

Consultation Paper No.: 17/2019



TELECOM REGULATORY AUTHORITY OF INDIA



Consultation Paper

on

Reserve Price for auction of FM Radio channels

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New Delhi-110002

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Written comments on the Consultation Paper are invited from the stakeholders by 6th November 2019. Counter comments, if any, may be submitted by 13th November 2019. Comments and counter comments will be posted on TRAI's website www.trai.gov.in.

The comments and counter comments may be sent, preferably in electronic form, on the e-mail: vk.agarwal@traigov.in.

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Chapter I

Introduction

- 1.1 Radio is one of the most popular and affordable means for mass communication, largely owing to its wide coverage, terminal portability, low set up costs and affordability. In India, radio coverage is available in Amplitude Modulation (AM) mode (Short Wave /Medium Wave) and Frequency Modulation (FM) mode.
- 1.2 On account of its versatility, FM Radio broadcasting is considered as one of the popular mediums to provide entertainment, information and education. Because of this, the Government of India, during the Ninth Five Year Plan (1997-2002), adopted a policy for improving variety of content and quality of radio broadcasting that allowed private sector Indian companies to set up private FM radio stations in a phased manner.
- 1.3 The first phase of FM radio broadcasting (Phase-I) was launched by Ministry of Information and Broadcasting (MIB) in 1999. During Phase-I auction, a total of 108 channels in 40 cities were offered to private agencies in the FM spectrum band (88 – 108 MHz). A multiple round auction mechanism was followed to award these permissions. The permission for operation of the channel was awarded for a period of 10 years. Out of 108 channels, bid amount was paid only for 37 channels. Of these 37 channels, 21 channels became operational.
- 1.4 The Government announced the policy for Phase-II of FM Radio Broadcasting on 13th July 2005. In Phase-II, a two stage bidding process i.e. eligibility and financial bidding was followed. A total of 337 channels were put on bid across 91 cities having population equal to or more than 3 lakhs. Of 337 channels, 284 were successfully bid and, after scrutiny, permission was given for 245 channels spanning 87 cities. In Phase-II 222

channels became operational. All the 21 operational channels of Phase-I also migrated to Phase-II after payment of a migration fee. In total, 243 FM Radio channels became operational in 86 cities in Phase-II.

- 1.5 To expand the reach of FM Radio broadcasting in the country, the Government embarked upon Phase III to enable setting up of private FM Radio channels in all cities with a population of more than 1 lakh. Further, 11 other cities having a population less than 1 lakh in the border areas of Jammu & Kashmir (J&K) and the North East (NE) region are also proposed to be included in the expansion. Policy Guidelines for Phase-III of FM Radio Broadcasting were issued by the Government on 25th July 2011¹.
- 1.6 The Phase-III Policy Guidelines provides the mechanism for migration of existing FM Radio operators from Phase-II to Phase-III regime. As per the decision of the Empowered Group of Ministers (EGoM), MIB vide its letter dated 9th April 2013, sought recommendations of TRAI on the migration fee to be charged from existing Phase II operators on their migration to the Phase-III regime of FM Radio Broadcasting. In response, the Authority sent its Recommendations on 'Migration of FM Radio Broadcasters from Phase-II to Phase-III' to MIB on 20th February 2014.
- 1.7 In its recommendations of 20th February, 2014, the Authority recommended that the methodology for determining the reserve prices for fresh (new) cities (where no private FM Radio channels are operational) in Phase-III should be reconsidered as the methodology mentioned in Phase-III Policy guidelines might jeopardize the auction.
- 1.8 Thereafter, MIB through its letter dated 16th December 2014, (**Annexure-I**) sought TRAI's recommendations on Reserve Prices (RP) for FM Radio channels in 264 new cities. The 831 FM Radio channels in these cities were

¹ http://www.mib.nic.in/WriteReadData/documents/PolicyGuidelines_FMPhaseIII.pdf

made available for ascending e-auction process. In response, the Authority sent its Recommendations on 'Reserve Price for auction of FM Radio channels in New Cities' on 24th March 2015.

1.9 MIB commenced the e-auction of first batch of Private FM Radio Phase-III channels on 27th July 2015 wherein 135 channels in 69 existing cities were put up for auction. In accordance with the rules mentioned in Phase-III policy, reserve price for these cities were fixed as the highest bid price received for that city in Phase-II by bidding process. As per information available on MIB's website, 96 out of 135 private FM Radio channels in 55 cities were successfully auctioned.

1.10 Subsequently, MIB commenced the e-auction of second batch of Private FM Radio Phase-III channels on 20th June 2016 wherein 266 channels in 92 cities which included 227 channels in 69 new cities and 39 channels in 23 existing cities. The reserve prices fixed by MIB for 69 new cities differed from the reserve prices recommended by the Authority in its recommendations dated 24th March 2015. Only 43 channels in 28 cities were successfully bid in e-auction of second batch of FM Radio.

1.11 As on 31st March 2019, 356 private FM Radio channels were operational in India. Figure 1 depicts the growth of operational private FM Radio channels.

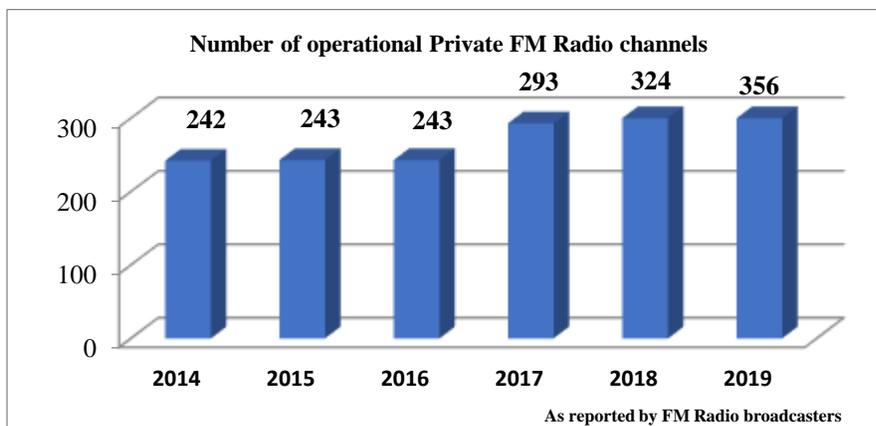


Figure 1: Number of operational Private FM Radio channels

- 1.12 A reference dated 11th September 2018 (**Annexure-II**) was received from MIB seeking views of TRAI as to whether the inflation needs to be factored in on the reserve price of FM Radio channels approved by the Cabinet on 20th December 2018. The Authority vide its letter dated 9th April 2019 (**Annexure-III**) stated that for factoring in the inflation, indexation of reserve prices worked out in 2011 and 2015, may not serve any fruitful purpose. It was also stated that looking at the changed scenario of the FM radio sector, it would be appropriate that the MIB send a fresh reference to TRAI, if deem appropriate, seeking its recommendations afresh on reserve prices for auction of FM Radio channels in new cities.
- 1.13 Now, in response to TRAI's letter dated 9th April 2019, MIB vide its letter dated 22nd August 2019 (**Annexure-IV**) has requested TRAI to furnish recommendations on fresh reserve prices for 283 cities (260 new + 23 existing), under FM Phase-III Policy in terms of Section 11(1) (a) of TRAI Act, factoring in various issues like inflation, indexation of reserve prices worked out in the years from 2011 to 2015, including the reasons for the same as also reasons for variations from earlier recommended reserve prices.
- 1.14 Accordingly, this Consultation Paper has been prepared to solicit comments and views of all stakeholders on the determination of reserve prices for auction of FM Radio channels in 283 cities (260 new + 23 existing), under FM Phase-III Policy. Chapter II discusses the issues related to estimation of the reserve prices for auction of FM Radio channels. A summary of the issues for consultation is provided in Chapter III.

Chapter II

Estimation of Reserve Prices for auction of FM Radio channels

- 2.1 The objective for expanding FM Radio broadcast service is to make available a variety of entertainment, information and educational content to citizens. This goal is sought to be achieved by covering underserved geographical areas of the country by setting up FM Radio Stations in new cities and providing for additional channels in cities with existing FM Radio channels. The primary purpose of auctioning FM Radio channels is to boost the FM Radio movement and expand its outreach. The expectation is that FM Radio will contribute towards development of society, fulfill the entertainment and information needs of citizens, and promote socio-economic activity. The revenues generated from the auction process are incidental to the realisation of these larger societal objectives.
- 2.2 The permission granted to an FM Radio operator for running a channel in a particular area entitles it to allotment of one spot frequency from Wireless Planning & Coordination (WPC) wing in the range of 88 - 108 MHz for that area. Hence, the Entry Fee (i.e. Non-Refundable One Time Entry Fee - NOTEF), is determined through the auction process, for grant of permission to operate an FM Radio channel. Permission also includes the charge for the spectrum (spot frequency) bundled with the permission. The grant of permission for an FM Radio channel without bundled spectrum would not serve any purpose as FM Radio services cannot be delivered without spectrum.
- 2.3 NOTEF is the capital investment for an FM Radio operator. Further, the minimum license fee (a recurring annual payment) is also linked to the NOTEF amount. Therefore, the capital and operational expenses of FM Radio operators are linked to the NOTEF. The primary source of revenue

for FM Radio broadcaster are the commercial advertisements aired during the broadcast. Therefore, the revenue generation potential in a particular market depends on the duration and rates of commercial advertisements. Figure 2 indicates the growth in total advertisement revenue of private FM Radio broadcasters during last five years:

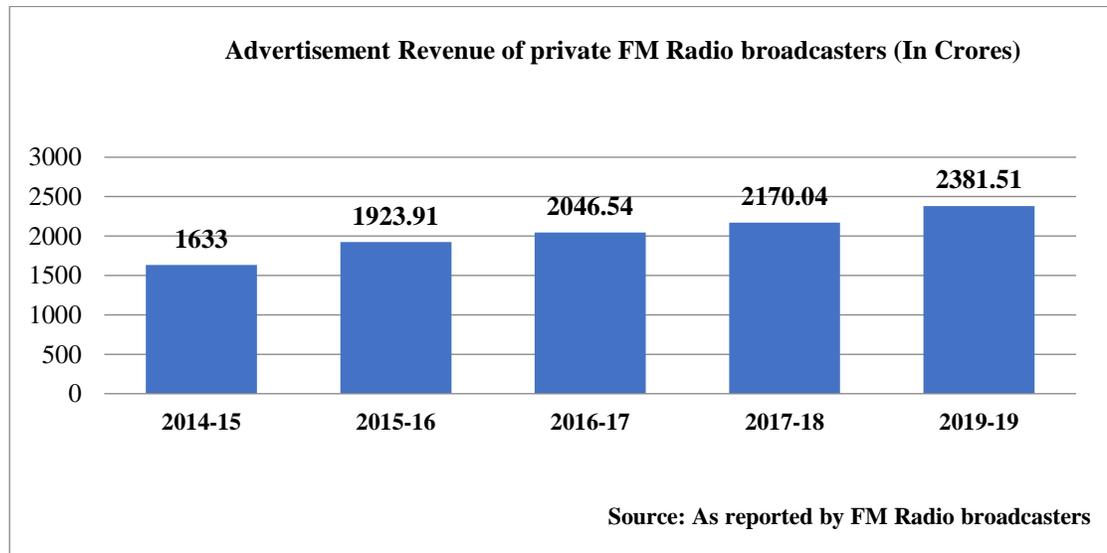


Figure 2: Advertisement revenue of private FM Radio broadcasters

Phase-III policy of FM Radio Broadcasting

2.4 Government notified the Policy Guidelines for Phase-III of FM Radio Broadcasting on 25th July 2011. The salient features of the Phase-III policy guidelines are:

- Permission for the channels shall be granted on the basis of a Non-Refundable One Time Entry Fee (NOTEF).
- NOTEF shall be arrived at through an ascending e-auction process, on similar lines as followed by Department of Telecommunications (DoT), Government of India in the auction of 3G and BWA spectrum in 2010.
- The reserve Price will be decided in the following manner:

- For new channels in existing FM Phase-II cities, the highest bid price received for that city in Phase-II.
- For fresh (new) cities, the highest bid price received during FM Phase-II for that category of cities in that region.
- In case the benchmark from Phase-II for a particular region is not available, then the lowest of the highest bid received in other regions for that category of cities.
- For new cities in border areas with a population less than one lakh the reserve price shall be Rs. 5 Lakh.
- The Validity of the license is 15 years from the date of operationalisation of the channel.
- Annual Licence Fee will be charged as follows:
 - 4% of Gross Revenue (GR) of the FM radio channel for the financial year or 2.5% of NOTEF for the concerned city, whichever is higher.
 - For the permission holders in the States of the North East, Jammu & Kashmir (J&K) and Island territories (i.e. Andaman and Nicobar islands and Lakshadweep) - 2% of Gross Revenue for each year or 1.25% of NOTEF for the concerned city, whichever is higher, for an initial period of three years from the date from which the annual license fee becomes payable and the permission period of 15 years begins.
- GR would be the gross inflow of cash, receivables or other consideration arising in the course of ordinary activities of the FM Radio Broadcasting enterprise from rendering of services and from the use by others of the enterprise resources yielding rent, interest, dividend, royalties, commissions etc.
- GR will be calculated, without deduction of taxes and agency commission, on the basis of billing rates, net of discounts to advertisers.

- Each applicant will be allowed to own more than one channel but not more than 40% of the total channels in a city subject to a minimum of three different operators in the city.
- No entity will be permitted to hold more than 15% of all channels allotted in the country excluding channels located in Jammu and Kashmir, the North Eastern States and Island territories.
- FDI limit of 26% permitted in a private FM radio broadcasting company.
- Networking of channels will be permissible within a private FM broadcaster's own network across the country subject to the condition that 20% of the total broadcast in a day is in the local language of the city and promotes local content.
- The permission holder will be permitted to carry the news bulletins of All India Radio in exactly same format (unaltered) on such terms and conditions as may be mutually agreed with Prasar Bharati.
- No other news and current affairs programs will be permitted under the Policy.
- The following categories will be treated as non-news and current affairs broadcast and will be permissible:
 - (a) Information pertaining to sporting events excluding live coverage. However, live commentaries of sporting events of a local nature may be permissible;
 - (b) Information pertaining to Traffic and Weather;
 - (c) Information pertaining to and coverage of cultural events and festivals.
 - (d) Topics pertaining to examinations, results, admissions, career counseling;
 - (e) Availability of employment opportunities;
 - (f) Public announcements pertaining to civic amenities like electricity, water supply, natural calamities, health alerts and other essential issues as provided by the local administration;

(g) Such other categories not permitted at present that may subsequently be specifically permitted by Ministry of Information and Broadcasting from time to time.

- The permission holder is required to follow the Programme and Advertisement Code as followed by All India Radio as amended from time- to-time or any other applicable code, which the Central Government may prescribe from time to time.

2.5 MIB in its letter dated 22nd August 2019 has sought TRAI's recommendations on reserve prices of 283 cities which include 260 new cities and 23 existing cities. Out of 260 new cities, 155 new cities were identified by MIB in 2011 in Phase-III policy and have not been put to auction yet (**Annexure-V**); 37 new cities were identified by MIB in 2014 on the basis of the 2011 census data and have not been put to auction yet (**Annexure-VI**); 41 new cities were put to auction in Phase-III in 2016, but no bids were received in these cities (**Annexure-VII**); and 27 new cities were put to auction in Phase-III in 2016, wherein all the channels were not bid (**Annexure-VIII**). A list of 23 exiting cities is available at **Annexure-IX**.

2.6 In batch 1 and batch 2 of Phase-III auction, reserve price for existing cities were fixed by MIB as per provisions of Phase-III policy guidelines. No recommendations were sought from TRAI on reserve price for existing cities.

Reserve price for 23 existing cities

2.7 As per Phase-III policy guidelines, reserve price for new channels in existing FM Phase-II cities are fixed as the highest bid price received for that city in Phase-II. MIB in January 2015 obtained Cabinet's approval to conduct ascending e-auction for 135 channels in 69 existing cities based on the reserve prices fixed as per Phase-III policy guidelines and as approved by Cabinet on 07.07.2011.

- 2.8 Thereafter, MIB in July 2015 conducted e-auction for 135 channels in 69 existing cities in first batch of Private FM Radio Phase-III. As per information available on MIB's website, 96 out of 135 private FM Radio channels in 55 existing cities were successfully auctioned. Subsequently, in second batch of Private FM Radio Phase-III, MIB in June 2016 conducted the e-auction for 266 channels in 92 cities which included 39 channels in 23 existing cities. As per information available on MIB's website, 23 channels in 20 existing cities were successfully auctioned.
- 2.9 It may be noted that out of 69 existing cities, wherein auction of FM Radio channels was held in Batch 1 of Phase-III in 2015, in 35 cities successful bid amount was higher than the reserve price for those cities and in 21 cities successful bid amount was equal to the reserve price for those cities. No bids were received in 13 cities. Out of 56 cities, wherein bids were received in Batch 1 of Phase-III auction, all the channels were successfully bid in 46 cities **(Annexure-X)**
- 2.10 MIB in June 2016 again conducted auction for 39 channels in 23 existing cities along with 227 channels in 69 new cities in Batch 2 of Phase-III. In 8 existing cities successful bid amount was higher than the reserve price and in 12 existing cities successful bid amount was equal to the reserve price. No bids were received in 3 cities. **(Annexure-XI)**.
- 2.11 Out of 23 existing cities mentioned in the MIB's reference dated 22nd August 2019, auction has already taken place in Phase-III in 16 cities whereas in remaining 7 exiting cities no auction has taken place in Phase-III. Reserve prices for 16 existing cities were fixed by MIB in accordance with provisions of Phase-III policy guidelines. Out of 16 existing cities where auction has taken place in Phase-III, in 2 cities successful bid amount was higher than the reserve price for those cities and in 11 cities successful bid amount was

equal to the reserve price for those cities. No bids were received in 3 cities. **(Annexure-IX).**

- 2.12 In such a scenario, it is worthwhile to consider whether the Phase-III policy i.e. the highest bid price received for a city in Phase-II continued to be reserve price for the existing cities or there may be a need to account for the inflation.

Reserve prices for new cities

- 2.13 MIB in its letter dated 22nd August 2019 has sought recommendations on reserve prices of 260 new cities which include 10 cities of border areas of J&K and NE states. As per Phase-III Policy guidelines cities in border areas with a population less than one lakh are classified in 'Others' category and reserve price for cities in this category is fixed at Rs. 5 Lakh.

- 2.14 The methodology for arriving at valuation of FM Radio channels in 250 new cities other than the cities classified in 'Others' category is discussed in paras to follow.

