Evolving Roles for Software Radio

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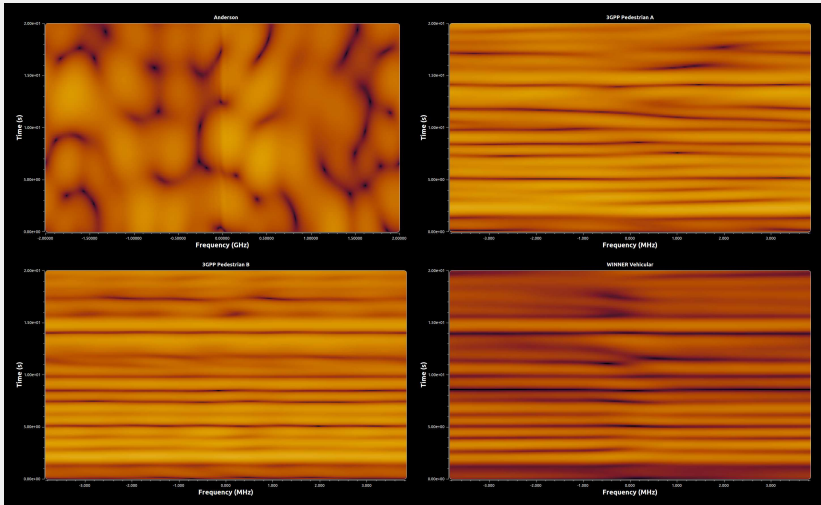
2015-05-14

GNURadio
THE FREE & OPEN SOFTWARE RADIO ECOSYSTEM

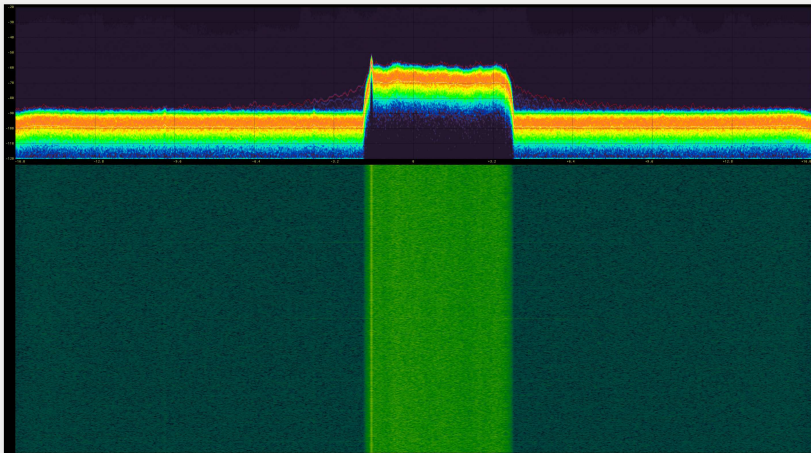# PDPs from Direct Measurements or other Campaigns

GNU Radio's Frequency Selective Fading Model

"Here, then, we have, in the very beginning, the groundwork for something more than a mere guess."

