CETECOM ICT Services GmbH
Untertürkheimer Straße 6-10 . D-66117 Saarbrücken Phone: +49 (0) 681-598-0 Fax: -9075
RSC-Laboratory

Accredited testing-laboratory

DAR registration number: DAT-P-176/94-D1

Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Recognized by the Federal Communications Commission
Anechoic chamber registration no.: 90462 (FCC)
Anechoic chamber registration no.: 3462C-1 (IC)
Certification ID: DE 0001
Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

Test report no.	**:**	**1-1050-01-12/09**
Type identification	**:**	**DDoc (portable docking station)**
Applicant	**:**	**Brähler ICS Konferenztechnik**
FCC ID	**:**	**XOCDDOC**
IC Certification No	**:**	**8548A-DDOC**
Test standards	**:**	**47 CFR Part 15**
		RSS - 210 Issue 7

Table of contents

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2009-08-25	**Marco Bertolino**	
Date	Name	Signature

Technical responsibility for area of testing:

2009-08-25	**Stefan Bös**	
Date	Name	Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10
66117 Saarbrücken
Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
e-mail: info@ICT.cetecom.de
Internet: http://www.cetecom-ict.de

State of accreditation:	**The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 DAR registration number: DAT-P-176/94-D1**
Accredited by:	**Federal Motor Transport Authority (KBA) DAR registration number: KBA-P 00070-97**

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	**Brähler ICS Konferenztechnik International Congress Service AG**
Street:	**Wahlfelder Mühle 3**
Town:	**53639 Königswinter**
Country:	**GERMANY**
Telephone:	**+49 (0) 2244 930 0**
Fax:	**+49 (0) 244 930 440**
Contact:	**Frank Döhnhardt**
E-mail:	**fd@braehler.com**
Telephone:	**+49 (0) 244 930 149**

1.4 Application details

Date of receipt of order:	**2009-02-26**
Date of receipt of test item:	**2009-08-17**
Date of start test:	**2009-08-17**
Date of end test:	**2009-08-25**
Persons(s) who have been present during the test:	**Dipl.-Ing. Frank Dönhardt Development engineer**

2 Test standard/s

47 CFR Part 15	**2008-07**	**Title 47 of the Code of Federal Regulations; Chapter I-Federal Communications Commission subchapter A - general, Part 15-Radio frequency devices**
RSS - 210 Issue 7	**2007-06**	**Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment**

3 Technical tests

3.1 Details of manufacturer

Name:	**Brähler ICS Konferenztechnik International Congress Service AG**
Street:	**Wahlfelder Mühle 3**
Town:	**53639 Königswinter**
Country:	**GERMANY**

3.1.1 Test item

Kind of test item	:	**Conference System**
Type identification	:	**DDoc (portable docking station)**
S/N serial number	:	**Docking station No. 1: 00 00 04 01 Radiated sample** **Docking station No. 2: 00 00 04 02 Radiated sample** **Docking station No. 3: 00 00 04 1E Conducted sample** **DMic No. 1: 094 (additional equipment)** **DMic No. 2: 092 (additional equipment)** **Battery pack: 005**
HW hardware status	:	**No information available.**
SW software status	:	**Special test software.**
Frequency Band [MHz]	:	**2403.328 MHz – 2479.104 MHz**
Type of Modulation	:	**FHSS**
Number of channels	:	**38**
Antenna	:	**Integrated wire antenna**
Power Supply	:	**3.7 V DC by Li-Polymer battery / power supply**
Temperature Range	:	**-10 °C to +55 °C**

Max. power radiated: 19.27 dBm
Max. power conducted: 18.09 dBm

FCC ID: XOCDDOC
IC: 8548A-DDOC

3.1.2 Additional EUT information For IC Canada (appendix 2)

IC Registration Number:	**8548A-DDOC**
Model Name:	**DDoc (portable docking station)**
Manufacturer (complete Address):	**Brähler ICS Konferenztechnik Wahlfelder Mühle 3 53639 Königswinter GERMANY**
Tested to Radio Standards Specification (RSS) No.:	**RSS-210 Issue 7**
Open Area Test Site Industry Canada Number:	**IC 3462C-1**
Frequency Range (or fixed frequency) [MHz]:	**2403.328 MHz – 2479.104 MHz**
RF: Power [W] (max):	**Rad. EIRP: 84.53 mW Conducted : 64.42 mW**
Antenna Type:	**Integrated wire antenna**
Occupied Bandwidth (99% BW) [MHz]:	**3.08**
Type of Modulation:	**GFSK**
Emission Designator (TRC-43):	**3M08FXD**
Transmitter Spurious (worst case) [dBµV/m in 3m]:	**29.24**
Receiver Spurious (worst case) [dBµV/m in 3m]:	**30.33**

ATTESTATION:

I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

Signature:

Test engineer: Marco Bertolino Date: 2009-08-25

3.1.3 RF Technical Brief Cover Sheet acc. To RSS-102

All Fields must be completed with the requested information or the following codes: N/A for Not Applicable, N/P for Not Performed or N/V for Not Available. Where applicable, check appropriate box.

1. COMPANY NUMBER: **8548A**

2. MODEL NUMBER: **DDoc (portable docking station)**

3. MANUFACTURER: **Brähler ICS Konferenztechnik**

4. TYPE OF EVALUATION: **(c) RF Evaluation**

- Evaluated against exposure limits: General Public Use ☒ Controlled Use ☐
- Duty cycle used in evaluation: 99 %
- Standard used for evaluation: RSS-102 Issue 2 (2005-11)
- Measurement distance: 0.20 m
- RF value: 0.168 V/m □ A/m □ W/m^2 ☒

Measured ☐ Computed ☐ Calculated ☒

Declaration of RF Exposure Compliance

ATTESTATION:

I attest that the information provided in this test report are correct; that a Technical Brief was prepared and the information it contains is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed and that the device meets the SAR and/or RF exposure limits of RSS-102.

Name: Dipl.-Ing. Marco Bertolino
Title: Engineer
Company: Cetecom ICT Services GmbH

Signature:

Date: 2009-08-25

3.1.4 EUT operating modes

EUT operating mode no.*)	Description of operating modes	Additional information
Op. 0	normal mode	normal temperature and power source conditions
Op. 1		low temperature, low power source conditions
Op. 2		low temperature, high power source conditions
Op. 3		high temperature, low power source conditions
Op. 4		high temperature, high power source conditions

*) EUT operating mode no. is used to simplify the test plan

3.1.5 Extreme conditions testing values

Description	Shortcut	Unit	Value
Nominal Temperature	T_{nom}	°C	**20**
Nominal Humidity	H_{nom}	%	**41**
Nominal Power Source	V_{nom}	V	**3.7**

Type of power source: **DC by Li-Polymer battery / power supply**

Deviations from these values are reported in chapter 2

4 Summary of Measurement Results and list of all performed test cases

☒ **No deviations from the technical specifications were ascertained**

☐ There were deviations from the technical specifications ascertained

TC identifier	Description	verdict	date	Remark
RF-Testing	FCC Part 15 §15.247 - CANADA RSS-210	Passed	2009-08-25	-/-

Test Specification Clause	Test Case	Pass	Fail	Not applicable	Not performed
None	Antenna Gain	Yes			
§15.247(a1)	Carrier frequency separation	Yes			
§15.247(a1)	Number of hopping channels	Yes			
§15.247(a)(1)(iii)	Time of occupancy (dwell time)	Yes			
§15.247(e)	Power Spectral density (Hybrid system in Inquiry mode/Page scan)			Yes	
§15.247(a)(1)	Spectrum Bandwidth of a FHSS System / 20dB Bandwith	Yes			
§ 15.247 (b)(1)	Maximum output power (conducted)	Yes			
§ 15.247 (b)(1)	Max. peak output power (radiated)	Yes			
§ 15.247 (d)	Band-edge compliance of conducted emissions	Yes			
§ 15.205	Band-edge compliance of radiated emissions	Yes			
§ 15.247 (d)	Spurious Emission - conducted (Transmitter)	Yes			
§ 15.247 (d)	Spurious Emission - radiated (Transmitter) >30 MHz	Yes			
§ 15.109	Spurious Emissions - radiated (Receiver)	Yes			
§ 15.209	Spurious Emissions - radiated (Transmitter) <30 MHz	Yes			
§ 15.107/207	Conducted Emissions <30 MHz	Yes			

5 RF measurement testing

5.1 Description of test set-up

5.1.1 Radiated measurements

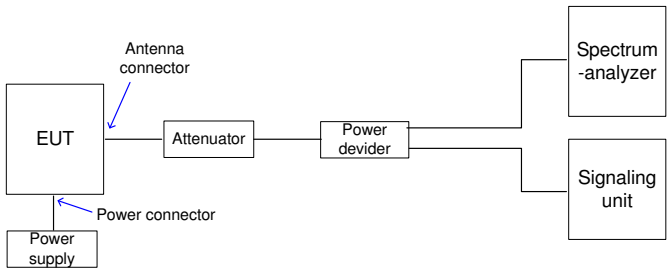
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-2003 clause 4.2.
Antennas are confirmed with ANSI C63.2-1996 item 15.

9 kHz - 150 kHz: Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.
150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.
30 MHz - 200 MHz: Quasi Peak measurement, 120 kHz Bandwidth, bi-conical antenna
200MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, log periodic antenna
>1GHz: Average, RBW 1MHz, VBW 10 Hz, waveguide horn

All measurements are done in accordance with the Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems DA 00-705 and Appendix A “BLUETOOTH APPROVALS”
The EUT is powered by an external power supply with nominal voltage. The signalling is performed from outside the chamber with a signalling unit (CMU200 or other) by air link using signalling antenna.

5.1.2 Conducted measurements

The EUT’s RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). One of the signal paths is connected to the communication base Station (CMU200 or other), the other one is connected to the spectrum analyzer. The specific losses for both signal paths are first checked within a calibration. The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit and the spectrum analyzer are impedance matched on 50 Ohm.



5.2 Referenced documents

Document No. 1: Eleven Engineering
High – Performance 2.4 GHz Digital Wireless Audio Solutions
D04918 Spueak 1.5

Parameter	Symbol	Conditions	Min		Typical		Max		Unit
			25 m	50 m	25 m	50 m	25 m	50 m	
RF CHARACTERISTICS									
Transmission Method			ARQ with Adaptive FHSS						
Raw Data Rate	Rdr						1.536		Mbps
Channel Width	Fw				<2				MHz
Total Channels	CH						38		Ch
Hopping Channels	CHh				15		20		Ch
RF Coexistence (in range radius)							6		sets
TX Output Power	Pout			14	15	16		18	dBm
Antenna Impedance	ZAnt				50				O
DETAILED BANDWIDTH CHARACTERISTICS									
Hopping Rate					187.5				Hz
Frequency Dwell Time					5.333				ms
Audio TX: RF Transmit Time		Start of Frame			4.9036				ms
Audio RX: RF Transmit Time		End of Frame			0.2132				ms
Frequency Range		FCC Test Method	2.40197				2.48002		GHz
Frequency Range (Total)					78.057				MHz
20 dB Channel BW					1.94				MHz
Distance to upper ISM band limit					3.476				MHz
Distance to lower ISM band limit					1.967				MHz
RF RANGE									
Indoor Range (Note 1)							25	50	m
Outdoor Range (Note 2)							270	1000	m

Document No. 2: Funktionsbeschreibung DigiMic Air

Document No. 3: DigiMic Systemübersicht

5.3 Additional comments

The full system included: DDoc – docking station (EUT)
DMic – station (additional equipment)
Microphone (additional equipment)

5.4 Antenna gain

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

Results:

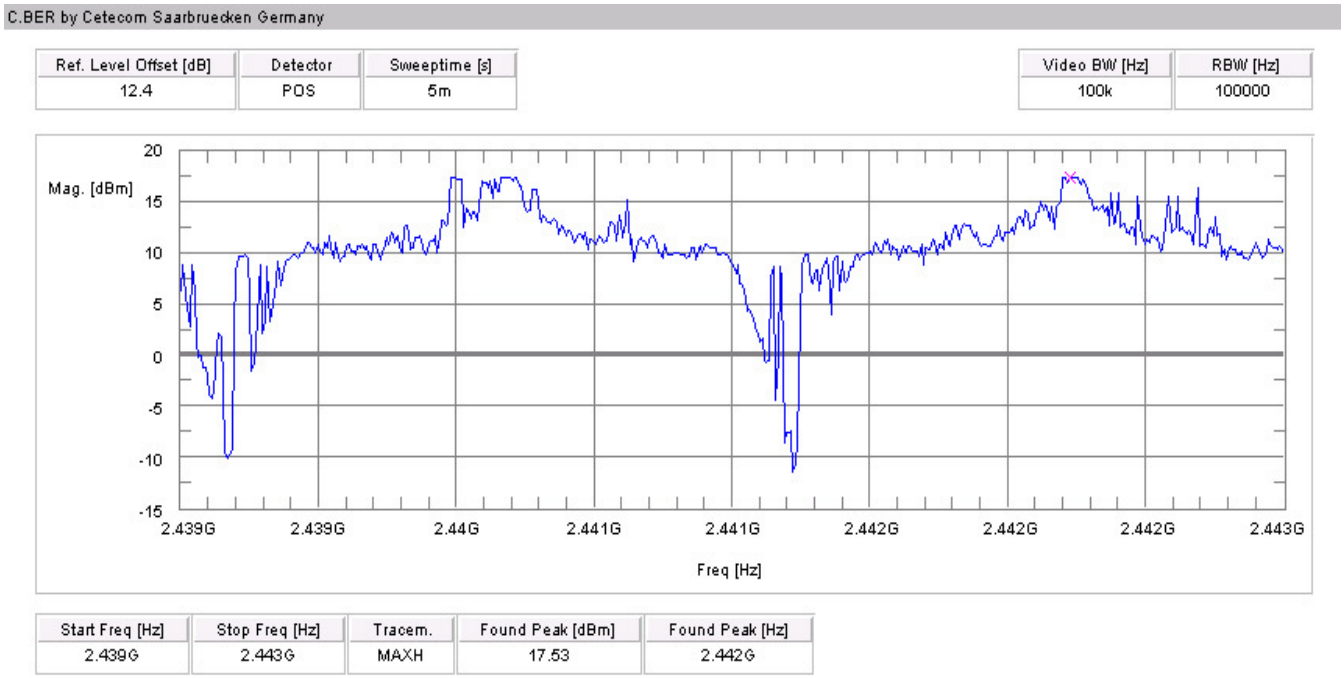
TEST				
T_{nom}	V_{nom}	lowest frequency	middle frequency	highest frequency
Conducted power [dBm] Measured		16.63	**18.09**	17.94
Radiated power [dBm] Measured		18.63	**19.27**	18.96
Gain [dBi] Calculated		**2.00**	1.18	1.02

Measurement settings:

RBW	3 MHz
VBW	10 MHz
Detector	Positive Peak
Sweep time	Auto
Span	10 MHz

5.5 Carrier frequency separation §15.247(a)(1)

Plot 1 of 1:



Frequency range : 78.057 MHz
Number of hopping channels: 38
Calculated frequency separation: 2.054 MHz

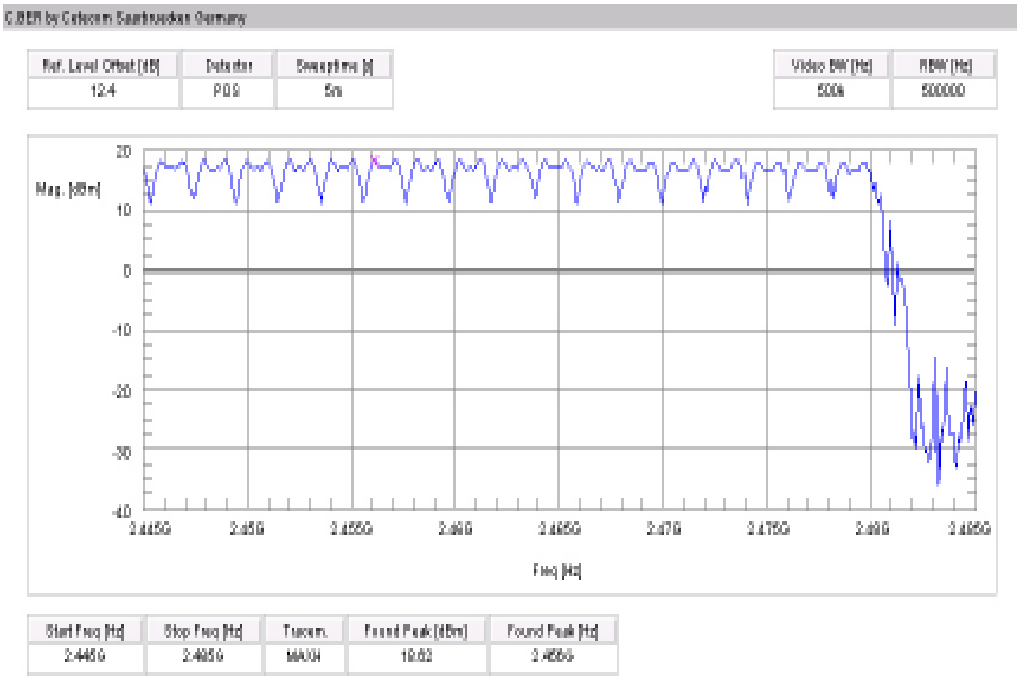
Measured frequency separation: ~2 MHz ➔ Pass

Limits:

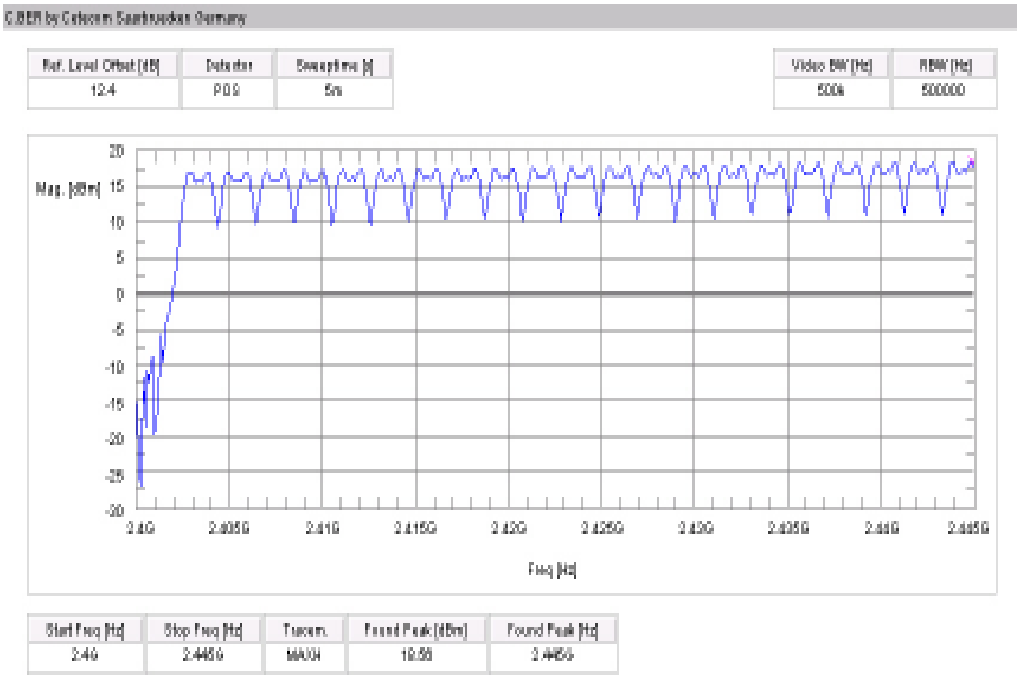
Under normal test conditions only	Minimum 25 kHz or two-thirds of the 20 dB bandwidth, whichever is greater

5.6 Number of hopping channels §15.247(a)(1)

Plot 1 of 2:



Plot 2 of 2:



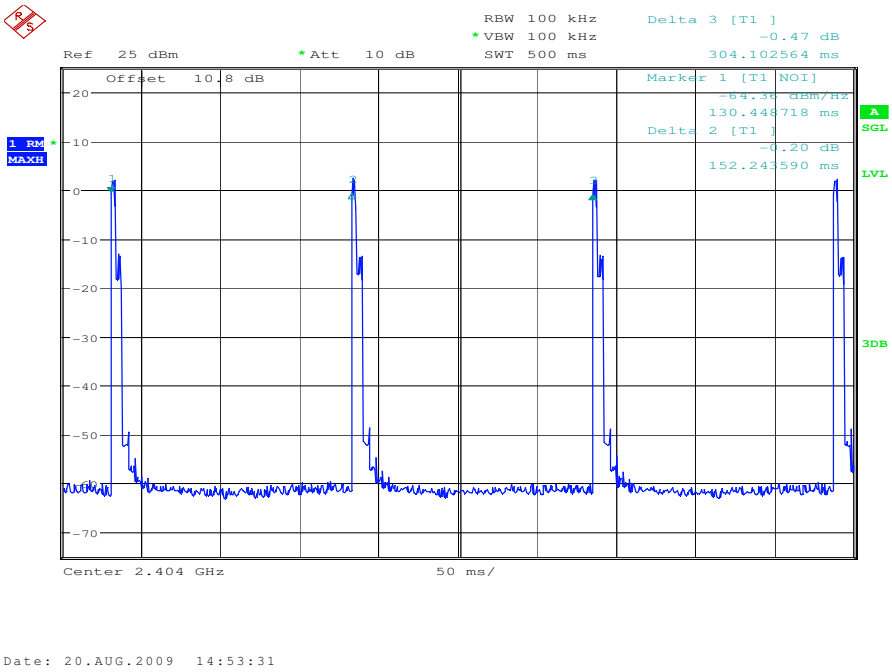
Result: The number of hopping channels is: 38

Limits:

Under normal test conditions only	at least 15 non-overlapping channels

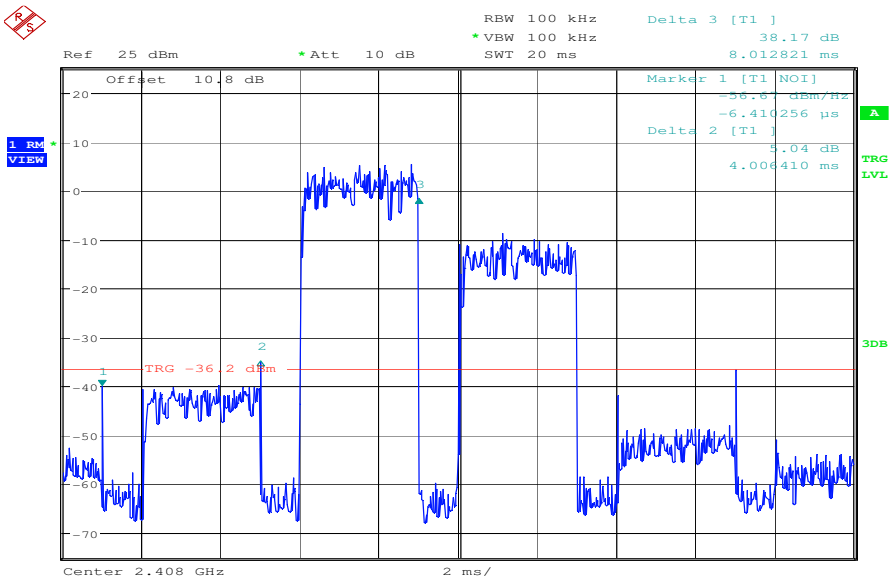
5.7 Time of occupancy (dwell time) §15.247(a)(1)(iii)

Plot 1:



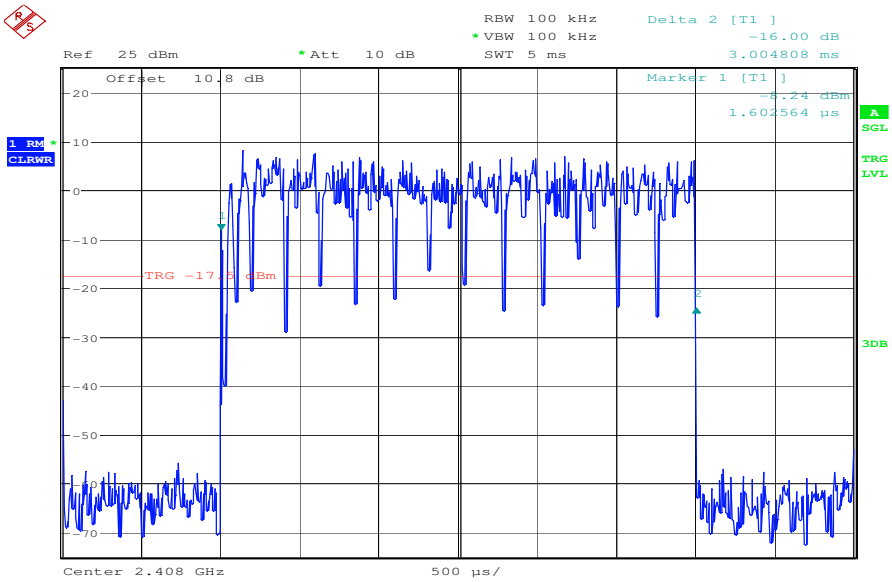
Date: 20.AUG.2009 14:53:31

Plot 2:



Date: 20.AUG.2009 15:01:07

Plot 3:



Plot 1: Repetition rate = 130.4 ms

Plot 2: Staying time = 4 ms

Plot 3: Pulse time = 3 ms

5.8 Power Spectral density (Hybrid system in Inquiry mode/Page scan) §15.247(e)

Not applicable

(for FHSS systems)

Result: Power density: - dBm/Hz = - dBm / 3 kHz
Correction factor from dBm/Hz to dBm / 3 kHz is +34.8 dB

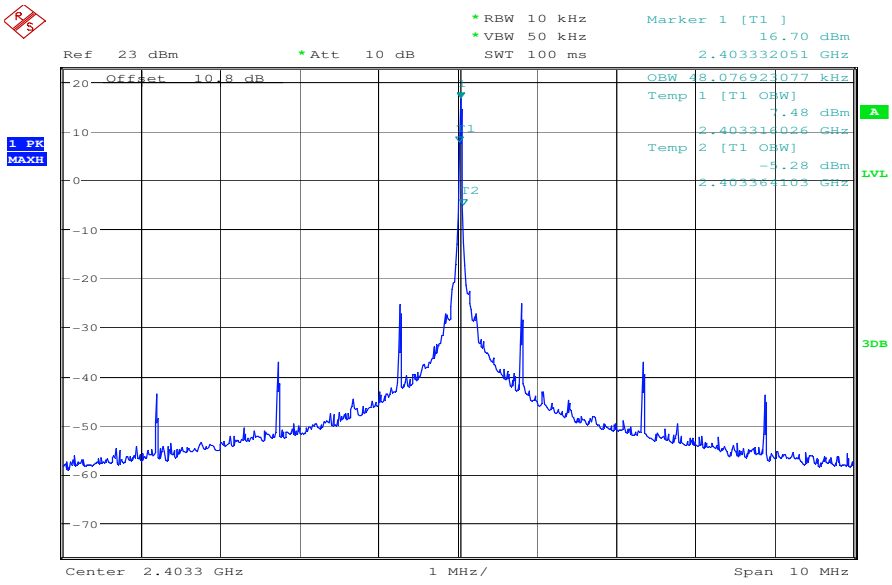
Limits:

Under normal test conditions only	For digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

5.9 Spectrum Bandwidth of a FHSS System / 20dB Bandwidth §15.247(a)(1)

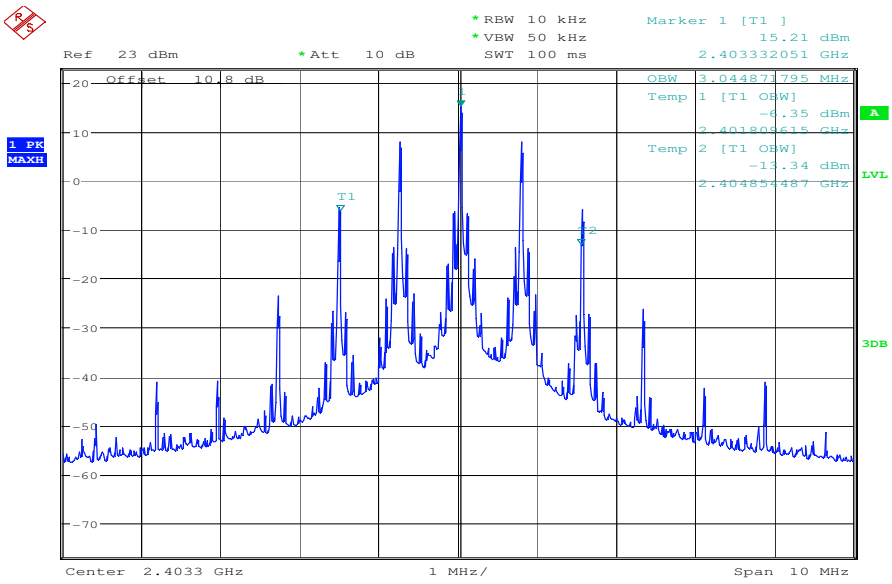
Plots:

Plot 1 of 4: Un-modulated carrier, only for information



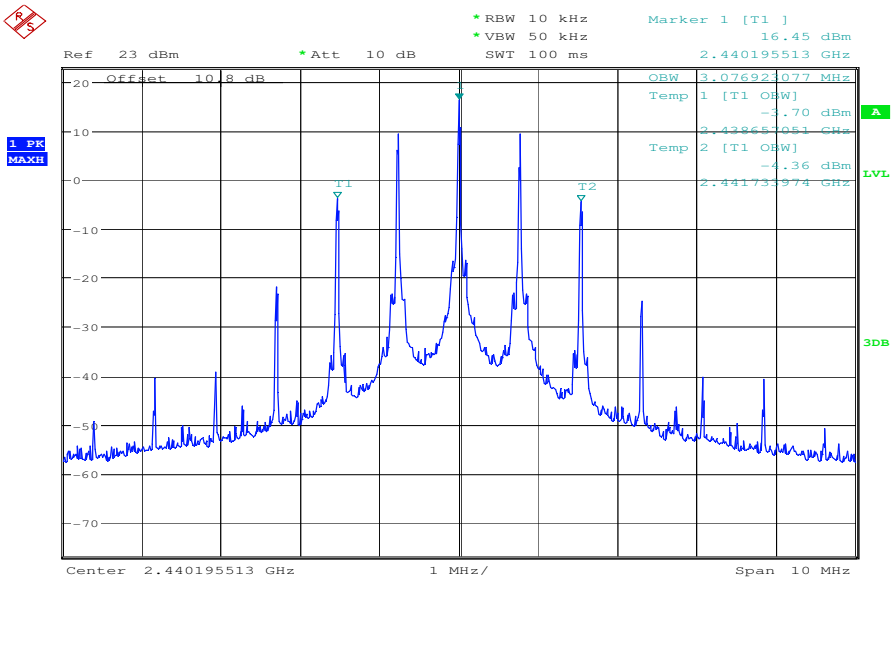
Date: 24.AUG.2009 07:01:59

Plot 2 of 4: lowest channel

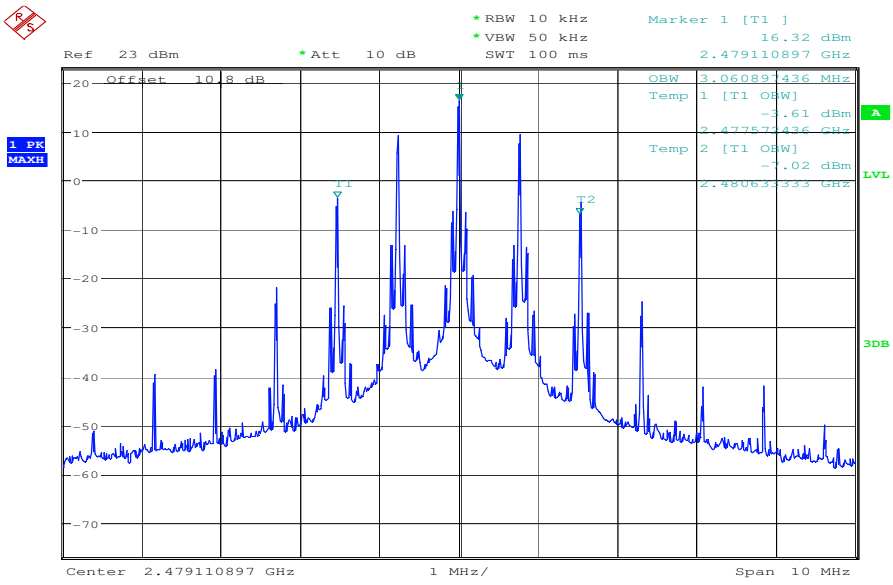


Date: 24.AUG.2009 07:01:03

Plot 3 of 4: mid channel



Plot 4 of 4: highest channel



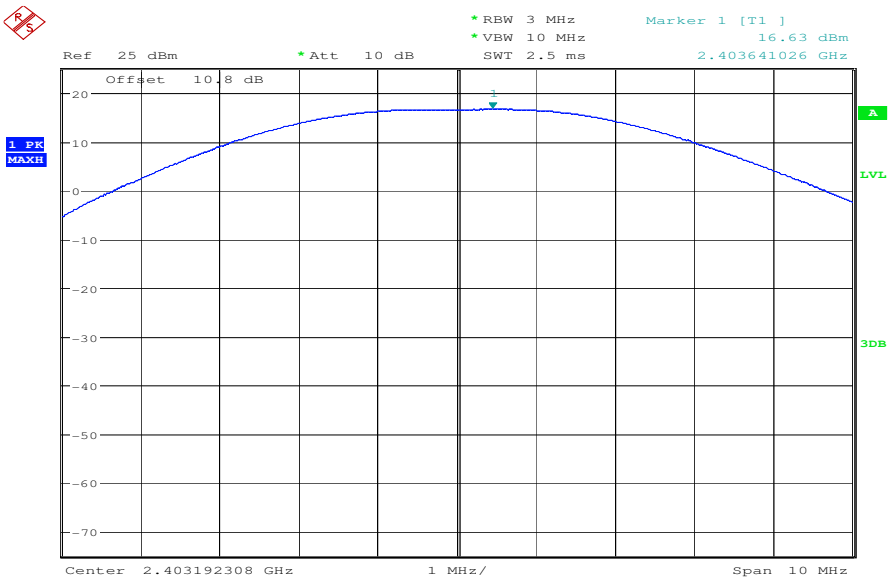
Result:

Test conditions		20 dB / 99 % power BANDWIDTH [MHz]		
Frequency [MHz]		lowest channel	mid channel	highest channel
T_{nom}	V_{nom}	3.04	**3.08**	3.06
Measurement uncertainty		±10kHz		

RBW: 10 kHz / VBW 50 kHz

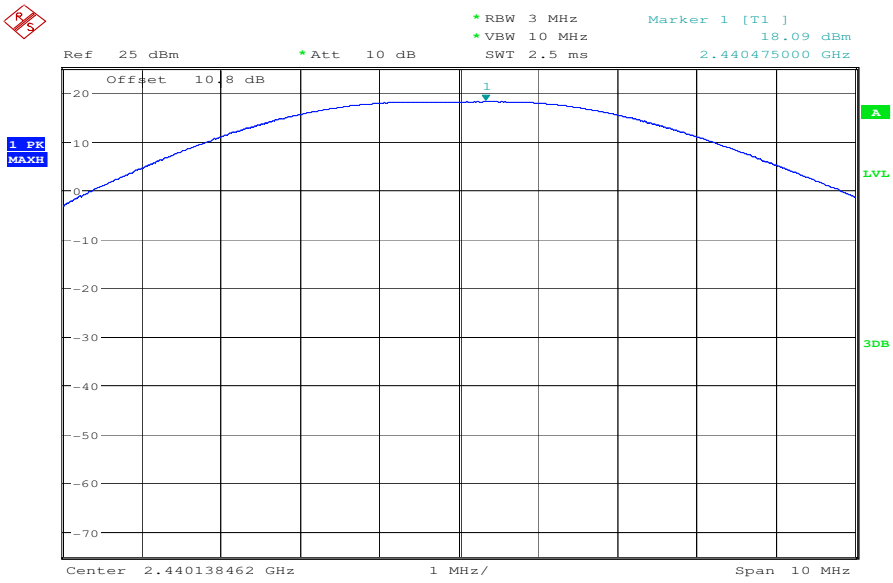
5.10 Maximum output power (conducted) § 15.247 (b)(1)

Plot 1 of 3



Date: 20.AUG.2009 08:49:56

Plot 2 of 3



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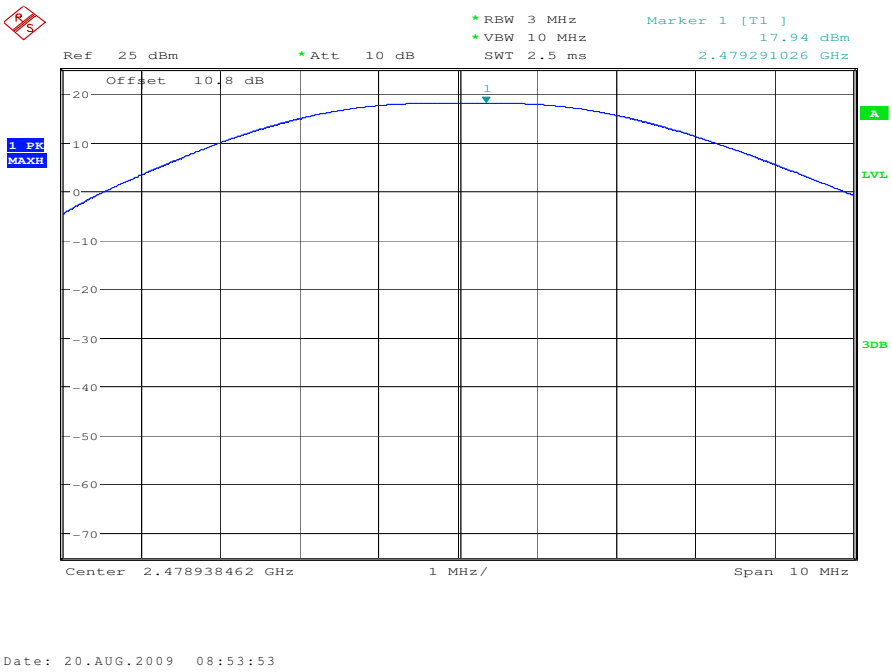
Plot 3 of 3



Results:

Test conditions		Max. peak output power [dBm]					
Frequency [MHz]		lowest channel		mid channel		highest channel	
T_{nom}	V_{nom}	PK	16.63	PK	**18.09**	PK	17.94
Measurement uncertainty		±3dB					

RBW / VBW: 3 MHz / 10 MHz

Limits:

Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

5.11 Max. peak output power (radiated) § 15.247 (b)(1)

Results:

Test conditions Frequency [MHz]		Max. peak output power EIRP [dBm]		
		lowest channel	mid channel	highest channel
T_{nom}	V_{nom}	18.63	**19.27**	18.96
Measurement uncertainty		±3dB		

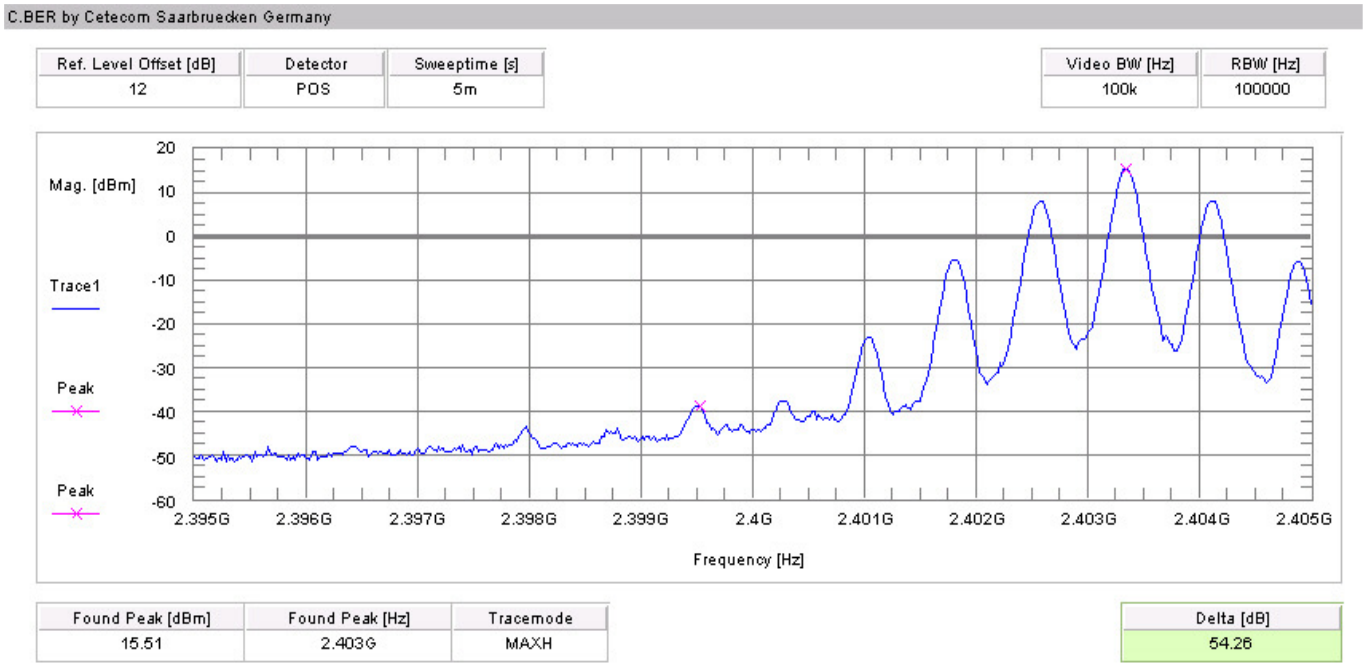
RBW / VBW: 3 MHz / 10 MHz
Measured at a distance of 3m

Limits:

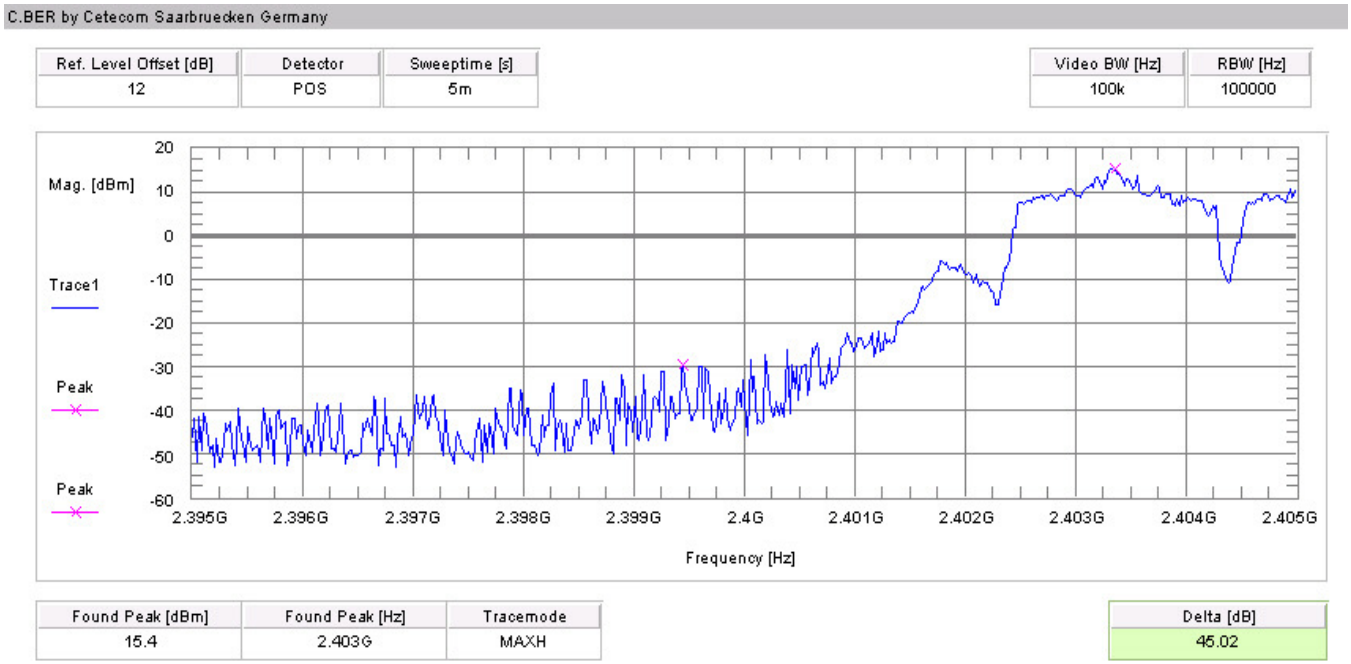
Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

5.12 Band-edge compliance of conducted emissions §15.247 (d)

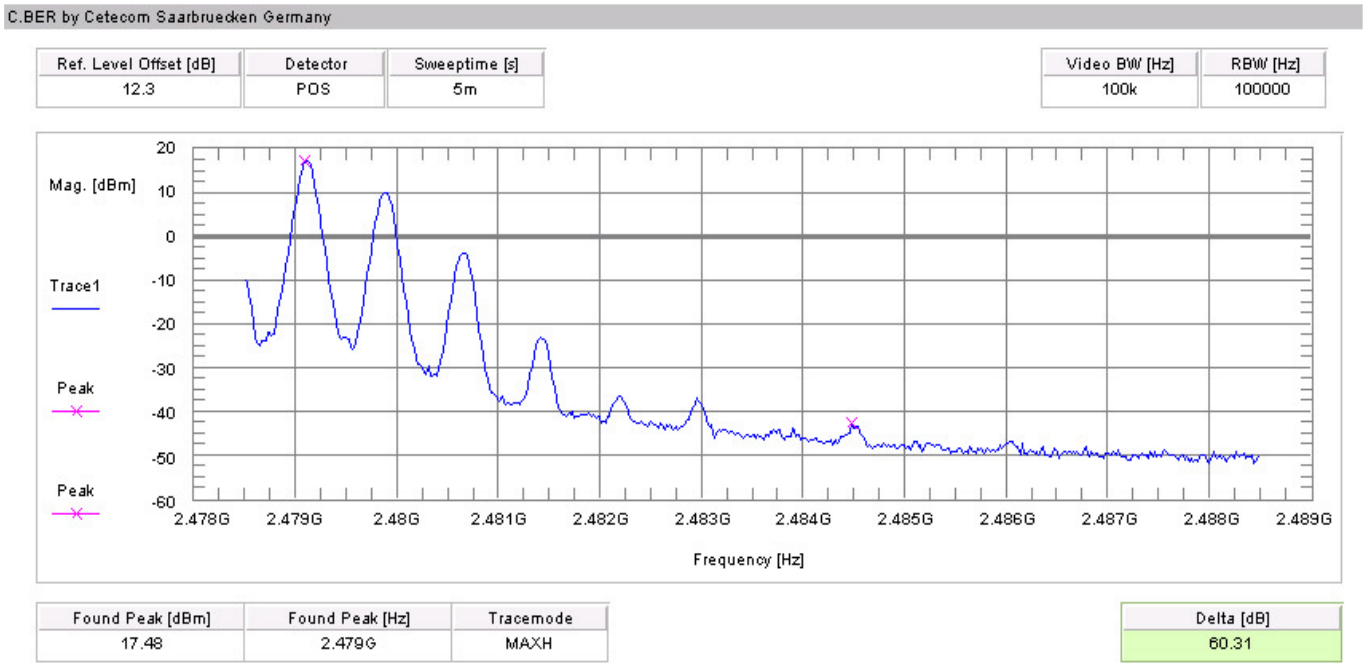
Plot 1 of 4 (hopping off, lowest frequency):



