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The Netherlands
Chamber of Commerce
09076358
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telefication

EMC test report
20094106200

Based on:

- FCC part 15; subpart B; section 15.107(a) and 15.109(a): (10-01-08) edition

Outdoor Patient Monitor
RS TechMedic
Dyna-Vision

Contents

This report comprises of three modules. The total number of pages is: 20

Main module

1 Introduction

This report contains the result of tests performed by:

Telefication B.V.
Edisonstraat 12a
6902 PK Zevenaar
The Netherlands

Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2005. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie). The contents of this test report, if reproduced, shall be copied in full, unless special consent in writing for reproduction in part is granted by Telefication. Copyright of this test report is reserved to Telefication.

Ordering party:

Company name	:	RS TechMedic B.V.
Address	:	Broeker Werf 6
Zipcode	:	1721 PC
City/town	:	Broek op Langedijk
Country	:	The Netherlands
Date of order	:	22 January 2010

2 Product

A sample of the following product was submitted for testing:

Product description	:	Outdoor Patient Monitor
Manufacturer	:	RS TechMedic
Trade mark	:	Dyna-Vision
Type designation	:	DVM-010SG
FCC ID	:	X5J-RSTM-DVM
Hardware version	:	--
Serial number	:	DV08Y01B0023
Software release	:	--

3 Test schedule

Tests are carried out in accordance with the specification detailed in chapter 7 “Summary” of this report.

Tests are carried out at the following location:

- Telefication, Zevenaar

The sample of the product is received on:

- 25 January 2010

Tests are carried out on:

- 25 January 2010

4 Product documentation

For production of this report the following product documentation has been used:

Description:	Date:	Identification:
User Manual	--	Dyna-Vision Monitor User Manual 4.63
Instructions for Use	August 24th 2009	Dyna-Vision Unit Basic Instructions for Use 4.64

The above-mentioned documentation will be filed at Telefication for a period of 10 years following the issue of this test report.

5 Observations and comments

It was agreed with the applicant to perform the following tests:

- FCC part 15, subpart B section 15.107
- FCC part 15, subpart B section 15.109

The EUT incorporates four operational modes:

- USB mode for transferring sampled data to a PC;
- Bluetooth mode for real time patient monitoring;
- GPRS mode for real time patient monitoring;
- Holter mode for recording patient data.

Measurements are performed in all four modes.

6 Modifications to the sample

No modifications were made to the sample.

7 Summary

The product is intended for use in the following application area(s):

MEDICAL

The sample is tested according to the following specification(s):

FCC part 15; subpart B; section 15.107(a) and 15.109(a): (10-01-08) edition.

8 Conclusions

The samples of the product showed **NO NON-COMPLIANCES** to the specification stated in chapter 7 of this report.

The results of the tests as stated in this report, are exclusively applicable to the product items as identified in this test report. Telefication accepts no responsibility for any stated properties of product items in this test report, which are not supported by the tests as specified in section 7 “Summary”.

All tests are performed by:

name : G.J. Gort

function : Senior Test Engineer

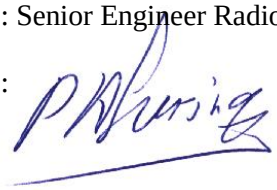
signature :

Review of test report by:

name : ing. P.A. Suringa

function : Senior Engineer Radio/EMC

signature :



The above conclusions have been verified by the following signatory:

Date : 23 April 2010

name : ing. P.A.J.M. Robben

function : Manager Laboratory

signature :

Test results module

1 General information

1.1 Equipment information

Type of equipment	Outdoor Patient Monitor
Power Supply	External or Battery

2 Summary of test data

NAME OF TEST	PARA. NO.	RESULT
AC mains line emissions	15.107 (a)	P
Unintentional emissions	15.109 (a)	P

