Security Systems

BOSCH

CE

EC-Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer

Manufacturer

Bosch Sicherheitssysteme GmbH

Address:

Robert-Bosch-Ring 5
85630 Grasbrunn
Germany

Tel.: +49 89 6290-0
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Object of the declaration is/are this/those Bosch branded product(s):

Material No / CTN / description

F.01U.523.516 IUI-SKCU0L-60, F.01U.523.517 IUI-SKCU1L-120,
F.01U.523.519 IUI-SKCU2L-220, F.01U.523.520 IUI-SKCU3L-320,
F.01U.030.038 IUI-SKCU0C-50, F.01U.030.039 IUI-SKCU1C-100,
4.998.021.692C20 SmartKey Reader, 4.998.110 SPE-Blocking Element
4.998.113.948 Smartkey code keypad with integrated reader, 4.998.149.116 SPE 3rd party
F.01U.511.348 IUI-SKK-3S F.01U.511.349 IUI-SKK-1S
F.01U.511.350 IUI-SKK-1 F.01U.511.351 IUI-SKK-OEM

The object of the declaration described above is in conformity with the relevant Community harmonization legislation (ticked below):

	reference number	title
☒	2014/30/EU	EMC Directive (EMC)
☒	1999/5/EC	Radio Equipment and Telecom Terminal Equip (R+TTE)
☒	2011/65/EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

References to the relevant harmonized standards used or references to the specifications in relation to which conformity is declared:

Standard(s) / date

EN50130-4: 2011; EN 61000-6-3: 2011-09, EN300330-1 V1.7.1, EN300330-2 V1.5.1,
EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

Year of affixing the CE-mark: 2007

Signed for and on behalf of: pki, BOSCH, US, F, A, Falk.Herrmann

Digitally signed by pki, BOSCH, US, F, A, Falk.Herrmann
DN: dc=com, dc=bosch, cn=pki, cn=BOSCH, cn=US, cn=F, cn=A, cn=Falk.Herrmann
Date: 2016.06.30 15:32:03 +02'00'

Place, date:

Fairport, Feb 2016

Vice President Business Unit
Printed first name + last name:
Falk Herrmann

R+D Manager Business Unit
Printed first name + last name:
Anis Zribi

Document No.: KOE-F.01U.030.038 *Version:* A3

Annex to CE Declaration of Conformity

Document No.: KOE-F.01U.030.038 , version: A3

Number(s) of test report(s) /date

TR-29273-36962-1 EN 50130-4_2011
TR-29273-36962-2 EN 50130-4_2011
PB2014-11 EN61000-6-3 / 2014
PB2014-15 EN61000-6-3 / 2014
TR-29273-36962-3_EN 300 330-2_2010-02
TR-29273-36962-4 EN 300 330-2_2010-02
S40491-00-00HK_EN60950-1 / 2016-02-03
S40491-00-01HK_EN60950-1 / 2016-02-03
S40491-00-02HK_EN60950-1 / 2014-02

Purpose of testing	**EMC test according to EN 61000-6-3:2007+A1:2011 (DIN EN 61000-6-3:2011-09)**	
Customer	Weissert Thorsten (ST-IN/MKP-EU) Tel: +49 (89) 6290-1159	
Equipment under Test (EUT)	Name of EUT SAP-No.	SmartKey Schalteinrichtung SE100 GLT (fully assembled) F.01U.030.039 (IUI-SKCU1C-100) SmartKey Schalteinrichtung SE50 GLT (partially assembled) F.01U.030.038 Sperrelement 4.998.149.110 Eingabeeinheit 4.998.021.692
	Schematic	STR - F.01U.005.486 - 04
	Layout	INP - F.01U.005.486 - 04
	Software	SW – F.01U.010.735 – 02 Version 1.01
Date of testing	10.01.2014 - 15.01.2014	

Laboratory	Bosch Sicherheitssysteme GmbH Dept. ST-FIR/ENG2 Robert-Bosch-Ring 5+7, 85630 Grasbrunn, Germany
Responsible for testing and report	Bieringer Nikolaus (ST-FIR/ENG2) Tel: +49 (89) 6290-1575
Document	PB-2014-11_Smartkey SE100-GLT+Sperrelement+Eingabeeinheit_EN61000-6-3 (2011).docx
Issue	V1

Summary	RE-Test of a) SmartKey Schalteinrichtung SE100 GLT b) Sperrelement and c) Eingabeeinheit passed.

EMC test according to DIN EN 61000-6-3	**Test**		
	passed	**failed**	**Remarks**
Radiated Emission (Tabelle 1 – Störaussendung – Gehäuse)	x		
Conducted Emission (Tabelle 2 – Störaussendung – Niederspannungs-Wechselstrom-Netzanschluss)			na.
Conducted Emission (Tabelle 3 – Störaussendung – Gleichstrom-Netzanschluss)			na.
Conducted Emission (Tabelle 4 – Störaussendung – Telekommunikations-/Netzanschluss)			na.

20.01.2014

Date

Klaus Bieringer

Test Engineer

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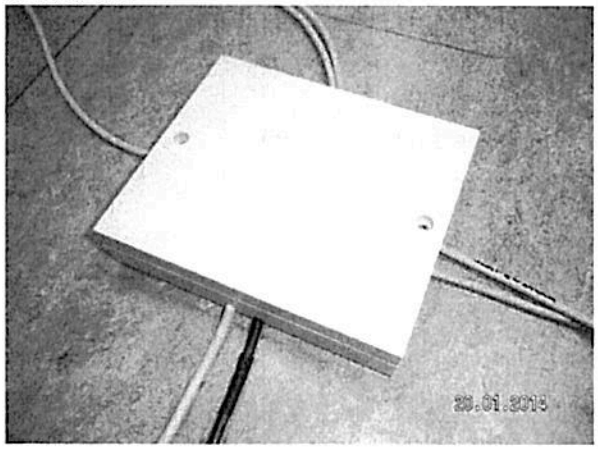
1 Abbreviations

AM	Amplitude modulation
CDN	Coupling-decoupling-network
CE	Conducted emission
CI	Conducted immunity
EMC	Electromagnetic compatibility
EUT	Equipment under test
lin.	linear
LISN	Line-impedance-stabilisation-network
nt.	not tested
na.	not applicable
PK	Peak
PM	Pulse modulation
QP	Quasipeak
RE	Radiated emission
RI	Radiated immunity

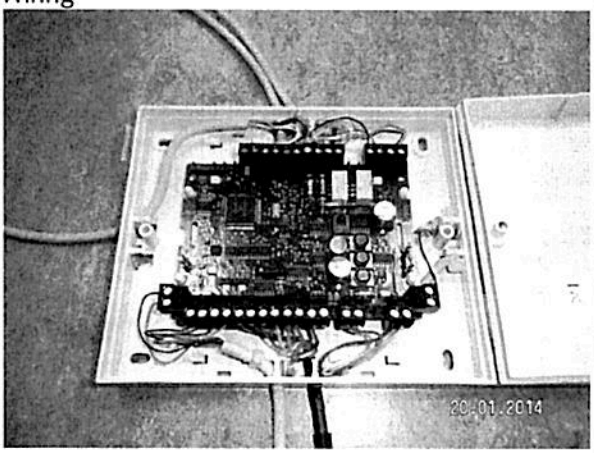
2 Description of EUT

Scharfschalteeinrichtung für Einbruchmeldezentralen
Only the fully assembled version SmartKey Schalteinrichtung SE100 GLT (F.01U.030.039) has been tested because the partially assembled version SmartKey Schalteinrichtung SE50 GLT (F.01U.030.038) has less functionality and therefore could be assumed that radiation is same or less than fully assembled version.

