

TEST REPORT

Test report no.: 1-6117/13-01-02



Deutsche
Akkreditierungsstelle
D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH

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Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS)

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01

Area of Testing: Radio/Satellite Communications

Applicant

Microtronic AG

Dünnernstrasse 32

4702 Oensingen / SWITZERLAND

Fax: +41 62 388 45 55

Contact: Csaba Schulz

e-mail: c.schulz@microtronic.ch

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Manufacturer

Microtronic AG

Dünnernstrasse 32

4702 Oensingen / SWITZERLAND

Test standard/s

47 CFR 15

Title 47 of the Code of Federal Regulations; Chapter I

Part 15 - Radio frequency devices

RSS - 210 Issue 8

Spectrum Management and Telecommunications - Radio Standards Specification
Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands):
Category I Equipment

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item: Desktop Loading Station

Model name: Desktop Loading Station

FCC ID: 2AAET2690003

IC: 11134A-2690003

Frequency: 13.56 MHz

Technology tested: RFID

Antenna: Internal PCB antenna

Power supply: 5.0V DC by Power Mains

Temperature range: -20°C to +55°C



This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorised:

Christoph Schneider
Expert

Test performed:

Andreas Luckenbill
Expert

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2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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2.2 Application details

Date of receipt of order:	2013-04-03
Date of receipt of test item:	2013-07-03
Start of test:	2013-07-03
End of test:	2013-07-22
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR 15	01.10.2012	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	01.12.2010	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

4 Test environment

Temperature:	Tnom	+22 °C during room temperature tests
	Tmax	+55 °C during high temperature tests
	Tmin	-20 °C during low temperature tests
Relative humidity content:		52 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	Vnom	5.0 V DC by Power Mains
	Vmax	5.2 V
	Vmin	4.8 V

5 Test item

Kind of test item	:	Desktop Loading Station
Type identification	:	Desktop Loading Station
S/N serial number	:	Rad. 20130500216
HW hardware status	:	Version 2
SW software status	:	G6AT71AM046
Firmware Version	:	R01.00.01-4845
Frequency band [MHz]	:	13.56 MHz
Type of radio transmission	:	Modulated carrier
Use of frequency spectrum	:	
Number of channels	:	1
Antenna	:	Internal PCB antenna
Power supply	:	5.0 V DC by Power Mains
Temperature range	:	-20°C to +55°C

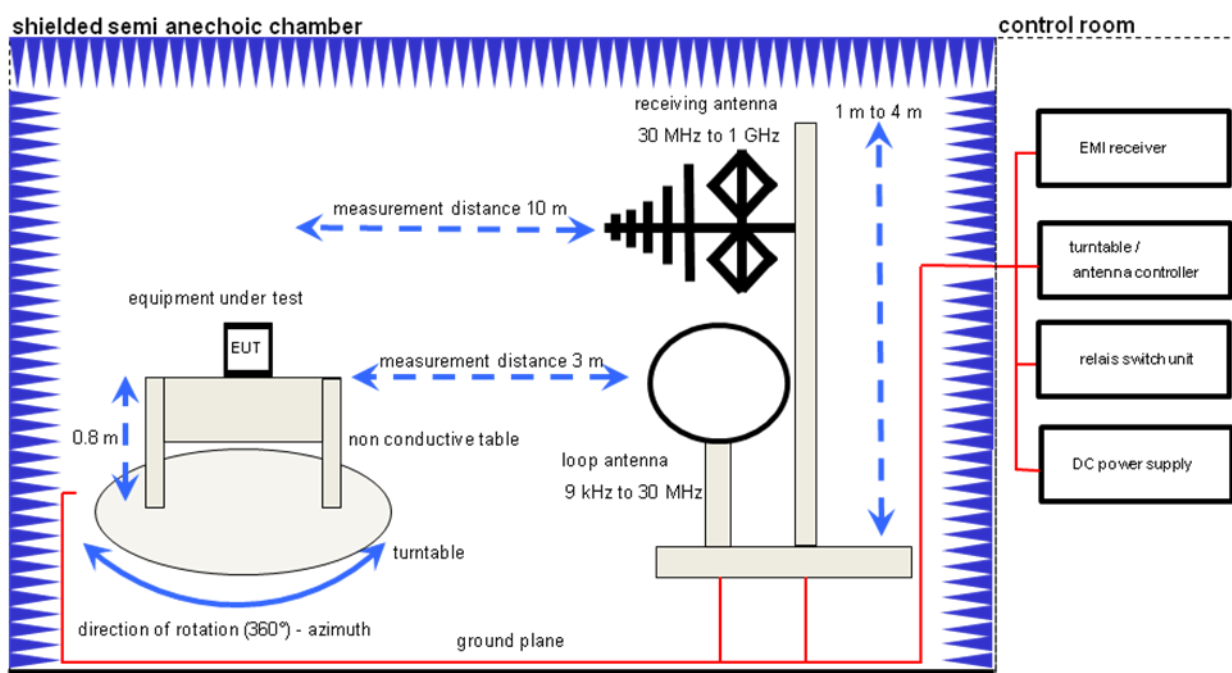
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements

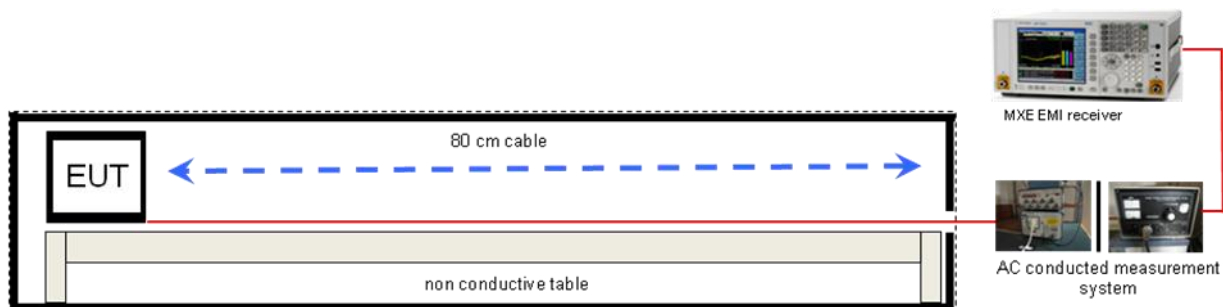
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63. 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.



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745
Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746
Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747
TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787
Test Receiver	ESH2	R&S	871921/095	300002505
Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824
EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059

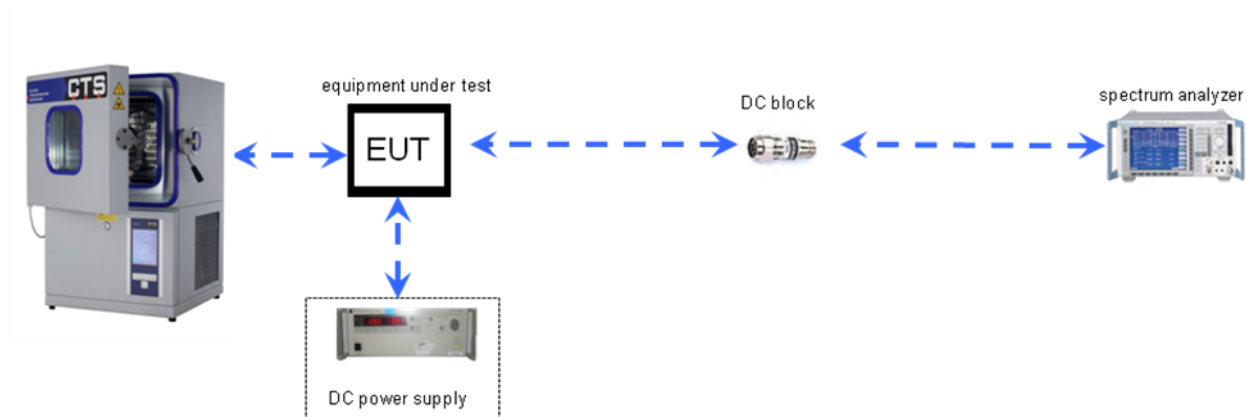
7.2 AC conducted



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
Isolating Transformer	MPL IEC625 Bus Regeltrenntravo	Erfi	91350	300001155
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001168
Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210

