
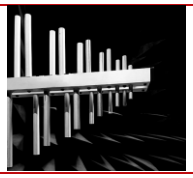
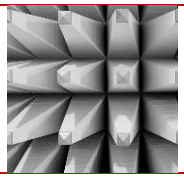

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TEST REPORT

Test report no.: 1-0585/15-01-06-B

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-00

Testing laboratory

CETECOM ICT Services GmbH
Untertuerkheimer Strasse 6 – 10
66117 Saarbruecken / Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
Internet: http://www.cetecom.com
e-mail: ict@cetecom.com

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-12076-01-00

Applicant

Neratec Solutions AG
Rosswiesstrasse 29
8608 Bubikon / SWITZERLAND
Phone: +41 55 253 20 78
Fax: +41 55 253 20 70
Contact: Michael Aeschbacher
e-mail: michael.aeschbacher@neratec.com
Phone: +41 55 253 20 73

Manufacturer

Neratec Solutions AG
Rosswiesstrasse 29
8608 Bubikon / SWITZERLAND

Test standard/s

47 CFR Part 15	Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 1	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence - Exempt Local Area Network (LE-LAN) Devices

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

Test Item

Kind of test item:	**WLAN Modul**
Model name:	**DT50RF MK2**
FCC ID:	**2AEJD-103902-DT50RF**
IC:	**9301A-103902DT50**
Frequency:	5250 MHz to 5350 MHz & 5500 MHz to 5725 MHz
Technology tested:	WLAN (DFS only)
Antenna:	External antennas
Power supply:	2.97 V to 3.63 V DC
Temperature range:	-40°C to +85°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 authorized:

cn=Stefan Boes, o=CETECOM ICT Services GmbH, ou=BOE-111011, email=Stefan.Boes@cetecom.com, c=DE
2016.06.10 13:24:36 +02'00'

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David Lang
Lab Manager
Radio Communications & EMC

1 Table of contents

2 General information

2.1 Notes and disclaimer

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This test report replaces the test report with the number 1-0585/15-01-06-A and dated 2016-01-14

2.2 Application details

Date of receipt of order:	2015-12-02
Date of receipt of test item:	2015-12-14
Start of test:	2015-12-16
End of test:	2015-12-18
Person(s) present during the test:	-/-

3 Test standard/s and references

Test standard	Date	Description
47 CFR Part 15		Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 1	May 2015	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence - Exempt Local Area Network (LE-LAN) Devices

Guidance	Version	Description
UNII: KDB 789033 D02	v01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E
UNII: KDB 905462 D04	v01	Operational Modes suggested for DFS Testing
UNII: KDB 905462 D02	v01r01	Compliance measurement procedures for unlicensed - national information infrastructure devices operating in the 5250 - 5350 MHz and 5470 - 5725 MHz bands incorporating dynamic frequency selection
UNII: KDB 905462 D02	v01r02	Compliance measurement procedures for unlicensed - national information infrastructure devices operating in the 5250 - 5350 MHz and 5470 - 5725 MHz bands incorporating dynamic frequency selection
KDB 662911 D01	V02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band

4 Test environment

Temperature	:	T_{nom} T_{max} T_{min}	+20 °C during room temperature tests +85 °C during high temperature tests -40 °C during low temperature tests
Relative humidity content	:		55 %
Barometric pressure	:		not relevant for this kind of testing
Power supply	:	V_{nom} V_{max} V_{min}	3.30 V DC 3.63 V 2.97 V

5 Test item

5.1 General description

Kind of test item	:	WLAN Modul
Type identification	:	DT50RF MK2
HMN	:	-/-
PMN	:	DT50RF_MK2
HVIN	:	DT50RF_MK2
FVIN	:	6.6.0
S/N serial number	:	DUT (Master device): 0060010001030018 Companion (Client device): 0060010001030005
HW hardware status	:	DUT (Master device): Rev03 Companion (Client device): Rev03
SW software status	:	DUT (Master device): 6.6.0 Companion (Client device): 6.6.0
Frequency band	:	5250 MHz to 5350 MHz & 5500 MHz to 5725 MHz
Type of radio transmission Use of frequency spectrum	: :	OFDM
Type of modulation	:	QPSK, 16 – QAM, 64 – QAM
Number of channels	:	Channel plan according IEEE 802.11 Channels tested: HT20-Mode: 60 (5300 MHz) HT40-Mode: 62 (5310 MHz)
Antenna	:	External antennas; The DUT is equipped with two antenna ports. Hence, tests were performed in a conducted way without antennas connected. For possible antenna configurations please refer to the manufacturer specifications.
Power supply	:	3.3 V DC by external power supply
Temperature range	:	-40°C to +85°C

5.2 Additional information

The content of the following annexes is defined in the QA. It may be that not all of the listed annexes are necessary for this report, thus some values in between may be missing.

Test setup- and EUT-photos are included in test report: 1-0585/15-01-01_AnnexA
1-0585/15-01-01_AnnexB
1-0585/15-01-01_AnnexH

6 Test laboratories sub-contracted

None

7 Measurement uncertainty

Measurement uncertainty	
Test case	**Uncertainty**
Occupied bandwidth	± 100 kHz (depends on the used RBW)
Frequency accuracy (radar burst)	0.1 Hz
Level accuracy (radar burst)	± 0.5 dB
Maximum output power	± 0.5 dB

8 Summary of measurement results

☐	No deviations from the technical specifications were ascertained
☐	There were deviations from the technical specifications ascertained
☒	This test report is only a partial test report. The content and verdict of the performed test cases are listed below.

