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TRAI/FY25-26/60
18th November 2025

Shri Akhilesh Kumar Trivedi
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Telecom Regulatory Authority of India,
World Trade Centre, Nauroji Nagar,
New Delhi – 110029

Subject: Bharti Airtel's Counter Comments on Consultation Paper on *the Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT)*

Reference:
1. **TRAI's Consultation Paper dated 30th September 2025**
2. **Bharti Airtel's Comments dated 4th November 2025 on TRAI's Consultation Paper**

Dear Sir,

This is in reference to TRAI's Consultation Paper on *the Auction of Radio Frequency Spectrum in the Frequency Bands Identified for International Mobile Telecommunications (IMT) dated 30th September 2025.*

In this regard, please find enclosed our counter comments to the consultation paper for your kind consideration.

Thanking You,

Yours Sincerely,
For **Bharti Airtel Limited**

Rahul Vatts
Chief Regulatory Officer

Encl: a.a

At the outset, Airtel reiterates its submissions made in the main comments ***dated 04.11.2025***. Airtel recognizes that radio spectrum constitutes a finite and invaluable national asset whose prudent, equitable and efficient allocation is fundamental to advancing India's digital aspirations. Indeed, effective spectrum management is not merely a technical or fiscal consideration - it is a strategic imperative that underpins the nation's ability to achieve ubiquitous connectivity, attract sustained investment, deliver affordable yet high-quality broadband access and drive inclusive socio-economic progress.

As India accelerates 5G deployment and prepares for the transition to future technologies such as 6G, this consultation assumes both timely relevance and strategic significance. The digital infrastructure today forms the backbone of critical sectors—spanning education, healthcare, financial inclusion (notably UPI), commerce and governance. The strength, scalability and accessibility of this infrastructure directly determine India's long-term competitiveness and capacity for inclusive growth.

In this context, Airtel respectfully submits that India's spectrum policy must now evolve from a revenue-maximization paradigm to a long-term nation-building framework that prioritizes widespread digital empowerment. High degree of monetization of spectrum constrains the very networks expected to deliver national digital public goods. A calibrated, investment-friendly approach will ensure that spectrum contributes far more to the economy through enhanced productivity, innovation and service penetration than it ever could through short-term fiscal accruals.

Airtel reiterates that a substantial reduction in spectrum reserve prices across all frequency bands is essential to realizing India's digital transformation agenda. Persistently high reserve prices have historically resulted in spectrum remaining unsold or underutilized, thereby impeding network expansion, constraining investment and diminishing service quality. Rationalizing these costs will enable the TSPs to redirect capital from elevated auction expenditures toward core infrastructure development specifically, network densification, accelerated 5G rollout, expanded rural coverage and critical backhaul enhancement through fiber deployment.

To fully unlock the potential of India's digital future, Airtel strongly urge the comprehensive release and optimal reuse of all available spectrum. This necessitates the auctioning of the entire planned inventory in existing bands to prevent artificial scarcity or supply distortion. Furthermore, spectrum currently underutilized by PSUs and the Defense establishment, as noted by the CAG, must be expeditiously refarmed. Likewise, spectrum assets entangled in NCLT/NCLAT proceedings should be promptly resolved and incorporated into forthcoming auctions to ensure efficient national utilization.

In addition to above, Airtel recommends deferring the auction of the 600 MHz band for approximately two years. The previous auction cycle demonstrated negligible interest owing to the nascent global ecosystem and limited device and network readiness.

Therefore, premature auctioning of this band would risk the spectrum remaining idle, thereby undermining its potential value. A short deferment period will allow the ecosystem to mature, ensuring efficient utilization, greater operator participation and optimal value realization from this strategic resource.

Similarly, Airtel submits that the auction of the upper 6 GHz band (6425–6725 MHz and 7025–7125 MHz) should be deferred. Presently, only fragmented portions approximately 400 MHz are available, limiting efficient deployment.

Moreover, the global ecosystem for this band, in terms of devices and network equipment, remains in its infancy. Crucially, coexistence and interference mitigation with incumbent services, particularly satellite earth stations, have yet to be conclusively addressed. Therefore, deferring the auction until these technical and ecosystem challenges are resolved will ensure that the band is released under optimal conditions, supporting both efficient utilization and long-term national interest.

Airtel respectfully submits that a well-designed spectrum framework must ultimately safeguard the core policy objectives of affordability, quality and universal access. A predictable, rational, and forward-looking spectrum regime will not only support operators in meeting rising data and coverage demands but will also propel India toward its ambition of becoming a global digital powerhouse. The Authority's intervention at this juncture is pivotal to ensuring that spectrum - India's most valuable digital resource - is leveraged to its fullest potential in the national interest.

Our counter comments made herein are in response to comments provided by certain stakeholders in reference to certain terms and conditions pertaining to auction of spectrum for IMT services.

