Augsburg, December, 20th. 2010

T E S T R E P O R T

No. CE-E 2181/045/10
for
KISS 4U Q57
SN: prototype
Art.N.: 2-A0FE-2xxx

Applicant

KEC GmbH

Carlos Queiroz
Oskar-von-Miller-Str. 1
85386 Eching

Purpose of testing:

To show compliance with

EN 55011 Class A (Emission), EN 61000-3-2, EN 61000-3-3 and EN 61000-6-2 (Immunity)

Summary:

The tested sample is in compliance with the requirements set forth in EN 55011 Class A, EN 61000-3-2, EN 61000-3-3 and EN 61000-6-2.

Andreas Liebert
Technical Manager

Deutscher Akkreditierungs Rat
DAR
DAT-PL-094/99-02

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1) Administrative Data

Equipment Under Test:	KISS 4U Q57
	Art.N.: 2-A0FE-2xxx
Options / Accessories:	As delivered 3 Power supplies
Serial Number:	SN: Prototype
Version of EUT:	As delivered

Applicant	KEC GmbH
	Carlos Queiroz Oskar-von-Miller-Str. 1 85386 Eching
Contact Person:	Mr. Schiege
Ordernumber:	045/059/10
Manufacturer:	KEC GmbH
	Carlos Queiroz Oskar-von-Miller-Str. 1 85386 Eching

Receipt of EUT:	09/15/2010
Date of Test:	09/15/2010 – 11/29/2010
Note:	

Responsible for Testing:	A. Liebert
Responsible for Test Report	A. Liebert

2) Performed Tests and Results

Test	Result	Note
EN 55011 Class A		
Conducted Emission 0,15 – 30 MHz	Limit kept	
Radiated Emission 30 MHz - 1000 MHz	Limit kept	
EN 61000-3-2 and EN 61000-3-3		
Harmonic current emission	Limit kept	Class D
Flicker	Limit kept	
EN 55024		**Industrial Requirements**
Electrostatic discharge, EN 61000-4-2	Test passed	AD +/-8kV CD +/-4kV
Electrical fast transient/burst,EN 61000-4-4	Test passed	Signal 1 kV Power 2 kV
Conducted, radio frequency, EN 61000-4-6	Test passed	10 V
Radiated, radio frequency, EN 61000-4-3	Test passed	10 V/m
Voltage dips, short interruptions and voltage variations, EN 61000-4-11	Test passed	
Surge, EN 61000-4-5	Test passed	1 kV DM 2 kV CM
Power Frequency Magnetic Field Immunity Test, EN 61000-4-8	Not tested	30 A/m, 50/60 Hz

2.1 Measurement Uncertainty Values (UKAS Lab 34 Edition 1, 2002-08)

2.1.1 Radio interference Emission Testing

Test	k	Expanded Uncertainty	Note
Conducted Emission			
9 kHz – 150 kHz	2	+/- 3,96 dB	1
150 kHz – 30 MHz	2	+/- 3,59 dB	1
Radiated Emission			
30 MHz – 1000 MHz	2	+/- 5,18 dB	1
Harmonic Current Emission			2
Voltage Changes,Voltage Fluctuations and Flicker			2

2.1.2 Immunity Testing

Test	k	Expanded Uncertainty	Note
Electrostatic Discharge			2
Radiated RF-Field	2	+/- 1,39 dB	1
Electrical Fast Transients (Burst)			2
Surges			2
Conducted Disturbances induced by RF-Fields	2	+/- 2,5 dB	1
Power Frequency Magnetic Field			2
Voltage Dips,Short Interruptions and Voltage Variations			2

2.1.3 Notes

Note 1: The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k = 2, providing a level of confidence of p = 95 %

Note 2: It has been demonstrated, that the used test equipment meets the specified requirements in the standard with at least a 95 % confidence.

Operating Mode and Configuration of EUT

Operating Mode
Simulated standard operation with customer's test program and equipment

Configuration of Cables of EUT

VGA	KEC 0586 + 0633
DVI	KEC 0671 + 0670 + 0618
Seriell	KEC 0525
USB	KEC 0637 + 0651 + 0702
Network cable	KEC 0569 + 0582
Audio	KEC 0619 Shielded, length 1,5m
Power cable 4 x GND	Unshielded, length 1,8m unshielded, length 2m

Configuration of Peripherals of EUT

Keyboard	Cherry RS 6000 M	SN: G0007115M322
Mouse PS2	Microsoft Mouse Port Compatible Mouse 37963	SN: 0350868
Mouse USB	KEC 0716+0717	
Mouse Serial	Microsoft Serial/PS2 Compatible Mouse	SN: 0458732
Headset	KEC 0604	
Modem	KEC 030	
LCD Display	KEC 0693	
PS LCD Display	KEC 0695	
LCD Display	KEC 0688	
PS LCD Display	KEC 0690	
USB HDD	KEC 0640	
PS USB HDD	KEC 0638	

Description of Equipment Under Test

KISS 4 U Q57
Prototype

	Model	SN
PS 1	FSP 400-60 PFP P/N:9 PA4004008	S0141050055
PS 2	Seasonic SS-650 HT Act.PFC F3	CO 08A72450891 Rev.:B3
PS 3	EMACS MRW-5500V4V P/N: B00MRW050V002	191807106 26E940086

Modifications to improve the EMC behaviour of the EUT

-none-

4) Referenced Regulations (Version:1/2010)

X applicable standards

	EN 61000-6-1:2007	Electromagnetic compatibility - Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments
X	**EN 61000-6-2: 2005**	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
	EN 61000-6-3:2007	Electromagnetic compatibility - Part 6-3: Generic standards – Emission standard for residential, commercial and light industrial environments
X	**EN 61000-6-4:2007**	Electromagnetic compatibility - Part 6-4: Generic standards – Emission standard for industrial environments
X	**EN 55011: 2007**	Industrial, scientific and medical (ISM) radio-frequency equipment – Radio disturbance characteristics - Limits and methods of measurement
	EN 55022: 1998 + A1:1995 +A2:1997	Information technology equipment – Radio disturbance characteristics - Limits and methods of measurement
	EN 55022: 2007	Information technology equipment – Radio disturbance characteristics - Limits and methods of measurement
	EN 55024 : 1998 + A1:2001 + A2 :2003	Information technology equipment – Immunity characteristics – Limits and methods of measurement
X	**EN 61000-4-2:2009**	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electromagnetic discharge immunity test
X	**EN 61000-4-3:2006+A1:2008**	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
X	**EN 61000-4-4:2004**	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
X	**EN 61000-4-5:2006**	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
X	**EN 61000-4-6:2009**	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
	EN 61000-4-8:1993 + A1:2001	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
X	**EN 61000-4-11:2004**	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests
X	**EN 61000-3-2 : 2006**	Electromagnetic compatibility (EMC)-Part 3-2: Limits – Limits for harmonic current emissions- (equipment input current <= 16 A per phase)
X	**EN 61000-3-3 : 2009**	Electromagnetic compatibility (EMC) - Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection
	EN 60601-1-2:2007	Medical electrical equipment Part 1-2:General requirements for safety-Collateral Standard:Electromagnetic compatibility-Requirements and tests

5. Conducted Emission Test 150 kHz – 30 MHz

5.1 Test conditions

The measurements of the conducted emissions have been performed in a high-frequeny

Shielded room	Siemens	4,60 x 3,40 x 2,40	Inv.-No. 650

Used measuring equipment:

Test receiver	ESH 3	Rohde&Schwarz	Inv.-No.602
Impulse limiter	ESH 3-Z2	Rohde&Schwarz	Inv.-No.:620
Artificial Network	ESH 3-Z5	Rohde&Schwarz	Inv.-No.:605
Artificial Network	ESH 2-Z5	Rohde&Schwarz	Inv.-No.:604

5.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept**

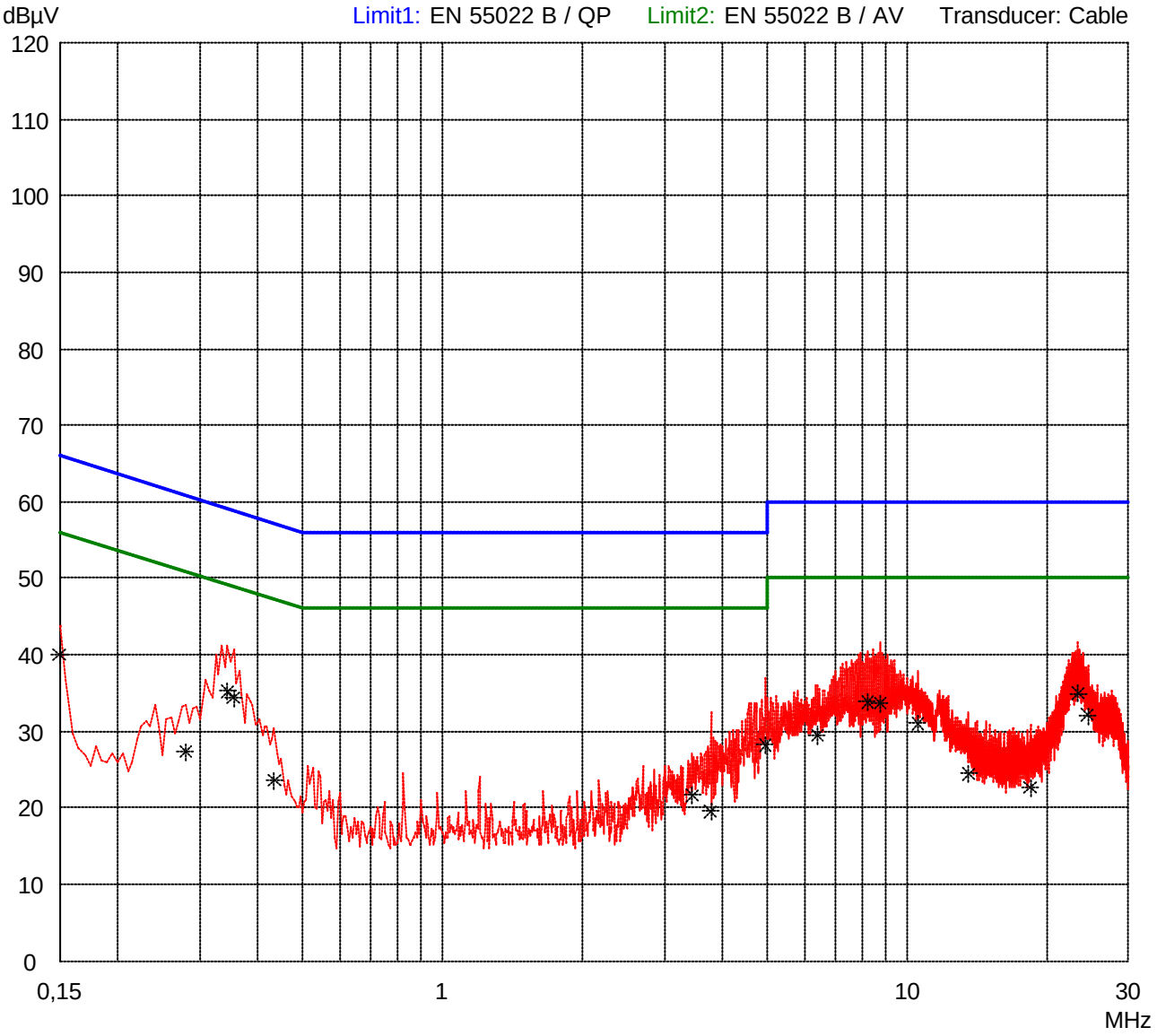
lowest margin to limit value:	1,8 dB

Not kept

highest margin above limit value:	

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 11 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,150	40,0	0,0	40,0	66,0	26,0
0,280	27,3	0,1	27,4	60,8	33,4
0,345	35,2	0,1	35,3	59,1	23,8
0,355	34,3	0,1	34,4	58,8	24,4
0,435	23,5	0,1	23,6	57,2	33,6
3,455	21,5	0,2	21,7	56,0	34,3
3,780	19,4	0,2	19,6	56,0	36,4
4,950	28,0	0,2	28,2	56,0	27,8
6,420	29,2	0,2	29,4	60,0	30,6
8,225	33,6	0,3	33,9	60,0	26,1
8,760	33,4	0,3	33,7	60,0	26,3
10,565	30,7	0,3	31,0	60,0	29,0
13,570	24,1	0,4	24,5	60,0	35,5
18,395	22,2	0,5	22,7	60,0	37,3
23,350	34,4	0,6	35,0	60,0	25,0
24,475	31,5	0,6	32,1	60,0	27,9

Result: Limit kept	Project file: 00000-000000

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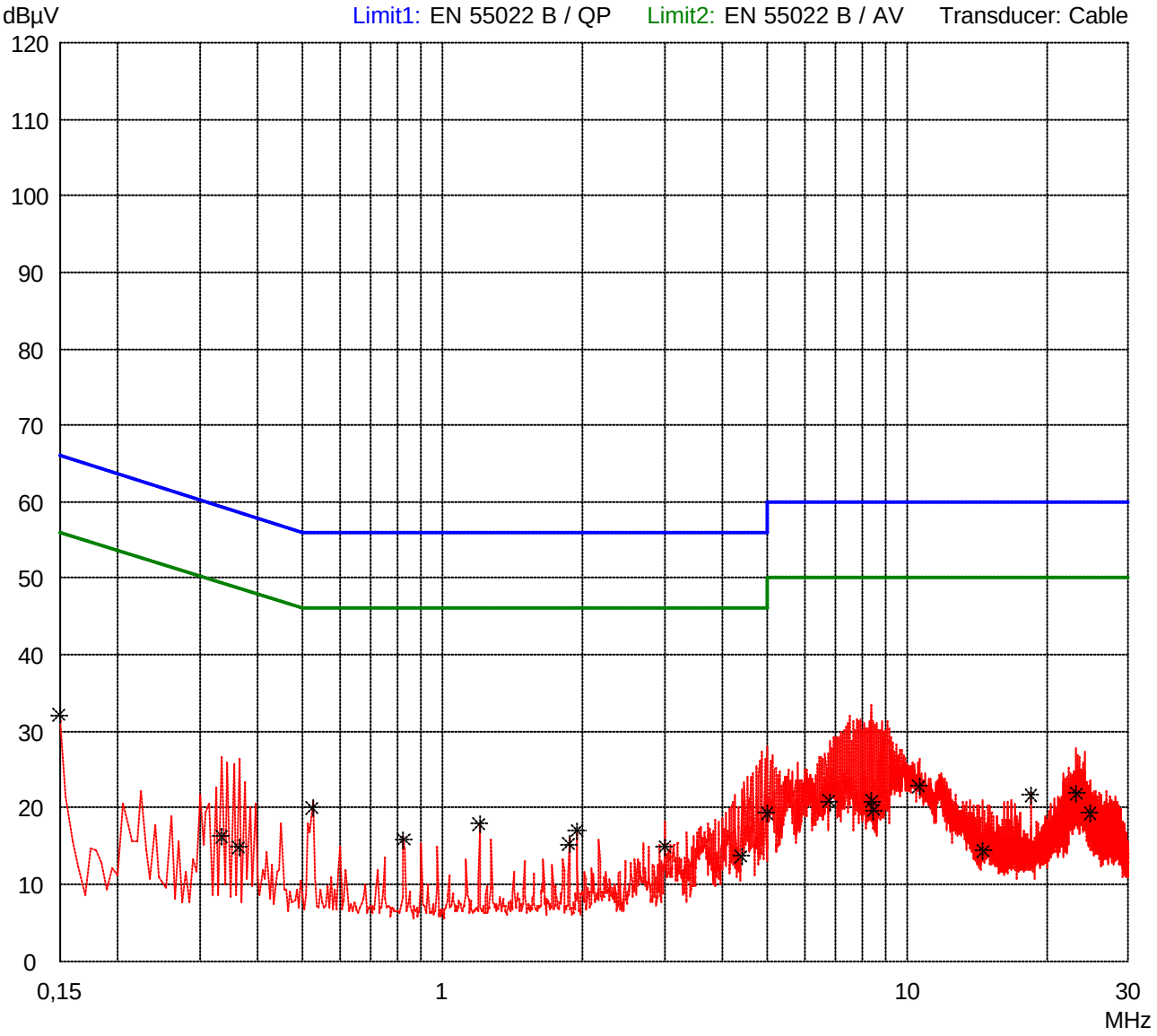
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 13 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,150	32,1	0,0	32,1	56,0	23,9
0,335	16,2	0,1	16,3	49,3	33,0
0,365	14,8	0,1	14,9	48,6	33,7
0,525	19,9	0,1	20,0	46,0	26,0
0,825	15,8	0,1	15,9	46,0	30,1
1,200	17,8	0,1	17,9	46,0	28,1
1,875	15,1	0,1	15,2	46,0	30,8
1,950	16,9	0,1	17,0	46,0	29,0
3,015	14,8	0,2	15,0	46,0	31,0
4,405	13,5	0,2	13,7	46,0	32,3
5,005	19,1	0,2	19,3	50,0	30,7
6,805	20,6	0,2	20,8	50,0	29,2
8,405	20,6	0,3	20,9	50,0	29,1
8,475	19,4	0,3	19,7	50,0	30,3
10,600	22,5	0,3	22,8	50,0	27,2
14,585	14,0	0,4	14,4	50,0	35,6
18,460	21,2	0,5	21,7	50,0	28,3
23,155	21,3	0,6	21,9	50,0	28,1
24,805	18,7	0,6	19,3	50,0	30,7

Result: Limit kept	Project file: 00000-000000

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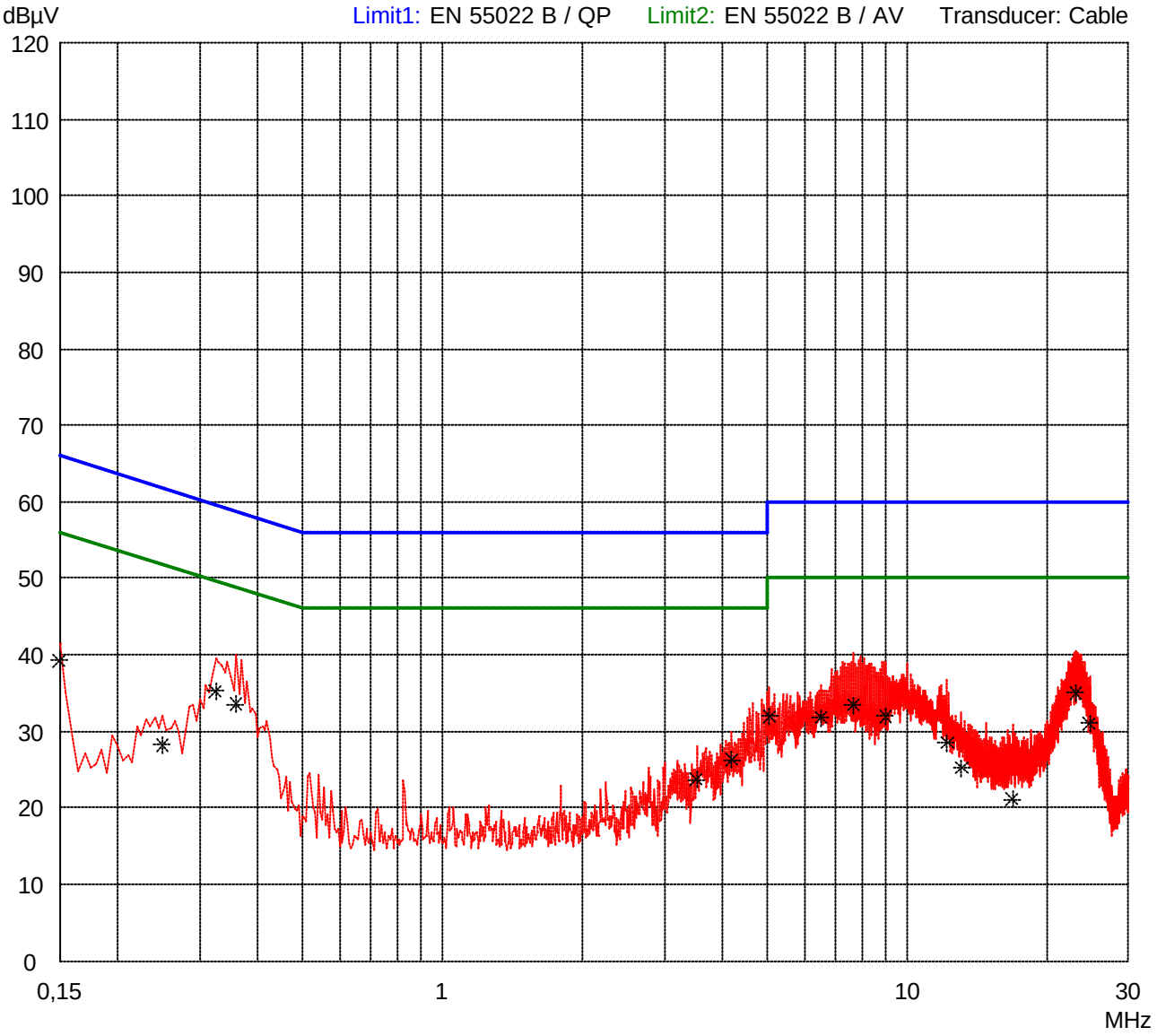
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 Operator: A. Liebert	
Test performed: automatically File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 15 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,150	39,2	0,0	39,2	66,0	26,8
0,250	28,2	0,1	28,3	61,8	33,5
0,325	35,2	0,1	35,3	59,6	24,3
0,360	33,5	0,1	33,6	58,7	25,1
3,530	23,5	0,2	23,7	56,0	32,3
4,195	26,1	0,2	26,3	56,0	29,7
5,060	31,8	0,2	32,0	60,0	28,0
6,525	31,6	0,2	31,8	60,0	28,2
7,660	33,2	0,3	33,5	60,0	26,5
8,990	31,7	0,3	32,0	60,0	28,0
12,185	28,3	0,3	28,6	60,0	31,4
13,115	24,9	0,4	25,3	60,0	34,7
16,850	20,7	0,4	21,1	60,0	38,9
23,055	34,5	0,6	35,1	60,0	24,9
24,730	30,4	0,6	31,0	60,0	29,0

Result: Limit kept	Project file: 00000-000000

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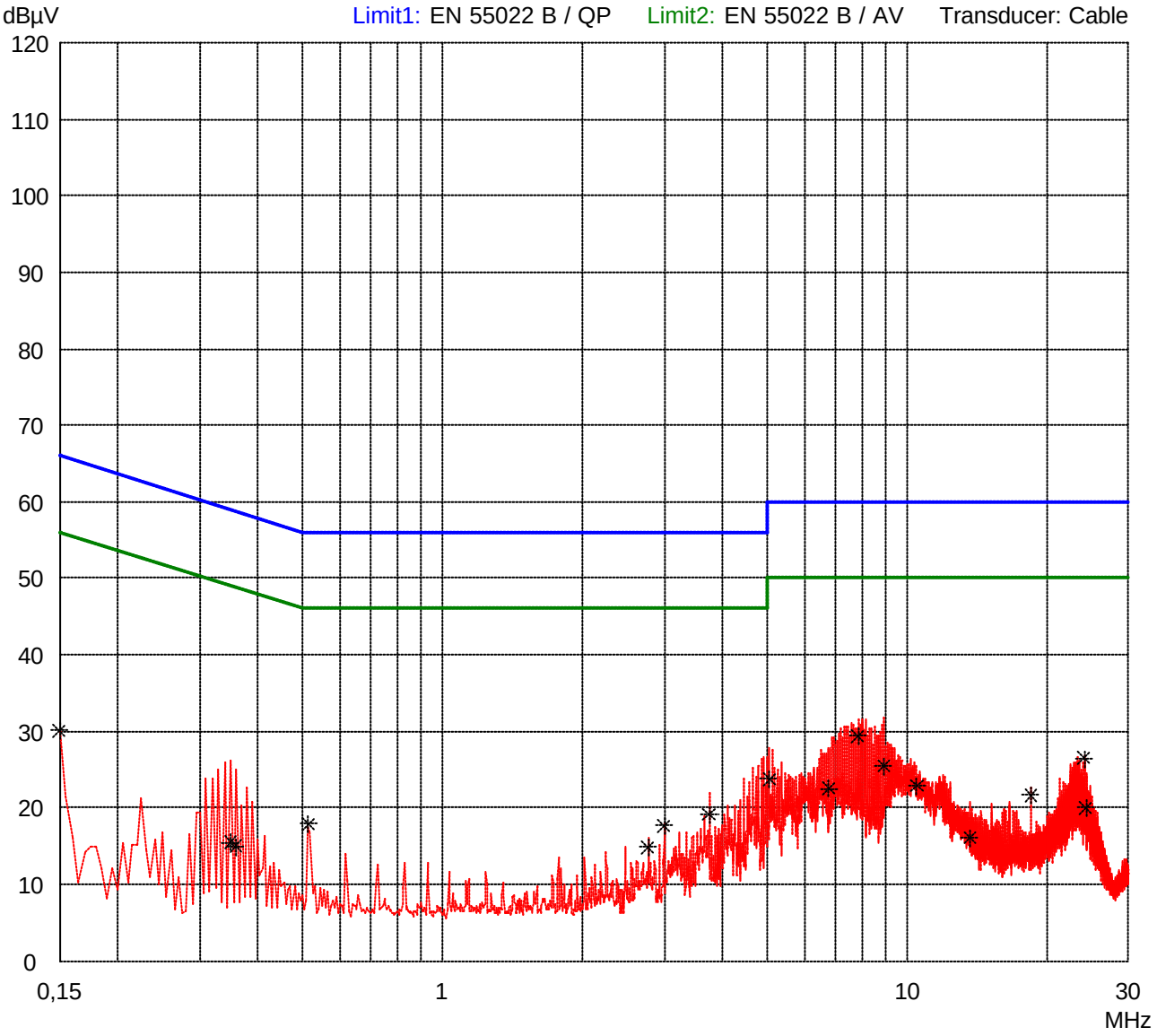
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 17 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,150	30,1	0,0	30,1	56,0	25,9
0,350	15,4	0,1	15,5	49,0	33,5
0,360	14,9	0,1	15,0	48,7	33,7
0,515	17,8	0,1	17,9	46,0	28,1
2,775	14,7	0,2	14,9	46,0	31,1
3,005	17,5	0,2	17,7	46,0	28,3
3,755	19,0	0,2	19,2	46,0	26,8
5,055	23,6	0,2	23,8	50,0	26,2
6,785	22,3	0,2	22,5	50,0	27,5
7,845	29,1	0,3	29,4	50,0	20,6
8,910	25,2	0,3	25,5	50,0	24,5
10,485	22,6	0,3	22,9	50,0	27,1
13,670	15,7	0,4	16,1	50,0	33,9
18,460	21,2	0,5	21,7	50,0	28,3
24,050	25,9	0,6	26,5	50,0	23,5
24,275	19,4	0,6	20,0	50,0	30,0

Result: Limit kept	Project file: 00000-000000

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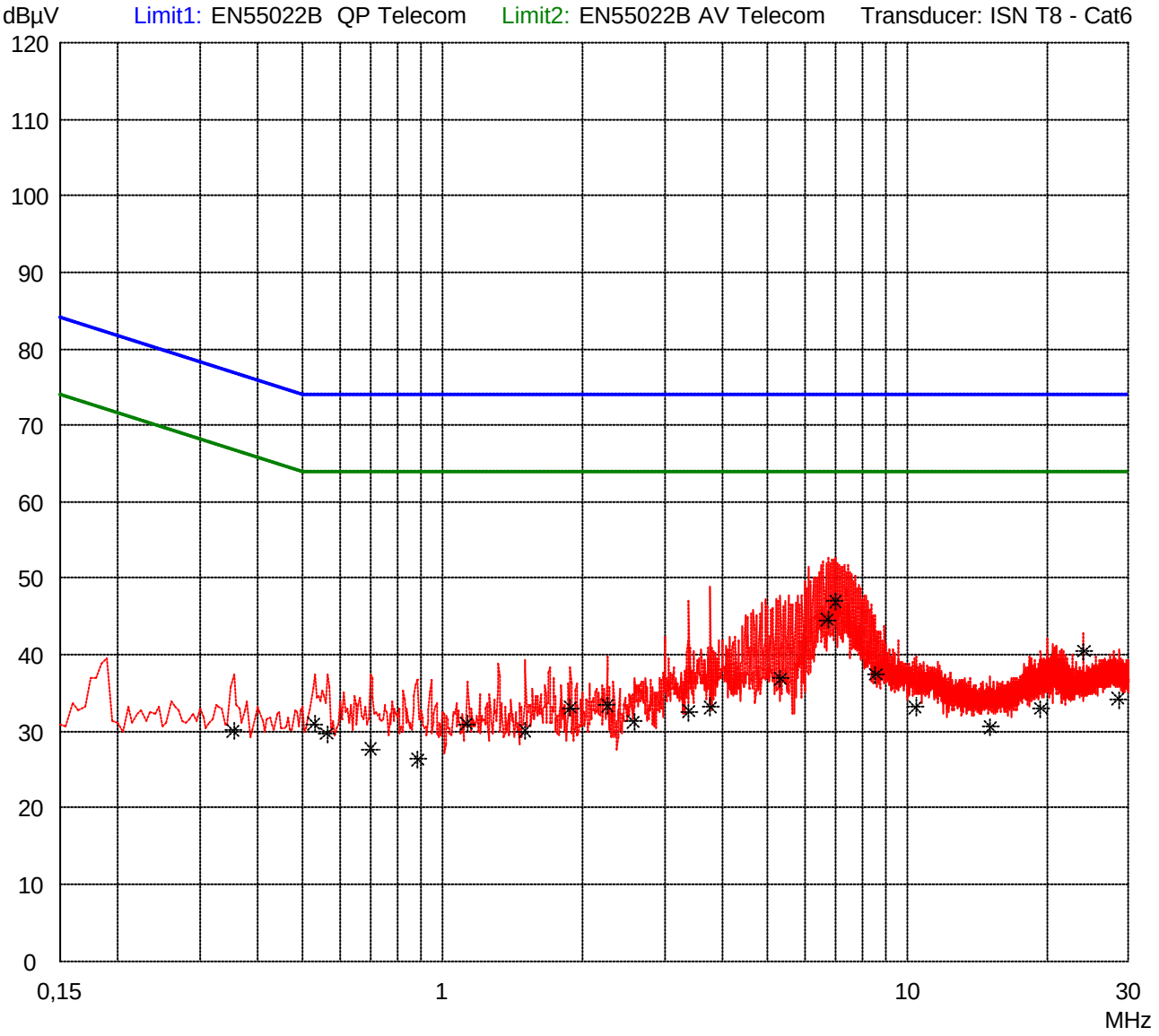
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 19 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,355	20,3	9,8	30,1	76,8	46,7
0,530	21,2	9,7	30,9	74,0	43,1
0,565	20,0	9,7	29,7	74,0	44,3
0,700	18,0	9,7	27,7	74,0	46,3
0,885	16,7	9,6	26,3	74,0	47,7
1,130	21,4	9,6	31,0	74,0	43,0
1,505	20,5	9,5	30,0	74,0	44,0
1,885	23,6	9,5	33,1	74,0	40,9
2,265	23,9	9,5	33,4	74,0	40,6
2,585	21,8	9,5	31,3	74,0	42,7
3,395	23,1	9,5	32,6	74,0	41,4
3,775	23,7	9,5	33,2	74,0	40,8
5,345	27,4	9,5	36,9	74,0	37,1
6,745	35,1	9,5	44,6	74,0	29,4
7,010	37,5	9,5	47,0	74,0	27,0
8,545	28,0	9,5	37,5	74,0	36,5
10,435	23,7	9,5	33,2	74,0	40,8
15,110	21,1	9,5	30,6	74,0	43,4
19,400	23,5	9,5	33,0	74,0	41,0
24,010	31,0	9,5	40,5	74,0	33,5
28,520	24,7	9,5	34,2	74,0	39,8

Result: Limit kept	Project file: 00000-000000

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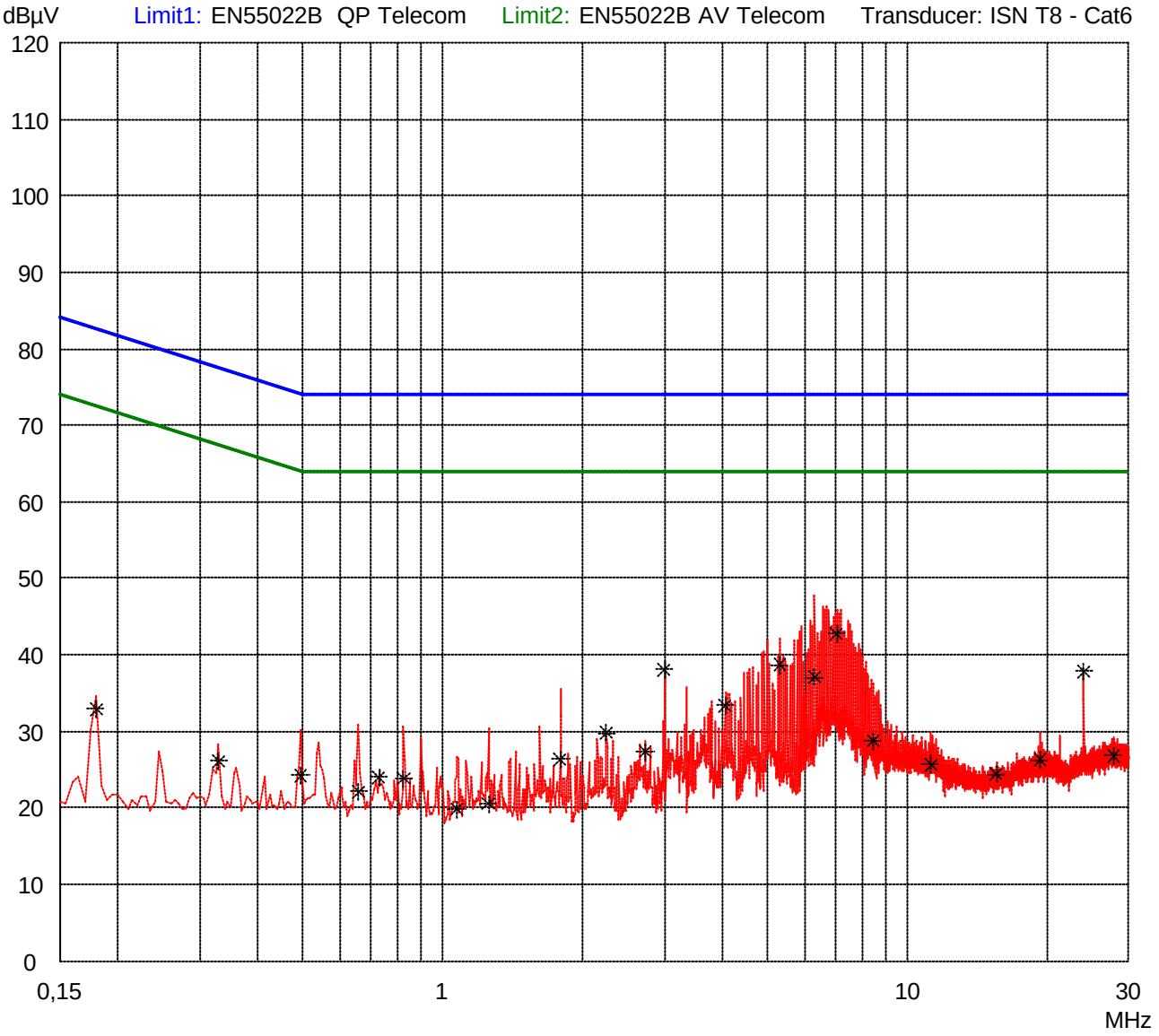
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 21 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,180	23,0	9,9	32,9	72,5	39,6
0,330	16,3	9,8	26,1	67,5	41,4
0,495	14,5	9,7	24,2	64,1	39,9
0,660	12,4	9,7	22,1	64,0	41,9
0,730	14,3	9,7	24,0	64,0	40,0
0,825	14,2	9,6	23,8	64,0	40,2
1,075	10,3	9,6	19,9	64,0	44,1
1,255	11,0	9,6	20,6	64,0	43,4
1,795	16,9	9,5	26,4	64,0	37,6
2,255	20,3	9,5	29,8	64,0	34,2
2,730	17,9	9,5	27,4	64,0	36,6
3,005	28,6	9,5	38,1	64,0	25,9
4,060	23,9	9,5	33,4	64,0	30,6
5,325	29,2	9,5	38,7	64,0	25,3
6,325	27,6	9,5	37,1	64,0	26,9
7,055	33,3	9,5	42,8	64,0	21,2
8,455	19,3	9,5	28,8	64,0	35,2
11,250	16,2	9,5	25,7	64,0	38,3
15,540	14,9	9,5	24,4	64,0	39,6
19,315	16,8	9,5	26,3	64,0	37,7
24,010	28,3	9,5	37,8	64,0	26,2
27,785	17,3	9,5	26,8	64,0	37,2