TC Identifier	Description	Verdict	Date	Remark
DFS-Testing	CFR Part 15, FCC 06-96	Pass	2016-06-10	DFS only

Test Standard Clause	Test Case	Bandwidth	C	NC	NA	NP	Remark
7.8.1*3	U-NII Detection Bandwidth	20 MHz 40 MHz	☒	☐	☐	☐	*1*2
§15.407 (h)(2)	DFS Detection Threshold	20 MHz	☒	☐	☐	☐	*1*2
§15.407 (h)(2) (ii) & 7.8.2*3	Channel Availability Check Time	20 MHz	☒	☐	☐	☐	*1
§15.407 (h)(2) (iv) & 7.8.3*3	Non-Occupancy Period	20 MHz	☒	☐	☐	☐	*1
§15.407 (h)(2) (iii) & 7.8.2*3	Channel Move Time / Channel Closing Transmission Time	40 MHz	☒	☐	☐	☐	*2
7.8.3 & 7.8.4*3	In-Service Monitoring / Statistical Performance Check	20 MHz 40 MHz	☒	☐	☐	☐	*2

Abbreviations/References:

C	Compliant
NC	Not compliant
NA	Not applicable
NP	Not performed
*1	Prior to use of a channel
*2	During normal operation
*3	See KDB publication *905462 D02 UNII DFS Compliance Procedures New Rules v01r02*

9 Additional comments

Reference documents:	None
Special test descriptions:	A special test software called “DT-Config” had been provided by the customer to prevent need to reset the device between the trails.
Configuration descriptions:	Iperf was used to generate the required channel load (duty cycle greater 17%).

10 RF measurements

10.1 Description of test setup

10.1.1 Conducted measurements

Setup

Figure 1 shows a setup whereby the UUT is a RLAN device operating in slave mode, without Radar Interference Detection function. This setup also contains a RLAN device operating in master mode. The radar test signals are injected into the master device. The UUT (slave device) is associated with the master device.

Figure 1 shows an example

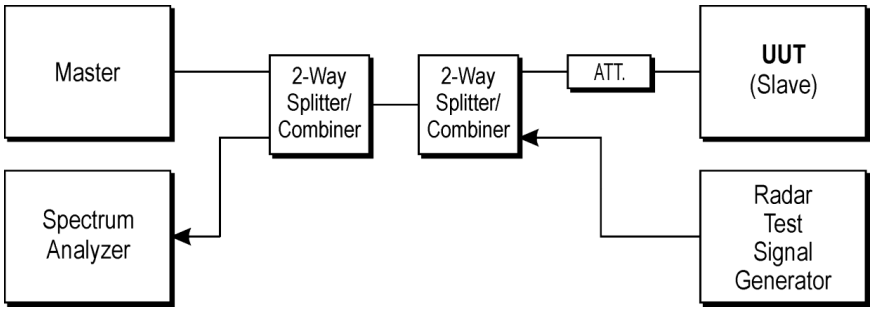


Figure 1: Setup

RPP = SG - CA
(RPP-radar pulse power; SG-signal generator power; CA-loss signal path)

Example calculation:
RPP [dBm] = -30.0 [dBm] – 33.0 [dB] = -63.0 [dBm]

Equipment table:

No.	Lab / Item	Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	A	Spectrum Analyzer 9kHz to 30GHz - 140..+30dBm	FSP30	R&S	100886	300003575	k	26.08.2014	26.08.2016
2	A	Notebook	Latitude 15 6000 Series	Dell	100886	300004737	ne	-/-	-/-
3	A	Vektor Signal Generator	SMU200A	R&S	101633	300003496	k	07.04.2014	07.04.2017
4	A	DFS-test site	div. Splitter, Cables, Attenuators	Mini-Circuits	na	300004557	ev	-/-	-/-
5	A	RF-Cable WLAN-Tester Port 1	ST18/SMAm/SMAm/36	Huber & Suhner	Batch no. 601494	400001216	ev	-/-	-/-
6	A	RF-Cable WLAN-Tester Port 2	ST18/SMAm/SMAm/48	Huber & Suhner	Batch no. 54877	400001217	ev	-/-	-/-
7	A	RF-Cable WLAN-Tester Port 3	ST18/SMAm/SMAm/48	Huber & Suhner	Batch no. 54877	400001218	ev	-/-	-/-
8	A	RF-Cable WLAN-Tester Port 4	ST18/SMAm/SMAm/48	Huber & Suhner	Batch no. 1273777	400001219	ev	-/-	-/-
9	A	RF-Cable WLAN-Tester Analyzer	ST18/SMAm/SMAm/36	Huber & Suhner	Batch no. 54876	400001220	ev	-/-	-/-
10	A	RF-Cable WLAN-Tester Vector Signal Generator	ST18/SMAm/SMAm/60	Huber & Suhner	Batch no. 606844	400001222	ev	-/-	-/-
11	A	Companion device	DT50	Neratec Solutions AG	0060010001030005	Provided by customer	ne	-/-	-/-

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
vlkl!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

10.2 Parameters of DFS test signals

10.2.1 DFS Detection Thresholds for Master Devices as well as Client Devices With Radar Detection

Maximum Transmit Power EIRP	Value (see note)
≥ 200 mW	-64 dBm
< 200 mW and power spectral density < 10 dBm/MHz	-62 dBm
< 200 mW and That do not meet the power spectral density < 10 dBm/MHz	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

10.2.2 DFS Response Requirement Values

Parameter	Value
Non-occupancy period	minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

10.2.3 Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\mathrm{PRI}_{\mu\mathrm{sec}}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 µsec, with a minimum increment of 1 µsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4.

Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trails
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms.

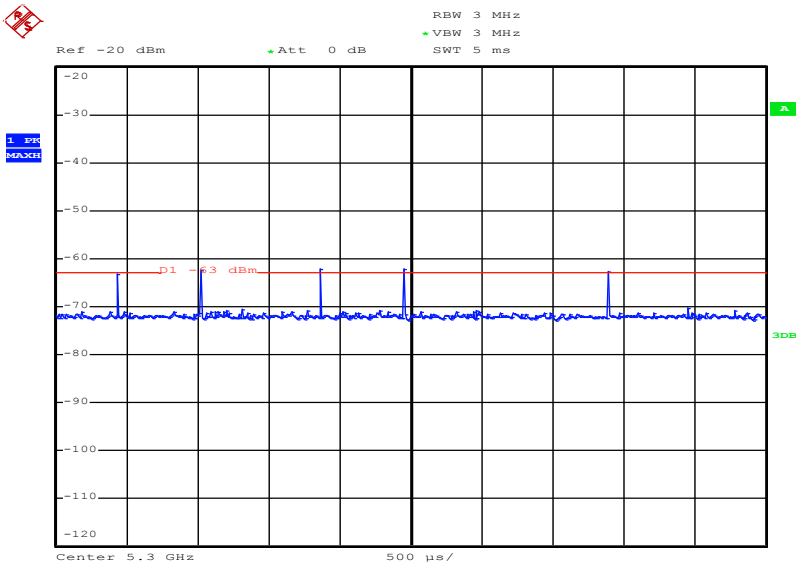
Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trails
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined.
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set.

10.3 Test preparation

10.3.1 Setting the test signal level of all radar pulses as of 10.2.1 (only pulse 0 recorded).



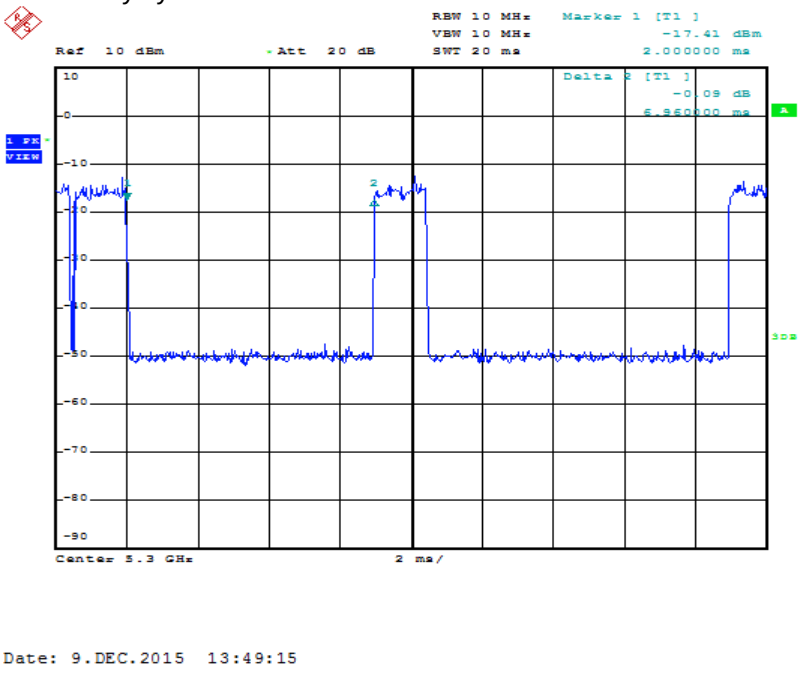
Date: 9.DEC.2015 14:24:34

Plot 1

10.3.2 Channel loading

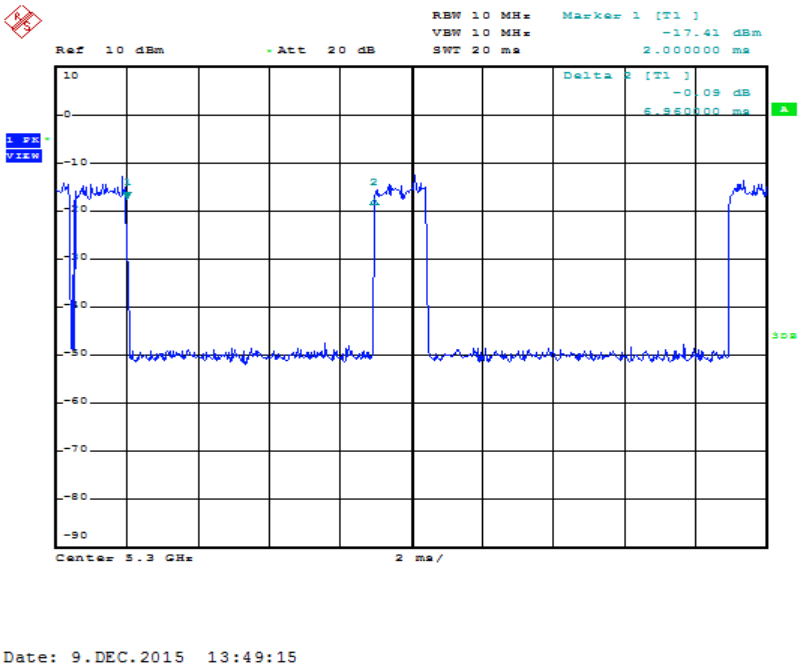
Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater. For example, channel loading can be estimated by setting the spectrum analyzer for zero span and approximate the Time On/ (Time On + Off Time). This can be done with any appropriate channel BW and modulation type.

