RED-Radio Test Report

Report No.	:	**1812C40196912506W**
Applicant	:	**Zhejiang Lingzhu Technology Co., Ltd.**
Address	:	**Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China**
Product Name	:	**Smart Camera**
Report Date	:	**Apr. 28, 2025**

Shenzhen Anbotek Compliance Laboratory Limited

Contents

TEST REPORT

Applicant	:	Zhejiang Lingzhu Technology Co., Ltd.
Manufacturer	:	Zhejiang Lingzhu Technology Co., Ltd.
Product Name	:	Smart Camera
Model No.	:	SC319-WBR8, SC319-WBR8A, SC319-WBR8B, SC319-WBR8C, SC319-WBR8D, SC319-WBR8E, SC319-WBR8F, SC319-WBR8G
Trade Mark	:	N/A
Rating(s)	:	Input: 5V⎓2A
Test Standard(s)	:	**ETSI EN 301 893 V2.2.1 (2024-11)**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements.
This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Dec. 26, 2024

Date of Test: Dec. 26, 2024 to Apr. 15, 2025

Prepared By: Lene Chen

(Lene Chen)

Approved & Authorized Signer: KingKong Jin

(KingKong Jin)

Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Apr. 28, 2025

1. General Information

1.1. Client Information

Applicant	:	Zhejiang Lingzhu Technology Co., Ltd.
Address	:	Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China
Manufacturer	:	Zhejiang Lingzhu Technology Co., Ltd.
Address	:	Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China
Factory	:	Shenzhen Interthings Technology Co., Ltd.
Address	:	701, Building 1, Lechuanghui Building, No.1211 Guanguang Road, Longhua District, Shenzhen,China

1.2. Description of Device (EUT)

Product Name	:	Smart Camera
Model No.	:	SC319-WBR8, SC319-WBR8A, SC319-WBR8B, SC319-WBR8C, SC319-WBR8D, SC319-WBR8E, SC319-WBR8F, SC319-WBR8G (Note: All samples are the same except the model number, so we prepare "SC319-WBR8" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	DC 5V from adapter input AC 230V/50Hz
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	Model: BS10A-0502000EU Input: 100-240V~50/60Hz 0.35A Max. Output: 5.0V⎓2.0A 10.0W
RF Specification		
Operation Frequency	:	U-NII Band 1: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 5180MHz to 5240MHz; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 5190MHz to 5230MHz; U-NII Band 2A: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 5260MHz to 5320MHz; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 5270MHz to 5310MHz; U-NII Band 3: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 5745MHz to 5825MHz; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 5755MHz to 5795MHz;
Number of Channel	:	U-NII Band 1: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 4; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 2; U-NII Band 2A: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 4; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 2; U-NII Band 3: 802.11a/n(HT20)/ac(VHT20)/ax(HEW20): 5; 802.11n(HT40)/ac(VHT40)/ax(HEW40): 2;

Modulation Type	:	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM); 802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM);
DFS Type	:	Slave without Radar Detection
Antenna Type	:	FPC Antenna
TPC Function	:	Without TPC
Antenna Gain(Peak)	:	U-NII Band 1: 1.42dBi U-NII Band 2A: 1.42dBi U-NII Band 3: 1.51dBi
Remark: (1) All of the RF specification are provided by customer. (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
ROG Rapture Quad-band Gaming Router	ASUSTeK Computer Inc	GT-AXE16000 (FCC ID: MSQ-RTAX5D00 IC: 3568A-RTAX5D00)	RAIG5D2020695NL

1.4. Operation channel list

Operation Band: U-NII Band 1

Bandwidth:	20MHz	Bandwidth:	40MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	/	/
48	5240	/	/

Operation Band: U-NII Band 2A

Bandwidth:	20MHz	Bandwidth:	40MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270
56	5280	62	5310
60	5300	/	/
64	5320	/	/

Operation Band: U-NII Band 3

Bandwidth:	20MHz	Bandwidth:	40MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755
153	5765	159	5795
157	5785	/	/
161	5805	/	/
165	5825	/	/

1.5. Description of Test Modes

Pretest Modes	Descriptions
TM1	Keep the EUT in continuously transmitting at 802.11a mode.
TM2	Keep the EUT in continuously transmitting at 802.11n(HT20) mode.
TM3	Keep the EUT in continuously transmitting at 802.11n(HT40) mode.
TM4	Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode.
TM5	Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode.
TM6	Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode.
TM7	Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.
TM8	Keep the EUT in receiving mode with 20MHz bandwidth.
TM9	Keep the EUT in receiving mode with 40MHz bandwidth.
TM10	Keep the EUT in normal communication with pairing device mode.
Note: 802.11ax mode only support full resource unit size.	

1.6. Environment Conditions

ENV	Temperature (°C)	Voltage (VAC)
HTNV	45	230
LTNV	-10	230
NTNV	25	230

1.7. Measurement Uncertainty

Parameter	Uncertainty
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Power Spectral Density	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.70dB; Vertical: 4.42dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.64dB; 6G-18GHz: 4.82dB
Dwell Time	2%
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.8. Test Summary

Test Items	Test Modes	Status
Nominal Centre frequencies	Mode1,2,3,4,5,6,7	P
Nominal Channel Bandwidth and Occupied Channel Bandwidth	Mode1,2,3,4,5,6,7	P
RF output power, Transmit Power Control (TPC)	Mode1,2,3,4,5,6,7	P
Power Density	Mode1,2,4,6	P
Transmitter unwanted emissions within the transmitter's operating bands	Mode1,2,3,4,5,6,7	P
Transmitter unwanted emissions outside the 5 GHz RLAN bands, conducted	Mode1,2,3,4,5,6,7	P
Receiver spurious emissions, conducted	Mode8,9	P
Transmitter unwanted emissions outside the 5 GHz RLAN bands (30MHz to 1GHz)	Mode1,2,3,4,5,6,7	P
Transmitter unwanted emissions outside the 5 GHz RLAN bands (above 1GHz)	Mode1,2,3,4,5,6,7	P
Receiver spurious emissions (30MHz to 1GHz)	Mode8,9	P
Receiver spurious emissions (above 1GHz)	Mode8,9	P
Adaptivity (Channel Access Mechanism)	Mode1,2,3,4,5,6,7	P
Receiver Blocking	Mode10	P
Adjacent channel selectivity	Mode10	P
DFS - Channel Shutdown	Mode10	P
User Access Restrictions	/	P
Note: P: Pass N: N/A, not applicable		

1.9. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:434132
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location
Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.10. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

1.11. Test Equipment List

Transmitter unwanted emissions outside the 5 GHz RLAN bands, conducted
Adaptivity (Channel Access Mechanism)
DFS - Channel Shutdown
Nominal Channel Bandwidth and Occupied Channel Bandwidth
RF output power, Transmit Power Control (TPC)
Power Density
Transmitter unwanted emissions within the transmitter's operating bands
Receiver spurious emissions, conducted
Receiver Blocking
Adjacent channel selectivity
Nominal Centre frequencies

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	MXG RF Vector Signal Generator	Agilent	N5182A	MY47420822	2024-03-11	2025-03-10
					2025-02-21	2026-02-20
2	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	2024-10-14	2025-10-13
3	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	2024-09-09	2025-09-08
4	Signal Generator	Agilent	E4421B	MY41000743	2025-02-21	2026-02-20
5	RF Control Unit	Tonscend	JS0806-2	21G8060455	2024-09-09	2025-09-08
6	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	104209	2024-09-09	2025-09-08

Transmitter unwanted emissions outside the 5 GHz RLAN bands (30MHz to 1GHz)
Receiver spurious emissions (30MHz to 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
					2025-01-14	2026-01-13
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
					2025-01-14	2026-01-13
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Loop Antenna (9K-30M)	Schwarzbeck	FMZB1519 B	00053	2024-09-12	2025-09-11
5	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/

Transmitter unwanted emissions outside the 5 GHz RLAN bands (above 1GHz) Receiver spurious emissions (above 1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
					2025-01-14	2026-01-13
2	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
3	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/
5	Horn Antenna	A-INFO	LB-180400-KF	J211060628	2024-01-22	2027-01-21
6	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	2024-05-06	2025-05-05
7	Amplifier	Talent Microwave	TLLA18G40G-50-30	23022802	2024-05-07	2025-05-06

2. User Access Restrictions

Test Requirement:	The equipment shall be so constructed that settings (hardware and/or software) are not accessible to the user if changing those settings result in the equipment no longer being conformant to the following: • The DFS requirements as specified in clause 4.2.6. • The adaptivity requirements as specified in clause 4.2.7, in particular the thresholds as defined or referred to in clause 4.2.7.3.1.4 and in clause 4.2.7.3.2.5. EXAMPLE: The equipment does not allow the user to change the country of operation and/or the operating frequency band if that results in the equipment no longer being conformant to the DFS and/or the adaptivity requirements. The equipment shall be so constructed that settings (hardware and/or software) are not accessible to the user if changing those settings results in the equipment no longer being conformant to the following: • the adaptivity requirements as specified in clause B.2.2.7, in particular the thresholds as defined or referred to in clause B.2.2.7.3.1.4 and in clause B.2.2.7.3.2.5. • the country determination capability requirements as specified in clause B.2.2.11.
Test Limit:	The equipment shall be so constructed that settings (hardware and/or software) are not accessible to the user if changing those settings result in the equipment no longer being conformant to the following: • The DFS requirements as specified in clause 4.2.6. • The adaptivity requirements as specified in clause 4.2.7, in particular the thresholds as defined or referred to in clause 4.2.7.3.1.4 and in clause 4.2.7.3.2.5. EXAMPLE: The equipment does not allow the user to change the country of operation and/or the operating frequency band if that results in the equipment no longer being conformant to the DFS and/or the adaptivity requirements. The equipment shall be so constructed that settings (hardware and/or software) are not accessible to the user if changing those settings results in the equipment no longer being conformant to the following: • the adaptivity requirements as specified in clause B.2.2.7, in particular the thresholds as defined or referred to in clause B.2.2.7.3.1.4 and in clause B.2.2.7.3.2.5. • the country determination capability requirements as specified in clause B.2.2.11.

3. Nominal Centre frequencies

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.1
Clause B.2.2.1</td></tr>
<tr><td>Test Limit:</td><td>The nominal centre frequencies (fc) for channels whose nominal channel bandwidth falls partly or completely within sub-band 1, sub-band 2 or sub-band 3 shall be defined by equation (1).
fc = 5 160 MHz + (g × 20 MHz) ± fc_offset, with g integer and 0 ≤ g ≤ 9 or 16 ≤ g ≤ 28 (1)
Operation on the channel with g = 28 is only permitted where operation in sub-band 4 by RLAN devices is allowed by national frequency usage conditions.
An offset (fc_offset) is permitted for each nominal centre frequency. The offset may be different for each nominal centre frequency, but it shall not be greater than 200 kHz. Where an offset is applied, the nominal centre frequencies used by the equipment shall be noted in the test report (see clause 5.4.1, item a)).
The nominal centre frequency for any given channel shall be maintained within the range of fc ± 0,002 %.
Equipment may have simultaneous transmissions on more than one channel.

