

Inter**Lab**<sup>®</sup>

Final Report on

EA-UMTS-DIN; 100.0811BU

**Report Reference:** MDE\_LEIT\_1701\_02

**Date:** July 14, 2017

**Test Laboratory:**

7layers GmbH  
Borsigstraße 11  
40880 Ratingen  
Germany



Deutsche  
Akkreditierungsstelle  
D-PL-12140-01-00

**Note:**

The following test results relate only to the devices specified in this document. This report shall not be reproduced in parts without the written approval of the test laboratory.

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## 1 Administrative Data

### 1.1 Project Data

*Project Responsible:* Robert Machulec  
*Date Of Test Report:* 2017/07/14  
*Date of first test:* 2017/06/02  
*Date of last test:* 2017/06/06

### 1.2 Applicant Data

*Company Name:* Leitronic AG  
*Street:* Engellostr.16  
*City:* CH-5621 Zufikon  
*Country:* Switzerland  
  
*Contact Person:* Mr. Silvan Tognella  
*Function:* Geschäftsleiter  
*Phone:* +41 (0) 56 648 40 40  
*Fax:* +41 (0) 56 648 40 41  
*E-Mail:* silvan.tognella@leitronic.ch

### 1.3 Test Laboratory Data

The following list shows all places and laboratories involved for test result generation:

#### 7 layers DE

*Company Name :* 7layers GmbH  
*Street :* Borsigstrasse 11  
*City :* 40880 Ratingen  
*Country :* Germany  
*Contact Person :* Mr. Michael Albert  
*Phone :* +49 2102 749 201  
*Fax :* +49 2102 749 444  
*E Mail :* Michael.Albert@7Layers.com

#### Laboratory Details

Lab ID	Identification	Responsible	Accreditation Info
Lab 1	Radiated Emissions	Mr. Marco Kullik Mr. Jens Dörwald	DAkKS-Registration no. D-PL-12140-01-00 ISED OATS registration number 3699A-1 FCC accreditation registration number 929146

#### 1.4 Signature of the Testing Responsible



Robert Machulec  
responsible for tests performed in: Lab 1

#### 1.5 Signature of the Accreditation Responsible



Michael Albert

Accreditation scope responsible person  
responsible for Lab 1

### 2 Test Object Data

#### 2.1 General OUT Description

The following section lists all OUTs (Object's Under Test) involved during testing.

##### OUT: EA-UMTS-DIN

Type / Model / Family:	EA-UMTS-DIN; 100.0811BU additional available models: 100.0813BU 100.081XBU
Product Category:	Others
<b>Manufacturer:</b>	
Company Name:	see applicant data
Contact Person:	see applicant data

#### 2.2 Detailed Description of OUT Samples

##### Sample : ab01

OUT Identifier	EA-UMTS-DIN		
Sample Description	includes Telit UL865-EUR		
Serial No.	IMEI: 355856050829148		
HW Status	L437C; L418		
SW Status	V3.20 Test		
Nominal Voltage	14.3 V	Normal Temp.	25 °C

## 2.3 OUT Features

### Features for OUT: EA-UMTS-DIN

<i>Designation</i>	<i>Description</i>	<i>Allowed Values</i>	<i>Supported Value(s)</i>
<b>Features for scope: GERAN_v1</b>			
A.1/2	Extended GSM Band (E-GSM), (including standard Band)		
A.1/4	DCS 1800 band		
A.1/7	Small Mobile Station		
A.1/10	GSM Power Class 4		
A.1/12	DCS Power Class 1		
A.1/78	GPRS Multislot Class12		
<b>Features for scope: UTRA_v2</b>			
34121_A.6/2	Frequency band: 1920 - 1980, 2110 - 2170 MHz		
34121_A.6/11	UE Power Class 3 for Operation Band I (+24 dBm)		
34121_A.6/19	Frequency band: 880 - 915, 925 - 960 MHz		
34121_A.6/a/19	UE Power Class 3 for Operation Band VIII (+24 dBm)		

## 2.4 Auxiliary Equipment

<i>AE No.</i>	<i>Type Designation</i>	<i>Serial No.</i>	<i>HW Status</i>	<i>SW Status</i>	<i>Description</i>
AE AE1	SAW06-12.0-0500CEWA	118.0114			Switching power supply 230/12 V

## 2.5 Setups used for Testing

For each setup a relation is given to determine if and which samples and auxiliary equipment is used. The left side list all OUT samples and the right side lists all auxiliary equipment for the given setup.

Setup No.	List of OUT samples		List of auxiliary equipment	
Sample No.	Sample Description	AE No.	AE Description	
S01_AB01				
Sample: ab01	includes Telit UL865-EUR	AE AE1	Switching power supply 230/12 V	

### 3 Results

#### 3.1 General

**Documentation of tested devices:**

Available at the test laboratory.

**Interpretation of the test results:**

The results of the inspection are described on the following pages, where 'Conformity' or 'Passed' means that the certification criteria were verified and that the tested device is conform to the applied standard.

In cases where 'Declaration' is printed, the required documents are available in the manufacturers product documentation.

In cases where 'not applicable' is printed, the test case requirements are not relevant to the specific equipment implementation.

**Note:**

1. The environmental conditions are recorded and available in the InterLab system for each performed test.
2. The test case selection was done on customer's demand.
3. Additional available variants according to applicants information are: 100.0813BU and 100.081XBU

#### 3.2 List of the Applicable Body

(Body for Scope: GERAN\_v1)

<i>Designation</i>	<i>Description</i>
R&TTE - EN 301 511 V12.1.1	Official R&TTE version based on the latest OJ publication and EN 301 511.

(Body for Scope: UTRA\_v2)

<i>Designation</i>	<i>Description</i>
RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)	Official RED version based on the latest OJ publication. RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)

#### 3.3 List of Test Specification

**Test Specification:** **51.010-1**  
**Date / Version:** 2017/07/06 Version: v13.4.0  
**Title:** 3GPP TS 51.010-1  
**Description:** Part 1: Conformance specification

**Test Specification:** **ETSI EN 301 908-1 (v11.1.1)**  
**Date / Version:** 2016/07/01 Version: 11.1.1  
**Title:** IMT cellular networks;  
Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU;  
Part 1: Introduction and common requirements  
**Description:** Radiated emissions (UE)  
Control and monitoring functions (UE)

### 3.4 Summary

<i>Test Case Identifier / Name</i>			<i>Lab</i>		
<i>Test (condition)</i>	<i>Cat</i>	<i>Result</i>	<i>Date of Test</i>	<i>Ref.</i>	<i>Setup</i>
<b>Test Specification: 51.010-1</b>					
<b>12.2.1 Radiated spurious emissions, MS allocated a channel</b>					
12.2.1; Frequency Band = 1800, VN	A	Passed	2017/06/06	Lab 1	S01_AB01
12.2.1; Frequency Band = 900, VN	A	Passed	2017/06/02	Lab 1	S01_AB01
<b>12.2.2 Radiated spurious emissions, MS in idle mode</b>					
12.2.2; Frequency Band = 1800, VN	A	Passed	2017/06/06	Lab 1	S01_AB01
12.2.2; Frequency Band = 900, VN	A	Passed	2017/06/02	Lab 1	S01_AB01
<b>Test Specification: ETSI EN 301 908-1 (v11.1.1)</b>					
<b>5.3.1 Radiated emissions (UE)</b>					
5.3.1; FDD1, Idle	A	Passed	2017/06/06	Lab 1	S01_AB01
5.3.1; FDD1, traffic	A	Passed	2017/06/02	Lab 1	S01_AB01
5.3.1; FDD8, Idle	A	Passed	2017/06/06	Lab 1	S01_AB01
5.3.1; FDD8, traffic	A	Passed	2017/06/06	Lab 1	S01_AB01

