

**COMPILED COMMENTS RECEIVED FROM STAKEHOLDERS AND THE COMMISSION’S RESPONSE ON THE DRAFT INFORMATION MEMORANDUM (IM) FOR THE AUCTION OF 3.5 GHz SPECTRUM – NOVEMBER 2021**

**MTN NIGERIA PLC**

S/N	MTN’s Observation	MTN’s Recommendation	Commission’s Response
1.	<p>There is a need to obviate substitution risk which may arise from the award of the entire 3.5 GHz band through the form of a sequential series of auctions. Substitution risk is the risk that a bidder acquires a specific spectrum lot for a given price when it would have preferred to have acquired a substitute spectrum lot at a lower price</p>	<p>All spectrum lots available in the 3.5GHz be awarded using a Simultaneous Multi-Round Ascending clock auction format with different start dates which reflect the time required to ensure that the spectrum can be cleared</p> <p>In the alternative, we recommend that the Commission should provide a commitment to retain the same Reserve Price and licence conditions for any subsequent auction of spectrum in the 3.5 GHz band in order to reduce the Substitution Risk.</p>	<p>The Commission will maintain the Auction Price of this auction as a minimum to be applied when the remaining slots are available and cleared of encumbrances.</p> <p>The Commission is unable to delay the auction as recommended.</p>

		<p>The Commission should also delay the auction until such time that the presently encumbered lots have been cleared and become available.</p>	
<p>2.</p>	<p>A benchmark result conducted by Coleago Consulting Ltd indicates a market value of US\$ 83.7 million for 100 MHz of 3.5 GHz spectrum. In effect, this implies the Reserve Price of US\$ 197.4 million set by the Commission is 136% higher than the estimated market value. The Price is also not aligned with a materially discounted market value of spectrum and does not meet best practice. As such, this creates a very high risk of non-participation because the Reserve Price will likely exceed the value that operators place on the spectrum</p>	<p>There is a need to ensure that:</p> <ul style="list-style-type: none"> <li>i) the Reserve Price should be low at a materially discounted spectrum market value; and</li> <li>ii) the Reserve Price is related to market value derived from auction benchmarks but subject to a significant discount of about 50% to 60% to ensure that participation by all operators is encouraged and that all spectrum is sold.</li> </ul> <p>MTN also recommends that the reserve price be set at US\$ 50m which is believed to be fair and reasonably discounted, and will</p>	<p>The Commission benchmarked other jurisdictions in addition to other variables which may not have been considered by other studies before arriving at this reserve price which we believe is reasonable. The Reserve Price remains US\$ 197.4 million.</p>

		encourage participation in the auction.	
3.	While the Draft IM proposes a license tenure of 10 years, given the current low level of 5G device diffusion within the 3.5 GHz band, the currently proposed duration is too short to allow operators to create positive value from the spectrum.	MTN recommends that the licence term be set at 20 years. This balances the desire to promote efficiency with the objective of encouraging investment and maximizing the benefits of the resulting mobile services to consumers. It will also lead to higher spectrum values and auction receipts.	Tenure remains 10 years. However, auction winners that intend to pay for a tenure of 15 years will be allowed provided that the additional 5 years shall also be paid at the prorated auction price
4.	There is a need to review the payment obligation in the Draft IM	MTN recommended the adoption of staggered payment terms to encourage participation. The terms should apply to all bid winners without discrimination;  1. 50% of the total amount paid in clear funds within one month of the	Staggered payment is not acceptable.

		<p>announcement of winning bidders; and</p> <p>2. The balance paid over 5 years in equal annual instalments without the imposition of interest charges. In order to take into account the impact of COVID 19, we will recommend allowing a two year payment holiday before the commencement of balance payments.</p>	
5.	<p>The Commission is invited to note that the IM for the 3.5 GHz band states that the spectrum is technology neutral. However, in practice, operators are required to seek approval from the Commission for the re-farming of spectrum between technologies. This</p>	<p>MTN recommends a technology neutrality regime where operators are only required to notify the Commission of an intention to re-farm a spectrum</p>	<p>While the Commission is committed to a technology neutrality regime, approvals are required in order to ensure compatibility and efficient spectrum usages.</p>

