



WiMAX UMass Spiral 2 Year-end Project Review

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United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL (Nature of Service)	WF2XGQ (Call Sign)
XC FX (Class of Station)	0480-EX-PL-2009 (File Number)

NAME University of Massachusetts

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(b) of the Commission's Rules

Station Locations
(1) Amherst (HAMPSHIRE), MA - NL 42-23-37; WL 72-31-55

Frequency Information

Amherst (HAMPSHIRE), MA - NL 42-23-37; WL 72-31-55

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2590-2600 MHz	FX	10M0W7D	32 W (ERP)	

University of Massachusetts, Amherst
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Project Summary

- Current year: Deploy WiMAX base station on the UMass campus
- Next year: Install WiMAX clients on some DOME buses
- Interoperate with other WiMAX-enabled campuses

Milestone & QSR Status

ID	Milestone	Status	On Time?	On Wiki?	GPO signoff?
a	WiMAX base station installed and operational	In progress	N/A	N/A	N/A

- Installation is being combined with other work UMass is contracting to have done on the building's roof
- Goal is an October 2010 completion of outdoor installation

Accomplishments 1: Advancing GENI Spiral 2 Goals

- License granted
- Site identified: 17-story Lederle Graduate Research Tower
- Omni-directional antenna purchased
- Outdoor equipment received from Rutgers
- Contractors given design phase “go ahead”



Accomplishments 2: Other Project Accomplishments

- Have begun to look what it takes to get a Linux kernel that could support WiMAX clients



- Cost of installation
 - Estimates range from \$10K to \$30K
- Access to WiMAX clients in a virtual environment
 - Xen USB limitations
 - USB-based clients (even if we swap computers to support Mini PCIe cards, client is implemented as a USB device on the PCIe card)

- Continue to work with the UMass Physical Plant and OIT on installation
 - Outdoor equipment installation that meets environmental requirements
 - Wiring to indoor unit
 - Backend networking connectivity
- Develop software to run WiMAX clients in a VM environment on DOME hardware and software (some evaluation this year, develop next year)
- Put WiMAX clients on some buses, make available to experiments
 - Install hardware and software on buses
 - Extent of integration with DOME portal TBD