Result: Limit kept	Project file: 00000-000000

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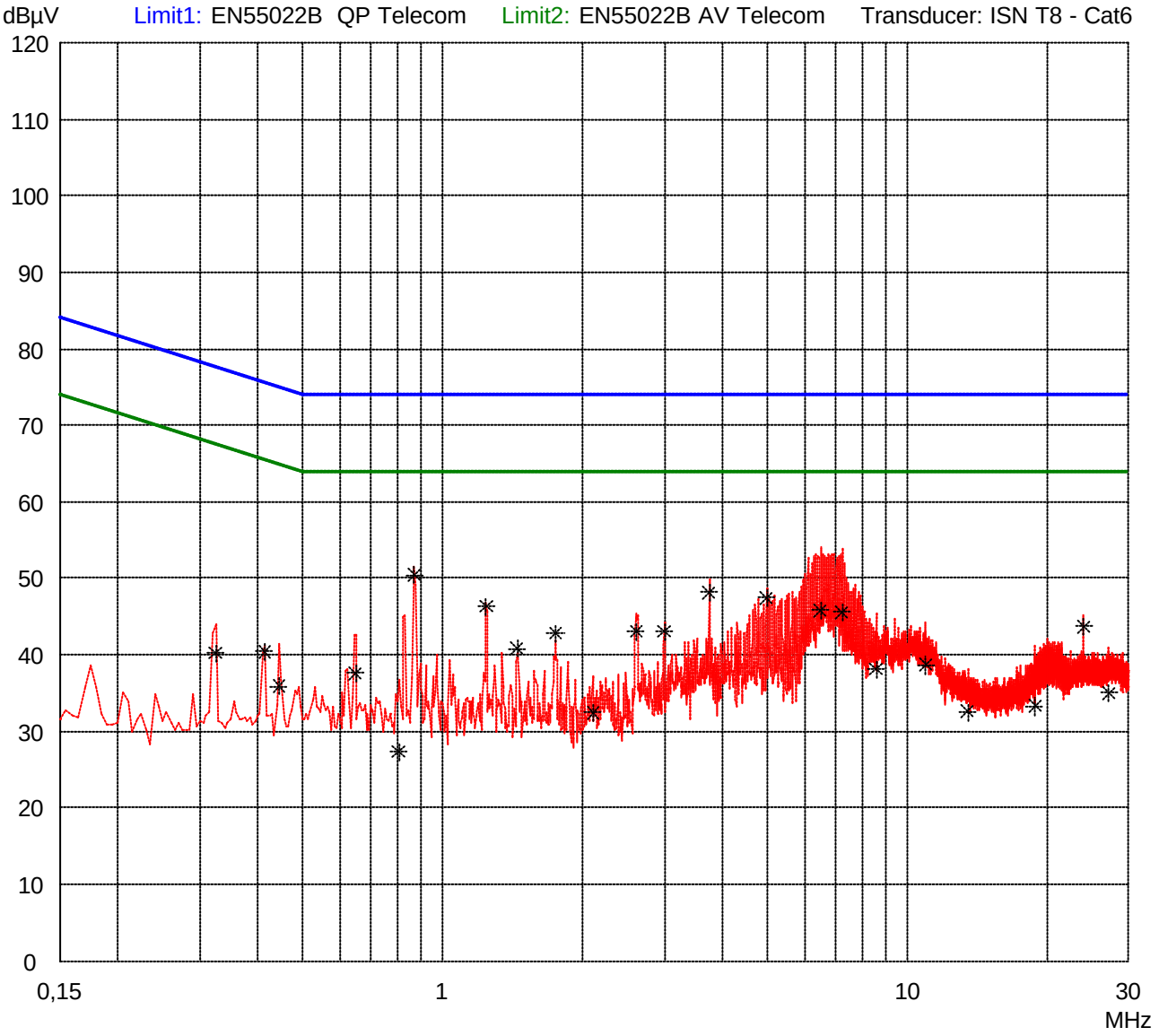
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 / Page 23 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,325	30,4	9,8	40,2	77,6	37,4
0,415	30,6	9,8	40,4	75,5	35,1
0,445	26,1	9,8	35,9	75,0	39,1
0,650	27,9	9,7	37,6	74,0	36,4
0,805	17,8	9,6	27,4	74,0	46,6
0,870	40,8	9,6	50,4	74,0	23,6
1,240	36,8	9,6	46,4	74,0	27,6
1,450	31,3	9,5	40,8	74,0	33,2
1,750	33,3	9,5	42,8	74,0	31,2
2,110	23,0	9,5	32,5	74,0	41,5
2,610	33,6	9,5	43,1	74,0	30,9
3,000	33,6	9,5	43,1	74,0	30,9
3,750	38,7	9,5	48,2	74,0	25,8
4,980	38,0	9,5	47,5	74,0	26,5
6,510	36,3	9,5	45,8	74,0	28,2
7,240	36,1	9,5	45,6	74,0	28,4
8,565	28,7	9,5	38,2	74,0	35,8
10,980	29,2	9,5	38,7	74,0	35,3
13,480	23,1	9,5	32,6	74,0	41,4
18,850	23,8	9,5	33,3	74,0	40,7
24,010	34,2	9,5	43,7	74,0	30,3
27,205	25,5	9,5	35,0	74,0	39,0

Result: Limit kept	Project file: 00000-000000

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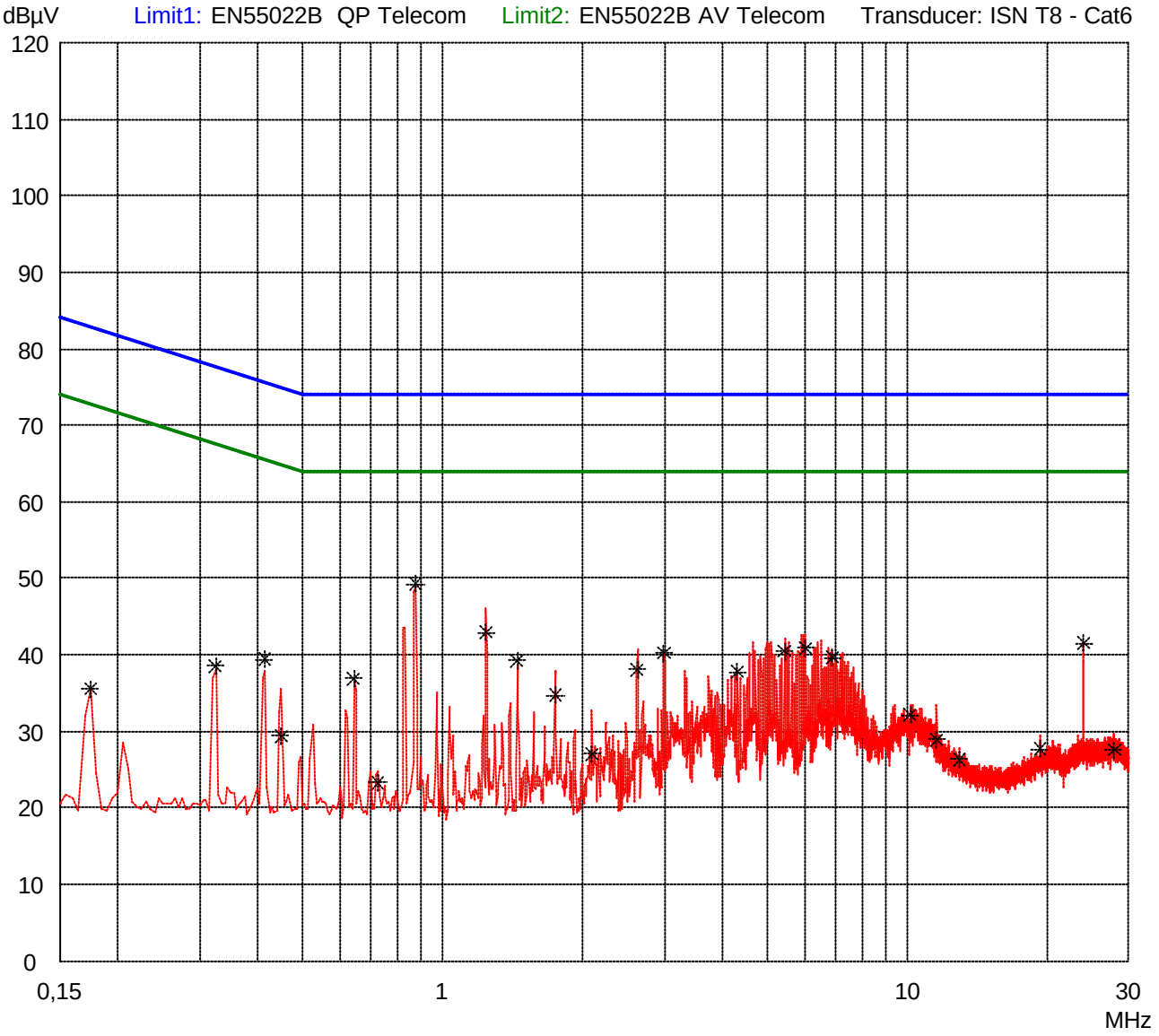
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 25 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,175	25,7	9,9	35,6	72,7	37,1
0,325	28,7	9,8	38,5	67,6	29,1
0,415	29,6	9,8	39,4	65,5	26,1
0,450	19,6	9,8	29,4	64,9	35,5
0,645	27,2	9,7	36,9	64,0	27,1
0,725	13,6	9,7	23,3	64,0	40,7
0,875	39,6	9,6	49,2	64,0	14,8
1,240	33,4	9,6	43,0	64,0	21,0
1,450	29,7	9,5	39,2	64,0	24,8
1,750	25,2	9,5	34,7	64,0	29,3
2,100	17,6	9,5	27,1	64,0	36,9
2,625	28,6	9,5	38,1	64,0	25,9
2,995	30,8	9,5	40,3	64,0	23,7
4,315	28,3	9,5	37,8	64,0	26,2
5,440	31,0	9,5	40,5	64,0	23,5
6,040	31,4	9,5	40,9	64,0	23,1
6,905	30,2	9,5	39,7	64,0	24,3
10,150	22,7	9,5	32,2	64,0	31,8
11,580	19,5	9,5	29,0	64,0	35,0
12,945	16,9	9,5	26,4	64,0	37,6
19,300	18,2	9,5	27,7	64,0	36,3
24,010	32,0	9,5	41,5	64,0	22,5
27,875	18,1	9,5	27,6	64,0	36,4

Result: Limit kept	Project file: 00000-000000

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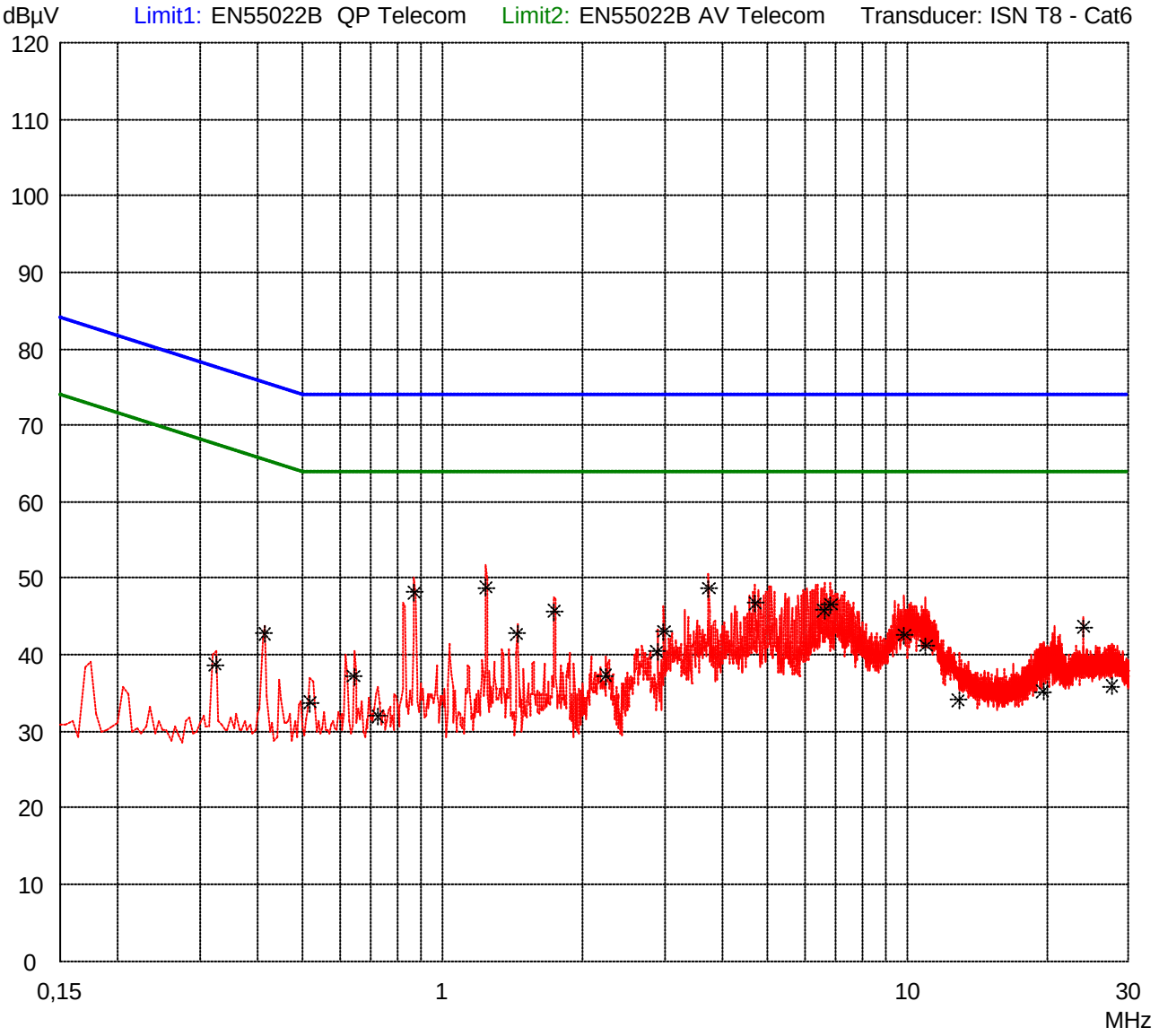
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 40 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 27 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,325	28,9	9,8	38,7	77,6	38,9
0,415	33,0	9,8	42,8	75,5	32,7
0,520	24,0	9,7	33,7	74,0	40,3
0,645	27,5	9,7	37,2	74,0	36,8
0,725	22,3	9,7	32,0	74,0	42,0
0,870	38,5	9,6	48,1	74,0	25,9
1,240	39,2	9,6	48,8	74,0	25,2
1,450	33,2	9,5	42,7	74,0	31,3
1,740	36,2	9,5	45,7	74,0	28,3
2,245	27,8	9,5	37,3	74,0	36,7
2,900	30,9	9,5	40,4	74,0	33,6
2,995	33,6	9,5	43,1	74,0	30,9
3,745	39,2	9,5	48,7	74,0	25,3
4,710	37,3	9,5	46,8	74,0	27,2
6,635	36,3	9,5	45,8	74,0	28,2
6,835	37,1	9,5	46,6	74,0	27,4
9,870	33,1	9,5	42,6	74,0	31,4
10,980	31,7	9,5	41,2	74,0	32,8
12,905	24,6	9,5	34,1	74,0	39,9
19,605	25,7	9,5	35,2	74,0	38,8
24,010	34,1	9,5	43,6	74,0	30,4
27,580	26,4	9,5	35,9	74,0	38,1

Result: Limit kept	Project file: 00000-000000

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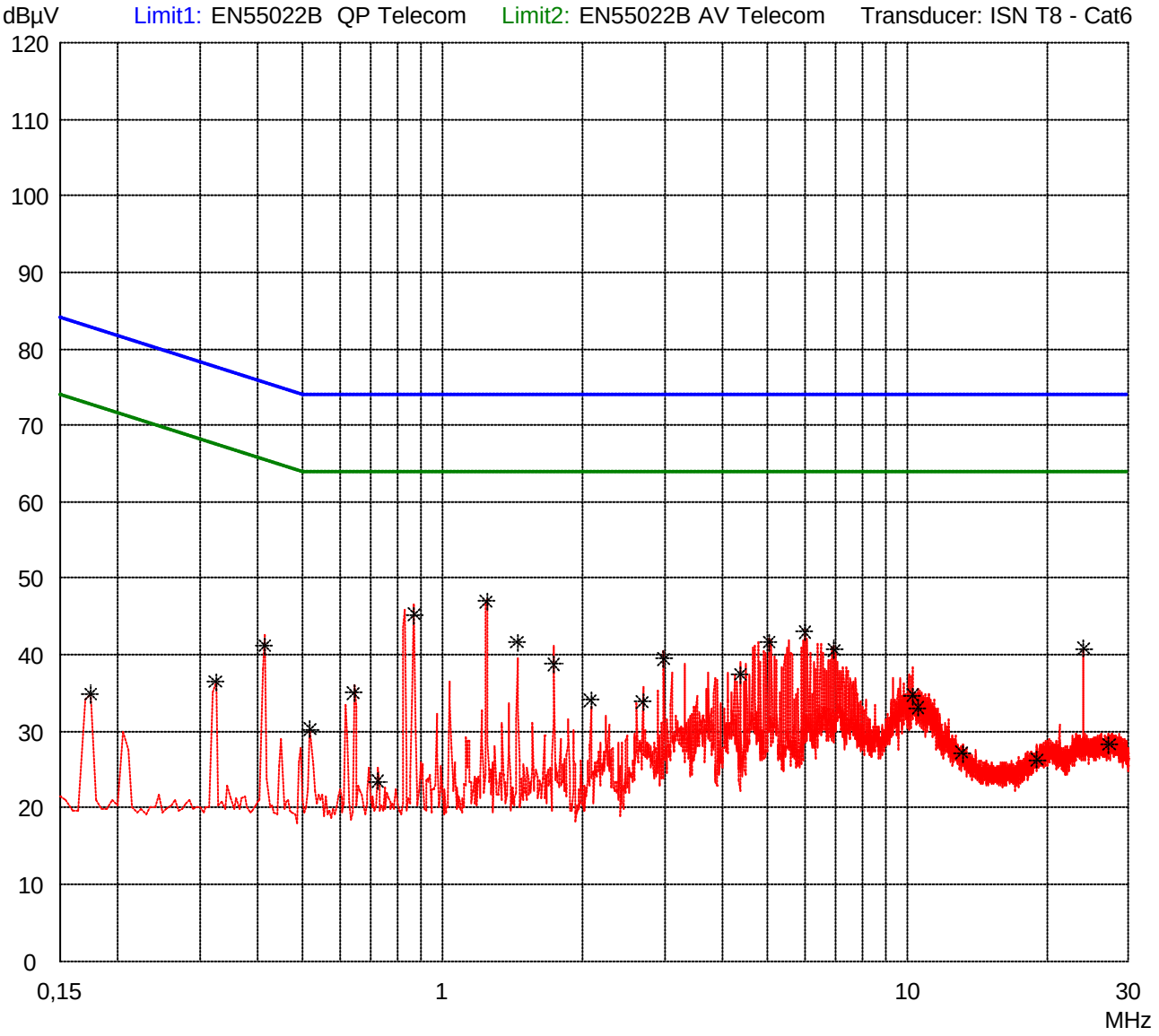
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 29 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,175	24,9	9,9	34,8	72,7	37,9
0,325	26,7	9,8	36,5	67,6	31,1
0,415	31,4	9,8	41,2	65,5	24,3
0,520	20,5	9,7	30,2	64,0	33,8
0,645	25,3	9,7	35,0	64,0	29,0
0,725	13,8	9,7	23,5	64,0	40,5
0,870	35,6	9,6	45,2	64,0	18,8
1,245	37,4	9,6	47,0	64,0	17,0
1,450	32,1	9,5	41,6	64,0	22,4
1,735	29,3	9,5	38,8	64,0	25,2
2,085	24,6	9,5	34,1	64,0	29,9
2,695	24,4	9,5	33,9	64,0	30,1
2,995	30,0	9,5	39,5	64,0	24,5
4,375	28,0	9,5	37,5	64,0	26,5
5,040	32,2	9,5	41,7	64,0	22,3
6,035	33,5	9,5	43,0	64,0	21,0
6,965	31,2	9,5	40,7	64,0	23,3
10,260	25,2	9,5	34,7	64,0	29,3
10,550	23,6	9,5	33,1	64,0	30,9
13,135	17,7	9,5	27,2	64,0	36,8
19,065	16,8	9,5	26,3	64,0	37,7
24,010	31,3	9,5	40,8	64,0	23,2
27,190	18,8	9,5	28,3	64,0	35,7

Result: Limit kept	Project file: 00000-000000

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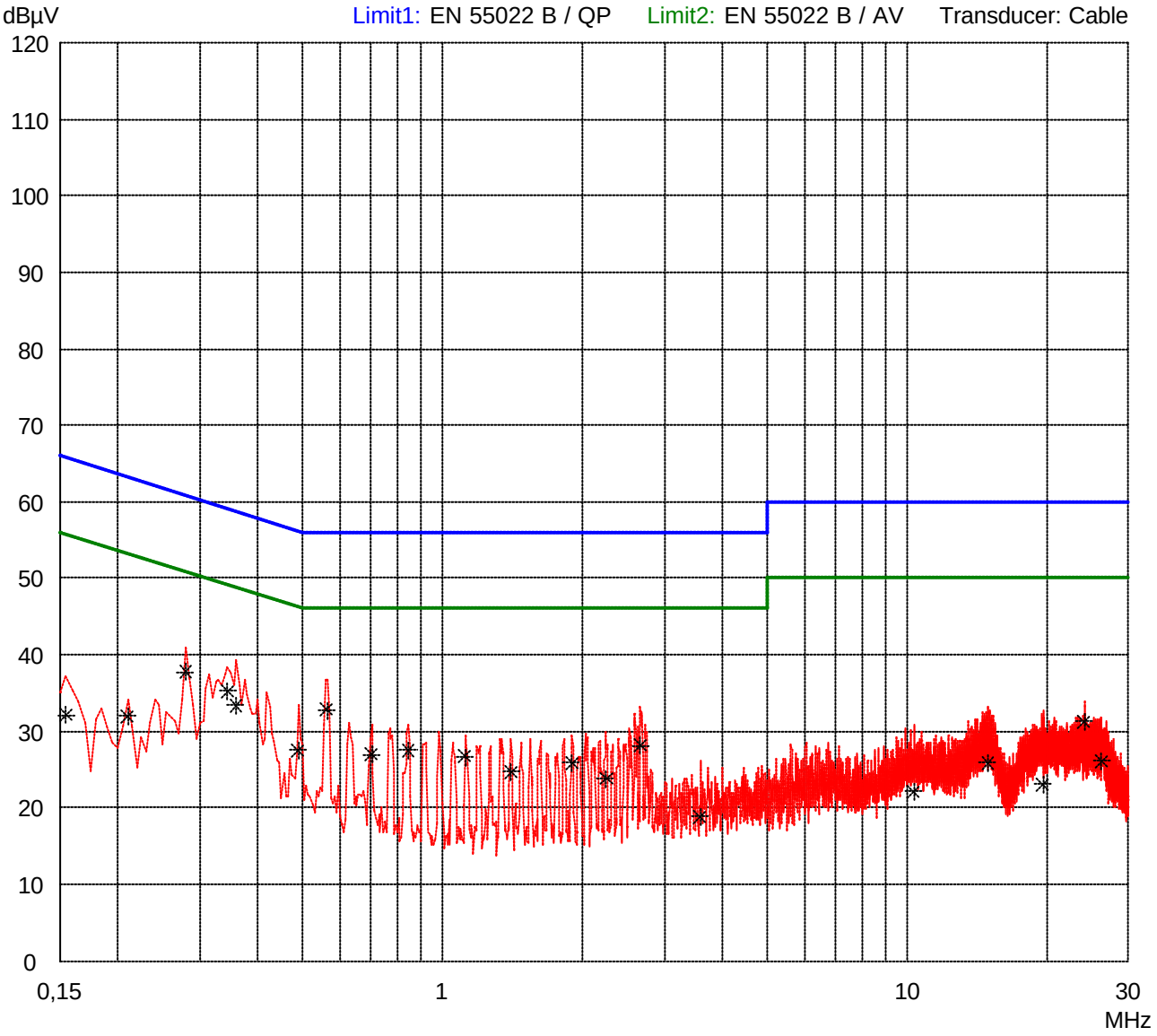
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 / Page 31 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,155	32,1	0,0	32,1	65,7	33,6
0,210	32,0	0,0	32,0	63,2	31,2
0,280	37,7	0,1	37,8	60,8	23,0
0,345	35,2	0,1	35,3	59,1	23,8
0,360	33,3	0,1	33,4	58,7	25,3
0,490	27,4	0,1	27,5	56,2	28,7
0,565	32,7	0,1	32,8	56,0	23,2
0,705	26,9	0,1	27,0	56,0	29,0
0,845	27,4	0,1	27,5	56,0	28,5
1,120	26,6	0,1	26,7	56,0	29,3
1,405	24,6	0,1	24,7	56,0	31,3
1,900	25,7	0,1	25,8	56,0	30,2
2,250	23,6	0,2	23,8	56,0	32,2
2,670	28,0	0,2	28,2	56,0	27,8
3,590	18,7	0,2	18,9	56,0	37,1
10,350	21,8	0,3	22,1	60,0	37,9
14,930	25,5	0,4	25,9	60,0	34,1
19,635	22,6	0,5	23,1	60,0	36,9
24,050	30,7	0,6	31,3	60,0	28,7
26,220	25,5	0,6	26,1	60,0	33,9

Result: Limit kept	Project file: 00000-000000

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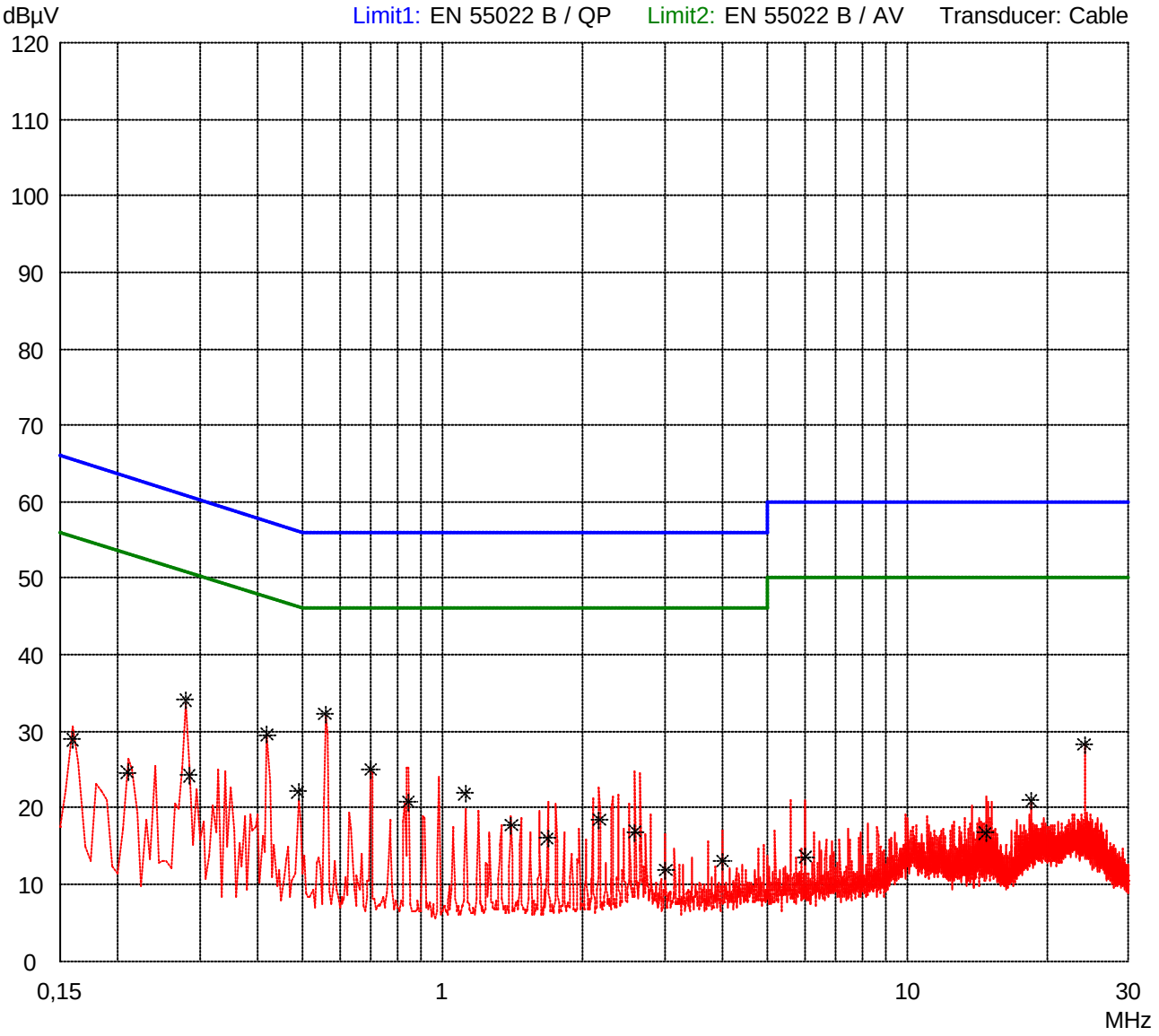
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 30 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 33 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,160	28,9	0,0	28,9	55,5	26,6
0,210	24,6	0,0	24,6	53,2	28,6
0,280	34,0	0,1	34,1	50,8	16,7
0,285	24,2	0,1	24,3	50,7	26,4
0,420	29,5	0,1	29,6	47,4	17,8
0,490	22,0	0,1	22,1	46,2	24,1
0,560	32,2	0,1	32,3	46,0	13,7
0,700	24,9	0,1	25,0	46,0	21,0
0,845	20,7	0,1	20,8	46,0	25,2
1,120	21,8	0,1	21,9	46,0	24,1
1,405	17,6	0,1	17,7	46,0	28,3
1,685	15,9	0,1	16,0	46,0	30,0
2,175	18,3	0,1	18,4	46,0	27,6
2,600	16,7	0,2	16,9	46,0	29,1
3,020	11,7	0,2	11,9	46,0	34,1
4,000	12,9	0,2	13,1	46,0	32,9
6,040	13,4	0,2	13,6	50,0	36,4
14,745	16,3	0,4	16,7	50,0	33,3
18,460	20,5	0,5	21,0	50,0	29,0
24,050	27,7	0,6	28,3	50,0	21,7

Result: Limit kept	Project file: 00000-000000

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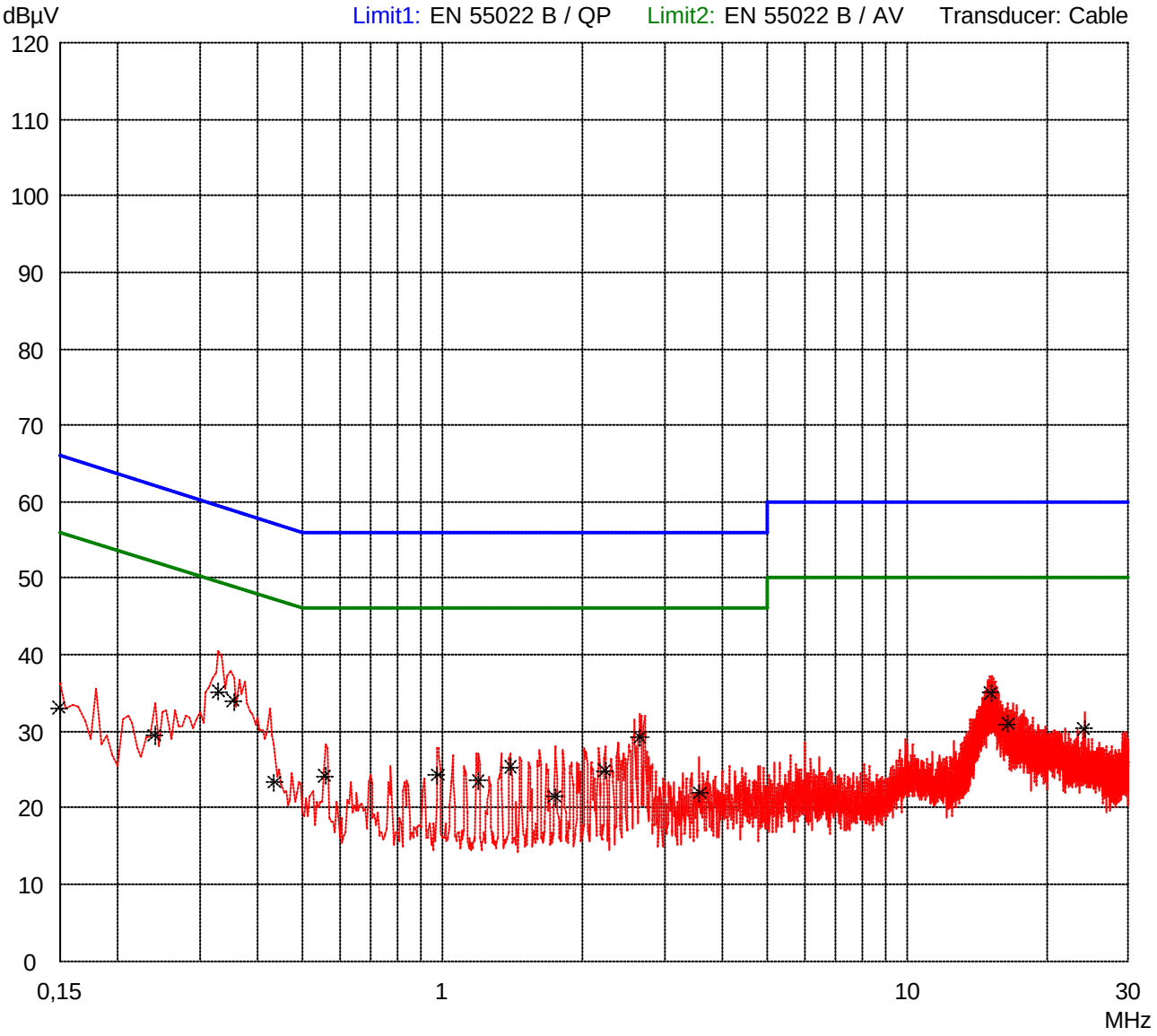
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	
Detector: Peak / Final Results: QP	Final results: 30 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 35 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 30 dB Margin 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,150	33,0	0,0	33,0	66,0	33,0
0,240	29,3	0,1	29,4	62,1	32,7
0,330	35,1	0,1	35,2	59,5	24,3
0,355	33,9	0,1	34,0	58,8	24,8
0,435	23,3	0,1	23,4	57,2	33,8
0,560	24,1	0,1	24,2	56,0	31,8
0,975	24,2	0,1	24,3	56,0	31,7
1,195	23,4	0,1	23,5	56,0	32,5
1,400	25,2	0,1	25,3	56,0	30,7
1,745	21,4	0,1	21,5	56,0	34,5
2,240	24,6	0,2	24,8	56,0	31,2
2,660	29,1	0,2	29,3	56,0	26,7
3,575	21,8	0,2	22,0	56,0	34,0
15,155	34,6	0,4	35,0	60,0	25,0
16,485	30,5	0,4	30,9	60,0	29,1
24,050	29,8	0,6	30,4	60,0	29,6