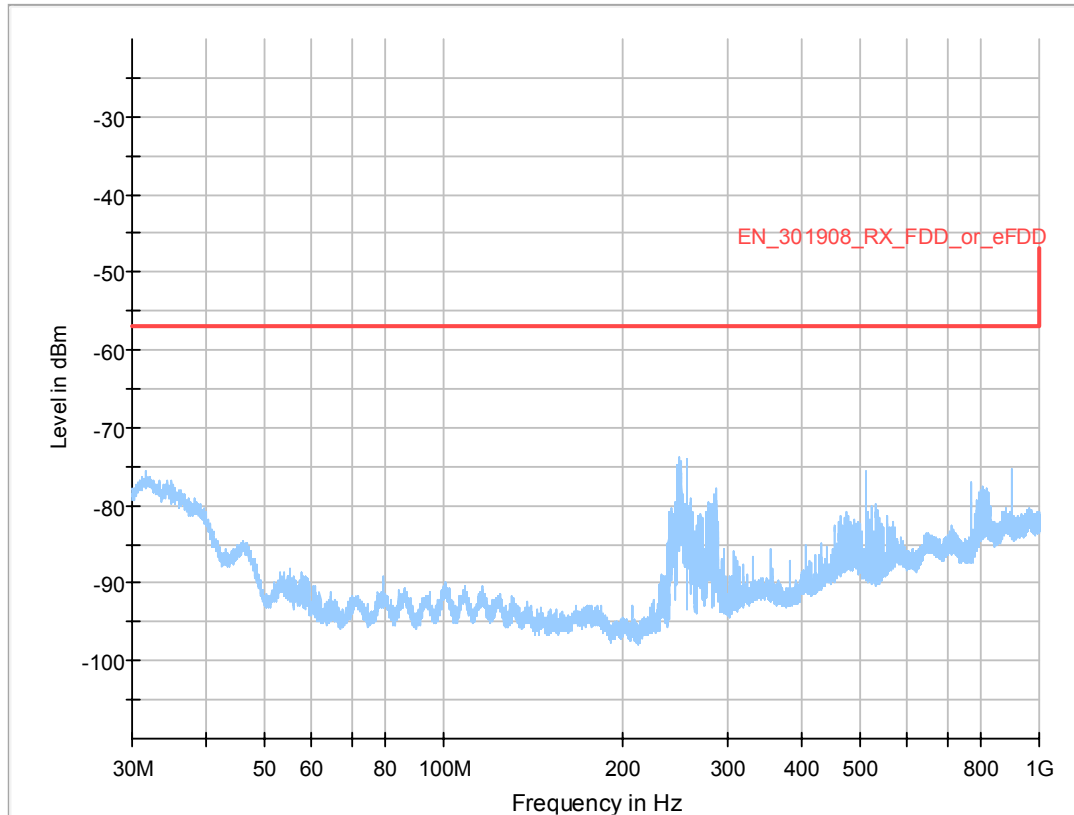
### 3.5 Detailed Results

#### 3.5.1 5.3.1 Radiated emissions (UE)

**Test: 5.3.1; FDD1, Idle**

<i>Result:</i>	Passed
<i>Setup No.:</i>	S01_AB01
<i>Date of Test:</i>	2017/06/06 2:16
<i>Body:</i>	RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)
<i>Test Specification:</i>	ETSI EN 301 908-1 (v11.1.1)

**Detailed Results:**



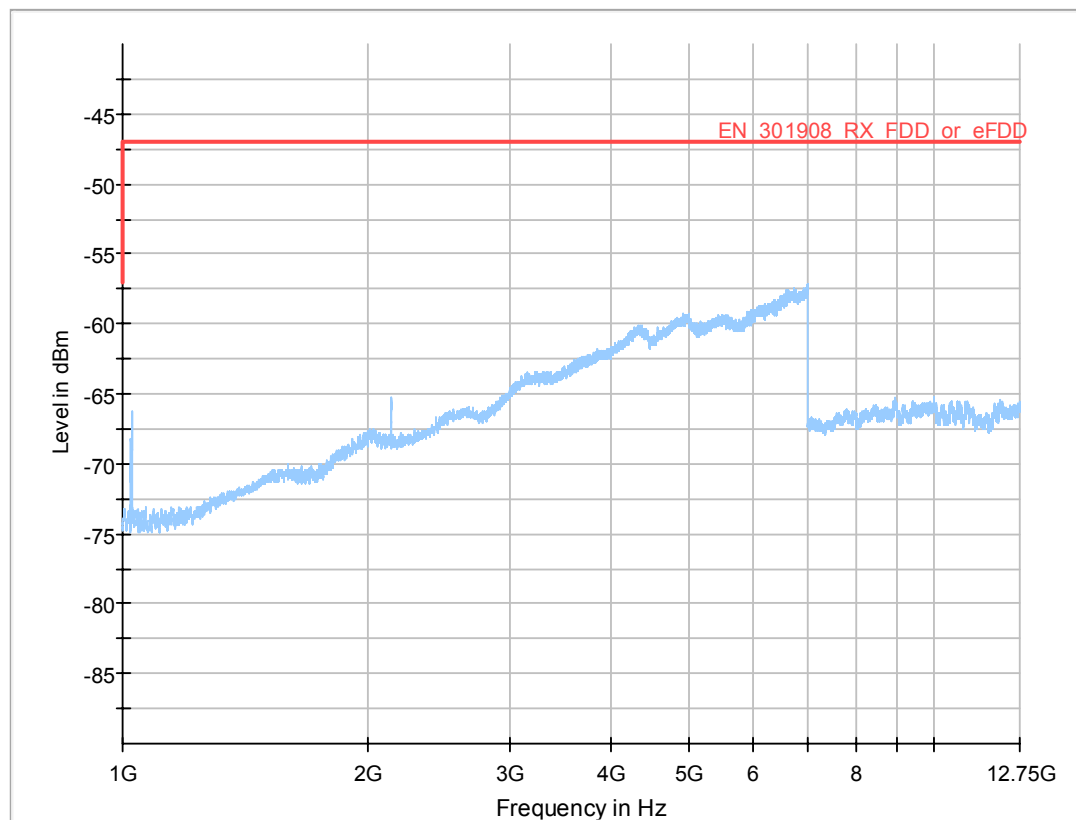
**Critical\_Freqs**

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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**Final\_Result**

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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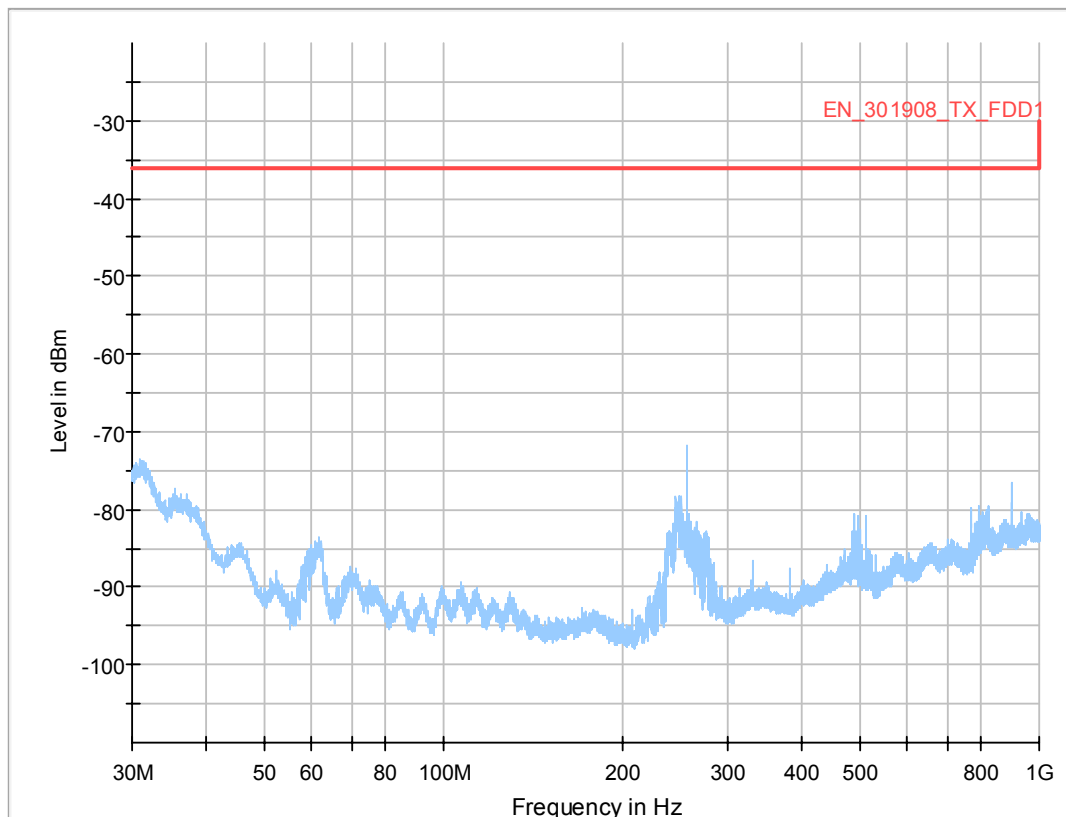
## Final\_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Test: 5.3.1; FDD1, traffic