Remark:
P = pass
F = fail
NT = not tested
NA = not applicable

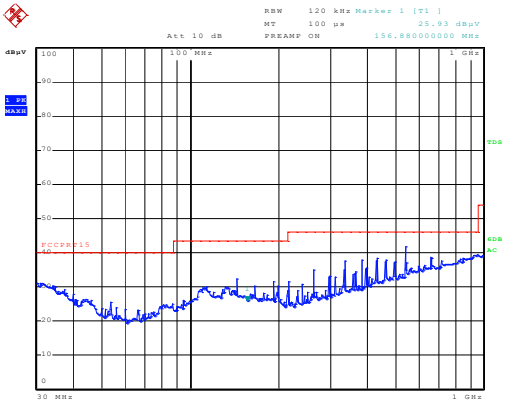
3 Emission tests

3.1 Field strength of unwanted emissions 30 - 1000 MHz (exploratory)

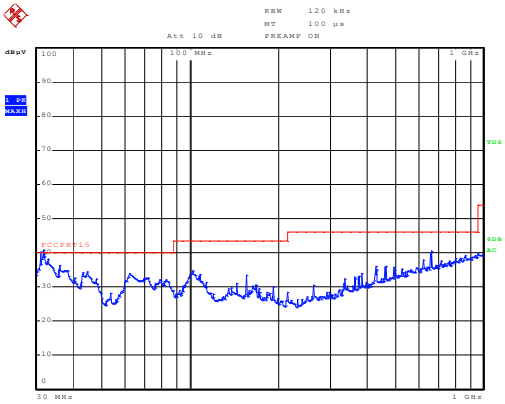
Compliance standard	:	FCC part 15, subpart B, section 15.109 (a)
Method of test	:	ANSI C63.4-2003, sections 5.5, 8.2.3, 8.2.4 & 8.3.1.2, 12.1.1.2 FCC part 15, subpart A, section 15.31(m), 15.33, 15.35.
EUT condition	:	active.
Ambient temperature	:	21 °C
Relative humidity	:	30 %
Test results	:	

USB mode:

30 - 1000 MHz
Polarization horizontal (max. hold)

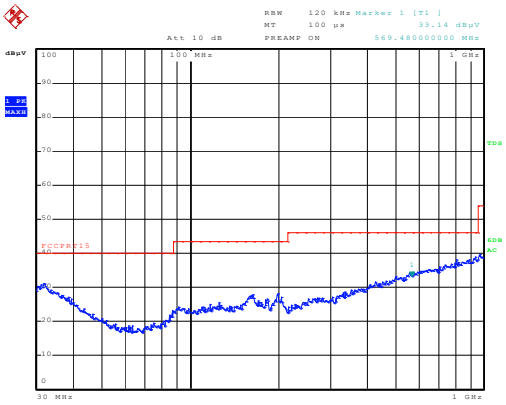


30 - 1000 MHz
Polarization vertical (max. hold)

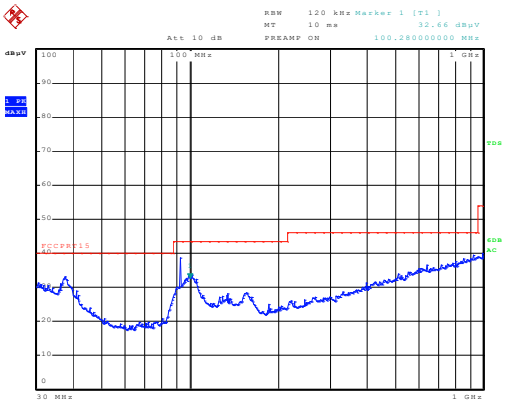


Bluetooth mode:

30 - 1000 MHz
Polarization horizontal (max. hold)

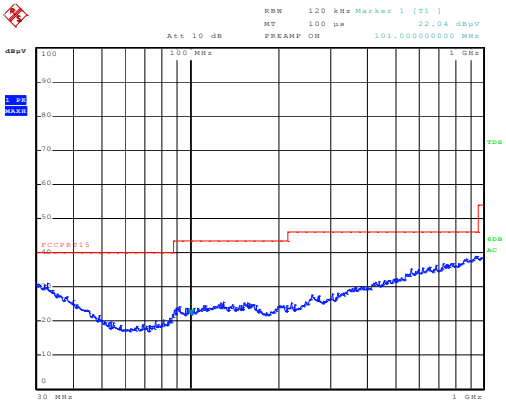


30 - 1000 MHz
Polarization vertical (max. hold)

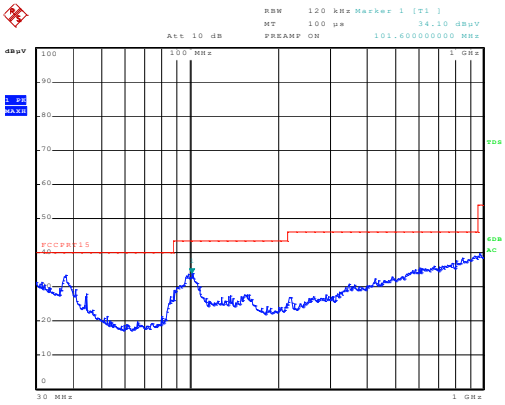


GPRS mode:

30 - 1000 MHz
Polarization horizontal (max. hold)

