



Lower total cost of ownership

CellMax antennas introduce a CAPEX and OPEX reduction to existing and greenfield networks by reducing the number of required sites. A CellMax antenna increases network capacity, enhances network performance, and, at the same time, reduces the number of sites needed.

How CellMax antennas lower CAPEX

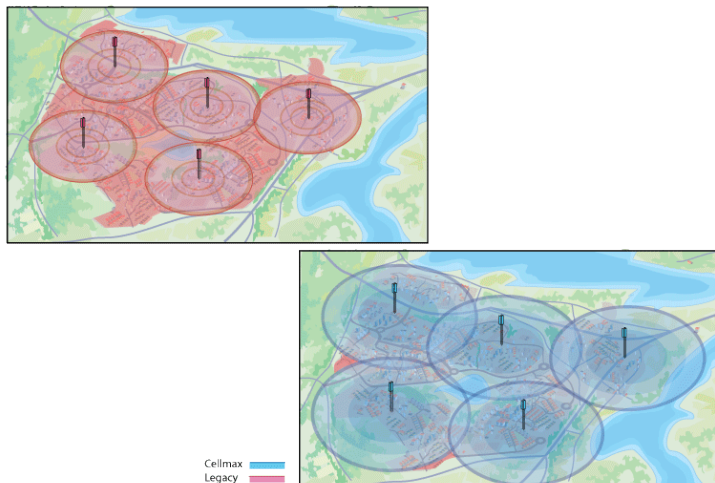
Cellmax antennas enable CAPEX reduction in several ways. A CellMax antenna's ability to maintain and transform 95% of the input power into radio coverage enables a clean signal that reaches beyond any traditional antenna in the industry. In practice, this means it typically introduces an additional 2-3 dB gain for each antenna.

By introducing a high-gain antenna, each site increases its coverage area, thereby densifying the overall grid.

Fewer sites, more capacity

CellMax antennas' superior range also means sites can be planned further apart. Depending on obstructions and topography, that typically means **20% fewer greenfield sites** to cover the same area. That lowers costs for site acquisition (CAPEX) and operational cost (OPEX).

Even with fewer sites, CellMax antennas **increase network capacity by 30 %** (bits per second per MHz) on average, maximizing the value of network and spectrum. This reduces the need for new spectrum acquisition. It also allows carriers to add customers and/or transmit more data, without degrading performance.



CellMax antennas reduce both capital and operational costs for sites, maintenance and energy, while increasing spectrum utilization. This is due to 50-100% higher gain than competing antennas, which reduces the number of sites needed in greenfield networks and the number of infill sites needed to fill coverage holes in existing networks.

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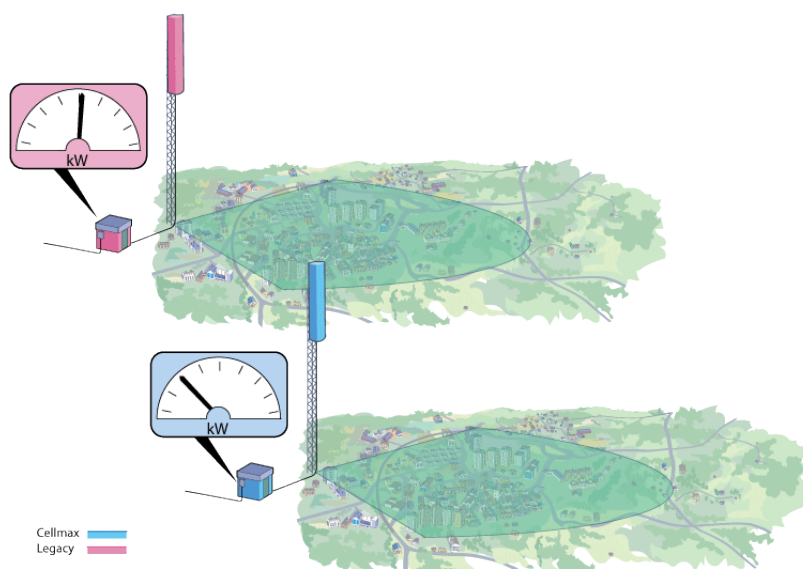


How Cellmax antennas lower OPEX

By enabling a reduction of up to 20% in the number of sites needed, each network requires **less maintenance, site rental (especially notable on infill sites), and software fees**. In addition, each CellMax antenna has a PIM exit criteria from our factories of -155dBc to -160 dBc. Since PIM is one of the main sources of site visits in an existing network, a CellMax antenna enables significant savings for the network provider.

Lower energy consumption

The need for fewer sites also means **lower energy consumption**. CellMax High-Efficiency antennas provide 1.5-3 dB lower loss than traditional antennas. In an existing network, getting the same coverage from lower transmission power results in lower CAPEX for solar power or lower OPEX for diesel fuel and refueling visits to the sites. The resulting electricity savings can be in the range of **15-30%**, depending on technology.



Fewer sites means lower energy consumption. Alternatively, getting the same coverage from lower transmission power results in lower CAPEX for solar power or lower OPEX for diesel fuel and refueling visits to the sites. The resulting electricity savings can be in the range of 15-30%, depending on technology.

Lower maintenance costs

Finally, the high quality of the antenna and the precision of the manufacturing process also increase the longevity of the components, offering mobile **operators higher and more consistent performance** in any environment and timeframe compared to competitors. This, too, **lowers maintenance costs**. For example, costs of site visits to find and remedy PIM, a source of interference and degraded network performance, are reduced because of the extremely low PIM of CellMax antennas. In fact, no other antenna manufacturer else comes close to CellMax performance in this area.

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