SE100 GLT

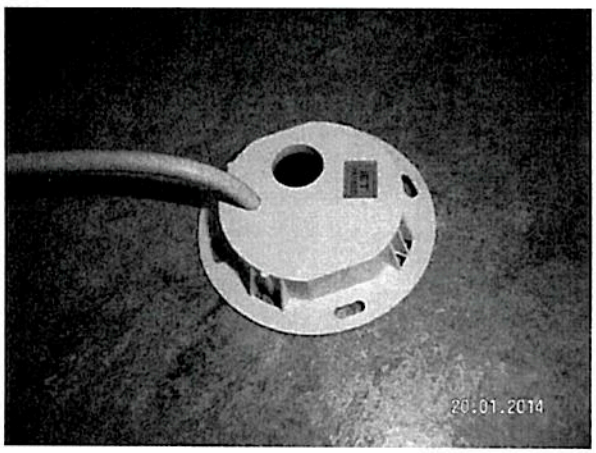


Wiring



Sperrelement 4.998.149.110

Eingabeeinheit 4.998.021.692



3 Mode of operation

EUT in operation mode "armed".

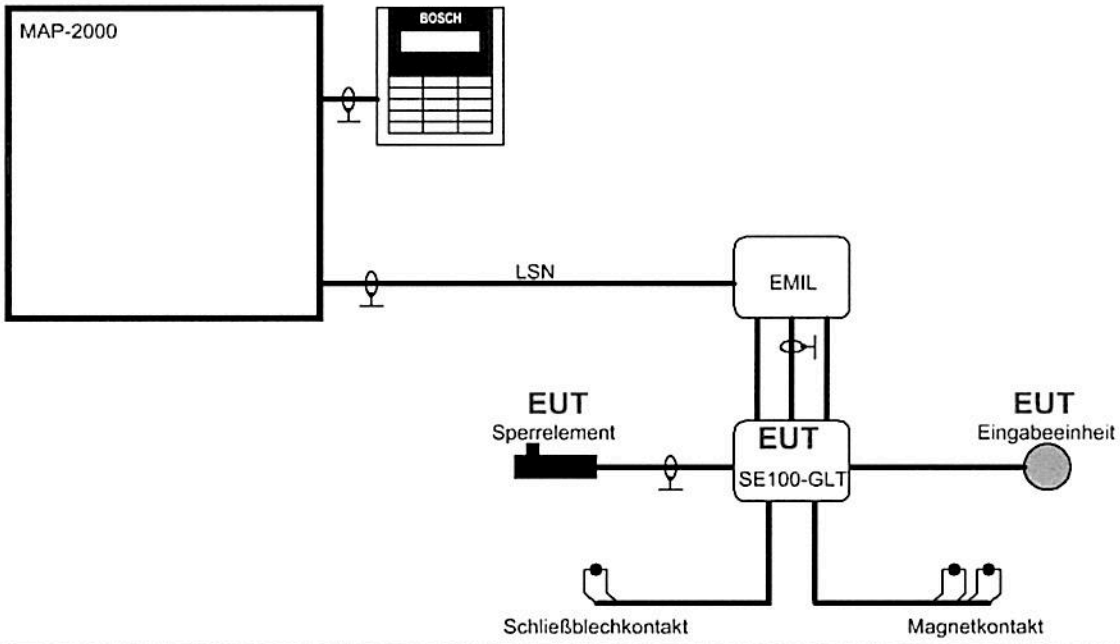
4 Test setup and equipment

Equipment:

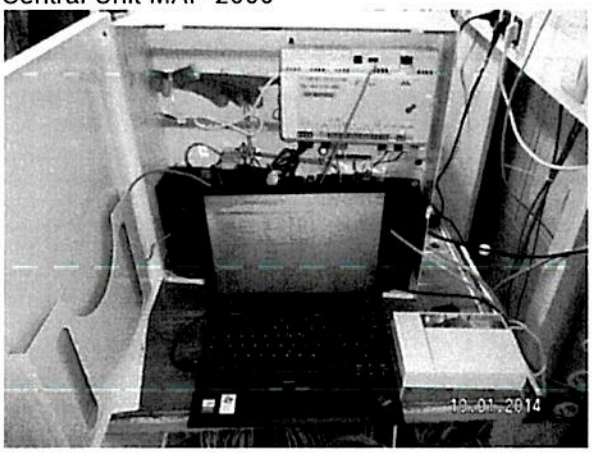
HW: Central Unit: MAP-2000
Keypad
EMIL
Type of wires:
YRD 4x 0,8 (=unshielded cable)
JY(ST)Y 2x2x0,6 (=shielded standard cable for intrusion applications)

SW: Tool for programming: MAP2Para

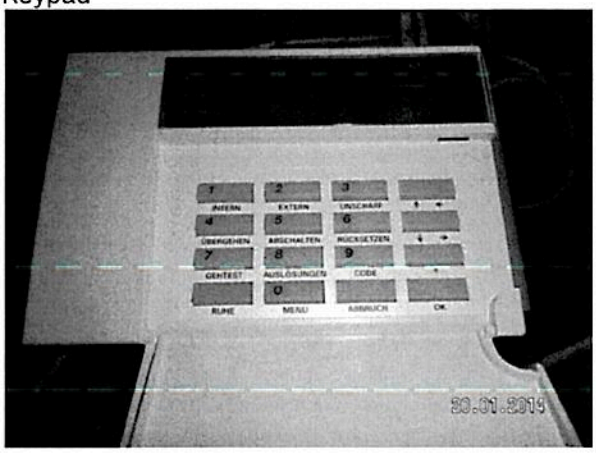
Block diagram:



Central Unit MAP-2000



Keypad



5 Radiated Emission - EN 61000-6-3

5.1 Test equipment:

RF-receiver:	R&S ESCI7	S/N: 1166.5950.07
Antenna:	Chase CBL6111	S/N: 1358

5.2 Test requirements

max. internal frequency of EUT:	test frequency:
$f_{osc-int.}$ < 108 MHz	30 Mhz ... 1 GHz
$f_{osc-int.}$ 108...500 MHz	30 Mhz ... 2 GHz
$f_{osc-int.}$ 500...1000 MHz	30 Mhz ... 5 GHz
$f_{osc-int.}$ >1 GHz	30 Mhz ... 6 GHz

Limit lines:

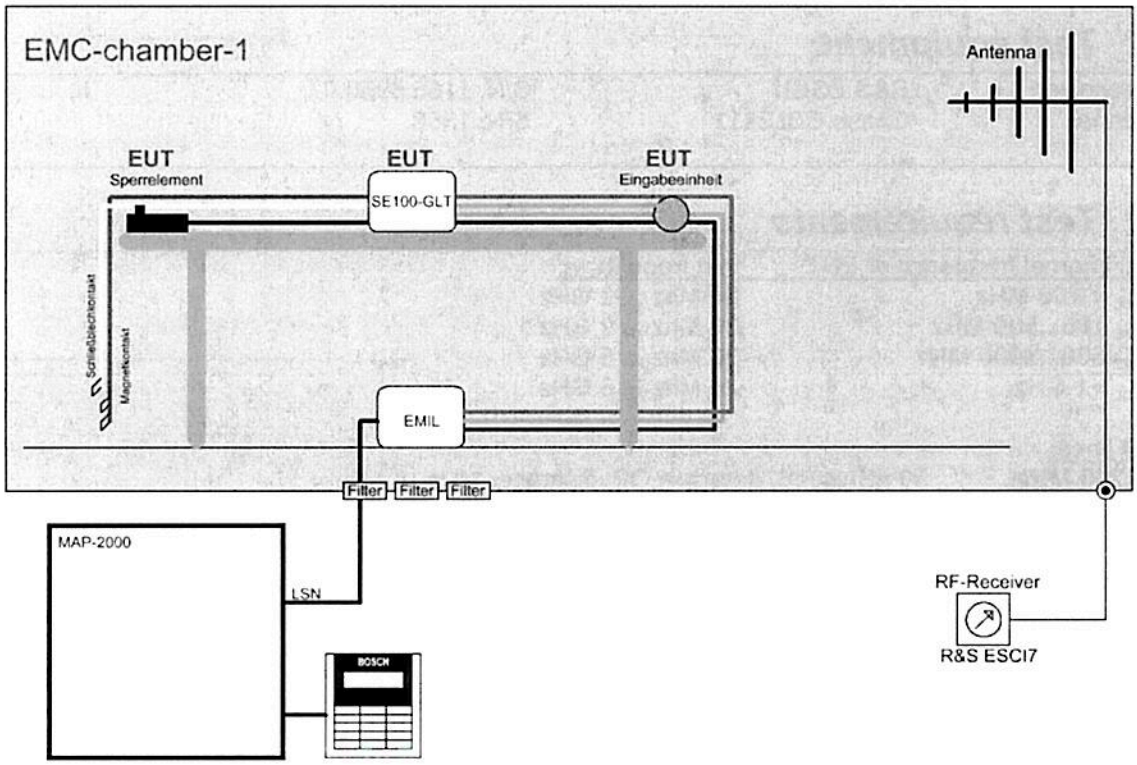
30...230 MHz:	30 dB(µV/m), detector: QP, distance: 10 m
230...1000 MHz:	37 dB(µV/m), detector: QP, distance: 10 m
1...3 GHz:	70 dB(µV/m), detector: Pk, distance: 3m
3...6 GHz:	74 dB(µV/m), detector: Pk, distance: 3m

5.3 Test setup

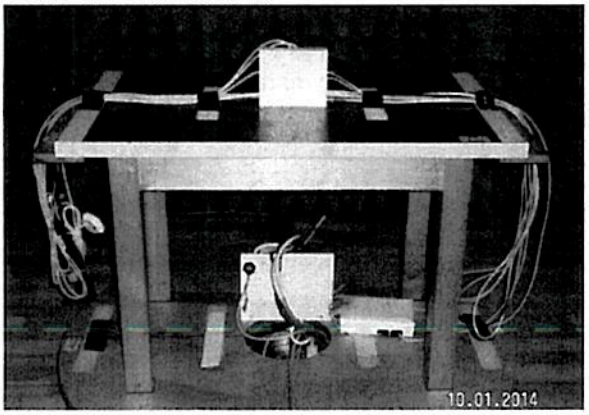
$f_{osc-int.}$ < 108 MHz:

Frequency range:	30...1000 MHz	
Positions of table:	Pre-scan:	angle-variation from 0° to 350°, steps = 10°
	Final-scan:	max-peak-angle of pre-scan max-peak-angle of pre-scan and afterwards ±9°
Height of antenna:	Pre-scan:	fixed height = 1,3 m
	Final-scan:	height-variation from 1,0m to 1,7m, step = 0,1m
Distance antenna<->EUT	3 m (results will be calculated according to distance 10 m)	
Position of EUT:	Front to antenna	
Polarisation of antenna:	Horizontal and vertical	

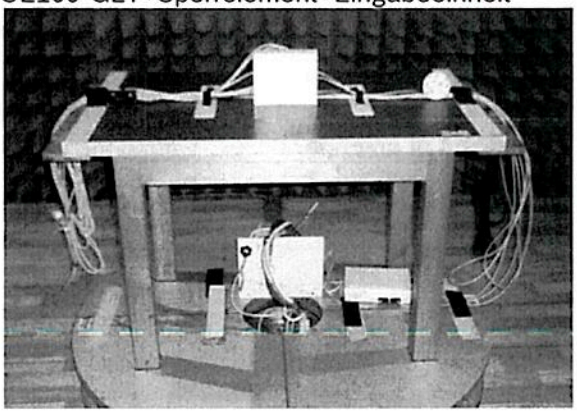
Block diagram:



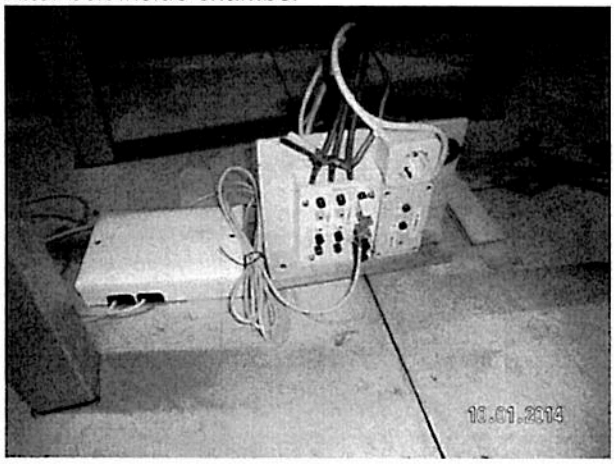
Test setup
SE100-GLT standalone



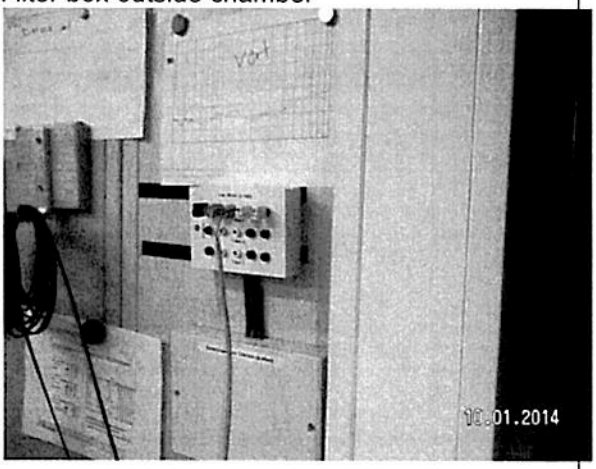
Test setup
SE100-GLT+Sperrelement+Eingabeeinheit