HT20-Mode: Calculated duty cycle = 28.7%



Plot 2

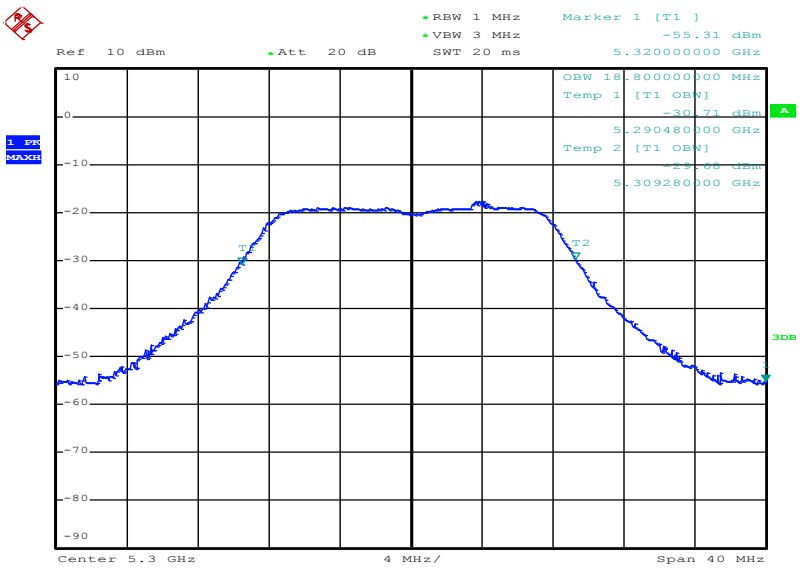
HT40-Mode: Calculated duty cycle = 29.2%



Plot 3

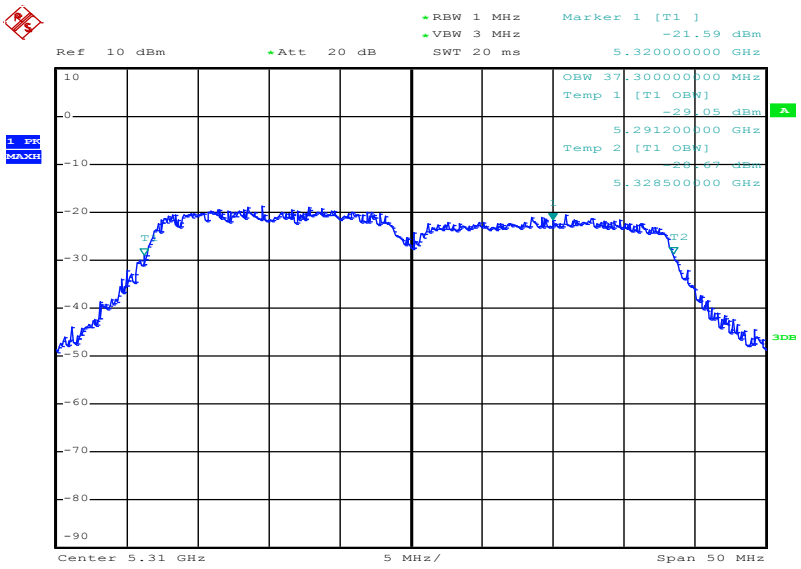
10.3.3 99% Bandwidth to determine the U-NII-bandwidth

HT20-Mode: 18.8 MHz



Plot 4

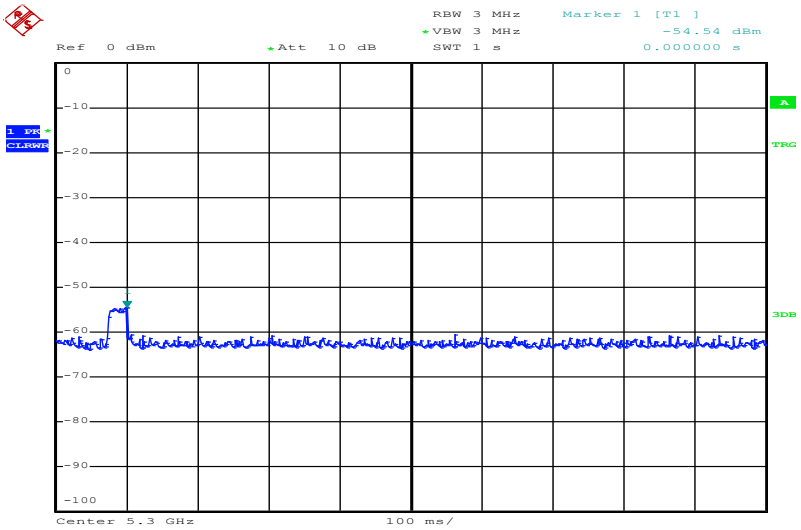
HT40-Mode: 37.3 MHz



Plot 5

10.3.4 Radar burst timing signal

To accurately determine the channel closing time and channel closing transmission time the spectrum analyser is triggered at the end of the radar burst (see marker at *t* = 0ms).



Plot 6

10.4 Test results (prior to use of a channel)

10.4.1 U-NII Detection Bandwidth

The U-NII Detection Bandwidth was determined according the procedure as described in the correspondent KDB as referenced in section 3 of this test report for any supported bandwidth.

The U-NII Detection Bandwidth must meet the U-NII Detection Bandwidth criterion referenced in section 10.2.2. Otherwise, the UUT does not comply with DFS requirements. This is essential to ensure that the UUT is capable of detecting Radar Waveforms across the same frequency spectrum that contains the significant energy from the system. In the case that the U-NII Detection Bandwidth is greater than or equal to the 99 percent power bandwidth for the measured F_H and F_L, the test can be truncated and the U-NII Detection Bandwidth can be reported as the measured F_H and F_L.

