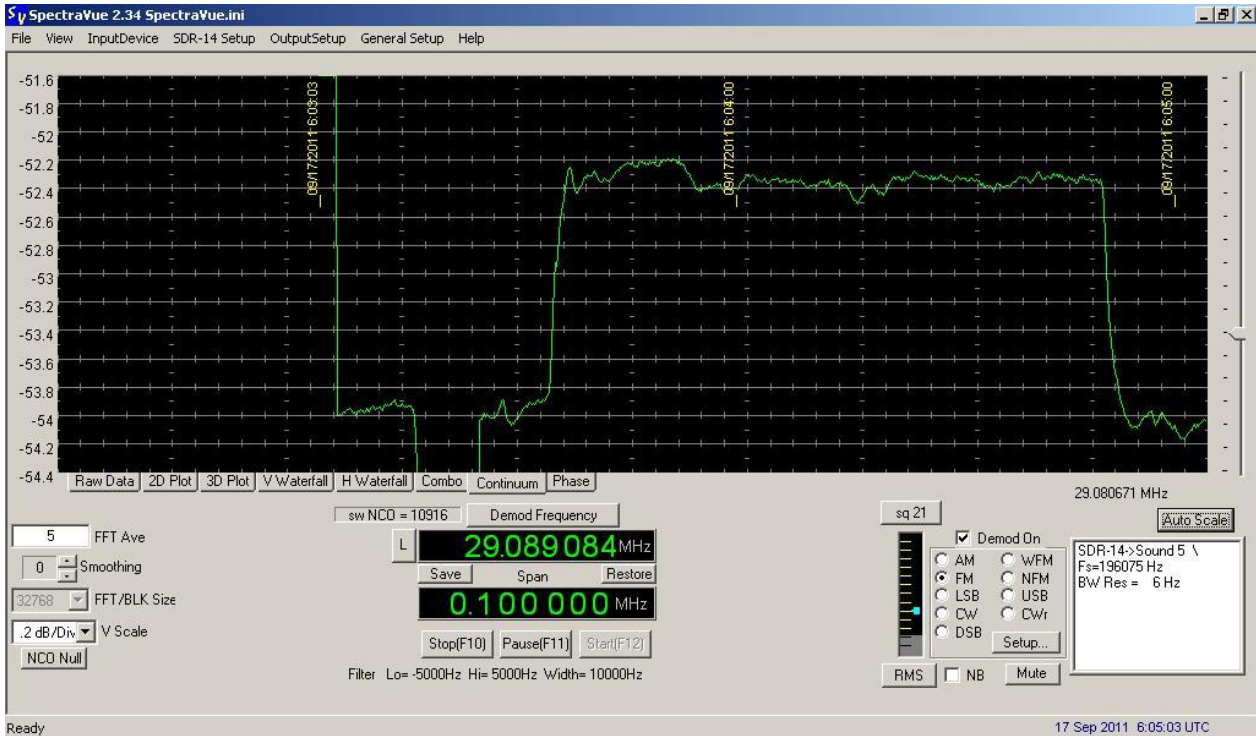


**G4NNS vs OK1KIR 24GHz JT4G test on 2011-09-17 at 06:30 UT**  
 Short summary as seen by OK1KIR

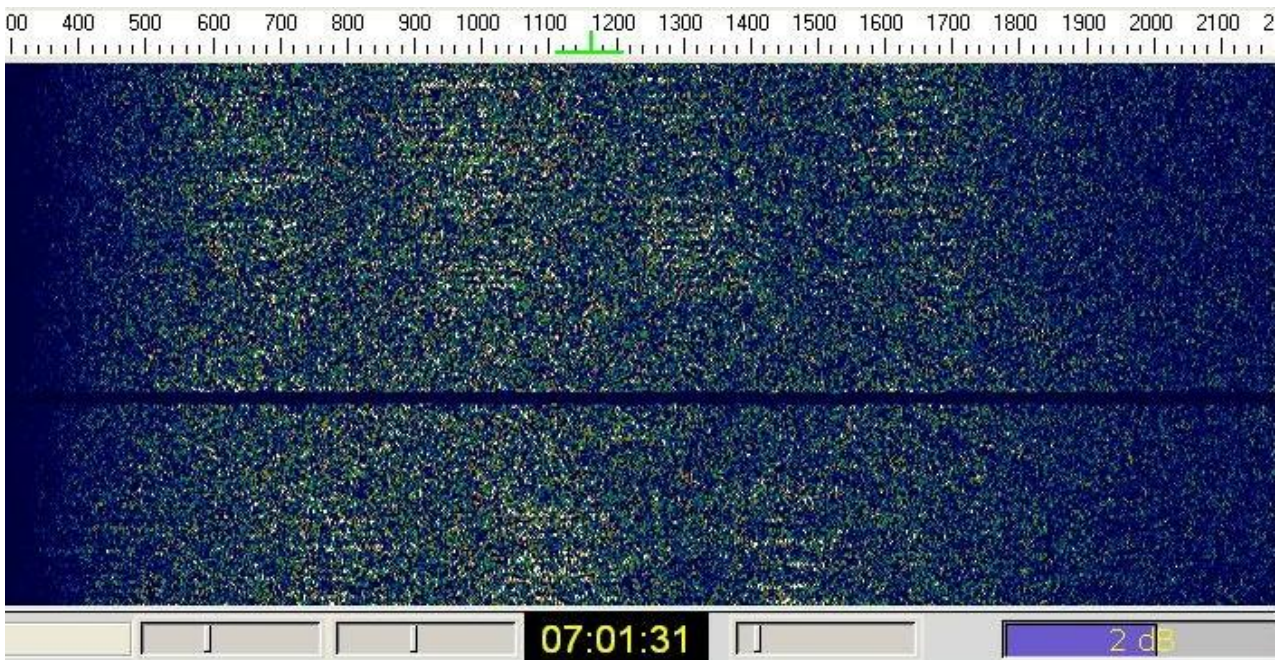
Sat 17.09.2011 early morning:

- G/CS only 2.7dB (lowest value measured with the new rig, all previous values over 3dB !)
- Moon only 1.6dB with peak value 1.8dB (see picture below taken at Moon EL 35deg)
