



EMC-ECL-EMC Test Report No.: 11-033

Equipment under test: **Digita7**
FCC ID **WPC-GDM70X0**
IC Company Number **7943A**
Type of test: **FCC 47 CFR Part 15 Subpart B**
Miscellaneous Wireless Communication Services
ICES-003 - Digital Apparatus
Issue 4
February 2004

Measurement Procedures: 47 CFR Parts 2:2009 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), Part 15:2009 (Miscellaneous Wireless Communication Services), ANSI C63.4 2003, *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards* RSS-GEN Issue3 2010 General Requirements and Information for the Certification of Radiocommunication Equipment

Test result: **Passed**

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General:

The purpose of this report is to show compliance to the FCC regulations for unlicensed devices operating under section 15.107 and 15.109 of the Code of Federal Regulations title 47.

This report informs about the results of the EMC tests, it only refers to the equipment under test. No part of this report may be reproduced in any form, without written permission.



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1 Introduction

1.1 Purpose

This report documents the qualification testing for the "Digta7" system to FCC 47CFR Part 15 Subpart B Class "B". The system is referred to as the EUT from here on for the purpose of this report. All emission testing was performed per ANSI C63.4 (methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz).

1.2 Test Results Summary

Digta 7

Requirement	CFR/IC Section	Report Section	Test Result
Conducted emissions (Receiver + Transmitter)	15.107	4	Pass
Radiated Spurious Emissions (Receiver + Transmitter)	15.109	5	Pass

The client has made the determination that EUT Condition, Characterization, and Mode of Operation are representative of production units, and meet the requirements of the specifications referenced herein.

Consistent with industry practice, measurement and test equipment not directly involved in obtaining measurement results but having an impact on measurements (such as cable loss, antenna factors, etc.) are factored into the "Correction Factor" documented in certain test results. Instrumentation employed for testing meets tolerances consistent with known Industry Standards and Regulations.

The measurements contained in this report were made in accordance with the procedure ANSI C63.4-2003 and all applicable Public Notices received prior to the date of testing. All emissions from the device were found to be within the limits outlined in this report.

The test results in this report apply only to the particular Equipment Under Test (EUT) as declared in this report.



2 Equipment under test

2.1 EUT designation

Digta7
FCC ID: WPC-GDM70X0
IC Company Number: 7943A

2.2 Description

Digta7 series:

Digta7 series be made of typ701, typ702, typ703 and typ704 .
Digta7 is a mobile hand-held dictation device.

The Digta7 power supply follow by

- Lithium-pol rechargeable batteries [2,7V – 4,2V DC, support loading trough internal charger IC]
- or two standard AAA-batteries [2 x 1,5V DC]
- or two standard AAA-rechargeable batteries (NiMH) [2 x 1,2V DC, not support loading]
- or from mini-USB-female with power supply unit NT477 [5,0V DC / 1A]
- or USB cable via PC-USB-Port [4,3V – 5,25V DC]

The Digta7 series has a high-contrast backlight grayscale LCD display

- communication via controller GPIO interface
- backlight voltage generation by load controller

The Digta7 operation follow

- by typ701 with 4 key's (record, forward, rewind and start/stop)
- typ702 and typ703 have possession of a patented Sense Slider (GBS) for forward, stop, start, rewind and one key for record function.

The Digta7 series has

- 2GB internal memory [micro SD storage card], communication via SDIO interface
- and external SD storage card via RSI interface

The Digta7 series has a 3,5mm jack for external stereo headphone

- use 2 x 32 Ohm headphone systems

The Digta7 series has a 3,5mm jack for external stereo microphone

- input voltage 1 -10 mV, with internal supply the external capacitor-microphone 3V DC

The Digta7 series has a 29-pin connector for the Digta7 DockingStation447

- supply voltage via NT477 or USB-cable via PC-USB-port
- USB communication interface (D+ / D-)
- communication GPIO interface via controller
- UART interface via controller

A Bluetooth-module is integrated in the Digta7 Typ704 with its own FCC- and IC-ID:

FCC-ID: QOQWT12

IC-ID: 5123A-BGTWT12A

2.3 Configuration



Fig. 2.3.1: EUT: Digta7 Typ704

2.3.1 Connections

Digta 7

USB 1.1, USB 2.0 High Speed



2.3.2 Frequencies

Quartz-frequency

24MHz device controller

12MHz USB controller

Bus-frequency

100KHz I2C

12MHz I2S Bit-clock

8 - 48KHz I2S frame-clock (samplerate dependent)

15MHz SPI Interface

15MHz SDIO Interface

19200baud UART Digta7 DockingStation447

115200baud UART Digta7 Bluetooth (only Typ704)

2.3.3 Used Software

Digta7 Typ701	FW:	V 0.0 B 033
Digta7 Typ702	FW:	V 0.0 B 033
Digta7 Typ703	FW:	V 0.0 B 033
Digta7 Typ704	FW:	0.00-B040-02
Docking Station	FW:	B06

2.4 Used Equipment to work with EUT (not EMC specific)

Earphone957 SNr.: 035314405200000003 (3,5mm Klinke)
 Headphone565 SNr.: 035314305200000006 (GBS-Stecker 3-pol)
 DigtaScan404 SNr.: 035316020070007026
 DigtaStation447 SNr.: 035311300700086041
 NT477 Art.-Nr.: 1893912
 USB-Kabel Mat.-Nr.: 373118100104
 Fusschalter FS536 SNr.: GGI 2404
 Toshiba Laptop SPM30 SNr.: Y4089468H

2.5 Technical Data Overview

Microphone socket	3.5 mm jack; stereo
Earphone jack	3.5 mm jack; stereo (mono earphone can be used)
Connections	USB 1.1, USB 2.0 High Speed
Batteries	2 x 1.5 V; type Micro/AAA
Rechargeable battery	Rechargeable battery pack 962 (Li-polymer rechargeable battery, 3.7 V/ 1000 mAh)
Dimensions (W x H x D, without protruding operating elements)	approx. 130 x 52 x 22 mm / 5.12 x 2.05 x 0.87 inch
Weight incl. rechargeable battery pack 962	approx. 122 g / 4.303 oz
User Frequency Adjustment :	None, Software controlled
Rated Output Power	0 dBm
Antenna Connector:	Integral antenna only
Antenna Diversity Supported :	None

2.6 Operating States

The EUT is working at different modes. All the devices are measured, but the device with the worst case emission has been chosen for each measurement separately for this test report.

Mode 1 Digta7 – „stand-alone“

operation mode: Play

Mode2 Digta7 – „stand-alone“

operation mode: Record

Mode3 Digta7 – „stand-alone“

operation mode: Record with Earphone957

Mode4 Digta7 – Load“

operation mode: load the accumulator

Mode5 Digta7 – „scan“

operation mode: scan all the time (with specially test-firmware)

Mode6 Digta7 – „USB“

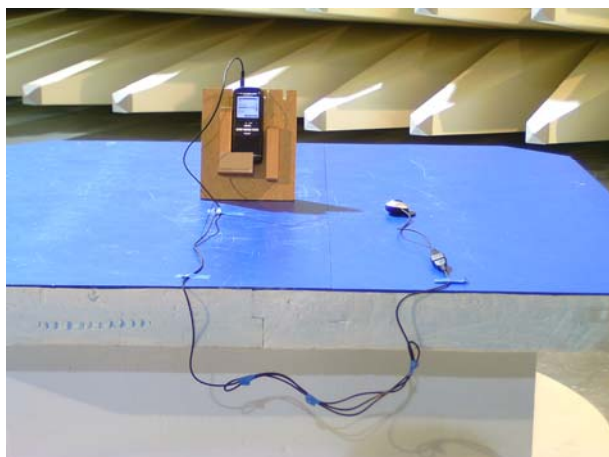
operation mode: USB to the laptop, Play, load the accumulator

