

---

## Prüfbericht Test Certificate

---

<b>Prüfgegenstand // Object:</b>	Temperature stress test of All Sky Imager ASI-16.
<b>Auftraggeber // Customer:</b>	CMS Ing. Dr. Schreder GmbH Lofererstraße 32, A-6322 Kirnbichl AUSTRIA
<b>Hersteller // Manufacturer:</b>	CMS Ing. Dr. Schreder GmbH
<b>Typ // Type:</b>	ASI-16
<b>Seriennummer // Serial number:</b>	16015
<b>Datum // Date:</b>	15. June 2016 - 19. June 2016
<b>Seitenanzahl // Number of pages:</b>	4

Dieser Prüfschein darf nur vollständig und unverändert verbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des Kalibrierlaboratoriums der Firma CMS Ing. Dr. Schreder GmbH. Dokumente ohne Unterschrift und Siegel haben keine Gültigkeit. // *This certificate shall not be reproduced other than in full expect with the permission of the calibration laboratory of the company CMS Ing. Dr. Schreder GmbH. Documents without signature and seal are not valid.*

---

**Siegel // Seal**

**Ausstellungsdatum // Date**

**Für den technischen Inhalt verantwortlich  
//Responsible regarding technical content**

19. June 2016

Ing. Dr. Josef Schreder

**Prüfgegenstand // Description of the calibration object:**

Test of a Total Sky Camera ASI inside climate chamber. The System was connected by TCP/IP standard cable and the original power supply. It was horizontally levelled inside the test chamber. The temperature is shown on the Measurement Chamber

**Ort der Prüfung // Pace of certification:**

CMS Ing. Dr. Schreder GmbH Lofererstraße 32, A-6322 Kirchbichl.

**Umgebungsbedingung // Environment:**

The Test was carried out under environmental conditions inside test chamber.

**Kennzeichnung // Identification:**

The system is identified by its serial number.

**Messaufgabe // Task of measurement:**

Temperature stress test. Test of functionality (2 images @ 5 minutes) during rapidly changing environmental temperature scenarios (<-30°C and >+45°C) in standard working configuration.

**Verwendete Messgeräte // Used instruments:**

Climate Chamber Heraeus-Vötsch, VLK 04/150

**Verwendete Unterlagen // Used documents:**

- **Interne Arbeitsvorschrift:** carried out according to internal procedure, as applicable.

**Bemerkung // Remark:**

The documented results correspond exclusively to the stated instrument. A dependence of other influence parameters than the described one are not investigated.

## MESSUNG/MEASUREMENT

### Beschreibung/Description

The All Sky Imager (ASI) was put into the test chamber. ASI was on standard operational mode (temperature regulation activated, 2 images @ 5 minutes) before starting the experiment. Measurements were made on automatic modus with standard exposure and under exposure.

Test cycles were started on day 20160615 and lasts over 4 days until 20160619. 10 stress cycles were carried out. Starting at an environmental temperature  $T_{ENV}$  of +56°C the temperature cycles were set to  $T_{ENV}$  lower -30°C and higher +45°C. The lowest  $T_{ENV}$  was -35°C. Additional the relative humidity inside the test chamber was logged. ASI was running as required.

### Ergebnis/Result

The All Sky Imager was successfully tested for standard operation modus under "Temperature stress scenario" between  $T_{ENV} = -35^{\circ}\text{C}$  and  $T_{ENV} = +56^{\circ}\text{C}$ , with a measurement and climate chamber control tolerance of  $\pm 3^{\circ}\text{C}$ . In total 10 stress cycles were carried out within 4 days. The system was running under all tested environmental situations without troubles – 2 images @ 5 minutes were taken without loss of image data. The temperature and humidity measurements are presented in the plots below.