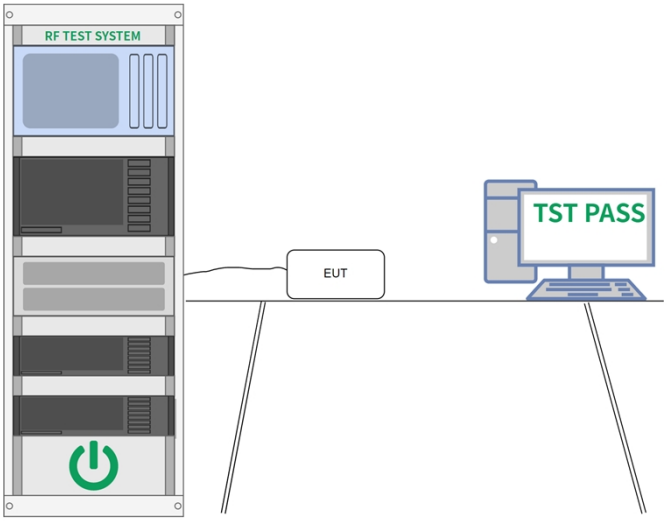
The nominal centre frequencies (fc) for channels whose nominal channel bandwidth falls partly or completely within sub-band 4 shall be defined by equation (B.1).
fc = fg ± fc_offset, with g an integer index and 28 ≤ g ≤ 33 (B.1)
Frequency values for fg are given in table B.2.
Table B.2: Centre frequencies in sub-band 4
<table>
<tr><td>Channel index g</td><td>Centre frequency fg (MHz)</td></tr>
<tr><td>28 (see note)</td><td>5 720</td></tr>
<tr><td>29</td><td>5 745</td></tr>
<tr><td>30</td><td>5 765</td></tr>
<tr><td>31</td><td>5 785</td></tr>
<tr><td>32</td><td>5 805</td></tr>
<tr><td>33</td><td>5 825</td></tr>
<tr><td colspan="2">NOTE: Channel 28 is a channel defined in clause 4.2.1 for sub-band 3</td></tr>
</table>
Operation on the channel with g = 28 is only permitted where operation in both sub-band 3 and sub-band 4 by RLAN devices is allowed by national frequency usage conditions.
An offset (fc_offset) is permitted for each nominal centre frequency. The offset may be different for each nominal centre frequency, but it shall not be greater than 200 kHz. Where an offset is applied, the nominal centre frequencies used by the equipment shall be noted in the test report (see clause B.3.4.1, item a)).
The nominal centre frequency for any given channel shall be maintained within the range of fc ± 0,002 %.
Equipment may have simultaneous transmissions on more than one channel.</td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.2.2.1.2</td></tr>
<tr><td>Procedure:</td><td>This method is an alternative to the method in clause 5.4.2.2.1.1 in case the UUT cannot be operated in an unmodulated mode.
The UUT shall be connected to a spectrum analyser.
The trace mode Max Hold shall be selected and the centre frequency shall</td></tr>
</table>

	be adjusted to that of the channel at which the transmission to be investigated occurs. The peak value of the power envelope shall be measured and noted. The frequency span shall be reduced and the marker moved in a positive frequency increment until the upper, (relative to the centre frequency), 10 dBc point is reached. This value shall be noted as f1. The marker shall then be moved in a negative frequency increment until the lower, (relative to the centre frequency), 10 dBc point is reached. This value shall be noted as f2. The nominal centre frequency is calculated as (f1 + f2) / 2.

3.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

3.2. Test Setup



3.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

4. Nominal Channel Bandwidth and Occupied Channel Bandwidth

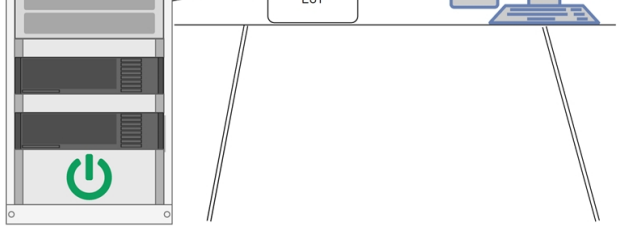
Test Requirement:	Clause 4.2.2 Clause B.2.2.2
Test Limit:	The nominal channel bandwidth for a single channel shall be 20 MHz. Alternatively, equipment may implement a lower nominal channel bandwidth with a minimum of 5 MHz, providing it still conforms to the limits defined for nominal centre frequencies (20 MHz raster). For channels whose nominal channel bandwidth falls partly or completely within sub-band 2 or sub-band 3, the occupied bandwidth shall not be less than 80 % of the nominal channel bandwidth. During a Channel Occupancy Time (COT), equipment may operate temporarily with an occupied bandwidth of less than 80 % of its nominal channel bandwidth. The occupied bandwidth shall not be less than 2 MHz. For channels whose nominal channel bandwidth falls completely outside sub-band 2 and sub-band 3, the occupied bandwidth shall be equal or less than the nominal channel bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the requirements specified in this clause. The occupied bandwidth might change with time/payload. The nominal channel bandwidth for a single channel shall be 20 MHz. Alternatively, equipment may implement a lower nominal channel bandwidth with a minimum of 5 MHz, providing it still conforms to the limits defined for nominal centre frequencies (20 MHz raster). For channels whose nominal channel bandwidth falls partly or completely within sub-band 2 or sub-band 3, the occupied bandwidth shall not be less than 80 % of the nominal channel bandwidth. During a Channel Occupancy Time (COT), equipment may operate temporarily with an occupied bandwidth of less than 80 % of its nominal channel bandwidth. The occupied bandwidth shall not be less than 2 MHz. For channels whose nominal channel bandwidth falls completely outside sub-band 2 and sub-band 3, the occupied bandwidth shall be equal or less than the nominal channel bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the requirements specified in this clause. The occupied bandwidth might change with time/payload.
Test Method:	Clause 5.4.3.2.1
Procedure:	The measurement procedure shall be as follows: Step 1: • Connect the UUT to the spectrum analyser and use the following settings: - Centre frequency:nominal centre frequency of the channel being investigated - RBW: 100 kHz - VBW: 300 kHz - Frequency span: 2 × nominal channel bandwidth (e.g. 40 MHz for a nominal channel bandwidth of 20 MHz) - Sweep time: > 1 s; in case of multi-channel operation, the sweep time may be increased to a value where the sweep time has no impact on the RMS value of the signal

	- Detector mode: RMS - Trace mode: Max Hold Step 2: • Wait for the trace to stabilize. Step 3: • Ensure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement. • Use the 99 % bandwidth function of the spectrum analyser to measure the occupied bandwidth of the UUT. This value shall be recorded. The measurement described in step 1 to step 3 shall be repeated in case of simultaneous transmissions in non adjacent channels.

4.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

4.2. Test Setup



4.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

5. RF output power, Transmit Power Control (TPC)

Test Requirement:	Clause 4.2.3 Clause B.2.2.3

Test Limit:

The limits in clause 4.2.3.2.2 are applicable to the device as a whole and in any possible configuration. This means that the antenna gain of the integral or dedicated antenna shall be taken into account as well as the additional (beamforming) gain in case of smart antenna systems (devices with multiple transmit chains).

The maximum RF output power PH,sb and the PSD in sub-band sb shall not exceed the limits given in table 2 for that sub-band. If the device uses TPC, PH,sb is the RF output power in sub-band sb at the highest power level of the TPC range in sub-band sb. In case of multiple (adjacent or non-adjacent) channels, the limits for the maximum RF output power and the PSD apply per sub-band.

Sub-band	RF output power limit (dBm)		PSD limit (dBm/MHz)	
	with TPC (see note 3)	without TPC	with TPC	without TPC
Sub-band 1	23	23	10	10
Sub-band 2	23	20	10	7
Sub-band 3 (see note 2)	30 (see note 1)	27 (see note 1)	17 (see note 1)	14 (see note 1)
NOTE 1: Secondary devices without radar detection operating in sub-band 3 shall conform to the limits for sub-band 2. NOTE 2: National frequency usage conditions may allow devices to operate in sub-band 3 on a channel with a nominal channel bandwidth that extends into sub-band 4. NOTE 3: If TPC is used, the RF output power in sub-band sb at the lowest power level of the TPC range in sub-band sb (PL,sb) shall be at least 6 dB less than the applicable RF output power limit with TPC.				

The limits in clause B.2.2.3.2.2 are applicable to the device as a whole and in any possible configuration. This means that the antenna gain of the integral or dedicated antenna shall be taken into account as well as the additional (beamforming) gain in case of smart antenna systems (devices with multiple transmit chains).

The maximum RF output power PH,4 and the PSD in sub-band 4 shall not exceed the limits given in table B.3 for that sub-band. If the device uses TPC, PH,4 is the RF output power in sub-band 4 at the highest power level of the TPC range in sub-band 4. In case of multiple (adjacent or non-adjacent) channels, the limits for the maximum RF output power and the PSD apply per sub-band.

Table B.3: RF output power and PSD limits

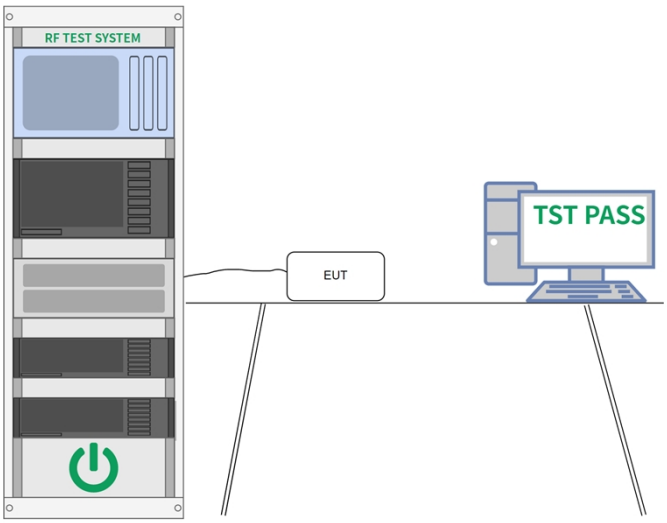
Sub-band	RF output power limit (dBm)		PSD limit (dBm/MHz)	
	with TPC (see note)	without TPC	with TPC	without TPC
Sub-band 4	23	20	10	7
NOTE: If TPC is used, the RF output power in sub-band 4 at the lowest power level of the TPC range in sub-band 4 (PL,4) shall be at least 6 dB less than the applicable RF output power limit with TPC.				

Test Method:	Clause 5.4.4.2.1.1.3
Procedure:	The test procedure shall be as follows and shall be performed for each of the supported sub-bands: Step 1: Sample the transmit signal from the UUT using a fast power sensor suitable for 6 GHz. Save the raw samples, representing the RMS power of the signal. Use the following settings: Sample speed: ≥ 106 samples/s Measurement duration: sufficient to capture a minimum of 10 transmitter bursts (see clause 5.3.1.1) Step 2: For conducted measurements on devices with one transmit chain: Connect the power sensor to the transmit port, sample the transmit signal and store the raw data. Use these stored samples in all following steps. For conducted measurements on devices with multiple transmit chains: Connect a power sensor to each transmit port for a synchronous measurement on all transmit ports. Trigger the power sensors so that they start sampling at the same time. Ensure that the time difference between the samples of all sensors is less than 500 ns. For each individual sampling point (time domain), sum the coincident power samples of all ports and store them. Use these summed samples in the following steps. Step 3: Find the start and stop times of each burst in the stored measurement samples. The start and stop times are defined as the points where the power is at least 30 dB below the highest value of the stored samples from step 2. In case of insufficient dynamic range, the value of 30 dB may need to be reduced appropriately. Step 4: Between the start and stop times of each individual burst, calculate the RMS (mean) power over the burst (Pburst) using equation (5): $$P_{\text{burst}} = \frac{1}{k}\sum_{n=1}^{k} P_{\text{sample}}(n) \quad (5)$$ with k the total number of samples and n the actual sample number. Note the highest of all Pburst values as the value A in dBm. Step 5: Calculate the RF output power at the highest power level PH,sb from the RF output power A (in dBm) determined in step 4, the antenna assembly gain G in dBi and if applicable the beamforming gain Y in dB, according to equation (6). If more than one antenna assembly is intended for this power setting or TPC range, use the gain of the antenna assembly with the highest gain. PH,sb = A + G + Y (dBm) (6) Compare the value PH,sb to the applicable limit and record it in the test report.

5.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

5.2. Test Setup



5.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

6. Power Density

Test Requirement:	Clause 4.2.3 Clause B.2.2.3
Test Limit:	The limits in clause 4.2.3.2.2 are applicable to the device as a whole and in any possible configuration. This means that the antenna gain of the integral or dedicated antenna shall be taken into account as well as the additional (beamforming) gain in case of smart antenna systems (devices with multiple transmit chains). The maximum RF output power PH,sb and the PSD in sub-band sb shall not exceed the limits given in table 2 for that sub-band. If the device uses TPC, PH,sb is the RF output power in sub-band sb at the highest power level of the TPC range in sub-band sb. In case of multiple (adjacent or non-adjacent) channels, the limits for the maximum RF output power and the PSD apply per sub-band.