We trust these submissions will assist the Authority in shaping a balanced, future-ready spectrum policy that promotes vibrant competition, efficient resource use, robust network investments and affordable digital services for all Indians.

In summary, we reiterate below:

1. *The Indian telecom market is already intensely competitive, and any further measures or relaxations aimed at increasing competition could inadvertently affect the financial stability and long-term viability of existing operators.*

2. *The priority should be to ensure the financial sustainability of existing TSPs, thereby enabling continued investment in next-generation technologies and expansion of rural connectivity.*

3. *The core aim of auction should be to enhance spectrum availability at affordable prices.*

4. *Referring to the currently available spectrum inventory as an "over-supply" may not accurately reflect market realities. Rather, this spectrum should be viewed as strategic reserve capacity intended to address future growth requirements and regional variations in demand.*

5. *Adopting a balanced, future-focused regulatory approach is essential. Spectrum should be treated as national infrastructure, not merely a revenue source.*

6. *The auction framework must ensure abundant supply and pricing, avoid artificial scarcity, promote sustainable competition, and encourage long-term investment through predictable policy and clear spectrum roadmap visibility for future technologies.*

7. *Forward-looking policy shift is needed—from "maximizing auction proceeds" to "maximizing long-term public value."*

8. *Rationalizing reserve prices will encourage operator participation, improve affordability of spectrum and downstream services.*

9. *Holding regular auctions will help operators make capital-efficient investments without regulatory uncertainty.*

10. ***Existing bands viz. 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300 MHz, and 26 GHz band***

    a. *Entire available inventory in existing bands to be made available for auction, with circle-specific considerations where demand-supply gaps persist. Circle-specific planning to address regional imbalances (e.g., 2100 MHz shortage in UP-E, WB, etc.)*
    b. *Existing band plans, block size, minimum bidding quantity and LSA basis to be retained.*
    c. *While retaining the existing 20-year spectrum validity, larger deliberations should be done to extend the validity of access spectrum for a longer period say 30/40 years, for existing spectrum holdings as well.*
    d. *Existing eligibility criteria and associated eligibility conditions for participation in the auction to be retained. No relaxation to be granted to include ISPs or entities lacking the demonstrated ability to provide comprehensive telecom services.*
    e. *Roll-out obligations for existing players to be relaxed.*
    f. *New roll-out obligations to be reserved strictly for genuine new entrants to incentivize network expansion and service availability.*
    g. *Reduce existing spectrum cap from 40% to 35% per TSP as per band grouped under NIA 2024.*
    h. *Spectrum pricing to be rationalized and auction timelines be aligned with ecosystem maturity for all bands, especially low-frequency spectrum.*
    i. *Operational challenges associated with 3300 MHz band to be proactively addressed and resolved by harmonizing spectrum use by moving the current un-allocated spectrum to the 3400-3430 MHz range in exclusion zones around DoS NavIC stations – before auctions.*

j. *Explicit regulatory frameworks to be established to mitigate interference risks between adjacent 850 & 900 MHz band deployments, enforcing 3GPP-compliant emission standards.*

11. ***600 MHz band:*** *Auction to be conducted only after concrete evidence of ecosystem readiness is established, ideally post 2–3 years, using n105 band configuration. Meanwhile, TRAI and DoT should conduct annual reviews of global developments and domestic ecosystem progress before finalizing auction timelines.*

12. ***6 GHz band:***

a. *Entire spectrum in 6 GHz band should be made available for IMT services and auctioned accordingly.*
b. *Spectrum in 6425-6725 MHz and 7025-7125 MHz ranges should not be included in forthcoming IMT auction.*
c. *India-specific pilot coexistence trials between IMT base stations and satellite uplink earth stations be conducted before auction of this band.*
    i. *Trials should be jointly undertaken by DoT, DoS/ISRO, TRAI, and TSPs to determine optimal keep-out distances, interference thresholds, and EIRP limits.*
    ii. *Studies should cover different terrain and density environments (urban, semi-urban, rural) to derive a robust, nationally applicable coexistence framework.*
    iii. *Basis pilot results define standardized technical parameters, exclusion zone templates, and coordination procedures for inclusion in auction design and license conditions.*
    iv. *Only after completion of these studies and availability of validated coexistence parameters should this be included in commercial auctions.*
d. *Adopt globally harmonized 3GPP n104 band plan for upper 6GHz band.*
e. *Approach adopted for 3300 MHz and 26 GHz bands regarding TDD synchronization and coordination be explicitly extended to the upper 6 GHz band;*
f. *Following mandatory technical provisions be established in auction and licensing framework:*
    i. *Common GPS-based synchronization across all TSP networks;*
    ii. *Uniform DL/UL frame configuration for all outdoor sites;*
    iii. *Spectrum assignment in contiguous blocks, consistently positioned across LSAs;*
    iv. *Coordination mechanism facilitated by DoT/WPC to harmonize TSPs' deployments.*

