

CE Radio Test Report

Project No. : 2401H004B
Equipment : XGS-PON ONT
Brand Name : ZTE
Test Model : ZXHN F8748Q
Series Model : N/A
Applicant : ZTE Corporation
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Manufacturer : ZTE Corporation
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Test Sample : Engineering Sample No.: SH2024010397 for radiation, SH2024010398/ SH2024010521-1 for conducted.
Standard(s) : EN 301 893 V2.1.1

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Shanghai)

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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1. RF EMISSIONS MEASUREMENT

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is **TR02/CB12** at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, People's Republic of China.

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor) $k=1.96$ or $k=2$ (which provide confidence levels of respectively 95% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Measurement Uncertainty for a Level of Confidence of 95.45%, $U=2 \times u_c(y)$.

The BTL measurement uncertainty as below table:

Parameter	Uncertainty
Output Power	± 1.3462 dB
Occupied Bandwidth	$\pm 0.06\%$
Power Spectral Density	± 1.4300 dB
Carrier frequencies	± 1.3446 kHz
Transmitter unwanted emissions within the 5GHz RLAN bands	± 1.5061 dB
Spurious Emissions, Radiated $25\text{MHz} < f \leq 1\text{GHz}$	3.64 dB
Spurious Emissions, Radiated $1\text{GHz} < f \leq 18\text{GHz}$	3.54 dB
Spurious Emissions, Radiated $1\text{GHz} < f \leq 40\text{GHz}$	3.58 dB
Temperature	± 0.3 °C
Supply voltages	± 1.3 %
Time	± 0.07 v

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Centre frequencies	Normal & Extreme	34%~45%	AC 230V/50Hz	Thacker Tang
Occupied Channel Bandwidth	16.8°C~18.2°C	34%~45%	AC 230V/50Hz	Thacker Tang
RF output power	Normal & Extreme	34%~45%	AC 230V/50Hz	Thacker Tang
Power Density	16.8°C~18.2°C	34%~45%	AC 230V/50Hz	Thacker Tang
Transmitter unwanted emissions outside the 5 GHz RLAN bands	17.6°C~18.1°C	39%~40%	AC 230V/50Hz	Nicole Yan
Transmitter unwanted emissions within the 5 GHz RLAN bands	16.8°C~18.2°C	34%~45%	AC 230V/50Hz	Thacker Tang
Receiver spurious emissions	18.1°C	39%	AC 230V/50Hz	Nicole Yan
Adaptivity	17°C	41%	AC 230V/50Hz	Thacker Tang
Receiver Blocking	18°C	44%	AC 230V/50Hz	Thacker Tang

1.4 TEST CHANNEL

IEEE 802.11a / IEEE 802.11n(HT20) / IEEE 802.11ac(VHT20) / IEEE 802.11ax(HE20) / IEEE 802.11be(EHT20)		
Test Channel	EUT Channel	Test Frequency
Low High	CH36	5180 MHz
	CH64	5320 MHz
	CH100	5500 MHz
	CH140	5700 MHz

IEEE 802.11n(HT40) / IEEE 802.11ac(VHT40) / IEEE 802.11ax(HE40) / IEEE 802.11be(EHT40)		
Test Channel	EUT Channel	Test Frequency
Low High	CH38	5190 MHz
	CH62	5310 MHz
	CH102	5510 MHz
	CH134	5670 MHz

IEEE 802.11ac(VHT80) / IEEE 802.11ax(HE80) / IEEE 802.11be(EHT80)		
Test Channel	EUT Channel	Test Frequency
Low High	CH42	5210 MHz
	CH58	5290 MHz
	CH106	5530 MHz
	CH122	5610 MHz

IEEE 802.11ac(VHT160) / IEEE 802.11ax(HE160) / IEEE 802.11be(EHT160)		
Test Channel	EUT Channel	Test Frequency
Low High	CH50	5250 MHz
	CH114	5570 MHz

