What is the tested capability of ALMA for bandpass calibration precision?

The bandpass stability has been tested during 2013 and 2014 for Bands 3, 4, 6, 7, 8, 9, and 10 with 21–35 antennas. The amplitude variation is estimated to be <0.1% for Bands 3, 4, and 6, and <1% for the other Bands. The phase variation is estimated to be <0.3 deg for Bands 3, 4, 6, and 7, and <1 deg for Bands 8 and 9. (At Band 10, most of quasars do not yield signal-to-noise ratios good enough for accurate bandpass calibration.) Dependence on time is relatively small compared to random noises. The nominal bandpass accuracy is <0.2% and <0.5 deg over the spectral resolution requested.

Smoothed bandpass calibration would work with the smoothing window of 125 MHz.

Related documents:
- Technical Handbook, Chapter "Calibration and Calibration Strategies"
- ALMA Technical Notes 15
- Knowledgebase article "What is the measured or expected bandpass stability?"