Result:	Passed
Setup No.:	S01_AB01
Date of Test:	2017/06/02 7:39
Body:	RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)
Test Specification:	ETSI EN 301 908-1 (v11.1.1)

# Detailed Results:

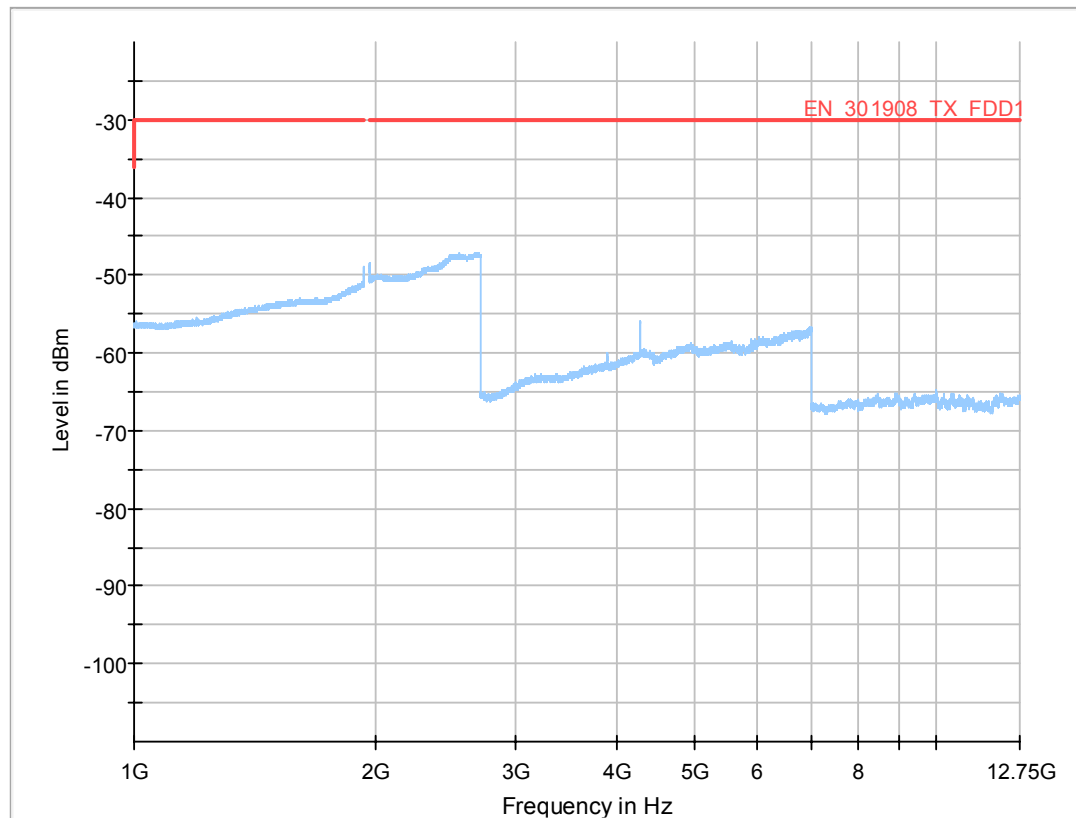


## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Final\_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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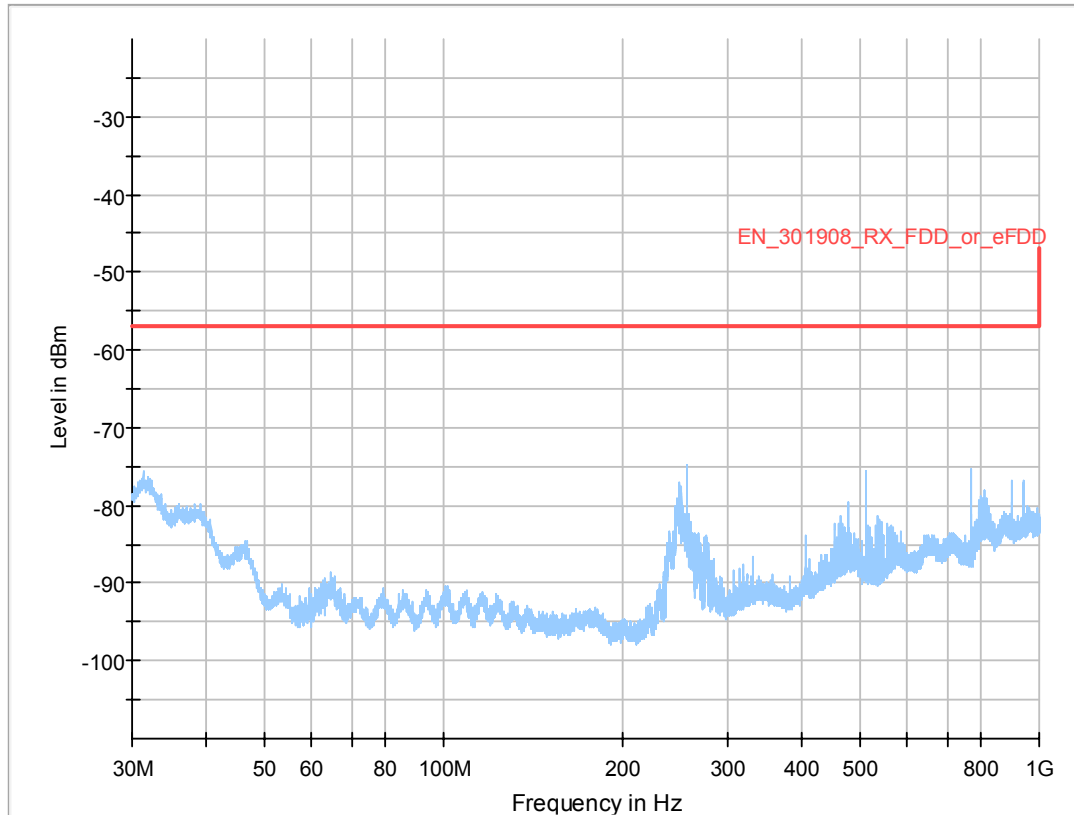
## Final\_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Test: 5.3.1; FDD8, Idle

Result:	Passed
Setup No.:	S01_AB01
Date of Test:	2017/06/06 4:46
Body:	RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)
Test Specification:	ETSI EN 301 908-1 (v11.1.1)