Mode7 Digta7 – „DockingStation“

operation mode: in DockingStation447 and with Headphone565, USB to the laptop

Mode8 Digta7 – „Bluetooth“

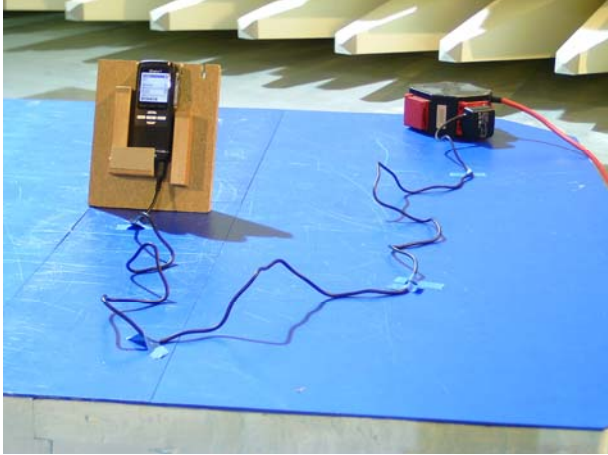
operation mode: transmission over bluetooth to blackberry



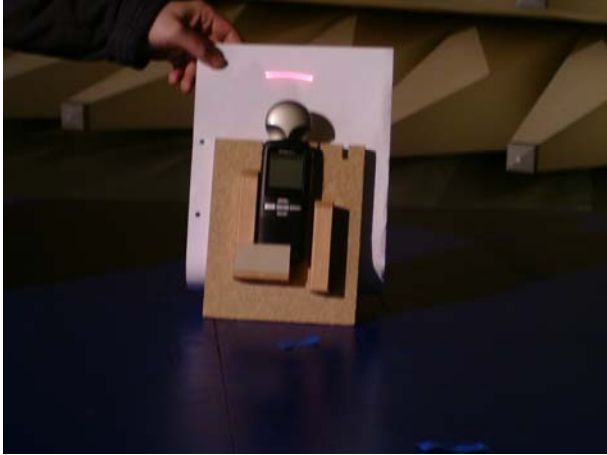
Mode 1 Mode 2



Mode 3



Mode 4



Mode 5



Mode 6



Mode 7



Mode 8



3 Description of the EMC test centre

3.1 Registrations



Registration No. (DATech): DAT-P-231/92-04



Registration No. (Kraftfahrt-Bundesamt): KBA-P 00053-03



Registration No.: 96997



Registration No.
for radiated emission: IC 3475



Registration No.
for conducted emission on power supply lines: C-2169
for conducted emission on telecommunication ports: T-140
for radiated emission: R-2016



Registered within Verizons ITL program.



3.2 Measurement Uncertainty

The table below shows the measurement uncertainties for each measurement method. The expanded uncertainty was calculated with worst case values over the complete frequency area.

Measurement method	Frequency area impulse duration time	Description	expanded Uncertainty (95% or k=2)
Radiated emission (ANSI C63.4)	30 MHz - 1 GHz	Semi anechoic chamber	± 4,7 dB
	1 GHz - 18 GHz	Fully anechoic chamber	± 3,9 dB
Conducted emission (ANSI C63.4)	9 kHz - 150 kHz		± 4,0 dB
	150 kHz - 30 MHz		± 3,6 dB



4 Conducted Emissions Tests

Test Requirement: FCC CFR47, Part 15B

Test Procedure: ANSI C63.4: 2003

4.1 Regulation

§ 15.107 Conducted limits.

(a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

(b) For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms LISN. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15–0.5	79	66
0.5–30	73	60

(c) The limits shown in paragraphs (a) and (b) of this section shall not apply to carrier current systems operating as unintentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535–1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μ V within the frequency band 535–1705 kHz, as measured using a 50 μ H/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.109(e).

(d) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.



4.2 Test Equipment

Designation	Equipment	Manufacturer	Frequency range	Next Cal.-Date	used
EMI test receiver	ESI40	Rohde & Schwarz	20 Hz – 40 GHz	29.04.2011	X
Transient Limiter	ESH3-Z2	Rohde & Schwarz	9 kHz – 30 MHz	10.07.2011	X
LISN (4x25 A)	LISN4-25/32	Bajog	9 kHz – 30 MHz	08.09.2011	X

4.3 Test Procedures

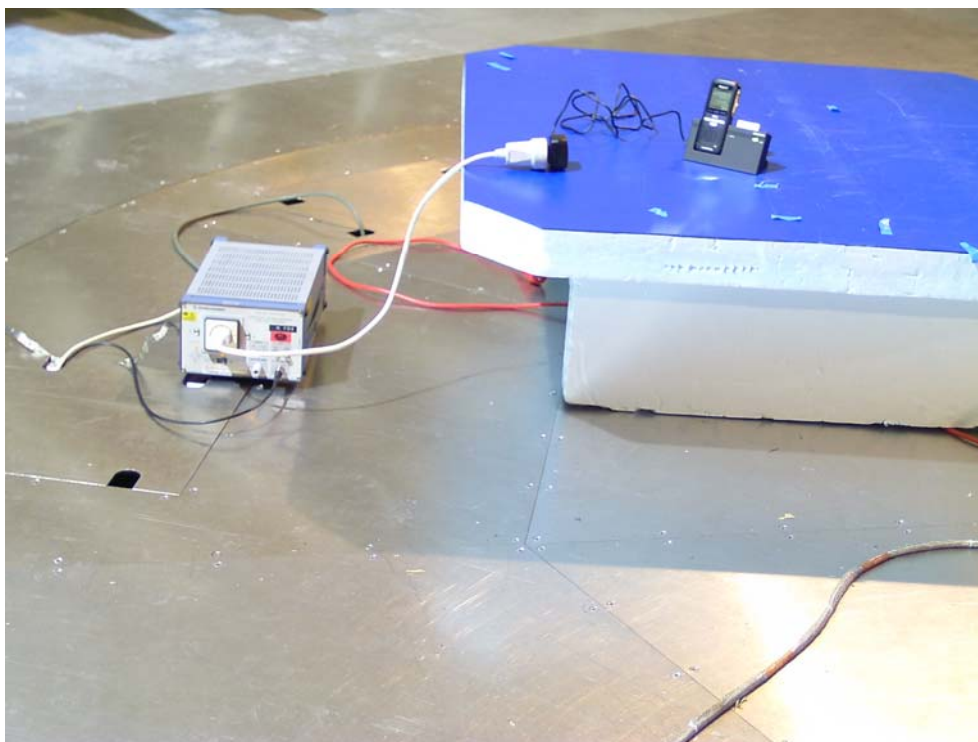
The supply voltage for the EUT was provided via a Line impedance stabilizing network (LISN). The LISNs were under the turntable and connected to the chamber ground.

The EUT, when intended for table-top use, was placed 0,4m from a vertical metal reference plane of at least 2m by 2m, and was kept at least 0,8m from any other metal surface or other ground plane was not part of the EUT. If the measurement was made in a screened enclosure, the distance of 0,4m was referred to one of the walls of the enclosure. If the measurement was made in a screened enclosure, the distance of 0,4m was referred to the horizontal metal ground plane.