Result: Limit kept	Project file: 00000-000000

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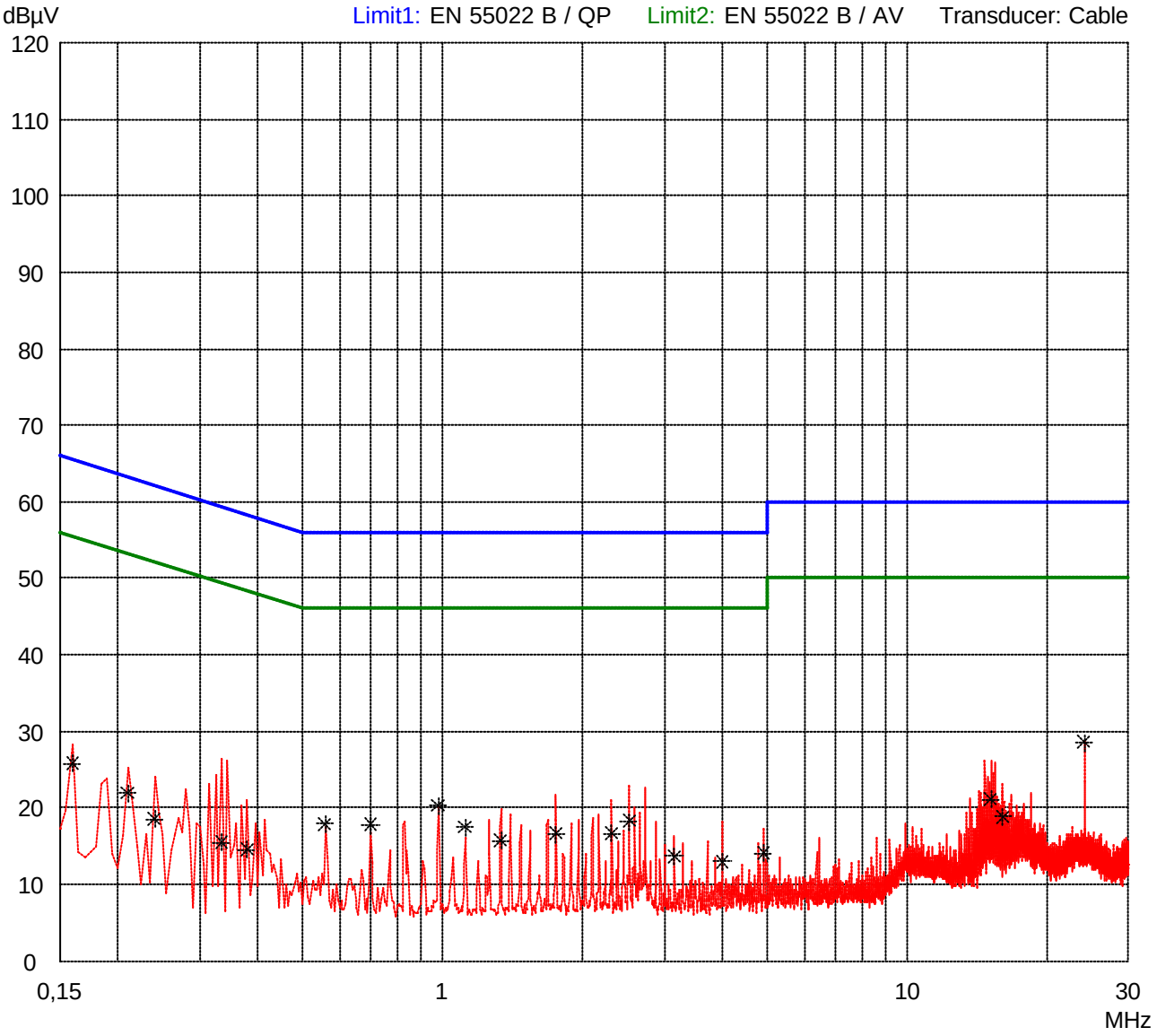
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 30 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 37 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 30 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,160	25,8	0,0	25,8	55,5	29,7
0,210	22,0	0,0	22,0	53,2	31,2
0,240	18,5	0,1	18,6	52,1	33,5
0,335	15,4	0,1	15,5	49,3	33,8
0,380	14,5	0,1	14,6	48,3	33,7
0,560	17,8	0,1	17,9	46,0	28,1
0,700	17,7	0,1	17,8	46,0	28,2
0,980	20,2	0,1	20,3	46,0	25,7
1,120	17,4	0,1	17,5	46,0	28,5
1,335	15,6	0,1	15,7	46,0	30,3
1,755	16,5	0,1	16,6	46,0	29,4
2,315	16,4	0,2	16,6	46,0	29,4
2,525	18,1	0,2	18,3	46,0	27,7
3,155	13,5	0,2	13,7	46,0	32,3
4,000	12,8	0,2	13,0	46,0	33,0
4,910	13,9	0,2	14,1	46,0	31,9
15,155	20,7	0,4	21,1	50,0	28,9
16,065	18,4	0,4	18,8	50,0	31,2
24,050	28,0	0,6	28,6	50,0	21,4

Result: Limit kept	Project file: 00000-000000

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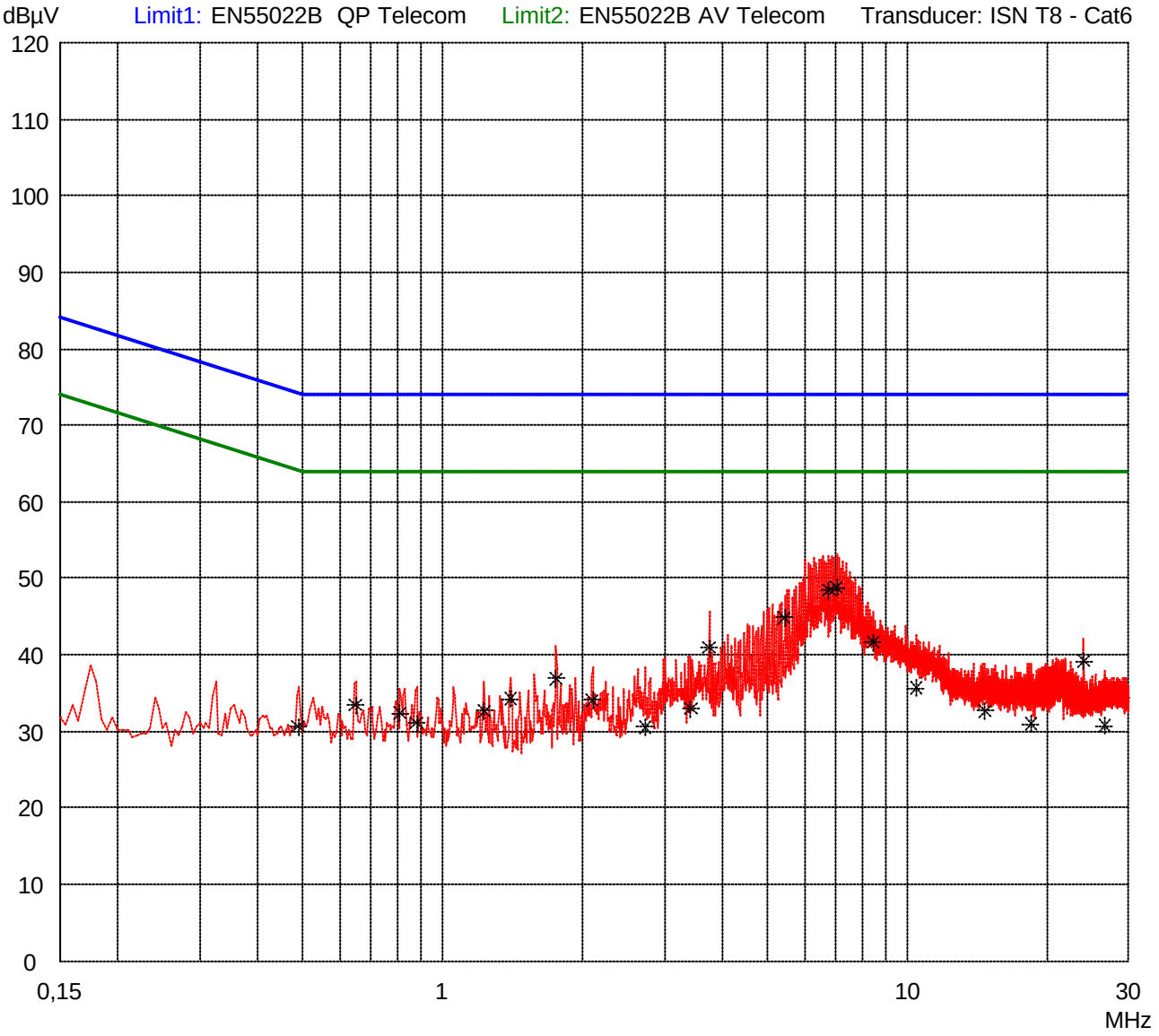
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 40 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 39 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,490	20,9	9,7	30,6	74,2	43,6
0,650	23,8	9,7	33,5	74,0	40,5
0,810	22,8	9,6	32,4	74,0	41,6
0,880	21,5	9,6	31,1	74,0	42,9
1,230	23,1	9,6	32,7	74,0	41,3
1,400	24,7	9,5	34,2	74,0	39,8
1,755	27,4	9,5	36,9	74,0	37,1
2,105	24,6	9,5	34,1	74,0	39,9
2,730	21,1	9,5	30,6	74,0	43,4
3,425	23,5	9,5	33,0	74,0	41,0
3,750	31,5	9,5	41,0	74,0	33,0
5,450	35,4	9,5	44,9	74,0	29,1
6,780	39,0	9,5	48,5	74,0	25,5
7,045	39,3	9,5	48,8	74,0	25,2
8,440	32,2	9,5	41,7	74,0	32,3
10,470	26,2	9,5	35,7	74,0	38,3
14,725	23,2	9,5	32,7	74,0	41,3
18,460	21,5	9,5	31,0	74,0	43,0
24,015	29,7	9,5	39,2	74,0	34,8
26,600	21,2	9,5	30,7	74,0	43,3

Result: Limit kept	Project file: 00000-000000

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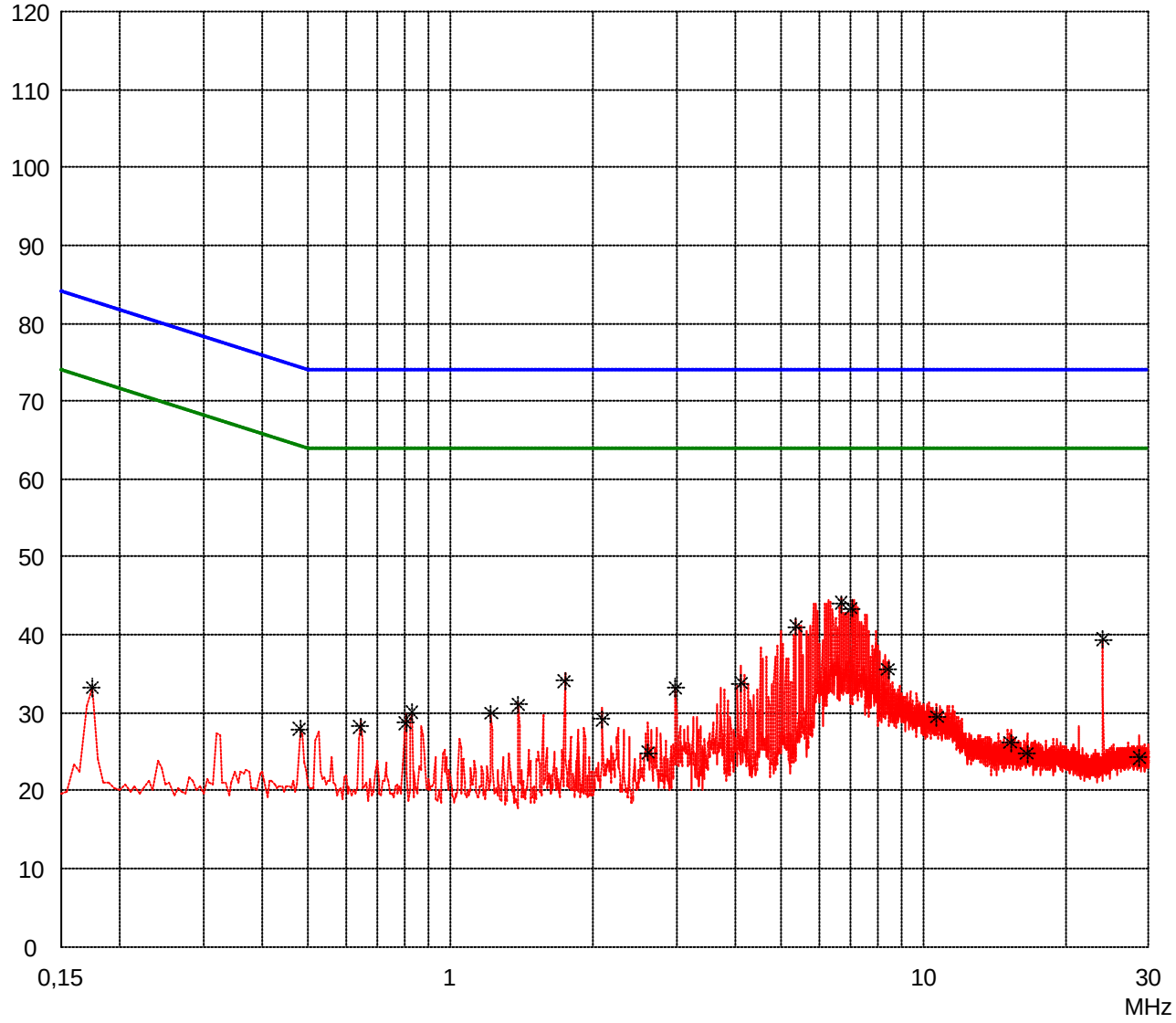
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin 25 Subranges

dBµV Limit1: EN55022B QP Telecom Limit2: EN55022B AV Telecom Transducer: ISN T8 - Cat6



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,175	23,3	9,9	33,2	72,7	39,5
0,480	18,2	9,8	28,0	64,3	36,3
0,645	18,5	9,7	28,2	64,0	35,8
0,805	19,0	9,6	28,6	64,0	35,4
0,830	20,4	9,6	30,0	64,0	34,0
1,220	20,4	9,6	30,0	64,0	34,0
1,395	21,5	9,5	31,0	64,0	33,0
1,745	24,6	9,5	34,1	64,0	29,9
2,095	19,7	9,5	29,2	64,0	34,8
2,620	15,4	9,5	24,9	64,0	39,1
2,995	23,7	9,5	33,2	64,0	30,8
4,120	24,3	9,5	33,8	64,0	30,2
5,380	31,6	9,5	41,1	64,0	22,9
6,705	34,6	9,5	44,1	64,0	19,9
7,040	33,9	9,5	43,4	64,0	20,6
8,435	26,1	9,5	35,6	64,0	28,4
10,690	20,0	9,5	29,5	64,0	34,5
15,290	16,7	9,5	26,2	64,0	37,8
16,535	15,3	9,5	24,8	64,0	39,2
24,010	29,9	9,5	39,4	64,0	24,6
28,620	14,7	9,5	24,2	64,0	39,8

Result: Limit kept	Project file: 00000-000000

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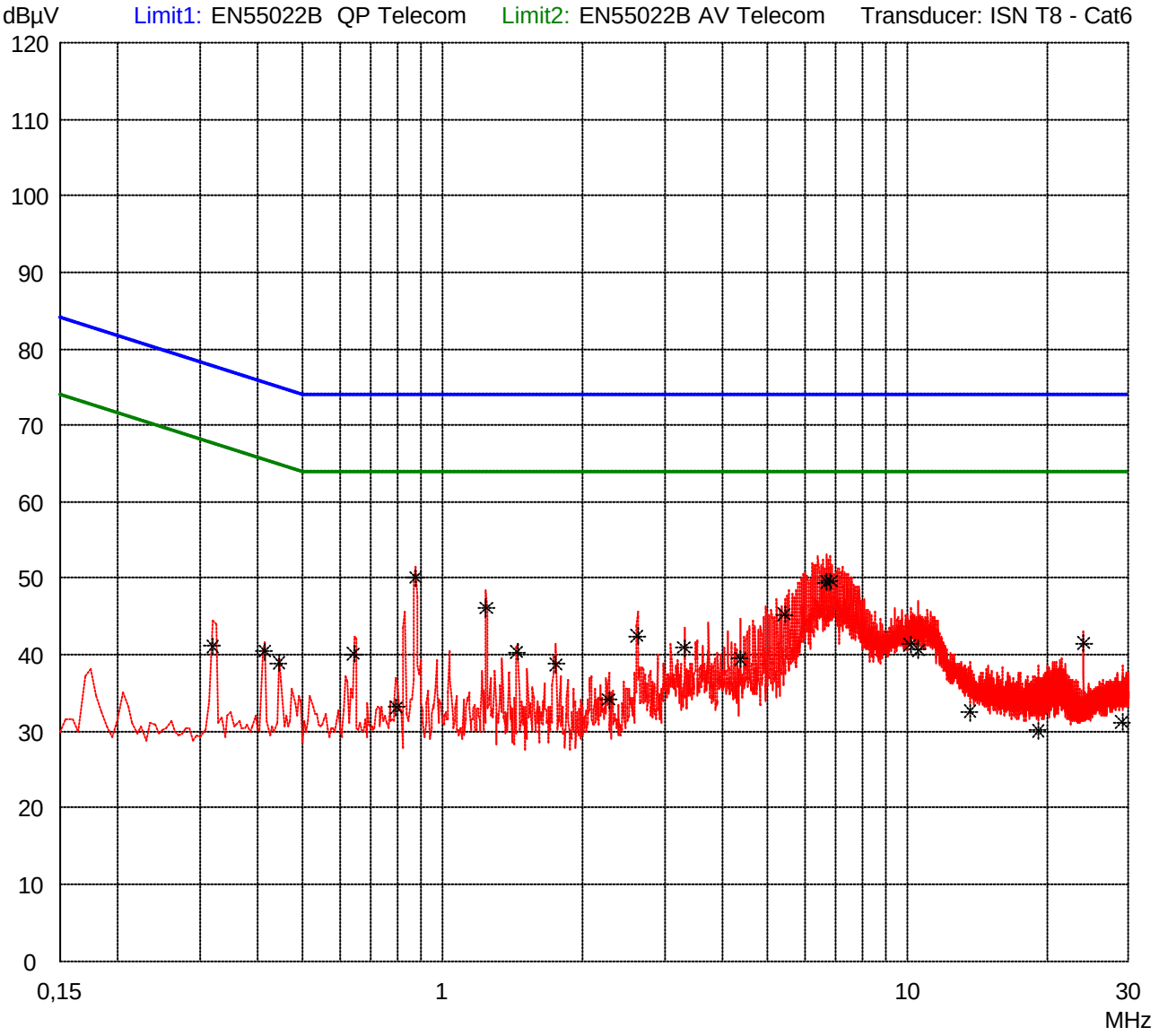
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 43 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,320	31,3	9,8	41,1	77,7	36,6
0,415	30,7	9,8	40,5	75,5	35,0
0,445	29,2	9,8	39,0	75,0	36,0
0,645	30,4	9,7	40,1	74,0	33,9
0,795	23,5	9,7	33,2	74,0	40,8
0,875	40,5	9,6	50,1	74,0	23,9
1,240	36,6	9,6	46,2	74,0	27,8
1,450	30,8	9,5	40,3	74,0	33,7
1,755	29,3	9,5	38,8	74,0	35,2
2,280	24,7	9,5	34,2	74,0	39,8
2,625	33,0	9,5	42,5	74,0	31,5
3,315	31,5	9,5	41,0	74,0	33,0
4,380	30,0	9,5	39,5	74,0	34,5
5,445	35,8	9,5	45,3	74,0	28,7
6,705	40,0	9,5	49,5	74,0	24,5
6,835	40,2	9,5	49,7	74,0	24,3
10,160	31,9	9,5	41,4	74,0	32,6
10,570	31,2	9,5	40,7	74,0	33,3
13,650	23,1	9,5	32,6	74,0	41,4
19,160	20,6	9,5	30,1	74,0	43,9
24,010	32,0	9,5	41,5	74,0	32,5
29,015	21,7	9,5	31,2	74,0	42,8

Result: Limit kept	Project file: 00000-000000

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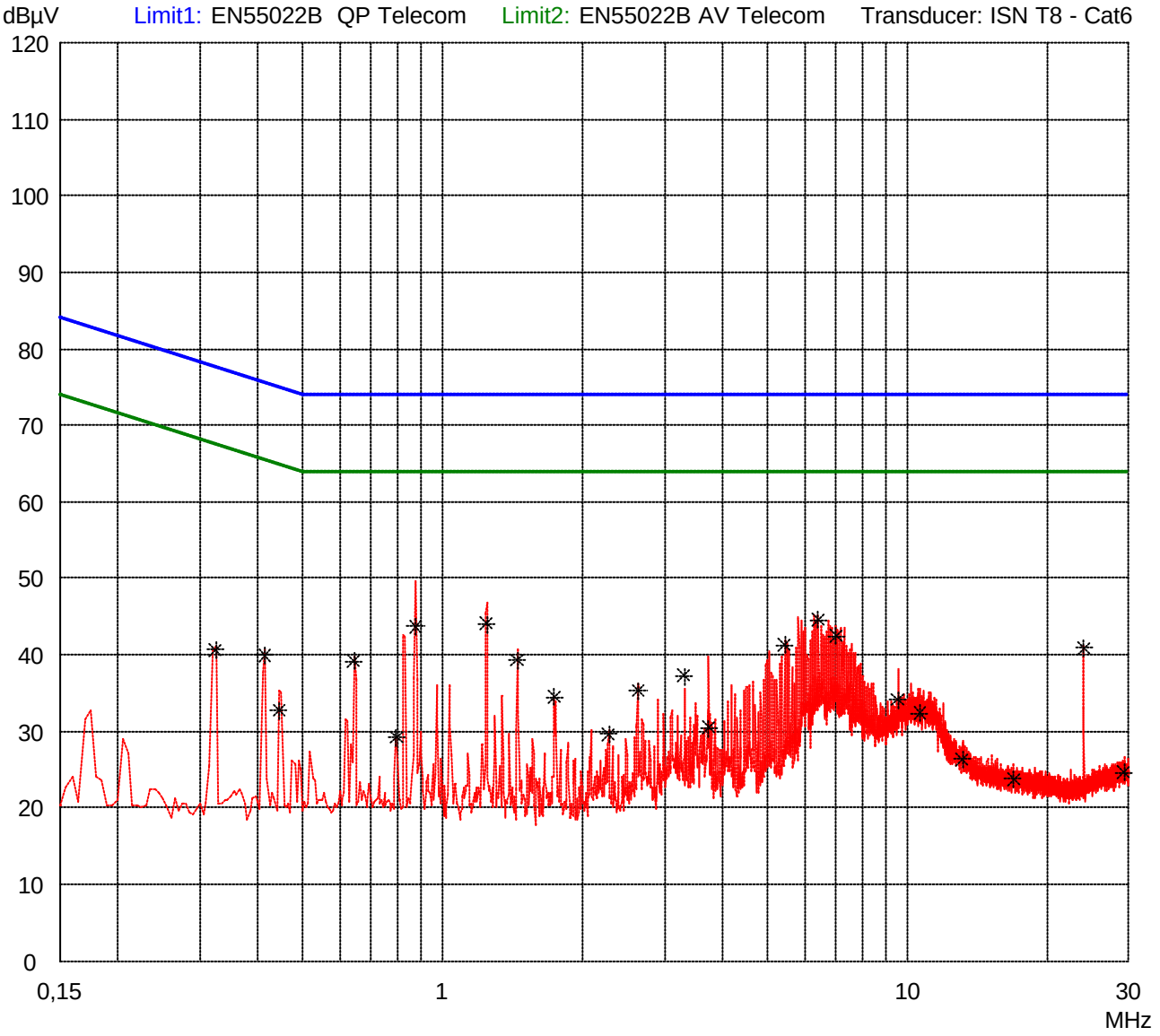
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 / Page 45 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,325	30,8	9,8	40,6	67,6	27,0
0,415	30,2	9,8	40,0	65,5	25,5
0,445	23,0	9,8	32,8	65,0	32,2
0,645	29,5	9,7	39,2	64,0	24,8
0,795	19,5	9,7	29,2	64,0	34,8
0,875	34,1	9,6	43,7	64,0	20,3
1,245	34,5	9,6	44,1	64,0	19,9
1,450	29,8	9,5	39,3	64,0	24,7
1,740	25,0	9,5	34,5	64,0	29,5
2,280	20,2	9,5	29,7	64,0	34,3
2,635	25,9	9,5	35,4	64,0	28,6
3,315	27,8	9,5	37,3	64,0	26,7
3,745	21,0	9,5	30,5	64,0	33,5
5,445	31,8	9,5	41,3	64,0	22,7
6,440	35,1	9,5	44,6	64,0	19,4
7,035	33,0	9,5	42,5	64,0	21,5
9,535	24,7	9,5	34,2	64,0	29,8
10,635	22,9	9,5	32,4	64,0	31,6
13,125	16,9	9,5	26,4	64,0	37,6
16,930	14,3	9,5	23,8	64,0	40,2
24,010	31,4	9,5	40,9	64,0	23,1
29,300	15,1	9,5	24,6	64,0	39,4

Result: Limit kept	Project file: 00000-000000

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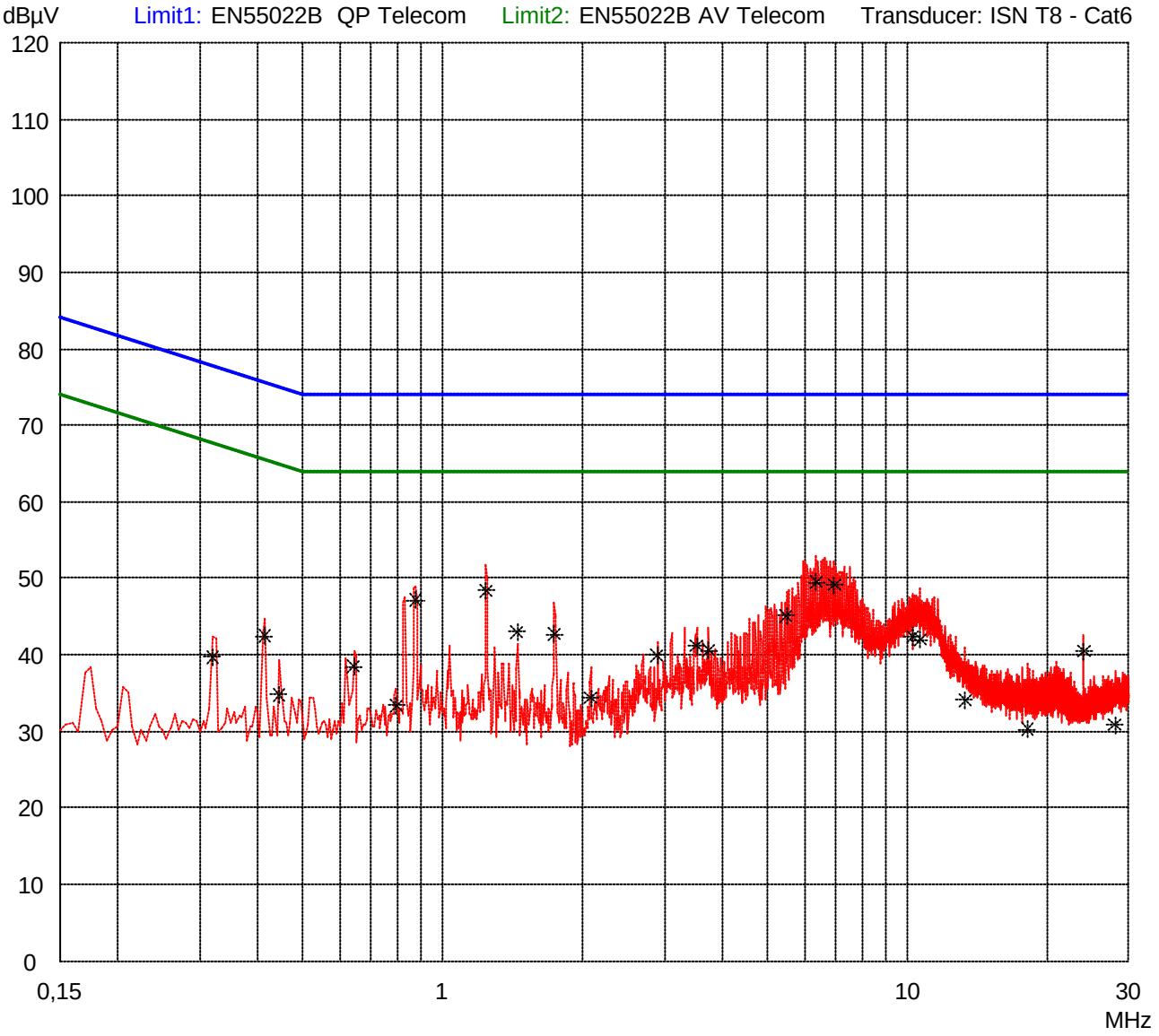
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 40 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 47 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,320	29,9	9,8	39,7	77,7	38,0
0,415	32,7	9,8	42,5	75,5	33,0
0,445	25,0	9,8	34,8	75,0	40,2
0,645	28,8	9,7	38,5	74,0	35,5
0,795	23,7	9,7	33,4	74,0	40,6
0,875	37,5	9,6	47,1	74,0	26,9
1,240	38,8	9,6	48,4	74,0	25,6
1,450	33,5	9,5	43,0	74,0	31,0
1,740	33,2	9,5	42,7	74,0	31,3
2,085	24,9	9,5	34,4	74,0	39,6
2,900	30,5	9,5	40,0	74,0	34,0
3,520	31,7	9,5	41,2	74,0	32,8
3,745	31,1	9,5	40,6	74,0	33,4
5,505	35,6	9,5	45,1	74,0	28,9
6,370	40,0	9,5	49,5	74,0	24,5
6,970	39,7	9,5	49,2	74,0	24,8
10,285	32,9	9,5	42,4	74,0	31,6
10,665	32,5	9,5	42,0	74,0	32,0
13,320	24,6	9,5	34,1	74,0	39,9
18,130	20,8	9,5	30,3	74,0	43,7
24,010	31,0	9,5	40,5	74,0	33,5
28,020	21,4	9,5	30,9	74,0	43,1

Result: Limit kept	Project file: 00000-000000

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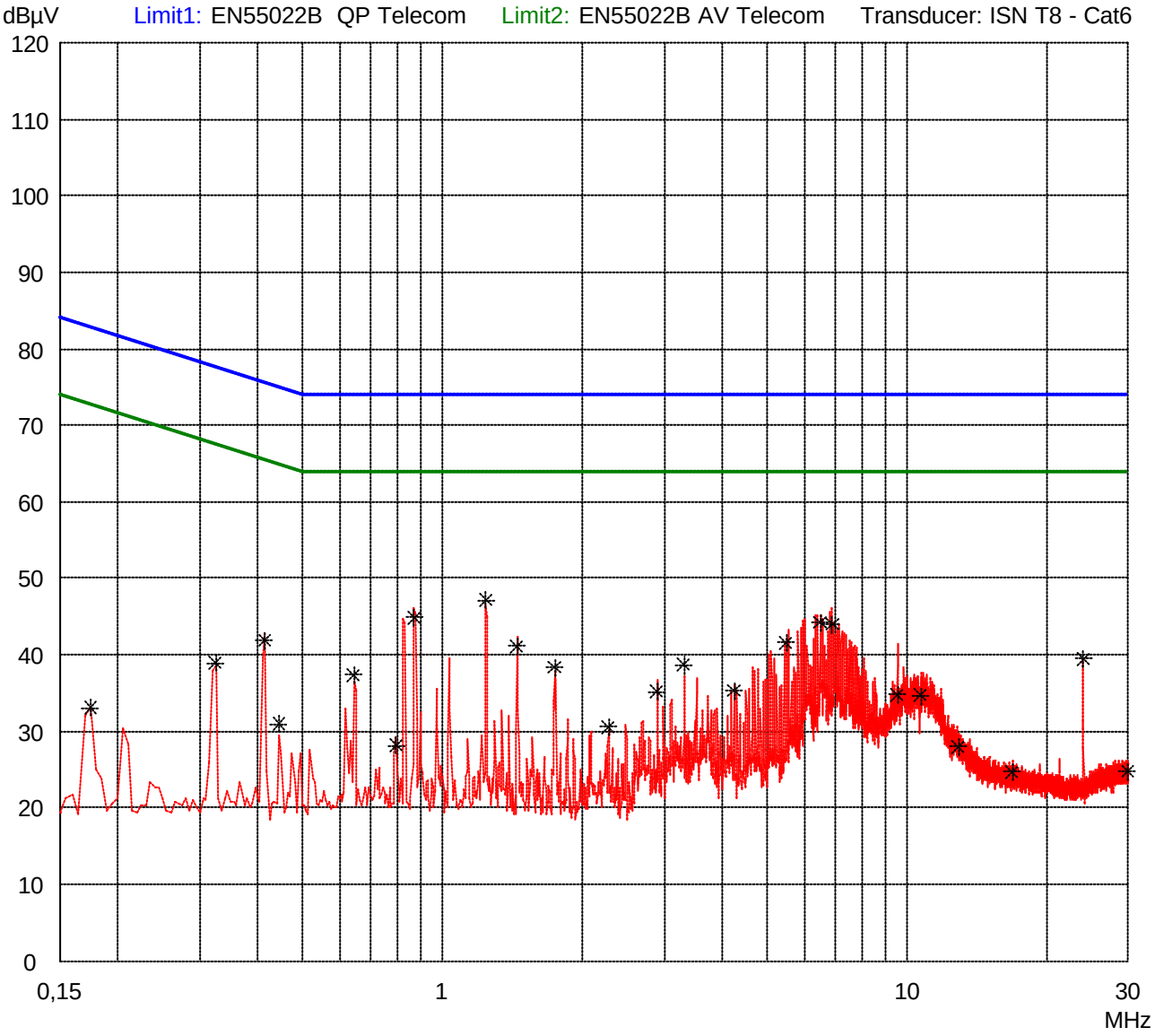
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 49 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/07/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 40 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,175	23,1	9,9	33,0	72,7	39,7
0,325	29,1	9,8	38,9	67,6	28,7
0,415	32,1	9,8	41,9	65,5	23,6
0,445	21,2	9,8	31,0	65,0	34,0
0,645	27,7	9,7	37,4	64,0	26,6
0,795	18,5	9,7	28,2	64,0	35,8
0,870	35,2	9,6	44,8	64,0	19,2
1,240	37,6	9,6	47,2	64,0	16,8
1,450	31,6	9,5	41,1	64,0	22,9
1,745	28,9	9,5	38,4	64,0	25,6
2,280	21,1	9,5	30,6	64,0	33,4
2,900	25,7	9,5	35,2	64,0	28,8
3,315	29,2	9,5	38,7	64,0	25,3
4,245	25,9	9,5	35,4	64,0	28,6
5,505	32,1	9,5	41,6	64,0	22,4
6,505	34,8	9,5	44,3	64,0	19,7
6,900	34,5	9,5	44,0	64,0	20,0
9,535	25,3	9,5	34,8	64,0	29,2
10,720	25,2	9,5	34,7	64,0	29,3
12,920	18,5	9,5	28,0	64,0	36,0
16,860	15,2	9,5	24,7	64,0	39,3
24,010	30,0	9,5	39,5	64,0	24,5
29,865	15,3	9,5	24,8	64,0	39,2

Result: Limit kept	Project file: 00000-000000

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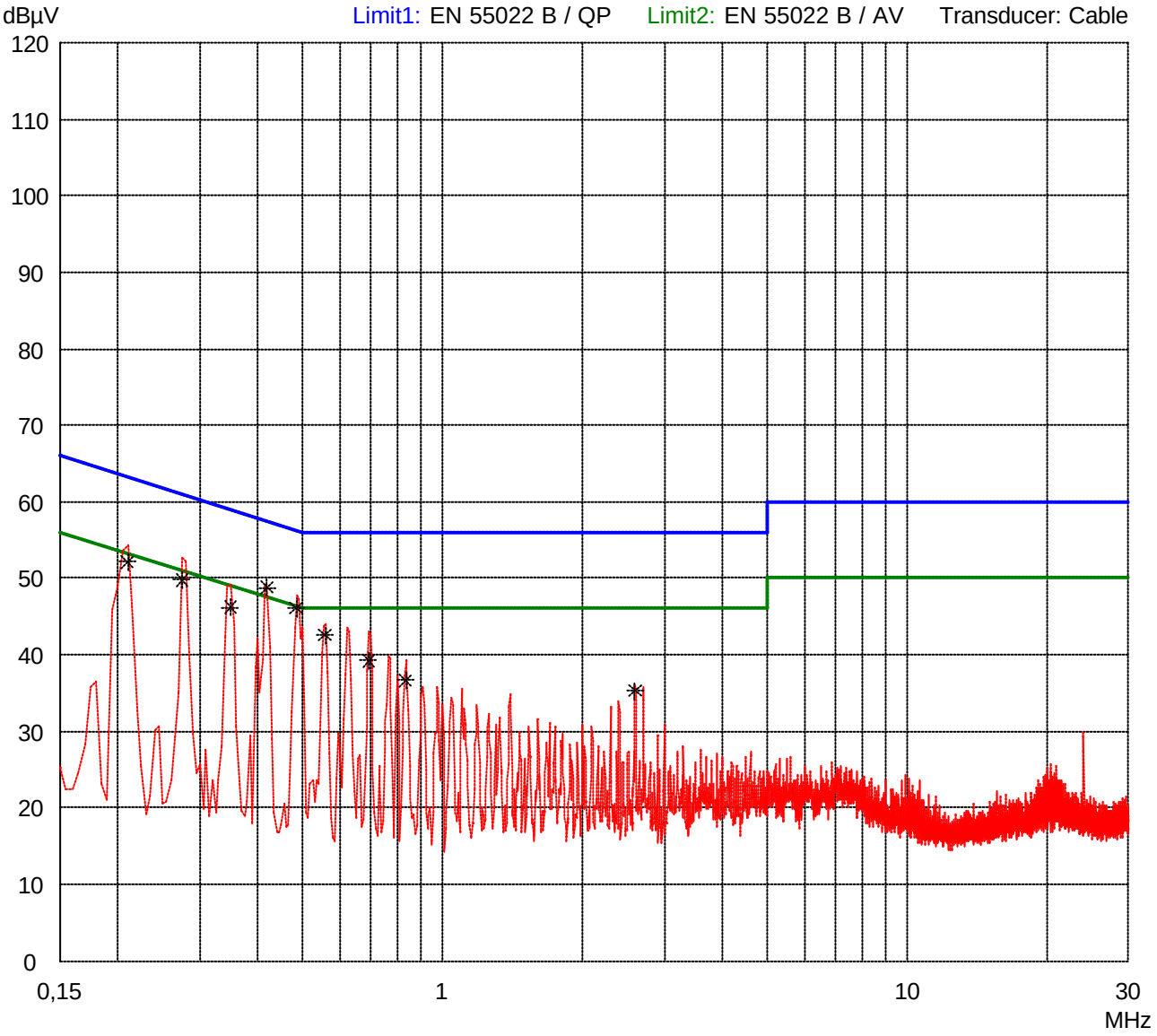
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 51 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	52,2	0,0	52,2	63,2	11,0
0,275	49,7	0,1	49,8	61,0	11,2
0,350	46,1	0,1	46,2	59,0	12,8
0,420	48,7	0,1	48,8	57,4	8,6
0,485	46,0	0,1	46,1	56,3	10,2
0,560	42,5	0,1	42,6	56,0	13,4
0,695	39,1	0,1	39,2	56,0	16,8
0,835	36,6	0,1	36,7	56,0	19,3
2,600	35,2	0,2	35,4	56,0	20,6