13. ***1427–1518 MHz band:***

a. *Valuable mid-band spectrum that can play a critical role in uplink enhancement and balanced 5G-Advanced network performance.*
b. *Efforts should be initiated through DoT, WPC, and TRAI to engage with 3GPP and global OEMs for defining and standardizing an SUL option.*
c. *24 MHz contiguous block for Government use should be located at one end of the band.*

d. *DoT and TRAI should initiate early consultations with chipset, device, and network vendors to ensure ecosystem readiness for SUL deployment in the 1427–1518 MHz band.*
e. *Phased roadmap should be developed, targeting ecosystem maturity by 2027–2028, synchronized with the expected availability of this band post-2026.*

14. *While SMRA framework has served India well, there is merit in reviewing and evolving the auction design to align with the next phase of 5G-Advanced and 6G spectrum requirements.*

15. *Optimal spectrum valuation and reserve price determination must integrate economic sustainability, global benchmarks, technical readiness, and market realities.*

16. *TRAI should move away from exclusive reliance on past auction prices and adopt a marginal/incremental revenue–based approach. If indexation is applied, use REPO or Reverse REPO rate instead of MCLR to account for temporal value adjustments.*

17. *Spectrum valuation exercise should be undertaken afresh every year.*

18. *Spectral efficiency should be treated as a supporting input, not a determinant, within a comprehensive valuation methodology that reflects both the technical and economic realities of spectrum deployment in India.*

19. *Reserve price of spectrum for all bands to be set at 50% of the valuation.*

20. *No upfront payment should be mandated. TSPs should be allowed to make payments solely through annual installments after a 6-year moratorium, spread over the remaining 14-year spectrum validity period.*

21. *Minimum 6-year moratorium should be provided in forthcoming auctions, followed by 14 equal annual installments for payment of the spectrum price.*

22. *Total of 14 installments, post the moratorium period, should be prescribed to recover the deferred payment amount — with no upfront payment requirement.*

23. *No interest should be levied on deferred spectrum payments. Without prejudice, if interest is imposed, rate to be aligned with prevailing RBI Repo Rate to reflect current market conditions.*

24. *Spectrum swap policy allowing TSPs to exchange spectrum in one band for another on a revenue-neutral or positive basis to the exchequer should be introduced.*

25. *Spectrum Surrender Guidelines should be revised to enable refund or adjustment of paid spectrum charges in case of surrender. If refund is not feasible, the amount may be adjusted against future deferred payments or future auction acquisitions by the TSP.*

In the remainder of this document, Airtel provides its counter comments:

I. Enhancement of Competition through Introduction of Separate Category of Players on Relaxed/Modified terms & conditions

One of the stakeholders has advocated a separate category of players viz. ISPs (Cat B & C), IoT/M2M SPs and some others citing it is difficult to participate and compete in the auction with the larger TSPs. They have also proposed certain changes in the eligibility conditions, LSA basis assignment and sought a separate block of spectrum for such category of players.

Airtel Counter Comments:

1. Airtel respectfully submits that the proposal to create a separate category of participants (viz. Category B & C ISPs, IoT/M2M Service Providers, etc.) with relaxed eligibility norms and differentiated auction conditions is neither justified nor consistent with the established principles of a fair, transparent and non-discriminatory auction framework.

2. Spectrum is a finite, high-value national resource, and its allocation must be guided by the overarching principles of efficiency, scalability and public benefit. Given the capital-intensive nature of telecommunications networks, efficient utilization of spectrum can only be ensured through entities possessing the requisite financial strength, operational experience and nationwide infrastructure. Larger TSPs, by virtue of their established network footprint, technological capability, and investment capacity, have demonstrably proven their ability to deploy and utilize spectrum resources across wide geographical areas in a timely and efficient manner. This ensures optimal spectrum use, promotes rapid rollout of next-generation services, and maximizes socio-economic value to the public. **Accordingly, spectrum assignment must continue to prioritize efficiency at scale and the proven capacity of operators to deliver tangible public benefits, rather than dilute allocation criteria through artificial segmentation or preferential treatment.**

3. India's spectrum auction regime has been designed to promote efficient spectrum utilization, technological neutrality, and a level playing field across all eligible participants. Introducing differentiated conditions or spectrum carve-outs based on turnover or business model would distort market dynamics, discourage investment and contradict the very principles of competition and fairness that the proposal seeks to promote. In this regard, our **detailed counter-comments on certain contentions are as below**:

    a. **Assertion of "Insufficient Competition":** The argument that **the current auction system lacks adequate competition does not appear to align with market data.** The Indian telecom market is one of the most competitive globally, with multiple nationwide TSPs, each offering a wide range of services and technologies. Further, the recent spectrum auctions have witnessed robust participation from several TSPs, ensuring competitive price discovery and efficient allocation.

