

BIF Seminar on Complementing OFC with Wireless Fiber of 9th November

KEY RECOMMENDATIONS/TAKEAWAYS

Broadband India Forum (BIF) is a non-profit, technology neutral, think tank working for the promotion of the broadband ecosystem.

BIF organized a one-day seminar on " Acceleration of Broadband in India : Complementing OFC with Wireless Fiber " on the 9th of November 2016 to discuss technical and regulatory issues regarding opening of the E and V bands and for delicensing of the V band . The seminar was inaugurated by Mr. Malcolm Johnson, Dy. Secretary General-ITU. Amongst the esteemed dignitaries on the dais were Mr. Amitabh Kant, CEO-Niti Ayog, Mr. J.S. Deepak, Secretary-DoT. Other sessions saw attendance from all other stakeholders including senior officials from the Regulator, Govt., Policy experts and leading members from the Industry

It was appreciated by all that the proliferation of new mobile devices and bandwidth-hungry applications are putting more pressure than ever before on the telecom networks to augment their capacities urgently. Provisioning of additional spectrum through the recent auction will help telecom operators to build more capacity for high speed wireless communication services in 3G and 4G and is likely to further fuel the growth of data which is growing exponentially riding on video consumption. The main bottleneck acknowledged is the availability of high speed links to connect the end users and also the critical requirement of backhauling the growing data traffic from the access networks to the core networks. Conventional microwave backhaul networks are incapable of handling this large demand. Optical fiber is the credible answer to carry huge data and being deployed extensively but it's practically difficult if not impossible to connect all such end points with OFC in a timely and cost effective manner.

It was discussed that E and V bands offer a wireless solution that can be speedily deployed as an alternative to optical fiber to backhaul the traffic in urban, suburban and rural environments or extend the optical fiber to places where it is not possible/feasible to reach. Around the world, countries are unleashing the potential of the E and V bands to meet rising backhaul demand for augmenting their broadband networks. For India, these bands offer a potential leapfrog in multi -gigabit high speed broadband access similar to how mobile telephones increased phone penetration to millions of customers.

In densely populated urban areas where demand of data is highly concentrated, the V band (60 GHz) is considered as the best solution in providing high capacity wireless links. This band has short link lengths due to oxygen absorption characteristics of these frequencies that make it almost interference free and ideal for deploying large number of short links. Considering its utility, many technologically advanced countries, such as the United States, Australia, New Zealand, South Africa, Sweden, United Kingdom, Canada, Japan, China and Brazil have completely delicensed the 60GHz band. This has facilitated evolution of a global

device and network ecosystem by allowing manufacturers to deploy cost competitive standardized hardware benefiting from widespread global momentum behind the IEEE 802.11ad, or WiGig standard.

The E band (70 & 80 GHz) has longer link lengths and is particularly suitable in rural areas to extend broadband connectivity from the optical fiber termination point to remote locations through easily and speedily deployable high capacity wireless links. But unlike the V band, the links in this band are of longer lengths and hence need to be lightly licensed as envisioned by TRAI in its recommendations which is aligned with most of the other countries.

After extensive day long deliberations and discussions on the issue and related topics, following key recommendations/takeaways emerged from the seminar.

Recommendations:

- TRAI first in August '14 and subsequently re-iterated in April'15 and then again in November' 15, has recommended to DoT that both V and E bands should be opened up for acceleration of broadband penetration. BIF strongly supports this recommendation and requests DoT to accelerate the process of opening these bands in line with other technological developed countries of the world.
- BIF agrees with the light licensing recommended for E band taking into account interference possibilities over long links. The process for registering the links should be made simple and fully automated. The on-line system should be put in place in a defined time, say within three months of government deciding on opening of this band.
- TRAI has recommended *delicensing* of V band for “access” and *light licensing* of V band for “backhaul”. Since there is not likely to be any interference and these short distance links will be deployed extensively, it will be highly difficult if not impossible for the operators to register such large number of links and also an administrative nightmare for the government to ensure compliance to lakhs of such short distance wireless links. Hence, we strongly recommend that the **V band should be completely delicensed for both access and backhaul (indoor/outdoor) like other technologically advanced countries** to unleash the power of this free band to provide high capacity wireless links in urban areas for high capacity and high speed broadband proliferation.