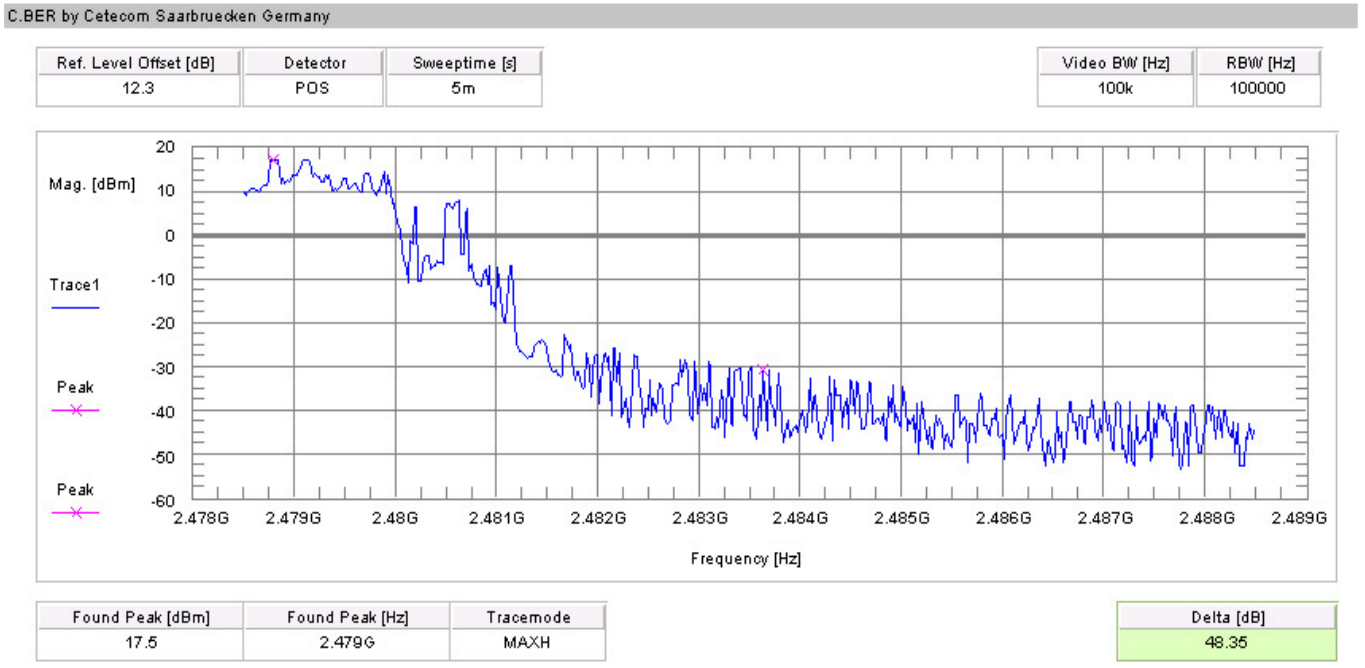
Plot 2 of 4 (hopping on, lowest frequency):



Plot 3 of 4 (hopping off, highest frequency):



Plot 4 of 4 (hopping on, highest frequency):



Results:

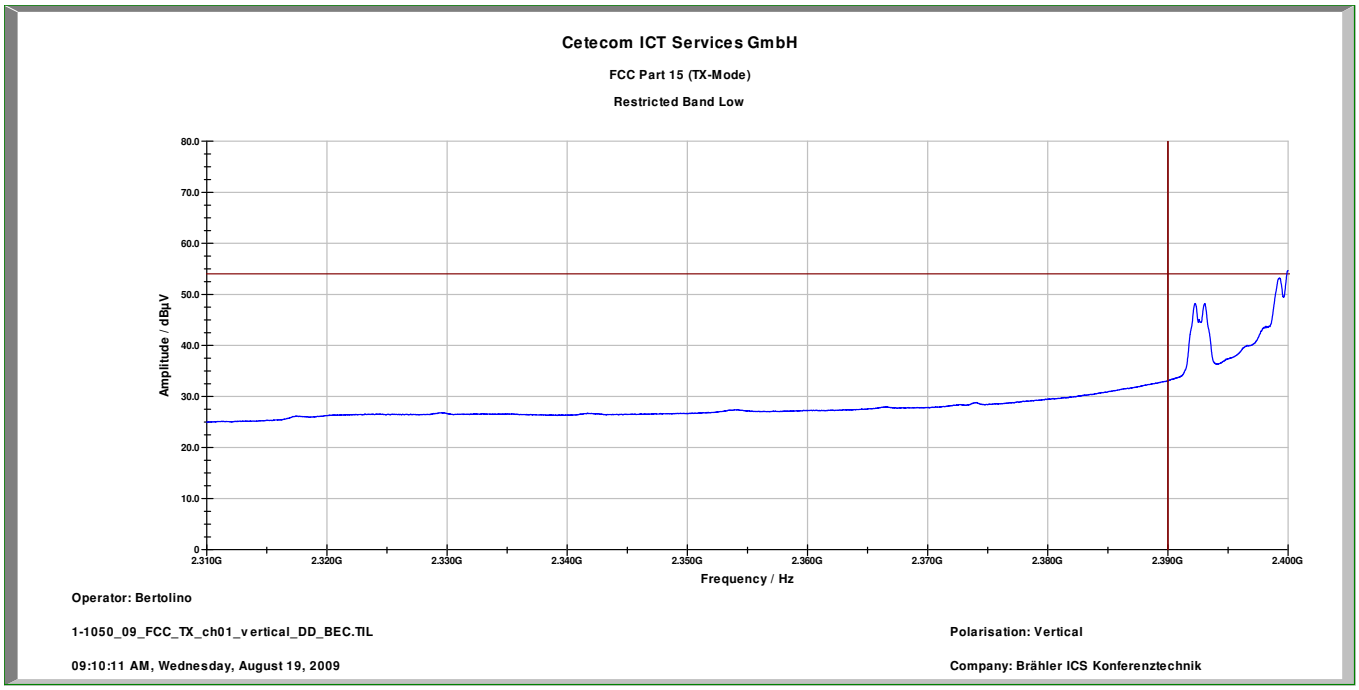
SZENARIO	DELTA VALUE [DB]
hopping off, lowest frequency	> 20 dB
hopping on, lowest frequency	> 20 dB
hopping off, highest frequency	> 20 dB
hopping on, highest frequency	> 20 dB
Measurement uncertainty	±1,5dB

Limits:

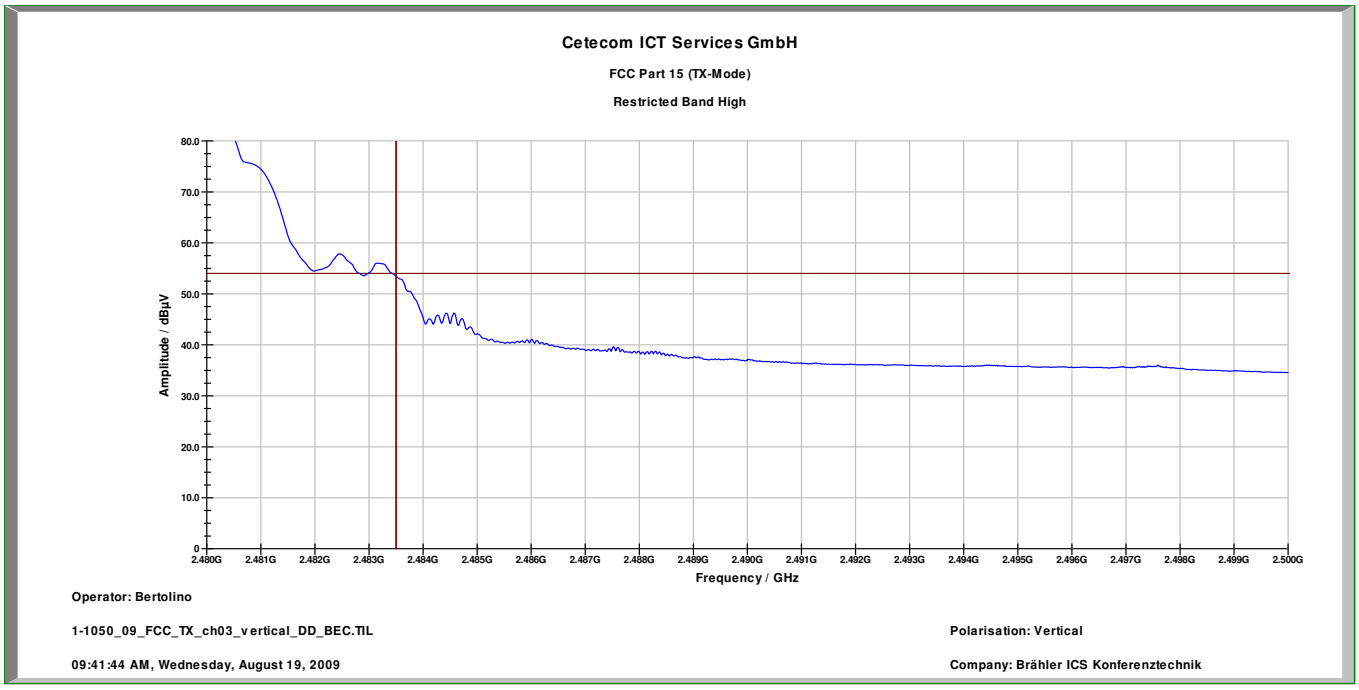
Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).

5.13 Band-edge compliance of radiated emissions §15.205

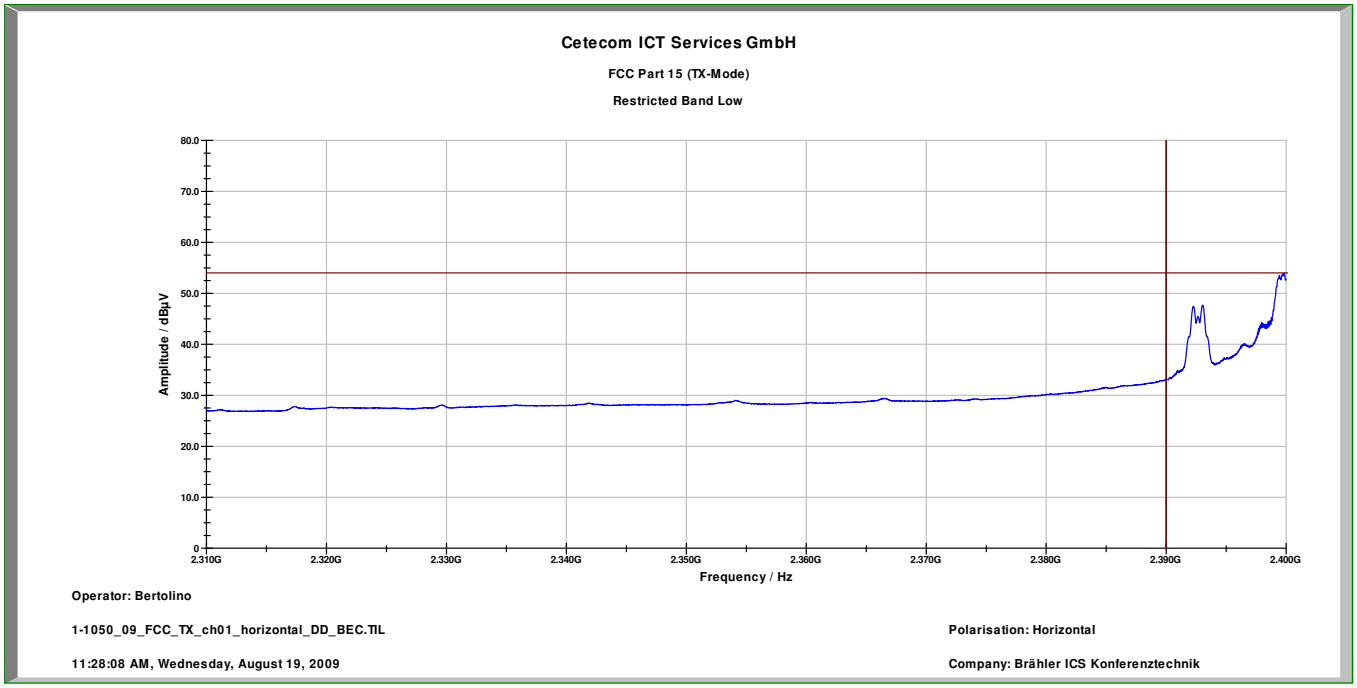
Plot 1: Restricted Bands low, vertical polarization



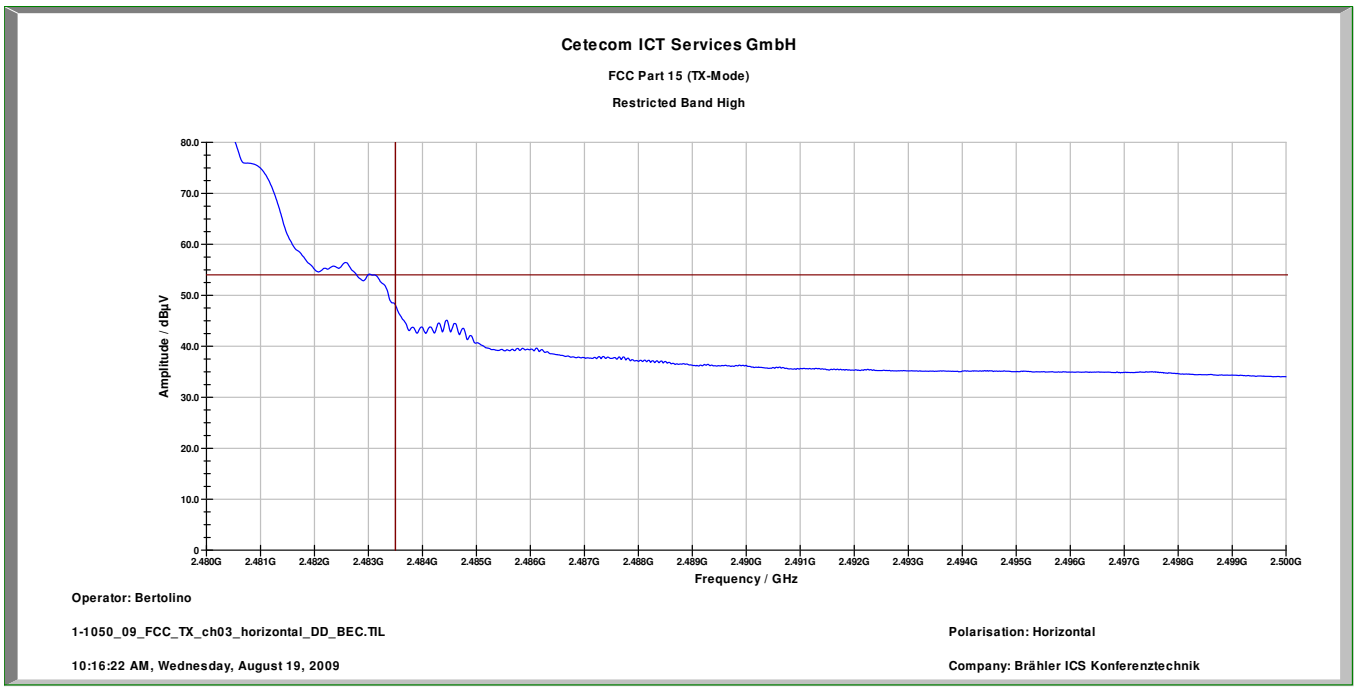
Plot 2: Restricted Bands high, vertical polarization



Plot 3: Restricted Bands low, horizontal polarization

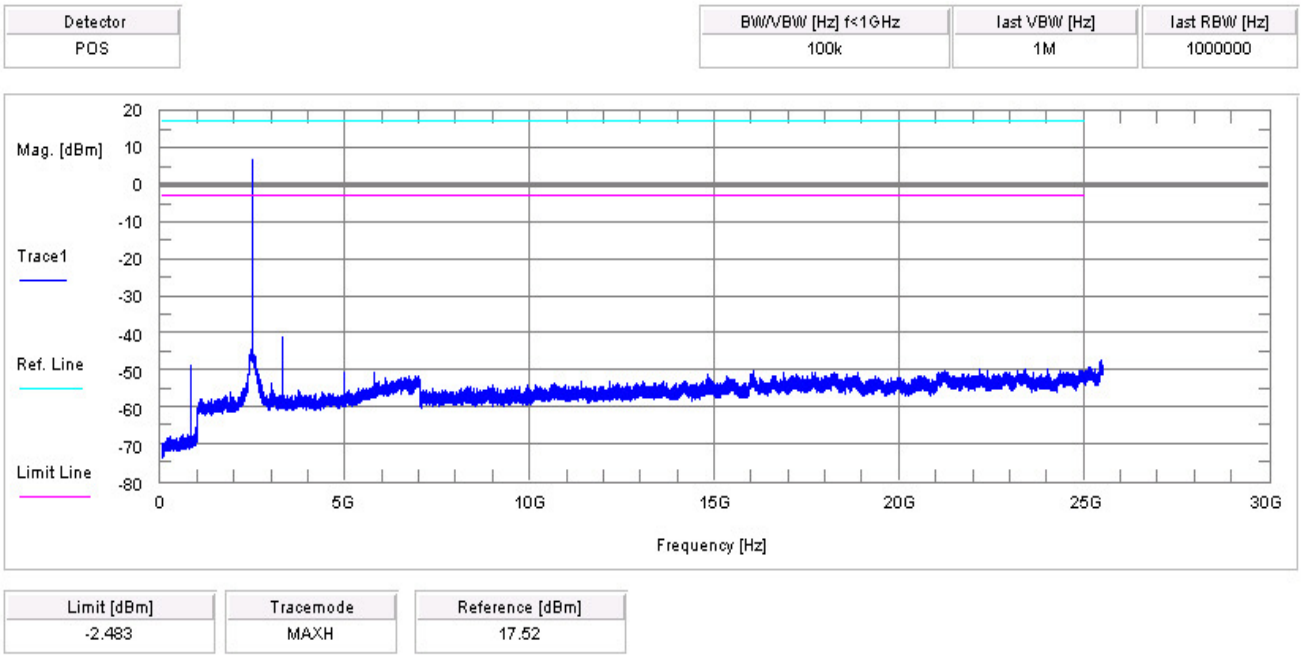


Plot 4: Restricted Bands high, horizontal polarization

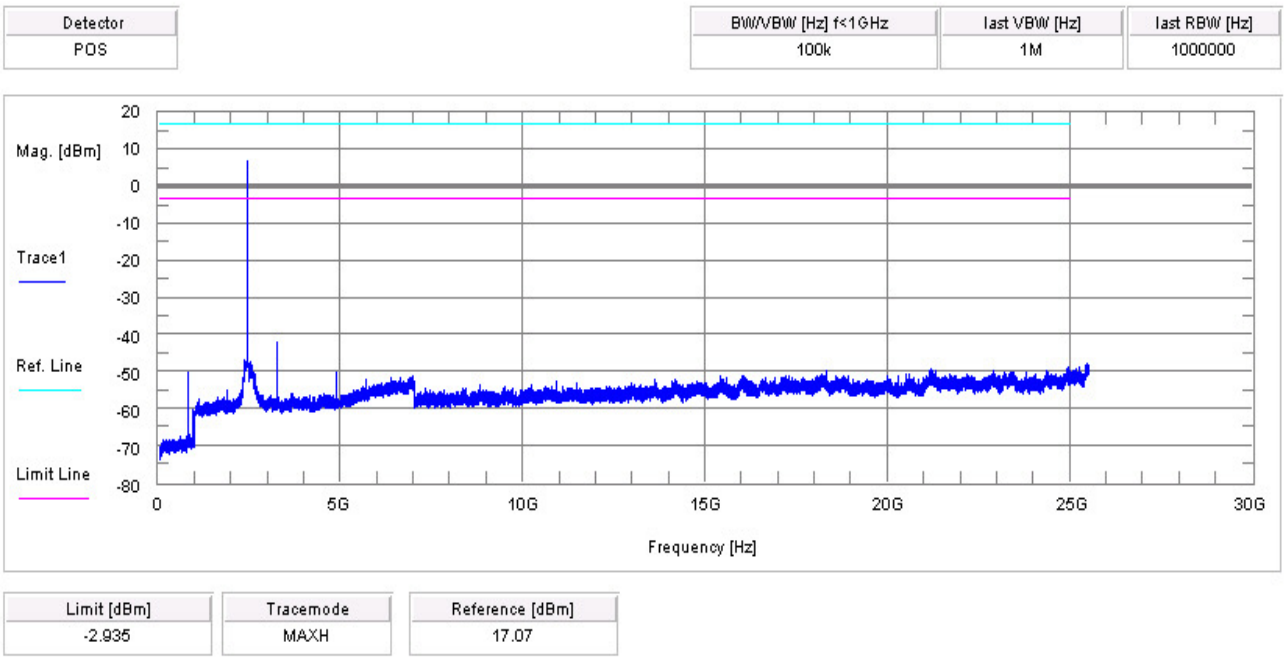


5.14 Spurious Emissions - conducted (Transmitter) § 15.247 (c)(1)

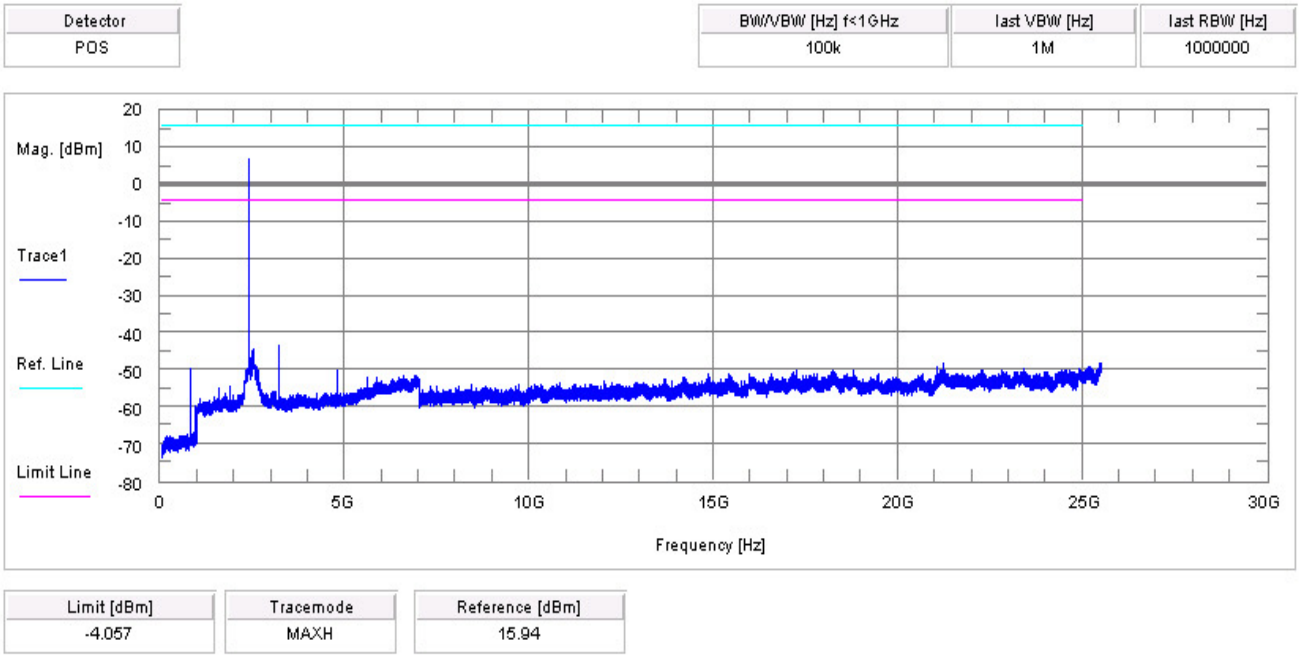
Plot 1 of 3: lowest channel



Plot 2 of 3: middle channel



Plot 3 of 3: highest channel



Result & Limits:

Emission Limitation					
f [MHz]		amplitude of emission [dBm]	limit max. allowed emission power	actual attenuation below frequency of operation [dB]	results
lowest channel		17.52	30 dBm		Operating frequency
No critical peaks detected.			-20 dBc		
middle channel		17.07	30 dBm		Operating frequency
No critical peaks detected.			-20 dBc		
highest channel		15.94	30 dBm		Operating frequency
No critical peaks detected.			-20 dBc		
Measurement uncertainty		± 3dB			

F < 1 GHz: RBW: 100 kHz VBW: 100 kHz
F > 1 GHz: RBW: 1 MHz VBW: 1 MHz

Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Note: For emissions that fall into restricted bands you find the radiated emissions later in the report.

