



# RADIO TEST REPORT

Applicant: Confiabits S.R.L.  
Address: 28 C/Genesis UV77 MZ36  
Manufacturer: Confiabits S.R.L.  
Address: 28 C/Genesis UV77 MZ36  
EUT: Router  
Trade Mark: Confiabits  
Model Number: mt7981  
Date of Receipt: Dec. 09, 2023  
Test Date: Dec. 09, 2023 – Jan. 03, 2024  
Date of Report: Jan. 03, 2024  
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Applicable Standards: ETSI EN 301 893 V2.1.1 (2017-05)  
Test Result: Pass  
Report Number: DL-20240102001-4E

Prepared (Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



*This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.*



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## 1. Version

Version No.	Date	Description
00	Jan. 03, 2024	Original

## 2. Test Summary

Radio Spectrum Matter (RSM) Part of Transmitter			
Test	Test Requirement	Test method	Result
Centre Frequency	EN 301 893 clause 4.2.1	EN 301 893 clause 5.4.2	Pass
Occupied Channel Bandwidth	EN 301 893 clause 4.2.2	EN 301 893 clause 5.4.3	Pass
RF output power, Transmit Power Control (TPC) and power density	EN 301 893 clause 4.2.3	EN 301 893 clause 5.4.4	Pass
Transmitter unwanted emissions	EN 301 893 clause 4.2.4	EN 301 893 clause 5.4.5 / 5.4.6	Pass
Radio Spectrum Matter (RSM) Part of Receiver			
Receiver spurious emissions	EN 301 893 clause 4.2.5	EN 301 893 clause 5.4.7	Pass
Dynamic Frequency Selection (DFS)	EN 301 893 clause 4.2.6	EN 301 893 clause 5.4.8	Pass
Adaptivity (Channel Access Mechanism) 4.8.1 Applicability	EN 301 893 clause 4.2.7	EN 301 893 clause 5.4.9	Pass
Receiver Blocking	EN 301 893 clause 4.2.8	EN 301 893 clause 5.4.10	Pass
User Access Restrictions	EN 301 893 clause 4.2.9	/	N/A
Geo-location capability	EN 301 893 clause 4.2.10	/	N/A

Pass: The EUT complies with the essential requirements in the standard.

Remark:

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

Temperature (Uncertainty):  $\pm 1^{\circ}\text{C}$  Humidity(Uncertainty):  $\pm 5\%$

Uncertainty: 3%(for DC and low frequency voltages)



### 3. General Information

#### 3.1 Description of Device (EUT)

EUT	:	Router
Trade Mark	:	Confiabits
Model Number	:	mt7981
Test Model	:	mt7981
Model Difference	:	N/A
Power Supply	:	DC 12V from adapter MODEL: SA180-120150V
Adapter	:	INPUT: 100-240V~ 50/60Hz 0.6A OUTPUT: 12.0V $\equiv$ 1.5A 18.0W
Operation Frequency	:	802.11a/ac/ax/n(20):5180-5240MHz, 5250-5350, 5470-5725MHz 802.11ac/ax/n(40):5190-5230MHz, 5260-5320, 5500-5700MHz 802.11ac/ax(80):5210MHz, 5290MHz, 5530MHz 802.11ac/ax(160):5250MHz
Modulation Type	:	CCK/OFDM/DBPSK/DAPSK/OFDMA
Number Of Channel	:	See channel list 802.11a/ac/ax:54/48/36/24/18/12/9/6Mbps
Date Rate	:	802.11n: up to 300Mbps 802.11ac: up to 867 Mbps 802.11ax: 1200Mbps
Antenna Type	:	External antenna*3
Antenna Gain	:	5dBi
Product type	:	Slaver
Receiver Category	:	1
Hardware Version	:	1.0
Software Version	:	1.0
Firmware	:	---

Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. The MIMO mode is only used for 802.11 ac/ax/n mode.



B1

Channel List for 802.11 a/ac/ax/n(HT20/HE20)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240
38	5190	42	5210	46	5230	/	/

Channel List for 802.11 ac/ax/n(HT40/HE40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
/	/	40	5200	44	5220	/	/
38	5190	42	5210	46	5230	/	/

Channel List for 802.11 ac/ax(HT80/HE80)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	/	/	/	/	/	/

Channel List for 802.11 ac/ax(HT160/HE160)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
50	5250	/	/	/	/	/	/

U-NII-2A

802.11a/ac/ax/n(HT20)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
56	5280	64	5320

802.11ac/ax/n(HT40)				802.11ac/ax 80	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310	58	5290

U-NII-2C

802.11a/ac/ax/n(HT20)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	112	5560	124	5620	136	5680
104	5520	116	5580	128	5640	140	5700
108	5540	120	5600	132	5660		



802.11 ac/ax/ (HT40)				802.11ac/ax 80	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	126	5630	106	5530
110	5550	134	5670	122	5610
118	5590				

### 3.2 Test Uncertainty

Item	MU	Remark
Uncertainty for Conducted Emission Test	2.50dB	
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.04dB	Polarize: V
	3.02dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.56dB	Polarize: H
	3.84dB	Polarize: V
Uncertainty for radio frequency	$1 \times 10^{-9}$	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	1%	





### 3.3 Test Mode

The special RF test software was used to control EUT work in Continuous WIFI TX mode, and select test channel, worst mode.

Mode B1	Channel	Frequency(MHz)
802.11 a/ac/ax/nHT20/HE20	Low :CH36	5180
	High: CH48	5240
802.11 ac/ax/nHT40/HE40	Low :CH38	5190
	High: CH46	5230
802.11 ac/axHT80/HE80	Low :CH42	5210
802.11 ac/axHT160/HE160	Low :CH50	5250

Mode B2	Channel	Frequency (MHz)
802.11 a/ac/ax/nHT20/HE20	Low :CH52	5260
	Middle :CH56	5280
	High: CH64	5320
802.11 ac/ax/nHT40/HE40	Low :CH54	5270
	High: CH62	5310
802.11 ac/axHT80/HE80	Low :CH58	5290

Mode B3	Channel	Frequency (MHz)
802.11 a/ac/ax/nHT20/HE20	Low :CH100	5500
	Middle :CH120	5600
	High: CH140	5700
802.11 ac/ax/nHT40/HE40	Low :CH102	5510
	Middle: CH110	5550
	High :CH134	5670
802.11 ac/axHT80/HE80	Low :CH106	5530

### 3.4 Test Conditions

	Normal Conditions	Extreme Conditions	
Humidity range	20-75%	20-75%	
Pressure range	86-106kPa	86-106kPa	
Temperature range	15-35°C	HTHV	DC 3.63V, 55°C
		HTLV	DC 2.97V, 55°C
Power supply	DC 3.3V	LTLV	DC 2.97V, -20°C
		LTHV	DC 3.63V, -20°C
Note 1: The test procedure described in clause 5.1.1 of EN300 328 was used for extreme test procedure. 2: The Extreme Temperature and Extreme Voltages declared by the manufacturer.			



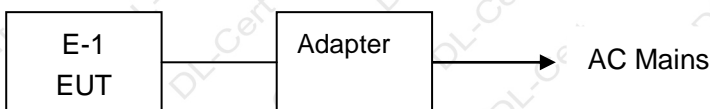


### 3.5 Table Of Parameters Of Test Software Setting

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Max output power Setting					
Test software Version	Test program: Wifi Test Toolv1.4.1				
Mode	802.11a	802.11ax/ac/n HT20	802.11ax/ac/n HT40	802.11ax/ac HT80	802.11ax/ac HT160
Data Rate	MSC0	MSC0	MSC0	MSC0	MSC0
Power Setting of Software	30	30	30	30	30

### 3.6 Description Of Test Setup



### 3.7 Description Test Peripheral and EUT Peripheral

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Router	Confiabits	mt7981	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



#### 4. Test Instrument Used

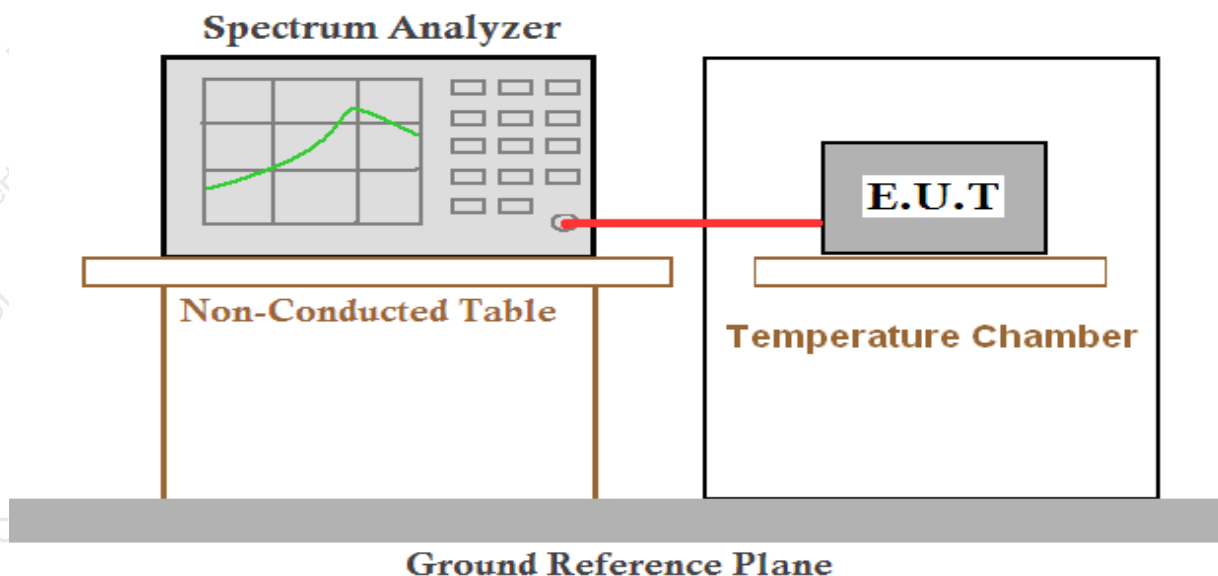
For All Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
3m Semi-Anechoic	ETS-LINDGREN	N/A	SEL0017	Nov. 04, 2023	Nov. 03, 2024
Spectrum analyzer	Agilent	E4407B	MY46185649	Nov. 04, 2023	Nov. 03, 2024
Receiver	R&S	ESCI	1166.5950K03-1011	Nov. 04, 2023	Nov. 03, 2024
Receiver	R&S	ESCI	101202	Nov. 04, 2023	Nov. 03, 2024
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	Nov. 04, 2023	Nov. 03, 2024
Horn Antenna	EMCO	3115	640201028-06	Nov. 04, 2023	Nov. 03, 2024
Power Meter	Anritsu	ML2495A	1204003	Nov. 04, 2023	Nov. 03, 2024
Power Sensor	Anritsu	MA2411B	100309	Nov. 04, 2023	Nov. 03, 2024
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	Nov. 04, 2023	Nov. 03, 2024
Cable	Resenberger	N/A	No.1	Nov. 04, 2023	Nov. 03, 2024
Cable	SCHWARZBECK	N/A	No.2	Nov. 04, 2023	Nov. 03, 2024
Cable	SCHWARZBECK	N/A	No.3	Nov. 04, 2023	Nov. 03, 2024
Pre-amplifier	Schwarzbeck	BBV9743	9743-019	Nov. 04, 2023	Nov. 03, 2024
Pre-amplifier	R&S	AFS33-180026 50-30-8P-44	SEL0080	Nov. 04, 2023	Nov. 03, 2024
Base station	Agilent	E5515C	GB44300243	Nov. 04, 2023	Nov. 03, 2024
Temperature controller	Terchy	MHQ	120	Nov. 04, 2023	Nov. 03, 2024
Power divider	Anritsu	K240C	020346	Nov. 04, 2023	Nov. 03, 2024
Signal Generator	HP	83732B	VS3449051	Nov. 04, 2023	Nov. 03, 2024
Attenuator	Agilent	8491B	MY39262165	Nov. 04, 2023	Nov. 03, 2024
vector Signal Generator	Agilent	E4438C	MY49070163	Nov. 04, 2023	Nov. 03, 2024
splitter	Mini-Circuits	ZAP-50W	NN256400424	Nov. 04, 2023	Nov. 03, 2024
Directional Coupler	Agilent	87300C	MY44300299	Nov. 04, 2023	Nov. 03, 2024
vector Signal Generator	Agilent	E4438C	US44271917	Nov. 04, 2023	Nov. 03, 2024
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54080020	Nov. 04, 2023	Nov. 03, 2024



X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54110001	Nov. 04, 2023	Nov. 03, 2024
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY53480008	Nov. 04, 2023	Nov. 03, 2024
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54080019	Nov. 04, 2023	Nov. 03, 2024
4 Ch.Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	TW54063507	Nov. 04, 2023	Nov. 03, 2024
4 Ch.Simultaneous Sampling 14 Bits 2 MS/s	Agilent	U2531A	TW54063513	Nov. 04, 2023	Nov. 03, 2024
splitter	Mini	PS3-7	4463	Nov. 04, 2023	Nov. 03, 2024
Signal Analyzer	Agilent	N9010A	MY48030494	Nov. 04, 2023	Nov. 03, 2024

## 5. Equivalent Isotropic Radiated Power

### 5.1 Block Diagram Of Test Setup



### 5.2 Limit

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

In case of multiple (adjacent or non-adjacent) channels within the same sub-band, the total RF Output Power of all channels in that sub-band shall not exceed the limits defined in table 2 and table 3.

In case of multiple, non-adjacent channels operating in separate sub-bands, the total RF Output Power in each of the sub-bands shall not exceed the limits defined in table 2 and table 3.

Frequency range (MHz)	Mean e.i.r.p. limit for P <sub>H</sub> (dBm)		Mean e.i.r.p. density limit (dBm/MHz)	
	with TPC	without TPC	with TPC	without TPC
5 150 to 5 350	23	20/23 (see note 1)	10	7/10 (see note 2)
5 470 to 5 725	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)

NOTE 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 23 dBm.

NOTE 2: The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 10 dBm/MHz.

NOTE 3: Slave devices without a *Radar Interference Detection* function shall comply with the limits for the frequency range 5 250 MHz to 5 350 MHz.





### 5.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.2

### 5.4 Test Result

B1 ANT1:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.58	15.49	15.28	15.27	15.19	23.00	Pass
	High	15.36	15.36	15.26	15.33	15.14	23.00	Pass
802.11ac HT20	Low	13.27	13.41	13.33	13.25	13.15	23.00	Pass
	High	13.11	13.36	13.42	13.43	13.13	23.00	Pass
802.11ax HE20	Low	12.38	12.37	12.36	12.33	12.18	23.00	Pass
	High	12.52	12.19	12.28	12.28	12.26	23.00	Pass
802.11n HT20	Low	12.39	12.21	12.17	12.19	12.25	23.00	Pass
	High	12.27	12.33	12.29	12.27	12.22	23.00	Pass
802.11ac HT40	Low	12.36	12.17	12.33	12.29	12.28	23.00	Pass
	High	12.41	12.27	12.24	12.33	12.19	23.00	Pass
802.11ax HE40	Low	12.52	12.19	12.26	12.17	12.26	23.00	Pass
	High	12.39	12.27	12.17	12.26	12.27	23.00	Pass
802.11n HT40	Low	12.25	12.24	12.33	12.22	12.25	23.00	Pass
	High	12.21	12.17	12.27	12.28	12.23	23.00	Pass
802.11ac HT80	Low	11.41	11.36	11.36	11.28	11.27	23.00	Pass
802.11ax HE80	Low	11.53	11.28	11.34	11.29	11.23	23.00	Pass
802.11ac HT160	Low	11.25	11.15	11.18	11.07	11.06	23.00	Pass
802.11ax HE 160	Low	11.19	11.07	11.13	11.08	11.02	23.00	Pass



B1 ANT2:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.49	15.48	15.27	15.23	15.18	23.00	Pass
	High	15.28	15.32	15.25	15.43	15.13	23.00	Pass
802.11ac HT20	Low	13.25	13.43	13.32	13.26	13.14	23.00	Pass
	High	13.16	13.34	13.32	13.44	13.12	23.00	Pass
802.11ax HE20	Low	12.37	12.17	12.46	12.23	12.19	23.00	Pass
	High	12.32	12.18	12.38	12.21	12.25	23.00	Pass
802.11n HT20	Low	12.35	12.25	12.14	12.14	12.24	23.00	Pass
	High	12.26	12.32	12.27	12.26	12.32	23.00	Pass
802.11ac HT40	Low	12.31	12.16	12.23	12.28	12.27	23.00	Pass
	High	12.48	12.26	12.28	12.32	12.15	23.00	Pass
802.11ax HE40	Low	12.56	12.14	12.24	12.25	12.23	23.00	Pass
	High	12.37	12.22	12.13	12.24	12.25	23.00	Pass
802.11n HT40	Low	12.24	12.23	12.23	12.26	12.15	23.00	Pass
	High	12.26	12.15	12.21	12.27	12.22	23.00	Pass
802.11ac HT80	Low	11.48	11.34	11.35	11.25	11.23	23.00	Pass
802.11ax HE80	Low	11.56	11.25	11.24	11.27	11.13	23.00	Pass
802.11ac HT160	Low	11.21	11.13	11.14	11.04	11.02	23.00	Pass
802.11ax HE160	Low	11.18	11.04	11.03	11.06	10.92	23.00	Pass



## B1 ANT3:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.21	15.20	14.99	14.95	14.90	23.00	Pass
	High	15.00	15.04	14.97	15.15	14.85	23.00	Pass
802.11ac HT20	Low	13.01	13.18	13.08	13.02	12.90	23.00	Pass
	High	12.92	13.10	13.08	13.19	12.88	23.00	Pass
802.11ax HE20	Low	12.14	11.95	12.23	12.01	11.97	23.00	Pass
	High	12.09	11.96	12.15	11.99	12.03	23.00	Pass
802.11n HT20	Low	12.12	12.03	11.92	11.92	12.02	23.00	Pass
	High	12.04	12.09	12.05	12.04	12.09	23.00	Pass
802.11ac HT40	Low	12.08	11.94	12.01	12.06	12.05	23.00	Pass
	High	12.25	12.04	12.06	12.09	11.93	23.00	Pass
802.11ax HE40	Low	12.33	11.92	12.02	12.03	12.01	23.00	Pass
	High	12.14	12.00	11.91	12.02	12.03	23.00	Pass
802.11n HT40	Low	12.02	12.01	12.01	12.04	11.93	23.00	Pass
	High	12.04	11.93	11.99	12.05	12.00	23.00	Pass
802.11ac HT80	Low	11.27	11.13	11.14	11.04	11.02	23.00	Pass
802.11ax HE80	Low	11.35	11.04	11.03	11.06	10.93	23.00	Pass
802.11ac HT160	Low	11.00	10.93	10.94	10.84	10.82	23.00	Pass
802.11ax HE160	Low	10.98	10.84	10.83	10.86	10.72	23.00	Pass



B1 For MIMO

Total e.i.r.p (dBm) Result								
Mode	Test CH	Ant1+2+3 Total Power (dBm)					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11ac HT20	Low	17.95	18.11	18.02	17.95	17.84	23.00	Pass
	High	17.84	18.04	18.05	18.13	17.82	23.00	Pass
802.11ax HE20	Low	17.07	16.94	17.12	16.96	16.89	23.00	Pass
	High	17.08	16.88	17.04	16.93	16.95	23.00	Pass
802.11n HT20	Low	17.06	16.94	16.85	16.86	16.94	23.00	Pass
	High	16.96	17.02	16.98	16.96	16.98	23.00	Pass
802.11ac HT40	Low	17.02	16.86	16.96	16.98	16.97	23.00	Pass
	High	17.15	16.96	16.97	17.02	16.86	23.00	Pass
802.11ax HE40	Low	17.24	16.86	16.95	16.92	16.94	23.00	Pass
	High	17.07	16.94	16.84	16.95	16.96	23.00	Pass
802.11n HT40	Low	16.94	16.93	16.96	16.95	16.88	23.00	Pass
	High	16.94	16.86	16.93	16.97	16.92	23.00	Pass
802.11ac HT80	Low	16.16	16.05	16.06	15.96	15.95	23.00	Pass
802.11ax HE80	Low	16.25	15.96	15.98	15.98	15.87	23.00	Pass
802.11ac HT160	Low	15.93	15.84	15.86	15.76	15.74	23.00	Pass
802.11ax HE160	Low	15.89	15.76	15.77	15.77	15.66	23.00	Pass





