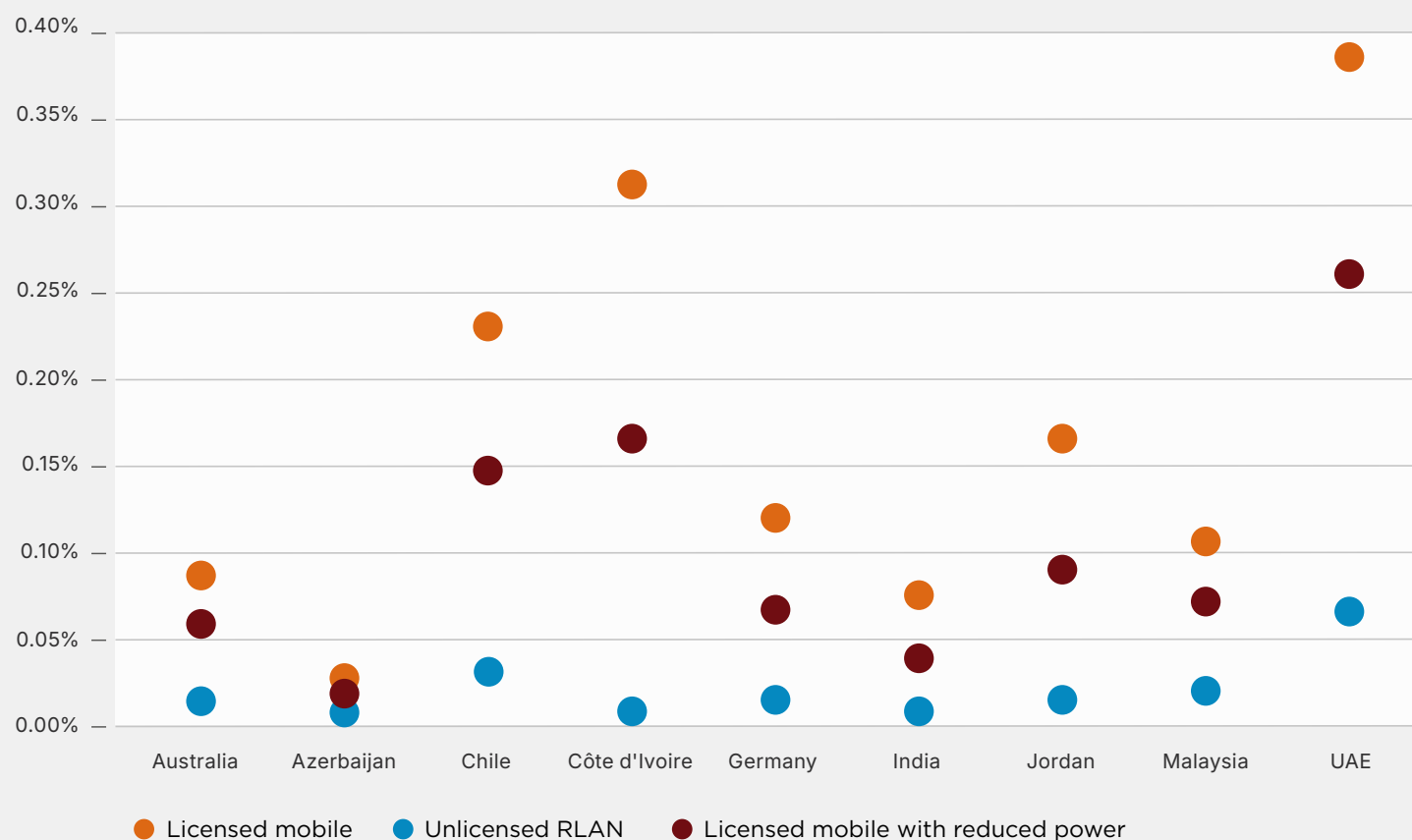
The greatest economic benefit was always achieved with Scenario 1, where the upper 6 GHz band is assigned to licensed, macro-cell mobile use with standard power levels. This is because mobile networks are more likely than Wi-Fi to face capacity

constraints through to 2035, making additional spectrum critical for enhancing network performance and broader economic value.

