



RF Test Report

For

Applicant name: SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
EUT name: BE5010 Dual-band Wi-Fi 7 Ceiling Access Point
Brand name: Tenda
Model number: i36
Series model number: N/A

Issued By

Company name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: 101/201/301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China

Report number: BTF250603R01104
Test standards: ETSI EN 300 440 V2.2.1 (2018-07)
Test conclusion: Pass

Date of sample receipt: 2025-06-03
Test date: 2025-06-04 to 2025-08-15
Date of issue: 2025-08-27

Prepared by:

Chris Liu / Project engineer



Ryan.CJ / EMC Manager

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2025-08-27	Original
<i>Note:</i> <i>Once the revision has been made, then previous versions reports are invalid.</i>		

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1 Introduction

1.1 Laboratory Location

Test location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Phone number:	+86-0755-23146130
Fax number:	+86-0755-23146130

1.2 Laboratory Facility

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

- **FCC - Designation No.: CN1409**
BTF Testing Lab (Shenzhen) Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 695374.
- **CNAS - Registration No.: CNAS L17568**
BTF Testing Lab (Shenzhen) Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L17568.
- **A2LA - Registration No.: 6660.01**
BTF Testing Lab (Shenzhen) Co., Ltd. is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

1.3 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF 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 laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.
- (7) All entrusted information in this report is provided by the client and has been confirmed through consultation with the client; The testing items for this report have been discussed and confirmed with the client, and our company is only responsible for the content reflected in the report.

2 Product Information

2.1 Application Information

Company name:	SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

2.2 Manufacturer Information

Company name:	SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

2.3 General Description of Equipment under Test (EUT)

EUT name:	BE5010 Dual-band Wi-Fi 7 Ceiling Access Point
Under test model name:	i36
Series model name:	N/A
Description of model name differentiation:	N/A
Hardware version:	N/A
Software version:	N/A
Test Power supply:	AC 230V 50Hz
Ratings:	Power:48V 800mA from adapter Adapter: MODLE:BN017-A38048E INPUT:100-240V~ 50/60Hz 1.0A OUTPUT:48V 800mA

2.4 Technical Information

Operation Frequency:	802.11a/n(HT20)/ac(VHT20)/ax(HE20)/be(HE20): 5745MHz to 5825MHz; 802.11n(HT40)/ac(VHT40)/ax(HE40) /be(HE40): 5755MHz to 5795MHz; 802.11ac(VHT80)/ax(HE80)/ be(HE80): 5775MHz;
Channel numbers:	802.11a/n(HT20)/ac(VHT20)/ax(HE20)/be(HE20):: 5; 802.11n(HT40)/ac(VHT40)/ax(HE40) /be(HE40): 2; 802.11ac(VHT80)/ax(HE80)/ be(HE80): 1;
Channel separation:	802.11a/n(HT20)/ac(VHT20)/ax(HE20)/be(HE20): 20MHz; 802.11n(HT40)/ac(VHT40)/ax(HE40) /be(HE40): 40MHz; 802.11ac(VHT80)/ax(HE80)/ be(HE80): 80MHz
Modulation technology:	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); 802.11be: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM);
Max. E.I.R.P Power:	11.7dBm
Antenna type:	Internal Antenna:MIMO:3T,3R
Antenna gain:	ANT1:5.5dBi, ANT2:5.57dBi, ANT3:5.99dBi
Antenna transmit mode:	MIMO (3TX, 3RX)

Channel List:

U-NII Band 3

Bandwidth:	20MHz	Bandwidth:	40MHz	Bandwidth:	80MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795	/	/
157	5785	/	/	/	/
161	5805	/	/	/	/
165	5825	/	/	/	/

3 Summary of Test Results

3.1 Test Standards

The tests were performed according to following standards:

ETSI EN 300 440 V2.2.1 (2018-07): Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum

3.2 Uncertainty of Test

Measurement	Value
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Radiated Emission (30MHz ~ 1000MHz)	±4.80 dB
Radiated Emission (1GHz ~ 18GHz)	±4.82 dB

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Equivalent isotropically radiated power (e.i.r.p.)	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.2.2.1	Pass
Permitted range of operating frequencies	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.2.3.1	Pass
Duty cycle	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.2.5.1	Pass
Adjacent channel selectivity	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.3.3.1	Pass
Blocking or desensitization	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.3.4.1	Pass
Unwanted emissions in the spurious domain (25MHz to 1GHz)	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.2.4.1	Pass
Unwanted emissions in the spurious domain (above 1GHz)	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.2.4.1	Pass
Receiver spurious radiations (25MHz to 1GHz)	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.3.5.1	Pass
Receiver spurious radiations (above 1GHz)	ETSI EN 300 440 V2.2.1 (2018-07)	Clause 4.3.5.1	Pass
Remark: 1. Pass: Meet the requirements. 2. N/A: not applicable.			

3.4 Additions to, deviations, or exclusions from the method

None

4 Test Configuration

4.1 Test Equipment List

Adjacent channel selectivity Blocking or desensitization Equivalent isotropically radiated power (e.i.r.p.) Permitted range of operating frequencies Duty cycle					
Test Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
RF Control Unit	Techy	TR1029-1	/	2024-10-25	2025-10-24
RF Sensor Unit	Techy	TR1029-2	/	2024-10-25	2025-10-24
Temperature Humidity Chamber	ZZCKONG	ZZ-K02A	20210928007	2024-10-25	2025-10-24
DC Power Supply	Tongmen	etm-6050c	20211026123	2024-10-25	2025-10-24
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	161997	2024-10-25	2025-10-24
Spectrum Analyzer	Keysight	N9020A	MY50410020	2024-10-25	2025-10-24
ESG Vector Signal Generator	Agilent	E4438C	MY45094854	2024-10-25	2025-10-24
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2024-10-25	2025-10-24
Test Software	TST Pass	/	Version: 2.0	/	/

Unwanted emissions in the spurious domain (25MHz to 1GHz) Unwanted emissions in the spurious domain (above 1GHz) Receiver spurious radiations (25MHz to 1GHz) Receiver spurious radiations (above 1GHz)					
Test Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	Rohde & Schwarz	ESCI7	101032	2024-10-25	2025-10-24
Signal Analyzer	Rohde & Schwarz	FSQ40	100010	2024-10-25	2025-10-24
Log periodic antenna	Schwarzbeck	VULB 9168	01328	2024-10-28	2025-10-27
Preamplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9744	00246	2024-09-24	2025-09-23
Horn Antenna	Schwarzbeck	BBHA9120D	2597	2024-10-30	2025-10-29
Preamplifier (1GHz ~ 18GHz)	Schwarzbeck	BBV9718D	00008	2024-09-24	2025-09-23
Test Software	Frad	EZ_EMCC	Version: FA-03A2 RE+	/	/

4.2 Test Auxiliary Equipment

The EUT has been tested as an independent unit.