Result: Limit kept	Project file: 00000-000000

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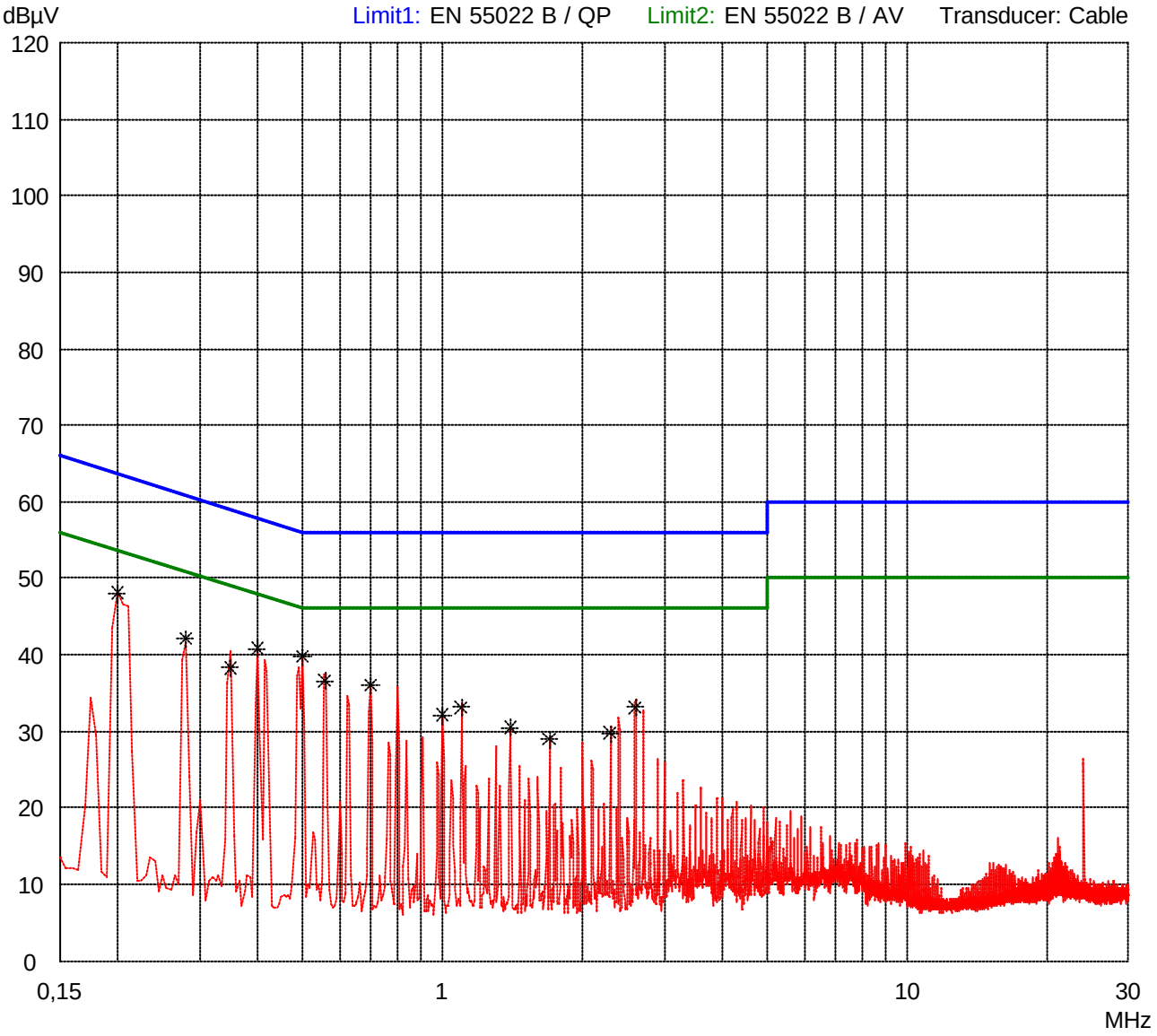
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 53 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,200	48,0	0,0	48,0	53,6	5,6
0,280	42,1	0,1	42,2	50,8	8,6
0,350	38,2	0,1	38,3	49,0	10,7
0,400	40,7	0,1	40,8	47,9	7,1
0,500	39,7	0,1	39,8	46,0	6,2
0,560	36,5	0,1	36,6	46,0	9,4
0,700	35,9	0,1	36,0	46,0	10,0
1,000	32,0	0,1	32,1	46,0	13,9
1,100	33,0	0,1	33,1	46,0	12,9
1,400	30,4	0,1	30,5	46,0	15,5
1,700	28,9	0,1	29,0	46,0	17,0
2,300	29,6	0,2	29,8	46,0	16,2
2,605	33,0	0,2	33,2	46,0	12,8

Result: Limit kept	Project file: 00000-000000

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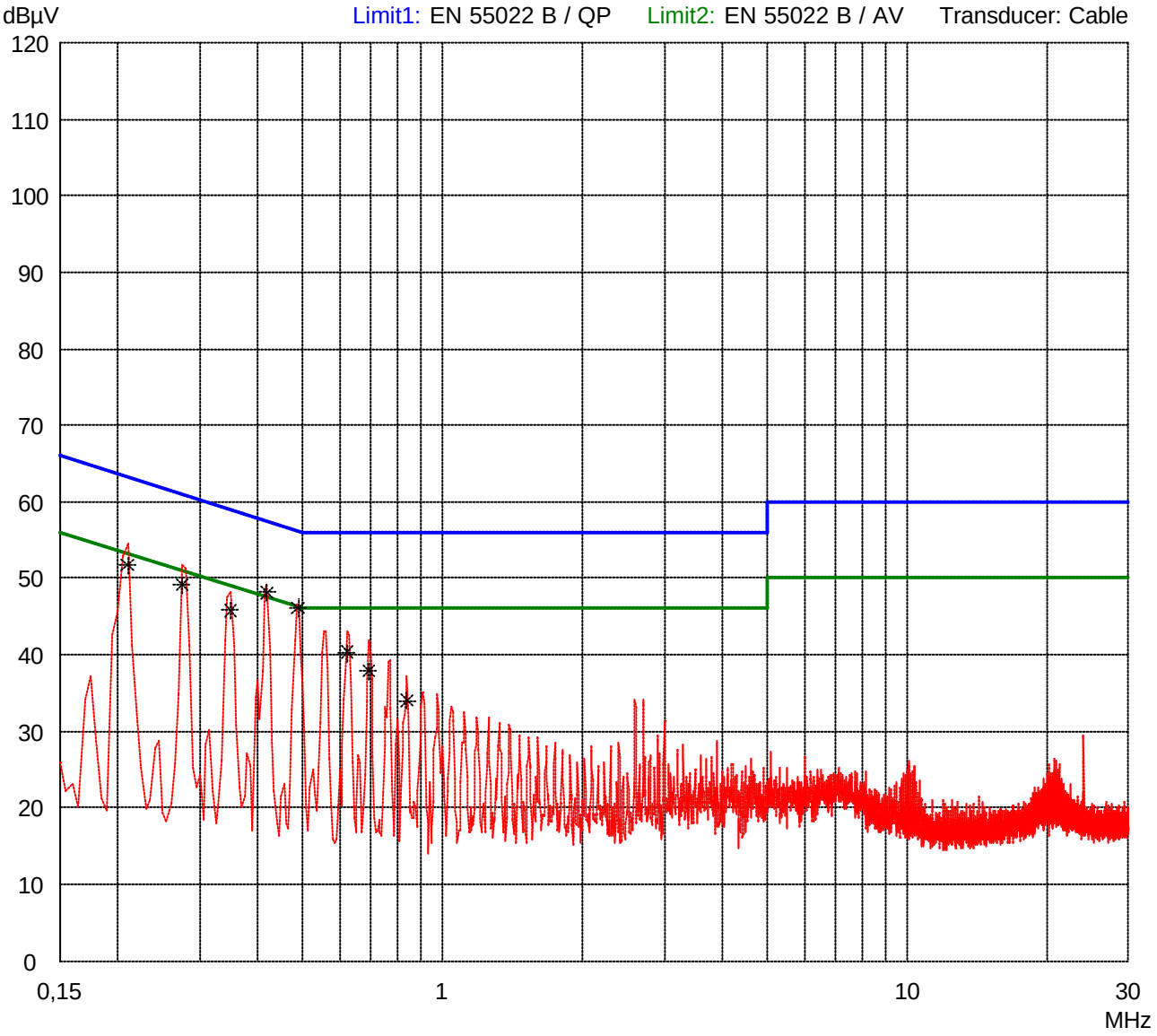
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 55 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	51,8	0,0	51,8	63,2	11,4
0,275	49,1	0,1	49,2	61,0	11,8
0,350	45,7	0,1	45,8	59,0	13,2
0,420	48,1	0,1	48,2	57,4	9,2
0,490	46,0	0,1	46,1	56,2	10,1
0,625	40,2	0,1	40,3	56,0	15,7
0,695	37,8	0,1	37,9	56,0	18,1
0,840	33,9	0,1	34,0	56,0	22,0

Result: Limit kept	Project file: 00000-000000

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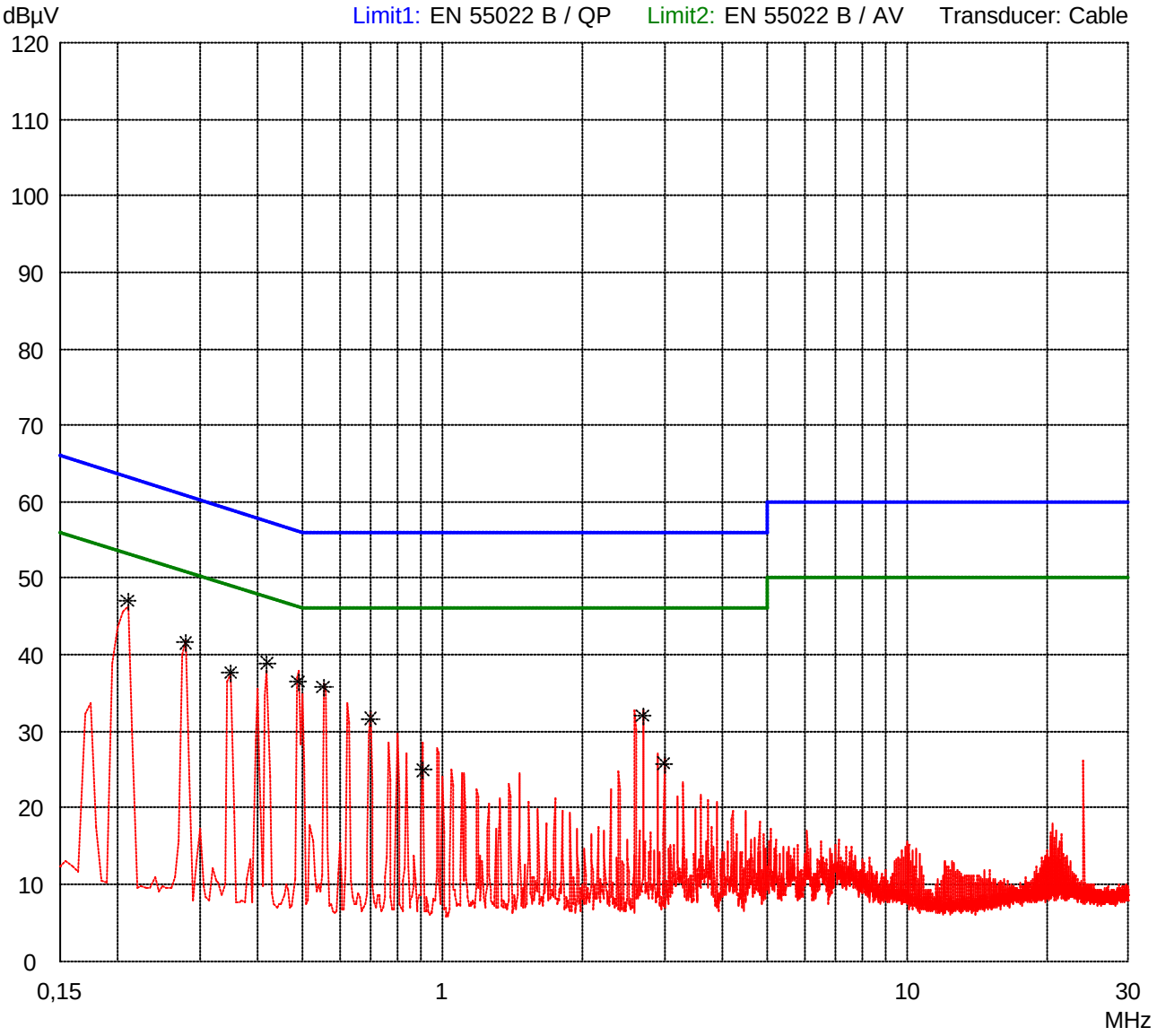
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 57 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	47,0	0,0	47,0	53,2	6,2
0,280	41,5	0,1	41,6	50,8	9,2
0,350	37,6	0,1	37,7	49,0	11,3
0,420	38,8	0,1	38,9	47,4	8,5
0,490	36,4	0,1	36,5	46,2	9,7
0,555	35,7	0,1	35,8	46,0	10,2
0,700	31,6	0,1	31,7	46,0	14,3
0,910	24,8	0,1	24,9	46,0	21,1
2,700	31,9	0,2	32,1	46,0	13,9
3,000	25,6	0,2	25,8	46,0	20,2

Result: Limit kept	Project file: 00000-000000

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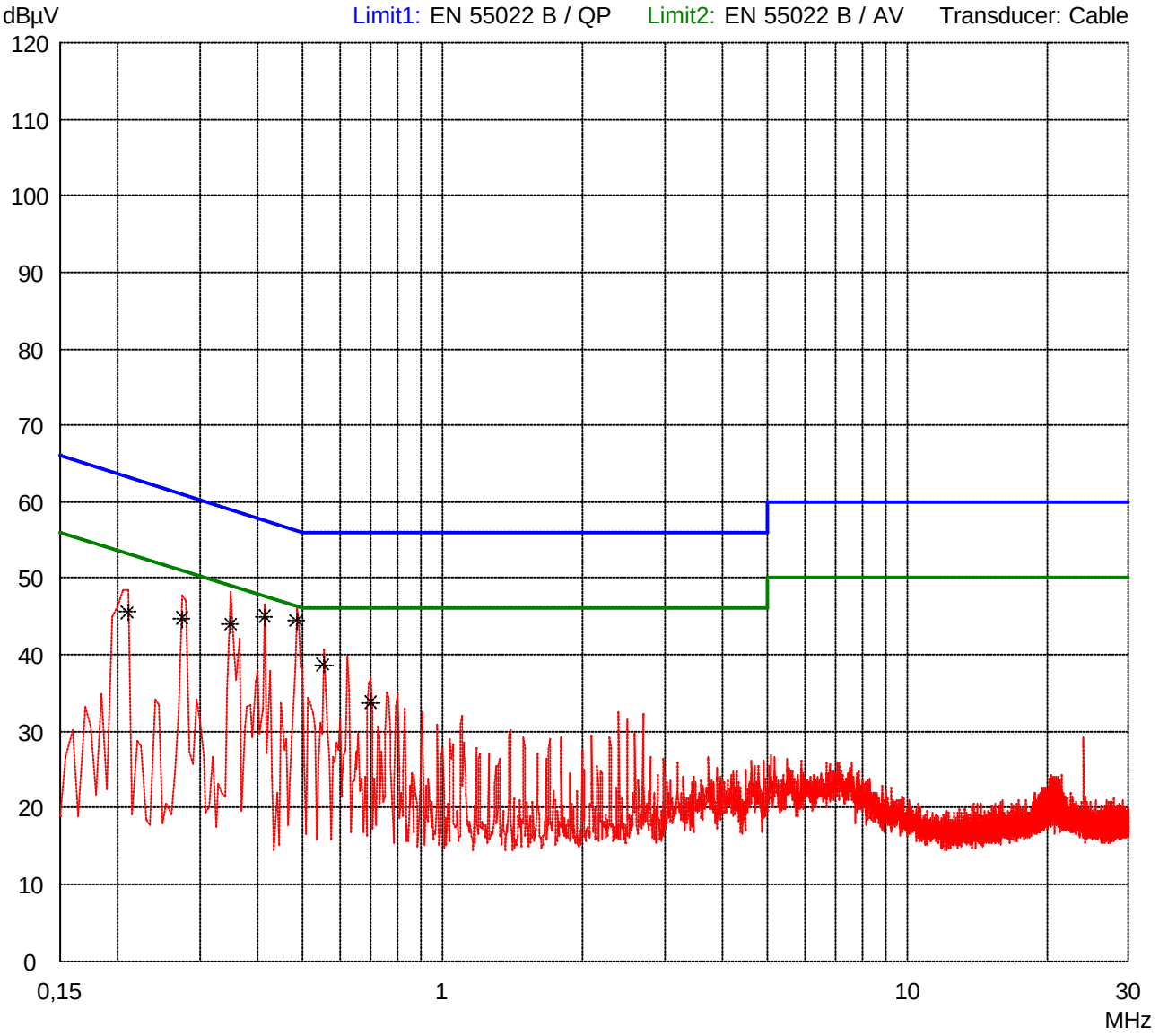
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 59 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	45,6	0,0	45,6	63,2	17,6
0,275	44,7	0,1	44,8	61,0	16,2
0,350	43,9	0,1	44,0	59,0	15,0
0,415	44,9	0,1	45,0	57,5	12,5
0,485	44,4	0,1	44,5	56,3	11,8
0,555	38,6	0,1	38,7	56,0	17,3
0,700	33,7	0,1	33,8	56,0	22,2

Result: Limit kept	Project file: 00000-000000

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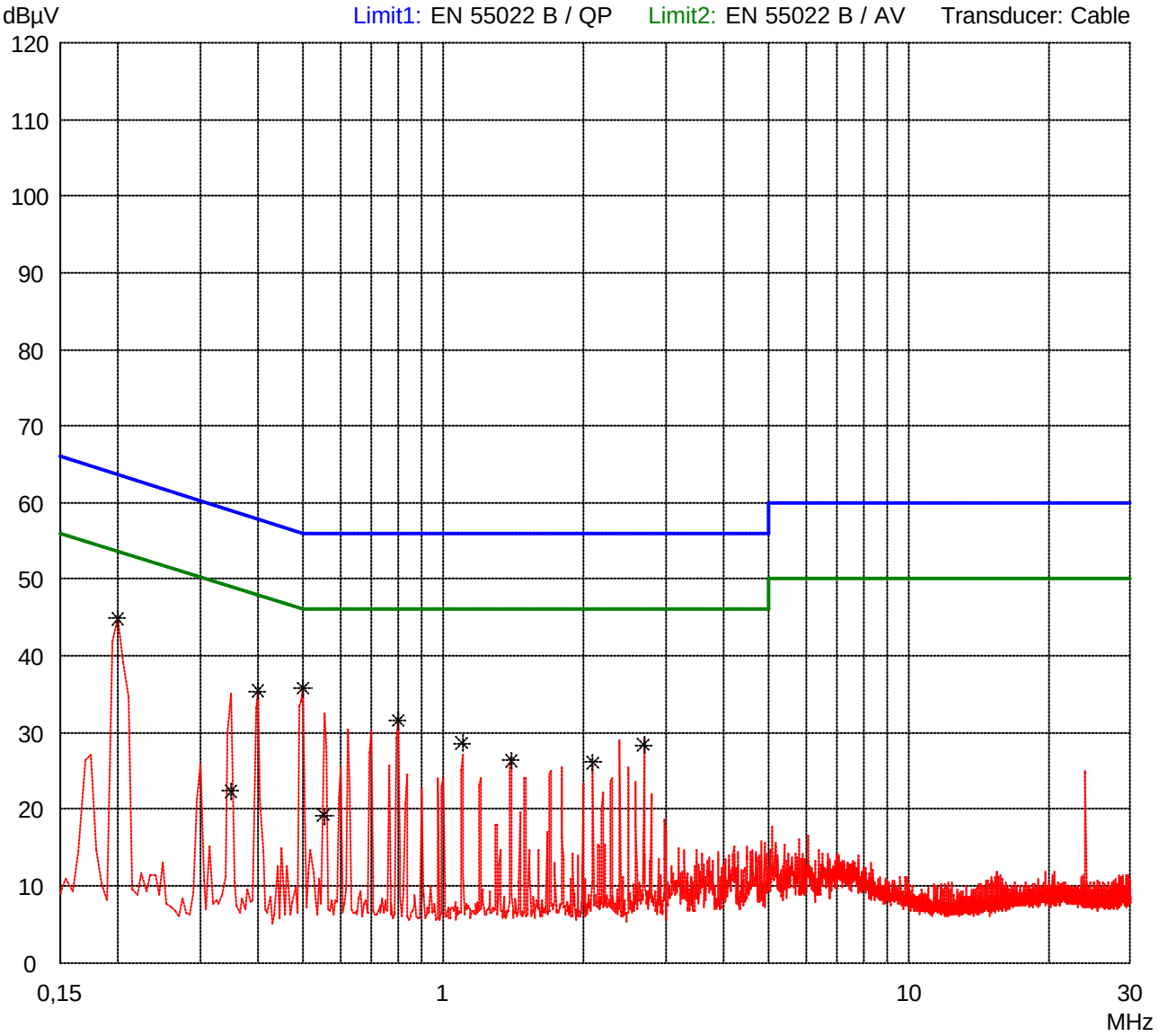
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 61 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase L1	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,200	44,8	0,0	44,8	53,6	8,8
0,350	22,3	0,1	22,4	49,0	26,6
0,400	35,3	0,1	35,4	47,9	12,5
0,500	35,7	0,1	35,8	46,0	10,2
0,555	19,1	0,1	19,2	46,0	26,8
0,800	31,5	0,1	31,6	46,0	14,4
1,100	28,5	0,1	28,6	46,0	17,4
1,400	26,2	0,1	26,3	46,0	19,7
2,100	26,1	0,1	26,2	46,0	19,8
2,700	28,2	0,2	28,4	46,0	17,6

Result: Limit kept	Project file: 00000-000000

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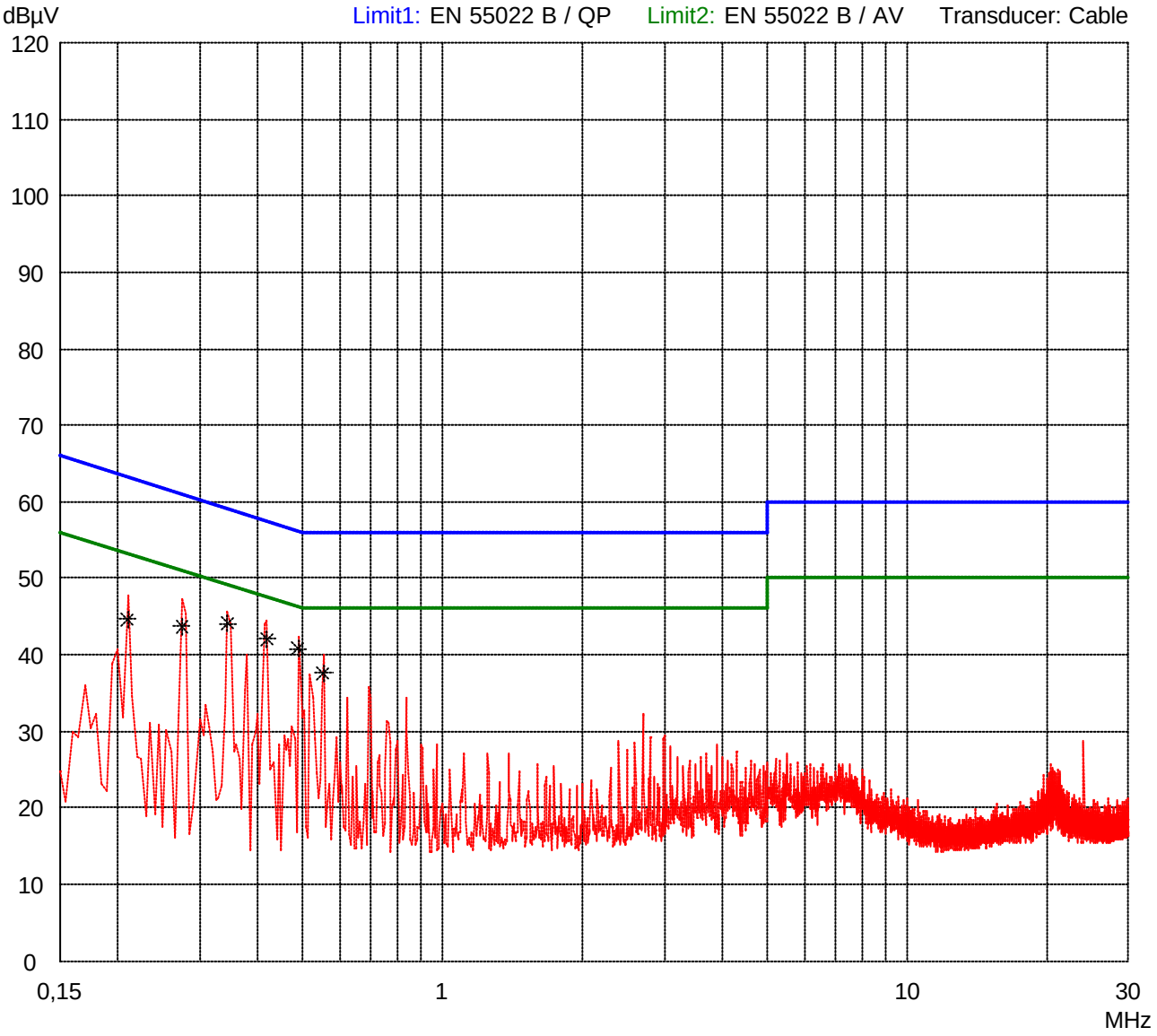
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Peak / Final Results: QP	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 63 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Peak / Final Results: QP	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	44,6	0,0	44,6	63,2	18,6
0,275	43,6	0,1	43,7	61,0	17,3
0,345	44,0	0,1	44,1	59,1	15,0
0,420	42,0	0,1	42,1	57,4	15,3
0,490	40,7	0,1	40,8	56,2	15,4
0,555	37,5	0,1	37,6	56,0	18,4

Result: Limit kept	Project file: 00000-000000

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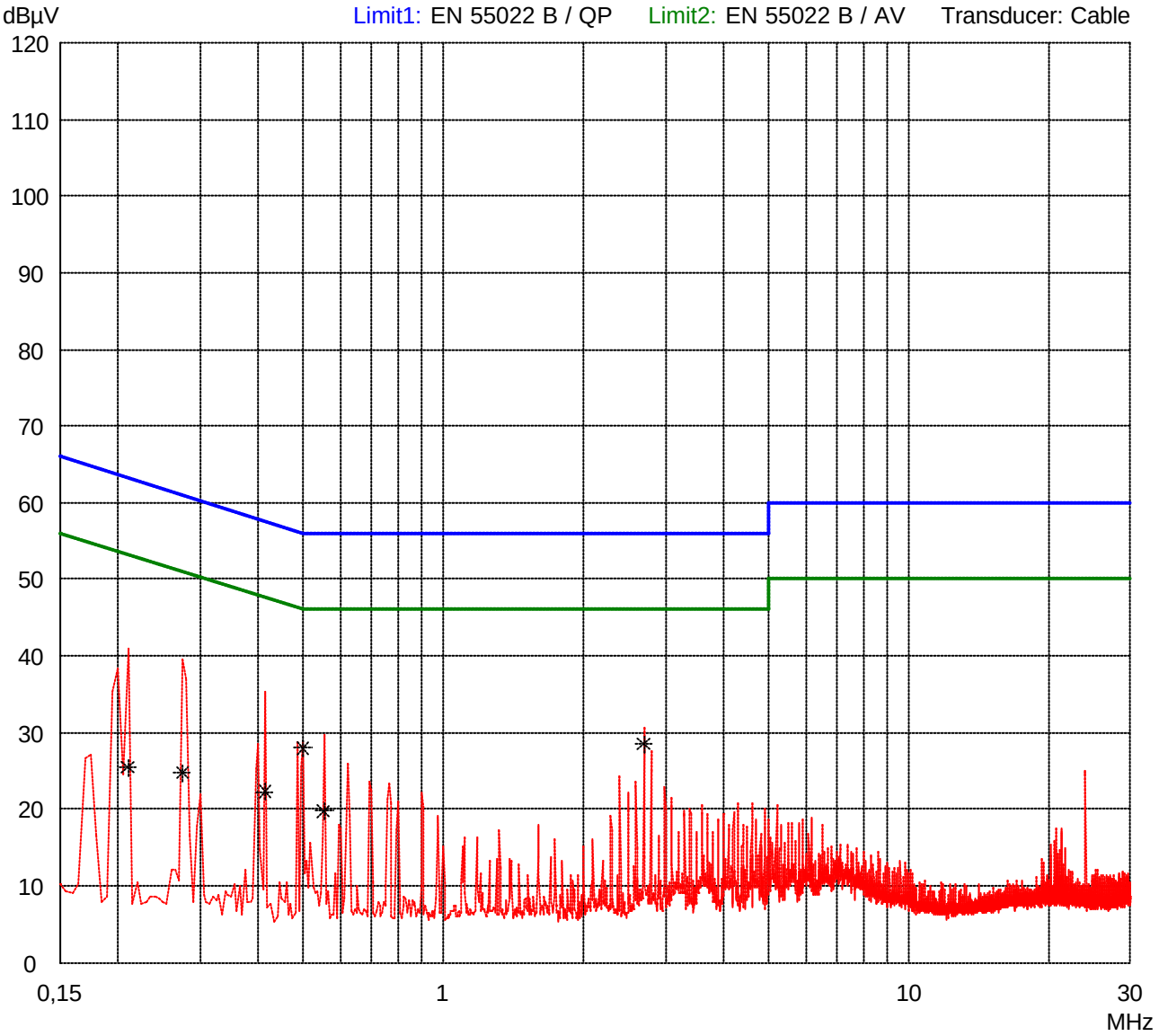
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	
Detector: Average / Final Results: AV	Final results: 20 dB Margin 25 Subranges



Result: Limit kept	Project file: 00000-000000 Page 65 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B / CISPR 22

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Linecord Phase N	
Date of test: 09/30/2010 / Operator: A. Liebert	
Test performed: automatically / File name:	

Detector: Average / Final Results: AV	Final results: 20 dB Margin / 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,210	25,4	0,0	25,4	53,2	27,8
0,275	24,7	0,1	24,8	51,0	26,2
0,415	22,2	0,1	22,3	47,5	25,2
0,500	27,9	0,1	28,0	46,0	18,0
0,555	19,7	0,1	19,8	46,0	26,2
2,700	28,4	0,2	28,6	46,0	17,4

Result: Limit kept	Project file: 00000-000000

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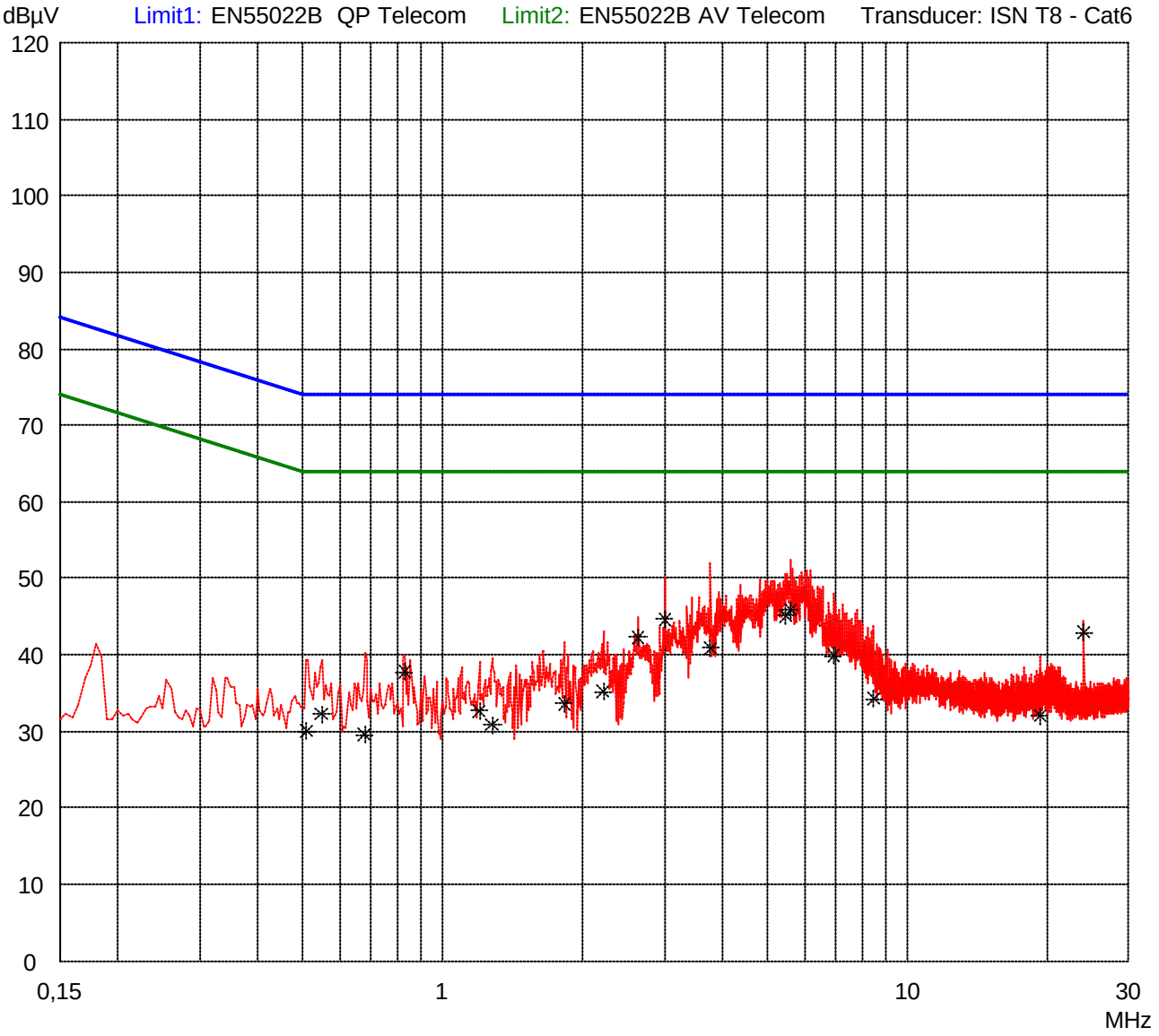
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 67 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,510	20,3	9,7	30,0	74,0	44,0
0,550	22,6	9,7	32,3	74,0	41,7
0,680	19,9	9,7	29,6	74,0	44,4
0,830	28,1	9,6	37,7	74,0	36,3
1,200	23,1	9,6	32,7	74,0	41,3
1,280	21,3	9,6	30,9	74,0	43,1
1,830	24,1	9,5	33,6	74,0	40,4
2,220	25,7	9,5	35,2	74,0	38,8
2,635	32,8	9,5	42,3	74,0	31,7
3,015	35,2	9,5	44,7	74,0	29,3
3,775	31,4	9,5	40,9	74,0	33,1
5,480	35,6	9,5	45,1	74,0	28,9
5,605	36,4	9,5	45,9	74,0	28,1
6,940	30,4	9,5	39,9	74,0	34,1
8,475	24,8	9,5	34,3	74,0	39,7
19,345	22,6	9,5	32,1	74,0	41,9
24,015	33,4	9,5	42,9	74,0	31,1

