

**Bharti Airtel's response to TRAI's Consultation Paper on**  
**"Allocation of Spectrum Resources for Residential and Enterprise Intra-**  
**telecommunication requirements/ Cordless Telecommunications System (CTS)"**

**Q1. Whether the current allocation of spectrum for CTS is sufficient to meet the requirements? If not, then how to meet the demand of cordless telephony spectrum requirements?**

**And**

**Q3. Is there any requirement of allocating spectrum for digital CTS, in view of similar solutions being available in already de-licensed band 2.4 & 5.8 GHz?**

**Bharti Airtel's Response:**

There is no requirement of allocating any additional spectrum for digital CTS. It is neither prudent to allocate spectrum to support any particular technology nor a favored move at a time when there is acute shortage of spectrum for IMT applications such as 3G/4G etc

Unlicensed devices like Wi-Fi have been successful in providing short range services to residential consumers and enterprises. Moreover, GSM/CDMA and 3G performs much better than DECT for both voice and data. Hence, there is no requirement of allocating scarce spectrum for Digital CTS.

Spectrum bands in 2.4 and 5.8 GHz already de-licensed and are already been used for Wi-Fi and CTS applications. These technologies have become matured, proven and with passage of time offering benefits to the subscribers due to economies of scale and ease of deployment. The proposed DECT band lies within the IMT band therefore allocating spectrum to DECT would result in a waste of precious spectrum.

Moreover it is also recommended that the spectrum allocated to some licensees in the past for provision of CorDECT services is not being utilized efficiently. The same should be withdrawn for refarming and utilized for IMT services.

**Q2. In view of the availability of cellular mobile services in the country and possibility of Fixed Mobile Convergence (FMC), is there any need to have DECT Phones?**

**Bharti Airtel's Response:**

The services intended to be provided using DECT technology are closely substitutable for the fixed and mobile telephony which are already offered by the licensed telecom Service providers in India. Hence, there is no requirement of DECT in the country as mobile service providers are serving the purpose adequately.

DECT could find its application to provide large area coverage for limited local area mobility within a town /city. The cordless Terminal Mobility systems for city based mobility were launched in a number of European countries, most notably Italy where the 'Fido' systems used DECT base stations to cover a number of Italian cities. The Fido system eventually failed and there is little evidence that the market for such systems still exist in Europe or anywhere else, given the ubiquitous nature of GSM /CDMA based mobile services coverage. In India limited mobility has been well served with CDMA based systems which are more superior in capabilities than DECT.

The Fixed Mobile convergence does not require allocation of any dedicated spectrum and can be implemented with changes in National Numbering Plan and a simplified interconnection regime with BSNL/MTNL. We would request Authority to bring in a converged numbering scheme for the mobile and the fixed line network. This coupled with Fixed/ Mobile Number Portability will help in achieving the objective of Fixed Mobile Convergence.

**Q4. Whether de-licensing of the spectrum for digital CTS applications will be the right path?**

**Bharti Airtel's Response:**

The proposal to permit CTS as unlicensed service would create non-level playing field. The CTS, an unlicensed service, could provide mobility to the subscribers and therefore can compete with the mobility/ limited mobility services being provided on licensed basis. The exchequer would not receive any license fee/ spectrum charges from this service. Infact it would lead to a situation where the operator can provide WLL service using unlicensed spectrum.

With the advancement and widespread deployment of GSM and other cellular technologies, use of DECT for data services has lost its relevance with specific reference to India where there is a paucity of spectrum. This band therefore should not be de-licensed but utilized for IMT services on commercial basis.

The de-licensing of spectrum and reserving spectrum for digital CTS applications will not be the right path and would help only a company who is likely to misuse these as a facade for getting free spectrum and becoming a wireless /mobile service provider without going through the established process of licensing and spectrum allocation.

**Q5. Do you agree that the 1880-1900 or 1910-1920 MHz band (TDD Mode) be allocated for digital CTS applications? If yes, what should be the limits of emitted power (EIRP), power flux density (pfd), antenna gain etc?**

**And**

**Q6. Do you see any coexistence issues between existing cellular systems using adjacent band with low power CTS allocations in 1880-1900 or 1910-1920 MHz band?**

**Bharti Airtel's Response:**

Allocating 10-20 MHz to a single niche technology (without any further advancements in the future) would be entirely inappropriate, especially when fixed and mobile operators are already providing much superior services and will be able to increase data rates, QOS and sophistication of services with the introduction of 3G.

The CTS bands as proposed by Authority are in TDD mode and adjacent to both the 2G and 3G bands. Such co-existence will cause serious interference with 2G/3G network. For smooth operations, it is essential to protect 2G and 3G services from interference of any kind to ensure the requisite levels of quality of service.

