

4. 5.5.) Measurement with QP-Detector (30 MHz – 1000 MHz) Setup Nr. 3

Frequency MHz	Level dB μ V/m	Limit dB μ V/m	Margin dB	Exceed- Mark	Height cm	Azimuth deg	Polarization
35,55	27,6	40	12,4		109	45	Vertical
40,0	39,5	40	0,5		100	355	Vertical
44,45	27,2	40	12,8		100	45	Vertical
66,25	13,0	40	27		119	215	Horizontal
106,9	16,1	43,5	27,4		393	213	Horizontal
200,0	39,4	43,5	4,1		100	42	Vertical
208,95	30,4	43,5	13,1		102	150	Vertical
228,55	34,5	46	11,5		100	32	Vertical
231,2	33,5	46	12,5		100	24	Vertical
234,6	23,7	46	22,3		104	0	Vertical
240,0	44,3	46	1,7		102	355	Vertical

4. 5.6.) Measurement with QP- and AV-Detector (1000 MHz – 2000 MHz) Setup Nr. 3

Due to the large margin of the premeasurements to the limit, no final assessment was made.

4. 5.7.) Measurement with QP-Detector (30 MHz – 200 MHz) Setup Nr. 4

Frequency MHz	Level dB μ V/m	Limit dB μ V/m	Margin dB	Exceed- Mark	Height cm	Azimuth deg	Polarization
30,6	24,2	40	15,8		157	152	Vertical
33,45	39,0	40	1,0		101	165	Vertical
36,1	39,4	40	0,6		126	226	Vertical
38,95	38,9	40	1,1		100	257	Vertical
39,65	34,2	40	5,8		101	135	Vertical
45,25	39,1	40	0,9		103	90	Vertical
47,25	30,8	40	9,2		102	316	Vertical
50,45	30,3	40	9,7		156	315	Vertical
54,15	30,0	40	10,0		132	225	Vertical
58,7	38,3	40	1,7		140	45	Vertical
70,9	34,5	40	5,5		100	140	Vertical
74,8	26,3	40	13,7		100	225	Vertical
85,3	18,4	40	21,6		377	135	Horizontal
91,5	23,3	43,5	20,2		175	308	Vertical
92,7	23,3	43,5	20,2		185	290	Vertical
93,1	19,3	43,5	24,2		325	135	Vertical
103,6	22,2	43,5	21,3		100	259	Vertical
104,6	26,6	43,5	16,9		139	278	Vertical
150,0	36,4	43,5	7,1		100	225	Horizontal

4. 5.8.) Measurement with QP-Detector (20 MHz – 1000 MHz) Setup Nr. 4

Frequency MHz	Level dB μ V/m	Limit dB μ V/m	Margin dB	Exceed- Mark	Height cm	Azimuth deg	Polarization
200,0	34,3	43,5	9,2		157	8	Horizontal
221,7	34,7	46	11,3		139	4	Horizontal
233,3	39,0	46	7		129	0	Vertical
266,65	38,4	46	7,6		154	0	Vertical
353,15	37,8	46	8,2		103	345	Horizontal
375,0	40,7	46	5,3		100	10	Vertical
400,0	40,1	46	5,9		112	0	Vertical
450,0	42,4	46	3,6		101	11	Vertical
600,0	41,6	46	4,4		106	11	Horizontal
625,0	41,8	46	4,2		104	27	Horizontal