**Detailed Results:**

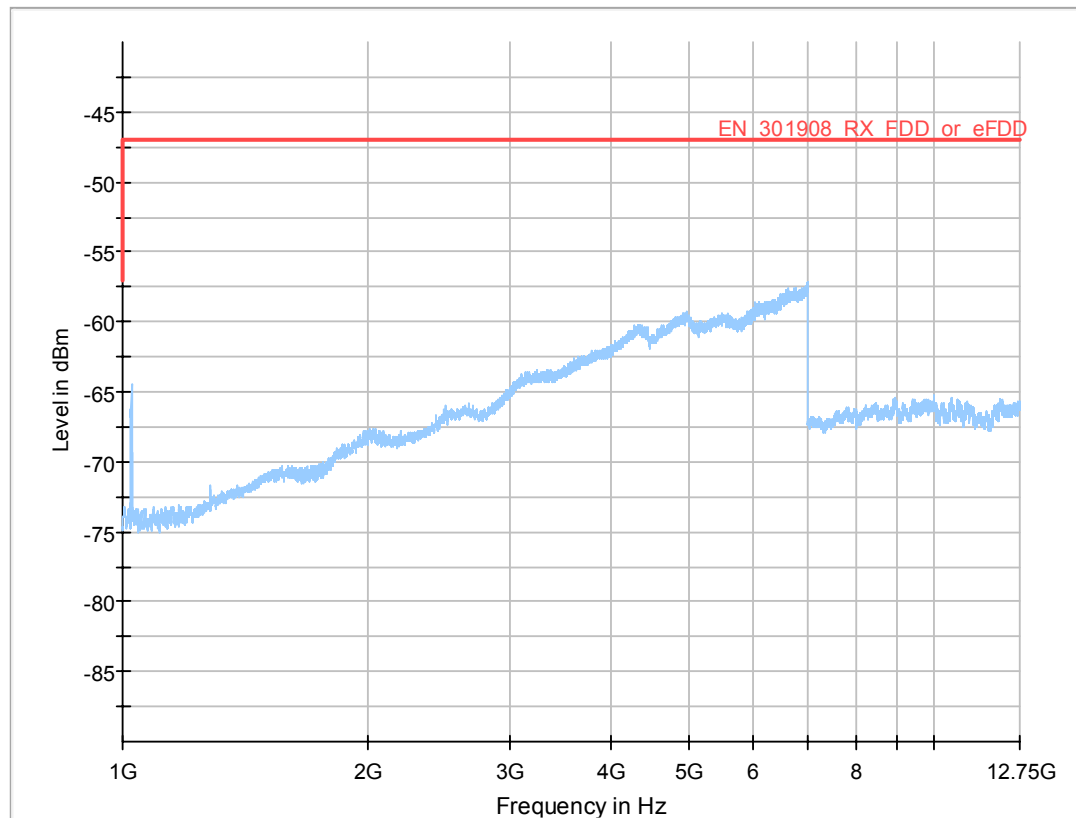


**Critical\_Freqs**

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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**Final\_Result**

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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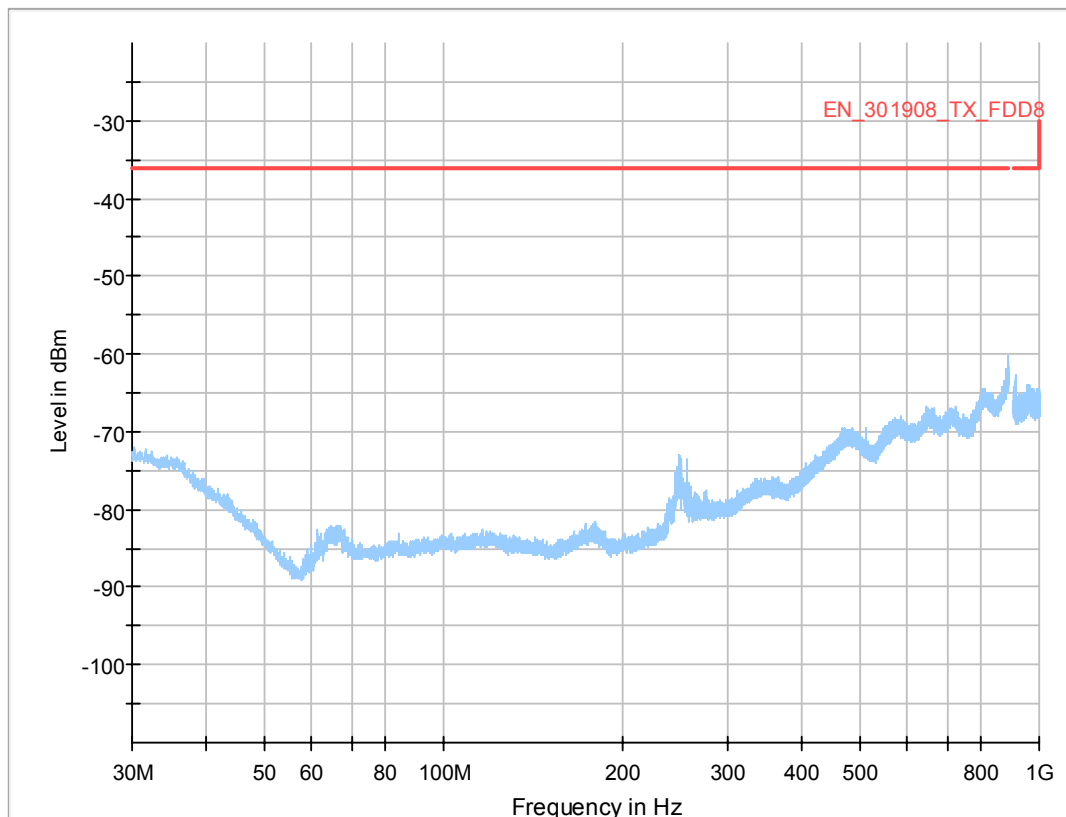
## Final\_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Test: 5.3.1; FDD8, traffic

Result:	Passed
Setup No.:	S01_AB01
Date of Test:	2017/06/06 4:47
Body:	RED - EN 301 908-1 (v11.1.1) & RED - EN 301 908-2 (v11.1.1)
Test Specification:	ETSI EN 301 908-1 (v11.1.1)