4.3 Environment Condition

ENV	Temperature (°C)	Voltage (VDC)
NTNV	25	48
HTHV	40	52.8

HTLV	40	43.2
LTHV	0	52.8
LTLV	0	43.2

4.4 Test Modes

No.	Test Modes
TM1	802.11a mode
TM2	802.11n(HT20) mode
TM3	802.11n(HT40) mode
TM4	802.11ac(VHT20) mode
TM5	802.11ac(VHT40) mode
TM6	802.11ac(VHT80) mode
TM7	802.11ax(HEW20) mode
TM8	802.11ax(HEW40) mode
TM9	802.11ax(HEW80) mode
TM10	Receiving mode (20MHz)
TM11	Receiving mode (40MHz)
TM12	Receiving mode (80MHz)
TM13	Normal mode

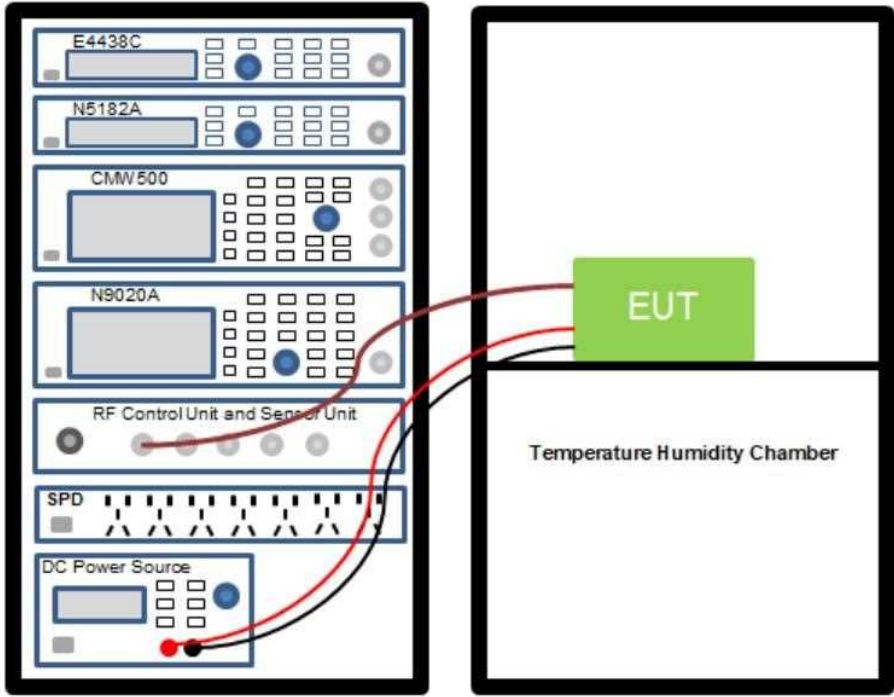
4.5 Test Channel of EUT

Operation Band: 5725 MHz to 5875 MHz

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
20	5745	5785	5825
40	5755	/	5795
80	/	5775	/

5 Radio Spectrum Matter Test Results (RF)

5.1 Equivalent isotropically radiated power (e.i.r.p.)

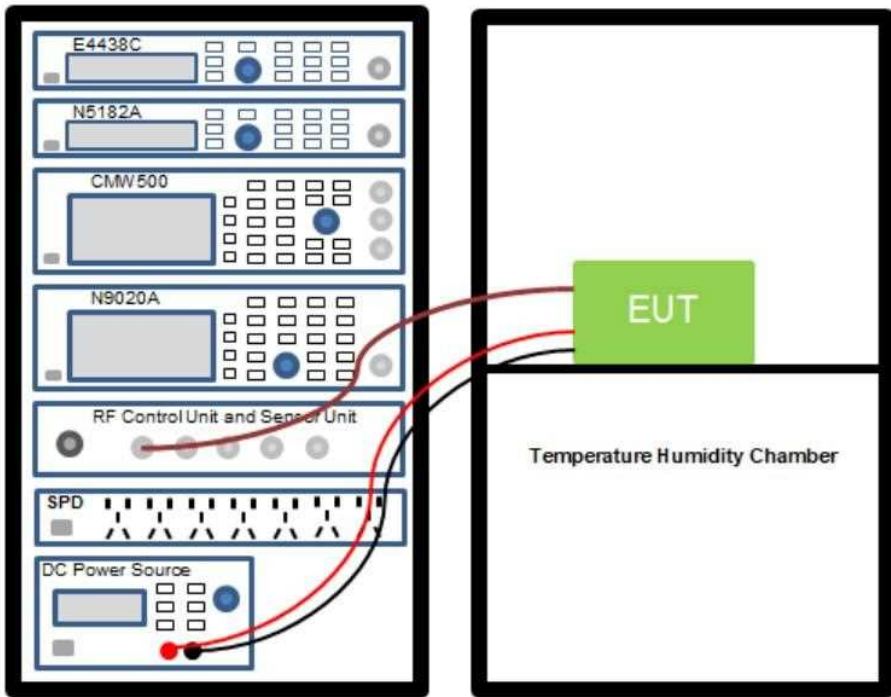
Test Requirement:	Clause 4.2.2.1
Test Method:	Clause 4.2.2.3.2
Test Limit:	25 mW e.i.r.p.
Procedure:	The test procedure shall be as follows: Step 1: · using a suitable means, the output of the transmitter shall be coupled to a matched diode detector; · the output of the diode detector shall be connected to the vertical channel of an oscilloscope; · the combination of the diode detector and the oscilloscope shall be capable of faithfully reproducing the envelope peaks and the duty cycle of the transmitter output signal; · the observed duty cycle of the transmitter (Tx on/(Tx on + Tx off)) shall be noted as x, ($0 < x < 1$) and recorded. Step 2: · the average output power of the transmitter shall be determined using a wideband, calibrated RF power meter with a matched thermocouple detector or an equivalent thereof and, where applicable, with an integration period that exceeds the repetition period of the transmitter by a factor 5 or more. The observed value shall be recorded as "A" (in dBm); · the e.i.r.p. shall be calculated from the above measured power output A, the observed duty cycle x, and the applicable antenna assembly gain "G" in dBi, according to the formula: $P = A + G + 10 \log (1/x);$ · P shall not exceed the value specified in clause 4.2.2.4. The measurement shall be repeated at the lowest, the middle, and the highest frequency of the stated frequency range. These frequencies shall be recorded. FHSS equipment shall be made to hop continuously to each of these three frequencies separately.
Test Setup:	 The diagram illustrates the test setup. On the left, a vertical stack of equipment is shown: E4438C, N5182A, CMW500, N9020A, RF Control Unit and Sensor Unit, SPD, and DC Power Source. Red and black cables connect these units to a green box labeled 'EUT' (Equipment Under Test) inside a 'Temperature Humidity Chamber' on the right.

Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.3 %
Atmospheric Pressure:	1010 mbar
Test voltage:	AC 230V 50Hz

5.1.1 Test Data

Please Refer to Appendix for Details.

5.2 Permitted range of operating frequencies

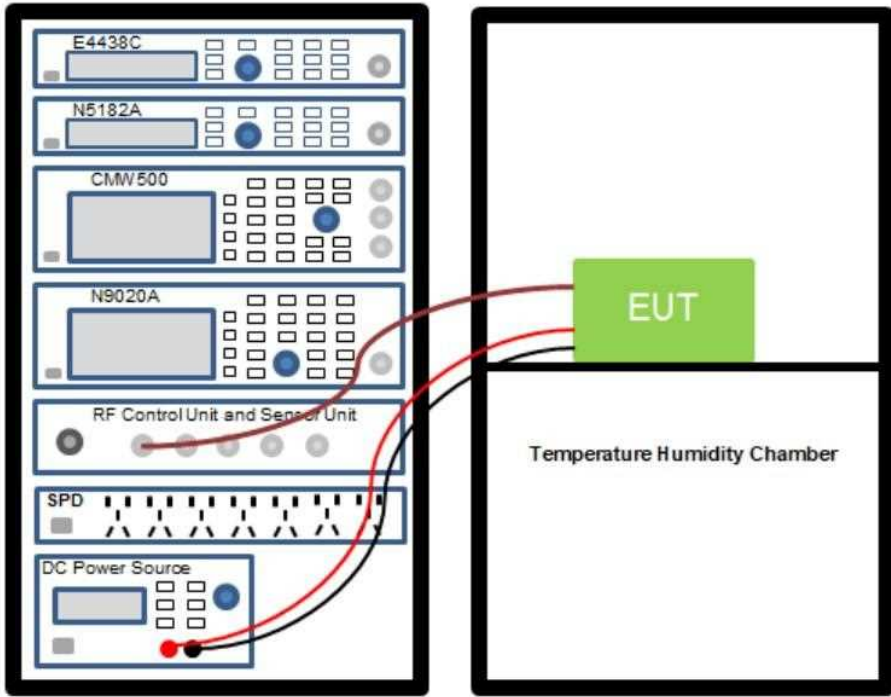
Test Requirement:	Clause 4.2.3.1
Test Method:	Clause 4.2.3.3
Test Limit:	The width of the power spectrum envelope is $f_H - f_L$ for a given operating frequency. In equipment that allows adjustment or selection of different operating frequencies, the power envelope takes up different positions in the allowed band. The frequency range is determined by the lowest value of f_L and the highest value of f_H resulting from the adjustment of the equipment to the lowest and highest operating frequencies. The occupied bandwidth (i.e. the bandwidth in which 99 % of the wanted emission is contained) of the transmitter shall fall within the assigned frequency band. For all equipment the frequency range shall lie within the frequency band given by clause 4.2.2.4, table 2. For non-harmonized frequency bands the available frequency range may differ between national administrations.
Procedure:	The measurement procedure shall be as follows: - put the spectrum analyser in video averaging mode with a minimum of 50 sweeps selected; - select the lowest operating frequency of the equipment under test and activate the transmitter with modulation applied. The RF emission of the equipment shall be displayed on the spectrum analyser; - using the marker of the spectrum analyser, find the lowest frequency below the operating frequency at which the spectral power density drops below the level given in clause 4.2.3.2. This frequency shall be recorded in the test report; - select the highest operating frequency of the equipment under test and find the highest frequency at which the spectral power density drops below the value given in clause 4.2.3.2. This frequency shall be recorded in the test report; the difference between the frequencies measured in steps c) and d) is the operating frequency range. It shall be recorded in the test report.
Test Setup:	
Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.3 %

Atmospheric Pressure:	1010 mbar
Test voltage:	AC 230V 50Hz

5.2.1 Test Data

Please Refer to Appendix for Details.

5.3 Duty cycle

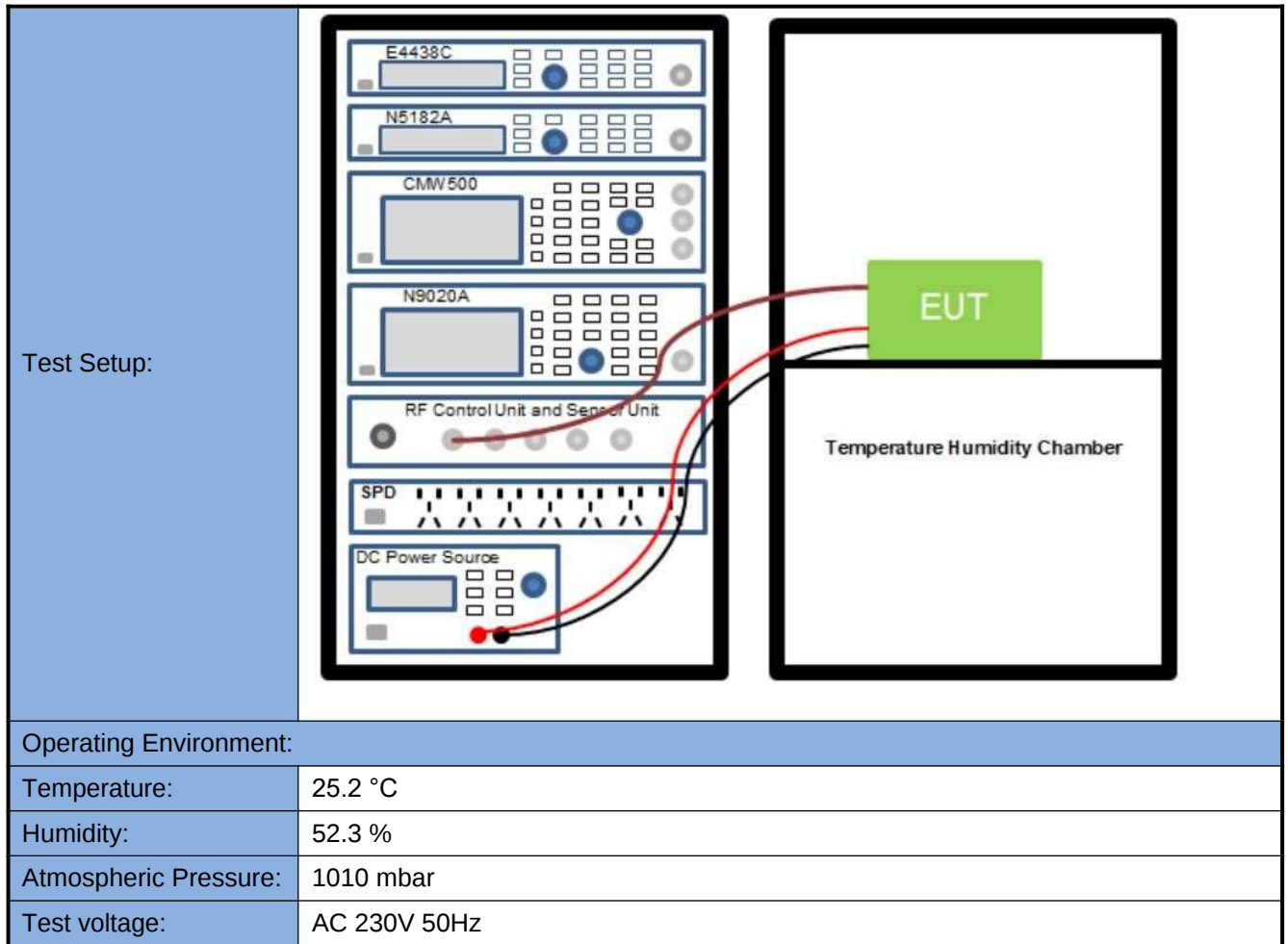
Test Requirement:	Clause 4.2.5.1
Test Method:	Clause 4.2.5..3
Test Limit:	No Restriction For devices with a 100 % duty cycle transmitting an unmodulated carrier most of the time, a time-out shut-off facility shall be implemented in order to improve the efficient use of spectrum.
Procedure:	An assessment of the overall Duty Cycle shall be made for a representative period of Tobs over the observation bandwidth Fobs. Unless otherwise specified, Tobs is 1 hour and the observation bandwidth Fobs is the operational frequency band. The representative period shall be the most active one in normal use of the device. As a guide "Normal use" is considered as representing the behaviour of the device during transmission of 99 % of the [emissions] generated during its operational lifetime. Procedures such as setup, commissioning, and maintenance are not considered part of normal operation. For manual operated or event dependant devices, with or without software controlled functions, the manufacturer shall declare whether the device once triggered, follows a pre-programmed cycle, or whether the transmitter remains on until the trigger is released or the device is manually reset. The manufacturer shall also give a description of the application for the device and include a typical usage pattern. The typical usage pattern as declared by the manufacturer shall be used to determine the duty cycle and compare to the limit in table 4. Where an acknowledgement is required, the additional transmitter on-time shall be included.
Test Setup:	
Operating Environment:	
Temperature:	25.2 °C
Humidity:	52.3 %
Atmospheric Pressure:	1010 mbar
Test voltage:	AC 230V 50Hz