B2 ANT1:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.63	15.54	15.33	15.32	15.24	23.00	Pass
	Middle	15.38	15.36	15.26	15.33	15.27	23.00	Pass
	High	15.39	15.39	15.29	15.36	15.17	23.00	Pass
802.11ac HT20	Low	13.29	13.43	13.35	13.27	13.17	23.00	Pass
	Middle	13.33	13.38	13.43	13.26	13.20	23.00	Pass
	High	13.14	13.39	13.45	13.46	13.16	23.00	Pass
802.11ax HE20	Low	12.41	12.40	12.39	12.36	12.21	23.00	Pass
	Middle	12.29	12.33	12.36	12.34	12.29	23.00	Pass
	High	12.76	12.42	12.51	12.51	12.49	23.00	Pass
802.11n HT20	Low	12.43	12.25	12.21	12.23	12.29	23.00	Pass
	Middle	12.35	12.29	12.28	12.30	12.32	23.00	Pass
	High	12.30	12.36	12.32	12.30	12.25	23.00	Pass
802.11ac HT40	Low	12.38	12.19	12.35	12.31	12.30	23.00	Pass
	High	12.43	12.29	12.26	12.35	12.21	23.00	Pass
802.11ax HE40	Low	12.55	12.22	12.29	12.20	12.29	23.00	Pass
	High	12.42	12.30	12.20	12.29	12.30	23.00	Pass
802.11n HT40	Low	12.27	12.26	12.35	12.24	12.27	23.00	Pass
	High	12.44	12.40	12.50	12.51	12.46	23.00	Pass
802.11ac HT80	Low	11.44	11.39	11.39	11.31	11.30	23.00	Pass
802.11ax HE80	Low	11.56	11.31	11.37	11.32	11.26	23.00	Pass



B2 ANT2:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.54	15.53	15.32	15.28	15.23	23.00	Pass
	Middle	15.37	15.70	15.37	15.57	15.37	23.00	Pass
	High	15.31	15.35	15.28	15.46	15.16	23.00	Pass
802.11ac HT20	Low	13.29	13.47	13.36	13.30	13.18	23.00	Pass
	Middle	13.39	13.43	13.42	13.34	13.36	23.00	Pass
	High	13.22	13.40	13.38	13.50	13.18	23.00	Pass
802.11ax HE20	Low	12.43	12.22	12.52	12.29	12.24	23.00	Pass
	Middle	12.47	12.38	12.46	12.33	12.37	23.00	Pass
	High	12.68	12.53	12.74	12.56	12.61	23.00	Pass
802.11n HT20	Low	12.39	12.29	12.18	12.18	12.28	23.00	Pass
	Middle	12.41	12.32	12.28	12.30	12.38	23.00	Pass
	High	12.28	12.34	12.29	12.28	12.34	23.00	Pass
802.11ac HT40	Low	12.34	12.19	12.26	12.31	12.30	23.00	Pass
	High	12.52	12.30	12.32	12.36	12.19	23.00	Pass
802.11ax HE40	Low	12.61	12.19	12.29	12.30	12.28	23.00	Pass
	High	12.43	12.27	12.18	12.30	12.31	23.00	Pass
802.11n HT40	Low	12.29	12.28	12.28	12.31	12.20	23.00	Pass
	High	12.62	12.50	12.56	12.63	12.57	23.00	Pass
802.11ac HT80	Low	11.52	11.38	11.39	11.29	11.27	23.00	Pass
802.11ax HE80	Low	11.59	11.27	11.26	11.29	11.15	23.00	Pass



B2 ANT3:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.25	15.24	15.03	14.99	14.95	23.00	Pass
	Middle	15.08	15.41	15.08	15.28	15.08	23.00	Pass
	High	15.02	15.06	14.99	15.17	14.88	23.00	Pass
802.11ac HT20	Low	13.04	13.22	13.11	13.05	12.93	23.00	Pass
	Middle	13.14	13.18	13.17	13.09	13.11	23.00	Pass
	High	12.97	13.15	13.13	13.25	12.93	23.00	Pass
802.11ax HE20	Low	12.20	11.99	12.29	12.06	12.01	23.00	Pass
	Middle	12.24	12.15	12.23	12.10	12.14	23.00	Pass
	High	12.44	12.30	12.50	12.33	12.37	23.00	Pass
802.11n HT20	Low	12.16	12.06	11.95	11.95	12.05	23.00	Pass
	Middle	12.18	12.09	12.05	12.07	12.15	23.00	Pass
	High	12.05	12.11	12.06	12.05	12.11	23.00	Pass
802.11ac HT40	Low	12.11	11.96	12.03	12.08	12.07	23.00	Pass
	High	12.29	12.07	12.09	12.13	11.96	23.00	Pass
802.11ax HE40	Low	12.37	11.96	12.06	12.07	12.05	23.00	Pass
	High	12.20	12.04	11.95	12.07	12.08	23.00	Pass
802.11n HT40	Low	12.06	12.05	12.05	12.08	11.97	23.00	Pass
	High	12.38	12.27	12.33	12.39	12.33	23.00	Pass
802.11ac HT80	Low	11.30	11.17	11.18	11.08	11.06	23.00	Pass
802.11ax HE80	Low	11.37	11.06	11.05	11.08	10.94	23.00	Pass



B2 For MIMO

Total e.i.r.p (dBm) Result								
Mode	Test CH	Ant1+2 Total Power (dBm)					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11ac HT20	Low	17.98	18.15	18.05	17.98	17.87	23.00	Pass
	Middle	18.06	18.10	18.11	18.00	18.00	23.00	Pass
	High	17.88	18.09	18.09	18.18	17.86	23.00	Pass
802.11ax HE20	Low	17.12	16.98	17.17	17.01	16.93	23.00	Pass
	Middle	17.11	17.06	17.12	17.03	17.04	23.00	Pass
	High	17.40	17.19	17.36	17.24	17.26	23.00	Pass
802.11n HT20	Low	17.10	16.97	16.89	16.89	16.98	23.00	Pass
	Middle	17.09	17.01	16.98	17.00	17.06	23.00	Pass
	High	16.98	17.04	17.00	16.98	17.01	23.00	Pass
802.11ac HT40	Low	17.05	16.89	16.99	17.01	17.00	23.00	Pass
	High	17.19	16.99	17.00	17.05	16.89	23.00	Pass
802.11ax HE40	Low	17.28	16.90	16.99	16.96	16.98	23.00	Pass
	High	17.12	16.98	16.88	16.99	17.00	23.00	Pass
802.11n HT40	Low	16.98	16.97	17.00	16.98	16.92	23.00	Pass
	High	17.25	17.16	17.24	17.28	17.23	23.00	Pass
802.11ac HT80	Low	16.19	16.09	16.09	16.00	15.98	23.00	Pass
802.11ax HE80	Low	16.28	15.99	16.00	16.00	15.89	23.00	Pass





B3 ANT1:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.58	15.49	15.28	15.27	15.19	23.00	Pass
	Middle	15.58	15.49	15.28	15.27	15.19	23.00	Pass
	High	15.36	15.36	15.26	15.33	15.14	23.00	Pass
802.11ac HT20	Low	13.27	13.41	13.33	13.25	13.15	23.00	Pass
	Middle	13.35	13.65	13.46	13.37	13.35	23.00	Pass
	High	13.11	13.36	13.42	13.43	13.13	23.00	Pass
802.11ax HE20	Low	12.38	12.37	12.36	12.33	12.18	23.00	Pass
	Middle	12.31	12.32	12.43	12.37	12.29	23.00	Pass
	High	12.52	12.19	12.28	12.28	12.26	23.00	Pass
802.11n HT20	Low	12.39	12.21	12.17	12.19	12.25	23.00	Pass
	Middle	12.32	12.36	12.28	12.35	12.42	23.00	Pass
	High	12.27	12.33	12.29	12.27	12.22	23.00	Pass
802.11ac HT40	Low	12.36	12.17	12.33	12.29	12.28	23.00	Pass
	Middle	12.53	12.34	12.51	12.38	12.42	23.00	Pass
	High	12.41	12.27	12.24	12.33	12.19	23.00	Pass
802.11ax HE40	Low	12.52	12.19	12.26	12.17	12.26	23.00	Pass
	Middle	12.43	12.34	12.37	12.24	12.29	23.00	Pass
	High	12.39	12.27	12.17	12.26	12.27	23.00	Pass
802.11n HT40	Low	12.25	12.24	12.33	12.22	12.25	23.00	Pass
	Middle	12.32	12.36	12.31	12.28	12.29	23.00	Pass
	High	12.21	12.17	12.27	12.28	12.23	23.00	Pass
802.11ac HT80	Low	11.41	11.36	11.36	11.28	11.27	23.00	Pass
802.11ax HE80	Low	11.53	11.28	11.34	11.29	11.23	23.00	Pass



B3 ANT2:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.49	15.48	15.27	15.23	15.18	23.00	Pass
	Middle	15.23	15.65	15.45	15.63	15.35	23.00	Pass
	High	15.28	15.32	15.25	15.43	15.13	23.00	Pass
802.11ac HT20	Low	13.25	13.43	13.32	13.26	13.14	23.00	Pass
	Middle	13.34	13.55	13.21	13.36	13.37	23.00	Pass
	High	13.16	13.34	13.32	13.44	13.12	23.00	Pass
802.11ax HE20	Low	12.37	12.17	12.46	12.23	12.19	23.00	Pass
	Middle	12.29	12.45	12.52	12.32	12.24	23.00	Pass
	High	12.32	12.18	12.38	12.21	12.25	23.00	Pass
802.11n HT20	Low	12.35	12.25	12.14	12.14	12.24	23.00	Pass
	Middle	12.25	12.54	12.33	12.42	12.38	23.00	Pass
	High	12.26	12.32	12.27	12.26	12.32	23.00	Pass
802.11ac HT40	Low	12.31	12.16	12.23	12.28	12.27	23.00	Pass
	Middle	12.45	12.32	12.65	12.35	12.43	23.00	Pass
	High	12.48	12.26	12.28	12.32	12.15	23.00	Pass
802.11ax HE40	Low	12.56	12.14	12.24	12.25	12.23	23.00	Pass
	Middle	12.72	12.43	12.55	12.64	12.42	23.00	Pass
	High	12.37	12.22	12.13	12.24	12.25	23.00	Pass
802.11n HT40	Low	12.24	12.23	12.23	12.26	12.15	23.00	Pass
	Middle	12.43	12.23	12.34	12.34	12.32	23.00	Pass
	High	12.26	12.15	12.21	12.27	12.22	23.00	Pass
802.11ac HT80	Low	11.48	11.34	11.35	11.25	11.23	23.00	Pass
802.11ax HE80	Low	11.56	11.25	11.24	11.27	11.13	23.00	Pass



B3 ANT3:

Total e.i.r.p (dBm) Result								
Mode	Test CH	Condition					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11a	Low	15.27	15.26	15.05	15.01	14.96	23.00	Pass
	Middle	15.01	15.43	15.23	15.41	15.13	23.00	Pass
	High	15.06	15.10	15.03	15.21	14.91	23.00	Pass
802.11ac HT20	Low	13.06	13.24	13.13	13.07	12.95	23.00	Pass
	Middle	13.15	13.36	13.02	13.17	13.18	23.00	Pass
	High	12.97	13.15	13.13	13.25	12.93	23.00	Pass
802.11ax HE20	Low	12.19	12.00	12.28	12.06	12.02	23.00	Pass
	Middle	12.11	12.27	12.34	12.14	12.06	23.00	Pass
	High	12.14	12.01	12.20	12.04	12.07	23.00	Pass
802.11n HT20	Low	12.17	12.07	11.97	11.97	12.06	23.00	Pass
	Middle	12.07	12.36	12.15	12.24	12.20	23.00	Pass
	High	12.08	12.14	12.09	12.08	12.14	23.00	Pass
802.11ac HT40	Low	12.13	11.99	12.06	12.10	12.09	23.00	Pass
	Middle	12.27	12.14	12.47	12.17	12.25	23.00	Pass
	High	12.30	12.08	12.10	12.14	11.98	23.00	Pass
802.11ax HE40	Low	12.38	11.97	12.06	12.07	12.06	23.00	Pass
	Middle	12.54	12.25	12.37	12.46	12.24	23.00	Pass
	High	12.19	12.05	11.96	12.06	12.07	23.00	Pass
802.11n HT40	Low	12.06	12.06	12.06	12.08	11.98	23.00	Pass
	Middle	12.25	12.06	12.16	12.16	12.14	23.00	Pass
	High	12.08	11.98	12.04	12.09	12.05	23.00	Pass
802.11ac HT80	Low	11.32	11.18	11.19	11.09	11.07	23.00	Pass
802.11ax HE80	Low	11.39	11.09	11.08	11.11	10.97	23.00	Pass



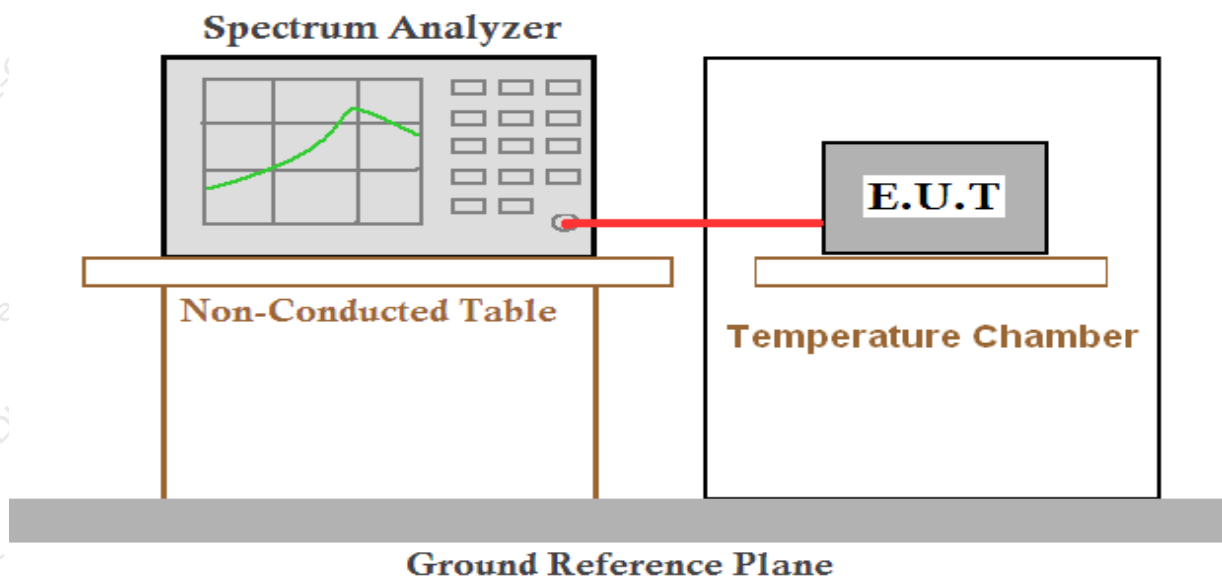
B3 For MIMO

Total e.i.r.p (dBm) Result								
Mode	Test CH	Ant1+2+3 Total Power (dBm)					Limit (dBm)	Result
		Normal	HTLV	LTLV	LTHV	HTHV		
802.11ac HT20	Low	17.97	18.13	18.03	17.97	17.85	23.00	Pass
	Middle	18.05	18.29	18.00	18.07	18.07	23.00	Pass
	High	17.85	18.06	18.06	18.15	17.83	23.00	Pass
802.11ax HE20	Low	17.09	16.95	17.14	16.98	16.90	23.00	Pass
	Middle	17.01	17.12	17.20	17.05	16.97	23.00	Pass
	High	17.10	16.90	17.06	16.95	16.97	23.00	Pass
802.11n HT20	Low	17.08	16.95	16.87	16.87	16.96	23.00	Pass
	Middle	16.99	17.19	17.03	17.11	17.11	23.00	Pass
	High	16.98	17.04	16.99	16.98	17.00	23.00	Pass
802.11ac HT40	Low	17.04	16.88	16.98	17.00	16.99	23.00	Pass
	Middle	17.19	17.04	17.32	17.07	17.14	23.00	Pass
	High	17.17	16.98	16.98	17.04	16.88	23.00	Pass
802.11ax HE40	Low	17.26	16.87	16.96	16.94	16.96	23.00	Pass
	Middle	17.34	17.11	17.20	17.22	17.09	23.00	Pass
	High	17.09	16.95	16.86	16.96	16.97	23.00	Pass
802.11n HT40	Low	16.96	16.95	16.98	16.96	16.90	23.00	Pass
	Middle	17.11	16.99	17.04	17.03	17.02	23.00	Pass
	High	16.96	16.87	16.95	16.99	16.94	23.00	Pass
802.11ac HT80	Low	16.18	16.07	16.07	15.98	15.96	23.00	Pass
802.11ax HE80	Low	16.27	15.98	15.99	16.00	15.88	23.00	Pass



## 6. Power Spectral Density

### 6.1 Block Diagram of Test Setup



### 6.2 Limit

The Power Density is the mean equivalent isotropically radiated power (e.i.r.p.) density during a transmission burst.

Frequency range (MHz)	Mean e.i.r.p. limit for $P_H$ (dBm)		Mean e.i.r.p. density limit (dBm/MHz)	
	with TPC	without TPC	with TPC	without TPC
5 150 to 5 350	23	20/23 (see note 1)	10	7/10 (see note 2)
5 470 to 5 725	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)

NOTE 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 23 dBm.

NOTE 2: The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 10 dBm/MHz.

NOTE 3: Slave devices without a *Radar Interference Detection* function shall comply with the limits for the frequency range 5 250 MHz to 5 350 MHz.

### 6.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.4.2.1

Connect the UUT to the spectrum analyzer and use the following settings:

Start Frequency	lower band edge of applicable sub-band (e.g. 5 150 MHz or 5 470 MHz)
Stop Frequency	upper band edge of applicable sub-band (e.g. 5 350 MHz or 5 725 MHz)
RBW	10KHz



VBW	30KHz
Detector	RMS
Sweep points	20000
Trace	Max Hold
Trigger	Free Run

## 6.4 Test Result

### B1

Mode	Channel	Power Spectral Density (dBm/MHz)			MIMO Max PSD (dBm/MHz)	Limit (dBm/MHz)	Conclusion
		Ant1	Ant2	Ant3			
802.11a	Low	4.23	4.19	4.22	/	10.00	PASS
	High	4.12	4.09	4.12	/	10.00	PASS
802.11ac HT20	Low	1.66	1.70	1.71	6.46	10.00	PASS
	High	1.71	1.74	1.75	6.50	10.00	PASS
802.11ax HE20	Low	0.48	0.45	0.46	5.23	10.00	PASS
	High	0.56	0.58	0.59	5.35	10.00	PASS
802.11n HT20	Low	0.44	0.48	0.48	5.24	10.00	PASS
	High	0.35	0.35	0.35	5.12	10.00	PASS
802.11ac HT40	Low	0.44	0.48	0.47	5.23	10.00	PASS
	High	0.56	0.60	0.62	5.36	10.00	PASS
802.11ax HE40	Low	0.23	0.62	0.63	5.27	10.00	PASS
	High	0.58	0.35	0.42	5.22	10.00	PASS
802.11n HT40	Low	0.44	0.48	0.49	5.24	10.00	PASS
	High	0.56	0.58	0.59	5.35	10.00	PASS
802.11ac HT80	Low	0.44	0.34	0.42	5.17	10.00	PASS
802.11ax HE80	Low	0.38	0.42	0.35	5.15	10.00	PASS
802.11ac HT160	Low	0.22	0.23	0.18	4.98	10.00	PASS
802.11ax HE160	Low	0.18	0.12	0.16	4.92	10.00	PASS



B2

Mode	Channel	Power Spectral Density (dBm/MHz)			MIMO Max PSD (dBm/MHz)	Limit (dBm/MHz)	Conclusion
		Ant1	Ant2	Ant3			
802.11a	Low	3.07	2.99	3.05	/	7.00	PASS
	Middle	3.00	3.06	3.13	/	7.00	PASS
	High	2.99	3.02	3.08	/	7.00	PASS
802.11ac HT20	Low	1.90	2.10	2.14	6.82	7.00	PASS
	Middle	2.18	2.11	2.16	6.92	7.00	PASS
	High	2.10	2.27	2.12	6.94	7.00	PASS
802.11ax HE20	Low	2.10	2.00	2.04	6.82	7.00	PASS
	Middle	2.19	2.17	2.21	6.96	7.00	PASS
	High	2.02	2.02	2.06	6.80	7.00	PASS
802.11n HT20	Low	2.10	2.12	2.17	6.90	7.00	PASS
	Middle	2.02	1.98	2.02	6.78	7.00	PASS
	High	1.93	1.93	1.96	6.71	7.00	PASS
802.11ac HT40	Low	1.10	1.09	1.12	5.87	7.00	PASS
	High	1.28	1.18	1.21	5.99	7.00	PASS
802.11ax HE40	Low	1.13	1.14	1.16	5.91	7.00	PASS
	High	1.17	0.99	1.01	5.83	7.00	PASS
802.11n HT40	Low	1.05	1.10	1.13	5.86	7.00	PASS
	High	1.13	1.16	1.18	5.93	7.00	PASS
802.11ac HT80	Low	1.05	1.03	1.05	5.81	7.00	PASS
802.11ax HE80	Low	1.02	1.06	1.07	5.82	7.00	PASS