	<p>requirement creates uncertainty for operators as to whether the request will be granted. Uncertainty makes network planning more challenging and causes operators to discount the value of spectrum in response to the risk that their requests are not granted.</p>	<p>to a new technology rather than an approval request.</p>	
<p>6.</p>	<p>For an Operator to create value from the award of 3.5 GHz spectrum, the Operator must be allowed to create a unique, differentiated position in the marketplace. A differentiated position may arise due to the ability to offer higher speeds or capacity than competitors who do not have access to the spectrum. If the winner of spectrum in the auction is required to make access to its 3.5 GHz network available to other bidders through national roaming agreements, then this eliminates its unique position in</p>	<p>The Commission can achieve this balance by upholding its technology neutral principle where operators are permitted to re-farm their existing spectrum holdings to 5G whilst at the same time allowing the spectrum auction winners an exclusivity period of ten (10) years to provide the appropriate balance between promoting competition and ensuring adequate investment in the spectrum.</p>	<p>While the Commission is committed to a technology neutrality regime, approvals are required in order to ensure compatibility and efficient spectrum usages.</p> <p>National roaming will only be allowed on the 5G Network at such a time when all the five slots of the C-Band are licensed or 5 years after this auction which ever occurred first. However, a winner who intends to roam may apply to the Commission for consideration.</p>

	the market and reduces the value of spectrum.		
7.	The current provisions of the Draft IM on License Renewal do not provide sufficient clarity to potential bidders in order to value the spectrum with confidence. The challenges of renewal in this regard are compounded by the general uncertainties over the value of 5G services in Nigeria, the rate of device diffusion, the short licence duration, and the high Reserve Price. To enable potential bidders to fully value the spectrum, greater clarity is required over the renewal process.	MTN recommends that the computation of the renewal fees for the spectrum should be as set out in the Frequency Spectrum (Fees and Pricing) Regulations in force at the time of renewal in line with the formula contained therein and not on the basis of a pro-rated auction sum or as determined by the Commission.	Comments noted and accepted
8.	The Draft IM currently states that operators in the present auction can only bid for one Lot. MTN believes that this is appropriate.	However, in future awards, to ensure that all the spectrum can be assigned and used efficiently, it will be appropriate to allow successful bidders in the current auction to participate in future awards. MTN believes that a total cap of	The Draft IM relates to the current auction and does not in any way place restriction on any participation in future spectrum licensing processes.

		200 MHz in the 3.5 GHz band would be appropriate across all awards in the band.	
9.	Please confirm that there is no minimum Reserve Price during the Assignment Stage.		Bidder is at liberty to bid any amount at the assignment stage
10.	In the event that any of the Lots which is the subject of the auction has interference issues, please confirm that a commencement date of the tenure of the Spectrum License will not be specified until the Lot is totally cleared of all interference even if payment is made ahead of the interference being cleared.		The Commission will ensure that the band is cleared of encumbrances before the commencement date
11.	In the event that any Lots which are the subject of the current auction are not freely available, please confirm the date when the clearance process will be completed.		Six (6) months from the date of payment
12.	Please confirm the auction price that will be paid by winners of the ascending clock auction.		The Auction price is the price offered by a bid winner at the exit bid. In case of two exit bids at the last round, the lower exit bid shall be the Auction price.

13.	In the case where a Lot is awarded to a bidder who submits an exit bid, please confirm that all winners will pay the price determined by the exit bid.		Winners shall pay the price of their exit bid as determined above.
14.	Please confirm that a bidder who wins a Lot in the ascending clock auction cannot bid in the unsold Lot round.		A bidder who wins a lot in the ascending lots auction cannot bid in the unsold lots round.
15.	Please confirm the pricing rule in the assignment stage.		Please refer to Section 6 item (ii) in the IM.
16.	We note the ambiguous clauses in the coverage obligation sections i) "Please note that Service in each state would mean a minimum of 5 sites in a state" ii) "For the purpose of this licensing process, roll-out shall be understood to mean that a service signal is available to at least one-third (1/3) of the population of each state capital as appropriate". Both clauses appear to be in conflict. As such, we request clarity on the appropriate coverage obligation.		Noted.

**AIRTEL NIGERIA COMMUNICATIONS PLC**

S/N	Airtel's Observation	Airtel's Recommendation	Commission's Response
1	<p><b>Spectrum Availability</b> - Airtel observes that only 2 lots of 100MHz TDD spectrum in the 3.5GHz band ranging from 3500 – 3600MHz and 3700 – 3800MHz is available for auction and there will be only two winners.</p>	<p>The Commission should make more slots available for auction.</p>	<p>Other Lots are encumbered and the Commission estimates that the clearance process will take a minimum of twenty four months. Hence they will only be made available after the stated clearing.</p>
2.	<p><b>Pre-Qualification Criteria</b> – Airtel notes that the Draft IM does not require applicants to be licensed Network Operators or the submission of Technical and Financial Plans to determine competence and preparedness to operate. This could lead to an arbitrage environment that will encourage profiteers and encumber spectrum utilisation by committed operators.</p>	<p>Airtel recommends that the Commission introduces as part of the pre-qualification criteria evidence of the management of an operational telecommunications network or evidence of technical and managerial partnership by the applicant with any operator in Nigeria or other jurisdictions.</p>	<p>The pre-qualification criteria for the UASL in the Draft IM has taken care of the technical and financial capacity of the Applicants. More so, the Draft IM has also laid out detailed rollout obligations that will be enforced.</p>
3	<p><b>Reserve Price, Licence Fees and Payment Arrangements</b> – The Commission needs to clarify how it arrived at the reserve price of USD 197, 400,000 or its equivalent at the time of the auction. They seek clarity on the</p>	<p>Airtel recommends that the reserve price be reduced to align with current economic realities and ensure that successful bidders have adequate financial</p>	<p>Refer to response on item No. 2 to MTN.</p>

