



# Memorandum

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**Date:** 26 Mar 2008

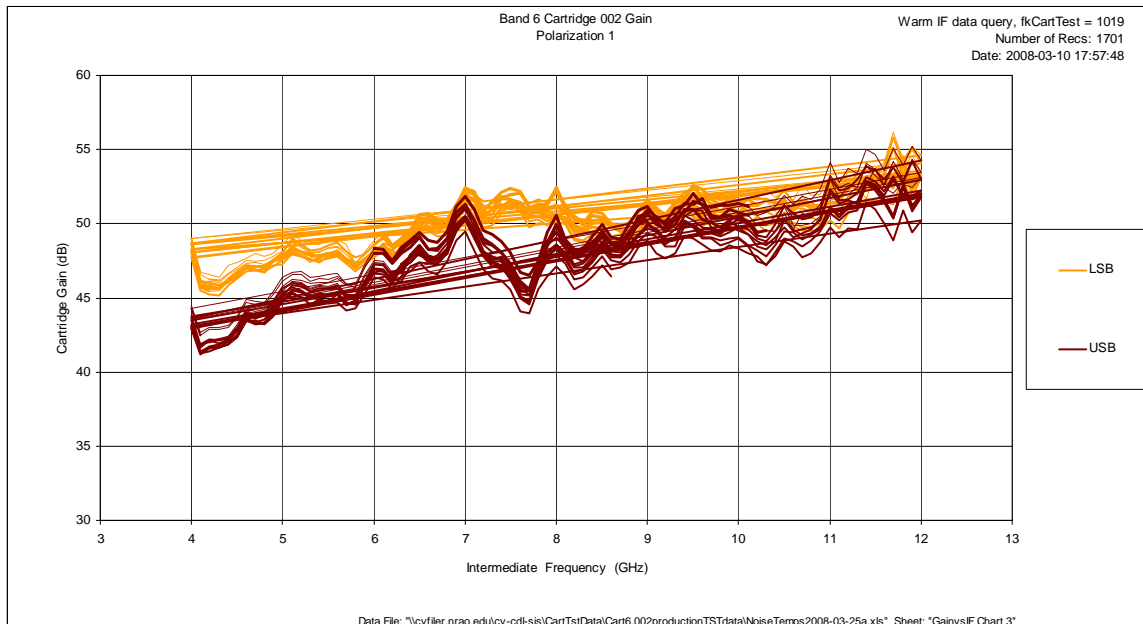
**Revisions:** 26 Mar 2008      jee      Initial

**Subject:** Comparison of Cartridge B6-002 Gains using Different Warm IF Data Sets

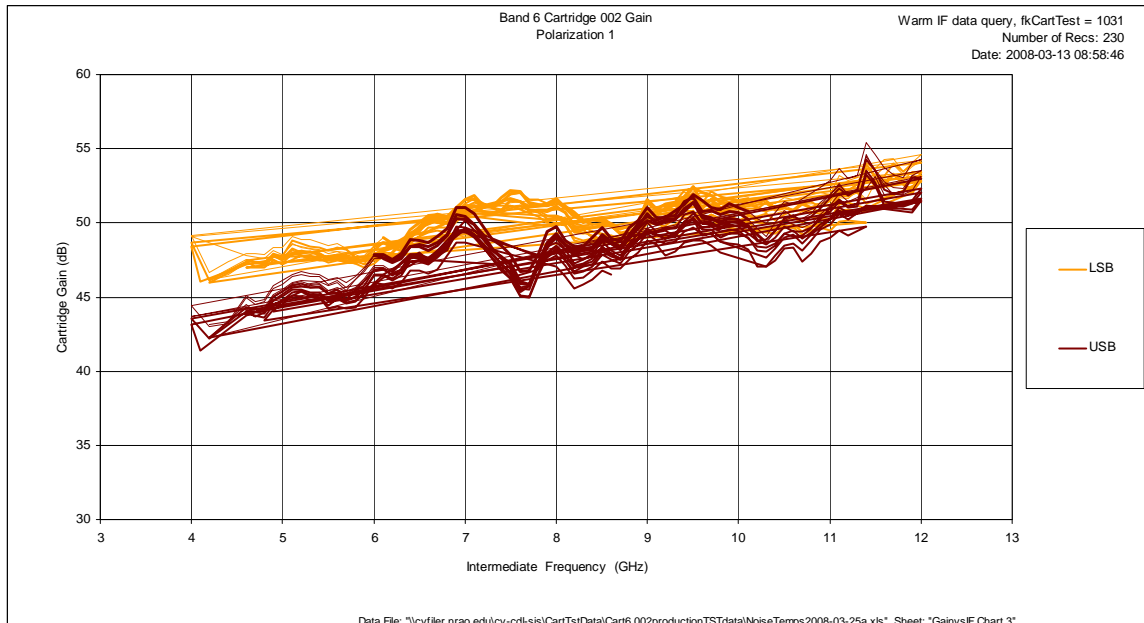
To alleviate concerns that the gain and power density suck-out visible in Pol 1 USB isn't caused by anomalies in the warm IF data, cartridge gain was computed using several different warm IF datasets.

It's unlikely that corrupted warm IF data manifests itself as a suck-out, because all the other polarizations and sidebands use exactly the same data and don't have any suck-outs, but for completeness, a number of datasets were graphed to show the warm IF data is okay. Note that the problem could reside in the warm IF amps, cables, or 6-way switch, but we'll check that by swapping cables at the cartridge 300K IF interface. Unfortunately, it's most likely that the problem resides in the cold cartridge IF cables.

The graph below shows Pol 1 gain computed using the most extensive warm IF dataset collected, that from 10 Mar 2008.



The next graph shows gain when the warm IF data is from a different set, that from 13 Mar 2008.



Finally, the graph below uses the average values for all warm IF data collected, beginning on 10 Mar 2008, which is basically the average values in the two data sets above. Also, the gain of just the warm IF plate is plotted on this data, to show the suck-out is much narrower and unrelated to the dip in gain for the warm IF system.