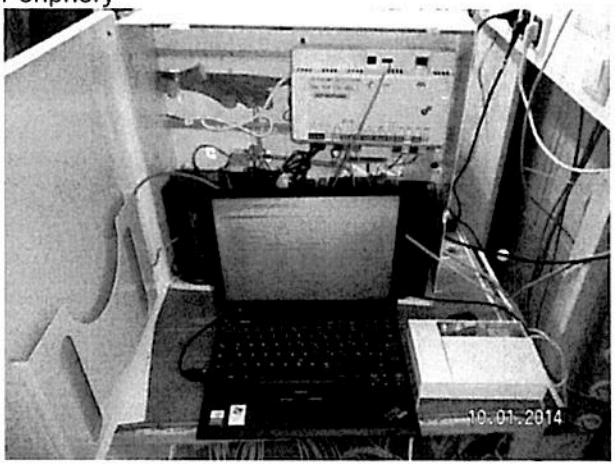
Filter box inside chamber



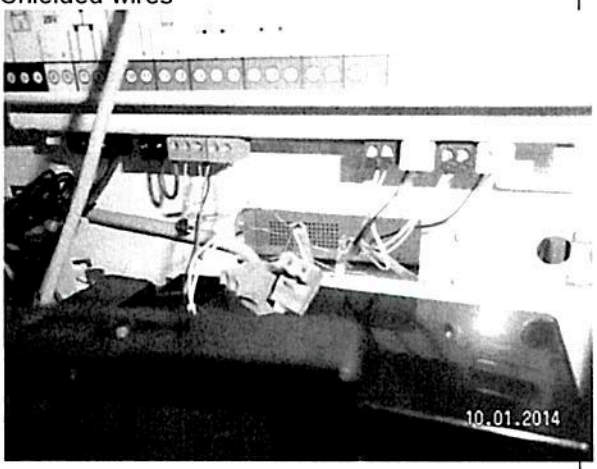
Filter box outside chamber



Periphery



Shielded wires



5.4 Test results 30 MHz...1 GHz

5.5 SE100-GLT standalone

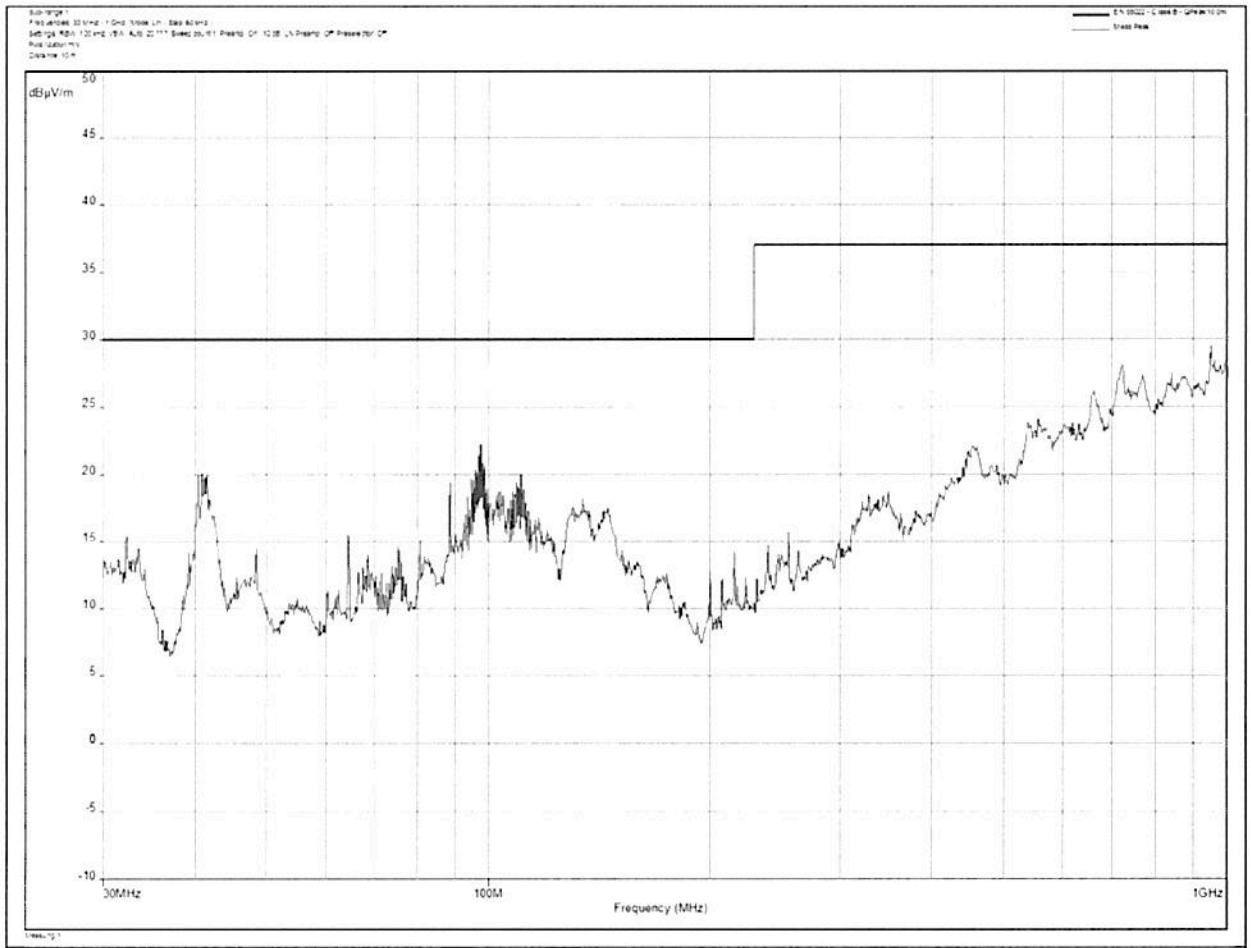


Table final scan (QP)
No suspects found.