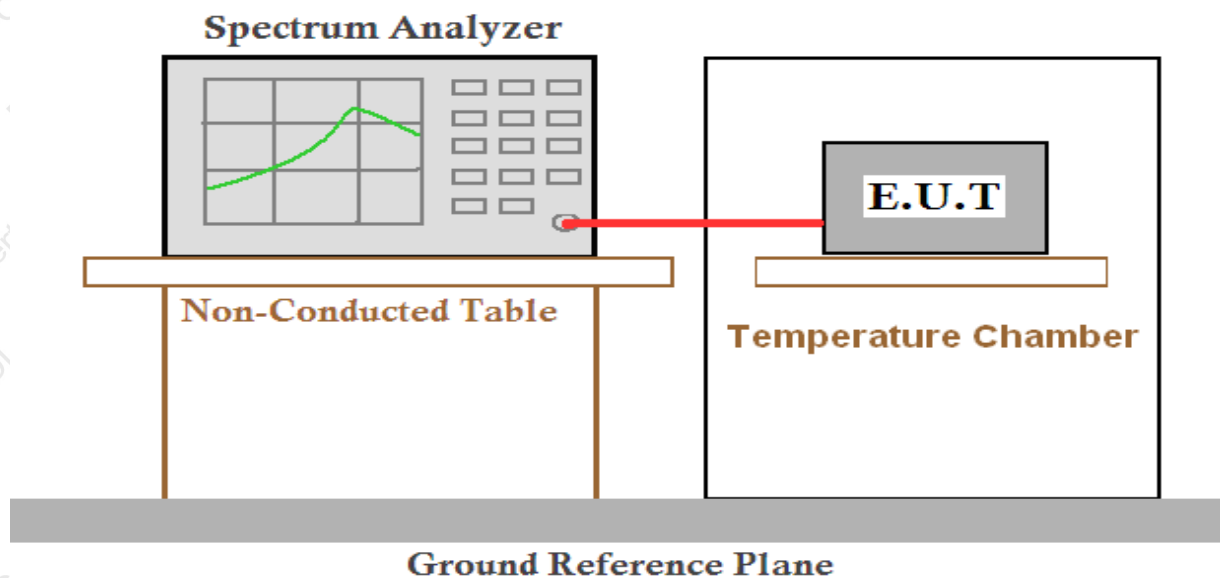
## B3

Mode	Channel	Power Spectral Density (dBm/MHz)		MIMO Max PSD (dBm/MHz)	Limit (dBm/MHz)	Conclusion
		Ant1	Ant2			
802.11a	Low	3.32	3.36	/	7.00	PASS
	Middle	3.45	3.32	/	7.00	PASS
	High	3.28	3.43	/	7.00	PASS
802.11ac HT20	Low	2.32	2.45	5.40	7.00	PASS
	Middle	2.52	2.43	5.49	7.00	PASS
	High	2.32	2.34	5.34	7.00	PASS
802.11ax HE20	Low	2.41	2.37	5.40	7.00	PASS
	Middle	2.32	2.41	5.38	7.00	PASS
	High	2.23	2.25	5.25	7.00	PASS
802.11n HT20	Low	2.42	2.31	5.38	7.00	PASS
	Middle	2.28	2.33	5.32	7.00	PASS
	High	2.27	2.33	5.31	7.00	PASS
802.11ac HT40	Low	1.45	1.42	4.45	7.00	PASS
	Middle	1.53	1.62	4.59	7.00	PASS
	High	1.52	1.46	4.50	7.00	PASS
802.11ax HE40	Low	1.38	1.41	4.41	7.00	PASS
	Middle	1.43	1.53	4.49	7.00	PASS
	High	1.36	1.33	4.36	7.00	PASS
802.11n HT40	Low	1.42	1.28	4.36	7.00	PASS
	Middle	1.31	1.32	4.33	7.00	PASS
	High	1.24	1.43	4.35	7.00	PASS
802.11ac HT80	Low	1.12	1.09	4.12	7.00	PASS
802.11ax HE80	Low	1.23	1.08	4.17	7.00	PASS



## 7. Centre Frequencies

### 7.1 Block Diagram of Test Setup



### 7.2 Limit

The Nominal Centre Frequencies ( $f_c$ ) for a Nominal Channel Bandwidth of 20 MHz are defined by equation (1). See also figure 3.

$f_c = 5\,160 + (g \times 20)$  MHz, where  $0 \leq g \leq 9$  or  $16 \leq g \leq 27$  and where  $g$  shall be an integer. (1)

A maximum offset of the Nominal Centre Frequency of  $\pm 200$  kHz is permitted. Where the manufacturer decides to make use of this frequency offset, the manufacturer shall declare the actual centre frequencies used by the equipment.

See clause 5.4.1, item a).

The actual centre frequency for any given channel shall be maintained within the range  $f_c \pm 20$  ppm.

Equipment may have simultaneous transmissions on more than one Operating Channel with a Nominal Channel Bandwidth of 20 MHz.

### 7.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.2.2.



### 7.4 Test Results

Both Antenna 1, Antenna 2 and Antenna 3 have been tested, and only the worst test result of Antenna 1 low channel is shown in the report. As follows:

B1

Mode	Result					Limit	Result
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)			
802.11a	Normal	5180.000	5179.94427	-10.76	±20	Pass	
	HTLV	5180.000	5179.93462	-12.62			
	LTLV	5180.000	5179.94623	-10.38			
	LTHV	5180.000	5179.93547	-12.46			
	HTHV	5180.000	5179.94361	-10.89			
802.11n- HT20 mode	Normal	5180.000	5179.92246	-14.97			
	HTLV	5180.000	5179.94316	-10.97			
	LTLV	5180.000	5179.93417	-12.71			
	LTHV	5180.000	5179.94256	-11.09			
802.11n- ac20 mode	Normal	5180.000	5179.92325	-14.82			
	HTLV	5180.000	5179.94365	-10.88			
	LTLV	5180.000	5179.93421	-12.70			
	LTHV	5180.000	5179.94276	-11.05			
	HTHV	5180.000	5179.93308	-12.92			
802.11n- ax20 mode	Normal	5180.000	5179.92786	-13.93			
	HTLV	5180.000	5179.94134	-11.32			
	LTLV	5180.000	5179.92876	-13.75			
	LTHV	5180.000	5179.94432	-10.75			
	HTHV	5180.000	5179.93432	-12.68			
802.11n- HT40 mode	Normal	5190.000	5189.94253	-11.07			
	HTLV	5190.000	5189.93417	-12.68			
	LTLV	5190.000	5189.94268	-11.04			
	LTHV	5190.000	5189.93341	-12.83			
	HTHV	5190.000	5189.94524	-10.55			
802.11n- ac40 mode	Normal	5190.000	5189.94356	-10.87			
	HTLV	5190.000	5189.93267	-12.97			
	LTLV	5190.000	5189.94426	-10.74			
	LTHV	5190.000	5189.93414	-12.69			
	HTHV	5190.000	5189.94278	-11.03			
802.11n- ax40 mode	Normal	5190.000	5189.93654	-12.23			
	HTLV	5190.000	5189.94122	-11.33			
	LTLV	5190.000	5189.93657	-12.22			
	LTHV	5190.000	5189.93731	-12.08			
	HTHV	5190.000	5189.94578	-10.45			



B1

Mode	Result					
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)	Limit	Result
<b>802.11ac- HT80 mode</b>	Normal	5210.000	5209.92214	-14.94	±20	Pass
	HTLV	5210.000	5209.94462	-10.63		
	LTLV	5210.000	5209.93614	-12.26		
	LTHV	5210.000	5209.94516	-10.53		
	HTHV	5210.000	5209.93478	-12.52		
<b>802.11ax- HT80 mode</b>	Normal	5210.000	5209.92423	-14.54		
	HTLV	5210.000	5209.94617	-10.33		
	LTLV	5210.000	5209.93289	-12.88		
	LTHV	5210.000	5209.94422	-10.71		
	HTHV	5210.000	5209.93532	-12.41		
<b>802.11ac- HT160 mode</b>	Normal	5250.000	5249.92924	-13.48		
	HTLV	5250.000	5249.93118	-13.11		
	LTLV	5250.000	5249.94790	-9.92		
	LTHV	5250.000	5249.92923	-13.48		
	HTHV	5250.000	5249.92033	-15.18		
<b>802.11ax- HT160 mode</b>	Normal	5250.000	5249.93674	-12.05		
	HTLV	5250.000	5249.93868	-11.68		
	LTLV	5250.000	5249.92540	-14.21		
	LTHV	5250.000	5249.92673	-13.96		
	HTHV	5250.000	5249.94783	-9.94		



B2

Mode	Result					
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)	Limit	Result
802.11a	Normal	5260.000	5259.94145	-11.13	±20	Pass
	HTLV	5260.000	5259.93287	-12.76		
	LTLV	5260.000	5259.94377	-10.69		
	LTHV	5260.000	5259.94781	-9.92		
	HTHV	5260.000	5259.95231	-9.07		
802.11n- HT20 mode	Normal	5260.000	5259.94267	-10.90		
	HTLV	5260.000	5259.94288	-10.86		
	LTLV	5260.000	5259.92874	-13.55		
	LTHV	5260.000	5259.94654	-10.16		
	HTHV	5260.000	5259.93723	-11.93		
802.11n- ac20 mode	Normal	5260.000	5259.94743	-9.99		
	HTLV	5260.000	5259.94311	-10.82		
	LTLV	5260.000	5259.92276	-14.68		
	LTHV	5260.000	5259.94369	-10.71		
	HTHV	5260.000	5259.93354	-12.63		
802.11n- ax20 mode	Normal	5260.000	5259.92675	-13.93		
	HTLV	5260.000	5259.93876	-11.64		
	LTLV	5260.000	5259.93157	-13.01		
	LTHV	5260.000	5259.94354	-10.73		
	HTHV	5260.000	5259.93456	-12.44		
802.11n- HT40 mode	Normal	5270.000	5269.93543	-12.25		
	HTLV	5270.000	5269.93576	-12.19		
	LTLV	5270.000	5269.94732	-10.00		
	LTHV	5270.000	5269.93466	-12.40		
	HTHV	5270.000	5269.94621	-10.21		
802.11n- ac40 mode	Normal	5270.000	5269.93412	-12.50		
	HTLV	5270.000	5269.93522	-12.29		
	LTLV	5270.000	5269.94278	-10.86		
	LTHV	5270.000	5269.93367	-12.59		
	HTHV	5270.000	5269.94178	-11.05		
802.11n- ax40 mode	Normal	5270.000	5269.95432	-8.67		
	HTLV	5270.000	5269.93367	-12.59		
	LTLV	5270.000	5269.94511	-10.42		
	LTHV	5270.000	5269.93623	-12.10		
	HTHV	5270.000	5269.94267	-10.88		





B2

Mode	Result					
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)	Limit	Result
802.11ac- HT80 mode	Normal	5290.000	5289.96346	-6.91	±20	Pass
	HTLV	5290.000	5289.94689	-10.04		
	LTLV	5290.000	5289.93934	-11.47		
	LTHV	5290.000	5289.94735	-9.95		
	HTHV	5290.000	5289.94785	-9.86		
802.11ax- HT80 mode	Normal	5290.000	5289.96753	-6.14		
	HTLV	5290.000	5289.94732	-9.96		
	LTLV	5290.000	5289.93478	-12.33		
	LTHV	5290.000	5289.94311	-10.75		
	HTHV	5290.000	5289.93289	-12.69		



B3

Mode	Result					
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)	Limit	Result
802.11a	Normal	5500.000	5499.95213	-8.70	±20	Pass
	HTLV	5500.000	5499.94756	-9.53		
	LTLV	5500.000	5499.94823	-9.41		
	LTHV	5500.000	5499.93921	-11.05		
	HTHV	5500.000	5499.94546	-9.92		
802.11n- HT20 mode	Normal	5500.000	5499.95786	-7.66		
	HTLV	5500.000	5499.94564	-9.88		
	LTLV	5500.000	5499.93478	-11.86		
	LTHV	5500.000	5499.94421	-10.14		
	HTHV	5500.000	5499.95389	-8.38		
802.11n- ac20 mode	Normal	5500.000	5499.95273	-8.59		
	HTLV	5500.000	5499.94289	-10.38		
	LTLV	5500.000	5499.93734	-11.39		
	LTHV	5500.000	5499.94692	-9.65		
	HTHV	5500.000	5499.95633	-7.94		
802.11n- ax20 mode	Normal	5500.000	5499.95367	-8.42		
	HTLV	5500.000	5499.94635	-9.75		
	LTLV	5500.000	5499.93743	-11.38		
	LTHV	5500.000	5499.94546	-9.92		
	HTHV	5500.000	5499.95623	-7.96		
802.11n- HT40 mode	Normal	5510.000	5509.94543	-9.90		
	HTLV	5510.000	5509.93525	-11.75		
	LTLV	5510.000	5509.94622	-9.76		
	LTHV	5510.000	5509.93564	-11.68		
	HTHV	5510.000	5509.94567	-9.86		
802.11n- ac40 mode	Normal	5510.000	5509.95235	-8.65		
	HTLV	5510.000	5509.94686	-9.64		
	LTLV	5510.000	5509.94511	-9.96		
	LTHV	5510.000	5509.93632	-11.56		
	HTHV	5510.000	5509.94521	-9.94		
802.11n- ax40 mode	Normal	5510.000	5509.94576	-9.84		
	HTLV	5510.000	5509.93635	-11.55		
	LTLV	5510.000	5509.94611	-9.78		
	LTHV	5510.000	5509.93588	-11.64		
	HTHV	5510.000	5509.94532	-9.92		

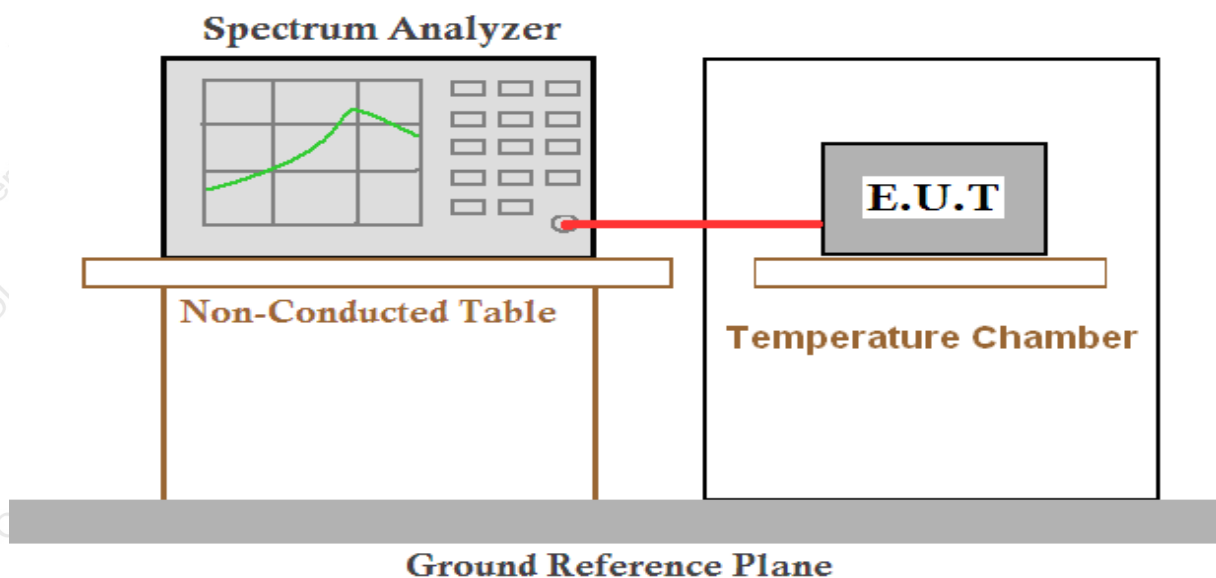


B3

Mode	Result					
	Test conditions	Channel (MHz)	Measured Frequency(MHz)	Drift (ppm)	Limit	Result
802.11ac- HT80 mode	Normal	5530.000	5529.94327	-10.26	±20	Pass
	HTLV	5530.000	5529.94467	-10.01		
	LTLV	5530.000	5529.93523	-11.71		
	LTHV	5530.000	5529.94276	-10.35		
	HTHV	5530.000	5529.93511	-11.73		
802.11ax- HT80 mode	Normal	5530.000	5529.95212	-8.66		
	HTLV	5530.000	5529.94673	-9.63		
	LTLV	5530.000	5529.93542	-11.68		
	LTHV	5530.000	5529.94478	-9.99		
	HTHV	5530.000	5529.93611	-11.55		

## 8. Occupied Channel Bandwidth

### 8.1 Block Diagram of Test Setup



### 8.2 Limit

The Occupied Channel Bandwidth shall be between 80 % and 100 % of the Nominal Channel Bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement. The Occupied Channel Bandwidth might change with time/payload.

### 8.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.3.2

Connect the UUT to the spectrum analyzer and use the following settings:

Centre Frequency	The centre frequency of the channel Under test
Frequency Span	2 × Nominal Bandwidth (e.g. 40 MHz for a 20 MHz channel)
RBW	100KHz
VBW	300KHz
Detector	RMS
Trace	Max hold





## 8.4 Test Results

Both Antenna 1, Antenna 2 and Antenna 3 have been tested, and only the worst test result of Antenna 1 low channel is shown in the report. As follows:

### B1

Test mode	Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Nominal Channel Bandwidth (MHz)	Limit (MHz)	Occupied Channel Bandwidth (%)	Limit (%)	Result
802.11a	Low	16.75	20.00	16~20	83.75	80 ~ 100	Pass
	High	16.69	20.00	16~20	83.45	80 ~ 100	Pass
802.11ac HT20	Low	16.63	20.00	16~20	83.15	80 ~ 100	Pass
	High	16.71	20.00	16~20	83.55	80 ~ 100	Pass
802.11ax HE20	Low	16.65	20.00	16~20	83.25	80 ~ 100	Pass
	High	16.66	20.00	16~20	83.30	80 ~ 100	Pass
802.11n HT20	Low	16.59	20.00	16~20	82.95	80 ~ 100	Pass
	High	16.47	20.00	16~20	82.35	80 ~ 100	Pass
802.11ac HT40	Low	37.76	40.00	36~40	94.40	80 ~ 100	Pass
	High	37.59	40.00	36~40	93.98	80 ~ 100	Pass
802.11ax HE40	Low	37.68	40.00	36~40	94.20	80 ~ 100	Pass
	High	37.74	40.00	36~40	94.35	80 ~ 100	Pass
802.11n HT40	Low	37.59	40.00	36~40	93.98	80 ~ 100	Pass
	High	37.68	40.00	36~40	94.20	80 ~ 100	Pass
802.11ac HT80	/	76.76	80.00	76~80	95.95	80 ~ 100	Pass
802.11ax HE80	/	76.59	80.00	76~80	95.74	80 ~ 100	Pass
802.11ac HT160	/	76.56	80.00	76~80	95.70	80 ~ 100	Pass
802.11ax HE160	/	76.62	80.00	76~80	95.78	80 ~ 100	Pass



**B2**

Test mode	Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Nominal Channel Bandwidth (MHz)	Limit (MHz)	Occupied Channel Bandwidth (%)	Limit (%)	Result
802.11a	Low	16.73	20.00	16~20	83.65	80 ~ 100	Pass
	High	16.67	20.00	16~20	83.35	80 ~ 100	Pass
802.11ac HT20	Low	16.61	20.00	16~20	83.05	80 ~ 100	Pass
	High	16.69	20.00	16~20	83.45	80 ~ 100	Pass
802.11ax HE20	Low	16.63	20.00	16~20	83.15	80 ~ 100	Pass
	High	16.64	20.00	16~20	83.20	80 ~ 100	Pass
802.11n HT20	Low	16.57	20.00	16~20	82.85	80 ~ 100	Pass
	High	16.45	20.00	16~20	82.25	80 ~ 100	Pass
802.11ac HT40	Low	37.71	40.00	36~40	94.28	80 ~ 100	Pass
	High	37.54	40.00	36~40	93.85	80 ~ 100	Pass
802.11ax HE40	Low	37.63	40.00	36~40	94.08	80 ~ 100	Pass
	High	37.69	40.00	36~40	94.23	80 ~ 100	Pass
802.11n HT40	Low	37.54	40.00	36~40	93.85	80 ~ 100	Pass
	High	37.63	40.00	36~40	94.08	80 ~ 100	Pass
802.11ac HT80	/	76.65	80.00	76~80	95.81	80 ~ 100	Pass
802.11ax HE80	/	76.48	80.00	76~80	95.60	80 ~ 100	Pass