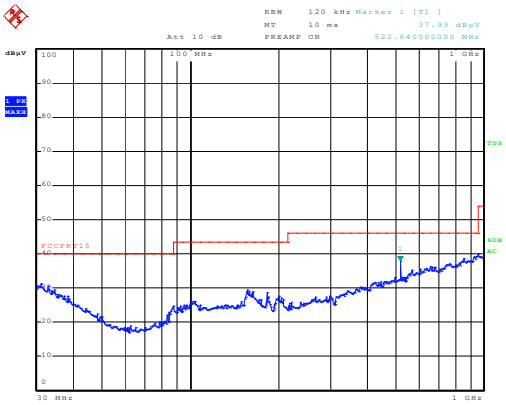


30 - 1000 MHz
Polarization vertical (max. hold)

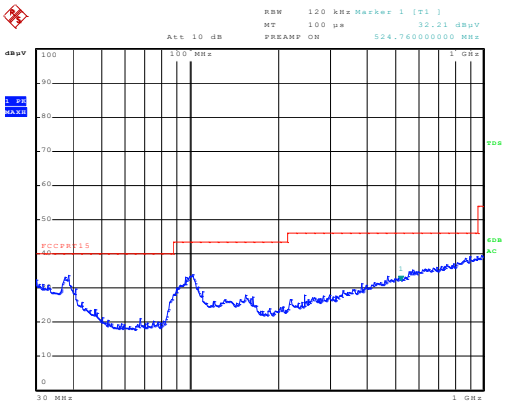


Holter mode:

30 - 1000 MHz
Polarization horizontal (max. hold)



30 - 1000 MHz
Polarization vertical (max. hold)



Measurement uncertainty: N/A

3.2 Field strength of unwanted emissions 30 - 1000 MHz

Compliance standard : FCC Part 15 Subpart B section 15.109 (a)
Method of test : ANSI C63.4-2003, sections 5.5, 8.2.3, 8.2.4 & 8.3.1.2, 12.1.1.2
FCC part 15, subpart A, section 15.31(m), 15.33, 15.35.
EUT condition : active
Ambient temperature : 21 °C
Relative humidity : 30 %

Test results :

USB mode

Frequency MHz	Polarization H/V	Meas. BW & detector	Result dBµV/m	Limit dBµV/m
31,0	V	120 kHz QP	32,9	40,0
31,7	V	120 kHz QP	33,4	40,0
156,0	V	120 kHz QP	21,8	43,5
336,0	H	120 kHz QP	36,7	46,0
384,0	H	120 kHz QP	37,2	46,0
432,6	H	120 kHz QP	34,4	46,0
499,2	H	120 kHz QP	31,5	46,0
542,6	H	120 kHz QP	27,4	46,0
665,2	V	120 kHz QP	36,3	46,0

Bluetooth mode

Frequency MHz	Polarization H/V	Meas. BW & detector	Result dBµV/m	Limit dBµV/m
37,4	V	120 kHz QP	27,4	40,0
82,9	V	120 kHz QP	25,8	40,0
101,8	V	120 kHz QP	28,1	43,5
161,9	H	120 kHz QP	24,1	43,5
199,4	H	120 kHz QP	24,5	43,5

GPRS mode

Frequency MHz	Polarization H/V	Meas. BW & detector	Result dBµV/m	Limit dBµV/m
37,8	V	120 kHz QP	27,9	40,0
101,6	V	120 kHz QP	28,4	40,0
566,3	H	120 kHz QP	29,0	46,0

Holter mode

Frequency MHz	Polarization H/V	Meas. BW & detector	Result dBµV/m	Limit dBµV/m
38,6	V	120 kHz QP	25,9	40,0
100,8	V	120 kHz QP	28,3	43,5
522,6	H	120 kHz QP	27,2	46.0

Measurement uncertainty:

Horizontal polarization	
30 – 200 MHz	4.5 dB
200 – 1000 MHz	3.6 dB
Vertical polarization	
30 – 200 MHz	5.4 dB
200 – 1000 MHz	4.6 dB