As shown below, there is scope for more efficient use of Wi-Fi spectrum by deployment of newer Wi-Fi technologies. With more efficient spectrum use, existing unlicensed bands (2.4 GHz, 5 GHz, and lower 6 GHz) are sufficient to handle future Wi-Fi demand.

Shared use approaches that limit power substantially reduce capacity and benefits, while indoor/outdoor usage distinctions lack justification given most mobile traffic originates indoors.

Figure 3
Economic benefits of the three scenarios in nine countries
Proportion of expected GDP in 2035



Source: GSMA Intelligence

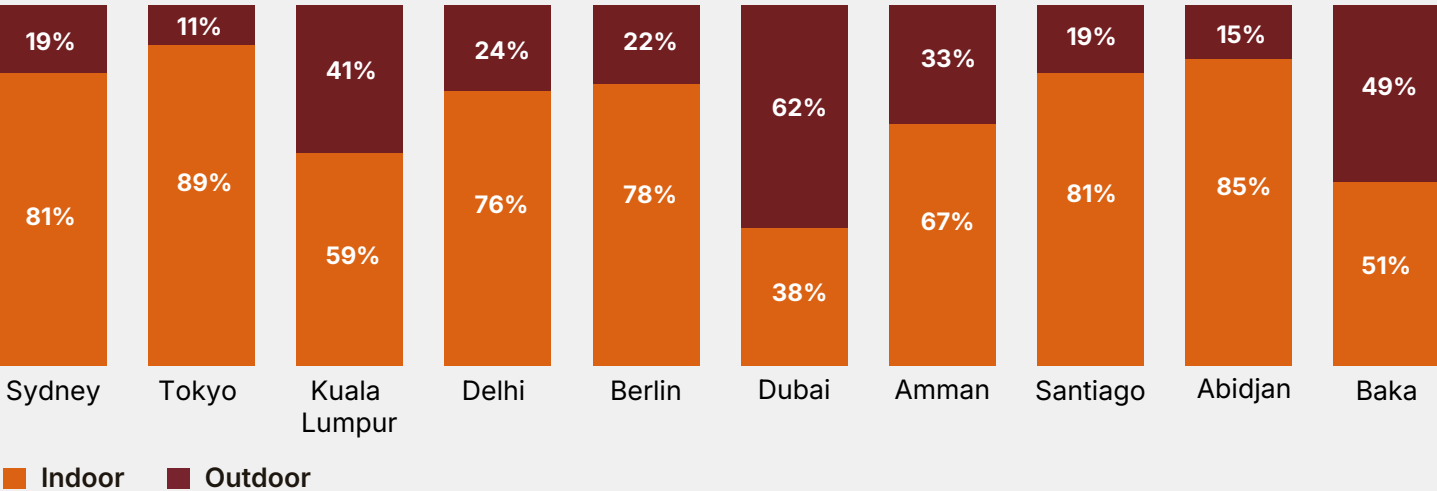
Note: The results represent the net present value (NPV) of economic benefits over 2023–2035, expressed as a proportion of expected GDP in 2035 for each country.

Indoor-outdoor mobile usage

GSMA Intelligence analysis of data provided by Ookla®, shows that most mobile use is indoors and largely delivered over mid-band spectrum.

