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	Technology Testing Department – Testing Laboratory No. 1103 accredited according to ČSN EN ISO/IEC 17025 (EN ISO/IEC 17025) EMC Testing Laboratory	Copy No.: 1 Pages: 4 Appendixes/ pages: -
<h2>TEST REPORT</h2> <h3>electromagnetic compatibility</h3>		
Applicant name and address:	SCG CZECH DESIGN CENTER, s.r.o. Boženy Němcové 1720, 75661 Rožnov pod Radhoštěm	
Identification of EUT:	NCP1250 Application Board	
Serial No.:	sample	
Manufacturer:	SCG CZECH DESIGN CENTER, s.r.o. Boženy Němcové 1720, 75661 Rožnov pod Radhoštěm	
Technical documentation:	none	
Test method:	ČSN EN 61000-4-5 ed. 2:2007 ¹ (EN 61000-4-5:2006)	
Sample received: 16.9.2010	Test leader: Ing. Antonín Kolísek 	
Date and place of test: 16.9.2010 division VTÚPV Vyškov EMS test room	Test carried out by: Ing. Antonín Kolísek  Ing. Mgr. František Kudlička 	
Issue date: 23.9.2010	Authorized by technical manager: Ing. Vladimír Váňa 	
Test Results: <p style="text-align: center;">Test results are on next pages of the test report.</p> <p><i>Present extended measuring uncertainty is product of standard measuring uncertainty and extension factor of $K = 2$, what is 95 % probability of covering for normal distribution.</i></p>		
Address: VOP-026 Šternberk, s.p. division VTÚPV Vyškov OZT – ZL č. 1103 V. Nejedlého 691 682 03 Vyškov, CZ	Notes: This test report is translation of Czech version of test report No. 6440-455/2010. In the case of difference is valid Czech version of this test report. ¹⁾ This standard is the Czech version of the standard EN 61000-4-5:2006	
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The test results only relates to the EUT. This report shall not be reproduced except in full, without written approval of testing laboratory.

1 LIST OF TEST INSTRUMENTS

Tab. 1 List of test instruments

Inventory No.	Instrument Name
1060277	Generator SRG 501 T
1060306	Coupling network SRF 501
25102	Oscilloscope Tektronix TDS7704B

2 CLIMATIC CONDITIONS DURING THE TESTS

Atmospheric pressure: 98.0 kPa ± 0.05 kPa.
 Environmental temperature: 20 °C ± 0.5 °C.
 Relative humidity: 47 % ± 5 %.

3 TESTED EQUIPMENT

3.1 Name and type

NCP1250 Application Board.

3.2 Configuration

NCP1250 Application Board, resistance load.
 EUT dimensions: 100 mm × 30 mm × 30 mm.

3.3 Activity mode

Operation to resistance load.

3.4 Arrangement

Equipment was supplied from supply network 230 V/50 Hz, cable length 1 m.



Fig. 1 Arrangement of tested equipment



4 TEST RESULTS

4.1 Surge immunity test (basic standard ČSN EN 61000-4-5 ed. 2:2007 (EN 61000-4-5:2006))

Standard ČSN EN 61000-4-5 (EN 61000-4-5) specifies requirements to unidirectional pulse immunity due to switch and atmospheric transient performance overvoltage. Function the test is find reaction of equipment under test if exposed to surge with imperilling level.

4.1.1 Parameters of test pulse

Tab. 2 Parameters of test pulse

No-load voltage wave (1.2/50 μ s)			Short circuit current wave (8/20 μ s)		
U [kV]	T_1 [μ s]	T_2 [μ s]	$I^{1)}$ [kA]	T_1 [μ s]	T_2 [μ s]
6 ± 0.6	1.2 ± 0.36	50 ± 10	3 ± 0.3	8 ± 1.6	20 ± 4
¹⁾ – for $R_g = 2 \Omega$ U – no-load voltage peak value T_1 – rise time			R_g – generator effective output impedance I – short circuit current peak value T_2 – half value time		

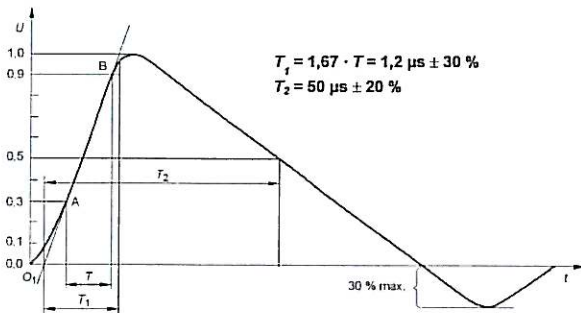


Fig. 2 Waveform of voltage pulse (1.2/50 μ s)

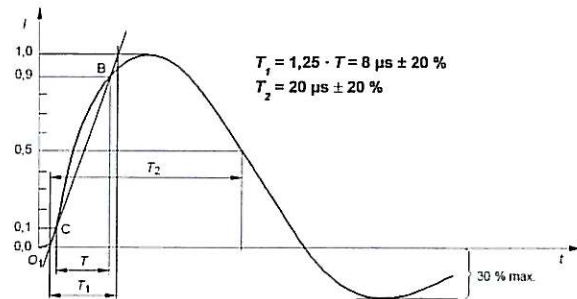


Fig. 3 Waveform of current pulse (8/20 μ s)

4.1.2 Course of the tests and response of EUT

The test pulse applied to supply cable 230 V/50 Hz per the coupling network type SRF 501; to signal cables, direct inject method.

Supply voltage phase angle φ during test pulse application to supply cable: 0° , 90° , 180° , 270° .

Number of applied pulses: 5 positive and 5 negative.





Tab. 3 Test results

Test pulses application point		U [kV]	R_g [Ω]	T_R [s]	Test result			
					0°	90°	180°	270°
Supply cable 230 V/50 Hz	wires L - N	+ 6	2 / 42	60	A/A	A/A	A/A	A/A
		- 6			A/A	A/A	A/A	A/A

A – normal performance within the specification limits defined by manufacturer
 R_g – generator effective output impedance ($\pm 10\%$)
 T_R – repetition rate of pulses (± 2 s)

END OF THE TEST REPORT



TECHNICAL COMMENTARY
on tests results - test report No. 6440-455/2010

Tested equipment: NCP1250 Application Board
serial number: sample

COMPLIED

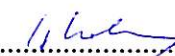
with requirements of standard: ČSN EN 61000-4-5 ed. 2:2007 ¹⁾ (EN 61000-4-5:2006)

Note: ¹⁾ This standard is the Czech version of the standard (EN 61000-4-5:2006)

Technical commentary on tests results has an information character and is beyond scope of testing centre accreditation.

In Vyškov on: 23.9.2010

Responsible man: Ing. Antonín Kolísek


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signature