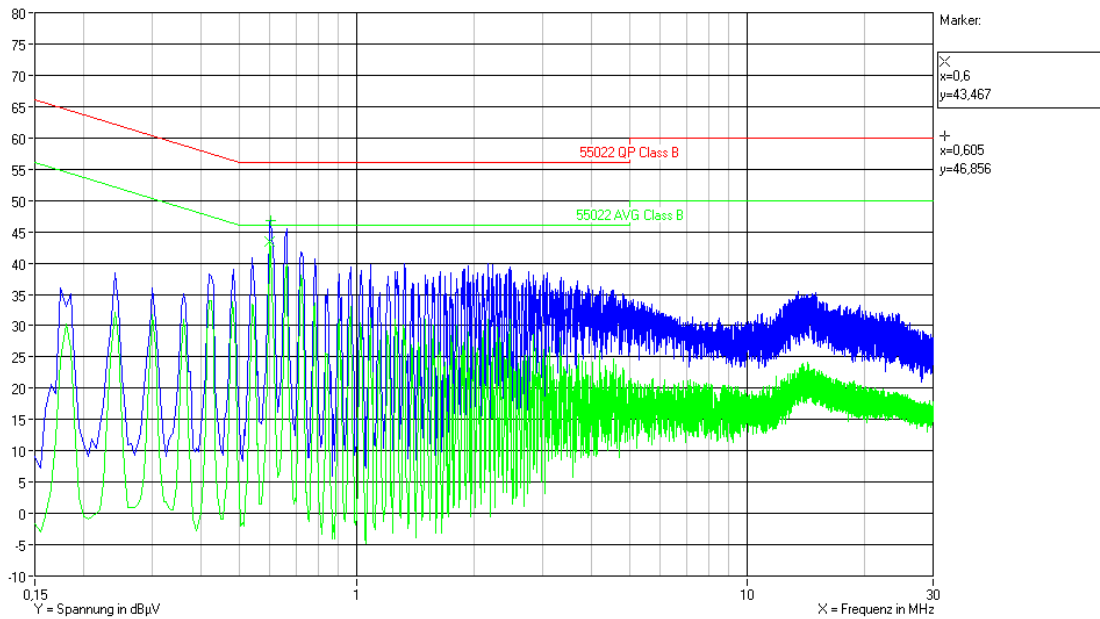
A floor-standing EUT was placed on a horizontal metal ground plane; the points of contact were consistent with normal use, but not in metallic contact with the ground plane. The reference ground plane was at least 0,5m beyond the boundaries of the EUT, and had minimum dimensions of 2m by 2m.

4.4 Test Results

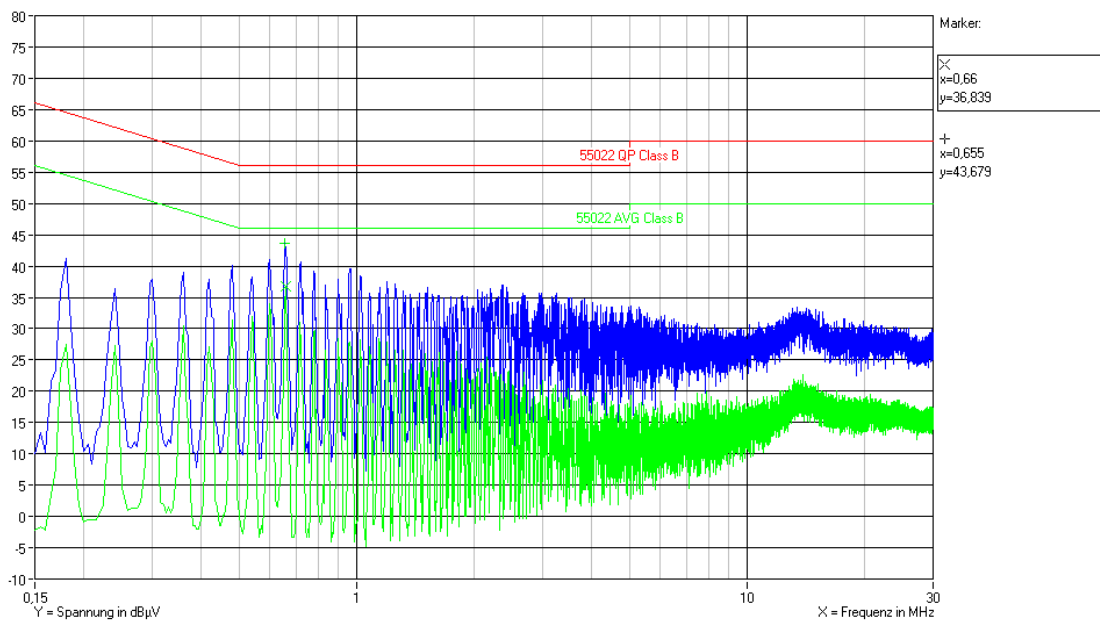
Frequency range	Mode	Line	Detector	Measurement report
150 kHz - 30 MHz	Mode4 115V	L	PK / AV	1
		N	PK / AV	2
	Mode7 115 V	L	PK / AV	3
		N	PK / AV	4
	Mode 7 fully charged accumulator	L	PK / AV	5
		N	PK / AV	6



