To: The Final Defense Committee

Subject: Response to Professor Marco Ajmone Marsan’s comments

Dear Sirs

Professor Marco Ajmone Marsan, who is a foreign reviewer for my PhD thesis, shared some invaluable feedback on my thesis. The following outlines the suggestions and my response to the same:

1. More quantitative results may have been included in the thesis: I have added some more results in section 5.5.5. The motivation for these results is that as some TRXs are turned off to save power, the call blocking probability is expected to increase. Call blocking probability determines the grade of service (GoS) for a cellular network.

I determined the increase in call blocking probability as the energy optimization is invoked at varying intervals. I observed that there exists a relationship between the increase in call blocking probability and the energy savings (as a percentage as well as absolute in kWh). Linear and quadratic fits to the data are included for three BTS models in section 5.5.5.

1. Use of call hand-off for energy savings is not novel: We had claimed that we are the first to exploit call hand-off for energy savings. It turns out that I was wrong. I found several papers that have used “user association” for energy savings. I have added a discussion of such work as well as its comparison with ours in section 5.2.

I am grateful to Professor Marsan for his candid and extremely useful feedback.

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