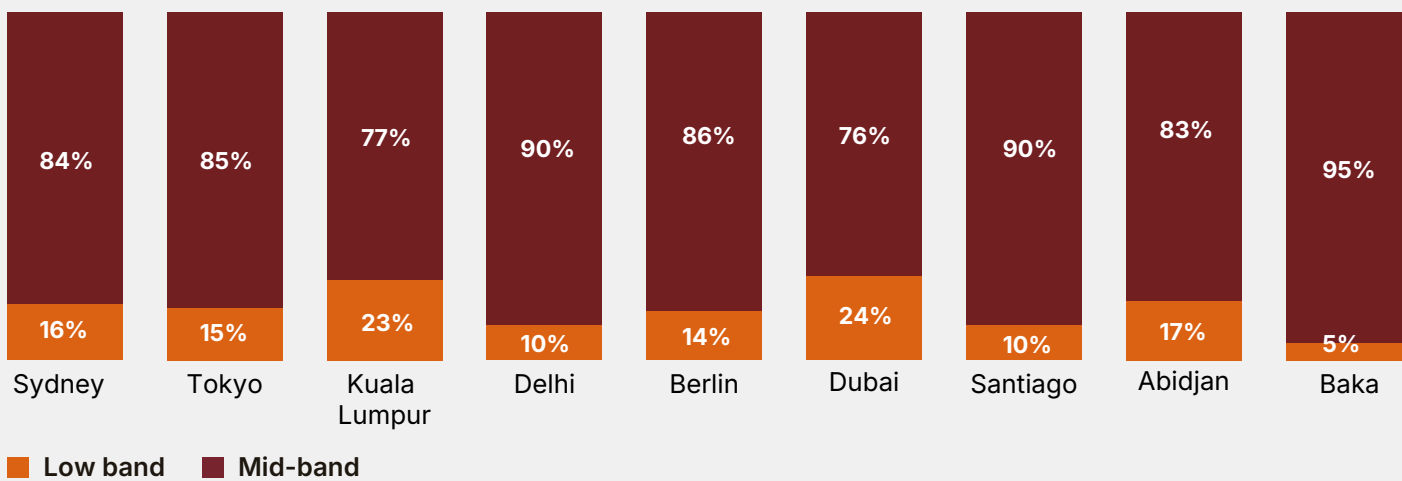
Trials have shown that 6 GHz can deliver comparable indoor coverage to the 3.5 GHz range. Evidence also suggests the upper 6 GHz band can effectively provide an additional capacity layer in urban areas and meet the majority of indoor and outdoor requirements.

Figure 4
Distribution of mobile scans based on indoor/outdoor locations