	<p>methodology used to determine the reserve price</p> <p>Secondly, Airtel request for clarity on the prevailing exchange rate at the date of the IBD or auction payments on whether it is the 'buy rate' or the 'sell rate' on that date</p>	<p>resources to meet the stipulated roll out obligations.</p>	<p>On the second clarification, Airtel should note that the exchange rate is the prevailing 'Selling Rate' on the date of the transaction.</p>
4	<p><b>Commencement Date, Duration and Geographical Area Coverage of Frequency Licence</b> - Airtel notes that the Draft IM has not specified the date the spectrum will be handed over to the successful bidder although the deadline for the payment of the winning bid is on January 26, 2022. Hence it is unclear when the tenure of ten years will commence.</p>	<p>The Commission should confirm the date the spectrum will be available to the successful bidders.</p>	<p>The Draft IM has set out the timeline for hand over as it stated that it will be six months from the confirmation of payment of the winning bid.</p>
5	<p><b>Roll out Coverage and Service Obligations</b> – Airtel notes that the stipulation of the Draft IM that service in each state will mean a minimum of 5 sites in the state with a minimum speed of 100mbps DL conflicts with its understanding of roll out obligations that requires availability of service signals in at least one third of the population of each state capital. Hence the stipulated minimum of 5 sites in a state</p>	<p>To avoid ambiguity the Commission should clarify the criteria for determination of coverage and population benchmark. To also clarify the applicability of such a criteria to rural and urban areas.</p>	<p>This has been reviewed in the IM.</p>

	would not provide enough coverage to ensure signal is available to one third of the population of the state capital.		
6.	<b>Spectrum Auction Package</b> – Airtel seeks clarity on when the other three slots will become available after the two available slots are auctioned.	Clarity on availability of the remaining slots will help stakeholders in their forecasting and planning.,	Other Lots are encumbered and the Commission estimates that the clearance process will take a minimum of twenty four months. Hence they will only be made available after the stated clearance.
7.	<b>Spectrum Coordination</b> – The Draft IM makes no provision for guard bands to address interference from adjacent services/bands.	Airtel recommends that the Commission makes provisions for guard bands	Appropriate mitigation techniques will be put in place to avoid interference.
8.	<b>Band Clearance</b> – The Draft IM has made a commitment to ensure that Lots 3500 – 3600GHz and 3700 – 3800GHz will be cleared and made available for commercial rollout after the auction.	The Commission should provide a timeline for the clearance and availability of these Lots	The Draft IM has set out the timeline for hand over as it stated that it will be six months from the confirmation of payment of the winning bid.
9.	<b>Securing the 5G Ecosystem</b> – The Draft IM stated that the Commission is developing a Risk Management Framework to ensure the security of 5G Networks , systems and infrastructure and emerging successful licensees will be expected to comply with them.	The Risk Management Framework should be circulated before the completion of the auction. This will provide participants with relevant information regarding the roll out and operations of 5G technology in Nigeria.	In line with its consultative approach to rule making, the Commission will issue the Framework in consultation with the Industry.

<p><b>10.</b></p>	<p><b>Bid Templates</b> – Airtel notes that the Draft IM provides templates and forms to be utilised for the auction process and will like to confirm if significant or material compliance with the templates provided is acceptable.</p>	<p>No recommendation</p>	<p>The templates form part of the requirements and obligations outlined in the Draft IM and compliance is material to any application.</p>
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**HUAWEI LIMITED**

S/N	Huawei Observation	Huawei Recommendations	Commission's response
1	The release of 200 MHz is fairly consistent with the quantum Huawei recommended in our report but the frequencies are different (more information is shared below). Offering to 2 licensees is fine although more preferred small lots could have been given to facilitate competition.		Only two lots of 100MHz each are currently available for licensing at the moment.
2.	Split band offerings (i.e. 3.5 - 3.6 GHz (Lot B) and 3.7- 3.8 GHz (Lot D) is unusual and could result in harmful interferences given the use of the C-Band for satellite services. Previously it was our understanding that 3403-3520.5 MHz was used for IMT services, state owned C-band satellite transponder downlink operating within 3540-3660 MHz frequencies and other satellite services operating up to 4.2 GHz.		Appropriate mitigation techniques will be put in place to avoid interference.
3.	The IM states that the lots 3500-3600 and 3700-3800 of 100 MHz bandwidth each,	We suggest to NCC that it would have been better to offer 3.3 -	Appropriate mitigation techniques will be put in place to avoid interference.