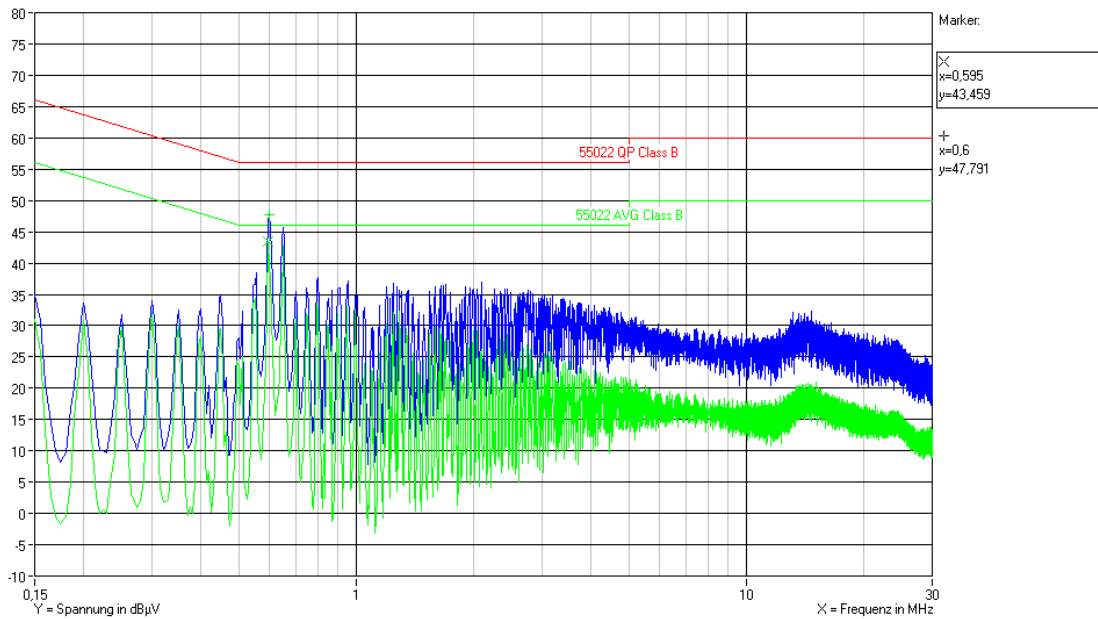
Basic set-up for conducted emissions



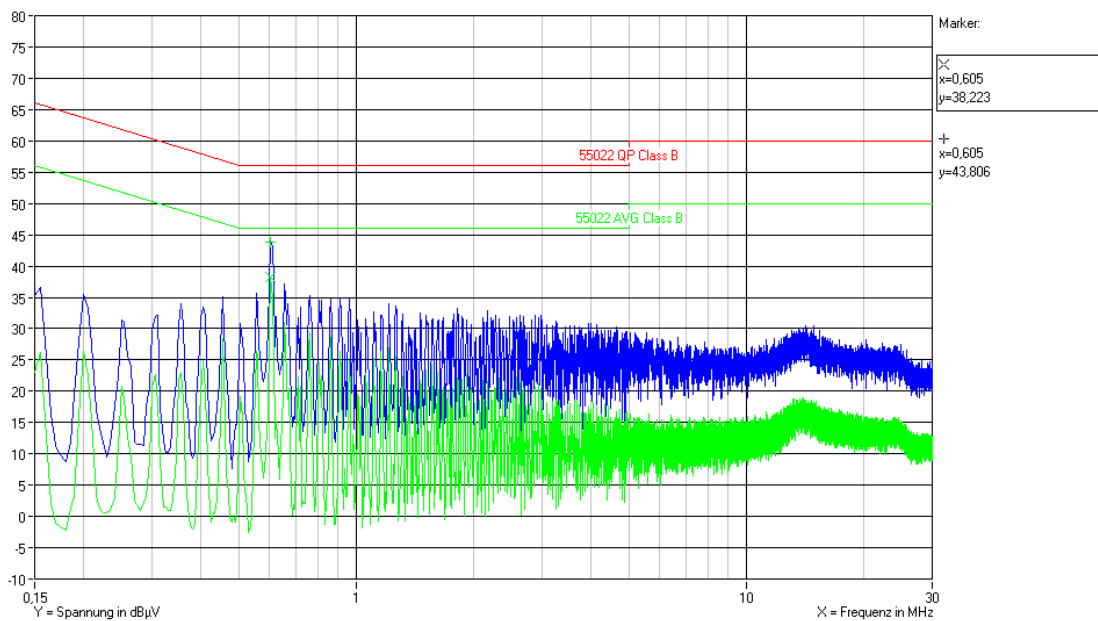
Messprotokoll 1.
Measurement report 1.



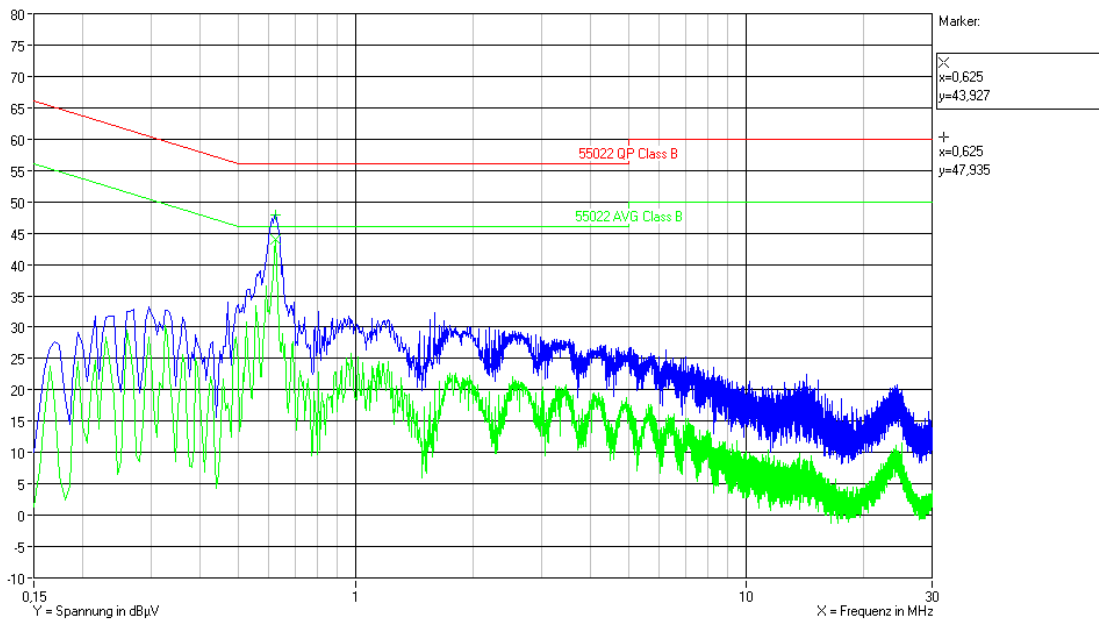
Messprotokoll 2.
Measurement report 2.



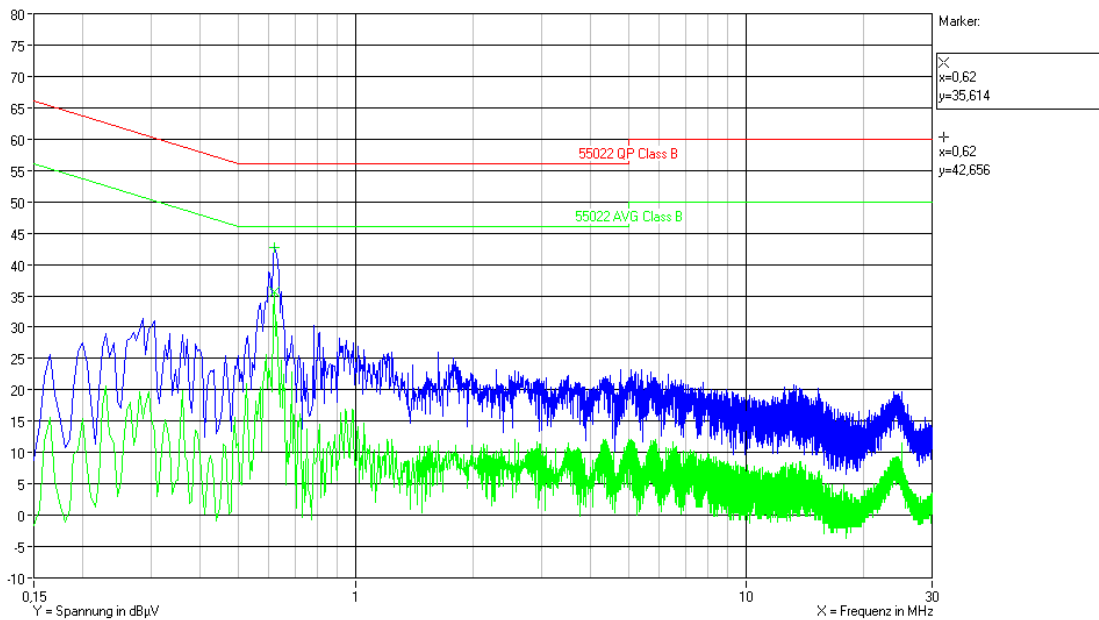
Messprotokoll 3.
Measurement report 3.



Messprotokoll 4.
Measurement report 4.



Messprotokoll 5.
Measurement report 5.



Messprotokoll 6.
Measurement report 6.



5 Radiated Emissions Test

Test requirement: FCC CFR47, Part 15B

Test procedure: ANSI C63.4: 2003

5.1 Regulation

§ 15.109 Radiated emission limits.

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30–88	100
88–216	150
216–960	200
Above 960	500

(b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30–88	90
88–216	150
216–960	210
Above 960	300

(c) In the emission tables above, the tighter limit applies at the band edges. Sections 15.33 and 15.35 which specify the frequency range over which radiated emissions are to be measured and the detector functions and other measurement standards apply.

(d) For CB receivers, the field strength of radiated emissions within the frequency range of 25–30 MHz shall not exceed 40 microvolts/meter at a distance of 3 meters. The field strength of radiated emissions above 30 MHz from such devices shall comply with the limits in paragraph (a) of this section.