5.3.1 Test Data

Please Refer to Appendix for Details.

5.4 Adjacent channel selectivity

Test Requirement:	Clause 4.3.3.1
Test Method:	Clause 4.3.3.3
Test Limit:	The adjacent channel selectivity of the equipment under specified conditions shall not be less than -30 dBm + k. The correction factor, k, is as follows: $k = -20 * \log_{10}^f - 10 * \log_{10}^{BW}$ Where: - f is the frequency in GHz; - BW is the channel bandwidth in MHz. The factor k is limited within the following: - -40 dB < k < 0 dB. The measured adjacent channel selectivity shall be stated in the test report.
Procedure:	This measurement shall be conducted under normal conditions. Two signal generators A and B shall be connected to the receiver via a combining network to the receiver, either: a) via a test fixture or a test antenna to the receiver integrated, dedicated or test antenna; or b) directly to the receiver permanent or temporary antenna connector. The method of coupling to the receiver shall be stated in the test report. Signal generator A shall be at the nominal frequency of the receiver, with normal modulation of the wanted signal. Signal generator B shall be unmodulated and shall be adjusted to the adjacent channel centre frequency immediately above that of the wanted signal. Initially signal generator B shall be switched off and using signal generator A the level that still gives sufficient response shall be established. The output level of generator A shall then be increased by 3 dB. Signal generator B is then switched on and adjusted until the wanted criteria are met. This level shall be recorded. The measurements shall be repeated with signal generator B unmodulated and adjusted to the adjacent channel centre immediately below the wanted signal. The adjacent channel selectivity shall be recorded for the upper and lower adjacent channels as the level in dBm of the unwanted signal. For tagging systems (e.g. RF identification, anti-theft, access control, location and similar systems) signal generator A may be replaced by a physical tag positioned at 70 % of the measured system range in metres. In this case, the adjacent selectivity shall be recorded as the level in dBm of lowest level of the unwanted signal (generator B) resulting in a non-read of the tag.

