

**Prüfurkunde - Test Certificate****SICAM LVS -40 bis +70°C****6MF35001AA001BA0BB****SICAM LVS -40 to +70°C****6MF35001AA001BA0BB****Elektrische Sicherheit / Isolation - Electrical safety / Isolation**Prüfung - Test: Isol. Wechselspg. - Dielectric test  
Norm - Standard: IEC 60255-27:2013Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Isol. Stoßspg. - Impulse voltage test  
Norm - Standard: IEC 60255-27:2013Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219**Elektromagnetische Verträglichkeit - Electromagnetic compatibility**Prüfung - Test: Funkstörspannung - Interference voltage  
Norm - Standard: CISPR 22:2008Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. ged.Sinus Schw. - Imm. Ring waves  
Norm - Standard: IEC 61000-4-12:2006Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Störfeldstärke - Emission  
Norm - Standard: CISPR 22:2008Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. ESD - ESD immunity  
Norm - Standard: IEC 61000-4-2:2008Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. HF-Feld - EM field immunity  
Norm - Standard: IEC 61000-4-3:2006Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. Burst - Burst immunity  
Norm - Standard: IEC 61000-4-4:2012Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. Surge 1,2/50 - Surge imm. 1,2/50µs  
Norm - Standard: IEC 61000-4-5:2005Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. HF induziert - Cond. dist. immunity  
Norm - Standard: IEC 61000-4-6:2013Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. Magnetfeld 50Hz - HF 50Hz immunity  
Norm - Standard: IEC 61000-4-8:2009Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. Magnetfeld Puls - Magn. pulse immunity  
Norm - Standard: IEC 61000-4-9:1993Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219Prüfung - Test: Imm. 1MHz gedämpft - Oscillatory waves  
Norm - Standard: IEC 61000-4-18:2006Datum - Date: 10.11.14  
Protokoll - Protocol: SICAM LVS TÜV14\_219**Umweltprüfungen - Environmental testing**Prüfung - Test: Environm. conditions - Environm. conditions  
Norm - Standard: IEC 60870-2-2:1996Datum - Date: 05.11.14  
Protokoll - Protocol: SICAM LVS\_S68AIT0115Prüfung - Test: Klima - Climatic test  
Norm - Standard: IEC 60068-2-x:Datum - Date: 24.11.14  
Protokoll - Protocol: SICAM\_LVS-S30\_00Prüfung - Test: Fc: Schwingen - Vibrations  
Norm - Standard: IEC 60068-2-6:2007Datum - Date: 05.11.14  
Protokoll - Protocol: SICAM LVS\_S68AIT0115

## Prüfurkunde - Test Certificate

**SICAM LVS -40 bis +70°C****6MF35001AA001BA0BB****SICAM LVS -40 to +70°C****6MF35001AA001BA0BB**

Prüfung - Test: Fc: Schwingen - Vibrations

Datum - Date: 05.11.14

Norm - Standard: IEC 60068-3-3:1991

Protokoll - Protocol: SICAM LVS\_S68AIT0115

Prüfung - Test: Ea: Schock - Shock

Datum - Date: 05.11.14

Norm - Standard: IEC 60068-2-27:2008

Protokoll - Protocol: SICAM LVS\_S68AIT0115

Prüfung - Test: Eb: Dauerschock - Bump

Datum - Date: 05.11.14

Norm - Standard: IEC 60068-2-27:2008

Protokoll - Protocol: SICAM LVS\_S68AIT0115

Der Prüfgegenstand hat die Prüfungen bestanden. Nach Abschluss der Prüfungen waren die Eigenschaften unverändert und der Prüfgegenstand voll funktionsfähig.

The equipment has successfully passed the type test. The equipment did not show any changes and was fully in order subsequent to these tests.

**Siemens AG Österreich**RC-AT EM Energy Automation Products  
Development

Wien - Vienna, 16.01.2015

Page 2 of 2

Stefl Herbert

**Prüfer - Tested by:**Digitally signed by Stfl Herbert  
DN: serialNumber=2001MUWX,  
givenName=Herbert, sn=Stefl,  
o=Siemens, cn=Stefl Herbert  
Date: 2015.01.19 07:58:50 +01'00'

Name / Unterschrift - Signature

**Geprüft - Reviewed by:**  
**Stern Peter**Digitally signed by Stern Peter  
DN: serialNumber=2001MUXE,  
givenName=Peter, sn=Stern, o=Siemens,  
cn=Stern Peter  
Date: 2015.01.20 10:01:55 +01'00'

Name / Unterschrift - Signature

**TEST REPORT**  
of the accredited test laboratory

**TÜV Nr.:M/EMV-14/219**

about  
the following EMC - test/- research

**Applicant:** Siemens AG Österreich  
Ruthnergasse 3  
A-1210 Vienna

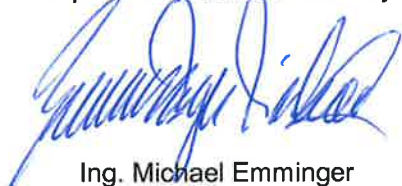
**Product:** SICAM LVS 6MF35001AA001BA0BB C53207-A5305-D481-1A