Source: GSMA Intelligence analysis, based on data provided by Ookla®

Figure 5
Distribution of 4G and 5G indoor scans by spectrum band



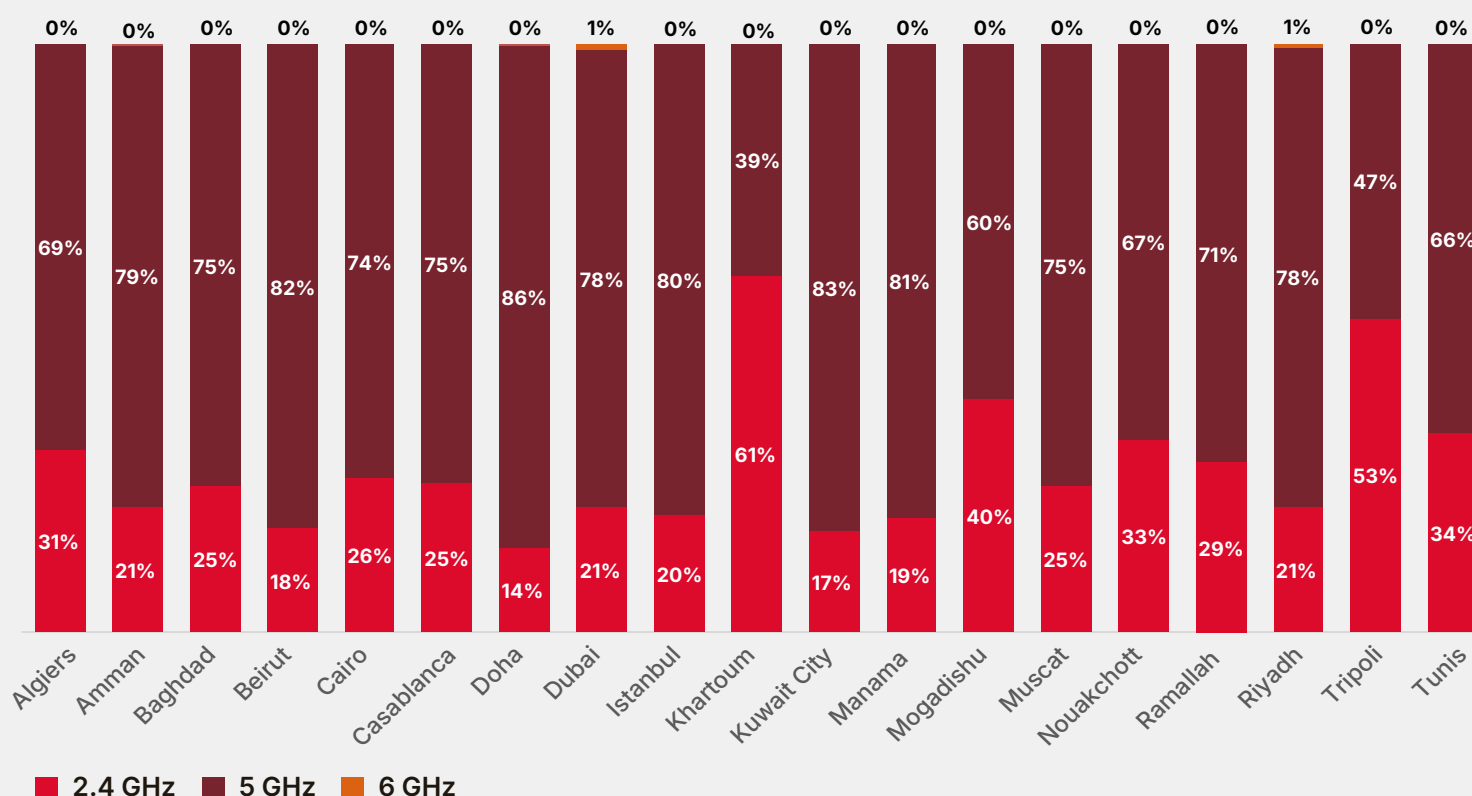
Source: GSMA Intelligence analysis, based on data provided by Ookla®
Note: Low bands refer to frequencies below 1 GHz, while mid-bands refer to frequencies above 1 GHz excluding mmWave bands. Insufficient data on low bands in Amman.