4. 5.9.) Measurement with QP- and AV-Detector (1000 MHz – 2000 MHz) Setup Nr. 4

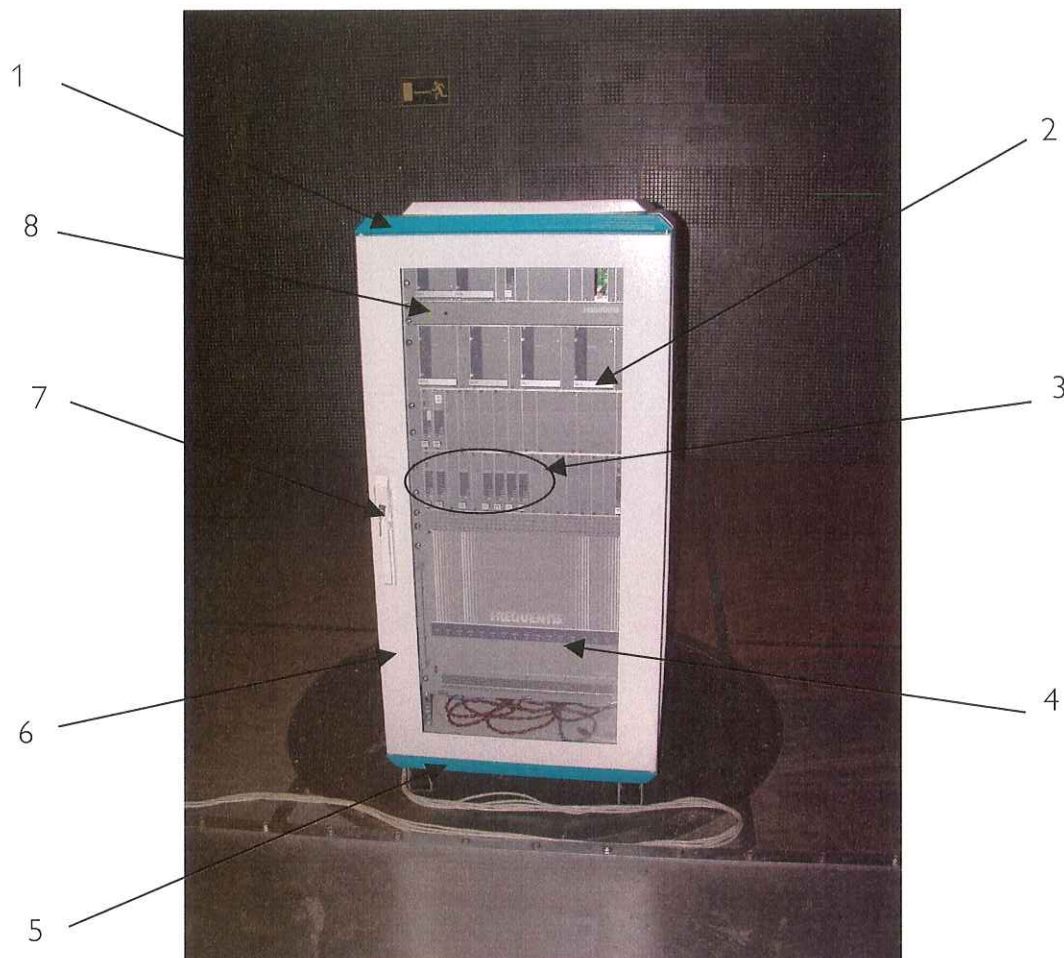
Due to the large margin of the premeasurements to the limit, no final assessment was made.

4. 6.) Electrostatic discharge requirements (ESD) cabinet

Type of test	charging voltage	Basic standard	Test set-up	Comment	Performance criteria
Electrostatic discharge Air discharge	8 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B
Electrostatic discharge Contact discharge	6 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B

Operating mode	Test positions	Criteria of compliance
Normal operation	The 8 test positions are shown in the following graphic.	Before, during and after the test the equipment shall operate as intended, no loss of function or loss of voice links shall occur. Short disturbances on the voice link during the test are allowed. After the test there shall be no degradation of performance.