5.15 Spurious Emissions > 30 MHz- radiated (Transmitter) § 15.247 (c)(1)

Plot 1: 0.03 - 1 GHz vertical / horizontal polarization (lowest channel)

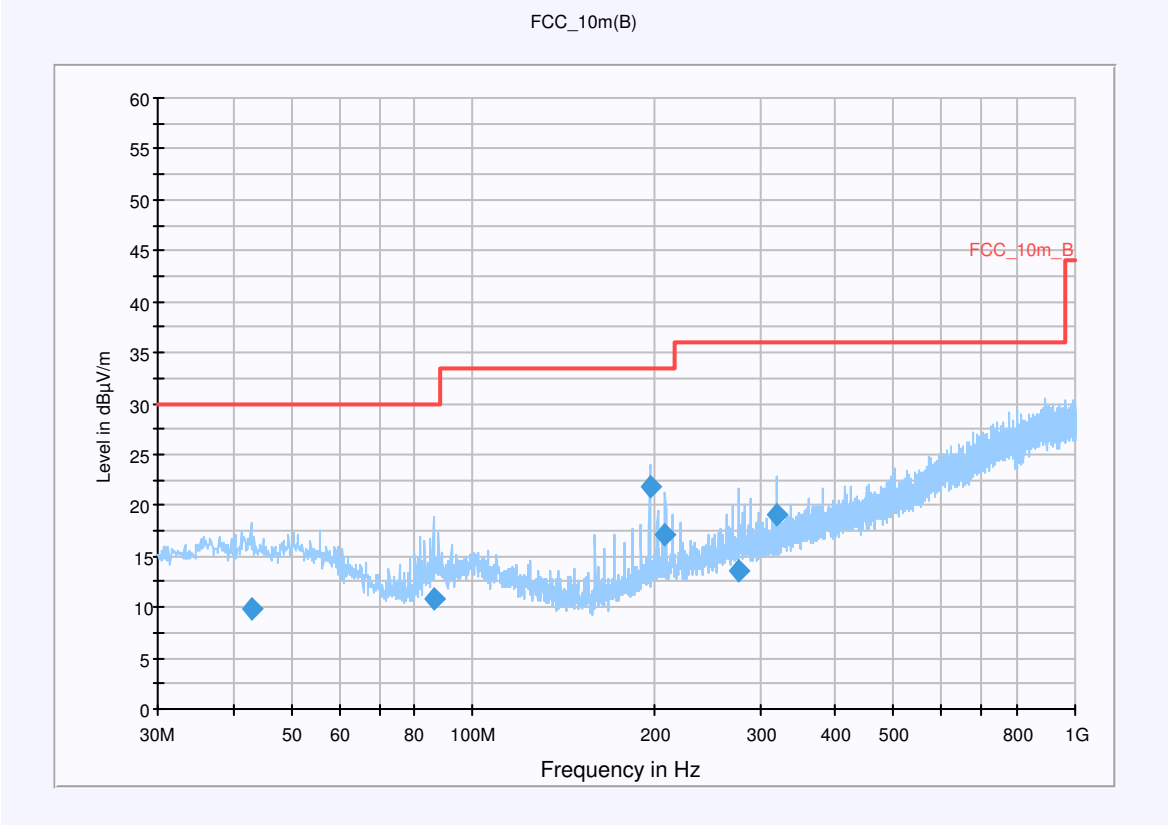
Common Information

EUT:	DDoc
Serial Number:	00 00 04 01
Test Description:	FCC class B @ 10 m
Operating Conditions:	TX lowest channel
Operator Name:	Hennemann
Comment:	powered by 3,7 V akku pack

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
43.095350	9.8	15000.000	120.000	400.0	H	318.0	13.5	20.2	30.0	
86.011200	10.8	15000.000	120.000	132.0	V	347.0	10.3	19.2	30.0	
196.620750	21.8	15000.000	120.000	98.0	V	330.0	11.8	11.7	33.5	
208.925950	17.1	15000.000	120.000	98.0	V	281.0	12.3	16.4	33.5	
276.445300	13.6	15000.000	120.000	157.0	V	1.0	14.3	22.4	36.0	
319.487050	19.0	15000.000	120.000	98.0	V	280.0	15.5	17.0	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

	Subrange 1
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/0033, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0109)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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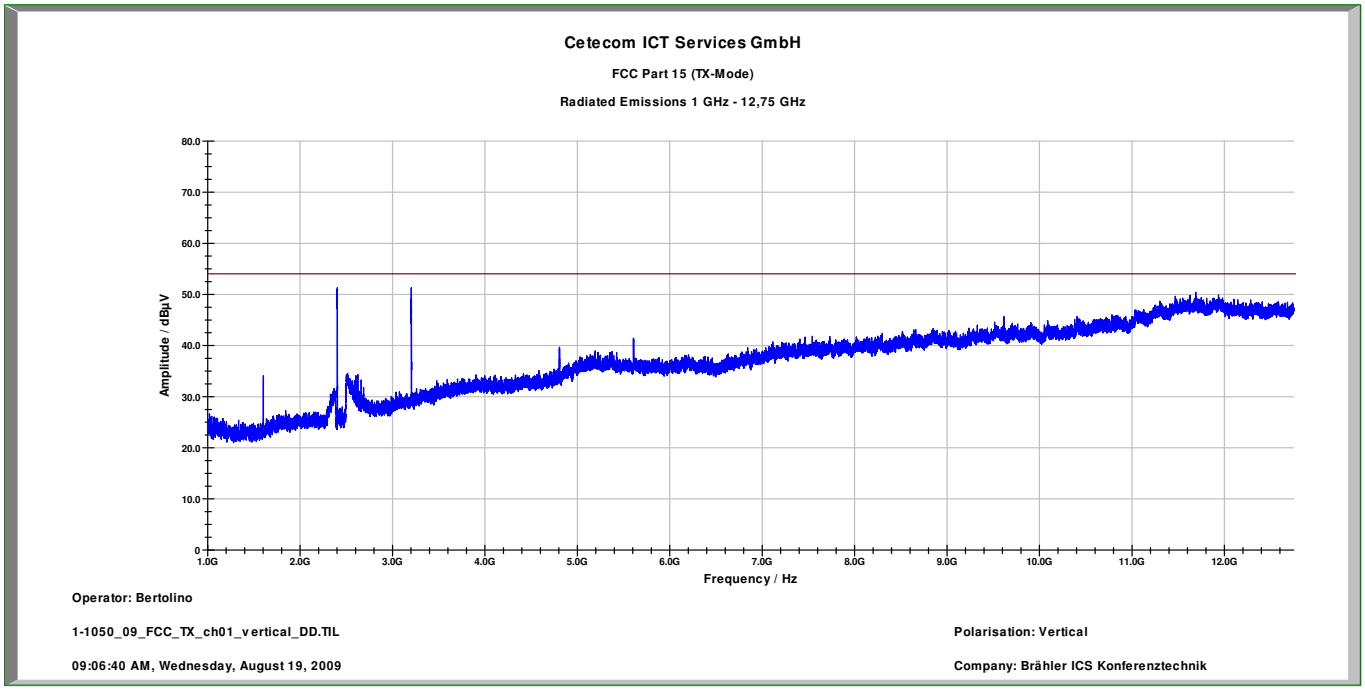
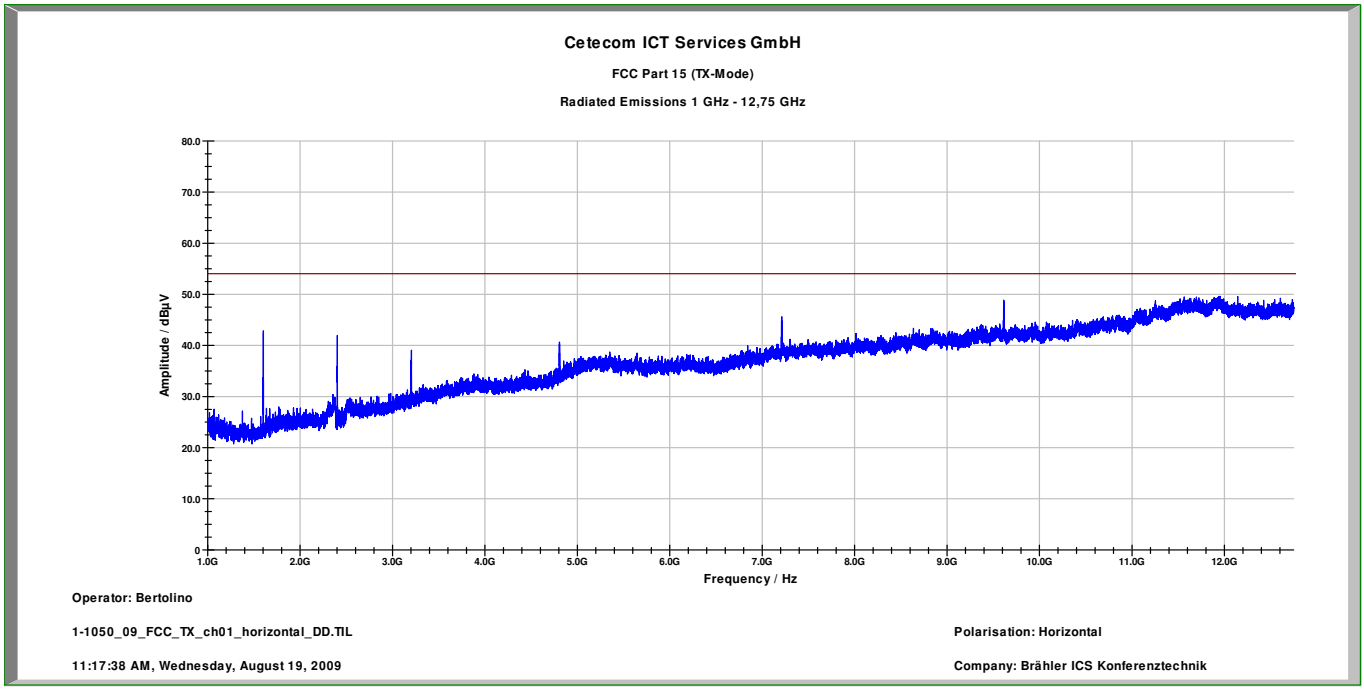
Plot 2: 1 – 12.75 GHz vertical polarization (lowest channel)



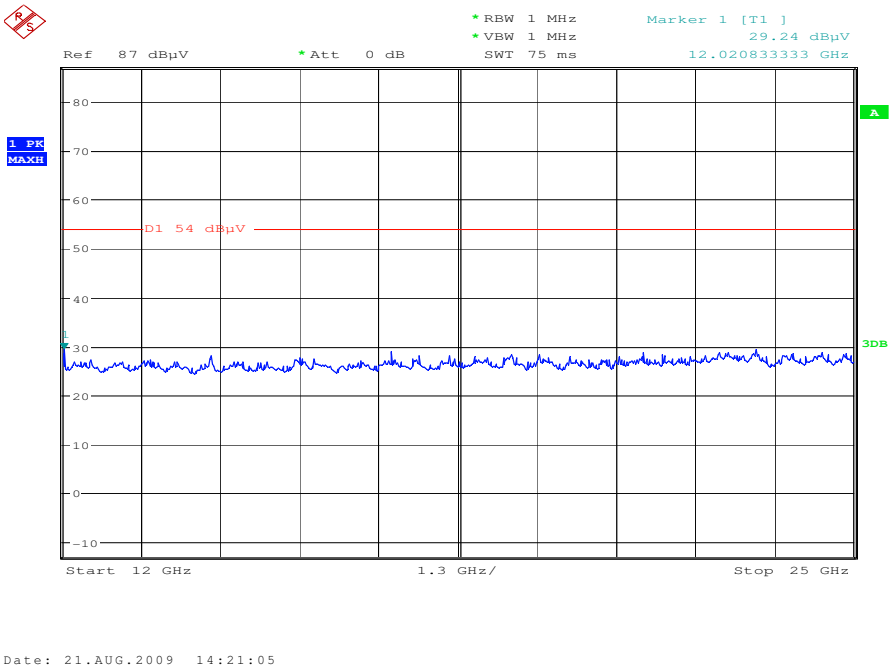
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: 1 – 12.75 GHz horizontal polarization (lowest channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: 12 - 25 GHz vertical/horizontal polarization (valid for all channels)



Plot 5: 0.03 - 1 GHz vertical/horizontal polarization (middle channel)

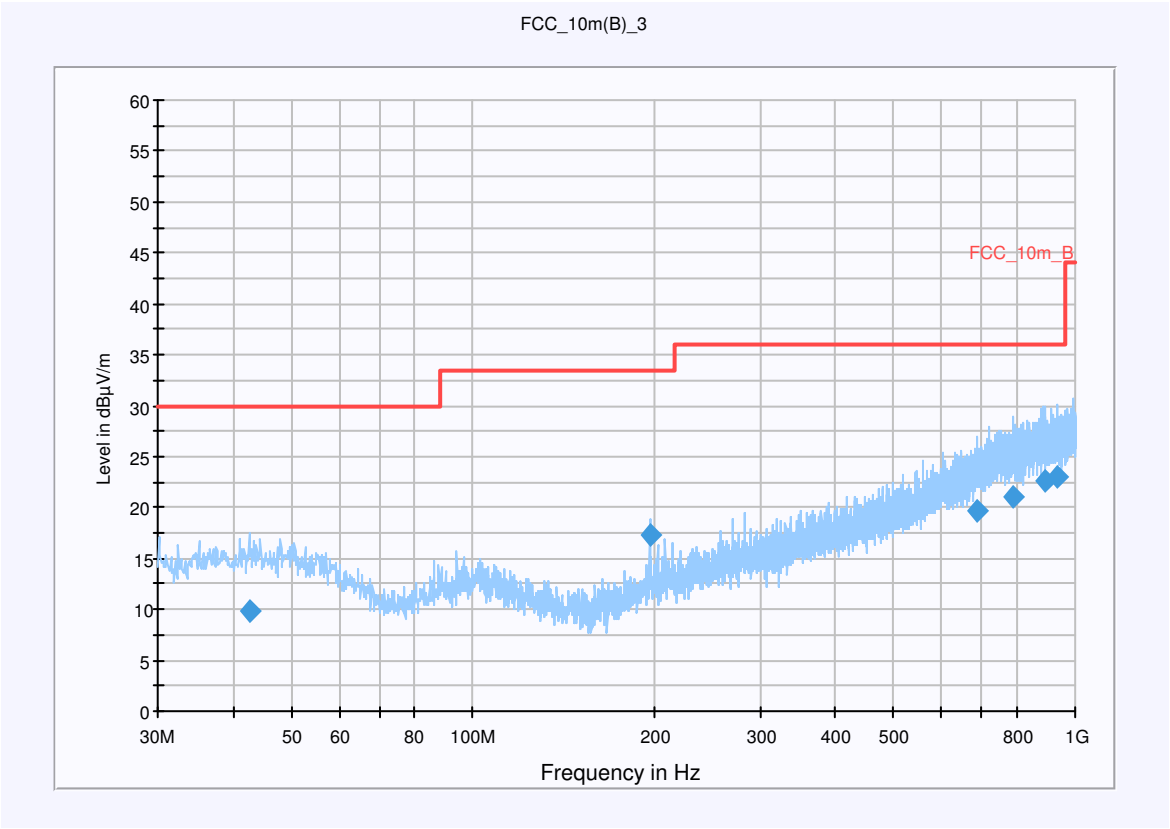
Common Information

EUT:	DDoc
Serial Number:	00 00 04 01
Test Description:	FCC class B @ 10 m
Operating Conditions:	TX mid channel
Operator Name:	Hennemann
Comment:	powered by 3,7 V akku pack

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
42.688300	9.7	15000.000	120.000	105.0	H	93.0	13.5	20.3	30.0	
196.581900	17.4	15000.000	120.000	98.0	V	-7.0	11.8	16.1	33.5	
688.590050	19.6	15000.000	120.000	195.0	H	185.0	22.7	16.4	36.0	
787.802950	21.1	15000.000	120.000	220.0	V	127.0	24.3	14.9	36.0	
888.111700	22.6	15000.000	120.000	220.0	H	131.0	25.5	13.4	36.0	
931.727000	22.9	15000.000	120.000	116.0	H	255.0	25.8	13.1	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

	Subrange 1
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/0033, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0109)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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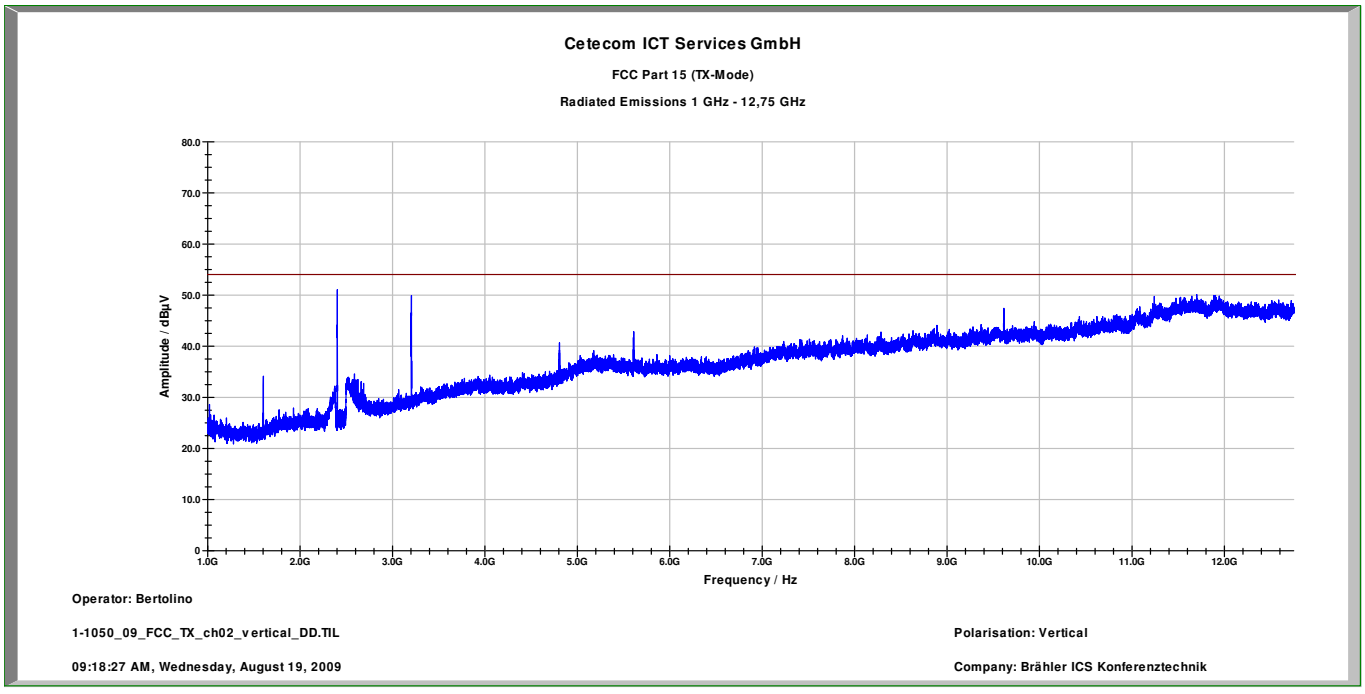
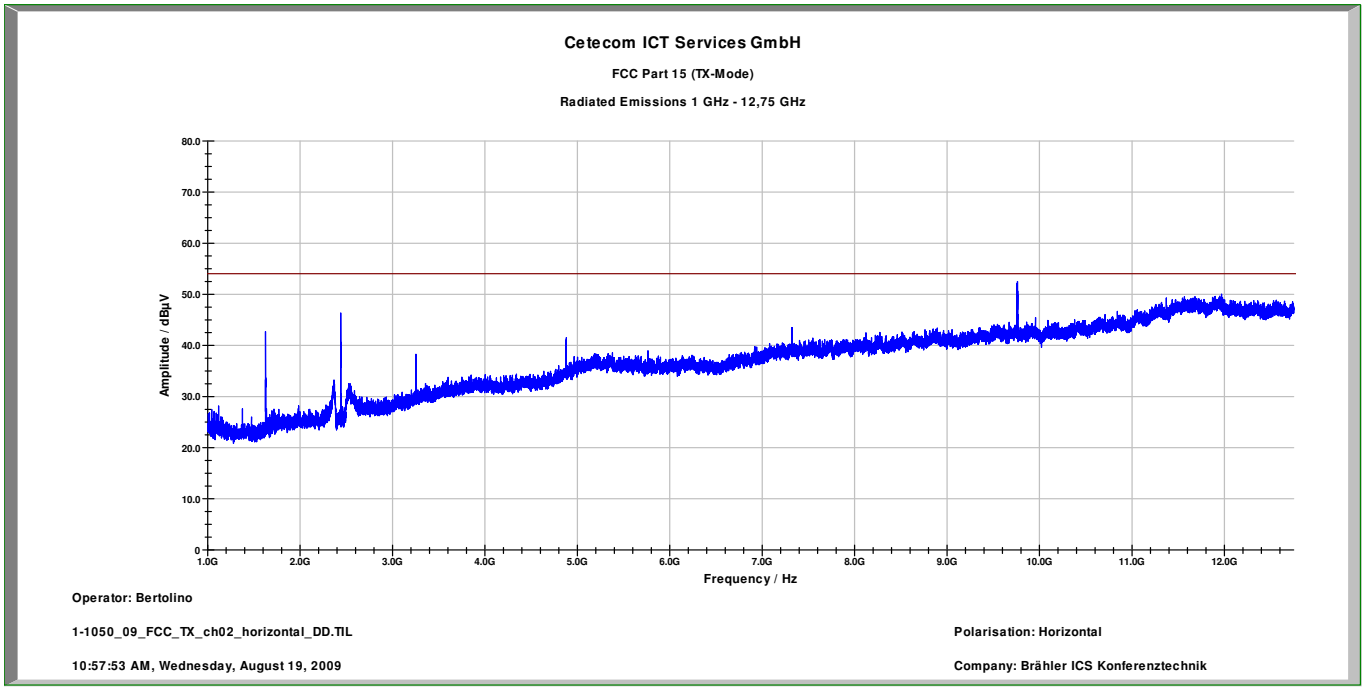
Plot 6: 1 - 4 GHz vertical polarization (middle channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 7: 4 - 12 GHz horizontal polarization (middle channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 8: 0.03 - 1 GHz vertical/horizontal polarization (highest channel)

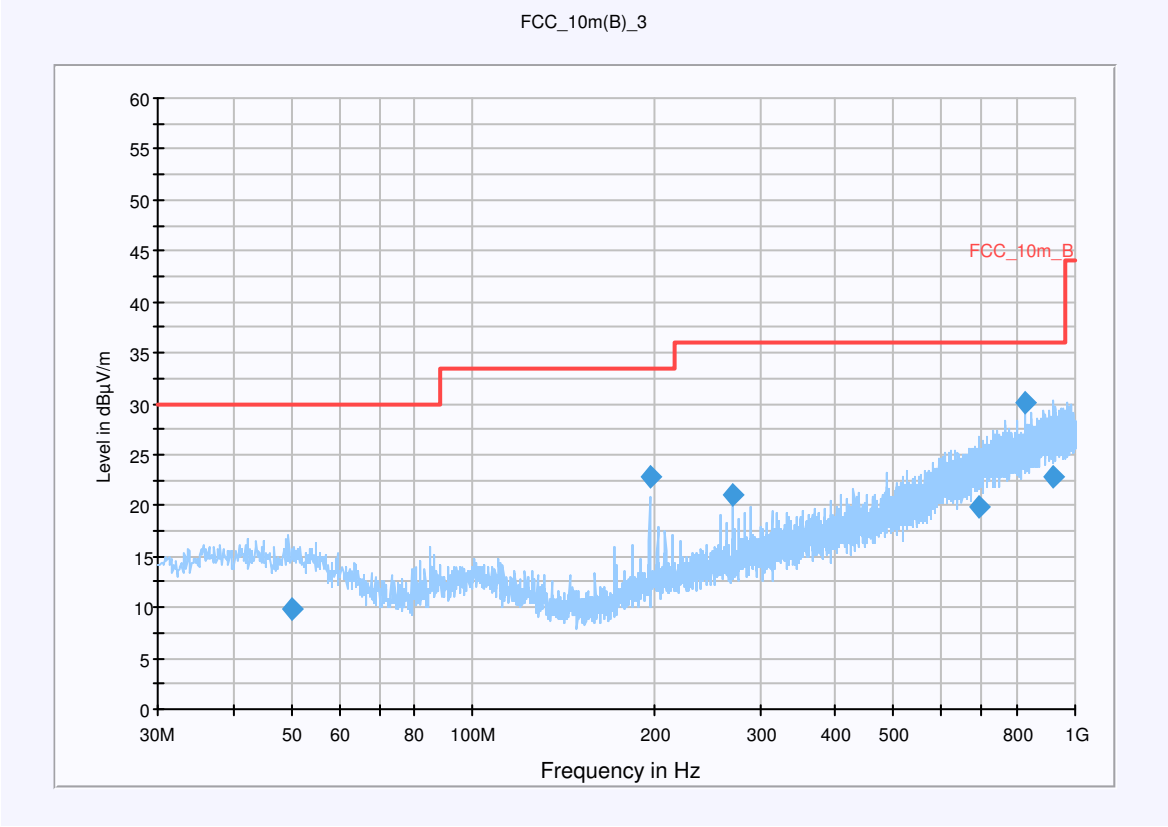
Common Information

EUT:	DDoc
Serial Number:	00 00 04 01
Test Description:	FCC class B @ 10 m
Operating Conditions:	TX highest channel
Operator Name:	Hennemann
Comment:	powered by 3,7 V akku pack

