

Broadband Radio Access Networks (BRAN) Test Report Template for testing to EN 301 893 V1.5.1 (R&TTE)



Reference

DTR/BRAN-00200014

Keywords

access, broadband, radio, testing

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Broadband Radio Access Networks (BRAN).

1 Scope

It is expected that the present document can be used as a Test Report Template that would be useful for national conformity assessment bodies and market surveillance authorities in countries where the R&TTE is in force, as well as for the assistance of manufacturers and test houses, although such a Report Template would remain voluntary.

As such, test Report Templates for testing against Harmonized Standards may be used:

- in countries where the R&TTE Directive [i.1] is in force, for manufacturers' self testing;
- in countries where the R&TTE Directive [i.1] is in force, for the purpose of third-party testing;
- in countries where the R&TTE Directive [i.1] is in force, for parameters that Administrations may wish to have tested by a third-party (e.g. in the case of market surveillance/enforcement);
- in countries where the R&TTE Directive [i.1] is not in force, for the purpose of third-party testing and Type Approval.

The present document recommends text and formatting to be used in Test Reports for equipment being assessed to version 1.5.1 of EN 301 893 [i.4].

Other editions of EN 301 893 [i.4] may require a different format to cover additional or different test requirements than those contained in the present document. This will be the subject of further work.

NOTE: TR 102 439 [i.5] contains text and formatting to be used in Test Reports for equipment being assessed to version 1.3.1 of EN 301 893 [i.2].

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

Not applicable.

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (R&TTE Directive).
- [i.2] ETSI EN 301 893 (V1.3.1): "Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.3] ETSI EN 301 893 (V1.4.1): "Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.4] ETSI EN 301 893 (V1.5.1): "Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.5] ETSI TR 102 439 (V1.1.1): "Broadband Radio Access Networks (BRAN); Test Report Template for testing to EN 301 893 (V1.3.1) (R&TTE)".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purpose of the present document, the terms and definitions given in EN 301 893 [i.4] and the following apply:

submitter: manufacturer, company or person that is submitting a product to be tested against the harmonized standard EN 301 893 [i.4]

3.2 Symbols

For the purposes of the present document, the following symbols apply:

dB _i	antenna gain in decibels relative to an isotropic antenna
dB _m	dB relative to 1 milliwatt
GHz	GigaHertz
Hz	Hertz
kHz	kiloHertz
MHz	MegaHertz

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AC	Alternating Current
CE	Communauté Européenne (European Community)
DC	Direct Current
EIRP	Equivalent Isotropically Radiated Power
ITU	International Telecommunications Union
NCB	Nominal Channel Bandwidth
OCB	Occupied Channel Bandwidth
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency

Tx Transmitter
 UUT Unit Under Test

4 Cover page and notes

The title page should include the following title:

- "Test Report to EN 301 893 [i.4] (V1.5.1)".

In addition, the title page should contain the following information:

- 1) Name of the laboratory performing the test.
- 2) Test report reference number and revision number if applicable.
- 3) The name of the manufacturer.
- 4) The name of the submitter (if different from the manufacturer).
- 5) Equipment identification, including brand name, model number, etc.
- 6) Test Report date.

Additional information to be provided in the report:

- 7) Equipment serial number.
- 8) Test dates.
- 9) Hardware and/or software identification (including version numbers and modification state).
- 10) Authorization Signatures.
- 11) A list of the test equipment, ancillary equipment and supporting equipment used during the tests.
- 12) Deviations from the standard test procedures (e.g. test procedures defined by Notified Bodies).

5 Application form

The information contained in this clause should be provided by the submitter prior to the testing. It contains product information as required by EN 301 893 [i.4], clause 5.3.1 as well as other information which will assist the test engineer in determining which tests have to be performed as well as the relevant test configurations and conditions.

This application should form part of the final test report.

5.1 Information as required by EN 301 893

In accordance with EN 301 893 [i.4], clause 5.3.1, the following information was provided by the submitter:

a) The Channel Plan(s):

Channel Plan 1:

- Nominal Channel Bandwidth 1: MHz

The associated centre frequencies:

- Nominal Channel Bandwidth 2: MHz

The associated centre frequencies:

NOTE 1: Add more lines if the equipment has more channel Bandwidths for this Channel Plan.

Channel Plan 2:

- Nominal Channel Bandwidth 1: MHz

The associated centre frequencies:

- Nominal Channel Bandwidth 2: MHz

The associated centre frequencies:

NOTE 2: Add more lines if the equipment has more Channel Plans.

b) The different transmit operating modes:

1. Operating mode 1: Single Antenna Equipment
- a) Equipment with only 1 antenna
- b) Equipment with 2 diversity antennas but only 1 antenna active at any moment in time
- c) Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1 antenna is used. (e.g. IEEE 802.11a legacy mode in smart antenna systems)
2. Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming
- a) Single spatial stream (e.g. IEEE 802.11a legacy mode) using Channel Bandwidth 1
- b) High Throughput (more than 1 spatial stream) using Channel Bandwidth 1
- c) High Throughput (more than 1 spatial stream) using Channel Bandwidth 2

NOTE 3: Add more options if applicable for this operating mode (e.g. for other Channel Bandwidths)

3. Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming
- a) Single spatial stream (e.g. IEEE 802.11a legacy mode) using Channel Bandwidth 1
- b) High Throughput (more than 1 spatial stream) using Channel Bandwidth 1
- c) High Throughput (more than 1 spatial stream) using Channel Bandwidth 2

NOTE 4: Add more options if applicable for this operating mode (e.g. for other Channel Bandwidths)

c) In case of Smart Antenna Systems:

The number of Receive chains:

The number of Transmit chains:

Equal power distribution among the transmit chains: Yes No

In case of beam forming, the maximum beam forming gain: dB

NOTE 5: Beam forming gain does not include the basic gain of a single antenna.

d) TPC feature available:

- Yes
- No

- e) If the equipment has a TPC range:** the lowest and highest power level (or lowest and highest EIRP level in case of integrated antenna equipment), intended antenna assemblies and corresponding operating frequency range for the TPC range (or for each of the TPC ranges if more than one is implemented).

NOTE 6: The current template assumes the UUT has 2 TPC ranges. Add more sections similar to the ones below if the equipment has more than 2 TPC ranges.

TPC range 1:

Applicable Frequency Range:

 5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz (Indoor) 5 470 MHz to 5 725 MHz only (Outdoor only)Applicable power levels (see note): Tx out EIRP

NOTE 7: Indicate whether the power levels specified are Transmitter Output Power levels or EIRP levels in case of integrated antenna equipment.

Table 1: Power levels for TPC range 1

Operating Mode #	Lowest setting (P_{low}): (dBm)		Highest setting (P_{high}): (dBm)	
	Per active Tx chain	Total for all active Tx chains	Per active Tx chain	Total for all active Tx chains
Mode 1				
Mode 2				
Mode 3				

Beam forming possible: Yes No

Intended Antenna Assemblies:

Table 2: Intended Antenna Assemblies for TPC range 1

Ant. #	Antenna Assembly name	Operating Mode	Antenna Gain (dBi)	Beam forming gain (dB)	EIRP for P_{low} (dBm)	EIRP for P_{high} (dBm)
1		Mode 1		0		
		Mode 2		0		
		Mode 3				
2		Mode 1		0		
		Mode 2		0		
		Mode 3				
3		Mode 1		0		
		Mode 2		0		
		Mode 3				
4		Mode 1		0		
		Mode 2		0		
		Mode 3				
5		Mode 1		0		
		Mode 2		0		
		Mode 3				

NOTE 1: Add more rows into the table if more antenna assemblies are intended for this TPC range.
NOTE 2: The values for EIRP should represent the total EIRP for the system, taking all active Tx chains into account.
NOTE 3: For equipment that is intended to be used with a variety of antennas, as a minimum, the antennas with the lowest and highest gain should be listed in table 2 above.

DFS Threshold level: dBm at the antenna connector
 in front of the antenna

NOTE 8: According to EN 301 893 [i.4], for equipment with a maximum EIRP Spectral Density of 10 dBm/MHz, the DFS threshold level shall be -62 dBm or less. This level assumes a 0 dBi antenna gain. For devices employing different EIRP spectral density and/or a different receive antenna gain G (dBi), the DFS threshold level at the receiver input follows the following relationship:

$$\text{DFS Detection Threshold (dBm)} = -62 + 10 \cdot \text{EIRP Spectral Density (dBm/MHz)} + G \text{ (dBi)}$$

However, the DFS threshold level shall not be lower than -64 dBm assuming a 0 dBi receive antenna gain.. To define the applicable threshold level at the (temporary) antenna connector, the gain of the antenna (in dBi) shall be added to the threshold level. If more than one antenna is intended for this TPC range or power setting, the antenna gain of the antenna with the lowest gain shall be used.