Result:	**passed** ✓

5.6 SE100-GLT+Sperrelement+Eingabeeinheit

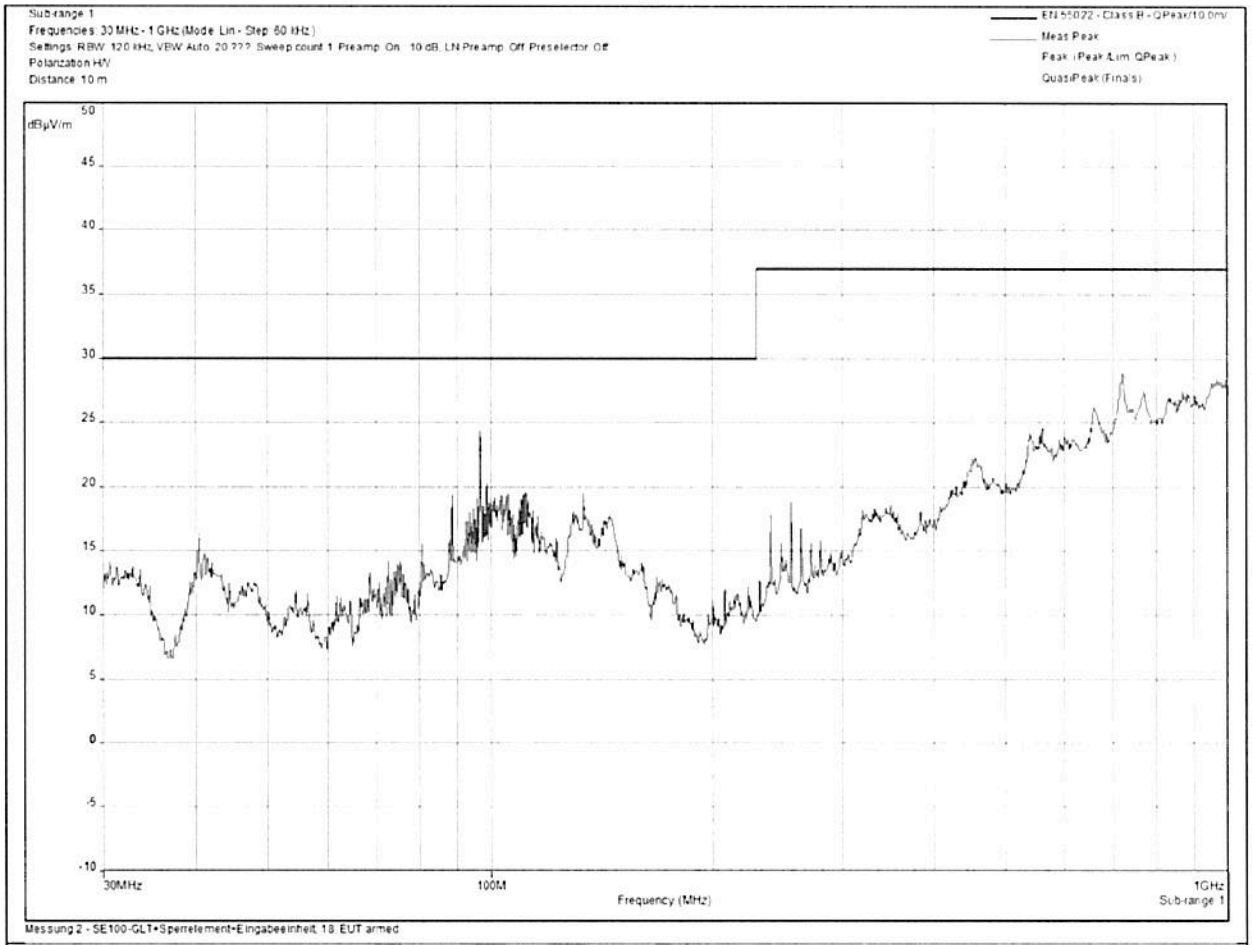


Table final scan (QP)

Frequency (MHz)	SR	QuasiPeak (dBµV/m)	Abstand	Average	Winkel	Höhe	Polarisation
96.78	1	22.8	-7.2	21.67	8	1.19	Vertical

Min. distance to limit 7,2 dB at 96,78 MHz

Result:	**passed** ✓

BOSCH	EMC-Test report	EMV-Labor Bosch ST Grasbrunn
Division ST	Report-no. PB-2014-15	

confidential

Purpose of testing	**EMC test according to EN 61000-6-3:2007+A1:2011 (DIN EN 61000-6-3:2011-09)**	
Customer	Weissert Thorsten (ST-IN/MKP-EU) Tel: +49 (89) 6290-1159	
Equipment under Test (EUT)	Name of EUT SAP-No. Schematic	SmartKey Schalteinrichtung SE320 LSNi (fully assembled) F.01U.523.520 (IUI-SKCU3L-320) STR - F.01U.003969 - 10 SmartKey Schalteinrichtung SE220 LSNi (partly assembled) F.01U.523.519 (IUI-SKCU3L-220) STR - F.01U.003970 - 08 SmartKey Schalteinrichtung SE120 LSNi (partly assembled) F.01U.523.517 (IUI-SKCU3L-120) STR - F.01U.003971 - 08 SmartKey Schalteinrichtung SE60 LSNi (partly assembled) F.01U.523.516 (IUI-SKCU3L-60) STR - F.01U.003972 - 08 Eingabeeinheit mit integrierter Tastatur 4.998.113.948
	Layout	INP - F.01U.287725 - 08
	Software	SW – F.01U.010732 – 06 Version 01.20
Date of testing	30.01.2014 - 31.01.2014	
Laboratory	Bosch Sicherheitssysteme GmbH Dept. ST-FIR/ENG2 Robert-Bosch-Ring 5+7, 85630 Grasbrunn, Germany	
Responsible for testing and report	Bieringer Nikolaus (ST-FIR/ENG2) Tel: +49 (89) 6290-1575	
Document	PB-2014-15_Smartkey SE320 LSNi+Eingabeeinheit-mit-Tastatur_EN61000-6-3 (2011).docx	
Issue	V1	

Summary	RE-Tests of	a) SmartKey Schalteinrichtung SE320-LSNi b) Eingabeeinheit mit Tastatur
	passed.	

EMC test according to DIN EN 61000-6-3	**Test**		
	passed	**failed**	**Remarks**
Radiated Emission (Tabelle 1 – Störaussendung – Gehäuse)	x		
Conducted Emission (Tabelle 2 – Störaussendung – Niederspannungs-Wechselstrom-Netzanschluss)			na.
Conducted Emission (Tabelle 3 – Störaussendung – Gleichstrom-Netzanschluss)			na.
Conducted Emission (Tabelle 4 – Störaussendung – Telekommunikations-/Netzanschluss)			na.

10.02.2014

Date

Klaus Bieringer

Test Engineer

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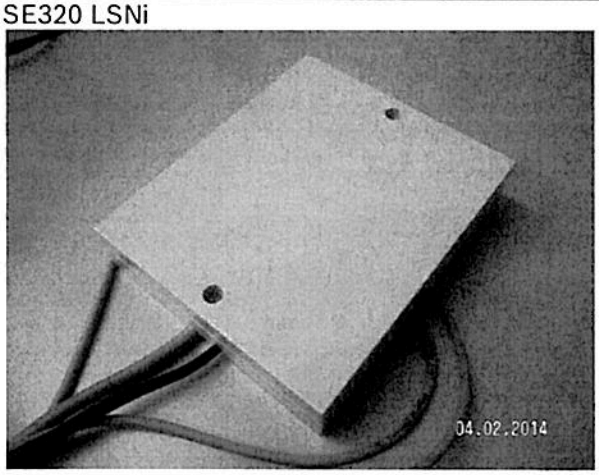
1 Abbreviations

AM	Amplitude modulation
CDN	Coupling-decoupling-network
CE	Conducted emission
CI	Conducted immunity
EMC	Electromagnetic compatibility
EUT	Equipment under test
lin.	linear
LISN	Line-impedance-stabilisation-network
nt.	not tested
na.	not applicable
PK	Peak
PM	Pulse modulation
QP	Quasipeak
RE	Radiated emission
RI	Radiated immunity

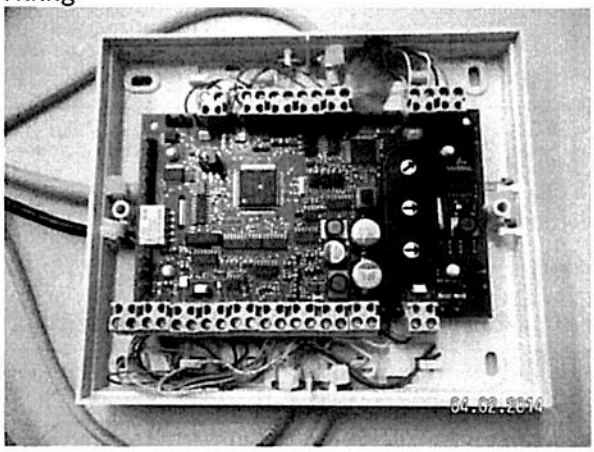
2 Description of EUT

Scharfschalteeinrichtung für Einbruchmeldezentralen.
Only the fully assembled version
SmartKey Schalteinrichtung SE320 LSNi (F.01U.523.520, IUI-SKCU3L-320)
has been tested because the partially assembled versions
SmartKey Schalteinrichtung SE220 LSNi (F.01U.523.519, IUI-SKCU3L-220)
SmartKey Schalteinrichtung SE120 LSNi (F.01U.523.517, IUI-SKCU3L-120)
SmartKey Schalteinrichtung SE60 LSNi (F.01U.523.516, (IUI-SKCU3L-60)
have less functionality and therefore could be assumed that radiation is same or less than fully assembled version.