The consolidation observed in the sector has resulted not from lack of competition but from market efficiencies, technological advancements, and rationalization of infrastructure investments - all of which benefit consumers through lower tariffs and better services. **Therefore, the current auction framework already provides sufficient competitive intensity, and there is no demonstrable market failure warranting special treatment for select categories of entities.**

b. **Proposal for a Separate Category and Reduced Eligibility Criteria citing Financial Competency:**

Airtel respectfully submits that creating a segregated category of "smaller" or "weaker" players based on turnover or service scope would be inappropriate and may lead to outcomes that are inconsistent with the principle of technology- and service-neutral licensing. Spectrum is a national resource that must be allocated through transparent, market-based mechanisms to entities capable of utilizing it efficiently and delivering meaningful consumer benefit. Introducing reduced eligibility norms, relaxed rollout obligations, or "reserved" spectrum blocks for any particular category of operators could inadvertently distort competition, incentivize speculative participation, and risk inefficient or suboptimal spectrum utilization. Moreover, such differentiation may fragment the market and weaken the uniformity of regulatory and technical standards, potentially affecting network interoperability, service consistency, and overall consumer experience.

i. The Notice Inviting Applications (NIA) already provides adequate flexibility for all eligible entities to participate in spectrum auctions and to acquire spectrum commensurate with their service requirements. Spectrum, being a finite and invaluable national resource, must be allocated solely to entities with a demonstrable capability to deploy and utilize it efficiently and at scale. The current transparent and market-based auction mechanism ensures open participation for all qualified players who possess a commercially viable business model and the requisite financial and operational strength to deliver services effectively.

ii. While smaller entities may face financial or scale-related constraints, these factors alone cannot serve as grounds for regulatory exemptions. **The auction system already offers flexibility through LSA-based bidding, enabling smaller players to focus on specific geographies aligned with their business strategies. Further, DoT provides ample avenues for participation through measures such as infrastructure sharing, MNO-VNO frameworks and favorable TRAI recommendations on spectrum leasing. These mechanisms collectively allow smaller players to access and utilize spectrum, and to offer services effectively even without directly owning spectrum.**

iii. **There exist adequate mechanisms for inclusion and market entry without compromising auction integrity or fairness. Therefore, Airtel respectfully submits that the threshold for participation should rightly be determined by an entity's proven capacity and commitment to deploy, rather than through any form of regulatory relaxation, subsidy, or spectrum set-aside that could distort competition and undermine the principle of efficient spectrum utilization.**

c. **Carved-Out Spectrum Blocks:**

i. Spectrum is a scarce national asset its allocation must remain anchored to the principles of efficiency, scale and public interest. We understand that fragmenting spectrum into small, localized blocks for niche or regional players would severely undermine the ability of nationwide TSPs to aggregate contiguous spectrum holdings essential for delivering high-capacity, high-speed services such as 5G and future technologies. Such fragmentation compromises spectral efficiency, increases interference management complexity and directly degrades service quality, network capacity and the overall consumer experience across the country.

ii. Artificial fragmentation of this resource, spectrum hoarding through micro-level allocations, or the creation of scarcity through set-asides would not only contravene the principle of uniform treatment and open access but also lead to inefficient allocation and underutilization of valuable spectrum. It would also introduce regulatory uncertainty and reduce investor confidence, thereby also setting an undesirable precedent, inviting similar demands from other market segments. Such measures must therefore be firmly rejected.

iii. In conclusion, any proposal to grant special regulatory exemptions or carve-outs enabling certain players to bypass the competitive auction process is both unjustified and inherently anti-competitive. It unfairly disadvantages established TSPs that have invested billions of rupees in developing India's national digital backbone and ensuring near-universal connectivity. **Therefore, Airtel submits that spectrum allocation must remain service - and operator-neutral, guided solely by market demand and technical considerations - not by arbitrary classifications.**

d. **District/City-level Assignment:** In this regard, Airtel submits that the existing LSA-based framework already ensures a balanced, scalable, and administratively efficient mechanism for spectrum assignment that promotes optimal utilization and nationwide service continuity. Any departure from this proven structure towards district/city level would undermine efficiency, increase coordination challenges, and dilute the public value derived from this scarce national resource.

4. **In conclusion, Airtel respectfully submits that the Indian telecom market is already intensely competitive, with robust price discipline, innovation, and world-class service penetration. The existing NIA and auction framework ensures transparency, flexibility, and fairness and such proposals for special categories, reserved spectrum blocks, or relaxed eligibility, made by certain stakeholders, are unjustified and anti-competitive, contrary to the principles established by the NDCP 2018 and TRAI. Also, fragmenting spectrum for niche or localized players would create inefficiency, spectrum hoarding, and artificial scarcity, undermining the national digital vision.**

5. **Spectrum must continue to be allocated to entities with the proven capacity to utilize it efficiently at scale, ensuring maximum public benefit from this finite national resource. Therefore, Airtel strongly and unequivocally opposes the proposal and reiterates its commitment to supporting a unified, market-based, and transparent auction framework that sustains investment, competition and India's long-term digital growth.**

II. Unsold Inventory Does Not Imply Permanent Lack of Demand:

One of the stakeholders has advocated that the entire available spectrum in the existing bands viz. 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300 MHz, and 26 GHz band should not be put to auction in the forthcoming auction considering massive unsold inventory put to auction in 2024 and Zero Demand in four key bands (800 MHz, 2300 MHz, 3300 MHz, and 26 GHz).