# Detailed Results:

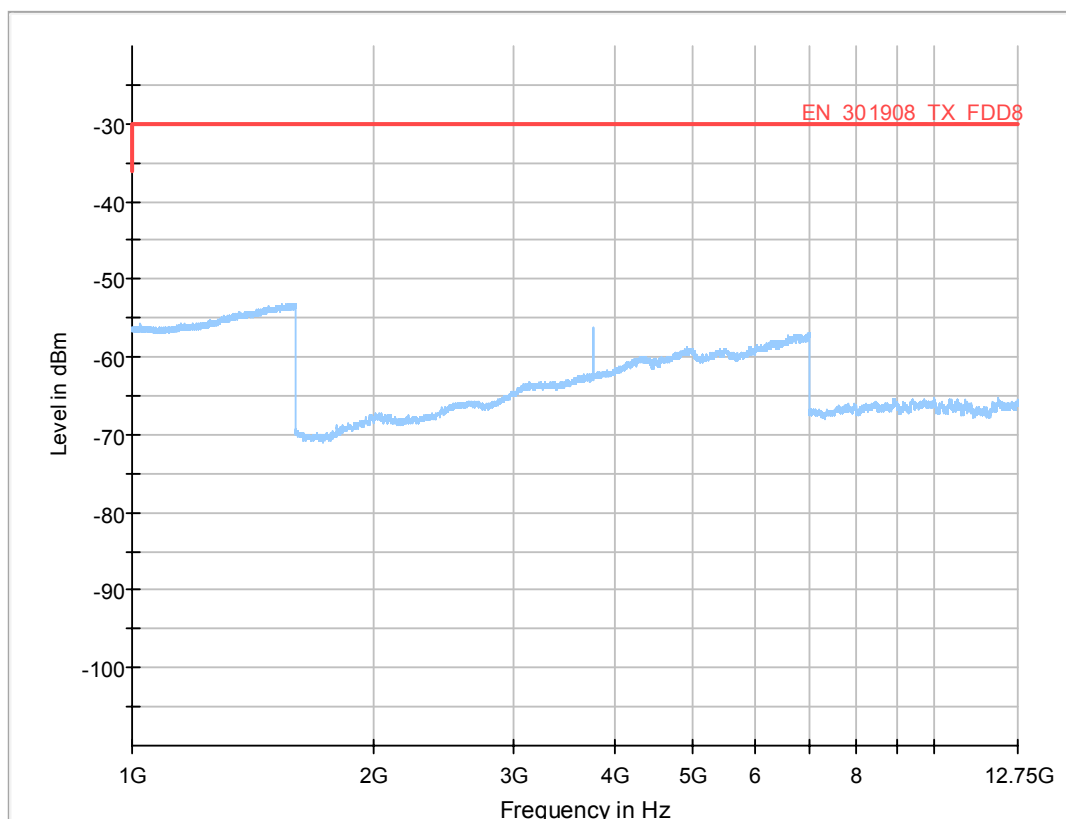


## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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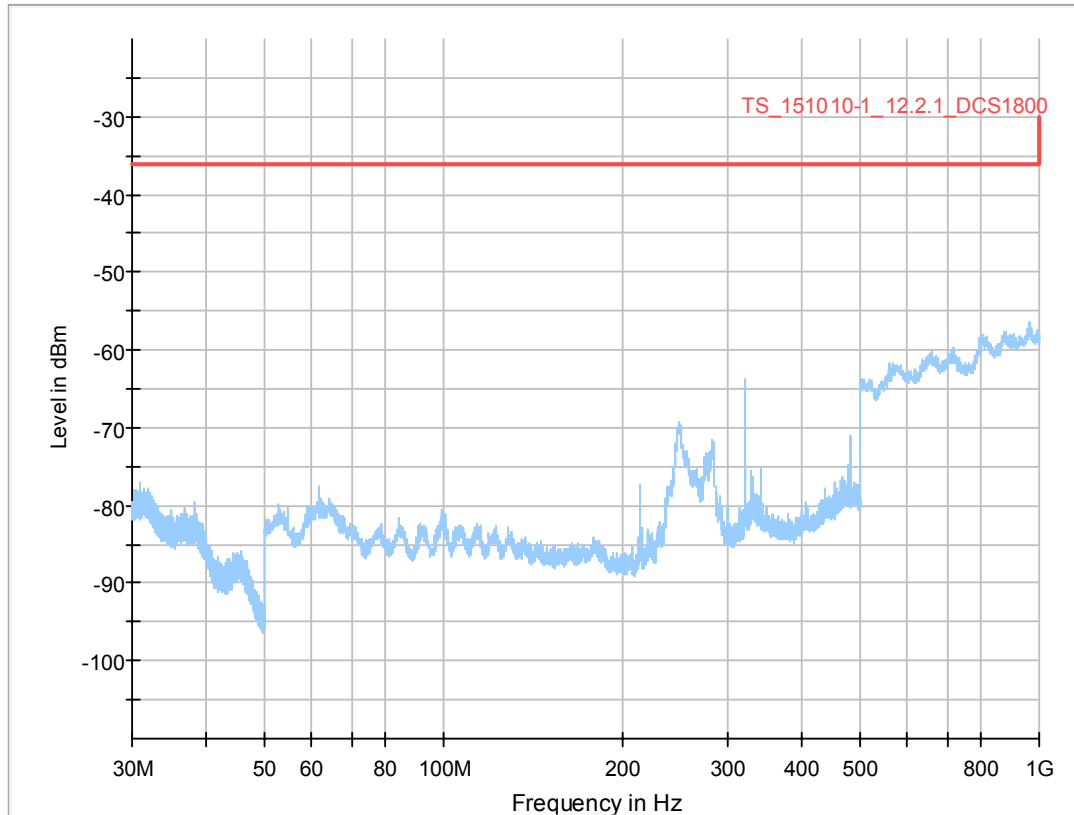
**3.5.2      12.2.1      Radiated spurious emissions, MS allocated a channel**

**Test: 12.2.1; Frequency Band = 1800, VN**

<i>Result:</i>	Passed
<i>Setup No.:</i>	S01_AB01
<i>Date of Test:</i>	2017/06/06 6:43
<i>Body:</i>	R&TTE - EN 301 511 V12.1.1
<i>Test Specification:</i>	51.010-1



**Detailed Results:**

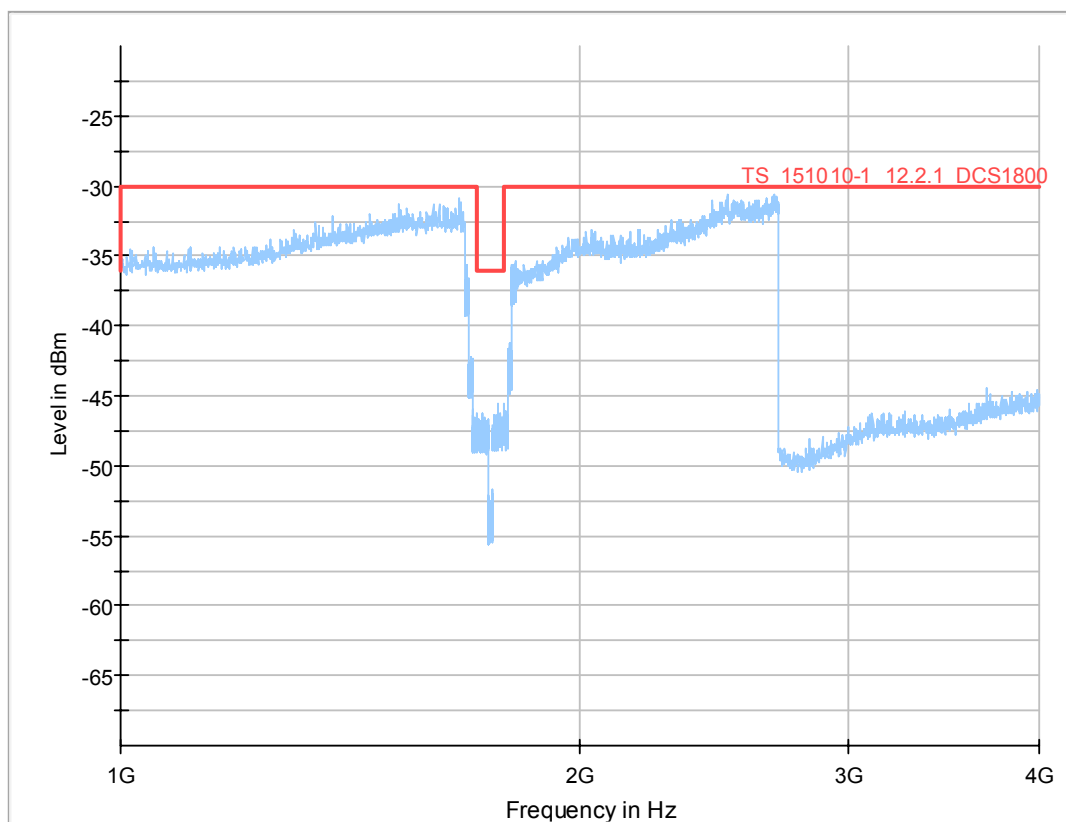


**Critical\_Freqs**

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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**Final\_Result**

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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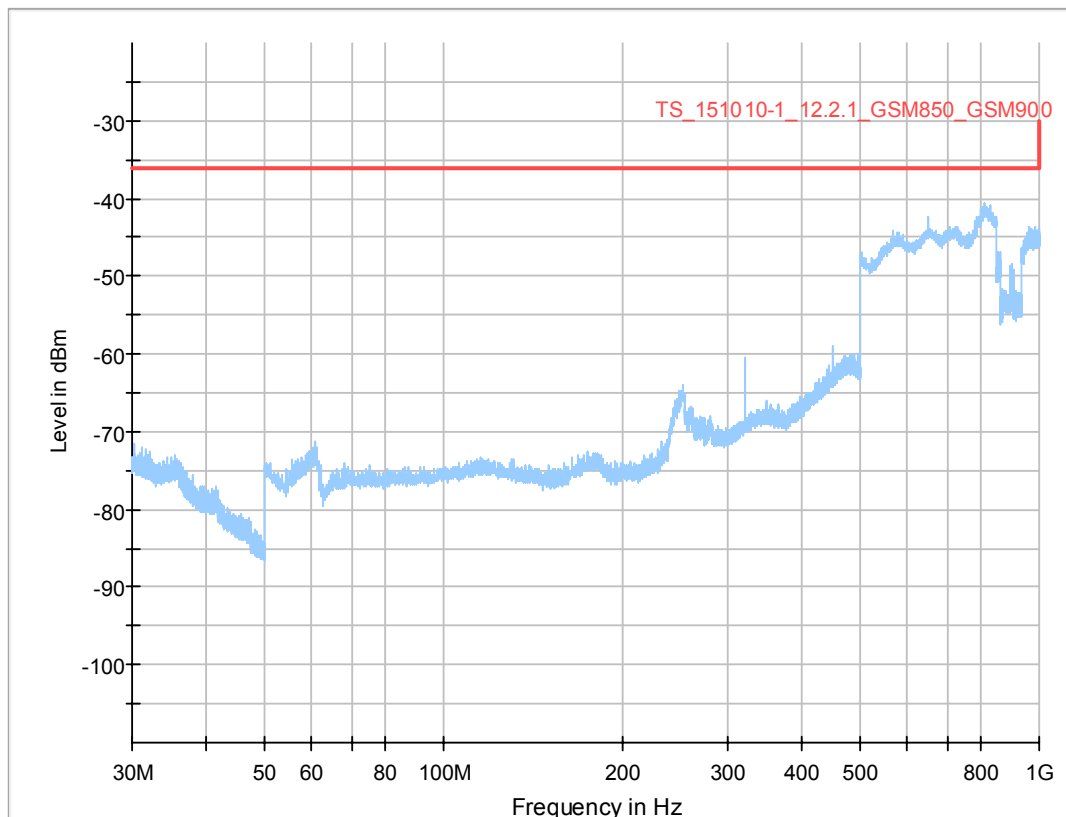
## Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Test: 12.2.1; Frequency Band = 900, VN