- Own echoes very weak (**apogee and high atmosphere humidity !**) with “QSB” probably due to **changing atmosphere attenuation (moving clouds)** and high spread of about 150Hz [predicted 350Hz corrected by beamwidth (0.22/0.5)deg → 150Hz] further decreased readability !

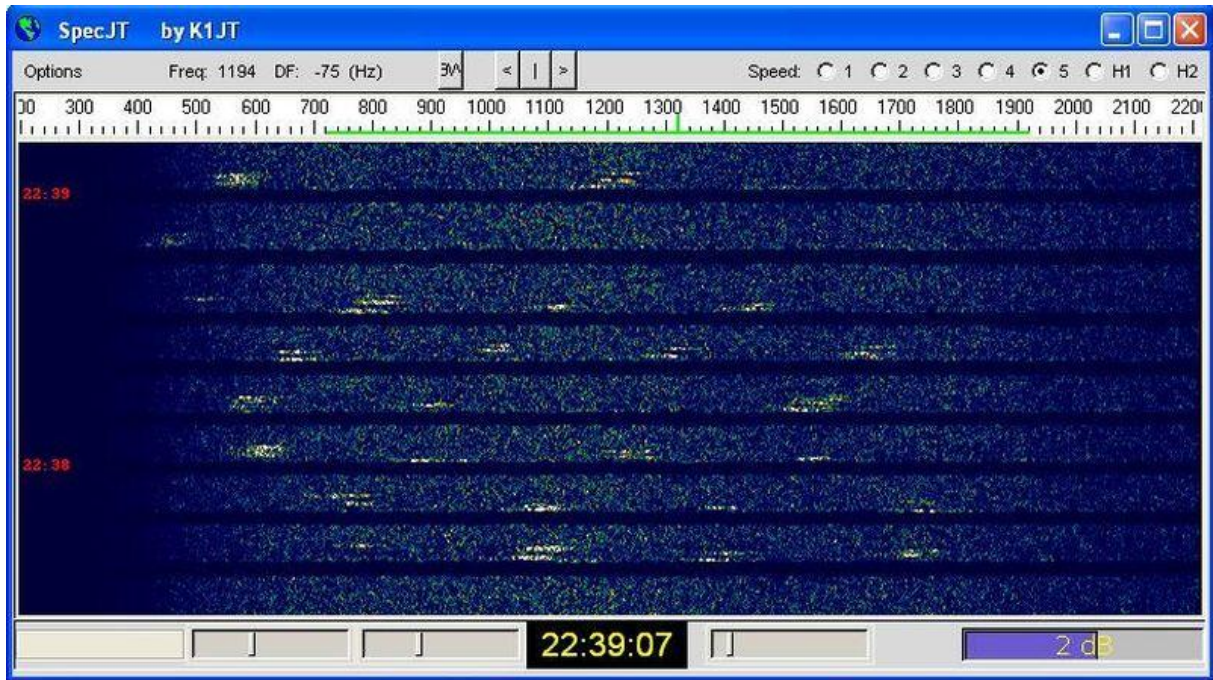


**Test JT4G:**

- JT4G signal as received from G\$NNS at 07:02UT
- Signal very weak with terribly wide spread, no decode