TPC range 2:

Applicable Frequency Range:

- 5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz (Indoor)
 5 470 MHz to 5 725 MHz only (Outdoor only)

Applicable power levels: Tx out EIRP

Table 3: Power levels for TPC range 2

Operating Mode #	Lowest setting (P_{low}): (dBm)		Highest setting (P_{high}): (dBm)	
	Per active Tx chain	Total for all active Tx chains	Per active Tx chain	Total for all active Tx chains
Mode 1				
Mode 2				
Mode 3				

Beam forming possible: Yes No

Intended Antenna Assemblies:

Table 4: Intended Antenna Assemblies for TPC range 2

Ant. #	Antenna Assembly name	Operating Mode #	Antenna Gain (dBi)	Beam forming gain (dB)	EIRP for P _{low} (dBm)	EIRP for P _{high} (dBm)
1		Mode 1		0		
		Mode 2		0		
		Mode 3				
2		Mode 1		0		
		Mode 2		0		
		Mode 3				
3		Mode 1		0		
		Mode 2		0		
		Mode 3				
4		Mode 1		0		
		Mode 2		0		
		Mode 3				
5		Mode 1		0		
		Mode 2		0		
		Mode 3				

NOTE 1: Add more rows into the table if more antenna assemblies are intended for this TPC range.
NOTE 2: The values for EIRP should represent the total EIRP for the system, taking all active Tx chains into account.
NOTE 3: For equipment that is intended to be used with a variety of antennas, as a minimum, the antennas with the lowest and highest gain should be listed in table 2 above.

DFS Threshold level: dBm at the antenna connector
 in front of the antenna

See also the note under table 2.

- f) If the equipment has no TPC feature**, the maximum transmitter output power level (or maximum EIRP level in case of integrated antenna equipment), the intended antenna assemblies, the corresponding operating frequency range and the corresponding DFS threshold level. If the equipment has multiple power levels and corresponding antenna assemblies, than this information should be provided for each of the stated power levels.

NOTE 9: The manufacturer may decide to declare that his equipment can operate with and without a TPC feature in which case he may provide details under both clauses e) and f)

NOTE 10: The current template assumes the UUT has 2 power settings. Add more sections similar to the ones below if the equipment has more power levels.

Power Setting 1:

Applicable Frequency Range:

5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz (Indoor)

5 470 MHz to 5 725 MHz only (Outdoor only)

Power level: TX out EIRP

NOTE 11: Indicated whether the power levels specified are Transmitter Output Power levels or EIRP levels in case of integrated antenna equipment.

Table 5: Power levels for Power Setting 1

Operating Mode #	Power Level: (dBm)	
	Per active Tx chain	Total for all active Tx chains
Mode 1		
Mode 2		
Mode 3		

Beam forming possible: Yes No

Intended Antenna Assemblies:

Table 6: Intended Antenna Assemblies for Power Setting 1

Ant. #	Antenna Assembly name	Operating Mode	Antenna Gain (dBi)	Beam forming gain (dB)	EIRP (dBm)
		Mode 1			
		Mode 2			
		Mode 3			
		Mode 1			
		Mode 2			
		Mode 3			

NOTE 1: Add more rows into the table if more antenna assemblies are intended for this power setting.
NOTE 2: The values for EIRP should represent the total EIRP for the system, taking all active Tx chains into account.
NOTE 3: For equipment that is intended to be used with a variety of antennas, as a minimum, the antennas with the lowest and highest gain should be listed in table 2 above.

DFS Threshold level: dBm at the antenna connector

in front of the antenna

NOTE 12: According to EN 301 893 [i.4], for equipment with a maximum EIRP Spectral Density of 10 dBm/MHz, the DFS threshold level shall be -62 dBm or less. This level assumes a 0 dBi antenna gain. For devices employing different EIRP spectral density and/or a different receive antenna gain G (dBi) the DFS threshold level at the receiver input follows the following relationship:

$$\text{DFS Detection Threshold (dBm)} = -62 + 10 \cdot \text{EIRP Spectral Density (dBm/MHz)} + G \text{ (dBi)}$$

However, the DFS threshold level shall not be lower than -64 dBm assuming a 0 dBi receive antenna gain. To define the applicable threshold level at the (temporary) antenna connector, the gain of the antenna (in dBi) shall be added to the threshold level. If more than one antenna is intended for this TPC range or power setting, the antenna gain of the antenna with the lowest gain shall be used.

Power Setting 2:

Applicable Frequency Range:

5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz (Indoor)

5 470 MHz to 5 725 MHz only (Outdoor only)

Power level: TX out / EIRP

NOTE 13: Indicated whether the power levels specified are Transmitter Output Power levels or EIRP levels in case of integrated antenna equipment

Table 7: Power levels for Power Setting 2

Operating Mode #	Power Level: (dBm)	
	Per active Tx chain	Total for all active Tx chains
Mode 1		
Mode 2		
Mode 3		

Beam forming possible: Yes No

Intended Antenna Assemblies:

Table 8: Intended Antenna Assemblies for Power Setting 2

Ant. #	Antenna Assembly name	Operating Mode	Antenna Gain (dBi)	Beam forming gain (dB)	EIRP (dBm)
		Mode 1			
		Mode 2			
		Mode 3			
		Mode 1			
		Mode 2			
		Mode 3			

NOTE 1: Add more rows into the table if more antenna assemblies are intended for this power setting.
 NOTE 2: The values for EIRP should represent the total EIRP for the system, taking all active Tx chains into account.
 NOTE 3: For equipment that is intended to be used with a variety of antennas, as a minimum, the antennas with the lowest and highest gain should be listed in table 2 above.

DFS Threshold level: dBm at the antenna connector

in front of the antenna

NOTE 14: According to EN 301 893 [i.4], for equipment with a maximum EIRP Spectral Density of 10 dBm/MHz, the DFS threshold level shall be -62 dBm or less. This level assumes a 0 dBi antenna gain. For devices employing different EIRP spectral density and/or a different receive antenna gain G (dBi) the DFS threshold level at the receiver input follows the following relationship:

$$\text{DFS Detection Threshold (dBm)} = -62 + 10 \cdot \text{EIRP Spectral Density (dBm/MHz)} + G \text{ (dBi)}$$

However, the DFS threshold level shall not be lower than -64 dBm assuming a 0 dBi receive antenna gain. To define the applicable threshold level at the (temporary) antenna connector, the gain of the antenna (in dBi) shall be added to the threshold level. If more than one antenna is intended for this TPC range or power setting, the antenna gain of the antenna with the lowest gain shall be used.

g) The DFS related operating mode(s) of the equipment:

- Master
- Slave with radar detection
- Slave without radar detection

NOTE 15: If the equipment has more than 1 operating mode, tick all that apply.

h) User access restrictions (please check box below to confirm)

- DFS controls (hardware or software) related to radar detection are NOT accessible to the user

i) Off Channel CAC feature implemented:

- No
- Yes.

If yes, specify the *Off Channel CAC Time*: Hours

If the *Off Channel CAC Time* for the band 5 600 MHz to 5 650 MHz is different from the *Off-Channel CAC Time* for frequencies outside this band, please specify the *Off-Channel CAC Time* for the band 5 600 MHz to 5 650 MHz: Hours

j) The equipment can operate in ad-hoc mode:

- no ad-hoc operation
- ad-hoc operation in the frequency range 5 150 MHz to 5 250 MHz without DFS
- ad-hoc operation with DFS

NOTE 16: If more than 1 is applicable, tick all that apply.

k) Operating Frequency Range(s):

Range 1: 5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz

Range 2: 5 470 MHz to 5 725 MHz

Range 3: 5 150 MHz to 5 250 MHz (ad-hoc without DFS)

Range 4: other,.....

NOTE 17: If the equipment has more than 1 Operating Frequency Range, tick all that apply.

l) The extreme operating temperature range that apply to the equipment:

- 20 °C to +55 °C (Outdoor and Indoor usage)
- 0 °C to +35 °C (Indoor usage only)
- Other:

The nominal voltages of the stand-alone radio equipment or the nominal voltages of the combined (host) equipment or test jig in case of plug-in devices.

Details provided are for the: stand-alone equipment
 combined (or host) equipment
 test jig

Supply Voltage AC mains State AC voltage

DC State DC voltage

State DC current

In case of DC, indicate the type of power source:

- Internal Power Supply
- External Power Supply or AC/DC adapter
- Battery Nickel Cadmium
 - Alkaline
 - Nickel-Metal Hydride
 - Lithium-Ion
 - Lead acid (Vehicle regulated)
 - Other

m) The test sequences used (see also EN 301 893 [i.4], clause 5.1.2)

.....

n) Type of Equipment:

- Stand-alone
- Combined Equipment (Equipment where the radio part is fully integrated within another type of equipment)
- Plug-in radio device (Equipment intended for a variety of host systems)
- Other

o) Medium Access Protocol implemented: Yes No

If Yes, please specify which protocol has been implemented:

5.2 Additional information provided by the submitter

a) Modulation:

Table 9: ITU Class of emission

ITU Class of emission	
Mode 1	
Mode 2	
Mode 3	

Can the transmitter operate un-modulated? yes no

b) Duty Cycle:

- The transmitter is intended for: Continuous duty
 Intermittent duty
 Continuous operation possible for testing purposes

c) About the UUT:

- The equipment submitted are representative production models.
 - If not, the equipment submitted are pre-production models ?
- If pre-production equipment is submitted, the final production equipment will be identical in all respects with the equipment tested.
 - If not, supply full details:

- The equipment submitted is CE marked:
 - The CE marking does include the Class-II identifier (Alert Sign).
 - The CE marking does include a 4 digit number referring to the Notified Body involved.