Internationally, the 1900 MHz band has been identified for IMT and IMT-Advanced for public telecommunication services. The same has also been acknowledged by TRAI in its Consultation Paper on "IMT - Advanced Mobile Wireless Broadband Services" dated 19<sup>th</sup> Aug. 2011 as referred below:

*"In Regions 1 and 3, the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz and in Region 2, the bands 1885-1980 MHz and 2110-2160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in*

*accordance with Resolution 221 (Rev.WRC-03). Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)."*

Due to favorable propagation characteristics of the 1900 MHz band, it should be reserved for licensed services for pan India use and not wasted for short range unlicensed services. Therefore, considering the commercial value and importance of the 1900 MHz band, we recommend that band should be used for licensed IMT services and not for unlicensed DECT services.

**Q7. Whether the de-licensing of either 1880-1900 MHz or 1910-1920 MHz band for low power CTS applications will result in loss of revenue to the government?**

**Bharti Airtel's Response:**

Yes, the de-licensing of either 1880-1900 MHz or 1910-1920 MHz band for low power CTS applications will definitely result in loss of revenue to the Government as the same can be allocated through auction for IMT services.

DECT systems were installed in India in the early phases of Telecom liberalization to assist the telecom penetration as wireless in local loop but have become irrelevant now in view of latest advancements in GSM/CDMA technologies.

The de-licensing of this spectrum band for residential and enterprise applications would create a non level playing field due to provision of similar services by one set of operators at zero or no regulatory cost whereas the licensed telecom service providers would be burdened with license fees, spectrum usage charges and other significant regulatory compliances.

Any ambiguity or change could create huge arbitrage opportunities which would be undesirable. From Government's perspective making any spectrum unlicensed for commercial activity would reduce the revenues to the exchequer. Mobile operators currently pay between 6-10% of AGR as license fees and 2-6% of AGR as spectrum fees, plus substantial fees for microwave spectrum. DECT services would compete with the licensed fixed and mobile services, but on an unlicensed basis. DECT providers would therefore be given an unjustified cost advantages over mobile operators, thus placing the mobile

operators who have invested heavily in network, coverage and a customer base exceeding 850 million at a serious disadvantage.

**Q8. Will there be any potential security threat using CTS? If yes, how to address the same.**

**Bharti Airtel's Response:**

Unlicensed operations would also pose substantial security concerns. The mandatory requirements like subscriber verification and lawful interception & monitoring that are imposed on licensed telecom service providers would be a challenge in case of such services offered on unlicensed band without license.

**Q9. Amongst the various options of digital technologies available to meet the cordless telephony requirements, either spectrum allocation can be considered according to technology or the etiquettes/ specifications can be defined for the de-licensed spectrum band. What method of allocation of spectrum for digital CTS applications should be adopted?**

**Bharti Airtel's Response:**

The advancement in technology cannot be predicted and thus reserving any spectrum band for DECT services may lead to inefficient utilization of scarce spectrum.. Therefore, there is no rationale for supporting a particular technology especially when DECT has only limited applications..

The IBS and DAS enhance overall coverage and capacity especially at locations where the potential for increase in data usage is evident. The IBS has the advantages of cost benefit due to enhanced network coverage and shared deployment. DAS design with Multi Operator and Multi Technology support for both indoor and outdoor sites delivers a better utilization of the overall infrastructure. All existing service providers are already deploying IBS to enhance network coverage and quality of service in urban areas. Therefore the proposal of reserving the dedicated spectrum for DECT would be a waste of precious resource.

The services which are intended be offered using DECT technology are voice and data which can be fixed wireless or with limited mobility. With regards the same, the provisions of limited mobility under UASL are quoted as below:

2.2 (c) (i) *In respect of subscriber availing limited mobility facility, the mobility shall be restricted to the local area i.e. Short Distance Charging Area (SDCA) in which the subscriber is registered. While deploying such systems, the LICENSEE has to follow the SDCA based linked numbering plan in accordance with the National Numbering Plan of the respective SDCA within which the service is provided and it should not be possible to authenticate and work with the subscriber terminal equipment in SDCAs other than the one in which it is registered. Terminal of such subscriber in wireless access system can be registered in only one SDCA. Multiple registration or Temporary subscriber/ Subscription facilities in more than one SDCA using the same Subscriber terminal in wireless access systems is not permitted and the same Subscriber Terminal can not be used to avail Limited Mobile facility in more than one SDCA. The system shall also be so engineered to ensure that hand over of subscriber does not take place from one SDCA to another SDCA under any circumstances, including handover of the calls through call forwarding beyond SDCA. The Licensee must ensure that the mobility in case of such limited mobile service/ facility remains restricted to SDCA.*

2.2(c)(ii) *The Licensee after migration to Unified Access Services Licence Regime will also offer limited mobility service for such customers who so desire*

The new telecom policy also envisages delinking the spectrum from the license under the proposed Unified licensing. Thus, any entity desiring to provide limited mobility may obtain Unified license which would be available on a nominal basis. The spectrum can then be made available to such desirous operators through market determined mechanism.