



Cooling Filters

Telecommunications

Case History

WiMAX Distributed Network

OPTIMIZATION POTENTIAL

A major OEM wanted to develop a low cost, versatile cooling solution that could be deployed indoors and outdoors. System requirements included evenly distributed thermal cooling to avoid hotspots, smaller size to keep cost down, and high reliability to minimize operational expenses.

SOLUTION

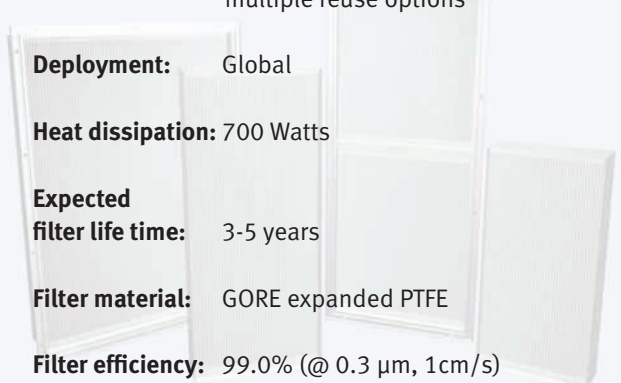
Gore worked with system engineers to develop a multi-use direct air cooling unit using compact GORE® Cooling Filters with expanded PTFE membranes. The unit was designed to be installable in both indoor and outdoor base stations with minimal hardware and connection requirements.

RESULT

Using direct air GORE® Cooling Filters, the customer was able to design a standardized cooling system that fit both indoor and outdoor cabinets at a lower initial cost. No external fan changes were required and elimination of heat exchangers greatly reduced both capital costs and size. In addition, the smaller ePTFE cooling filters allowed significant base station weight reductions resulting in a lightweight unit of only 150 lbs (68 Kg). By using GORE® Cooling Filters instead of heat exchangers or air conditioners, reliability goals were met and operational costs reduced. Lower noise levels also permitted more deployment options.



- Application:** WiMAX Distributed Network
- Capacity:** 3 carriers, up to 4 sectors with multiple reuse options
- Deployment:** Global
- Heat dissipation:** 700 Watts
- Expected filter life time:** 3-5 years
- Filter material:** GORE expanded PTFE
- Filter efficiency:** 99.0% (@ 0.3 µm, 1cm/s)



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