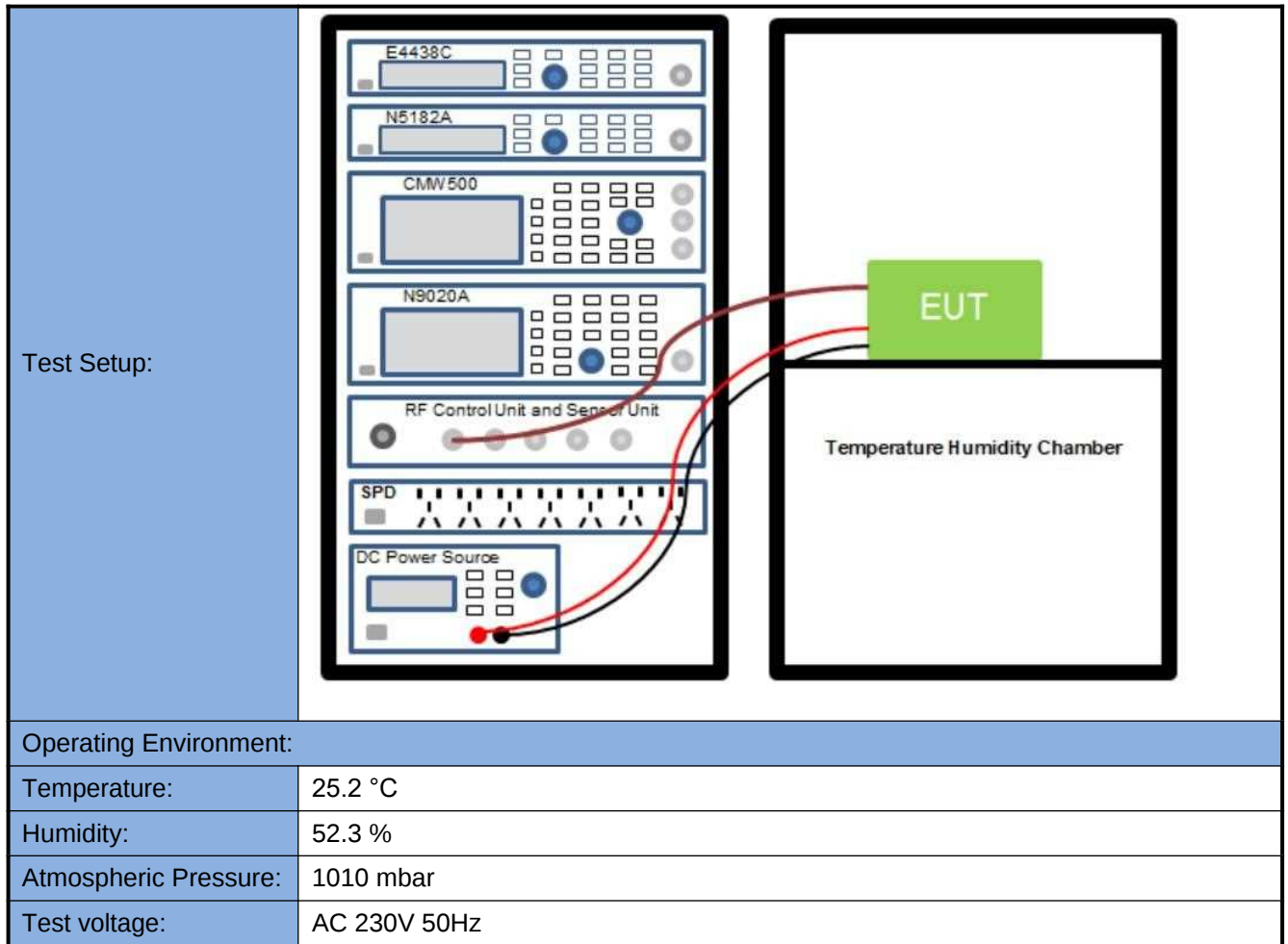


5.4.1 Test Data

Please Refer to Appendix for Details.

5.5 Blocking or desensitization

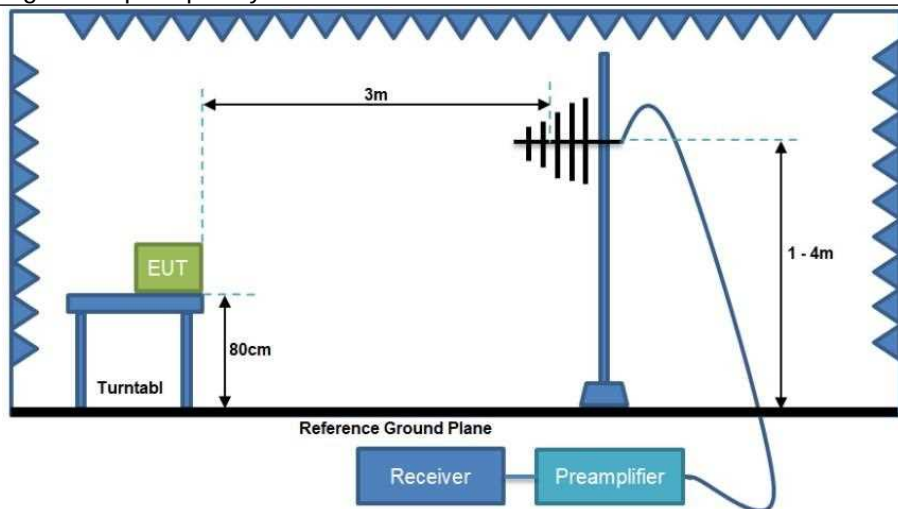
Test Requirement:	Clause 4.3.4.1								
Test Method:	Clause 4.3.4.3								
Test Limit:	The blocking level, for any frequency within the specified ranges, shall not be less than the values given in table 6, except at frequencies on which spurious responses are found. Table 6: Limits for blocking or desensitization <table border="1"> <thead> <tr> <th>Receiver category</th><th>Limit</th></tr> </thead> <tbody> <tr> <td>1</td><td>-30 dBm + k</td></tr> <tr> <td>2</td><td>-45 dBm + k</td></tr> <tr> <td>3</td><td>-60 dBm + k</td></tr> </tbody> </table> The correction factor, k, is as follows: $k = -20 * \log_{10}^f - 10 * \log_{10}^{BW}$ Where: - f is the frequency in GHz; - BW is the occupied bandwidth in MHz. The factor k is limited within the following: - $-40 \text{ dB} < k < 0 \text{ dB}$. The measured blocking level shall be stated in the test report.	Receiver category	Limit	1	-30 dBm + k	2	-45 dBm + k	3	-60 dBm + k
Receiver category	Limit								
1	-30 dBm + k								
2	-45 dBm + k								
3	-60 dBm + k								
Procedure:	This measurement shall be conducted under normal conditions. Two signal generators A and B shall be connected to the receiver via a combining network to the receiver, either: - via a test fixture or a test antenna to the receiver integrated, dedicated or test antenna; or - directly to the receiver permanent or temporary antenna connector. The method of coupling to the receiver shall be stated in the test report. Signal generator A shall be at the nominal frequency of the receiver, with normal modulation of the wanted signal. Signal generator B shall be unmodulated and shall be adjusted to a test frequency at approximately 10 times, 20 times and 50 times of the occupied bandwidth above upper band edge of occupied bandwidth. Initially signal generator B shall be switched off and using signal generator A the level which still gives sufficient response shall be established. The output level of generator A shall then be increased by 3 dB. Signal generator B is then switched on and adjusted until the wanted criteria are met. This level shall be recorded. The measurement shall be repeated with the test frequency for signal generator B at 10 times, 20 times and 50 times of the occupied bandwidth below the lower band edge of the occupied bandwidth. The blocking or desensitization shall be recorded as the level in dBm of lowest level of the unwanted signal (generator B). For tagging systems (e.g. RF identification, anti-theft, access control, location and similar systems) signal generator A may be replaced by a physical tag positioned at 70 % of the measured system range in metres. In this case, the blocking or desensitization shall be recorded as the ratio in dB of lowest level of the unwanted signal (generator B) resulting in a non-read of the tag. to the declared sensitivity of the receiver +3 dB.								