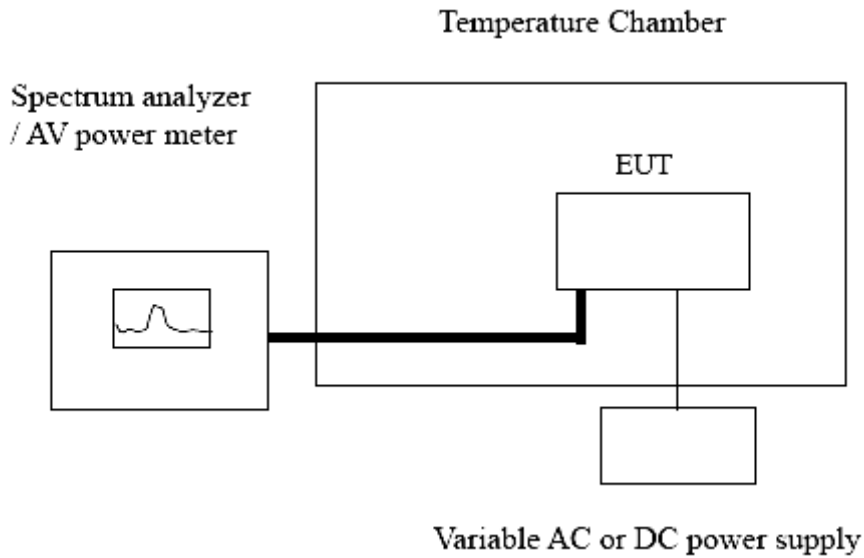


**B3**

Test mode	Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Nominal Channel Bandwidth (MHz)	Limit (MHz)	Occupied Channel Bandwidth (%)	Limit (%)	Result
802.11a	Low	16.72	20.00	16~20	83.60	80 ~ 100	Pass
	High	16.66	20.00	16~20	83.30	80 ~ 100	Pass
802.11ac HT20	Low	16.60	20.00	16~20	83.00	80 ~ 100	Pass
	High	16.68	20.00	16~20	83.40	80 ~ 100	Pass
802.11ax HE20	Low	16.62	20.00	16~20	83.10	80 ~ 100	Pass
	High	16.63	20.00	16~20	83.15	80 ~ 100	Pass
802.11n HT20	Low	16.56	20.00	16~20	82.80	80 ~ 100	Pass
	High	16.44	20.00	16~20	82.20	80 ~ 100	Pass
802.11ac HT40	Low	37.69	40.00	36~40	94.23	80 ~ 100	Pass
	High	37.52	40.00	36~40	93.80	80 ~ 100	Pass
802.11ax HE40	Low	37.61	40.00	36~40	94.03	80 ~ 100	Pass
	High	37.67	40.00	36~40	94.18	80 ~ 100	Pass
802.11n HT40	Low	37.52	40.00	36~40	93.80	80 ~ 100	Pass
	High	37.61	40.00	36~40	94.03	80 ~ 100	Pass
802.11ac HT80	/	76.62	80.00	76~80	95.78	80 ~ 100	Pass
802.11ax HE80	/	76.45	80.00	76~80	95.56	80 ~ 100	Pass

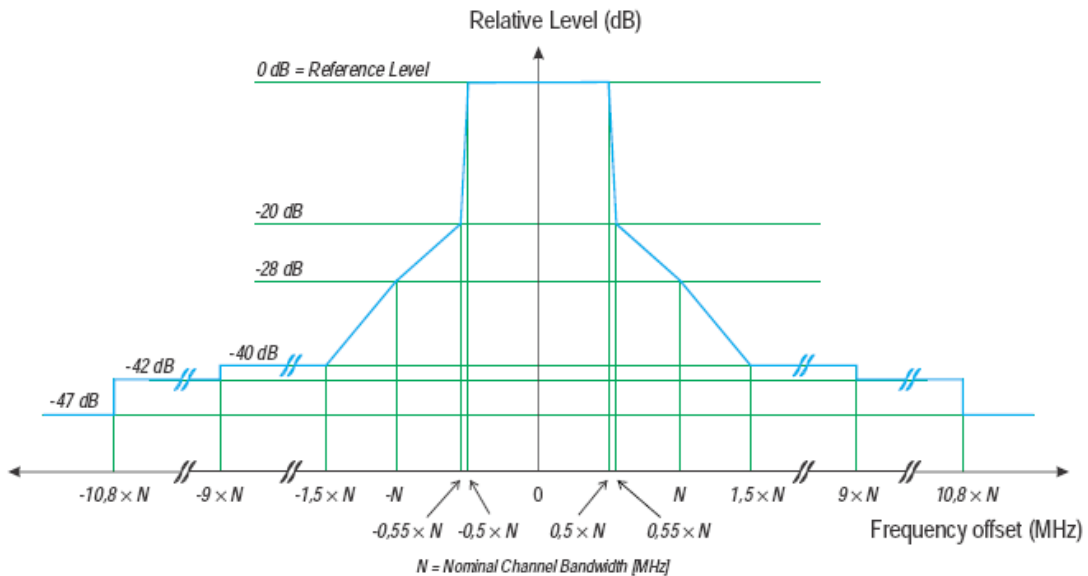
## 9 Transmitter unwanted emissions within the 5 GHz RLAN bands

### 9.1 Block Diagram of Test Setup



### 9.2 Limit

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 3.







### 9.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.6.

Connect the UUT to the spectrum analyzer and use the following settings:

Centre Frequency	Centre frequency of the channel being tested
RBW/VBW	1MHz/30kHz
Span	2 × Nominal Channel Bandwidth
Sweep mode	Coupled
Detector	Peak
Trace mode	Video Average

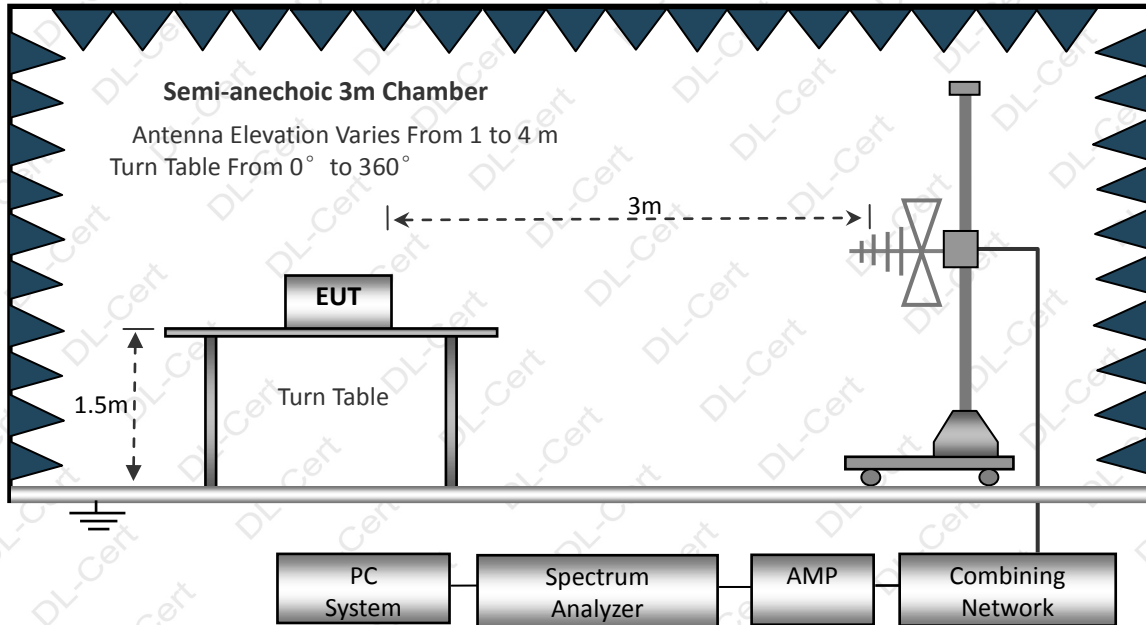
### 9.4 Test Results

**Test result: PASS**

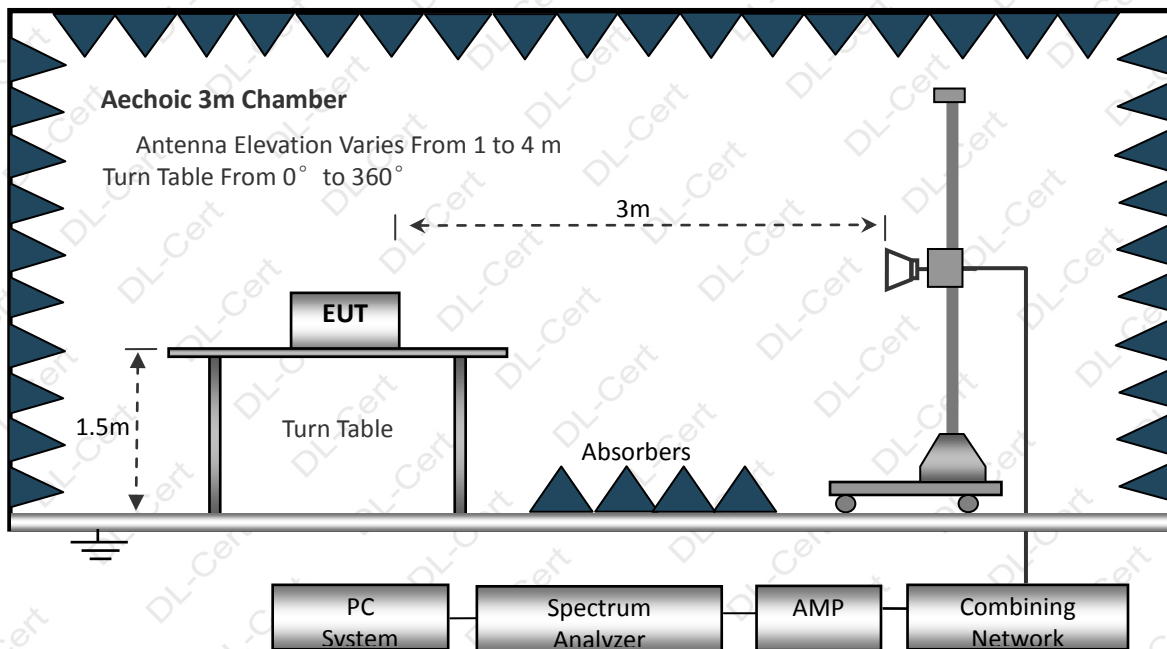
## 10 Transmitter unwanted emissions outside the 5 GHz RLAN bands

### 10.1 Block Diagram of EUT Test Setup

Below 1GHz



Above 1GHz





## 10.2 Limit

The transmitter unwanted emissions in the spurious domain shall not exceed the values given in table 4.

Frequency range	Maximum power	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 5,15 GHz	-30 dBm	1 MHz
5,35 GHz to 5,47 GHz	-30 dBm	1 MHz
5,725 GHz to 26 GHz	-30 dBm	1 MHz

## 10.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.5.

## 10.4 Test Results

Below 1GHz

For all mode				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
69.43	Vertical	-71.53	-54.00	Pass
112.56	V	-67.44	-54.00	
1868.31	V	-66.53	-54.00	
215.32	V	-63.83	-54.00	
515.65	V	-62.74	-54.00	
797.56	V	-63.54	-54.00	
68.59	Horizontal	-71.45	-54.00	
109.33	H	-68.93	-54.00	
186.68	H	-66.15	-54.00	
218.54	H	-65.04	-54.00	
519.45	H	-64.96	-54.00	
783.23	H	-64.08	-54.00	



Above 1GHz:  
B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	10360.00	Vertical	-43.24	-30.00	Pass
	15540.00	V	-48.87	-30.00	Pass
	10360.00	Horizontal	-43.55	-30.00	Pass
	15540.00	H	-48.45	-30.00	Pass
802.11a high channel	10480.00	Vertical	-42.26	-30.00	Pass
	15720.00	V	-49.74	-30.00	Pass
	10480.00	Horizontal	-43.34	-30.00	Pass
	15720.00	H	-47.78	-30.00	Pass
802.11n HT20 lower channel	10360.00	Vertical	-43.45	-30.00	Pass
	15540.00	V	-51.14	-30.00	Pass
	10360.00	Horizontal	-45.62	-30.00	Pass
	15540.00	H	-51.64	-30.00	Pass
802.11n HT20 high channel	10480.00	Vertical	-47.34	-30.00	Pass
	15720.00	V	-52.05	-30.00	Pass
	10480.00	Horizontal	-46.72	-30.00	Pass
	15720.00	H	-51.04	-30.00	Pass
802.11ac HT20 lower channel	10360.00	Vertical	-43.36	-30.00	Pass
	15540.00	V	-48.88	-30.00	Pass
	10360.00	Horizontal	-43.66	-30.00	Pass
	15540.00	H	-48.24	-30.00	Pass
802.11ac HT20 high channel	10480.00	Vertical	-42.23	-30.00	Pass
	15720.00	V	-49.65	-30.00	Pass
	10480.00	Horizontal	-43.53	-30.00	Pass
	15720.00	H	-47.67	-30.00	Pass
802.11ax HE20 lower channel	10360.00	Vertical	-43.52	-30.00	Pass
	15540.00	V	-51.16	-30.00	Pass
	10360.00	Horizontal	-45.62	-30.00	Pass
	15540.00	H	-51.54	-30.00	Pass
802.11ax HE20 high channel	10480.00	Vertical	-47.34	-30.00	Pass
	15720.00	V	-52.04	-30.00	Pass
	10480.00	Horizontal	-46.73	-30.00	Pass
	15720.00	H	-51.04	-30.00	Pass
Note:	<p>(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.</p> <p>(2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting.</p> <p>(3)Measuring frequency from 1GHz to 26GHz.</p>				





B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	10380.00	Vertical	-44.35	-30.00	Pass
	15570.00	V	-50.43	-30.00	Pass
	10380.00	Horizontal	-44.27	-30.00	Pass
	15570.00	H	-49.65	-30.00	Pass
802.11n40 high channel	10460.00	Vertical	-46.34	-30.00	Pass
	15690.00	V	-51.52	-30.00	Pass
	10460.00	Horizontal	-46.35	-30.00	Pass
	15690.00	H	-51.25	-30.00	Pass
802.11ac HT40 lower channel	10380.00	Vertical	-45.52	-30.00	Pass
	15570.00	V	-52.07	-30.00	Pass
	10380.00	Horizontal	-46.34	-30.00	Pass
	15570.00	H	-51.16	-30.00	Pass
802.11ac HT40 high channel	10460.00	Vertical	-45.55	-30.00	Pass
	15690.00	V	-52.04	-30.00	Pass
	10460.00	Horizontal	-46.37	-30.00	Pass
	15690.00	H	-51.15	-30.00	Pass
802.11ax HE40 lower channel	10380.00	Vertical	-44.36	-30.00	Pass
	15570.00	V	-50.45	-30.00	Pass
	10380.00	Horizontal	-44.27	-30.00	Pass
	15570.00	H	-49.65	-30.00	Pass
802.11ax HE40 high channel	10460.00	Vertical	-46.25	-30.00	Pass
	15690.00	V	-51.59	-30.00	Pass
	10460.00	Horizontal	-46.44	-30.00	Pass
	15690.00	H	-51.26	-30.00	Pass
802.11ac HT80 lower channel	10420.00	Vertical	-45.52	-30.00	Pass
	15360.00	V	-52.04	-30.00	Pass
	10420.00	Horizontal	-46.37	-30.00	Pass
	15360.00	H	-51.12	-30.00	Pass
802.11ax HE80 lower channel	10420.00	Vertical	-45.55	-30.00	Pass
	15360.00	V	-52.04	-30.00	Pass
	10420.00	Horizontal	-46.37	-30.00	Pass
	15360.00	H	-51.15	-30.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				



## B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11ac HT160 lower channel	10500.00	Vertical	-42.54	-30.00	Pass
	15750.00	V	-45.05	-30.00	Pass
	10500.00	Horizontal	-48.08	-30.00	Pass
	15750.00	H	-42.73	-30.00	Pass
802.11ax HE160 lower channel	10500.00	Vertical	-46.42	-30.00	Pass
	15750.00	V	-48.69	-30.00	Pass
	10500.00	Horizontal	-42.45	-30.00	Pass
	15750.00	H	-44.57	-30.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				



B2

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	10520.00	Vertical	-44.54	-30.00	Pass
	15780.00	V	-50.34	-30.00	Pass
	10520.00	Horizontal	-44.86	-30.00	Pass
	15780.00	H	-49.90	-30.00	Pass
802.11a high channel	10640.00	Vertical	-43.53	-30.00	Pass
	15960.00	V	-51.23	-30.00	Pass
	10640.00	Horizontal	-44.64	-30.00	Pass
	15960.00	H	-49.21	-30.00	Pass
802.11n HT20 lower channel	10520.00	Vertical	-44.75	-30.00	Pass
	15780.00	V	-51.04	-30.00	Pass
	10520.00	Horizontal	-45.53	-30.00	Pass
	15780.00	H	-51.54	-30.00	Pass
802.11n HT20 high channel	10640.00	Vertical	-47.25	-30.00	Pass
	15960.00	V	-51.95	-30.00	Pass
	10640.00	Horizontal	-46.63	-30.00	Pass
	15960.00	H	-50.94	-30.00	Pass
802.11ac HT20 lower channel	10520.00	Vertical	-44.66	-30.00	Pass
	15780.00	V	-50.35	-30.00	Pass
	10520.00	Horizontal	-44.97	-30.00	Pass
	15780.00	H	-49.69	-30.00	Pass
802.11ac HT20 high channel	10640.00	Vertical	-43.50	-30.00	Pass
	15960.00	V	-51.14	-30.00	Pass
	10640.00	Horizontal	-44.84	-30.00	Pass
	15960.00	H	-49.10	-30.00	Pass
802.11ax HE20 lower channel	10520.00	Vertical	-44.83	-30.00	Pass
	15780.00	V	-51.06	-30.00	Pass
	10520.00	Horizontal	-45.53	-30.00	Pass
	15780.00	H	-51.44	-30.00	Pass
802.11ax HE20 high channel	10640.00	Vertical	-47.25	-30.00	Pass
	15960.00	V	-51.94	-30.00	Pass
	10640.00	Horizontal	-46.64	-30.00	Pass
	15960.00	H	-50.94	-30.00	Pass
Note:	<p>(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.</p> <p>(2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting.</p> <p>(3)Measuring frequency from 1GHz to 26GHz.</p>				





B2

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	10540.00	Vertical	-45.24	-30.00	Pass
	15810.00	V	-51.44	-30.00	Pass
	10540.00	Horizontal	-45.16	-30.00	Pass
	15810.00	H	-50.64	-30.00	Pass
802.11n40 high channel	10620.00	Vertical	-47.27	-30.00	Pass
	15930.00	V	-52.55	-30.00	Pass
	10620.00	Horizontal	-47.28	-30.00	Pass
	15930.00	H	-52.28	-30.00	Pass
802.11ac HT40 lower channel	10540.00	Vertical	-46.43	-30.00	Pass
	15810.00	V	-53.11	-30.00	Pass
	10540.00	Horizontal	-47.27	-30.00	Pass
	15810.00	H	-52.18	-30.00	Pass
802.11ac HT40 high channel	10620.00	Vertical	-46.46	-30.00	Pass
	15930.00	V	-53.08	-30.00	Pass
	10620.00	Horizontal	-47.30	-30.00	Pass
	15930.00	H	-52.17	-30.00	Pass
802.11ax HE40 lower channel	10540.00	Vertical	-45.25	-30.00	Pass
	15810.00	V	-51.46	-30.00	Pass
	10540.00	Horizontal	-45.16	-30.00	Pass
	15810.00	H	-50.64	-30.00	Pass
802.11ax HE40 high channel	10620.00	Vertical	-47.18	-30.00	Pass
	15930.00	V	-52.62	-30.00	Pass
	10620.00	Horizontal	-47.37	-30.00	Pass
	15930.00	H	-52.29	-30.00	Pass
802.11ac HT80 lower channel	10580.00	Vertical	-46.43	-30.00	Pass
	15870.00	V	-53.08	-30.00	Pass
	10580.00	Horizontal	-47.30	-30.00	Pass
	15870.00	H	-52.14	-30.00	Pass
802.11ax HE80 lower channel	10580.00	Vertical	-46.46	-30.00	Pass
	15870.00	V	-53.08	-30.00	Pass
	10580.00	Horizontal	-47.30	-30.00	Pass
	15870.00	H	-52.17	-30.00	Pass
Note:	<p>(1)Data of measurement within this frequency range shown “*” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.</p> <p>(2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting.</p> <p>(3)Measuring frequency from 1GHz to 26GHz.</p>				





