

TEST REPORT

Test report no.: 1-6779/13-02-02



Deutsche
 Akkreditierungsstelle
 D-PL-12076-01-01

Testing laboratory

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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 Communications & EMC (RCE)

Applicant

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 88069 Tettngang / GERMANY
 Phone: +49 7542 518-0
 Fax: +49 7542 518-561439
 Contact: Alexander Riedle
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 Phone: +49 7542 518-1439

Manufacturer

ifm electronic gmbh
 ifm-Straße 1
 88069 Tettngang / GERMANY

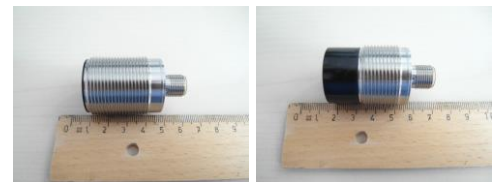
Test standard/s

47 CFR Part 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 - Licence-exempt Radio Apparatus (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: 13.56 MHz RFID reader
Model name: ANT430 / ANT431
FCC ID: UN6-DTRHFIB
IC: 6799A-DTRHFIB
 Frequency: 13.56 MHz
 Technology tested: RFID
 Antenna: Integrated antenna
 Power supply: 24 V DC by power supply
 Temperature range: -20°C to +60°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:

Marco Bertolino
 Specialist

Test performed:

Christoph Schneider
 Specialist

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

2.2 Application details

Date of receipt of order:	2014-04-01
Date of receipt of test item:	2014-07-07
Start of test:	2014-07-08
End of test:	2014-07-10
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	-/-	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 - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

4 Test environment

Temperature:	T_{nom}	+22 °C during room temperature tests
	T_{max}	+60 °C during high temperature tests
	T_{min}	-20 °C during low temperature tests
Relative humidity content:		43 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	24 V DC by power supply
	V_{max}	28,8V
	V_{min}	19.2 V

5 Test item

Kind of test item	:	13.56 MHz RFID reader
Type identification	:	ANT430 / ANT431
S/N serial number	:	No information available!
HW hardware status	:	AB
SW software status	:	2
Frequency band [MHz]	:	13.56 MHz
Type of radio transmission	:	single carrier
Use of frequency spectrum	:	
Type of modulation	:	ASK
Number of channels	:	1
Antenna	:	Integrated antenna
Power supply	:	24 V DC by power supply
Temperature range	:	-20°C to +60 °C

5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-6779/13-02-01_AnnexA
 1-6779/13-02-01_AnnexB
 1-6779/13-02-01_AnnexD

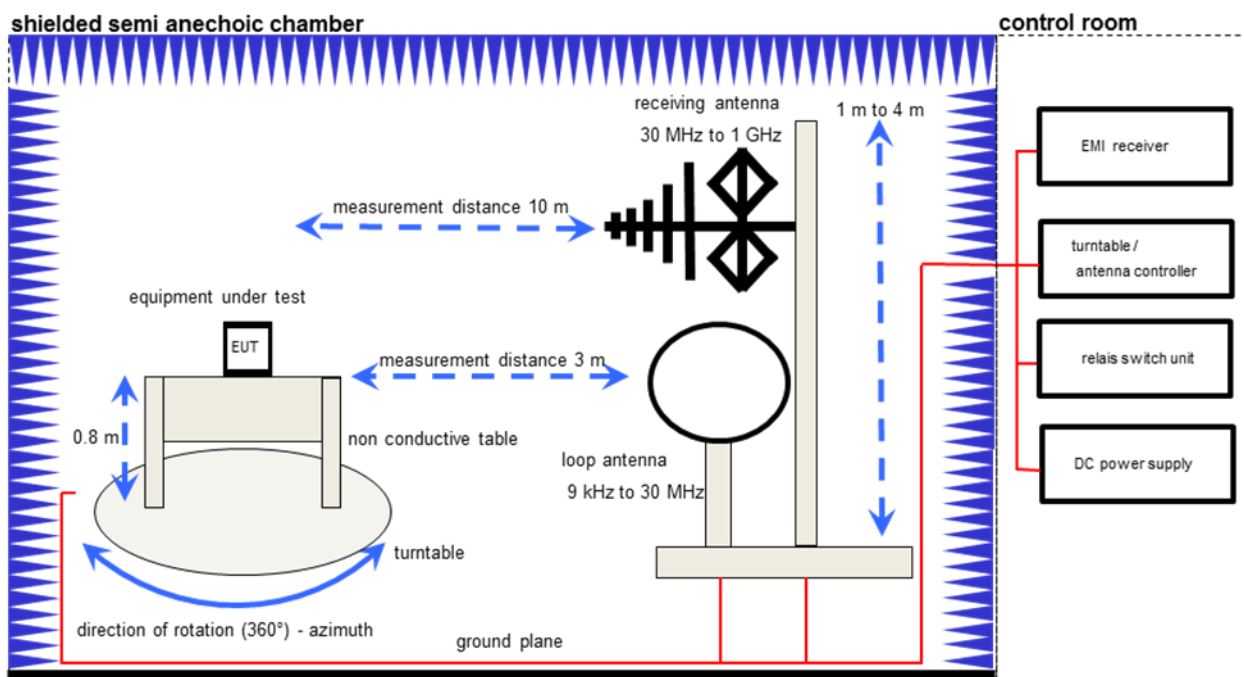
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements

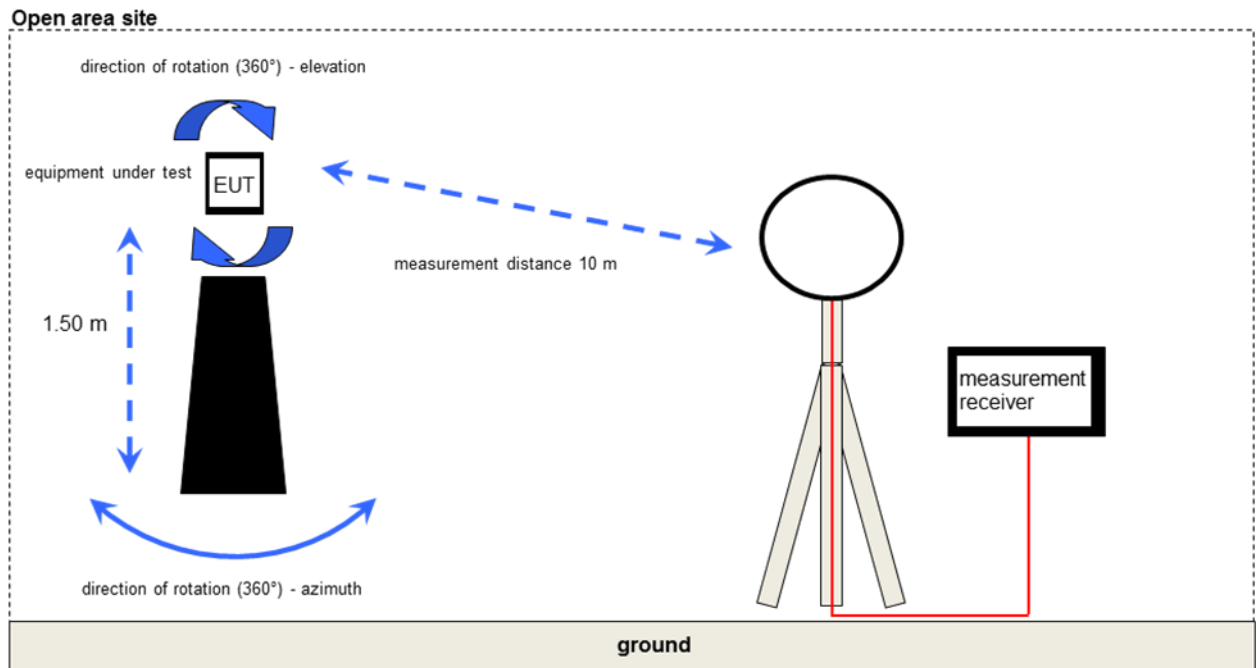
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas 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
Software	EMC32 V. 9.12.05	R&S	-/-	-/-
Switch-Unit	3488A	HP Meßtechnik	2719A14505	30000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	30000580
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 Open area site



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Test Receiver	ESH2	R&S	871921/095	300002505
Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824

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	2014-07-21	-/-

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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No passed / fail criteria!
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 §15.207	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 Measurement results

10.1 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	
<p>(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.</p>	

Result:

Duty cycle of the EUT: 100 %

Result: -/-

10.2 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 (μV/m / dBμV/m)	Measurement distance (m)	
13.553 to 13.567	15848 μV/m (84 dBμV/m)	30	
	158489 μV/m (104 dBμV/m)	10 (Recalculated acc. to FCC part15.31 (f2))	

