

**RCOM Response to TRAI CP on Valuation & Reserve Price
of 2100 MHz Spectrum Band**

PREAMBLE

1. **2100 MHz spectrum band auction at this stage in India with the possibility of an additional slot being acquired by the TSPs has the ability to launch premium data services through advanced Carrier Aggregation technology supported by MIMO Antenna technology in HSPA+ mode.**
2. **Over the past 10 years this band has been the prime driver for the growth of global Mobile Broadband services with about 1.5 Bn subscriber base embracing high speed data services. 2100 band for high speed 3G data services stimulated the evolution of extremely affordable eco-system of user devices like Smart phones, Tablets, etc and other network devices.**
3. **Ostentatious plans for transforming India into an 'Always Connected' country with a networked society has been envisioned by the current dispensation of the country. Programs like Smart Cities, Digital India, Broadband India, can be leveraged by the TSPs for enhancing their service revenues many folds through this 2100 MHz spectrum band based services launch.**
4. **Coupled to this, the tech savvy, net obsessed youthful population of India offers a huge market with larger appetite for adoption of data services at a scale which is not hitherto seen.**
5. **Time tested, stable and mature 2100 MHz band with its strong proven technology therefore, will potentially enable operators to offer QoS enabled data services and enable the TSPs towards better business models.**
6. **2100 MHz band based auction would enable TSPs to take India on a true course of a Digital India driven by Mobile Data economy and it is hoped that this band has the ability to transform Indian consumer to adopt higher ARPU services.**
7. **The valuation of 2100 MHz band, should therefore, be a true reflection of its strong data earning potential not only from the Masses but also from the Class premium consumers as well.**

EXECUTIVE SUMMARY

- A. The existent 3G rollout norms as specified in NIA of 2010 should be persisted with for both existing as well as new 3G Licensee.**
- B. A bidder should be allowed to bid for more than one block of spectrum.**
- C. Existing spectrum caps of 50% of total spectrum in a band and 25% of total spectrum assigned across bands should be persisted with.**
- D. All operators, irrespective (a) of their being an existing or a new TSP and (b) the quantum of spectrum available for auction, should be permitted to participate in the forthcoming auction to enable the wider scale launch of true Mobile Data Service.**
- E. Indexation method based on SBI PLR should be one of the mechanisms for determining the valuation of 2100 MHz as this Auction gives a true opportunity to augment its existing holding of the similar Data centric services capable spectrum.**
- F. The valuation of 2100 MHz spectrum band should be derived on the basis of its huge proven and mature quality centric data services potential on HSPA+ mode with MIMO and Carrier Aggregation features instead of comparing its minimal simplistic efficiency of coverage based limited factor vis-à-vis 1800 MHz band.**
- G. The value of spectrum in the 2100 MHz band should not be estimated on the basis of the producer surplus model as the Techno-Economic efficiency far outweighs the simple network CAPEX.**
- H. Growth in adoption and usage of pure data services at higher ARPU levels should be the most significant factor to be considered while estimating the valuation of 2100 MHz spectrum band.**
- I. Valuation of 2100 MHz based on the data model should reflect the differential in revenue generation from this band and hence should be 3 times for the Metro & Category 'A' circles and 2.5 times for Category 'B' & 'C' circles that of the 800 MHz valuation based on the similar data model.**
- J. Since enhancement of number of blocks of this band will result in provisioning services with better user experience hence it should command an additional premium of 25% over the estimated valuation for the Metro & Category A circles. This is due to the fact that minimal / no additional CAPEX will be required while provisioning services with better user experience and higher revenue potential.**

- K. It would not be appropriate to value the 2100 MHz spectrum as the simple mean of the values arrived from different valuation approaches discussed in the Consultation Paper, as this band is unique in its major scale of global adoption at approx. over 60%+ Global networks. However, if at all mean is to be taken then it should only be based on the Indexation and Growth potential model duly reflecting the revenue potential of this band.
- L. The reserve price of 2100 MHz band should be fixed at 80% of its valuation for the upcoming auction.

DETAILED RESPONSE

Q1. In the auction for 2100 MHz spectrum held in 2010, certain roll-out obligations were mandated for the successful bidders. Stakeholders are requested to suggest if any changes are required or whether the same roll-out obligations should be mandated in the forthcoming auction, along with justification.