Airtel Counter Comments:

1. Airtel respectfully submits that the proposal to withhold portions of spectrum from the forthcoming auction, citing unsold inventory in previous rounds, is neither justified nor consistent with established principles of transparency, predictability and market-based spectrum management.

2. From an operator's standpoint, continuity, certainty, and predictability in the auction process are critical to long-term network planning, investment scheduling and spectrum lifecycle management. Any artificial restriction on the quantum of spectrum offered could create supply-side distortions, impede investment decisions and undermine the momentum of India's ongoing digital infrastructure expansion.

3. It is pertinent to note that spectrum availability and predictability are central to investment planning. Regular, comprehensive and transparent auctions enable operators to plan multi-year Capex commitments with certainty; align spectrum acquisition with technological evolution and traffic growth; and ensure continuity of services and future readiness for 5G expansion and upcoming 6G trials.

4. The recent improvement in auction regularity and predictability has allowed TSPs to synchronize investment cycles, resulting in accelerated deployment and enhanced consumer benefits. Reverting to selective or partial auctions based on past demand patterns would reintroduce uncertainty and negatively affect strategic network and financial planning.

5. Further, the existence of unsold spectrum in certain bands during a particular auction cycle does not indicate structural lack of demand. Spectrum acquisition is inherently cyclical and depends on operators' network maturity, renewal timelines, and capacity requirements at a given point in time. The operators make commercially prudent decisions to purchase spectrum based on immediate needs and Capex constraints, not as a reflection of long-term demand potential. Demand is also influenced by the stage of technological evolution; certain bands may gain strategic importance only as device ecosystems mature, standards evolve, and enterprise use-cases crystallize. Thus, temporary non-acquisition should be viewed as part of the natural market cycle—not as a justification for curtailing availability.

6. The assumption that operators who purchased spectrum previously will continue to buy in every future auction - the so-called "sunk cost fallacy" - is erroneous. The TSPs participate based on actual capacity needs and commercial feasibility, not obligation. Creating artificial scarcity will not lead to greater efficiency or consumer benefit. On the contrary, restricting supply in anticipation of forced demand would distort price discovery, potentially inflating costs without yielding any commensurate public benefit.

7. With the evolution of technologies such as 5G Advanced, IoT, and Industry 4.0 applications, previously underutilized bands like 26 GHz, 2300 MHz, and 800 MHz may become critical in the near future.

8. Withholding Spectrum based on temporary market behavior would be short-sighted and only create artificial scarcity and market distortion. There is no second thought that restricting the amount of spectrum put to auction risks creating artificial scarcity and market inefficiency and such actions may:

    - Lead to price distortions in subsequent auctions.
    - Limit TSPs' ability to aggregate contiguous spectrum holdings necessary for high-capacity, high-speed services.
    - Delay technology deployment and degrade consumer experience; and
    - Undermine the transparent, market-driven nature of India's spectrum regime.

9. In addition, Airtel would like to highlight that India's established practice - consistent with TRAI's recommendations and the National Digital Communications Policy (NDCP) 2018 - is to make all available spectrum in identified bands accessible through open auction. The NDCP, 2018 explicitly states the following:

> *1.2* ***Recognizing Spectrum as a key natural resource for public benefit to achieve India's socio-economic goals, ensure transparency in allocation and optimize availability and utilization by****:*
> *(a)* ***Developing a transparent, normative and fair policy for spectrum assignments and allocations***
> *(b)* ***Making adequate spectrum available to be equipped for the new broadband era:***
> ***i. Identifying and making available new Spectrum bands for Access and Backhaul segments for timely deployment and growth of 5G networks.***
> ***ii. Making available harmonized and contiguous spectrum required for deployment of next generation access technologies***
> ***iii. Further liberalizing the spectrum sharing, leasing and trading regime***
> ***iv. Coordinating with Government departments for freeing underutilized/ substitutable spectrum, and its assignment along with unutilized spectrum for efficient and productive use***
> ***v. Optimal Pricing of Spectrum to ensure sustainable and affordable access to Digital Communications***

10. Similarly, TRAI has consistently recommended that all available spectrum be offered in auctions to ensure transparency, efficient price discovery and investor confidence. The Government should continue with comprehensive auctions across all existing bands, maintaining transparency, long-term predictability and certainty for investors.