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
50.113150	9.8	15000.000	120.000	216.0	H	204.0	13.5	20.2	30.0	
196.616400	22.8	15000.000	120.000	98.0	V	66.0	11.8	10.7	33.5	
270.352450	21.1	15000.000	120.000	98.0	V	209.0	14.1	14.9	36.0	
694.371900	20.0	15000.000	120.000	98.0	H	184.0	22.9	16.0	36.0	
826.335050	30.0	15000.000	120.000	98.0	H	-1.0	24.7	6.0	36.0	
916.825450	22.8	15000.000	120.000	216.0	H	47.0	25.8	13.2	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/0033, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0109)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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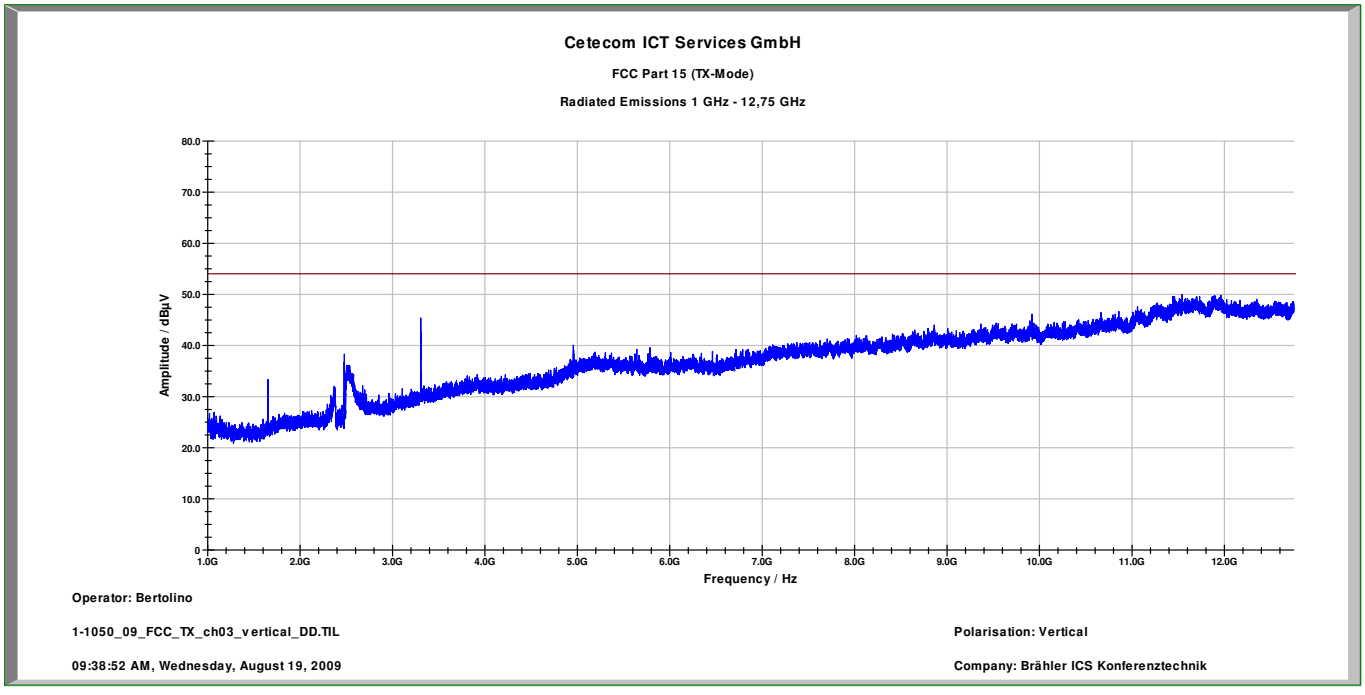
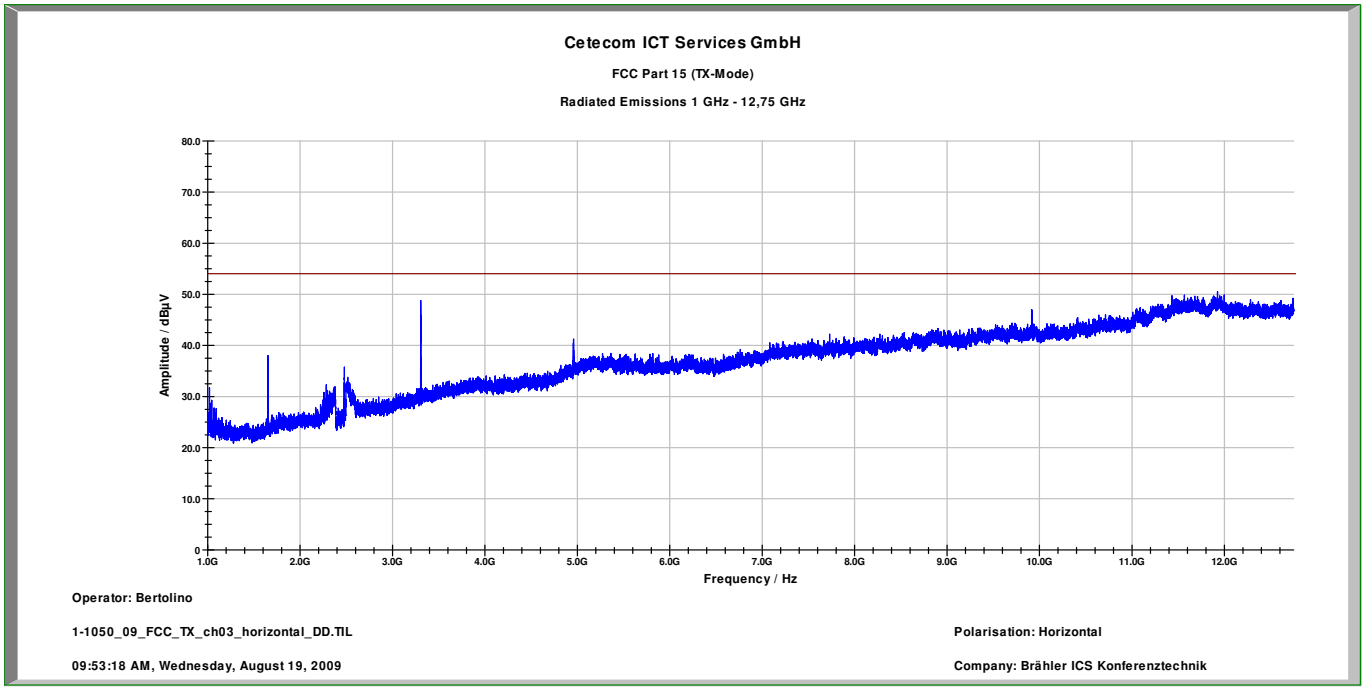
Plot 9: 1 - 4 GHz vertical polarization (highest channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 10: 4 - 12 GHz horizontal polarization (highest channel)



The carrier signal is notched with a 2.4 GHz band rejection filter.

Results:

Vertical polarization:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
Lowest channel			Mid channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
3205	-/-	*	3254	-/-	*	3305	-/-	*
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Horizontal polarization:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
Lowest channel			Mid channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
1603	Peak	45.44 @ 3m	1627	Peak	44.04 @ 3m	1653	-/-	*
7209	-/-	*	9762	-/-	*	3305	-/-	*
9610	-/-	*				4959	Peak	50.73 @ 3m
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Note:

* The detected spurious emissions / harmonics do not fall into the restricted bands listed in Section 15.205.

Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	[2]
13.36 - 13.41			

Measurement of Digital Transmission Systems Operating under Section 15.247

March 23, 2005

Section 15.247(c) – Spurious emissions.

The following tests are required:

1. **RF antenna conducted test:** Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band *as measured with a 100 kHz RBW. Note: If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB.*

2. **Radiated emission test:** Applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. A pre-amp (and possibly a high-pass filter) is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation. See Section 15.35(b) and (c).

Limits: § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Limits: § 15.209

Frequency [MHz]	Field strength [µV/m]	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

5.16 Spurious Emissions - radiated (Receiver) § 15.109

Plot 1: 0.03 - 1 GHz vertical/horizontal (receiver)

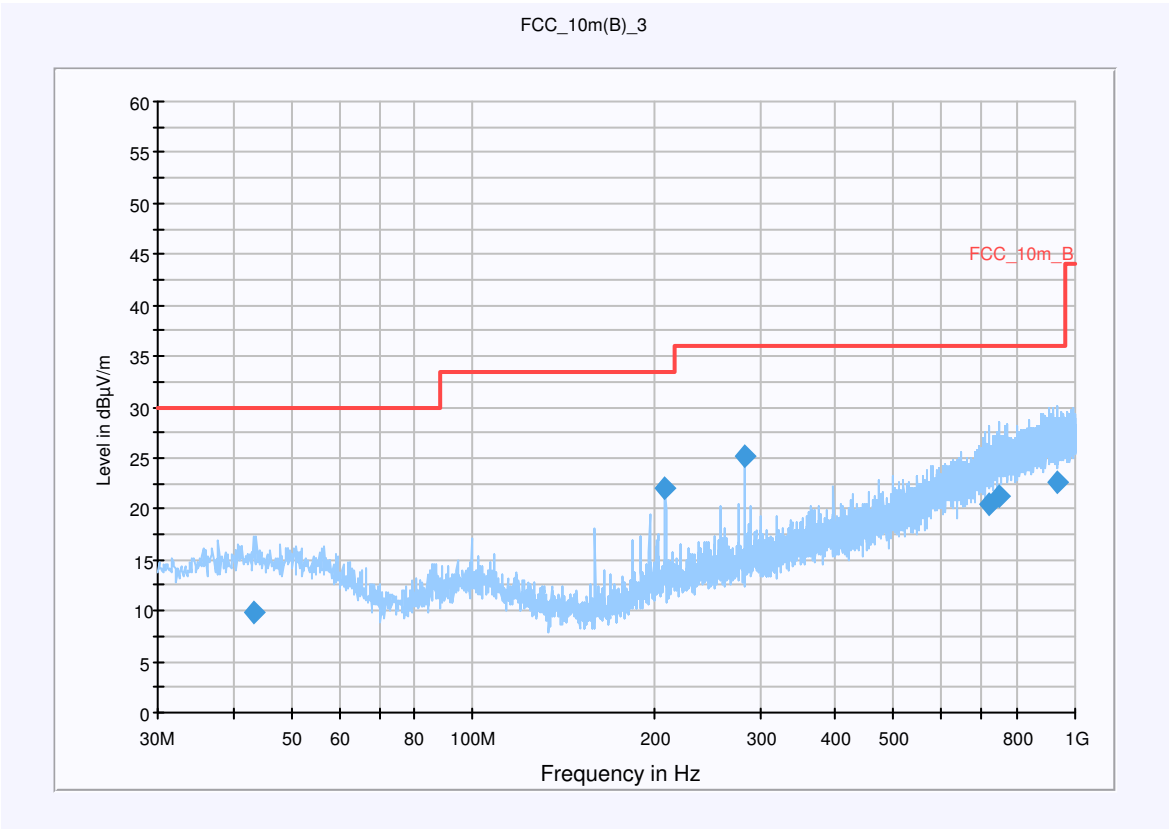
Common Information

EUT:	DDoc
Serial Number:	00 00 04 02
Test Description:	FCC class B @ 10 m
Operating Conditions:	RX
Operator Name:	Hennemann
Comment:	powered by 3,7 V akku pack

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
43.393050	9.8	15000.000	120.000	220.0	H	30.0	13.5	20.2	30.0	
208.896400	22.0	15000.000	120.000	105.0	V	36.0	12.3	11.5	33.5	
282.615800	25.3	15000.000	120.000	98.0	V	-5.0	14.4	10.7	36.0	
721.081400	20.5	15000.000	120.000	220.0	H	65.0	23.5	15.5	36.0	
744.967350	21.2	15000.000	120.000	220.0	H	22.0	24.0	14.8	36.0	
934.211900	22.7	15000.000	120.000	180.0	H	258.0	25.8	13.3	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

	Subrange 1
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/0033, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0109)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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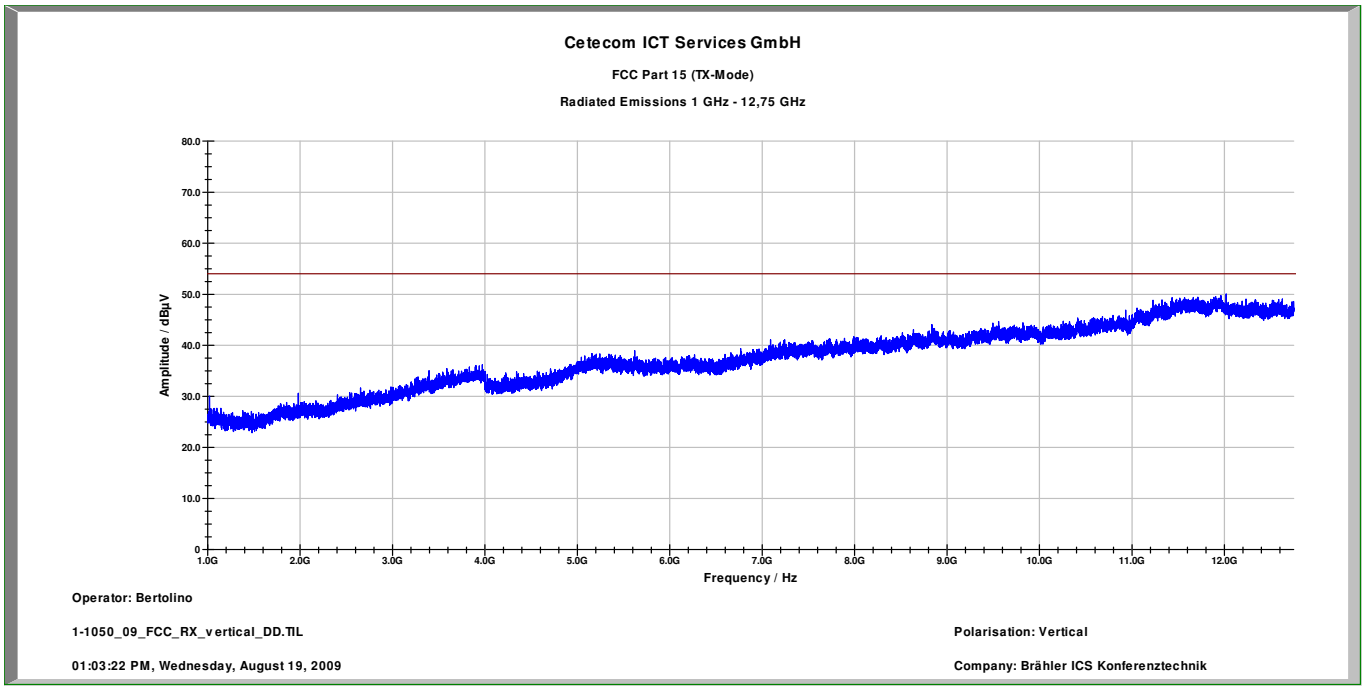
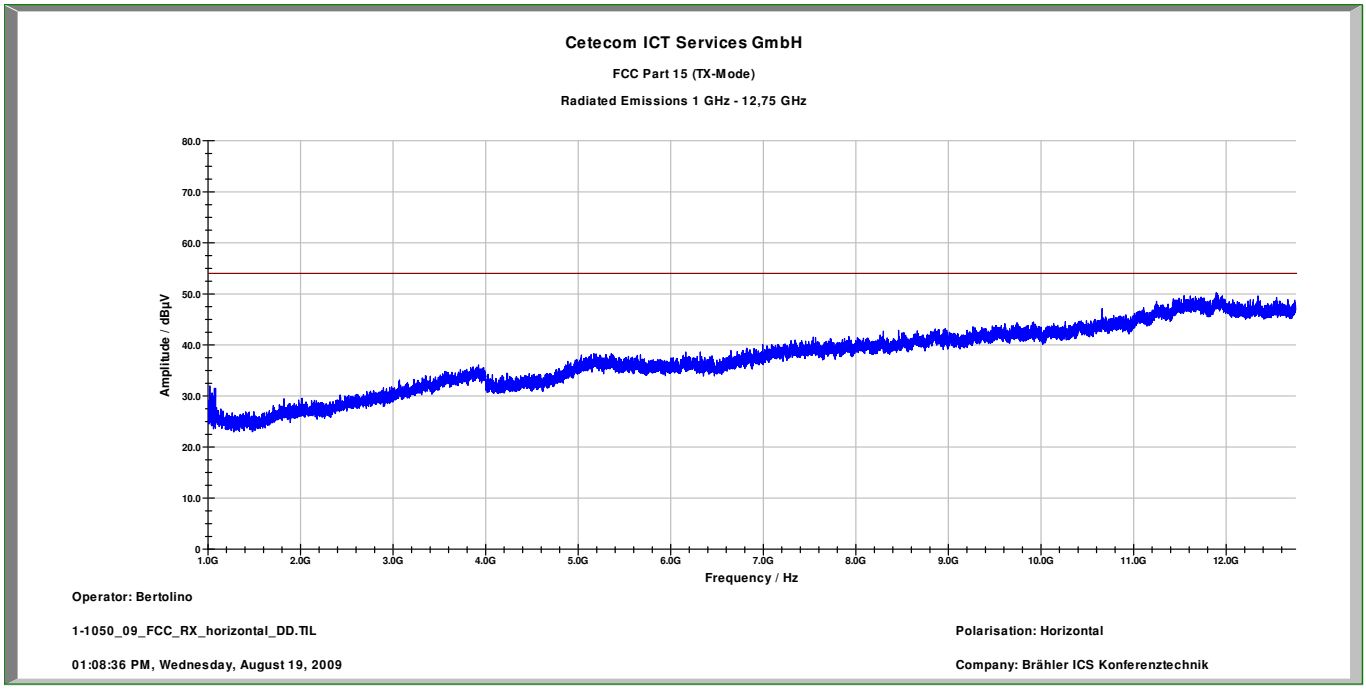
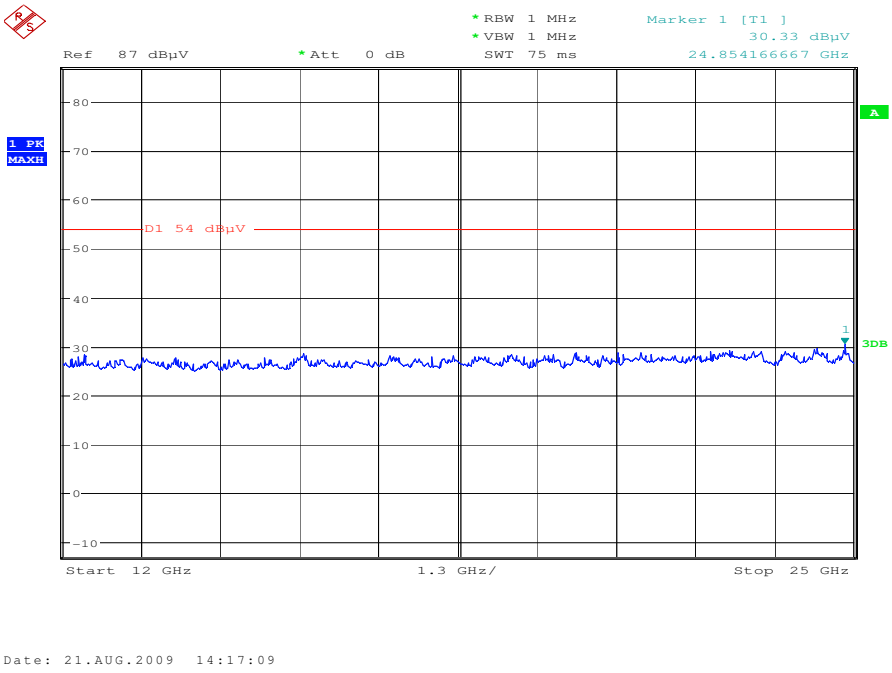
Plot 2:1 – 12.75 GHz vertical (receiver)



Plot 3: 1 – 12.75 GHz horizontal (receiver)



Plot 4: 12 - 25 GHz vertical/horizontal (receiver)



Results:

Vertical polarization:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
No critical peaks detected.		
Measurement uncertainty	±3 dB	

f < 1 GHz: RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Horizontal polarization:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
No critical peaks detected.		
Measurement uncertainty	±3 dB	

f < 1 GHz: RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Measurement distance see table

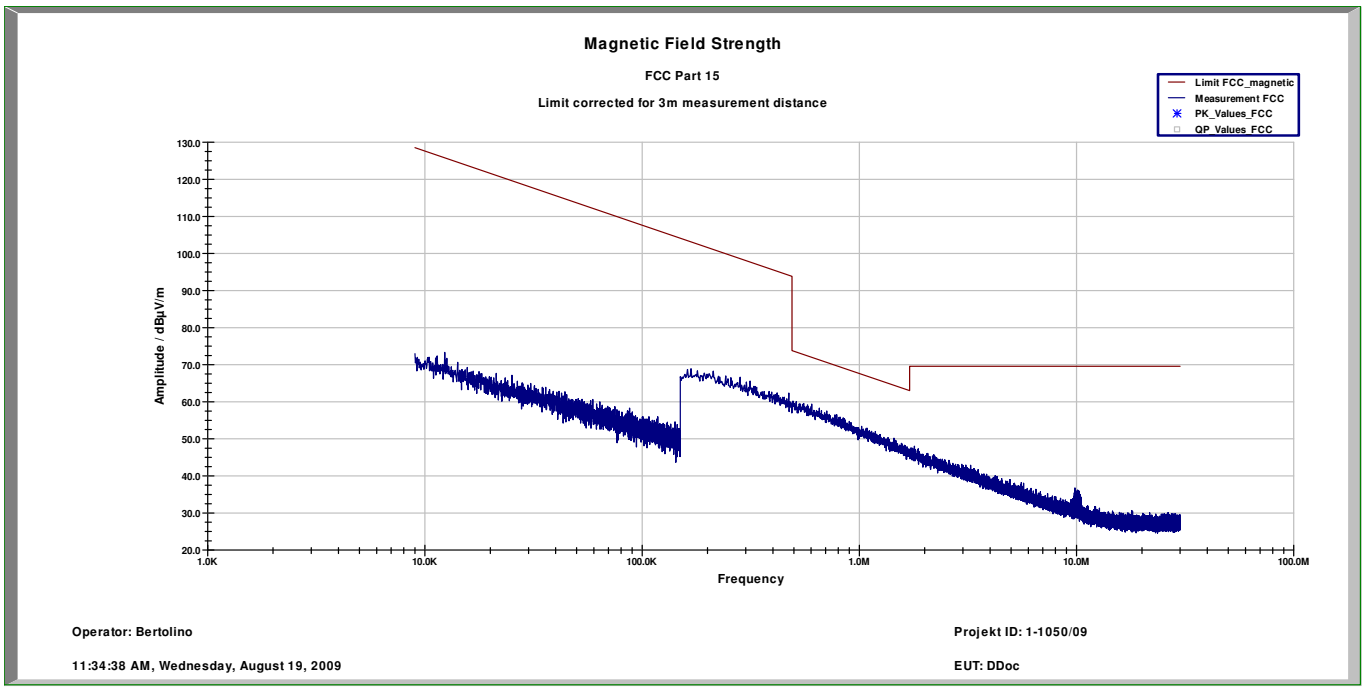
Limits: § 15.109

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

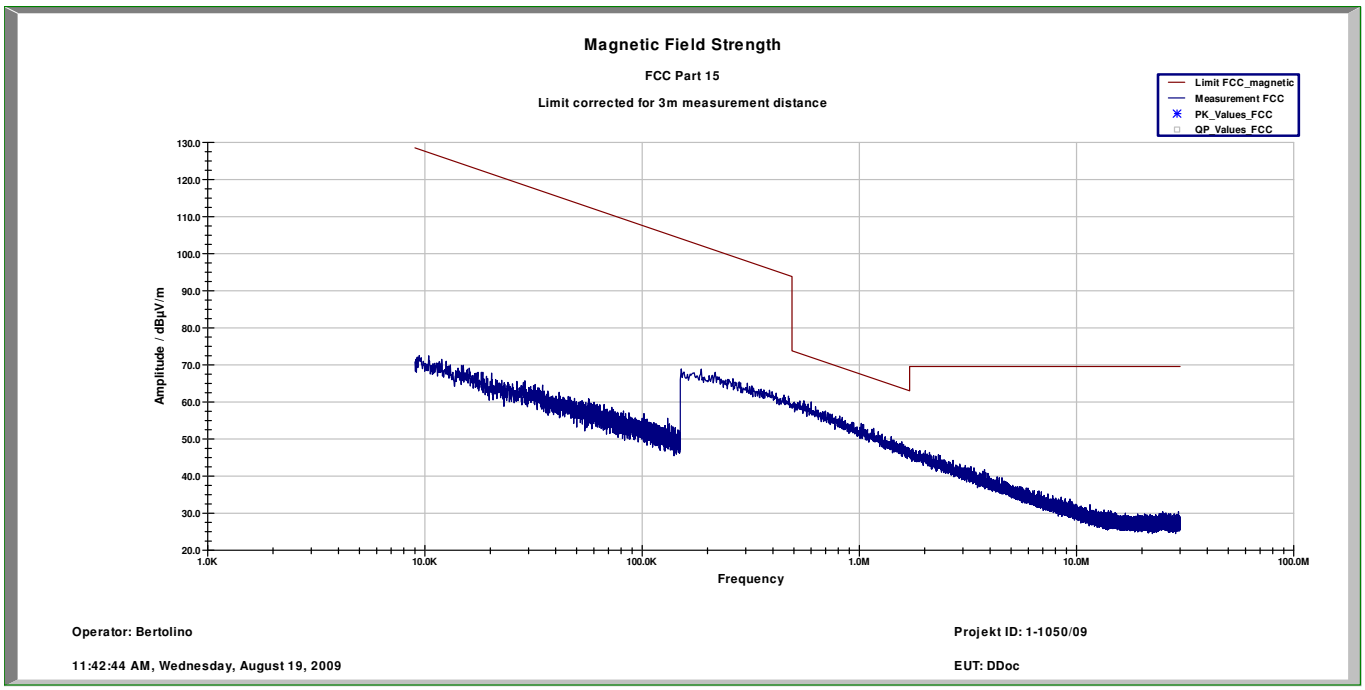
5.17 Spurious Emissions < 30 MHz - Transmitter radiated § 15.209

Measured at 10 m distance.
Values recalculated with 40 dB/decade according to FCC rules.