	<p>shall be cleared and made available by the NCC for commercial roll out after the spectrum auction (page 38). There are possibilities of facing challenge to do the migration so fast. There are no mention about the guard bands. Looking at the 2 lots - Lot B looks easier to clear as only two licensees need to be cleared at the bottom of the lot. Intercellular in Lagos, Abuja and Rivers and IPNX in Rivers but from approx. 3520 MHz is clear and if the state owned satellite can be required to clear the rest of the lot, then Lot B could be cleared. Lot D is even more problematic as C-Band satellite services will be above and below it. Without the guard bands there will be interference everywhere.</p>	<p>3.4 GHz as since we understand that this block is clear</p>	<p>3.3 – 3.4GHz is undergoing studies towards WRC-23 at the ITU level and not readily available for assignment.</p>
<p>4.</p>	<p>The IM states that the NCC reaffirms its intention to "systematically migrate incumbent users of the remaining portion of the C-band in the future to free up Spectrum and make it available for the deployment of new services. In such instances, the Commission will issue</p>		<p>Comments noted</p>

	<p>information and carry out appropriate consultations with the industry. "</p> <p>This could be much harder than the NCC think and might take longer time period to complete this activity</p>		
5.	<p>Reserve pricing for a 100 MHz block seems higher given the short 10 year licence, of course NCC will mainly consider the comments about reserve price from bidders.</p>	<p>We suggest to give 15 year license to balance the reserve price.</p>	<p>The Licence Tenure remains 10 years However, auction winners that intend to pay for a spectrum license of 15 years will be allowed provided that the additional 5 years shall also be paid at the prorated auction price</p>
6.	<p>Who can bid is confusing on the face of the Draft IM, but the NCC are obviously open to a new entrant but that is unlikely without coverage spectrum (see page 31).</p>		<p>The Draft IM is clear about the criteria and pre-qualification for all applicants.</p>
7.	<p>Synchronization but not frame structures are mentioned which is not mandatory (see page 38). This may cause some interference issues. We think further work needs to be done in this area.</p>		<p>Appropriate mitigation techniques will be put in place to avoid interference.</p>
8.	<p>Rollout obligations seem fairly gentle- but we suspect that backhaul / fibre</p>		<p>Rollout Obligations have been reviewed.</p>

	penetration of towers will be an issue. Facilitation for backhaul spectrum allocations is supported but this does not appreciate the additional bandwidth needed for 5G.		
9.	The coverage obligation (in page 34 and the following) is not very demanding. Can be re-visited by the NCC.		Rollout Obligations have been reviewed.
10.	In Lagos and Kano, which are only 50KM away from the border, the problem of satellite signal interference will perplex 5G operators in the future.	It is suggested that NCC should consider the spectrum coordination of neighboring countries in 5G and satellite spectrum planning.	Cross border coordination measures will be implemented as appropriate.
11.		Since 5G trial has been done in 6 states, Huawei suggest operators to launch 5G in all these state to verify 5G commercial launch experience in different state, consider investment pressure, also suggest operators launch few sites in each state at 1st ~ 2nd year	Comments noted

**INTELSAT SATELLITE LIMITED**

S/N	Intelsat Observations	Intelsat Recommendations	Commission's response
1.	<p>Intelsat is particularly concerned that NCC's proposed actions are inconsistent with the current ITU Radio Regulations post WRC-19 and the Rules and Regulations as stated in Article 5 (see page 125).</p> <p>As a member of ITU, Nigeria participates in spectrum decisions reached, Treaty-based decisions, by Member States at World Radio Communication Conferences (WRCs). While we recognize that WRC-23 Agenda Item 1.3 is currently considering primary mobile allocations of the 3600-3800 MHz band in Region 1, the same agenda item recognizes that for African countries, especially those in tropical areas, the operators of FSS systems are more reliable for use in C-band frequencies (3400 – 4200 MHz), rather than in higher frequency band. We urge the NCC to allow WRC-23 study</p>	<p>1.To be prudent and allow the WRC-23 studies under agenda item 1.3 to be completed with respect to the 3.6-3.8 GHz band rather than make a preemptive decision that would hinder FSS deployment in Nigeria but also in neighboring countries</p> <p>2. Establish a regulatory framework for the clearing that incentivize all stakeholders to Collaborate to achieve a timely transition without disruption to existing services. Normal practice would mean a migration plan and consultation on the band clearance should take place before the proceeding of the Auction.</p> <p>3. Adopt a C-band clearing timeframe that takes into</p>	<p>1. The agenda item 1.3 at WRC-23 considers studies towards the upgrade of the mobile allocations to primary in the 3.6 – 3.8GHz. This means co-existence on the same band. Meanwhile, Nigeria intends to migrate the current FSS users, similar to other countries in Region 1 and in its national interest.</p> <p>2. The Commission has a migration plan for all licensed ground segments providers within this band. Secondly, Cross border coordination measures will be implemented as appropriate.</p> <p>3. The Migration Plan is being implemented in phases.</p>