1.5 TEST METHODOLOGY AND RESULTS

Harmonised Standard ETSI EN 301 893					
Requirement			Requirement Conditionality		Observations
No	Description	Reference: Clause No	U/C	Condition	
1	Carrier frequencies	4.2.1	U	-	Pass
2	Nominal, and occupied channel bandwidth	4.2.2	U	-	Pass
3	RF output power	4.2.3	U	-	Pass
	Transmit Power Control (TPC)	4.2.3	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 2)Not required for devices that operate at a maximum mean e.i.r.p. of 20 dBm when operating in 5250 MHz to 5350 MHz or 27 dBm when operating in 5470 MHz to 5725 MHz.	Pass
	Power Density	4.2.3	U	-	Pass
4	Transmitter unwanted emissions outside the 5 GHz RLAN bands	4.2.4.1	U	-	Pass
5	Transmitter unwanted emissions within the 5 GHz RLAN bands	4.2.4.2	U	-	Pass
6	Receiver spurious emissions	4.2.5	U	-	Pass
7	Adaptivity	4.2.7	U	-	Pass
8	Receiver Blocking	4.2.8	U	-	Pass
9	User Access Restrictions	4.2.9	U	-	Pass Note 1
10	Geo-location capability	4.2.10	C	Where implemented by the manufacturer.	N/A
11	DFS: Channel Availability Check	4.2.6.2.2	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5 150 MHz to 5250 MHz. 2)Not required for Slave devices with a maximum transmit power of less than 200 mW e.i.r.p. 3)Not required at initial use of a channel for slave devices with a maximum transmit power of 200 mW e.i.r.p.	Pass
12	DFS: Off-Channel CAC - Radar Detection Threshold Level	4.2.6.2.3	C	1)Where implemented by the manufacturer. 2)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 3)Not required for slave devices with a maximum transmit power of less than 200 mW e.i.r.p. 4)Not required at initial use of a channel for Slave devices with a maximum transmit power of 200 mW e.i.r.p.	N/A
13	DFS: Off-Channel CAC - Detection Probability	4.2.6.2.3	C	1)Where implemented by the manufacturer. 2)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 3)Not required for slave devices with a maximum transmit power of less than 200 mW e.i.r.p. 4)Not required at initial use of a channel for Slave devices with a maximum transmit power of 200 mW e.i.r.p.	N/A

14	DFS: In service Monitoring	4.2.6.2.4	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 2)Not required for Slave devices with a maximum transmit power of less than 200 mW e.i.r.p.	Pass
15	DFS: Channel shutdown	4.2.6.2.5	C	Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz.	Pass
16	DFS: Non-occupancy period	4.2.6.2.6	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5 150 MHz to 5250 MHz. 2)Not required for Slave devices with a maximum transmit power of less than 200 mW e.i.r.p.	Pass
17	DFS: Uniform spreading	4.2.6.2.7	C	1)Not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz. 2)Not required for slave devices.	Pass Note 1

Note:

- No related options for DFS functions will be provided in the software interfaces. DFS functions can be changed only by telnet command. Before the shipment of the product the telnet will be closed so that it will be inaccessible for the end user.

2 **Manufacturer Declare the Uniform Spreading**

Each of the declared Channel Plans (combination of centre frequencies and for each of the centre frequencies, the declared nominal bandwidths) shall make use of at least 60 % of the spectrum available in the applicable sub-band(s).

Each of the Usable Channels shall be used with approximately equal probability. RLAN equipment for which the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the band 5600 MHz to 5650 MHz may omit these channels from the list of Usable Channels at initial power up or at initial installation. Channels being used by other RLAN equipment may be omitted from the list of Usable Channels.