Our Response:

It is suggested that the present 3G rollout norms as specified in NIA of 2010 should be persisted with for both existing as well as new Licensee.

Given the level of competition prevalent in Indian telecom industry we do not foresee any need to review/change or make present 3G roll-out norms more stringent especially for the spectrum blocks acquired through auction.

Our Recommendations:

Existent 3G rollout norms as specified in NIA of 2010 should be persisted with for both existing as well as new 3G Licensee.

Q2. Whether a bidder should be allowed to bid for more than one block of spectrum, in case a sufficient quantum of spectrum (more than one block in LSA) is put to auction?

Our Response:

Yes, a bidder should be allowed to bid for more than one block of spectrum, in case a sufficient quantum of spectrum (more than one block in LSA) is put to auction.

The justification thereof is as below:

1. 2100 MHz spectrum band auction at this stage in India with the possibility of an additional slot being acquired by the TSPs has the ability to launch premium data services through advanced Carrier Aggregation technology supported by MIMO Antenna technology in HSPA+ mode.

2. Thus, the user experience enhances exponentially with an additional block of spectrum and therefore has the additional revenue potential. Hence accordingly there should be a premium on the valuation in the Metros & Category A.
3. Time tested, stable and mature 2100 MHz band with its strong proven technology therefore, will potentially enable operators to offer QoS enabled data services and **enable the TSPs towards better business models.**
4. 2100 MHz band based auction would also enable TSPs to take India on a true course of a Digital India driven by Mobile Data economy and it is hoped that this band has the ability to transform Indian consumer to adopt higher ARPU services.
5. Additionally, the government's vision of making India a digitally enabled nation is enough motivation for the TSPs, as it opens up an ocean of opportunities for them to monetize their spectrum by provisioning data services especially in Rural India.

In light of the above, the valuation of 2100 MHz band, should therefore, be a true reflection of its strong data earning potential not only from the Masses but also from the Class premium consumers as well.

Our Recommendation:

A bidder should be allowed to bid for more than one block of spectrum; however the price of 2100 MHz band should reflect the revenue earning potential from data services.

Q3. Whether the spectrum caps (of 50% of total spectrum in a band/25% of total spectrum assigned across bands) prescribed in recently held auctions in the 800/900/1800 MHz bands should also be prescribed for the upcoming auctions in the 2100 MHz band?

Our Response:

Yes, the spectrum caps (of 50% of total spectrum in a band and 25% of total spectrum assigned across bands) prescribed in recently held auctions in the 800/900/1800 MHz bands should be prescribed for the upcoming auctions in the 2100 MHz band.

Our Recommendation:

Existing spectrum caps of 50% of total spectrum in a band and 25% of total spectrum assigned across bands should be persisted with.

Q4. In case only one block of 5 MHz of spectrum in 2100 MHz is available in an LSA, should only those TSPs be allowed to participate who do not have 2100 MHz spectrum in that LSA at present?

Our Response:

No discrimination between an existing or a new operator should be done for participation in the forthcoming auction even if only one block is available for auction.

For 3G services, there are at least 4-5 operators per LSA competing in the market. With the growth in the subscription to data services, they are facing constraints while maintaining QoS on account of limited spectrum. A new entrant will only add to the exiting competition. Hence, depriving any operator, existing or new, on account of participation in the auction process shall be unjustified.

Our Recommendations:

All operators irrespective of their being an existing or a new TSP should be permitted to participate in the forthcoming auction even if only one block is available for auction. This will enable the wider scale launch of true Mobile Data Service.

Q5. Should the indexed value of May 2010 auction determined prices of 2100 MHz spectrum be used as one possible valuation for 2100 MHz spectrum in the forthcoming auction? If not, why not? And, if yes, what rate should be adopted for the indexation?

Our Response:

Yes, indexation should be used for determining the valuation of 2100 MHz.