Result ANT430:

TEST CONDITIONS		MAXIMUM POWER (dBμV/m)	
Frequency		13.56 MHz	13.56 MHz
Mode		@ 10 m distance	@ 30 m distance
T _{nom}	V _{nom}	64.5	44.5*
Measurement uncertainty		±3dB	

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

Result ANT431:

TEST CONDITIONS		MAXIMUM POWER (dBμV/m)	
Frequency		13.56 MHz	13.56 MHz
Mode		@ 10 m distance	@ 30 m distance
T _{nom}	V _{nom}	67.0	47.0*
Measurement uncertainty		±3dB	

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

Result: passed

10.3 99 % emission bandwidth

Measurement:

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

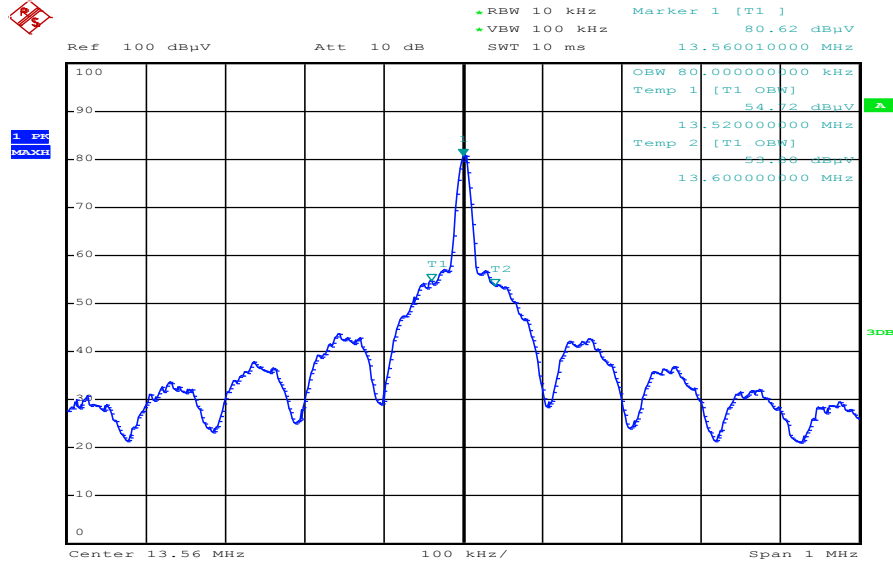
Results ANT430:

TEST CONDITIONS		99 % emission bandwidth (kHz)
Frequency		13.56 MHz
T_{nom}	V_{nom}	80
Measurement uncertainty		± RBW

Results ANT431:

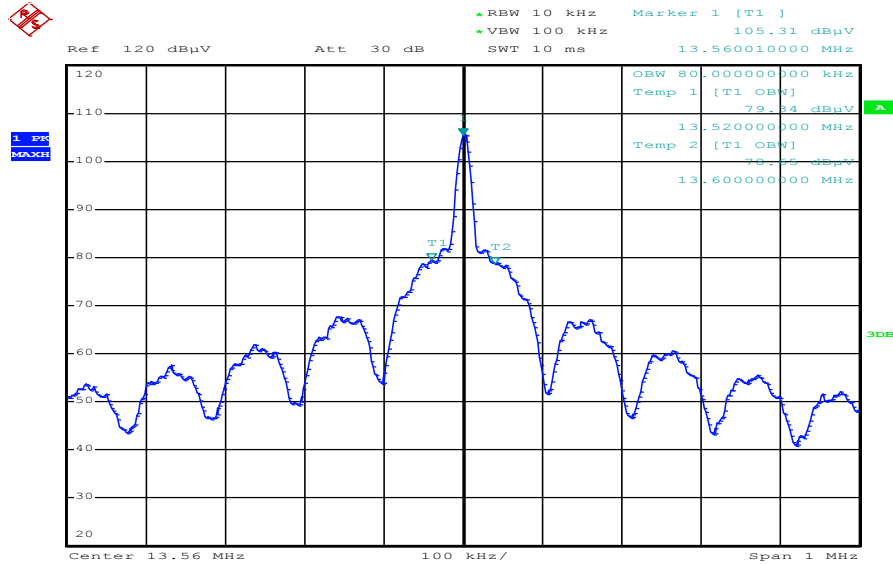
TEST CONDITIONS		99 % emission bandwidth (kHz)
Frequency		13.56 MHz
T_{nom}	V_{nom}	80
Measurement uncertainty		± RBW