5.3 List of ancillary and/or support equipment provided by the submitter

Where possible, the information below should include a description, brand name, model number etc. for each of the equipment provided:

.....

6 List of technical requirements to be tested

The list of technical requirements called for in EN 301 893 [i.4] is given below.

6.1 Transmitter parameters

Table 10: Transmitter parameters

EN Clause	Transmitter parameters	EN 301 893 [i.4] Page number
4.2	Carrier Frequencies	11
4.3	Nominal Channel Bandwidth and Occupied Channel Bandwidth	12
4.3.1	Occupied Channel Bandwidth	12
4.4	RF Output power, Transmit Power Control (TPC) and power density	12
4.5	Transmitter unwanted emissions	13
4.5.1	Transmitter unwanted emissions outside the 5 GHz RLAN bands	13
4.5.2	Transmitter unwanted emissions within the 5 GHz RLAN bands	14
4.7	Dynamic Frequency Selection (DFS)	15
4.7.2.1	Channel Availability Check	17
4.7.2.2	Off-Channel CAC	17
4.7.2.3	In-Service Monitoring	18
4.7.2.4	Channel Shutdown	18
	Channel Move Time	18
	Channel Closing Transmission Time	18
4.6.2.5	Non-Occupancy Period	19

NOTE: EN 301 893 [i.4] does not include conformance tests to verify the following requirements:

- Nominal Channel Bandwidth (EN 301 893 [i.4], clause 4.3).
- Uniform Spreading (EN 301 893 [i.4], clause 4.7.2.6).
- Medium Access Protocol (EN 301 893 [i.4], clause 4.8).
- User Access Controls restrictions (EN 301 893 [i.4], clause 4.9).

6.2 Receiver parameters

Table 11: Receiver parameters

EN Clause	Receiver parameters	EN 301 893 [i.4] Page number
4.6	Receiver spurious emissions	15

7 List of conformance tests and related test frequencies

Table 12 contains the test frequencies to be used for each of the conformance tests described in EN 301 893 [i.4], clause 5.

Table 12: Conformance tests and related test frequencies according to EN 301 893

Test	EN 301 893 [i.4] Clause	Test frequencies (MHz)		
		Lower sub-band (5 150 MHz to 5 350 MHz)		Higher sub-band 5 470 MHz to 5 725 MHz
		5 150 MHz to 5 250 MHz	5 250 MHz to 5 350 MHz	
Centre frequencies	5.3.2	F1 (see note 1)	F2 (see note 1)	F3, F4 (see note 1)
Occupied Channel Bandwidth	5.3.3	F1	F2	F3, F4
Power, power density	5.3.4	F1	F2	F3, F4

Test	EN 301 893 [i.4] Clause	Test frequencies (MHz)		
		Lower sub-band (5 150 MHz to 5 350 MHz)		Higher sub-band 5 470 MHz to 5 725 MHz
		5 150 MHz to 5 250 MHz	5 250 MHz to 5 350 MHz	
Transmitter unwanted emissions	5.3.5 and 5.3.6	F1	F2	F3, F4
Receiver spurious emissions	5.3.7	F1 (see note 1)	F2 (see note 1)	F3, F4 (see note 1)
Transmit Power Control (TPC)	5.3.4	n.a. (see note 2)	F2 (see note 1)	F3, F4 (see note 1)
Dynamic Frequency Selection (DFS)	5.3.8	n.a. (see note 3)	F5	F6 (see note 4)
F1, F3: The centre frequency of the lowest declared channel for every declared nominal bandwidth within this band. F2, F4: The centre frequency of the highest declared channel for every declared nominal bandwidth within this band. F5, F6: The centre frequency of one channel out of the declared channels for this frequency range. If more than one nominal bandwidth has been declared, the widest shall be used.				
NOTE 1: In case of more than 1 channel plan has been declared, testing should be performed only according to one of the declared channel plans.				
NOTE 2: TPC is not required for channels whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz. If that is not the case, TPC shall be tested at the centre frequencies of one of those relevant channels.				
NOTE 3: Testing not required, unless the combination of a centre frequency and a corresponding nominal bandwidth results in operation in 5 250 MHz to 5 350 MHz.				
NOTE 4: Where the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the 5 600 MHz to 5 650 MHz band, the tests for the <i>Channel Availability Check</i> (and where implemented, for the <i>Off-Channel CAC</i>) shall be performed on one of these channels in addition to a channel within the band 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band.				

8 Test results

8.1 Results summary

The following table summarizes the technical requirements defined in EN 301 893 [i.4] and the corresponding results for the tested UUT.

Full testing according to EN 301 893 [i.4] may not be required. If partial testing was performed, this should be indicated as "NT" in the relevant column of tables 13 and 14 below within the test report.

8.1.1 Transmitter

Table 13: Transmitter results summary

EN Clause	Transmitter parameters	P (Pass)	F (Fail)	NT (Not Tested)	Report page number
4.2	Carrier Frequencies				
4.3	Nominal Channel Bandwidth and Occupied Channel Bandwidth				
4.3.1	Occupied Channel Bandwidth				
4.4	RF Output power, Transmit Power Control (TPC) and power density				
4.5	Transmitter unwanted emissions				
4.5.1	Transmitter unwanted emissions outside the 5 GHz RLAN bands				
4.5.2	Transmitter unwanted emissions within the 5 GHz RLAN bands				
4.7	Dynamic Frequency Selection (DFS)				
4.7.2.1	Channel Availability Check				
4.7.2.2	Off-Channel CAC				
4.7.2.3	In-Service Monitoring				
4.7.2.4	Channel Shutdown				
	Channel Move Time				
4.7.2.5	Channel Closing Transmission Time				
	Non-Occupancy Period				

8.1.2 Receiver

Table 14: Receiver results summary

EN Clause	Receiver parameters	P	F	NT	Report page number
4.6	Receiver spurious emissions				

8.2 Test results

8.2.1 Carrier frequencies

8.2.1.1 Channel Bandwidth # 1

Testing does not need to be repeated for each of the operating modes that can operate in this channel bandwidth.

8.2.1.1.1 Lower sub-band (5 150 MHz to 5 350 MHz)

Table 15: Carrier frequencies in the Lower sub-band - Test results for Channel Bandwidth # 1

Test Conditions (see EN 301 893 [i.4], clause 5.3.2.1):						
Operating Mode #:						
Power Setting (single TX chain):		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:		%	Test results			
Rel. Humidity:		%	Measured Frequency (MHz)	Delta Frequency (kHz)	20 ppm Limit (\pm kHz)	Margin (kHz)
Test Frequency F1: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Test Frequency F2: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Measurement uncertainty:						
Hz						
NOTE: For the values for the voltage, it should be specified whether the unit used is Vdc or Vac.						

8.2.1.1.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 16: Carrier frequencies in the Higher sub-band - Test results for Channel Bandwidth # 1

Test Conditions (see EN 301 893 [i.4], clause 5.3.2.1):						
Operating Mode #:						
Power Setting (single TX chain):		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:		%	Test results			
Rel. Humidity:		%	Measured Frequency (MHz)	Delta Frequency (kHz)	20 ppm Limit (\pm kHz)	Margin (kHz)
Test Frequency F3: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Test Frequency F4: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Measurement uncertainty:						
Hz						
NOTE: For the values for the voltage, it should be specified whether the unit used is Vdc or Vac.						

8.2.1.2 Channel Bandwidth # 2

Testing does not need to be repeated for each of the operating modes that can operate in this channel bandwidth.

8.2.1.2.1 Lower sub-band (5 150 MHz to 5 350 MHz)

Table 17: Carrier frequencies in the Lower sub-band - Test results for Channel Bandwidth # 2

Test Conditions (see EN 301 893 [i.4], clause 5.3.2.1):						
Operating Mode #:						
Power Setting (single TX chain):		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:		%	Test results			
Rel. Humidity:		%	Measured Frequency (MHz)	Delta Frequency (kHz)	20 ppm Limit (\pm kHz)	Margin (kHz)
Test Frequency F1: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Test Frequency F2: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Measurement uncertainty:						
Hz						

NOTE: For the values for the voltage, it should be specified whether the unit used is V_{dc} or V_{ac}.

8.2.1.2.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 18: Carrier frequencies in the Higher sub-band - Test results for Channel Bandwidth # 2

Test Conditions (see EN 301 893 [i.4], clause 5.3.2.1):						
Operating Mode #:						
Power Setting (single TX chain):		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:		%	Test results			
Rel. Humidity:		%	Measured Frequency (MHz)	Delta Frequency (kHz)	20 ppm Limit (\pm kHz)	Margin (kHz)
Test Frequency F3: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Test Frequency F4: (see table 12)		..... MHz				
T _{nom}	°C	V _{nom}	V			
T _{min}	°C	V _{min}	V			
		V _{max}	V			
T _{max}	°C	V _{min}	V			
		V _{max}	V			
Measurement uncertainty:						
Hz						

NOTE: For the values for the voltage, it should be specified whether the unit used is V_{dc} or V_{ac}.