Methodology for arriving at valuation of FM Radio channels in 250 new Cities

- 2.15 As per Phase-III Policy guidelines reserve prices for new cities, excluding the cities of 'Others' category, were to be fixed as the highest bid price received during FM Phase-II for that category of cities in that region. However, the Authority noted that this may yield inconsistent and/or irrational results. Accordingly, in its recommendations on 'Migration of FM Radio Broadcasters from Phase-II to Phase-III' dated 20th February 2014, the Authority recommended that the methodology for determining the reserve prices for new cities in Phase-III should be reconsidered as the

methodology mentioned in Phase-III Policy guidelines might jeopardize the auction.

2.16 Thereafter, MIB through its letter dated 16th December 2014, sought TRAI's recommendations on Reserve Prices (RP) for FM Radio channels in 264 new cities. In response, the Authority sent its Recommendations on 'Reserve Price for auction of FM Radio channels in New Cities' on 24th March 2015. The 264 new cities included 11 cities of 'Others' category.

2.17 The Authority in its recommendations dated 24th March 2015, noted that advertisement is the primary source of revenue generation for FM Radio. Therefore, the revenue generation potential in a particular market depends on the duration and rates of commercial advertisements. These, in turn, depend on the scale of economic activity and listenership of FM Radio in that city/ coverage area. Since both these facets vary across different cities, the revenue generation potential of cities cannot be uniform. The Authority also noted that the factors such as purchasing power of a citizen, total FM radio listenership and past revenue earning data appear to be relevant variables for assessing the economic activity of the city/ region. Therefore, the Authority, together with population, identified three other relevant variables, for valuation of FM radio channels in new cities. These were (1) Per capita income, (2) Listenership of FM Radio, and (3) Per capita Gross Revenue (GR) earned by existing FM Radio operators. The revenue earning capabilities of a channel in a city can be factored using these three characteristic variables.

2.18 The Authority in its recommendations of 2015 adopted a two-stage process for estimating the reserve prices for FM Radio channels in new cities, except for the cities in 'Others' category. In the first stage, valuation of the FM Radio channels in each new city was determined. In the second stage, the

reserve price for each new city was calculated from the valuation of the FM Radio channels by multiplying the value of channel with a factor of 0.8.

- 2.19 The detailed methodology for valuation of FM Radio channels in new cities, as adopted by the Authority in its recommendations dated 24th March 2015² is explained below:

Step-1 One dominant characteristic was the population in a city. This yielded a classification in terms of category A+, A, B, C, D and 'Other' cities as per criteria specified in Phase-III Policy guidelines. However, since the FM Phase-III auction for new cities dealt only with category B, C, and D cities, these were the categories that were taken into consideration. This variable remained common across the methods.

Step-2 There were three additional characteristics (variables) - per capita income, Gross Revenues (GR) earned by the FM Radio broadcasters in the existing cities, and estimated FM radio listenership - which vary from one to another method. The values of these variables were estimated on the basis of available data on a State-wise basis. Based on the numerical values obtained, States were divided into three groups. States with more than 25% of the mean value of the concerned variable were placed in the first group. States with less than 25% but more than -25% of the mean value of the concerned variable were placed in the second group. States with less than -25% of the mean value of the concerned variable were placed in the third group.

Step-3 On the basis of the State-wise estimates of per capita GSDP, States were categorized and divided into three groups J, K, and L (**Annexure- XII**). A similar exercise was replicated for the other two

² https://main.trai.gov.in/sites/default/files/Rec-FM-P-III_RP-24032015.pdf

variables, namely, per capita GR earned and density of FM Radio receivers. This yielded three groups, F, G, and H, based on the per capita GR (**Annexure- XIII**) and another three groups, Q, R, and S, based on density of FM Radio receivers (**Annexure- XIV**).

Step-4 Taking population size as one characteristic and one of the other three variables as the second characteristic, existing cities were classified into a 3x3 matrix in which each cell contained a group of existing cities. For instance, Amritsar, Coimbatore, Kochi, Madurai, Rajkot, and Vadodara, which all belong to category 'C' based on population and group J based on per capita GSDP, were classified in the (1,1) cell of Matrix-I. Similarly, all remaining existing cities of categories 'B', 'C', and 'D' were further classified into each cell of Matrix-I (**Annexure-XV**). On similar lines, two other matrices, namely Matrix-II (**Annexure- XVI**) based on the per capita GR and Matrix-III (**Annexure- XVII**) based on density of FM Radio receivers, were derived.

Step-5 The average of all successful bids received in Phase-II in each existing city was calculated. This provided the reference prices for existing cities. These reference prices were then individually multiplied by 1.5 to factor in the increase in the permission period from 10 to 15 years and by 1.798 to factor in the inflation for the period, from 1st April 2005 up to 31st December 2014 based on WPI. These were termed the indexed reference prices (**Annexure- XVIII**).

Step-6 Once the indexed reference prices and three matrices referred to above became available, the indexed reference prices were mapped to the existing cities classified in each cell of the matrices (Matrix-I, Matrix-II and Matrix-III). The mapping linked indexed reference prices to the cities in that group. Then, for each cell, an average of the indexed reference prices of the cities falling in that cell was determined i.e. the total sum of the indexed

reference prices of all cities in the cell was divided by the number of cities in the cell. **(Annexure- XIX, XX, and XXI)**

Step-7 The above steps yielded three 3x3 matrices corresponding to Matrix-I, Matrix-II and Matrix-III with averages of indexed reference prices assigned to each cell. This effectively established a relationship between city characteristics and prices for cities where auctions were held in Phase-II. **(Annexure- XXII)**

Step-8 Now, the new cities were classified in terms of their population size (B, C or D) and the other three State-level variables. For each new city, three numerical price values were obtained from the matrices arrived at in Step 7. For instance, suppose a new city of category C fell in groups J, R and H against the three other State level variables. Then the prices from the relevant cell of the relevant matrix were mapped to the city i.e. the price values contained in the cells corresponding to C and J in terms of per capita GSDP, C and R in terms of listenership and C and H in terms of per capita GR were assigned to each of the new cities. Thus, based on three different characteristics of these new cities, three distinct values were assigned to each of the new cities. **(Annexure- XXIII)**

Step-9 It was intended to determine a final valuation for FM Radio channels in each new city as the average of three values derived for each city based on the three relevant variables. To provide a sense check, it was essential to verify whether the three sets of State ranks worked out in Step-3 were indeed significantly correlated. In statistics, correlation tests are used to measure a relationship between two or more variables. Spearman's Rank Correlation Coefficient³ is a statistical measure of the strength of a monotonic relationship between paired data. On computation, it was noted

³ <http://www.rgs.org/NR/rdonlyres/4844E3AB-B36D-4B14-8A20-3A3C28FAC087/0/OASpearmanRankExcelGuidePDF.pdf>

that three sets of the State ranks worked out in Step-3 were indeed correlated with each other. **(Annexure- XXIV)**

Step-10 To arrive at a final valuation for FM Radio channels in each new city, the average of the three values assigned (see Step 8) to a new city was computed.

2.20 For the purpose of calculating the reserve price from the valuation of access spectrum used for telecommunication services, based on past domestic as well as international experience, the Authority considered a multiplication factor of 0.8 viz. the RP is set equal to the valuation of access spectrum multiplied by 0.8. The same multiplication factor was used for estimating the RP for FM Radio channels in new cities.

2.21 The above-mentioned methodology for valuation of FM radio channels in new cities was recommended by the Authority in 2015. A lot of time has passed since the fixation of above-mentioned reserve prices. FM Radio sector has undergone changes in terms of technology and behavior of radio listeners. Listeners, especially the young generation, are opting for online platforms, such as Saavn, Ganaa.com, for listening to music. In addition, many of the new smart phones do not have inbuilt FM Radio receivers. In such a scenario, the revenue stream of FM Radio broadcasters may get impacted due to possible reduction in number of listeners. This may require a review of the methodology adopted in 2015 by TRAI for valuation of FM radio channels and the variables – Population, Per capita income, Listenership of FM Radio, and Per capita Gross Revenue (GR) earned by existing FM Radio operators – and their values considered at that time.

2.22 In TRAI's recommendations of 2015, the population⁴ figures of census 2011 and the GSDP⁵ figures for FY 2011-12 were utilized to calculate the per

⁴ <http://censusindia.gov.in/>

⁵ <http://pib.nic.in/archieve/others/2013/dec/d2013121703.pdf>

capita GSDP of each State. Data of station-wise GR for FY 2011-12, reported by each FM Radio broadcaster, was obtained from MIB. The per-capita GR in a State was estimated by dividing the sum of GRs reported for all the cities where FM Radio stations were operational in a State by the population of that State. For estimating density of FM Radio receivers in each State, data from multiple sources was used. The State-wise data on percentage of households possessing a radio/transistor was obtained from the 2011 Census. For estimating the number of mobile handsets based FM Radio receivers, wireless tele-density data (as on 31st March 2012) available with TRAI was used. In addition, to estimate the number of vehicles fitted with FM Radio receivers, the data related to total number of cars, jeeps, taxis, omnibuses and Light Motor Vehicles (passenger) registered with the respective State Transport Departments as on 31st March 2012, as available with the Ministry of Road Transport and Highways, Government of India, was utilized. The data from diverse sources was consolidated and utilized to assess the overall density of FM Radio receivers per hundred persons in a particular State.

- 2.23 In order to derive valuation of FM radio channels in new cities the Authority considered the successful bid prices received for existing cities during the Phase-II auction in 2005 as reference price and applied a factor of 1.798 for indexing inflation based on WPI for the period 2005 to 2014. As already discussed in para 2.8 and 2.9, auctions for Phase-III were held in some of the existing cities in 2015 and 2016 and successful bids received in some existing cities were higher than the reserve price which were fixed as the highest bid received in that city in Phase-II auction. In such a scenario, whether successful bids received in Phase-III auctions may be considered as reference price or the successful bids received for existing cities during the Phase-II auction with indexation may be considered as reference price. Stakeholders may provide their comments.

- 2.24 Presently radio signals are largely transmitted in analog mode in the country. Analog terrestrial radio broadcasting, when compared with digital mode, is inefficient and suffers from operational restrictions. With the advancement in technologies, digital radio technologies around the globe have been developed and adopted by several countries in order to offer more choice to listeners along with efficient use of spectrum. Digital Radio broadcasting provides a number of advantages over analog radio broadcasting. The biggest advantage of digital radio is that it is possible to broadcast three to four channels on a single frequency carrier while ensuring excellent quality of audio for all the channels whereas analog mode broadcasts only one channel on a frequency carrier.
- 2.25 Looking at the advantages of digital radio broadcasting and in order to develop an eco-system, which can facilitate deployment of digital radio broadcasting, TRAI had *suo-motu* sent its recommendations on “Issues related to Digital Radio Broadcasting in India” to the government on 1st February 2018. The Authority while framing these recommendations noted that the Phase-III policy guidelines mandate radio broadcasting using analog FM technology and does not permit use of any other radio broadcasting technology. The Authority also noted that in Phase-III expansion of FM radio, 966 FM radio channels were made available for auction. Auction of FM radio channels for Phase-III were conducted by MIB in two batches in 2015 and 2016, wherein a total of 162 FM Radio channels were successfully auctioned indicating that MIB would be required to auction remaining 804 FM radio channels.
- 2.26 In light of above, the Authority was of the view that in order to facilitate smooth transition to digital radio broadcasting, Phase-III policy should be revised to permit use of any transmission technology, analog or digital or both, for channels yet to be auctioned, which can provide radio

broadcasting services in the 88 – 108 MHz. Accordingly, the Authority in its recommendations dated 1st February 2018 recommended that:

“The auction of remaining channels of Phase-III should be done by delinking them from technology. Broadcasters should be permitted to use any technology (analog or digital or both) for radio broadcasting on the frequency allocated to them through auction in future. In case Radio broadcasters opt for digital technology, they should be permitted to broadcast more than one channel subject to technical feasibility on single frequency allocated to them.”

2.27 TRAI’s recommendations on Digital Radio Broadcasting are still pending with MIB. In its reference dated 22nd August 2019 MIB has sought reserve prices in 283 cities wherein total 805 channels are available for auction in Phase-III. Therefore, the issue again arises whether the future auction of remaining channels of Phase-III may be done by delinking them from technology and Radio broadcasters may be permitted to use any technology (analog or digital) for radio broadcasting on the frequency allocated to them through auction in future based on their business plan.

2.28 In order to facilitate smooth transition to digital radio broadcasting, Phase-III policy may need to be revised to permit use of any transmission technology, analog or digital or both, for channels yet to be auctioned, which can provide radio broadcasting services in the 88 – 108 MHz. However, in FM technology only one Radio channel is possible on a single frequency, whereas in digital technologies multiple channels are possible on single frequency. One may argue that in order to provide level playing field between the operators using analog and digital technologies both should be allowed to broadcast one channel on single frequency. On the other hand, some may argue that operators using digital technologies

should be incentivized by permitting them to broadcast more than one channel on single frequency. Stakeholders may provide their comments.

Estimation of Reserve Price for 10 cities in border areas (i.e. 'Others' Category)

2.29 For new cities, classified in the 'Others' category, no reference price is available from Phase-II as no city was available in this category in that Phase. These cities have population figures of less than one lakh and are located in the border areas of Jammu and Kashmir (J&K) and the North-Eastern (NE) States. The Cabinet approved the RP for each of these 11 cities as Rs. 5 Lakhs. These cities are of strategic importance. The availability of FM Radio broadcasting service in these far-flung areas can also be used for Emergency Warning Services (EWS) with the specific approval and guidance of the local district administration. The reserve price for these cities in Phase-III policy may need to be fixed to encourage the participation of a large number of prospective bidders.

Issues for consultation

- Q1. Do you agree with the methodology used in TRAI's recommendations dated 15th March 2015 for valuation FM Radio channels? You may also suggest an alternative approach/ methodology with details and justifications.**
- Q2. Can the Phase-III policy i.e. the highest bid price received for a city in Phase-II continued to be reserve price for the existing cities? If yes, is there a need to account for the inflation? If no, please suggest approach/ methodology for existing cities with justification.**
- Q3. Do you agree that various technical changes, behavioral changes in listeners, availability of devices for FM Radio listening will be duly**

captured by the variables – Population, Per capita income, Listenership of FM Radio, and Per capita Gross Revenue (GR) earned by existing FM Radio operators, as recommended by TRAI in 2015, for valuation of FM radio channels in new cities? If not, what additional variables need to be considered for truly reflecting the valuation of FM radio channels in new cities? You may also suggest alternative variables with details and justifications.

- Q4. How should the present listenership of FM Radio in each state be estimated? Please provide your suggestions with justification.**
- Q5. In case methodology as recommended by TRAI in 2015 for determining reserve price for FM Radio channels in new cities is adopted, should the reference price be taken as the average of successful bids received in Phase-III auction held in 2015 and 2016? If no, please suggest an alternative proposal with justification.**
- Q6. Do you agree with the proposal that the reserve price for FM Radio channels in a new city can be set equal to 0.8 times of the valuation of FM Radio channels in that city? If no, suggest an alternative proposal with justification.**
- Q7. Should the auction of remaining FM channels of Phase-III be done delinking it from technology adopted for radio broadcasting? Please give your suggestions with detailed justification.**
- Q8. In case auction of remaining FM channels of Phase-III is delinked from technology, whether FM Radio broadcasters who adopt digital technology be permitted to broadcast multiple channels on single frequency? Please give your suggestions with detailed justification.**

Any other issue

Q9. Stakeholders may also provide their comments/ suggestions on any other issue that may be relevant to the present consultation.

Chapter III

Summary of issues for Consultation

Please elaborate your response with justification.

- Q1. Do you agree with the methodology used in TRAI's recommendations dated 15th March 2015 for valuation FM Radio channels? You may also suggest an alternative approach/ methodology with details and justifications.**
- Q2. Can the Phase-III policy i.e. the highest bid price received for a city in Phase-II continued to be reserve price for the existing cities? If yes, is there a need to account for the inflation? If no, please suggest approach/ methodology for existing cities with justification.**
- Q3. Do you agree that various technical changes, behavioral changes in listeners, availability of devices for FM Radio listening will be duly captured by the variables – Population, Per capita income, Listenership of FM Radio, and Per capita Gross Revenue (GR) earned by existing FM Radio operators, as recommended by TRAI in 2015, for valuation of FM radio channels in new cities? If not, what additional variables need to be considered for truly reflecting the valuation of FM radio channels in new cities? You may also suggest alternative variables with details and justifications.**
- Q4. How should the present listenership of FM Radio in each state be estimated? Please provide your suggestions with justification.**
- Q5. In case methodology as recommended by TRAI in 2015 for determining reserve price for FM Radio channels in new cities is**

adopted, should the reference price be taken as the average of successful bids received in Phase-III auction held in 2015 and 2016? If no, please suggest an alternative proposal with justification.

- Q6. Do you agree with the proposal that the reserve price for FM Radio channels in a new city can be set equal to 0.8 times of the valuation of FM Radio channels in that city? If no, suggest an alternative proposal with justification.**
- Q7. Should the auction of remaining FM channels of Phase-III be done delinking it from technology adopted for radio broadcasting? Please give your suggestions with detailed justification.**
- Q8. In case auction of remaining FM channels of Phase-III is delinked from technology, whether FM Radio broadcasters who adopt digital technology be permitted to broadcast multiple channels on single frequency? Please give your suggestions with detailed justification.**
- Q9. Stakeholders may also provide their comments/ suggestions on any other issue that may be relevant to the present consultation.**

List of Acronyms

Abbreviation	Description
AM	Amplitude Modulation
AIR	All India Radio
BWA	Broadband Wireless Access
DoT	Department of Telecommunication
EGoM	Empowered Group of Ministers
FDI	Foreign Direct Investment
FM	Frequency Modulation
GOPA	Grant of Permission Agreement
GR	Gross Revenue
GSDP	Gross State Domestic Product
J&K	Jammu & Kashmir
MIB	Ministry of Information and Broadcasting
NE	North East
NOTEF	Non-refundable One Time Entry Fee
OTEF	One Time Entry Fee
RP	Reserve Price
TRAI	Telecom Regulatory Authority of India
UT	Union Territory
WPC	Wireless Planning & Coordination
WPI	Wholesale Price Index

MIB reference dated 16th December 2014

जेतेन्द्र शंकर माथुर, आई.ए.एस.
JITENDRA SHANKAR MATHUR, IAS
अपर सचिव
ADDL. SECRETARY
T. No. : 23387558
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भारत सरकार
सूचना एवं प्रसारण मंत्रालय
शास्त्री भवन, नई दिल्ली-110001
GOVERNMENT OF INDIA
MINISTRY OF
INFORMATION & BROADCASTING
SHASTRI BHAWAN, NEW DELHI - 110001

D.O.No.N-38014/10/2014-FM/1003

Dated 16th December, 2014.

