Note

Update of the Filter Defining IF1

September 20, 2005 – DRD

The filter defining the intermediate frequency (IF) 1 bandpass has now been built and tested. This note updates the RF up/down-converter scheme based on this data.

The previously defined IF1 bandpass was 15.624 GHz ± 0.200 GHz (3dB). The filter as implemented has nominal characteristics of 15.510 ± 0.300 GHz (3dB). Rather than change the LO frequencies, which are defined as multiples of a standard reference, the defined "center" of IF1 will remain 15.624 GHz, which is allowed by the additional bandwidth.

The following table lists various points defining the IF1 bandpass and Figure 1 defines the bands and LO's. Figure 2 is the measured bandpass filter.

Point [dB]	**Frequency [GHz]**
-60 low	14.877
-6 low	15.168
-3 low	15.210
Center	15.510
-3 high	15.816
-6 high	15.847
-60 high	16.159

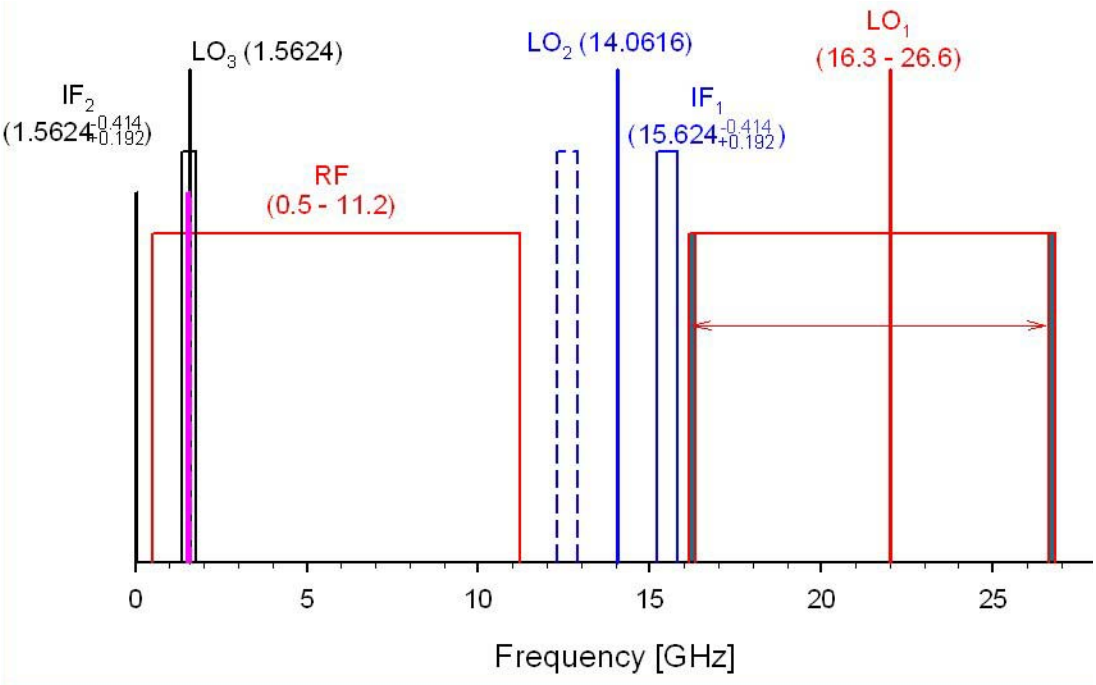

Figure 1: Bands and LO's of the RF converter board.