NOTE: Add more clauses like clauses 8.2.1.1 and 8.2.1.2 if more than 2 Channel Bandwidths have been declared for the equipment.

8.2.2 Occupied Channel Bandwidth

8.2.2.1 Channel Bandwidth # 1

Testing does only need to be performed in the worse-case operating mode for this Channel Bandwidth.

Table 19: Occupied Channel Bandwidth - Test results for Channel Bandwidth # 1

Test Conditions (see EN 301 893 [i.4], clause 5.3.3.1):					
Operating Mode #:					
Power Setting :		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted	
Duty Cycle:	%	Test results			
Rel. Humidity:	%	-6 dBc Occupied Channel Bandwidth (OCB) (MHz)	Nominal Channel Bandwidth (NCB) (MHz)	OCB/NCB (%)	Margin (%)
Ambient Temp.:	°C				
Test Frequencies (see table 12) :					
F1:	..... MHz				
F2:	..... MHz				
F3:	..... MHz				
F4:	..... MHz				
Measurement uncertainty:				Hz	

8.2.2.2 Channel Bandwidth # 2

Testing does only need to be performed in the worse-case operating mode for this channel bandwidth.

Table 20: Occupied Channel Bandwidth - Test results for Channel Bandwidth # 2

Test Conditions (see EN 301 893 [i.4], clause 5.3.3.1):					
Operating Mode #:					
Power Setting :		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted	
Duty Cycle:	%	Test results			
Rel. Humidity:	%	-6 dBc Occupied Channel Bandwidth (MHz)	Nominal Channel Bandwidth (MHz)	OCB/NCB (%)	Margin (%)
Ambient Temp.:	°C				
Test Frequencies (see table 12) :					
F1:	..... MHz				
F2:	..... MHz				
F3:	..... MHz				
F4:	..... MHz				
Measurement uncertainty:				Hz	

NOTE: Add more clauses like clauses 8.2.1.1 and 8.2.1.2 if more than 2 Channel Bandwidths have been declared for the equipment.

8.2.3 RF Output power, Transmit Power Control (TPC) and Power Density

If the equipment has multiple power levels or TPC ranges, additional clauses similar to clauses 8.2.3.1 will need to be added to the report.

8.2.3.1 TPC range 1 (or Power Setting 1)

NOTE: Conformance tests in accordance with clause 5.3.4 of EN 301 893 [i.4] have to be performed over the frequency range(s) that has been declared with this TPC range (or Power Setting) and using the antenna gain of the antenna with the highest gain among those that have been declared with this TPC range (or Power Setting). See clause 5.3.1.e) of EN 301 893 [i.4]. For smart antenna systems, the antenna beam forming gain may have to be taken into account as well.

8.2.3.1.1 Operating mode 1: Single antenna equipment or equipment with only 1 antenna active in this mode (see EN 301 893, clause 5.1.4.2.1)

NOTE: If the equipment supports different modulations and/or datarates, comparison measurements of mean RF output power (or mean EIRP) and power density across all modulations and/or datarates may need to be performed to define the worse case modulation/datarate which has to be used for the conformance testing.

Worse case modulation for this operating mode: IEEE 802.11a Other:

Worse case datarate for this operating mode: Mbps

Number of transmit chains present:

Number of active transmit chains in this mode:

8.2.3.1.1.1 Operating Mode 1 - RF output power at the highest power level

See EN 301 893 [i.4], clause 5.3.4.2.1.1.

Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 21 contains the test results for RF Output Power when the equipment operates in Operating Mode 1 at the highest power level of this TPC range (or at the power level declared for this Power Setting) and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 21: RF Output power at the highest power level in the Lower Sub-band (Mode 1)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):						
Maximum Antenna gain:		dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)		
Power Setting :		dBm		<input type="checkbox"/> EIRP <input type="checkbox"/> Conducted		
Duty Cycle:		%		Test results		
Rel. Humidity:		%		Measured Power (dBm) (see note 1)	EIRP (dBm)	EIRP Limit (dBm) (see note 2)
Test Frequency F1: (see table 12)	 MHz					Margin (dB)
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F2: (see table 12)		..... MHz				
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Measurement uncertainty:						dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.						
NOTE 3: For the values for the voltage, it should be specified whether the unit used is Vdc or Vac.						

Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 22 contains the test results for RF Output Power when the equipment operates in Operating Mode 1 at the highest power level of this TPC range (or at the power level declared for this Power Setting) and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 22: RF Output power at the highest power level in the Higher Sub-band (Mode 1)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):						
Antenna gain:	dBi		(see EN 301 893 [i.3], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm		<input type="checkbox"/> EIRP		<input type="checkbox"/> Conducted	
Duty Cycle:	%		Test results			
Rel. Humidity:	%		Measured Power (dBm) (see note 1)	EIRP (dBm)	EIRP Limit (dBm) (see note 2)	Margin (dB)
Test Frequency F3: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F4: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Measurement uncertainty:						dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.						
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .						

Operating Mode 1 - RF output power at the lowest power level of the TPC range

See EN 301 893 [i.2], clause 5.3.4.2.1.2.

This clause has only to be completed if the equipment has a TPC feature.

Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 23 contains the test results for RF Output Power when the equipment operates in Operating Mode 1 at the lowest power level of this TPC range and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 23: RF Output power at the lowest power level in the Lower Sub-band (Mode 1)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):							
Antenna gain:		dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :		dBm		<input type="checkbox"/> EIRP <input type="checkbox"/> Conducted			
Duty Cycle:		%		Test results			
Rel. Humidity:		%					
Test Frequency F1:		..... MHz		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
(see table 12)							
T _{nom}	°C	V _{nom}	V				
		V _{min}	V				
T _{min}	°C	V _{min}	V				
		V _{max}	V				
T _{max}	°C	V _{min}	V				
		V _{max}	V				
Test Frequency F1:		..... MHz					
(see table 12)							
T _{nom}	°C	V _{nom}	V				
T _{min}	°C	V _{min}	V				
		V _{max}	V				
T _{max}	°C	V _{min}	V				
		V _{max}	V				
Measurement uncertainty:						dB	
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.							
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.							
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .							

Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 24 contains the test results for RF Output Power when the equipment operates in Operating Mode 1 at the lowest power level of this TPC range and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 24: RF Output power at the lowest power level in the Higher Sub-band (Mode 1)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):							
Antenna gain:		dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :		dBm		<input type="checkbox"/> EIRP <input type="checkbox"/> Conducted			
Duty Cycle:		%		Test results			
Rel. Humidity:		%		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
Test Frequency F3: (see table 12)		..... MHz					
T_{nom}	°C	V_{nom}	V				
T_{min}	°C	V_{min}	V				
		V_{max}	V				
T_{max}	°C	V_{min}	V				
		V_{max}	V				
Test Frequency F4: (see table 12)		..... MHz					
T_{nom}	°C	V_{nom}	V				
T_{min}	°C	V_{min}	V				
		V_{max}	V				
T_{max}	°C	V_{min}	V				
		V_{max}	V				
Measurement uncertainty:						dB	
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.							
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.							
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .							

Operating Mode 1 - Power density at the highest power level

See EN 301 893 [i.4], clause 5.3.4.2.1.3.

This clause has only to be completed when operating at the highest power level. For devices with TPC, power density is not tested when operating at the lowest power level.

Table 25 contains the test results for Power Density when the equipment operates in Operating Mode 1 at the highest power level of the TPC range or at the power level declared for this Power Setting.

Table 25: Power Density at the highest power level (Mode 1)

Test Conditions (see EN 301 893 [i.4], clauses 5.4.3.1 and 5.3.4.2.1.3):						
Antenna gain:	dBi	(see EN 301 893 [i.4], clause 5.3.4.2.1.3 Step 4)				
Power Setting :	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Duty Cycle:	%	Test results				
Rel. Humidity:	%	Measured Frequency (MHz) (see note 1)	Measured Power Density (dBm) (see note 2)	EIRP Density (dBm/MHz)	EIRP Density Limit (dBm/MHz) (see note 3)	Margin (dB)
Ambient Temp.:	°C					
Test Frequencies (see table 12):						
F1	..... MHz					
F2	..... MHz					
F3	..... MHz					
F4	..... MHz					
Measurement uncertainty:					dB	
NOTE 1: See EN 301 893 [i.4], clause 5.3.4.2.1.3, step 3.						
NOTE 2: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 3: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP density limit, see EN 301 893 [i.4], clause 4.4.2.1.						

8.2.3.1.2 Operating mode 2: Multiple antennas, no beam forming (see EN 301 893, clause 5.1.4.2.2)

NOTE: If the equipment supports different modulations and/or datarates, comparison measurements of mean RF output power (or mean EIRP) and power density across all modulations and/or datarates may need to be performed to define the worse case modulation/datarate which has to be used for the conformance testing.

Worse case modulation for this operating mode: IEEE 802.11a Other:

Worse case datarate for this operating mode: Mbps

Number of transmit chains present:

Number of active transmit chains in this mode:

8.2.3.1.2.1 Operating Mode 2 - RF output power at the highest power level

See EN 301 893 [i.2], clause 5.3.4.2.1.1.