B3

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	11000.00	Vertical	-43.34	-30.00	Pass
	16500.00	V	-48.98	-30.00	Pass
	11000.00	Horizontal	-43.65	-30.00	Pass
	16500.00	H	-48.56	-30.00	Pass
802.11a high channel	11400.00	Vertical	-42.35	-30.00	Pass
	17100.00	V	-49.85	-30.00	Pass
	11400.00	Horizontal	-43.44	-30.00	Pass
	17100.00	H	-47.89	-30.00	Pass
802.11n HT20 lower channel	11000.00	Vertical	-43.55	-30.00	Pass
	16500.00	V	-51.25	-30.00	Pass
	11000.00	Horizontal	-45.72	-30.00	Pass
	16500.00	H	-51.75	-30.00	Pass
802.11n HT20 high channel	11400.00	Vertical	-47.44	-30.00	Pass
	17100.00	V	-52.16	-30.00	Pass
	11400.00	Horizontal	-46.82	-30.00	Pass
	17100.00	H	-51.15	-30.00	Pass
802.11ac HT20 lower channel	11000.00	Vertical	-43.46	-30.00	Pass
	16500.00	V	-48.99	-30.00	Pass
	11000.00	Horizontal	-43.76	-30.00	Pass
	16500.00	H	-48.35	-30.00	Pass
802.11ac HT20 high channel	11400.00	Vertical	-42.32	-30.00	Pass
	17100.00	V	-49.76	-30.00	Pass
	11400.00	Horizontal	-43.63	-30.00	Pass
	17100.00	H	-47.77	-30.00	Pass
802.11ax HE20 lower channel	11000.00	Vertical	-43.62	-30.00	Pass
	16500.00	V	-51.27	-30.00	Pass
	11000.00	Horizontal	-45.72	-30.00	Pass
	16500.00	H	-51.65	-30.00	Pass
802.11ax HE20 high channel	11400.00	Vertical	-47.44	-30.00	Pass
	17100.00	V	-52.15	-30.00	Pass
	11400.00	Horizontal	-46.83	-30.00	Pass
	17100.00	H	-51.15	-30.00	Pass
Note:	<p>(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.</p> <p>(2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting.</p> <p>(3)Measuring frequency from 1GHz to 26GHz.</p>				



B3

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	11020.00	Vertical	-44.42	-30.00	Pass
	16530.00	V	-50.51	-30.00	Pass
	11020.00	Horizontal	-44.34	-30.00	Pass
	16530.00	H	-49.73	-30.00	Pass
802.11n40 high channel	11340.00	Vertical	-46.41	-30.00	Pass
	17010.00	V	-51.60	-30.00	Pass
	11340.00	Horizontal	-46.42	-30.00	Pass
	17010.00	H	-51.33	-30.00	Pass
802.11ac HT40 lower channel	11020.00	Vertical	-45.59	-30.00	Pass
	16530.00	V	-52.15	-30.00	Pass
	11020.00	Horizontal	-46.41	-30.00	Pass
	16530.00	H	-51.24	-30.00	Pass
802.11ac HT40 high channel	11340.00	Vertical	-45.62	-30.00	Pass
	17010.00	V	-52.12	-30.00	Pass
	11340.00	Horizontal	-46.44	-30.00	Pass
	17010.00	H	-51.23	-30.00	Pass
802.11ax HE40 lower channel	11020.00	Vertical	-44.43	-30.00	Pass
	16530.00	V	-50.53	-30.00	Pass
	11020.00	Horizontal	-44.34	-30.00	Pass
	16530.00	H	-49.73	-30.00	Pass
802.11ax HE40 high channel	11340.00	Vertical	-46.32	-30.00	Pass
	17010.00	V	-51.67	-30.00	Pass
	11340.00	Horizontal	-46.51	-30.00	Pass
	17010.00	H	-51.34	-30.00	Pass
802.11ac HT80 lower channel	11060.00	Vertical	-45.59	-30.00	Pass
	16590.00	V	-52.12	-30.00	Pass
	11060.00	Horizontal	-46.44	-30.00	Pass
	16590.00	H	-51.20	-30.00	Pass
802.11ax HE80 lower channel	11060.00	Vertical	-45.62	-30.00	Pass
	16590.00	V	-52.12	-30.00	Pass
	11060.00	Horizontal	-46.44	-30.00	Pass
	16590.00	H	-51.23	-30.00	Pass
Note:	<p>(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.</p> <p>(2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting.</p> <p>(3)Measuring frequency from 1GHz to 26GHz.</p>				



# 11 Receiver Spurious Emissions

## 11.1 Block Diagram of EUT Test Setup

Same as item 9.1.

## 11.2 Limit

The spurious emissions of the receiver shall not exceed the values given in table 5.

Table 5: Spurious emission limits for receivers

Frequency Range	Limit
30MHz to 1GHz	-57dBm
1GHz to 26GHz	-47dBm

## 11.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.7.

## 11.4 Test Result

For all mode				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
	Polarization	Level(dBm)		
72.53	Vertical	-71.64	-57.00	Pass
157.78	V	-67.53	-57.00	
243.57	V	-66.55	-57.00	
364.32	V	-63.93	-57.00	
585.58	V	-62.98	-57.00	
794.23	V	-63.51	-57.00	
102.67	Horizontal	-71.53	-57.00	
265.46	H	-69.08	-57.00	
318.41	H	-66.24	-57.00	
526.74	H	-65.26	-57.00	
676.48	H	-65.02	-57.00	
787.64	H	-64.19	-57.00	





B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	10360.00	Vertical	-58.99	-47.00	Pass
	15540.00	V	-54.54	-47.00	Pass
	10360.00	Horizontal	-60.29	-47.00	Pass
	15540.00	H	-54.57	-47.00	Pass
802.11a high channel	10480.00	Vertical	-60.07	-47.00	Pass
	15720.00	V	-54.21	-47.00	Pass
	10480.00	Horizontal	-60.27	-47.00	Pass
	15720.00	H	-54.19	-47.00	Pass
802.11n HT20 lower channel	10360.00	Vertical	-60.26	-47.00	Pass
	15540.00	V	-54.67	-47.00	Pass
	10360.00	Horizontal	-60.28	-47.00	Pass
	15540.00	H	-56.01	-47.00	Pass
802.11n HT20 high channel	10480.00	Vertical	-61.14	-47.00	Pass
	15720.00	V	-55.70	-47.00	Pass
	10480.00	Horizontal	-59.86	-47.00	Pass
	15720.00	H	-54.54	-47.00	Pass
802.11ac HT20 lower channel	10360.00	Vertical	-60.06	-47.00	Pass
	15540.00	V	-55.08	-47.00	Pass
	10360.00	Horizontal	-59.21	-47.00	Pass
	15540.00	H	-54.51	-47.00	Pass
802.11ac HT20 high channel	10480.00	Vertical	-60.08	-47.00	Pass
	15720.00	V	-55.46	-47.00	Pass
	10480.00	Horizontal	-60.28	-47.00	Pass
	15720.00	H	-54.55	-47.00	Pass
802.11ax HE20 lower channel	10360.00	Vertical	-60.28	-47.00	Pass
	15540.00	V	-55.75	-47.00	Pass
	10360.00	Horizontal	-59.88	-47.00	Pass
	15540.00	H	-54.63	-47.00	Pass
802.11ax HE20 high channel	10480.00	Vertical	-60.13	-47.00	Pass
	15720.00	V	-55.65	-47.00	Pass
	10480.00	Horizontal	-60.06	-47.00	Pass
	15720.00	H	-54.55	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				





B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	10380.00	Vertical	-58.66	-47.00	Pass
	15570.00	V	-54.56	-47.00	Pass
	10380.00	Horizontal	-59.91	-47.00	Pass
	15570.00	H	-54.76	-47.00	Pass
802.11n40 high channel	10460.00	Vertical	-59.93	-47.00	Pass
	15690.00	V	-54.14	-47.00	Pass
	10460.00	Horizontal	-60.14	-47.00	Pass
	15690.00	H	-55.13	-47.00	Pass
802.11ac HT40 lower channel	10380.00	Vertical	-60.17	-47.00	Pass
	15570.00	V	-54.44	-47.00	Pass
	10380.00	Horizontal	-59.10	-47.00	Pass
	15570.00	H	-54.89	-47.00	Pass
802.11ac HT40 high channel	10460.00	Vertical	-60.04	-47.00	Pass
	15690.00	V	-55.49	-47.00	Pass
	10460.00	Horizontal	-59.99	-47.00	Pass
	15690.00	H	-54.42	-47.00	Pass
802.11ax HE40 lower channel	10380.00	Vertical	-59.73	-47.00	Pass
	15570.00	V	-54.58	-47.00	Pass
	10380.00	Horizontal	-59.96	-47.00	Pass
	15570.00	H	-55.93	-47.00	Pass
802.11ax HE40 high channel	10460.00	Vertical	-59.73	-47.00	Pass
	15690.00	V	-54.42	-47.00	Pass
	10460.00	Horizontal	-59.87	-47.00	Pass
	15690.00	H	-54.75	-47.00	Pass
802.11ac HT80 lower channel	10420.00	Vertical	-59.95	-47.00	Pass
	15360.00	V	-55.17	-47.00	Pass
	10420.00	Horizontal	-59.72	-47.00	Pass
	15360.00	H	-55.30	-47.00	Pass
802.11ax HE80 lower channel	10420.00	Vertical	-59.94	-47.00	Pass
	15360.00	V	-55.18	-47.00	Pass
	10420.00	Horizontal	-59.76	-47.00	Pass
	15360.00	H	-54.24	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				



## B1

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11ac HT160 lower channel	10500.00	Vertical	-60.61	-47.00	Pass
	15750.00	V	-57.76	-47.00	Pass
	10500.00	Horizontal	-57.76	-47.00	Pass
	15750.00	H	-58.78	-47.00	Pass
802.11ax HE160 lower channel	10500.00	Vertical	-59.57	-47.00	Pass
	15750.00	V	-56.74	-47.00	Pass
	10500.00	Horizontal	-61.89	-47.00	Pass
	15750.00	H	-58.85	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				



B2

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	10520.00	Vertical	-58.53	-47.00	Pass
	15780.00	V	-54.11	-47.00	Pass
	10520.00	Horizontal	-59.83	-47.00	Pass
	15780.00	H	-54.14	-47.00	Pass
802.11a high channel	10640.00	Vertical	-59.60	-47.00	Pass
	15960.00	V	-53.79	-47.00	Pass
	10640.00	Horizontal	-59.80	-47.00	Pass
	15960.00	H	-53.76	-47.00	Pass
802.11n HT20 lower channel	10520.00	Vertical	-59.79	-47.00	Pass
	15780.00	V	-54.25	-47.00	Pass
	10520.00	Horizontal	-59.81	-47.00	Pass
	15780.00	H	-55.57	-47.00	Pass
802.11n HT20 high channel	10640.00	Vertical	-60.66	-47.00	Pass
	15960.00	V	-55.26	-47.00	Pass
	10640.00	Horizontal	-59.39	-47.00	Pass
	15960.00	H	-54.11	-47.00	Pass
802.11ac HT20 lower channel	10520.00	Vertical	-59.59	-47.00	Pass
	15780.00	V	-54.65	-47.00	Pass
	10520.00	Horizontal	-58.75	-47.00	Pass
	15780.00	H	-54.08	-47.00	Pass
802.11ac HT20 high channel	10640.00	Vertical	-59.61	-47.00	Pass
	15960.00	V	-55.03	-47.00	Pass
	10640.00	Horizontal	-59.81	-47.00	Pass
	15960.00	H	-54.12	-47.00	Pass
802.11ax HE20 lower channel	10520.00	Vertical	-59.81	-47.00	Pass
	15780.00	V	-55.30	-47.00	Pass
	10520.00	Horizontal	-59.41	-47.00	Pass
	15780.00	H	-54.21	-47.00	Pass
802.11ax HE20 high channel	10640.00	Vertical	-59.67	-47.00	Pass
	15960.00	V	-55.21	-47.00	Pass
	10640.00	Horizontal	-59.59	-47.00	Pass
	15960.00	H	-54.12	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				





B2

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	10540.00	Vertical	-58.98	-47.00	Pass
	15810.00	V	-54.85	-47.00	Pass
	10540.00	Horizontal	-60.23	-47.00	Pass
	15810.00	H	-55.06	-47.00	Pass
802.11n40 high channel	10620.00	Vertical	-60.25	-47.00	Pass
	15930.00	V	-54.43	-47.00	Pass
	10620.00	Horizontal	-60.46	-47.00	Pass
	15930.00	H	-55.43	-47.00	Pass
802.11ac HT40 lower channel	10540.00	Vertical	-60.49	-47.00	Pass
	15810.00	V	-54.73	-47.00	Pass
	10540.00	Horizontal	-59.42	-47.00	Pass
	15810.00	H	-55.19	-47.00	Pass
802.11ac HT40 high channel	10620.00	Vertical	-60.36	-47.00	Pass
	15930.00	V	-55.79	-47.00	Pass
	10620.00	Horizontal	-60.31	-47.00	Pass
	15930.00	H	-54.71	-47.00	Pass
802.11ax HE40 lower channel	10540.00	Vertical	-60.05	-47.00	Pass
	15810.00	V	-54.87	-47.00	Pass
	10540.00	Horizontal	-60.28	-47.00	Pass
	15810.00	H	-56.23	-47.00	Pass
802.11ax HE40 high channel	10620.00	Vertical	-60.05	-47.00	Pass
	15930.00	V	-54.71	-47.00	Pass
	10620.00	Horizontal	-60.19	-47.00	Pass
	15930.00	H	-55.05	-47.00	Pass
802.11ac HT80 lower channel	10580.00	Vertical	-60.27	-47.00	Pass
	15870.00	V	-55.47	-47.00	Pass
	10580.00	Horizontal	-60.04	-47.00	Pass
	15870.00	H	-55.60	-47.00	Pass
802.11ax HE80 lower channel	10580.00	Vertical	-60.26	-47.00	Pass
	15870.00	V	-55.48	-47.00	Pass
	10580.00	Horizontal	-60.08	-47.00	Pass
	15870.00	H	-54.53	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				





B3

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11a lower channel	11000.00	Vertical	-55.73	-47.00	Pass
	16500.00	V	-51.52	-47.00	Pass
	11000.00	Horizontal	-56.96	-47.00	Pass
	16500.00	H	-51.55	-47.00	Pass
802.11a high channel	11400.00	Vertical	-56.75	-47.00	Pass
	17100.00	V	-51.21	-47.00	Pass
	11400.00	Horizontal	-56.94	-47.00	Pass
	17100.00	H	-51.19	-47.00	Pass
802.11n HT20 lower channel	11000.00	Vertical	-56.93	-47.00	Pass
	16500.00	V	-51.66	-47.00	Pass
	11000.00	Horizontal	-56.95	-47.00	Pass
	16500.00	H	-52.91	-47.00	Pass
802.11n HT20 high channel	11400.00	Vertical	-57.76	-47.00	Pass
	17100.00	V	-52.62	-47.00	Pass
	11400.00	Horizontal	-56.55	-47.00	Pass
	17100.00	H	-51.52	-47.00	Pass
802.11ac HT20 lower channel	11000.00	Vertical	-56.74	-47.00	Pass
	16500.00	V	-52.04	-47.00	Pass
	11000.00	Horizontal	-55.94	-47.00	Pass
	16500.00	H	-51.49	-47.00	Pass
802.11ac HT20 high channel	11400.00	Vertical	-56.76	-47.00	Pass
	17100.00	V	-52.40	-47.00	Pass
	11400.00	Horizontal	-56.95	-47.00	Pass
	17100.00	H	-51.53	-47.00	Pass
802.11ax HE20 lower channel	11000.00	Vertical	-56.95	-47.00	Pass
	16500.00	V	-52.66	-47.00	Pass
	11000.00	Horizontal	-56.57	-47.00	Pass
	16500.00	H	-51.62	-47.00	Pass
802.11ax HE20 high channel	11400.00	Vertical	-56.81	-47.00	Pass
	17100.00	V	-52.57	-47.00	Pass
	11400.00	Horizontal	-56.74	-47.00	Pass
	17100.00	H	-51.53	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				



B3

Mode	Frequency (MHz)	Spurious Emission		Limit (dBm)	Test Result
		Polarization	Level (dBm)		
802.11n40 lower channel	11020.00	Vertical	-58.87	-47.00	Pass
	16530.00	V	-54.76	-47.00	Pass
	11020.00	Horizontal	-60.13	-47.00	Pass
	16530.00	H	-54.96	-47.00	Pass
802.11n40 high channel	11340.00	Vertical	-60.15	-47.00	Pass
	17010.00	V	-54.33	-47.00	Pass
	11340.00	Horizontal	-60.36	-47.00	Pass
	17010.00	H	-55.33	-47.00	Pass
802.11ac HT40 lower channel	11020.00	Vertical	-60.39	-47.00	Pass
	16530.00	V	-54.64	-47.00	Pass
	11020.00	Horizontal	-59.31	-47.00	Pass
	16530.00	H	-55.09	-47.00	Pass
802.11ac HT40 high channel	11340.00	Vertical	-60.26	-47.00	Pass
	17010.00	V	-55.69	-47.00	Pass
	11340.00	Horizontal	-60.21	-47.00	Pass
	17010.00	H	-54.62	-47.00	Pass
802.11ax HE40 lower channel	11020.00	Vertical	-59.95	-47.00	Pass
	16530.00	V	-54.78	-47.00	Pass
	11020.00	Horizontal	-60.18	-47.00	Pass
	16530.00	H	-56.13	-47.00	Pass
802.11ax HE40 high channel	11340.00	Vertical	-59.95	-47.00	Pass
	17010.00	V	-54.62	-47.00	Pass
	11340.00	Horizontal	-60.09	-47.00	Pass
	17010.00	H	-54.95	-47.00	Pass
802.11ac HT80 lower channel	11060.00	Vertical	-60.17	-47.00	Pass
	16590.00	V	-55.37	-47.00	Pass
	11060.00	Horizontal	-59.93	-47.00	Pass
	16590.00	H	-55.50	-47.00	Pass
802.11ax HE80 lower channel	11060.00	Vertical	-60.16	-47.00	Pass
	16590.00	V	-55.38	-47.00	Pass
	11060.00	Horizontal	-59.98	-47.00	Pass
	16590.00	H	-54.44	-47.00	Pass
Note:	(1)Data of measurement within this frequency range shown “* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. (2)The EUT can't be operated in the standby mode and it's always keep continuously transmitting. (3)Measuring frequency from 1GHz to 26GHz.				

## 12 Receiver Blocking

### 12.1 Block Diagram of EUT Test Setup

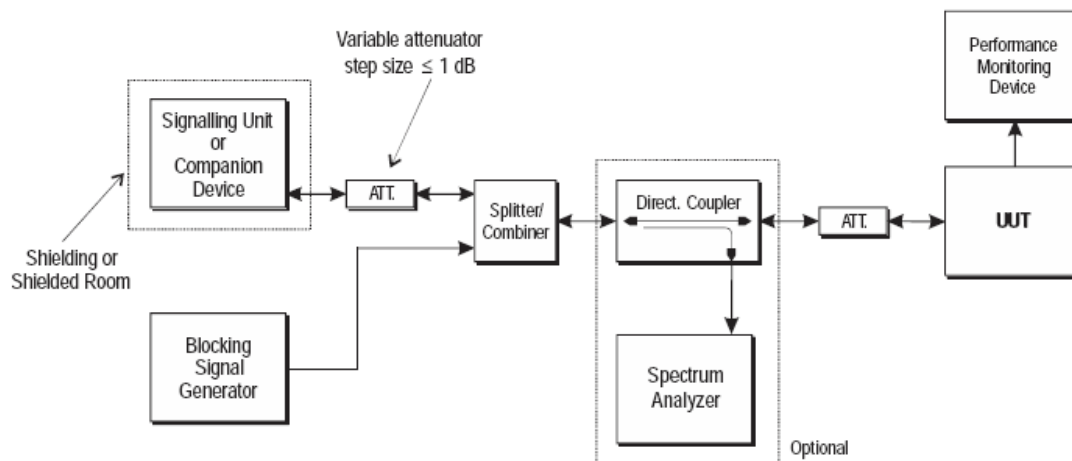


Figure 18: Test Set-up for receiver blocking

### 12.2 Limit

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

Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 2)		Type of blocking signal
		Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)	
P <sub>min</sub> + 6 dB	5 100	-53	-59	Continuous Wave
P <sub>min</sub> + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave

NOTE 1: P<sub>min</sub> 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.

### 12.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.10.

### 12.4 Test Result

PASS, please refer to clause 6 for details.

Both Antenna 1, Antenna 2 and Antenna 3 have been tested, and only the worst test result of Antenna 1 is shown in the report.