Dear Sir,

Please refer to your D.O. No.23-3/2014-B&CS dated 20.11.2014 on FM Radio Phase-III Auctions.

2. TRAI vide their recommendations dated 20.02.2014 and subsequent clarification dated 5th September, 2014 had recommended that the methodology for determining the reserve price of fresh cities in Phase-III should be reconsidered as the current methodology might jeopardize the auction. The 2011 census data on population is to be applicable on the fresh FM Radio Phase-III cities. As per the recommendations of the AS&FA, MIB's Committee report dated 31.10.2014, Ministry is agreeable to include 37 fresh cities on the basis of the 2011 census data as it will lead to achieving the objective of FM radio broadcast services in uncovered geographical areas. So the total number of fresh cities becomes 227+37=264 cities.

3. As regards the existing 86 cities where 243 numbers of channels are operational, the amount of migration fee to be charged from these operators for migration from Phase-II to Phase-III has been already recommended by TRAI and has been accepted by the Government. As per Cabinet decision dated 7th July, 2011, 19 cities out of 86 cities have no vacant channels available for auction. In the remaining 67 cities, the reserve price for the 132 vacant channels has been approved by the Cabinet vide its decision 7th July, 2011. It is presumed that TRAI has nothing to add on reserve price, as approved by Cabinet on 7.7.2011, of vacant channels available in 67 existing cities.

2/p.

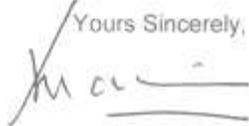
4 In respect of the TRAI recommendations regarding reduction of minimum channel spacing within a license service area to 400 Khz it is intimated that the IMC has accepted this recommendation in principle and it has been decided to declare this in the NIA document for Phase-III auction. This is in line with proposal of TRAI vide its letter dated 5th September, 2014.

5 Therefore, the authority is requested to kindly furnish their recommendations on reserve price for 264 (227+37) fresh cities, as per the Phase-III policy under Section 11(1) (a) of TRAI Act. The list of cities, category of city, along with number of channels, city-wise, is annexed.

6 Ministry of Information and Broadcasting is accordingly in the process of seeking Cabinet approval, inter-alia, for ascending e-auctions in the existing cities of Phase-II based on the reserve price formula approved by the Cabinet in 2011 and migration of existing Phase-II licenses to FM Phase-III on payment of migration fee as per migration formula recommended by TRAI in its recommendations dated 20.2.2014.

With Regards,

Encl: as above.

Yours Sincerely,

(Jitendra Shankar Mathur)

Shri Sudhir Gupta,
Secretary,
Telecom Regulatory Authority of India,
Mahanagar Door Sanchar Bhawan,
Jawaharjal Nehru Marg, (old Minto Road),
New Delhi-110002

MIB reference dated 11th September 2018

जयश्री मुखर्जी, आई.ए.एस.
 JAYASHREE MUKHERJEE, IAS
 अपर सचिव
 ADDITIONAL SECRETARY
 T. No. : 23387558
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भारत सरकार
 सूचना एवं प्रसारण मंत्रालय
 शास्त्री भवन, नई दिल्ली-110001
 GOVERNMENT OF INDIA
 MINISTRY OF
 INFORMATION & BROADCASTING
 SHASTRI BHAWAN, NEW DELHI - 110001

D.O. No. N -38014/8/2018-FM/102-8
 Dated: 11th September, 2018

Dear Shri Gupta,

As may be aware, this Ministry conducted Batch-I of FM Ph-III auctions in 69 existing cities of FM Ph-II in 2015 through NIA dated 02.03.2015 and TRAI gave its recommendations on reserve prices for 264 fresh cities under FM Ph-III on 24.03.2015. Subsequently, this Ministry identified 69 new cities for Batch-II FM Ph-III e auction based on the criteria that their Cabinet approved reserve prices (had no clerical errors) and were higher than TRAI recommended reserve prices of 2015 and also included 23 unsold cities from Batch-I.

2. On 20.12.2017 Cabinet approved this Ministry's proposal to correct reserve prices of 150 fresh cities as per formula approved by Cabinet on 07.07.2011 for forthcoming auctions with the direction that the Ministry may also auction channels in the remaining cities taking reserve price as recommended by TRAI, where it is higher.

3. Based on the above approval by Cabinet, this Ministry has identified 236 cities for the ensuing auctions under Batch-III-FM Ph-III including cities with no bids/partial bidding in Batch-II FM Ph-III. However, an issue has arisen whether reserve prices fixed for ensuing auctions are to be reviewed to consider the inflation over the past few years.

4. TRAI is therefore, requested to clarify as to how inflation over the past few years was factored in its recommendations dated 24.03.2015 on reserve prices for FM radio channels in new cities and how the same can be factored for the ensuing auctions.

with best wishes.

Yours sincerely,

Jayashree Mukherjee

(Jayashree Mukherjee)

श्री सुनील कुमार गुप्ता, 11.9.2018
 Secretary TRAI,
 Mahanagar Doorsanchar Bhawan, JLN Marg
 New Delhi-110 002.

TRAI letter dated 9th April 2019



भारतीय दूरसंचार विनियामक प्राधिकरण
TELECOM REGULATORY AUTHORITY OF INDIA
भारत सरकार / Government of India



File No. 23-3/2014 -B&CS

Dated: 9th April 2019

Dear *Sri Prasad*,

Please refer to Ministry of Information and Broadcasting (MIB) D.O. letter No. 38014/8/2018-FM/1284 dated 26th November 2018 seeking comments of TRAI as per provisions contained under clause 11 {1} {d} of TRAI Act on the issue of reviewing the reserve prices of FM Radio channels approved by the Cabinet on 20th December 2017 for factoring in the inflation over the past few years.

2. It may be recalled that MIB had fixed reserve prices for FM Radio channels in new cities in 2011 as per the formula approved by the Cabinet. You may also recall that on the request of MIB, TRAI recommended reserve prices for auction of FM Radio channels in new cities in 2015. It may be noted that a lot of time has passed since the fixation of above-mentioned reserve prices. FM Radio sector has undergone changes in terms of technology and behaviour of radio listeners. In such a scenario, reserve prices worked out in 2011 and 2015 may not be relevant at present.

3. Considering above, the Authority is of the view that for factoring in the inflation, indexation of reserve prices worked out in 2011 and 2015, may not serve any fruitful purpose. Looking at the changed scenario of the FM radio sector, it would be appropriate that the MIB send a fresh reference to TRAI, if deem appropriate, seeking its recommendations afresh on reserve prices for auction of FM Radio channels in new cities.

Yours Sincerely

Deb Kumar Chakrabarti
(Deb Kumar Chakrabarti)

Mr Atul Kumar Tiwari,
Joint Secretary,
Ministry of Information and Broadcasting (MIB),
Shastri Bhawan,
New Delhi-110011

MIB reference dated 22nd August 2019

टी.सी.ए. कल्याणी, आई.सी.ए.एस.
संयुक्त सचिव
T.C.A. Kalyani, I.C.A.S.
Joint Secretary



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E-mail : tca.kalyani@nic.in
August 22, 2019

D.O. No. N-38011/1/2019-FM / 599

Dear Sir,

Please refer to TRAI's D.O. No. 23-3/2014-B&CS dated 9th April 2019 on reviewing the reserve prices of FM Radio channels fixed for ensuing auctions, approved by the Cabinet on 20.12.2017, for factoring in the inflation over the past few years in response to MIB's reference vide D.O. No. N-38014/8/2018-FM dated 26.11.2018.

2. TRAI on 24.03.2015 recommended reserve prices for FM radio channels in 264 new cities including 37 additional new cities on the basis of 2011 census data. The Authority vide letter dated 09.04.2019 had clarified that since the fixation of reserve prices in 2011 and 2015, FM radio sector has undergone changes in terms of technology and behaviour of radio listeners. Further, TRAI had stated that in such a scenario, reserve prices worked out in 2011 and 2015 may not be relevant at present. Considering this, TRAI was of the view that for factoring in the inflation, indexation of reserve prices worked out in 2011 and 2015, may not serve any fruitful purpose. TRAI had also recommended MIB to seek its recommendations afresh on reserve prices for auction of FM Radio channels in new cities, if deemed appropriate taking cognisance of the changed scenario of the FM radio sector.

3. It has now been decided with the approval of the Competent Authority, to approach TRAI for determination of the reserve prices afresh for the ensuing auctions. The auctions are to be held this FY 2019-20.

4. It has also been decided to separately address the formulation of Digital Radio Broadcasting policy in regard to TRAI's recommendations dated 01.02.2018 on Issues related to Digital Radio Broadcasting in India, after following due process and completing necessary stakeholder consultation.

5. TRAI, is, therefore requested to kindly furnish expeditious recommendations, within six weeks, on fresh reserve prices for 283 cities (260 new + 23 existing), under FM Phase-III Policy in terms of Section 11(1) (a) of TRAI Act, factoring in various issues like inflation, indexation of reserve prices worked out in the years from 2011 to 2015, *et al*, including the reasons for the same as also reasons for variations from earlier recommended reserve prices.

6. The list of cities, category of city along with number of channels city-wise, is annexed.

With warm regards,

Yours Sincerely,

T. C. A. Kalyani

(T. C. A. Kalyani)

Encl.: As above

✓
Shri Sunil Kumar Gupta,
Secretary TRAI,
Mahanagar Doorsanchar Bhawan,
JLN Marg, Old Minto Road,
New Delhi 110 002.

List of 805 Channels in 283 Cities under FM Phase-III				
S No	Name of City	State	Region	Channels available
	I	II	III	IV
New Cities				
Category “B”				
1	Dhanbad	Jharkhand	E	4
2	Ludhiana	Punjab	N	4
3	Moradabad	Uttar Pradesh	N	4
3				12
Category “C”				
1	Alwar*	Rajasthan	N	4
2	Baharampur*	West Bengal	E	4
3	Barddhaman*	West Bengal	E	4
4	Bhagalpur	Bihar	E	4
5	Bhilwara*	Rajasthan	N	4
6	Bijapur*	Karnataka	S	4
7	Berhampur*	Odisha	E	4
8	English Bazar* (Maldah)	West Bengal	E	4
9	Gaya	Bihar	E	4
10	Imphal*	Manipur	E	4
11	Latur*	Maharashtra	W	4
12	Nizamabad*	Telangana	S	4
13	Purnia*	Bihar	E	4
14	Sagar	Madhya Pradesh	W	4
15	Shimoga*	Karnataka	S	4
15				60
Category “D”				
1	Abohar	Punjab	N	3
2	Adilabad	Telangana	S	3
3	Adoni	Andhra Pradesh	S	3
4	Alipurduar	West Bengal	E	3
5	Ambala	Haryana	N	3
6	Anantapuram	Andhra Pradesh	S	3

7	Arrah	Bihar	E	3
8	Azamgarh	Uttar Pradesh	N	3
9	Bahraich	Uttar Pradesh	N	3
10	Baleshwar	Odisha	E	3
11	Ballia	Uttar Pradesh	N	3
12	Balurghat	West Bengal	E	3
13	Banda	Uttar Pradesh	N	3
14	Bangaon	West Bengal	E	3
15	Bankura	West Bengal	E	3
16	Baripada	Odisha	E	3
17	Basti	Uttar Pradesh	N	3
18	Beawar	Rajasthan	N	3
19	Begusarai	Bihar	E	3
20	Bettiah	Bihar	E	3
21	Bharatpur	Rajasthan	N	3
22	Bathinda	Punjab	N	3
23	Bheemavaram	Andhra Pradesh	S	3
24	Bhiwani	Haryana	N	3
25	Bidar	Karnataka	S	3
26	Bihar Sharif	Bihar	E	3
27	Bokaro Steel City	Jharkhand	E	3
28	Badaun	Uttar Pradesh	N	3
29	Chhapra	Bihar	E	3
30	Chikmagalur	Karnataka	S	3
31	Chirala	Andhra Pradesh	S	3
32	Chitradurga	Karnataka	S	3
33	Chittoor	Andhra Pradesh	S	3
34	Churu	Rajasthan	N	3
35	Coonoor	Tamil Nadu	S	3
36	Cuddapah	Andhra Pradesh	S	3
37	Daman	Daman & Diu	W	3
38	Darbhanga	Bihar	E	3
39	Darjiling	West Bengal	E	3
40	Deoghar	Jharkhand	E	3
41	Deoria	Uttar Pradesh	N	3

42	Dharmavaram	Andhra Pradesh	S	3
43	Dibrugarh	Assam	E	3
44	Dimapur	Nagaland	E	3
45	Dindigul	Tamil Nadu	S	3
46	Eluru	Andhra Pradesh	S	3
47	Etah	Uttar Pradesh	N	3
48	Etawah	Uttar Pradesh	N	3
49	Faizabad/Ayodhya	Uttar Pradesh	N	3
50	Farrukhabad cum Fatehgarh	Uttar Pradesh	N	3
51	Fatehpur	Uttar Pradesh	N	3
52	Gadag Betigeri	Karnataka	S	3
53	Ganganagar	Rajasthan	N	3
54	Ghazipur	Uttar Pradesh	N	3
55	Giridih	Jharkhand	E	3
56	Gonda	Uttar Pradesh	N	3
57	Guntakal	Andhra Pradesh	S	3
58	Haldwani-cum Kathgodam	Uttarakhand	N	3
59	Hanumangarh	Rajasthan	N	3
60	Hardoi	Uttar Pradesh	N	3
61	Haridwar	Uttarakhand	N	3
62	Hassan	Karnataka	S	3
63	Hazaribag	Jharkhand	E	3
64	Hindupur	Andhra Pradesh	S	3
65	Hoshiarpur	Punjab	N	3
66	Hospet	Karnataka	S	3
67	Jaunpur	Uttar Pradesh	N	3
68	Jhunjhunu	Rajasthan	N	3
69	Jind	Haryana	N	3
70	Jorhat	Assam	E	3
71	Kaithal	Haryana	N	3
72	Kanhangad (Kasaragod)	Kerala	S	3
73	Karaikudi	Tamil Nadu	S	3
74	Karimnagar	Telangana	S	3
75	Karur	Tamil Nadu	S	3
76	Kavaratti	Lakshadweep	S	3

77	Khammam	Telangana	S	3
78	Kharagpur	West Bengal	E	3
79	Kohima	Nagaland	E	3
80	Kolar	Karnataka	S	3
81	Kothagudem	Telangana	S	3
82	Krishnanagar	West Bengal	E	3
83	Lakhimpur	Uttar Pradesh	N	3
84	Lalitpur	Uttar Pradesh	N	3
85	Machilipatnam	Andhra Pradesh	S	3
86	Madanapalle	Andhra Pradesh	S	3
87	Mahbubnagar	Telangana	S	3
88	Mainpuri	Uttar Pradesh	N	3
89	Mancherial	Telangana	S	3
90	Mathura	Uttar Pradesh	N	3
91	Maunath Bhanjan (Distt. Mau)	Uttar Pradesh	N	3
92	Mirzapur cum Vindhyachal	Uttar Pradesh	N	3
93	Moga	Punjab	N	3
94	Motihari	Bihar	E	3
95	Munger	Bihar	E	3
96	Nagaon (Nowgang)	Assam	E	3
97	Nagarcoil/ Kanyakumari	Tamil Nadu	S	3
98	Nalgonda	Telangana	S	3
99	Nandyal	Andhra Pradesh	S	3
100	Neyveli	Tamil Nadu	S	3
101	Ongole	Andhra Pradesh	S	3
102	Orai	Uttar Pradesh	N	3
103	Palakkad	Kerala	S	3
104	Pali	Rajasthan	N	3
105	Panipat	Haryana	N	3
106	Pathankot	Punjab	N	3
107	Port Blair	Andaman & Nicobar	E	3
108	Proddatur	Andhra Pradesh	S	3
109	Pudukkottai	Tamil Nadu	S	3
110	Puri	Odisha	E	3

111	Puruliya	West Bengal	E	3
112	Raebareli	Uttar Pradesh	N	3
113	Raichur	Karnataka	S	3
114	Rajapalayam	Tamil Nadu	S	3
115	Ramagundam	Telangana	S	3
116	Raiganj	West Bengal	E	3
117	Rewari	Haryana	N	3
118	Rohtak	Haryana	N	3
119	Saharsa	Bihar	E	3
120	Sambalpur	Odisha	E	3
121	Sasaram	Bihar	E	3
122	Sawai Madhopur	Rajasthan	N	3
123	Sikar	Rajasthan	N	3
124	Silchar	Assam	E	3
125	Sirsa	Haryana	N	3
126	Sitapur	Uttar Pradesh	N	3
127	Siwan	Bihar	E	3
128	Sultanpur	Uttar Pradesh	N	3
129	Thanesar	Haryana	N	3
130	Thanjavur	Tamil Nadu	S	3
131	Tinsukia	Assam	E	3
132	Tiruvannamalai	Tamil Nadu	S	3
133	Tonk	Rajasthan	N	3
134	Tumkur	Karnataka	S	3
135	Udupi	Karnataka	S	3
136	Vaniyambadi	Tamil Nadu	S	3
137	Vizianagaram	Andhra Pradesh	S	3
137		Sub total		411
155				483

* 12 Cities for which Category changed from D to C as per Census 2011

No Bids were received for 138 channels put to auction in 41 new cities & 3 existing cities under Second batch of FM Ph-III

Category “C”				
1	Belgaum	Karnataka	S	4
2	Bellary	Karnataka	S	4
3	Davangere	Karnataka	S	4
4	Kakinada	Andhra Pradesh	S	4
5	Kurnool	Andhra Pradesh	S	4
6	Malegaon	Maharashtra	W	4
7	Muzaffarnagar	Uttar Pradesh	N	4
8	Saharanpur	Uttar Pradesh	N	4
9	Shahjahanpur	Uttar Pradesh	N	4
9		Sub Total		36
Category “D”				
1	Achalpur	Maharashtra	W	3
2	Barshi	Maharashtra	W	3
3	Botad	Gujarat	W	3
4	Burhanpur	Madhya Pradesh	W	3
5	Chhatarpur	Madhya Pradesh	W	3
6	Chhindwara	Madhya Pradesh	W	3
7	Damoh	Madhya Pradesh	W	3
8	Dahod	Gujarat	W	3
9	Gondiya	Maharashtra	W	3
10	Guna	Madhya Pradesh	W	3
11	Itarsi	Madhya Pradesh	W	3
12	Jagdalpur	Chhattisgarh	W	3
13	Jetpur Navagadh	Gujarat	W	3
14	Khandwa	Madhya Pradesh	W	3
15	Khargone	Madhya Pradesh	W	3
16	Korba	Chhattisgarh	W	3
17	Mandsaur	Madhya Pradesh	W	3
18	Murwara (Katni)	Madhya Pradesh	W	3
19	Neemuch	Madhya Pradesh	W	3
20	Patan	Gujarat	W	3
21	Ratlam	Madhya Pradesh	W	3
22	Rewa	Madhya Pradesh	W	3
23	Satna	Madhya Pradesh	W	3