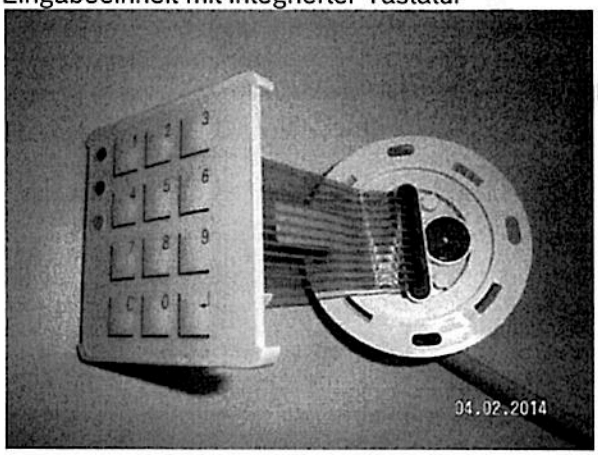
SE320 LSNi

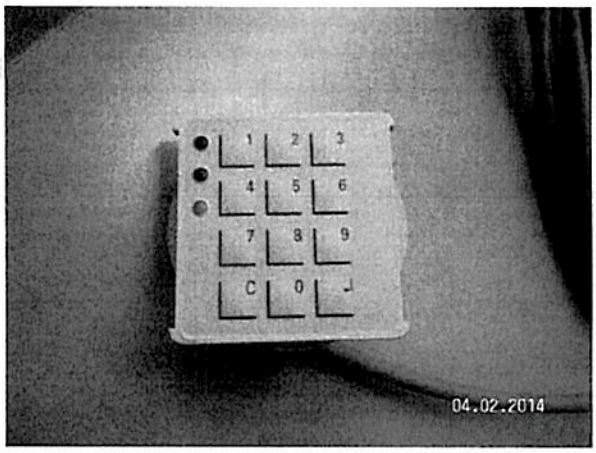


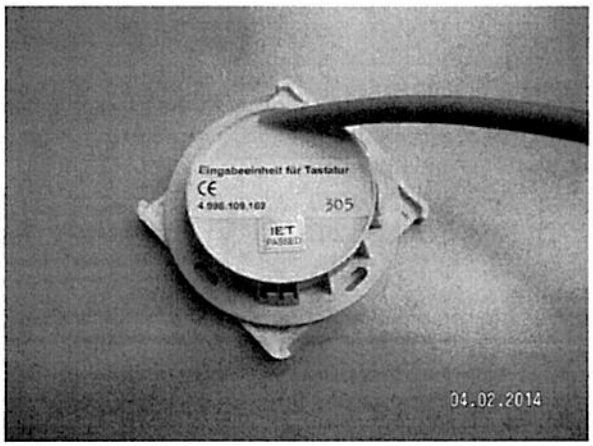
Wiring



Eingabeeinheit mit integrierter Tastatur







3 Mode of operation

EUT in operation mode "armed".

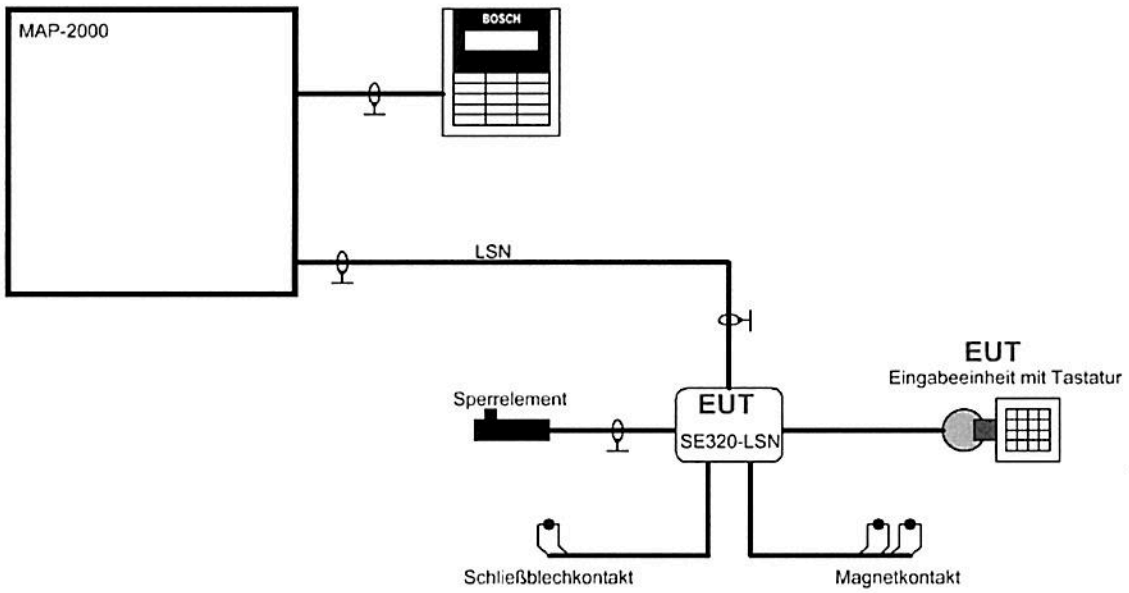
4 Test setup and equipment

Equipment:

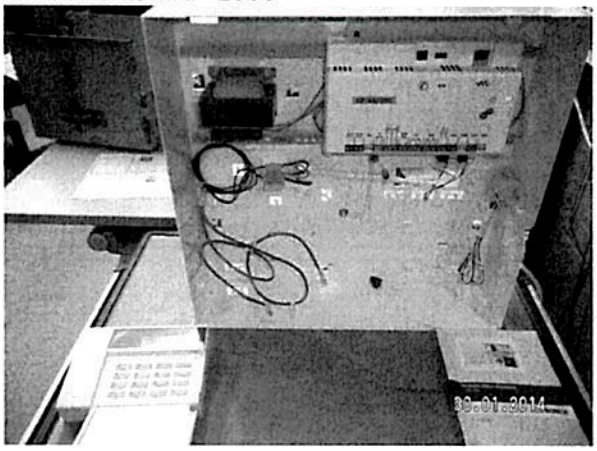
HW: Central Unit: MAP-2000
Keypad
Type of wires:
YRD 4x 0,8 (=unshielded cable)
JY(ST)Y 2x2x0,6 (=shielded standard cable for intrusion applications)

SW: Tool for programming: MAP2Para

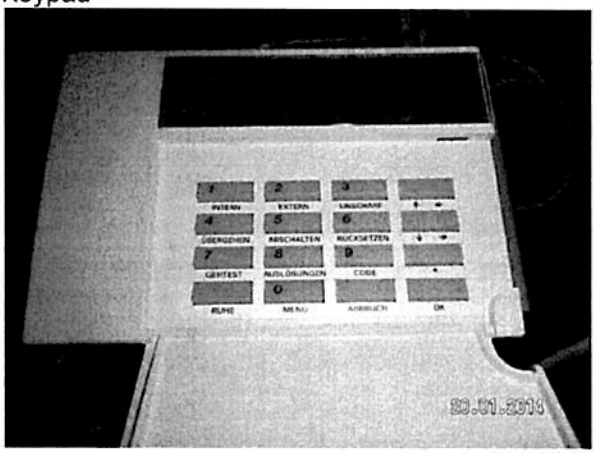
Block diagram:



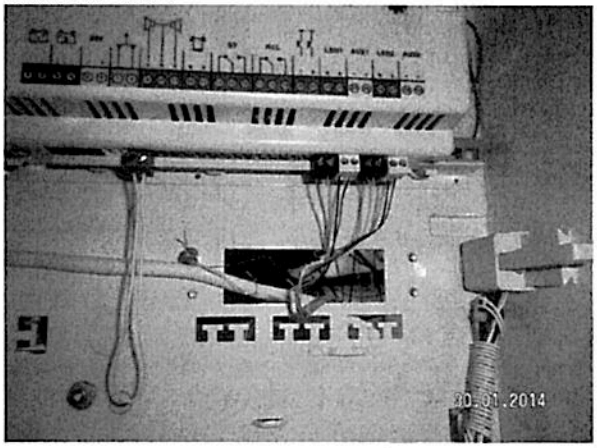
Central Unit MAP-2000



Keypad



Shielded wires



5 Radiated Emission - EN 61000-6-3

5.1 Test equipment:

RF-receiver:	R&S ESCI7	S/N: 1166.5950.07
Antenna:	Chase CBL6111	S/N: 1358

5.2 Test requirements

max. internal frequency of EUT:	test frequency:
$f_{osc\text{-}int.}$ < 108 MHz	30 Mhz ... 1 GHz
$f_{osc\text{-}int.}$ 108...500 MHz	30 Mhz ... 2 GHz
$f_{osc\text{-}int.}$ 500...1000 MHz	30 Mhz ... 5 GHz
$f_{osc\text{-}int.}$ >1 GHz	30 Mhz ... 6 GHz

Limit lines:

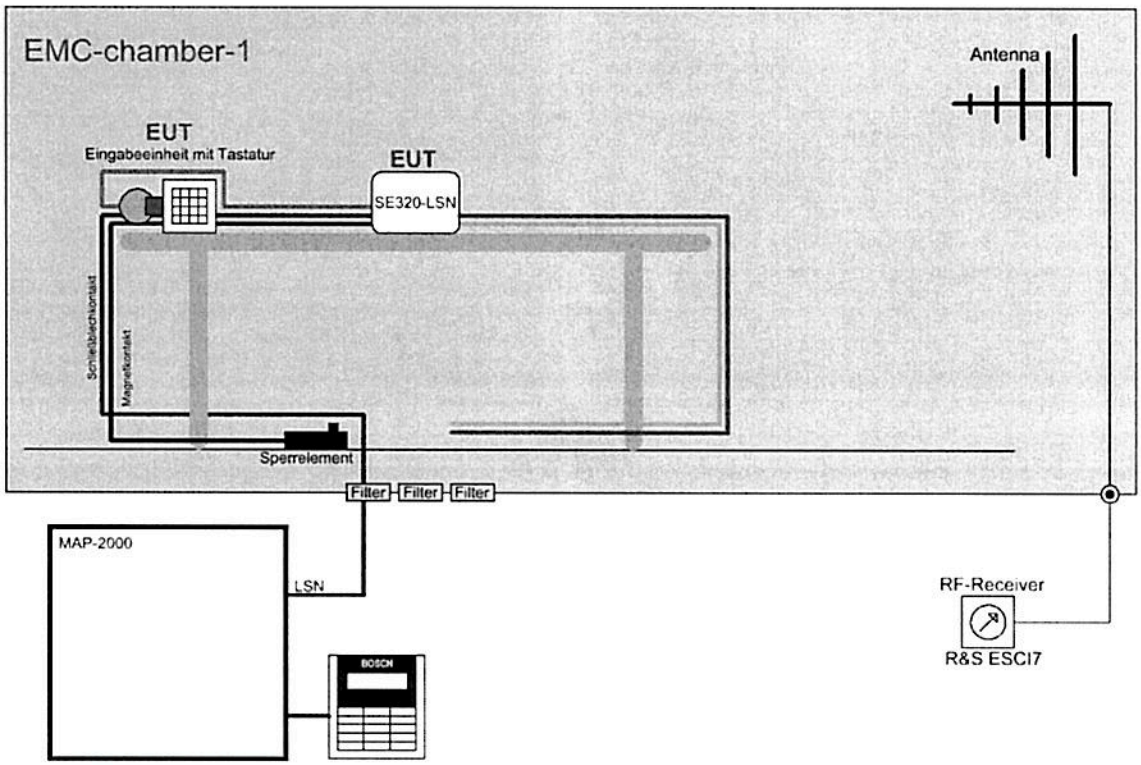
30...230 MHz:	30 dB(µV/m), detector: QP, distance: 10 m
230...1000 MHz:	37 dB(µV/m), detector: QP, distance: 10 m
1...3 GHz:	70 dB(µV/m), detector: Pk, distance: 3m
3...6 GHz:	74 dB(µV/m), detector: Pk, distance: 3m

5.3 Test setup

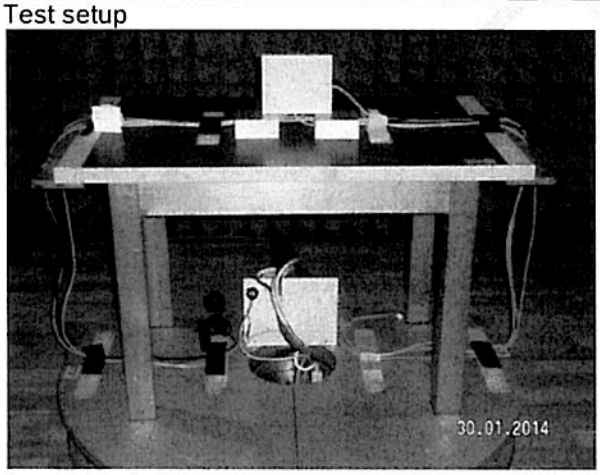
$f_{osc\text{-}int.}$ < 108 MHz:

Frequency range:	30...1000 MHz	
Positions of table:	Pre-scan:	angle-variation from 0° to 350°, steps = 10°
	Final-scan:	max-peak-angle of pre-scan max-peak-angle of pre-scan and afterwards ±9°
Height of antenna:	Pre-scan:	fixed height = 1,3 m
	Final-scan:	height-variation from 1,0m to 1,7m, step = 0,1m
Distance antenna<->EUT	3 m (results will be calculated according to distance 10 m)	
Position of EUT:	Front to antenna	
Polarisation of antenna:	Horizontal and vertical	