11. The TSPs have invested billions of rupees in building the national digital backbone. Predictable auction timelines and full-band availability are essential for operators to plan network evolution, maintain service quality, and meet NDCP 2018's vision of "broadband for all and robust digital infrastructure for India."

12. **Therefore, Airtel strongly opposes any proposal to limit or defer the auction of spectrum in any existing band and urge that the entire available spectrum inventory in existing bands continue to be offered in the forthcoming auction in alignment with India's market-based spectrum allocation framework. Past unsold spectrum should not be interpreted as a lack of future demand.**

III. Band Grouping and related Spectrum Caps:

One of the stakeholders has submitted the following:

a. *Sub-1 GHz FDD Bands: This group shall include the 600 MHz, 700 MHz, 800 MHz, and 900 MHz bands. The spectrum cap for this group may be fixed at 40% of the total spectrum available in these bands within each Licensed Service Area (LSA).*
b. *Mid-Band FDD Bands: This group shall include the 1800 MHz and 2100 MHz bands. The spectrum cap for this group may be fixed at 40% of the total spectrum available in these bands within each LSA.*
c. *Mid-Band TDD Bands: This group shall include the 2300 MHz, 2500 MHz, 3300 MHz, and 6 GHz bands. The spectrum cap for this group may be fixed at 50% of the total spectrum available in these bands within each LSA.*
d. *High-Band (mmWave) TDD Bands: This group shall include the 26 GHz, 37–37.5 GHz, 37.5–40 GHz, and 42.5–43.5 GHz bands. The spectrum cap for this group may be fixed at 50% of the total spectrum available in these bands within each LSA.*

Airtel Counter Comments:

1. It is worthwhile to note that TSPs have aligned their spectrum holdings and deployments with the current DoT/TRAI-approved band categorization - Sub-1 GHz, Mid-band, 3300 MHz, and 26 GHz. Airtel respectfully submits that any change to this structure would create regulatory uncertainty, operational challenges, and impact ongoing network rollouts. Arbitrarily **merging unrelated bands** (e.g., 3300 MHz and 6 GHz, which have vastly different propagation characteristics and use cases) for spectrum cap purposes **introduces regulatory uncertainty and forces costly, unnecessary re-engineering of existing operational networks.**

2. There is **no technical or commercial rationale** for imposing separate spectrum caps based on the duplexing method (Frequency Division Duplex, FDD, or Time Division Duplex, TDD). Both FDD and TDD spectrum contribute equally to an operator's network capacity and coverage. Treating them differently for the purpose of the cap creates an **artificial constraint** that unfairly penalizes operators who have strategically acquired both types of spectrum for efficient, hybrid network deployment.

3. **1800 MHz and 2100 MHz:** These two mid-band frequencies are often used interchangeably for 4G/5G capacity and are crucial for network deployment and performance of 5G carrier aggregation. **Creating a separate, combined spectrum cap for them would directly disadvantage operators who rely on both the bands and would create regulatory disparity. This undermines the established principle of a fair and level playing field.**

4. Further, it is pertinent to note that spectrum caps are instrumental in maintaining a competitive equilibrium and preventing monopolistic control over limited resources. While caps must not be so restrictive as to leave spectrum unsold and underutilized, they must also be stringent enough to avoid market distortion.

5. Airtel reiterates that the 35% cap is conducive to multi-operator competition (considering 3 private TSPs and 1 PSU), technological innovation, and rational bidding behavior observed in previous auction cycles. It will allow the private TSPs to consolidate meaningful spectrum blocks necessary for wide-area and urban deployment, fostering efficient rollout of 5G and future 6G services.

6. Further, with the significant increase in sub-GHz spectrum particularly through the addition of the 600 MHz band - the earlier justification for a 40% cap no longer holds, as total availability has expanded beyond the historically limited 10–15 MHz per operator. A reduced 35% cap would ensure equitable distribution, prevent excessive concentration of this critical coverage spectrum, and support healthy competition among all operators, including three private TSPs and one PSU.

7. **Therefore, Airtel advocates reducing the sub-GHz spectrum cap from 40% to 35% under NIA 2024 to promote fair access, competitive equilibrium, and optimal national spectrum utilization. Such a cap strikes an appropriate balance between avoiding underutilization and preventing market distortion, while enabling operators to secure meaningful blocks for efficient 5G and future 6G rollout**

IV. Valuation and Reserve Price of IMT Spectrum:

One of the stakeholders has advocated that reserve price should be 70%.
Another stakeholder has submitted that since 600 MHz band is the only available sub-1GHz band that can provide large chunk of spectrum suitable for 6G, its valuation should be at least 2 times the ADP of spectrum in 700 MHz band.