(e) Carrier current systems used as unintentional radiators or other unintentional radiators that are designed to conduct their radio frequency emissions via connecting wires or cables and that operate in the frequency range of 9 kHz to 30 MHz, including devices that deliver the radio frequency energy to transducers, such as ultrasonic devices not covered under part 18 of this chapter, shall comply with the radiated emission limits for intentional radiators provided in §15.209 for the frequency range of 9 kHz to 30 MHz. As an alternative, carrier current systems used as unintentional radiators and operating in the frequency range of 525 kHz to 1705 kHz may comply with the radiated emission limits provided in §15.221(a). At frequencies above 30 MHz, the limits in paragraph (a), (b), or (g) of this section, as appropriate, apply.

(f) For a receiver which employs terminals for the connection of an external receiving antenna, the receiver shall be tested to demonstrate compliance with the provisions of this section with an antenna connected to the antenna terminals unless the antenna conducted power is measured as specified in §15.111(a). If a permanently attached receiving antenna is used, the receiver shall be tested to demonstrate compliance with the provisions of this section.

(g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in Third Edition of the International Special



Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment—Radio Disturbance Characteristics—Limits and Methods of Measurement" (incorporated by reference, see §15.38). In addition:

(1) The test procedure and other requirements specified in this part shall continue to apply to digital devices.

(2) If, in accordance with §15.33 of this part, measurements must be performed above 1000 MHz, compliance above 1000 MHz shall be demonstrated with the emission limit in paragraph (a) or (b) of this section, as appropriate. Measurements above 1000 MHz may be performed at the distance specified in the CISPR 22 publications for measurements below 1000 MHz provided the limits in paragraphs (a) and (b) of this section are extrapolated to the new measurement distance using an inverse linear distance extrapolation factor (20 dB/decade), e.g., the radiated limit above 1000 MHz for a Class B digital device is 150 $\mu\text{V}/\text{m}$, as measured at a distance of 10 meters.

(3) The measurement distances shown in CISPR Pub. 22, including measurements made in accordance with this paragraph above 1000 MHz, are considered, for the purpose of §15.31(f)(4) of this part, to be the measurement distances specified in this part.

(4) If the radiated emissions are measured to demonstrate compliance with the alternative standards in this paragraph, compliance must also be demonstrated with the conducted limits shown in §15.107(e).

(h) Radar detectors shall comply with the emission limits in paragraph (a) of this section over the frequency range of 11.7–12.2 GHz.



5.2 Radiated Emissions Test, 30 MHz to 12.75 GHz

5.3 Test equipment used:

Designation	Equipment	Manufacturer	Frequency range	Next Cal.- Date	used
EMI test receiver	ESVS30	Rohde & Schwarz	20 MHz – 1 GHz		
EMI test receiver	ESAI	Rohde & Schwarz	20 Hz – 1,8 GHz		
EMI test receiver	ESI40	Rohde & Schwarz	20 Hz – 40 GHz	21.12.11	X
Amplifier	AFS4-00102000	Miteq	1 GHz – 18 GHz	11.11.11	X
Amplifier	JS43-18004000-30-5A	Miteq	18 GHz – 26 GHz		
Amplifier	AM-1431-N	Miteq	10 KHz – 1 GHz	02.07.11	X
Antenna	CBL 6111	Chase	30 MHz – 1 GHz	24.09.11	X
Antenna	3141	EMCO	26 MHz – 2 GHz		
Antenna	HL025	Rohde & Schwarz	1 GHz – 18 GHz	28.09.11	X
Antenna	MWH-1826/B	ARA Inc.	18 GHz – 26 GHz		

5.4 Test Procedures

For tabletop equipment, the EUT is placed on a 0.8 meter high nonconductive table that sits on a flush mounted metal turntable. Floor standing equipment is placed directly on the flush mounted metal turntable. The EUT is connected to its associated peripherals with any excess I/O cabling bundled to approximately 1 meter.

Preview tests are performed. Emissions from the unit are maximized by adjusting the polarization and height of the receive antenna and rotating the EUT on the turntable. Manipulating the system cables also maximizes EUT emissions. All tests performed with the antenna placed in two polarizations: horizontal and vertical.

Radiated Emissions Test Characteristics	
Frequency range	30 MHz – 12.75 GHz
Test distance	3 m *
Test instrumentation resolution bandwidth	120 kHz (30 MHz – 1 GHz) 1 MHz (1 GHz – 12.75 GHz)
Receive antenna scan height	1 m – 4 m
Receive antenna polarization	Vertical/Horizontal

* According to Section 15.31 (f)(1): At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. (...) When performing measurements at a distance other than specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

