# UK’s mmWave spectrum auction signals a leap forward for 5G infrastructure



The UK telecoms regulator Ofcom has officially confirmed the key participants in its forthcoming millimetre wave (mmWave) spectrum auction, signalling a critical step in expanding the country’s 5G infrastructure. The auction will release valuable spectrum across the 26 GHz and 40 GHz bands, which are essential for delivering ultra-fast, high-capacity mobile services especially tailored for densely populated urban centres. The confirmed bidders are British Telecommunications Public Limited Company (EE), Telefonica UK Limited acting on behalf of Virgin Media O2, and Vodafone Limited on behalf of VodafoneThree, all of which are leading players in the UK’s mobile connectivity landscape. These operators will compete for 68 high-density area licences, covering major cities including London, Manchester, Glasgow, Cardiff, and Belfast.

Ofcom is set to auction a total of 5.4 GHz of spectrum divided into 200 MHz lots, with reserve prices set at £2 million for 26 GHz lots and £1 million for those in the 40 GHz band. This spectrum is geared towards use cases demanding high capacity and low latency, such as enhanced mobile broadband in crowded venues, industrial automation, virtual and augmented reality applications, and smart city infrastructure. The auction is structured in two stages: an initial Principal stage, where companies bid to determine how much spectrum they will win in each band without specifying exact frequencies, followed by an Assignment stage, which allows bidders to compete for preferential frequency positions within their allocated blocks. The results of the Principal stage were announced shortly after its conclusion, with each major player securing 800 MHz in the 26 GHz band and 1 GHz in the 40 GHz band, committing around £13 million each. The auction’s final allocations will shape competitive dynamics in UK telecoms for years to come.

The release of mmWave spectrum marks an important evolution in the UK’s digital landscape as these high-frequency bands are pivotal for next-generation mobile services where data demand is most intense. Ofcom’s auction is part of a broader regulatory effort to facilitate the use of 6.25 GHz of spectrum in these bands for new 5G services and other innovative applications in major urban areas. The auction follows application windows held in mid-September and is expected to reach completion before the end of 2025. Notably, Ofcom has outlined that during the Assignment stage, any unsold 40 GHz spectrum will be grouped as a single contiguous block, though no location-specific rules will govern its assignment, allowing flexibility in how the spectrum is allocated post-auction.

This move represents a significant financial and strategic investment by the UK’s leading telecom operators, each committing substantial sums to secure essential spectrum resources. Industry data reveals a collective spend of £39 million across the participants, underlining the competitive intensity of this auction and the value placed on mmWave spectrum to support wider 5G rollout plans. However, regulatory frameworks remain strict, with antitrust rules strictly prohibiting certain communications between applicants during the auction to maintain a fair and competitive process.

In sum, Ofcom’s confirmation of the auction participants and the preliminary results of the Principal stage underscore the UK's continued commitment to advancing 5G technology through strategic allocation of high-frequency spectrum. This auction not only facilitates enhanced mobile broadband capabilities but also reinforces the UK’s position in pioneering smart city infrastructure and next-generation digital services.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://natlawreview.com/article/ofcom-confirms-participants-upcoming-mmwave-spectrum-auction), [[3]](https://www.ofcom.org.uk/spectrum/frequencies/mmwave-spectrum-for-new-uses), [[7]](https://www.ofcom.org.uk/spectrum/spectrum-awards/award-of-26-ghz-and-40-ghz-mmwave-spectrum-by-auction)
* Paragraph 2 – [[1]](https://natlawreview.com/article/ofcom-confirms-participants-upcoming-mmwave-spectrum-auction), [[2]](https://www.advanced-television.com/2025/10/16/1st-stage-uk-mmwave-spectrum-auction-over/), [[5]](https://www.datacenterdynamics.com/en/news/uk-telcos-spend-39m-on-mmwave-spectrum-at-latest-ofcom-auction/), [[6]](https://www.datacenterdynamics.com/en/news/ofcom-outlines-uk-mmwave-spectrum-auction-update/)
* Paragraph 3 – [[1]](https://natlawreview.com/article/ofcom-confirms-participants-upcoming-mmwave-spectrum-auction), [[3]](https://www.ofcom.org.uk/spectrum/frequencies/mmwave-spectrum-for-new-uses), [[4]](https://www.britel.co.uk/updates/ofcom-confirms-5g-mmwave-uk-spectrum-auction-dates/), [[6]](https://www.datacenterdynamics.com/en/news/ofcom-outlines-uk-mmwave-spectrum-auction-update/), [[5]](https://www.datacenterdynamics.com/en/news/uk-telcos-spend-39m-on-mmwave-spectrum-at-latest-ofcom-auction/)