Plot1: ANT430



Date: 10.JUL.2014 09:38:54

Plot1: ANT431



Date: 10.JUL.2014 09:40:12

10.4 Field strength of the harmonics and spurious

Measurement:

Measurement parameter	
Detector:	Quasi Peak / Average
Sweep time:	Auto
Resolution bandwidth:	F < 150 kHz: 200 Hz 150 kHz > F > 30 MHz: 9 kHz F > 30 MHz: 120 kHz
Video bandwidth:	F < 150 kHz: 1 kHz 150 kHz > F > 30 MHz: 100 kHz F > 30 MHz: 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:

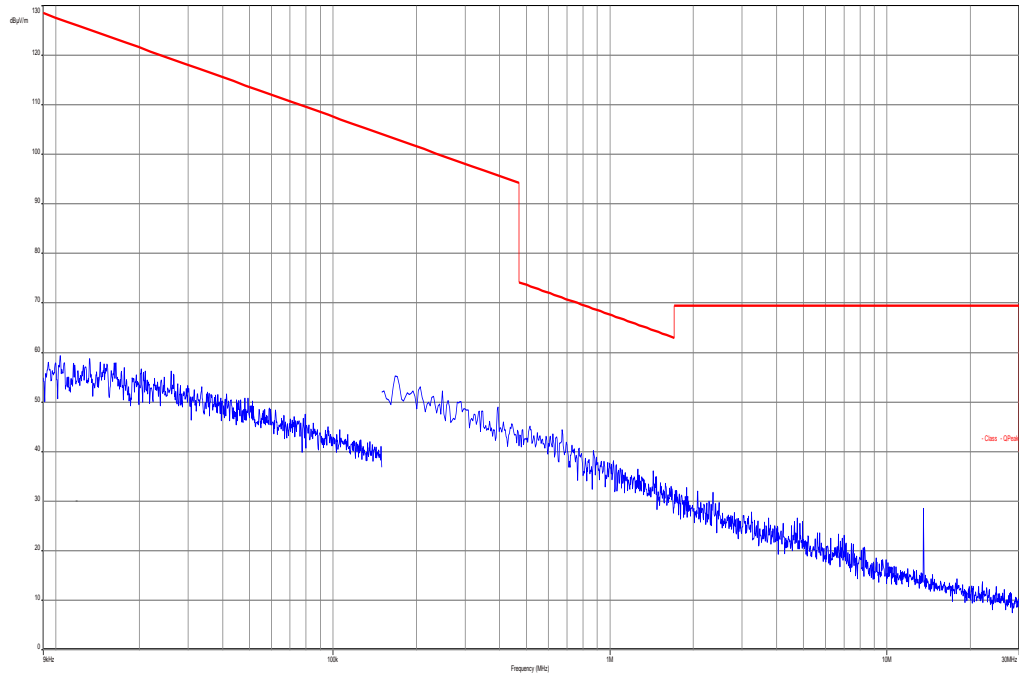
EMISSION LIMITATIONS				
f [MHz]	Detector	Limit max. allowed [dBµV/m]	Amplitude of emission [dBµV/m]	Results
Please take a look at the table below the 1 GHz plot.				