Result:	Passed
Setup No.:	S01_AB01
Date of Test:	2017/06/02 4:39
Body:	R&TTE - EN 301 511 V12.1.1
Test Specification:	51.010-1

#### Detailed Results:

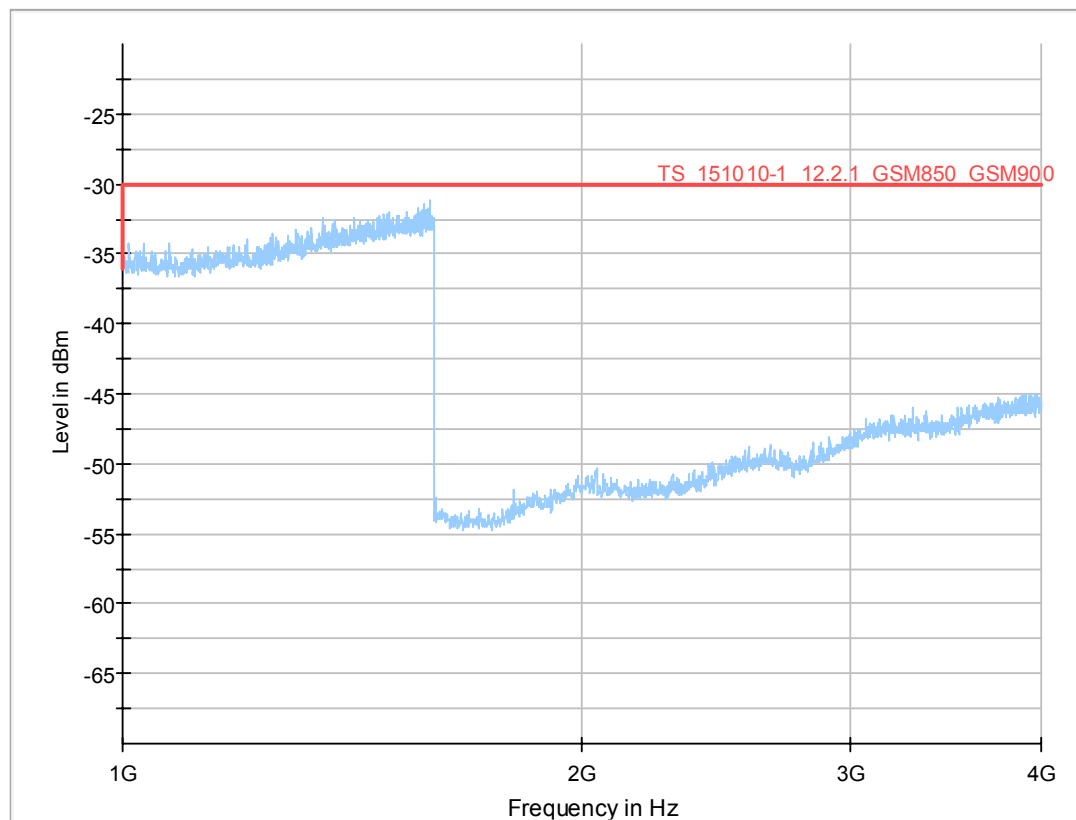


#### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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#### Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Final\_Result

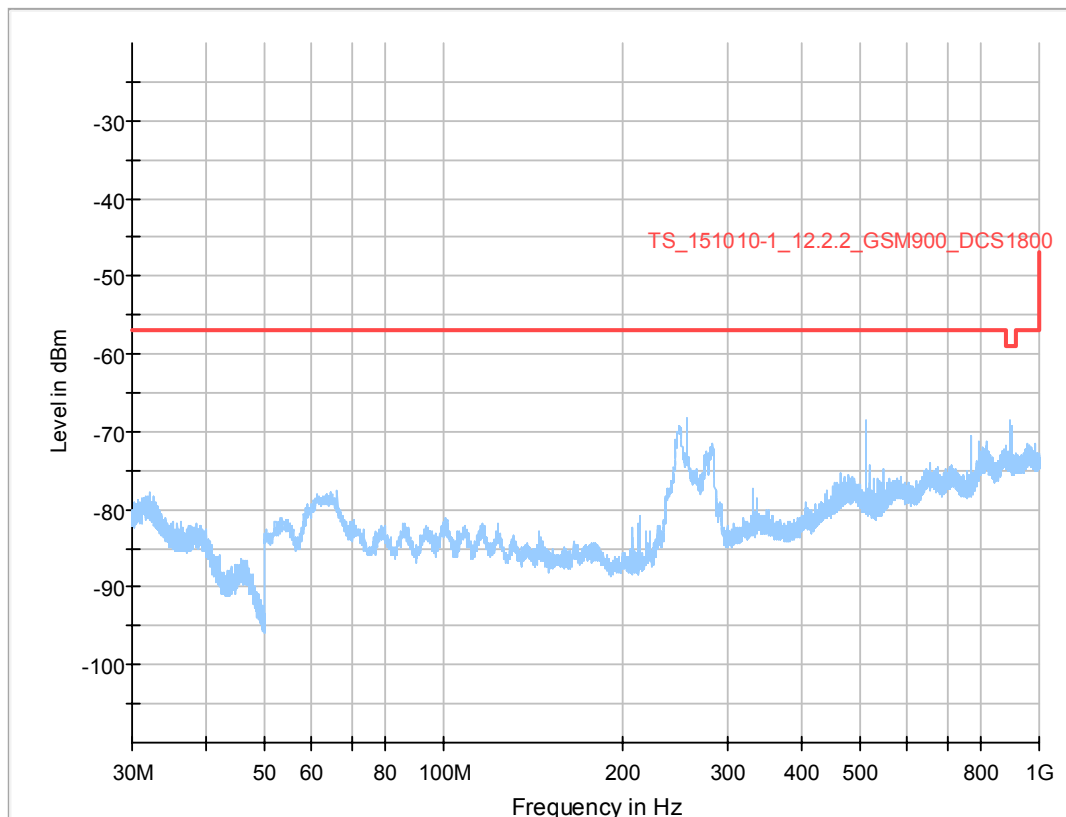
Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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**3.5.3      12.2.2      Radiated spurious emissions, MS in idle mode**

**Test: 12.2.2; Frequency Band = 1800, VN**

<i>Result:</i>	Passed
<i>Setup No.:</i>	S01_AB01
<i>Date of Test:</i>	2017/06/06 23:52
<i>Body:</i>	R&TTE - EN 301 511 V12.1.1
<i>Test Specification:</i>	51.010-1