B1

Mode	Test Channel	Blocking Frequency(MHz)	Blocking Power(dB)	test value(PER)	Limit (PER)	Result
802.11a	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	4%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	6%	10%	Pass
802.11n20	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	2%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ac20	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	4%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ax20	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11n40	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	2%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ac40	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	4%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ax40	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11ac80	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	4%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ax80	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11ac160	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	4%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ax160	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	2%	10%	Pass





B2

Mode	Test Channel	Blocking Frequency(MHz)	Blocking Power(dB)	test value(PER)	Limit (PER)	Result
802.11a	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11n	Low	4900	-53	5%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ac	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ax	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11n	Low	4900	-53	5%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ac	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	2%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ax	Low	4900	-53	5%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ac	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ax	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	2%	10%	Pass



B3

Mode	Test Channel	Blocking Frequency(MHz)	Blocking Power(dB)	test value(PER)	Limit (PER)	Result
802.11a	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11n	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11ac	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	5%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11ax	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	3%	10%	Pass
	Low	5975	-53	5%	10%	Pass
802.11n	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	6%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	2%	10%	Pass
802.11ac	Low	4900	-53	4%	10%	Pass
	Low	5000	-53	2%	10%	Pass
	Low	5100	-59	4%	10%	Pass
	Low	5975	-53	3%	10%	Pass
802.11ax	Low	4900	-53	3%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	5%	10%	Pass
	Low	5975	-53	4%	10%	Pass
802.11ac	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	2%	10%	Pass
	Low	5975	-53	5%	10%	Pass
802.11ax	Low	4900	-53	2%	10%	Pass
	Low	5000	-53	3%	10%	Pass
	Low	5100	-59	2%	10%	Pass
	Low	5975	-53	4%	10%	Pass

### 13 Dynamic Frequency Selection (DFS)

#### 13.1 Block Diagram of EUT Test Setup

##### Set-up A

Set-up A is a set-up whereby the UUT is an RLAN device operating in master mode. Radar test signals are injected into the UUT. This set-up also contains an RLAN device operating in slave mode which is associated with the UUT.

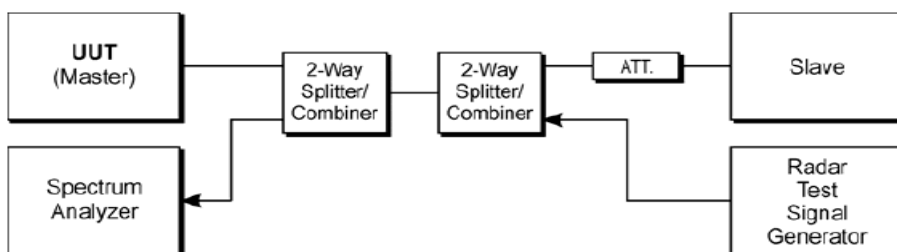


Figure 4: Set-up A

##### Set-up B

Set-up B is a set-up whereby the UUT is an RLAN device operating in slave mode, with or without Radar Interference Detection function. This set-up also contains an RLAN device operating in master mode. The radar test signals are injected into the master device. The UUT (slave device) is associated with the master device.

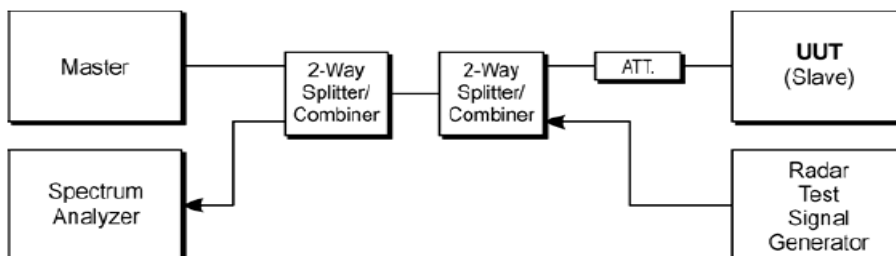


Figure 5: Set-up B

##### Set-up C

The UUT is an RLAN device operating in slave mode with Radar Interference Detection function. Radar test signals are injected into the slave device. This set-up also contains an RLAN device operating in master mode. The UUT (slave device) is associated with the master device.

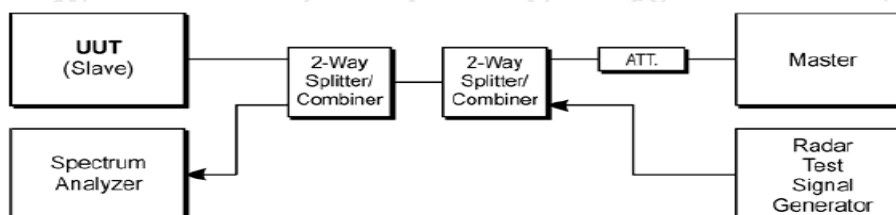


Figure 6: Set-up C





## 13.2 Limit

### DFS parameters

**Table D.1: DFS requirement values**

Parameter	Value
Channel Availability Check Time	60 s (see note 1)
Minimum Off-Channel CAC Time	6 minutes (see note 2)
Maximum Off-Channel CAC Time	4 hours (see note 2)
Channel Move Time	10 s
Channel Closing Transmission Time	1 s
Non-Occupancy Period	30 minutes
NOTE 1: For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the <i>Channel Availability Check Time</i> 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 <i>Off-Channel CAC Time</i> shall be within the range 1 to 24 hours.	

**Table D.2: Interference threshold values**

e.i.r.p. Spectral Density dBm/MHz	Value (see notes 1 and 2)
10	-62 dBm
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 DFS 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 DFS threshold level shall not be lower 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.	

**Table D.3: Parameters of the reference DFS test signal**

Pulse width W [μs]	Pulse repetition frequency PRF [PPS]	Pulses per burst [PPB]
1	700	18



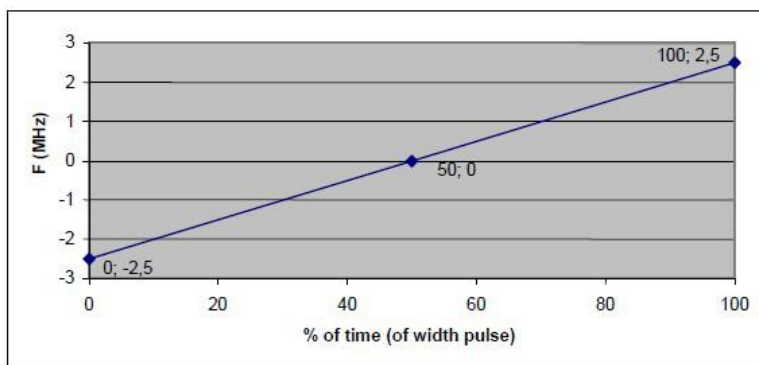


**Table D.4: Parameters of radar test signals**

Radar test signal # (see notes 1 to 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 figures D.1, D.3 and D.4. For the Off-Channel CAC testing, repetitive bursts shall be used for the total duration of the test. See figures D.2 and D.5. See also clauses 4.7.2.2, 5.3.8.2.1.3.1 and 5.3.8.2.1.3.2.

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 (P <sub>d</sub> )	
	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: P<sub>d</sub> gives the probability of detection per simulated radar burst and represents a minimum level of detection performance under defined conditions. Therefore P<sub>d</sub> does not represent the overall detection probability for any particular radar under real life conditions.



### DFS technical requirements specifications

Follow table lists the DFS related technical requirements and their applicability for every operational mode. If the RLAN device is capable of operating in more than one operational mode then every operating mode shall be assessed separately.

#### Applicability of DFS requirements

Requirement	DFS Operational mode		
	Master	Slave without radar detection	Slave with radar detection (see table D.2, note 2)
Channel Availability Check	✓	Not required	✓ (see note 2)
Off-Channel CAC (see note 1)	✓	Not required	✓ (see note 2)
In-Service Monitoring	✓	Not required	✓
Channel Shutdown	✓	✓	✓
Non-Occupancy Period	✓	Not required	✓
Uniform Spreading	✓	Not required	Not required

NOTE 1: Where implemented by the manufacturer.  
 NOTE 2: A slave with radar detection is not required to perform a CAC or Off-Channel CAC at initial use of the channel but only after the slave has detected a radar signal on the Operating Channel by In-Service Monitoring.

### 13.3 Test Procedure

Refer to ETSI EN 301 893 V2.1.1 Clause 5.4.8.

### 13.4 Test Result

Test Result: Pass

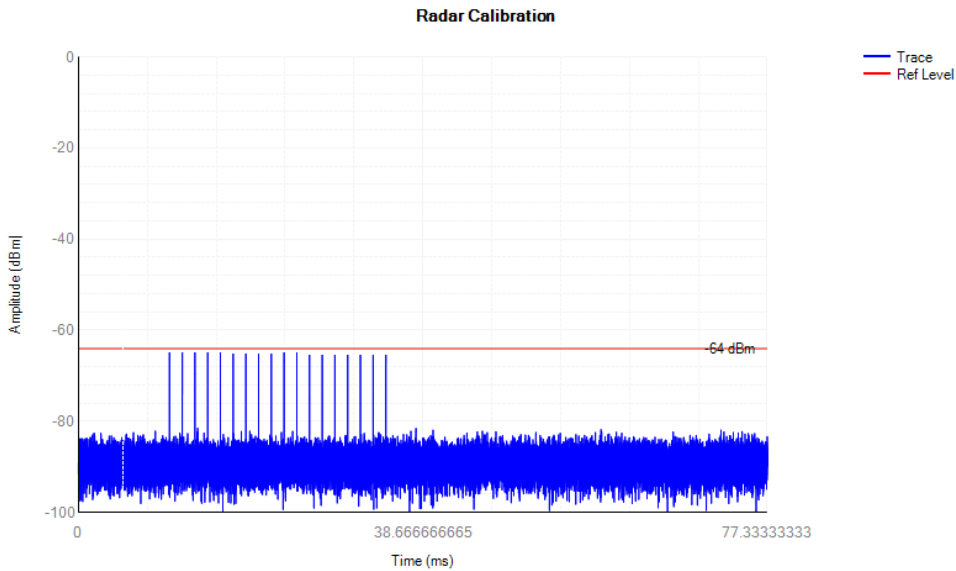
#### EUT Configuration for DFS Test

Test Items	Frequency band	Nominal Channel Bandwidth	Test channel Frequency	Test mode
Channel Shutdown	5250MHz ~ 5350MHz	20MHz	5260	802.11a
		20MHz	5320	802.11ax
		80MHz	5290	
		160MHz	5250	
	5500MHz ~ 5700MHz	20MHz	5500	802.11a
		20MHz	5700	802.11ax
	80MHz	5530		