8.2.3.1.2.1.1 Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 26 contains the test results for RF Output Power when the equipment operates in Operating Mode 2 at the highest power level of this TPC range (or at the power level declared for this Power Setting) and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 26: RF Output power at the highest power level in the Lower Sub-band (Mode 2)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):					
Maximum Antenna gain:	dBi	(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:	%	Test results			
Rel. Humidity:	%	Measured Power (dBm) (see note 1)	EIRP (dBm)	EIRP Limit (dBm) (see note 2)	Margin (dB)
Test Frequency F1: (see table 12)	..... MHz				
T_{nom}	°C	V_{nom}	V		
T_{min}	°C	V_{min}	V		
		V_{max}	V		
T_{max}	°C	V_{min}	V		
		V_{max}	V		

Test Frequency F2: (see table 12)		..... MHz					
T _{nom}	°C	V _{nom}	V				
T _{min}	°C	V _{min}	V				
		V _{max}	V				
T _{max}	°C	V _{min}	V				
		V _{max}	V				
Measurement uncertainty:							dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.							
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.							
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .							

8.2.3.1.2.1.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 27 contains the test results for RF Output Power when the equipment operates in Operating Mode 2 at the highest power level of this TPC range (or at the power level declared for this Power Setting) and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 27: RF Output power at the highest power level in the Higher Sub-band (Mode 2)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):							
Antenna gain:		dBi		(see EN 301 893 [i.3], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :		dBm		<input type="checkbox"/> EIRP		<input type="checkbox"/> Conducted	
Duty Cycle:		%		Test results			
Rel. Humidity:		%		Measured Power (dBm) (see note 1)	EIRP (dBm)	EIRP Limit (dBm) (see note 2)	Margin (dB)
Test Frequency F3: (see table 12)		..... MHz					
T _{nom}	°C	V _{nom}	V				
T _{min}	°C	V _{min}	V				
		V _{max}	V				
T _{max}	°C	V _{min}	V				
		V _{max}	V				
Test Frequency F4: (see table 12)		..... MHz					
T _{nom}	°C	V _{nom}	V				
T _{min}	°C	V _{min}	V				
		V _{max}	V				
T _{max}	°C	V _{min}	V				
		V _{max}	V				
Measurement uncertainty:							dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.							
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.							
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .							

8.2.3.1.2.2 Operating Mode 2 - RF output power at the lowest power level of the TPC range

See EN 301 893 [i.2], clause 5.3.4.2.1.2.

This clause has only to be completed if the equipment has a TPC feature.

8.2.3.1.2.2.1 Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 28 contains the test results for RF Output Power when the equipment operates in Operating Mode 2 at the lowest power level of the TPC range and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 28: RF Output power at the lowest power level in the Lower Sub-band (Mode 2)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1) :						
Antenna gain:	dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:	%		Test results			
Rel. Humidity:	%		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
Test Frequency F1: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F1: (see table 12)						
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Measurement uncertainty:						
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.						
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .						

8.2.3.1.2.2.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 29 contains the test results for RF Output Power when the equipment operates in Operating Mode 2 at the lowest power level of the TPC range and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 29: RF Output power at the lowest power level in the Higher Sub-band (Mode 2)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1) :						
Antenna gain:	dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted		
Duty Cycle:	%		Test results			
Rel. Humidity:	%		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
Test Frequency F3: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F4: (see table 12)						
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			

T_{max}	°C	V_{min}	V					
		V_{max}	V					
Measurement uncertainty:							dB	
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.								
NOTE 2: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.								
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .								

8.2.3.1.2.3 Operating Mode 2 - Power density at the highest power level

See EN 301 893 [i.4], clause 5.3.4.2.1.3.

This clause has only to be completed when operating at the highest power level. For devices with TPC, power density is not tested when operating at the lowest power level.

Table 30 contains the test results for Power Density when the equipment operates in Operating Mode 2 at the highest power level of the TPC range or at the power level declared for this Power Setting.

Table 30: Power Density at the highest power level (Mode 2)

Test Conditions (see EN 301 893 [i.4], clauses 5.4.3.1 and 5.3.4.2.1.3):						
Antenna gain:	dBi	(see EN 301 893 [i.4], clause 5.3.4.2.1.3 Step 4)				
Power Setting :	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Duty Cycle:	%	Test results				
Rel. Humidity:	%	Measured Frequency (MHz) (see note 1)	Measured Power Density (dBm) (see note 2)	EIRP Density (dBm/MHz)	EIRP Density Limit (dBm/MHz) (see note 3)	Margin (dB)
Ambient Temp.:	°C					
Test Frequencies (see table 12):						
F1	..... MHz					
F2	..... MHz					
F3	..... MHz					
F4	..... MHz					
Measurement uncertainty:						dB
NOTE 1: See EN 301 893 [i.4], clause 5.3.4.2.1.3, step 3.						
NOTE 2: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 3: For conducted measurements, add the antenna gain to calculate the EIRP level. For the applicable EIRP density limit, see EN 301 893 [i.4], clause 4.4.2.1.						

8.2.3.1.3 Operating mode 3: Multiple antennas, with beam forming (see EN 301 893, clause 5.1.4.2.3)

NOTE: If the equipment supports different modulations and/or datarates, comparison measurements of mean RF output power (or mean EIRP) and power density across all modulations and/or datarates may need to be performed to define the worse case modulation/datarate which has to be used for the conformance testing.

Worse case modulation for this operating mode: IEEE 802.11a Other:

Worse case datarate for this operating mode: Mbps

Number of transmit chains present:

Number of active transmit chains in this mode:

Beamforming active: Yes, antenna beam forming gain is : dB

8.2.3.1.3.1 Operating Mode 3 - RF output power at the highest power level

See EN 301 893 [i.2], clause 5.3.4.2.1.1.

8.2.3.1.3.1.1 Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 31 contains the test results for RF Output Power when the equipment operates in Operating Mode 3 at the highest power level and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 31: RF Output power at the highest power level in the Lower Sub-band (Mode 3)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):						
Maximum Antenna gain:		dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)		
Power Setting :		dBm		<input type="checkbox"/> EIRP		<input type="checkbox"/> Conducted
Duty Cycle:		%		Test results		
Rel. Humidity:		%				
Test Frequency F1:		..... MHz		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)
(see table 12)							Margin (dB)
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F2:		..... MHz				
(see table 12)						
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Measurement uncertainty:						dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 2: For conducted measurements, add both the antenna gain and beam forming gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.						
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .						

8.2.3.1.3.1.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 32 contains the test results for RF Output Power when the equipment operates in Operating Mode 3 at the highest power level and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 32: RF Output power at the highest power level in the Higher Sub-band (Mode 3)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):							
Antenna gain:		dBi		(see EN 301 893 [i.3], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :		dBm		<input type="checkbox"/> EIRP <input type="checkbox"/> Conducted			
Duty Cycle:		%		Test results			
Rel. Humidity:		%		Measured Power (dBm) (see note 1)	EIRP (dBm)	EIRP Limit (dBm) (see note 2)	Margin (dB)
Test Frequency F3: (see table 12)		..... MHz					
T_{nom}	°C	V_{nom}	V				
T_{min}	°C	V_{min}	V				
		V_{max}	V				
T_{max}	°C	V_{min}	V				
		V_{max}	V				
Test Frequency F4: (see table 12)		..... MHz					
T_{nom}	°C	V_{nom}	V				
T_{min}	°C	V_{min}	V				
		V_{max}	V				
T_{max}	°C	V_{min}	V				
		V_{max}	V				
Measurement uncertainty:						dB	
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.							
NOTE 2: For conducted measurements, add both the antenna gain and beam forming gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.							
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .							

8.2.3.1.3.2 Operating Mode 3 - RF output power at the lowest power level of the TPC range

See EN 301 893 [i.2], clause 5.3.4.2.1.2.

This clause has only to be completed if the equipment has a TPC feature.

8.2.3.1.3.2.1 Lower Sub-band (5 150 MHz to 5 350 MHz)

Table 33 contains the test results for RF Output Power when the equipment operates in Operating Mode 3 at the lowest power level of this TPC range and in the lower sub-band 5 150 MHz to 5 350 MHz.

Table 33: RF Output power at the lowest power level in the Lower Sub-band (Mode 3)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):						
Antenna gain:	dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm		<input type="checkbox"/> EIRP		<input type="checkbox"/> Conducted	
Duty Cycle:	%		Test results			
Rel. Humidity:	%		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
Test Frequency F1: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F1: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Measurement uncertainty:						dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 2: For conducted measurements, add both the antenna gain and beam forming gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.						
NOTE 3: For the values for the voltage, it should be specified whether the unit used is V _{dc} or V _{ac} .						

8.2.3.1.3.2.2 Higher Sub-band (5 470 MHz to 5 725 MHz)

Table 34 contains the test results for RF Output Power when the equipment operates in Operating Mode 3 at the lowest power level of this TPC range and in the higher sub-band 5 470 MHz to 5 725 MHz.