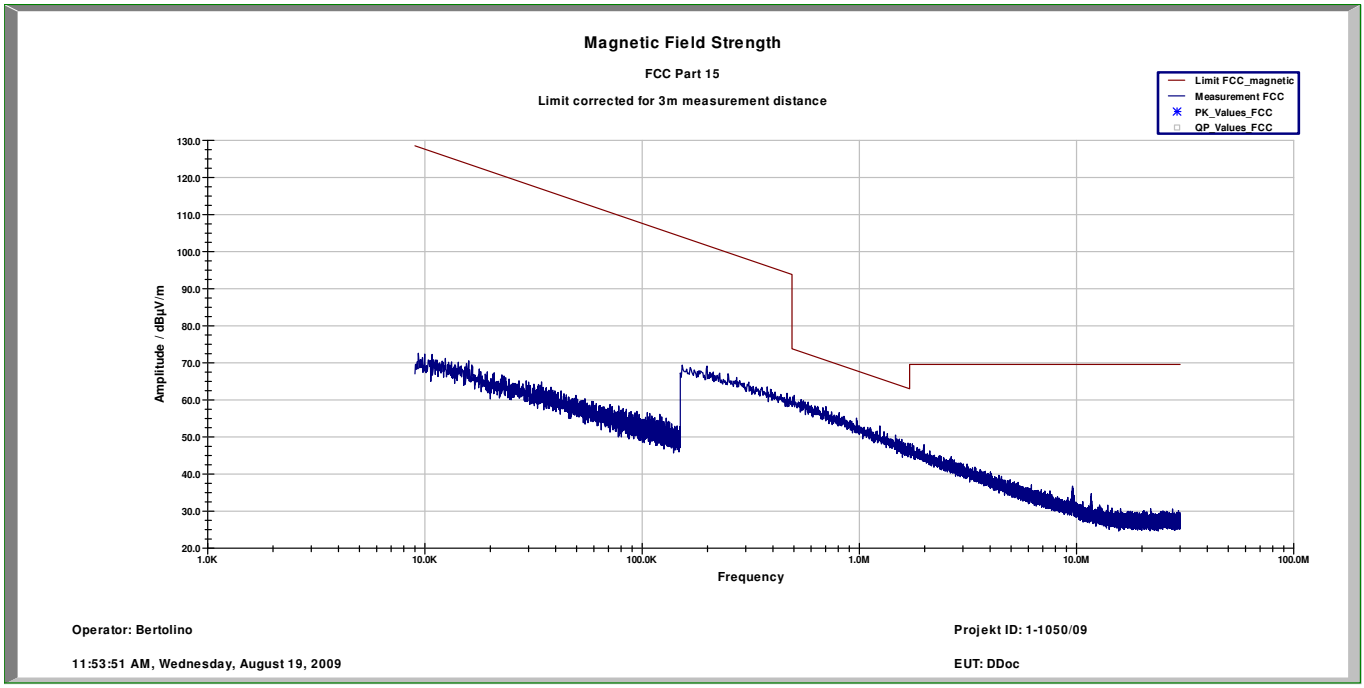
Plot 1: TX mode, antenna position 1



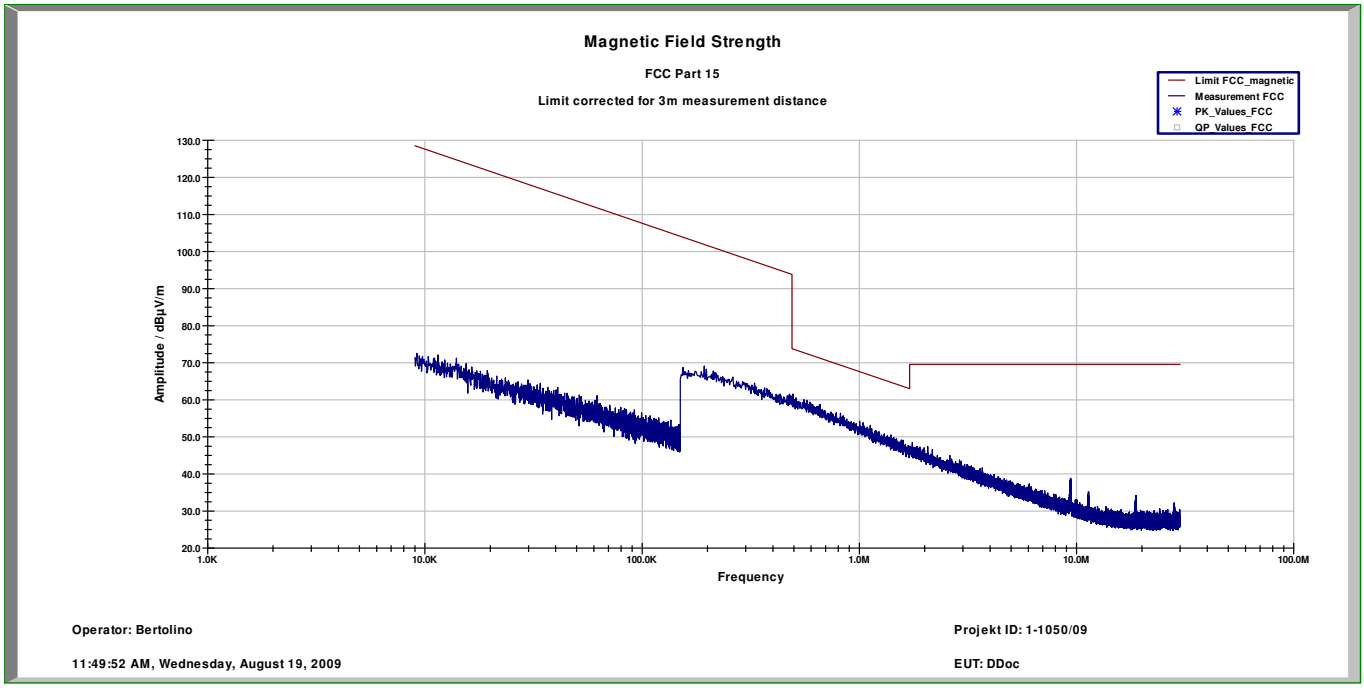
Plot 2: TX mode, antenna position 2



Plot 3: RX mode, antenna position 1



Plot 4: RX mode, antenna position 2

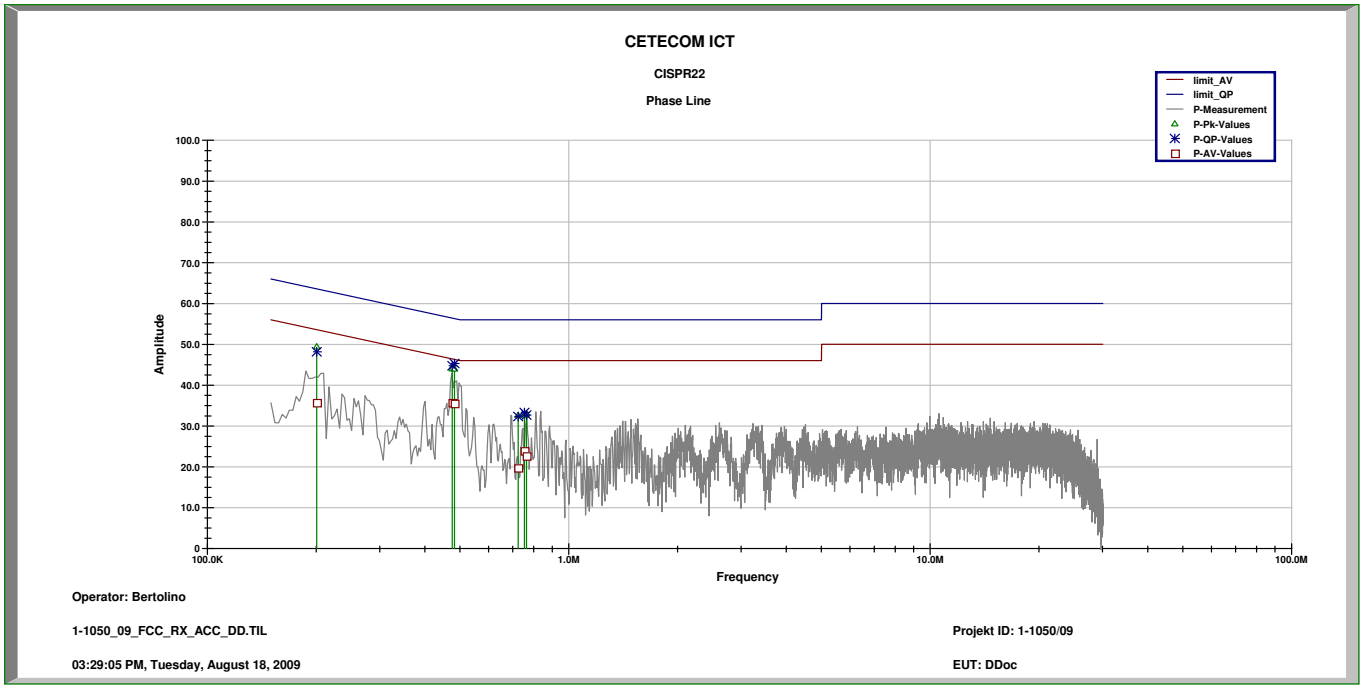


Limits:

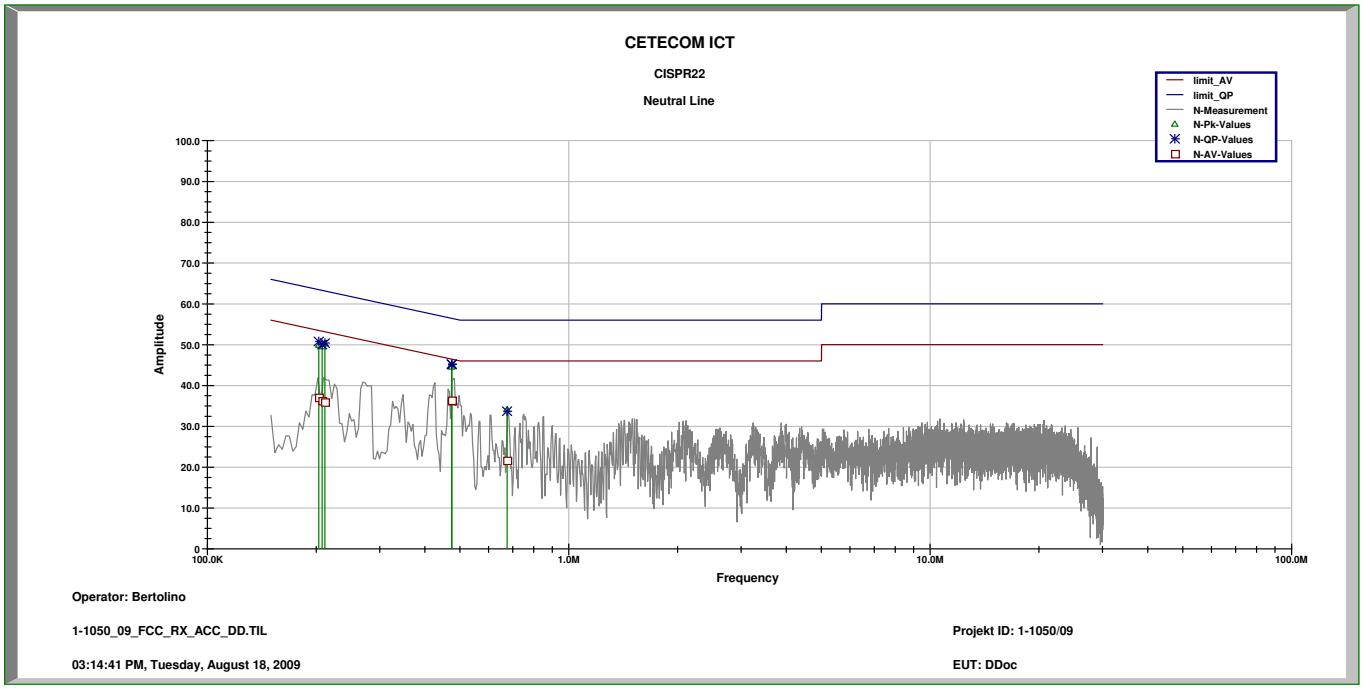
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dBµV/m	30

5.18 Conducted Emissions <30 MHz § 15.107/207

Plot 1: Phase line, charging mode



Plot 2: Neutral line, charging mode



Note:

No TX mode available with connected charger.

Limits:

Under normal test conditions only	See plots

6 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

All reported calibration intervals are calibrations according to the EN/ISO/IEC 17025 standard. These calibrations were performed from an accredited external calibration laboratory.
Additional to these calibrations the laboratory performed comparison measurements with other calibrated systems and performed a weekly chamber inspection.
All used devices are connected with a 10 MHz external reference.
According to the manufacturers' instruction is it possible to establish a calibration interval for the FSP unit of 24 month, if the device has an external 10 MHz reference.

Anechoic chamber C:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Anechoic chamber	MWB	87400/02	300000996	Monthly verification		
2	System-Rack 85900	HP I.V.	*	300000222	n.a.		
3	Measurement System 1						
4	PSA-Spektrumanalysator 3 Hz - 26.5 GHz (E4440A)	Agilent	MY48250080	300003812	05.08.2008	24	05.08.2010
5	EMI Preselector 9 kHz - 1 GHz (N9039A)	Agilent	MY48260003	300003825	19.08.2008	24	19.08.2010
6	Microwave Analog Signal Generator (N5183A)	Agilent	MY47420220	300003813	06.08.2008	24	06.08.2010
7	PC	F+W			n.a.		
8	TILE	TILE			n.a.		
9	TRILOG Super Broadband Antenna (VULB9163)	Schwarzbeck	371	300003854	Monthly verification (System cal.)		
10	Double Ridged Antenna 3115	EMCO	3088	300001032	Monthly verification (System cal.)		
11	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
12	Switch / Control Unit 3488A	HP	2719A15013	300001156	n.a.		
13	Power Supply 6032A	HP	2818A03450	300001040	08.01.2009	36	08.01.2012
14	Busisolator	Kontron		300001056	n.a.		
15	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
16	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
17	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
18	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		
19	Hochpassfilter WHK1.1/15G-10SS	Wainwright	3	300003255	Monthly verification (System cal.)		
20	Hochpassfilter WHKX2.9/18G-12SS	Wainwright	1	300003492	Monthly verification (System cal.)		
21	Hochpassfilter WHKX7.0/18G-8SS	Wainwright	18	300003789	Monthly verification (System cal.)		
22	Switch / Control Unit 3488A	HP	2605e08770	300001443	n.a.		
23	Trenntrafo RT5A	Grundig	9242	300001263	n.a.		
24	Relais Matrix PSU	R&S	890167/024	300001168	n.a.		
25	Netznachbildung ESH3-Z5	R&S	828576/020	300001210	n.a.		

System Rack Room 005:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	FSP 30	R&S	100886	300003575	25.08.2008	24	25.08.2010
2	CBT	R&S	100313	300003516	03.09.2008	24	03.09.2010
3	Switch Matrix	HP		300000929	n.a.		
4	Power Supply 6625A	HP	3041A00544	300002270	13.05.2007	36	13.05.2010
5	Signal Generator SMIQ03B	R&S	836206/0092	300002680	30.05.2007	36	30.05.2010

Signalling Units:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	CBT	R&S	100313	300003516	03.09.2008	24	03.09.2010
2	CBT	R&S	100185	300003416	27.08.2008	24	27.08.2010
3	CMU-200	R&S	103992	300003231	04.06.2008	12	04.06.2009
4	CMU-200	R&S	106240	300003321	27.08.2008	24	27.08.2010
5	CMU-200	R&S	832221/0055	300002862	20.03.2008	24	20.03.2010

Climatic Box:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Climatic box VT 4002	Heraeus Vötsch	58566046820010	300003019	28.05.2009	24	28.05.2011
2	Climatic box CTS T-40/50	CTS	064023	300003540	04.06.2009	24	04.06.2011

Test laboratory 011:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Climatic box VUK 04/500	Heraeus Vötsch	32678	300000297	29.07.2008	24	27.07.2010
2	Spectrum Analyser 8565E	HP	3738A00773	300001665	08.01.2008	24	08.01.2010
3	Spectrum Analyser FSU 50	R&S	200012	300003443	05.06.2008	24	05.06.2010
4	SGH 12 ... 18 GHz	narda	01005	300000787	cyclic verification		
5	SGH 18 ... 27 GHz	narda	01005	300000487	cyclic verification		
6	SGH 27 ... 40 GHz	narda	82016	300000510	cyclic verification		
7	SGH 33 ...50 GHz	Thomson		300000812	cyclic verification		
8	Adapter WG/SMA	narda	64088	-/-	cyclic verification		
9	Adapter WG/SMA	flann	213	-/-	cyclic verification		
10	Adapter WG/SMA	HP	00231	-/-	cyclic verification		
11	SGH 50 ... 75GHz	Thomson	-/-	300000813	cyclic verification		
12	Mixer 50 ... 75 GHz 11970V	HP	-/-	30000781i	07.08.2007	36	07.08.2010
13	SGH 75 ... 110 GHz	Thomson	-/-	30000798b	cyclic verification		
14	Mixer 75 ... 110 GHz 11970W	HP	-/-	30000781e	07.08.2007	36	07.08.2010
15	SGH 110 … 170 GHz	Flann	-/-	300001999	cyclic verification		
16	Mixer 110 … 170 GHz	Tektronix	B010186	300001685d	cyclic verification		
17	SGH 170 … 325 GHz	Flann	-/-	300002000	cyclic verification		
18	Mixer 170 … 325 GHz	Tektronix	B010241	300001685j	cyclic verification		

SRD Laboratory Room 002:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	System Controller PSM 12	R&S	835259/007	300002681-00xx	n.a.		
2	Memory Extension PSM-K10	R&S	To 1	300002681	n.a.		
3	Operating Software PSM-B2	R&S	To 1	300002681	n.a.		
4	19'' Monitor		22759020-ED	300002681	n.a.		
5	Mouse		LZE 0095/6639	300002681	n.a.		
6	Keyboard		G00013834L461	300002681	n.a.		
7	Spectrum Analyser FSIQ 26	R&S	835540/018	300002681-0005	10.01.2008	24	10.01.2010
8	Tracking Generator FSIQ-B10	R&S	835107/015	300002681	s.No.7		
10	RF-Generator SMIQ03 (B1 Signal)	R&S	835541/056	300002681-0002	26.08.2008	36	26.08.2011
11	Modulation Coder SMIQ-B20	R&S	To 10	300002681	s.No.10		
12	Data Generator SMIQ-B11	R&S	To 10	300002681	s.No.10		
13	RF Rear Connection SMIQ-B19	R&S	To 10	300002681	s.No.10		
14	Broadband horn antenna (1-18 GHz)	EMCO	9107-3696	300001604	16.04.2008	24	16.04.2010
15	Broadband horn antenna (1-18 GHz)	EMCO	9107-3697	300001605	21.08.2008	24	21.08.2010
16	Std gain horn antenna (18-26.5 GHz)	Narda	Model no. 638	300000486	n.a.		
17	Std gain horn antenna (18-26.5 GHz)	Narda	Model no. 638	300000487	n.a.		
18	Sleeve dipole antenna Model 3126-880	ETS-Lindgren	00040887	3000000	n.a.		
19	Fast CPU SM-B50	R&S	To 10	300002681	s.No.10		
20	FM Modulator SM-B5	R&S	835676/033	300002681	s.No.10		
21	RF-Generator SMIQ03 (B2 Signal)	R&S	835541/055	300002681-0001	25.08.2008	36	25.08.2011
22	Modulation Coder SMIQ-B20	R&S	To 21	300002681	s.No.21		
23	Data Generator SMIQ-B11	R&S	To 21	300002681	s.No.21		
24	RF Rear Connection SMIQ-B19	R&S	To 21	300002681	s.No.21		
25	Fast CPU SM-B50	R&S	To 21	300002681	s.No.21		
26	FM Modulator SM-B5	R&S	836061/022	300002681	s.No.21		
27	RF-Generator SMP03 (B3 Signal)	R&S	835133/011	300002681-0003	26.08.2008	36	26.08.2011
28	Attenuator SMP-B15	R&S	835136/014	300002681	S.No.27		
29	RF Rear Connection SMP-B19	R&S	834745/007	300002681	S.No.27		
30	Power Meter NRVD	R&S	835430/044	300002681-0004	26.08.2008	24	26.08.2010
31	Power Sensor NRVD-Z1	R&S	833894/012	300002681-0013	26.08.2008	24	26.08.2010
32	Power Sensor NRVD-Z1	R&S	833894/011	300002681-0010	26.08.2008	24	26.08.2010
33	Rubidium Standard RUB	R&S		300002681-0009	27.08.2008	24	27.08.2010
34	Switching and Signal Conditioning Unit SSCU	R&S	338864/003	300002681-0006	Verified with path compensation		
35	Laser Printer HP Deskjet 2100	HP	N/A	300002681-0011	n.a.		
36	19'' Rack	R&S	11138363000004	300002681	n.a.		
37	RF-cable set	R&S	N/A	300002681	n.a.		
39	IEEE-cables	R&S	N/A	300002681	n.a.		
40	Sampling System FSIQ-B70	R&S	835355/009	300002681	s.No.7		
41	RSP programmable attenuator	R&S	834500/010	300002681-0007	26.08.2008	24	26.08.2010
42	Signalling Unit	R&S	838312/011	300002681	n.a.		
43	NGPE programmable Power Supply for EUT	R&S	192.033.41	300002681			
44	Power Splitter 6005-3	Inmet Corp.	none	300002841	n.a.		
45	SMA Cables SPS-1151-985-SPS	Insulated Wire	different	different	n.a.		
46	CBT32 with EDR Signaling Unit	R&S					

47	Coupling unit	Narda	N/A	--	n.a.		
48	2xSwitch Matrix PSU	R&S	872584/021	300001329	n.a.		
49	RF-cable set	R&S	N/A	different	n.a.		
50	IEEE-cables	R&S	N/A	--	n.a.		