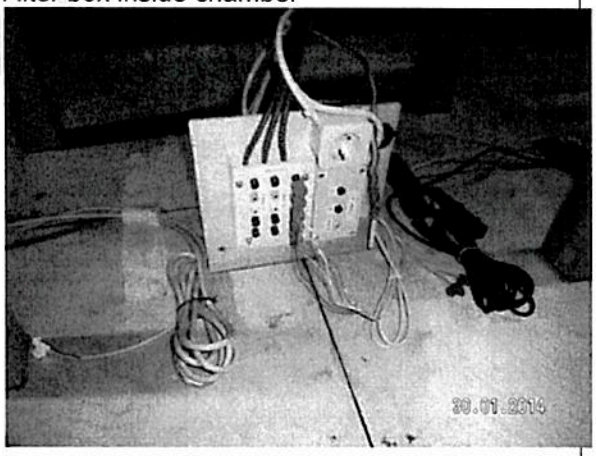
Block diagram:



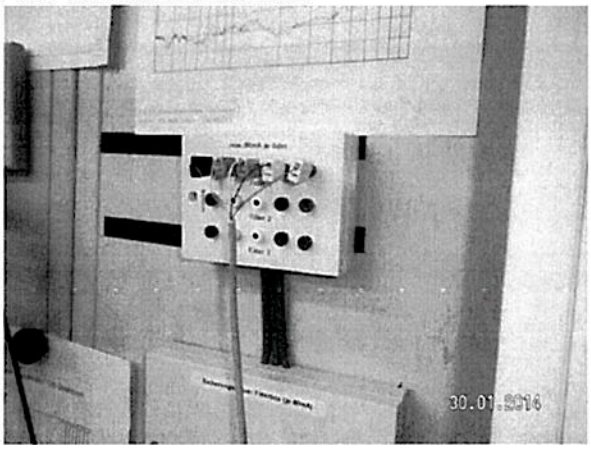
Test setup



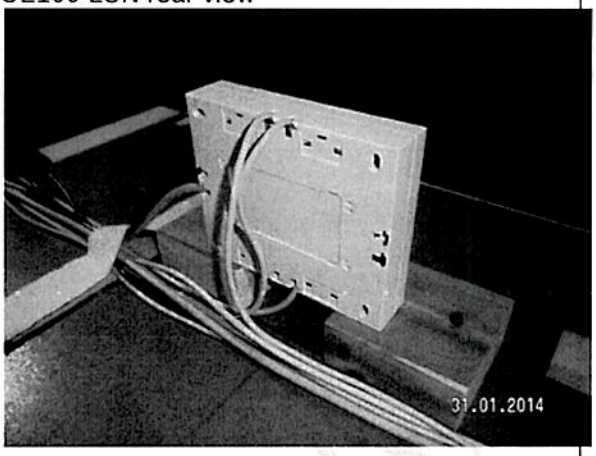
Filter box inside chamber



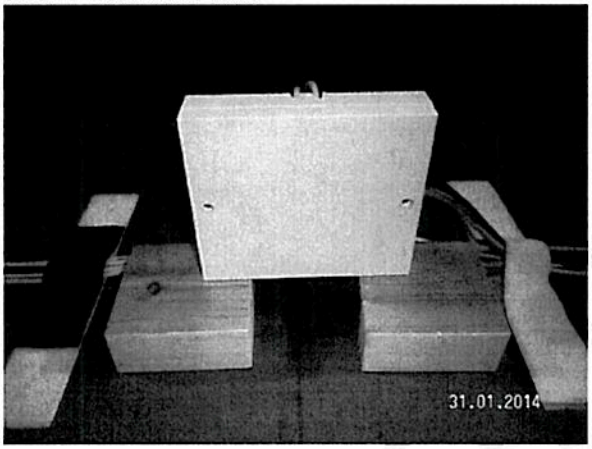
Filter box outside chamber



SE100 LSN rear view



SE320 LSN front view



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5.4 Test results 30 MHz...1 GHz

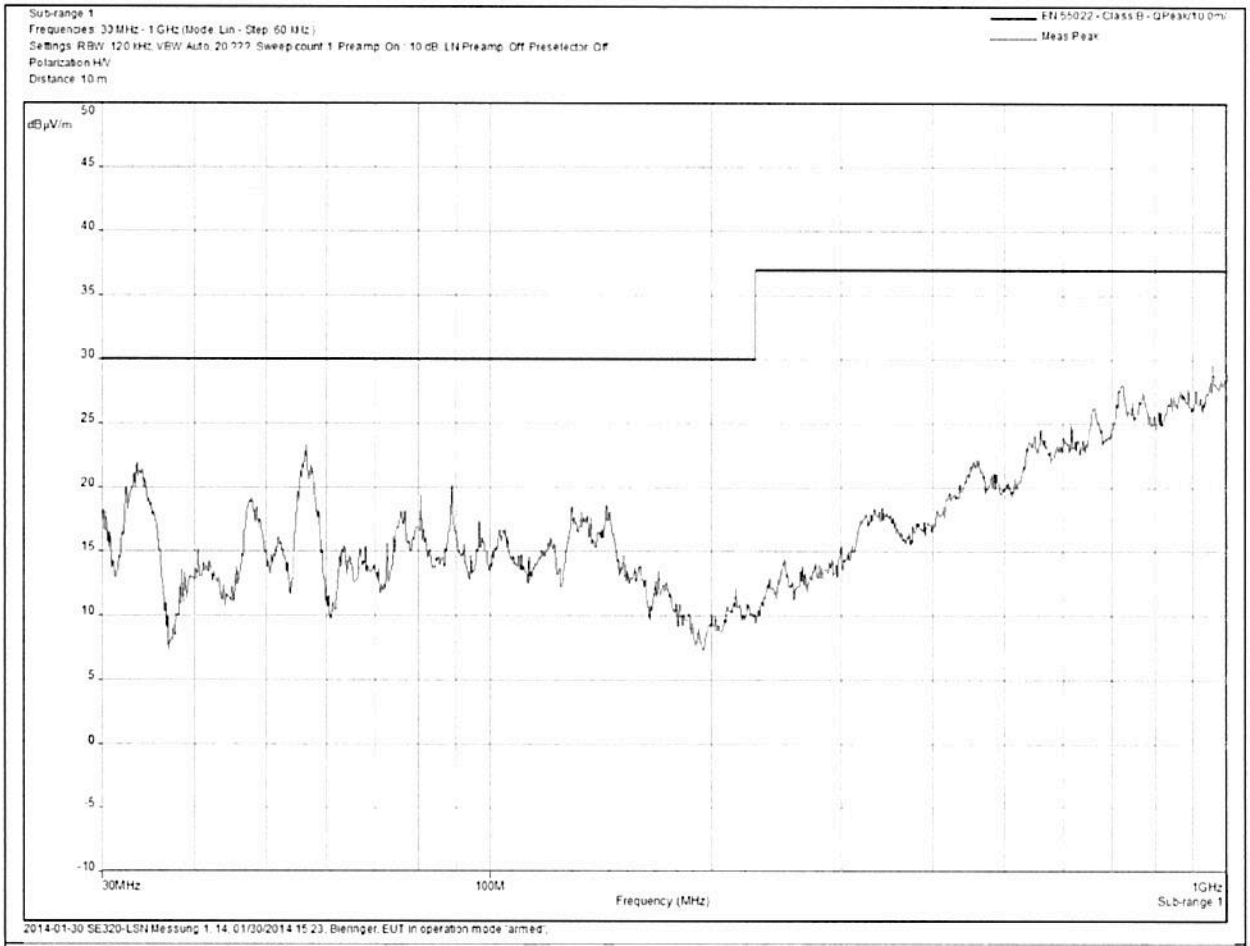

Table final scan (QP)

No suspects found.

Result:	**passed** ✓