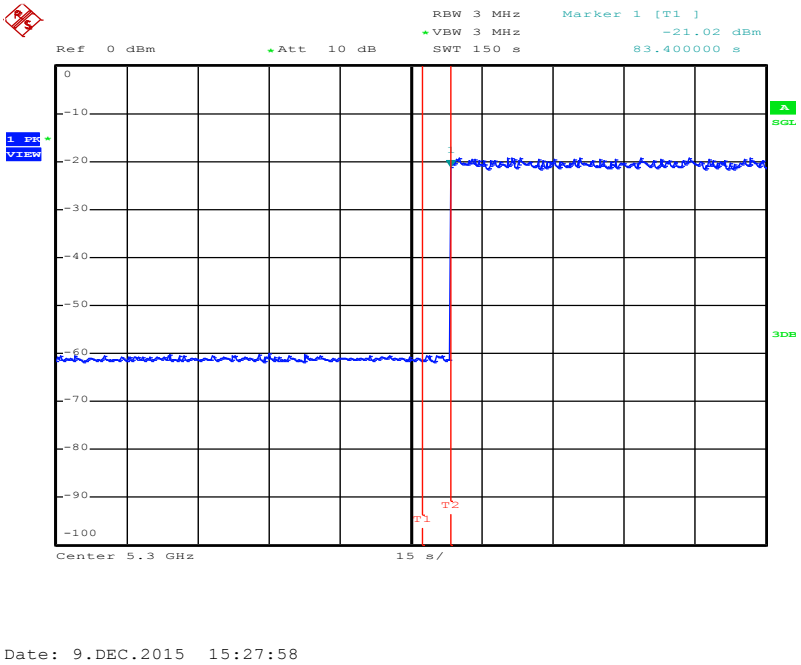
Operating mode	99% Bandwidth (MHz)	F_L (MHz)	F_H (MHz)	U-NII Detection Bandwidth / F_H-F_L (MHz)
HT20	18.8	5290	5310	20
HT40	37.3	5290	5330	40

10.4.2 Channel Availability Check Time

Initial Channel Availability Check Time

The Initial Channel Availability Check Time tests that the UUT does not emit beacon, control, or data signals on the test Channel until the power-up sequence has been completed and the U-NII device checks for Radar Waveforms for one minute on the test Channel. This test does not use any Radar Waveforms and only needs to be performed one time.

a) The U-NII devices will be powered on and be instructed to operate on the appropriate U-NII Channel that must incorporate DFS functions. At the same time the UUT is powered on, the spectrum analyzer will be set to zero span mode with a 3 MHz RBW and 3 MHz VBW on the Channel occupied by the radar with a 2.5 minute sweep time. The spectrum analyzer's sweep will be started at the same time power is applied to the U-NII device.
b) The UUT should not transmit any beacon or data transmissions until at least 1 minute after the completion of the power-on cycle.
c) Confirm that the UUT initiates transmission on the channel

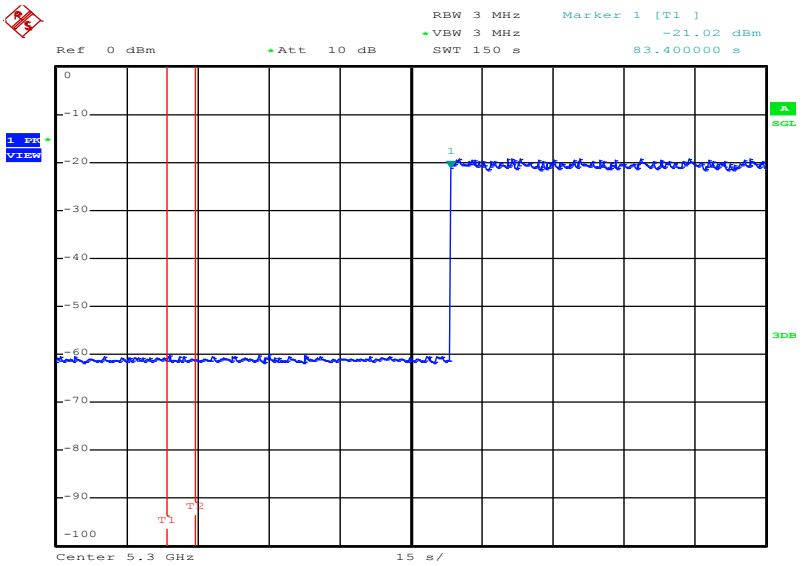


Plot 7

Note: The DUT starts transmission 83.4s after it is powered on (see Marker 1). The Channel Availability Check Time begins at least 60 seconds prior.

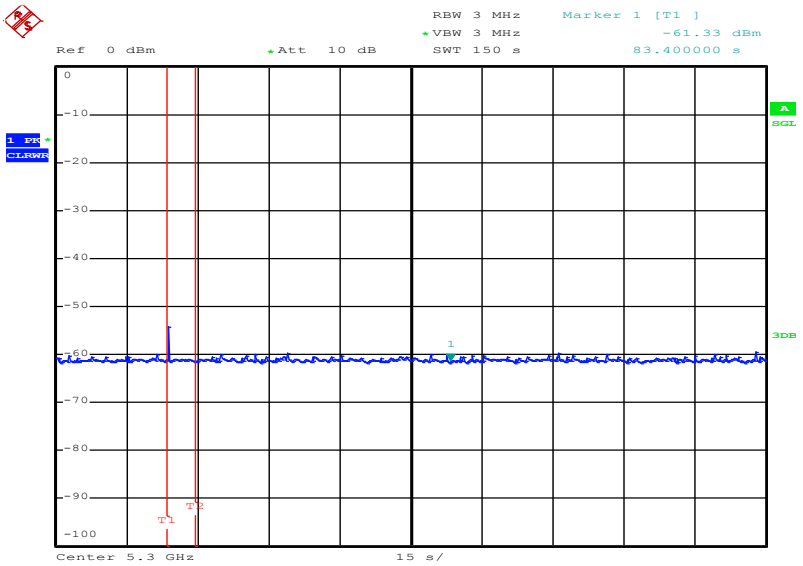
Radar Burst at the Beginning of the Channel Availability Check Time