Result: Limit kept	Project file: 00000-000000

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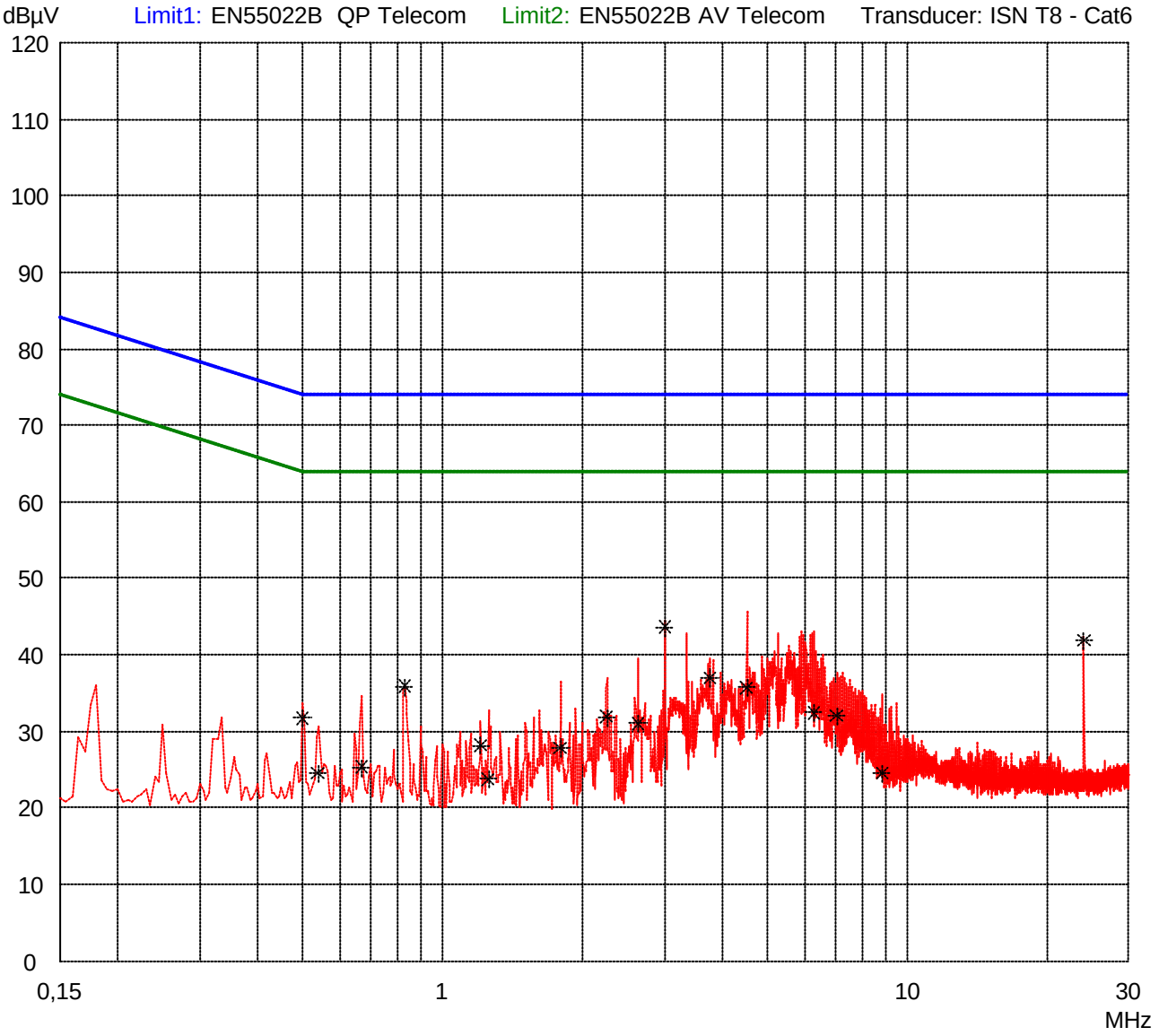
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 69 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN1	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,500	22,0	9,7	31,7	64,0	32,3
0,540	14,8	9,7	24,5	64,0	39,5
0,670	15,6	9,7	25,3	64,0	38,7
0,830	26,2	9,6	35,8	64,0	28,2
1,210	18,6	9,6	28,2	64,0	35,8
1,255	14,2	9,6	23,8	64,0	40,2
1,795	18,3	9,5	27,8	64,0	36,2
2,260	22,4	9,5	31,9	64,0	32,1
2,635	21,6	9,5	31,1	64,0	32,9
3,010	34,1	9,5	43,6	64,0	20,4
3,765	27,5	9,5	37,0	64,0	27,0
4,515	26,3	9,5	35,8	64,0	28,2
6,295	23,0	9,5	32,5	64,0	31,5
7,060	22,6	9,5	32,1	64,0	31,9
8,840	15,1	9,5	24,6	64,0	39,4
24,015	32,4	9,5	41,9	64,0	22,1

Result: Limit kept	Project file: 00000-000000

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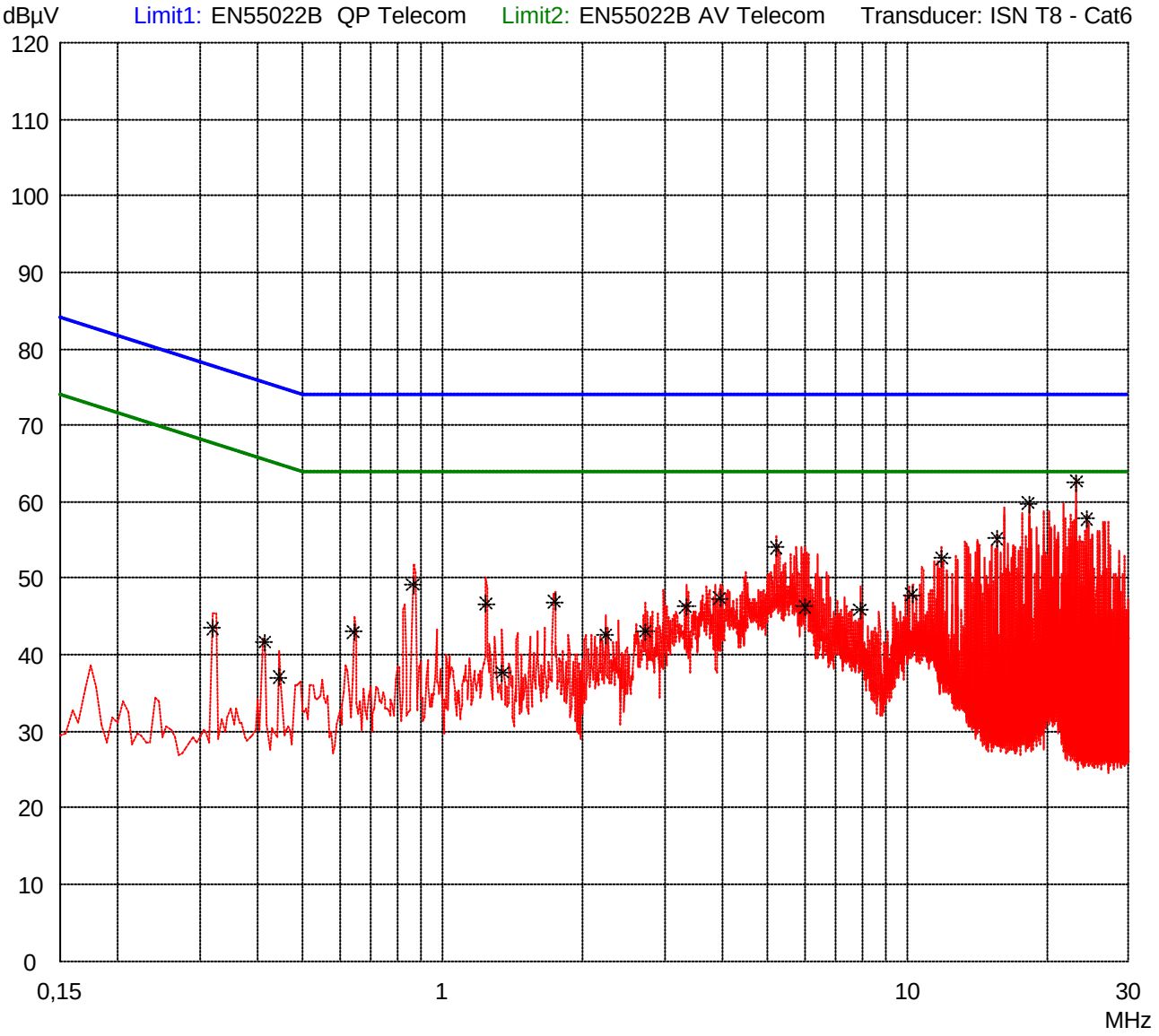
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 71 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,320	33,6	9,8	43,4	77,7	34,3
0,415	31,9	9,8	41,7	75,5	33,8
0,445	27,3	9,8	37,1	75,0	37,9
0,645	33,3	9,7	43,0	74,0	31,0
0,865	39,5	9,6	49,1	74,0	24,9
1,240	37,1	9,6	46,7	74,0	27,3
1,345	28,1	9,5	37,6	74,0	36,4
1,745	37,4	9,5	46,9	74,0	27,1
2,245	33,1	9,5	42,6	74,0	31,4
2,730	33,6	9,5	43,1	74,0	30,9
3,345	36,8	9,5	46,3	74,0	27,7
3,955	37,9	9,5	47,4	74,0	26,6
5,235	44,5	9,5	54,0	74,0	20,0
6,025	36,8	9,5	46,3	74,0	27,7
7,925	36,4	9,5	45,9	74,0	28,1
10,240	38,4	9,5	47,9	74,0	26,1
11,890	43,1	9,5	52,6	74,0	21,4
15,615	45,7	9,5	55,2	74,0	18,8
18,240	50,3	9,5	59,8	74,0	14,2
23,125	53,1	9,5	62,6	74,0	11,4
24,350	48,3	9,5	57,8	74,0	16,2

Result: Limit kept	Project file: 00000-000000 —

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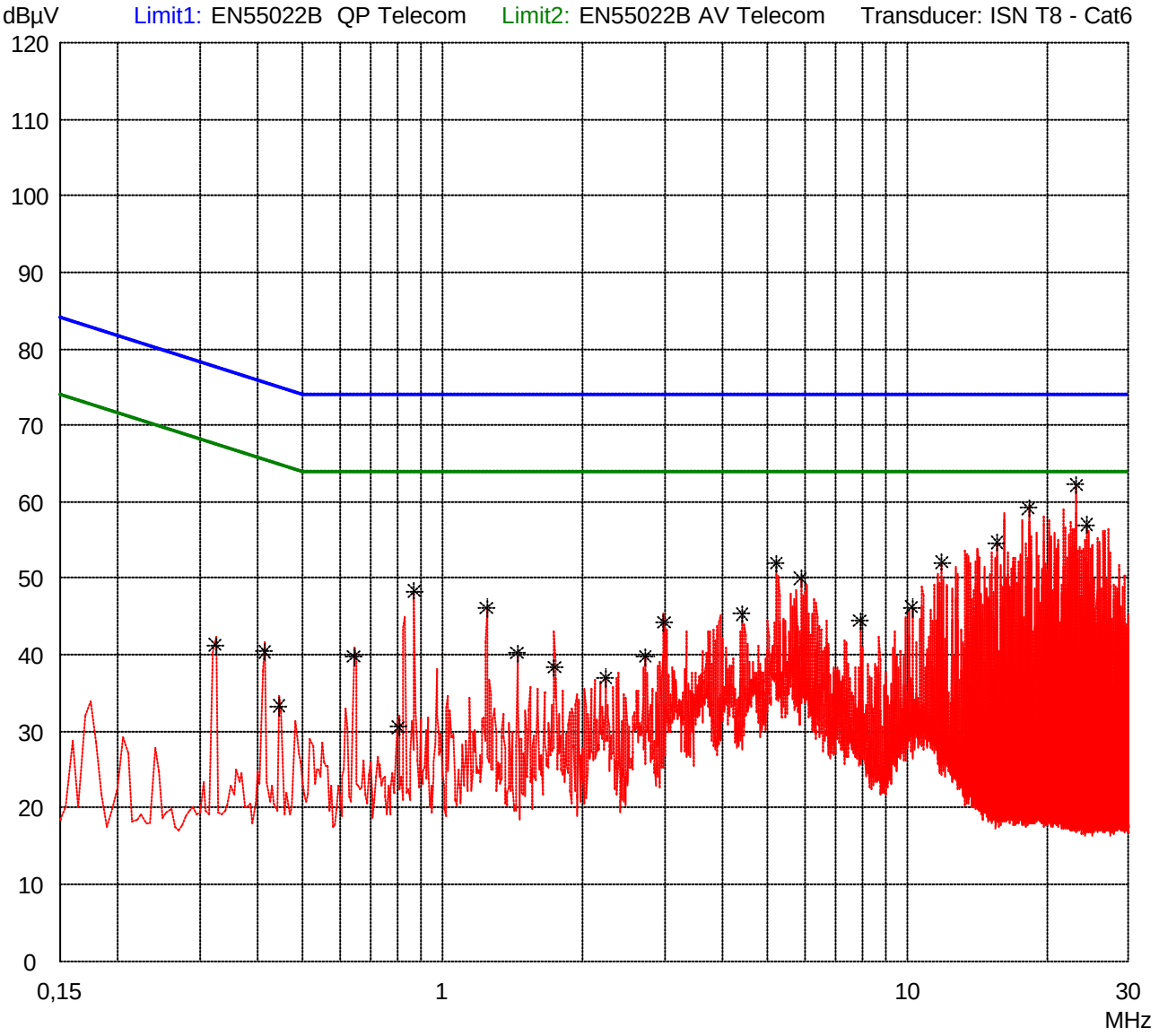
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 73 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN2	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,325	31,4	9,8	41,2	67,6	26,4
0,415	30,6	9,8	40,4	65,5	25,1
0,445	23,5	9,8	33,3	65,0	31,7
0,645	30,1	9,7	39,8	64,0	24,2
0,805	21,0	9,6	30,6	64,0	33,4
0,870	38,7	9,6	48,3	64,0	15,7
1,245	36,6	9,6	46,2	64,0	17,8
1,450	30,7	9,5	40,2	64,0	23,8
1,740	28,9	9,5	38,4	64,0	25,6
2,245	27,5	9,5	37,0	64,0	27,0
2,730	30,3	9,5	39,8	64,0	24,2
2,995	34,8	9,5	44,3	64,0	19,7
4,410	35,9	9,5	45,4	64,0	18,6
5,235	42,5	9,5	52,0	64,0	12,0
5,905	40,6	9,5	50,1	64,0	13,9
7,920	35,0	9,5	44,5	64,0	19,5
10,240	36,7	9,5	46,2	64,0	17,8
11,890	42,6	9,5	52,1	64,0	11,9
15,615	45,2	9,5	54,7	64,0	9,3
18,240	49,7	9,5	59,2	64,0	4,8
23,125	52,7	9,5	62,2	64,0	1,8
24,350	47,5	9,5	57,0	64,0	7,0

Result: Limit kept	Project file: 00000-000000

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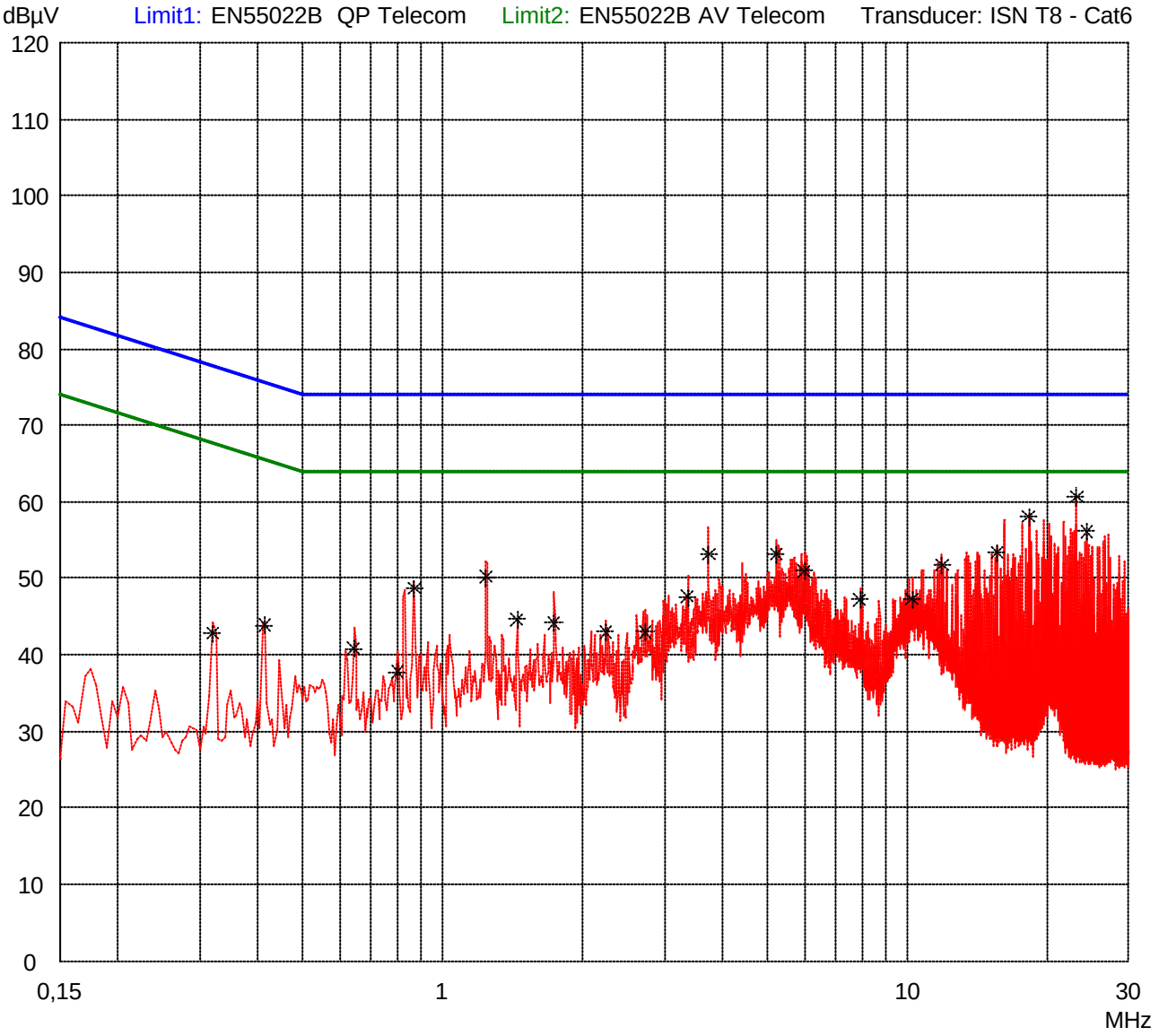
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges



Result: Limit kept	Project file: 00000-000000 — Page 75 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Peak / Final Results: QP	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,320	33,0	9,8	42,8	77,7	34,9
0,415	34,1	9,8	43,9	75,5	31,6
0,645	31,1	9,7	40,8	74,0	33,2
0,800	28,1	9,7	37,8	74,0	36,2
0,870	39,1	9,6	48,7	74,0	25,3
1,240	40,6	9,6	50,2	74,0	23,8
1,450	35,1	9,5	44,6	74,0	29,4
1,735	34,7	9,5	44,2	74,0	29,8
2,245	33,5	9,5	43,0	74,0	31,0
2,730	33,5	9,5	43,0	74,0	31,0
3,370	38,1	9,5	47,6	74,0	26,4
3,740	43,7	9,5	53,2	74,0	20,8
5,235	43,7	9,5	53,2	74,0	20,8
6,005	41,5	9,5	51,0	74,0	23,0
7,925	37,7	9,5	47,2	74,0	26,8
10,240	37,8	9,5	47,3	74,0	26,7
11,890	42,3	9,5	51,8	74,0	22,2
15,615	43,9	9,5	53,4	74,0	20,6
18,245	48,6	9,5	58,1	74,0	15,9
23,130	51,2	9,5	60,7	74,0	13,3
24,350	46,6	9,5	56,1	74,0	17,9

Result: Limit kept	Project file: 00000-000000

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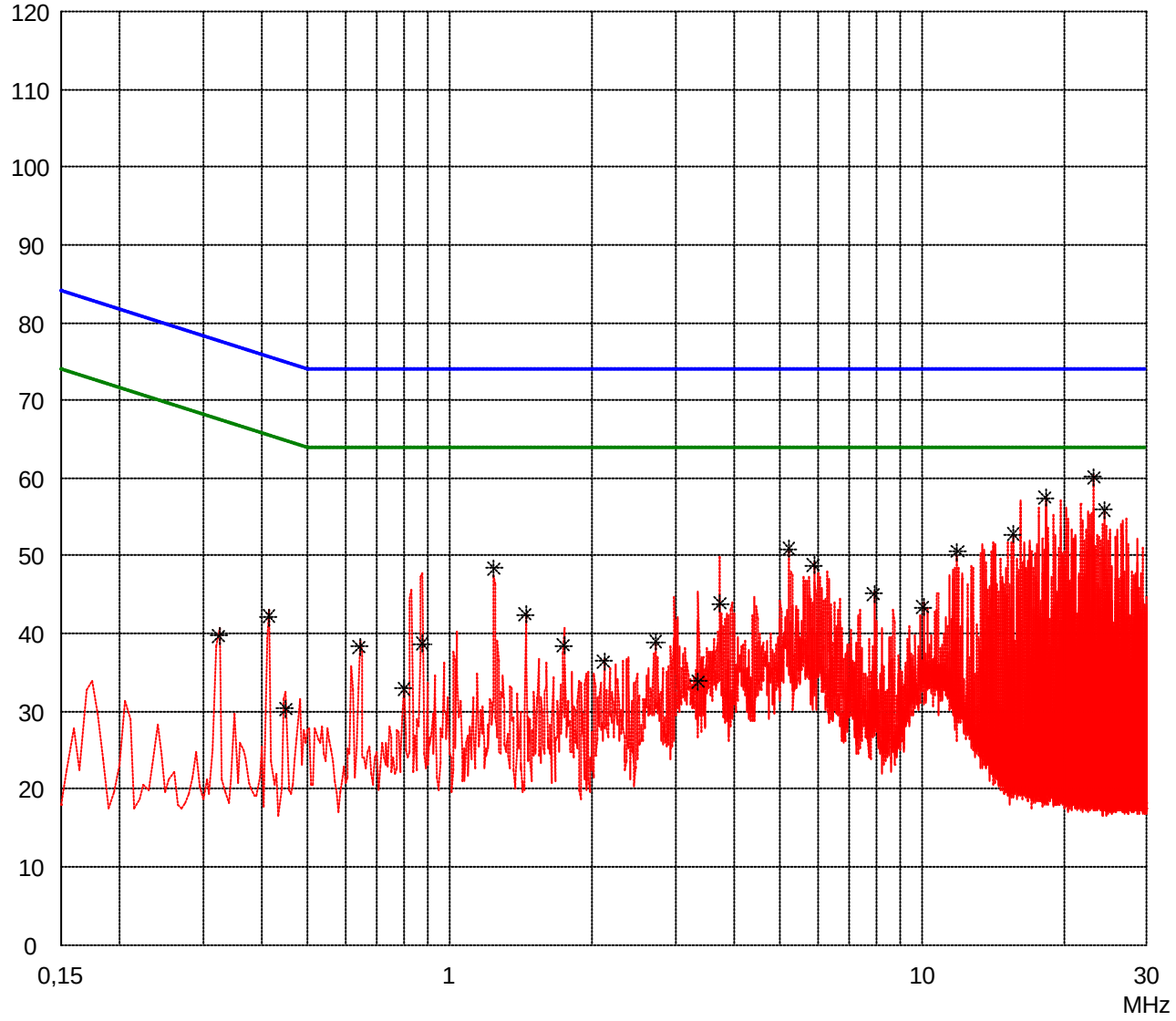
Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges

dBµV Limit1: EN55022B QP Telecom Limit2: EN55022B AV Telecom Transducer: ISN T8 - Cat6



Result: Limit kept	Project file: 00000-000000 — Page 77 of 165 Pages

Conducted Emission Test 150 kHz - 30 MHz
according to EN 55022 Class B GigaLAN

Model: KISS 4U Q57	Mode: simulated standard operation PS3_2 LAN3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Shielded room, cabin no. 1	
Tested on: Signal and data lines LAN3	
Date of test: 10/01/2010 — Operator: A. Liebert	
Test performed: automatically — File name:	

Detector: Average / Final Results: AV	Final results: 35 dB Margin — 25 Subranges

Frequency MHz	*Reading dBµV*	*Correction factor dB*	*Value dBµV*	*Limit dBµV*	*Margin dB*
0,325	29,9	9,8	39,7	67,6	27,9
0,415	32,4	9,8	42,2	65,5	23,3
0,450	20,6	9,8	30,4	64,9	34,5
0,645	28,6	9,7	38,3	64,0	25,7
0,800	23,3	9,7	33,0	64,0	31,0
0,875	29,1	9,6	38,7	64,0	25,3
1,240	38,8	9,6	48,4	64,0	15,6
1,450	32,9	9,5	42,4	64,0	21,6
1,745	29,0	9,5	38,5	64,0	25,5
2,120	27,0	9,5	36,5	64,0	27,5
2,730	29,5	9,5	39,0	64,0	25,0
3,365	24,4	9,5	33,9	64,0	30,1
3,740	34,4	9,5	43,9	64,0	20,1
5,235	41,4	9,5	50,9	64,0	13,1
5,905	39,3	9,5	48,8	64,0	15,2
7,925	35,6	9,5	45,1	64,0	18,9
10,060	33,9	9,5	43,4	64,0	20,6
11,890	41,1	9,5	50,6	64,0	13,4
15,615	43,3	9,5	52,8	64,0	11,2
18,245	48,0	9,5	57,5	64,0	6,5
23,130	50,6	9,5	60,1	64,0	3,9
24,350	46,4	9,5	55,9	64,0	8,1

Result: Limit kept	Project file: 00000-000000

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5.3 Photographs of Test Setup – Conducted Emission Test

Shielded room

6. Radiated Emission Test 30 MHz – 1000 MHz

6.1 Test conditions

6.1.1 Pretests - Absorber Chamber

The pretests for the detection of the critical frequencies generated by different operation conditions and worst-case cable layout has been performed in a

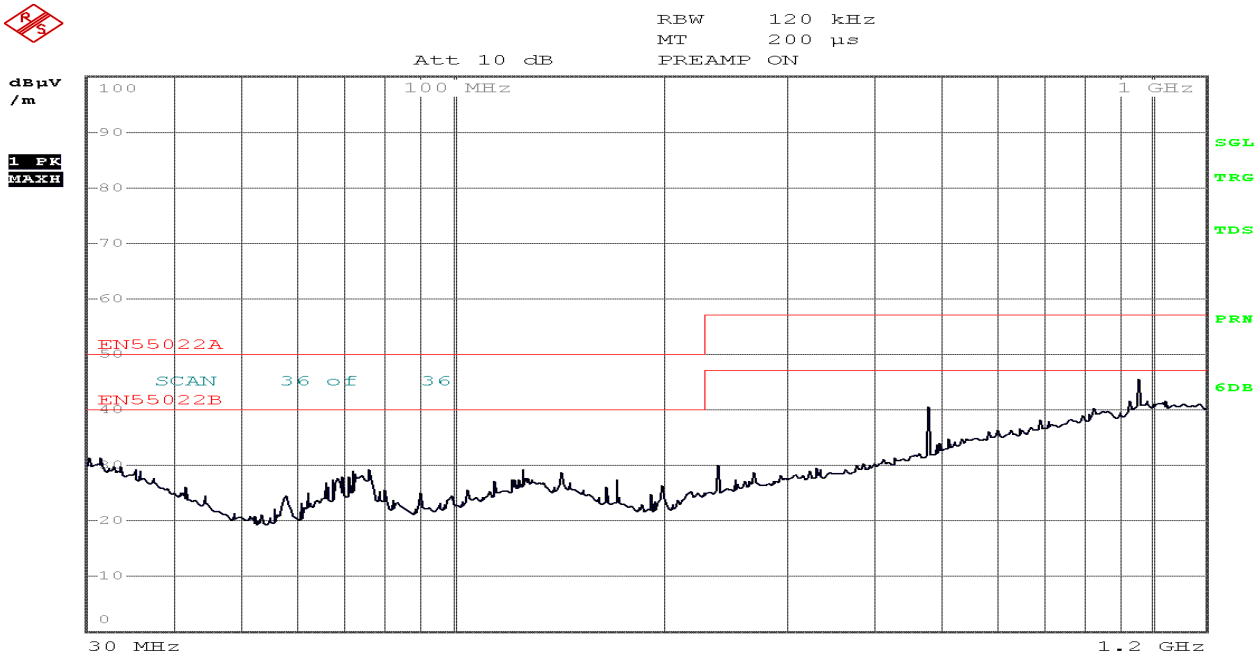
Absorber chamber	Frankonia	7,50 x 4,00 x 3,50	Inv.-No. 651

Used measuring equipment:

Spectrum Analyser	8567A	HP	Inv.-No.618
Preselector	85685A	HP	Inv.-No.:618
Quasi-Peak Adapter	85650A	HP	Inv.-No.618
BiLog- Antenna	CBL6111	Chase	Inv.-No.:608
Test receiver	ESPI	Rohde&Schwarz	Inv.-No.: 679

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
VERTICAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 1,orig,VERTIKAL
Date: 16.SEP.2010 16:05:13

EDIT PEAK LIST (Prescan Results)

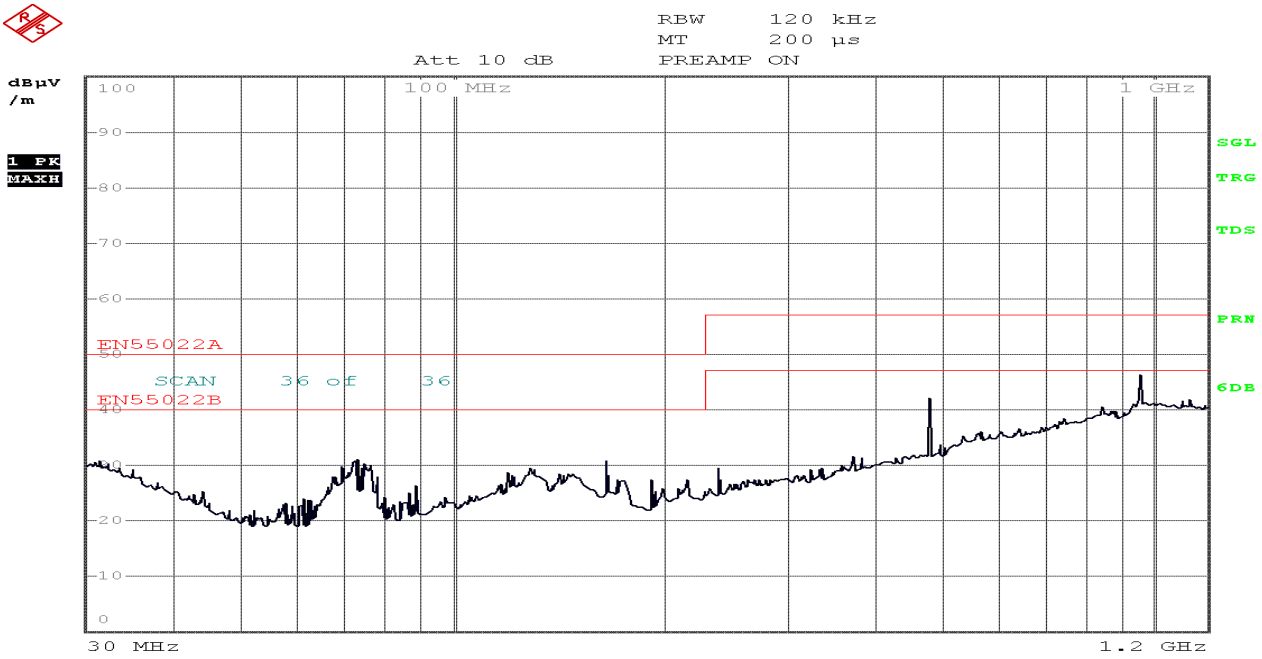
Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	31.32 MHz	31.45	-8.54
1 Max Peak	35.16 MHz	29.15	-10.84
1 Max Peak	69.52 MHz	28.02	-11.97
1 Max Peak	71.92 MHz	29.00	-11.00
1 Max Peak	76.12 MHz	29.22	-10.77
1 Max Peak	126.16 MHz	29.25	-10.75
1 Max Peak	143.16 MHz	28.61	-11.38
1 Max Peak	480.08 MHz	40.56	-6.43
1 Max Peak	603.48 MHz	36.22	-10.77
1 Max Peak	648.76 MHz	36.59	-10.40
1 Max Peak	676.36 MHz	36.98	-10.01
1 Max Peak	694.28 MHz	38.13	-8.86
1 Max Peak	768 MHz	38.26	-8.73
1 Max Peak	829.12 MHz	40.23	-6.76
1 Max Peak	857.44 MHz	40.08	-6.91
1 Max Peak	930.84 MHz	41.61	-5.38
1 Max Peak	960.16 MHz	45.45	-1.54
1 Max Peak	1.0508 GHz	41.47	-5.52
1 Max Peak	1.11252 GHz	41.08	-5.91
1 Max Peak	1.17752 GHz	41.19	-5.80

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 1,orig,VERTIKAL
Date: 16.SEP.2010 16:06:47

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
HORIZONTAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 1,orig,HORIZONTAL
Date: 16.SEP.2010 16:17:34

EDIT PEAK LIST (Prescan Results)

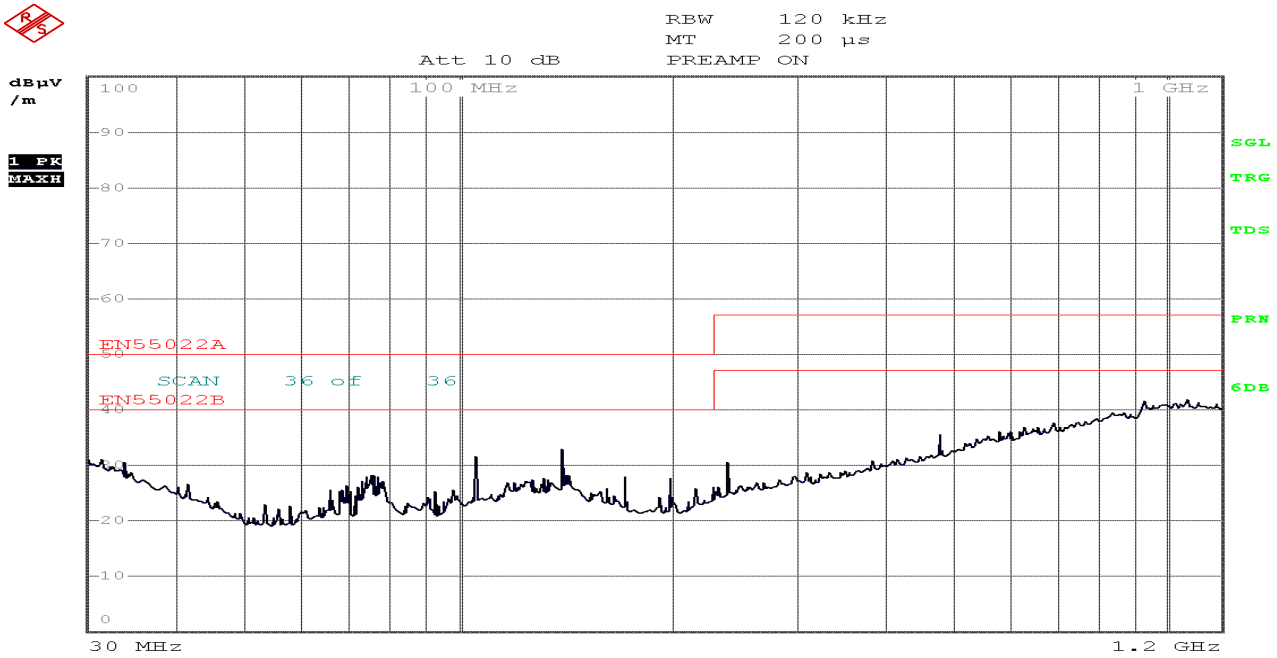
Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	31.24 MHz	30.86	-9.13
1 Max Peak	69.4 MHz	29.74	-10.25
1 Max Peak	73.28 MHz	31.14	-8.86
1 Max Peak	76.44 MHz	30.13	-9.86
1 Max Peak	129.08 MHz	29.59	-10.40
1 Max Peak	131.56 MHz	29.15	-10.84
1 Max Peak	166 MHz	30.89	-9.10
1 Max Peak	480.08 MHz	42.19	-4.80
1 Max Peak	569.92 MHz	36.09	-10.90
1 Max Peak	607.44 MHz	36.11	-10.88
1 Max Peak	645.84 MHz	36.58	-10.41
1 Max Peak	724.4 MHz	37.28	-9.71
1 Max Peak	750.04 MHz	38.37	-8.62
1 Max Peak	826.8 MHz	38.95	-8.04
1 Max Peak	849.4 MHz	40.47	-6.52
1 Max Peak	931.76 MHz	40.32	-6.68
1 Max Peak	960.16 MHz	46.30	-0.69
1 Max Peak	999.96 MHz	41.28	-5.71
1 Max Peak	1.1274 GHz	41.79	-5.20
1 Max Peak	1.14396 GHz	41.14	-5.85

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 1,orig,HORIZONTAL
Date: 16.SEP.2010 16:18:20

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
VERTICAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 2,VERTIKAL
Date: 17.SEP.2010 10:20:36

EDIT PEAK LIST (Prescan Results)

