A condition occurred where TX energy on CW could appear on an RX port. This occurred of CW keyed by the firmware keyer. Under those circumstances the TX antenna is only selected after the SDR client app has been notified that TX is in progress.

This occurred because the protocol 2 specification did not signal a TX antenna settings; the behaviour was inherent to all previous protocol 2 firmware as well as with Saturn.

Rick and I developed a solution whereby:

1. Protocol modified to signal the TX antenna and filter settings
2. Thetis and piHPSDR modified to send those settings
3. Rick modified protocol 2 firmware for Orion mk2 and previous radios
4. I modified Saturn FPGA to have a second 16 bit register to be shifted when in TX
5. I modified p2app to pass the correct settings across
6. I tried to get it backward compatible so if used with previous firmware or with older Thetis, it should behave as before.

|  |  |  |  |
| --- | --- | --- | --- |
| **Thetis** | **P2app** | **Firmware** | **Outcome** |
| Old | Old | Old |  |
| Old | Old | New |  |
| Old | New | Old |  |
| Old | New | New |  |
| New | Old | Old |  |
| New | Old | New |  |
| New | New | Old |  |
| New | New | New |  |