A single Burst of one of the Short Pulse Radar Types 0-4 will commence within a 6 second window starting at the end of the power-up sequence of the DUT respectively within the first 6 seconds of the Channel Availability Check.
It must be shown that no transmissions occur after the Channel Availability Check Time as referenced in Plot 7 above.



Date: 9.DEC.2015 15:29:22

Plot 8 (Regular power-up sequence with no radar pulse injected. Time Lines do mark the 6 second time window at the beginning of the CAC-Time.)



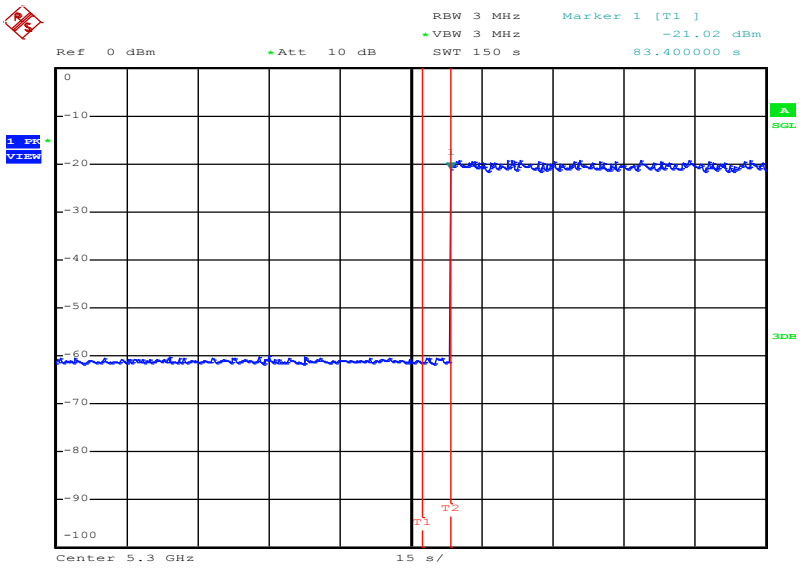
Date: 9.DEC.2015 15:33:59

Plot 9 (Power-up sequence with radar pulse injected between T_1 and T_2)

Radar Burst at the End of the Channel Availability Check Time

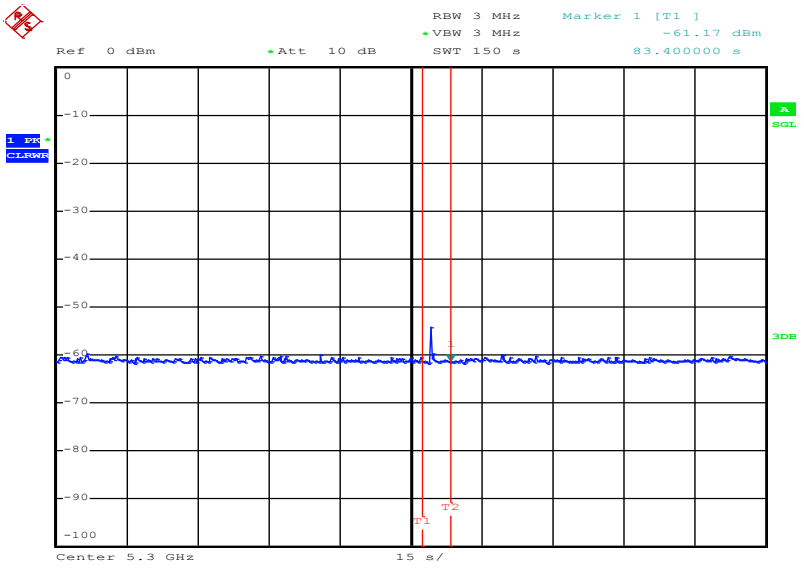
A single Burst of one of the Short Pulse Radar Types 0-4 will commence within a 6 second window at the end of the Channel Availability Check.
It must be shown that now transmissions occur after the Channel Availability Check Time as referenced in Plot 7 above.

.



Date: 9.DEC.2015 15:27:58

Plot 10 (Regular power-up sequence with no radar pulse injected. Time Lines do mark the 6 second time window at the end of the CAC-Time.)