# Detailed Results:

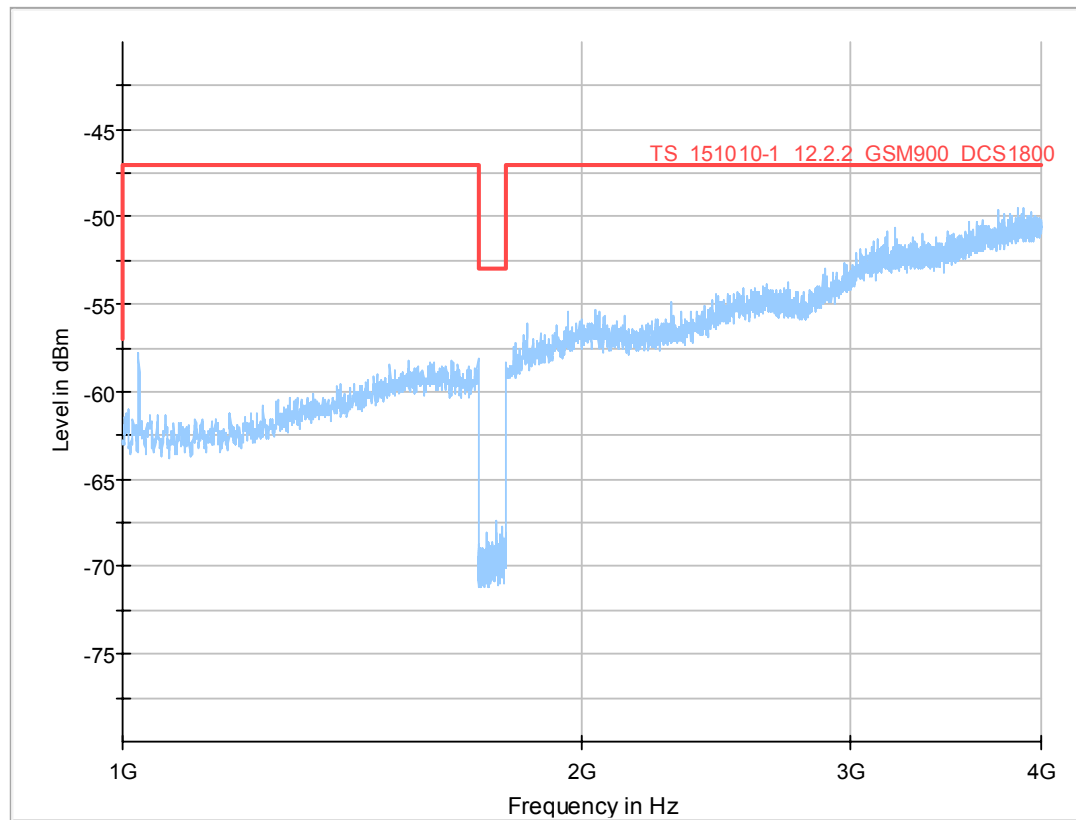


## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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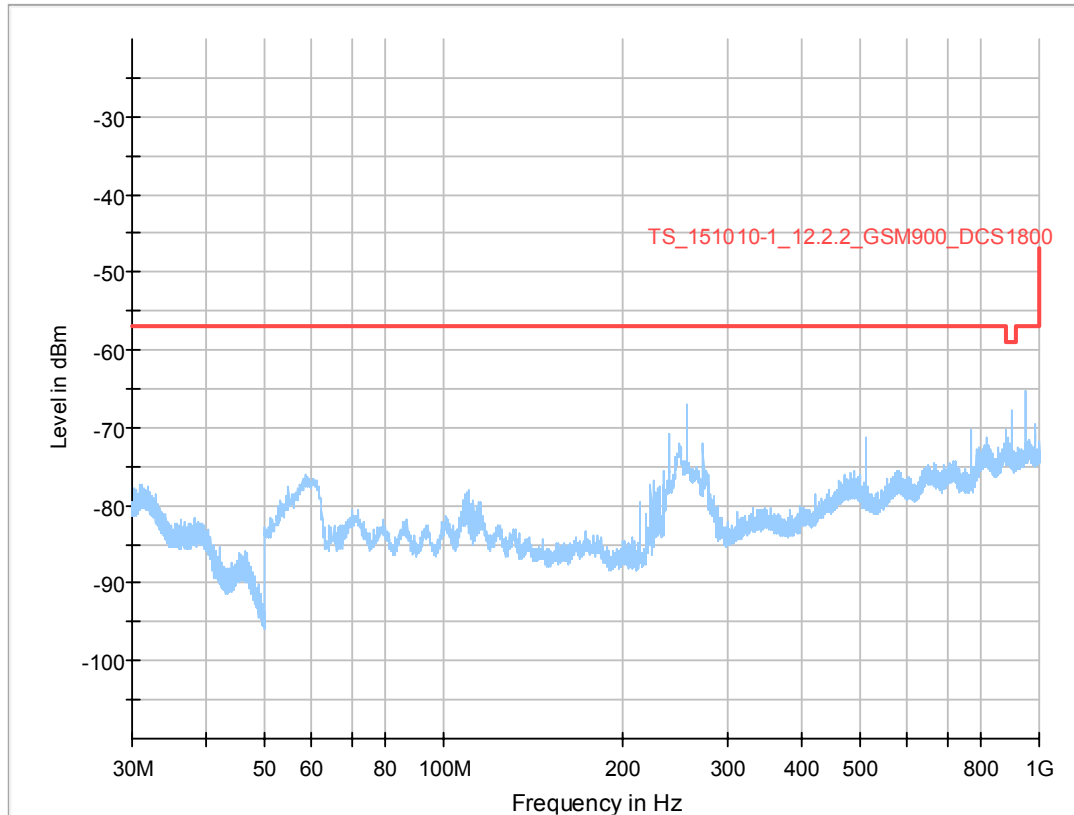
## Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Test: 12.2.2; Frequency Band = 900, VN

Result:	Passed
Setup No.:	S01_AB01
Date of Test:	2017/06/02 6:43
Body:	R&TTE - EN 301 511 V12.1.1
Test Specification:	51.010-1

**Detailed Results:**



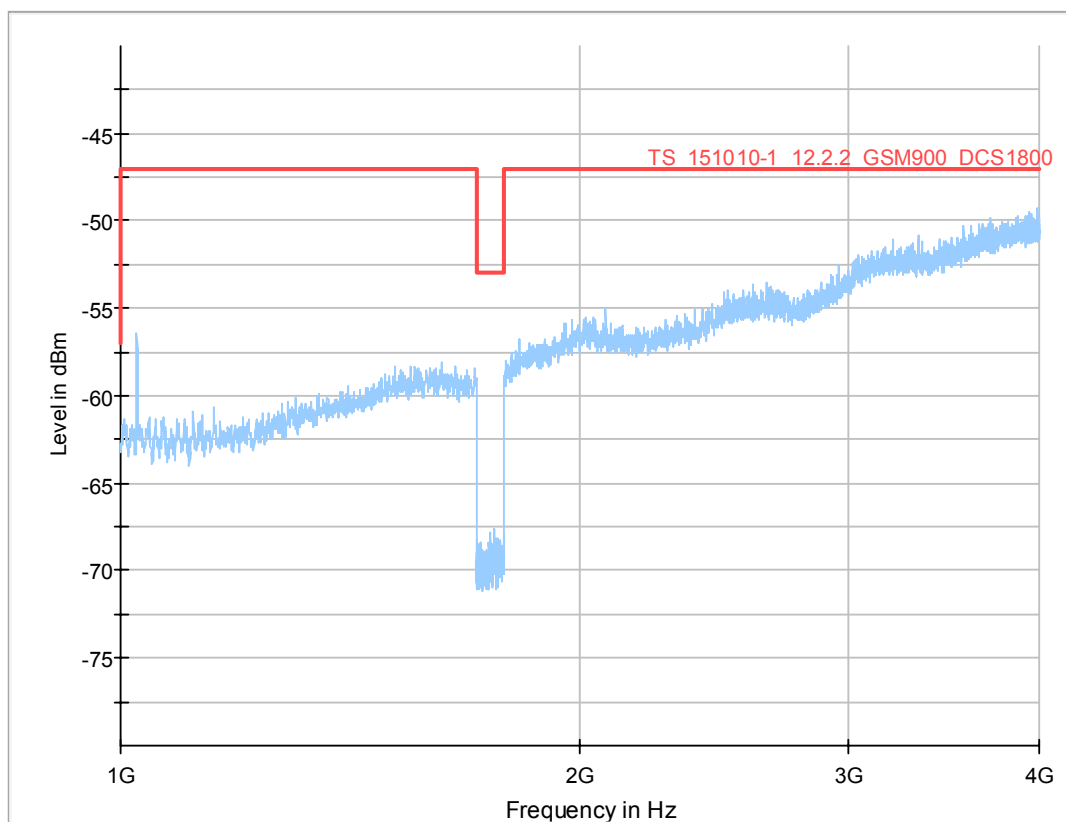
**Critical\_Freqs**

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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**Final\_Result**

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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### Final\_Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
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## 4 Test Equipment Details

### 4.1 List of Used Test Equipment

The calibration, hardware and software states are shown for the testing period.