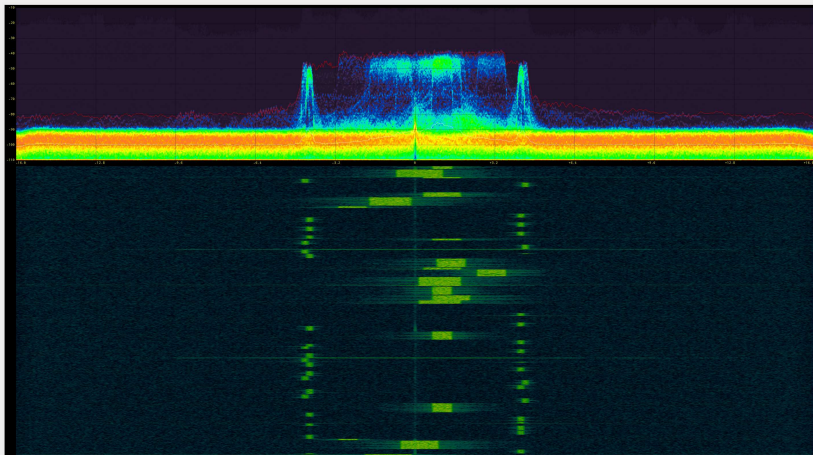- Edgar Allan Poe, *The Gold Bug*

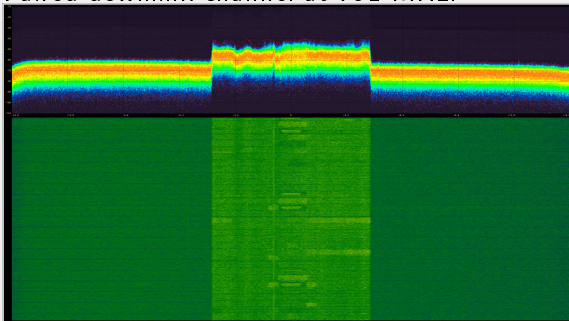# Pop Quiz: Name that Signal, Q1

Pop Quiz: A1

- Signal Type: ATSC
- Center Frequency: 653 MHz (Channel 44)
- Bandwidth: 6 MHz
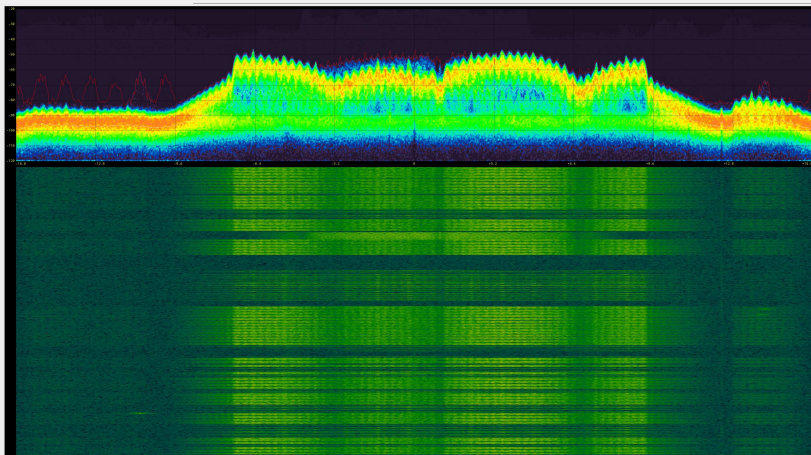
Pop Quiz: Name that Signal, Q2

Pop Quiz: A2

- Signal Type: LTE UE signal (my phone running a speed test)
- Center Frequency: 782 MHz
- Bandwidth: 10 MHz
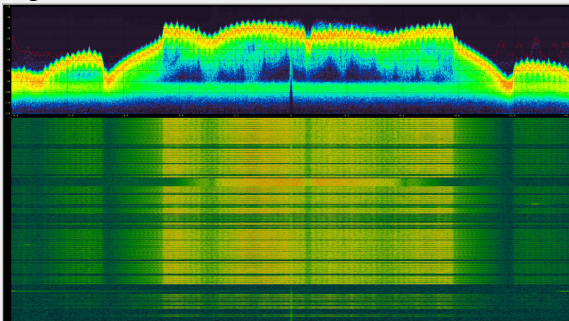- Paired downlink channel at 751 MHz:
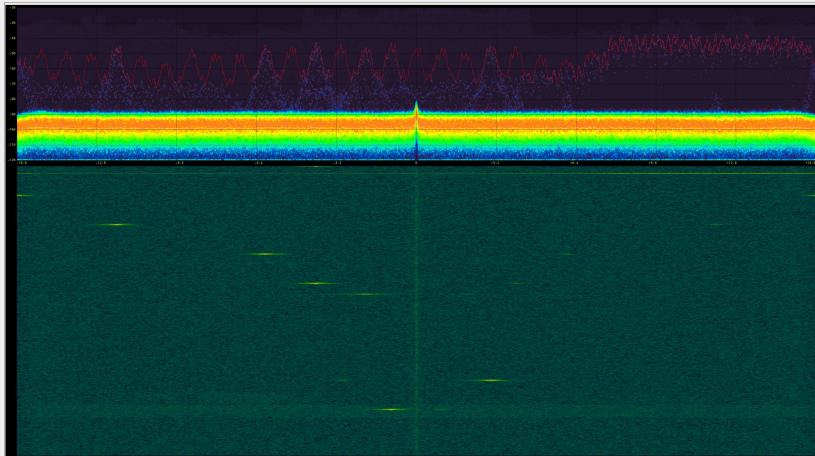
Pop Quiz: Name that Signal, Q3

Pop Quiz: A3

- Signal Type: Wifi access point
- Center Frequency: 821 MHz (wat!)
- Bandwidth: 22 MHz (plus a little)
- Signal at actual 2.462 MHz:

Pop Quiz: Name that Signal, Q4

Pop Quiz: A4

- Signal Type: Bluetooth (showing 32 channels)
- Center Frequency: 2.440 MHz (shown here at 2.420)
- Bandwidth: 79 channels, 1 MHz each
- The newer X310 over 10 GigE or PCIe can capture the full bandwidth
  - at added expense of radio and interface

Static Electric Discharge

- Generated using a Leyden jar and captured on a USRP B210 at 190 MHz; 2 MHz bandwidth.
- Shows wideband noise effects of simple static discharges.
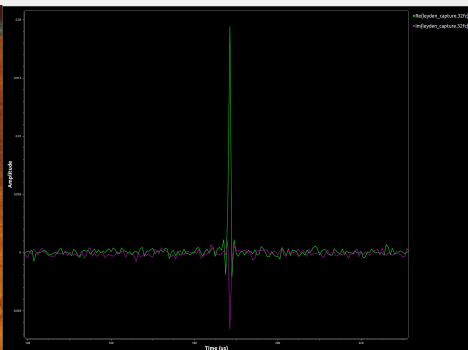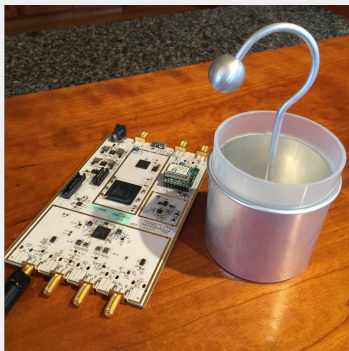
The Future is Going to Get Weird

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