Result: passed

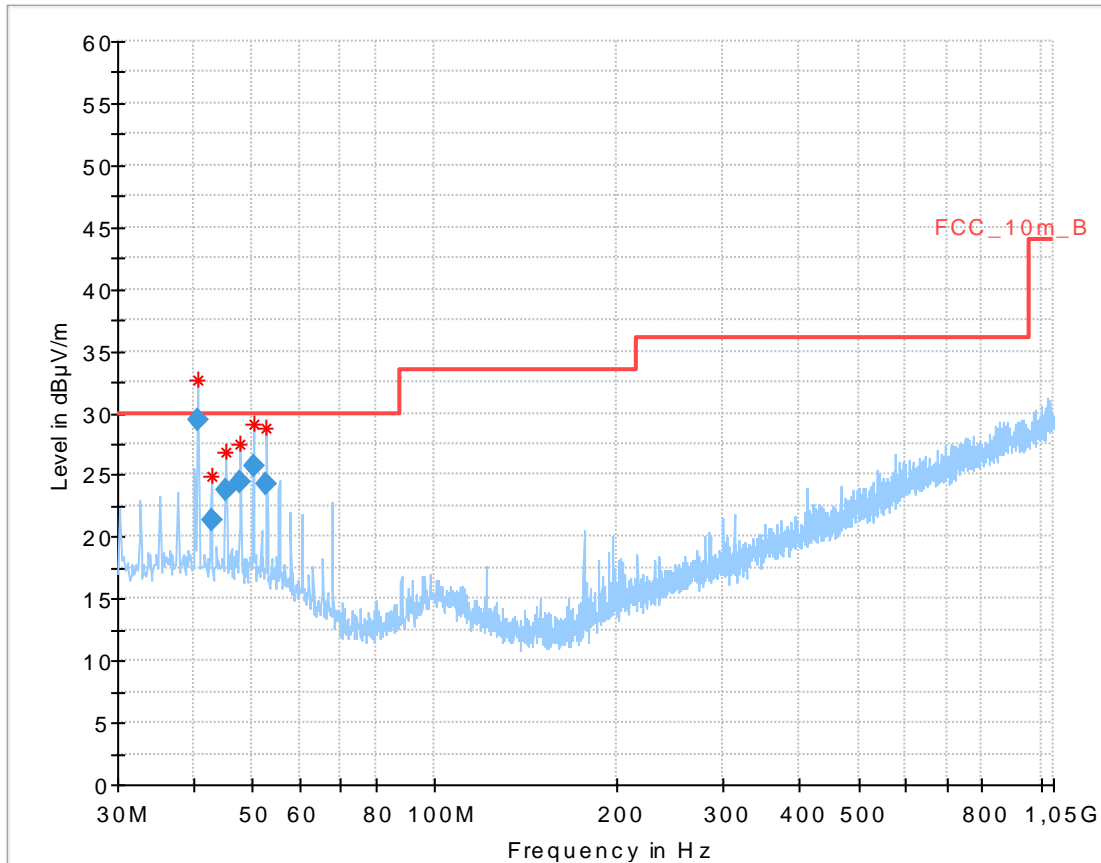
Note: The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

Plots of the measurements, ANT430:

Plot 1: 9 kHz – 30 MHz



Plot 2: 30 MHz – 1000 MHz, vertical & horizontal polarization

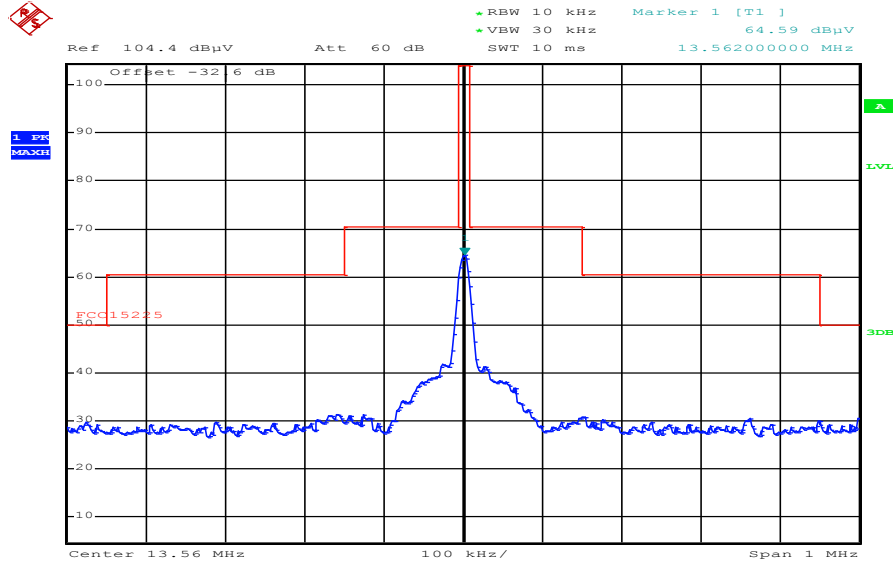


Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.685700	29.40	30.00	0.60	1000.0	120.000	164.0	V	296	14.0
42.808800	21.34	30.00	8.66	1000.0	120.000	153.0	V	289	13.9
45.323100	23.75	30.00	6.25	1000.0	120.000	154.0	V	128	13.8
47.868900	24.39	30.00	5.61	1000.0	120.000	155.0	V	192	13.7
50.353200	25.68	30.00	4.32	1000.0	120.000	154.0	V	221	13.6
52.871100	24.26	30.00	5.74	1000.0	120.000	196.0	V	140	13.2