Sub-band	RF output power limit (dBm)		PSD limit (dBm/MHz)	
	with TPC (see note 3)	without TPC	with TPC	without TPC
Sub-band 1	23	23	10	10
Sub-band 2	23	20	10	7
Sub-band 3 (see note 2)	30 (see note 1)	27 (see note 1)	17 (see note 1)	14 (see note 1)
NOTE 1: Secondary devices without radar detection operating in sub-band 3 shall conform to the limits for sub-band 2. NOTE 2: National frequency usage conditions may allow devices to operate in sub-band 3 on a channel with a nominal channel bandwidth that extends into sub-band 4. NOTE 3: If TPC is used, the RF output power in sub-band sb at the lowest power level of the TPC range in sub-band sb (PL,sb) shall be at least 6 dB less than the applicable RF output power limit with TPC.				

The limits in clause B.2.2.3.2.2 are applicable to the device as a whole and in any possible configuration. This means that the antenna gain of the integral or dedicated antenna shall be taken into account as well as the additional (beamforming) gain in case of smart antenna systems (devices with multiple transmit chains).

The maximum RF output power PH,4 and the PSD in sub-band 4 shall not exceed the limits given in table B.3 for that sub-band. If the device uses TPC, PH,4 is the RF output power in sub-band 4 at the highest power level of the TPC range in sub-band 4. In case of multiple (adjacent or non-adjacent) channels, the limits for the maximum RF output power and the PSD apply per sub-band.

Table B.3: RF output power and PSD limits

Sub-band	RF output power limit (dBm)		PSD limit (dBm/MHz)	
	with TPC (see note)	without TPC	with TPC	without TPC
Sub-band 4	23	20	10	7
NOTE: If TPC is used, the RF output power in sub-band 4 at the lowest power level of the TPC range in sub-band 4 (PL,4) shall be at least 6 dB less than the applicable RF output power limit with TPC.				

Test Method:	Clause 5.4.4.2.1.3.3
Procedure:	For devices capable of operating in multiple sub-bands simultaneously, the PSD in each of the sub-bands shall be measured separately and compared with the applicable limits. The test procedure for measuring the PSD in a given sub-band shall be as follows: Step 1: Connect the UUT to the spectrum analyser and use the following settings: Start frequency: lower band edge of applicable sub-band (i.e. 5 150 MHz, 5 250 MHz or 5 470 MHz) Stop frequency: upper band edge of applicable sub-band (i.e. 5 250 MHz, 5 350 MHz or 5 725 MHz) RBW: 10 kHz VBW: 30 kHz Sweep points: > 10 000 (for sub-band 1) > 10 000 (for sub-band 2) > 25 500 (for sub-band 3) For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented. Detector mode: RMS Trace mode: Max Hold Sweep time: 30 s For non-continuous signals, wait for the trace to be stabilized. Save the (trace) data set to a file. Step 2: For conducted measurements on smart antenna systems using either operating mode 2 or operating mode 3 (see clause 5.3.3.2), repeat the measurement for each of the transmit ports. For each sampling point (frequency domain), add up the coincident power values (in mW) for the different transmit chains and use this as the new data set. Step 3: Add up the values of power for all the samples in the file using equation (13): $$P_{\text{Sum}} = \sum_{n=1}^{k} P_{\text{sample}}(n) \quad (13)$$ with k the total number of samples and n the actual sample number. Step 4: Normalize the individual values for power (in dBm) so that the sum is equal to the RF output power at the highest power level PH,sb measured in clause 5.4.4.2.1.1 for this sub-band. Equations (14) and (15) may be used: $$C_{\text{Corr}} = P_{\text{Sum}} - P_{H\,\text{e.i.r.p}} \quad (14)$$ $$P_{\text{Samplecorr}}(n) = P_{\text{Sample}}(n) - C_{\text{Corr}} \quad (15)$$

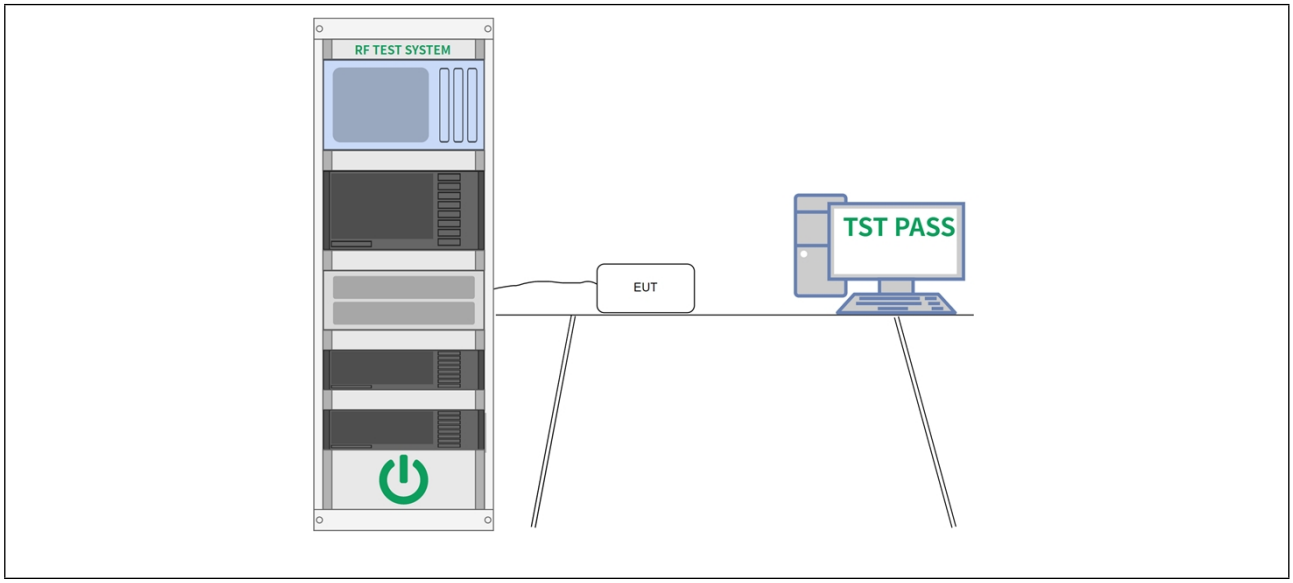
	with n the actual sample number. Step 5: Starting from the first sample Psamplecorr(n) in the file (lowest frequency), add up the power (in mW) of the following samples representing a 1 MHz segment and record the results for power and position (i.e. sample 1 to sample 100). This is the PSD for the first 1 MHz segment. Save this value. Step 6: Shift the start point of the samples added up in step 5 by one sample and repeat the procedure in step 5 (i.e. sample 2 to sample 101). Step 7: Repeat step 6 until the end of the data set and save the radiated PSD values for each of the 1 MHz segments. From all the saved results, the highest value is the maximum PSD for the UUT. Step 8: Compare the values for the maximum PSD obtained in step 7 with the applicable limits and record them in the test report. For devices capable of operating in multiple sub-bands simultaneously (including sub-band 4), the PSD in each of the sub-bands shall be measured separately and compared with the applicable limits. The test procedure for measuring the PSD in a given sub-band shall be as follows: Step 1: Connect the UUT to the spectrum analyser and use the following settings: Start frequency: lower band edge of applicable sub-band (i.e. 5 150 MHz, 5 250 MHz, 5 470 MHz or 5 725 MHz) Stop frequency: upper band edge of applicable sub-band (i.e. 5 250 MHz, 5 350 MHz, 5 725 MHz or 5 850 MHz) RBW: 10 kHz VBW: 30 kHz Sweep points: > 10 000 (for sub-band 1) > 10 000 (for sub-band 2) > 25 500 (for sub-band 3) > 12 500 (for sub-band 4) For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented. Detector mode: RMS Trace mode: Max Hold Sweep time: 30 s When measuring the PSD within sub-band 3 and the channel plan includes a channel with a nominal centre frequency within sub-band 3 whose nominal channel bandwidth extends into sub-band 4, adjust the stop frequency accordingly. Adjust the sweep points to cover at least 100 points per MHz of measurement bandwidth. When measuring the PSD within sub-band 4 and the channel plan includes a channel with a nominal centre frequency within sub-band 3 whose nominal channel bandwidth extends into sub-band 4, adjust the start frequency accordingly. Adjust the sweep points to cover at least 100 points per MHz of measurement bandwidth. For non-continuous signals, wait for the trace to be stabilized. Save the (trace) data set to a file. Step 2:

	For conducted measurements on smart antenna systems using either operating mode 2 or operating mode 3 (see clause 5.3.3.2), repeat the measurement for each of the transmit ports. For each sampling point (frequency domain), add up the coincident power values (in mW) for the different transmit chains and use this as the new data set. Step 3: Add up the values of power for all the samples in the file using equation (B.4): $$P_{\text{Sum}} = \sum_{n=1}^{k} P_{\text{sample}}(n) \quad \text{(B.4)}$$ with k the total number of samples and n the actual sample number. Step 4: Normalize the individual values for power (in dBm) so that the sum is equal to the RF output power at the highest power level PH,sb measured in clause B.3.4.4.2.1.1 for this sub-band. Equations (B.5) and (B.6) may be used: $$C_{\text{Corr}} = P_{\text{Sum}} - P_{H\,\text{e.i.r.p}} \quad \text{(B.5)}$$ $$P_{\text{Samplecorr}}(n) = P_{\text{Sample}}(n) - C_{\text{Corr}} \quad \text{(B.6)}$$ with n the actual sample number. Step 5: Starting from the first sample Psamplecorr(n) in the file (lowest frequency), add up the power (in mW) of the following samples representing a 1 MHz segment and record the results for power and position (i.e. sample 1 to sample 100). This is the PSD for the first 1 MHz segment. Save this value. Step 6: Shift the start point of the samples added up in step 5 by one sample and repeat the procedure in step 5 (i.e. sample 2 to sample 101). Step 7: Repeat step 6 until the end of the data set and save the radiated PSD values for each of the 1 MHz segments. From all the saved results, the highest value is the maximum PSD for the UUT. Step 8: Compare the values for the maximum PSD obtained in step 7 with the applicable limits and record them in the test report.

6.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode.