	<p>groups to complete work under agenda item 1.3 with respect to the 3600 – 3800 MHz band, rather than preempt the WRC-23 due process by taking a unilateral action with respect to C-band. Such decision will undermine the purpose of the ITU and may create interferences in radio spectrum along the Nigerian borders. We are not aware of any sub-Saharan African country that has implemented IMT in the 3600 – 3900 MHz band.</p>	<p>account the complexity of the transition and that does protect the current users of the band.</p> <p>4. Adopt technical rules that would ensure that FSS operations in the remaining band are protected. These include instituting a guard-band between 5G and FSS and setting emission limits on 5G. Such guard-band should be placed outside the spectrum allocated to FSS services.</p> <p>5. Establish a regulatory framework that incentivizes the registration of C-band earth stations and that ensures their protection from 5G.</p> <p>6. Provide satellite operators, including Intelsat, fair and appropriate compensation for the expropriation of its C-band landing rights licenses, including but not limited to loss of</p>	<p>4. Noted</p> <p>5. The Commercial Satellite Communications Guidelines is already in place.</p> <p>6. This is not acceptable as Landing Rights are issued for free in Nigeria in line with the Open Sky Principles.</p>
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		property and the relocation costs of continuing to provide uninterrupted service to its customers.	
2.	<p>Intelsat is surprised that NCC has issued a draft Auction prior to public consultation with the industry in relation to the frequency bands and migration plans clearance. Additionally, in Section 8.5 of the Draft Memorandum, NCC provides for an indicative auction timetable. By the timetable, Auction stage will be concluded within three (3) months from the publication of the final Memorandum and the start of bidding application date.</p> <p>Firstly, no period is granted for the consultation of the industry in relation to the migration plan and band clearance. The proposed timetable may result in the launch of IMT services in the auctioned bands prior to the finalization of migration of incumbent users and it does</p>	<p>1. There must be a plan to define and implement the necessary technical mitigation methods that will protect all incumbent services from adjacent band-interference once terrestrial 5G services are implemented.</p> <p>Also, frequency licences issued to operators of earth stations may also be affected, requiring the amendment of licences and payment associated with regulatory fees. This would not only cause regulatory issues for Intelsat, with regards to authorized space</p>	<p>1. The Commission has a migration plan for all licensed ground segments providers within this band. The Migration Plan is being implemented in phases. Secondly, Cross border coordination measures will be implemented as appropriate.</p> <p>2. The process is being driven by the approved National 5G Policy in the national interest.</p> <p>More so, the auction process is predicated on the Commission’s regulatory powers and mandate under the Nigerian Communications Act 2003.</p>

	<p>not provide any possible mitigation measures.</p> <p>Additionally, it is expedient that technical rules and mitigation measures are adopted to ensure C-band FSS operators are protected prior to allowing terrestrial mobile services in any segment of 3400 – 4200 band range. The specific mitigation techniques required will be based on some factors, including the extent to which C-band earth stations are deployed in Nigeria. Intelsat has addressed these issues in a White Paper titled “<b>Technical Compatibility Challenges Between Fixed Satellite Services and 5G in C-band.</b>” We implore NCC to analyze the attached document before making its decision.</p>	<p>stations, but also its customers who rely on the lower part of the C band for their own connectivity in Nigeria to amend their earth station authorizations.</p> <p>2. We request the NCC not to proceed to the Applications and Auction Stages before having established a migration plan that has been discussed and approved by the interested Stakeholders.</p>	
<p>3.</p>	<p>A number of mitigation measures have been studied at the ITU level such as Report ITU-R M.2109 yet none seem to be considered in this case. There are two (2) main interference mechanisms to consider between 5G operations and FSS earth stations in adjacent bands:</p>	<p>Additional satellite capacity may be required to ensure sufficient supply available in the reduced FSS frequency range to absorb the incumbent services that must be moved and to meet Contractual obligations for</p>	<p>Comments noted</p>