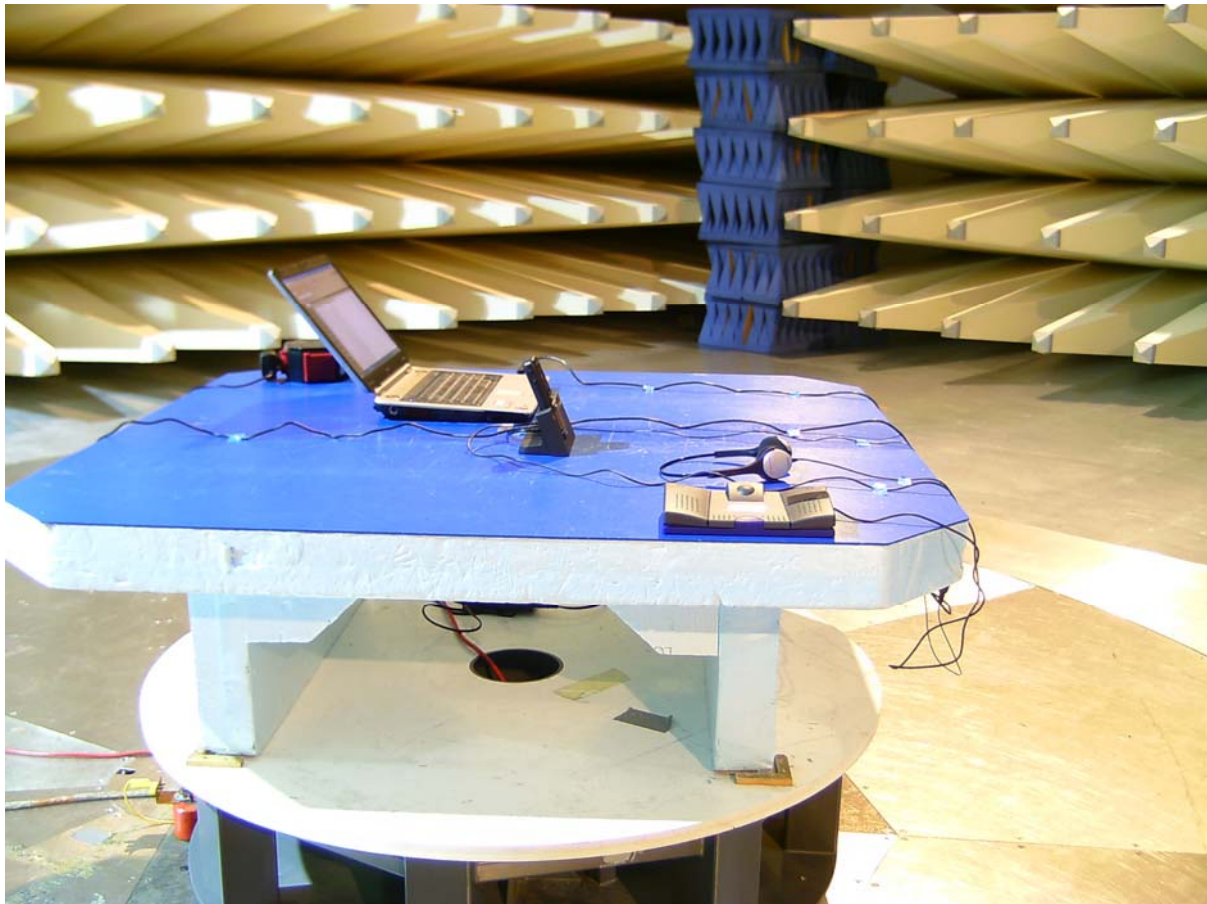


Fig. 5.4.1: Worst case set-up for radiated emission; 30 MHz - 1 GHz distance 10m

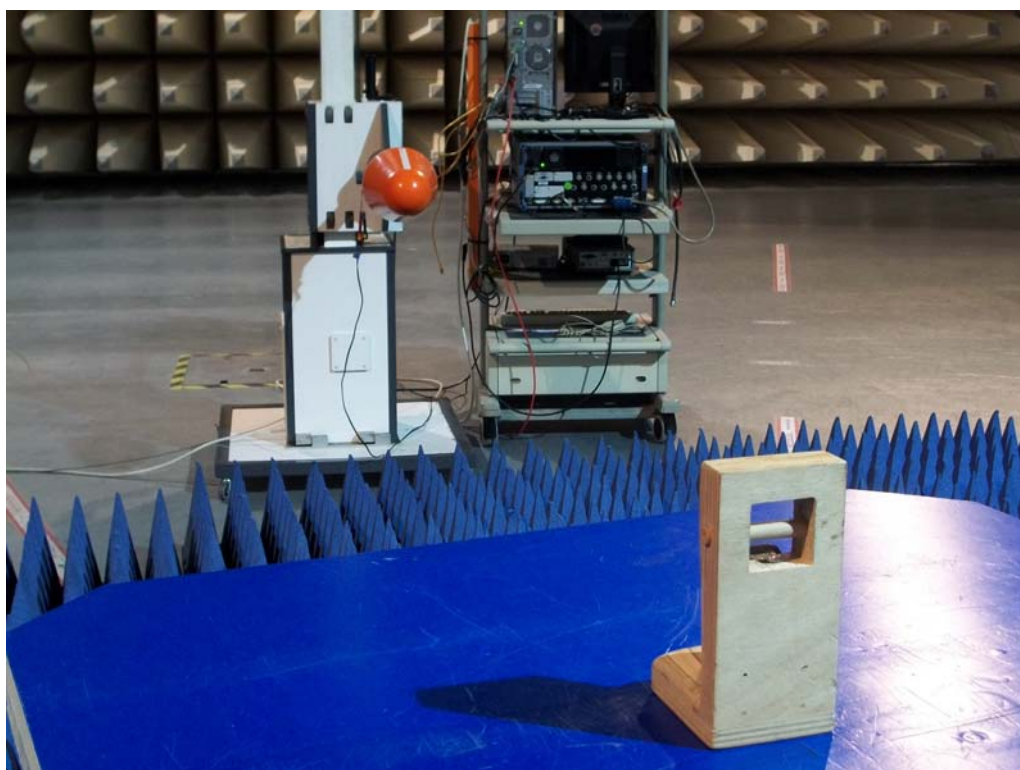
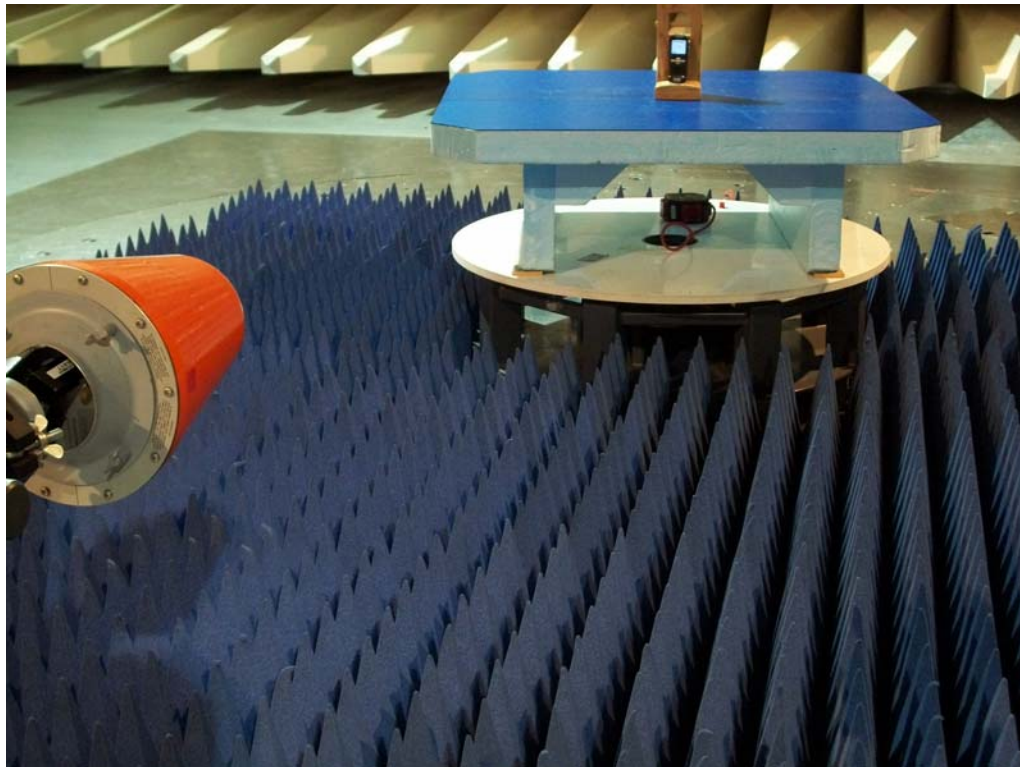


Fig. 5.4.2: Worst case set-up for radiated emission test above 1 GHz distance 3m



5.5 Field Strength Calculation

The field Strength is calculated by adding the Antenna Factor and the Cable Factor. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

where

FS = Field Strength in dB(μ V/m)

RA = Receiver Amplitude in dB(μ V)

AF = Antenna Factor in dB(1/m)

CF = Cable Attenuation Factor in dB

Assume a receiver reading of 23.5 dB(μ V) is obtained. The Antenna Factor of 7.4 dB(1/m) and a Cable Factor of 1.1 dB are added, giving a field strength of 32 dB(μ V/m). The 32 dB(μ V/m) value can be mathematically converted to its corresponding level in μ V/m.

$$FS = 23.5 \text{ dB}(\mu\text{V}) + 7.4 \text{ dB (1/m)} + 1.1 \text{ dB} = 32 \text{ dB}(\mu\text{V/m})$$

$$FS = 10^{(32/20)} \mu\text{V/m} = 39.8 \mu\text{V/m}$$

For test distances other than what is specified, but fulfilling the requirements of Section 15.31 (f)(1) the field strength is calculated by adding additionally an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements). The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF + DF$$

where

FS = Field Strength in dB(μ V/m)

RA = Receiver Amplitude in dB(μ V)

AF = Antenna Factor in dB(1/m)

CF = Cable Attenuation Factor in dB

DF = Distance Extrapolation Factor in dB

where $DF = 20\log(D_{\text{test}}/D_{\text{spec}})$ where D_{test} = test distance and D_{spec} = specified distance

Assume the test performed at a reduced test distance of 1.5 m instead of the specified distance of 3 m giving a Distance Extrapolation of $DF = 20\log(1.5\text{m}/3\text{m}) = -6 \text{ dB}$.