7.3 Conducted measurements



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
DC Power Supply 0 – 32V	1108-32	Heiden	001802	300001383
Temperature Test Chamber	T-40/50	CTS GmbH	064023	300003540
Spectrum Analyzer 20 Hz - 50 GHz	FSU50	R&S	200012	300003443

8 Summary of measurement results



No deviations from the technical specifications were ascertained



There were deviations from the technical specifications ascertained

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15 RSS 210, Issue 8, Annex 2.6	Passed	2013-09-11	-/-

Test Specification Clause	Test Case	Temperature Conditions	Power Source Voltages	Pass	Fail	NA	NP	Remark
§ 15.35 (c)/ RSS-GEN Issue 3	Timing of the transmitter (Duty cycle correction factor)	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
RSS-GEN Issue 3	99 % emission bandwidth	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.225 (a)/ RSS-210 Issue 8 Annex 2.6	Fieldstrength of Fundamental	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.209/ RSS-210 Issue 8 Annex 2.6	Fieldstrength of harmonics and spurious	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§ 15.225 (e)/ RSS-210 Issue 8 Annex 2.6	Frequency tolerance	Nominal	Extreme	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
		Extreme	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
§15.107	Conducted emissions < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies

Note: NA = Not Applicable; NP = Not Performed

9 Additional comments

Reference documents: None

Special test descriptions: None

Configuration descriptions: None

10 RSP100 test report cover sheet / performance test data

Test Report Number	:	1-6117/13-01-02
Equipment Model Number	:	Desktop Loading Station
Certification Number	:	11134A-2690003
Manufacturer (complete Address)	:	Microtronic AG Dünnernstrasse 32 4702 Oensingen / SWITZERLAND
Tested to radio standards specification no.	:	RSS 210, Issue 8, A2.6
Open Area Test Site IC No.	:	IC 3462C-1
Frequency Range or fixed frequency	:	13.56 MHz
Field Strength [dBµV/m] (at which distance)	:	68.5 dBµV @ 10 m
Occupied bandwidth (99%-BW) [kHz]	:	833.7 kHz
Type of modulation	:	N0N
Emission Designator (TRC-43)	:	834KN0N
Antenna Information	:	Integrated loop antenna
Transmitter Spurious (worst case) [dBµV/m @ 10m]	:	29.9 dBµV/m @ 40.7 MHz QPeak

ATTESTATION:**DECLARATION OF COMPLIANCE:**

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

Laboratory Manager:

2013-09-11	Andreas Luckenbill	
Date	Name	Signature

11 Measurement results

11.1 Timing of the transmitter

Measurement:

Measurement parameter	
Detector:	Positive peak
Sweep time:	100 ms
Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Span:	Zero span
Trace-Mode:	Single sweep

Limits:

FCC	IC
Timing of the transmitter	
(c) Unless otherwise specified, e.g. Section 15.255(b), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.	

Duty Cycle: 100%

Result: **passed**

11.2 Field strength of the fundamental

Measurement:

Measurement parameter	
Detector:	Quasi Peak
Resolution bandwidth:	200 Hz up to 150 kHz, 9 kHz up to 30 MHz, 120 kHz up to 1 GHz
Video bandwidth:	≥ RBW
Trace-Mode:	Max Hold

Limits:

FCC		IC
Fundamental Frequency (MHz)	Field strength of Fundamental ($\mu\text{V/m}$ / $\text{dB}\mu\text{V/m}$)	Measurement distance (m)
13.553 to 13.567	15848 $\mu\text{V/m}$ (84 $\text{dB}\mu\text{V/m}$)	30
	158489 $\mu\text{V/m}$ (104 $\text{dB}\mu\text{V/m}$)	10 (Recalculated acc. to FCC part15.31 (f2))

Result:

TEST CONDITIONS		MAXIMUM POWER ($\text{dB}\mu\text{V/m}$)	
Frequency		13.56 MHz	13.56 MHz
Mode		at 10 m distance	at 30 m distance
T_{nom}	V_{nom}	68.5 $\text{dB}\mu\text{V}$	48.5 $\text{dB}\mu\text{V}$ *
Measurement uncertainty		$\pm 3\text{dB}$	

* Limits recalculated from 10m to 30m with 40 dB/decade according to FCC 15.31 (f2).

Result: passed

11.3 99 % emission bandwidth

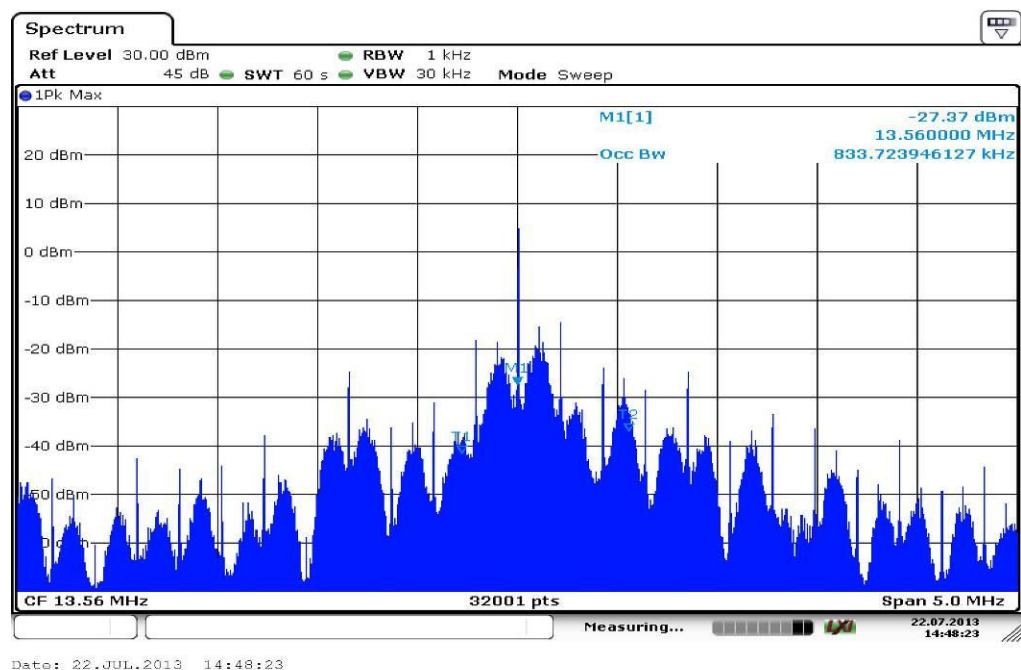
Measurement:

Measurement parameter	
Detector:	Peak
Resolution bandwidth:	> 1 % span
Video bandwidth:	≥ RBW
Trace-Mode:	Max Hold

Results:

TEST CONDITIONS		99 % emission bandwidth
Frequency		13.56 MHz
T _{nom}	V _{nom}	833.7 kHz
Measurement uncertainty		± RBW

Plot:



11.4 Field strength of the harmonics and spurious

Measurement:

Measurement parameter	
Detector:	Quasi Peak / Average
Sweep time:	Auto
Resolution bandwidth:	120 kHz
Video bandwidth:	300 kHz
Span:	See plots!
Trace-Mode:	Max hold

Limits:

FCC		IC
Field strength of the harmonics and spurious.		
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	30 (29.5 dBμV/m)	30
30 – 88	100 (40 dBμV/m)	3
88 – 216	150 (43.5 dBμV/m)	3
216 – 960	200 (46 dBμV/m)	3

Result

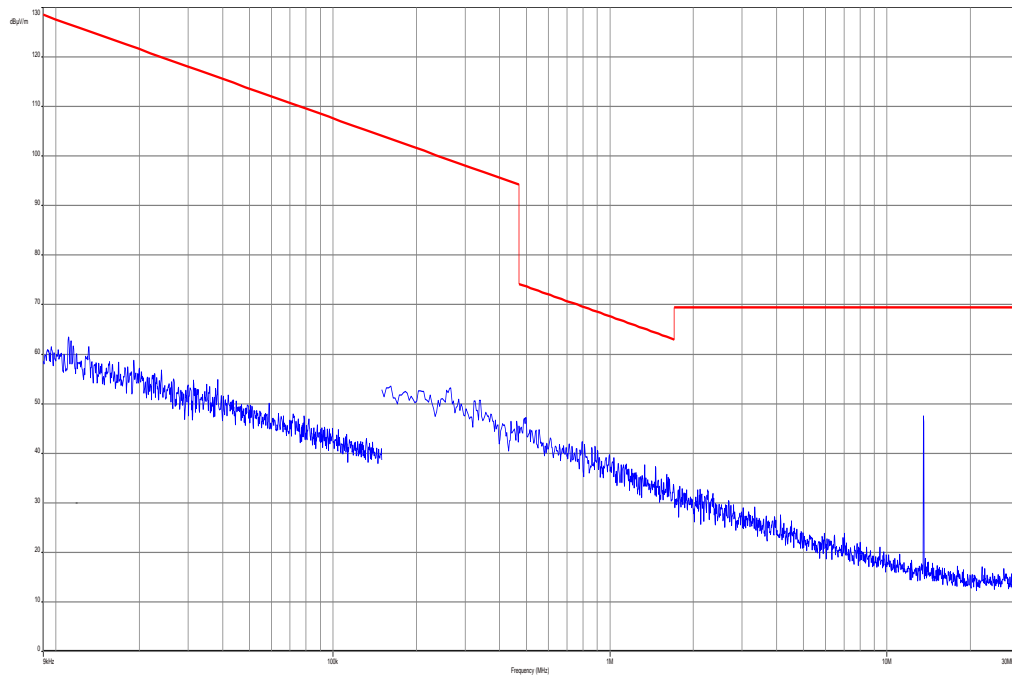
Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
40.685550	29.9	1000.0	120.000	106.0	V	305.0	13.4	0.1	30.0	
67.820700	26.0	1000.0	120.000	206.0	V	313.0	9.8	4.0	30.0	
176.325600	26.1	1000.0	120.000	100.0	V	47.0	10.2	7.4	33.5	
203.457900	27.0	1000.0	120.000	100.0	V	3.0	11.8	6.5	33.5	
488.305050	29.1	1000.0	120.000	200.0	H	265.0	18.5	6.9	36.0	
637.531650	29.4	1000.0	120.000	161.0	H	248.0	21.0	6.6	36.0	

Result: passed

Plots of the measurements

Plot 1: 9 kHz – 30 MHz; Part 15.209 Magnetics, Measurement distance 3m

Transmit frequency 13.56 MHz



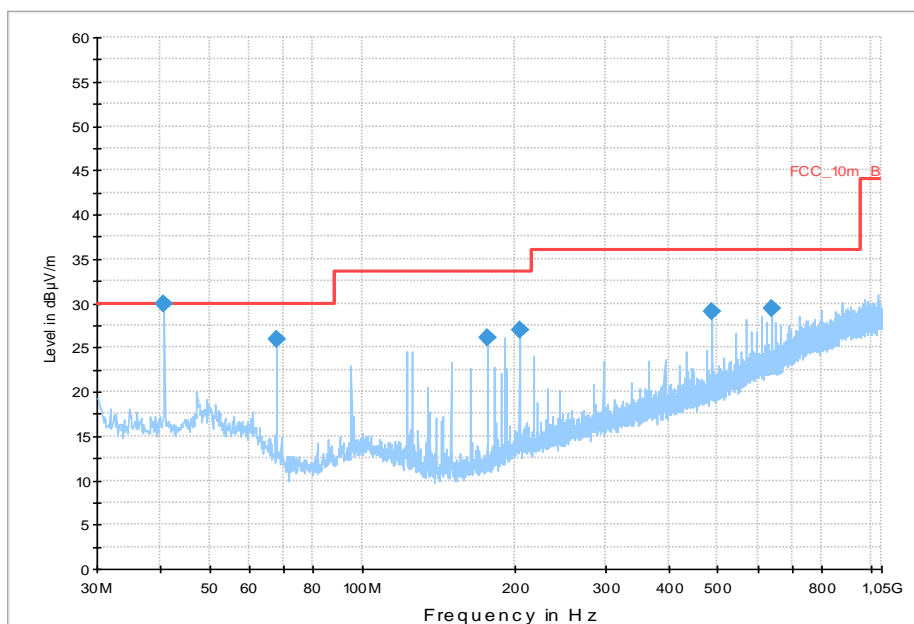
Plot 2: 30 MHz – 1000 MHz**Common Information**

EUT: TML6
 Serial Number: 20130500704
 Test Description: FCC part 15 B class B @ 10 m
 Operating Conditions: RFID active
 Operator Name: Hennemann
 Comment: AC 115 V / 60 Hz; Ferrite on power cable: WE 742 711 11

Scan Setup: STAN_Fin [EMI radiated]

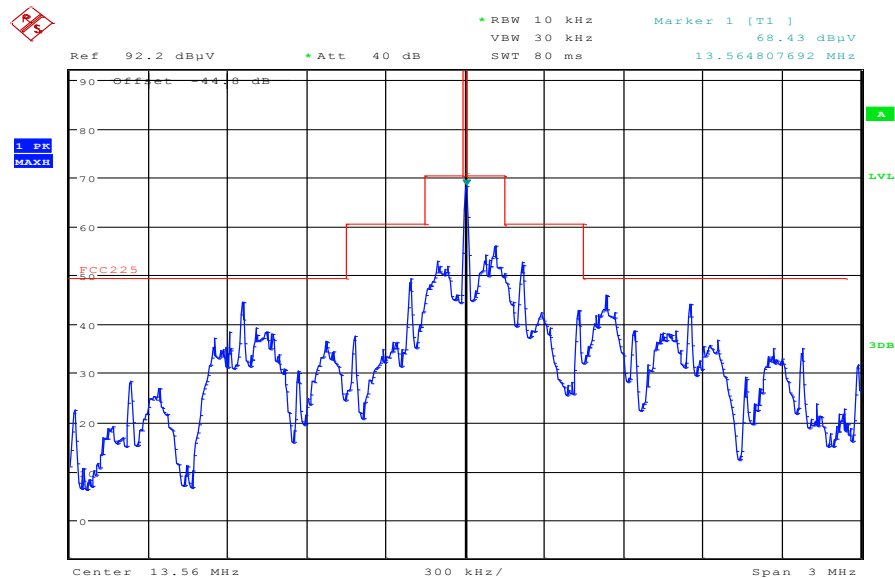
Hardware Setup: Electric Field (NOS)
 Receiver: [ESC1 3]
 Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Plot 3: Spectrum mask part 15.225 (a, b, c, d)

Limits recalculated from 30 m to 10 m with 40 dB/decade according to FCC 15.31 (f2)



Date: 22.JUL.2013 15:00:47

The transmitter holds the requirements of FCC 15.225 (a, b, c and d)

11.5 Frequency tolerance

Measurement:

Measurement parameter	
Detector:	Positive peak
Sweep time:	Auto
Resolution bandwidth:	10 Hz
Video bandwidth:	1 MHz
Span:	1 kHz
Trace-Mode:	Clear – write

Limits:

FCC	IC
The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.	