Note: 3000002681-00xx inventoried as a system

SRD Laboratory Room 005:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Spektrum Analyzer 8566B	HP	2747A05275	300000219	18.01.2008	24	18.01.2010
2	Spektrum Analyzer Display 85662A	HP	2816A16497	300001690	23.01.2008	24	23.01.2010
3	Quasi-Peak-Adapter 85650A	HP	2811A01135	300000216	23.01.2008	24	23.01.2010
4	Power Supply	Heiden	003202	300001187	12.05.2007	36	12.05.2010
5	Power Supply	Heiden	1701	300001392	12.05.2007	36	12.05.2010

SRD Laboratory Room 011:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	NRP Power Meter	R&S	100212	300003780	27.02.2008	24	27.02.2010

Anechoic chamber F:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Control Computer	F+W	FW0502032	300003303	-/-	-/-	-/-
2	Trilog Antenna VULB 9163	Schwarzbeck	295	300003787	01.04.2008	24	01.04.2010
3	Amplifier - 0518C-138	Veritech Micro-wave Inc.	-/-	-/-	-/-	-/-	-/-
4	Switch - 3488A	HP		300000368	-/-	-/-	-/-
5	EMI Test receiver - ESCI	R&S	100083	300003312	01.06.2009	24	01.06.2011
6	Turntable Controller - 1061 3M	EMCO	1218	300000661	-/-	-/-	-/-
7	Tower Controller 1051 Controller	EMCO	1262	300000625	-/-	-/-	-/-
8	Tower - 1051	EMCO	1262	300000625	-/-	-/-	-/-
10	Ultra Notch-Filter Rejected band Ch. 62	WRCD	9	-/-	-/-	-/-	-/-

C.BER Bluetooth Rack Room AC2:

No	Equipment/Type	Manuf.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	System Controller with XP Prof. & C.BER Control Software	F&W	300003580	na		
2	GPIB to USB Converter	Agilent	300003426	na		
3	Spectrum Analyser FSIQ26	R&S	300002681-005	10.01.2008	24	10.01.2010
	Sampling System FSIQ-B70	R&S	300002681-005	s.No.3		
	Tracking Generator FSIQ-B10 for FSIQ26	R&S	300002681-005	s.No.3		
4	RF-Generator SMIQ03 (Interferer Signal)	R&S	300002681-001	25.08.2008	36	25.08.2011
	Modulation Coder SMIQ-B20	R&S	300002681-001	s.No.4		
	Data Generator SMIQ-B11	R&S	300002681-001	s.No.4		
	RF Rear Connection SMIQ-B19	R&S	300002681-001	s.No.4		
	Fast CPU SM-B50	R&S	300002681-001	s.No.4		
	FM Modulator SM-B5	R&S	300002681-001	s.No.4		
5	Rubidium Standard RUB	R&S	300002681-009	27.08.2008	24	27.08.2010
6	Switching Unit 3488A including 2 44476A cards	HP	300000926	Verified with path compensation		
	44472A VHF switch	HP	300000926	Verified with path compensation		
7	Signalling Unit: CBT with EDR	R&S	300003416	27.08.2008	24	27.08.2010
8	RF-cable set	different	no	Verified with path compensation		
9	IEEE-cables	R&S	no	na		
10	NGPE programmable Power Supply for EUT	R&S	400000078	27.08.2008	24	27.08.2010
11	Coupling Unit 4324-2	Narda	no	Verified with path compensation		
12	Climatic Chamber VT4002	Voetch	300003019	28.05.2009	24	28.05.2011
13	6 dB Attenuator 1W	Narda	no	Verified with path compensation		
14	DCBlocker 30 MHz to 12.75 GHz 1W	Narda	no	Verified with path compensation		

7 Photographs of the Test Set-up

Photo documentation:

Photo No. 1:

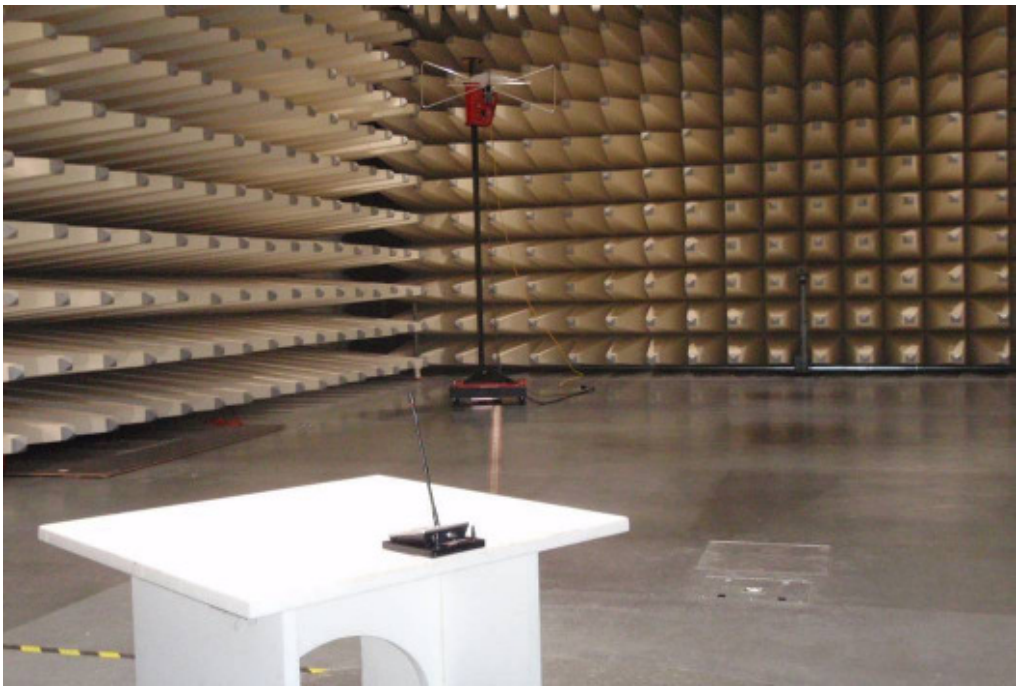


Photo No. 2:

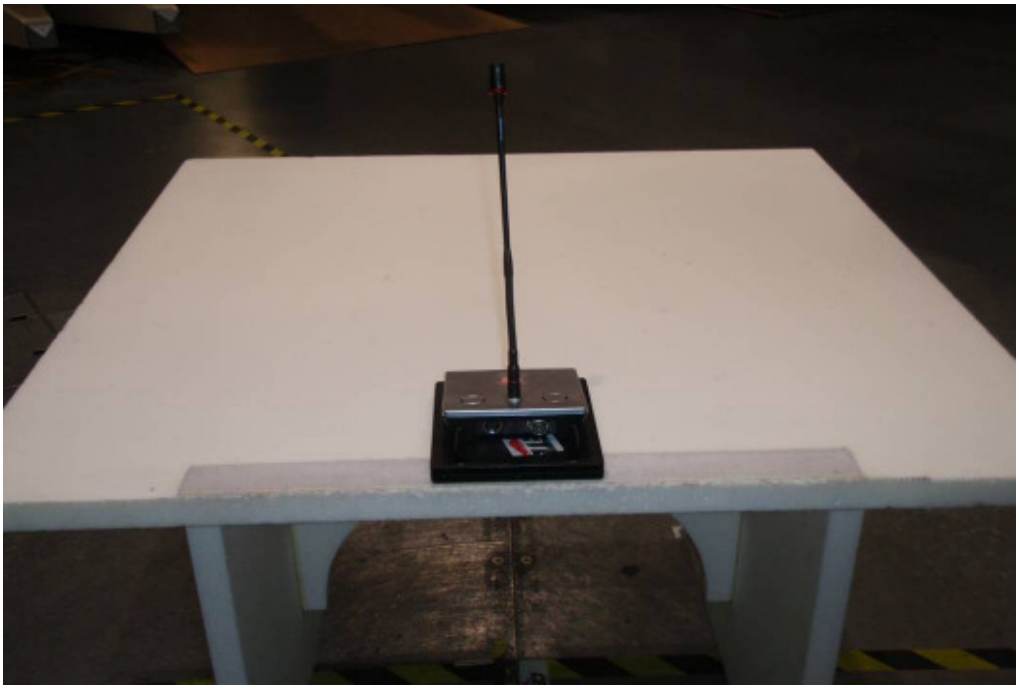


Photo No. 3:

8 Photographs of the EUT

Photo documentation:

Photo No. 1: DDoc (EUT) + DMic (additional equipment)

Photo No. 2: DDoc (EUT)

Photo No. 3: DDoc (EUT)

Photo No. 4: DDoc (EUT)

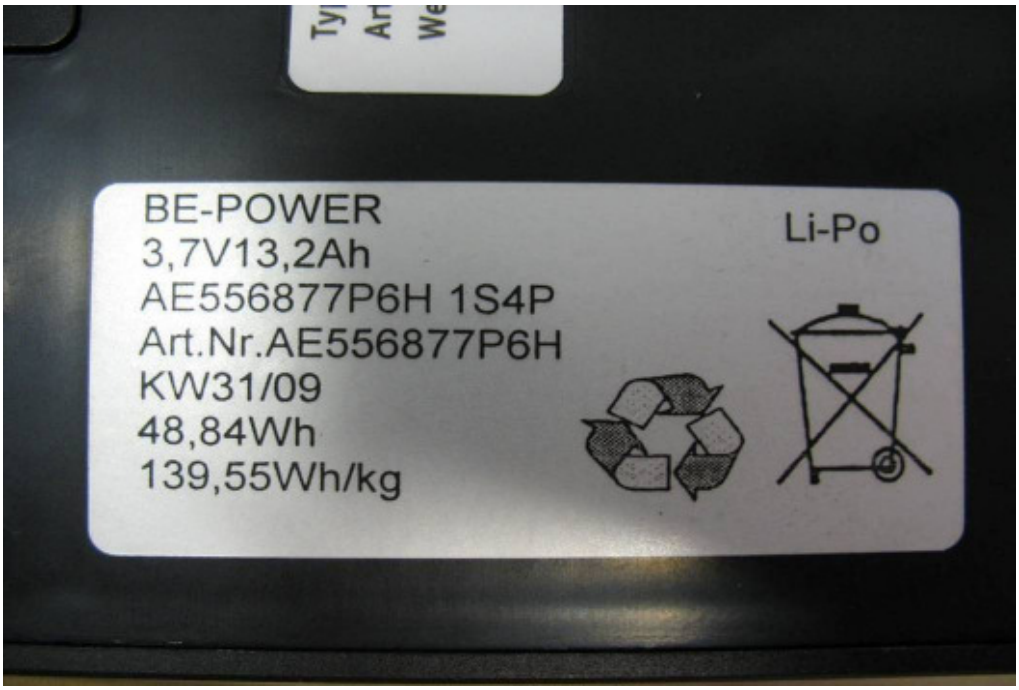


Photo No. 5: DDoc - EUT

Photo No. 6: DDoc (EUT)

Photo No. 7: DDoc (EUT)

Photo No. 8: DDoc (EUT)

Photo No.9: DDoc (EUT)

Photo No. 10: DDoc (EUT)

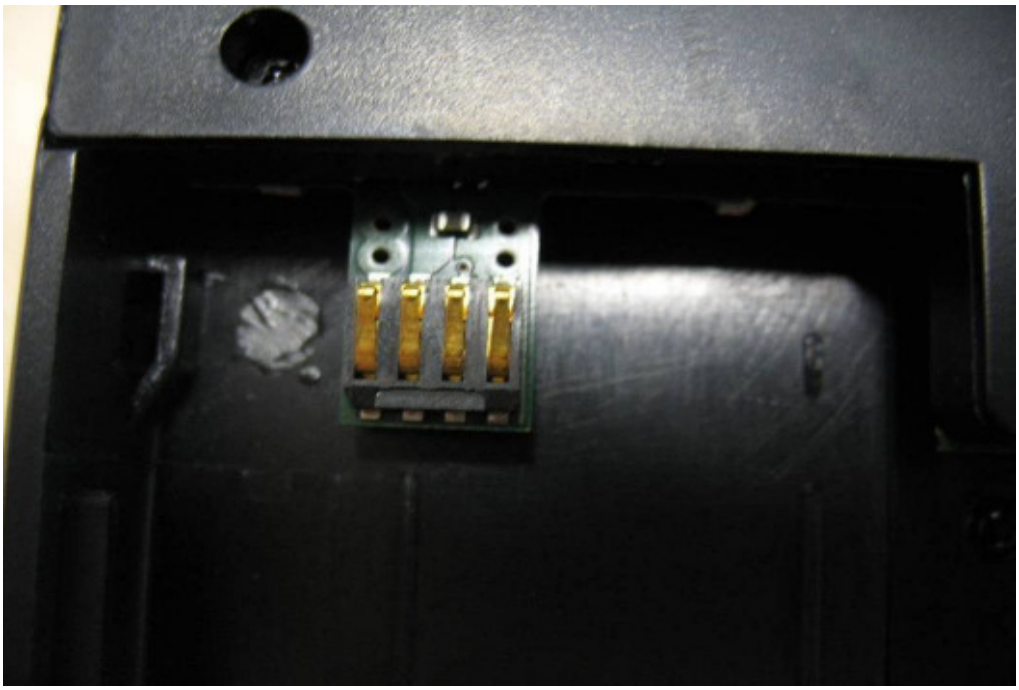


Photo No. 11: battery pack

Photo No. 12: battery pack

Photo No. 13: battery pack

Photo No. 14: DMic – additional equipment

Photo No. 15: DMic – additional equipment

Photo No. 16: DMic – additional equipment

Photo No. 17: microphone

Photo No. 18: microphone

Photo No. 19: microphone

Photo No. 20: DDoc (internal photos)

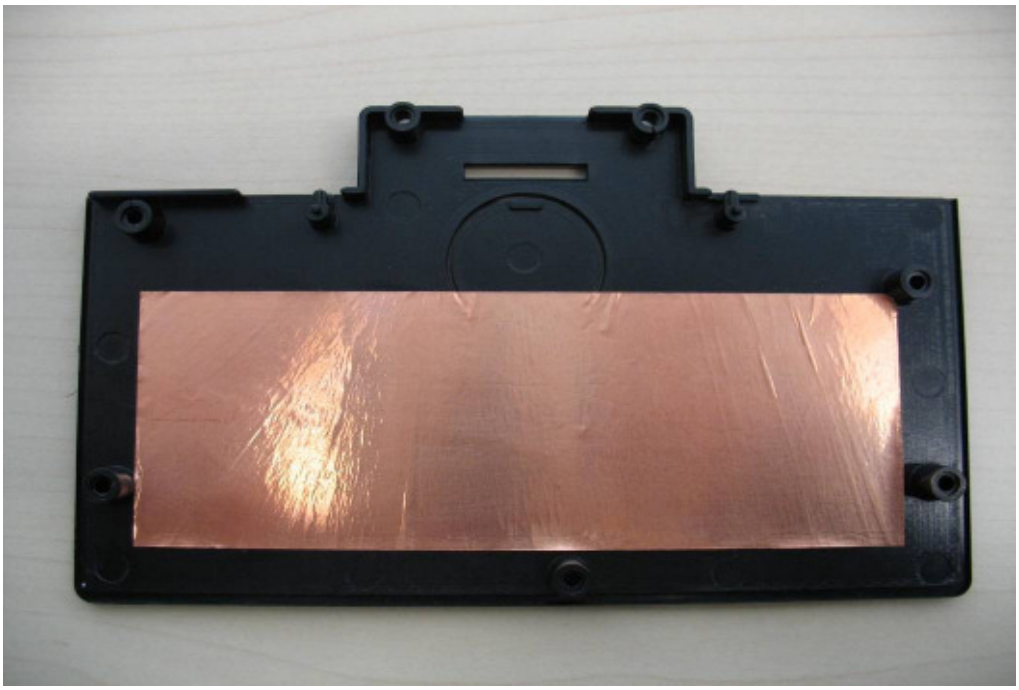


Photo No. 21: DDoc (internal photos)

Photo No. 22: DDoc (internal photos)

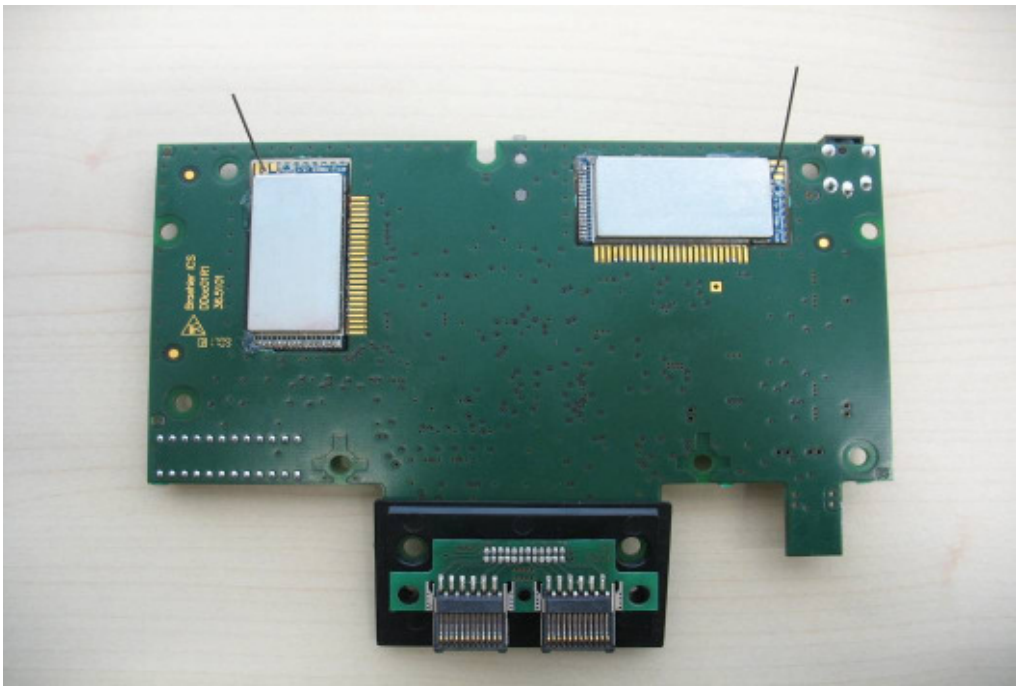


Photo No. 23: DDoc (internal photos)

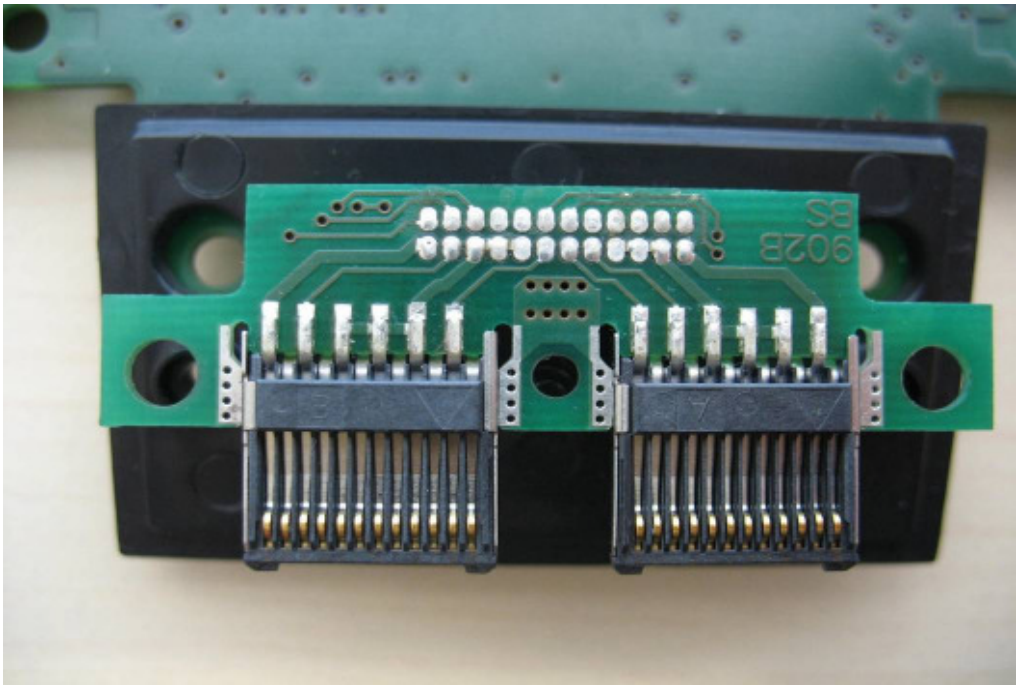


Photo No. 24: DDoc (internal photos)

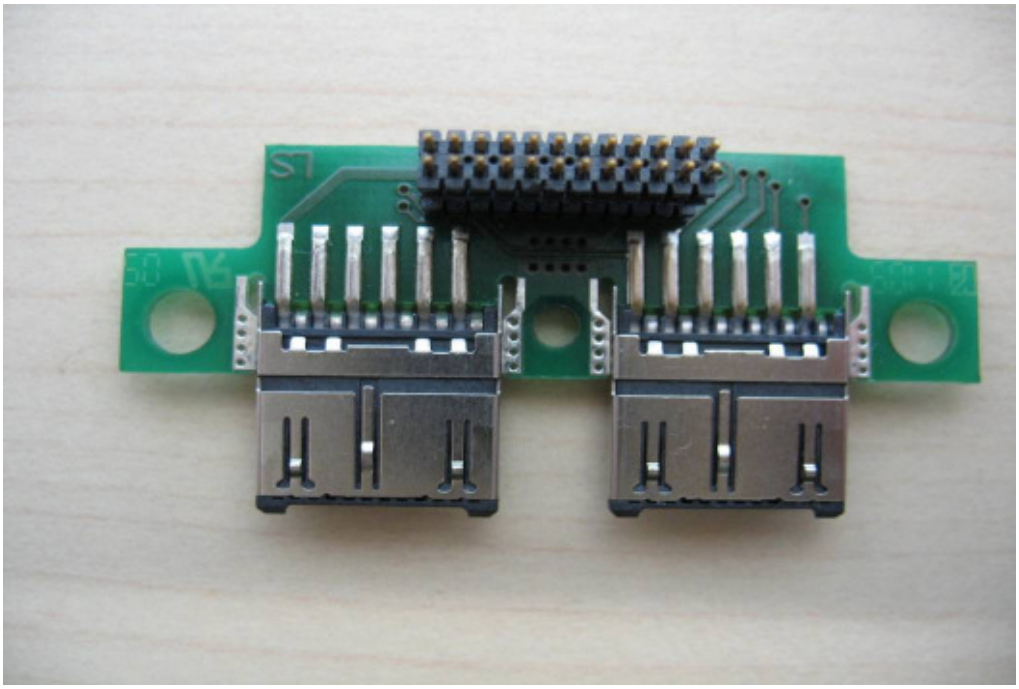


Photo No. 25: DDoc (internal photos)

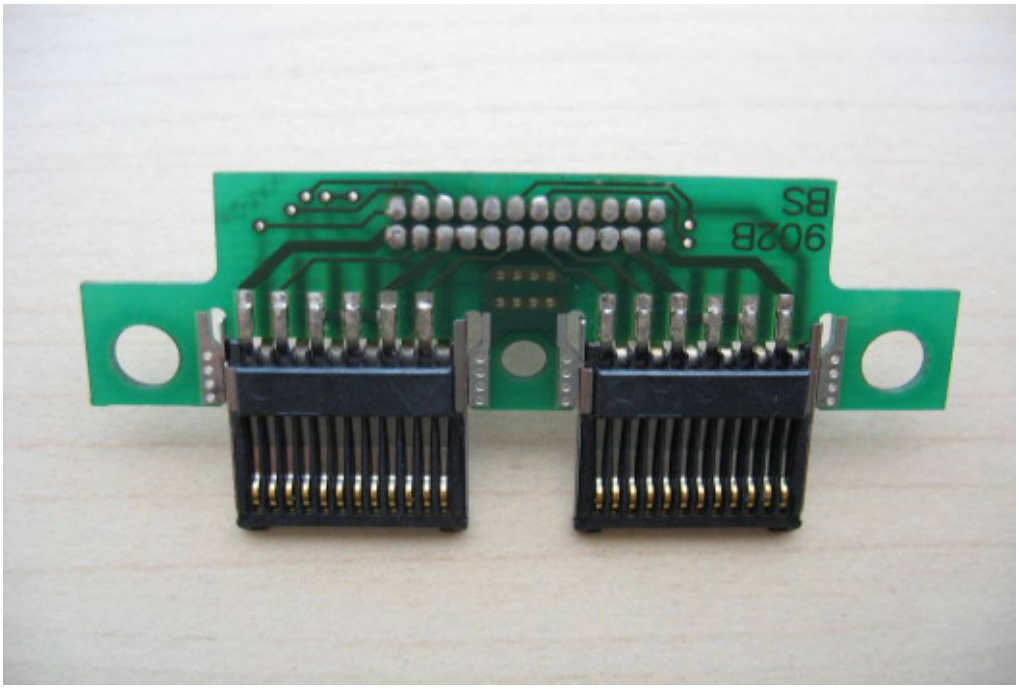


Photo No. 26: DDoc (internal photos)