- U/C Indicates whether the requirement is unconditionally applicable (U) or is conditional upon the manufacturer's claimed functionality of the equipment (C).
- "N/A" indicates that it does not apply to this device.
- The geographical location would not be accessible to the user in a way that would allow the user to alter it.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	XGS-PON ONT
Brand Name	ZTE
Test Model	ZXHN F8748Q
Series Model	N/A
Model Difference(s)	N/A
Power Source	DC Voltage supplied from AC/DC adapter Brand/Model:Meic/ MN0369-E120300
Power Rating	I/P: 100-240V~50/60Hz 1.0A Max O/P: 12.0V---3.0A 36.0W
Operation Frequency Band(s)	5150 MHz ~ 5250 MHz 5250 MHz ~ 5350 MHz 5470 MHz ~ 5725 MHz
Modulation Type	IEEE 802.11a/n/ac: OFDM IEEE 802.11ax: OFDMA IEEE 802.11be: OFDMA
Bit Rate of Transmitter	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 600 Mbps IEEE 802.11ac: up to 3466.8 Mbps IEEE 802.11ax: up to 4804 Mbps IEEE 802.11be: up to 5764 Mbps
Max. e.i.r.p. _Non Beamforming	IEEE 802.11a: 29.65 dBm (922.57 mW) IEEE 802.11n(HT20): 29.66 dBm (924.70 mW) IEEE 802.11n(HT40): 29.63 dBm (918.33 mW) IEEE 802.11ac(VHT20): 29.68 dBm (928.97 mW) IEEE 802.11ac(VHT40): 29.68 dBm (928.97 mW) IEEE 802.11ac(VHT80): 29.60 dBm (912.01 mW) IEEE 802.11ac(VHT160): 29.73 dBm (939.72 mW) IEEE 802.11ax(HE20): 29.65 dBm (922.57 mW) IEEE 802.11ax(HE40): 29.90 dBm (977.24 mW) IEEE 802.11ax(HE80): 29.90 dBm (977.24 mW) IEEE 802.11ax(HE160): 29.54 dBm (899.50 mW) IEEE 802.11be(EHT20): 29.74 dBm (941.89 mW) IEEE 802.11be(EHT40): 29.94 dBm (986.28 mW) IEEE 802.11be(EHT80): 29.91 dBm (979.49 mW) IEEE 802.11be(EHT160): 29.58 dBm (907.82 mW)
Max. e.i.r.p. _Beamforming	IEEE 802.11n(HT20): 29.64 dBm (920.45 mW) IEEE 802.11n(HT40): 29.57 dBm (905.73 mW) IEEE 802.11ac(VHT20): 29.62 dBm (916.22 mW) IEEE 802.11ac(VHT40): 29.65 dBm (922.57 mW) IEEE 802.11ac(VHT80): 29.55 dBm (901.57 mW) IEEE 802.11ac(VHT160): 29.66 dBm (924.70 mW) IEEE 802.11ax(HE20): 29.59 dBm (909.91 mW) IEEE 802.11ax(HE40): 29.87 dBm (970.51 mW) IEEE 802.11ax(HE80): 29.87 dBm (970.51 mW) IEEE 802.11ax(HE160): 29.48 dBm (887.16 mW) IEEE 802.11be(EHT20): 29.66 dBm (924.70 mW) IEEE 802.11be(EHT40): 29.88 dBm (972.75 mW) IEEE 802.11be(EHT80): 29.85 dBm (966.05 mW) IEEE 802.11be(EHT160): 29.55 dBm (901.57 mW)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

IEEE 802.11a IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20) IEEE 802.11be(EHT20)		IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40) IEEE 802.11be(EHT40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80) IEEE 802.11be(EHT80)	
Band 1		Band 1		Band 1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20) IEEE 802.11be(EHT20)		IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40) IEEE 802.11be(EHT40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80) IEEE 802.11be(EHT80)	
Band 2		Band 2		Band 2	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

IEEE 802.11a IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20) IEEE 802.11be(EHT20)		IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40) IEEE 802.11be(EHT40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80) IEEE 802.11be(EHT80)	
Band 3		Band 3		Band 3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590		
112	5560	126	5630		
116	5580	134	5670		
120	5600				
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				

IEEE 802.11ac(VHT160) IEEE 802.11ax(HE160) IEEE 802.11be(EHT160)	
Channel	Frequency (MHz)
50	5250
114	5570

3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Angeei	N/A	Dipole	IPEX	3.9
2	Angeei	N/A	Dipole	IPEX	3.9
3	Angeei	N/A	Dipole	IPEX	3.9
4	Angeei	N/A	Dipole	IPEX	3.9

Note:

- 1) The EUT incorporates a MIMO function. Physically, the EUT provides five completed transmitters and receivers (4T4R).
- 2) Beamforming Gain: 3 dBi.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