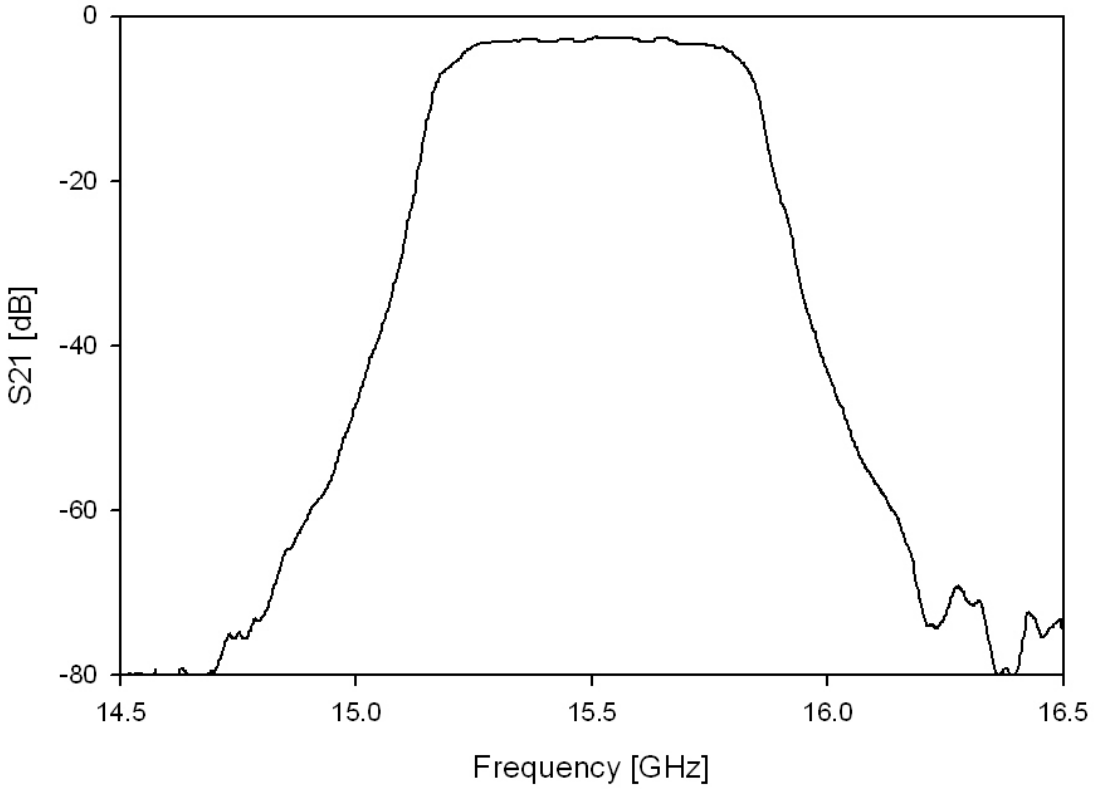

Figure 2a: Measured bandpass of IF1 (S/N 2).

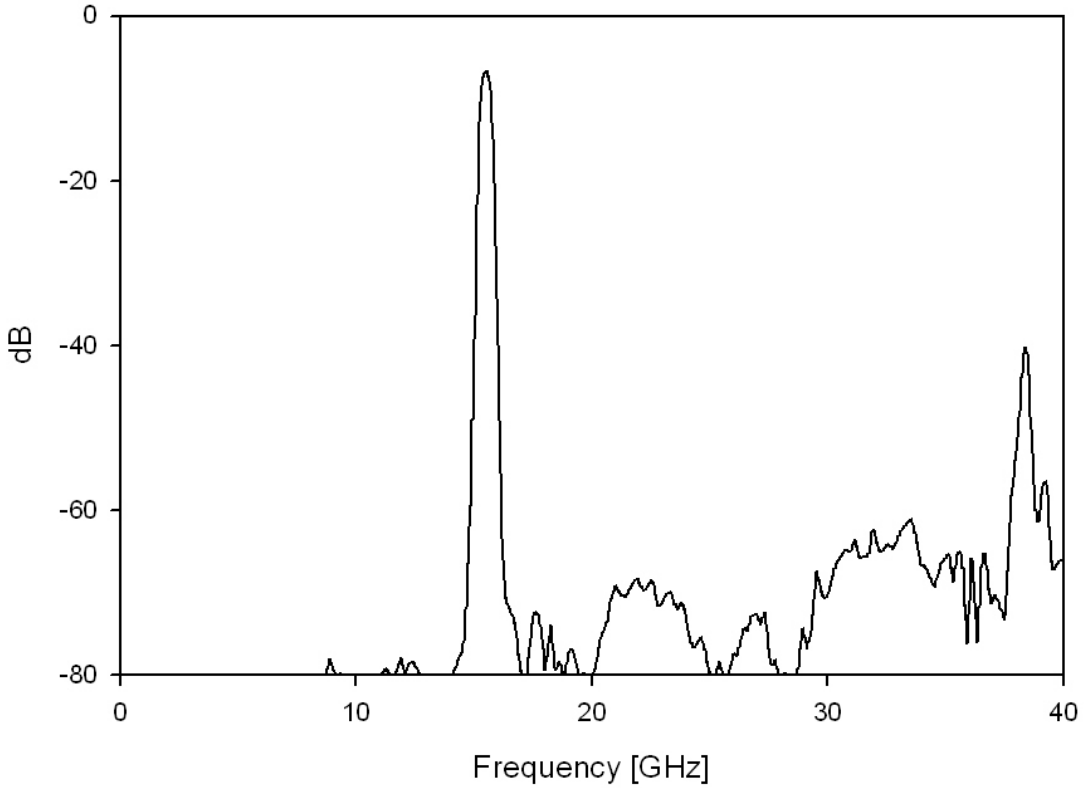

Figure 2b: Measured bandpass of IF1 (S/N 2).