The justification thereof is as below:

1. Over the past 5-10 years 2100 MHz band has been the prime driver for the growth of global Mobile Broadband services with about 1.5 Bn subscriber base embracing high speed data services. 2100 MHz band based high speed 3G data services have stimulated the evolution of extremely affordable eco-system of user devices like Smart phones, Tablets, etc and other network devices.
2. Ostentatious plans for transforming India into an always connected country with a networked society have been envisioned by the current dispensation of the country. Programs like Smart Cities, Digital India, Broadband India, can be leveraged by the TSPs for enhancing their service revenues many folds through this 2100 band based services launch.
3. Coupled to this, the tech savvy, net obsessed youthful population of India offers a huge market with larger appetite for adoption of data services at a scale which is not hitherto seen.
4. 2100 MHz band based auction would enable TSPs to take India on a true course of a Digital India driven by Mobile Data economy and it is hoped that this band has the ability to transform Indian consumer to adopt higher ARPU services.

5. The valuation of 2100 MHz band, should therefore, be a true reflection of its strong data earning potential not only from the Masses but also from the Class premium consumers as well.
6. Though not the best methodology for valuation of this band, however, in light of the limitations of other methodologies, as brought in our response to the questions ahead, it is suggested that TRAI may persist with their earlier stated position of determining valuation of 2100 MHz, **using indexation methodology on SBI PLR**, as per recommendations on Auction of Spectrum dated 23 April 2012.

Our Recommendations:

Indexation method based on SBI PLR should be one of the mechanisms for determining the valuation of 2100 MHz as this Auction gives a true opportunity to augment its existing holding of the similar Data centric services capable spectrum.

Q6. Should the value of the 2100 MHz spectrum be derived on the basis of the value of the 1800 MHz spectrum using the technical efficiency factor (0.83) as discussed in Chapter III?

Our Response:

No, the valuation of 2100 MHz spectrum band should not be derived on the basis of the value of the 1800 MHz spectrum using the technical efficiency factor (0.83).

1. The valuation of 2100 MHz spectrum band should be derived on its huge proven and mature quality centric data services potential on HSPA+ mode with MIMO and Carrier Aggregation features instead of comparing its minimal simplistic efficiency of coverage based limited factor vis-à-vis 1800 MHz band.
2. Growth in adoption and usage of pure data services at higher ARPU levels should be the most significant factor to be considered while estimating the valuation of 2100 MHz spectrum band.
3. Going forward more and more data will be served by 2100 MHz band, therefore it can be inferred that the valuation of 2100 MHz spectrum band should reflect techno economical efficiency of this band.
4. In view of the above, it would be incorrect to source the valuation of 2100 MHz purely based on the technical efficiency of 1800 MHz which till now has been predominantly used for voice services in India.

Our Recommendation:

The valuation of 2100 MHz spectrum band should be derived on its data services potential instead of by comparing its technical efficiency factor vis-à-vis 1800 MHz band.

Q7. Should the value of spectrum in the 2100 MHz band be estimated on the basis of the producer surplus model outlined in Chapter III? Please provide your views on the assumptions made. Please support your response with justification, calculations and relevant data along with the results.

Our Response:

No, the value of spectrum in the 2100 MHz band should not be estimated on the basis of the producer surplus model.

Utilization of Producer Surplus methodology for valuation of 2100 MHz is likely to yield results that would definitely not reflect the true pricing as the predominant factor of hardware cost (mainly BTS) is an existing sunken cost for most of the operators. Thus, in all probability the output of Producer Surplus may give a lower pricing for 2100 MHz thereby negating the revenue earning potential of this band through provisioning of data services. 2100 MHz spectrum band based network is an overlay on an existing 2G network. Hence the producer Surplus model is not an appropriate model for valuation of this band.

Our Recommendations:

The value of spectrum in the 2100 MHz band should not be estimated on the basis of the producer surplus model as the Techno-Economic efficiency far outweighs the simple NW Capex .

Q8. Should the value of spectrum in the 2100 MHz band be estimated on the basis of the growth in data usage outlined in Chapter III? Please provide your views on the assumptions made. Please support your response with justification, calculations and relevant data along with the results.

Our Response:

Yes, the value of spectrum in the 2100 MHz band should be estimated on the basis of the growth in data usage.