24	Shivpuri	Madhya Pradesh	W	3
25	Singrauli	Madhya Pradesh	W	3
26	Surendranagar Dudhrej	Gujarat	W	3
27	Vidisha	Madhya Pradesh	W	3
28	Wardha	Maharashtra	W	3
29	Yavatmal	Maharashtra	W	3
29		Sub total		87
Cities in Border Areas of J & K and NE states				
1	Jowai	Meghalaya	E	3
2	Lunglei	Mizoram	E	3
3	Belonia	Tripura	E	3
3		Sub total		9
No Bids received in 03 Existing cities under Second batch of FM Ph-III				
Category C				
1	Gulbarga	Karnataka	S	3
2	Mangaluru	Karnataka	S	1
3	Tuticorin	Tamil Nadu	S	2
3		Sub Total		6
44		Total		138
199		Grand Total		621
Partially sold Channels in New cities/Existing cities under Second batch of FM Ph-III				
New Cities				
Category "C"				
1	Alappuzha (Alleppey)	Kerala	S	2
2	Amravati	Maharashtra	W	3
3	Bhavnagar	Gujarat	W	2
4	Dehradun	Uttarakhand	N	3
5	Erode	Tamil Nadu	S	2
6	Hubli-Dharwad	Karnataka	S	2
7	Jamnagar	Gujarat	W	2
8	Nellore	Andhra Pradesh	S	3
9	Salem	Tamil Nadu	S	2
10	Ujjain	Madhya Pradesh	W	3
11	Vellore	Tamil nadu	S	2

11				26
Category “D”				
1	Bharuch	Gujarat	W	1
2	Durg-Bhilainagar	Chhattisgarh	W	2
3	Godhra	Gujarat	W	2
4	Junagadh	Gujarat	W	1
5	Mehsana	Gujarat	W	1
6	Palanpur	Gujarat	W	2
7	Porbandar	Gujarat	W	2
8	Raigarh	Chhattisgarh	W	2
9	Veraval	Gujarat	W	2
9		Sub total		15
Cities in Border Areas of J & K and NE states				
1	Kargil	J & K	N	1
2	Kathua	J & K	N	1
3	Poonch	J & K	N	1
4	Bhaderwah	J & K	N	2
5	Dhubri	Assam	E	2
6	Haflong	Assam	E	2
7	Mokukchung	Nagaland	E	2
7		Sub total		11
Existing cities				
Category “B”				
1	Asansol	West Bengal	E	1
2	Vijayawada	Andhra Pradesh	S	1
Category “C”				
3	Dhule	Maharashtra	W	1
4	Mysuru	Karnataka	S	1
5	Nanded	Maharashtra	W	1
6	Rajahmundry	Andhra Pradesh	S	1
7	Tiruchy	Tamil Nadu	S	1
8	Tirunelveli	Tamil Nadu	S	1
9	Tirupati	Andhra Pradesh	S	1
10	Warangal	Telangana	S	1

10		Sub Total		10
37		Total		62
236		Grand Total		683
Additional Cities as per Census 2011				
Category "C"				
1	Chandrapur	Maharashtra	W	4
1		Sub total		4
Category "D"				
1	Akbarpur	Uttar Pradesh	N	3
2	Ambikapur	Chhattisgarh	W	3
3	Amreli	Gujarat	W	3
4	Anantnag	J&K	N	3
5	Aurangabad	Bihar	E	3
6	Bagaha	Bihar	E	3
7	Bagalkot	Karnataka	S	3
8	Banswara	Rajasthan	N	3
9	Barnala	Punjab	N	3
10	Betul	Madhya Pradesh	W	3
11	Bhadrak	Odisha	E	3
12	Bhuj	Gujarat	W	3
13	Chilakaluripet	Andhra Pradesh	S	3
14	Chittaurgarh	Rajasthan	N	3
15	Dhaulpur	Rajasthan	N	3
16	Dhulian	West Bengal	E	3
17	Firozpur	Punjab	N	3
18	Gandhidham	Gujarat	W	3
19	Hindaun	Rajasthan	N	3
20	Kishanganj	Bihar	E	3
21	Makrana	Rajasthan	N	3
22	Medninagar (Daltonganj)	Jharkhand	E	3
23	Muktsar	Punjab	N	3
24	Nagaur	Rajasthan	N	3
25	Nandurbar	Maharashtra	W	3

26	Narasaraopet	Andhra Pradesh	S	3
27	Osmanabad	Maharashtra	W	3
28	Seoni	Madhya Pradesh	W	3
29	Shikohabad	Uttar Pradesh	N	3
30	Sitamarhi	Bihar	E	3
31	Srikakulam	Andhra Pradesh	S	3
32	Sujangarh	Rajasthan	N	3
33	Suryapet	Telangana	S	3
34	Tadpatri	Andhra Pradesh	S	3
35	Tezpur	Assam	E	3
36	Udgir	Maharashtra	W	3
36		Sub total		108
37		Total		112
Existing cities (Revoked & Non migrated FM Chaneels under FM Ph-II)				
Category "A"				
1	Kolkata	West Bengal	E	1
Category "B"				
2	Visakhapatnam	Andhra Pradesh	S	1
Category "C"				
3	Raipur	Chhattisgarh	W	1
4	Silliguri	West Bengal	E	1
5	Thrisur	Kerala	S	1
6	Kannur	Kerala	S	1
Category "D"				
7	Agartala	Tripura	E	1
8	Gangtok	Sikkim	E	1
9	Itanagar	Arunachal Pradesh	E	1
10	Panaji	Goa	W	1
10		Sub Total		10
47		Total		122
283		Grand Total		805

Annexure V**New cities identified by MIB in Phase-III policy 2011 and not put to auction yet**

S No	Name of City	State	Category	Region	Channels available	Reserve Price as recommended by TRAI in 2015	Reserve price as per Cabinet decision 2017
1	Dhanbad	Jharkhand	B	E	4	5,80,00,000	5,80,00,000
2	Ludhiana	Punjab	B	N	4	9,89,00,000	9,89,00,000
3	Moradabad	Uttar Pradesh	B	N	4	5,76,00,000	5,76,00,000
4	Alwar	Rajasthan	C	N	4	2,14,00,000	15,61,00,590
5	Baharampur	West Bengal	C	E	4	2,14,00,000	2,14,00,000
6	Bardhaman	West Bengal	C	E	4	2,14,00,000	2,14,00,000
7	Bhagalpur	Bihar	C	E	4	1,05,00,000	1,05,00,000
8	Bhilwara	Rajasthan	C	N	4	2,14,00,000	15,61,00,590
9	Bijapur	Karnataka	C	S	4	2,68,00,000	7,02,00,100
10	Berhampur	Odisha	C	E	4	1,30,00,000	1,30,00,000
11	English Bazar (Maldah)	West Bengal	C	E	4	2,14,00,000	2,14,00,000
12	Gaya	Bihar	C	E	4	1,05,00,000	1,05,00,000
13	Imphal	Manipur	C	E	4	67,00,000	67,00,000
14	Latur	Maharashtra	C	W	4	3,10,00,000	3,51,00,000
15	Nizamabad	Telangana	C	S	4	2,14,00,000	7,02,00,100
16	Purnia	Bihar	C	E	4	1,05,00,000	1,05,00,000
17	Sagar	Madhya Pradesh	C	W	4	1,40,00,000	1,40,00,000
18	Shimoga	Karnataka	C	S	4	2,68,00,000	7,02,00,100
19	Abohar	Punjab	D	N	3	1,35,00,000	1,35,00,000
20	Adilabad	Telangana	D	S	3	1,10,00,000	1,10,00,000

21	Adoni	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
22	Alipurduar	West Bengal	D	E	3	1,10,00,000	1,10,00,000
23	Ambala	Haryana	D	N	3	1,23,00,000	1,26,00,000
24	Anantapuram	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
25	Arrah	Bihar	D	E	3	39,00,000	39,00,000
26	Azamgarh	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
27	Bahraich	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
28	Baleshwar	Odisha	D	E	3	58,00,000	58,00,000
29	Ballia	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
30	Balurghat	West Bengal	D	E	3	1,10,00,000	1,10,00,000
31	Banda	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
32	Bangaon	West Bengal	D	E	3	1,10,00,000	1,10,00,000
33	Bankura	West Bengal	D	E	3	1,10,00,000	1,10,00,000
34	Baripada	Odisha	D	E	3	58,00,000	58,00,000
35	Basti	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
36	Beawar	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
37	Begusarai	Bihar	D	E	3	39,00,000	39,00,000
38	Bettiah	Bihar	D	E	3	39,00,000	39,00,000
39	Bharatpur	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
40	Bathinda	Punjab	D	N	3	1,35,00,000	1,35,00,000
41	Bheemavaram	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
42	Bhiwani	Haryana	D	N	3	1,23,00,000	1,26,00,000
43	Bidar	Karnataka	D	S	3	99,00,000	99,00,000
44	Bihar Sharif	Bihar	D	E	3	39,00,000	39,00,000
45	Bokaro Steel City	Jharkhand	D	E	3	39,00,000	39,00,000

46	Badaun	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
47	Chhapra	Bihar	D	E	3	39,00,000	39,00,000
48	Chikmagalur	Karnataka	D	S	3	99,00,000	99,00,000
49	Chirala	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
50	Chitradurga	Karnataka	D	S	3	99,00,000	99,00,000
51	Chittoor	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
52	Churu	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
53	Coonoor	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
54	Cuddapah	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
55	Daman	Daman & Diu	D	W	3	1,24,00,000	1,24,00,000
56	Darbhanga	Bihar	D	E	3	39,00,000	39,00,000
57	Darjiling	West Bengal	D	E	3	1,10,00,000	1,10,00,000
58	Deoghar	Jharkhand	D	E	3	39,00,000	39,00,000
59	Deoria	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
60	Dharmavaram	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
61	Dibrugarh	Assam	D	E	3	25,00,000	31,00,000
62	Dimapur	Nagaland	D	E	3	25,00,000	31,00,000
63	Dindigul	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
64	Eluru	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
65	Etah	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
66	Etawah	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
67	Faizabad/Ayodhya	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
68	Farrukhabad cum Fatehgarh	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
69	Fatehpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
70	Gadag Betigeri	Karnataka	D	S	3	99,00,000	99,00,000

71	Ganganagar	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
72	Ghazipur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
73	Giridih	Jharkhand	D	E	3	39,00,000	39,00,000
74	Gonda	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
75	Guntakal	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
76	Haldwani-cum Kathgodam	Uttarakhand	D	N	3	1,50,00,000	1,50,00,000
77	Hanumangarh	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
78	Hardoi	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
79	Haridwar	Uttarakhand	D	N	3	1,50,00,000	1,50,00,000
80	Hassan	Karnataka	D	S	3	99,00,000	99,00,000
81	Hazaribag	Jharkhand	D	E	3	39,00,000	39,00,000
82	Hindupur	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
83	Hoshiarpur	Punjab	D	N	3	1,35,00,000	1,35,00,000
84	Hospet	Karnataka	D	S	3	99,00,000	99,00,000
85	Jaunpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
86	Jhunjhunu	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
87	Jind	Haryana	D	N	3	1,23,00,000	1,26,00,000
88	Jorhat	Assam	D	E	3	25,00,000	31,00,000
89	Kaithal	Haryana	D	N	3	1,23,00,000	1,26,00,000
90	Kanhangad (Kasaragod)	Kerala	D	S	3	1,50,00,000	1,50,00,000
91	Karaikudi	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
92	Karimnagar	Telangana	D	S	3	1,10,00,000	1,10,00,000
93	Karur	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
94	Kavaratti	Lakshadweep	D	S	3	5,00,000	31,00,000

95	Khammam	Telangana	D	S	3	1,10,00,000	1,10,00,000
96	Kharagpur	West Bengal	D	E	3	1,10,00,000	1,10,00,000
97	Kohima	Nagaland	D	E	3	25,00,000	25,00,000
98	Kolar	Karnataka	D	S	3	99,00,000	99,00,000
99	Kothagudem	Telangana	D	S	3	1,10,00,000	1,10,00,000
100	Krishnanagar	West Bengal	D	E	3	1,10,00,000	1,10,00,000
101	Lakhimpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
102	Lalitpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
103	Machilipatnam	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
104	Madanapalle	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
105	Mahbubnagar	Telangana	D	S	3	1,10,00,000	1,10,00,000
106	Mainpuri	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
107	Mancherial	Telangana	D	S	3	1,10,00,000	1,10,00,000
108	Mathura	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
109	Maunath Bhanjan (Distt. Mau)	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
110	Mirzapur cum Vindhyachal	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
111	Moga	Punjab	D	N	3	1,35,00,000	1,35,00,000
112	Motihari	Bihar	D	E	3	39,00,000	39,00,000
113	Munger	Bihar	D	E	3	39,00,000	39,00,000
114	Nagaon (Nowgang)	Assam	D	E	3	25,00,000	31,00,000
115	Nagarcoil/ Kanyakumari	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
116	Nalgonda	Telangana	D	S	3	1,10,00,000	1,10,00,000
117	Nandyal	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
118	Neyveli	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000

119	Ongole	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
120	Orai	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
121	Palakkad	Kerala	D	S	3	1,50,00,000	1,50,00,000
122	Pali	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
123	Panipat	Haryana	D	N	3	1,23,00,000	1,26,00,000
124	Pathankot	Punjab	D	N	3	1,35,00,000	1,35,00,000
125	Port Blair	Andaman & Nicobar	D	E	3	25,00,000	25,00,000
126	Proddatur	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
127	Pudukkottai	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
128	Puri	Odisha	D	E	3	58,00,000	58,00,000
129	Puruliya	West Bengal	D	E	3	1,10,00,000	1,10,00,000
130	Raebareli	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
131	Raichur	Karnataka	D	S	3	99,00,000	99,00,000
132	Rajapalayam	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
133	Ramagundam	Telangana	D	S	3	1,10,00,000	1,10,00,000
134	Raiganj	West Bengal	D	E	3	1,10,00,000	1,10,00,000
135	Rewari	Haryana	D	N	3	1,23,00,000	1,26,00,000
136	Rohtak	Haryana	D	N	3	1,23,00,000	1,26,00,000
137	Saharsa	Bihar	D	E	3	39,00,000	39,00,000
138	Sambalpur	Odisha	D	E	3	58,00,000	58,00,000
139	Sasaram	Bihar	D	E	3	39,00,000	39,00,000
140	Sawai Madhopur	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
141	Sikar	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
142	Silchar	Assam	D	E	3	25,00,000	31,00,000
143	Sirsa	Haryana	D	N	3	1,23,00,000	1,26,00,000

144	Sitapur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
145	Siwan	Bihar	D	E	3	39,00,000	39,00,000
146	Sultanpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
147	Thanesar	Haryana	D	N	3	1,23,00,000	1,26,00,000
148	Thanjavur	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
149	Tinsukia	Assam	D	E	3	25,00,000	31,00,000
150	Tiruvannamalai	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
151	Tonk	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
152	Tumkur	Karnataka	D	S	3	99,00,000	99,00,000
153	Udupi	Karnataka	D	S	3	99,00,000	99,00,000
154	Vaniyambadi	Tamil Nadu	D	S	3	1,50,00,000	1,50,00,000
155	Vizianagaram	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
		Total no. of channels			483		

Annexure VI

New cities were identified by MIB in 2014 on the basis of the 2011 census data and not put to auction yet

S No	Name of City	State	Category	Region	Channels available	Reserve Price as recommended by TRAI in 2015	Reserve price as per Cabinet decision 2017
1	Chandrapur	Maharashtra	C	W	4	3,10,00,000	3,51,00,000
2	Akbarpur	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
3	Ambikapur	Chhattisgarh	D	W	3	42,00,000	1,71,00,000
4	Amreli	Gujarat	D	W	3	1,24,00,000	1,71,00,000
5	Anantnag	J&K	D	N	3	25,00,000	1,26,00,000
6	Aurangabad	Bihar	D	E	3	39,00,000	39,00,000
7	Bagaha	Bihar	D	E	3	39,00,000	39,00,000
8	Bagalkot	Karnataka	D	S	3	99,00,000	99,00,000
9	Banswara	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
10	Barnala	Punjab	D	N	3	1,35,00,000	1,35,00,000
11	Betul	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
12	Bhadrak	Odisha	D	E	3	58,00,000	58,00,000
13	Bhuj	Gujarat	D	W	3	1,24,00,000	1,71,00,000
14	Chilakaluripet	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
15	Chittaurgarh	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
16	Dhaulpur	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
17	Dhulian	West Bengal	D	E	3	1,10,00,000	1,10,00,000
18	Ferozpur	Punjab	D	N	3	1,35,00,000	1,35,00,000
19	Gandhidham	Gujarat	D	W	3	1,24,00,000	1,71,00,000
20	Hindaun	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
21	Kishanganj	Bihar	D	E	3	39,00,000	39,00,000
22	Makrana	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
23	Medninar (Daltonganj)	Jharkhand	D	E	3	39,00,000	39,00,000
24	Muktsar	Punjab	D	N	3	1,35,00,000	1,35,00,000
25	Nagaur	Rajasthan	D	N	3	1,10,00,000	1,26,00,000
26	Nandurbar	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
27	Narasaraopet	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
28	Osmanabad	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
29	Seoni	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
30	Shikohabad	Uttar Pradesh	D	N	3	58,00,000	1,26,00,000
31	Sitamarhi	Bihar	D	E	3	39,00,000	39,00,000
32	Srikakulam	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
33	Sujargarh	Rajasthan	D	N	3	1,10,00,000	1,26,00,000

34	Suryapet	Telangana	D	S	3	1,10,00,000	1,10,00,000
35	Tadpatri	Andhra Pradesh	D	S	3	1,10,00,000	1,10,00,000
36	Tezpur	Assam	D	E	3	25,00,000	31,00,000
37	Udgir	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
		Total no. of channels			112		