Assuming a receiver reading of 23.5 dB(μ V) is obtained. The Antenna Factor of 7.4 dB(1/m), the Cable Factor of 1.1 dB and the Distance Factor of -6 dB are added, giving a field strength of 26 dB(μ V/m). The 26 dB(μ V/m) value can be mathematically converted to its corresponding level in μ V/m.

$$FS = 23.5 \text{ dB}(\mu\text{V}) + 7.4 \text{ dB(1/m)} + 1.1 \text{ dB} - 6 \text{ dB} = 26 \text{ dB}(\mu\text{V/m})$$

$$FS = 10^{(26/20)} \mu\text{V/m} = 20.0 \mu\text{V/m}$$

The measurement for the frequency range of 30 MHz to 1 GHz was made at 10m distance. Therefore the limits have to be changed as followed.

$$20 \cdot \log(3\text{m}/10\text{m}) = -10,4576\text{dB}$$

Frequency of emission (MHz)	Field strength at 3m (μ V/m)	Field strength at 3m (dB μ V/m)	Field strength at 10m (dB μ V/m)
30–88	100	40,00	29,54
88–216	150	43,52	33,06
216–960	200	46,02	35,56
Above 960	500	53,98	43,52

These limits can be seen in the measurement reports 7 and 8.

The measurement for the frequency range over 1 GHz was made at 3m distance.

$$\text{Limit}_{>1\text{GHz}} = 53,98\text{dB dB}\mu\text{V} = 500\mu\text{V}$$



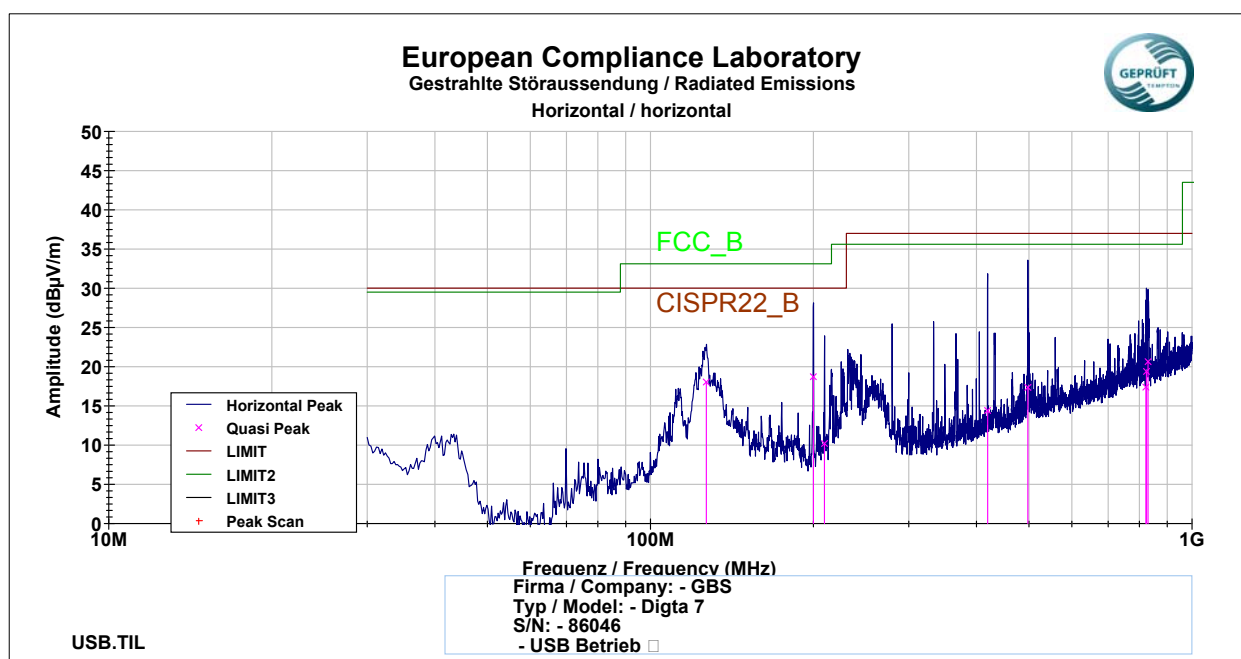
5.6 Test Results spurious emission 9 kHz to 30 MHz

No issues could be found fewer than 30 MHz, therefore every emissions are below the limit values.

5.7 Test Results spurious emission 30 MHz to 1 GHz at 10m

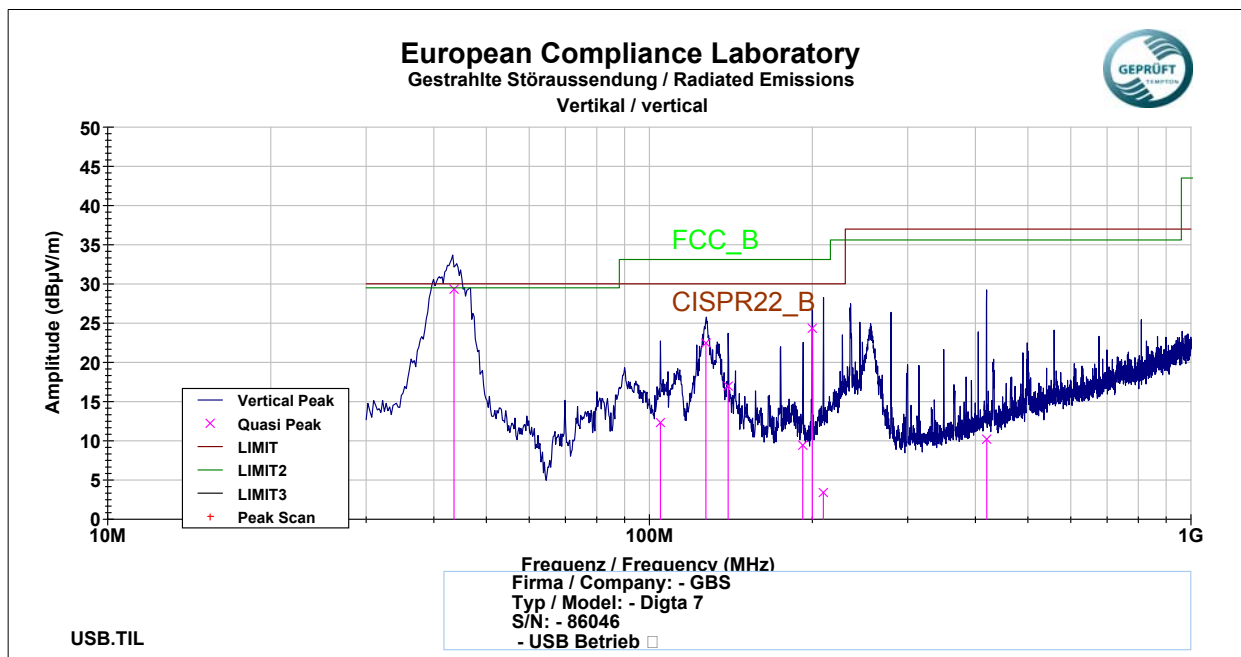
The worst caste mode for the spurious emission is the mode 7 with headphone, docking station and the laptop.