6.2. Test Setup

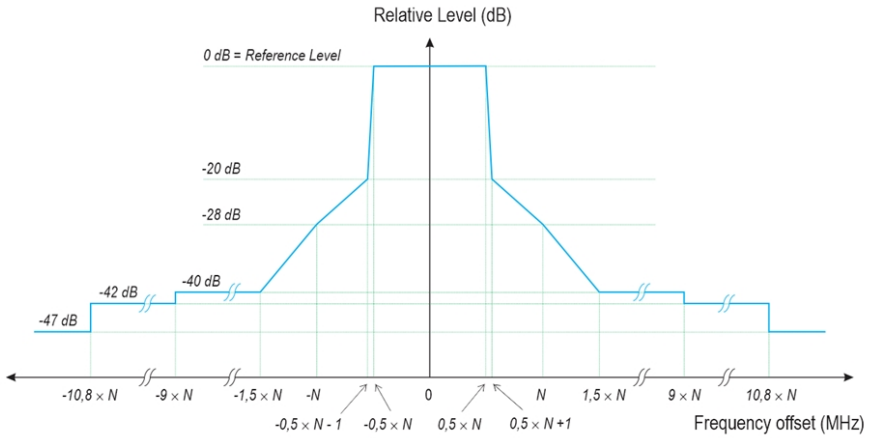


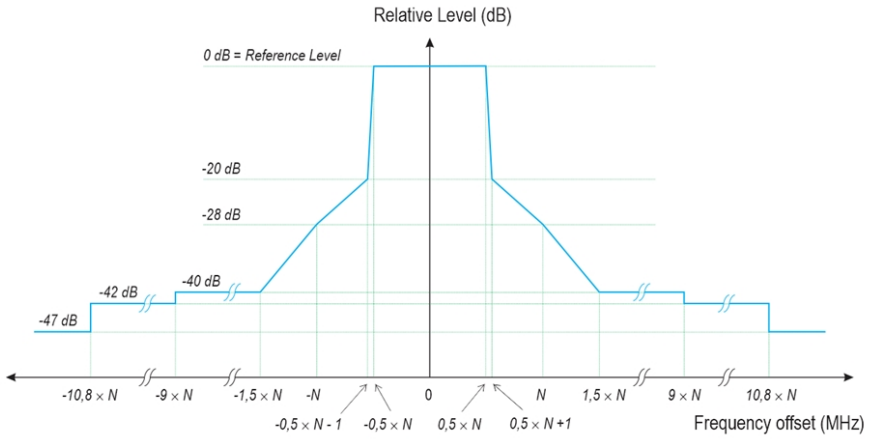
6.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

7. Transmitter unwanted emissions within the transmitter's operating bands

Test Requirement:	Clause 4.2.4.2 Clause B.2.2.4.2
Test Limit:	 Figure 1: Transmit spectral power mask The mean PSD of the transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of the mask provided in figure 1 or an absolute level of 30 dBm/MHz, whichever is greater. The limits in figure 1 are relative to the maximum PSD transmitted by the RLAN device when measured with a reference bandwidth of 1 MHz. The mask is only applicable within the band(s) of operation. Beyond the band edges, the requirements for transmitter unwanted emissions outside the transmitter's operating bands (see clause 4.2.4.1) apply. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the limits for transmitter unwanted emissions within the transmitter's operating bands. In case of multi-channel operation in adjacent or non-adjacent channels, clause 4.2.4.2.2.2 and clause 4.2.4.2.2.3 describe how the overall transmit spectral power mask to be applied shall be constructed. The transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of this overall transmit spectral power mask or an absolute level of 30 dBm/MHz based on ERC Recommendation 74 01 [i.13], whichever is greater. The channel edge masks for multi-channel operation in adjacent and/or non-adjacent channels which are supported by the equipment shall be noted in the test report (see clause 5.4.1).

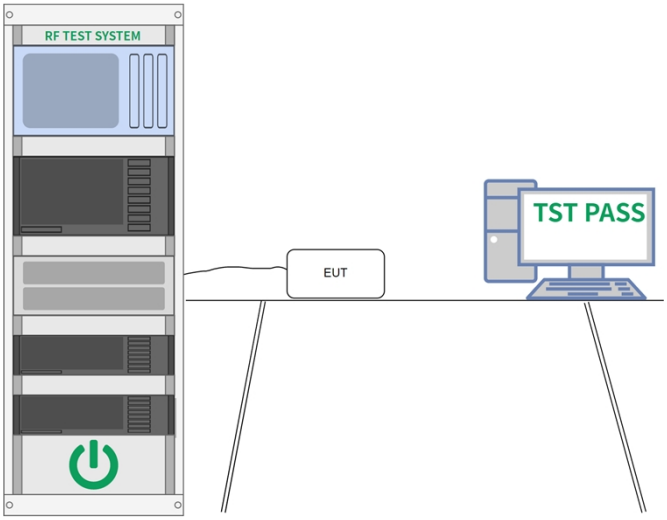
	 Figure 1: Transmit spectral power mask The mean PSD of the transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of the mask provided in figure 1 or an absolute level of 30 dBm/MHz, whichever is greater. The limits in figure 1 are relative to the maximum PSD transmitted by the RLAN device when measured with a reference bandwidth of 1 MHz. The mask is only applicable within the band(s) of operation. Beyond the band edges, the requirements for transmitter unwanted emissions outside the transmitter's operating bands (see clause 4.2.4.1) apply. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the limits for transmitter unwanted emissions within the transmitter's operating bands. In case of multi-channel operation in adjacent or non-adjacent channels, clause 4.2.4.2.2.2 and clause 4.2.4.2.2.3 describe how the overall transmit spectral power mask to be applied shall be constructed. The transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of this overall transmit spectral power mask or an absolute level of 30 dBm/MHz based on ERC Recommendation 74 01 [i.13], whichever is greater. The channel edge masks for multi-channel operation in adjacent and/or non-adjacent channels which are supported by the equipment shall be noted in the test report (see clause 5.4.1).
Test Method:	Clause 5.4.6.2.1.2
Procedure:	This method shall be used if the UUT is not capable of operating in a continuous transmit mode (duty cycle less than 100 %). In addition, this option can also be used as an alternative to option 1 for systems operating in a continuous transmit mode. **Step 1: Determination of the reference average power level.** · Spectrum analyser settings: - Resolution bandwidth: 1 MHz - Video bandwidth: 30 kHz - Detector mode: RMS - Trace Mode: Max Hold - Sweep time: ³ 1 min - Centre Frequency: Centre frequency of the channel being tested - Span: 2 × *Nominal Channel Bandwidth* · Use the marker to find the highest average power level of the power envelope of the UUT. This level shall be used as the reference level for the relative measurements. **Step 2: Determination of the relative average power levels.**

	· Adjust the frequency range of the spectrum analyser to allow the measurement to be performed within the sub-bands 5 150 MHz to 5 350 MHz and 5 470 MHz to 5 725 MHz. No other parameter of the spectrum analyser should be changed. Compare the relative power envelope of the UUT with the limits defined in clause 4.2.4.2.2.

7.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

7.2. Test Setup



7.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

8. Transmitter unwanted emissions outside the 5 GHz RLAN bands, conducted

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.4.1
Clause B.2.2.4.1</td></tr>
<tr><td>Test Limit:</td><td>The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands
<table>
<tr><th>Frequency range</th><th>Maximum power</th><th>Measurement bandwidth</th></tr>
<tr><td>30 MHz ≤ f < 87,5 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>87,5 MHz ≤ f ≤ 118 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>118 MHz < f < 174 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>174 MHz ≤ f ≤ 230 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>230 MHz < f < 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>470 MHz ≤ f ≤ 694 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>694 MHz < f ≤ 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>

The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands
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<tr><td>174 MHz ≤ f ≤ 230 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>230 MHz < f < 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>470 MHz ≤ f ≤ 694 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>694 MHz < f ≤ 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.5.2.1</td></tr>
<tr><td>Procedure:</td><td>The UUT shall be connected to a spectrum analyser capable of RF power</td></tr>
</table>

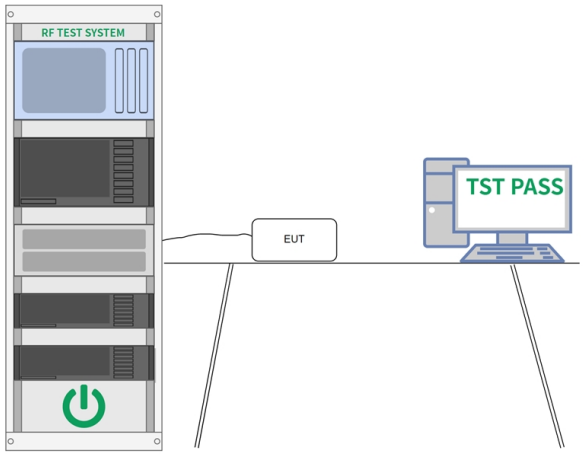
	measurements. This pre-scan test procedure shall be used to identify potential unwanted emissions of the UUT. The sensitivity of the spectrum analyser should be such that the noise floor is at least 12 dB below the applicable limits. The test procedure shall be as follows: Step 1: • Identify the unwanted emissions over the range 30 MHz to 1 000 MHz using the following spectrum analyser settings: - RBW: 100 kHz - VBW: 300 kHz - Detector mode: Peak - Trace mode: Max Hold - Sweep points: ≥ 9 700 For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented. For spectrum analysers capable of supporting twice this number of sweep points, the frequency adjustment in clause 5.4.5.2.1.2, step 1, last bullet may be omitted. - Sweep time: For non-continuous transmissions (duty cycle less than 100 %), the sweep time shall be sufficiently long, such that for each 100 kHz frequency step, the measurement time is greater than two transmissions of the UUT. EXAMPLE 1: For non-continuous transmissions, if the UUT is using a test sequence as described in clause 5.3.1.1 with a transmitter on + off time of 2 ms, then the sweep time has to be greater than 4 ms per 100 kHz. • Allow the trace to stabilize. Measure any emissions identified that have a margin of less than 6 dB with respect to the applicable limit individually using the procedure in clause 5.4.5.2.1.2 and compare it to the applicable limit. Step 2: • Identify the unwanted emissions over the range 1 GHz to 26 GHz using the following spectrum analyser settings: - RBW: 1 MHz - VBW: 3 MHz - Detector mode: Peak - Trace mode: Max Hold - Sweep points: ≥ 25 000 For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented. For spectrum analysers capable of supporting twice this number of sweep points, the frequency adjustment in clause 5.4.5.2.1.2, step 1, last bullet may be omitted. - Sweep time: For non-continuous transmissions (duty cycle less than 100 %), the sweep time shall be sufficiently long, such that for each 1 MHz frequency step, the measurement time is greater than two transmissions of the UUT. EXAMPLE 2: For non-continuous transmissions, if the UUT is using a test sequence as described in clause 5.3.1.1 with a transmitter on + off time of 2 ms, then the sweep time has to be greater than 4 ms per 1 MHz. • Allow the trace to stabilize. Measure any emissions identified that have a margin of less than 6 dB with respect to the applicable limits individually using the procedure in clause 5.4.5.2.1.2 and compare it to the applicable limits. The limits for transmitter unwanted emissions refer to average power levels. The steps in the present clause shall be used to accurately measure the

	individual unwanted emissions identified during the pre-scan measurements in clause 5.4.5.2.1.1. Continuous transmit signals: For continuous transmit signals, a simple measurement using the RMS detector of the spectrum analyser is permitted. Record the measured values and compare them with the applicable limits. Non-continuous transmit signals: For non-continuous transmit signals, the measurement shall be made using the RMS detector of the spectrum analyser only over the "on" part of the burst. Step 1: • Measure the level of the emissions in the time domain using the following spectrum analyser settings: - Centre frequency:frequency of emission identified during the pre-scan - RBW: 100 kHz (≤ 1 GHz) / 1 MHz (> 1 GHz) - VBW: 300 kHz (≤ 1 GHz) / 3 MHz (> 1 GHz) - Frequency span: 0 Hz - Sweep mode: Single Sweep - Sweep time: suitable to capture one transmission burst. Additional measurements may be needed to identify the length of the transmission burst. In case of continuous signals, the sweep time shall be set to 30 ms. - Sweep points: sweep time (µs) / 1 µs with a maximum of 30 000 - Trigger mode: Video (burst signals) or Manual (continuous signals) - Detector mode: RMS - Trace mode: Clear/Write • Adjust the centre frequency (fine tune) to capture the highest level of one burst of the emission to be measured. This fine tuning may be omitted for spectrum analysers capable of supporting twice this number of sweep points required in step 2 and step 3 from the pre-scan procedure in clause 5.4.5.2.1.1. Step 2: • Adjust the trigger level to select the transmissions with the highest power level. • Set a window (start and stop lines) to match with the start and end of the burst. Measure the RMS power in the set window using the time domain power function. If the spurious emission to be measured is a continuous signal, set the measurement window to match the start and stop times of the sweep. • Select RMS power to be measured within the selected window and note the result which is the RMS power of this particular spurious emission. Compare this value with the applicable limit. This procedure shall be repeated for every emission identified during the pre-scan. The values and corresponding frequencies shall be recorded. In case of conducted measurements on smart antenna systems (equipment with multiple transmit chains), the measurements shall be repeated for each of the active transmit chains. Comparison with the applicable limits shall be done using either of the following options: • Option 1: the results for each of the transmit chains for the corresponding 1 MHz segments are added and compared with the applicable limits. • Option 2: the results for each of the transmit chains are individually compared with the applicable limits after these limits have been reduced by 10 × log10 (Tch) (number of active transmit chains).