Plot 3: Spectrum mask

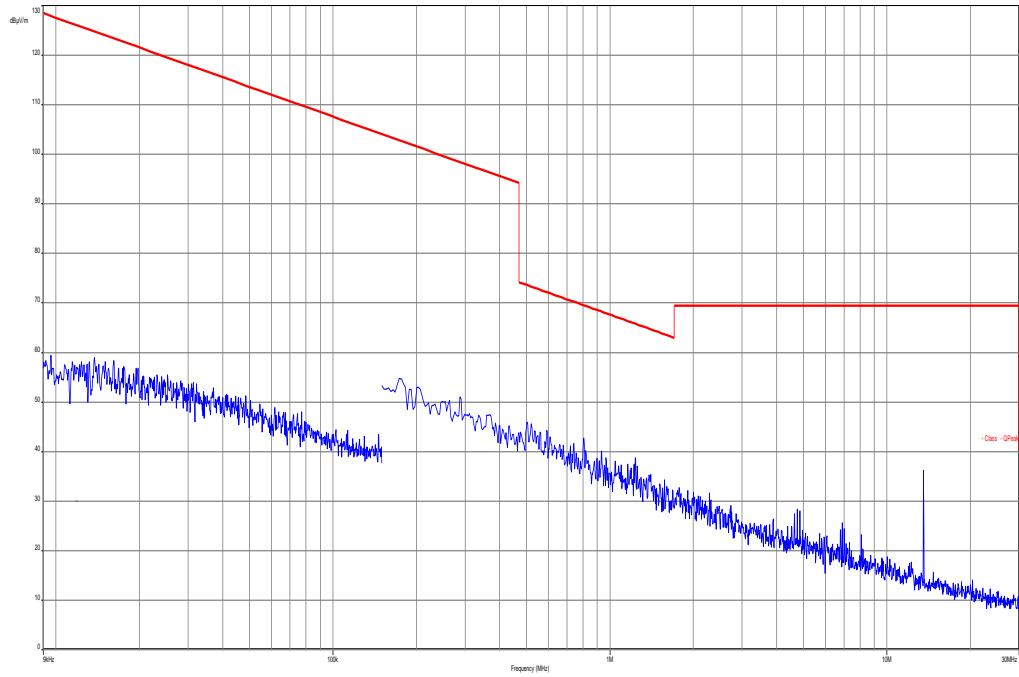
Limits recalculated from 30 m to 10 m with 40 dB/decade according to FCC 15.31 (f2)