Test positions for ESD on the cabinet



Test result for the cabinet

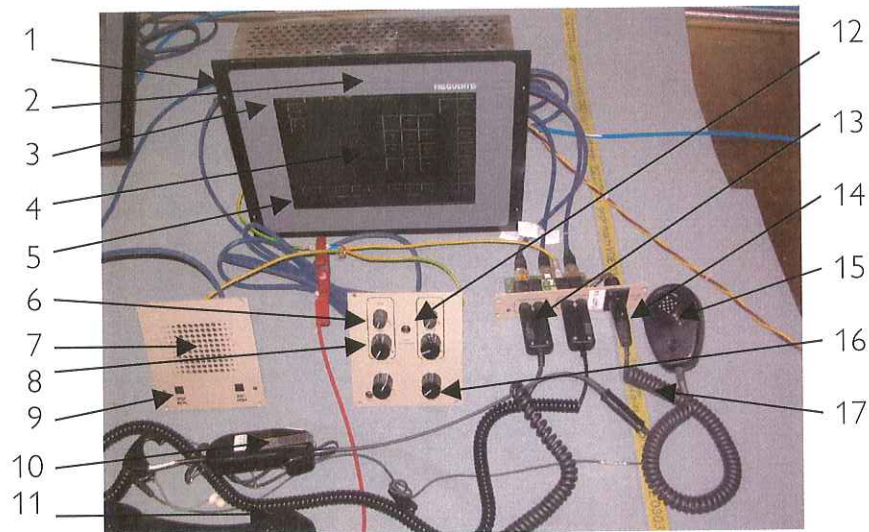
Test position	Charging voltage	Type of discharge	Positive discharge	Negative discharge
1	8 kV	air	OK	OK
2	6 kV	contact	OK	OK
3	8 kV	air	OK	OK
4	6 kV	contact	OK	OK
5	8 kV	air	OK	OK
6	6 kV	contact	OK	OK
7	6 kV	contact	OK	OK
8	6 kV	contact	OK	OK
<div>OK</div> <div>NOK</div> <div>EUT passed</div> <div>EUT failed</div>				

4. 7.) Electrostatic discharge requirements (ESD) EPOSA 04.40

Type of test	charging voltage	Basic standard	Test set-up	Comment	Performance criteria
Electrostatic discharge Air discharge	20 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B
Electrostatic discharge Contact discharge	8 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B

Operating mode	Test positions	Criteria of compliance
Normal operation	The 17 test positions are shown in the following graphic.	Before, during and after the test the equipment shall operate as intended, no loss of function or loss of voice links shall occur. Short disturbances on the voice link during the test are allowed. After the test there shall be no degradation of performance.

Test positions for ESD on the EPOSA 04.40



Test result for the EPOSA 04.40

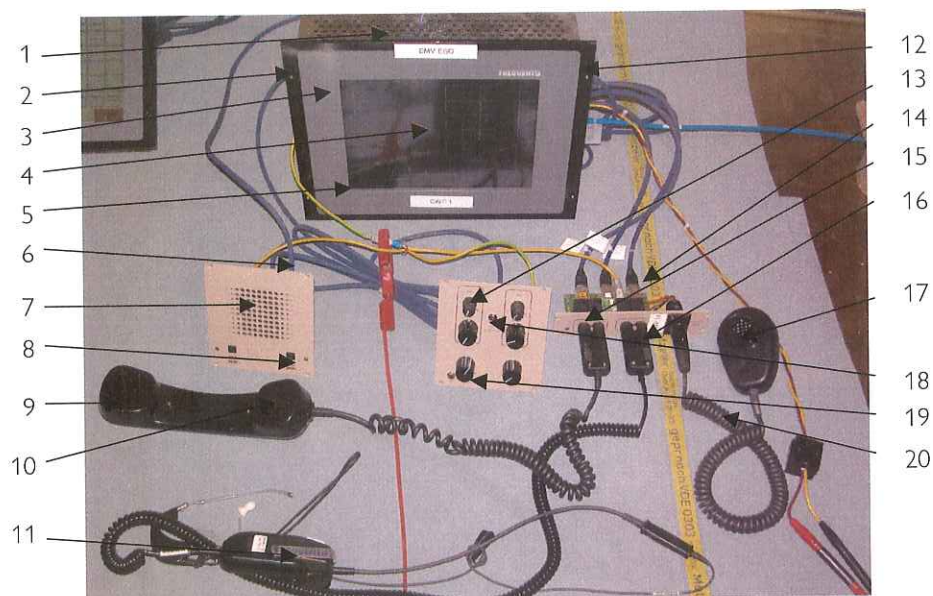
Test position	Charging voltage	Type of discharge	Positive discharge	Negative discharge
1	8 kV	contact	OK	OK
2	20 kV	air	OK	OK
3	20 kV	air	OK	OK
4	20 kV	air	OK	OK
5	20 kV	air	OK	OK
6	20 kV	air	OK	OK
7	20 kV	air	OK	OK
8	20 kV	air	OK	OK
9	20 kV	air	OK	OK
10	20 kV	air	OK	OK
11	20 kV	air	OK	OK
12	20 kV	air	OK	OK
13	20 kV	air	OK	OK
14	20 kV	air	OK	OK
15	20 kV	air	OK	OK
16	20 kV	air	OK	OK
17	20 kV	air	OK	OK
<div>OK</div> <div>NOK</div> <div>EUT passed</div> <div>EUT failed</div>				