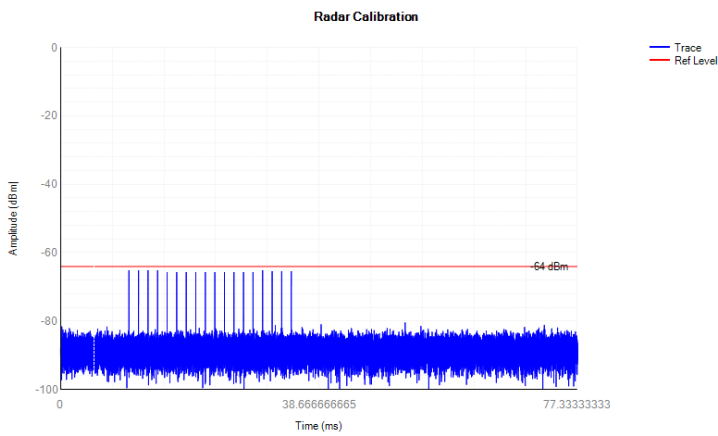


## Verification of Radar Type and Level

### 5260MHz



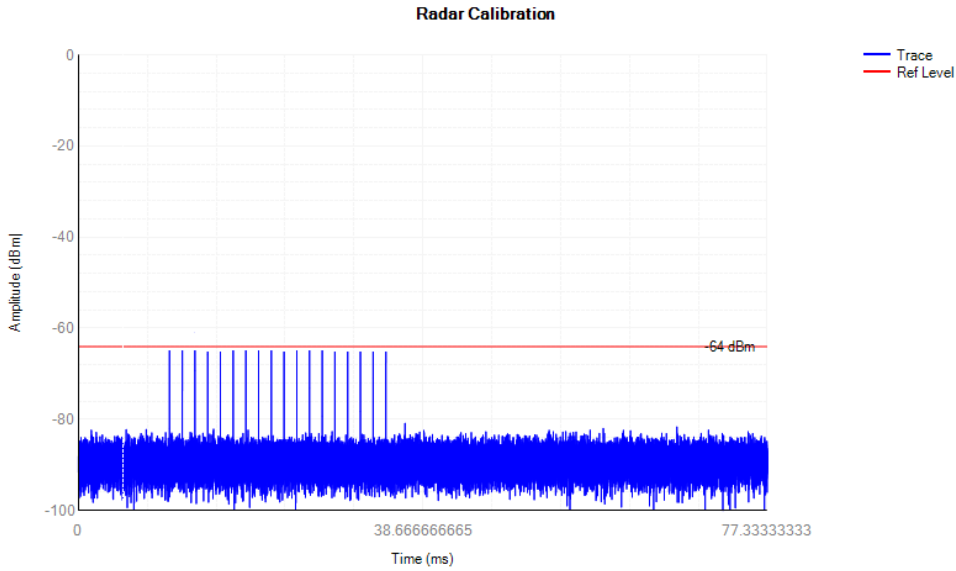
### 5320MHz



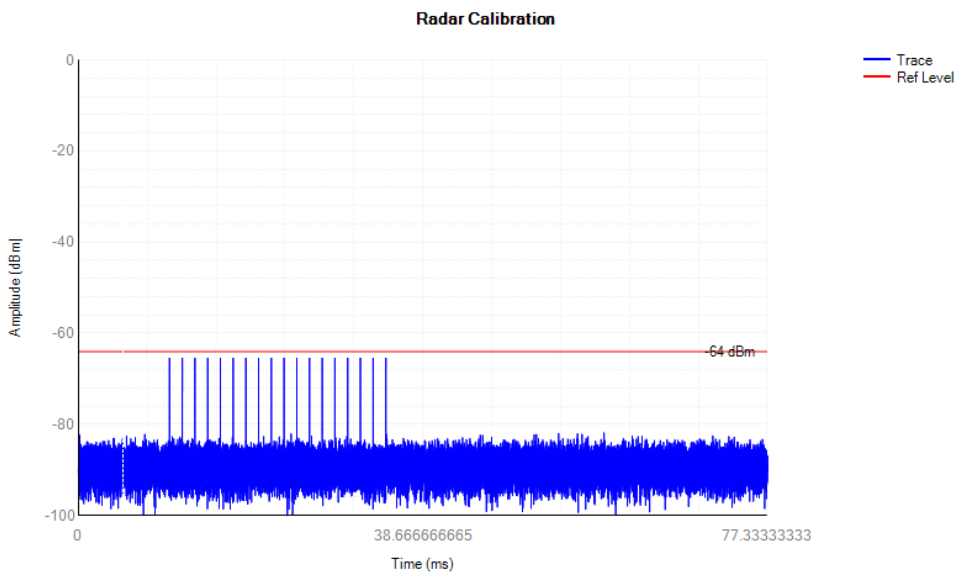




### 5500MHz



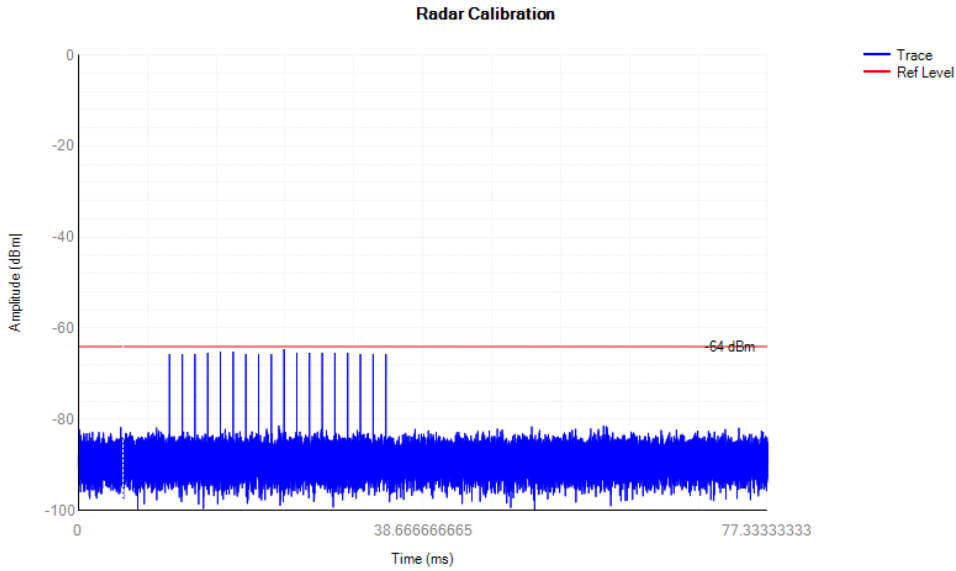
### 5700MHz



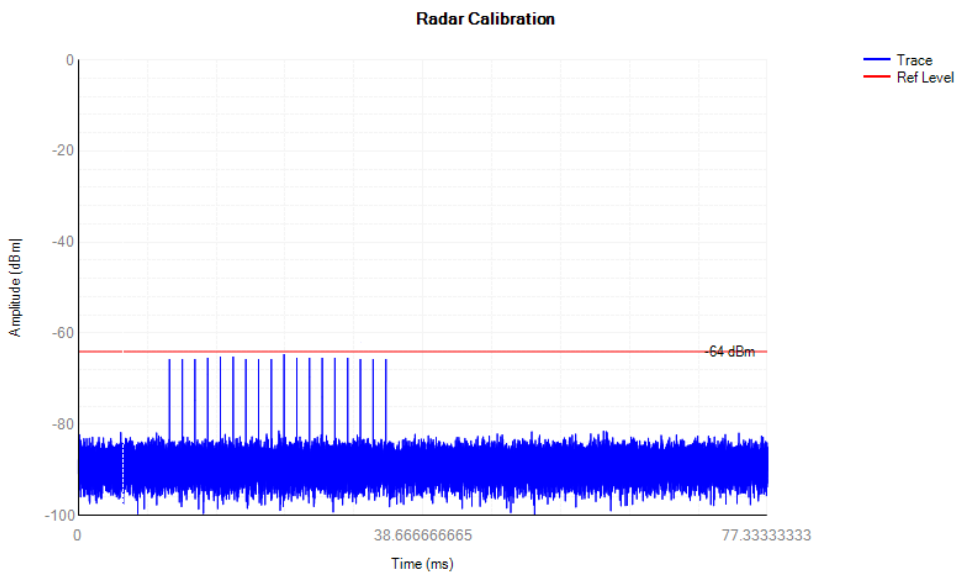




### 5290MHz



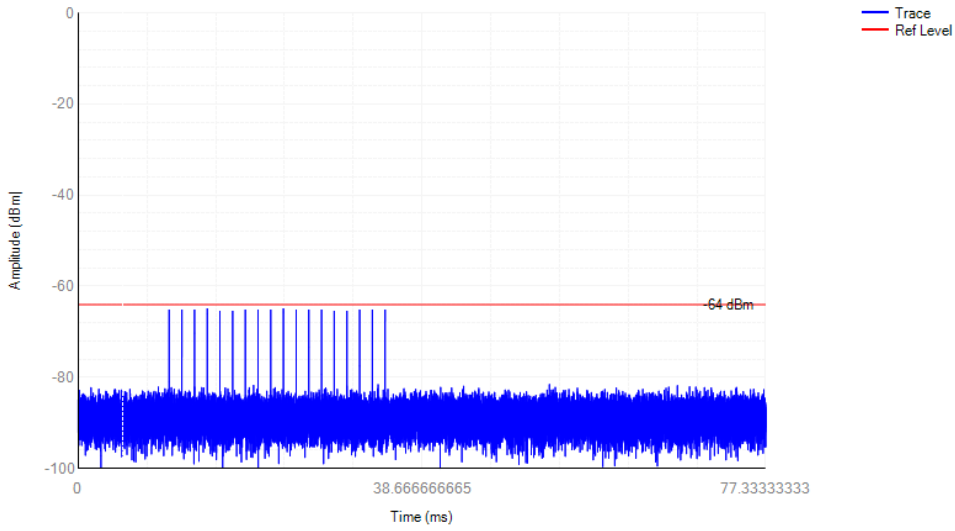
### 5250MHz





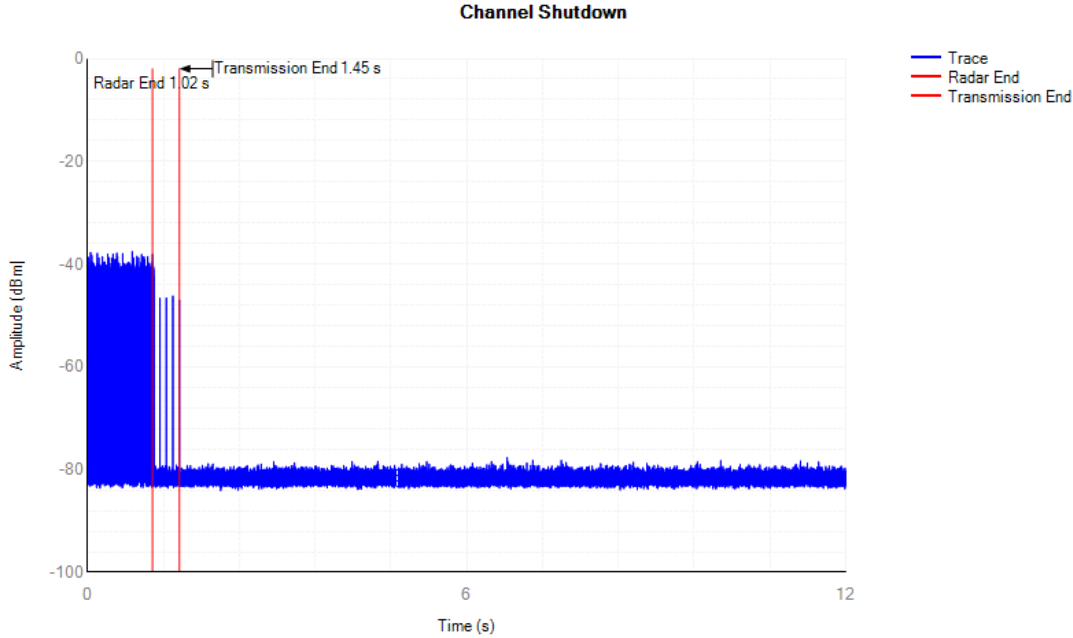
# 5530MHz

Radar Calibration



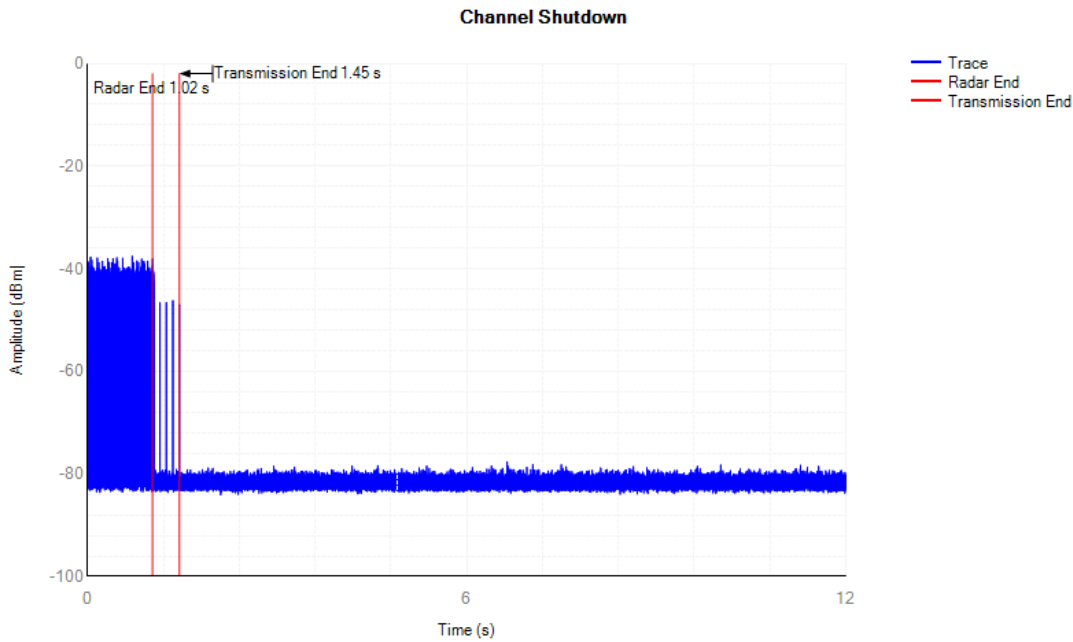


**Channel Closing Transmission Time and Channel Move Time  
5260MHz**



Test Items	Value	Limit
Channel Closing Transmission Time	13.8 ms	1 s
Channel Move Time	423.6 ms	10 s

**5320MHz**

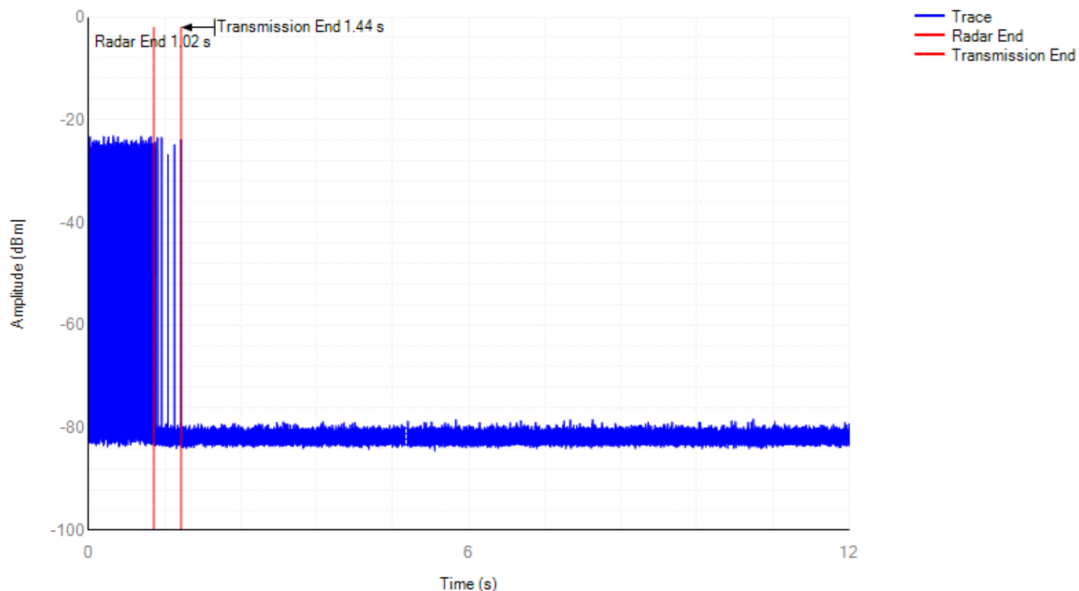


Test Items	Value	Limit
Channel Closing Transmission Time	12.6 ms	1 s
Channel Move Time	422.8 ms	10 s



5500MHz

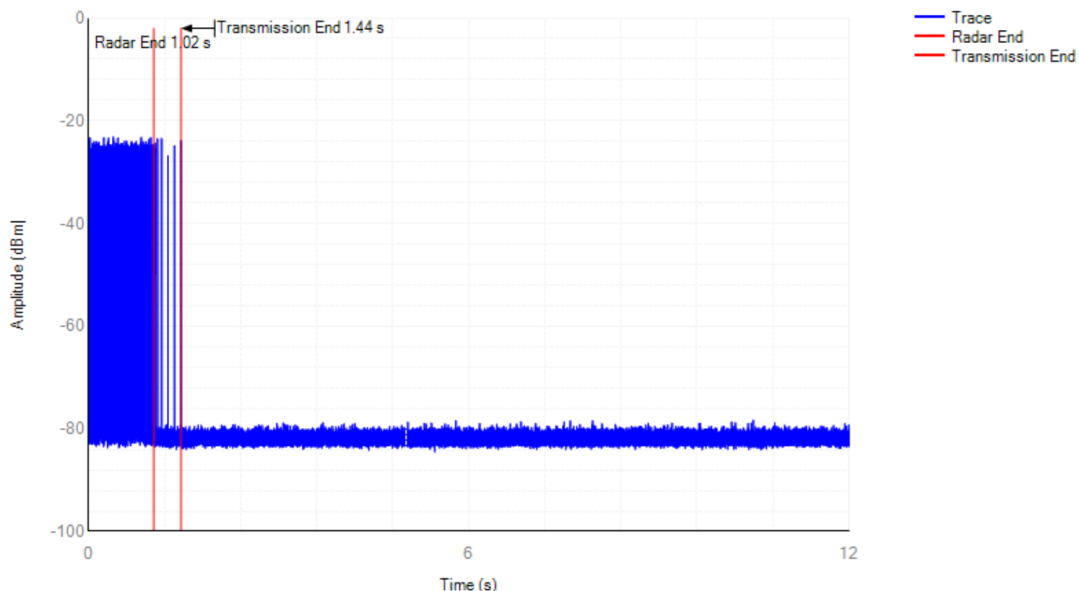
Channel Shutdown



Test Items	Value	Limit
Channel Closing Transmission Time	17.5 ms	1 s
Channel Move Time	424.2 ms	10 s

5700MHz

Channel Shutdown



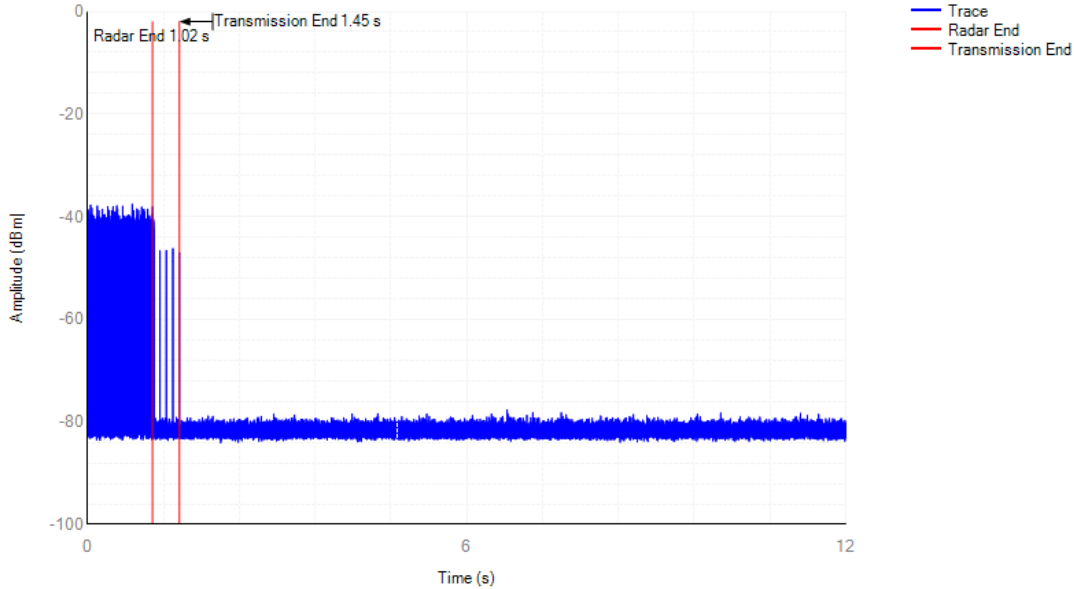
Test Items	Value	Limit
Channel Closing Transmission Time	17.2 ms	1 s
Channel Move Time	423.6ms	10 s





5290MHz

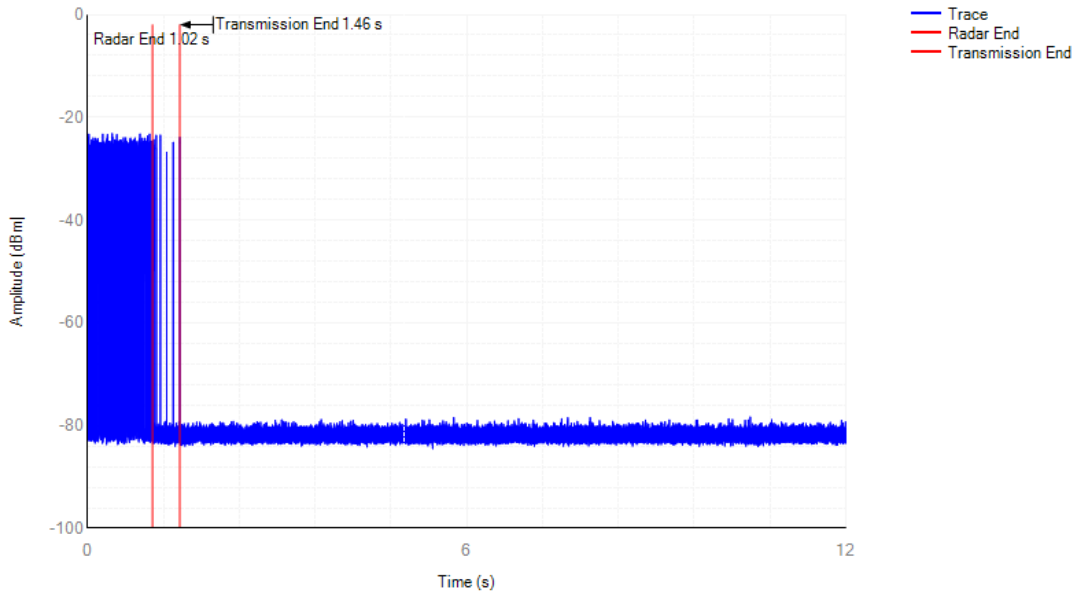
Channel Shutdown



Test Items	Value	Limit
Channel Closing Transmission Time	12.6 ms	1 s
Channel Move Time	425.1 ms	10 s

5250MHz

Channel Shutdown

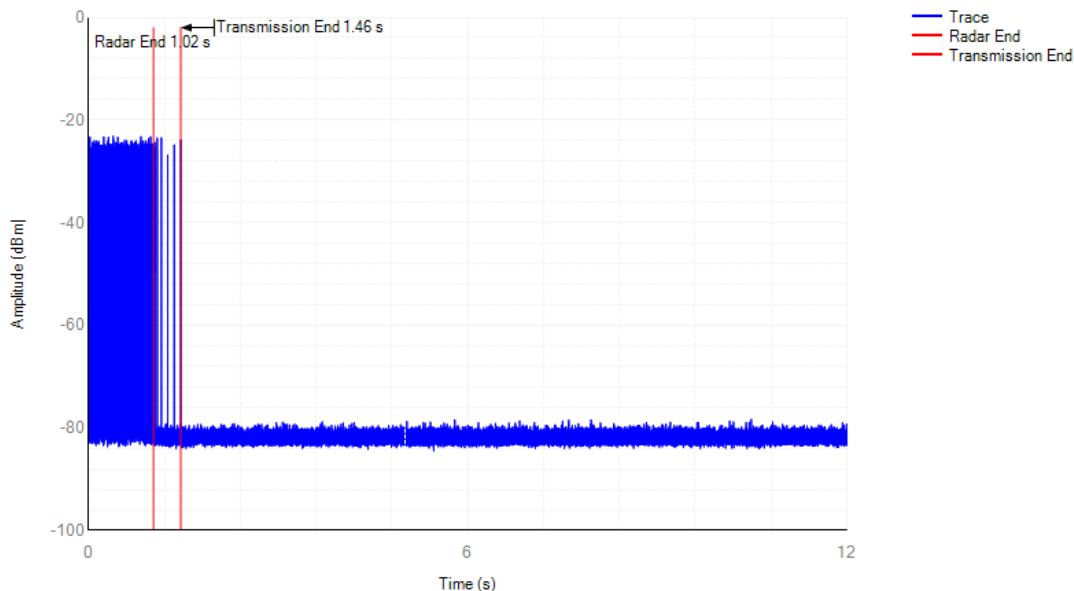


Test Items	Value	Limit
Channel Closing Transmission Time	17.6 ms	1 s
Channel Move Time	431.5 ms	10 s



5530MHz

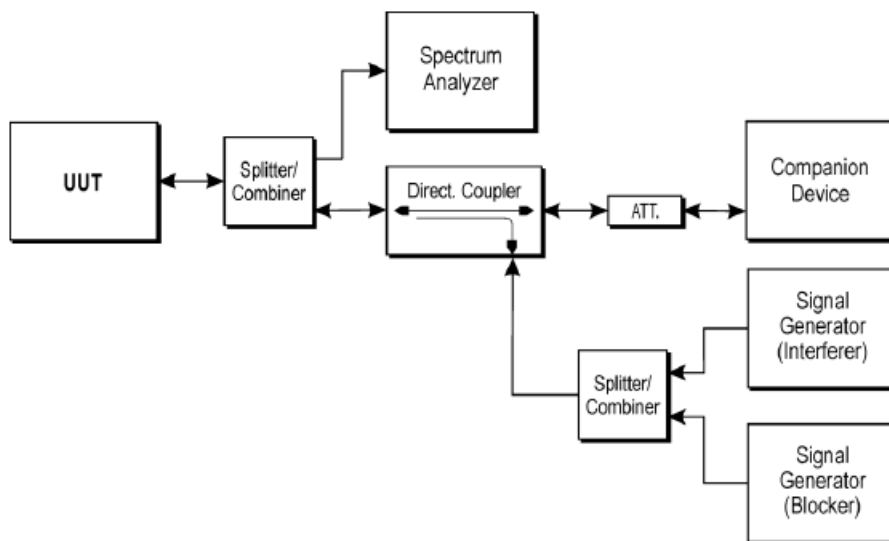
Channel Shutdown



Test Items	Value	Limit
Channel Closing Transmission Time	18.6 ms	1 s
Channel Move Time	431.1 ms	10 s

## 14 Adaptivity

### 14.1 Block Diagram of EUT Test Setup



### 14.2 Limit

When interference signal detected by relevant channel access mechanism UUT used. The UUT should stop transmissions on the current operating channel, apart from Short Control Signaling Transmissions with a maximum duty cycle of 5 % within an observation period of 50 ms,

### 14.3 Test Procedure

1. The measurement procedure follows the clause 5.3.9.2.1 of the ETSI EN 301 893 V2.1.1 (2017-05).
2. The interference signal used shall be a band limited noise signal with a 100 % duty cycle.
3. Testing shall be performed at one channel out of the declared channels for each sub-band and the highest nominal channel bandwidth.

### 14.4 Test Result

Both Antenna 1, Antenna 2 and Antenna 3 have been tested, and only the worst test result of Antenna 1 is shown in the report.



Ant 1  
5180-5240  
Adaptivity 1

Test mode	Channel	Priority Class	COT Num[n]	Max.COT [ms]	Limit [ms]	Min. Idel Time [ms]	Limit [ms]
802.11a mode	Low	2	868	1.124	$\leq 6$	0.034	>0.027
802.11n20 mode	Low	2	914	0.243	$\leq 6$	0.042	>0.027
802.11ac 20 HT20 mode	Low	2	952	0.178	$\leq 6$	0.067	>0.027
802.11ax 20 HT20 mode	Low	2	923	0.183	$\leq 6$	0.076	>0.027
802.11n40 mode	Low	2	918	0.221	$\leq 6$	0.035	>0.027
802.11ac40 mode	Low	2	927	0.289	$\leq 6$	0.066	>0.027
802.11ax40 mode	Low	2	932	0.223	$\leq 6$	0.078	>0.027
802.11ac80 mode	Low	2	946	0.219	$\leq 6$	0.018	>0.027
802.11ax80 mode	Low	2	928	0.232	$\leq 6$	0.024	>0.027





Test mode	Channel	Interference signal Type	Add interference signal Time [ms]	Interference signal Level [dBm/MHz]	Max.Short Control number[n]	Limit [n]	Max.Short Control Time [ms]	Limit [ms]
802.11a mode	Low	LTE	2000	-75	5	≤50	1.23	<2.5
		OFDM	2000	-75	5	≤50	0.32	<2.5
		AWGN	2000	-75	5	≤50	0.76	<2.5
802.11n20 mode	Low	LTE	2000	-75	5	≤50	0.32	<2.5
		OFDM	2000	-75	5	≤50	0.64	<2.5
		AWGN	2000	-75	5	≤50	0.32	<2.5
802.11ac 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.37	<2.5
		OFDM	2000	-75	5	≤50	0.23	<2.5
		AWGN	2000	-75	5	≤50	0.31	<2.5
802.11ax 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.35	<2.5
		OFDM	2000	-75	5	≤50	0.42	<2.5
		AWGN	2000	-75	5	≤50	0.35	<2.5
802.11n40 mode	Low	LTE	2000	-75	5	≤50	0.39	<2.5
		OFDM	2000	-75	5	≤50	0.28	<2.5
		AWGN	2000	-75	5	≤50	0.32	<2.5
802.11ac 40 mode	Low	LTE	2000	-75	5	≤50	0.25	<2.5
		OFDM	2000	-75	5	≤50	0.31	<2.5
		AWGN	2000	-75	5	≤50	0.32	<2.5
802.11ax 40 mode	Low	LTE	2000	-75	5	≤50	0.42	<2.5
		OFDM	2000	-75	5	≤50	0.48	<2.5
		AWGN	2000	-75	5	≤50	0.42	<2.5
802.11ac 80 mode	Low	LTE	2000	-75	5	≤50	0.35	<2.5
		OFDM	2000	-75	5	≤50	0.21	<2.5
		AWGN	2000	-75	5	≤50	0.32	<2.5
802.11ax 80 mode	Low	LTE	2000	-75	5	≤50	0.32	<2.5
		OFDM	2000	-75	5	≤50	0.37	<2.5
		AWGN	2000	-75	5	≤50	0.29	<2.5