A clear pathway for Wi-Fi evolution in lower 6 GHz

GSMA Intelligence analysis of data gathered by Ookla across MENA during Q2 2026 in 19 cities shows that some countries had almost no Wi-Fi 6E scans across the 6 GHz band.¹ Across the sample, 6 GHz band usage stayed below 1% of total Wi-Fi scans in every city, with Dubai recording the highest share at just 0.9%. Even in Saudi Arabia, which has assigned the full 6 GHz band for unlicensed use, only 0.05% of Wi-Fi 6/6E scans in Riyadh are using the upper 6 GHz band.

Spectrum in the 2.4 GHz and 5 GHz Wi-Fi ranges carries most of today's MENA Wi-Fi traffic, leaving the 5.925–6.425 GHz band open for the future evolution of Wi-Fi technology.

Figure 6
Distribution of Wi-Fi 6/6E scans by band



Source: GSMA Intelligence analysis of Ookla® data from Q2 2026.

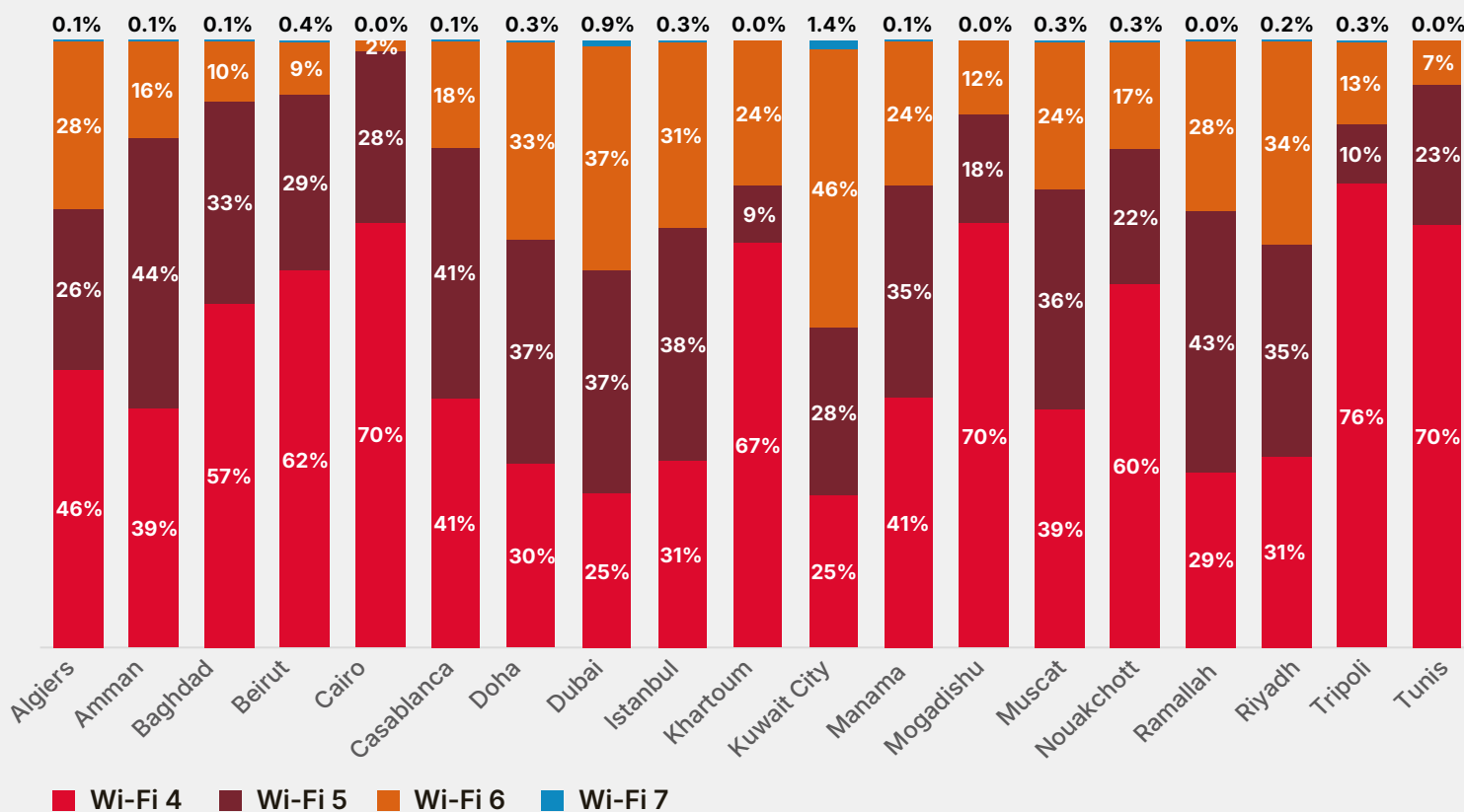
1. Across the MENA region, most markets have made the lower 6 GHz band (5.925–6.425 GHz) available for unlicensed use, including Wi-Fi, with Algeria and Lebanon the notable exceptions. Saudi Arabia has gone furthest on Wi-Fi, making the entire 6 GHz band (5.925–7.125 GHz) available for unlicensed use. On the upper band, Bahrain, Oman and the UAE have identified spectrum for mobile (IMT) use.

Distribution of Wi-Fi scans by technology

Today, much of MENA still relies heavily on older Wi-Fi technologies, with many markets showing half or more of scans remaining on Wi-Fi 4, reaching as high as 76% in Tripoli.

Wi-Fi 5 usage is also extensive, ranging from 9-45%. The usage of the more spectrally efficient Wi-Fi 6 varies from 2-46%, with higher usage in cities such as Kuwait City and Dubai.