8.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

8.2. Test Setup



8.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

9. Receiver spurious emissions, conducted

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.5
Clause B.2.2.5</td></tr>
<tr><td>Test Limit:</td><td>The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>
The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.7.2.1</td></tr>
<tr><td>Procedure:</td><td>Pre-scan
The test procedure below shall be used to identify potential receiver spurious emissions of the UUT.
Step 1:
· The sensitivity of the spectrum analyser should be such that the noise floor is at least 12 dB below the limits given in clause 4.2.5.2, table 5.
Step 2:
· The emissions shall be measured over the range 30 MHz to 1 000 MHz.
· Spectrum analyser settings:
- Resolution bandwidth: 100 kHz
- Video bandwidth: 300 kHz
- Detector mode: Peak
- Trace Mode: Max Hold
- Sweep Points: ≥ 9 700
For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented. For spectrum analysers capable of supporting twice this number of sweep points, the frequency adjustment in clause 5.4.7.2.1.2 (step 1, last bullet) may be omitted.</td></tr>
</table>

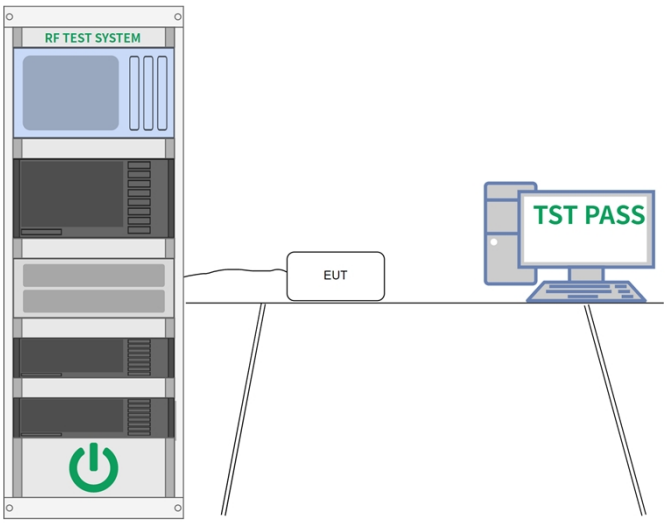
	- Sweep time: Auto · Wait for the trace to stabilize. Any emissions identified that have a margin of less than 6 dB with respect to the limits given in clause 4.2.5.2, table 5, shall be individually measured using the procedure in clause 5.4.7.2.1.2 and compared to the limits given in clause 4.2.5.2, table 5. **Step 3:** · The emissions shall now be measured over the range 1 GHz to 26 GHz. · Spectrum analyser settings: - Resolution bandwidth: 1 MHz - Video bandwidth: 3 MHz - Detector mode: Peak - Trace mode: Max Hold - Sweep Points: ≥ 25 000 For spectrum analysers not supporting this high number of sweep points, the frequency band may need to be segmented. For spectrum analysers capable of supporting twice this number of sweep points, the frequency adjustment in clause 5.4.7.2.1.2 (step 1, last bullet) may be omitted. - Sweep time: Auto · Wait for the trace to stabilize. Any emissions identified that have a margin of less than 6 dB with respect to the limits given in clause 4.2.5.2, table 5, shall be individually measured using the procedure in clause 5.4.7.2.1.2 and compared to the limits given in clause 4.2.5.2, table 5. **Measurement of the emissions identified during the pre-scan** The limits for receiver spurious emissions in clause 4.2.5 refer to average power levels. The steps below shall be used to accurately measure the individual unwanted emissions identified during the pre-scan measurements above. This method assumes the spectrum analyser has a Time Domain Power function. **Step 1:** · The level of the emissions shall be measured using the following spectrum analyser settings: - Measurement Mode: Time Domain Power - Centre Frequency: Frequency of the emission identified during the pre-scan - Resolution Bandwidth: 100 kHz (emissions < 1 GHz) / 1 MHz (emissions > 1 GHz) - Video Bandwidth: 300 kHz (emissions < 1 GHz) / 3 MHz (emissions > 1 GHz) - Frequency Span: Zero Span - Sweep mode: Single Sweep - Sweep time: 30 ms - Sweep points: ≥ 30 000 - Trigger: Video (for burst signals) or Manual (for continuous signals) - Detector: RMS · Adjust the centre frequency (fine tune) to capture the highest level of one burst of the emission to be measured. This fine tuning can be omitted for spectrum analysers capable of supporting twice this number of sweep points required in step 2 and step 3 from the pre-scan procedure in clause 5.4.7.2.1.1. **Step 2:** · Set a window where the start and stop indicators match the start and end of the burst with the highest level and record the value of the power measured within this window. · If the spurious emission to be measured is a continuous transmission, the

	measurement window shall be set to the start and stop times of the sweep. **Step 3:** · In case of conducted measurements on smart antenna systems (equipment with multiple receive chains), step 2 shall be repeated for each of the active receive chains. · Sum the measured power (within the observed window) for each of the active receive chains. **Step 4:** The value defined in step 3 shall be compared to the limits defined in clause 4.2.5.2, table 5.

9.1. EUT Operation

Operating Environment:	
Test mode:	8: Receiving mode (20MHz): Keep the EUT in receiving mode with 20MHz bandwidth. 9: Receiving mode (40MHz): Keep the EUT in receiving mode with 40MHz bandwidth.

9.2. Test Setup



9.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

10. Transmitter unwanted emissions outside the 5 GHz RLAN bands (30MHz to 1GHz)

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.4.1
Clause B.2.2.4.1</td></tr>
<tr><td>Test Limit:</td><td>The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands
<table>
<tr><th>Frequency range</th><th>Maximum power</th><th>Measurement bandwidth</th></tr>
<tr><td>30 MHz ≤ f < 87,5 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>87,5 MHz ≤ f ≤ 118 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>118 MHz < f < 174 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>174 MHz ≤ f ≤ 230 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>230 MHz < f < 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>470 MHz ≤ f ≤ 694 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>694 MHz < f ≤ 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>

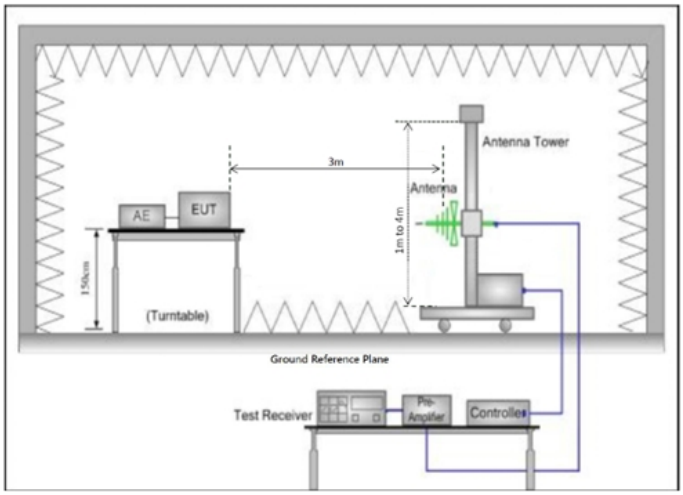
The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands
<table>
<tr><th>Frequency range</th><th>Maximum power</th><th>Measurement bandwidth</th></tr>
<tr><td>30 MHz ≤ f < 87,5 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>87,5 MHz ≤ f ≤ 118 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>118 MHz < f < 174 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>174 MHz ≤ f ≤ 230 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>230 MHz < f < 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>470 MHz ≤ f ≤ 694 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>694 MHz < f ≤ 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.5.2.2</td></tr>
</table>

Procedure:	The test setup as described in annex E shall be used with a spectrum analyser attached to the test antenna. The test procedure is as described under clause 5.4.5.2.1.

10.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

10.2. Test Setup



10.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

TM1/ Band: 5250-5230 MHz / BW: 20 / CH: L					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
143.51	V	TX	-63.45	-36	-27.45
630.81	V	TX	-64.72	-54	-10.72
---	V	TX	---	---	---
152.68	H	TX	-62.27	-36	-26.27
658.12	H	TX	-61.87	-54	-7.87
---	H	TX	---	---	---
TM1/ Band: 5250-5350 MHz / BW: 20 / CH: H					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
146.71	V	TX	-62.59	-36	-26.59
782.3	V	TX	-65.72	-54	-11.72
---	V	TX	---	---	---
154.13	H	TX	-62.42	-36	-26.42
664.24	H	TX	-61.25	-54	-7.25
---	H	TX	---	---	---

Note:
1. Only record the worst data in the report.
2. Margin(dB)= Limit (dBm)- Measured(dBm)

11. Transmitter unwanted emissions outside the 5 GHz RLAN bands (above 1GHz)

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.4.1
Clause 4.2.4.1</td></tr>
<tr><td>Test Limit:</td><td>The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands
<table>
<tr><th>Frequency range</th><th>Maximum power</th><th>Measurement bandwidth</th></tr>
<tr><td>30 MHz ≤ f < 87,5 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>87,5 MHz ≤ f ≤ 118 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
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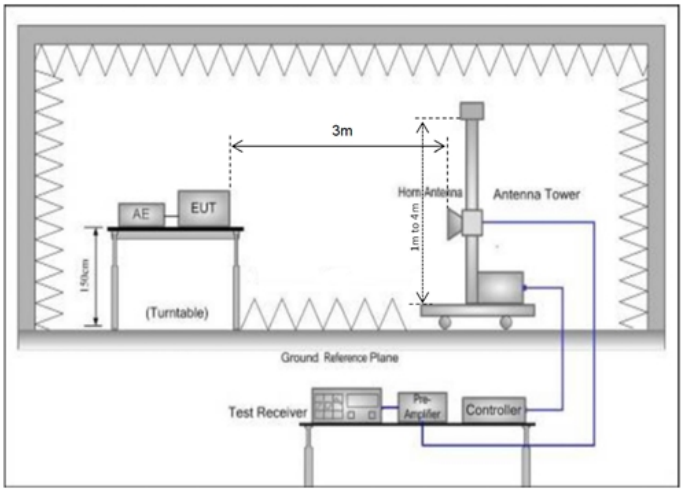
<tr><td>230 MHz < f < 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>470 MHz ≤ f ≤ 694 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr>
<tr><td>694 MHz < f ≤ 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>
</td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.5.2.2</td></tr>
</table>

Procedure:	The test setup as described in annex E shall be used with a spectrum analyser attached to the test antenna. The test procedure is as described under clause 5.4.5.2.1.