Annexure VII

New cities put to auction in Phase-III in 2016, but no bids received

S No	Name of City	State	Category	Region	Channels available	Reserve Price as per TRAI	Reserve price as per Cabinet decision 2017, whichever is higher
1	Belgaum	Karnataka	C	S	4	2,68,00,000	7,02,00,100
2	Bellary	Karnataka	C	S	4	2,68,00,000	7,02,00,100
3	Davangere	Karnataka	C	S	4	2,68,00,000	7,02,00,100
4	Kakinada	Andhra Pradesh	C	S	4	2,14,00,000	7,02,00,100
5	Kurnool	Andhra Pradesh	C	S	4	2,14,00,000	7,02,00,100
6	Malegaon	Maharashtra	C	W	4	3,10,00,000	3,51,00,000
7	Muzaffarnagar	Uttar Pradesh	C	N	4	1,30,00,000	15,61,00,590
8	Saharanpur	Uttar Pradesh	C	N	4	1,30,00,000	15,61,00,590
9	Shahjahanpur	Uttar Pradesh	C	N	4	1,30,00,000	15,61,00,590
10	Achalpur	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
11	Barshi	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
12	Botad	Gujarat	D	W	3	1,24,00,000	1,71,00,000
13	Burhanpur	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
14	Chhatarpur	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
15	Chhindwara	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
16	Damoh	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
17	Dahod	Gujarat	D	W	3	1,24,00,000	1,71,00,000
18	Gondiya	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
19	Guna	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
20	Itarsi	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
21	Jagdalpur	Chhattisgarh	D	W	3	42,00,000	1,71,00,000
22	Jetpur Navagadh	Gujarat	D	W	3	1,24,00,000	1,71,00,000
23	Khandwa	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
24	Khargone	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
25	Korba	Chhattisgarh	D	W	3	42,00,000	1,71,00,000
26	Mandsaur	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
27	Murwara (Katni)	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000

28	Neemuch	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
29	Patan	Gujarat	D	W	3	1,24,00,000	1,71,00,000
30	Ratlam	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
31	Rewa	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
32	Satna	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
33	Shivpuri	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
34	Singrauli	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
35	Surendranagar Dudhrej	Gujarat	D	W	3	1,24,00,000	1,71,00,000
36	Vidisha	Madhya Pradesh	D	W	3	66,00,000	1,71,00,000
37	Wardha	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
38	Yavatmal	Maharashtra	D	W	3	1,24,00,000	1,71,00,000
39	Jowai	Meghalaya	Oth	E	3	5,00,000	5,00,000
40	Lunglei	Mizoram	Oth	E	3	5,00,000	5,00,000
41	Belonia	Tripura	Oth	E	3	5,00,000	5,00,000
		Total no. of channels			132		

Annexure VIII

New cities put to auction in Phase-III, partial bids received

S No	Name of City	State	Category	Region	Total Channels available for Phase-III auction	Number of channels auctioned in Phase-III	Remaining channels	Reserve Price as per TRAI	Reserve price as per Cabinet decision 2017	BIDs received in Phase-III Auction
1	Alappuzha (Alleppey)	Kerala	C	S	4	2	2	4,23,00,000	7,02,00,100	7,02,00,100
2	Amravati	Maharashtra	C	W	4	1	3	3,10,00,000	3,51,00,000	3,51,00,000
3	Bhavnagar	Gujarat	C	W	4	2	2	3,10,00,000	3,51,00,000	3,51,00,000
4	Dehradun	Uttarakhand	C	N	4	1	3	4,48,00,000	15,61,00,590	15,61,00,590
5	Erode	Tamil Nadu	C	S	4	2	2	4,23,00,000	7,02,00,100	7,02,00,100
6	Hubli-Dharwad	Karnataka	C	S	4	2	2	2,68,00,000	7,02,00,100	7,02,00,100
7	Jamnagar	Gujarat	C	W	4	2	2	3,10,00,000	3,51,00,000	3,51,00,000
8	Nellore	Andhra Pradesh	C	S	4	1	3	2,14,00,000	7,02,00,100	7,02,00,100
9	Salem	Tamil Nadu	C	S	4	2	2	4,23,00,000	7,02,00,100	7,02,00,100
10	Ujjain	Madhya Pradesh	C	W	4	1	3	1,40,00,000	3,51,00,000	3,51,00,000
11	Vellore	Tamil nadu	C	S	4	2	2	4,23,00,000	7,02,00,100	7,02,00,100
12	Bharuch	Gujarat	D	W	3	2	1	1,24,00,000	1,71,00,000	1,71,00,000
13	Durg-Bhilainagar	Chhattisgarh	D	W	3	1	2	42,00,000	1,71,00,000	1,71,00,000
14	Godhra	Gujarat	D	W	3	1	2	1,24,00,000	1,71,00,000	1,71,00,000
15	Junagadh	Gujarat	D	W	3	2	1	1,24,00,000	1,71,00,000	1,71,00,000
16	Mehsana	Gujarat	D	W	3	2	1	1,24,00,000	1,71,00,000	1,71,00,000
17	Palanpur	Gujarat	D	W	3	1	2	1,24,00,000	1,71,00,000	1,71,00,000
18	Porbandar	Gujarat	D	W	3	1	2	1,24,00,000	1,71,00,000	1,71,00,000
19	Raigarh	Chhatisgarh	D	W	3	1	2	42,00,000	1,71,00,000	1,71,00,000
20	Veraval	Gujarat	D	W	3	1	2	1,24,00,000	1,71,00,000	1,71,00,000
21	Kargil	J & K	Oth	N	3	2	1	5,00,000	5,00,000	5,00,000
22	Kathua	J & K	Oth	N	3	2	1	5,00,000	5,00,000	5,00,000
23	Poonch	J & K	Oth	N	3	2	1	5,00,000	5,00,000	5,00,000
24	Bhaderwah	J & K	Oth	N	3	1	2	5,00,000	5,00,000	5,00,000
25	Dhubri	Assam	Oth	E	3	1	2	5,00,000	5,00,000	5,00,000
26	Haflong	Assam	Oth	E	3	1	2	5,00,000	5,00,000	5,00,000
27	Mokukchung	Nagaland	Oth	E	3	1	2	5,00,000	5,00,000	5,00,000
Total no. of channels					92	40	52			

Annexure IX

Existing cities where channels are available for auction

S No	Name of City	State	Category	Region	Channels available	Reserve Price as per cabinet formula 2011	Reserve Price as per TRAI
1	Asansol	West Bengal	B	E	1	1,94,05,000	No reserve price recommended by TRAI for existing cities
2	Vijayawada	Andhra Pradesh	B	S	1	7,00,20,000	
3	Dhule	Maharashtra	C	W	1	46,59,000	
4	Mysuru	Karnataka	C	S	1	3,21,30,990	
5	Nanded	Maharashtra	C	W	1	29,59,000	
6	Rajahmundry	Andhra Pradesh	C	S	1	1,50,00,500	
7	Tiruchy	Tamil Nadu	C	S	1	5,00,00,500	
8	Tirunelveli	Tamil Nadu	C	S	1	1,26,00,000	
9	Tirupati	Andhra Pradesh	C	S	1	4,50,50,000	
10	Warangal	Telangana	C	S	1	1,25,25,000	
11	Gulbarga	Karnataka	C	S	3	1,50,05,000	
12	Mangaluru	Karnataka	C	S	1	2,75,10,000	
13	Tuticorin	Tamil Nadu	C	S	2	1,50,00,500	
14	Kolkata	West Bengal	A+	E	1	6,11,10,090	
15	Visakhapatnam	Andhra Pradesh	B	S	1	4,66,00,000	
16	Raipur	Chhattisgarh	C	W	1	2,12,10,000	
17	Silliguri	West Bengal	C	E	1	65,00,501	
18	Thrisur	Kerala	C	S	1	3,48,89,999	
19	Kannur	Kerala	C	S	1	2,50,20,000	
20	Agartala	Tripura	D	E	1	16,20,000	
21	Gangtok	Sikkim	D	E	1	31,00,000	
22	Itanagar	Arunachal Pradesh	D	E	1	13,03,000	
23	Panaji	Goa	D	W	1	1,71,00,000	
Total no. of channels					26		

Cites at S. No. 14-23 recently identified as vacant channels due to revocation of permission and non-migration to P-III. Approval from cabinet not taken by MIB for these cities

Annexure X

Details of Batch 1 of Phase-III auction in 69 existing cities

S.No	Name of City	State	Region	Category	No. of Channels available for Auction	No. of Channels Auctioned	Reserve price per channel (in Rs.)	Successful Bid Amount (in Rs.)
1	Chennai	Tamil Nadu	South	A+	1	1	12,27,00,000	53,38,83,479
2	Delhi	Delhi	North	A+	1	1	31,42,00,000	1,69,16,89,481
3	Mumbai	Maharashtra	West	A+	2	2	35,20,01,004	1,22,81,31,349
4	Ahmedabad	Gujarat	West	A	1	1	12,00,55,000	42,68,76,267
5	Bangalore	Karnataka	South	A	1	1	21,60,00,000	1,09,25,45,545
6	Hyderabad	Telangana	South	A	4	3	18,00,00,000	18,00,00,000
7	Jaipur	Rajasthan	North	A	1	1	6,10,05,555	28,34,98,387
8	Kanpur	Uttar Pradesh	North	A	3	3	8,00,55,000	8,00,55,000
9	Lucknow	Uttar Pradesh	North	A	3	3	14,00,55,000	14,00,55,000
10	Nagpur	Maharashtra	West	A	2	2	5,10,00,000	7,76,33,411
11	Pune	Maharashtra	West	A	2	2	14,00,55,000	42,03,50,268
12	Surat	Gujarat	West	A	2	2	3,60,00,000	3,60,00,000
13	Amritsar	Punjab	North	B	1	1	3,00,00,000	6,03,97,038
14	Agra	Uttar Pradesh	North	B	2	2	2,56,00,050	2,56,00,050
15	Allahabad	Uttar Pradesh	North	B	2	2	2,10,00,000	4,08,77,024
16	Asansol	West Bengal	East	B	2	0	1,94,05,000	No Bid
17	Cochin	Kerala	South	B	1	1	10,11,69,990	15,04,83,548
18	Jamshedpur	Jharkhand	East	B	1	1	1,21,50,990	1,26,44,366
19	Madurai	Tamil Nadu	South	B	1	1	6,30,00,000	6,49,08,963
20	Patna	Bihar	East	B	3	3	5,13,00,000	17,89,83,876
21	Rajkot	Gujarat	West	B	1	1	3,51,00,000	6,08,08,376
22	Varanasi	Uttar Pradesh	North	B	1	1	2,10,00,000	17,49,18,947
23	Vijayawada	Andhra Pradesh	South	B	2	0	7,00,20,000	No Bid
24	Ahmednagar	Maharashtra	West	C	2	2	37,60,000	47,13,312
25	Ajmer	Rajasthan	North	C	2	2	76,00,000	79,08,589
26	Akola	Maharashtra	West	C	3	2	29,59,000	29,59,000
27	Aligarh	Uttar Pradesh	North	C	3	3	31,00,000	31,00,000
28	Aurangabad	Maharashtra	West	C	2	2	2,99,00,000	6,23,39,493
29	Bareilly	Uttar Pradesh	North	C	2	2	31,00,000	52,59,650
30	Bhubaneshwar	Odisha	East	C	1	1	79,00,000	7,40,13,559
31	Bikaner	Rajasthan	North	C	3	3	31,00,000	31,00,000
32	Bilaspur	Chhatisgarh	West	C	3	3	32,15,000	33,45,541
33	Chandigarh	Chandigarh/UT	North	C	2	2	15,61,00,590	19,04,72,374
34	Dhule	Maharashtra	West	C	3	1	46,59,000	46,59,000

35	Gorakhpur	Uttar Pradesh	North	C	3	2	31,00,000	31,00,000
36	Gulbarga	Karnataka	South	C	3	0	1,50,05,000	No Bid
37	Guwahati	Assam	East	C	1	1	37,80,090	4,11,11,343
38	Jalgaon	Maharashtra	West	C	2	2	36,59,000	36,59,000
39	Jammu	J&K	North	C	3	3	1,01,07,090	1,01,07,090
40	Jhansi	Uttar Pradesh	North	C	3	1	31,00,000	31,00,000
41	Jodhpur	Rajasthan	North	C	1	1	1,27,00,000	11,44,39,124
42	Kolhapur	Maharashtra	West	C	2	2	3,51,00,000	9,44,24,489
43	Kota	Rajasthan	North	C	1	1	85,30,000	1,00,73,018
44	Kozhikode	Kerala	South	C	2	2	7,02,00,100	7,02,00,100
45	Mangalore	Karnataka	South	C	1	0	2,75,10,000	No Bid
46	Muzzaffapur	Bihar	East	C	3	3	15,10,000	15,10,000
47	Mysore	Karnataka	South	C	2	0	3,21,30,990	No Bid
48	Nanded	Maharashtra	West	C	3	1	29,59,000	29,59,000
49	Nasik	Maharashtra	West	C	2	2	3,51,00,000	14,66,24,270
50	Patiala	Punjab	North	C	1	1	1,10,00,000	1,64,93,619
51	Puducherry	Puducherry	South	C	1	0	4,01,00,000	No Bid
52	Rajamundry	Andhra Pradesh	South	C	3	0	1,50,00,500	No Bid
53	Rourkela	Odisha	East	C	2	2	26,55,000	1,02,12,651
54	Sangli	Maharashtra	West	C	2	1	46,59,000	46,59,000
55	Sholapur	Maharashtra	West	C	2	2	66,59,000	72,03,811
56	Siliguri	West Bengal	East	C	1	0	65,00,501	No Bid
57	Srinagar	J&K	North	C	3	3	61,20,090	61,20,090
58	Tiruchy	Tamil Nadu	South	C	2	0	5,00,00,500	No Bid
59	Tirunelveli	Tamil Nadu	South	C	2	0	1,26,00,000	No Bid
60	Tirupati	Andhra Pradesh	South	C	2	0	4,50,50,000	No Bid
61	Tuticorin	Tamil Nadu	South	C	2	0	1,50,00,500	No Bid
62	Udaipur	Rajasthan	North	C	1	1	1,01,07,090	1,05,17,476
63	Warangal	Telangana	South	C	3	0	1,25,25,000	No Bid
64	Agartala	Tripura	East	D	2	1	16,20,000	16,20,000
65	Aizwal	Mizoram	East	D	2	1	12,07,000	12,07,000
66	Hissar	Haryana	North	D	1	1	61,10,000	83,84,735
67	Itanagar	Arunchal Pradesh	East	D	2	1	13,03,000	13,03,000
68	Karnal	Haryana	North	D	1	1	90,00,000	1,04,18,625
69	Shillong	Meghalaya	East	D	2	2	18,07,000	69,15,070

Annexure XI

Details of Batch 2 of Phase-III auction in 23 existing cities

S.No	City Name	Category	Number of channels available	Number of channels auctioned	Number of remaining channels	Reserve Price Per channel (In INR)	Successful Bid Amount (In INR)
1	Agartala	D	1	1	0	16,20,000	70,71,529
2	Aizwal	D	1	1	0	12,07,000	20,09,444
3	Akola	C	1	1	0	29,59,000	58,98,152
4	Asansol	B	2	1	1	1,94,05,000	1,94,05,000
5	Dhule	C	2	1	1	46,59,000	46,59,000
6	Gulbarga	C	3	0	3	1,50,05,000	No Bid
7	Hyderabad	A	1	1	0	18,00,00,000	23,43,48,266
8	Itanagar	D	1	1	0	13,03,000	43,72,914
9	Jhansi	C	2	2	0	31,00,000	56,95,446
10	Mangaluru	C	1	0	1	2,75,10,000	No Bid
11	Muzaffarpur	C	1	1	0	15,10,000	4,35,31,244
12	Mysuru	C	2	1	1	3,21,30,990	3,21,30,990
13	Nanded	C	2	1	1	29,59,000	29,59,000
14	Puducherry	C	1	1	0	4,01,00,000	4,01,00,000
15	Rajahmundry	C	3	2	1	1,50,00,500	1,50,00,500
16	Sangli	C	1	1	0	46,59,000	47,05,590
17	Siliuguri	C	1	1	0	65,00,501	65,00,501
18	Tiruchy	C	2	1	1	5,00,00,500	5,00,00,500
19	Tirunelveli	C	2	1	1	1,26,00,000	1,26,00,000
20	Tirupati	C	2	1	1	4,50,50,000	4,50,50,000
21	Tuticorin	C	2	0	2	1,50,00,500	No Bid
22	Vijayawada	B	2	1	1	7,00,20,000	7,00,20,000
23	Warangal	C	3	2	1	1,25,25,000	1,25,25,000

Grouping of States based on Per Capita GSDP

S.No.	State	Groups	Per Capita GSDP in thousands (Rs.)
1	Haryana	J	120.5
2	Maharashtra	J	106.7
3	Gujarat [§]	J	101.2
4	Kerala [@]	J	94.4
5	Uttarakhand	J	93.4
6	Punjab	J	93.0
7	Himachal Pradesh	J	93.0
8	Tamil Nadu	J	92.2
9	Andhra Pradesh	K	77.5
10	Karnataka	K	75.4
11	Rajasthan	K	60.8
12	WB [#]	K	59.1
13	Chhattisgarh	K	54.6
14	Jammu & Kashmir	L	52.1
15	Odisha	L	51.4
16	NE [*]	L	45.3
17	Jharkhand	L	43.1
18	Madhya Pradesh	L	42.6
19	Uttar Pradesh	L	34.0
20	Bihar	L	23.7

Group J - States with more than 25% of the mean value of per Capita GSDP

Group K - States with \pm 25% of the mean value of per Capita GSDP

Group L - States with less than -25% of the mean value of per Capita GSDP

*** NE includes States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura**

WB includes States West Bengal and Sikkim and UT of Andaman & Nicobar

§ Gujarat includes UT of Daman & Diu

@ Kerala includes UT of Lakshadweep

Annexure XIII

Grouping of States based on per capita Gross Revenue

S. No.	State	Groups	Per capita GR
1	Maharashtra	F	23.95
2	Karnataka	F	18.15
3	Tamil Nadu	F	17.87
4	Kerala [@]	F	14.82
5	Gujarat [§]	F	13.74
6	Andhra Pradesh	G	8.47
7	Punjab	G	8.29
8	Haryana [%]	G	2.56
9	WB [#]	G	7.80
10	Rajasthan	G	6.14
11	Himachal Pradesh	G	5.90
12	Madhya Pradesh	G	5.67
13	Jammu & Kashmir	H	4.11
14	Chhattisgarh	H	3.84
15	Jharkhand	H	3.48
16	Uttar Pradesh	H	3.38
17	Orissa	H	2.18
18	Bihar	H	1.37
19	NE [*]	H	0.29

Group F - States with more than 25% of the mean value of per capita Gross Revenue

Group G - States with \pm 25% of the mean value of per capita Gross Revenue

Group H - States with less than -25% of the mean value of per capita Gross Revenue

*** NE includes North Eastern States of Arunachal Pradesh, Assam, Meghalaya, Mizoram & Tripura**

WB includes States West Bengal and Sikkim

§ Gujarat includes UT of Daman & Diu

@ Kerala includes UT of Lakshadweep

% Haryana has been put into a category where Punjab is categorised. This is because of the fact that a few important cities of Haryana (like Gurgaon, Faridabad, Panchkula etc.), having significant revenue generation potential, are actually covered by the FM Radio stations located within the boundaries of the neighbouring States/ UTs.