Table 34: RF Output power at the lowest power level in the Higher Sub-band (Mode 3)

Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):						
Antenna gain:	dBi		(see EN 301 893 [i.4], clause 5.3.4.2.1.2 Step 2 b)			
Power Setting :	dBm		<input type="checkbox"/> EIRP		<input type="checkbox"/> Conducted	
Duty Cycle:	%		Test results			
Rel. Humidity:	%		Measured Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Margin (dB)
Test Frequency F3: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			
Test Frequency F4: (see table 12)	..... MHz					
T_{nom}	°C	V_{nom}	V			
T_{min}	°C	V_{min}	V			
		V_{max}	V			
T_{max}	°C	V_{min}	V			
		V_{max}	V			

Measurement uncertainty:	dB
NOTE 1: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.	
NOTE 2: For conducted measurements, add both the antenna gain and beam forming gain to calculate the EIRP level. For the applicable EIRP limit, see EN 301 893 [i.4], clause 4.4.2.1.	
NOTE 3: For the values for the voltage, it should be specified whether the unit used is Vdc or Vac.	

8.2.3.1.3.3 Operating Mode 3 - Power density at the highest power level

See EN 301 893 [i.4], clause 5.3.4.2.1.3.

This clause has only to be completed when operating at the highest power level. For devices with TPC, power density is not tested when operating at the lowest power level.

Table 35 contains the test results for Power Density when the equipment operates in Operating Mode 3 at the highest power level of the TPC range or at the power level declared for this Power Setting.

Table 35: Power Density at the highest power level (Mode 3)

Test Conditions (see EN 301 893 [i.4], clauses 5.4.3.1 and 5.3.4.2.1.3):						
Antenna gain:	dBi	(see EN 301 893 [i.4], clause 5.3.4.2.1.3 Step 4)				
Power Setting :	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Duty Cycle:	%	Test results				
Rel. Humidity:	%	Measured Frequency (MHz) (see note 1)	Measured Power Density (dBm) (see note 2)	EIRP Density (dBm/MHz)	EIRP Density Limit (dBm/MHz) (see note 3)	Margin (dB)
Ambient Temp.:	°C					
Test Frequencies (see table 12):						
F1	..... MHz					
F2	..... MHz					
F3	..... MHz					
F4	..... MHz					
Measurement uncertainty:					dB	
NOTE 1: See EN 301 893 [i.4], clause 5.3.4.2.1.3, step 3.						
NOTE 2: For radiated power measurements (EIRP), ignore this column and fill in the data directly into the column for EIRP. For conducted measurements on smart antenna systems (systems with multiple transmit chains), enter the total for all the active transmit chains.						
NOTE 3: For conducted measurements, add both the antenna gain and beam forming gain to calculate the EIRP level. For the applicable EIRP density limit, see EN 301 893 [i.4], clause 4.4.2.1.						

8.2.3.2 TPC range 2 (or Power Setting 2)

For equipment for which more than 1 TPC range or more than 1 power setting has been declared (or one or more power settings in addition to one or more TPC ranges), additional clauses like those contained in clause 8.2.3.1 will have to be included in the report.

8.2.4 Transmitter unwanted emissions outside the 5 GHz RLAN bands

For equipment having different transmit operating modes (see EN 301 893 [i.4], clause 5.1.4.2) the measurements described in EN 301 893 [i.4], clause 5.3.5 may not need to be repeated for all the operating modes. Similar, if the equipment supports different modulations and/or datarates, the measurements described in EN 301 893 [i.4], clause 5.3.5 may not need to be repeated for all these modulations and datarates. Simple comparison measurements across all operating modes, modulations and datarates may need to be performed to define the worse case combination to be used for the conformance testing.

Worse case operating mode: Operating mode 1 Operating mode 2 Operating mode 3

Worse case modulation for this operating mode:

Worse case channel width for this operating mode (if this mode has multiple channel widths): MHz

Worse case data rate for this operating mode: Mbps
Number of transmit chains present:
Number of active transmit chains in this mode:

The tables in this clause should only list values of spurious emissions that exceed the level of 6 dB below the applicable limit.

8.2.4.1 Conducted Transmitter Spurious Emissions (see EN 301 893, clause 5.3.5.2)

Depending on the option chosen, performing conducted spurious emissions may not be required.
See EN 301 893 [i.4], clause 5.3.5.1.

8.2.4.1.1 Lower Sub-band, test frequency F1, conducted testing

Table 36: Conducted Transmitter Spurious Emissions - Test results for F1

Test Frequency F1: (see table 12) MHz					
Test Conditions (see EN 301 893 [i.4], clause 5.3.4.1):					
Power Setting: (see note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:				dB	
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.1.2 Lower Sub-band, test frequency F2, conducted testing

Table 37: Conducted Transmitter Spurious Emissions - Test results for F2

Test Frequency F2: (see table 12) MHz					
Test Conditions (see EN 301 893 [i.4], clause 5.3.5.1):					
Power Setting: (see note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	

Measurement uncertainty:	dB
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.	

8.2.4.1.3 Higher Sub-band, test frequency F3, conducted testing

Table 38: Conducted Transmitter Spurious Emissions - Test results for F3

Test Frequency F3:					
<i>(see table 12)</i>					
Test Conditions <i>(see EN 301 893 [i.4], clause 5.3.5.1):</i>					
Power Setting: <i>(see note)</i>		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted	
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C			
			Test results		
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:			dB		
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.1.4 Higher Sub-band, test frequency F4, conducted testing

Table 39: Conducted Transmitter Spurious Emissions - Test results for F4

Test Frequency F4: MHz <i>(see table 12)</i>					
Test Conditions <i>(see EN 301 893 [i.4], clause 5.3.5.1):</i>					
Power Setting: <i>(See note)</i>		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:					dB
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.2 Radiated Transmitter Spurious Emissions (see EN 301 893, clause 5.3.5.1)

8.2.4.2.1 Lower Sub-band, test frequency F1, radiated testing

Table 40: Radiated Transmitter Spurious Emissions - Test results for F1

Test Frequency F1: (see table 12)			..... MHz		
Test Conditions (see EN 301 893 [i.4], clause 5.3.5.1):					
Power Setting: (See note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:				dB	
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.2.2 Lower Sub-band, test frequency F2, radiated testing

Table 41: Radiated Transmitter Spurious Emissions - Test results for F2

Test Frequency F2: (see table 12)					
Test Conditions (see EN 301 893 [i.4], clause 5.3.5.1):					
Power Setting: (See note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:					dB
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.2.3 Higher Sub-band, test frequency F3, radiated testing

Table 42: Radiated Transmitter Spurious Emissions - Test results for F3

Test Frequency F3: (see table 12)					
Test Conditions (see EN 301 893 [i.4], clause 5.3.5.1):					
Power Setting: (See note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:					dB
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.4.2.4 Higher Sub-band, test frequency F4, radiated testing

Table 43: Radiated Transmitter Spurious Emissions - Test results for F4

Test Frequency F4: MHz (see table 12)					
Test Conditions (see EN 301 893 [i.4], clause 5.3.5.1):					
Power Setting: (See note)		dBm		<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:		%			
Rel. Humidity:		%			
Ambient Temp.:		°C		Test results	
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	47	100		-36	
47	74	100		-54	
74	87,5	100		-36	
87,5	118	100		-54	
118	174	100		-36	
174	230	100		-54	
230	470	100		-36	
470	862	100		-54	
862	1 000	100		-36	
1 000	5 150	1 000		-30	
5 350	5 470	1 000		-30	
5 725	26 000	1 000		-30	
Measurement uncertainty:					dB
NOTE: According to EN 301 893 [i.4], clause 5.3.5.1, the UUT shall be configured to operate at the highest stated power level.					

8.2.5 Transmitter unwanted emissions within the 5 GHz RLAN bands

For equipment having different transmit operating modes (see EN 301 893 [i.4], clause 5.1.4.2) the measurements described in EN 301 893 [i.4], clause 5.3.6 may not need to be repeated for all the operating modes, however for equipment supporting different channel widths, each channel width will have to be tested separately.

If the equipment supports different modulations and/or datarates, the measurements described in EN 301 893 [i.4], clause 5.3.5 may not need to be repeated for all these modulations and datarates. Simple comparison measurements across all operating modes, modulations and datarates may need to be performed to define the worse case combination (for each of the channel widths) which has to be used for the conformance testing.

8.2.5.1 Channel Bandwidth #1: MHz

Worse case operating mode for this Channel Bandwidth:

Operating mode 1 Operating mode 2 Operating mode 3

Worse case modulation:

Worse case datarate: Mbps

Number of transmit chains present:

Number of active transmit chains in this mode:

Table 44: Transmitter unwanted emissions within the 5 GHz RLAN bands - Test results

Test Conditions (see EN 301 893 [i.4], clause 5.3.6.1):			
Power Setting: (see note 1)	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:	%		
Rel. Humidity:	%	Test Results	
Ambient Temp.:	°C	The equipment complies with the spectrum mask given in EN 301 893 [i.4], clause 4.5.2	
Test Frequency (MHz)		Result (Yes/No)	Plot nr (see note 2)
F1	.....	
F2	.....	
F3	.....	
F4	.....	
Measurement uncertainty:		dB	
NOTE 1: According to EN 301 893 [i.4], clause 5.3.6.1, the UUT shall be configured to operate at the highest stated power level.			
NOTE 2: In case a screen capture or a plot is provided, add a reference to the page where this can be found within the present document.			