	<ol style="list-style-type: none"> <li>1. Saturation of the Low Noise Amplifier/Block-downconverter (LNA/LNB) of the satellite earth station;</li> <li>2. Out of Band Emissions (OOBE) produced by 5G transmissions, which result in in-band interference from the perspective of the satellite earth stations.</li> </ol> <p>Some examples of the mitigation techniques available to the Mobile Industry today are listed in the following table that could help reduce required separation distances that the 5G networks would normally have to meet the strength limits at the earth stations:</p>	<p>contingency capacity in the event a transponder or a satellite suffers failure. Satellite operators will have to determine whether the additional capacity is sufficient to serve their Nigerian customers. Second, a highly detailed frequency migration plan must be mapped out and clearly communicated to all customers and their end users.</p> <p>This plan will result in migration, not only for services currently operating in the frequencies to be cleared for terrestrial 5G operations, but also services in the remaining FSS spectrum that may need to be consolidated to find sufficient bandwidth for larger content customers. Third, there must be a plan to define and Implement the necessary technical mitigation methods that will</p>	
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		protect all incumbent services from	
4	Furthermore, Intelsat noticed the timeframe of three months proposed for the whole auction process. Intelsat fears that a short timeframe may lead to not carefully balance the interests of multiple stakeholders. For instance, Intelsat closely followed the FCC C-band auction and in order to ensure that all voices are heard, the FCC process lasted about three years, starting with a Notice of Inquiry in 2017, and ending with a decision in February 2020. The FCC decision established a clear regulatory framework, including payment of relocation costs and incentives for accelerated clearing, that encouraged incumbent satellite operators to provide spectrum on a speedy timeline		Comments noted
5	We understand that the NCC assures in Section 8.5 of the Draft Memorandum that it will continue to enforce a policy	We request the NCC to review and publish the current usage of the band and demonstrate that	The Commission has a migration plan for all licensed ground segments providers within this

	<p>whereby all licensed operators neither cause, nor are affected by, interference to/from other Spectrum users. However, the Draft Memorandum does not demonstrate any intent to establish specific mitigation methods and ensure the band migration without affecting the current band users. In case of introduction of new services prior the implementation of mitigation techniques or migration of current usage, there is a risk of disruption of the current services deployed in the band, negatively affecting service providers and consumers alike.</p>	<p>no network or services disruption will occur through the proposed auction plan.</p>	<p>band. The Migration Plan is being implemented in phases. The Migration Plan is designed to ensure its seamless implementation without service disruption.</p>
6.	<p>Intelsat believes that the Nigerian process for redeploying C-Band spectrum should reflect certain core principles that are proving critical to the success of the parallel redeployment of this spectrum in the U.S. and will guide success of its deployment not only in Nigeria, but internationally (the "Repurposing Principles"). The Repurposing Principles recognize:</p>	<p>We urge NCC to adopt these principles in its decision-making to ensure that Nigerian customers receive the maximum benefits from satellite services.</p>	<p>Comments noted</p>

	<ul style="list-style-type: none"> <li>a. The significant value of satellite services currently provided by Intelsat and other satellite operators to Nigerians, the media distribution ecosystem, and to remote communities across Nigeria.</li> <li>b. The significant value of the C-band spectrum being repurposed as an enabler of next generation services - not just for 5G operators, but also for the Nigerian public and the Nigerian economy.</li> <li>c. The importance and value of repurposing this spectrum within a timeframe and in a manner that not only makes this spectrum available for 5G at the earliest opportunity, but also minimizes the impact on</li> </ul>		
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	<p>existing customers in the band.</p> <p>d. The significant role to be played and costs to be incurred by all domestic and foreign satellite operators alike in clearing the band for these next generation uses.</p> <p>e. The need for equal treatment of all domestic and foreign satellite operators in a manner that recognizes the unique challenges that reallocating the C-Band for 5G creates for these satellite operators and the financial and operational impact on these operators in enabling this transition.</p>		
7.	We understand that the NCC reaffirms in Section 5.6 of the Draft Memorandum its intention to systematically migrate	We request to include consultations on the band	The Commission's regulatory activities are in line with its powers

	<p>incumbent users of the remaining portion of the C-band in the future to free up spectrum and make it available for the deployment of new services. In such instances, the NCC will issue information and carry out appropriate consultations with the industry.</p> <p>However, based on the Indicative Auction Timetable (Section 8.5 of the Draft Memorandum) NCC has not taken into consideration such consultations in the auction timeline.</p>	<p>clearance in the auction timeline before proceeding.</p> <p>Further to the submission of bids and the auction stage or at the very least to setup a dedicated workshop with the industry to give an overview of its experience to ensure 5G deployment is realized without impacting incumbent services and technology.</p>	<p>and mandate under the Nigerian Communications Act 2003.</p>
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**GSMA**