Annexure XIV

Grouping of States based on density of FM Radio receivers

S.No.	State	Groups	Density of FM Radio receivers
1	Himachal Pradesh	Q	128.96
2	Tamil Nadu	Q	121.77
3	Punjab	Q	115.27
4	Kerala [@]	Q	112.37
5	Uttarakhand [%]	Q	66.73
6	Karnataka	R	101.70
7	Maharashtra	R	100.27
8	Gujarat [§]	R	96.64
9	Haryana	R	96.47
10	WB [#]	R	83.57
11	Andhra Pradesh	R	82.90
12	Rajasthan	R	76.66
13	Odisha	R	68.85
14	Jammu & Kashmir	R	67.88
15	Uttar Pradesh	R	66.04
16	NE [*]	S	59.35
17	Madhya Pradesh	S	57.09
18	Chhattisgarh	S	56.32
19	Jharkhand	S	54.83
20	Bihar	S	54.48

Group Q - States with more than 25% of the mean value of density of FM Radio receivers

Group R - States with \pm 25% of the mean value of density of FM Radio receivers

Group S - States with less than -25% of the mean value of density of FM Radio receivers

*** NE includes States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland & Tripura**

WB includes States West Bengal and Sikkim and UT of Andaman & Nicobar

§ Gujarat includes UT of Daman & Diu

@ Kerala includes UT of Lakshadweep

% Uttarakhand has been put into a group where Himachal Pradesh is placed. This is because of the fact that mobile subscribers of Uttarakhand have been clubbed with the mobile subscribers of Uttar Pradesh and Uttarakhand has a geographical terrain similar to that of Himachal Pradesh.

Annexure XV

Grouping of existing cities based on the per capita GSDP and population

City category (based on population) State category (based per capita GSDP)	B	C	D
J	Amritsar, Coimbatore, Kochi, Madurai, Rajkot, Vadodra,	Ahmednagar, Akola, Aurangabad, Dhule, Jalandhar, Jalgaon, Kannur, Kolhapur, Kozhikode, Nanded, Nasik, Patiala, Sangli, Sholapur, Thiruvananthapuram, Thrissur, Tirunelveli, Trichy, Tuticorin	Hissar, Karnal, Shimla
K	Asansol, Vijayawada, Vishakhapatnam	Ajmer, Bilaspur, Bikaner, Gulbarga, Jodhpur, Kota, Mysore, Mangalore, Rajahmundry, Raipur, Siliguri, Tirupati, Udaipur, Warrangal,	Gangtok
L	Agra, Allahabad, Bhopal, Indore, Jabalpur, Jamshedpur, Patna, Varanasi	Aligarh, Bareilly, Bhubaneshwar, Gorakhpur, Guwahati, Gwalior, Jammu, Jhansi, Muzaffarpur, Ranchi, Rourkela, Srinagar	Agartala, Aizwal, Itanagar, Shillong

Annexure XVI

Grouping of existing cities based on the per capita GR and population

City category (based on population) State category (based on per capita GR)	B	C	D
F	Coimbatore, Kochi, Madurai, Rajkot, Vadodra	Ahmednagar, Akola, Aurangabad, dhule, Gulbarga, Jalgaon, Kannur, Kolhapur, Kozhikode, Mangalore, Mysore, Nanded, Nasik, sangli, Sholapur, Thiruvananthapuram, Thrissur, Tirunelveli, Trichy, Tuticorin	
G	Amritsar, Asansol, Jamshedpur, Vijayawada, Vishakapatnam.	Ajmer, Bikaner, Jalandhar, Jodhpur, Kota, Patiala, Rajahmundry, Ranchi, Siliguri, Tirupati, Udaipur, Warrangal	Gangtok, Hissar, Karnal, Shimla
H	Agra, Allahabad, Bhopal, Indore, Jabalpur, patna, Varansi	Aligarh, Bareilly, Bhubaneshwar, Bilaspur, Gorakhpur, Guwahati, Gwalior, Jammu, Jhansi, Muzaffarpur, Raipur, Rourkela, Srinagar	Agartala, Aizwal, Itanagar, Shillong

Grouping of existing cities based on density of FM Radio receivers and population

City category (based on population) State Category (based on density of FM Radio receivers)	B	C	D
Q	Kochi, Amritsar, Coimbatore, Madurai	Kannur, Kozhikode, Thiruvananthapuram, Thrissur, Jalandhar, Patiala, Tirunelveli, Trichy, Tuticorin	Shimla
R	Vijayawada, Vishakapatnam, Rajkot, Vadodra Asansol, Agra, Allahabad, Varanasi	Rajahmundry, Tirupati, Warrangal, Gulbarga, Mangalore, Mysore, Ahmednagar, Akola, Aurangabad, Dhule, Jalgaon, Kolhapur, Nanded, Nasik, Sangli, Sholapur, Ajmer, Bikaner, Jodhpur, Kota, Udaipur, Siliguri, Jammu, Srinagar, Bhubaneshwar, Rourkela, Aligarh, Bareilly, Gorakhpur, Jhansi	Hissar, Karnal, Gangtok
S	Patna, Jamshedpur, Bhopal, Indore, Jabalpur	Guwahati, Muzaffarpur, Bilaspur, Raipur, Ranchi, Gwalior	Itanagar, Shillong, Aizwal, Agartala

Annexure XVIII

Indexed reference prices derived from successful Bids for Phase-II FM Channels

S. No.	Name of City	State	City Category as per Phase-III policy	Bid 1 (Rs.)	Bid 2 (Rs.)	Bid 3 (Rs.)	Bid 4 (Rs.)	Total of successful bids received (Rs.)	Average of successful bids received (a) (Rs.)	Average of successful bids with permission period indexation $b=1.5 \times a$ (Rs.)	Reference price (Average of successful bids after Inflation indexation) $c = 1.798 \times b$ (Rs.)
1	Agartala	Tripura	D	16,20,000	12,07,000	11,70,090		39,97,090	13,32,363	19,98,545	35,93,384
2	Agra	Uttar Pradesh	B	2,56,00,050	2,51,10,090	2,50,00,000		7,57,10,140	2,52,36,713	3,78,55,070	6,80,63,416
3	Ahmednagar	Maharashtra	C	37,60,000	36,59,000	32,20,000		1,06,39,000	35,46,333	53,19,500	95,64,461
4	Aizwal	Mizoram	D	12,07,000	5,58,090			17,65,090	8,82,545	13,23,818	23,80,224
5	Ajmer	Rajasthan	C	76,00,000	35,00,000	31,00,000	27,00,090	1,69,00,090	42,25,023	63,37,534	1,13,94,886
6	Akola	Maharashtra	C	29,59,000	18,00,000	15,10,000		62,69,000	20,89,667	31,34,500	56,35,831
7	Aligarh	Uttar Pradesh	C	31,00,000	27,00,090			58,00,090	29,00,045	43,50,068	78,21,421
8	Allahabad	Uttar Pradesh	B	2,10,00,000	76,00,590	64,00,000		3,50,00,590	1,16,66,863	1,75,00,295	3,14,65,530
9	Amritsar	Punjab	B	3,00,00,000	1,63,00,000	1,62,00,000	1,61,10,090	7,86,10,090	1,96,52,523	2,94,78,784	5,30,02,853
10	Asansol	West Bengal	B	1,94,05,000	76,50,090			2,70,55,090	1,35,27,545	2,02,91,318	3,64,83,789
11	Aurangabad	Maharashtra	C	2,99,00,000	1,25,59,000			4,24,59,000	2,12,29,500	3,18,44,250	5,72,55,962
12	Bareilly	Uttar Pradesh	C	31,00,000	27,00,090	27,00,000		85,00,090	28,33,363	42,50,045	76,41,581
13	Bhopal	Madhya Pradesh	B	2,99,00,000	2,98,00,000	2,52,00,990	2,50,59,000	10,99,59,990	2,74,89,998	4,12,34,996	7,41,40,523
14	Bhubaneswar	Odisha	C	79,00,000	61,20,090	46,55,000		1,86,75,090	62,25,030	93,37,545	1,67,88,906
15	Bikaner	Rajasthan	C	31,00,000	27,00,090			58,00,090	29,00,045	43,50,068	78,21,421
16	Bilaspur	Chhattisgarh	C	32,15,000	31,50,990	21,59,000	15,05,002	1,00,29,992	25,07,498	37,61,247	67,62,722
17	Coimbatore	Tamil Nadu	B	6,73,00,000	6,30,00,000	6,12,00,000		19,15,00,000	6,38,33,333	9,57,50,000	17,21,58,500
18	Dhule	Maharashtra	C	46,59,000	21,60,000			68,19,000	34,09,500	51,14,250	91,95,422
19	Gangtok	Sikkim	D	31,00,000	12,07,000	11,70,090	10,00,101	64,77,191	16,19,298	24,28,947	43,67,246
20	Gorakhpur	Uttar Pradesh	C	31,00,000	21,60,090	18,00,000		70,60,090	23,53,363	35,30,045	63,47,021
21	Gulbarga	Karnataka	C	1,50,05,000	51,00,900			2,01,05,900	1,00,52,950	1,50,79,425	2,71,12,806
22	Guwahati	Assam	C	37,80,090	30,50,000	28,06,000	26,55,000	1,22,91,090	30,72,773	46,09,159	82,87,267

23	Gwalior	Madhya Pradesh	C	86,51,000	67,14,000	66,59,000	51,30,990	2,71,54,990	67,88,748	1,01,83,121	1,83,09,252
24	Hissar	Haryana	D	61,10,000	50,04,400	27,00,090	27,00,000	1,65,14,490	41,28,623	61,92,934	1,11,34,895
25	Indore	Madhya Pradesh	B	5,21,20,890	5,03,00,000	4,01,00,000		14,25,20,890	4,75,06,963	7,12,60,445	12,81,26,280
26	Itanagar	Arunachal Pradesh	D	13,03,000	12,07,000	5,58,090		30,68,090	10,22,697	15,34,045	27,58,213
27	Jabalpur	Madhya Pradesh	B	1,51,59,000	1,35,00,000	1,27,12,000	61,20,000	4,74,91,000	1,18,72,750	1,78,09,125	3,20,20,807
28	Jalandhar	Punjab	C	2,61,00,090	2,29,00,000	2,25,00,000	2,10,00,000	9,25,00,090	2,31,25,023	3,46,87,534	6,23,68,186
29	Jalgaon	Maharashtra	C	36,59,000	31,60,000	22,00,000	15,00,100	1,05,19,100	26,29,775	39,44,663	70,92,503
30	Jammu	J&K	C	1,01,07,090				1,01,07,090	1,01,07,090	1,51,60,635	2,72,58,822
31	Jamshedpur	Jharkhand	B	1,21,50,990	76,10,000	52,55,000		2,50,15,990	83,38,663	1,25,07,995	2,24,89,375
32	Jhansi	Uttar Pradesh	C	31,00,000	27,00,090			58,00,090	29,00,045	43,50,068	78,21,421
33	Jodhpur	Rajasthan	C	1,27,00,000	1,14,00,000	1,08,00,000	1,01,07,090	4,50,07,090	1,12,51,773	1,68,77,659	3,03,46,030
34	Kannur	Kerala	C	2,50,20,000	1,76,04,000	75,02,135	75,00,000	5,76,26,135	1,44,06,534	2,16,09,801	3,88,54,422
35	Karnal	Haryana	D	90,00,000	71,10,000			1,61,10,000	80,55,000	1,20,82,500	2,17,24,335
36	Kochi	Kerala	B	10,11,69,990	9,60,00,000	9,01,20,011		28,72,90,001	9,57,63,334	14,36,45,001	25,82,73,711
37	Kolhapur	Maharashtra	C	3,51,00,000	91,00,000			4,42,00,000	2,21,00,000	3,31,50,000	5,96,03,700
38	Kota	Rajasthan	C	85,30,000	31,00,000	30,60,000	27,00,090	1,73,90,090	43,47,523	65,21,284	1,17,25,268
39	Kozhikode	Kerala	C	7,02,00,100	4,10,00,000			11,12,00,100	5,56,00,050	8,34,00,075	14,99,53,335
40	Madurai	Tamil Nadu	B	6,30,00,000	6,00,12,000	4,41,00,000		16,71,12,000	5,57,04,000	8,35,56,000	15,02,33,688
41	Mangalore	Karnataka	C	2,75,10,000	1,89,99,990	96,00,000	81,00,600	6,42,10,590	1,60,52,648	2,40,78,971	4,32,93,990
42	Muzaffarpur	Bihar	C	15,10,000	11,01,000	5,58,090		31,69,090	10,56,363	15,84,545	28,49,012
43	Mysore	Karnataka	C	3,21,30,990	3,01,01,000			6,22,31,990	3,11,15,995	4,66,73,993	8,39,19,839
44	Nanded	Maharashtra	C	29,59,000	15,01,000	10,00,000		54,60,000	18,20,000	27,30,000	49,08,540
45	Nasik	Maharashtra	C	3,51,00,000	2,60,59,000			6,11,59,000	3,05,79,500	4,58,69,250	8,24,72,912
46	Patiala	Punjab	C	1,10,00,000	1,08,00,000	81,10,000	54,00,090	3,53,10,090	88,27,523	1,32,41,284	2,38,07,828
47	Patna	Bihar	B	5,13,00,000				5,13,00,000	5,13,00,000	7,69,50,000	13,83,56,100
48	Raipur	Chhattisgrah	C	2,12,10,000	1,99,00,000	1,01,00,000	75,00,004	5,87,10,004	1,46,77,501	2,20,16,252	3,95,85,220
49	Rajahmundry	Andhra Pradesh	C	1,50,00,500	61,00,530			2,11,01,030	1,05,50,515	1,58,25,773	2,84,54,739
50	Rajkot	Gujarat	B	3,51,00,000	2,25,59,000	2,11,00,590		7,87,59,590	2,62,53,197	3,93,79,795	7,08,04,871
51	Ranchi	Jharkhand	C	64,10,000	37,80,990	37,60,000	36,99,999	1,76,50,989	44,12,747	66,19,121	1,19,01,179
52	Rourkela	Odisha	C	26,55,000	22,00,000	11,70,090		60,25,090	20,08,363	30,12,545	54,16,556
53	Sangli	Maharashtra	C	46,59,000	40,30,000			86,89,000	43,44,500	65,16,750	1,17,17,117
54	Shillong	Meghalaya	D	18,07,000	12,07,000	11,70,090		41,84,090	13,94,697	20,92,045	37,61,497
55	Shimla	Himachal Pradesh	D	1,26,00,000	81,10,000	51,30,090		2,58,40,090	86,13,363	1,29,20,045	2,32,30,241
56	Sholapur	Maharashtra	C	66,59,000	50,20,000	36,00,990		1,52,79,990	50,93,330	76,39,995	1,37,36,711

57	Siliguri	West Bengal	C	65,00,501	55,00,000	46,55,000	44,00,000	2,10,55,501	52,63,875	78,95,813	1,41,96,672
58	Srinagar	J&K	C	61,20,090				61,20,090	61,20,090	91,80,135	1,65,05,883
59	Thiruvananthapuram	Kerala	C	5,00,00,500	3,48,89,999	3,24,00,000	3,21,30,990	14,94,21,489	3,73,55,372	5,60,33,058	10,07,47,439
60	Thrissur	Kerala	C	3,48,89,999	2,50,00,500	1,76,04,000	1,10,00,000	8,84,94,499	2,21,23,625	3,31,85,437	5,96,67,416
61	Tiruchy	Tamil Nadu	C	5,00,00,500	3,15,00,000			8,15,00,500	4,07,50,250	6,11,25,375	10,99,03,424
62	Tirunelveli	Tamil Nadu	C	1,26,00,000	1,17,00,990	71,00,160		3,14,01,150	1,04,67,050	1,57,00,575	2,82,29,634
63	Tirupati	Andhra Pradesh	C	4,50,50,000	1,17,00,990			5,67,50,990	2,83,75,495	4,25,63,243	7,65,28,710
64	Tuticorin	Tamil Nadu	C	1,50,00,500	99,00,000	51,00,900		3,00,01,400	1,00,00,467	1,50,00,700	2,69,71,259
65	Udaipur	Rajasthan	C	1,01,07,090	52,10,000	31,00,000	30,60,000	2,14,77,090	53,69,273	80,53,909	1,44,80,928
66	Vadodra	Gujarat	B	4,51,00,890	3,51,00,000	2,80,60,000	2,80,59,000	13,63,19,890	3,40,79,973	5,11,19,959	9,19,13,686
67	Varanasi	Uttar Pradesh	B	2,10,00,000	1,26,00,000	1,08,00,000	64,00,000	5,08,00,000	1,27,00,000	1,90,50,000	3,42,51,900
68	Vijayawada	Andhra Pradesh	B	7,00,20,000	6,30,00,000			13,30,20,000	6,65,10,000	9,97,65,000	17,93,77,470
69	Vishakapatnam	Andhra Pradesh	B	4,66,00,000	4,11,39,990	3,24,00,000		12,01,39,990	4,00,46,663	6,00,69,995	10,80,05,851
70	Warrangal	Andhra Pradesh	C	1,25,25,000	41,00,460			1,66,25,460	83,12,730	1,24,69,095	2,24,19,433

Annexure XIX

Existing Category 'B', 'C' & 'D' cities grouped based on per capita GSDP and category wise average of indexed reference prices