8.2.5.2 Channel Bandwidth #2: MHz

Worse case operating mode for this Channel Bandwidth:

 Operating mode 1 Operating mode 2 Operating mode 3

Worse case modulation:

Worse case datarate for this operating mode: Mbps

Number of transmit chains present:

Number of active transmit chains in this mode:

Table 45: Transmitter unwanted emissions within the 5 GHz RLAN bands - Channel Bandwidth 2

Test Conditions (see EN 301 893 [i.4], clause 5.3.6.1):			
Power Setting: (see note 1)	dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted
Duty Cycle:	%		
Rel. Humidity:	%	Test Results	
Ambient Temp.:	°C	The equipment complies with the spectrum mask given in EN 301 893 [i.4], clause 4.5.2	
Test Frequency (MHz)		Result (Yes/No)	Plot nr (see note 2)
F1	.....	
F2	.....	
F3	.....	
F4	.....	

Measurement uncertainty:	dB
NOTE 1: According to EN 301 893 [i.4], clause 5.3.6.1, the UUT shall be configured to operate at the highest stated power level.	
NOTE 2: In case a screen capture or a plot is provided, add a reference to the page where this can be found within the present document.	

NOTE: Add more clauses like clauses 8.2.5.1 and 8.2.5.2 if more than 2 Channel Bandwidths have been declared for the equipment.

8.2.6 Receiver spurious emissions

Depending of the option chosen, performing conducting spurious emissions may not be required. See EN 301 893 [i.4], clause 5.3.7.1.

For equipment having different operating modes (see EN 301 893 [i.4], clause 5.1.4.2) the measurements described in EN 301 893 [i.4], clause 5.3.7 may not need to be repeated for all the operating modes. Similar, if the equipment supports different modulations and/or datarates, the measurements described in EN 301 893 [i.4], clause 5.3.7 may not need to be repeated for all these modulations and datarates. Simple comparison measurements across all operating modes, modulations and datarates may need to be performed to define the worse case combination to be used for the conformance testing. In case no worse case combination can be defined, then the combination used for the testing should be specified.

(Worse case) operating mode: Operating mode 1 Operating mode 2 Operating mode 3

(Worse case) modulation for this operating mode:

(Worse case) channel width for this operating mode (if this mode has multiple channel widths):..... MHz

(Worse case) datarate for this operating mode: Mbps

Number of receive chains present:

Number of active receive chains in this mode:

The tables in this clause should only list values of spurious emissions that exceed the level of 6 dB below the applicable limit.

8.2.6.1 Conducted Receiver Spurious Emissions (see EN 301 893, clause 5.3.7)

8.2.6.1.1 Lower Sub-band, conducted testing

Table 46: Conducted Receiver Spurious Emissions - Test results for the Lower Sub-band.

Test Conditions (see EN 301 893 [i.4], clause 5.3.7.1):					
Rel. Humidity:		%			
Ambient Temp.:		°C			
Test Frequency F1: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Test Frequency F2: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Measurement uncertainty:			dB		

8.2.6.1.2 Higher Sub-band, conducted testing

Table 47: Conducted Receiver Spurious Emissions - Test results for the Higher Sub-band.

Test Conditions (see EN 301 893 [i.4], clause 5.3.7.1):					
Rel. Humidity:		%			
Ambient Temp.:		°C			
Test Frequency F3: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Test Frequency F4: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Measurement uncertainty:			dB		

8.2.6.2 Radiated Receiver Spurious Emissions (see EN 301 893, clause 5.3.7)

8.2.6.2.1 Lower Sub-band, radiated testing)

Table 48: Radiated Receiver Spurious Emissions - Test results for the Lower Sub-band

Test Conditions (see EN 301 893 [i.4], clause 5.3.7.1):					
Rel. Humidity:		%			
Ambient Temp.:		°C			
Test Frequency F1: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Test Frequency F2: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Measurement uncertainty:				dB	

8.2.6.2.2 Higher Sub-band, radiated testing

Table 49: Radiated Receiver Spurious Emissions - Test results for the Higher Sub-band

Test Conditions (see EN 301 893 [i.4], clause 5.3.7.1):					
Rel. Humidity:		%			
Ambient Temp.:		°C			
Test Frequency F3: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Test Frequency F4: (see table 12)			Test results		
..... MHz					
Start Frequency (MHz)	Stop Frequency (MHz)	Res. Bandwidth (kHz)	Maximum Emission Observed (dBm)	Limit (dBm)	Margin (dB)
30	1 000	100		-57	
1 000	26 000	1 000		-47	
Measurement uncertainty:				dB	

8.2.7 Dynamic Frequency Selection (DFS)

8.2.7.1 Channel Availability Check (CAC)

8.2.7.1.1 Channel Availability Check Time

See table 5 in EN 301 893 [i.4] for the applicability of this requirement and as such whether testing is required.

The test method is described in EN 301 893 [i.4], clauses 5.3.8.2.1.1.1 and 5.3.8.2.1.1.2.

Table 50: Channel Availability Check Time - Test results

Test Conditions (see EN 301 893 [i.3], clause 5.3.8.1):							
Antenna gain:		dBi	(see EN 301 893 [i.4], clause 5.3.8.2.1, paragraph 4)				
Power Setting:		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Duty Cycle:		%	Test results				
Rel. Humidity:		%					
Ambient Temp.:		°C	Radar Test Signal	Timing of radar burst (within the 60 seconds or 10 minutes CAC time)	DFS triggered (Yes/No)	Set-up (page #) (note 4)	Timing Plot (page #) (note 5)
Test Frequency F5 (within 5 250 MHz to 5 350 MHz): (see note 1)	..... MHz	See EN 301 893 [i.4] table D.3	Within 0 to 2 second window (see note 2)			
			Within 58 to 60 second window (see note 3)				
Test Frequency F6 (within 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band): (see note 1)	..... MHz	See EN 301 893 [i.4] table D.3	Within 0 to 2 second window (see note 2)			
			Within 58 to 60 second window (see note 3)				
Test Frequency F6' (within 5 600 MHz to 5 650 MHz): (see note 1)	..... MHz	See EN 301 893 [i.4] table D.3	Within 0 to 2 second window (see note 2)			
			Within 598 to 600 second window (see note 2)				
Measurement uncertainty:			[n.a.]				
NOTE 1: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house. Where the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the 5 600 MHz to 5 650 MHz band, the tests for the Channel Availability Check shall be performed on one of these channels in addition to a channel within the band 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band.							
NOTE 2: See EN 301 893 [i.4], clause 5.3.8.2.1.1.1.							
NOTE 3: See EN 301 893 [i.4], clause 5.3.8.2.1.1.2.							
NOTE 4: Specify the page number that contains the set-up diagram used for this test.							
NOTE 5: Specify the page number that contains the Timing Plot for this test.							

8.2.7.1.2 Interference Detection Threshold during the Channel Availability Check

See table 5 in EN 301 893 [i.4] for the applicability of this requirement and as such whether testing is required.

The test method is described in EN 301 893 [i.4], clause 5.3.8.2.1.2.

Table 51: Interference Detection Threshold during the Channel Availability Check - Test results

Test Conditions (see EN 301 893 [i.4], clause 5.3.8.1):							
Antenna gain:		dB <i>i</i>	(see EN 301 893 [i.4], clause 5.3.8.2.1, paragraph 4)				
Power Setting :		dB <i>m</i>	<input type="checkbox"/> EIRP	<input checked="" type="checkbox"/> Conducted			
Set-up (page #)							
Duty Cycle:		%	Test results				
Rel. Humidity:		%					
Ambient Temp.:		°C	Radar Test Signal (#)	Radar signal configuration used (see note 3)	Nr of times DFS was triggered (# out of 20)	Detection Probability (%)	Timing Plot (page #) (see note 1)
Test Frequency F5 (within 5 250 MHz to 5 350 MHz): (see note 2)	..... MHz	1				
		2					
		3					
		4					
		5					
		6					
Test Frequency F6 (within 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band): (see note 2)	..... MHz	1				
		2					
		3					
		4					
		5					
		6					
Test Frequency F6' (within 5 600 MHz to 5 650 MHz): (see note 2)	..... MHz	1				
		2					
		3					
		4					
		5					
		6					
Measurement uncertainty:						[n.a.]	
NOTE 1: Although testing has to be repeated 20 times, only one timing plot or analyser screen capture from a successful DFS trigger is necessary.							
NOTE 2: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house. Where the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the 5 600 MHz to 5 650 MHz band, the tests for the Channel Availability Check shall be performed on one of these channels in addition to a channel within the band 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band.							
NOTE 3: State the Radar signal configuration used from EN 301 893 [i.4], table D.4, by specifying the values chosen for the Pulse Width (in µs), the Pulse Repetition Frequency (in pps), and the Pulses per Burst separated by commas. (e.g. 1,300,10). For test signals # 5 and #6, this has to be provided for each of the different PRFs used.							

8.2.7.3 Off-Channel CAC

8.2.7.3.1 Interference Detection Threshold during the Off-Channel CAC & Off-Channel CAC time

See table 5 in EN 301 893 [i.4] for the applicability of this requirement and as such whether testing is required.

The test method is described in EN 301 893 [i.4], clause 5.3.8.2.1.3.1.