S/N	GSMA Observations	GSMA Recommendations	Commission's response
1	<p>The IM states that the reserve Price for one Lot of 100 MHz and has a value of: One Hundred and Ninety-Seven Million and Four Hundred Thousand United States Dollars (US \$197,400,000.00) or its equivalent in Naira at the prevailing Central Bank of Nigeria (CBN) rates at the time of the auction.</p> <p>Setting the right Reserve Price is critical to the success of an auction. . High spectrum prices are strongly linked to reduced coverage, download speeds and mobile broadband adoption</p>	<p>GSMA believes that there is an opportunity to review this reserve price downwards with the objective of encouraging greater positive outcomes for the auction itself and in its utilisation for the deployment of 5G services in Nigeria. This is especially in view of the Nigeria National Broadband Plan (NNBP) targeting 4G/5G mobile at 90% population coverage, and minimum Download speed of 25 Mbps or higher (where 5G is deployed).</p>	<p>The Commission's responses to Comment 2 of MTN and Comment 3 of Airtel has addressed the issues in this comment.</p>
2	<p>The reserve price does not reflect the principles of the Nigerian National Broadband Plan 2020 - 2025 (NNBP). The NNBP highlights that one of the major</p>	<p>With the reserve price set as high as it currently is, it will serve to reduce the availability of investor funds required to meet the</p>	<p>The Commission's responses to Comment 2 of MTN and Comment 3 of Airtel has addressed the issues in this comment.</p>

	<p>investment categories to achieve the plan can include 5G roll out for top 10 cities, with an estimated 6000 base stations to be deployed at a cost of up to US \$ 500 Million. This cost will be borne by service providers that will also have to invest significantly in acquiring spectrum. The plan further notes that one of the incentives required to support the attainment of this target is to provide public sector incentives in Spectrum Pricing and Allocation.</p>	<p>objectives of the NNBP. Additionally, setting the reserve price that high goes against the objective of using Spectrum Pricing to incentivise the attainment of the rollout targets as, to do this, the price of spectrum should be moderately low</p>	
<p>3</p>	<p>The IM notes that, as part of the rollout obligations in acquiring an assignment from the auction, the successful bidders shall be obligated to rollout in at least 6 cities across the geo-political zones of the Country, within the first 2 years, with coverage proceeding in across the rest of the country in a graduated manner. The IM further indicates that coverage is intended to mean the provision of service in each state with the deployment of a minimum of</p>	<p>We urge the Commission to review the coverage obligations stated in the IM and allow room for a more practical and less stringent and sustainable network rollout plan to be implemented by winning bidders.</p> <p>Furthermore, we urge the Commission to recognize the fact</p>	<p>The Commission’s response to Comment 5 of Airtel as addressed the issue raised by this comment.</p>

	<p>5 sites in a state delivering service signal to at least one-third (1/3) of the population of each state capital, at a minimum download speed of 100 Mbps. The license tenure is also indicated to be 10 years.</p> <p>Licence obligations and conditions should be designed to encourage greater of coverage, and avoid distorting the award of spectrum</p>	<p>that the longer the duration of a licence, the greater the certainty provided for operators to undertake long-term investments in rolling out networks and in deploying new services. On the basis of the expected payback period for substantial new network investment, many countries including Canada, New Zealand, the UK and more recently Australia have decided to provide for a minimum term of 20 years for new mobile licences. It therefore comes highly recommended that the Commission consider reviewing the licence tenure to have a minimum 20-year term to provide for sufficient certainty to support mobile network</p>	
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		investment which have long pay-back periods.	
4	<p>Spectrum set-asides distort the level playing field. In the era of competitive mobile markets, auctions have become the primary means of assigning mobile spectrum licences. They allow the market to determine spectrum assignments - rather than a government or regulator. In this way they support the competition which has delivered better outcomes for consumers.</p> <p>However, we have noted that governments and regulators can unintentionally make decisions about spectrum auctions that distort fair market competition by setting aside spectrum. This restricts the amount of spectrum that operators can access, which can negatively impact mobile broadband speed and coverage and inflate spectrum prices</p>	<p>We therefore strongly recommend for the Commission to revisit the reserve price and consider a downward review. This will enable greater participation in the auction, facilitate for easier price discovery, and result in the best auction outcomes. It will also support the achievement of the NNBP'S targets, and improve the prospects of greater coverage with better network quality.</p> <p>We recommend for the Commission to consider making all the slots of the 3.5 GHz range available for auction, whilst ensuring that all bands to be awarded are free of interference and technical encumbrances.</p>	<p>The Commission's responses to Comment 2 of MTN and Comment 3 of Airtel has addressed the issues in this comment.</p>