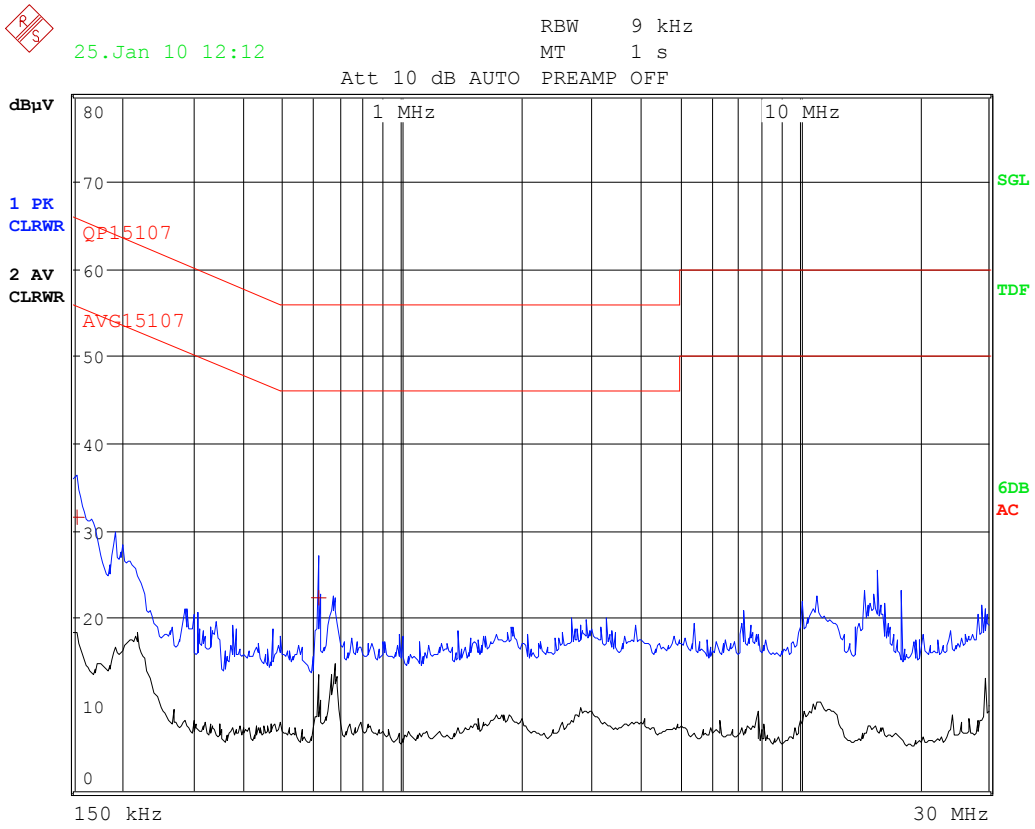
3.3 AC mains line conducted emissions

Compliance standard	:	FCC part 15, subpart C, section 15.107 (a)
Method of test	:	ANSI C63.4 :2003, clause 7
Ambient temperature	:	21 °C
Relative humidity	:	30 %

Test results :