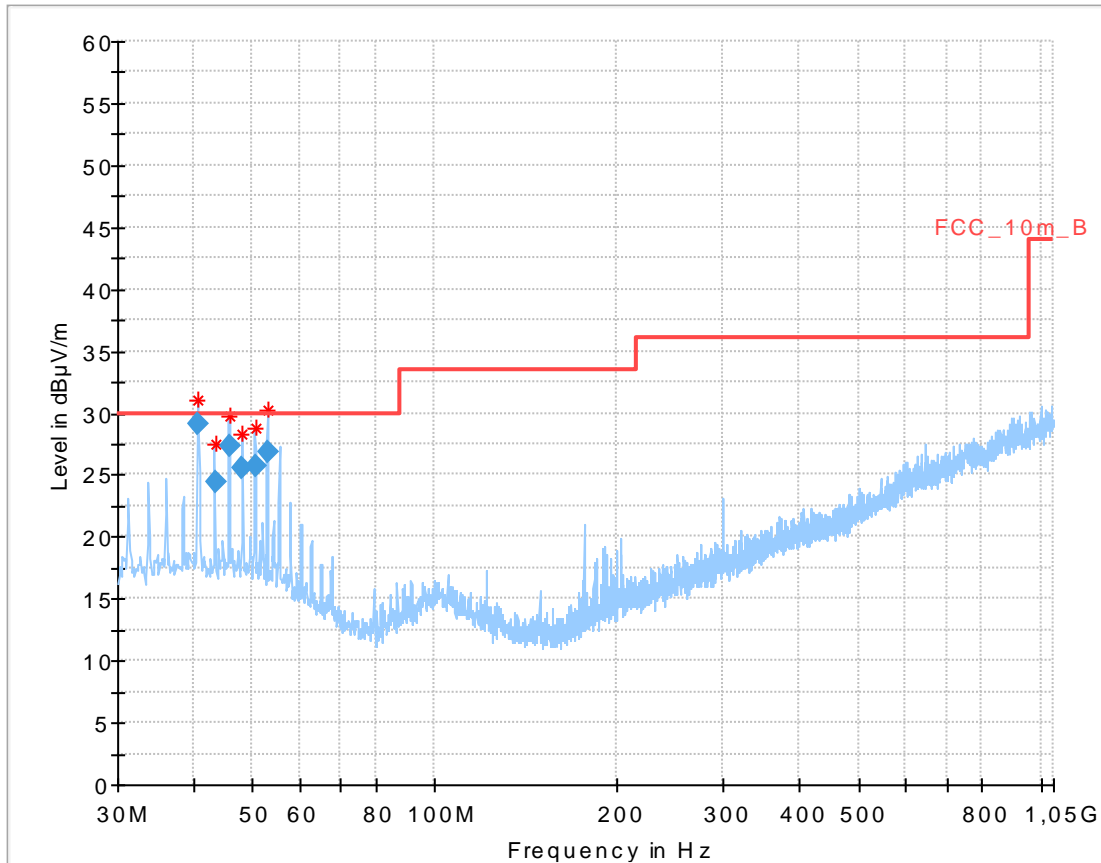
Date: 10.JUL.2014 10:39:41

Plots of the measurements, ANT431:

Plot 1: 9 kHz – 30 MHz



Plot 2: 30 MHz – 1000 MHz, vertical & horizontal polarization

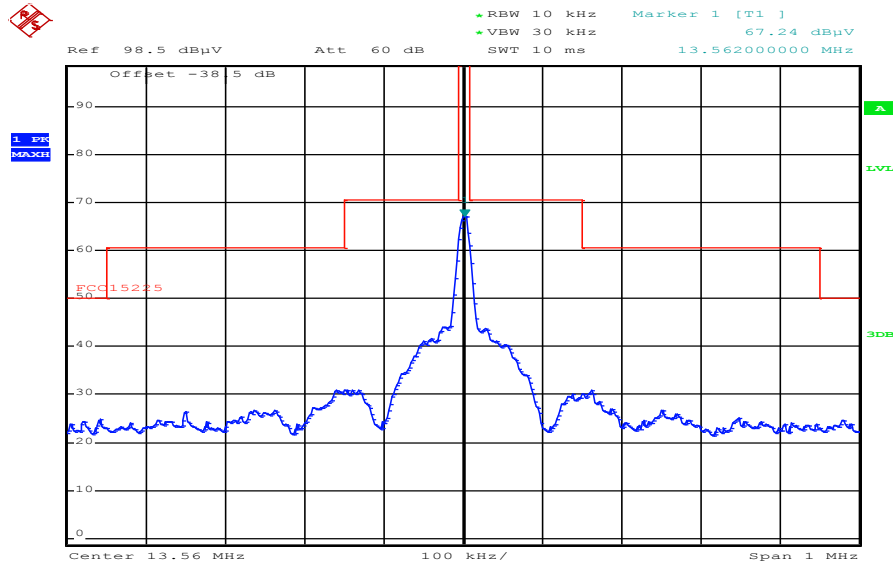


Final_Result:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.689000	29.16	30.00	0.84	1000.0	120.000	153.0	V	259	14.0
43.408500	24.50	30.00	5.50	1000.0	120.000	139.0	V	143	13.9
45.810750	27.33	30.00	2.67	1000.0	120.000	140.0	V	192	13.8
48.249750	25.52	30.00	4.48	1000.0	120.000	139.0	V	233	13.7
50.663700	25.69	30.00	4.31	1000.0	120.000	200.0	V	140	13.5
53.078550	26.89	30.00	3.11	1000.0	120.000	200.0	V	140	13.1

Plot 3: Spectrum mask

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



Date: 10.JUL.2014 10:38:11

10.5 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.	