Table 52: Off-Channel CAC - Test results

Test Conditions (see EN 301 893 [i.3], clause 5.3.8.1):						
Antenna gain:		dBi (see EN 301 893 [i.4], clause 5.3.8.2.1, paragraph 4)				
Power Setting:		dBm <input type="checkbox"/> EIRP <input type="checkbox"/> Conducted				
Duty Cycle:		%				
Rel. Humidity:		%				
Ambient Temp.:		°C				
		Test results				
		Radar Test Signal (#)	Radar signal configuration used (see note 2)	Declared Off-Channel CAC Time (see note 3)	DFS triggered within the Off-Channel CAC time (Yes/No)	Timing Plot (page #) (note 4)
Test Frequency F5 (within 5 250 MHz to 5 350 MHz): (see note 1)	..... MHz					
Test Frequency F6 (within 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band): (see note 1)	..... MHz					
Test Frequency F6' (within 5 600 MHz to 5 650 MHz): (see note 1)	..... MHz					
Measurement uncertainty:		[n.a.]				
NOTE 1: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house. Where the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the 5 600 MHz to 5 650 MHz band, the tests for the Off-Channel CAC shall be performed on one of these channels in addition to a channel within the band 5 470 MHz to 5 600 MHz or 5 650 MHz to 5 725 MHz band.						
NOTE 2: State the Radar signal configuration used from EN 301 893 [i.4], table D.4, by specifying the values chosen for the Pulse Width (in μ s), the Pulse Repetition Frequency (in pps) and the Pulses per Burst separated by commas. (e.g. 1,300,10). For test signals # 5 and #6, this has to be provided for each of the different PRFs used.						
NOTE 3: See clause 5.1.i) or EN 301 893 [i.4], clause 5.3.1.i). See also EN 301 893 [i.4] table D.1 for maximum Off-Channel CAC time allowed.						
NOTE 4: Specify the page number that contains the Timing Plot for this test.						

8.2.7.3.2 Off-Channel CAC Detection Probability (P_d) for the band 5 600 MHz to 5 650 MHz

See table 5 in EN 301 893 [i.4] for the applicability of this requirement and as such whether testing is required.

The test method is described in EN 301 893 [i.4], clause 5.3.8.2.1.3.2.

**Table 53: Off-Channel CAC Detection Probability (Pd)
for the band 5 600 MHz to 5 650 MHz - Test results**

Test Conditions (see EN 301 893 [i.3], clause 5.3.8.1):						
Antenna gain:	dB <i>i</i>	(see EN 301 893 [i.4], clause 5.3.8.2.1, paragraph 4)				
Power Setting:	dB <i>m</i>	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Duty Cycle:	%	Test results				
Rel. Humidity:	%	Radar Test Signal (#) <i>(see note 1)</i>	Radar signal configurati on used <i>(see note 2)</i>	Declared Off- Channel CAC Time <i>(see note 3)</i>	Number of burst detections within the Off- Channel CAC time	Minimum Number of burst detections required for the declared Off-Channel CAC Time <i>(note 4)</i>
Ambient Temp.:	°C					
Test Frequency F6' (within 5 600 MHz to 5 650 MHz): MHz					
Measurement uncertainty:					[n.a.]	
NOTE 1: Do not use radar test signals # 3 and #4 from table D.4 in EN 301 893 [i.4]. See also EN 301 893 [i.4], clause 5.3.8.2.1.3.2.a).						
NOTE 2: State the Radar signal configuration used from EN 301 893 [i.4], table D.4, by specifying the values chosen for the Pulse Width (in μ s), the Pulse Repetition Frequency (in pps) and the Pulses per Burst separated by commas. (e.g. 1,300,10). For test signals # 5 and #6, this has to be provided for each of the different PRFs used. Note that this radar test signal is a multi-burst radar test signal as described in EN 301 893 [i.4], clause 5.3.8.2.1.3.2.a).						
NOTE 3: See clause 5.1.i) or EN 301 893 [i.4], clause 5.3.1.i). See also EN 301 893 [i.4] table D.1 for maximum Off-Channel CAC time allowed.						
NOTE 4: See table 8 in EN 301 893 [i.4].						

8.2.7.4 Interference Detection Threshold during In-Service Monitoring

See table 5 in EN 301 893 [i.4] for the applicability of this requirement and as such whether testing is required.

The test method is described in EN 301 893 [i.4], clause 5.3.8.2.1.4.

Table 54: Interference Detection Threshold during the In-Service Monitoring - Test results

Test Conditions (see EN 301 893 [i.4], clause 5.3.8.1):							
Antenna gain:		dBi	(see EN 301 893 [i.4], clause 5.3.8.2.1, paragraph 4)				
Power Setting :		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Set-up (page #):							
Duty Cycle:		%	Test results				
Rel. Humidity:		%					
Ambient Temp.:		°C	Radar Test Signal (#)	Radar signal configuration used (see note 3)	Nr of times DFS was triggered (# out of 20)	Detection Probability (%)	Timing Plot (page #) (see note 1)
Test Frequency F5 (within 5 250 MHz to 5 350 MHz): (see note 2)	..... MHz		1				
			2				
			3				
			4				
			5				
			6				
Test Frequency F6 (within 5 470 MHz to 5 725 MHz band): (see note 2)	..... MHz		1				
			2				
			3				
			4				
			5				
			6				
Measurement uncertainty: [n.a.]							
NOTE 1: Although testing has to be repeated 20 times, only one timing plot or analyser screen capture from a successful DFS trigger is necessary.							
NOTE 2: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house.							
NOTE 3: State the Radar signal configuration used from EN 301 893 [i.4], table D.4, by specifying the values chosen for the Pulse Width (in µs), the Pulse Repetition Frequency (in pps) and the Pulses per Burst separated by commas. (e.g. 1,300,10). For test signals # 5 and #6, this has to be provided for each of the different PRFs used.							

8.2.7.5 Channel Shutdown and Non-Occupancy Period

This test is applicable on a Master device and a Slave device. If the UUT is a Slave device with a Radar Interference Detection function, additional tests are required. See EN 301 893 [i.4], clause 4.7.2.

The test method is described in EN 301 893 [i.4], clause 5.3.8.2.1.5.

8.2.7.5.1 The UUT is a Master device or a Slave device with or without a Radar Interference Detection function

Table 55: Channel Shutdown and Non-Occupancy Period - Test results

Test Conditions (see EN 301 893 [i.4] clause 5.3.8.1):							
Antenna gain:		dBi	(see EN 301 893 [i.3], clause 5.3.8.2.1, paragraph 4)				
Power Setting :		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Set-up (page #):							
Duty Cycle:		%	Test results				
Rel. Humidity:		%	Radar Test Signal	Channel Closing Transmission Time (ms)	Channel Move Time (s)	Non-Occupancy Period (min) (see note 1)	Timing Plot (page #)
Ambient Temp.:		°C					
Test Frequency F5: (see note 2) MHz	See EN 301 893 [i.4] table D.3					
Test Frequency F6: (see note 2) MHz	See EN 301 893 [i.4] table D.3					
Measurement uncertainty:						%	
NOTE 1: The Non-Occupancy Period (NOP) is only applicable on a Master device or a Slave device with a Radar Interference Detection function. There is no need to verify the NOP for a period longer than 30 minutes which is the minimum time required. If the NOP is shorter than 30 minutes, indicate the exact time, if the NOP is longer than 30 minutes just mention '>30' as the result.							
NOTE 2: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house.							

8.2.7.5.2 The UUT is a Slave device with a Radar Interference Detection function

See EN 301 893 [i.4], clause 5.3.8.2.1.5 g) which requires additional testing to be done in case the UUT is a Slave device with a Radar Interference Detection function.

Table 56: Channel Shutdown (Slave with Radar Detection) - Test results

Test Conditions (see EN 301 893 [i.4], clause 5.3.8.1):							
Antenna gain:		dBi	(see EN 301 893 [i.3], clause 5.3.8.2.1, paragraph 4)				
Power Setting :		dBm	<input type="checkbox"/> EIRP	<input type="checkbox"/> Conducted			
Set-up (page #):							
Duty Cycle:		%	Test results				
Rel. Humidity:		%	Radar Test Signal	Channel Closing Transmission Time (ms)	Channel Move Time (s)	Timing Plot (page #)	
Ambient Temp.:		°C					
Test Frequency F5: (see note) MHz	See EN 301 893 [i.4] table D.3					
Test Frequency F6: (see note) MHz	See EN 301 893 [i.4] table D.3					
Measurement uncertainty:						%	
NOTE: According to EN 301 893 [i.4], clause 5.1.3, DFS testing shall be performed on one channel within the range 5 250 MHz to 5 350 MHz and one channel within 5 470 MHz to 5 725 MHz range. The choice of the channel is at the discretion of the test house.							

9 Test Set-Ups

Where required by EN 301 893 [i.4], a description of the different test set-ups should be included in this clause.

10 Screen Plots / Screen Captures

This clause is for the inclusion of DFS timing plots as referenced in the results tables. The inclusion of spurious emissions plots is not mandatory.

11 Photographs of the equipment (UUT)

Photographs of the equipment may be included in this clause.

History

Document history		
V1.1.1	November 2009	Publication