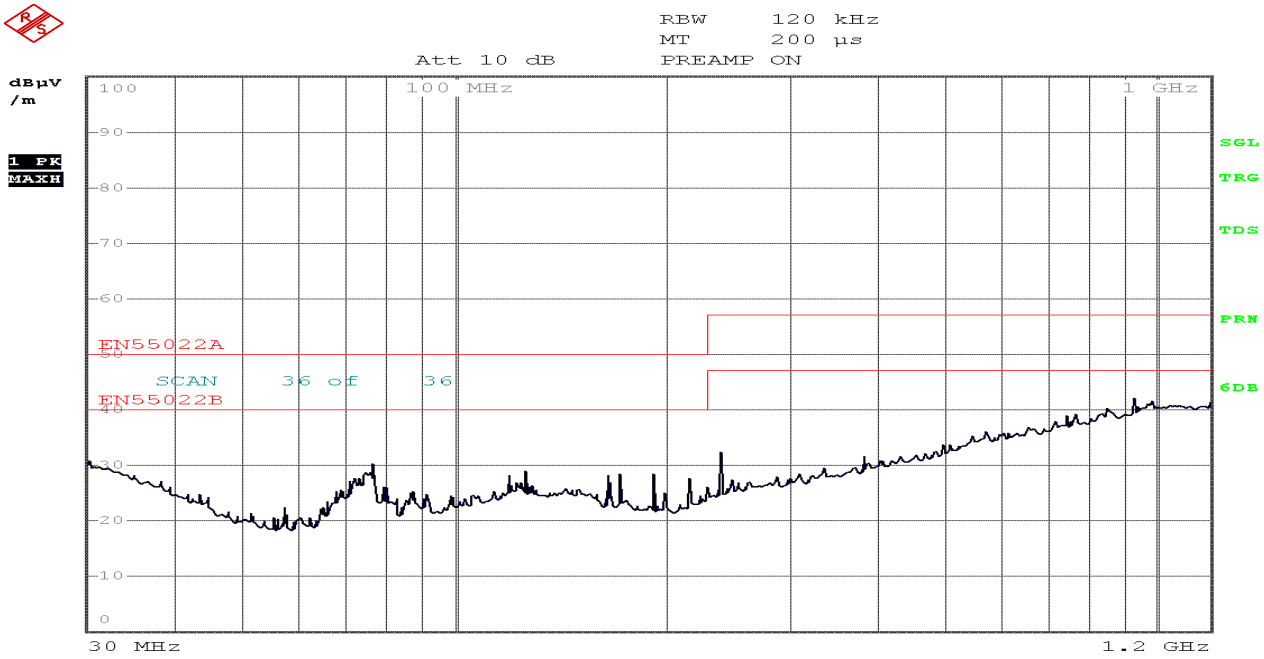
Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	31.36 MHz	31.09	-8.91
1 Max Peak	33.6 MHz	30.46	-9.53
1 Max Peak	75.4 MHz	28.13	-11.86
1 Max Peak	75.72 MHz	28.28	-11.71
1 Max Peak	105.84 MHz	31.52	-8.47
1 Max Peak	139.88 MHz	33.05	-6.94
1 Max Peak	480.04 MHz	35.65	-11.35
1 Max Peak	561.76 MHz	35.28	-11.71
1 Max Peak	582 MHz	36.20	-10.79
1 Max Peak	630.68 MHz	36.99	-10.00
1 Max Peak	660.2 MHz	36.90	-10.09
1 Max Peak	694.32 MHz	37.76	-9.23
1 Max Peak	768.04 MHz	37.96	-9.03
1 Max Peak	802.32 MHz	38.52	-8.47
1 Max Peak	842.76 MHz	39.62	-7.38
1 Max Peak	936.68 MHz	41.60	-5.39
1 Max Peak	992.28 MHz	40.82	-6.17
1 Max Peak	1.05272 GHz	41.14	-5.85
1 Max Peak	1.0758 GHz	41.80	-5.19
1 Max Peak	1.18484 GHz	41.01	-5.98

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 2,VERTIKAL
Date: 17.SEP.2010 10:21:05

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
HORIZONTAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 2,HORIZONTAL
Date: 17.SEP.2010 11:01:45

EDIT PEAK LIST (Prescan Results)

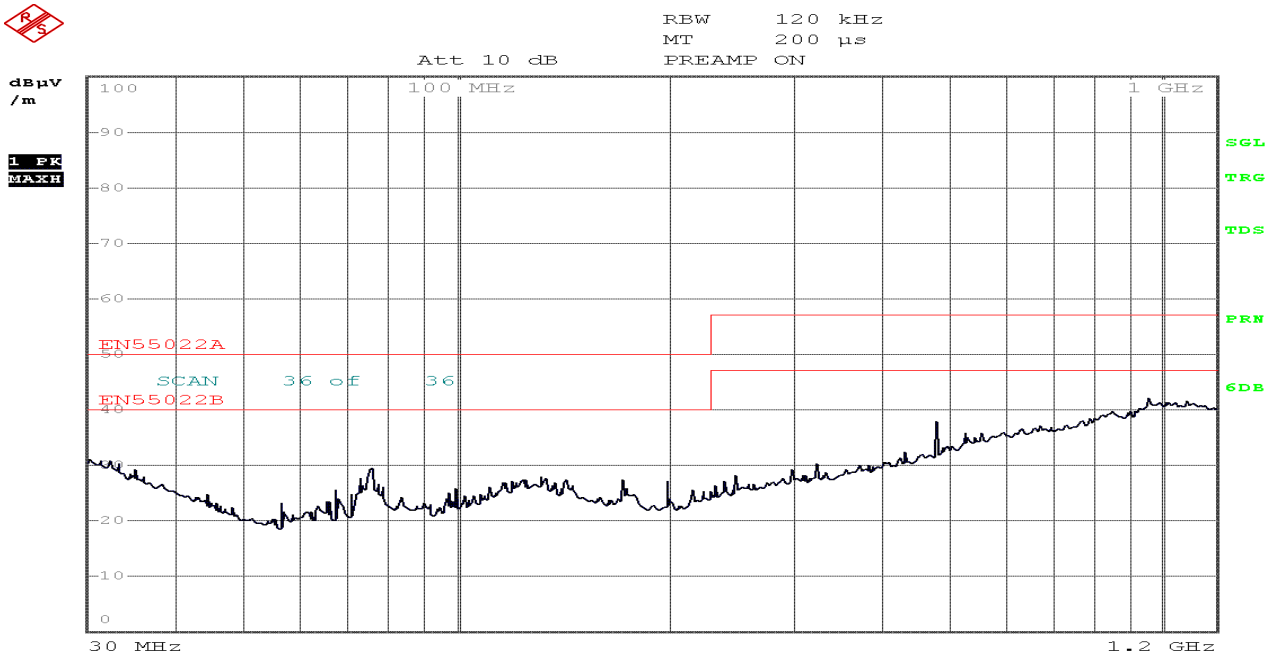
Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	30.12 MHz	30.91	-9.08
1 Max Peak	76.68 MHz	30.32	-9.67
1 Max Peak	119.96 MHz	28.30	-11.69
1 Max Peak	126.2 MHz	29.02	-10.97
1 Max Peak	166.64 MHz	28.19	-11.80
1 Max Peak	171.84 MHz	28.43	-11.56
1 Max Peak	192.12 MHz	28.60	-11.39
1 Max Peak	572.2 MHz	36.16	-10.83
1 Max Peak	606.52 MHz	35.95	-11.04
1 Max Peak	634 MHz	35.78	-11.21
1 Max Peak	661.04 MHz	36.82	-10.17
1 Max Peak	720.2 MHz	37.82	-9.17
1 Max Peak	768 MHz	39.13	-7.86
1 Max Peak	829 MHz	39.06	-7.93
1 Max Peak	855.28 MHz	40.22	-6.77
1 Max Peak	936.64 MHz	42.02	-4.97
1 Max Peak	993.36 MHz	41.48	-5.51
1 Max Peak	1.05152 GHz	40.97	-6.02
1 Max Peak	1.10132 GHz	40.92	-6.07
1 Max Peak	1.19584 GHz	41.30	-5.69

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 2,HORIZONTAL
Date: 17.SEP.2010 11:02:41

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
VERTICAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 3,VERTIKAL
Date: 20.SEP.2010 10:27:02

EDIT PEAK LIST (Prescan Results)

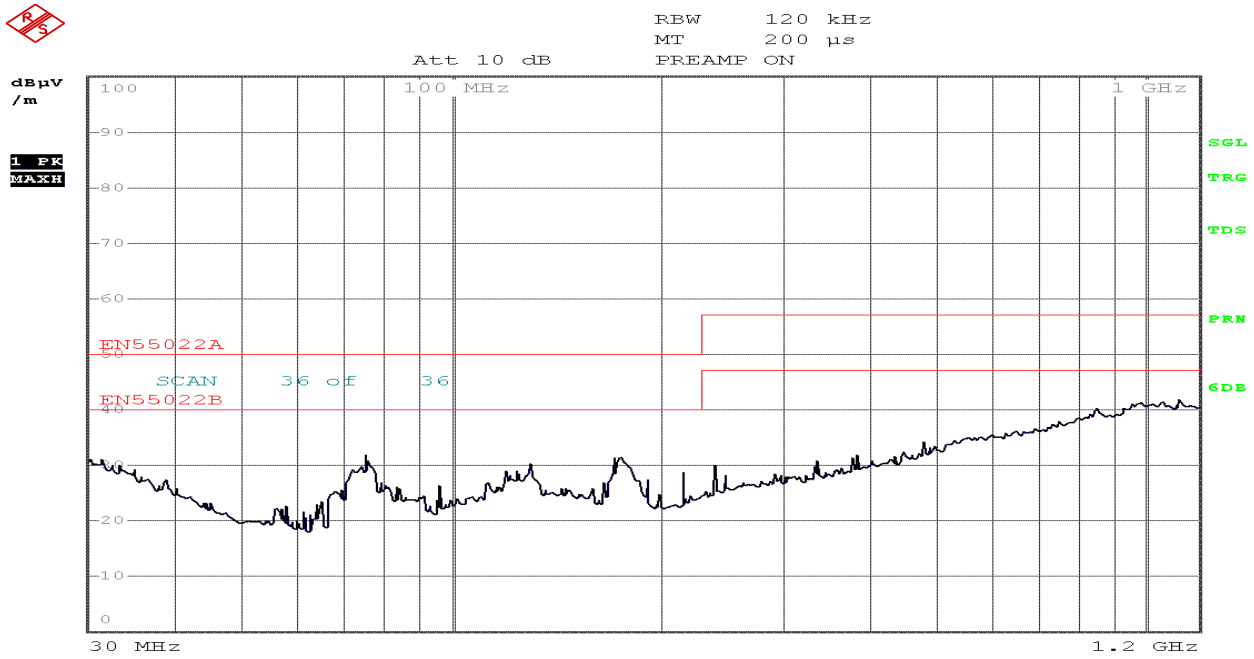
Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	30.28 MHz	31.18	-8.81
1 Max Peak	32.24 MHz	30.70	-9.29
1 Max Peak	35.04 MHz	29.14	-10.85
1 Max Peak	76.04 MHz	29.57	-10.43
1 Max Peak	480.08 MHz	37.99	-9.00
1 Max Peak	528.08 MHz	35.89	-11.11
1 Max Peak	557.48 MHz	35.90	-11.09
1 Max Peak	601.36 MHz	35.76	-11.23
1 Max Peak	635.2 MHz	36.67	-10.32
1 Max Peak	675.04 MHz	37.12	-9.87
1 Max Peak	699.56 MHz	36.94	-10.06
1 Max Peak	776.32 MHz	37.85	-9.14
1 Max Peak	829.68 MHz	39.03	-7.96
1 Max Peak	851.76 MHz	39.66	-7.33
1 Max Peak	936.64 MHz	40.22	-6.77
1 Max Peak	960.08 MHz	42.20	-4.79
1 Max Peak	1.00444 GHz	41.64	-5.35
1 Max Peak	1.08956 GHz	41.47	-5.52
1 Max Peak	1.14164 GHz	41.12	-5.87

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 3,VERTIKAL
Date: 20.SEP.2010 10:27:16

Radiated Emission Test 30 MHz – 1000 MHz
Pretest – Absorber Chamber

Kiss 4 U Q57
Operating mode
HORIZONTAL



Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 3,HORIZONTAL
Date: 20.SEP.2010 10:37:34

EDIT PEAK LIST (Prescan Results)

Trace1:	EN55022B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Max Peak	31.32 MHz	31.22	-8.77
1 Max Peak	33.16 MHz	30.05	-9.94
1 Max Peak	34.96 MHz	29.24	-10.75
1 Max Peak	75.16 MHz	31.78	-8.21
1 Max Peak	75.84 MHz	30.88	-9.11
1 Max Peak	129.88 MHz	30.40	-9.59
1 Max Peak	171.8 MHz	31.44	-8.55
1 Max Peak	180.32 MHz	30.09	-9.90
1 Max Peak	682.92 MHz	36.09	-10.90
1 Max Peak	729.2 MHz	36.77	-10.22
1 Max Peak	754.76 MHz	37.94	-9.05
1 Max Peak	825.32 MHz	38.71	-8.28
1 Max Peak	852.8 MHz	40.27	-6.72
1 Max Peak	936.64 MHz	40.24	-6.75
1 Max Peak	993.52 MHz	41.46	-5.53
1 Max Peak	1.05908 GHz	41.40	-5.59
1 Max Peak	1.12168 GHz	41.75	-5.24
1 Max Peak	1.12944 GHz	41.33	-5.66

Comment: KISS4U 57y,simulated standard operation w.BIP 6.0,LCD off,PS
Comment: 3,HORIZONTAL
Date: 20.SEP.2010 10:38:25

6.1.2 Final Tests – Open area test side

The Final tests have been performed with vertical and horizontal antenna position at the

Open area test side	CE-Conform	test distance: 3 m **X 10 m** 30 m	

Used measuring equipment:

Test receiver	ESVS30	Rohde&Schwarz	
Antenna mast		EMCO	
Antenna	CBL 6111	Rohde & Schwarz	

6.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept**

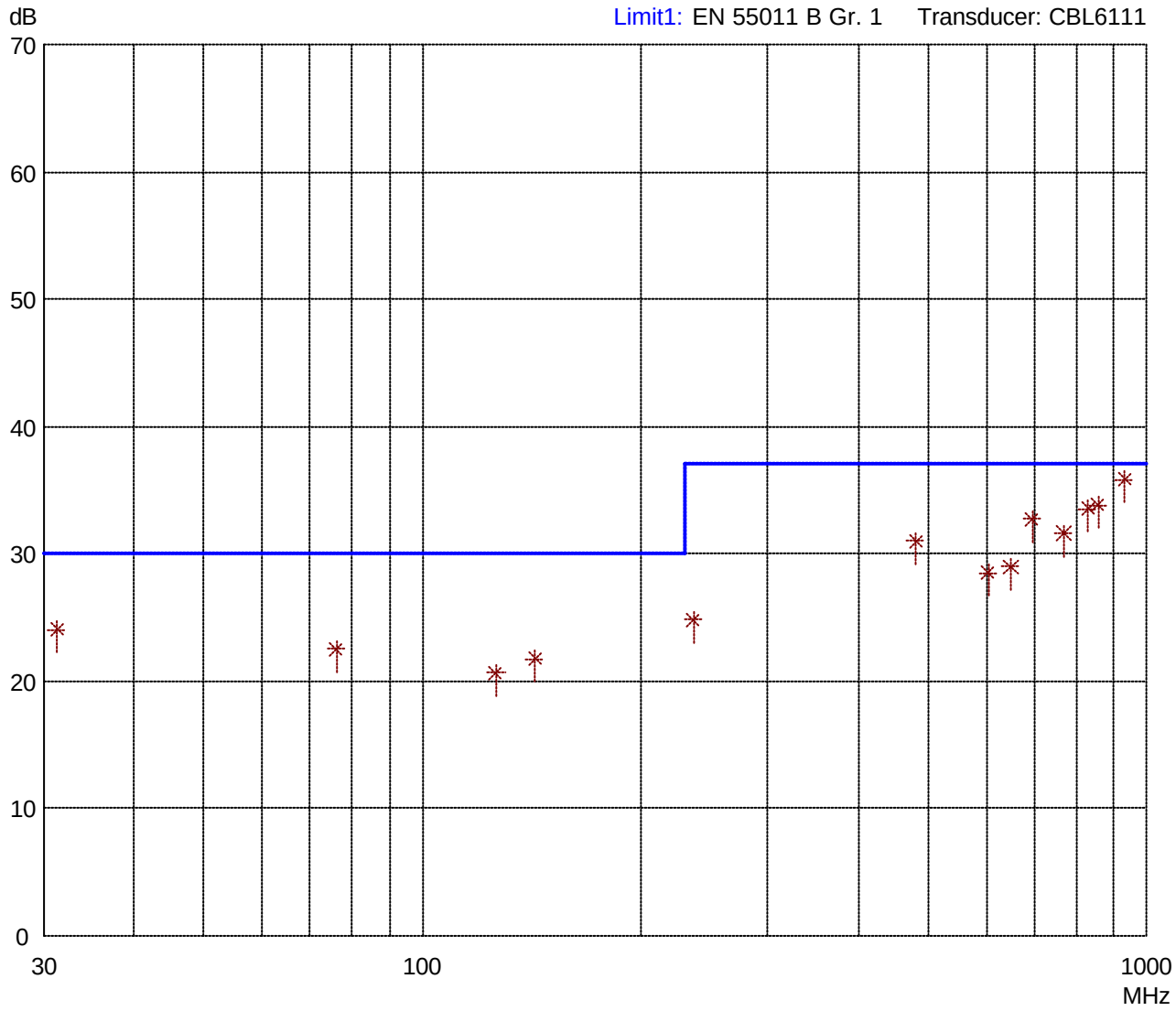
lowest margin to limit value:	1 dB

Not kept

highest margin above limit value:	

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	
Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/13/2010 / Operator: A. Liebert	
Test performed: by hand / File name:	
Detector: Quasi-Peak	List of values: Selected by hand

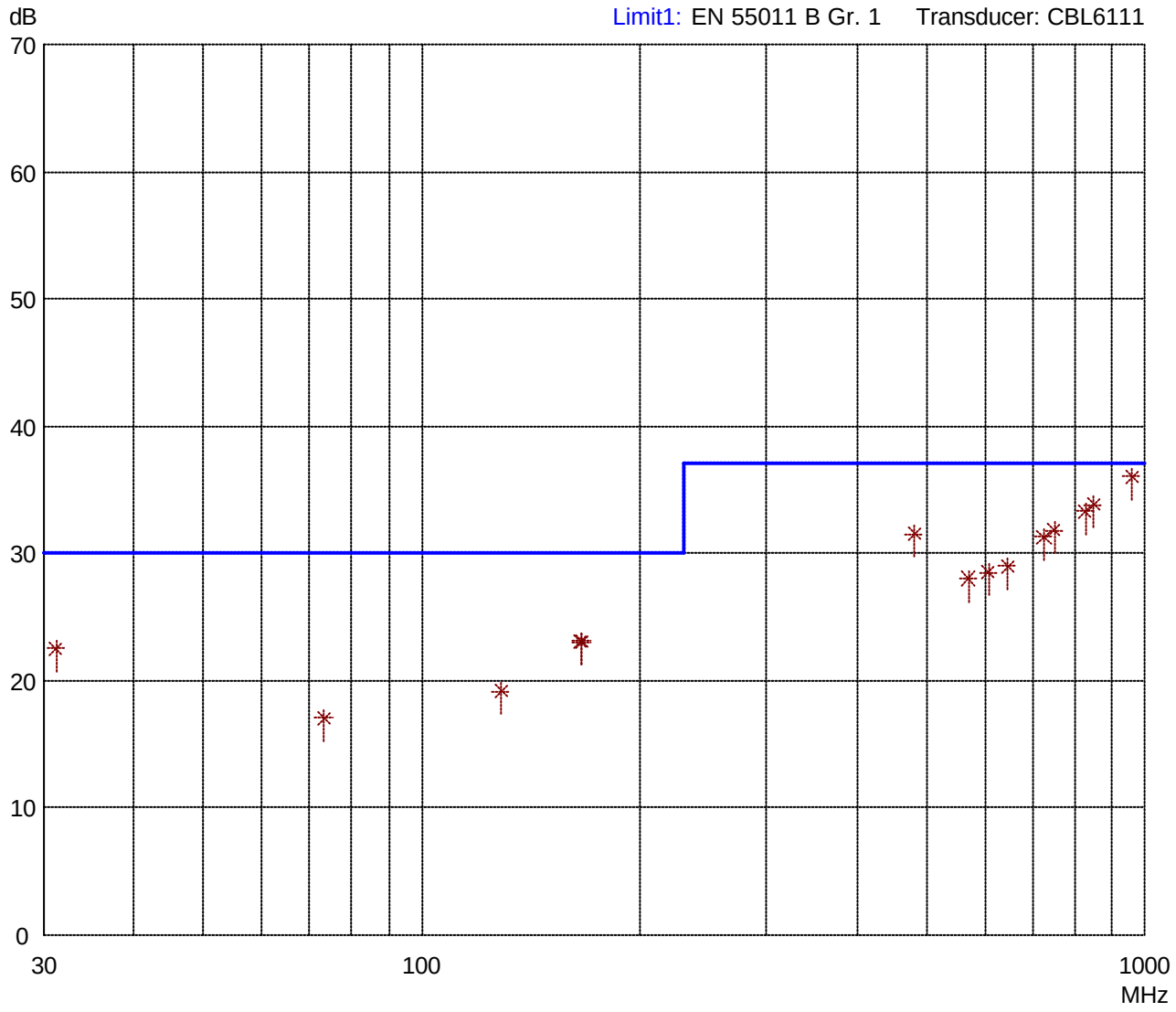
Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
31,32	5,9	18,1	24,0	30,0	6,0
76,12	14,3	8,2	22,5	30,0	7,5
126,16	7,0	13,6	20,6	30,0	9,4
143,20	8,4	13,3	21,7	30,0	8,3
236,78	10,5	14,3	24,8	37,0	12,2
480,08	10,0	21,0	31,0	37,0	6,0
603,48	4,8	23,7	28,5	37,0	8,5
648,76	4,6	24,4	29,0	37,0	8,0
694,28	7,9	24,8	32,7	37,0	4,3
768,00	5,6	26,0	31,6	37,0	5,4
829,12	6,3	27,2	33,5	37,0	3,5
857,44	6,1	27,7	33,8	37,0	3,2
930,84	7,5	28,3	35,8	37,0	1,2

Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	
Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS1
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	
Detector: Quasi-Peak	List of values: Selected by hand

Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
31,24	4,4	18,1	22,5	30,0	7,5
73,28	9,0	8,0	17,0	30,0	13,0
129,08	5,5	13,6	19,1	30,0	10,9
166,00	11,1	11,9	23,0	30,0	7,0
166,66	11,3	11,8	23,1	30,0	6,9
480,08	10,5	21,0	31,5	37,0	5,5
569,92	4,5	23,5	28,0	37,0	9,0
607,44	4,8	23,7	28,5	37,0	8,5
645,84	4,7	24,3	29,0	37,0	8,0
724,40	6,1	25,2	31,3	37,0	5,7
750,04	6,1	25,7	31,8	37,0	5,2
826,80	6,1	27,2	33,3	37,0	3,7
849,40	6,1	27,7	33,8	37,0	3,2
960,16	7,0	29,0	36,0	37,0	1,0

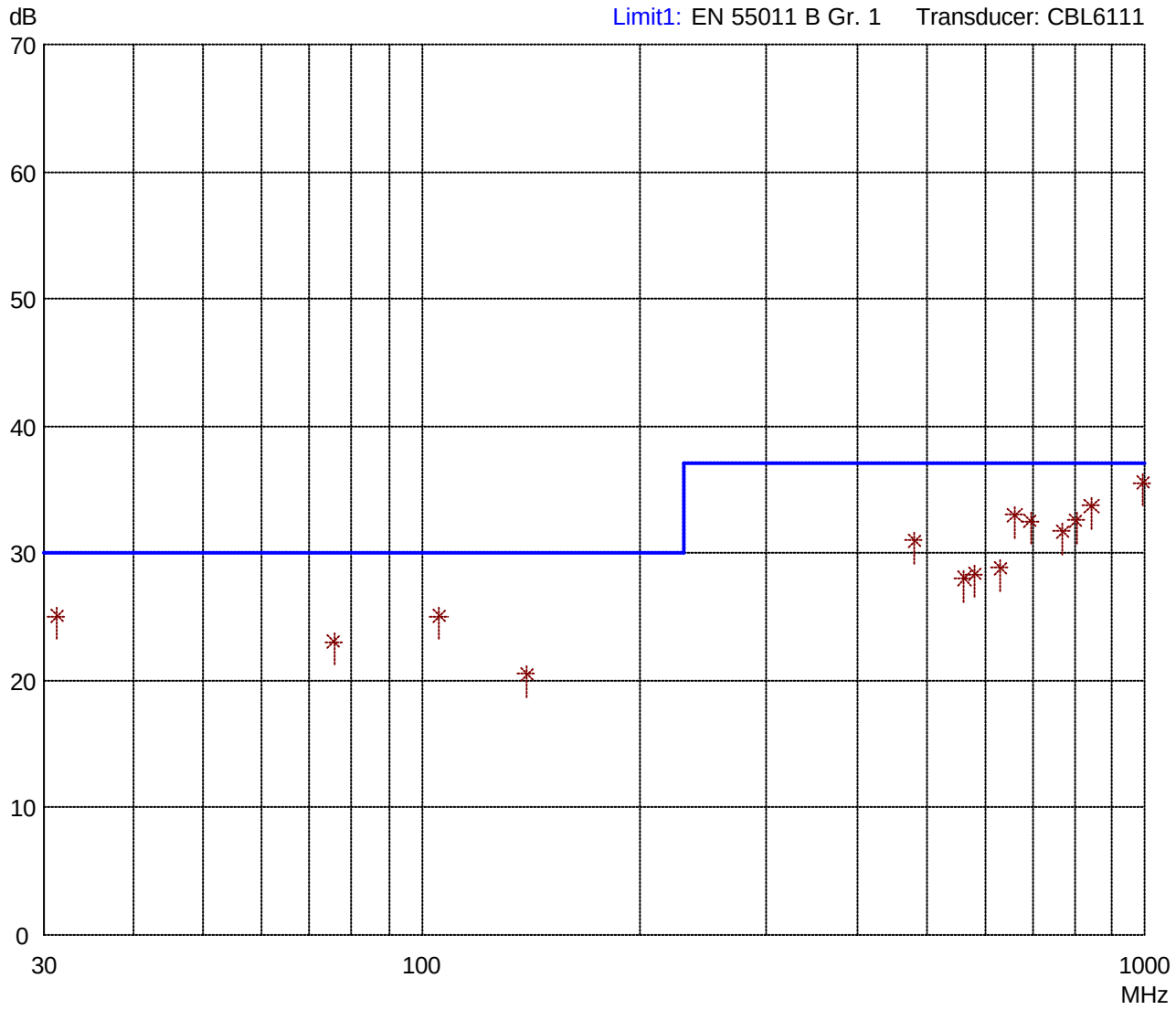
Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	

Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/13/2010 / Operator: A. Liebert	
Test performed: by hand / File name:	
Detector: Quasi-Peak	List of values: Selected by hand

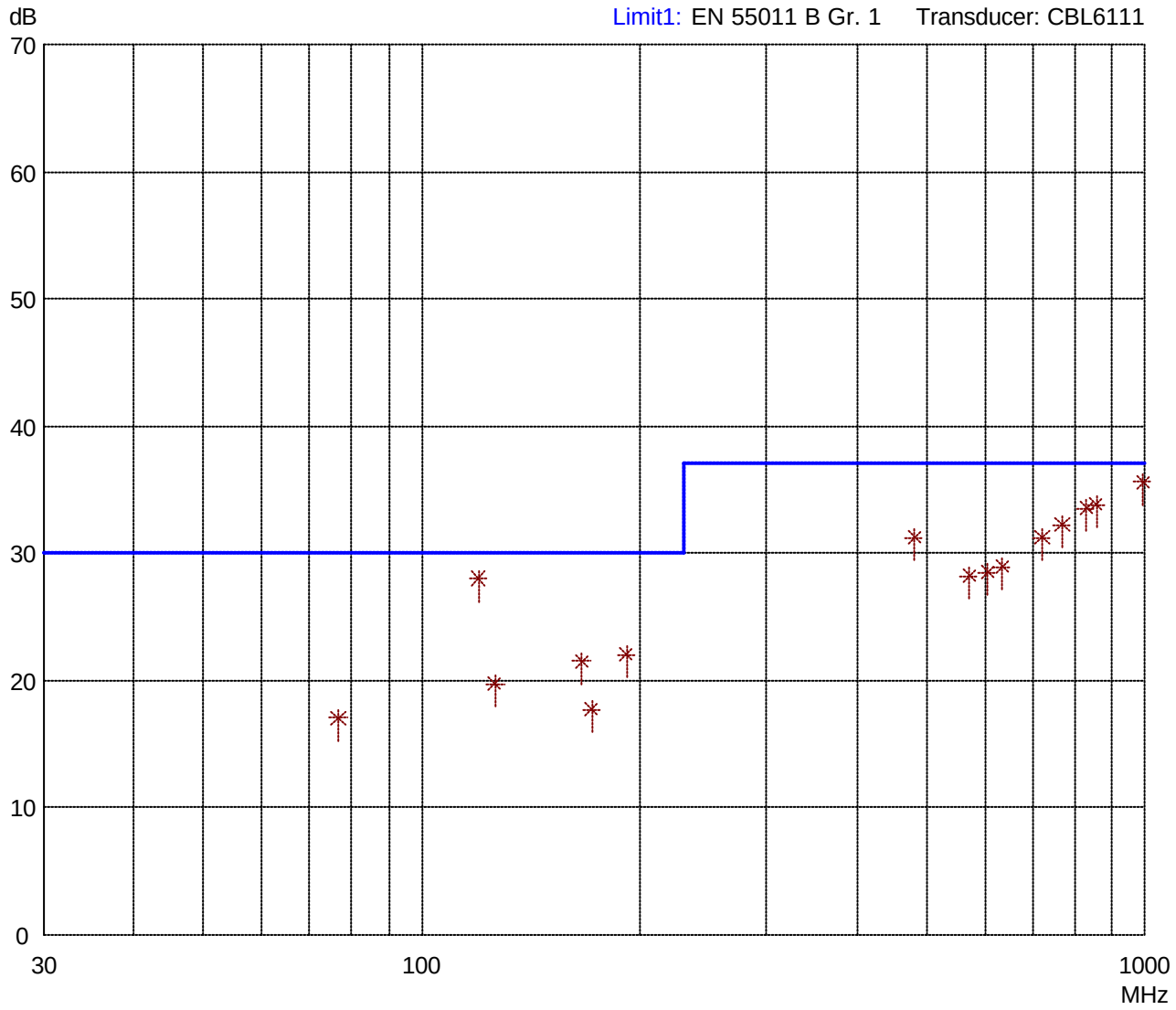
Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
31,360	6,9	18,1	25,0	30,0	5,0
75,720	14,8	8,2	23,0	30,0	7,0
105,840	12,7	12,3	25,0	30,0	5,0
139,880	7,0	13,5	20,5	30,0	9,5
480,085	10,0	21,0	31,0	37,0	6,0
561,760	4,6	23,4	28,0	37,0	9,0
582,000	4,8	23,5	28,3	37,0	8,7
630,680	4,7	24,1	28,8	37,0	8,2
660,200	8,5	24,5	33,0	37,0	4,0
694,320	7,7	24,8	32,5	37,0	4,5
768,040	5,7	26,0	31,7	37,0	5,3
802,320	6,0	26,6	32,6	37,0	4,4
842,760	6,2	27,5	33,7	37,0	3,3
992,280	5,7	29,8	35,5	37,0	1,5

Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	
Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

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Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS2
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/13/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	
Detector: Quasi-Peak	List of values: Selected by hand

Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
76,68	8,8	8,2	17,0	30,0	13,0
120,00	14,3	13,7	28,0	30,0	2,0
126,20	6,1	13,6	19,7	30,0	10,3
166,64	9,7	11,8	21,5	30,0	8,5
171,84	6,2	11,5	17,7	30,0	12,3
192,12	10,9	11,1	22,0	30,0	8,0
480,08	10,2	21,0	31,2	37,0	5,8
572,20	4,7	23,5	28,2	37,0	8,8
606,52	4,8	23,7	28,5	37,0	8,5
634,00	4,7	24,2	28,9	37,0	8,1
720,20	6,0	25,2	31,2	37,0	5,8
768,00	6,2	26,0	32,2	37,0	4,8
829,00	6,3	27,2	33,5	37,0	3,5
855,28	6,1	27,7	33,8	37,0	3,2
993,36	5,8	29,8	35,6	37,0	1,4

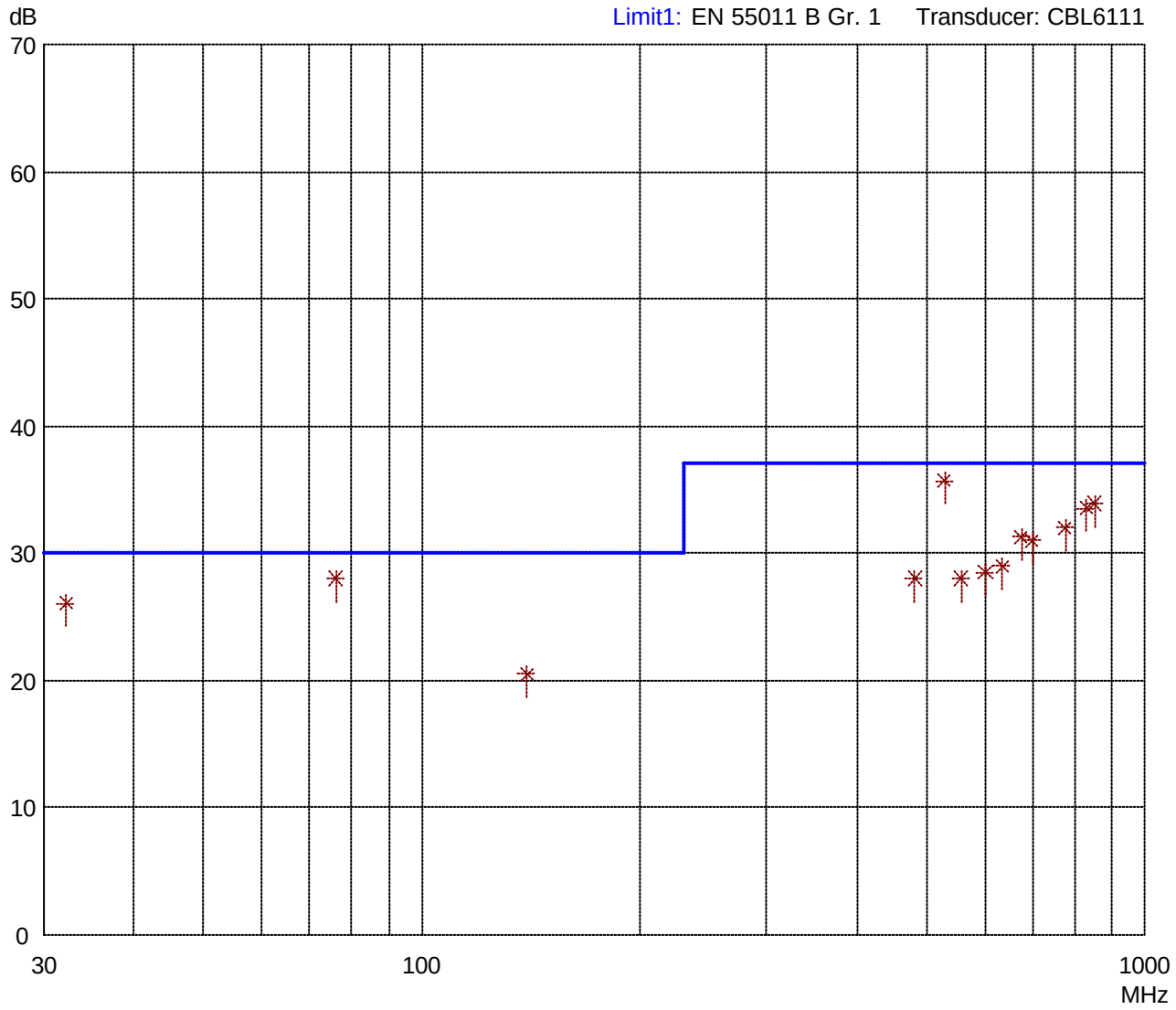
Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model:	Mode: simulated standard operation PS3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/15/2010 / Operator: A. Liebert	
Test performed: by hand / File name:	

Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Vertical Polarization	
Date of test: 10/15/2010 / Operator: A. Liebert	
Test performed: by hand / File name:	
Detector: Quasi-Peak	List of values: Selected by hand

Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
32,24	8,4	17,6	26,0	30,0	4,0
76,04	19,8	8,2	28,0	30,0	2,0
139,88	7,0	13,5	20,5	30,0	9,5
480,08	7,0	21,0	28,0	37,0	9,0
528,08	13,2	22,5	35,7	37,0	1,3
557,48	4,6	23,4	28,0	37,0	9,0
601,36	4,9	23,6	28,5	37,0	8,5
635,20	4,8	24,2	29,0	37,0	8,0
675,04	6,7	24,6	31,3	37,0	5,7
699,56	6,2	24,8	31,0	37,0	6,0
776,32	5,9	26,1	32,0	37,0	5,0
829,68	6,3	27,2	33,5	37,0	3,5
851,76	6,2	27,7	33,9	37,0	3,1

