

## Accepted Manuscript

Title: Research on Ventilation Cooling System of Communication Base Stations for Energy Saving and Emission Reduction

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PII: S0378-7788(17)31484-6  
DOI: <http://dx.doi.org/doi:10.1016/j.enbuild.2017.04.075>  
Reference: ENB 7571

To appear in: *ENB*

Received date: 2-8-2016  
Revised date: 18-12-2016  
Accepted date: 24-4-2017

Please cite this article as: Gangliang Wu, Fanwei Zeng, Ge Zhu, Research on Ventilation Cooling System of Communication Base Stations for Energy Saving and Emission Reduction, Energy and Buildings <http://dx.doi.org/10.1016/j.enbuild.2017.04.075>

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**Research on Ventilation Cooling System of Communication Base Stations for Energy  
Saving and Emission Reduction**

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**Highlights**

- This paper proposes a novel ventilation cooling system of communication base stations;
- We present the control strategy to reduce the power consumption of the air conditioner;
- Multi physical field simulation is conducted to analyze its contribution and stability;
- Orthogonal experiment design is utilized for optimizing the cooling structure parameters;
- The system is applied in practical engineering to prove the simulation results and achieve great benefits.

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