Result: **passed**

Frequency tolerance								
Over temperature variation			Over voltage variation					
Limit is +/- 1.356 kHz			Limit is +/- 1.356 kHz			-/-		
T (°C)]	Frequency	result	Power voltage	Frequency	result	F [MHz]	Detector	Level [µV/m]
-20°	13.560 MHz	Pass	98 V	13.560 MHz	Pass	-/-		
-10°	13.560 MHz	Pass	101 V	13.560 MHz	Pass			
0°	13.560 MHz	Pass	104 V	13.560 MHz	Pass			
10°	13.560 MHz	Pass	107 V	13.560 MHz	Pass			
20°	13.560 MHz	Pass	110 V	13.560 MHz	Pass			
30°	13.560 MHz	Pass	115 V	13.560 MHz	Pass			
40°	13.560 MHz	Pass	115 V	13.560 MHz	Pass			
50°	13.560 MHz	Pass	119 V	13.560 MHz	Pass			
55°	13.560 MHz	Pass	122 V	13.560 MHz	Pass			
			125 V	13.560 MHz	Pass			
			128 V	13.560 MHz	Pass			
			132 V	13.560 MHz	Pass			
Measurement uncertainty			±100 Hz					

11.6 AC line conducted

Measurement:

Measurement parameter	
Detector:	Peak / Quasi peak / Average
Sweep time:	Auto
Resolution bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Video bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace-Mode:	Max hold

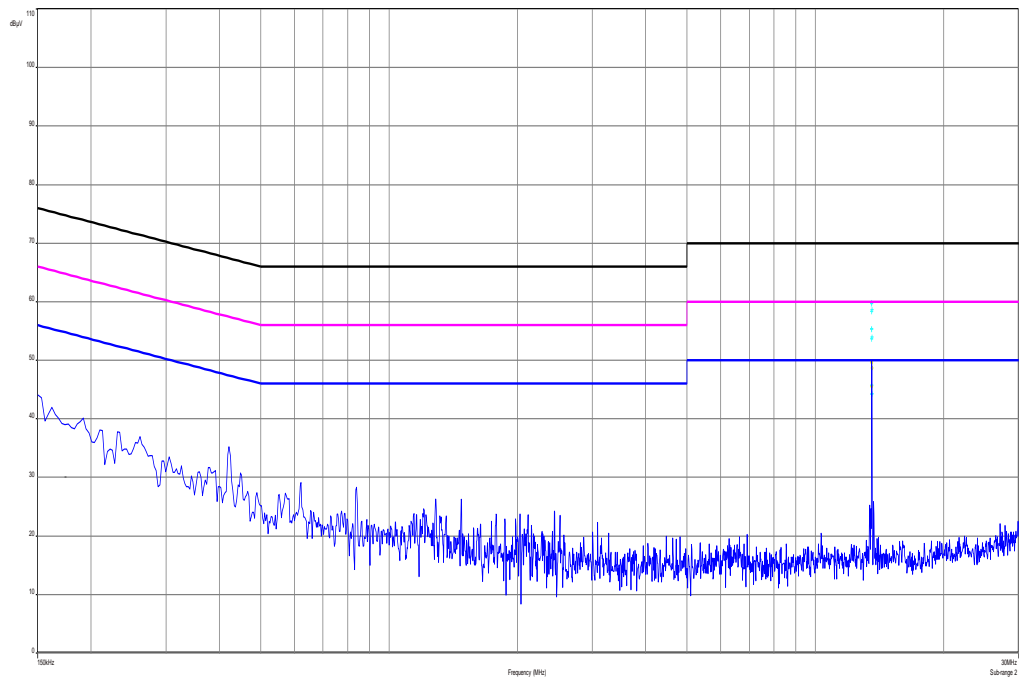
Limits:

FCC	IC	
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

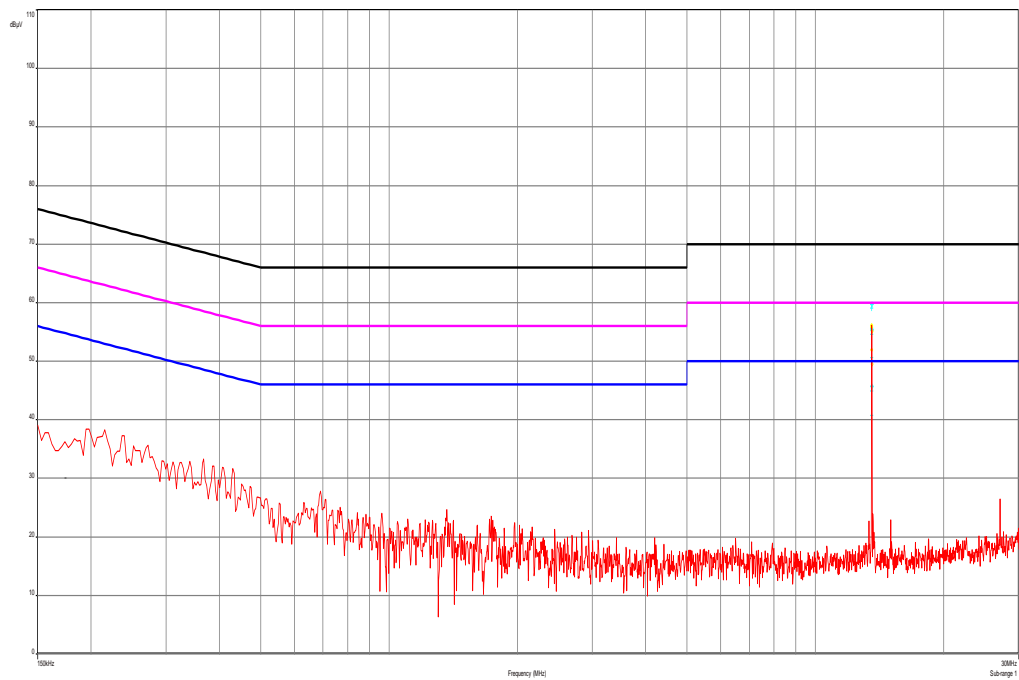
Result: **passed**

Plots:

Plot 1: phase line



Plot 2: neutral line



12 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Labor/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	08.05.2013	08.05.2015
2	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
3	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
4	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2012	06.01.2014
5	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001156	ne		
6	9	Isolating Transformer	MPL IEC625 Bus Regeltrennt ravo	Erfi	91350	300001155	ne		
7	n. a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
8	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
9	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
10	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vIKI!	14.10.2011	14.10.2014
11	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	21.02.2013	21.02.2014
12	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
13	50	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580	ne		
14	n. a.	software	SPS_PHE 1.4f	Spitzberger & Spieß	B5981; 5D1081; B5979	300000210	ne		
15	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	09.01.2013	09.01.2014
16	n. a.	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	14.07.2011	31.01.2014
17	n. a.	Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379	ev		
18	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
19	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
20	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
21	n. a.	TRILOG Broadband Test-Antenna	VULB9163	Schwarzbeck	295	300003787	k	12.04.2012	12.04.2014

		30 MHz - 3 GHz							
22	n. a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	16.01.2013	16.01.2014
23	n. a.	Temperature Test Chamber	VT 4002	Heraeus Voetsch	521/83761	300002326	Ve	20.09.2011	20.09.2013
24	n. a.	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	22.10.2012	22.10.2013
25	n. a.	Test Receiver	ESH2	R&S	871921/095	300002505	Ve	12.01.2012	12.01.2014
26	n. a.	Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824	vkI!	09.03.2012	09.03.2015

Agenda: Kind of Calibration

k calibration / calibrated
 ne not required (k, ev, izw, zw not required)
 ev periodic self verification
 Ve long-term stability recognized
 vkI! Attention: extended calibration interval
 NK! Attention: not calibrated

EK limited calibration
 zw cyclical maintenance (external cyclical maintenance)
 izw internal cyclical maintenance
 g blocked for accredited testing
 *) next calibration ordered / currently in progress

13 Observations

No observations exceeding those reported with the single test cases have been made.

Annex A Photographs of the test setup

Photo documentation:

Photo 1:

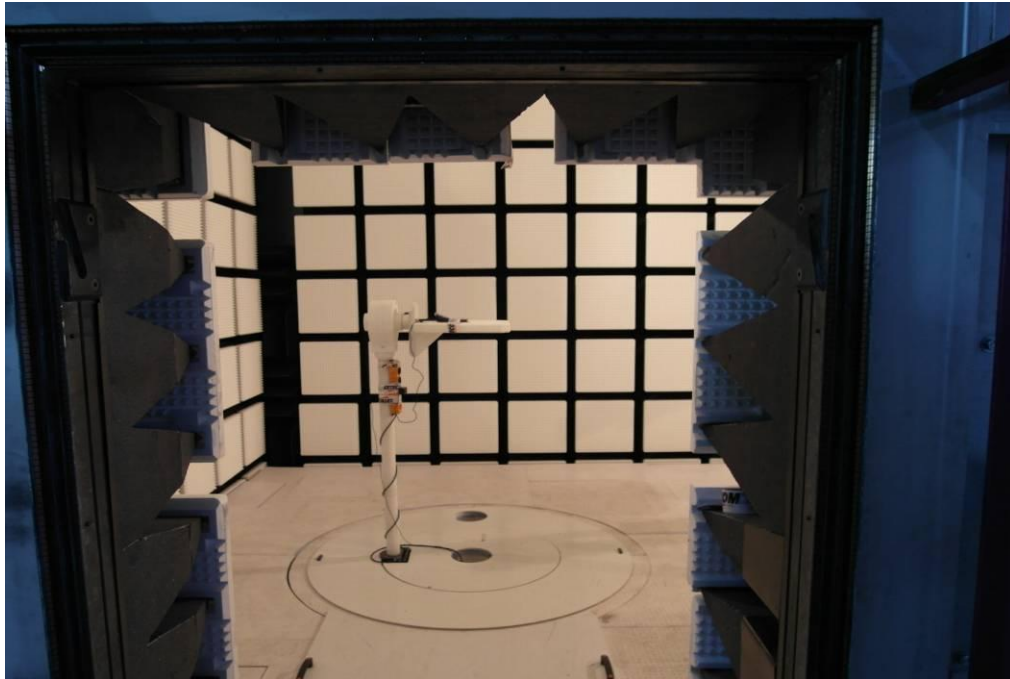


Photo 2:



Photo 3:

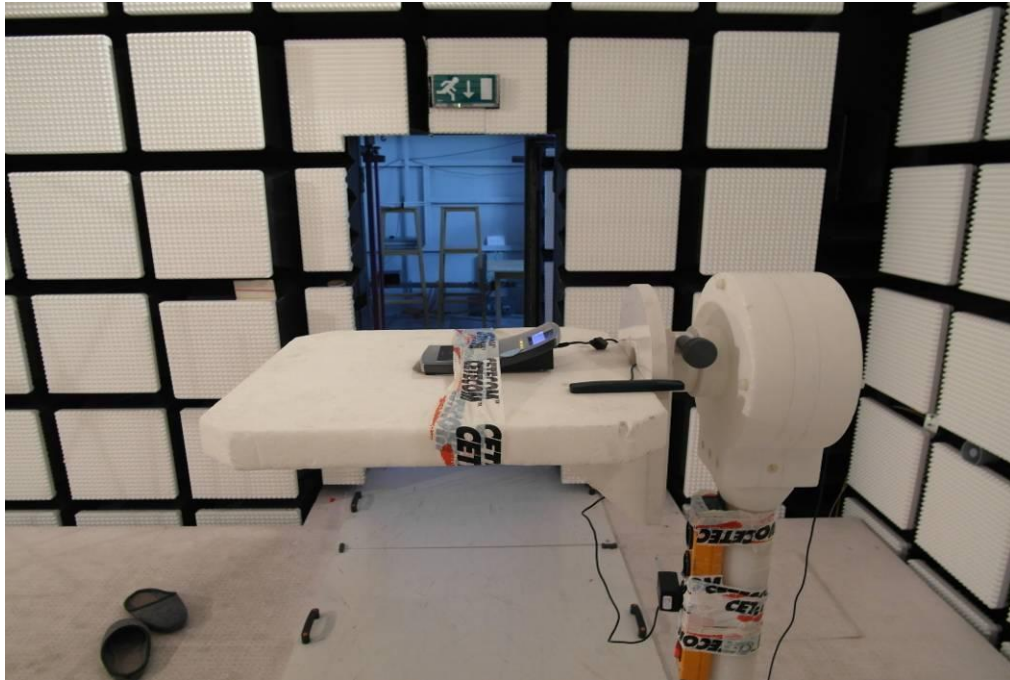


Photo 4:



Photo 5:



Photo 6:

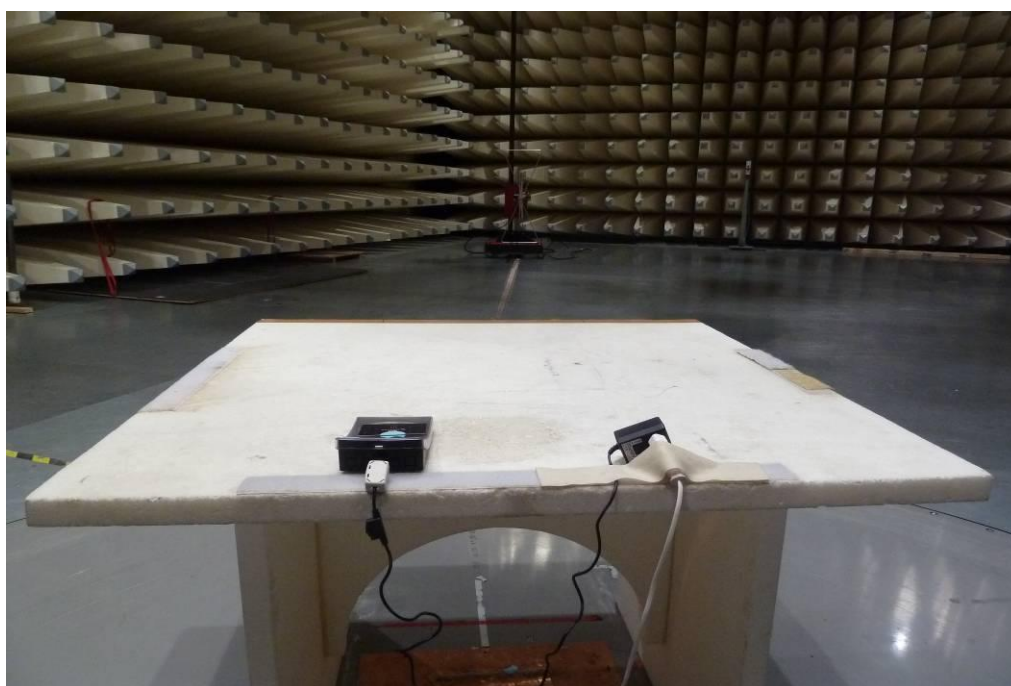
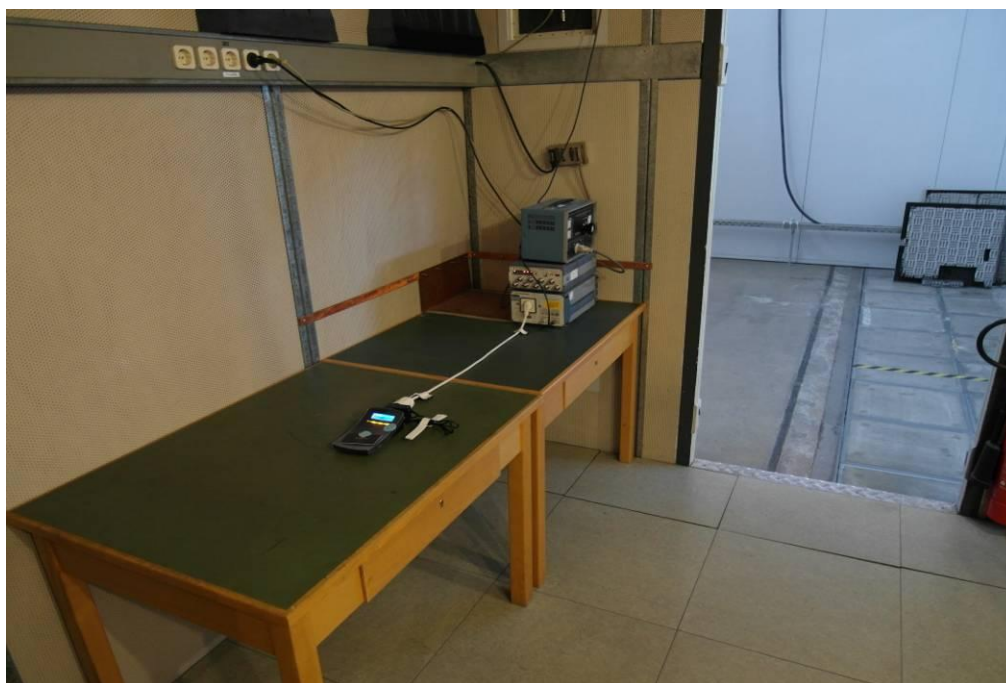


Photo 7:



Photo 8:



Annex B External photographs of the EUT

Photo documentation:

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 5:



Photo 6:



Photo 7:

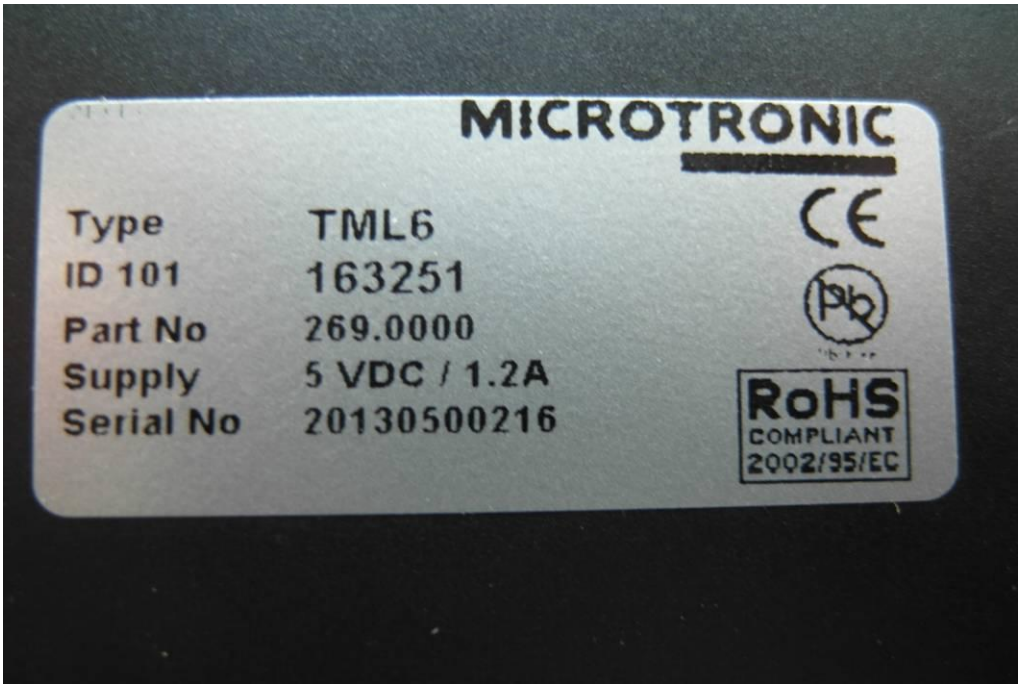


Photo 8:



Photo 9:



Annex C Internal photographs of the EUT

Photo documentation:

Photo 1:

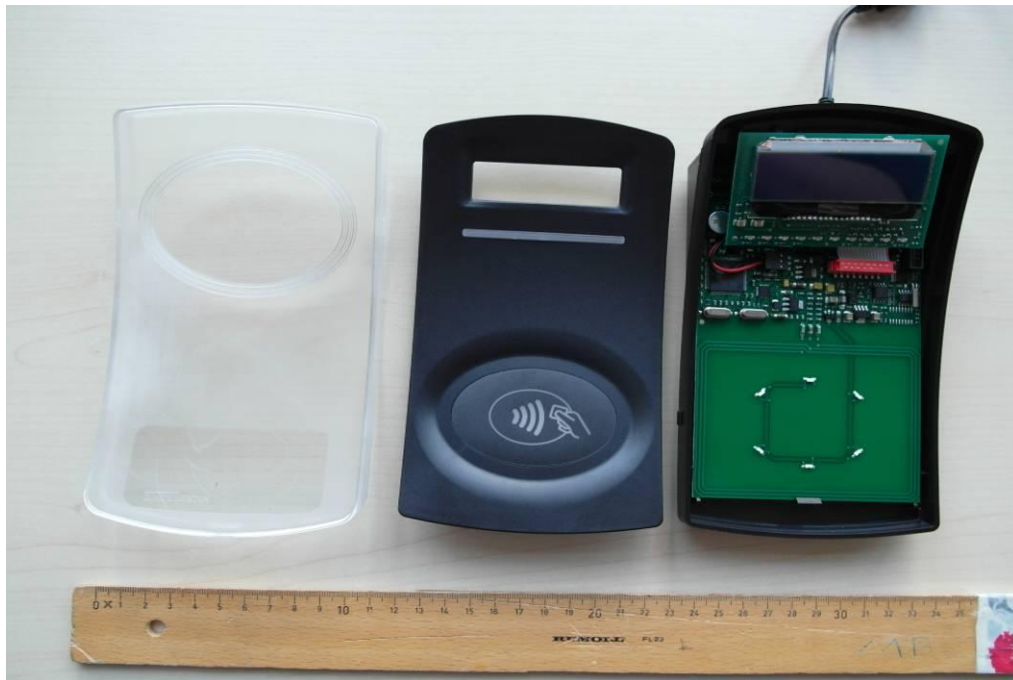


Photo 2:



Photo 3:

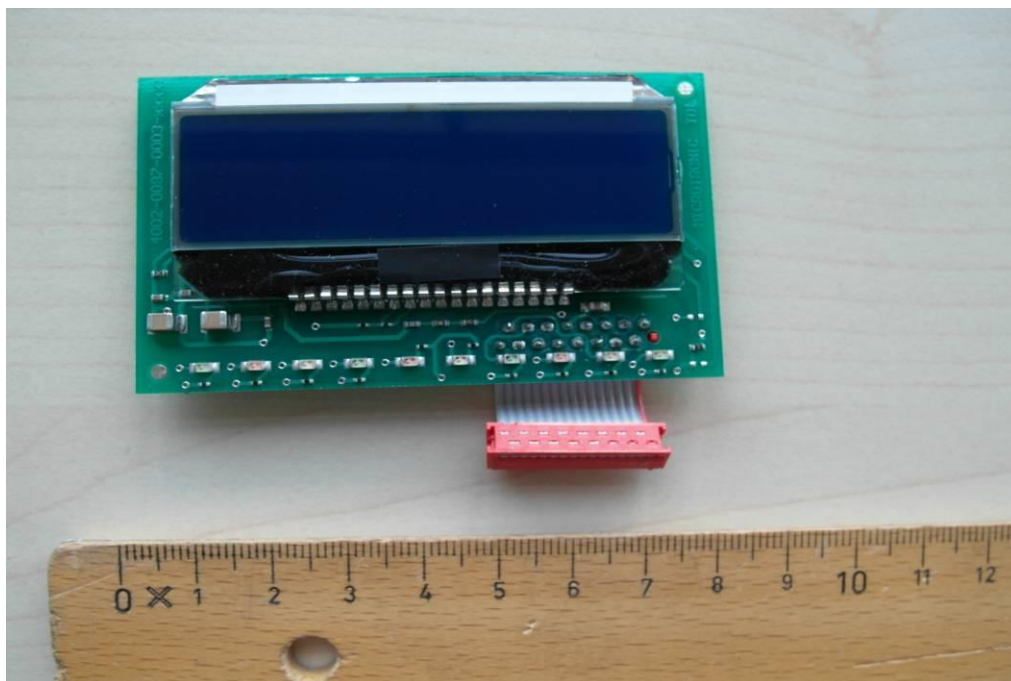


Photo 4:

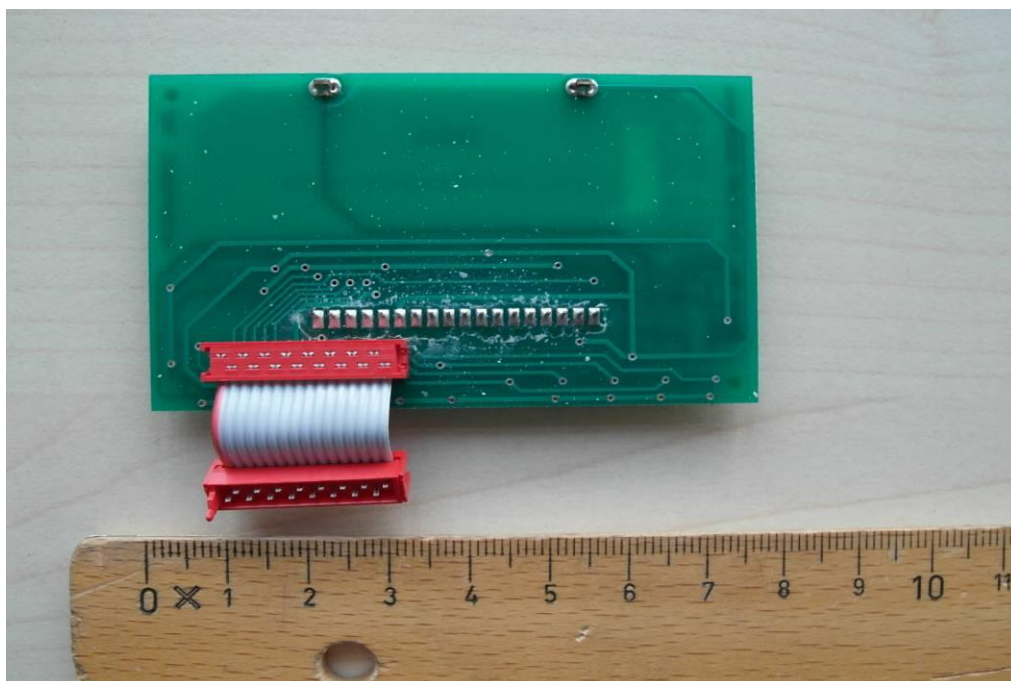


Photo 5:



Photo 6:

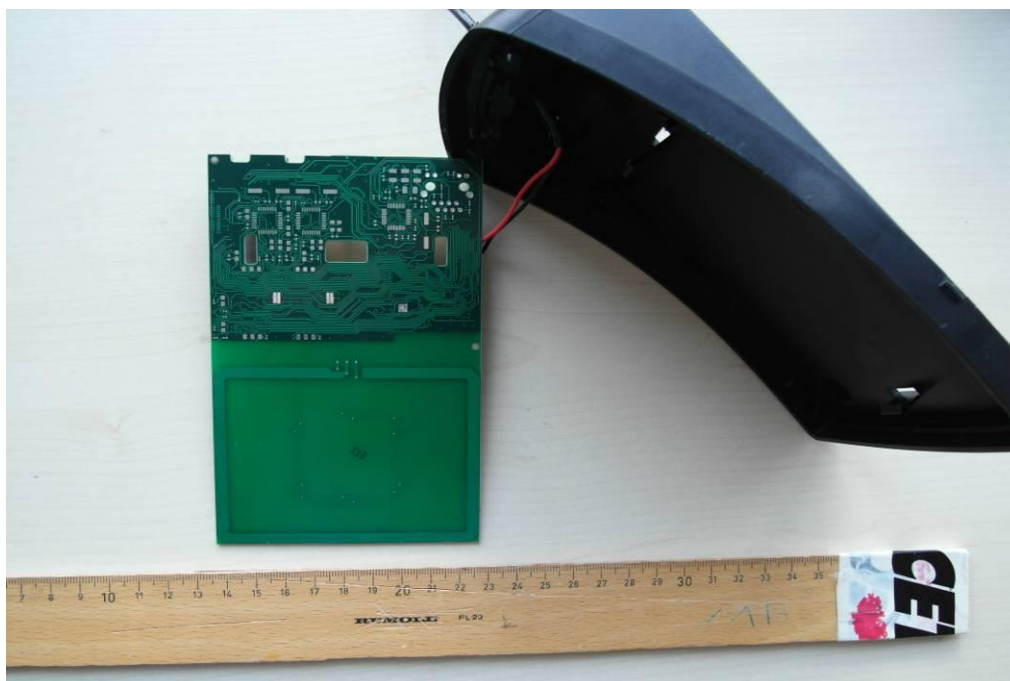


Photo 7:

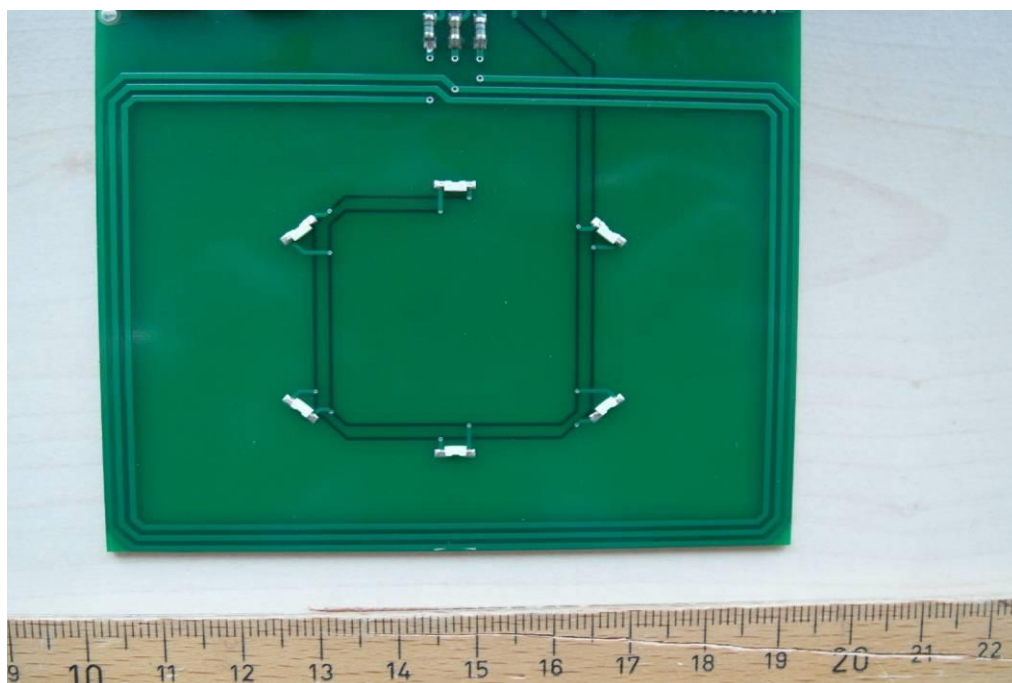
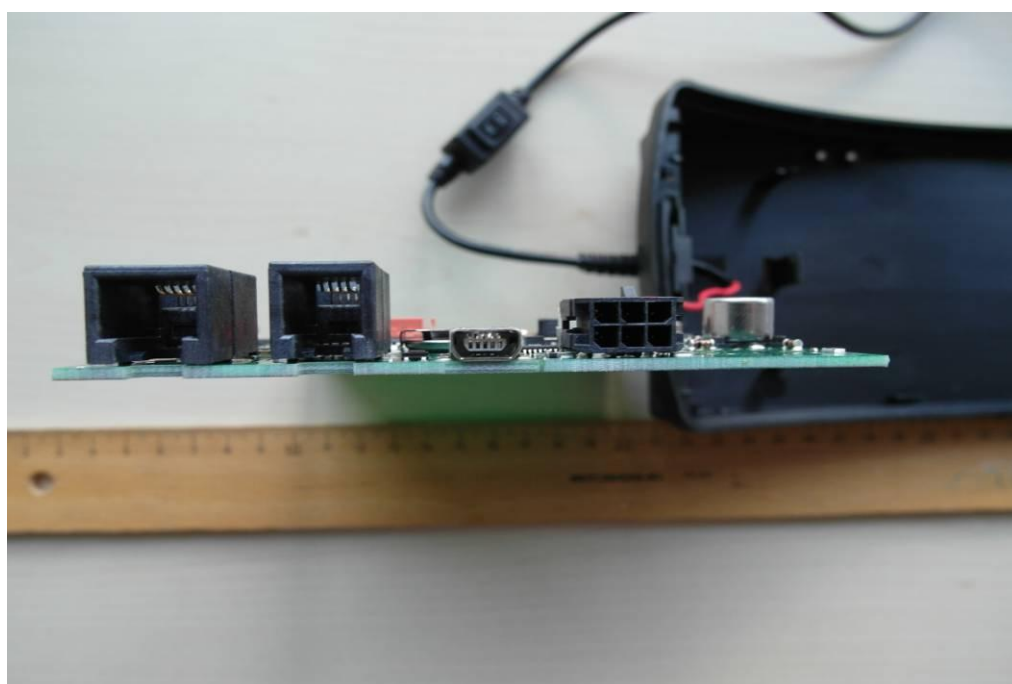


Photo 8:



Annex D Document history

Version	Applied changes	Date of release
1.0	Initial release	2013-09-11

Annex E Further information**Glossary**

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software

Annex F Accreditation Certificate

Front side of certificate



Deutsche Akkreditierungsstelle GmbH

Befähigung 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

CETECOM ICT Services GmbH
Untertürkheimer Straße 6-10, 66117 Saarbrücken

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

Drahtgebundene Kommunikation einschließlich xDSL
VoIP und DECT
Akustik
Funk einschließlich WLAN
Short Range Devices (SRD)
RFID
WiMax und Richtfunk
Mobilfunk (GSM / DCS, Over the Air (OTA) Performance)
Elektromagnetische Verträglichkeit (EMV) einschließlich Automotive
Produktsicherheit
SAR und Hearing Aid Compatibility (HAC)
Umweltsimulation
Smart Card Terminals
Bluetooth
Wi-Fi-Services

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.01.2013 mit der Akkreditierungsnummer D-PL-12076-01 und ist gültig 17.01.2018. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 80 Seiten.

Registrierungsnummer der Urkunde: D-PL-12076-01-01

Frankfurt am Main, 18.01.2013
Seite 1 von 1 auf der Rückseite

Im Auftrag
Ulrich Pöhl, Leiter
Abteilung 100

Back side of certificate

Deutsche Akkreditierungsstelle GmbH

Standort Berlin
Spittelmarkt 10
10117 Berlin

Standort Frankfurt am Main
Gartenstraße 6
60594 Frankfurt am Main

Standort Braunschweig
Rundellallee 100
38116 Braunschweig

Die auszugsweise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAKKS). Ausgenommen davon ist die separate Weiterverbreitung des Deckblatts durch die umseitig genannte Konformitätsbewertungsstelle in unveränderter Form.

Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt, die über den durch die DAKKS bestätigten Akkreditierungsbereich hinausgehen.

Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung im Zusammenhang mit der Vermarktung von Produkten (Abl. L 218 vom 9. Juli 2008, S. 30). Die DAKKS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der European co-operation for Accreditation (EA), des International Accreditation Forum (IAF) und der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen erkennen ihre Akkreditierungen gegenseitig an.

Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden:

EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Note:

The current certificate including annex is published on our website (see link below) or may be received from CETECOM ICT Services on request.

<http://www.cetecom.com/eu/de/cetecom-group/europa/deutschland-saarbruecken/akkreditierungen.html>