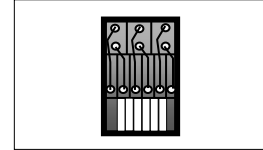


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2nd Edition

Global Microcell Base Station Market Analysis and Forecast, 2013-2017

May 2013



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EXECUTIVE SUMMARY

Our analysis within this report focuses ONLY on the outdoor microcell base station market defined as base stations having 5W-10W RF output power per TRx and not products that are in the 250mW to 1W per transceiver (TRx) category which we define as picocells. Some in the industry call these 5-10W products metrocells or picocells. We also include carrier grade 802.11ac outdoor only WiFi access points in our analysis as this technology will be strategically important in many markets globally as an alternative to W-CDMA and LTE microcells.

Our key findings in this analysis are:

- 📍 10%MMPR microcell BTS market of 1.3 million units
- 📍 50% MMPR microcell BTS market of 6.5 million units
- 📍 WiFi-only microcell BTS will account for over 50% of the total market opportunity in unit volumes by 2017
- 📍 Total microcell BTS revenues will reach USD\$3 billion by 2017
- 📍 Microcell BTS market expected to begin high volume commercial shipments in 2014
- 📍 Asia Pacific region represents 66% of global microcell BTS opportunity by 2017

Our conservative estimates using a 10% microcell/macrocell penetration ratio (MMPR) for major cities across 78 countries reveals a **CUMULATIVE** potential of 1.3 million microcell base stations for 3G/4G/Wi-Fi types. The MMPR analysis DOES NOT include Wi-Fi only access points. We will be referring to Wi-Fi as WiFi for the remainder of this report. Actual penetration and deployments could be well below this figure as advances in LTE-A technology (3GPP Rel 10) increase throughput and capacity of the macrocell network layer. We do not think it is realistic that the 100% MMRP level would ever be reached for any mobile network and merely present this as an upper limit in our analysis.

Our market trends and assumptions are the following:

- 📍 Mobile broadband data traffic continues to exponentially increase on mobile networks, growing at nearly 2-3x each year
- 📍 Macrocell base station capacity only incrementally improves by 10-150% over the next few years
- 📍 Penetration of data-centric Firefox OS, Android OS and Apple iOS smartphones across all economic tiers increases globally
- 📍 LTE and LTE-A network deployments continue through 2017
- 📍 Carrier-grade WiFi microcells will support 802.11ac technology only

We have also assumed a tiered approach to our MMPR analysis, ranging from a ratio of 3:1 up to 9:1 depending on the population density within a city. Each city in every country for every mobile operator will have a different approach and deployment. We have made generalized assumptions across different countries and regions globally.

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