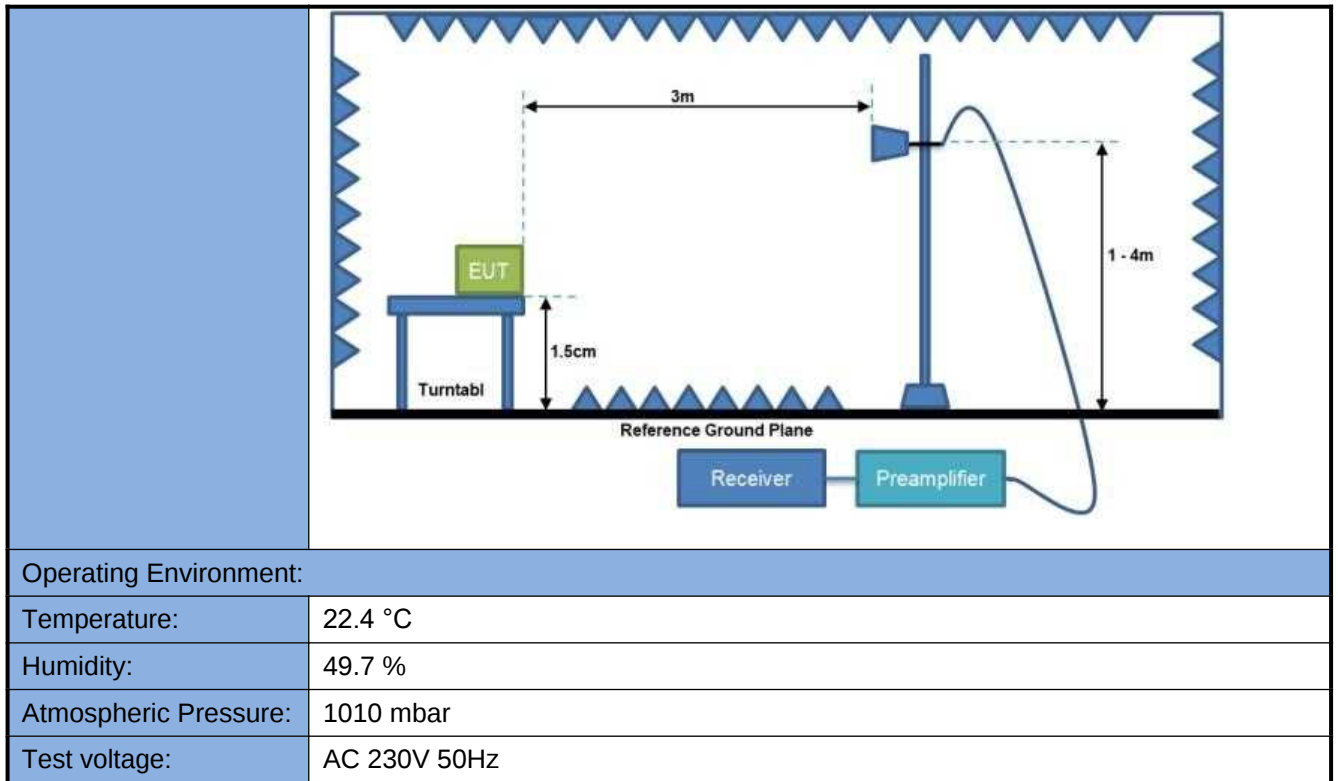


5.5.1 Test Data

Please Refer to Appendix for Details.

5.6 Unwanted emissions in the spurious domain (above 1GHz)

Test Requirement:	Clause 4.2.4.1																
Test Method:	Clause 4.2.4.3.3																
Test Limit:	Table 3: Spurious emissions <table><tr><th>Frequency ranges</th><td>47 MHz to 74 MHz 87,5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz</td><td>Other frequencies ≤ 1 000 MHz</td><td>Frequencies > 1 000 MHz</td></tr><tr><th>State</th><td></td><td></td><td></td></tr><tr><td>Operating</td><td>4 nW</td><td>250 nW</td><td>1 uW</td></tr><tr><td>Standby</td><td>2 nW</td><td>2 nW</td><td>20 nW</td></tr></table>	Frequency ranges	47 MHz to 74 MHz 87,5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies ≤ 1 000 MHz	Frequencies > 1 000 MHz	State				Operating	4 nW	250 nW	1 uW	Standby	2 nW	2 nW	20 nW
Frequency ranges	47 MHz to 74 MHz 87,5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies ≤ 1 000 MHz	Frequencies > 1 000 MHz														
State																	
Operating	4 nW	250 nW	1 uW														
Standby	2 nW	2 nW	20 nW														
Procedure:	a) A test site selected from Annex E which fulfils the requirements of the specified frequency range of this measurement shall be used. The test antenna shall be oriented initially for vertical polarization and connected to a measuring receiver, through a suitable filter to avoid overloading of the measuring receiver if required. The bandwidth of the measuring receiver shall be adjusted until the sensitivity of the measuring receiver, after allowing for the coupling loss, is at least 6 dB below the spurious emission limit given in table 3, see clause 4.2.4.4. This bandwidth shall be recorded in the test report. For the measurement of spurious emissions below the second harmonic of the carrier frequency the optional filter used shall be a high "Q" (notch) filter centred on the transmitter carrier frequency and attenuating this signal by at least 30 dB. For the measurement of spurious emissions at and above the second harmonic of the carrier frequency the optional filter used shall be a high pass filter with a stop band rejection exceeding 40 dB. The cut-off frequency of the high pass filter shall be approximately 1,5 times the transmitter carrier frequency. The transmitter under test shall be placed on the support in its standard position and shall be switched on without modulation. If modulation cannot be inhibited then the test shall be carried out with modulation (see clause 5.8.1) and this fact shall be recorded in the test report. The same method of measurement as steps b) and k) of clause 4.2.4.3.2 shall be used. Additional requirements for equipment employing FHSS modulation Measurements shall be carried out while the equipment is hopping between two frequencies separated by the maximum hop frequency change declared by the manufacturer, one of which is the lowest hop frequency. The measurements shall be repeated on two frequencies separated by the maximum hop frequency change declared by the manufacturer, one of which is the highest hop frequency.																
Test Setup:																	



5.6.1 Test Data

802.11a mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
508.18	Horizontal	-65.30	-54.00	Pass
854.92	Horizontal	-59.90	-36.00	
11490.00	Horizontal	-47.32	-30.00	
17235.00	Horizontal	-49.86	-30.00	
612.18	Vertical	-65.97	-54.00	
840.91	Vertical	-58.00	-36.00	
11490.00	Vertical	-46.86	-30.00	
17235.00	Vertical	-49.26	-30.00	
802.11a mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
553.85	Horizontal	-67.31	-54.00	Pass
900.59	Horizontal	-61.91	-36.00	
11650.00	Horizontal	-49.33	-30.00	
17475.00	Horizontal	-51.87	-30.00	
657.85	Vertical	-67.98	-54.00	
886.58	Vertical	-60.01	-36.00	
11650.00	Vertical	-48.87	-30.00	
17475.00	Vertical	-51.27	-30.00	