#### Test Equipment Anechoic Chamber

**Lab ID:** Lab 1  
**Description:** Anechoic Chamber for radiated testing

##### Single Devices for Anechoic Chamber

Single Device Name	Type	Serial Number	Manufacturer
Air compressor	none	-	
Anechoic Chamber	10.58 x 6.38 x 6.00 m <sup>3</sup>	none	
Anechoic Chamber	8.8m x 4.6m x 4.05 m	B83117-S40-X191	Albatross Projects GmbH
Controller Maturo	MCU	961208	Maturo GmbH
EMC camera	CE-CAM/1	-	
EMC camera Nr.2	CCD-400E	0005033	
Filter ISDN	B84312-C110-E1		
Filter Universal 1A	BB4312-C30-H3	-	

#### Test Equipment Auxiliary Equipment for Radiated emissions

**Lab ID:** Lab 1  
**Description:** Equipment for emission measurements  
**Serial Number:** see single devices

##### Single Devices for Auxiliary Equipment for Radiated emissions

Single Device Name	Type	Serial Number	Manufacturer
Antenna mast	AM 4.0	AM4.0/180/11920 513	Maturo GmbH
Biconical Broadband Antenna	SBA 9119	9119-005	
Biconical dipole	VUBA 9117	9117-108	
Broadband Amplifier 1 GHz - 4 GHz	AFS4-01000400-1Q-10P-4	-	
Broadband Amplifier 18 GHz - 26 GHz	JS4-18002600-32-5P	849785	
Broadband Amplifier 30 MHz - 18 GHz	JS4-00101800-35-5P	896037	
Cable "ESI to EMI Antenna"	EcoFlex10	W18.01-2+W38.01-2	
Cable "ESI to Horn Antenna"	SucoFlex	W18.02-2+W38.02-2	
Double-ridged horn	HF 906	357357/002	Rohde & Schwarz GmbH & Co. KG
<i>Calibration Details</i>			<i>Last Execution</i> <i>Next Execution</i>
	Standard Calibration		2015/06/23    2018/06/22
Double-ridged horn	HF 907	102444	Rohde & Schwarz GmbH & Co. KG
<i>Calibration Details</i>			<i>Last Execution</i> <i>Next Execution</i>

**Single Devices for Auxiliary Equipment for Radiated emissions (continued)**

<i>Single Device Name</i>	<i>Type</i>	<i>Serial Number</i>	<i>Manufacturer</i>	
	Standard Calibration		2015/05/11	2018/05/10
Double-ridged horn-duplicated 2015-07-15 10:47:55	HF 906	357357/001	Rohde & Schwarz GmbH & Co. KG	
High Pass Filter	4HC1600/12750-1.5-KK	9942011		
High Pass Filter	5HC2700/12750-1.5-KK	9942012		
High Pass Filter	5HC3500/18000-1.2-KK	200035008		
High Pass Filter	WHKX 7.0/18G-8SS	09		
Horn Antenna Schwarzbeck 15-26.5 GHz BBHA 9170	BBHA 9170	BBHA9170262		
Log.-per. Antenna	HL 562 Ultralog	100609	Rohde & Schwarz GmbH & Co. KG	
Log.-per. Antenna (upgraded)	HL 562 Ultralog new biconicals	830547/003	Rohde & Schwarz GmbH & Co. KG	
<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	Standard Calibration		2015/06/30	2018/06/29
Loop Antenna	HFH2-Z2	829324/006	Rohde & Schwarz GmbH & Co. KG	
<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	DKD Calibration		2014/11/27	2017/11/27
Standard Gain / Pyramidal Horn Antenna 40 GHz	3160-10	00086675		
Tilt device Maturo (Rohacell)	Antrieb TD1.5-10kg	TD1.5-10kg/024/3790709	Maturo GmbH	

## Test Equipment Auxiliary Test Equipment

<b>Lab ID:</b>	<b>Lab 1</b>
<i>Description:</i>	Single Devices for various Test Equipment
<i>Type:</i>	various
<i>Serial Number:</i>	none

### Single Devices for Auxiliary Test Equipment

<i>Single Device Name</i>	<i>Type</i>	<i>Serial Number</i>	<i>Manufacturer</i>		
Broadband Power Divider N (Aux)	1506A / 93459	LM390			
Broadband Power Divider SMA	WA1515	A855			
Digital Multimeter 03 (Multimeter)	Fluke 177	86670383			
	<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	DAkKS Calibration			2016/02/04	2018/02/28
Digital Multimeter 13 (Clamp Meter)	Fluke 325	31270091WS	FLUKE		
	<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	DAkKS-Calibration			2016/02/04	2019/02/28
Fibre optic link Satellite (Aux)	FO RS232 Link	181-018			
Fibre optic link Transceiver (Aux)	FO RS232 Link	182-018			
Isolating Transformer	LTS 604	1888			
Notch Filter Ultra Stable (Aux)	WRCA800/960-6EEK	24			
Signal Analyzer	FSV30	103005	Rohde & Schwarz GmbH & Co. KG		
	<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	DKD calibration			2016/02/25	2018/02/24
Spectrum Analyser	FSU26	200418			
	<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	Standard calibration			2016/11/03	2017/11/02
Spectrum Analyzer	FSP3	836722/011	Rohde & Schwarz GmbH & Co. KG		
	<i>Calibration Details</i>			<i>Last Execution</i>	<i>Next Execution</i>
	DKD calibration			2015/06/23	2018/06/22
Vector Signal Generator	SMIQ 03B	832492/061			

## Test Equipment Digital Signalling Devices

**Lab ID:** Lab 1  
**Description:** Signalling equipment for various wireless technologies.

### Single Devices for Digital Signalling Devices

Single Device Name	Type	Serial Number	Manufacturer	
CMW500	CMW500	107500	Last Execution	Next Execution
	Calibration Details			
	Standard calibration		2015/07/13	2017/07/14
Digital Radio Communication Tester	CMD 55	831050/020	Rohde & Schwarz GmbH & Co. KG	Last Execution
	Calibration Details			
	DKD calibration		2014/12/02	2017/12/01
Universal Radio Communication Tester	CMU 200	837983/052	Rohde & Schwarz GmbH & Co. KG	
Vector Signal Generator	SMU200A	100912		

## Test Equipment Emission measurement devices

**Lab ID:** Lab 1  
**Description:** Equipment for emission measurements  
**Serial Number:** see single devices

### Single Devices for Emission measurement devices

Single Device Name	Type	Serial Number	Manufacturer	
EMI Receiver / Spectrum Analyzer	ESR 7	101424	Last Execution	Next Execution
	Calibration Details			
	DKD Calibration		2016/11/29	2018/11/28
Personal Computer	Dell	30304832059	Last Execution	Next Execution
Power Meter	NRVD	828110/016		
Sensor Head A	NRV-Z1	827753/005	Last Execution	Next Execution
	Calibration Details			
	Standard calibration		2017/05/18	2018/05/17
Signal Generator	SMR 20	846834/008	Rohde & Schwarz GmbH & Co. KG	Last Execution
	Calibration Details			
	Standard Calibration		2014/06/24	2017/06/23
Spectrum Analyzer	ESIB 26	830482/004	Rohde & Schwarz GmbH & Co. KG	Last Execution
	Calibration Details			
	DAkKS Calibration (DK)		2015/12/09	2017/12/08
	HW/SW Status		Date of Start	Date of End
	Firmware-Update 4.34.4 from 3.45 during calibration		2009/12/03	
Spectrum Analyzer	FSW 43	103779	Last Execution	Next Execution
	Calibration Details			
	DKD calibration		2016/12/02	2018/12/01

### Test Equipment Multimeter 03

**Lab ID:** Lab 1  
**Description:** Fluke 177  
**Serial Number:** 86670383

#### Single Devices for Multimeter 03

Single Device Name	Type	Serial Number	Manufacturer
Digital Multimeter 03 (Multimeter)	Fluke 177	86670383	
Calibration Details		Last Execution	Next Execution
DAkkS Calibration		2016/02/04	2018/02/28

### Test Equipment T/A Logger 13

**Lab ID:** Lab 1  
**Description:** Lufft Opus10 TPR  
**Type:** Opus10 TPR  
**Serial Number:** 13936

#### Single Devices for T/A Logger 13

Single Device Name	Type	Serial Number	Manufacturer
ThermoAirpressure Datalogger 13 (Environ)	Opus10 TPR (8253.00)	13936	
Calibration Details		Last Execution	Next Execution
Customized calibration		2017/04/10	2019/04/09

### Test Equipment T/H Logger 12

**Lab ID:** Lab 1  
**Description:** Lufft Opus10  
**Serial Number:** 12482

#### Single Devices for T/H Logger 12

Single Device Name	Type	Serial Number	Manufacturer
ThermoHygro Datalogger 12 (Environ)	Opus10 THI (8152.00)	12482	
Calibration Details		Last Execution	Next Execution
Customized calibration		2017/03/30	2019/03/29

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