

**Project and research objectives**

- Software radio, cognitive radio and dynamic spectrum access
- Spectrum and interference measurement
- Development and testing of interference avoidance and channel access protocols

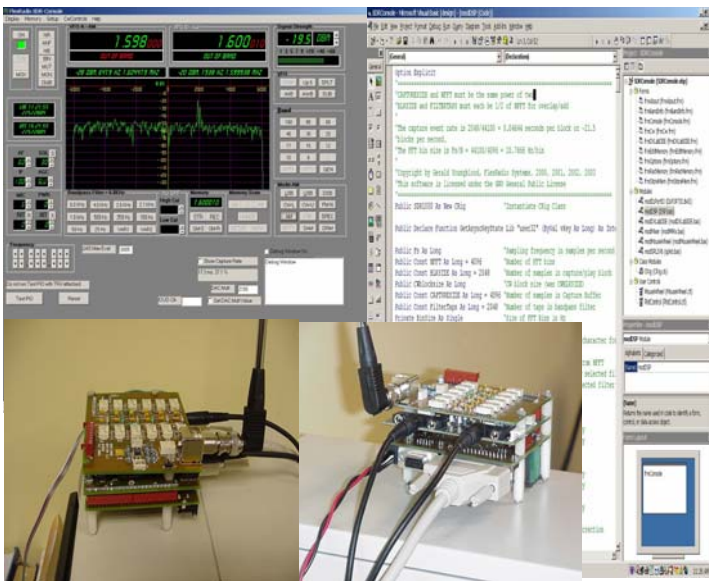
**SDR platforms**

FlexRadio:

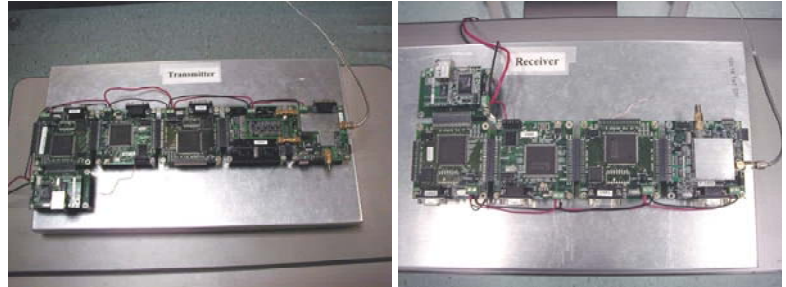
- Receiver frequency range: 0-65 MHz
- Transmit frequency range: 1.8-2.0, 3.525-3.75, ..., 50.1-54.0 MHz (CW, RTTY/data, phone, image)
- Maximum bandwidth: 40 KHz
- Transmit power: 1W RMS (max.)
- Transmission mode: Simplex
- Operating system: Windows 2000/Windows XP
- VB/C# programming for implementation/testing

Vanu Radio: Full duplex 900 MHz RF; 5 MHz bandwidth

Comblock: Dual band (900 MHz and 2 GHz); 10/20 Mbps (BPSK/QPSK)



**Transceiver based on Comblocks**



**Integration of SDR and RF front end**

Beamforming algorithm implementation using SDR

Antenna array

RF front end

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