

EXTA measurement results - DVTI v2b

| Software Version | | DvtiCamControl settings | | | | EXTA (=reference) measurement results (Evaluation software Tangra v3.6.23) | | | | | | Comment |
|------------------|-----------------|-------------------------|------------|---------|------------------|--|---|---|------------------------|---|--|---------|
| Camera Firmware | DVTI CamControl | Bit Depth | Resolution | Binning | Exposure set [s] | Real Exposure (EXTA) | ADV State Channel time stamp error (time = Central Exposure Time) | Video inserted time stamp error (time = exposure start and end) | Gaps in image sequence | Measurement tolerance (= EXTA resolution) | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.001 | 0.001 | 0.000 | 0.000 | 0.032 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.002 | 0.002 | 0.000 | 0.000 | 0.031 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.005 | 0.005 | 0.000 | 0.000 | 0.028 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.010 | 0.010 | 0.000 | 0.000 | 0.023 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.020 | 0.020 | 0.000 | 0.000 | 0.013 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.030 | 0.030 | 0.000 | 0.000 | 0.003 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.033 | 0.033 | 0.000 | 0.000 | 0.000 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.040 | 0.040 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.050 | 0.050 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.080 | 0.080 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.100 | 0.100 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.160 | 0.160 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.200 | 0.200 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.250 | 0.250 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.320 | 0.320 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.500 | 0.500 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 0.640 | 0.640 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | +/-0.002 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 1.280 | 1.280 | 0.000 | 0.000 | 2.000 | +/-0.002 | Between some frames a small exposure gap in the range of about 2ms is visible *** | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 2.560 | 2.560 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 960x600 | 2x2 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 | +/-0.010 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.001 | 0.001 | 0.000 | 0.000 | 0.032 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.002 | 0.002 | 0.000 | 0.000 | 0.031 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.005 | 0.005 | 0.000 | 0.000 | 0.028 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.010 | 0.010 | 0.000 | 0.000 | 0.023 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.020 | 0.020 | 0.000 | 0.000 | 0.013 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.030 | 0.030 | 0.000 | 0.000 | 0.003 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.033 | 0.033 | 0.000 | 0.000 | 0.000 | +/-0.001 | Gap as expected due to max. frame rate of Prototype 2b = 30fps, exposure window before the gap | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.040 | 0.040 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.050 | 0.050 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.080 | 0.080 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.100 | 0.100 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.160 | 0.160 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.200 | 0.200 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.250 | 0.250 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.320 | 0.320 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.500 | 0.500 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 0.640 | 0.640 | 0.000 | 0.000 | 0.000 | +/-0.001 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 1.000 | 1.000 | 0.000 | 0.000 | 0.000 | +/-0.002 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 1.280 | 1.280 | 0.000 | 0.000 | 2.000 | +/-0.002 | Between some frames a small exposure gap in the range of about 2ms is visible *** | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 2.000 | 2.000 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 2.560 | 2.560 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 4.000 | 4.000 | 0.000 | 0.000 | 0.000 | +/-0.005 | | |
| 0.4.35 | 4.8.6 | 16 | 1920x1200 | 1x1 | 5.000 | 5.000 | 0.000 | 0.000 | 0.000 | +/-0.010 | | |

*** This 2ms gap in longer exposures is caused by the IMX174 image sensor and no problem for occultation work.

| | |
|--------------|---|
| PC Hardware: | HP ProBook 6570b with intel core i5 2.6GHz CPU, 8GB RAM, Samsung SSD, EVO 840, 500GB, 512MB Cache, SATA III |
| PC Software: | Windows system W7P/64 (all updates) + DvtiCamControl_4.8.6 |
| Camera: | DVTI_v2b_Prototype connected via USB3.0; GPS connected with camera; no additional external Power supply |