Airtel Counter Comments:

1. Airtel strongly opposes any suggestion of the arbitrary imposition of a 70% reserve price or any pricing mechanism that relies on a percentage of prior elevated auction values. This practice is economically unsound and detrimental to the sector.

2. Telecom operators already face one of the highest cost burdens globally (often exceeding 25% of recurring revenues). Forcing a 70% reserve price, especially for valuable sub-GHz bands—translates directly into billions of dollars being committed as spectrum fees rather than CAPEX. This directly restricts operators' ability to invest in network densification, rural expansion, and technology upgrades (like fiber backhaul for 5G).

3. History shows that high reserve prices detached from prevailing market conditions - result in large portions of spectrum remaining unsold or underutilized, as evidenced by the 700 MHz band in previous auctions. Idle spectrum caused by cost-prohibitive pricing is a direct loss to the nation, delaying digital inclusion and creating an artificial scarcity.

4. In a consolidated market, the reserve price effectively becomes the final sale price; if this price is set at 70% of an already elevated benchmark, it disproportionately raises the cost of essential spectrum and may ultimately affect consumer tariffs and service affordability. Concerns that operators will "earmark and use spectrum for their own advantage" due to lower reserve prices misdiagnose the real issue, which is the need for pricing that ensures efficient utilization rather than deterring participation.

5. Operators acquire spectrum prudently to address current capacity, and coverage needs and to secure future growth or renewal—not to hoard resources. When reserve prices are irrationally high, operators are compelled to bid only for the minimum essential blocks needed to maintain network stability, which is a sound financial response rather than an attempt at cornering spectrum. In fact, excessive pricing is what leads to 'earmarking' or underutilization, resulting in selective bidding where only critical blocks are purchased and valuable spectrum remains idle, and delayed rollout as capital gets tied up in spectrum payments instead of network expansion.

6. **The 2022 auction offers a relevant precedent:** The 600 MHz and 700 MHz bands carried identical reserve prices, and the 700 MHz and 800 MHz bands showed only marginal (10–20%) variation—reflecting the understanding that while 700 MHz may be marginally more mature globally, the core propagation characteristics across sub-1 GHz bands remain largely comparable.

7. Lastly, the assertion made by such stakeholder that the 600 MHz band is the "only available spectrum in the sub-1 GHz category" is factually incorrect and is being used to justify an elevated reserve price. As per TRAI's own recommendations, vacant spectrum remains available in the commercially mature 800 MHz and 900 MHz bands for the upcoming auction. In addition, TRAI has already proposed the 526–582 MHz band for future IMT use, further expanding the pool of low-band spectrum. Given this availability, low-band spectrum is not scarce, and therefore the proposed 2x pricing for 600 MHz is unjustified.

8. **Therefore, Airtel strongly submits that the reserve price for the 600 MHz band must be rationalized and aligned with its closest comparable alternative 700 MHz - considering its current ecosystem maturity, to ensure that it attracts bids, is efficiently utilized and contributes meaningfully to national connectivity objectives.**

9. No indexation of Auction-Determined Prices in case Spectrum remains Partially Unsold:

a. In its 2022 auction recommendations, the Authority advised that a fresh spectrum valuation exercise should be undertaken once every three years for existing bands. or auctions conducted between such periodic valuations, the Authority recommended that the last auction-determined prices be indexed to MCLR *only* for LSAs where spectrum was sold in the previous auction and more than a year had elapsed since then. **For LSAs where spectrum remained unsold, the recommendation was to retain the last reserve price without any indexation.**

b. We submit that indexing the last auction-determined prices would inflate the reserve prices significantly. Everyone has witnessed how steep reserve prices have led to substantial portions of the spectrum on offer going unsold during the past few auctions. For example:

i. In the 2022 Auctions, more than 60% of each band put to auction (except for 5G spectrum, i.e., 3300 MHz and 26 GHz bands) remained unsold. The entire spectrum put to auction in the 2300 MHz bands was unsold. Moreover, even in the 800 and 900 MHz bands each, the spectrum sold was merely 13% and 17%, respectively.

ii. Further, 800 MHz spectrum was sold in only 4 circles out of 22 where it was put to auction. Similarly, spectrum in the 900 MHz band was sold in only 3 circles out of 21. There are multiple such instances where spectrum in crucial bands was sold but only in a measly quantity. For example:

- 1800 MHz: Only 27% sold in Andhra Pradesh and Himachal Pradesh; 18% in Mumbai; 21% in Kolkata.
- 2100 MHz (Delhi): Only 33% sold.
- 2500 MHz (Andhra Pradesh): Only 33% sold.

iii. These outcomes clearly indicate insufficient demand at current reserve prices. In such a scenario, increasing prices further by applying MCLR-based indexation would be counterproductive, serving neither the government's objective of spectrum monetization nor the industry's requirement for affordable access.