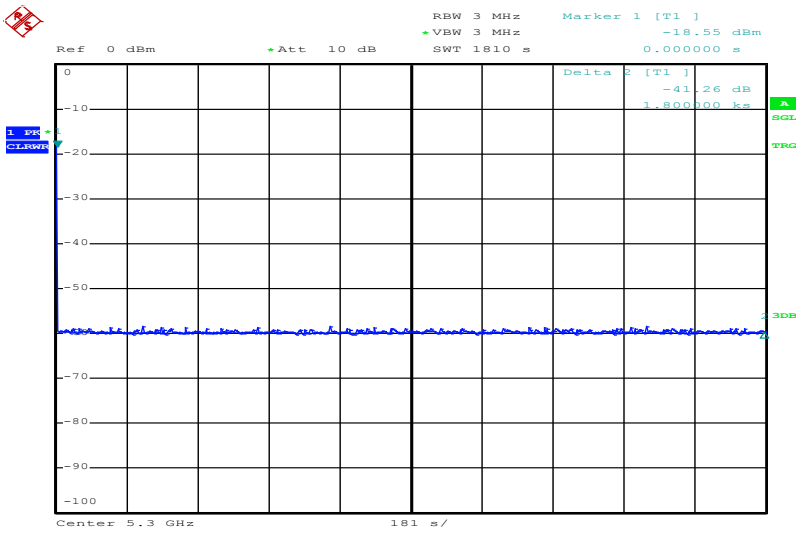


Date: 9.DEC.2015 15:38:14

Plot 11 (Power-up sequence with radar pulse injected between T_1 and T_2)

10.4.3 Non-Occupancy Period

A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non occupancy period starts at the time when the radar system is detected.



NOP
Date: 10.DEC.2015 10:01:41

Plot 12

10.5 Test results (during normal operation)

10.5.1 U-NII Detection Bandwidth

The U-NII Detection Bandwidth was determined according the procedure as described in the correspondent KDB as referenced in section 3 of this test report for any supported bandwidth.

The U-NII Detection Bandwidth must meet the U-NII Detection Bandwidth criterion referenced in section 10.2.2. Otherwise, the UUT does not comply with DFS requirements. This is essential to ensure that the UUT is capable of detecting Radar Waveforms across the same frequency spectrum that contains the significant energy from the system. In the case that the U-NII Detection Bandwidth is greater than or equal to the 99 percent power bandwidth for the measured F_H and F_L, the test can be truncated and the U-NII Detection Bandwidth can be reported as the measured F_H and F_L.

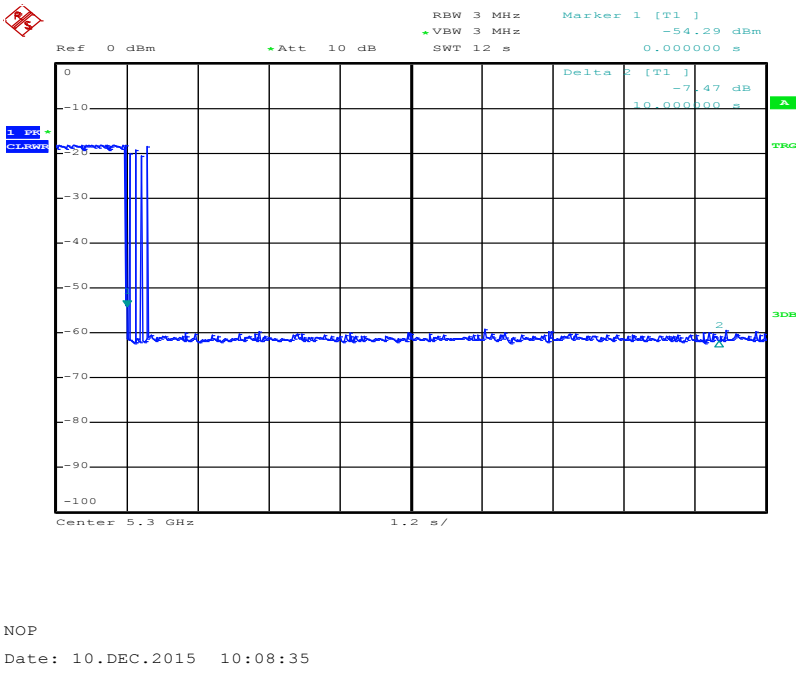
Operating mode	99% Bandwidth (MHz)	F_L (MHz)	F_H (MHz)	U-NII Detection Bandwidth / F_H-F_L (MHz)
HT20	18.8	5290	5310	20
HT40	37.3	5290	5330	40

10.5.2 Channel move time / channel closing transmission time

After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel not exceeding 60ms.

The test is performed during normal operation with the highest bandwidth supported by the DUT.

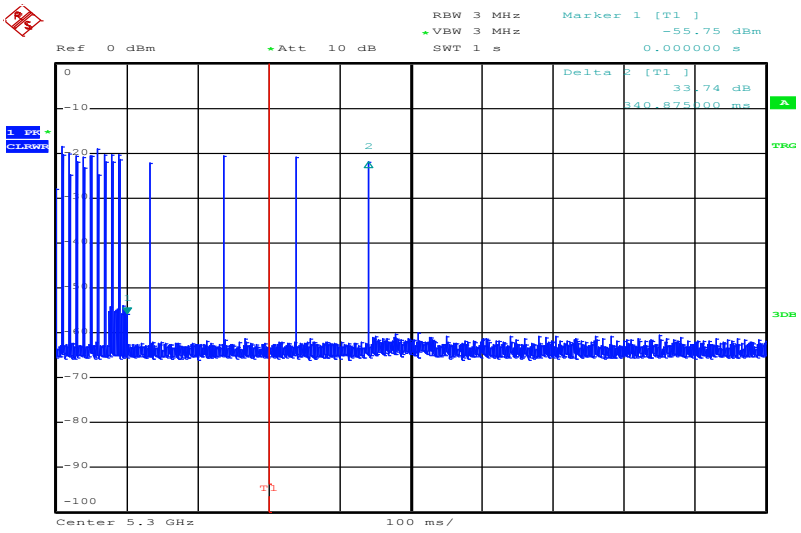
Channel Closing Time



Plot 13

Note: With Marker 1 at the end of the radar pulse (t = 0ms) and Marker 2 at t = 10s this plot shows that the Channel Closing Time is less than 10 s.