**INQ DIGITAL NIGERIA LIMITED**

S/N	INQ Questions	Commission's response to Questions
1	Is there any prohibition to using this frequency band for 4G and LTE in addition to its primary purpose which is 5G?	The Commission is technology neutral
2	Is there a tentative date to auction lots in the mmWave spectrum?	The date will be communicated to all stakeholders when they are set by the Commission.
3	Can a licensee sell part of or share its spectrum to another entity?	This is set out in the Spectrum Trading Guidelines 2018. It is readily available on the Commission's website.
4.	Are the remaining lots spectrum frequency Division Duplex or Time Division Duplex?	They are TDD
5.	What is the effective usable frequency range in the spectrum and what is the allowance to mitigate against overlap?	The band is planned in 100MHz bandwidth per Operator.
6.	Does the Unified Access Service Licence (UASL) allows operators to drop all other licences in favour of the UASL?	Yes, if the service (s) are covered by the UASL
7.	Is there a penalty if the successful applicant (Licensee) does not commence operation within 12 months?	The Draft IM is clear on the subsisting policy of 'use-it-or-lose-it' which may be invoked.
8.	Rollout: Is there an order in which the rollout must be done in the 6 geopolitical zones?	There is no such order
9.	Can the Commission advise on the current floor price and price floor thresholds for 5G Deployments?	This is undergoing studies and determination by the Commission will be published.
10.	What are the plans to sensitize the public that 5G is safe and has no health implications?	Sensitization programmes are ongoing

11.	What are the KPIs to be tracked by the Commission for monthly performance reports?	This will be published in line with the Commission's rule making process.
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**INTEL**

S/N	INTEL Questions	Commission's response to Questions
1	<p>From 5G trials, deployments and launches perspectives, there is a clear pattern of investment in bands n77 (3 300 – 4 200 MHz) and n78 (3 300 – 3 800 MHz) according to a GSA report in August 2021.</p> <p>Considering that the 3 300 – 3 400 MHz band is adjacent to the 3 400 – 3 900 MHz frequency range and is part of the global 5G NR ecosystem based on 3GPP bands n77 and n78; and also recognizing the fact that Nigeria is part of the footnote 5.429B identifying the 3 300 – 3 400 MHz band for IMT;</p> <p>We would like to recommend for the NCC to consider including the 3 300 – 3 400 MHz to its current frequency band plan for 3.5 GHz band to make it 3 300 – 3 900 MHz. That way NCC could consider including the 3 300 – 3 400 in their second batch of spectrum auction along with the 3 400 -3 500 MHz, 3 600 – 3 700 MHz and 3 800 – 3 900 MHz.</p>	<p>Comment is noted, however, the 3 300 – 3 400 MHz is undergoing studies towards WRC-23 at the ITU level and not readily available for assignment.</p>

**CENTRE FOR INFORMATION TECHNOLOGY AND DEVELOPMENT (CITAD)**

S/N	CITAD Questions	Commission's response to Questions
1	<p>CITAD and the Association for Progressive Communications (APC) commended the Commission for the elaborate plan it has developed for the imminent 3.5GHz auction and appealed to the Commission for the consideration of the following:</p> <ul style="list-style-type: none"> <li>• CITAD and APC recommends unlocking of Spectrum in areas where Licensees have no intention of deployment in the near future.</li> <li>• The Commission (NCC) should carefully consider the inclusion of <b>“Use-it-or-share it”</b> provision in the 3.5GHz license documentation.</li> <li>• NCC to invest in shared spectrum regulation.</li> </ul>	<p>Comments are noted, however, Spectrum Sharing is set out in the Spectrum Trading Guidelines 2018. It is readily available on the Commission's website.</p>

**SPECTRANET**

S/N	SPECTRANET Questions	Commission's response to Questions
1.	<p><b>Comments on the definition of 5G KPI</b></p> <p>The KPI for 5G was not defined in the draft IM. Knowing that the 5G is coming up as NSA, Does the commission want to use the 4G KPI?</p>	<p>Applicable 5G KPI's will be developed in line with Commission's processes.</p>
2.	<p><b>Comment on reference to Table 2 in the Draft IM</b></p> <p>In the Draft IM, reference was made to table 2 in session 1.6 . Meanwhile, there was nothing like Table 2 in the entire document.</p>	<p>This is addressed.</p>

**OTHER QUESTIONS RAISED**

S/N	SPECTRANET Questions	Commission's response to Questions
1	<p>The is a need for an upward review of the Roll-out Obligation in the Draft IM and removal of ambiguities</p>	<p>Roll out obligation has been reviewed</p>

2	There is need to expedite Passage of CNI to ensure communications infrastructure are adequately protected	Noted
3	There is a need to form a joint committee between the Commission, Federal Ministry of Works, MNOs and the FMCDE to govern the activities of construction companies with the aim of preventing fibre cuts and ensure Operators are duly compensated in the event of fibre cuts. These cuts negatively impact on QoE, QoS and investment confidence.	Noted