**Serial Numbers:** SAM1234567890

**Standard:** Manufacturer Specifications: TTS\_SICAM LVS.pdf  
File: SICAM LVS\_TÜV14\_219.pdf

**TÜV AUSTRIA SERVICES GMBH**  
Test laboratory for EMC

Deputy  
Supervisor of EMC-laboratory



Ing. Michael Emminger



10.11.2014

Copy Nbr.: 01

Checked by



Ing. Stefan Matzner



**Accredited as:**  
Testing Laboratory,  
Inspection Body,  
Certification Body,  
Calibration Laboratory,  
First and Boiler test  
laboratory

**Notified Body 0408**

**Non-executive  
Board of Directors:**  
KR Dipl.-Ing. Johann  
MARIHART

**Management:**  
Dipl.-Ing. Dr. Stefan  
HAAS  
Mag. Christoph  
WENNINGER

**Registered Office:**  
Krugerstrasse 16  
1015 Vienna/Austria

**Branch Offices:**  
Dornbirn, Graz,  
Innsbruck, Klagenfurt,  
Linz, Salzburg, St. Pölten,  
Wels, Vienna, Brixen (I)  
and Filderstadt (D)

**Company Register  
Court / - Number:**  
Vienna / FN 288476 f

**Bank Details:**  
UC BA 52949 001 066  
IBAN  
AT131200052949001066  
BIC BKAUATWW  
RZB 001-04.093.282  
IBAN  
AT153100000104093282  
BIC RZBAATWW

VAT ATU63240488  
DVR 3002476

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TÜV AUSTRIA SERVICES GMBH.

The results of this test report only refer to the provided equipment.

## Summary

Clause	Test	Severities	Result
4.1	Conducted Emission	CISPR 22: 150 kHz – 30 MHz; Class A	OK
4.2	Radiated Emissions	CISPR 22: 30 MHz – 2 GHz; Class A	OK
4.3	Electrostatic discharge requirements (ESD)	IEC 61000-4-2: 6kV contact, 8 kV air 10 discharges pos/neg	OK
4.4	Radiated electromagnetic field requirements	IEC 61000-4-3: 80MHz – 3GHz; 10V/m 80% AM	OK
4.5	Induced RF-field requirements	IEC 61000-4-6: 150kHz – 80MHz; 10Vrms 80% AM	OK
4.6	Electrical fast transients/burst requirements	IEC 61000-4-4: 4 kV Test level 5/50 ns $t_r/t_n$ 5kHz Burst frequency 15 ms Burst time 3 Hz Repetition frequency Polarity: positive/negative	OK
4.7	Surge requirements	IEC 61000-4-5: 4 kV Test level 1,2/50 $\mu$ s $t_r/t_n$ Polarity: positive/negative	OK
4.8	Oscillatory wave requirements	IEC 61000-4-18: 2,5 kV Test level Frequency: 1 MHz Repetition: 400/s Burst duration: 2 seconds Polarity: positive/negative	OK
4.9	Ring wave requirements	IEC 61000-4-12: 2,5 kV Test level common 1 kV Test level normal Frequency: 100 kHz Repetition: 1/s Polarity: 5 positive / 5 negative	OK
4.10	Magnetic field strength at power frequency	IEC 61000-4-8: 300 A/m; 50 Hz for 3 second	OK
4.11	Magnetic field strength – pulsed	IEC 61000-4-9: 1000 A/m; 8/20 $\mu$ s	OK
4.12	Insulation Test	IEC 60255-27: Steady State Test: 4,0kV; 2,5kV 50Hz sinus for 1 minute Impulse Test: 5,0kV; 3,0kV; 1,2 $\mu$ s/ 50 $\mu$ s; 500 $\Omega$ output impedance; 3 impulses pos/neg	OK
<p>OK EUT passed NOK EUT failed</p>			

Test report number:  
M/EMV-14/219

Date:  
10.11.2014

**EUT:** SICAM LVS 6MF35001AA001BA0BB C53207-A5305-D481-1A

**Serial Number:** SAM1234567890

**Manufacturer:** Siemens AG Österreich  
Ruthnergasse 3  
A-1210 Wien

**Operating mode:** The measurements were carried out at the following running states:  
continuous observation for checking the proper functioning of the EUT

**Technical data**  
**EUT:** Rated voltage: 400VAC  
Rated current:  
Rated frequency: 50Hz  
Mains voltage during the tests: 400 V 50 Hz

**Climatic conditions in the emc laboratory:** Relative humidity: 46 %  
Temperature: 22 °C

**Applicant:** Siemens AG Österreich

**Department:** Energy Automation Development

**Address:** A-1210 WIEN, Ruthnergasse 3

**Contact person:** Mr. Herbert STEFL

**EUT received on:** 04.11.2014

**Tests were performed on:** 04. until 06.11.2014

# Report

Project Designation

## Vibration- and Shocktests on SICAM LVS

Client

Siemens AG Österreich  
Sector Energy  
Division Power Distribution  
zH. Herrn Herbert Stefl  
Ruthnergasse 3  
1210 Wien, Österreich

Order from / No

Stefl / 9. 10. 2014

Project number

2.05.01062.1.0-0115

Test Engineer

Wolfgang Schinhan

File: SICAM LVS\_S68AIT0115.pdf

Date of issue	5. 11. 2014
Total number of issues / No	PDF
Number of pages	19
Annex: number of pages	-

The results relate exclusively to the terms tested.