State	Name of Stations	Category As per Ph-III policy	Indexed reference price of existing cities Phase-II (Rs.)	Group based on per capita GSDP
Punjab	Amritsar	B	5,30,02,853	J
Tamil Nadu	Coimbatore	B	17,21,58,500	J
Kerala	Kochi	B	25,82,73,711	J
Tamil Nadu	Madurai	B	15,02,33,688	J
Gujarat	Rajkot	B	7,08,04,871	J
Gujarat	Vadodra	B	9,19,13,686	J
		B Average	13,27,31,218	
Maharashtra	Ahmednagar	C	95,64,461	J
Maharashtra	Akola	C	56,35,831	J
Maharashtra	Aurangabad	C	5,72,55,962	J
Maharashtra	Dhule	C	91,95,422	J
Punjab	Jalandhar	C	6,23,68,186	J
Maharashtra	Jalgaon	C	70,92,503	J
Kerala	Kannur	C	3,88,54,422	J
Maharashtra	Kolhapur	C	5,96,03,700	J
Kerala	Kozhikode	C	14,99,53,335	J
Maharashtra	Nanded	C	49,08,540	J
Maharashtra	Nasik	C	8,24,72,912	J
Punjab	Patiala	C	2,38,07,828	J
Maharashtra	Sangli	C	1,17,17,117	J
Maharashtra	Sholapur	C	1,37,36,711	J
Kerala	Thiruvananthapuram	C	10,07,47,439	J
Kerala	Thrissur	C	5,96,67,416	J
Tamil Nadu	Tirunelveli	C	2,82,29,634	J
Tamil Nadu	Trichy	C	10,99,03,424	J
Tamil Nadu	Tuticorin	C	2,69,71,259	J
		C Average	4,53,51,900	
Haryana	Hissar	D	1,11,34,895	J
Haryana	Karnal	D	2,17,24,335	J
Himachal Pradesh	Shimla	D	2,32,30,241	J
		D Average	1,86,96,490	

West Bengal	Asansol	B	3,64,83,789	K
Andhra Pradesh	Vijayawada	B	17,93,77,470	K
Andhra Pradesh	Vishakapatnam	B	10,80,05,851	K
		B Average	10,79,55,703	
Rajasthan	Ajmer	C	1,13,94,886	K
Rajasthan	Bikaner	C	78,21,421	K
Chhattisgrah	Bilaspur	C	67,62,722	K
Karnataka	Gulbarga	C	2,71,12,806	K
Rajasthan	Jodhpur	C	3,03,46,030	K
Rajasthan	Kota	C	1,17,25,268	K
Karnataka	Mangalore	C	4,32,93,990	K
Karnataka	Mysore	C	8,39,19,839	K
Chhattisgrah	Raipur	C	3,95,85,220	K
Andhra Pradesh	Rajahmundry	C	2,84,54,739	K
West Bengal	Siliguri	C	1,41,96,672	K
Andhra Pradesh	Tirupati	C	7,65,28,710	K
Rajasthan	Udaipur	C	1,44,80,928	K
Andhra Pradesh	Warrangal	C	2,24,19,433	K
		C Average	2,98,60,190	
Sikkim	Gangtok	D	43,67,246	K
		D Average	43,67,246	
Uttar Pradesh	Agra	B	6,80,63,416	L
Uttar Pradesh	Allahabad	B	3,14,65,530	L
Madhya Pradesh	Bhopal	B	7,41,40,523	L
Madhya Pradesh	Indore	B	12,81,26,280	L
Madhya Pradesh	Jabalpur	B	3,20,20,807	L
Jharkhand	Jamshedpur	B	2,24,89,375	L
Bihar	Patna	B	13,83,56,100	L
Uttar Pradesh	Varanasi	B	3,42,51,900	L
		B Average	6,61,14,241	
Uttar Pradesh	Aligarh	C	78,21,421	L
Uttar Pradesh	Bareilly	C	76,41,581	L
Odisha	Bhubaneshwar	C	1,67,88,906	L
Uttar Pradesh	Gorakhpur	C	63,47,021	L
Assam	Guwahati	C	82,87,267	L
Madhya Pradesh	Gwalior	C	1,83,09,252	L
J&K	Jammu	C	2,72,58,822	L
Uttar Pradesh	Jhansi	C	78,21,421	L
Bihar	Muzaffarpur	C	28,49,012	L
Jharkhand	Ranchi	C	1,19,01,179	L
Odisha	Rourkela	C	54,16,556	L

J&K	Srinagar	C	1,65,05,883	L
		C Average	1,14,12,360	
Tripura	Agartala	D	35,93,384	L
Mizoram	Aizwal	D	23,80,224	L
Arunachal Pradesh	Itanagar	D	27,58,213	L
Meghalaya	Shillong	D	37,61,497	L
		D Average	31,23,329	

Annexure XX

Existing Category 'B', 'C' & 'D' cities grouped based on per capita GR and category wise average of indexed reference prices

State	Name of Stations	Category as per Ph-III policy	Indexed reference price of existing cities Phase-II (Rs.)	Group based per capita GR
Tamil Nadu	Coimbatore	B	17,21,58,500	F
Kerala	Kochi	B	25,82,73,711	F
Tamil Nadu	Madurai	B	15,02,33,688	F
Gujarat	Rajkot	B	7,08,04,871	F
Gujarat	Vadodra	B	9,19,13,686	F
		B Average	14,86,76,891	
Maharashtra	Ahmednagar	C	95,64,461	F
Maharashtra	Akola	C	56,35,831	F
Maharashtra	Aurangabad	C	5,72,55,962	F
Maharashtra	Dhule	C	91,95,422	F
Karnataka	Gulbarga	C	2,71,12,806	F
Maharashtra	Jalgaon	C	70,92,503	F
Kerala	Kannur	C	3,88,54,422	F
Maharashtra	Kolhapur	C	5,96,03,700	F
Kerala	Kozhikode	C	14,99,53,335	F
Karnataka	Mangalore	C	4,32,93,990	F
Karnataka	Mysore	C	8,39,19,839	F
Maharashtra	Nanded	C	49,08,540	F
Maharashtra	Nasik	C	8,24,72,912	F
Maharashtra	Sangli	C	1,17,17,117	F
Maharashtra	Sholapur	C	1,37,36,711	F
Kerala	Thiruvananthapuram	C	10,07,47,439	F
Kerala	Thrissur	C	5,96,67,416	F
Tamil Nadu	Tirunelveli	C	2,82,29,634	F
Tamil Nadu	Trichy	C	10,99,03,424	F
Tamil Nadu	Tuticorin	C	2,69,71,259	F
		C Average	4,64,91,836	
Punjab	Amritsar	B	5,30,02,853	G
West Bengal	Asansol	B	3,64,83,789	G
Jharkhand	Jamshedpur	B	2,24,89,375	G
Andhra Pradesh	Vijayawada	B	17,93,77,470	G
Andhra Pradesh	Vishakapatnam	B	10,80,05,851	G

		B Average	7,98,71,868	
Rajasthan	Ajmer	C	1,13,94,886	G
Rajasthan	Bikaner	C	78,21,421	G
Punjab	Jalandhar	C	6,23,68,186	G
Rajasthan	Jodhpur	C	3,03,46,030	G
Rajasthan	Kota	C	1,17,25,268	G
Punjab	Patiala	C	2,38,07,828	G
Andhra Pradesh	Rajahmundry	C	2,84,54,739	G
Jharkhand	Ranchi	C	1,19,01,179	G
West Bengal	Siliguri	C	1,41,96,672	G
Andhra Pradesh	Tirupati	C	7,65,28,710	G
Rajasthan	Udaipur	C	1,44,80,928	G
Andhra Pradesh	Warrangal	C	2,24,19,433	G
		C Average	2,62,87,107	
Sikkim	Gangtok	D	43,67,246	G
Haryana	Hissar	D	1,11,34,895	G
Haryana	Karnal	D	2,17,24,335	G
Himachal Pradesh	Shimla	D	2,32,30,241	G
		D Average	1,51,14,179	
Uttar Pradesh	Agra	B	6,80,63,416	H
Uttar Pradesh	Allahabad	B	3,14,65,530	H
Madhya Pradesh	Bhopal	B	7,41,40,523	H
Madhya Pradesh	Indore	B	12,81,26,280	H
Madhya Pradesh	Jabalpur	B	3,20,20,807	H
Bihar	Patna	B	13,83,56,100	H
Uttar Pradesh	Varanasi	B	3,42,51,900	H
		B Average	7,23,46,365	
Uttar Pradesh	Aligarh	C	78,21,421	H
Uttar Pradesh	Bareilly	C	76,41,581	H
Odisha	Bhubaneshwar	C	1,67,88,906	H
Chhattisgrah	Bilaspur	C	67,62,722	H
Uttar Pradesh	Gorakhpur	C	63,47,021	H
Assam	Guwahati	C	82,87,267	H
Madhya Pradesh	Gwalior	C	1,83,09,252	H
J&K	Jammu	C	2,72,58,822	H
Uttar Pradesh	Jhansi	C	78,21,421	H
Bihar	Muzaffarpur	C	28,49,012	H
Chhattisgrah	Raipur	C	3,95,85,220	H
Odisha	Rourkela	C	54,16,556	H
J&K	Srinagar	C	1,65,05,883	H
		C Average	1,31,84,237	
Tripura	Agartala	D	35,93,384	H

Mizoram	Aizwal	D	23,80,224	H
Arunachal Pradesh	Itanagar	D	27,58,213	H
Meghalaya	Shillong	D	37,61,497	H
		D Average	31,23,329	

Annexure XXI

Existing Category 'B', 'C' & 'D' cities grouped based on density of FM Radio receivers and category wise average of indexed reference prices

State	Name of City	City Category as per Ph-III policy	Indexed reference price of existing cities Phase-II (Rs.)	Group based on FM Radio receiver density
Punjab	Amritsar	B	5,30,02,853	Q
Tamil Nadu	Coimbatore	B	17,21,58,500	Q
Kerala	Kochi	B	25,82,73,711	Q
Tamil Nadu	Madurai	B	15,02,33,688	Q
		B Average	15,84,17,188	
Punjab	Jalandhar	C	6,23,68,186	Q
Kerala	Kannur	C	3,88,54,422	Q
Kerala	Kozhikode	C	14,99,53,335	Q
Punjab	Patiala	C	2,38,07,828	Q
Kerala	Thiruvananthapuram	C	10,07,47,439	Q
Kerala	Thrissur	C	5,96,67,416	Q
Tamil Nadu	Tirunelveli	C	2,82,29,634	Q
Tamil Nadu	Trichy	C	10,99,03,424	Q
Tamil Nadu	Tuticorin	C	2,69,71,259	Q
		C Average	6,67,22,549	
Himachal Pradesh	Shimla	D	2,32,30,241	Q
		D Average	2,32,30,241	
Uttar Pradesh	Agra	B	6,80,63,416	R
Uttar Pradesh	Allahabad	B	3,14,65,530	R
West Bengal	Asansol	B	3,64,83,789	R
Gujarat	Rajkot	B	7,08,04,871	R
Gujarat	Vadodra	B	9,19,13,686	R
Uttar Pradesh	Varanasi	B	3,42,51,900	R
Andhra Pradesh	Vijayawada	B	17,93,77,470	R
Andhra Pradesh	Vishakapatnam	B	10,80,05,851	R
		B Average	7,75,45,814	
Maharashtra	Ahmednagar	C	95,64,461	R
Rajasthan	Ajmer	C	1,13,94,886	R
Maharashtra	Akola	C	56,35,831	R
Uttar Pradesh	Aligarh	C	78,21,421	R

Maharashtra	Aurangabad	C	5,72,55,962	R
Uttar Pradesh	Bareilly	C	76,41,581	R
Odisha	Bhubaneshwar	C	1,67,88,906	R
Rajasthan	Bikaner	C	78,21,421	R
Maharashtra	Dhule	C	91,95,422	R
Uttar Pradesh	Gorakhpur	C	63,47,021	R
Karnataka	Gulbarga	C	2,71,12,806	R
Maharashtra	Jalgaon	C	70,92,503	R
J&K	Jammu	C	2,72,58,822	R
Uttar Pradesh	Jhansi	C	78,21,421	R
Rajasthan	Jodhpur	C	3,03,46,030	R
Maharashtra	Kolhapur	C	5,96,03,700	R
Rajasthan	Kota	C	1,17,25,268	R
Karnataka	Mangalore	C	4,32,93,990	R
Karnataka	Mysore	C	8,39,19,839	R
Maharashtra	Nanded	C	49,08,540	R
Maharashtra	Nasik	C	8,24,72,912	R
Andhra Pradesh	Rajahmundry	C	2,84,54,739	R
Odisha	Rourkela	C	54,16,556	R
Maharashtra	Sangli	C	1,17,17,117	R
Maharashtra	Sholapur	C	1,37,36,711	R
West Bengal	Siliguri	C	1,41,96,672	R
J&K	Srinagar	C	1,65,05,883	R
Andhra Pradesh	Tirupati	C	7,65,28,710	R
Rajasthan	Udaipur	C	1,44,80,928	R
Andhra Pradesh	Warrangal	C	2,24,19,433	R
		C Average	2,42,82,650	
Sikkim	Gangtok	D	43,67,246	R
Haryana	Hissar	D	1,11,34,895	R
Haryana	Karnal	D	2,17,24,335	R
		D Average	1,24,08,825	
Madhya Pradesh	Bhopal	B	7,41,40,523	S
Madhya Pradesh	Indore	B	12,81,26,280	S
Madhya Pradesh	Jabalpur	B	3,20,20,807	S
Jharkhand	Jamshedpur	B	2,24,89,375	S
Bihar	Patna	B	13,83,56,100	S
		B Average	7,90,26,617	
Chhattisgrah	Bilaspur	C	67,62,722	S
Assam	Guwahati	C	82,87,267	S
Madhya Pradesh	Gwalior	C	1,83,09,252	S

Bihar	Muzaffarpur	C	28,49,012	S
Chhattisgrah	Raipur	C	3,95,85,220	S
Jharkhand	Ranchi	C	1,19,01,179	S
		C Average	1,46,15,775	
Tripura	Agartala	D	35,93,384	S
Mizoram	Aizawl	D	23,80,224	S
Arunachal Pradesh	Itanagar	D	27,58,213	S
Meghalaya	Shillong	D	37,61,497	S
		D Average	31,23,329	

Relationship between city characteristics and prices for cities where auctions were held in Phase-II

Valuation matrix derived on the basis of per capita GSDP

(Values Rs. In lakh)

	City category based on population		
State groups based on per capita GSDP	B	C	D
J	1,327	454	187
K	1,080	299	-
L	661	114	43

Valuation matrix derived on the basis of density of FM Radio receivers

(Values Rs. in lakh)

	City category based on population		
State groups based on density of FM Radio receivers	B	C	D
Q	1,584	667	-
R	775	243	124
S	790	146	55

Valuation matrix derived on the basis of per capita GR

(Values Rs. In lakh)

	City category based on population		
State groups based on per capita GR	B	C	D
F	1,487	465	-
G	799	263	151
H	723	132	50

Annexure XXIII

Reserve prices for 253 new cities

S. No.	Name of City	State	Category as per Phase-III Policy	Group based on density of FM Radio receivers	Group based on per capita GSDP	Group based on per capita GR	Valuation based on density of FM Radio receivers (Rs.) (a)	Valuation based on per capita GSDP (Rs.) (b)	Valuation based on per capita GR (Rs.) (c)	Valuation as mean value of (a), (b) & (c) (Rs.) (d)	Reserve Price as 0.8 times of valuation (e=d x 0.8) (Rs. In lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Abohar	Punjab	D	Q	J	G		187	151	169	135
2	Achalpur	Maharashtra	D	R	J	F	124	187		156	124
3	Adilabad	Telangana	D	R	K	G	124		151	138	110
4	Adoni	Andhra Pradesh	D	R	K	G	124		151	138	110
5	Akbarpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
6	Alappuzha (Alleppey)	Kerala	C	Q	J	F	667	454	465	529	423
7	Alipurduar	West Bengal	D	R	K	G	124		151	138	110
8	Alwal	Telangana	D	R	K	G	124		151	138	110
9	Alwar	Rajasthan	C	R	K	G	243	299	263	268	214
10	Ambala	Haryana	D	R	J	G	124	187	151	154	123
11	Ambikapur	Chhattisgarh	D	S	K	H	55		50	52	42
12	Amravati	Maharashtra	C	R	J	F	243	454	465	387	310
13	Amreli	Gujarat	D	R	J	F	124	187		156	124
14	Anantnag	J&K	D							31	25
15	Anantapur	Andhra Pradesh	D	R	K	G	124		151	138	110
16	Arrah	Bihar	D	S	L	H	55	43	50	49	39
17	Aurangabad	Bihar	D	S	L	H	55	43	50	49	39
18	Azamgarh	Uttar Pradesh	D	R	L	H	124	43	50	72	58
19	Budaun	Uttar Pradesh	D	R	L	H	124	43	50	72	58
20	Bagaha	Bihar	D	S	L	H	55	43	50	49	39

21	Bagalkot	Karnataka	D	R	K	F	124			124	99
22	Bahadurgarh	Haryana	D	R	J	G	124	187	151	154	123
23	Baharampur	West Bengal	C	R	K	G	243	299	263	268	214
24	Bahraich	Uttar Pradesh	D	R	L	H	124	43	50	72	58
25	Baleshwar	Orissa	D	R	L	H	124	43	50	72	58
26	Balia	Uttar Pradesh	D	R	L	H	124	43	50	72	58
27	Balurghat	West Bengal	D	R	K	G	124		151	138	110
28	Banda	Uttar Pradesh	D	R	L	H	124	43	50	72	58
29	Bangaon	West Bengal	D	R	K	G	124		151	138	110
30	Bankura	West Bengal	D	R	K	G	124		151	138	110
31	Banswara	Rajasthan	D	R	K	G	124		151	138	110
32	Barddhaman	West Bengal	C	R	K	G	243	299	263	268	214
33	Baripada	Orissa	D	R	L	H	124	43	50	72	58
34	Barnala	Punjab	D	Q	J	G		187	151	169	135
35	Barshi	Maharashtra	D	R	J	F	124	187		156	124
36	Basti	Uttar Pradesh	D	R	L	H	124	43	50	72	58
37	Beawar	Rajasthan	D	R	K	G	124		151	138	110
38	Begusarai	Bihar	D	S	L	H	55	43	50	49	39
39	Belgaum	Karnataka	C	R	K	F	243	299	465	335	268
40	Bellary	Karnataka	C	R	K	F	243	299	465	335	268
41	Bettiah	Bihar	D	S	L	H	55	43	50	49	39
42	Betul	Madhya Pradesh	D	S	L	G	55	43	151	83	66
43	Bhadrak	Orissa	D	R	L	H	124	43	50	72	58
44	Bhagalpur	Bihar	C	S	L	H	146	114	132	131	105
45	Bharatpur	Rajasthan	D	R	K	G	124		151	138	110
46	Bharuch	Gujarat	D	R	J	F	124	187		156	124
47	Bathinda	Punjab	D	Q	J	G		187	151	169	135
48	Bhavnagar	Gujarat	C	R	J	F	243	454	465	387	310
49	Bhiwani	Haryana	D	R	J	G	124	187	151	154	123
50	Bhimavaram	Andhra Pradesh	D	R	K	G	124		151	138	110
51	Bhilwara	Rajasthan	C	R	K	G	243	299	263	268	214

