

Regulatory Issues and their Impact on WiMAX in India

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Introducing Aperto Networks



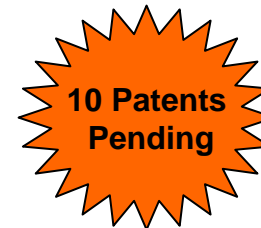
- **Leading provider of WiMAX systems**
- **Founded in 1999**
- **HQ in California (Silicon Valley), USA**
- **250+ service provider customers worldwide**
- **Deployed in 65+ countries**
- **135+ employees worldwide**
- **The only private company on the Board of WiMAX Forum**

Aperto: A Singular Focus on WiMAX



WiMAX
FORUM

- Founding Member of IEEE 802.16
- Founding Member of WiMAX Forum
- WiMAX Forum Board Member
- Co-Chair of Marketing Working Group
- Active influence in major forum decisions
- 100% focused on 802.16 based solutions



Regulatory landscape for WiMAX

A Look at the Charges

- Spectrum charges for Base Station – For 14MHz are approximately Rs.2,60,000 for 5 KM radius and Rs.5,30,000 for 25 KM radius, per year
- Subscriber stations (CPE) are charged at Rs.1000 per year
- At these price-points, the government takes spectrum + other taxes per CPE
 - Rs.1800 per year in urban environment
 - Rs.4100 per year in rural environment

...and the Industry is expected to provide broadband at Rs.3600 per year!!

Some figures to look at

- Population density of Mumbai – 36,000 per sq KM
- Minimum cell radius today – 2 KM
- Cell area – 12 Sq KM
- Target population in cell area – 4,32,000 people
- 1% broadband density – 4,320 subscribers
- 5% broadband density – 21,600 subscribers
- Number of 14MHz chunks required to do 1% BBD – 11, which translates to 154 MHz
- For 5% BBD, the spectrum requirement is 770 MHz

A look at the Spectrum

- Spectrum today –
 - 100 MHz in 3.3 GHz
 - 66 MHz in 2.5 GHz
 - 77 MHz in 2.7 GHz
 - 50 MHz in 5.8 GHz
- 3.4 – 3.6 GHz ---- ????
- Where do we get rest of the spectrum from?

A Comparison

- Spectrum available with satellite industry
 - 3.4-4.2 GHz – 800 MHz
 - 2.5-2.7 GHz – approx 80 MHz
- Business done by satellite industry < Rs.2000 Crores
- Spectrum revenue to the government if 200MHz of this spectrum is given to BWA/ WiMAX
 - > Rs.10,000 Crores per year

Summary

- Give us at least 200 MHz
- Rationalize spectrum charges
- Simplify Wireless Regulation
- There is space for Everyone

Thank You

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