4. 8.) Electrostatic discharge requirements (ESD) EPOSA 04.50

Type of test	charging voltage	Basic standard	Test set-up	Comment	Performance criteria
Electrostatic discharge Air discharge	20 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B
Electrostatic discharge Contact discharge	8 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B

Operating mode	Test positions	Criteria of compliance
Normal operation	The 20 test positions are shown in the following graphic.	Before, during and after the test the equipment shall operate as intended, no loss of function or loss of voice links shall occur. Short disturbances on the voice link during the test are allowed. After the test there shall be no degradation of performance.

Test positions for ESD on the EPOSA 04.50



Test result for the EPOSA 04.50

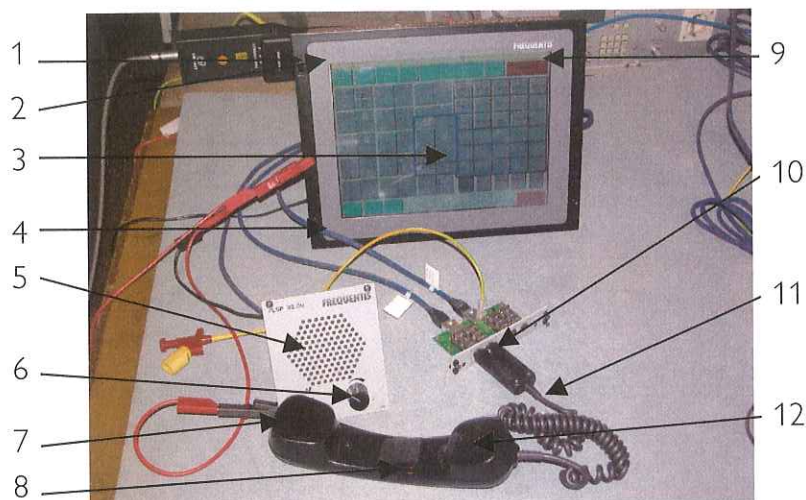
Test position	Charging voltage	Type of discharge	Positive discharge	Negative discharge
1	8 kV	contact	OK	OK
2	8 kV	contact	OK	OK
3	20 kV	air	OK	OK
4	20 kV	air	OK	OK
5	20 kV	air	OK	OK
6	20 kV	air	OK	OK
7	20 kV	air	OK	OK
8	20 kV	air	OK	OK
9	20 kV	air	OK	OK
10	20 kV	air	OK	OK
11	20 kV	air	OK	OK
12	20 kV	air	OK	OK
13	20 kV	air	OK	OK
14	8 kV	contact	OK	OK
15	20 kV	air	OK	OK
16	20 kV	air	OK	OK
17	20 kV	air	OK	OK
18	20 kV	air	OK	OK
19	20 kV	air	OK	OK
20	20 kV	air	OK	OK
<div>OK</div> <div>NOK</div> <div>EUT passed</div> <div>EUT failed</div>				