11.1. EUT Operation

Operating Environment:	
Test mode:	1: 802.11a mode: Keep the EUT in continuously transmitting at 802.11a mode. 2: 802.11n(HT20) mode: Keep the EUT in continuously transmitting at 802.11n(HT20) mode. 3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 4: 802.11ac(VHT20) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT20) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 6: 802.11ax(HEW20) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW20) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

11.2. Test Setup



11.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

TM1/ Band: 5250-5350 MHz / BW: 20 / CH: L					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
10521.82	V	TX	-40.88	-30	-10.88
15780.64	V	TX	-41.95	-30	-11.95
---	V	TX	---	---	---
10521.82	H	TX	-40.57	-30	-10.57
15781.82	H	TX	-42.24	-30	-12.24
---	H	TX	---	---	---
TM1/ Band: 5250-5350 MHz / BW: 20 / CH: H					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
10640.61	V	TX	-36.22	-30	-6.22
15960.32	V	TX	-40.27	-30	-10.27
---	V	TX	---	---	---
10640.61	H	TX	-37.72	-30	-7.72
15961.52	H	TX	-40.33	-30	-10.33
---	H	TX	---	---	---

Note:
1. Only record the worst data in the report.
2. Margin(dB)= Limit (dBm)- Measured(dBm)

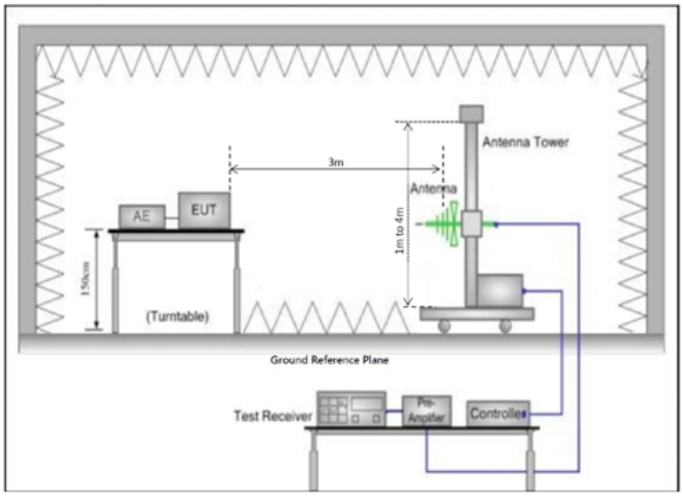
12. Receiver spurious emissions (30MHz to 1GHz)

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.5
Clause B.2.2.5</td></tr>
<tr><td>Test Limit:</td><td>The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>
The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.7.2.2</td></tr>
<tr><td>Procedure:</td><td>The test setup as described in annex E shall be used with a spectrum analyser attached to the test antenna.
The test procedure is as described under clause 5.4.7.2.1.</td></tr>
</table>

12.1. EUT Operation

<table>
<tr><td colspan="2">Operating Environment:</td></tr>
<tr><td>Test mode:</td><td>8: Receiving mode (20MHz): Keep the EUT in receiving mode with 20MHz bandwidth.
9: Receiving mode (40MHz): Keep the EUT in receiving mode with 40MHz bandwidth.</td></tr>
</table>

12.2. Test Setup



12.3. Test Data

Temperature:	23.4 °C	Humidity:	60 %	Atmospheric Pressure:	101 kPa

TM8/ Band: 5250-5350 MHz / BW: 20 / CH: L					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
347.71	V	RX	-66.5	-57	-9.5
---	V	RX	---	---	---
---	V	RX	---	---	---
610.24	H	RX	-68.97	-57	-11.97
---	H	RX	---	---	---
---	H	RX	---	---	---
TM8/ Band: 5250-5350 MHz / BW: 20 / CH: H					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
370.49	V	RX	-66.34	-57	-9.34
---	V	RX	---	---	---
---	V	RX	---	---	---
551.1	H	RX	-68.06	-57	-11.06
---	H	RX	---	---	---
---	H	RX	---	---	---

Note:
1. Only record the worst data in the report.
2. Margin(dB)= Limit (dBm)- Measured(dBm)

13. Receiver spurious emissions (above 1GHz)

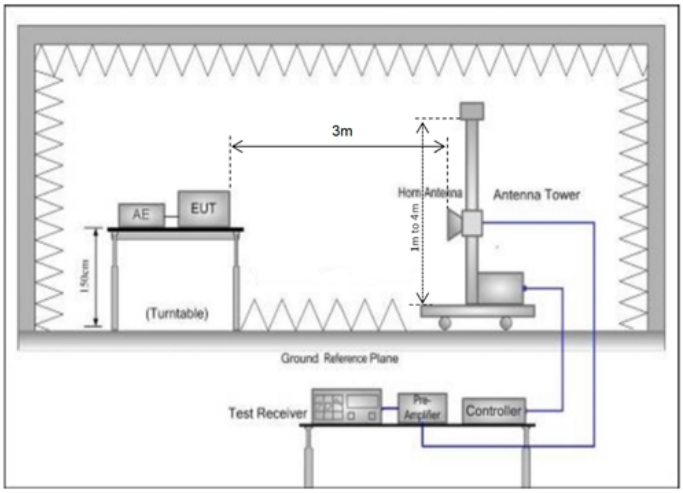
<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.5
Clause B.2.2.5</td></tr>
<tr><td>Test Limit:</td><td>The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table>

The receiver spurious emissions shall not exceed the limits given in table 4. In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.
Table 4: Spurious radiated emission limits
<table>
<tr><td>Frequency range</td><td>Maximum power</td><td>Measurement bandwidth</td></tr>
<tr><td>30 MHz ≤ f ≤ 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr>
<tr><td>1 GHz < f ≤ 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr>
<tr><td colspan="3">NOTE: Information in this table is based on ERC Recommendation 74-01 [i.13], Annex 2, Table 6.</td></tr>
</table></td></tr>
<tr><td>Test Method:</td><td>Clause 5.4.7.2.2</td></tr>
<tr><td>Procedure:</td><td>The test setup as described in annex E shall be used with a spectrum analyser attached to the test antenna.
The test procedure is as described under clause 5.4.7.2.1.</td></tr>
</table>

13.1. EUT Operation

<table>
<tr><td colspan="2">Operating Environment:</td></tr>
<tr><td>Test mode:</td><td>8: Receiving mode (20MHz): Keep the EUT in receiving mode with 20MHz bandwidth.
9: Receiving mode (40MHz): Keep the EUT in receiving mode with 40MHz bandwidth.</td></tr>
</table>

13.2. Test Setup



13.3. Test Data

Temperature:	23.4 °C	Humidity:	60 %	Atmospheric Pressure:	101 kPa

TM8/ Band: 5250-5350 MHz / BW: 20 / CH: L					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
1390.56	V	RX	-60.47	-47	-13.47
---	V	RX	---	---	---
---	V	RX	---	---	---
1780.81	H	RX	-65.82	-47	-18.82
---	H	RX	---	---	---
---	H	RX	---	---	---
TM8/ Band: 5250-5350 MHz / BW: 20 / CH: H					
Frequency (MHz)	Ant H / V	TX/RX	Measured (dBm)	Limits (dBm)	Margins (dB)
1265	V	RX	-56.73	-47	-9.73
---	V	RX	---	---	---
---	V	RX	---	---	---
1674.98	H	RX	-57.71	-47	-10.71
---	H	RX	---	---	---
---	H	RX	---	---	---

Note:
1. Only record the worst data in the report.
2. Margin(dB)= Limit (dBm)- Measured(dBm)

14. Adaptivity (Channel Access Mechanism)

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.7.3.2
Clause B.2.2.7.3.2
Clause 4.2.7.3.3
Clause B.2.2.7.3.3</td></tr>
<tr><td>Test Limit:</td><td>If a
transmissions may be separated by gaps. The
25 µs duration or less within a
duration from the start of the first transmission within a
same
exceed 20 ms.
The
simultaneously (one for each implemented
Table 7: Priority Class dependent Channel
Access parameters for
<table>
<tr><td>Class #</td><td>p0</td><td>CWmin</td><td>CWmax</td><td>Maximum Channel Occupancy Time (COT)</td></tr>
<tr><td>4</td><td>1</td><td>3</td><td>7</td><td>2 ms</td></tr>
<tr><td>3</td><td>1</td><td>7</td><td>15</td><td>4 ms</td></tr>
<tr><td>2</td><td>3</td><td>15</td><td>63</td><td>6 ms (see note 1 and note 2)</td></tr>
<tr><td>1</td><td>7</td><td>15</td><td>1 023</td><td>6 ms (see note 1)</td></tr>
<tr><td colspan="5">NOTE 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 µs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time. NOTE 2: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 10 ms by extending CW to CW × 2 + 1 when selecting the random number q for any backoff(s) that precede the Channel Occupancy that may exceed 6 ms or which follow the Channel Occupancy that exceeded 6 ms. The choice between preceding or following a Channel Occupancy shall remain unchanged during the operation time of the device. NOTE 3: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.</td></tr>
</table>
Table 8: Priority Class dependent Channel

Access parameters for
<table>
<tr><td>Class #</td><td>p0</td><td>CWmin</td><td>CWmax</td><td>Maximum Channel Occupancy Time (COT)</td></tr>
<tr><td>4</td><td>2</td><td>3</td><td>7</td><td>2 ms</td></tr>
<tr><td>3</td><td>2</td><td>7</td><td>15</td><td>4 ms</td></tr>
<tr><td>2</td><td>3</td><td>15</td><td>1 023</td><td>6 ms (see note 1)</td></tr>
<tr><td>1</td><td>7</td><td>15</td><td>1 023</td><td>6 ms (see note 1)</td></tr>
<tr><td colspan="5">NOTE 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 µs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time. NOTE 2: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.</td></tr>
</table>
An operating channel is an occupied channel as long as transmissions in that channel are present at a power level greater than the Energy Detection Threshold (EDT). The power level is determined by integrating the received</td></tr>
</table>

power over the channel and then normalized to per MHz power. The received power shall be determined at the interface between the equipment and the antenna assembly. If no transmissions are present at a power level greater than the EDT, the operating channel is an unoccupied channel. Equipment may consist of one or more devices.
The EDT is proportional to the equipment's maximum configured RF output power and shall be:
EDT = 75 dBm/MHz for Pmax ≤ 18 dBm
EDT = 80 dBm/MHz + (23 dBm - Pmax) for 18 dBm < Pmax < 23 dBm (3)
EDT = 80 dBm/MHz for Pmax ≥ 23 dBm
The EDT is an absolute level that applies at all times independent of background noise of other signals being present in the channel.

If a transmissions may be separated by gaps. The 25 μs duration or less within a duration from the start of the first transmission within a same exceed 20 ms.
The simultaneously (one for each implemented Table 7: Priority Class dependent Channel Access parameters for

Class #	p0	CWmin	CWmax	Maximum Channel Occupancy Time (COT)
4	1	3	7	2 ms
3	1	7	15	4 ms
2	3	15	63	6 ms (see note 1 and note 2)
1	7	15	1 023	6 ms (see note 1)
NOTE 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 μs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time. NOTE 2: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 10 ms by extending CW to CW × 2 + 1 when selecting the random number q for any backoff(s) that precede the Channel Occupancy that may exceed 6 ms or which follow the Channel Occupancy that exceeded 6 ms. The choice between preceding or following a Channel Occupancy shall remain unchanged during the operation time of the device. NOTE 3: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.				

Table 8: Priority Class dependent Channel

Access parameters for

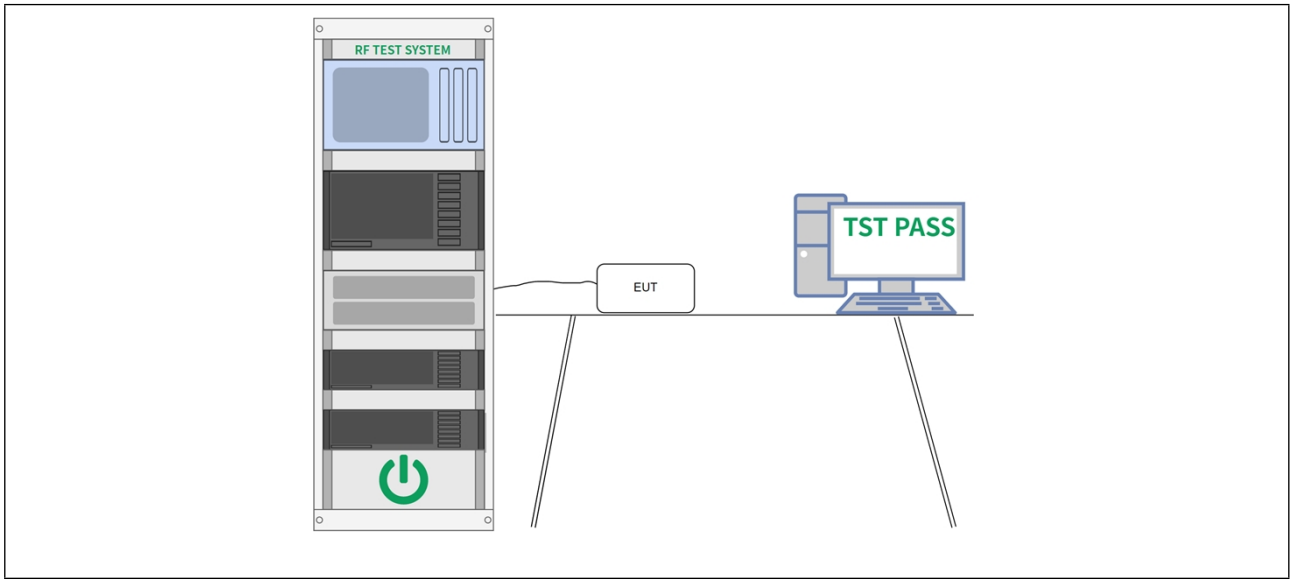
Class #	p0	CWmin	CWmax	Maximum Channel Occupancy Time (COT)
4	2	3	7	2 ms
3	2	7	15	4 ms
2	3	15	1 023	6 ms (see note 1)
1	7	15	1 023	6 ms (see note 1)
NOTE 1: The maximum Channel Occupancy Time (COT) of 6 ms may be increased to 8 ms by inserting one or more pauses. The minimum duration of a pause shall be 100 μs. The maximum duration (Channel Occupancy) before including any such pause shall be 6 ms. Pause duration is not included in the channel occupancy time. NOTE 2: The values for p0, CWmin, CWmax are minimum values. Greater values are allowed.				