52	Bhuj	Gujarat	D	R	J	F	124	187		156	124
53	Bidar	Karnataka	D	R	K	F	124			124	99
54	Biharsharif	Bihar	D	S	L	H	55	43	50	49	39
55	Bijapur	Karnataka	C	R	K	F	243	299	465	335	268
56	Bokaro Steel City	Jharkhand	D	S	L	H	55	43	50	49	39
57	Botad	Gujarat	D	R	J	F	124	187		156	124
58	Brahmapur	Orissa	C	R	L	H	243	114	132	163	130
59	Burhanpur	Madhya Pradesh	D	S	L	G	55	43	151	83	66
60	Chandrapur	Maharashtra	C	R	J	F	243	454	465	387	310
61	Chapra	Bihar	D	S	L	H	55	43	50	49	39
62	Chhattarpur	Madhya Pradesh	D	S	L	G	55	43	151	83	66
63	Chhindwara	Madhya Pradesh	D	S	L	G	55	43	151	83	66
64	Chikmagalur	Karnataka	D	R	K	F	124			124	99
65	Chilakaluripet	Andhra Pradesh	D	R	K	G	124		151	138	110
66	Chirala	Andhra Pradesh	D	R	K	G	124		151	138	110
67	Chitradurga	Karnataka	D	R	K	F	124			124	99
68	Chittaurgarh	Rajasthan	D	R	K	G	124		151	138	110
69	Chittoor	Andhra Pradesh	D	R	K	G	124		151	138	110
70	Churu	Rajasthan	D	R	K	G	124		151	138	110
71	Coonoor	Tamil Nadu	D	Q	J	F		187		187	150
72	Kadapa	Andhra Pradesh	D	R	K	G	124		151	138	110
73	Dahod	Gujarat	D	R	J	F	124	187		156	124
74	Daman	Daman & Diu	D	R	J	F	124	187		156	124
75	Damoh	Madhya Pradesh	D	S	L	G	55	43	151	83	66
76	Darbhanga	Bihar	D	S	L	H	55	43	50	49	39
77	Darjiling	West Bengal	D	R	K	G	124		151	138	110
78	Dehradun	Uttarakhand	C	Q	J		667	454		560	448
79	Deoghar	Jharkhand	D	S	L	H	55	43	50	49	39
80	Deoria	Uttar Pradesh	D	R	L	H	124	43	50	72	58
81	Davanagere	Karnataka	C	R	K	F	243	299	465	335	268
82	Dhanbad	Jharkhand	B	S	L	H	790	661	723	725	580

83	Dharmavaram	Andhra Pradesh	D	R	K	G	124		151	138	110
84	Dhaulpur	Rajasthan	D	R	K	G	124		151	138	110
85	Dhulian	West Bengal	D	R	K	G	124		151	138	110
86	Dibrugarh	Assam	D	S	L	H	31	31	31	31	25
87	Dimapur	Nagaland	D	S	L	H	31	31	31	31	25
88	Dindigul	Tamil Nadu	D	Q	J	F		187		187	150
89	Durg-Bhilainagar	Chhattisgarh	D	S	K	H	55		50	52	42
90	Eluru	Andhra Pradesh	D	R	K	G	124		151	138	110
91	English Bazar (Maldah)	West Bengal	C	R	K	G	243	299	263	268	214
92	Erode	Tamil Nadu	C	Q	J	F	667	454	465	529	423
93	Etah	Uttar Pradesh	D	R	L	H	124	43	50	72	58
94	Etawah	Uttar Pradesh	D	R	L	H	124	43	50	72	58
95	Faizabad/Ayodhya	Uttar Pradesh	D	R	L	H	124	43	50	72	58
96	Farrukhabad cum Fatehgarh	Uttar Pradesh	D	R	L	H	124	43	50	72	58
97	Fatehpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
98	Firozpur	Punjab	D	Q	J	G		187	151	169	135
99	Gadag Betigeri	Karnataka	D	R	K	F	124			124	99
100	Gandhidham	Gujarat	D	R	J	F	124	187		156	124
101	Ganganagar	Rajasthan	D	R	K	G	124		151	138	110
102	Gaya	Bihar	C	S	L	H	146	114	132	131	105
103	Ghazipur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
104	Giridih	Jharkhand	D	S	L	H	55	43	50	49	39
105	Godhra	Gujarat	D	R	J	F	124	187		156	124
106	Gonda	Uttar Pradesh	D	R	L	H	124	43	50	72	58
107	Gondiya	Maharashtra	D	R	J	F	124	187		156	124
108	Guna	Madhya Pradesh	D	S	L	G	55	43	151	83	66
109	Guntakal	Andhra Pradesh	D	R	K	G	124		151	138	110
110	Haldwani-cum Kathgodam	Uttarakhand	D	Q	J			187		187	150
111	Hanumangarh	Rajasthan	D	R	K	G	124		151	138	110
112	Hardoi	Uttar Pradesh	D	R	L	H	124	43	50	72	58

113	Hardwar	Uttarakhand	D	Q	J			187		187	150
114	Hassan	Karnataka	D	R	K	F	124			124	99
115	Hazaribag	Jharkhand	D	S	L	H	55	43	50	49	39
116	Hindaun	Rajasthan	D	R	K	G	124		151	138	110
117	Hindupur	Andhra Pradesh	D	R	K	G	124		151	138	110
118	Hoshiarpur	Punjab	D	Q	J	G		187	151	169	135
119	Hospet	Karnataka	D	R	K	F	124			124	99
120	Hubli-Dharwad	Karnataka	C	R	K	F	243	299	465	335	268
121	Imphal	Manipur	C	S	L	H	83	83	83	83	67
122	Itarsi	Madhya Pradesh	D	S	L	G	55	43	151	83	66
123	Jagdalpur	Chhattisgarh	D	S	K	H	55		50	52	42
124	Jamnagar	Gujarat	C	R	J	F	243	454	465	387	310
125	Jaunpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
126	Jetpur Navagadh	Gujarat	D	R	J	F	124	187		156	124
127	Jhunjhunun	Rajasthan	D	R	K	G	124		151	138	110
128	Jind	Haryana	D	R	J	G	124	187	151	154	123
129	Jorhat	Assam	D	S	L	H	31	31	31	31	25
130	Junagadh	Gujarat	D	R	J	F	124	187		156	124
131	Kaithal	Haryana	D	R	J	G	124	187	151	154	123
132	Kakinada	Andhra Pradesh	C	R	K	G	243	299	263	268	214
133	Kanhangad (Kasargod)	Kerala	D	Q	J	F		187		187	150
134	Karaikkudi	Tamil Nadu	D	Q	J	F		187		187	150
135	Karimnagar	Telangana	D	R	K	G	124		151	138	110
136	Karur	Tamil Nadu	D	Q	J	F		187		187	150
137	Kavaratti	Lakshadweep	D								5
138	Khammam	Telangana	D	R	K	G	124		151	138	110
139	Khandwa	Madhya Pradesh	D	S	L	G	55	43	151	83	66
140	Kharagpur	West Bengal	D	R	K	G	124		151	138	110
141	Khargone	Madhya Pradesh	D	S	L	G	55	43	151	83	66
142	Kishanganj	Bihar	D	S	L	H	55	43	50	49	39
143	Kohima	Nagaland	D	S	L	H	31	31	31	31	25

144	Kolar	Karnataka	D	R	K	F	124			124	99
145	Korba	Chhattisgarh	D	S	K	H	55		50	52	42
146	Kothagudem	Telangana	D	R	K	G	124		151	138	110
147	Krishnanagar	West Bengal	D	R	K	G	124		151	138	110
148	Kurnool	Andhra Pradesh	C	R	K	G	243	299	263	268	214
149	Lakhimpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
150	Lalitpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
151	Latur	Maharashtra	C	R	J	F	243	454	465	387	310
152	Ludhiana	Punjab	B	Q	J	G	1,584	1,327	799	1,237	989
153	Machilipatnam	Andhra Pradesh	D	R	K	G	124		151	138	110
154	Madanapalle	Andhra Pradesh	D	R	K	G	124		151	138	110
155	Mahbubnagar	Telangana	D	R	K	G	124		151	138	110
156	Mahesana	Gujarat	D	R	J	F	124	187		156	124
157	Mainpuri	Uttar Pradesh	D	R	L	H	124	43	50	72	58
158	Makrana	Rajasthan	D	R	K	G	124		151	138	110
159	Malegaon	Maharashtra	C	R	J	F	243	454	465	387	310
160	Mancherial	Telangana	D	R	K	G	124		151	138	110
161	Mandsaur	Madhya Pradesh	D	S	L	G	55	43	151	83	66
162	Mathura	Uttar Pradesh	D	R	L	H	124	43	50	72	58
163	Maunath Bhanjan (Distt.Mau)	Uttar Pradesh	D	R	L	H	124	43	50	72	58
164	Medini Nagar (Daltonganj)	Jharkhand	D	S	L	H	55	43	50	49	39
165	Mirzapur cum Vindhyachal	Uttar Pradesh	D	R	L	H	124	43	50	72	58
166	Moga	Punjab	D	Q	J	G		187	151	169	135
167	Moradabad	Uttar Pradesh	B	R	L	H	775	661	723	720	576
168	Motihari	Bihar	D	S	L	H	55	43	50	49	39
169	Muktsar	Punjab	D	Q	J	G		187	151	169	135
170	Munger	Bihar	D	S	L	H	55	43	50	49	39
171	Murwara (Katni)	Madhya Pradesh	D	S	L	G	55	43	151	83	66
172	Muzaffarnagar	Uttar Pradesh	C	R	L	H	243	114	132	163	130

173	Nagaon (Nowgang)	Assam	D	S	L	H	31	31	31	31	25
174	Nagercoil/Kanyakumari	Tamil Nadu	D	Q	J	F		187		187	150
175	Nagaur	Rajasthan	D	R	K	G	124		151	138	110
176	Nalgonda	Telangana	D	R	K	G	124		151	138	110
177	Nandurbar	Maharashtra	D	R	J	F	124	187		156	124
178	Nandyal	Andhra Pradesh	D	R	K	G	124		151	138	110
179	Narasaraopet	Andhra Pradesh	D	R	K	G	124		151	138	110
180	Neemuch	Madhya Pradesh	D	S	L	G	55	43	151	83	66
181	Nellore	Andhra Pradesh	C	R	K	G	243	299	263	268	214
182	Neyveli	Tamil Nadu	D	Q	J	F		187		187	150
183	Nizamabad	Telangana	C	R	K	G	243	299	263	268	214
184	Ongole	Andhra Pradesh	D	R	K	G	124		151	138	110
185	Orai	Uttar Pradesh	D	R	L	H	124	43	50	72	58
186	Osmanabad	Maharashtra	D	R	J	F	124	187		156	124
187	Palakkad	Kerala	D	Q	J	F		187		187	150
188	Palanpur	Gujarat	D	R	J	F	124	187		156	124
189	Pali	Rajasthan	D	R	K	G	124		151	138	110
190	Panipat	Haryana	D	R	J	G	124	187	151	154	123
191	Patan	Gujarat	D	R	J	F	124	187		156	124
192	Pathankot	Punjab	D	Q	J	G		187	151	169	135
193	Porbandar	Gujarat	D	R	J	F	124	187		156	124
194	Portblair	Andaman & Nicobar	D							31	25
195	Proddatur	Andhra Pradesh	D	R	K	G	124		151	138	110
196	Pudukkottai	Tamil Nadu	D	Q	J	F		187		187	150
197	Puri	Orissa	D	R	L	H	124	43	50	72	58
198	Purnia	Bihar	C	S	L	H	146	114	132	131	105
199	Puruliya	West Bengal	D	R	K	G	124		151	138	110
200	Rae Bareli	Uttar Pradesh	D	R	L	H	124	43	50	72	58
201	Raichur	Karnataka	D	R	K	F	124			124	99
202	Raiganj	West Bengal	D	R	K	G	124		151	138	110

203	Raigarh	Chhattisgarh	D	S	K	H	55		50	52	42
204	Rajapalayam	Tamil Nadu	D	Q	J	F		187		187	150
205	Ramagundam	Telangana	D	R	K	G	124		151	138	110
206	Ratlam	Madhya Pradesh	D	S	L	G	55	43	151	83	66
207	Rewa	Madhya Pradesh	D	S	L	G	55	43	151	83	66
208	Rewari	Haryana	D	R	J	G	124	187	151	154	123
209	Rohtak	Haryana	D	R	J	G	124	187	151	154	123
210	Sagar	Madhya Pradesh	C	S	L	G	146	114	263	174	140
211	Saharanpur	Uttar Pradesh	C	R	L	H	243	114	132	163	130
212	Saharsa	Bihar	D	S	L	H	55	43	50	49	39
213	Salem	Tamil Nadu	C	Q	J	F	667	454	465	529	423
214	Sambalpur	Orissa	D	R	L	H	124	43	50	72	58
215	Sasaram	Bihar	D	S	L	H	55	43	50	49	39
216	Satna	Madhya Pradesh	D	S	L	G	55	43	151	83	66
217	Sawai Madhopur	Rajasthan	D	R	K	G	124		151	138	110
218	Seoni	Madhya Pradesh	D	S	L	G	55	43	151	83	66
219	Shahjahanpur	Uttar Pradesh	C	R	L	H	243	114	132	163	130
220	Shikohabad	Uttar Pradesh	D	R	L	H	124	43	50	72	58
221	Shimoga	Karnataka	C	R	K	F	243	299	465	335	268
222	Shivpuri	Madhya Pradesh	D	S	L	G	55	43	151	83	66
223	Sikar	Rajasthan	D	R	K	G	124		151	138	110
224	Silchar	Assam	D	S	L	H	31	31	31	31	25
225	Singrauli	Madhya Pradesh	D	S	L	G	55	43	151	83	66
226	Sirsa	Haryana	D	R	J	G	124	187	151	154	123
227	Sitamarhi	Bihar	D	S	L	H	55	43	50	49	39
228	Sitapur	Uttar Pradesh	D	R	L	H	124	43	50	72	58
229	Siwan	Bihar	D	S	L	H	55	43	50	49	39
230	Srikakulam	Andhra Pradesh	D	R	K	G	124		151	138	110
231	Sujargarh	Rajasthan	D	R	K	G	124		151	138	110
232	Sultanpur	Uttar Pradesh	D	R	L	H	124	43	50	72	58

233	Surendranagar Dudhrej	Gujarat	D	R	J	F	124	187		156	124
234	Suryapet	Andhra Pradesh	D	R	K	G	124		151	138	110
235	Tadpatri	Andhra Pradesh	D	R	K	G	124		151	138	110
236	Tezpur	Assam	D	S	L	H	31	31	31	31	25
237	Thanesar	Haryana	D	R	J	G	124	187	151	154	123
238	Thanjavur	Tamil Nadu	D	Q	J	F		187		187	150
239	Tinsukia	Assam	D	S	L	H	31	31	31	31	25
240	Tiruvannamalai	Tamil Nadu	D	Q	J	F		187		187	150
241	Tonk	Rajasthan	D	R	K	G	124		151	138	110
242	Tumkur	Karnataka	D	R	K	F	124			124	99
243	Udgir	Maharashtra	D	R	J	F	124	187		156	124
244	Udupi	Karnataka	D	R	K	F	124			124	99
245	Ujjain	Madhya Pradesh	C	S	L	G	146	114	263	174	140
246	Vaniyambadi	Tamil Nadu	D	Q	J	F		187		187	150
247	Vellore	Tamil Nadu	C	Q	J	F	667	454	465	529	423
248	Veraval	Gujarat	D	R	J	F	124	187		156	124
249	Vidisha	Madhya Pradesh	D	S	L	G	55	43	151	83	66
250	Vizianagaram	Andhra Pradesh	D	R	K	G	124		151	138	110
251	Wadhwan (Surendernagar)	Gujarat	D	R	J	F	124	187		156	124
252	Wardha	Maharashtra	D	R	J	F	124	187		156	124
253	Yavatmal	Maharashtra	D	R	J	F	124	187		156	124

Annexure XXIV

Strength of relationship between the three sets of the data generated by indexing of the States based on per capita GSDP, per capita GR and density of FM Radio receivers using Spearman's Rank Correlation Coefficient

S.No.	State	Per Capita GR Rank (r1)	Density of FM Radio receivers Rank (r2)	Per Capita GSDP Rank (r3)	$d_{12} = r_1 - r_2$	$d_{23} = r_2 - r_3$	$d_{31} = r_3 - r_1$	square (d12)	square (d23)	square (d31)
1	Andhra Pradesh	6	11	9	-5	2	3	25	4	9
2	Bihar	18	20	20	-2	0	2	4	0	4
3	Chhattisgarh	14	18	13	-4	5	-1	16	25	1
4	Gujarat	5	8	3	-3	5	-2	9	25	4
5	Haryana	8	9	1	-1	8	-7	1	64	49
6	Himachal Pradesh	11	1	7	10	-6	-4	100	36	16
7	J&K	13	14	14	-1	0	1	1	0	1
8	Jharkhand	15	19	17	-4	2	2	16	4	4
9	Karnataka	2	6	10	-4	-4	8	16	16	64
10	Kerala	4	4	4	0	0	0	0	0	0
11	Madhya Pradesh	12	17	18	-5	-1	6	25	1	36
12	Maharashtra	1	7	2	-6	5	1	36	25	1
13	NE	19	16	16	3	0	-3	9	0	9
14	Odisha	17	13	15	4	-2	-2	16	4	4
15	Punjab	7	3	6	4	-3	-1	16	9	1
16	Rajasthan	10	12	11	-2	1	1	4	1	1
17	Tamil Nadu	3	2	8	1	-6	5	1	36	25
18	Uttar Pradesh	16	15	19	1	-4	3	1	16	9
19	WB	9	10	12	-1	-2	3	1	4	9

$\sum d^2$ 297 270 247

Calculation of Spearman's Rank Correlation Coefficient

n	23
n^3	12167
$n^3 - n$	12144

$$r_s = 1 - \frac{6(\sum d^2)}{n(n^2 - 1)}$$

rs13	0.8533
rs23	0.8666
rs31	0.8780