4. 9.) Electrostatic discharge requirements (ESD) cPOS 02.00 + cPOS 02.10

Type of test	charging voltage	Basic standard	Test set-up	Comment	Performance criteria
Electrostatic discharge Air discharge	8 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B
Electrostatic discharge Contact discharge	6 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B

Operating mode	Test positions	Criteria of compliance
Normal operation	The 12 test positions are shown in the following graphic.	Before, during and after the test the equipment shall operate as intended, no loss of function or loss of voice links shall occur. Short disturbances on the voice link during the test are allowed. After the test there shall be no degradation of performance.

Test positions for ESD on the cPOS 02.00 + cPOS 02.10



Test result for the cPOS 02.00 + cPOS 02.10

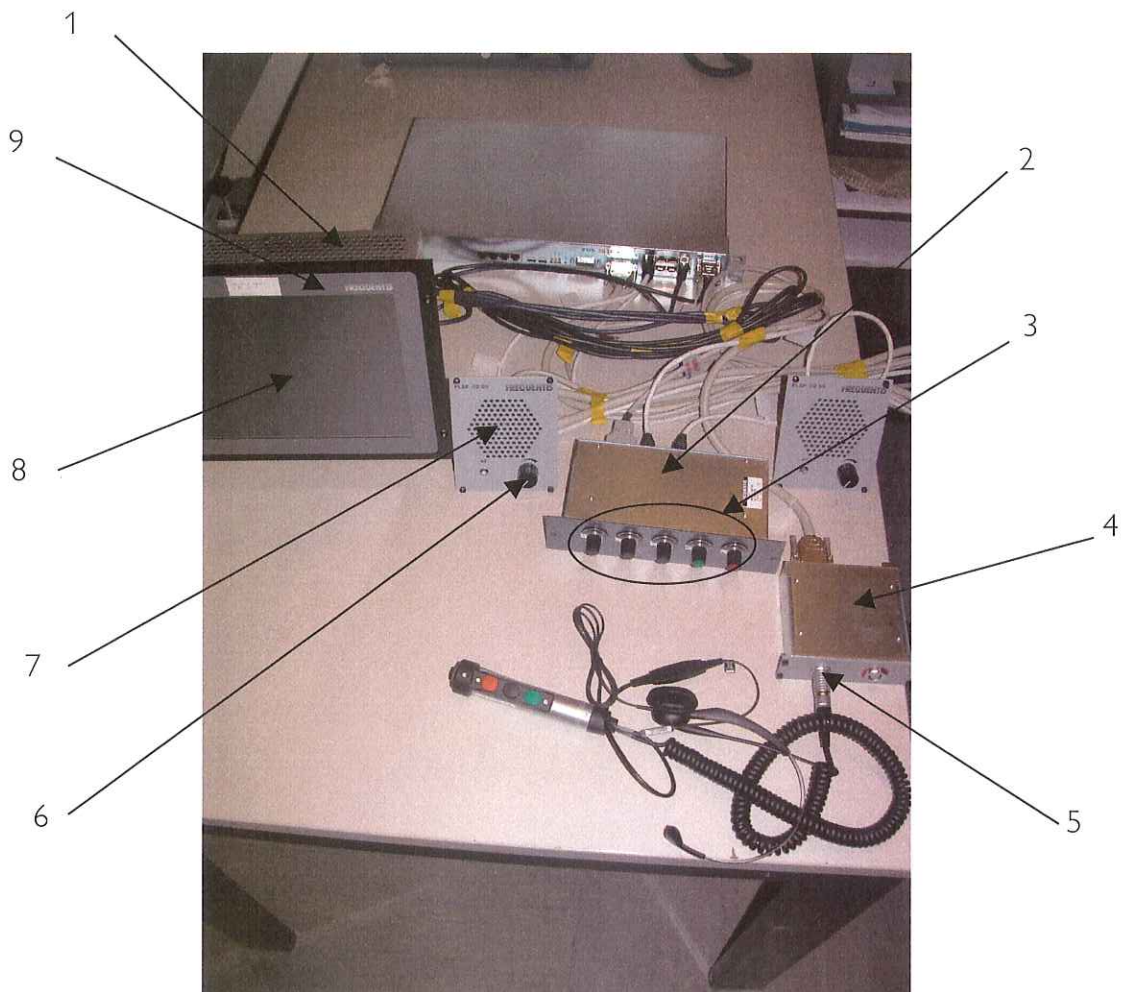
Test position	Charging voltage	Type of discharge	Positive discharge	Negative discharge
1	6 kV	contact	OK	OK
2	8 kV	air	OK	OK
3	8 kV	air	OK	OK
4	8 kV	air	OK	OK
5	8 kV / 20 kV	air	OK	OK
6	8 kV / 20 kV	air	OK	OK
7	8 kV	air	OK	OK
8	8 kV	air	OK	OK
9	8 kV	air	OK	OK
10	8 kV	air	OK	OK
11	8 kV	air	OK	OK
12	8 kV	air	OK	OK
<div>OK</div> <div>NOK</div> <div>EUT passed</div> <div>EUT failed</div>				