Frequency range	Mode	Detector	Antenna polarity	Measurement report
30 MHz - 1 GHz	Mode 7	PK / QP	horizontal	7
		PK / QP	vertical	8



Frequency	Polarisation	Height	TT-Position	Cable Loss	Antenna Factor	Reading	Field Intensity	Limit	Margin
[MHz]	H/V	[cm]	[°]	(dB)	(dB/m)	(dBµV)	(dBµV/m)	(dBµV/m)	(dB)
126.831	H	296	25	36.2	12.2	42.0	18.0	33.1	15.1
199.97	H	397	-114	35.7	9.8	44.6	18.7	33.1	14.4
209.57	H	398	69	35.6	10.0	35.8	10.2	33.1	22.9
419.447	H	142	85	33.9	17.0	31.3	14.4	35.6	21.2
497.688	H	371	99	33.2	17.8	32.8	17.3	35.6	18.3
821.891	H	349	-141	32.4	22.3	27.5	17.4	35.6	18.2
823.898	H	341	-156	32.4	22.3	29.5	19.4	35.6	16.2
829.664	H	334	-144	32.5	22.5	30.6	20.6	35.6	15.0

Measurement report 7 PK / QP - horizontal polarisation at 10m in the frequency range 30 MHz to 1 GHz



Frequency	Polarisation	Height	TT-Position	Cable Loss	Antenna Factor	Reading	Field Intensity	Limit	Margin
[MHz]	H/V	[cm]	[°]	(dB)	(dB/m)	(dBµV)	(dBµV/m)	(dBµV/m)	(dB)
43.6042	V	124	98	37.0	11.2	55.1	29.3	29.5	0.2 *
104.84	V	161	5	36.3	10.7	38.0	12.3	33.1	20.8
127.257	V	122	-50	36.2	12.2	46.5	22.5	33.1	10.6
139.83	V	131	162	36.2	11.2	41.9	17.0	33.1	16.1
192.015	V	178	23	35.7	9.6	35.6	9.4	33.1	23.7
199.967	V	272	-114	35.7	9.8	50.3	24.4	33.1	8.7
209.51	V	308	-8	35.6	10.0	29.0	3.4	33.1	29.7
419.687	V	201	85	33.9	17.0	27.1	10.2	35.6	25.4

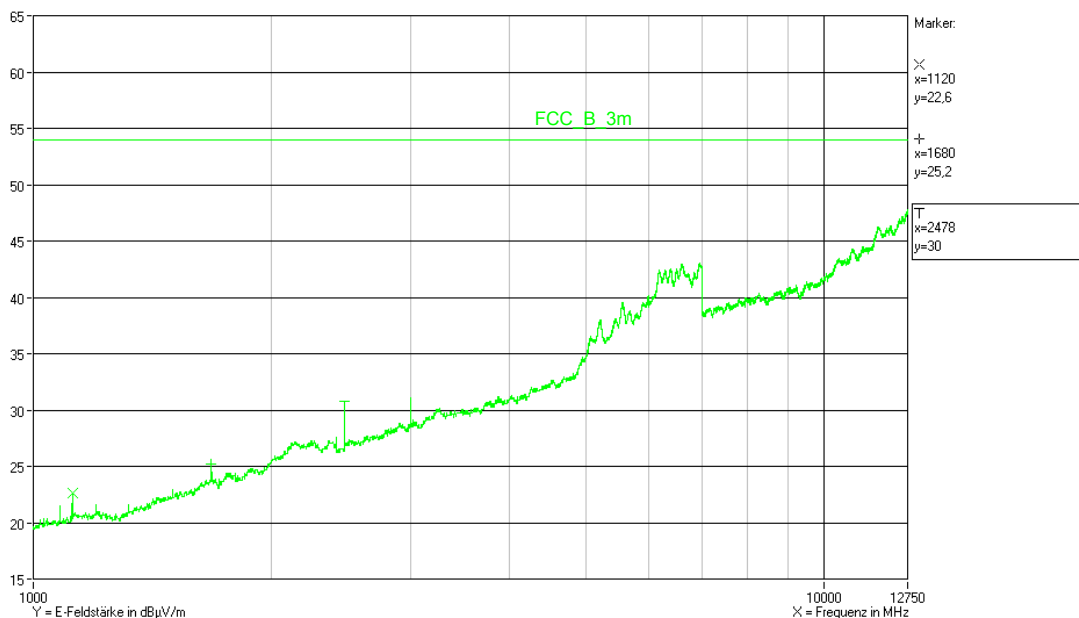
***this measuring value is generated by the power supply unit of the laptop and isn't generated by the EUT.**

Measurement report 8 PK / QP - vertical polarisation at 10m in the frequency range 30 MHz to 1 GHz

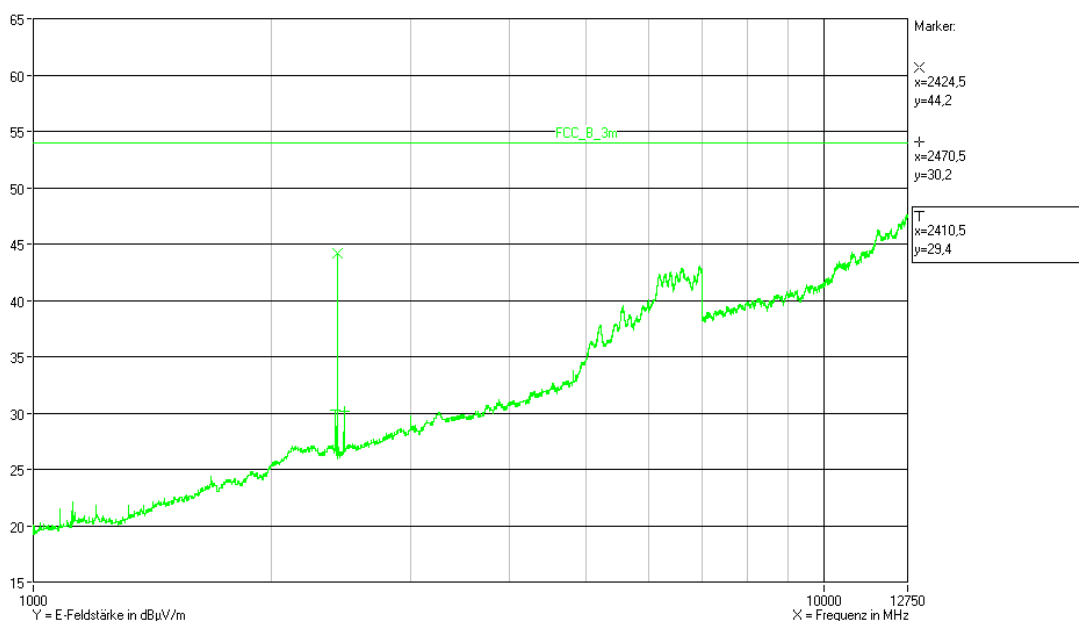


5.8 Test Results spurious emission 1 GHz to 12.75 GHz at 3m

The worst case mode for the spurious emission above 1GHz is the **mode 8** with the Bluetooth connection to the blackberry.



Measurement report 9: **AV** horizontal polarisation (max hold)
1 GHz – 12.75 GHz



Measurement report 10: **AV** vertical polarisation (max hold)
1 GHz – 12.75 GHz



6 Accreditation certificate



Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

TEMPTON Service Plus GmbH
Zufuhrstr. 12
90443 Nürnberg

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Elektromagnetische Verträglichkeit und Mobilfunk, Sicherheit elektrischer Betriebsmittel, Umweltsimulation, Telekommunikationsschnittstelle

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 25.10.2010 mit der Akkreditierungsnummer D-PL-12015-01 und ist gültig bis 07.02.2012. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 9 Seiten.

Registrierungsnummer der Urkunde: **D-PL-12015-01-01**

Frankfurt, 25.10.2010

Siehe Hinweise auf der Rückseite


Dipl.-Ing (FH) Ralf Egner
Leiter Abteilung 2

EMC Test Report No.: 11-033

FCC ID: WPC-GDM70X0

IC Company Number: 7943A



***** End of Test report *****