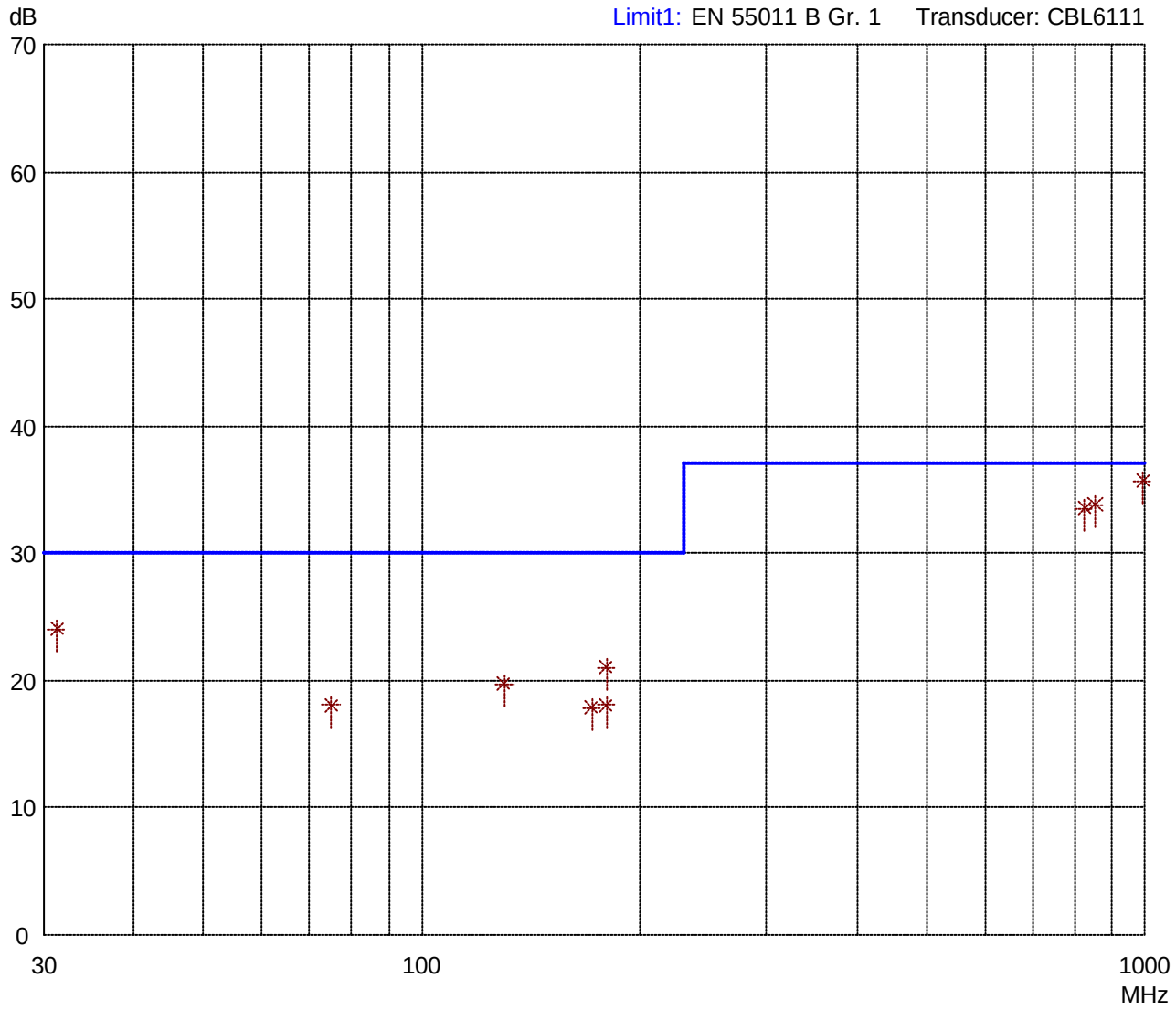
Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/15/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	

Detector: Quasi-Peak	List of values: Selected by hand



Result: Limit kept	Project file: 00000-000000

CE-Conform / Lise-Meitner Str. 3-5 / D-86156 Augsburg / Germany / Tel.: +49 821 4086149 / Fax: +49 821 4086148

Radiated Emission Test 30 MHz - 1 GHz
according to EN 55011:2007 Group 1 Class B

Model: KISS 4U Q57	Mode: simulated standard operation PS3
Serial no.: Prototype	
Applicant: KEC GmbH Augsburg	
Test site: Open area test-site I	
Tested on: Test distance 10 metres Horizontal Polarization	
Date of test: 10/15/2010 — Operator: A. Liebert	
Test performed: by hand — File name:	

Detector: Quasi-Peak	List of values: Selected by hand

Frequency MHz	*Reading dBµV/m*	*Correction factor dB*	*Value dB*	*Limit dB*	*Margin dB*
31,3200	5,9	18,1	24,0	30,0	6,0
75,1000	9,9	8,1	18,0	30,0	12,0
129,8800	6,1	13,6	19,7	30,0	10,3
171,8000	6,3	11,5	17,8	30,0	12,2
179,9976	10,1	10,9	21,0	30,0	9,0
180,3200	7,1	10,9	18,0	30,0	12,0
825,3200	6,4	27,1	33,5	37,0	3,5
852,8000	6,1	27,7	33,8	37,0	3,2
993,5200	5,9	29,8	35,7	37,0	1,3

Result: Limit kept	Project file: 00000-000000

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6.3 Photographs of Test Setup – Radiated Emission Test

Absorber chamber

6.3 Photograph of Test Setup – Radiated Emission Test

Open area test side

7. Harmonic current emissions and Flicker test

7.1 Test conditions

The Harmonic current emissions and Flicker tests have been performed at the
EMC-Test lab of CE-Conform

Used measuring equipment:

Controller	SyCore	Spitzenberger+Spieß	Inv.-No.: 669
4-Quad-Amplifier	PAS 1000	Spitzenberger+Spieß	Inv.-No.: 670
Harmonic/Flicker Analyser	HFA 3000	Schlöder	Inv.-No.: 637

7.2 Test results

The requirements according to the standards listed on page 9 will be

EN 61000-3-2, Harmonic Current **X** **Class D limits kept**

EN 61000-3-3, Flicker **X** **kept**

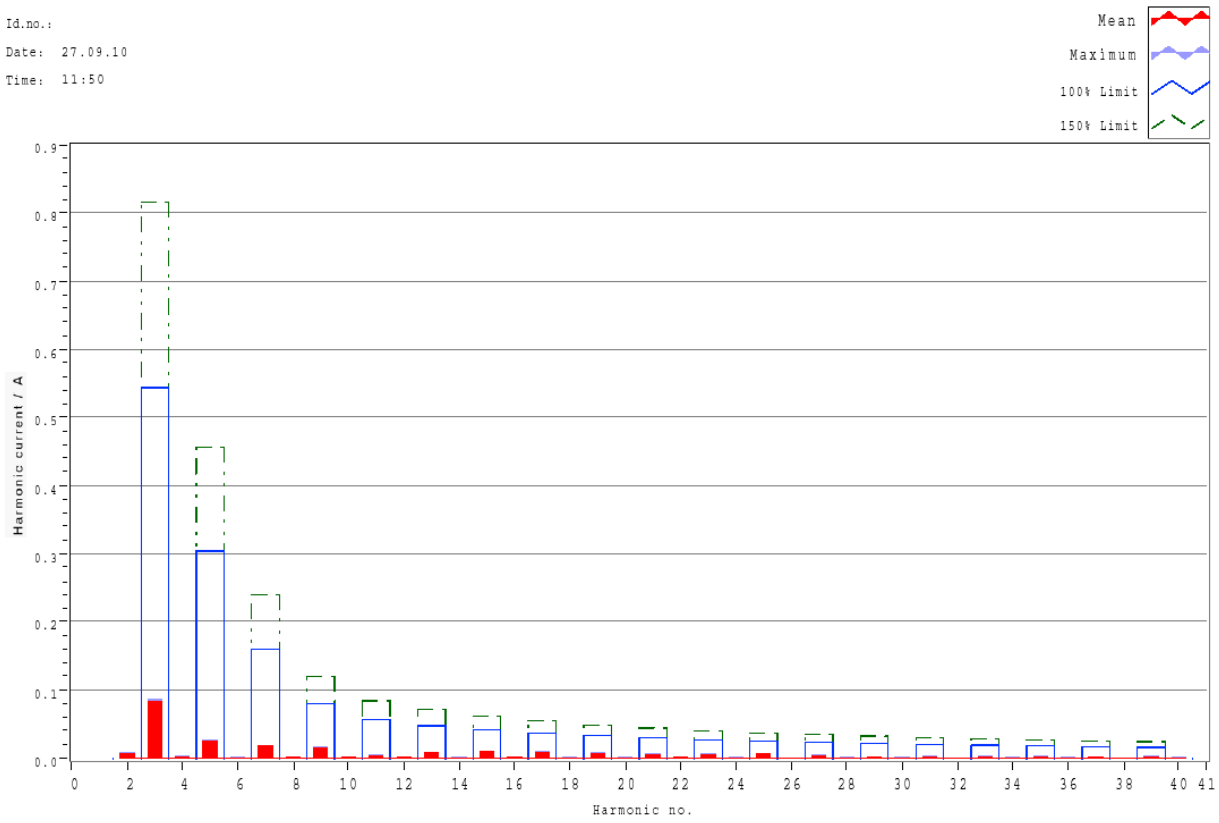
Notes : EUT tested with 3 power supplies

IEC1000-3-2/EN61000-3-2 Fluctuating harmonics

Company: Kontron embedded Computers GmbH
Id.No.:
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 1
Date: 27.09.10 Time: 11:50

Test class: D
Measuring time: 2.30 min
Mean-current: 0.719 A Maximum fundamental current (filt.): 0.736 A
Maximum real power (filt.): 160.0 W Power factor @ max. fund. current: 0.94
Sum odd harmonics n=21...39
Measurement: 0.029 A Limit: 0.213 A
Current harmonics:

n	Mean / A	Max. / A	1.0 Limit / A	1.5 Limit / A	Test
1	0.712	0.736			
2	0.005	0.008			
3	0.084	0.087	0.544	0.816	
4	0.001	0.002			
5	0.025	0.026	0.304	0.456	
6	0.000	0.001			
7	0.018	0.018	0.160	0.240	
8	0.001	0.001			
9	0.015	0.016	0.080	0.120	
10	0.001	0.001			
11	0.004	0.005	0.056	0.084	
12	0.001	0.001			
13	0.008	0.008	0.047	0.071	
14	0.000	0.001			
15	0.009	0.010	0.041	0.062	
16	0.000	0.001			
17	0.009	0.009	0.036	0.054	
18	0.000	0.000			
19	0.007	0.008	0.032	0.049	
20	0.000	0.001			
21	0.004	0.005	0.029	0.044	
22	0.000	0.001			
23	0.005	0.007	0.027	0.040	
24	0.000	0.001			
25	0.005	0.006	0.025	0.037	
26	0.000	0.000			
27	0.004	0.004	0.023	0.034	
28	0.000	0.001			
29	0.001	0.002	0.021	0.032	
30	0.000	0.001			
31	0.002	0.002	0.020	0.030	
32	0.000	0.000			
33	0.002	0.003	0.019	0.028	
34	0.000	0.001			
35	0.002	0.002	0.018	0.026	
36	0.000	0.001			
37	0.002	0.002	0.017	0.025	
38	0.000	0.000			
39	0.001	0.002	0.016	0.024	
40	0.000	0.001			

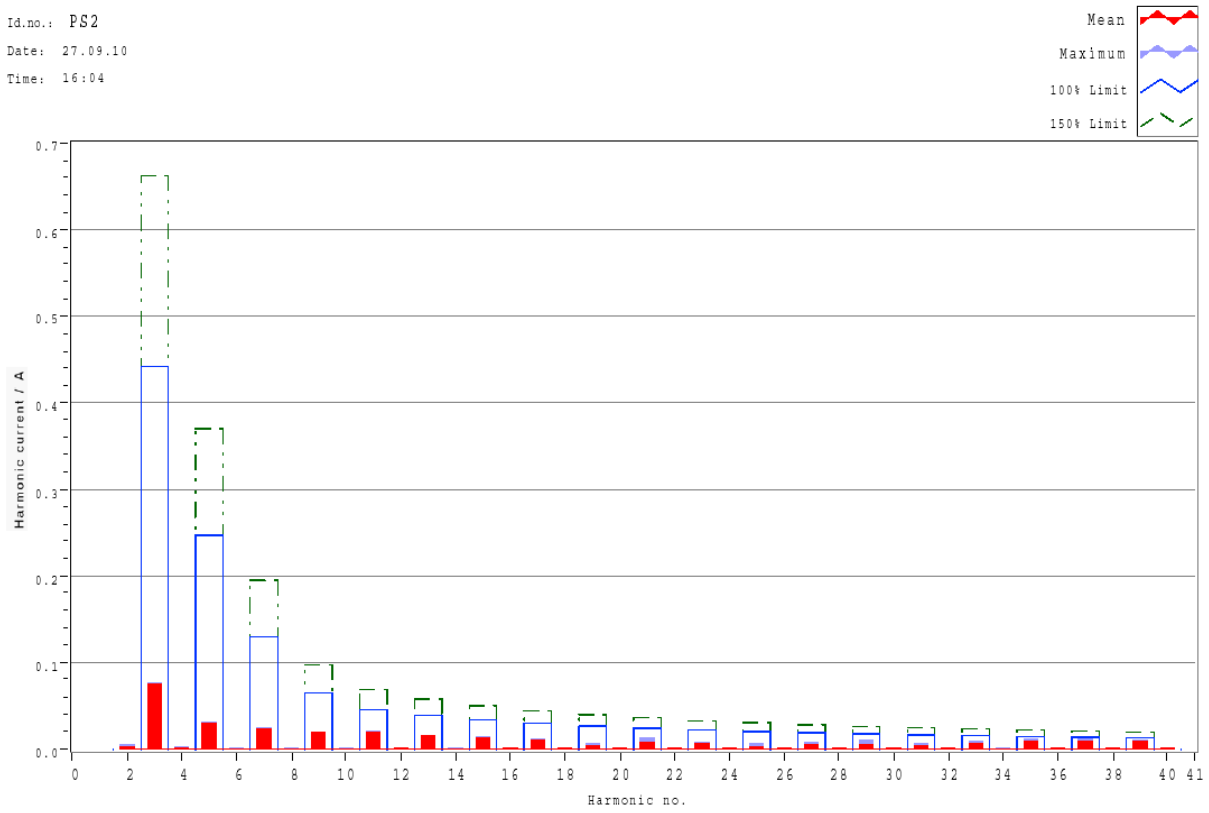

Id.no.:
Date: 27.09.10
Time: 11:50
Mean
Maximum
100% Limit
150% Limit
Harmonic current / A
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
41
Harmonic no.

IEC1000-3-2/EN61000-3-2 Fluctuating harmonics

Company: Kontron embedded Computers GmbH
Id.No.: PS2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 2
Date: 27.09.10 Time: 16:04

Test class: D
Measuring time: 2.30 min
Mean-current: 0.586 A Maximum fundamental current (filt.): 0.612 A
Maximum real power (filt.): 129.8 W Power factor @ max. fund. current: 0.91
Sum odd harmonics n=21...39
Measurement: 0.063 A Limit: 0.173 A
Current harmonics:

n	Mean / A	Max. / A	1.0 Limit / A	1.5 Limit / A	Test
1	0.575	0.612			
2	0.003	0.005			
3	0.075	0.077	0.441	0.662	
4	0.000	0.002			
5	0.030	0.031	0.247	0.370	
6	0.000	0.001			
7	0.023	0.024	0.130	0.195	
8	0.000	0.001			
9	0.019	0.019	0.065	0.097	
10	0.000	0.001			
11	0.019	0.020	0.045	0.068	
12	0.000	0.001			
13	0.015	0.016	0.038	0.058	
14	0.000	0.001			
15	0.012	0.014	0.033	0.050	
16	0.001	0.001			
17	0.010	0.012	0.029	0.044	
18	0.001	0.001			
19	0.004	0.006	0.026	0.039	
20	0.001	0.001			
21	0.008	0.012	0.024	0.036	
22	0.001	0.001			
23	0.007	0.008	0.022	0.033	
24	0.000	0.001			
25	0.003	0.006	0.020	0.030	
26	0.000	0.001			
27	0.005	0.007	0.019	0.028	
28	0.001	0.001			
29	0.005	0.010	0.017	0.026	
30	0.001	0.001			
31	0.003	0.006	0.016	0.024	
32	0.000	0.001			
33	0.007	0.008	0.015	0.023	
34	0.000	0.001			
35	0.008	0.011	0.014	0.021	
36	0.000	0.001			
37	0.009	0.011	0.014	0.020	
38	0.000	0.001			
39	0.009	0.010	0.013	0.019	
40	0.000	0.001			



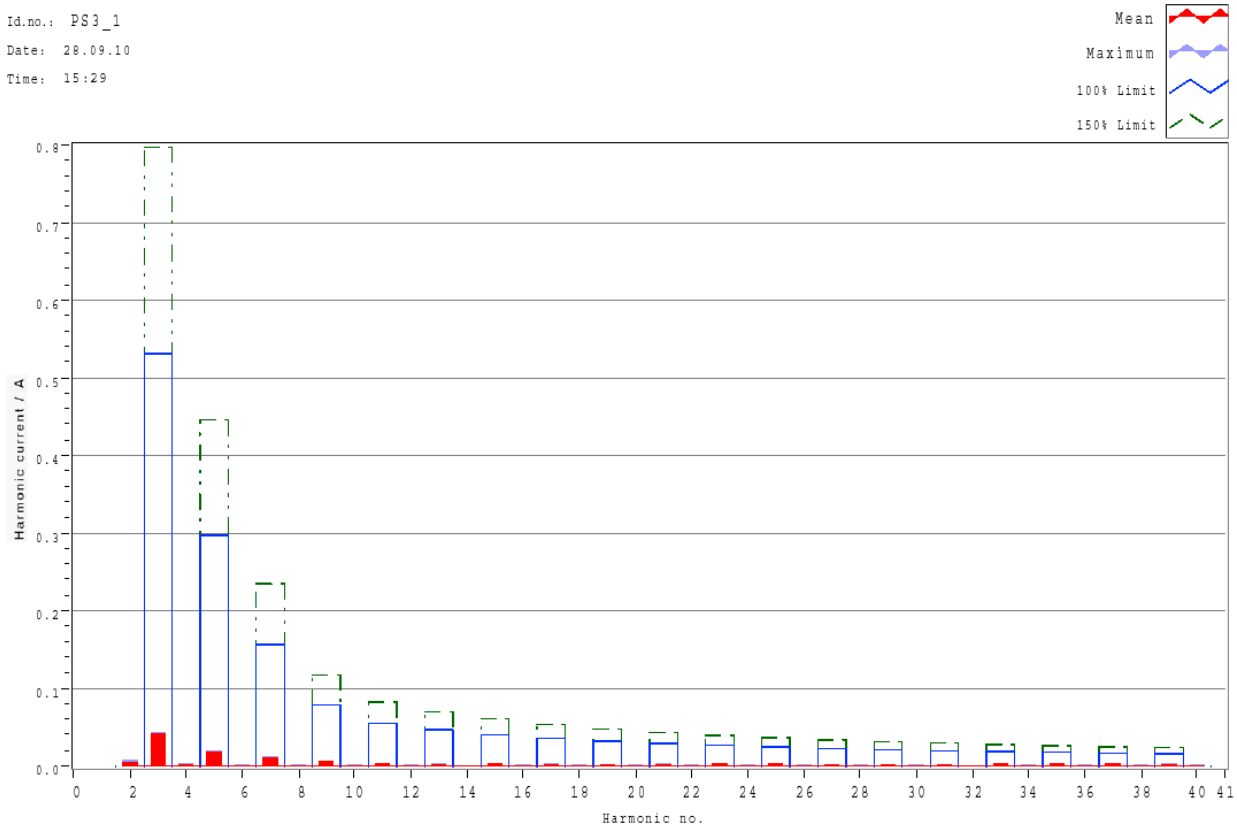
KEC GmbH – CE-Conform EMV-Lab, Lise – Meitner – Str. 3-5 86156 Augsburg Tel. 0821/4086-149

IEC1000-3-2/EN61000-3-2 Fluctuating harmonics

Company: Kontron Embedded Computers GmbH
Id.No.: PS3_1
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 28.09.10 Time: 15:29

Test class: D
Measuring time: 2.30 min
Mean-current: 0.686 A Maximum fundamental current (filt.): 0.698 A
Maximum real power (filt.): 156.2 W Power factor @ max. fund. current: 0.97
Sum odd harmonics n=21...39
Measurement: 0.018 A Limit: 0.208 A
Current harmonics:

n	Mean / A	Max. / A	1.0 Limit / A	1.5 Limit / A	Test
1	0.681	0.698			
2	0.004	0.006			
3	0.042	0.043	0.531	0.796	
4	0.001	0.002			
5	0.018	0.020	0.297	0.445	
6	0.000	0.001			
7	0.010	0.011	0.156	0.234	
8	0.000	0.001			
9	0.005	0.005	0.078	0.117	
10	0.000	0.001			
11	0.002	0.003	0.055	0.082	
12	0.000	0.001			
13	0.002	0.002	0.046	0.069	
14	0.000	0.000			
15	0.003	0.003	0.040	0.060	
16	0.000	0.001			
17	0.002	0.002	0.035	0.053	
18	0.000	0.000			
19	0.001	0.002	0.032	0.047	
20	0.000	0.000			
21	0.002	0.003	0.029	0.043	
22	0.000	0.000			
23	0.002	0.002	0.026	0.039	
24	0.000	0.001			
25	0.002	0.003	0.024	0.036	
26	0.000	0.001			
27	0.002	0.002	0.022	0.033	
28	0.000	0.000			
29	0.001	0.001	0.021	0.031	
30	0.000	0.000			
31	0.001	0.001	0.019	0.029	
32	0.000	0.000			
33	0.002	0.003	0.018	0.027	
34	0.000	0.000			
35	0.003	0.003	0.017	0.026	
36	0.000	0.000			
37	0.002	0.003	0.016	0.024	
38	0.000	0.000			
39	0.002	0.002	0.015	0.023	
40	0.000	0.001			

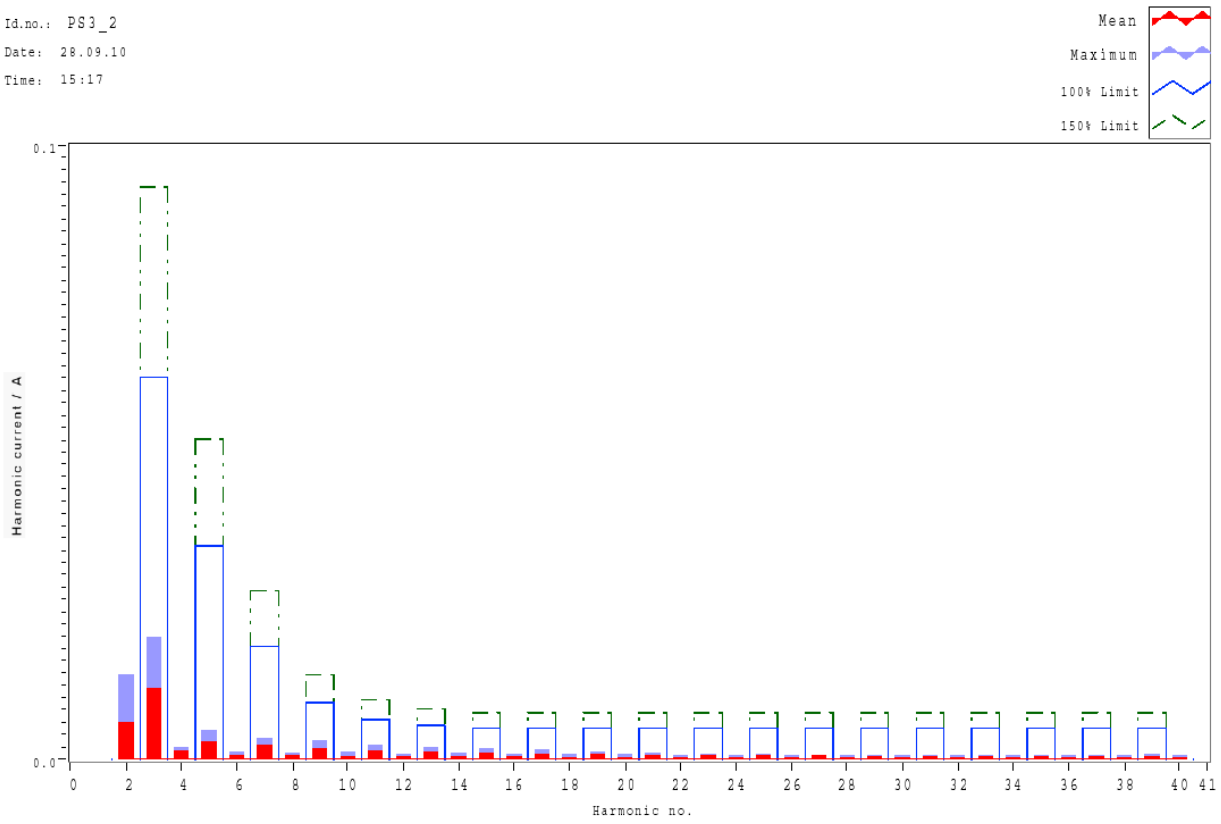

Id.no.: PS3_1
Date: 28.09.10
Time: 15:29
Mean
Maximum
100% Limit
150% Limit
Harmonic current / A
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 41
Harmonic no.

IEC1000-3-2/EN61000-3-2 Fluctuating harmonics

Company: Kontron Embedded Computers GmbH
Id.No.: PS3_2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 28.09.10 Time: 15:17

Test class: D
Measuring time: 2.30 min
Mean-current: 0.164 A Maximum fundamental current (filt.): 0.136 A
Maximum real power (filt.): 18.3 W Power factor @ max. fund. current: 0.53
Sum odd harmonics n=21...39
Measurement: 0.004 A Limit: 0.050 A
Current harmonics:

n	Mean / A	Max. / A	1.0 Limit / A	1.5 Limit / A	Test
1	0.128	0.136			
2	0.006	0.014			
3	0.011	0.020	0.062	0.093	
4	0.001	0.002			
5	0.003	0.005	0.035	0.052	
6	0.001	0.001			
7	0.002	0.003	0.018	0.027	
8	0.000	0.001			
9	0.002	0.003	0.009	0.014	
10	0.000	0.001			
11	0.001	0.002	0.006	0.010	
12	0.000	0.001			
13	0.001	0.002	0.005	0.008	
14	0.000	0.001			
15	0.001	0.002	0.005	0.007	
16	0.000	0.001			
17	0.001	0.001	0.005	0.007	
18	0.000	0.001			
19	0.001	0.001	0.005	0.007	
20	0.000	0.001			
21	0.001	0.001	0.005	0.007	
22	0.000	0.000			
23	0.001	0.001	0.005	0.007	
24	0.000	0.000			
25	0.000	0.001	0.005	0.007	
26	0.000	0.000			
27	0.000	0.001	0.005	0.007	
28	0.000	0.000			
29	0.000	0.001	0.005	0.007	
30	0.000	0.000			
31	0.000	0.001	0.005	0.007	
32	0.000	0.001			
33	0.000	0.001	0.005	0.007	
34	0.000	0.001			
35	0.000	0.001	0.005	0.007	
36	0.000	0.001			
37	0.000	0.001	0.005	0.007	
38	0.000	0.001			
39	0.000	0.001	0.005	0.007	
40	0.000	0.001			



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IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron embedded Computers GmbH
Id.No.:
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 1
Date: 27.09.10 Time: 12:01
Measuring time: 10 min
Measuring at : EUT-Socket
Voltage: 230.3 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.1 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.02
Pst 2: 0.00
Pst 3: 0.00
Pst 4: 0.00
Pst 5: 0.00
Pst 6: 0.00
Pst 7: 0.00
Pst 8: 0.00
Pst 9: 0.00
Pst 10: 0.00
Pst 11: 0.00
Pst 12: 0.00
Limit long term flicker Plt: 0.65
Plt: 0.02

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron embedded Computers GmbH
Id.No.:
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 1
Date: 27.09.10 Time: 12:12
Measuring time: 120 min
Measuring at : EUT-Socket
Voltage: 230.1 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.0 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.02
Pst 2: 0.02
Pst 3: 0.02
Pst 4: 0.02
Pst 5: 0.02
Pst 6: 0.02
Pst 7: 0.02
Pst 8: 0.02
Pst 9: 0.02
Pst 10: 0.02
Pst 11: 0.02
Pst 12: 0.02
Limit long term flicker Plt: 0.65
Plt: 0.02

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron embedded Computers GmbH
Id.No.: PS2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 2
Date: 27.09.10 Time: 15:52
Measuring time: 10 min
Measuring at : EUT-Socket
Voltage: 230.3 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.2 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.10
Pst 2: 0.00
Pst 3: 0.00
Pst 4: 0.00
Pst 5: 0.00
Pst 6: 0.00
Pst 7: 0.00
Pst 8: 0.00
Pst 9: 0.00
Pst 10: 0.00
Pst 11: 0.00
Pst 12: 0.00
Limit long term flicker Plt: 0.65
Plt: 0.10

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron Embedded Computers GmbH
Id.No.: PS2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 2
Date: 28.09.10 Time: 08:48
Measuring time: 120 min
Measuring at : EUT-Socket
Voltage: 230.2 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.2 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.07
Pst 2: 0.06
Pst 3: 0.07
Pst 4: 0.07
Pst 5: 0.07
Pst 6: 0.08
Pst 7: 0.07
Pst 8: 0.08
Pst 9: 0.07
Pst 10: 0.07
Pst 11: 0.07
Pst 12: 0.07
Limit long term flicker Plt: 0.65
Plt: 0.07

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron Embedded Computers GmbH
Id.No.: PS3_1
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 28.09.10 Time: 15:37
Measuring time: 10 min
Measuring at : EUT-Socket
Voltage: 230.1 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.2 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.08
Pst 2: 0.00
Pst 3: 0.00
Pst 4: 0.00
Pst 5: 0.00
Pst 6: 0.00
Pst 7: 0.00
Pst 8: 0.00
Pst 9: 0.00
Pst 10: 0.00
Pst 11: 0.00
Pst 12: 0.00
Limit long term flicker Plt: 0.65
Plt: 0.08

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron Embedded Computers GmbH
Id.No.: PS3
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 28.09.10 Time: 12:40
Measuring time: 120 min
Measuring at : EUT-Socket
Voltage: 230.2 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.5 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.08
Pst 2: 0.08
Pst 3: 0.08
Pst 4: 0.08
Pst 5: 0.08
Pst 6: 0.08
Pst 7: 0.08
Pst 8: 0.08
Pst 9: 0.08
Pst 10: 0.08
Pst 11: 0.09
Pst 12: 0.08
Limit long term flicker Plt: 0.65
Plt: 0.08

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron Embedded Computers GmbH
Id.No.: PS3_2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 28.09.10 Time: 15:05
Measuring time: 10 min
Measuring at : EUT-Socket
Voltage: 230.6 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.3 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.14
Pst 2: 0.00
Pst 3: 0.00
Pst 4: 0.00
Pst 5: 0.00
Pst 6: 0.00
Pst 7: 0.00
Pst 8: 0.00
Pst 9: 0.00
Pst 10: 0.00
Pst 11: 0.00
Pst 12: 0.00
Limit long term flicker Plt: 0.65
Plt: 0.14

IEC1000-3-3/EN61000-3-3 Voltage fluctuations (Flicker)

Company: Kontron Embedded Comuters GmbH
Id.No.: PS3_2
Device: KISS 4U Q57
Test engineer: A.Liebert
Operating mode: simulated standard operation,PS 3
Date: 29.09.10 Time: 14:09
Measuring time: 120 min
Measuring at : EUT-Socket
Voltage: 230.4 V
Limit:
Constant voltage change dc: 3.3 %
Relative voltage change dmax: 4.0 %
Voltage change interval d(t)>dc: 0.50 s
Measurement:
dmax: 0.0 %
d(t)>dc: 0.00 %
Limit short term flicker Pst: 1.00
Pst 1: 0.14
Pst 2: 0.14
Pst 3: 0.14
Pst 4: 0.14
Pst 5: 0.14
Pst 6: 0.14
Pst 7: 0.14
Pst 8: 0.14
Pst 9: 0.14
Pst 10: 0.14
Pst 11: 0.14
Pst 12: 0.14
Limit long term flicker Plt: 0.65
Plt: 0.14

7.3 Photographs of Test Setup- Harmonic current emission test

EMC lab

8. Electrostatic discharge immunity test

8.1 Test conditions

The Electrostatic discharge immunity tests have been performed at the EMC-Test lab of CE-Conform on a

Ground reference plane	4,00 x 3,00	CE-Conform	Inv.-No. 653

Used test equipment:

ESD-Generator	NSG 435	Schaffner	Inv.-No.615
Horizontal coupling plane	1,60 x 0,80	CE-Conform	Inv.-No:654
Vertical coupling plane	0,50 x 0,50	CE-Conform	

8.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept** Performance criteria : B

O **Not kept**

Notes:

Immunity to electrostatic discharges

EUT	**KISS 4U Q57**
Mode of Operation	Operating mode PS1

Bar. Pressure:	1008 hPa	Rel. Humidity:	42 %	Amb. Temperature.	25 °C

Regulation:	EN 61000-4-2	**Test Unit:**	ESD Test Generator Schaffner NSG 435

Location of Discharge	Tested severity Voltage (kV)	Direct Contact	Air	pos	neg	Notes	
positions (see 8.3) A	2,4,8		X	X	X	No effects detected	
positions (see 8.3) C	2,4	X		X	X	No effects detected	
Vertical Coupling Plate all 4 sides of the EUT	2,4	X		X	X	No effects detected	
Horizontal Coupling Plate, all 4 sides	2,4	X		X	X	No effects detected	

X = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

Test Result: **Passed**

Date of Test: 11/25/2010

Tested by: A.Liebert

Immunity to electrostatic discharges

EUT	**KISS 4U Q57**
Mode of Operation	Operating mode PS2

Bar. Pressure:	1007 hPa	Rel. Humidity:	49 %	Amb. Temperature.	25 °C

Regulation:	EN 61000-4-2	**Test Unit:**	ESD Test Generator Schaffner NSG 435

Location of Discharge	Tested severity Voltage (kV)	Direct Contact	Air	pos	neg	Notes	
positions (see 8.3) A	2,4,8		X	X	X	No effects detected	
positions (see 8.3) C	2,4	X		X	X	No effects detected	
Vertical Coupling Plate all 4 sides of the EUT	2,4	X		X	X	No effects detected	
Horizontal Coupling Plate, all 4 sides	2,4	X		X	X	No effects detected	

X = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

Test Result: **Passed**

Date of Test: 11/29/2010

Tested by: A.Liebert

Immunity to electrostatic discharges

EUT	**KISS 4U Q57**
Mode of Operation	Operating mode PS 3

Bar. Pressure:	1007 hPa	Rel. Humidity:	49 %	Amb. Temperature.	25 °C

Regulation:	EN 61000-4-2	**Test Unit:**	ESD Test Generator Schaffner NSG 435

Location of Discharge	Tested severity Voltage (kV)	Direct Contact	Air	pos	neg	Notes	
positions (see 8.3) A	2,4,8		X	X	X	No effects detected	
positions (see 8.3) C	2,4	X		X	X	No effects detected	
Vertical Coupling Plate all 4 sides of the EUT	2,4	X		X	X	No effects detected	
Horizontal Coupling Plate, all 4 sides	2,4	X		X	X	No effects detected	

X = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

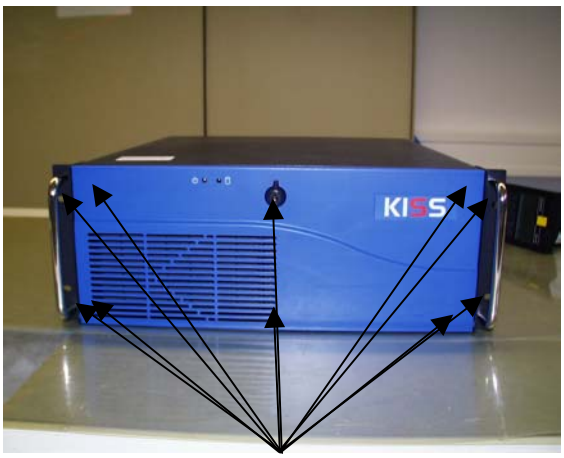
Test Result: **Passed**

Date of Test: 11/29/2010

Tested by: A.Liebert

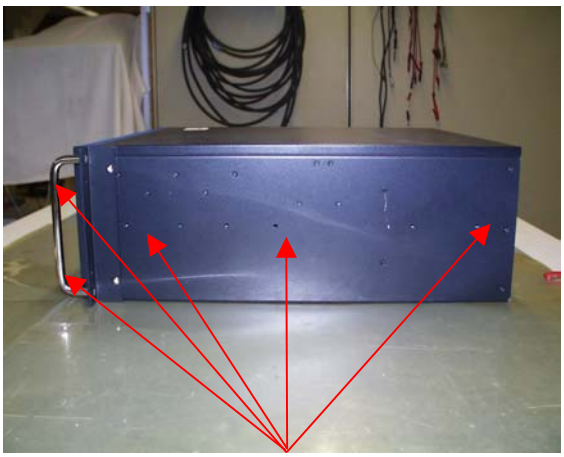
8.3 Locations of ESD - Discharge

front side



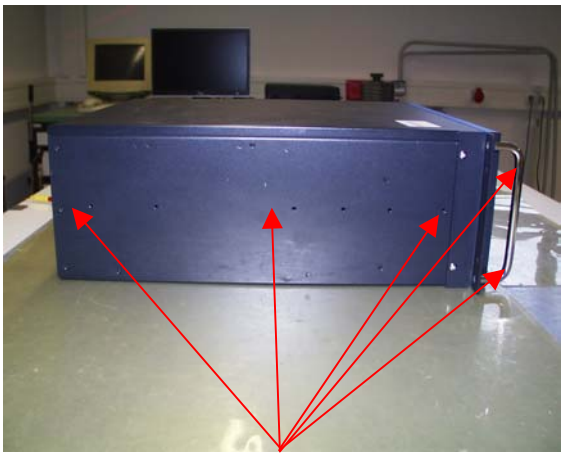
A and C

right side



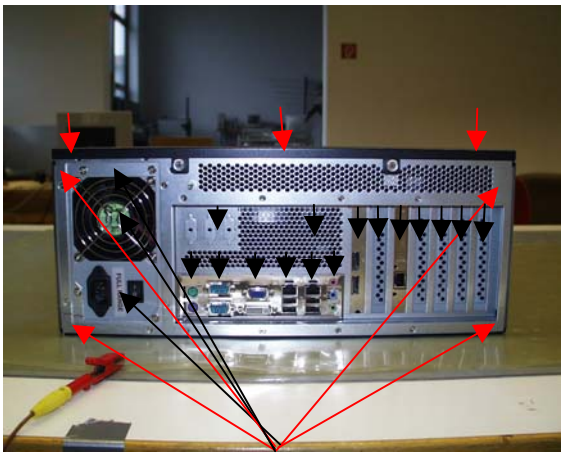
A and C

left side



A and C

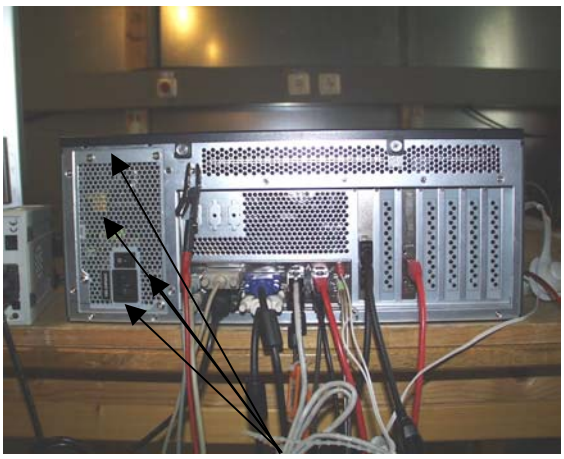
rear side



A and C

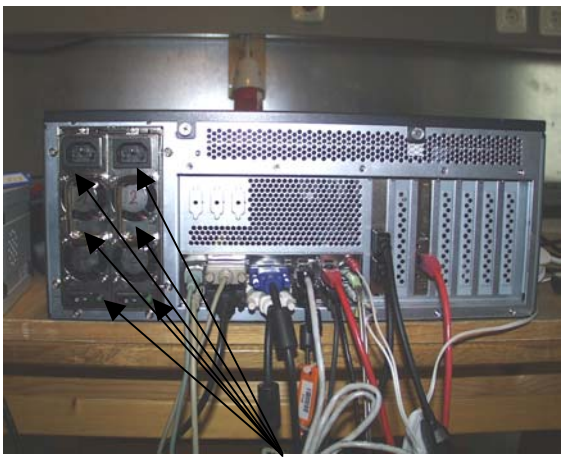
8.3 Locations of ESD – Discharge PS 2 and 3

rear side PS 2



A and C

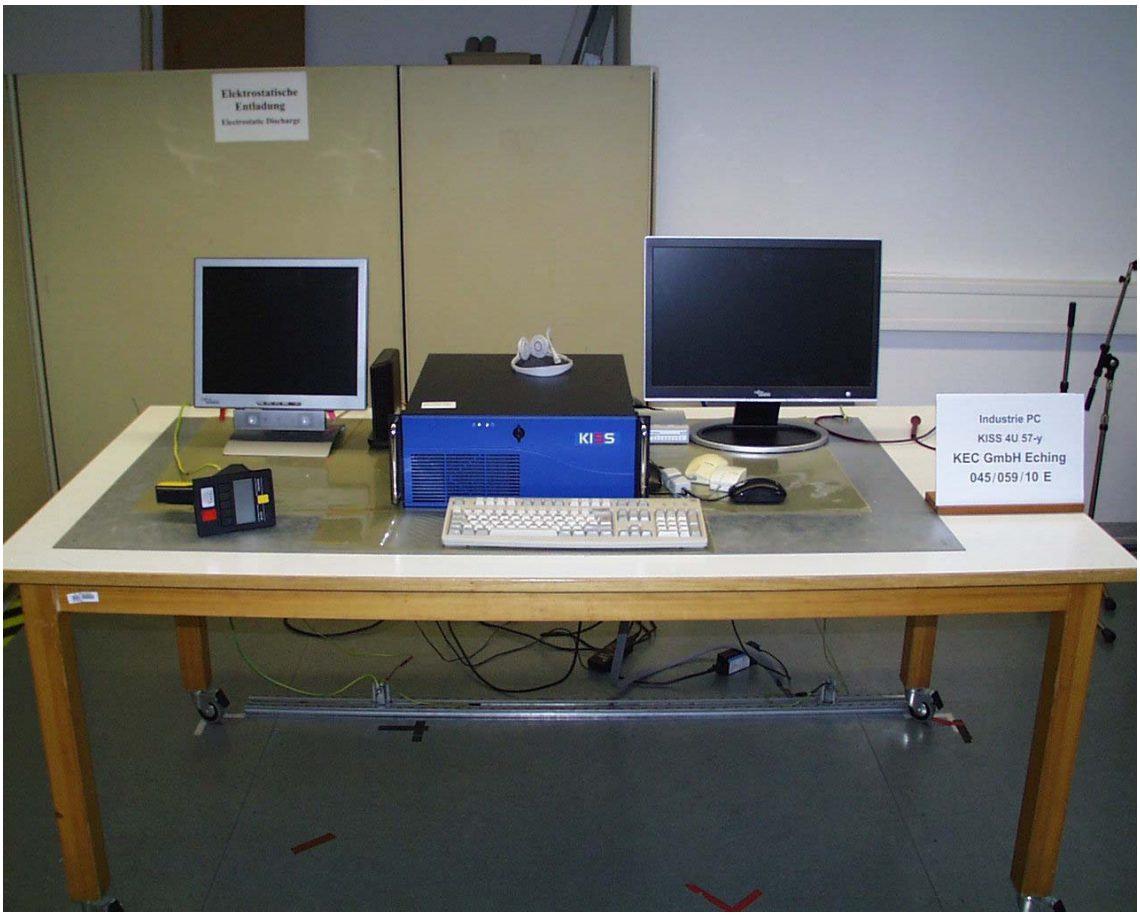
rear side PS 3



A and C

8.4 Photographs of Test Setup – Electrostatic discharge immunity test

EMC Lab – ESD Test side



9. Electrical fast transient/burst immunity test

9.1 Test conditions

The Electrical fast transient/burst immunity test have been performed in a high-frequency

Shielded room	Siemens	4,60 x 3,40 x 2,40	Inv.-No. 650

Used test equipment:

Burst-Generator	NSG 3025	Schaffner	Inv.-Nr.: 698
Coupling clamp	SL 400-071	Schaffner	Inv.-Nr.: 648

9.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept** Performance criteria: B

O **Not kept**

Notes:

KEC GmbH – CE-Conform EMV-Lab, Lise – Meitner – Str. 3-5 86156 Augsburg Tel. 0821/4086-149

Immunity to Fast Transients (Burst)

EUT	**KISS 4U Q57 PS 1**
Mode of Operation	Operating mode

Bar. Pressure:	1025 hPa	Rel. Humidity:	32 %	Amb. Temperature.	24 °C

Regulation:	EN 61000-4-4	**Test Unit:**	Burst Test Generator Schaffner NSG 3025

Coupling via:	X Coupling filter	Coupling clamp	**X** = Level tested

tBurst: 15 ms	fBurst: 5 KHz	tREP: 0,30 sec	Trigger: Asynchrone

Coupling to:	L1 Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	N Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	E Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	Network-/USB-/Serial- cable					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**

x = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

Test Result: **Passed**

Date of test: 10/28/2010

Tested by: A. Liebert

Immunity to Fast Transients (Burst)

EUT	**KISS 4U Q57 PS 2**
Mode of Operation	Operating mode

Bar. Pressure:	1021 hPa	Rel. Humidity:	47 %	Amb. Temperature.	24 °C

Regulation:	EN 61000-4-4	**Test Unit:**	Burst Test Generator Schaffner NSG 3025

Coupling via:	X Coupling filter	Coupling clamp	**X** = Level tested

tBurst: 15 ms	fBurst: 5 KHz	tREP: 0,30 sec	Trigger: Asynchrone

Coupling to:	L1 Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	N Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	E Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	Network-/USB-/Serial- cable					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**

x = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

Test Result: **Passed**

Date of test: 10/29/2010

Tested by: A. Liebert

Immunity to Fast Transients (Burst)

EUT	**KISS 4U Q57 PS3**
Mode of Operation	Operating mode

Bar. Pressure:	1017 hPa	Rel. Humidity:	47 %	Amb. Temperature.	24 °C

Regulation:	EN 61000-4-4	**Test Unit:**	Burst Test Generator Schaffner NSG 3025

Coupling via:	X Coupling filter	Coupling clamp	**X** = Level tested

tBurst: 15 ms	fBurst: 5 KHz	tREP: 0,30 sec	Trigger: Asynchrone

Coupling to:	L1 Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	N Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	E Mains Supply					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**

Coupling to:	Network-/USB-/Serial- cable					
Tested severity level /	+	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**
Pulse amplitude	-	**0,25 kV**	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**

x = tested value

Perf. Criteria: Criteria B

Notes: No effects detected

Test Result: **Passed**

Date of test: 11/02/2010

Tested by: A. Liebert

9.3 Photographs of Test Setup – Electrical fast transient/burst immunity test

Shielded room

Coupling to power and data lines

10. Conducted disturbances induced by radio-frequency fields

10.1 Test conditions

The Test of the Conducted disturbances induced by radio-frequency fields have been performed in a

Shielded room	Siemens	4,60 x 3,40 x 2,40	Inv.-No. 650

Used test equipment:

Signal Generator	SMX	Rohde&Schwarz	Inv.-No.621
Amplifier	75A250	AR	Inv.-No:647
EM Injection Clamp	F-2031-23mm	FCC	Inv.-No.:662
Powerline CDN	801-M3-16A	FCC	Inv.-No.: 663
Attenuator 6dB	100-A-FFN-06	BIRD	Inv.-No.: 664
Power meter	NRVS	Rohde&Schwarz	Inv.-No.:643
Probe	URV5-Z4	Rohde&Schwarz	Inv.-No.:644
Coupler	DC 3002	AR	Inv.-No.:645

10.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept** Performance criteria: A

O **Not kept**

Notes:

Immunity to conducted disturbances induced by radio frequency fields

EUT	**KISS 4U Q57 PS 1**
Mode of Operation	Operating mode

Bar. Pressure:	1027 hPa	Rel. Humitity:	36%	Amb. Temperature.	24°C

Regulation:	EN 61000-4-6

Requirements:	150 KHz - 80 MHz: 10 V	
Coupling to:	230V AC Power line Network cable	
Coupling via:	CDN FCC-801-M316 Clamp F-2031-23mm	
Interfering signal:	Modulation: Modulation depth: Modulation frequency: Step size: Dwell time:	AM 80% 1 KHz 1% 1 sec.

Perf. criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

Tested by: 11/05/2010

Tested from: A. Liebert

Immunity to conducted disturbances induced by radio frequency fields

EUT	**KISS 4U Q57 PS 2**
Mode of Operation	Operating mode

Bar. Pressure:	1025 hPa	Rel. Humitity:	31 %	Amb. Temperature.	24 °C

Regulation:	EN 61000-4-6

Requirements:	150 KHz - 80 MHz: 10 V	
Coupling to:	230V AC Power line Network cable	
Coupling via:	CDN FCC-801-M316 Clamp F-2031-23mm	
Interfering signal:	Modulation: Modulation depth: Modulation frequency: Step size: Dwell time:	AM 80% 1 KHz 1% 1 sec.

Perf. criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

Tested by: 11/04/2010

Tested from: A. Liebert

Immunity to conducted disturbances induced by radio frequency fields

EUT	**KISS 4U Q57 PS 3**
Mode of Operation	Operating mode

Bar. Pressure:	1020 hPa	Rel. Humitity:	44 %	Amb. Temperature.	24 °C

Regulation:	EN 61000-4-6

Requirements:	150 KHz - 80 MHz: 10 V	
Coupling to:	230V AC Power line Network cable	
Coupling via:	CDN FCC-801-M316 Clamp F-2031-23mm	
Interfering signal:	Modulation: Modulation depth: Modulation frequency: Step size: Dwell time:	AM 80% 1 KHz 1% 1 sec.

Perf. criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

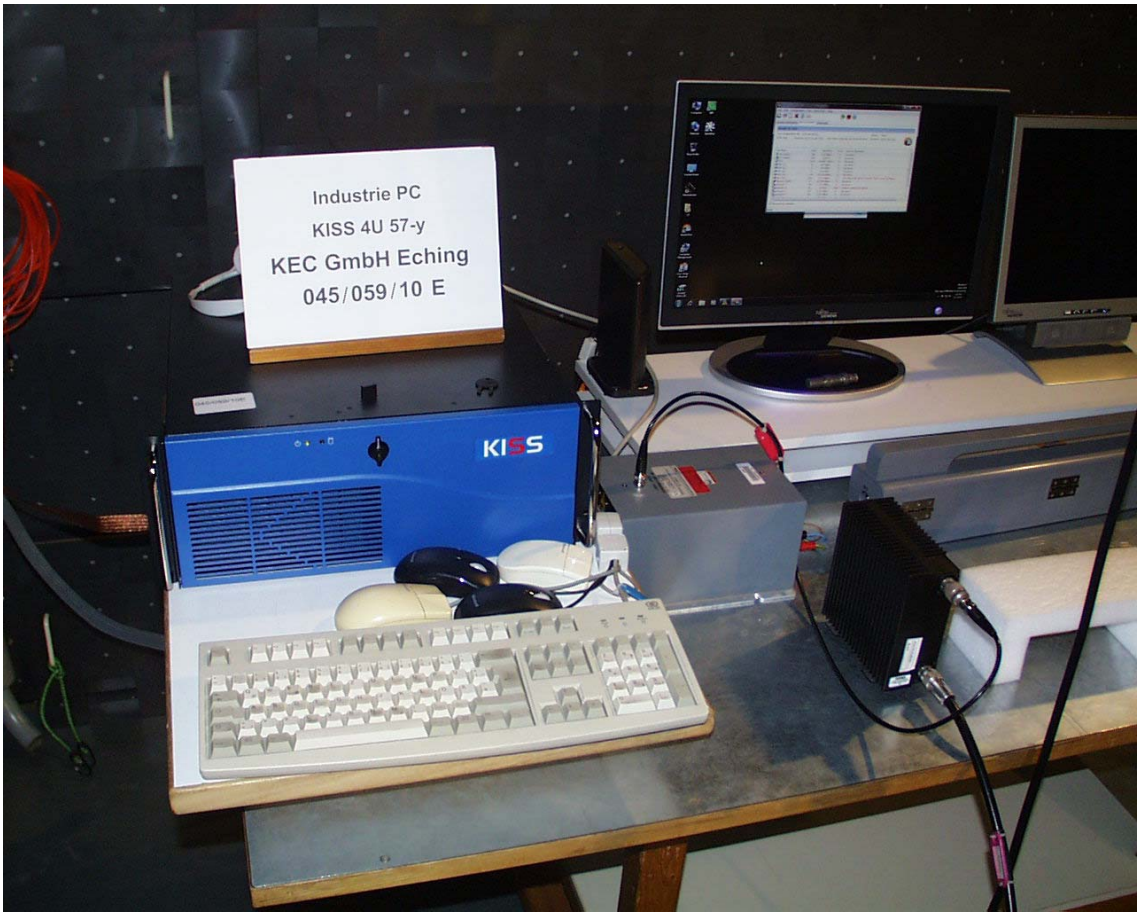
Tested by: 11/04/2010

Tested from: A. Liebert

10.3 Photographs of Test Setup – Conducted disturbances induced by radio-frequency fields

Shielded room

Coupling to power and data lines



11. Radiated, radio-frequency electromagnetic field – immunity test

11.1 Test conditions

The Test of the Radiated, radio-frequency electromagnetic field have been performed in a

Absorber chamber	Frankonia	7,50 x 4,00 x 3,50	Inv.-No. 651

Used test equipment:

Signal Generator	SMX	Rohde&Schwarz	Inv.-No.621
Amplifier	75A250	AR	Inv.-No:647
Amplifier	100W1000M1	AR	Inv.-No.646
Log.-Per-Antenna	HL 023	Rohde&Schwarz	Inv.-No.:665
Feld Sensor	FP 4000	AR	Inv.-No.:642
Power meter	NRVS	Rohde&Schwarz	Inv.-No.:643
Probe	URV5-Z4	Rohde&Schwarz	Inv.-No.:644
Coupler	DC 3002	AR	Inv.-No.:645

11.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept** Performance criteria: A

O **Not kept**

Notes: The Tests 1 – 2,7 GHz were performed in the accredited EMC Test laboratory of the Fujitsu Siemens Computers GmbH. The Laboratory is accredited with the DAR-Register number: DAT-PL-155/94/-03

Immunity to radiated, radio-frequency electromagnetic field

EUT	**KISS 4U Q57 PS1**
Mode of Operation	Operating mode

Bar Pressure:	1014/1016 hPa	Rel. Humidity:	37/50%	Amb. Temperature	26/26°C

Regulation:	EN 61000-4-3

Requirements:	80 - 2700 MHz: 10/3/1 V/m	
Interfering signal:	Modulation:	AM
	Modulation depth:	80%
	Modulations frequency :	1kHz
	Polarisation:	vertikal/horizontal
	Step size:	1%
	Dwell time:	1 sec.

Side of EUT: Front side: **X** Rear side: X Left side: X Right side : X

Performance criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

Date of test: 09/23/2010 and 10/19/2010

Tested by: M. Roththauscher, FTS GmbH , A. Liebert

Immunity to radiated, radio-frequency electromagnetic field

EUT	**KISS 4U Q57 PS2**
Mode of Operation	Operating mode

Bar Pressure:	1014/1016 hPa	Rel. Humidity:	37/50%	Amb. Temperature	26/26°C

Regulation:	EN 61000-4-3

Requirements:	80 - 2700 MHz: 10/3/1 V/m	
Interfering signal:	Modulation:	AM
	Modulation depth:	80%
	Modulations frequency :	1kHz
	Polarisation:	vertikal/horizontal
	Step size:	1%
	Dwell time:	1 sec.

Side of EUT: Front side: X Rear side: X Left side: X Right side : X

Performance criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

Date of test: 09/23/2010 and 10/19/2010

Tested by: M. Roththauscher, FTS GmbH , A. Liebert

Immunity to radiated, radio-frequency electromagnetic field

EUT	**KISS 4U Q57 PS3**
Mode of Operation	Operating mode

Bar Pressure:	1014/1022 hPa	Rel. Humidity:	37/45%	Amb. Temperature	26/25°C

Regulation:	EN 61000-4-3

Requirements:	80 - 2700 MHz: 10/3/1 V/m	
Interfering signal:	Modulation:	AM
	Modulation depth:	80%
	Modulations frequency :	1kHz
	Polarisation:	vertikal/horizontal
	Step size:	1%
	Dwell time:	1 sec.

Side of EUT: Front side: X Rear side: X Left side: X Right side : X

Performance criteria: Criteria A

Notes: No effects detected

Test result: **Passed**

Date of test: 09/23/2010 and 10/18/2010

Tested by: M. Roththauscher, FTS GmbH , A. Liebert

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS1
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / front
Date of Measurement: 23.09.2010 12:20:20

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS1
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / front
Date of Measurement: 23.09.2010 12:09:31

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS1
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / rear
Date of Measurement: 23.09.2010 11:04:29

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS1
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / rear
Date of Measurement: 23.09.2010 11:12:05

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS2
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / front
Date of Measurement: 23.09.2010 10:14:38

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS2
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / front
Date of Measurement: 23.09.2010 10:22:45

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.: Microwelle Start Freq.: 1.400 GHz
Transducer: BBHA 9120E Stop Freq.: 2.000 GHz
Sensor: <internal> Step Mode: LOG
Ref. Calib.: Ref_H Step Size: 1.000 %
Levelling: Ref. Calib. Frq.Tbl.: <none>
Power Ctrl.: Forward Power

Imm.Shape: <none> Lower Tol.: 0.200 dB
Lim.Shape: <none> Upper Tol.: 0.200 dB
Imm.Level: 3.00 V/m Dwell Time: 3.000 s

Generator Settings: Level Sweep:

Mod. Type: AM:INT Step Mode: Off
Mod. Depth: 80.00 Max. Lev. Shift: 0.000 dB
Deviat.: ---
Mod. Freq.: 1000.00
AF Wave: <none>

Subrange 2:

Power Gen.: Microwelle Start Freq.: 2.000 GHz
Transducer: BBHA 9120E Stop Freq.: 2.700 GHz
Sensor: <internal> Step Mode: LOG
Ref. Calib.: Ref_H Step Size: 1.000 %
Levelling: Ref. Calib. Frq.Tbl.: <none>
Power Ctrl.: Forward Power

Imm.Shape: <none> Lower Tol.: 0.200 dB
Lim.Shape: <none> Upper Tol.: 0.200 dB
Imm.Level: 1.00 V/m Dwell Time: 3.000 s

Generator Settings: Level Sweep:

Mod. Type: AM:INT Step Mode: Off
Mod. Depth: 80.00 Max. Lev. Shift: 0.000 dB
Deviat.: ---
Mod. Freq.: 1000.00
AF Wave: <none>

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS2
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / rear
Date of Measurement: 23.09.2010 10:41:47

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS2
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / rear
Date of Measurement: 23.09.2010 10:32:45

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS3
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / front
Date of Measurement: 23.09.2010 09:44:02

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS3
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / front
Date of Measurement: 23.09.2010 09:33:42

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS3
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E vertical / rear
Date of Measurement: 23.09.2010 08:47:19

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_V	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Immunity to radiated RF - Field

acc EN 61000 - 4 - 3

EUT: KISS 4U Q57 / PS3
Manufacturer: KEC GmbH Eching
Operating Condition: simulated standard operation
Test site:: FTS Compact Diagnostic Chamber (CDC)
Operator: M. Rothtauscher
Test result: normal function observed
Antenna Position: BBHA 9120E horizontal / rear
Date of Measurement: 23.09.2010 08:55:18

IMMUNITY PARAMETER: "Feldstärke CDC"

Unit: V/m
Imm. Level Detector: CARRIER
Frequency Sweep: Ascending

Subrange 1:

Power Gen.:	Microwelle	Start Freq.:	1.400 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.000 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	3.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

Subrange 2:

Power Gen.:	Microwelle	Start Freq.:	2.000 GHz
Transducer:	BBHA 9120E	Stop Freq.:	2.700 GHz
Sensor:	<internal>	Step Mode:	LOG
Ref. Calib.:	Ref_H	Step Size:	1.000 %
Levelling:	Ref. Calib.	Frq.Tbl.:	<none>
Power Ctrl.:	Forward Power		

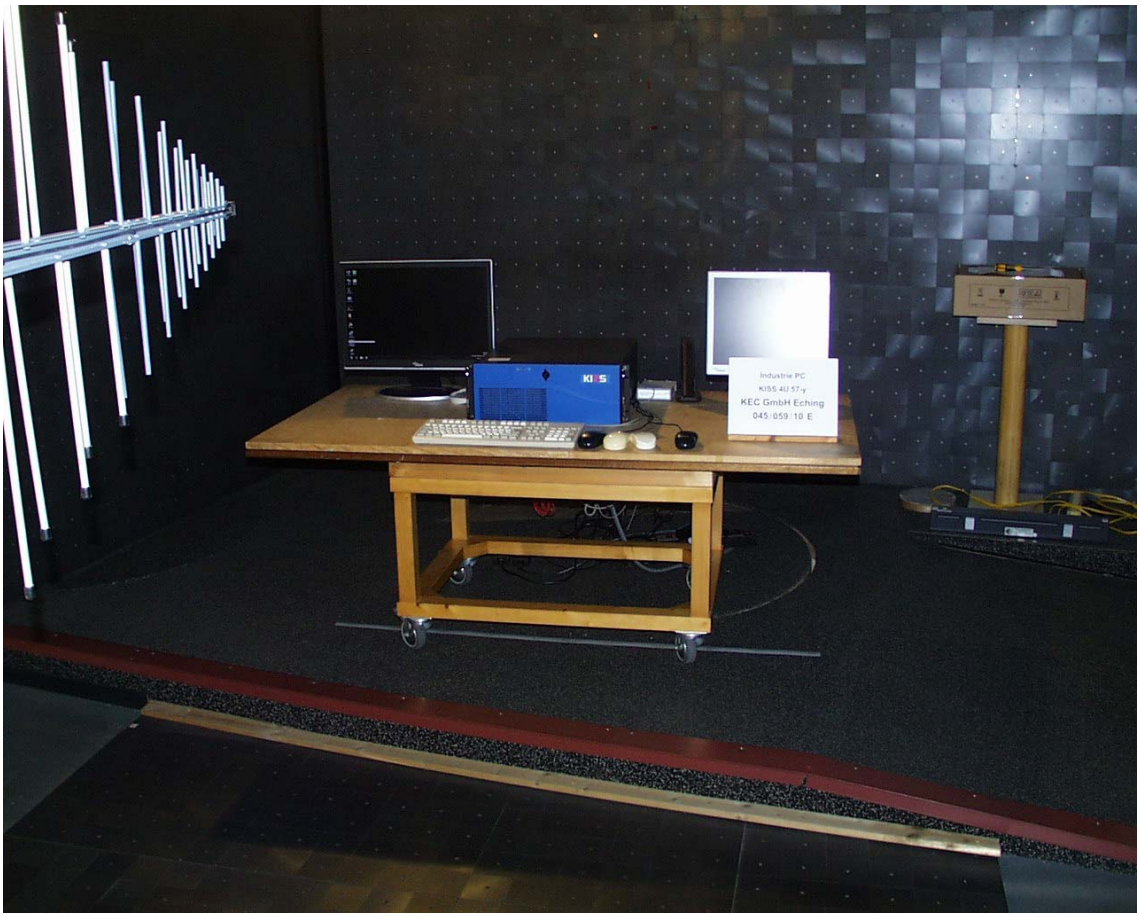
Imm.Shape:	<none>	Lower Tol.:	0.200 dB
Lim.Shape:	<none>	Upper Tol.:	0.200 dB
Imm.Level:	1.00 V/m	Dwell Time:	3.000 s

Generator Settings: Level Sweep:

Mod. Type:	AM:INT	Step Mode:	Off
Mod. Depth:	80.00	Max. Lev. Shift:	0.000 dB
Deviat.:	---		
Mod. Freq.:	1000.00		
AF Wave:	<none>		

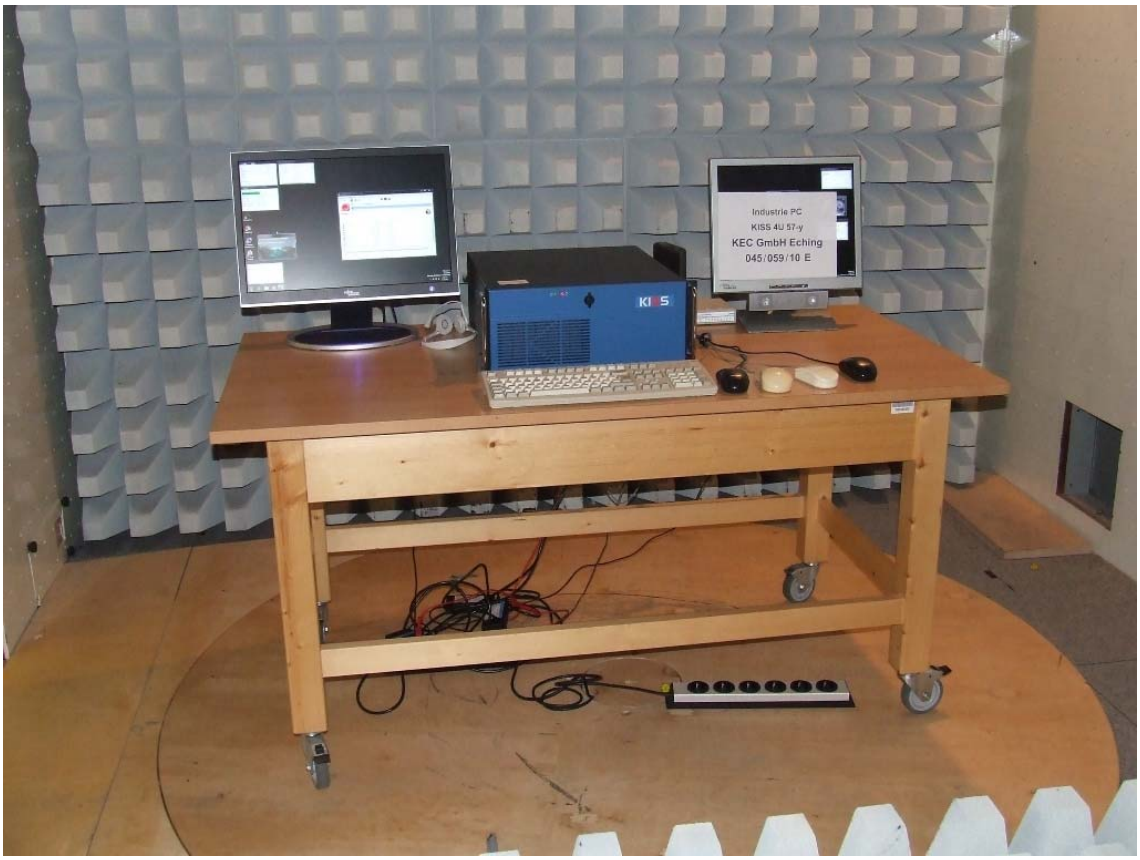
11.3 Photographs of Test Setup – Radiated, radio-frequency electromagnetic field

Absorber chamber



11.3 Photographs of Test Setup – Radiated, radio-frequency electromagnetic field

Absorber chamber at FTS GmbH Augsburg



12. Voltage dips, short interruptions and voltage variations Immunity tests

12.1 Test conditions

The Voltage dips-, short interruptions- and voltage variations immunity tests have been performed at the EMC-Test lab of CE-Conform.

Used test equipment

Controller	SyCore	Spitzenberger +Spieß	Inv.-No.: 669
4-Quad-Amplifier	PAS 1000	Spitzenberger +Spieß	Inv.-No.: 670
Oscilloscope	54600B	HP	Inv.-No.: 10/068

12.2 Test results

The requirements according to the standards listed on page 9 will be

X **kept** Performance criteria : B/C

O **Not kept**

Notes:

Immunity to voltage dips, short interruptions and voltage variations

EUT	**KISS 4U Q57 PS1**	**Power: 230V,50/60 Hz**
Mode of Operation	Operating mode	

Bar. Pressure:	1013 hPa	Rel. Humidity:	36 %	Amb. Temperature	24 °C

Regulation	EN 61000-4-11		
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec >95% 0 V 10 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 30% 161 V 500/600 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 60% 92 V 200/240 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Short Interruptions according to EN 61000-4-11 5.2	Number : Interval : Reduction : Reduction to : Duration : Fall Time: Rise Time Voltage Jump :	3 10 sec >95% 0 V 5/6 sec 2 sec 2 sec 0 Grad	Performance Criteria: C Notes: EUT switch off and can be started by operator w/o problem

Notes: no effects detected

Test Results: **Passed**

Date of Test: 09/27/2010

Tested by: A. Liebert

Immunity to voltage dips, short interruptions and voltage variations

EUT	**KISS 4U Q57 PS2**	**Power: 230V,50/60 Hz**
Mode of Operation	Operating mode	

Bar. Pressure:	1013 hPa	Rel. Humidity:	36 %	Amb. Temperature	24 °C

Regulation	EN 61000-4-11		
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec >95% 0 V 10 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 30% 161 V 500/600 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 60% 92 V 200/240 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Short Interruptions according to EN 61000-4-11 5.2	Number : Interval : Reduction : Reduction to : Duration : Fall Time: Rise Time Voltage Jump :	3 10 sec >95% 0 V 5/6 sec 2 sec 2 sec 0 Grad	Performance Criteria: C Notes: EUT switch off and can be started by operator w/o problem

Notes: no effects detected

Test Results: **Passed**

Date of Test: 09/27/2010

Tested by: A. Liebert

Immunity to voltage dips, short interruptions and voltage variations

EUT	**KISS 4U Q57 PS3-1**	**Power: 230V,50/60 Hz**
Mode of Operation	Operating mode	

Bar. Pressure:	1013 hPa	Rel. Humidity:	36 %	Amb. Temperature	24 °C

Regulation	EN 61000-4-11

Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec >95% 0 V 10 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 30% 161 V 500/600 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 60% 92 V 200/240 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Short Interruptions according to EN 61000-4-11 5.2	Number : Interval : Reduction : Reduction to : Duration : Fall Time: Rise Time Voltage Jump :	3 10 sec >95% 0 V 5/6 sec 2 sec 2 sec 0 Grad	Performance Criteria: C Notes: EUT switch off and can be started by operator w/o problem

Notes: no effects detected

Test Results: **Passed**

Date of Test: 09/27/2010

Tested by: A. Liebert

Immunity to voltage dips, short interruptions and voltage variations

EUT	**KISS 4U Q57 PS3-2**	**Power: 230V,50/60 Hz**
Mode of Operation	Operating mode	

Bar. Pressure:	1013 hPa	Rel. Humidity:	36 %	Amb. Temperature	24 °C

Regulation	EN 61000-4-11		
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec >95% 0 V 10 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 30% 161 V 500/600 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Voltage Dips According to EN 61000-4-11 5.1	Number : Interval : Reduction : Reduction to : Duration : Voltage Jump :	3 10 sec 60% 92 V 200/240 ms 0 Grad	Performance Criteria: B Notes: EUT works without problems
Short Interruptions according to EN 61000-4-11 5.2	Number : Interval : Reduction : Reduction to : Duration : Fall Time: Rise Time Voltage Jump :	3 10 sec >95% 0 V 5/6 sec 2 sec 2 sec 0 Grad	Performance Criteria: C Notes: EUT switch off and can be started by operator w/o problem

Notes: no effects detected

Test Results: **Passed**

Date of Test: 09/27/2010

Tested by: A. Liebert

12.3 Test Setup – Voltage dips, short interruptions and voltage variations

EMC Labor

13. Surge immunity test

13.1 Test Conditions

The surge immunity test have been performed in a high-frequency

Shielded room	Siemens	4,60 x 3,40 x 2,40m	Inv.-No.: 650

Used test equipment:

Surge Generator	NSG 2050	Schaffner	Inv.-No.: 667
Surge-Plug-in	PNW 2055	Schaffner	Inv.-No.

13.2 Test result

The requirements according to the standard listed on page 9 will be

X **kept** Performance criteria: B

O **not kept**

Notes:

Immunity to Surge

EUT	**KISS 4U Q57 PS1**
Mode of Operation	Operating mode

Bar. Pressure:	1016 hPa	Rel. Humidity:	23 %	Amb. Temperature.	23 °C

Regulation:	EN 61000-4-5	**Test Unit:**	Surge Generator Schaffner NSG 2050 / PNW 2055	Coupling to coupling network

Surge wave form : 1,2/50 (8/20) µs	Phase Angle : 0°,90°,180°,270°	Repetition rate : 1 pulse/min

Coupling to:	Symmetrical coupling: L1 - N				
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: L1 - PE				
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: N - PE				
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: LAN				
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

x = tested value

Perf. Criteria: Criterium B

Notes: No Effects detected

Test Result: **Passed**

Date: 12/16/2010

Tested by: A. Liebert

Immunity to Surge

EUT	**KISS 4U Q57 PS2**
Mode of Operation	Operating mode

Bar. Pressure:	1016 hPa	Rel. Humidity:	23 %	Amb. Temperature.	23 °C

Regulation:	EN 61000-4-5	**Test Unit:**	Surge Generator Schaffner NSG 2050 / PNW 2055	Coupling to coupling network

Surge wave form : 1,2/50 (8/20) µs	Phase Angle : 0°,90°,180°,270°	Repetition rate : 1 pulse/min

Coupling to:	Symmetrical coupling: L1 - N					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: L1 - PE					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: N - PE					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: LAN					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

x = tested value

Perf. Criteria: Criterium B

Notes: No Effects detected

Test Result: **Passed**

Date: 12/16/2010

Tested by: A. Liebert

Immunity to Surge

EUT	**KISS 4U Q57 PS3/ 1 and 2**
Mode of Operation	Operating mode

Bar. Pressure:	1003 hPa	Rel. Humidity:	23 %	Amb. Temperature.	33 °C

Regulation:	EN 61000-4-5	**Test Unit:**	Surge Generator Schaffner NSG 2050 / PNW 2055	Coupling to coupling network

Surge wave form : 1,2/50 (8/20) µs	Phase Angle : 0°,90°,180°,270°	Repetition rate : 1 pulse/min

Coupling to:	Symmetrical coupling: L1 - N					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: L1 - PE					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitude	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: N - PE					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**X 2,0 kV**	**4,0 kV**	**x kV**

Coupling to:	Unsymmetrical coupling: LAN					
Tested severity level	+	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**
Puls amplitudex	-	**X 0,5 kV**	**X 1,0 kV**	**2,0 kV**	**4,0 kV**	**x kV**

x = tested value

Perf. Criteria: Criterium B

Notes: No Effects detected

Test Result: **Passed**

Date: 12/08/2010

Tested by: A. Liebert

13.3 Photographs of Test Setup - Surge

Shielded room

Coupling to power lines