Ant 1  
5250-5350  
Adaptivity 1

Test mode	Channel	Priority Class	COT Num[n]	Max.COT [ms]	Limit [ms]	Min. Idel Time [ms]	Limit [ms]
802.11a mode	Low	2	868	1.132	≤6	0.047	>0.027
802.11n20 mode	Low	2	914	0.214	≤6	0.055	>0.027
802.11ac 20 HT20 mode	Low	2	952	0.217	≤6	0.055	>0.027
802.11ax 20 HT20 mode	Low	2	923	0.187	≤6	0.062	>0.027
802.11n40 mode	Low	2	918	0.251	≤6	0.044	>0.027
802.11ac40 mode	Low	2	927	0.286	≤6	0.052	>0.027
802.11ax40 mode	Low	2	932	0.266	≤6	0.051	>0.027
802.11ac80 mode	Low	2	946	0.295	≤6	0.049	>0.027
802.11ax80 mode	Low	2	928	0.283	≤6	0.052	>0.027
802.11ac160 mode	Low	2	946	0.295	≤6	0.049	>0.027
802.11ax160 mode	Low	2	928	0.283	≤6	0.052	>0.027



Test mode	Channel	Interference signal Type	Add interference signal Time [ms]	Interference signal Level [dBm/MHz]	Max.Short Control number[n]	Limit [n]	Max.Short Control Time [ms]	Limit [ms]
802.11a mode	Low	LTE	2000	-75	5	≤50	1.03	<2.5
		OFDM	2000	-75	5	≤50	0.54	<2.5
		AWGN	2000	-75	5	≤50	0.42	<2.5
802.11n20 mode	Low	LTE	2000	-75	5	≤50	0.55	<2.5
		OFDM	2000	-75	5	≤50	0.28	<2.5
		AWGN	2000	-75	5	≤50	0.38	<2.5
802.11ac 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.33	<2.5
		OFDM	2000	-75	5	≤50	0.21	<2.5
		AWGN	2000	-75	5	≤50	0.37	<2.5
802.11ax 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.32	<2.5
		OFDM	2000	-75	5	≤50	0.46	<2.5
		AWGN	2000	-75	5	≤50	0.29	<2.5
802.11n40 mode	Low	LTE	2000	-75	5	≤50	0.38	<2.5
		OFDM	2000	-75	5	≤50	0.23	<2.5
		AWGN	2000	-75	5	≤50	0.27	<2.5
802.11ac40 mode	Low	LTE	2000	-75	5	≤50	0.19	<2.5
		OFDM	2000	-75	5	≤50	0.32	<2.5
		AWGN	2000	-75	5	≤50	0.34	<2.5
802.11ax40 mode	Low	LTE	2000	-75	5	≤50	0.41	<2.5
		OFDM	2000	-75	5	≤50	0.43	<2.5
		AWGN	2000	-75	5	≤50	0.47	<2.5
802.11ac 80 mode	Low	LTE	2000	-75	5	≤50	0.36	<2.5
		OFDM	2000	-75	5	≤50	0.29	<2.5
		AWGN	2000	-75	5	≤50	0.33	<2.5
802.11ax 80 mode	Low	LTE	2000	-75	5	≤50	0.35	<2.5
		OFDM	2000	-75	5	≤50	0.31	<2.5
		AWGN	2000	-75	5	≤50	0.22	<2.5
802.11ac 160 mode	Low	LTE	2000	-75	5	≤50	0.32	<2.5
		OFDM	2000	-75	5	≤50	0.26	<2.5
		AWGN	2000	-75	5	≤50	0.29	<2.5
802.11ax 160 mode	Low	LTE	2000	-75	5	≤50	0.31	<2.5
		OFDM	2000	-75	5	≤50	0.27	<2.5
		AWGN	2000	-75	5	≤50	0.20	<2.5

5470-5725  
Adaptivity 1

Test mode	Channel	Priority Class	COT Num[n]	Max.COT [ms]	Limit [ms]	Min. Idel Time [ms]	Limit [ms]
802.11a mode	Low	2	897	1.034	$\leq 6$	0.065	>0.027
802.11n20 mode	Low	2	921	0.287	$\leq 6$	0.072	>0.027
802.11ac 20 HT20 mode	Low	2	934	0.216	$\leq 6$	0.069	>0.027
802.11ax 20 HT20 mode	Low	2	954	0.325	$\leq 6$	0.077	>0.027
802.11n40 mode	Low	2	947	0.354	$\leq 6$	0.071	>0.027
802.11ac40 mode	Low	2	943	0.289	$\leq 6$	0.076	>0.027
802.11ax40 mode	Low	2	955	0.311	$\leq 6$	0.068	>0.027
802.11ac80 mode	Low	2	961	0.298	$\leq 6$	0.077	>0.027
802.11ax80 mode	Low	2	972	0.283	$\leq 6$	0.069	>0.027

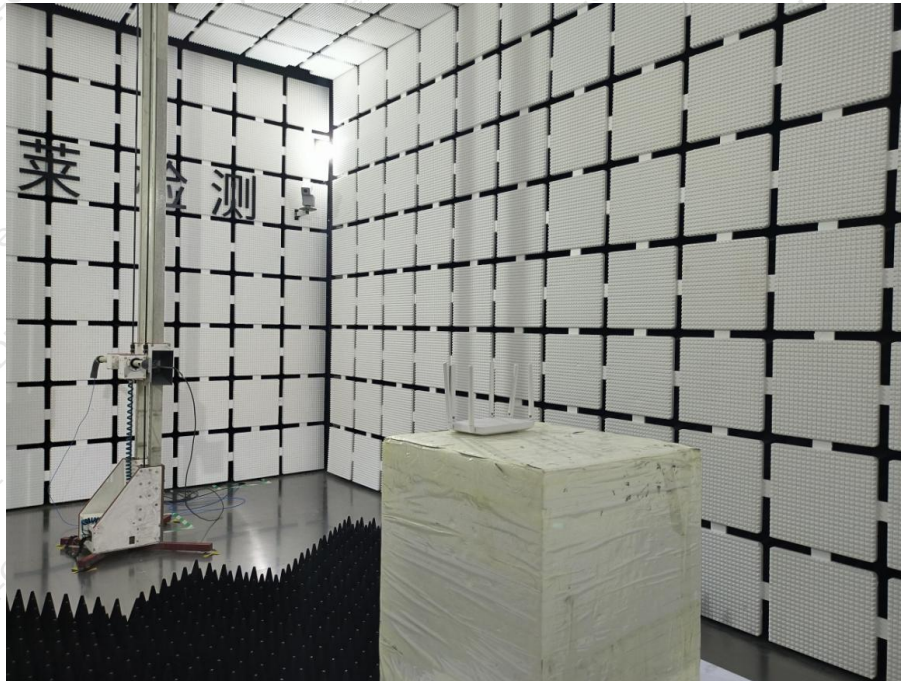




Test mode	Channel	Interference signal Type	Add interference signal Time [ms]	Interference signal Level [dBm/MHz]	Max.Short Control number[n]	Limit [n]	Max.Short Control Time [ms]	Limit [ms]
802.11a mode	Low	LTE	2000	-75	5	≤50	0.92	<2.5
		OFDM	2000	-75	5	≤50	0.65	<2.5
		AWGN	2000	-75	5	≤50	0.42	<2.5
802.11n20 mode	Low	LTE	2000	-75	5	≤50	0.56	<2.5
		OFDM	2000	-75	5	≤50	0.32	<2.5
		AWGN	2000	-75	5	≤50	0.31	<2.5
802.11ac 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.54	<2.5
		OFDM	2000	-75	5	≤50	0.33	<2.5
		AWGN	2000	-75	5	≤50	0.28	<2.5
802.11ax 20 HT20 mode	Low	LTE	2000	-75	5	≤50	0.42	<2.5
		OFDM	2000	-75	5	≤50	0.35	<2.5
		AWGN	2000	-75	5	≤50	0.51	<2.5
802.11n40 mode	Low	LTE	2000	-75	5	≤50	0.44	<2.5
		OFDM	2000	-75	5	≤50	0.37	<2.5
		AWGN	2000	-75	5	≤50	0.41	<2.5
802.11ac 40 mode	Low	LTE	2000	-75	5	≤50	0.27	<2.5
		OFDM	2000	-75	5	≤50	0.25	<2.5
		AWGN	2000	-75	5	≤50	0.29	<2.5
802.11ax 40 mode	Low	LTE	2000	-75	5	≤50	0.33	<2.5
		OFDM	2000	-75	5	≤50	0.28	<2.5
		AWGN	2000	-75	5	≤50	0.41	<2.5
802.11ac 80 mode	Low	LTE	2000	-75	5	≤50	0.52	<2.5
		OFDM	2000	-75	5	≤50	0.42	<2.5
		AWGN	2000	-75	5	≤50	0.36	<2.5
802.11ax 80 mode	Low	LTE	2000	-75	5	≤50	0.28	<2.5
		OFDM	2000	-75	5	≤50	0.22	<2.5
		AWGN	2000	-75	5	≤50	0.28	<2.5



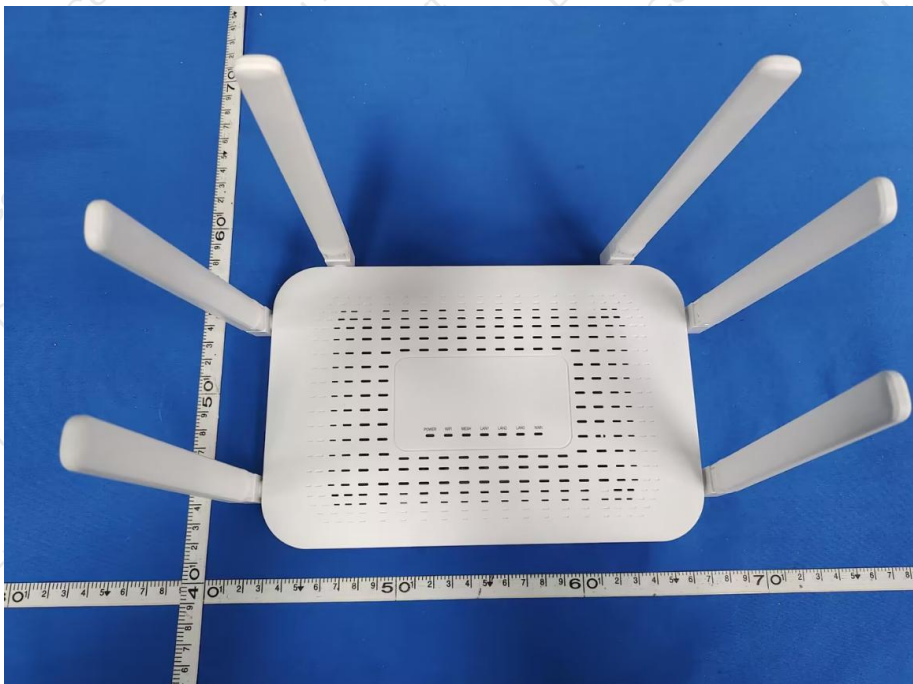
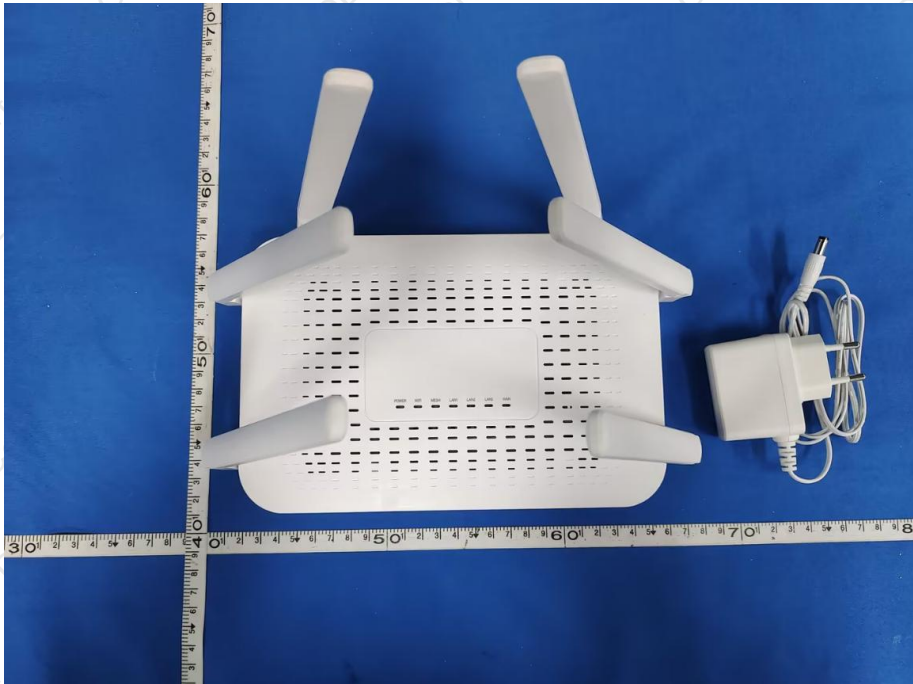
## 15 SETUP PHOTOGRAPHS





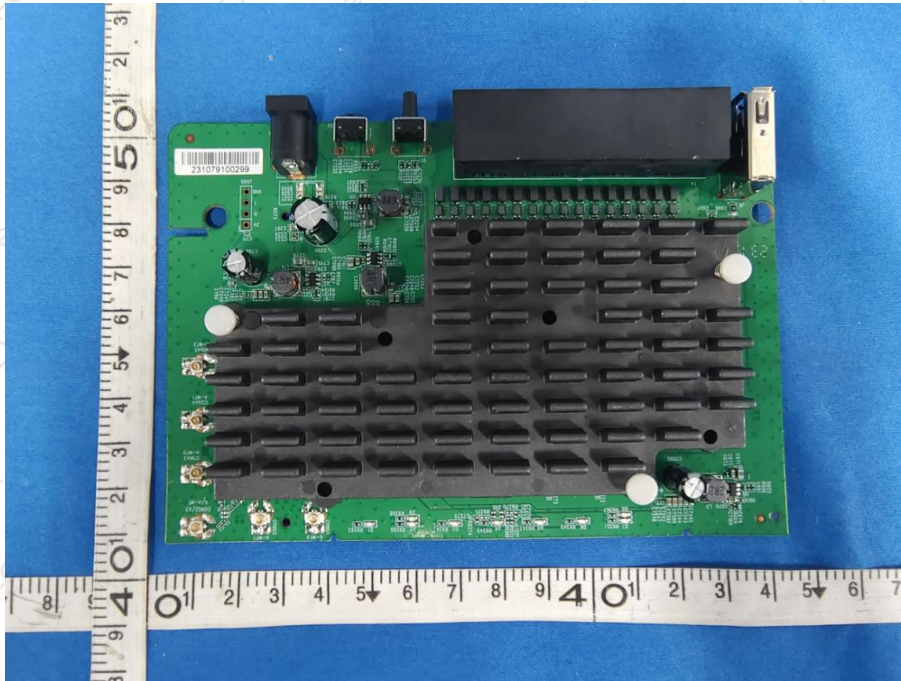


## 16 EUT PHOTOGRAPHS

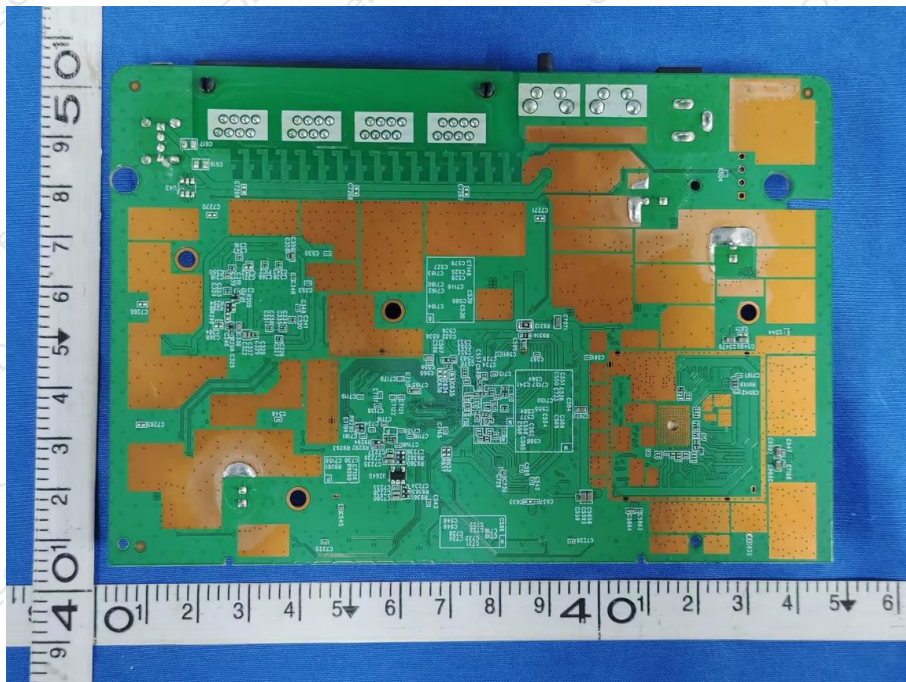
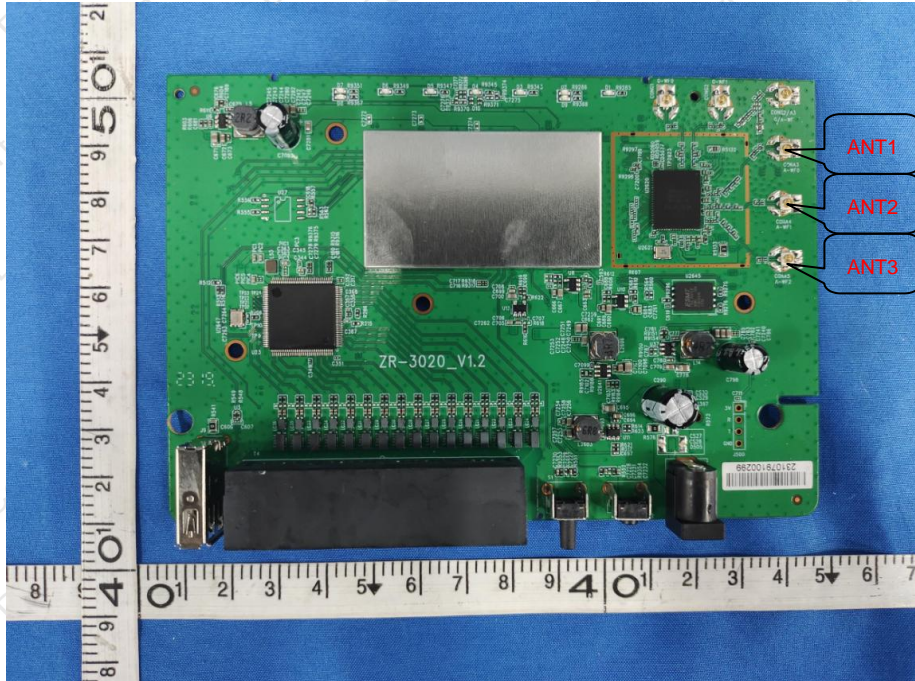


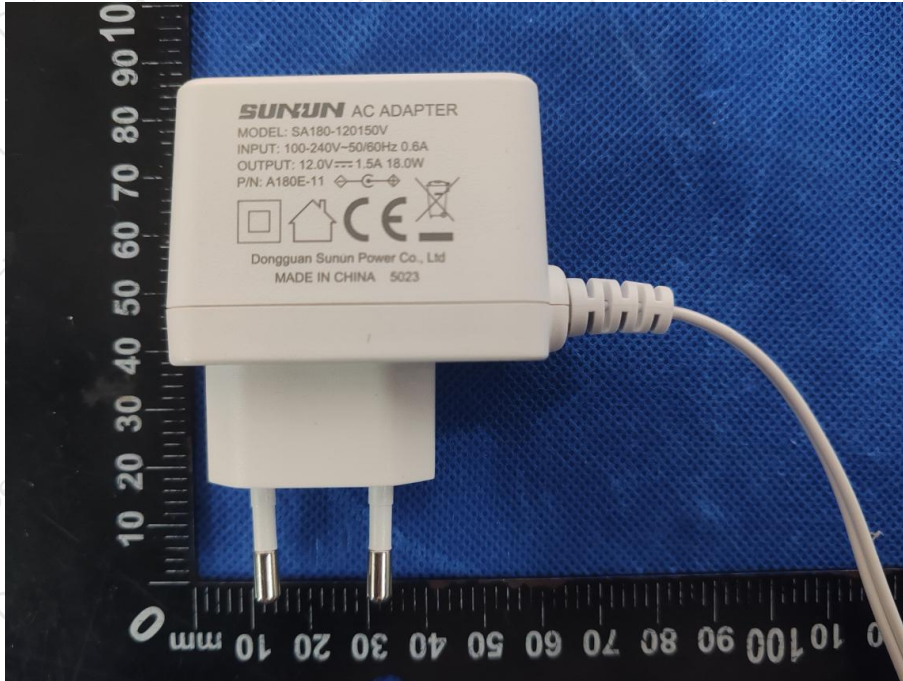












\*\*\*\*\* END OF REPORT \*\*\*\*\*