802.11n(HT20) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
483.48	Horizontal	-68.12	-54.00	Pass
830.22	Horizontal	-62.72	-36.00	
11450.00	Horizontal	-50.14	-30.00	
17175.00	Horizontal	-52.68	-30.00	
587.48	Vertical	-68.79	-54.00	
816.21	Vertical	-60.82	-36.00	
11450.00	Vertical	-49.68	-30.00	
17175.00	Vertical	-52.08	-30.00	
802.11n(HT20) Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
510.18	Horizontal	-67.38	-54.00	Pass
856.92	Horizontal	-61.98	-36.00	
11650.00	Horizontal	-49.40	-30.00	
17475.00	Horizontal	-51.94	-30.00	
614.18	Vertical	-68.05	-54.00	
842.91	Vertical	-60.08	-36.00	
11650.00	Vertical	-48.94	-30.00	
17475.00	Vertical	-51.34	-30.00	

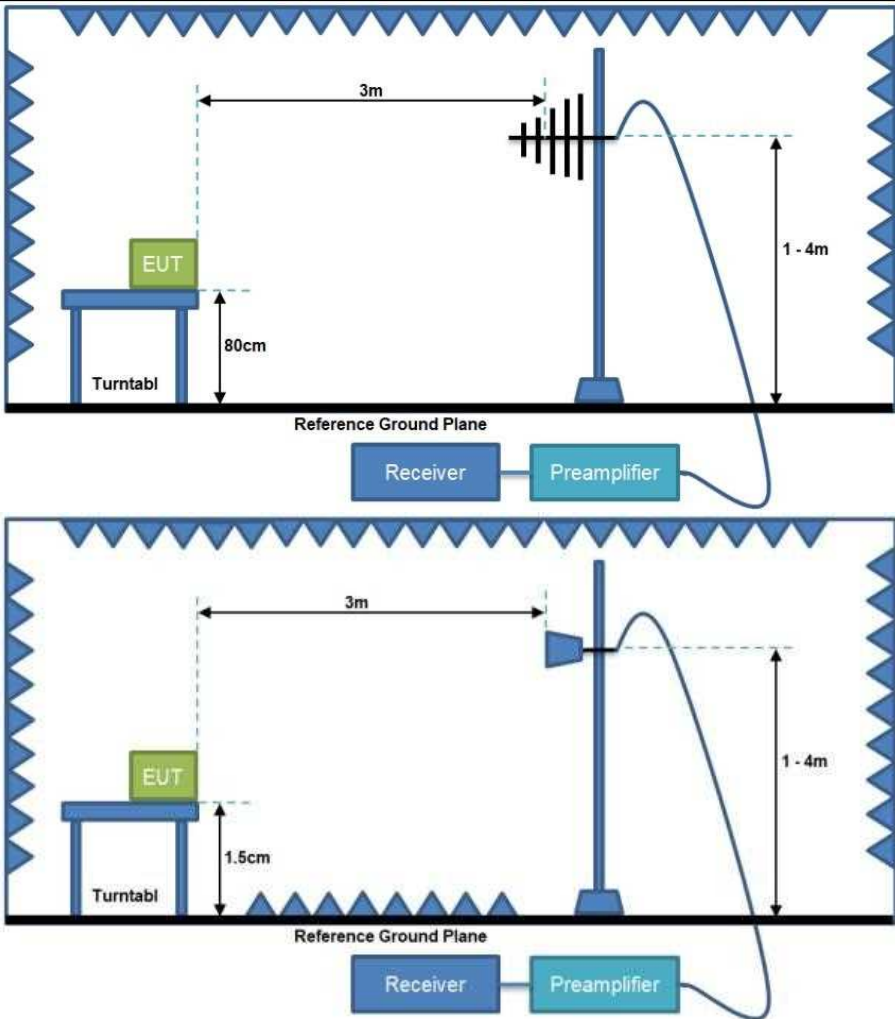
802.11n(HT40) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
524.99	Horizontal	-67.27	-54.00	Pass
871.73	Horizontal	-61.87	-36.00	
11510.00	Horizontal	-49.29	-30.00	
17265.00	Horizontal	-51.83	-30.00	
628.99	Vertical	-67.94	-54.00	
857.72	Vertical	-59.97	-36.00	
11510.00	Vertical	-48.83	-30.00	
17265.00	Vertical	-51.23	-30.00	
802.11n(HT40) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
554.96	Horizontal	-67.50	-54.00	Pass
901.70	Horizontal	-62.10	-36.00	
11590.00	Horizontal	-49.52	-30.00	
17385.00	Horizontal	-52.06	-30.00	
658.96	Vertical	-68.17	-54.00	
887.69	Vertical	-60.20	-36.00	
11590.00	Vertical	-49.06	-30.00	
17385.00	Vertical	-51.46	-30.00	

802.11ac(VHT20) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
497.87	Horizontal	-68.13	-54.00	Pass
844.61	Horizontal	-62.73	-36.00	
11490.00	Horizontal	-50.15	-30.00	
17235.00	Horizontal	-52.69	-30.00	
601.87	Vertical	-68.80	-54.00	
830.60	Vertical	-60.83	-36.00	
11490.00	Vertical	-49.69	-30.00	
17235.00	Vertical	-52.09	-30.00	
802.11ac(VHT20) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
523.14	Horizontal	-67.18	-54.00	Pass
869.88	Horizontal	-61.78	-36.00	
11650.00	Horizontal	-49.20	-30.00	
17475.00	Horizontal	-51.74	-30.00	
627.14	Vertical	-67.85	-54.00	
855.87	Vertical	-59.88	-36.00	
11650.00	Vertical	-48.74	-30.00	
17475.00	Vertical	-51.14	-30.00	

802.11ac(VHT40) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
486.47	Horizontal	-66.38	-54.00	Pass
833.21	Horizontal	-60.98	-36.00	
11510.00	Horizontal	-48.40	-30.00	
17265.00	Horizontal	-50.94	-30.00	
590.47	Vertical	-67.05	-54.00	
819.20	Vertical	-59.08	-36.00	
11510.00	Vertical	-47.94	-30.00	
17265.00	Vertical	-50.34	-30.00	
802.11ac(VHT40) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
498.99	Horizontal	-67.26	-54.00	Pass
845.73	Horizontal	-61.86	-36.00	
11590.00	Horizontal	-49.28	-30.00	
17385.00	Horizontal	-51.82	-30.00	
602.99	Vertical	-67.93	-54.00	
831.72	Vertical	-59.96	-36.00	
11590.00	Vertical	-48.82	-30.00	
17385.00	Vertical	-51.22	-30.00	

802.11ac(VHT80) mode Middle channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
502.56	Horizontal	-68.18	-54.00	Pass
849.30	Horizontal	-62.78	-36.00	
11550.00	Horizontal	-50.20	-30.00	
17325.00	Horizontal	-52.74	-30.00	
606.56	Vertical	-68.85	-54.00	
835.29	Vertical	-60.88	-36.00	
11550.00	Vertical	-49.74	-30.00	
17325.00	Vertical	-52.14	-30.00	