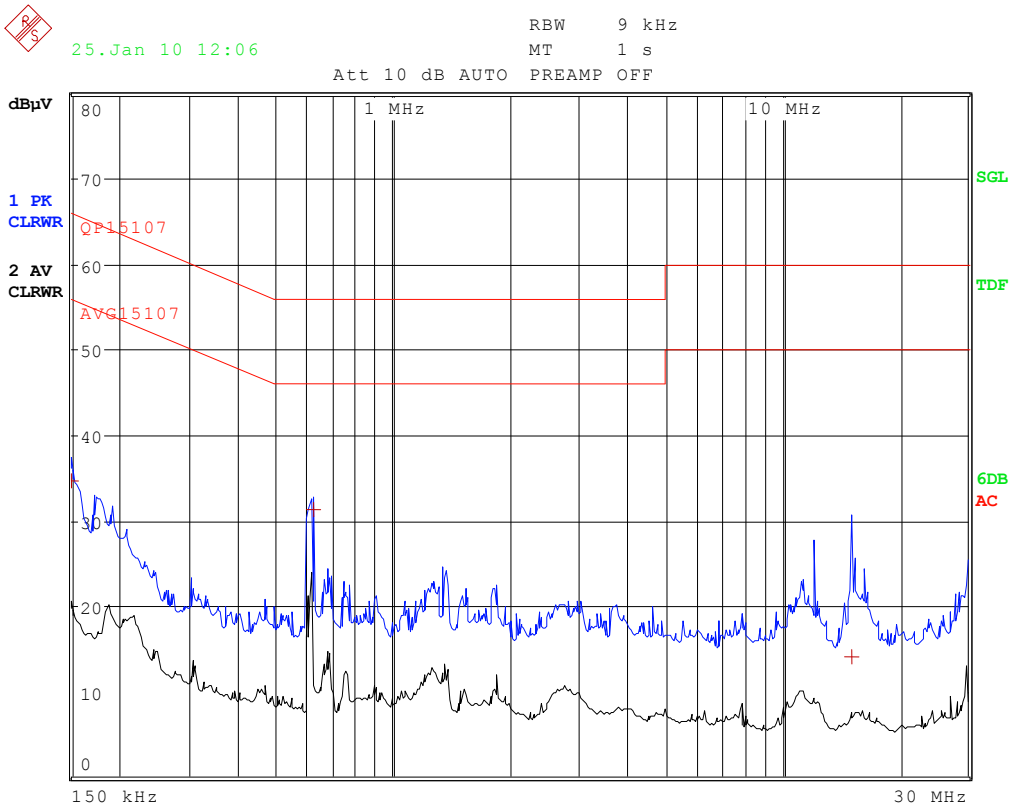
USB mode

115 Vac: Line



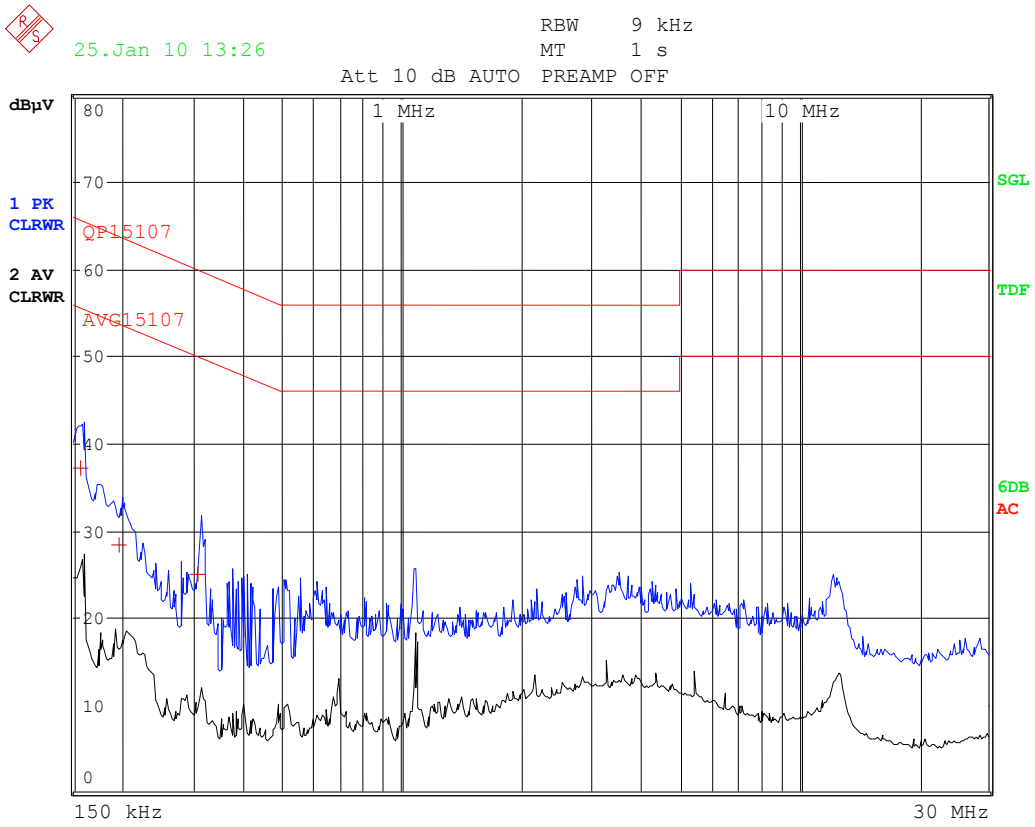
USB mode

115 Vac: Neutral



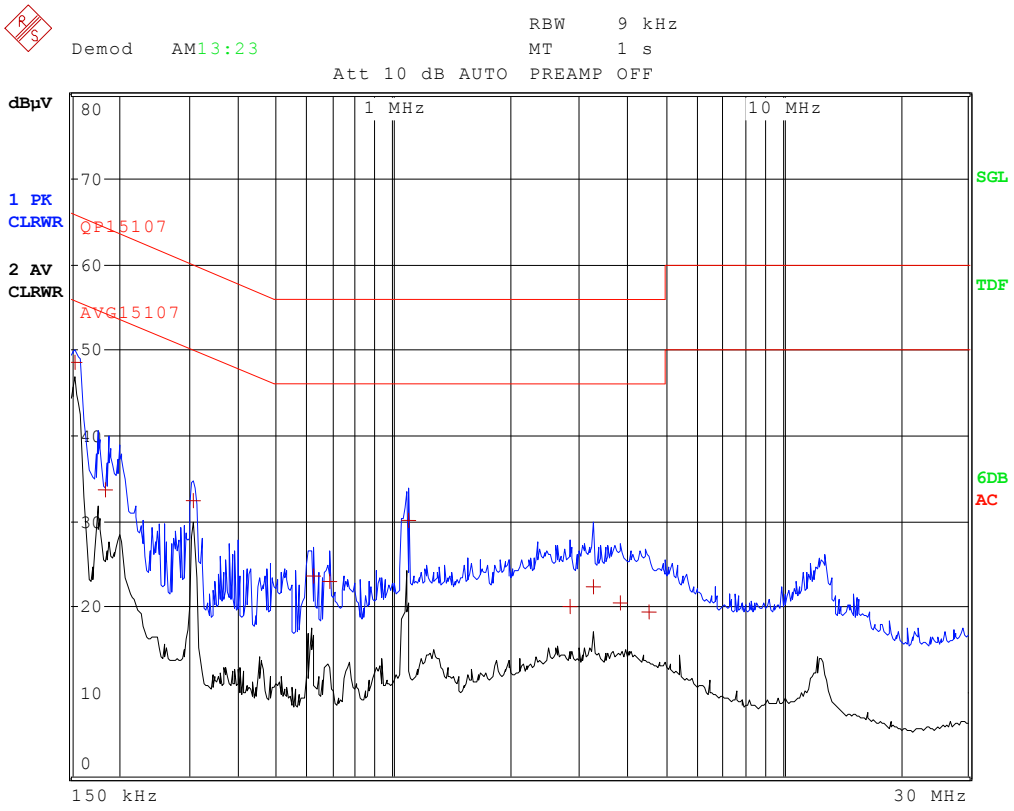
Bluetooth mode

115 Vac: Line



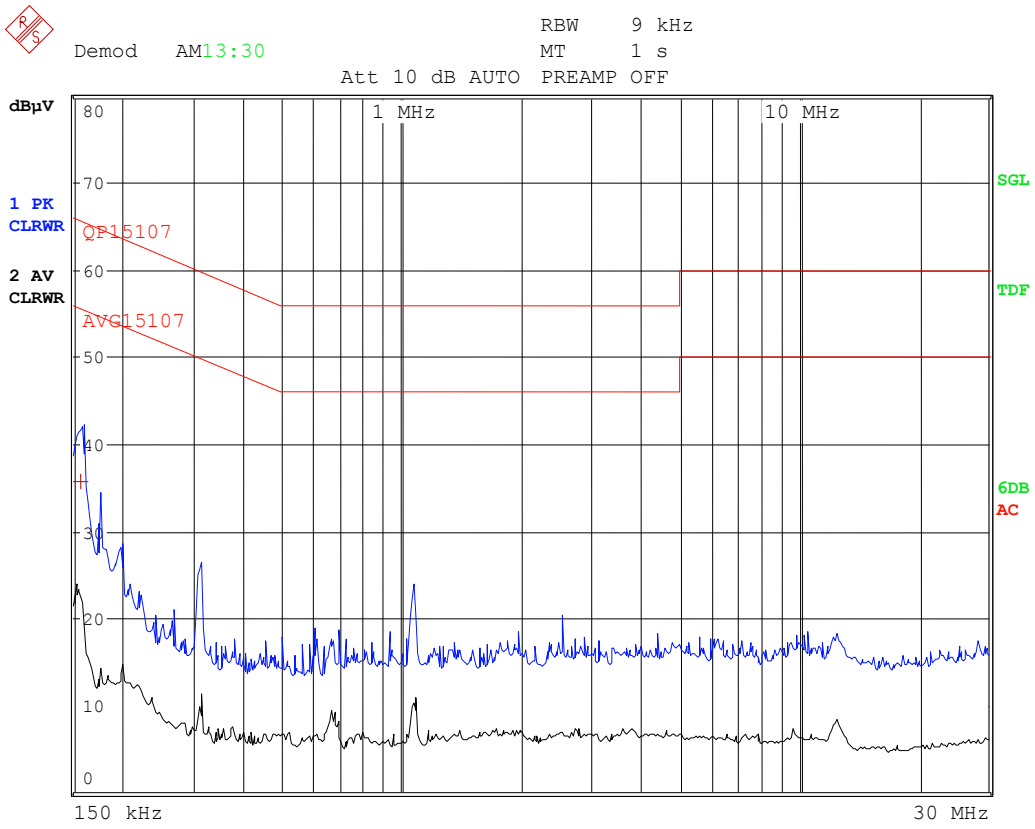
Bluetooth mode