4. 10.) Electrostatic discharge requirements (ESD) PP 04.H.64

Type of test	charging voltage	Basic standard	Test set-up	Comment	Performance criteria
Electrostatic discharge Air discharge	8 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B
Electrostatic discharge Contact discharge	6 kV charging voltage	EN 61000-4-2	EN 61000-4-2		B

Operating mode	Test positions	Criteria of compliance
Normal operation	The 9 test positions are shown in the following graphic.	Before, during and after the test the equipment shall operate as intended, no loss of function or loss of voice links shall occur. Short disturbances on the voice link during the test are allowed. After the test there shall be no degradation of performance.

Test positions for ESD on the PP 04.H.64



Test result for the PP 04.H.64

Test position	Charging voltage	Type of discharge	Positive discharge	Negative discharge
1	6 kV	contact	OK	OK
2	6 kV	contact	OK	OK
3	8 kV	air	OK	OK
4	6 kV	contact	OK	OK
5	6 kV	contact	OK	OK
6	8 kV / 20 kV	air	OK	OK
7	8 kV / 20 kV	air	OK	OK
8	8 kV	air	OK	OK
9	8 kV	air	OK	OK
<div>OK</div> <div>NOK</div> <div>EUT passed</div> <div>EUT failed</div>				

4. 11.) Radiated electromagnetic field requirements

Type of test	Test parameters	Basic standards	Test set-up	Comment	Performance criteria
Radiated electromagnetic field 19" cabinet	80 MHz – 1000 MHz Fieldstrength: 10 V/m Modulation 80%/1 kHz AM Polarisation H/V Stepsize 1%	EN 61000-4-3	EN 61000-4-3		A

Operating mode	Criteria of compliance
Setup Nr. 5 Setup Nr. 6 Setup Nr. 7 (see appendix 4) For the operator positions: Only the handset was connected (No headset)	Before, during and after the test the equipment shall operate as intended. A minimum SNR of the voice link of 20 dB shall be maintained. After the test there shall be no degradation of performance.

Test report number:
M/EMV-06/144

Date:
12.04.2006

Test result

Type of test	Test parameters	Performance criteria	Result
Radiated electromagnetic field 19" cabinet	80 MHz – 1000 MHz Fieldstrength: 10 V/m Modulation 80%/1 kHz AM Polarisation H/V Stepsize 1%	A	OK
OK EUT passed NOK EUT failed			