c. The spectrum that remains unsold and unused represents a missed socio-economic opportunity for the nation. If auctioned and deployed, it could have strengthened network capacity to meet rising data demand and expanded connectivity in remote rural areas, helping narrow the digital divide. ***Therefore, any unwarranted increase in reserve prices is unjustified and must be avoided.***

d. The primary focus of the DoT should be to ensure sufficient spectrum availability at reasonable prices, irrespective of the outcomes of previous auctions. Notably, there have been several instances where the Authority's valuation methodology resulted in **lower** reserve prices compared to preceding auctions. For example:

i. The reserve prices for the 800 MHz band in the 2022 auctions were lower than those in the 2021 auctions in all but five LSAs.

ii. Similarly, reserve prices for the 1800 MHz band were lower in 2022 in all but three LSAs.

e. The fact that the 800 MHz and 1800 MHz spectrum bands got sold in those LSAs during the 2021 Auctions also did not prevent the Authority/DoT from recommending a lower reserve price.

f. Accordingly, reserve prices should ideally be revised downwards or at least kept at the same level as the last auctions. In no case should the reserve prices be increased. This will encourage TSPs to buy more spectrum. This spectrum, which would otherwise be lying unsold and unutilized, will generate revenue for the government and enable TSPs to provide better services to consumers – a win-win situation for all.

g. Without prejudice, in case auction-determined prices must be indexed to arrive at reserve prices, it should be done only in cases where the entire quantum of spectrum put to auction got sold in the previous auctions, and not in cases where it remained partially unsold. Alternatively, in cases where spectrum remained partially unsold, there should be a clear-cut criterion as to when the auction-determined prices can be indexed – say, for example, when at least 75% of the spectrum on offer got sold in the previous auctions.

h. **Therefore, Airtel recommends the following:**

i. Reserve prices should be revised downwards or kept at the same level as the last auctions. They should not be increased in any case.

ii. Without prejudice, auction-determined prices should be indexed only in cases where the entire quantum of spectrum put to auction got sold in the previous auctions, and not in cases where it remained partially unsold.

iii. Alternatively, in cases where spectrum remained partially unsold, there should be a clear-cut criterion as to when the auction-determined prices can be indexed – say, for example, when at least 75% of the spectrum on offer got sold in the previous auctions.

V. Reduction in Block-size for 2300 MHz from existing 10 MHz to 5 MHz:

One of the stakeholders has advocated that -
For 2300 MHz - Block-size should be reduced to 5 MHz from existing 10 MHz, which allows operators to bid for smaller, more affordable chunks and gives maximum flexibility to those who already have fragmented holdings (e.g., 20+5 MHz) to reach an efficient block (e.g., a contiguous 30 MHz).

Airtel Counter Comments:

1. Airtel strongly opposes the reduction of block size from 10 MHz to 5 MHz as suggested by one of the stakeholders, as this in not in line with the recommendations ***"On Valuation and Reserve Price of Spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands"*** made by TRAI on 18th April 2016, wherein the authority stated that: "Spectrum in the 2300 MHz and 2500 MHz bands should be put to auction in the block size of 10 MHz (unpaired)." In furtherance to this, we support the 10 MHz block size due to the following reasons:

    a. **Harmonization with Global IMT Standards:** 10 MHz is the internationally adopted block size for TDD broadband deployments (3GPP Band 40), supporting efficient carrier aggregation and high-capacity LTE/5G services. This alignment ensures devices and equipment can operate seamlessly. Reducing the block size to 5 MHz would effectively deviate from globally harmonized TDD deployment norms and compel operators to manage fragmented spectrum portfolios that are inherently less conducive to delivering high-quality mobile broadband.

    b. **Contiguous Spectrum for Efficiency:** Allocating 10 MHz blocks minimizes fragmentation and enables operators to acquire meaningful, contiguous bandwidth - critical for supporting high-throughput scenarios and maximizing spectral efficiency. This also supports future-proof upgrades to LTE-Advanced and 5G technologies. It is pertinent to note that a 5 MHz block size would create an environment where operators may accumulate non-contiguous, technically inferior spectrum holdings, thereby constraining their ability to leverage advanced features such as Massive MIMO, CA, and beamforming all of which depend heavily on larger, harmonized spectrum channels.

    c. **Auction Participation and Flexibility:** The block size is large enough to deter trivial bids and speculative fragmentation yet small enough to allow operators of varying scales to participate, maintaining auction competitiveness and flexibility.

    d. **Regulatory and Market Experience:** Previous spectrum auctions in India and globally have demonstrated that smaller block sizes lead to inefficiencies and underutilization, while a 10 MHz standard streamlines deployment and business planning for TSPs.

2. **Therefore, in summary, Airtel advocates for the 10 MHz unpaired block size for 2300 MHz band, rather than any reduction in block size as it enables optimal spectrum utilization, global harmonization, and robust network performance; reflecting both technical best practices and market realities endorsed by TRAI and international standards bodies.**

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