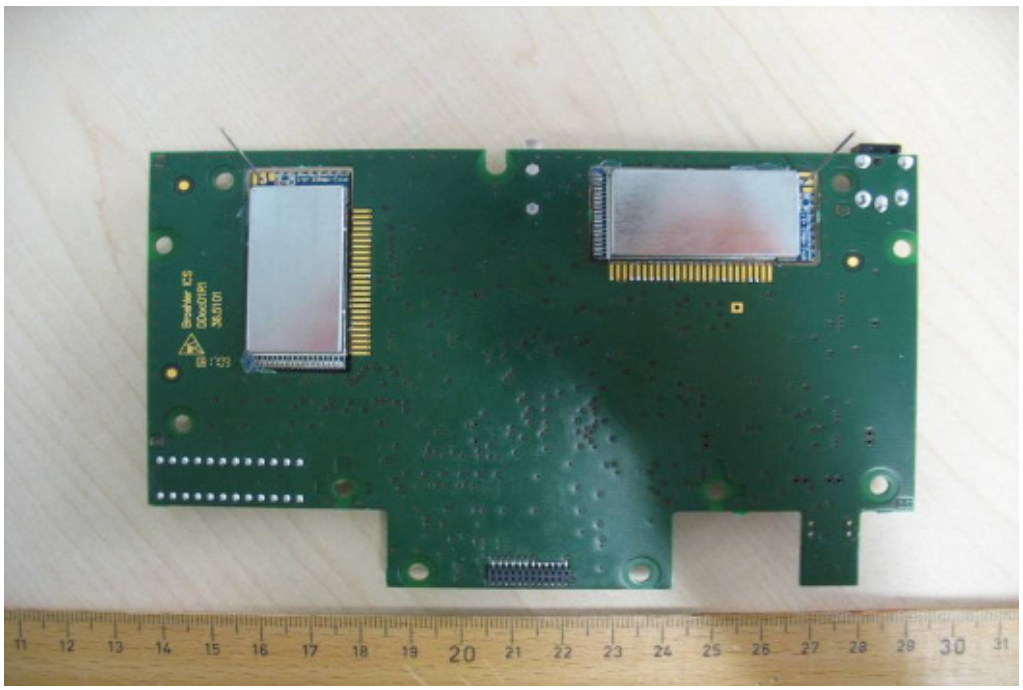


Photo No. 27: DDoc (internal photos)

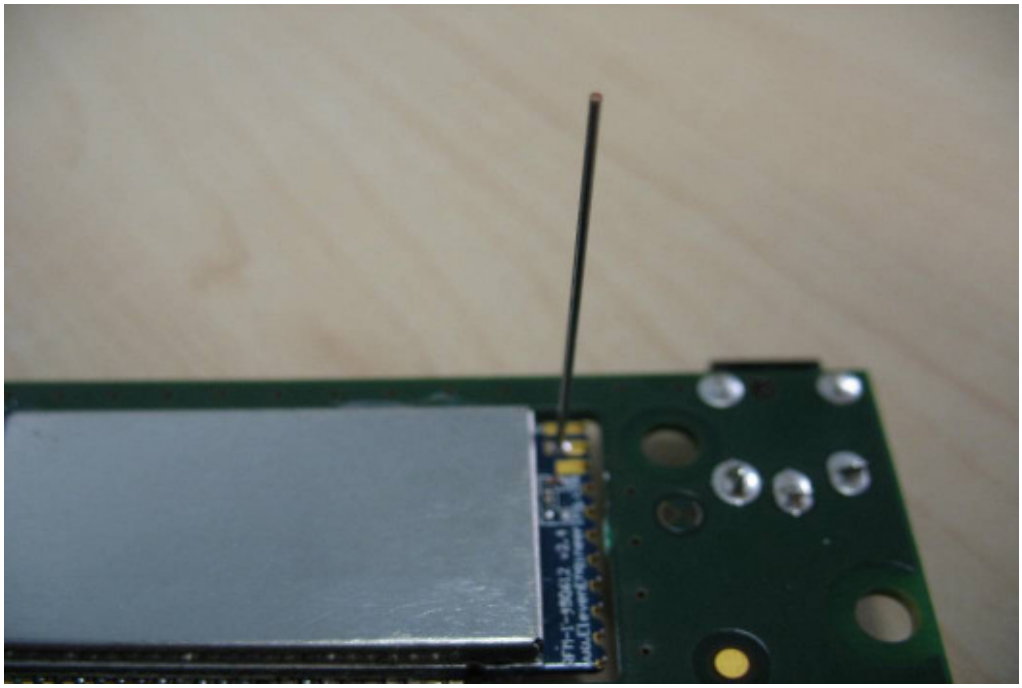


Photo No. 28: DDoc (internal photos)

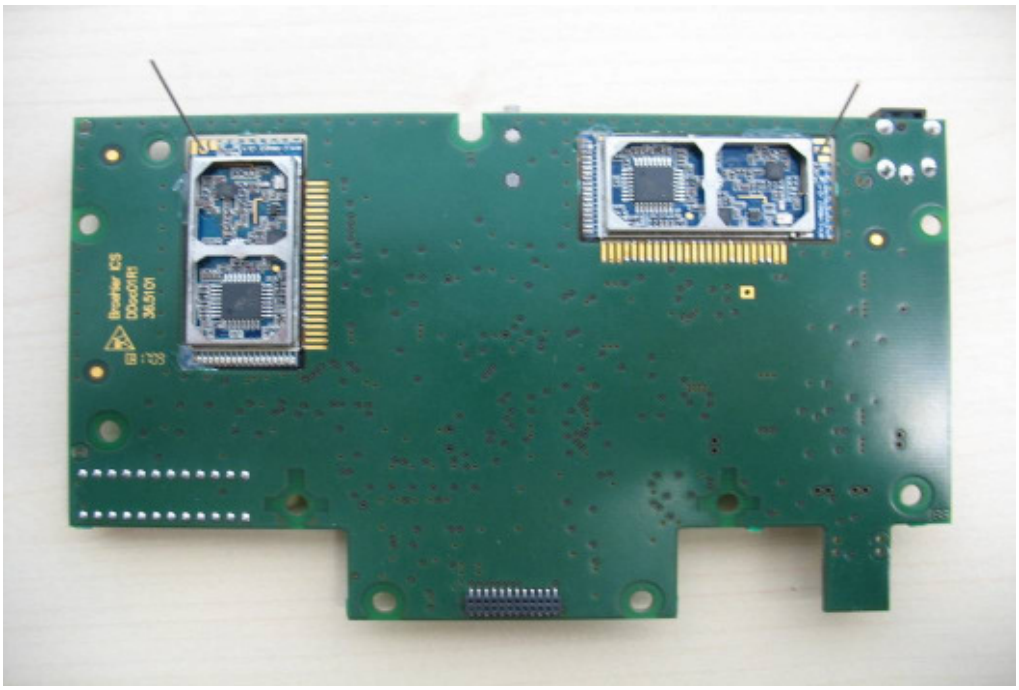


Photo No. 29: DDoc (internal photos), module 1 - RX

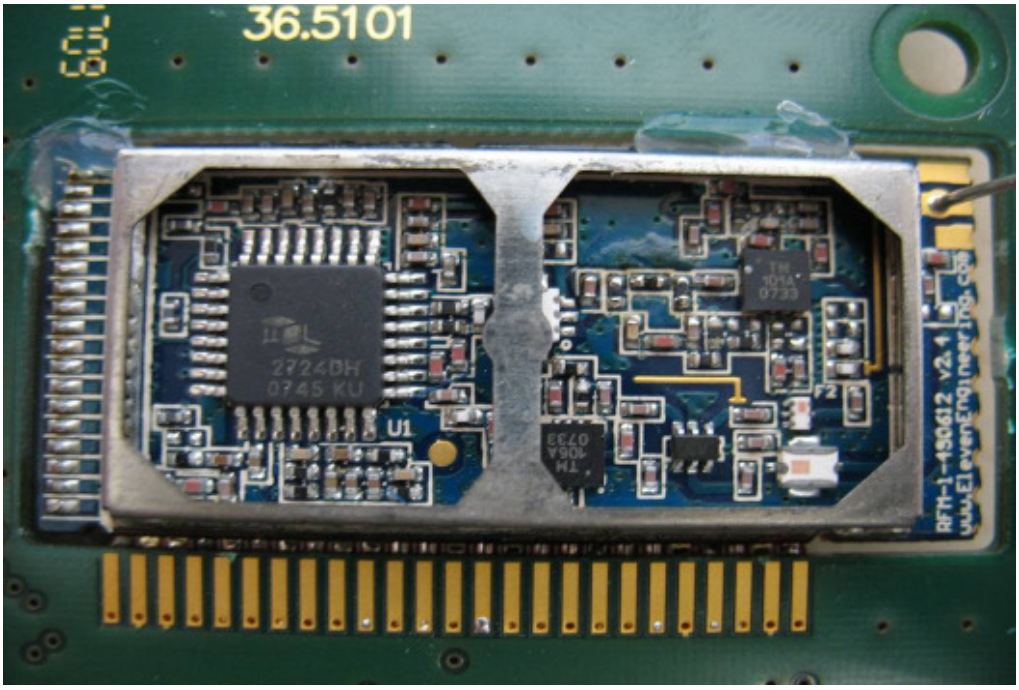


Photo No. 30: DDoc (internal photos), module 2 – TX

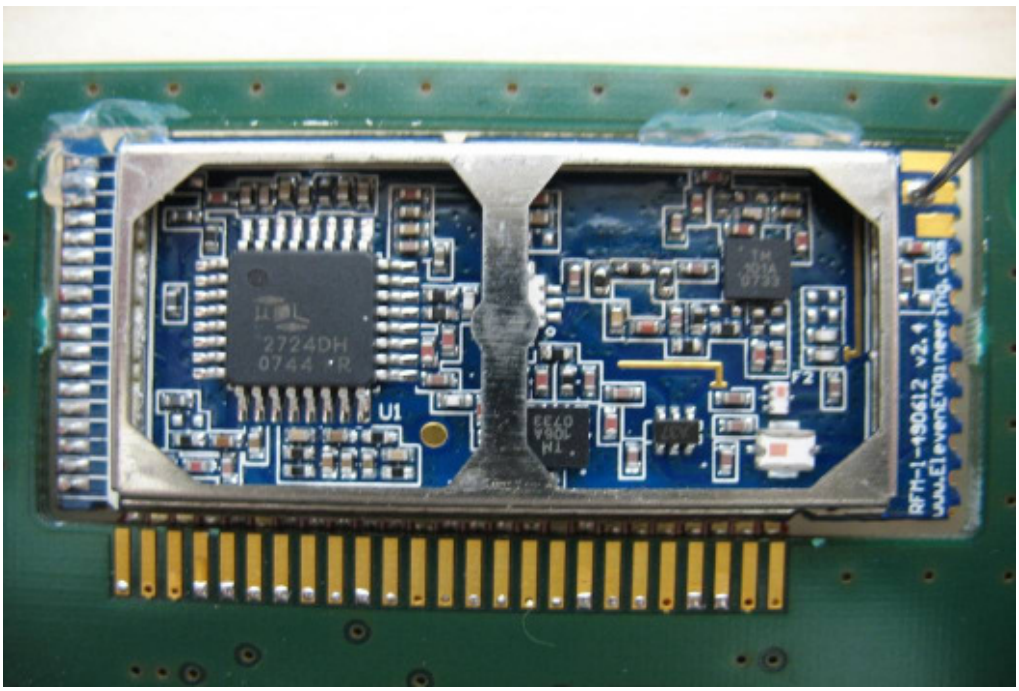


Photo No. 31: DDoc (internal photos)

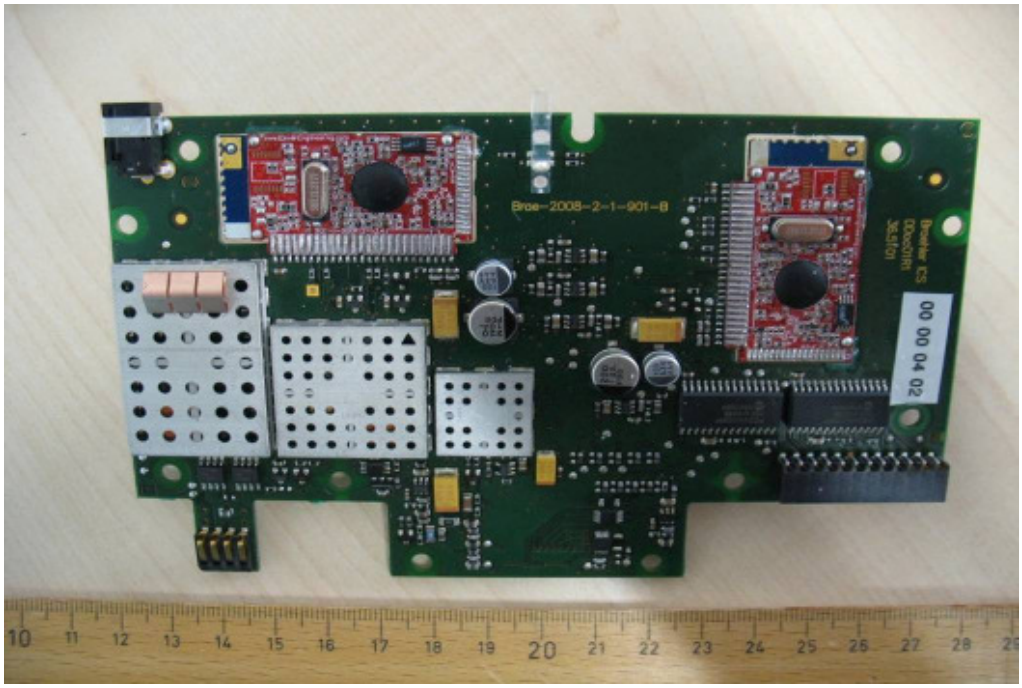


Photo No. 32: DDoc (internal photos)

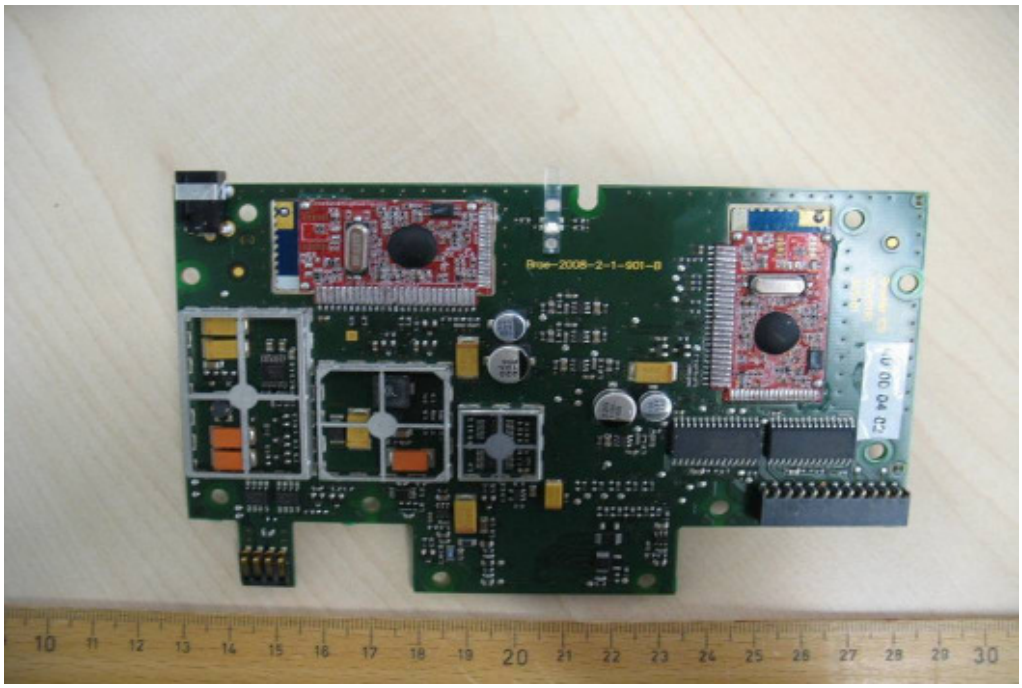


Photo No. 33: DDoc (internal photos)

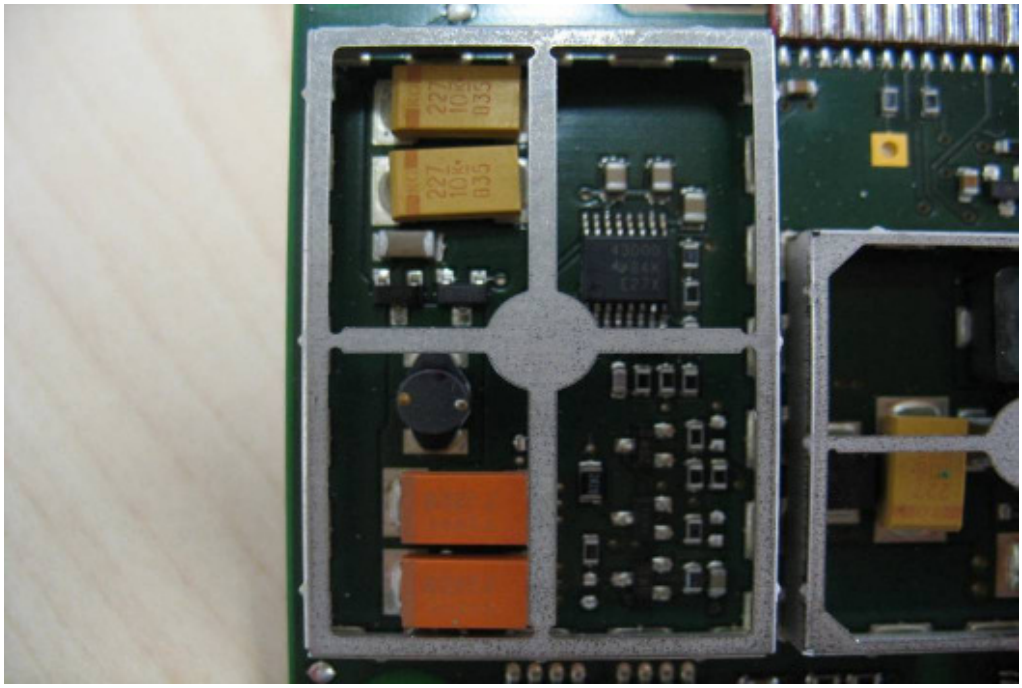


Photo No. 34: DDoc (internal photos)

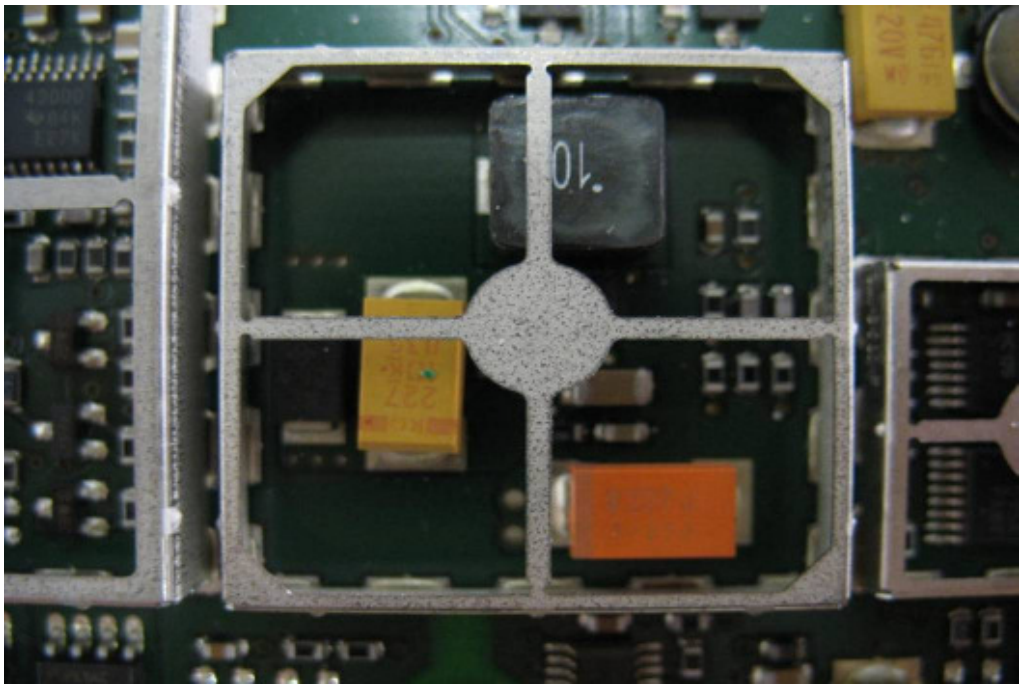


Photo No. 35: DDoc (internal photos)

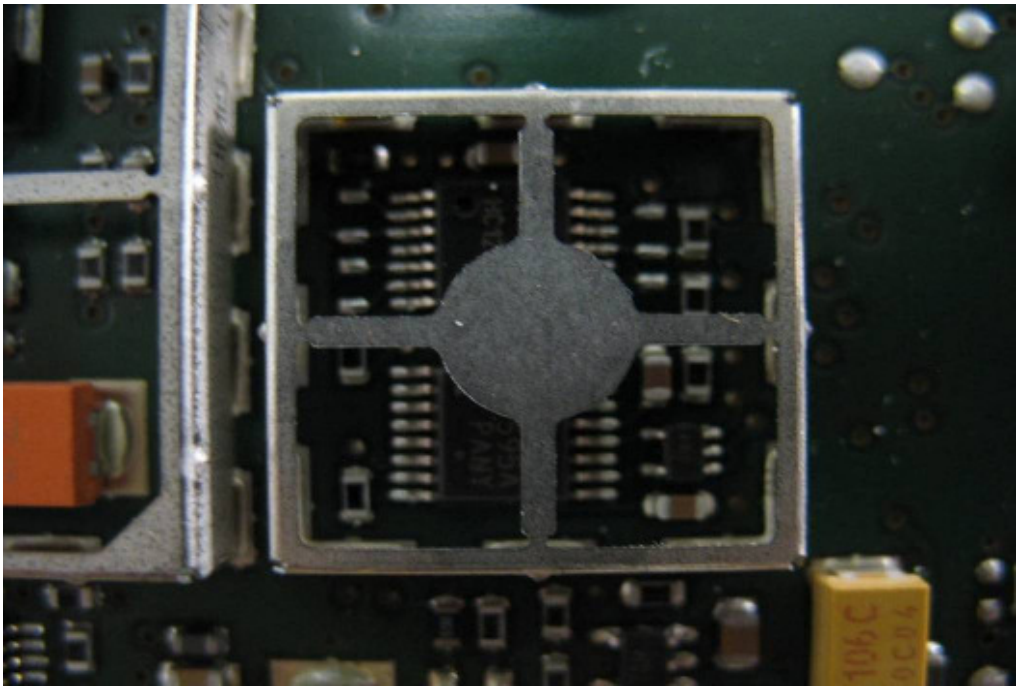


Photo No. 36: DMic (internal photos)

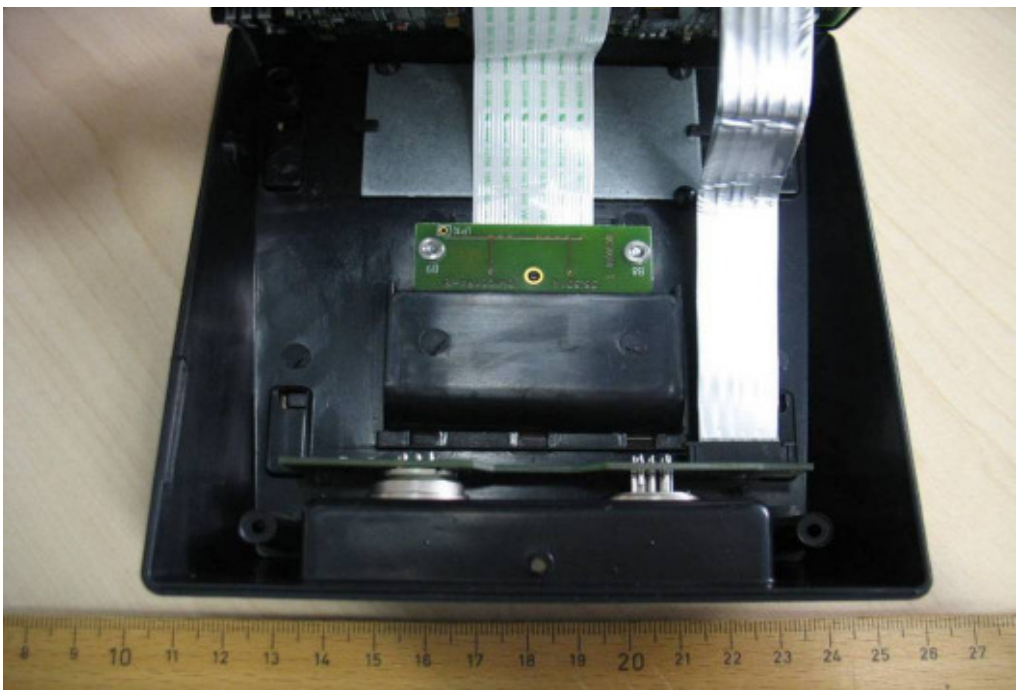


Photo No. 37: DMic (internal photos)