- To compare conditions here are JT4G own echoes at OK1KIR in March 2011



**Final CW test:**

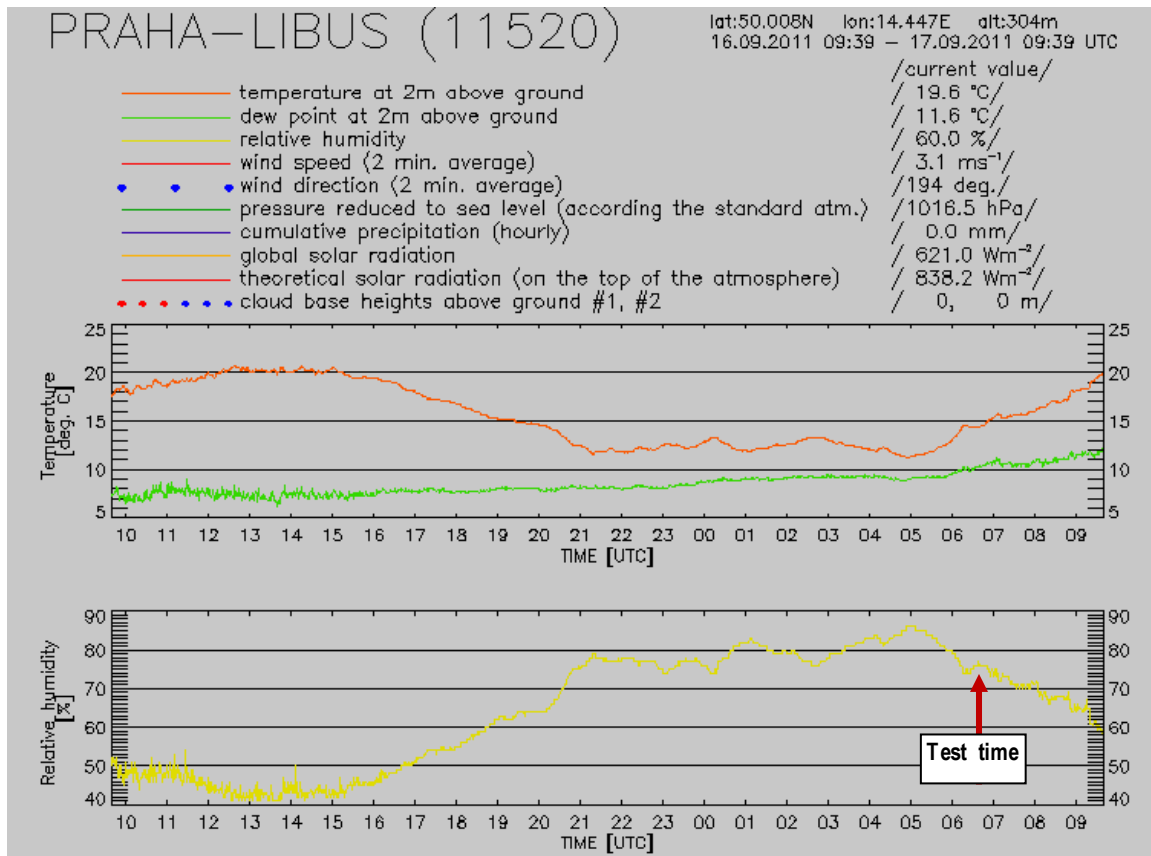
- **Test concluded with CW trial. Very weak signal easy visible on SDR-14 but unreadable**
- **Moon noise tested only 1.4dB, elevation  $\approx$  23deg at that time**
- **Whole test closed**

**Conclusions:**

- **Apogee in summertime is the worst choice possible**
- **Nighttime in summertime is the bad choice as well**
- **High atmosphere humidity obvious in summertime brings too high additional attenuation along the slant path, esp. at low Moon's elevation**
- **High spread impacts seriously weak signal readability**

To complete the picture there are WX conditions in Prague area:

- Picture below (24 hrs temperature and humidity profile at ground level) indicate high humidity during night and still about 75% at the test time when Moon's elevation went down towards 20°.



- Vertical atmosphere profile of air temperature ( red line ) and dew point ( blue line ) in Prague area taken on Sat 17.09.2011 at 06:00 UT confirms high humidity of atmosphere through several kms upwards. Furthermore actual slant path at about 25° of elevation prolongs the path 2.5-times.