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### Applicant

Siemens AG Österreich  
Ruthnergasse 3, A-1210 Vienna

### Project description

Environmental testing Vibration and shock on SICAM LVS

### Typetest Specification

### Standard

Manufacturer Specifications: TTS\_SICAM LVS.pdf  
(according to chapter 5.12. "Mechanic environmental conditions")

### Test object (EUT)

#### SICAM LVS:

Module	MLFB number	Hardware number	serial number	comment
SICAM LVS	6MF3500-1AA00-1BA0/BB	C53207-A5305-D481-1A	SAM1234567890	EMV-Muster1

### Test equipment

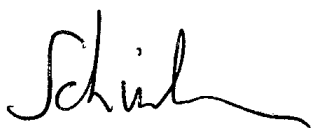
Electrodynamic Vibration Exciter System LDS V864 HT-440

Date of delivery: 28. October 2014  
Date of tests: 28. October – 29. October 2014

### Test Result

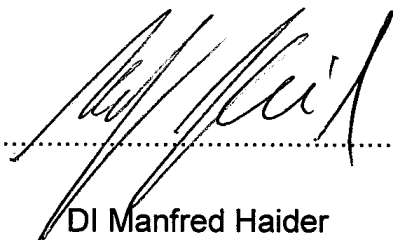
**The sample has passed the environmental tests vibration and shock as listed in the Summary.**

Project manager



Wolfgang Schinhan

Head of Business Unit



DI Manfred Haider

## Summary

Clause	Test	Severities	Result
5.14.1	Environmental testing – Part 2-6: Tests -Test Fc: Vibration (sinusoidal)	IEC 60068-2-6 10 – 150 Hz, 1g 20 Cycles	OK
5.14.1	Telecontrol equipment and systems - Part 2: Operating conditions - Section 2: Environmental conditions (climatic, mechanical and other non electrical influences)	IEC 60870-2-2 9 - 200Hz, 1,0g, 200 - 500Hz, 1,5g 1 Cycle	OK
5.14.1	Environmental testing – Part 2- 27: Tests -Test Ea and guidance: Shock	IEC 60068-2-27 15g , 11ms 18 Shocks	OK
5.14.1	Environmental testing – Part 2- 27: Tests -Test Ea and guidance: Shock	IEC 60068-2-27 10g, 16ms 6000 Shocks	OK
5.14.1	Seismic harmonic sinus	IEC60068-3-3 Class 1	OK
OK NOK	EUT passed EUT failed		

### Applicant

Siemens AG Österreich

### Department

Energy Automation Development


### Address

Ruthnergasse 3, A-1210 Vienna

### Contact person

Mr. Herbert Stefl



Department: EM EA PRO D	<b>TEST REPORT</b>		
Tested by / on: H.Stefl /2014-11-07 until 11-24	<b>Re:</b>  <b>Environmental Testing</b>  <b>Cold / Dry Heat / Damp Heat</b>  <b>Product: SICAM-LVS</b>	Report no.: <b>SICAM_LVS-S30_00</b>	
Released by / on: G. Bergmann Gebhard 2015-01-20		Account / Request no.: <b>S.61726.01.01.01</b>	
File: SICAM_LVS- S30_00.doc		Issued in / on.: Vienna, <b>2014-11-24</b>	
		Sheet: 1	Sheets: 8

## 1. Requirements and Standards Applied

Test requirement acc. to: Type test specification **TTS\_SICAM LVS.doc**

Test setup and execution were to comply with the following test standard:

- IEC 60068-2-1 (2007-03)** Environmental testing -  
Part 2: Tests; Tests A: Cold  
(EN 60068-2-1:2007-04)
- IEC 60068-2-2 (2007-07)** Basic environmental testing procedures -  
Part 2: Tests; Tests B: Dry heat  
(= EN 60068-2-2:2007-09)
- IEC 60068-2-78 (2012-10)** Environmental testing -  
Part 2-78: Tests; Test Cab: Damp heat, steady state  
(= EN 60068-2-78:2013-06)

## 2. Summary of Test Result

The module **SICAM LVS** has **passed** the environmental test according to the test requirement when subjected to

cold (-25°C),  
damp heat (40°C/93 and 97%rH) and  
dry heat (60°C/ 10%rH).

Clause of TTS	Test	Severities	Result
5.11.4	Environmental testing – Part 2-2: Tests -Test B: Dry heat	IEC 60068-2-2 70°C/10% for 72h	Okay
5.11.5	Environmental testing – Part 2-1: Tests -Test A: Cold	IEC 60068-2-1 -40°C for 72h	Okay
5.11.6	Environmental testing – Part 2-78: Tests -Test Db: Damp heat steady state	IEC 60068-2-78 40 °C/93% for 72h	Okay