5.7 Receiver spurious radiations (above 1GHz)

Test Requirement:	Clause 4.3.5.1
Test Method:	Clause 4.3.5.3.3
Test Limit:	The power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.
Procedure:	This method of measurement applies to receivers having an integral antenna. a) A test site selected from Annex E which fulfils the requirements of the specified frequency range of this measurement shall be used. The test antenna shall be oriented initially for vertical polarization and connected to a measuring receiver. The bandwidth of the measuring receiver shall be adjusted until the sensitivity of the measuring receiver is at least 6 dB below the spurious emission limit given in clause 4.3.5.4. This bandwidth shall be recorded in the test report. The receiver under test shall be placed on the support in its standard position. The same method of measurement as items b) to i) of clause 4.3.5.3.2 shall apply.
Test Setup:	 The diagrams illustrate the test setup for receiver spurious radiations. The top diagram shows a vertical antenna setup with a distance of 3m between the EUT and the antenna, and a height of 1-4m for the antenna. The bottom diagram shows a horizontal antenna setup with a distance of 3m between the EUT and the antenna, and a height of 1-4m for the antenna. Both setups include a Reference Ground Plane, a Receiver, and a Preamplifier.
Operating Environment:	
Temperature:	22.4 °C
Humidity:	49.7 %
Atmospheric Pressure:	1010 mbar
Test voltage:	AC 230V 50Hz

5.7.1 Test Data

802.11a mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
309.72	Horizontal	-66.42	-57.00	Pass
799.76	Horizontal	-64.35	-57.00	
11490.00	Horizontal	-60.42	-47.00	
17235.00	Horizontal	-57.42	-47.00	
286.09	Vertical	-67.35	-57.00	
786.02	Vertical	-63.45	-57.00	
11490.00	Vertical	-61.42	-47.00	
17235.00	Vertical	-56.72	-47.00	
802.11a mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
384.73	Horizontal	-67.12	-57.00	Pass
874.77	Horizontal	-65.05	-57.00	
11650.00	Horizontal	-61.12	-47.00	
17475.00	Horizontal	-58.12	-47.00	
361.10	Vertical	-68.05	-57.00	
861.03	Vertical	-64.15	-57.00	
11650.00	Vertical	-62.12	-47.00	
17475.00	Vertical	-57.42	-47.00	

802.11n(HT20) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
441.75	Horizontal	-68.12	-57.00	Pass
931.79	Horizontal	-66.05	-57.00	
11490.00	Horizontal	-62.12	-47.00	
17235.00	Horizontal	-59.12	-47.00	
418.12	Vertical	-69.05	-57.00	
918.05	Vertical	-65.15	-57.00	
11490.00	Vertical	-63.12	-47.00	
17235.00	Vertical	-58.42	-47.00	
802.11n(HT20) Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
340.08	Horizontal	-65.85	-57.00	Pass
830.12	Horizontal	-63.78	-57.00	
11650.00	Horizontal	-59.85	-47.00	
17475.00	Horizontal	-56.85	-47.00	
316.45	Vertical	-66.78	-57.00	
816.38	Vertical	-62.88	-57.00	
11650.00	Vertical	-60.85	-47.00	
17475.00	Vertical	-56.15	-47.00	

802.11n(HT40) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
330.63	Horizontal	-67.12	-57.00	Pass
820.67	Horizontal	-65.05	-57.00	
11510.00	Horizontal	-61.12	-47.00	
17265.00	Horizontal	-58.12	-47.00	
307.00	Vertical	-68.05	-57.00	
806.93	Vertical	-64.15	-57.00	
11510.00	Vertical	-62.12	-47.00	
17265.00	Vertical	-57.42	-47.00	
802.11n(HT40) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
372.07	Horizontal	-66.83	-57.00	Pass
862.11	Horizontal	-64.76	-57.00	
11590.00	Horizontal	-60.83	-47.00	
17385.00	Horizontal	-57.83	-47.00	
348.44	Vertical	-67.76	-57.00	
848.37	Vertical	-63.86	-57.00	
11590.00	Vertical	-61.83	-47.00	
17385.00	Vertical	-57.13	-47.00	

802.11ac(VHT20) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
342.67	Horizontal	-66.33	-57.00	Pass
832.71	Horizontal	-64.26	-57.00	
11490.00	Horizontal	-60.33	-47.00	
17235.00	Horizontal	-57.33	-47.00	
319.04	Vertical	-67.26	-57.00	
818.97	Vertical	-63.36	-57.00	
11490.00	Vertical	-61.33	-47.00	
17235.00	Vertical	-56.63	-47.00	
802.11ac(VHT20) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
363.85	Horizontal	-64.82	-57.00	Pass
853.89	Horizontal	-62.75	-57.00	
11650.00	Horizontal	-58.82	-47.00	
17475.00	Horizontal	-55.82	-47.00	
340.22	Vertical	-65.75	-57.00	
840.15	Vertical	-61.85	-57.00	
11650.00	Vertical	-59.82	-47.00	
17475.00	Vertical	-55.12	-47.00	

802.11ac(VHT40) mode Lowest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
342.69	Horizontal	-64.20	-57.00	Pass
832.73	Horizontal	-62.13	-57.00	
11510.00	Horizontal	-58.20	-47.00	
17265.00	Horizontal	-55.20	-47.00	
319.06	Vertical	-65.13	-57.00	
818.99	Vertical	-61.23	-57.00	
11510.00	Vertical	-59.20	-47.00	
17265.00	Vertical	-54.50	-47.00	
802.11ac(VHT40) mode Highest channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
401.58	Horizontal	-63.09	-57.00	Pass
891.62	Horizontal	-61.02	-57.00	
11590.00	Horizontal	-57.09	-47.00	
17385.00	Horizontal	-54.09	-47.00	
377.95	Vertical	-64.02	-57.00	
877.88	Vertical	-60.12	-57.00	
11590.00	Vertical	-58.09	-47.00	
17385.00	Vertical	-53.39	-47.00	

802.11ac(VHT80) mode Middle channel				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
342.90	Horizontal	-63.72	-57.00	Pass
832.94	Horizontal	-61.65	-57.00	
11550.00	Horizontal	-57.72	-47.00	
17325.00	Horizontal	-54.72	-47.00	
319.27	Vertical	-64.65	-57.00	
819.20	Vertical	-60.75	-57.00	
11550.00	Vertical	-58.72	-47.00	
17325.00	Vertical	-54.02	-47.00	

6 Test Setup Photos

Unwanted emissions in the spurious domain (25MHz to 1GHz)
Receiver spurious radiations (25MHz to 1GHz)



Unwanted emissions in the spurious domain (above 1GHz)
Receiver spurious radiations (above 1GHz)



7 EUT Constructional Details (EUT Photos)

Please refer to BTF250603R01101.



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-- END OF REPORT --