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## Bibliography

1. <https://natlawreview.com/article/ofcom-confirms-participants-upcoming-mmwave-spectrum-auction> - Please view link - unable to able to access data
2. <https://www.advanced-television.com/2025/10/16/1st-stage-uk-mmwave-spectrum-auction-over/> - The UK communications regulator, Ofcom, has concluded the Principal stage of its auction to release 5.4 GHz of mmWave spectrum across the 26 GHz and 40 GHz bands. This spectrum is intended to enhance 5G capacity in densely populated areas. EE, O2, and VodafoneThree each secured 800 MHz in the 26 GHz band and 1 GHz in the 40 GHz band, committing £13 million each. The auction will proceed to the Assignment stage, where companies can bid for preferred frequency positions. ([advanced-television.com](https://www.advanced-television.com/2025/10/16/1st-stage-uk-mmwave-spectrum-auction-over/?utm_source=openai))
3. <https://www.ofcom.org.uk/spectrum/frequencies/mmwave-spectrum-for-new-uses> - Ofcom is facilitating the use of 6.25 GHz of mmWave spectrum in the 26 GHz and 40 GHz bands for new services, including 5G. The auction will cover the 25.1-27.5 GHz and 40.5-43.5 GHz bands in major towns and cities. Applications to participate in the auction are open on 16 and 17 September 2025, with the principal stage expected to begin in October 2025. ([ofcom.org.uk](https://www.ofcom.org.uk/spectrum/frequencies/mmwave-spectrum-for-new-uses?utm_source=openai))
4. <https://www.britel.co.uk/updates/ofcom-confirms-5g-mmwave-uk-spectrum-auction-dates/> - Ofcom has confirmed that it will begin the next round of 5G spectrum awards in September 2025. Applications will open between 10am on 16 September and 4pm on 17 September, with the bidding phase starting in October. The regulator expects to identify winners before the end of the year. ([britel.co.uk](https://www.britel.co.uk/updates/ofcom-confirms-5g-mmwave-uk-spectrum-auction-dates/?utm_source=openai))
5. <https://www.datacenterdynamics.com/en/news/uk-telcos-spend-39m-on-mmwave-spectrum-at-latest-ofcom-auction/> - EE, VodafoneThree, and Virgin Media O2 have each spent £13 million on mmWave spectrum during Ofcom's latest auction. The auction offered 5.4 GHz of spectrum across the 26 GHz and 40 GHz bands. The spectrum is set to help the operators bolster their respective 5G networks. ([datacenterdynamics.com](https://www.datacenterdynamics.com/en/news/uk-telcos-spend-39m-on-mmwave-spectrum-at-latest-ofcom-auction/?utm_source=openai))
6. <https://www.datacenterdynamics.com/en/news/ofcom-outlines-uk-mmwave-spectrum-auction-update/> - UK telecoms regulator Ofcom has provided an update on how it will make mmWave spectrum available in the 26 GHz and 40 GHz bands. The update confirms that the auction will not include rules governing the location of any unsold spectrum in the 40 GHz band in the assignment stage, other than to require that any unsold 40 GHz lots are treated as a single, contiguous block. ([datacenterdynamics.com](https://www.datacenterdynamics.com/en/news/ofcom-outlines-uk-mmwave-spectrum-auction-update/?utm_source=openai))
7. <https://www.ofcom.org.uk/spectrum/spectrum-awards/award-of-26-ghz-and-40-ghz-mmwave-spectrum-by-auction> - Ofcom has published auction documents for the award of 26 GHz and 40 GHz mmWave spectrum. The Information Memorandum provides information for parties considering bidding in the auction, including the licence terms and an outline description of the award process. The mmWave award licences will only authorise use of relevant frequency bands in designated areas within the UK, referred to as 'High Density Areas'. ([ofcom.org.uk](https://www.ofcom.org.uk/spectrum/spectrum-awards/award-of-26-ghz-and-40-ghz-mmwave-spectrum-by-auction?utm_source=openai))