

30<sup>th</sup> January, 2012

**To: Advisor (MN) Mr. Sudhir Gupta**  
Telecom Regulatory Authority of India  
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Communications™

From: Bobby Joseph  
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**SUBJECT: Comments on TRAI Consultation Paper No. 9/2011**  
"Allocation of Spectrum Resources for Residential and Enterprise Intra-telecommunication Requirements/ Cordless Telecommunication Systems (CTS)".

Dear Sir,

Plantronics is a world leader in personal audio communications for professionals and consumers. As a global business, we have offices and representation in many countries around the world including India. Plantronics, Inc. introduced the first lightweight communications headset in 1962 and remains a world's leading designer, manufacturer and marketer of lightweight communications headset products.

Amongst the wide range of products that Plantronics offers, it has a large portfolio of DECT wireless headset systems. Plantronics has sold these DECT products into countries where DECT is available for over 10 years and believes there is a similar strong market demand for them in India as well.

Plantronics believes that the Indian market, government, businesses and end users alike will only benefit from the introduction of license free DECT technology.

In the next few pages we will outline our response to the TRAI consultation paper.

Regards

Bobby Joseph  
Country Manager





### In Response to the issues for Consultation.

**3.1 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?**

There is a proven track record of digital CTS working well in a de-licensed 1880-1900MHz band or 1910-1920MHz band satisfying the regulatory and end user requirements. The worldwide deployment numbers of DECT devices is proof of this,

**3.2 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?**

Yes there is a need; DECT can usefully provide voice and data solutions not satisfied by other technologies with full wireless coverage. DECT single cell systems can cover the whole living area including for example, the basement (cellar) with no interference and full security for multiple co-located installations with no radio planning or licensing requirements. DECT in the enterprise environment can provide on-premises local mobility and *full coverage* through seamless handover between pico-cell base stations.

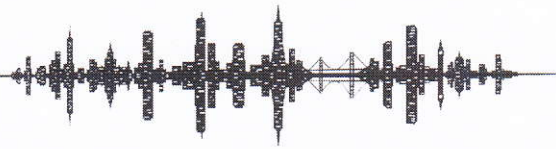
Adoption of DECT headsets in contact/call centres and offices around the world is satisfying demands for high density of installation, great audio quality and ease of installation (no radio planning). These contact centres around the world are taking advantage of the DECT technology to meet their employee and customer needs. Wireless headsets using DECT technology allows users the freedom to leave their desks and confer with colleagues, whilst still on a call if necessary. This allows for great mobility and provides multi-tasking capability, which can help reduce stress and fatigue and hence provide great health benefits to the users whilst also providing for increased productivity.

**3.3 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?**

There is a basic difference between coexistence properties on a digital CTS band and on an ISM band (Wi-Fi). The 20 MHz spectrum designated for digital CTS in other countries requires that equipment using this spectrum have to comply to specific dynamic channel selection procedures, power levels etc. It provides for maintaining high spectrum efficiency and maintaining high quality radio links (e.g. speech and video) in an environment of a multitude of uncoordinated system installations. There is no interference between co-located systems and total spectrum is very efficiently shared between all the co-located systems.

The ISM bands (2,4 and 5 GHz) do not have any such feature. Opposite to a digital CTS spectrum having rules for uncoordinated compatible installations, the ISM bands allows for uncoordinated usage of a variety of incompatible communication devices and also domestic (micro wave ovens), industrial, scientific and medical devices.





Therefore maintenance of a high quality of service will not be guaranteed when different ISM band devices are used in the same local area. This applies especially to voice and video services, but is less critical for best effort packet data services, where non-time-critical retransmissions are applied when expected collisions occur. The above intrinsic differences between digital CTS and Wi-Fi CTS are clearly demonstrated in countries where both are allowed, as in Europe and the US. In Europe where DECT has been established for many years, there is literally no market for Wi-Fi CTS. In the US DECT has quickly become the dominant CTS at the expense of earlier domination of ISM band digital phones. Wi-Fi has not been able to compete with digital CTS regarding mission critical voice and real time medium rate data applications for enterprises.

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

Yes it is absolutely essential that CTS is license exempt to be successful on the market, in the same way that de-licensing has been the key for the success for the Wi-Fi technology on the 2,4 and 5 GHz ISM bands. De-licensing is the only globally accepted norm for private space digital CTS application and on campus enterprise solutions.

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

The 1880-1900MHz band (TDD mode) is already allocated for digital CTS. If in future there is more demand for digital CTS then 1910-1920 MHz band(TDD mode) could also be allocated.

Terminal power (conducted): 250 mW (24 dBm), max

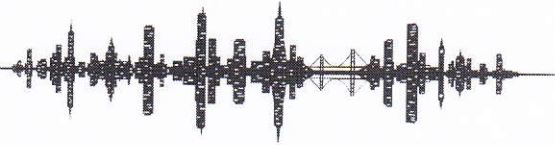
Antenna gain: < 12 dBi.

(This specification is taken from the European Harmonized Standard ETSI EN 301 406.)

The antenna gain of 12 dBi is used in Europe and many other countries. In some countries other values are used. E.g. in the US 3 dBi is used.

#### **3.6 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?**

With reference to the use of 1880-1900MHz band for digital CTS and its interference possibilities into the adjacent cellular bands, as indicated in the consultation paper, section 2.8.3 there are plenty of documented studies on this subject as well as practical implementation in the developed world to indicate that adjacent band (cellular) interference issues do not exist. All over the world, including America and Europe, DECT systems co-exist with cellular systems both in the 1880-1900MHz and 1910-1920MHz band.



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

The DECT industry will aid revenue growth, in terms of duties and taxes and enhancing employment and revenue generation through manufacturing & R&D and distribution. Increased use of digital CTS will stem the decline of around 30million existing land lines and increase revenue opportunity from each user. DECT can provide another catalyst for adoption of landlines, aiding rollout of broad band, which is a Govt. initiative for e-governance, e-health, e-education. This itself will be biggest gain for the Nation.

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

CTS is using the public PSTN network like wired phones. No difference. Furthermore, the digital CTS radio link uses ciphering and authentication with the same security level as GSM/UMTS, thus providing secure private communication within the residential or enterprise space. This is one of the main reasons for the popularity of DECT systems globally as against the other private space services provided by commercial public telecom service providers.

**3.9 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?**

A defined etiquette based CTS is in fact the only practical option. Some of the etiquette parameters have already been defined by WPC in its Note 57 to the NFAP-2011.



End of comments to consultation