Channel Closing Transmission Time



Plot 14

Note: The accumulated transmission time is calculated by the number of bins occurring after t = 0ms multiplied with the Time-per-sweep point-factor resulting from the Sweep Time and number of Sweep Points of the Spectrum Analyser.
The Channel Closing Transmission Time is 0.5ms.

10.5.3 In-Service Monitoring / Statistical Performance Check

To determine the ability of the device to detect the radar test waveforms statistical data is gathered.

A detailed and pulse related evaluation of the test results can be found along with the sample parameter data sheets in the **Test Report Annex I**.

Short Pulse Radar Test Waveforms

According the table in section 10.2.310.2.2 the minimum percentage of successful detections for Short Pulse Radar Test Waveforms is 60% out of 30 trails. In addition an aggregate minimum percentage of successful detections across all Short Pulse Radar Types 1-4 is required and calculated as follows:

$$P_{sum} = \frac{P_d1 + P_d2 + P_d3 + P_d4}{4}$$

where: P_d is the percentage of successful detections for each radar burst
P_{sum} is the aggregate percentage of successful detections

The minimum percentage of successful aggregate detections across all Short Pulse Radar Types 1-4 is 80%.

Results HT20-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
1	30	30	**100**
2	30	27	**90**
3	30	28	**93**
4	30	28	**93**
Aggregate (Radar Types 1-4)			**94**

Results HT40-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
1	30	30	**100**
2	30	25	**83**
3	30	25	**83**
4	30	27	**90**
Aggregate (Radar Types 1-4)			**89**

Long Pulse Radar Test

Results HT20-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
5	30	30	**100**

Results HT40-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
5	30	30	**100**

Frequency Hopping Radar Test

Results HT20-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
6	30	30	**100**

Results HT40-Mode:

Radar Type	Number of Trails	Number of Successful Detections	Percentage of Successful Detections
6	30	29	**96**

11 Observations

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

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2016-01-07
-A	Editorial changes (Model name, FVIN)	2016-01-14
-B	IC ID corrected	2016-06-10

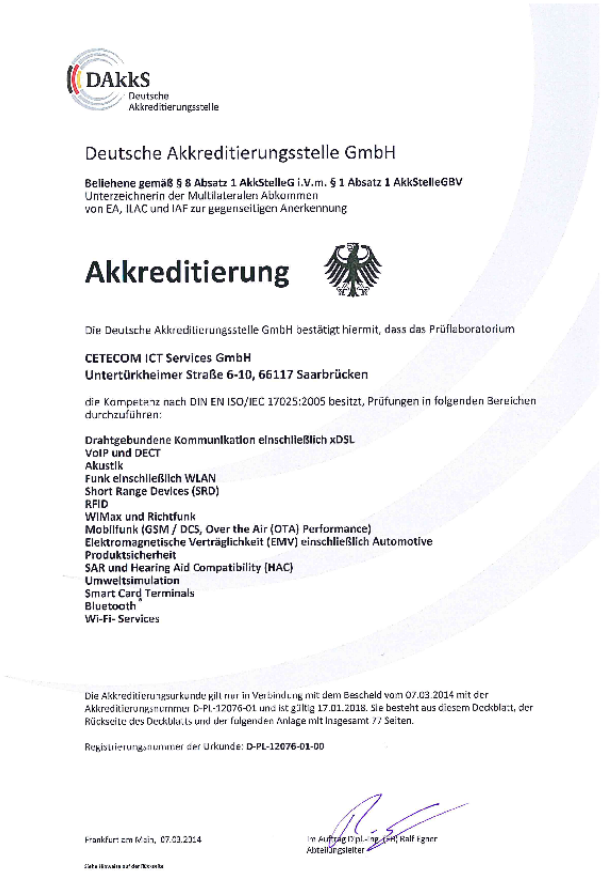
Annex B Further information

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
PMN		Product marketing name
HMN		Host marketing name
HVIN		Hardware version identification number
FVIN		Firmware version identification number

Annex C Accreditation Certificate

Front side of certificate



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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)
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Im Auftrag Dipl.-Ing. (FH) Ralf Egner
Abteilungsleiter

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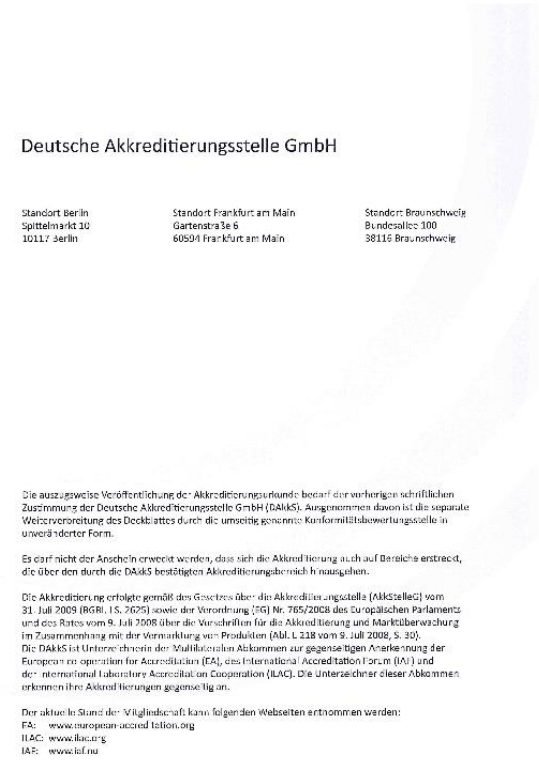

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