115 Vac: Neutral



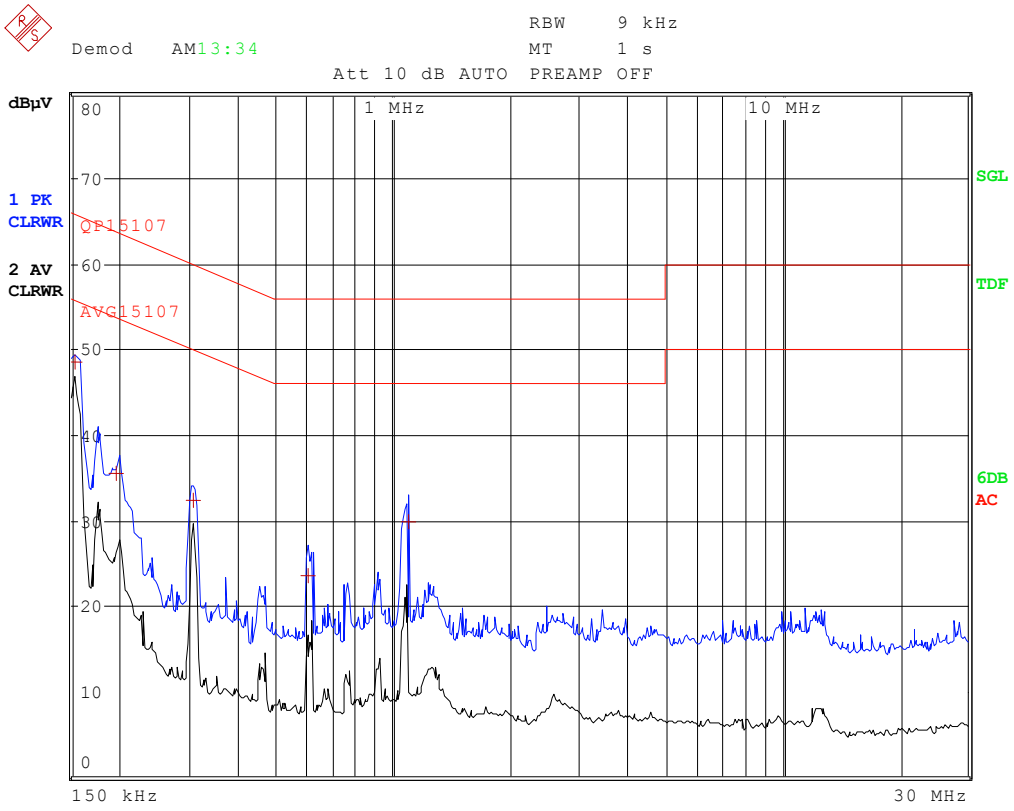
GPRS mode

115 Vac: Line



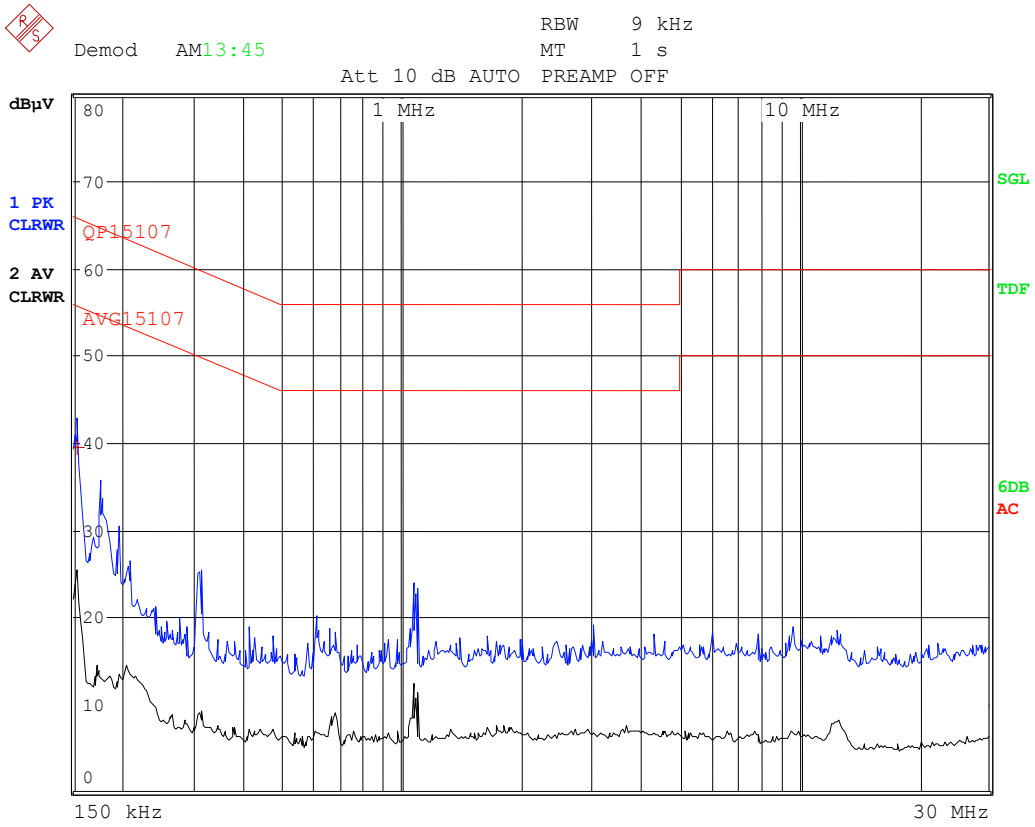
GPRS mode

115 Vac: Neutral



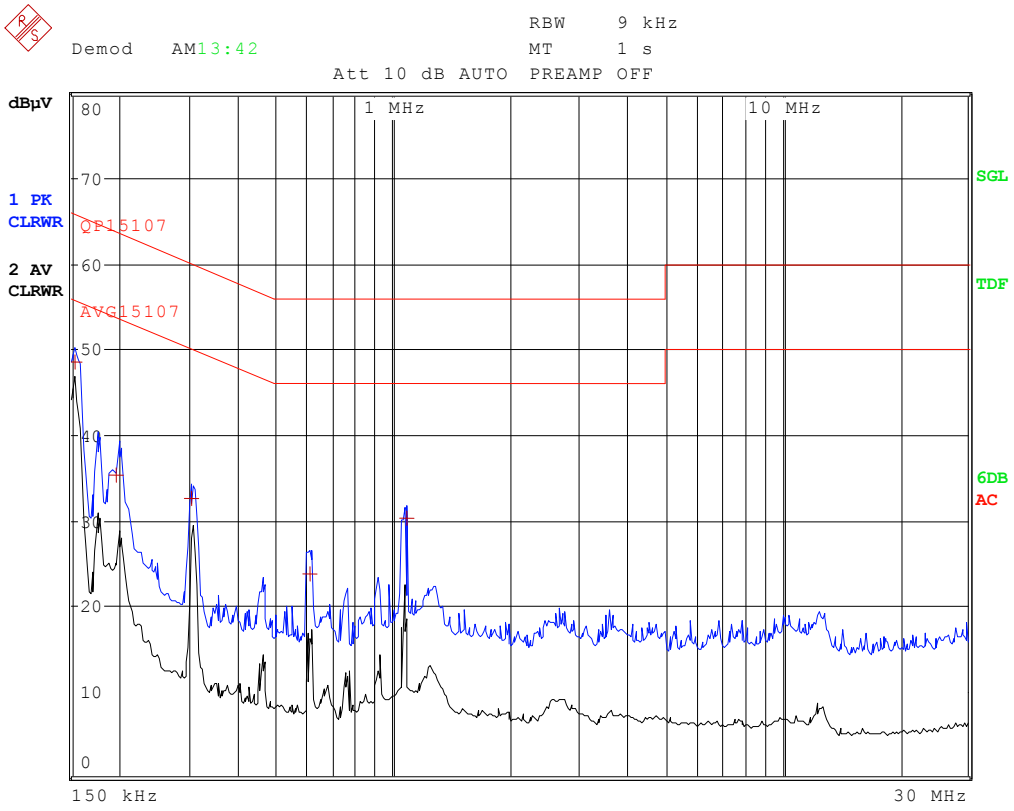
Holter mode

115 Vac: Line



Holter mode

115 Vac: Neutral



Measurement uncertainty	+3,1 / -3,1 dB

Used test equipment module

Description	Telef. ID	Manufacturer	Model	Used at par.
Spectrum Analyzer	TE 00359	Hewlett Packard	8563E	3.3
Pre-amplifier	TE 00093	Hewlett Packard	8449B	3.3
Receiver	TE 11128	Rohde & Schwarz	ESCI	3.1, 3.2, 3.4
Artificial Mains Network	TE 00208	Rohde & Schwarz	ESH3-Z5	3.4
Horn antenna	TE 00531	EMCO	3115	3.3
Biconilog Antenna	TE 00967	Chase	CBL6112a	3.1, 3.2
Variable Transformer	TE 00586	Jacke	RU-8	3.1, 3.2, 3.3, 3.4
Semi Anechoic Room	TE 00861	Comtest	RFD-F-100	3.1, 3.2
Anechoic Room	TE 01064	Comtest	--	3.3