	An operating channel is an occupied channel as long as transmissions in that channel are present at a power level greater than the Energy Detection Threshold (EDT). The power level is determined by integrating the received power over the channel and then normalized to per MHz power. The received power shall be determined at the interface between the equipment and the antenna assembly. If no transmissions are present at a power level greater than the EDT, the operating channel is an unoccupied channel. Equipment may consist of one or more devices. The EDT is proportional to the equipment's maximum configured RF output power and shall be: EDT = 75 dBm/MHz for Pmax ≤ 18 dBm EDT = 80 dBm/MHz + (23 dBm - Pmax) for 18 dBm < Pmax < 23 dBm (3) EDT = 80 dBm/MHz for Pmax ≥ 23 dBm The EDT is an absolute level that applies at all times independent of background noise of other signals being present in the channel. The use of Short Control Signalling Transmissions is constrained as follows: · within an observation period of 50 ms, the number of *Short Control Signalling Transmissions* by the equipment shall be equal to or less than 50; and the total duration of the equipment's *Short Control Signalling Transmissions* shall be less than 2 500 µs within said observation period. The use of Short Control Signalling Transmissions is constrained as follows: · within an observation period of 50 ms, the number of *Short Control Signalling Transmissions* by the equipment shall be equal to or less than 50; and the total duration of the equipment's *Short Control Signalling Transmissions* shall be less than 2 500 µs within said observation period.
Test Method:	Clause 5.4.9.3.2
Procedure:	Clause 5.4.9.2.4 Clause 5.4.9.3.2

14.1. EUT Operation

Operating Environment:	
Test mode:	3: 802.11n(HT40) mode: Keep the EUT in continuously transmitting at 802.11n(HT40) mode. 5: 802.11ac(VHT40) mode: Keep the EUT in continuously transmitting at 802.11ac(VHT40) mode. 7: 802.11ax(HEW40) mode: Keep the EUT in continuously transmitting at 802.11ax(HEW40) mode.

14.2. Test Setup



14.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

15. Receiver Blocking

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.8
Clause B.2.2.8</td></tr>
<tr><td>Test Limit:</td><td>While maintaining the minimum performance criteria as defined in clause 4.2.8.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined in table 9.
Table 9: Receiver Blocking parameters
<table>
<tr><td rowspan="2">Wanted signal mean power from companion device (dBm)</td><td rowspan="2">Blocking signal frequency (MHz)</td><td colspan="2">Blocking signal power (dBm) (see note 2)</td><td rowspan="2">Type of blocking signal</td></tr>
<tr><td>Master or Slave with radar detection (see table D.2, note 2)</td><td>Slave without radar detection (see table D.2, note 2)</td></tr>
<tr><td>Pmin + 6 dB</td><td>5 100</td><td>-53</td><td>-59</td><td>Continuous Wave</td></tr>
<tr><td>Pmin + 6 dB</td><td>4 900 5 000 5 975</td><td>-47</td><td>-53</td><td>Continuous Wave</td></tr>
<tr><td colspan="5">NOTE 1: Pmin is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal. NOTE 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.</td></tr>
</table>
</td></tr>
<tr><td></td><td>While maintaining the minimum performance criteria as defined in clause 4.2.8.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined in table 9.
Table 9: Receiver Blocking parameters
<table>
<tr><td rowspan="2">Wanted signal mean power from companion device (dBm)</td><td rowspan="2">Blocking signal frequency (MHz)</td><td colspan="2">Blocking signal power (dBm) (see note 2)</td><td rowspan="2">Type of blocking signal</td></tr>
<tr><td>Master or Slave with radar detection (see table D.2, note 2)</td><td>Slave without radar detection (see table D.2, note 2)</td></tr>
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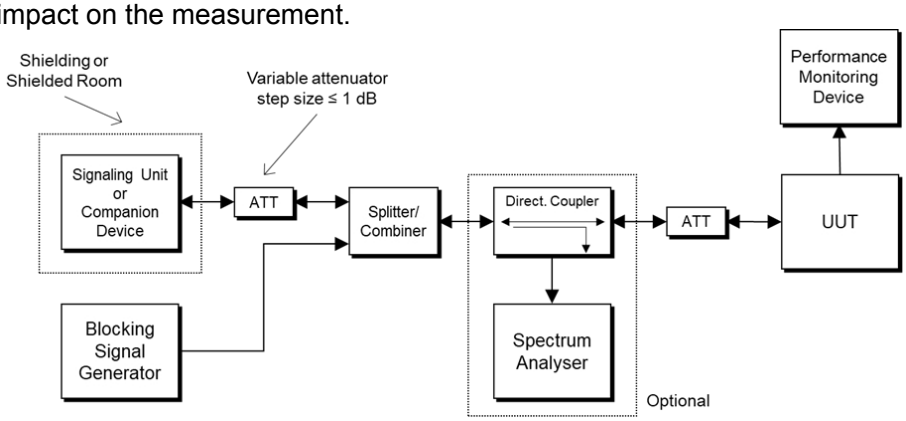
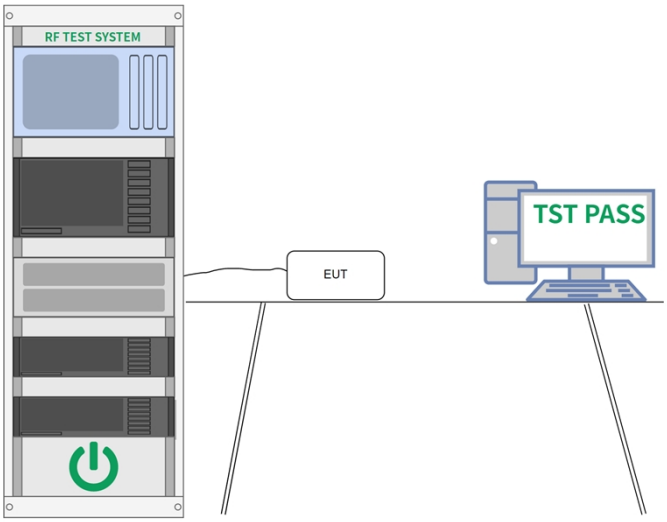
<tr><td>Pmin + 6 dB</td><td>4 900 5 000 5 975</td><td>-47</td><td>-53</td><td>Continuous Wave</td></tr>
<tr><td colspan="5">NOTE 1: Pmin is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal. NOTE 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.</td></tr>
</table>
</td></tr>
</table>

Test Method:	Clause 5.4.10.2.1
Procedure:	For systems using multiple receive chains, only one chain needs to be tested. All other receiver inputs shall be terminated. Figure 21 shows the test setup which can be used for performing the receiver blocking test. The companion device may require appropriate shielding or may need to be put in a shielded room to prevent a negative impact on the measurement.  Figure 21: Test setup for receiver blocking The steps in the present clause define the procedure to verify the receiver blocking requirement as described in clause 4.2.8. Step 1: • The UUT shall be set to the first channel to be tested. Step 2: • The blocking signal generator shall be set to the first frequency as defined in table 8. Step 3: • With the blocking signal generator switched off, a communication link shall be set up between the UUT and the associated companion device using the test setup shown in figure 21. The attenuation of the variable attenuator shall be increased in 1 dB steps to a value at which the minimum performance criteria as specified in clause 4.2.8.3 is still met. The resulting level for the wanted signal measured at the interface between the UUT and its antenna assembly is Pmin. • This signal level (Pmin) shall be increased by 6 dB resulting in a new level (Pmin + 6 dB) of the wanted signal at the UUT receiver input. Step 4: • The level of the blocking signal measured at the interface between the UUT and its antenna assembly shall be set to the level provided in table 8. It shall be verified and recorded in the test report that the performance criteria as specified in clause 4.2.8.3 are met. • If the performance criteria as specified in clause 4.2.8.3 are met, the level of the blocking signal at the UUT may be further increased (e.g. in steps of 1 dB) until the level whereby the performance criteria as specified in clause 4.2.8.3 are no longer met. The highest level at which the performance criteria are met shall be recorded in the test report. Step 5: • Step 4 shall be repeated for each remaining combination of frequency and level as specified in table 8. Step 6: • If applicable, step 2 to step 5 shall be repeated with the UUT operating at the other channels at which the blocking test has to be performed.

15.1. EUT Operation

Operating Environment:	
Test mode:	10: Normal mode: Keep the EUT in normal communication with pairing device mode.

15.2. Test Setup



15.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

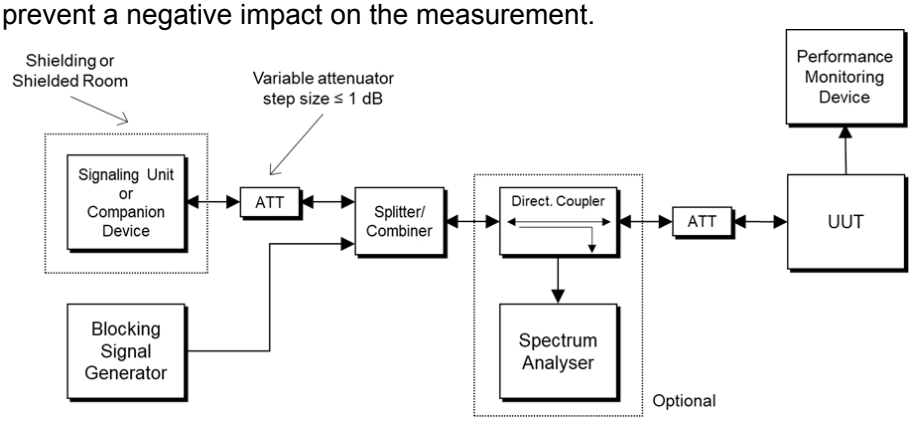
Operation Mode:	802.11a		Pmin:	-111dBm	
Test Frequency:	5180MHz				
Device type	☐Master or Slave signal with radar detection ☑ Slave without radar detection				
Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PER(%)	Result	Wanted signal mean power from companion device (dBm)
5100	-59	CW	5.0	Pass	-105
4900	-53	CW	4.6	Pass	-105
5000	-53	CW	4.4	Pass	
5975	-53	CW	6.1	Pass	

Note: According to ETSI EN 301 893 clause 5.4.10.1. Only the smallest channel bandwidth and lowest data rate (802.11a) mode was tested and recorded.