1. The current dispensation of the country has grandiose plans for transforming India in to a digitized society that is not only always connected but is logged on at all times as well. The fascination of the youth to be socially connected over the internet has created a tech savvy society which is going to prosper more in the future. Coupled with this, the outlay of more than one lakh crore for various programs like Smart Cities, Digital India, Broadband India have the potential of supporting much larger revenue earnings for the telecom industry.
2. 2100 MHz spectrum band has been the global harbinger of 3G technology based data services. Consequently, it has the best existing eco-system in terms of devices & network support as well. Availability of highly affordable smart phones and mobile devices shall also aid explosive adoption of data services. **Therefore, without**

doubts 2100 MHz has the maximum potential for provisioning better QoS data services.

3. As per the 'Estimating the value of 800 MHz spectrum based on potential growth in data services' section of TRAI's recommendations on 'RP for Auction of Spectrum in the 800 MHz Band' dated 22nd February 2014, GPRS, EDGE and HSPA based services account for 75% of the wireless data revenue. **Keeping in view that more and more data would be served through 2100 MHz band, the valuation of 2100 MHz based on the data model should reflect this differential in revenue generation and hence should be 3 times for the Metro & Category 'A' circles and 2.5 times for Category 'B' & 'C' circles that of the 800 MHz valuation based on the similar data model.**
4. Addition of another slot of 2100 MHz band, with the existing spectrum of the TSPs, shall enable provisioning of premium data services through advanced Carrier Aggregation technology supported by MIMO Antenna technology in HSPA+ mode. Accordingly, **it is suggested that there should be an additional premium of 25% over the estimated valuation esp. for the Metro & Category A circles. This is due to the fact that minimal / no additional CAPEX will be required while provisioning services with better user experience and higher revenue potential.**
5. It is also very appropriate to note that Telcos have entered in to 3G ICR arrangements as allowed by the Courts giving undue benefits hitherto not seen for such valuable and auctioned spectrum. Effectively, the valuation of 2100 MHz spectrum should take in to account the additional revenues being generated without commensurate CAPEX investment & without investing for spectrum acquisition cost. Thus, we suggest that valuation of 2100 MHz should also take into account this kind of arrangements and hence should command a premium.

Our Recommendations:

1. Growth in adoption and usage of pure data services at higher ARPU levels should be the most significant factor to be considered while estimating the valuation of 2100 MHz spectrum band.
2. 2100 MHz band should command an additional premium of 25% over the estimated valuation for the Metro & Category A circles.

Q9. Would it be appropriate to value the 2100 MHz spectrum as the simple mean of the values arrived from different valuation approaches as discussed in Chapter III? If no, please suggest with justification which single approach should be adopted to value the 2100 MHz spectrum?

Our Response:

No, it would not be appropriate to value the 2100 MHz spectrum as the simple mean of the values arrived from different valuation approaches discussed in Consultation paper.

1. 2100 MHz band is internationally harmonized for provisioning of 3G data services at approx. over 60% + global networks. Given the current dispensation's vision of building a digitized society through the 'Digital India' program, 2100 MHz assumes greater importance for the telecom services. **We therefore reiterate that data growth and revenue potential should be the basis of pricing this precious band.**
2. Further, it has been observed that various models employed by TRAI for determining the valuation of different spectrum bands have yielded vastly varying outputs. The traditional methodology of taking a simple mean of the prices estimated through various models thus does not reflect the true revenue earning potential of that band.
3. In case of 2100 MHz band it is apprehended that the Producer Surplus model is likely to yield very low valuation which would mask the factor of data earning potential of this band when used as a data point while arriving at the valuation using the simple mean methodology.
4. **Notwithstanding the above, if TRAI decides to determine the valuation of 2100 MHz based on simple mean then, it should only be based on the Indexation and Growth potential model duly reflecting the revenue potential of this band as explained in our response to Q 5 & Q8.**

Our Recommendations:

It would not be appropriate to value the 2100 MHz spectrum as the simple mean of the values arrived from different valuation approaches discussed in the Consultation Paper, as this band is a unique in its major scale of global adoption at approx. over 60%+ Global networks. However, if at all mean is to be taken then it should only be based on the Indexation and Growth potential model duly reflecting the revenue potential of this band.

Q10. What should be the ratio adopted between the reserve price for the auction and the valuation of the spectrum of 2100 MHz band?

Our Response.

The reserve price of 2100 MHz band should be fixed at 80% of its valuation for the upcoming auction.