Figure 7
Distribution of Wi-Fi scans by technology



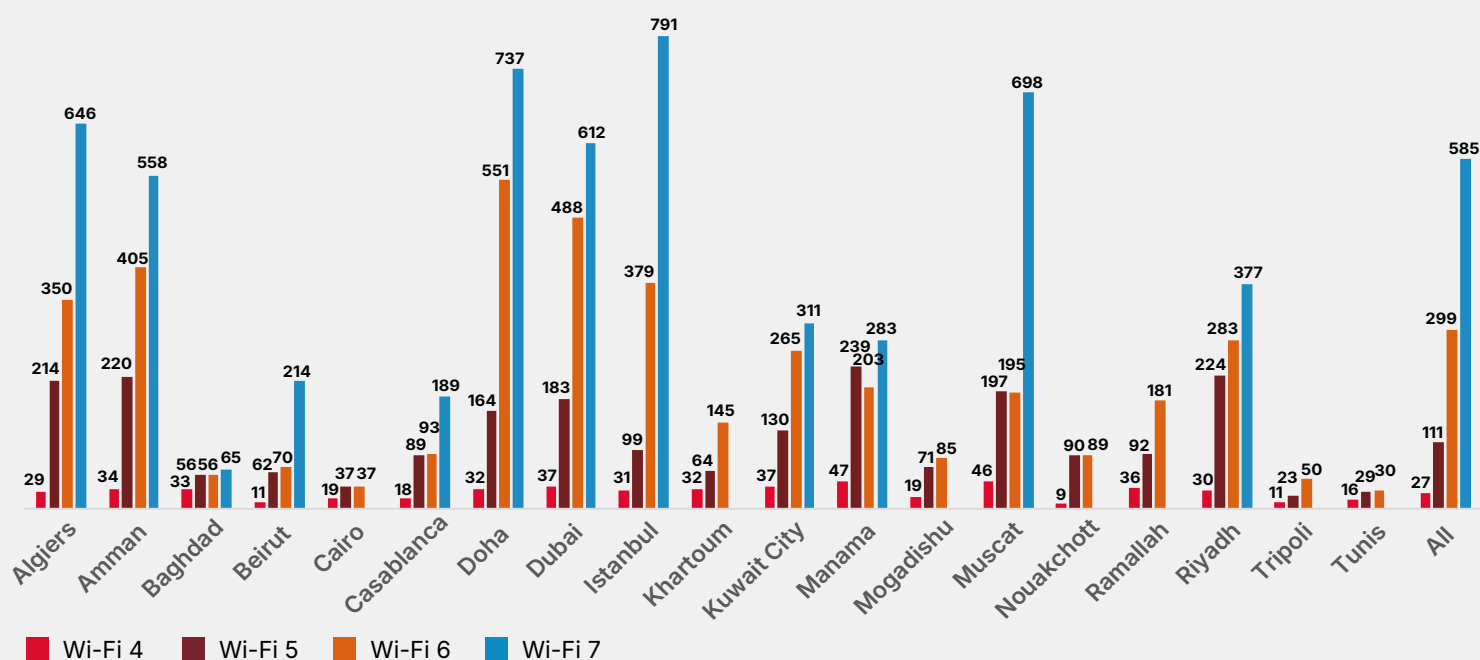
Source: GSMA Intelligence analysis of Ookla® data from Q2 2026.

Median Wi-Fi download speeds by technology (Mbps)

Recent data also highlights the impact newer Wi-Fi technologies can have on delivering faster speeds using existing spectrum bands. While the lower 6 GHz band (5.925–6.425 GHz) is a new expansion band for Wi-Fi to evolve into, Wi-Fi 6 today is providing fast user experiences using largely 2.4 GHz and 5 GHz spectrum.

Upgrading to the latest Wi-Fi 6 and 7 technologies allows for greater efficiency, while optimising indoor deployments (for example, with additional access points, mesh network solutions and using Wi-Fi boosters) can also improve Wi-Fi quality.

Figure 8
Median Wi-Fi download speeds by technology (Mbps) in 19 MENA cities



Source: GSMA Intelligence analysis of Ookla® data from Q2 2026.

Conclusion

Licensed 6 GHz spectrum can ensure that mobile connectivity will support MENA's digital goals going into the 2030s. The spectrum capacity in the lower 6 GHz band is available for Wi-Fi evolution in MENA.

It is now time to ensure that mobile is given the same potential with fair and balanced regulation that allows licensed mobile access to the full upper 6 GHz band at 6.425–7.125 GHz.

6 GHz highlights

- Licensed 6 GHz capacity is required to support increasing customer demand at speeds outlined in the International Telecommunication Union's vision for 5G. It will also be required for 6G.
- Spectrum capacity needs for future deployments should consider channel sizes of 200-400 MHz.
- Mobile networks are already densified, but 6 GHz can enable the growth of sustainable mobile capacity on existing macro-cell sites.
- Timely availability of 6 GHz, at reasonable conditions and price, will drive cost-efficient network deployment, help lower the broadband usage gap and support digital inclusion.
- There is scope to improve the efficiency of unlicensed Wi-Fi spectrum use, with upgrades from Wi-Fi 4 and Wi-Fi 5 to the latest technologies and the lower 6 GHz band is an almost entirely unused space in which Wi-Fi can evolve.
- The full upper 6 GHz (6.425–7.125 GHz) should be made available to full-power macrocell IMT, without any restrictions or sharing mechanisms. Regulators should include this band in their national spectrum roadmaps for mobile and update their national frequency allocation tables accordingly.