Results:

Over temperature variation				Over voltage variation			
Limit is +/- 1.356 kHz				Limit is +/- 1.356 kHz			
T (°C)]	Frequency		result	Power voltage	Frequency		result
	ANT430	ANT431			ANT430	ANT431	
-20°	13.560664	13.560676	Pass	19.2 V	13.560678	13.560692	Pass
-10°	13.560694	13.560702	Pass	20.0 V	13.560678	13.560694	Pass
0°	13.560728	13.560740	Pass	20.8 V	13.560676	13.560694	Pass
10°	13.560728	13.560740	Pass	21.6 V	13.560676	13.560694	Pass
20°	13.560684	13.560708	Pass	22.4 V	13.560674	13.560694	Pass
30°	13.560682	13.560708	Pass	23.2 V	13.560674	13.560696	Pass
40°	13.560676	13.560698	Pass	24.0 V	13.560672	13.560696	Pass
50°	13.560662	13.560686	Pass	24.8 V	13.560672	13.560698	Pass
60°	13.560642	13.560662	Pass	25.6 V	13.560670	13.560698	Pass
				26.4 V	13.560670	13.560698	Pass
				27.2 V	13.560668	13.560700	Pass
				28.0 V	13.560668	13.560702	Pass
				28.8 V	13.560666	13.560706	Pass
Measurement uncertainty					±100 Hz		

Result: passed

11 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 (Lab/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	n. a.	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2818A03450	300001040	Ve	12.01.2012	12.01.2015
2	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	08.05.2013	08.05.2015
3	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
4	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
5	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	30.01.2014	30.01.2016
6	9	Isolating Transformer	MPL IEC625 Bus Regeltrennt ravo	Erfi	91350	300001155	ne		
7	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
8	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
9	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	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	13.03.2014	13.03.2015
12	n. a.	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne		
13	n. a.	Test Receiver	ESH2	R&S	871921/095	300002505	Ve	24.01.2014	24.01.2016
14	n. a.	Loop Antenna 9 KHz - 30 MHz	HFH2-Z2	R&S	872096/61	300001824	vIKI!	09.03.2012	09.03.2015
15	n. a.	EMI Test Receiver 9 kHz - 3 GHz incl. Preselector	ESPI3	R&S	101713	300004059	k	24.01.2014	24.01.2015

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vIKI!	Attention: extended calibration interval	*	next calibration ordered / currently in progress
NK!	Attention: not calibrated		

12 Observations

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

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2014-07-21

Annex B 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 C Accreditation Certificate

Front side of certificate

Back side of certificate



Deutsche Akkreditierungsstelle GmbH

Bellehene 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 bestatigt hiermit, dass das Pruflaboratorium

CETECOM ICT Services GmbH
Unterturkheimer Strae 6-10, 66117 Saarbruckendie Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prufungen in folgenden Bereichen
durchzufuhren:

Drahtgebundene Kommunikation einschlielich xDSL

VoIP und DECT

Akustik

Funk einschlielich WLAN

Short Range Devices (SRD)

RFID

WiMax und Richtfunk

Mobilfunk (GSM / GPRS / UTRAN / Over the Air (OTA) Performance)

Elektromagnetische Vertraglichkeit (EMV) einschlielich 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 07.03.2014 mit der
Akkreditierungsnummer D-PL-12076-01 und ist gultig 17.01.2018. Sie besteht aus diesem Deckblatt, der
Ruckseite des Deckblatts und der folgenden Anlage mit insgesamt 77 Seiten.

Registrierungsnummer der Urkunde: D-PL-12076-01-00

Saarbrucken, den 07.03.2014

Gultigkeit des Bescheides

Im Auftrag D-PL-12076-01/01/01/01/01
Abteilungsleiter

Deutsche Akkreditierungsstelle GmbH

Standort Berlin
Spittelmarkt 10
10117 BerlinStandort Frankfurt am Main
Gartenstrae 6
60504 Frankfurt am MainStandort Braunschweig
Bundesallee 100
38116 BraunschweigDie auszugsweise Veroffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen
Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkkS). Ausgenommen davon ist die separate
Weiterverbreitung des Deckblattes durch die unseitig genannte Konformitatsbewertungsstelle in
unverandter Form.Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt,
die uber den durch die DAkkS bestatigten Akkreditierungsbereich hinausgehen.Die Akkreditierung erfolgte gema des Gesetzes uber die Akkreditierungsstelle (AkkStelleG) vom
31. Juli 2009 (BGBl. I S. 2675) sowie der Verordnung (EG) Nr. 765/2008 des Europaischen Parlaments
und des Rates vom 9. Juli 2008 uber die Vorschriften fur die Akkreditierung und Marktuberwachung
im Zusammenhang mit der Vermarktung von Produkten (Abt. L 228 vom 9. Juli 2008, S. 20).
Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der
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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
IAF: www.iaf.or.jp
ILAC: www.ilac.org**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>