16. Adjacent channel selectivity

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.9
Clause B.2.2.9</td></tr>
<tr><td>Test Limit:</td><td>The limits defined in this clause apply when the equipment receives the wanted signal on a single channel and the occupied bandwidth of the interfering signal falls completely within a channel adjacent to this channel. Both channels have a nominal channel bandwidth as defined in clause 4.2.2. While maintaining the minimum performance criteria as defined in clause 4.2.9.3, the adjacent channel interferer level shall be equal to or greater than the limit given in table 9 corresponding to a frequency offset within the range specified in table 9.
Table 9: Adjacent channel selectivity parameters
<table>
<tr><td>Wanted signal mean power from companion device (dBm)</td><td>Interferer signal frequency offset range (MHz)</td><td>Interferer signal power (dBm) (see note 2)</td><td>Type of interferer signal</td></tr>
<tr><td>Pmin + 10 dB</td><td>20 ± 0,2</td><td>Pmin + 26 dB</td><td>Same as the wanted signal with an equivalent occupied bandwidth</td></tr>
<tr><td colspan="4">NOTE 1: Pmin is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.9.3 in the absence of any interfering signal.
NOTE 2: The level specified for the interferer signal applies at the lowest data rate.</td></tr>
</table>

The limits defined in this clause apply when the equipment receives the wanted signal on a single channel and the occupied bandwidth of the interfering signal falls completely within a channel adjacent to this channel. Both channels have a nominal channel bandwidth as defined in clause 4.2.2. While maintaining the minimum performance criteria as defined in clause 4.2.9.3, the adjacent channel interferer level shall be equal to or greater than the limit given in table 9 corresponding to a frequency offset within the range specified in table 9.
Table 9: Adjacent channel selectivity parameters
<table>
<tr><td>Wanted signal mean power from companion device (dBm)</td><td>Interferer signal frequency offset range (MHz)</td><td>Interferer signal power (dBm) (see note 2)</td><td>Type of interferer signal</td></tr>
<tr><td>Pmin + 10 dB</td><td>20 ± 0,2</td><td>Pmin + 26 dB</td><td>Same as the wanted signal with an equivalent occupied bandwidth</td></tr>
<tr><td colspan="4">NOTE 1: Pmin is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.9.3 in the absence of any interfering signal.
NOTE 2: The level specified for the interferer signal applies at the lowest data rate.</td></tr>
</table>
</td></tr>
</table>

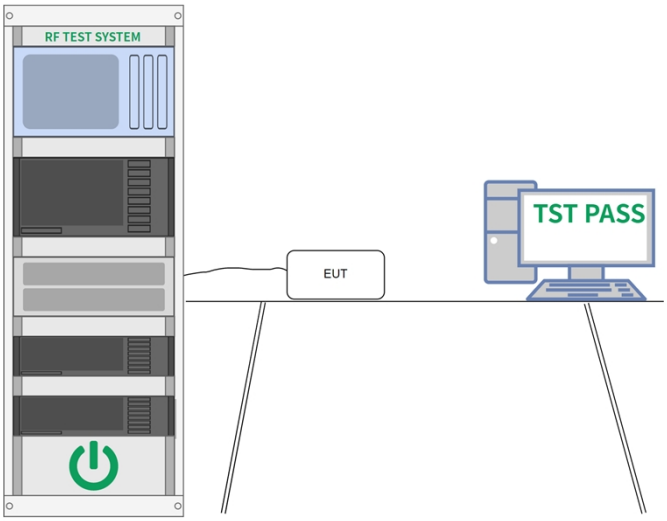
Test Method:	Clause 5.4.11.2.1
Procedure:	For systems using multiple receive chains, only one chain needs to be tested. All other receiver inputs shall be terminated. Figure 22 shows the test setup which can be used for performing the receiver adjacent channel selectivity test. The companion device may require appropriate shielding or may need to be put in a shielded room to prevent a negative impact on the measurement.  Figure 22: Test setup for receiver adjacent channel selectivity The steps in the present clause define the procedure to verify the adjacent channel selectivity requirement as described in clause 4.2.9. Step 1: • The UUT shall be set to the first channel to be tested. Step 2: • The interference source shall be set to operate in the upper adjacent channel using the frequency offset as defined in table 9. Step 3: • With the interference source switched off, a communication link shall be set up between the UUT and the associated companion device using the test setup shown in figure 22. The attenuation of the variable attenuator shall be increased in 1 dB steps to a value at which the minimum performance criteria as specified in clause 4.2.9.3 is still met. The resulting level for the wanted signal measured at the interface between the UUT and its antenna assembly is Pmin. • This signal level (Pmin) shall be increased by 10 dB resulting in a new level (Pmin + 10 dB) of the wanted signal at the UUT receiver input. Step 4: • The interference signal source shall be switched on. It shall transmit continuously unsynchronized with a duty cycle of at least 50 %. The level of the interference source measured at the interface of the UUT and its antenna assembly shall be set to the level provided in table 9. It shall be verified and recorded in the test report that the performance criteria as specified in clause 4.2.9.3 are met. • If the performance criteria as specified in clause 4.2.9.3 are met, the level of the interference source at the UUT may be further increased (e.g. in steps of 1 dB) until the level whereby the performance criteria as specified in clause 4.2.9.3 are no longer met. The highest level at which the performance criteria are met shall be recorded in the test report. Step 5: • Step 4 shall be repeated after the interference source is set to operate in the lower adjacent channel using the frequency offset as defined in table 9. Step 6:

	• If applicable, step 2 to step 5 shall be repeated with the UUT operating at the other channels at which the receiver adjacent channel selectivity test has to be performed.

16.1. EUT Operation

Operating Environment:	
Test mode:	10: Normal mode: Keep the EUT in normal communication with pairing device mode.

16.2. Test Setup



16.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Below is the worst case situation test data.

Pmin(dBm):	-111	Device Type	Slave without radar detection				
Test Frequency (MHz)	Wanted signal from Companion Device (dBm/MHz)	Interferer signal frequency offset range (MHz)	Interferer signal power (dBm)	Type of Blocking Signal	PER (%)	Limit (%)	Verdict
802.11a /5180MHz	-101	5200.2	-85	same with EUT	0.8	<= 10	PASS
	-101	5199.8	-85	same with EUT	1.2	<= 10	PASS
	-101	5160.2	-85	same with EUT	0.6	<= 10	PASS
	-101	5159.8	-85	same with EUT	0.9	<= 10	PASS
Note: According to ETSI EN 301 893 clause 5.4.10.1. Only the smallest channel bandwidth and lowest data rate (802.11a) mode was tested and recorded.							

17. DFS - Channel Shutdown

<table>
<tr><td>Test Requirement:</td><td>Clause 4.2.6.2.5</td></tr>
<tr><td>Test Limit:</td><td>
The In-Service Monitoring shall be used to monitor each Operating Channel .
The In-Service-Monitoring shall start immediately after the RLAN device has started transmissions on a channel.
During the In-Service Monitoring , the RLAN device shall be capable of detecting any of the radar test signals that fall within the ranges given by table D.4with a level above the Radar Detection Threshold Level defined in table D.2.
The RLAN device shall comply with the minimum detection probability associated with a given radar test signal as defined in table D.5.

Table D.1: DFS requirement values
<table>
<tr><td>Parameter</td><td>Value</td></tr>
<tr><td>Channel Availability Check Time</td><td>60 s (see note 1)</td></tr>
<tr><td>Minimum Off-Channel CAC Time</td><td>6 minutes (see note 2)</td></tr>
<tr><td>Maximum Off-Channel CAC Time</td><td>4 hours (see note 2)</td></tr>
<tr><td>Channel Move Time</td><td>10 s</td></tr>
<tr><td>Channel Closing Transmission Time</td><td>1 s</td></tr>
<tr><td>Non-Occupancy Period</td><td>30 minutes</td></tr>
<tr><td colspan="2">NOTE 1: For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the Channel Availability Check Time shall be 10 minutes.
NOTE 2: For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the Off-Channel CAC Time shall be within the range 1 hour to 24 hours.</td></tr>
</table>
Table D.2: Radar Detection Threshold Levels
<table>
<tr><td>e.i.r.p. Spectral Density (dBm/MHz)</td><td>Value (see note 1 and note 2)</td></tr>
<tr><td>10</td><td>-62 dBm</td></tr>
<tr><td colspan="2">NOTE 1: This is the level at the input of the receiver of an RLAN device with a maximum e.i.r.p. density of 10 dBm/MHz and assuming a 0 dBi receive antenna. For devices employing different e.i.r.p. spectral density and/or a different receive antenna gain G (dBi) the Radar Detection Threshold Level at the receiver input follows the following relationship: DFS Detection Threshold (dBm) = -62 + 10 - e.i.r.p. Spectral Density (dBm/MHz) + G (dBi); however the Radar Detection Threshold Level shall not be less than -64 dBm assuming a 0 dBi receive antenna gain.
NOTE 2: Slave devices with a maximum e.i.r.p. of less than 23 dBm do not have to implement radar detection unless these devices are used in fixed outdoor point to point or fixed outdoor point to multipoint applications (see clause 4.2.6.1.3).</td></tr>
</table>
Table D.3: Parameters of the reference DFS test signal
<table>
<tr><td>Pulse width W (µs)</td><td>Pulse repetition frequency PRF (PPS)</td><td>Pulses per burst (PPB)</td></tr>
<tr><td>1</td><td>700</td><td>18</td></tr>
</table>
Table D.4: Parameters of radar test signals
</td></tr>
</table>

Radar test signal # (see note 1 to note 3)	Pulse width W (µs)		Pulse repetition frequency PRF (PPS)		Number of different PRFs	Pulses per burst for each PRF (PPB) (see note 5)
	Min	Max	Min	Max		
1	0,5	5	200	1 000	1	10 (see note 6)
2	0,5	15	200	1 600	1	15 (see note 6)
3	0,5	15	2 300	4 000	1	25
4	20	30	2 000	4 000	1	20
5	0,5	2	300	400	2/3	10 (see note 6)
6	0,5	2	400	1 200	2/3	15 (see note 6)

NOTE 1: Radar test signals #1 to #4 are constant PRF based signals. See figure D.1. These radar test signals are intended to simulate also radars using a packet based Staggered PRF. See figure D.2.
NOTE 2: Radar test signal #4 is a modulated radar test signal. The modulation to be used is a chirp modulation with a ±2,5 MHz frequency deviation which is described below.

NOTE 3: Radar test signals #5 and #6 are single pulse based Staggered PRF radar test signals using 2 or 3 different PRF values. For radar test signal #5, the difference between the PRF values chosen shall be between 20 PPS and 50 PPS. For radar test signal #6, the difference between the PRF values chosen shall be between 80 PPS and 400 PPS. See figure D.3.
NOTE 4: Apart for the Off-Channel CAC testing, the radar test signals above shall only contain a single burst of pulses. See figure D.1, figure D.3 and figure D.4.
For the Off-Channel CAC testing, repetitive bursts shall be used for the total duration of the test. See figure D.2 and figure D.5. See also clause 4.2.6.2.3, clause 5.4.8.2.1.4.2 and clause 5.4.8.2.1.4.3.
NOTE 5: The total number of pulses in a burst is equal to the number of pulses for a single PRF multiplied by the number of different PRFs used.
NOTE 6: For the CAC and Off-Channel CAC requirements, the minimum number of pulses (for each PRF) for any of the radar test signals to be detected in the band 5 600 MHz to 5 650 MHz shall be 18.

Table D.5: Detection probability

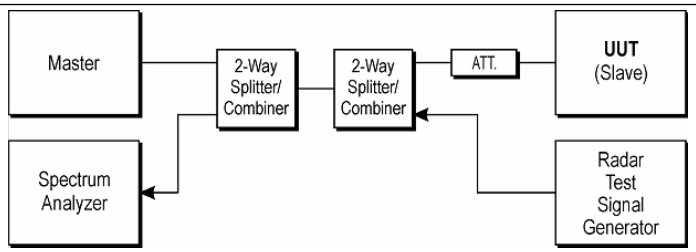
Parameter	Detection Probability (Pd)	
	Channels whose nominal bandwidth falls partly or completely within the 5 600 MHz to 5 650 MHz band	Other channels
CAC, Off-Channel CAC	99,99 %	60 %
In-Service Monitoring	60 %	60 %
NOTE: Pd gives the probability of detection per simulated radar burst and		

	represents a minimum level of detection performance under defined conditions. Therefore Pd does not represent the overall detection probability for any particular radar under real life conditions.
Test Method:	Clause 5.4.8.2.1.6
Procedure:	Clause 5.4.8.2.1.6

17.1. EUT Operation

Operating Environment:	
Test mode:	10: Normal mode: Keep the EUT in normal communication with pairing device mode.

17.2. Test Setup



17.3. Test Data

Temperature:	22.2 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa

Please Refer to Appendix for Details.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

---------- End of Report ----------