4. The worst case for 4TX as follow:

Operating Mode	TX Mode	Ant. 1+Ant. 2+Ant. 3+Ant. 4
	IEEE 802.11a	✓
	IEEE 802.11n(HT20)	✓
	IEEE 802.11n(HT40)	✓
	IEEE 802.11ac(VHT20)	✓
	IEEE 802.11ac(VHT40)	✓
	IEEE 802.11ac(VHT80)	✓
	IEEE 802.11ac(VHT160)	✓
	IEEE 802.11ax(HE20)	✓
	IEEE 802.11ax(HE40)	✓
	IEEE 802.11ax(HE80)	✓
	IEEE 802.11ax(HE160)	✓
	IEEE 802.11be(EHT20)	✓
	IEEE 802.11be(EHT40)	✓
	IEEE 802.11be(EHT80)	✓
	IEEE 802.11be(EHT160)	✓

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test	Clause	Test channels		
		Lower sub-band (5150 MHz to 5350 MHz)		Higher sub-band 5470 MHz to 5725 MHz
		5150 MHz to 5250 MHz	5250 MHz to 5350 MHz	
Centre frequencies	5.4.2	C7(see note 1)		C8(see note 1)
Occupied Channel Bandwidth	5.4.3	C7		C8
Power, power density	5.4.4	C1	C2	C3,C4
Transmitter unwanted emissions outside the 5 GHz RLAN bands	5.4.5	C7(see note 1)		C8(see note 1)
Transmitter unwanted emissions within the 5 GHz RLAN bands	5.4.6	C1	C2	C3,C4
Receiver spurious emissions	5.4.7	C7(see note 1)		C8(see note 1)
Transmit Power Control (TPC)	5.4.4	N/A(see note 2)	C2(see note 1)	C3,C4(see note 1)
Adaptivity	5.4.9	C9		
Receiver Blocking	5.4.10	C7		C8
Dynamic Frequency Selection (DFS)	5.4.8	N/A(see note 2)	C5	C6(see note 4)

C1,C3	The lowest declared channel for every declared Nominal Channel Bandwidth within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest Nominal Channel Bandwidth.
C2, C4	The highest declared channel for every declared Nominal Channel Bandwidth within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest Nominal Channel Bandwidth.
C5,C6	One channel out of the declared channels for this frequency range. If more than one Nominal Channel Bandwidth has been declared for this sub-band, testing shall be performed using the lowest and highest Nominal Channel Bandwidth.
C7, C8	One channel out of the declared channels for this sub-band. For Occupied Channel Bandwidth, testing shall be repeated for every declared Nominal Channel Bandwidth within this sub-band.
C9	One channel (in case of single-channel testing) or a group of channels (in case of multi-channel testing) out of the declared channels.

Note :

- (1) In case of more than 1 channel plan has been declared, testing of these specific requirements need only be performed using one of the declared channel plans.
- (2) Testing is not required for nominal channel bandwidths that fall completely within the frequency range 5150 MHz to 5250 MHz.
- (3) The measurements for RF Output Power are tested, the worst case are IEEE 802.11a mode, IEEE 802.11ac(VHT20) mode, IEEE 802.11ac(VHT40) mode, IEEE 802.11ac(VHT80) mode, IEEE 802.11ac(VHT160) mode, IEEE 802.11be(EHT20) mode, IEEE 802.11be(EHT40) mode, IEEE 802.11be(EHT80) mode and IEEE 802.11be(EHT160) mode, only the worst cases are documented for other test items except Adaptivity and Receiver Blocking.
- (4) Where the declared channel plan includes channels whose nominal channel bandwidth falls completely or partly within the 5600 MHz to 5650 MHz band, the tests for the Channel Availability Check (and where implemented, for the Off-Channel CAC) shall be performed on one of these channels in addition to a channel within the band 5470 MHz to 5600 MHz or 5650 MHz to 5725 MHz band.
- (5) The measurements for RF Output Power are tested, the Non Beamforming and Beamforming are recorded in the report. Only the worst case is documented for other test items.
- (6) For radiated spurious emissions below 1 GHz test, the IEEE 802.11be(EHT40) channel 102 is found to be the worst case and recorded.
- (7) IEEE 802.11ax mode and IEEE 802.11be mode only supports full RU, so only the full RU is evaluated and measured inside report.
- (8) For 18-26 GHz, the worst case are IEEE 802.11be(EHT40) channel 38/102, only the worst cases are documented in report.

2.3 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.

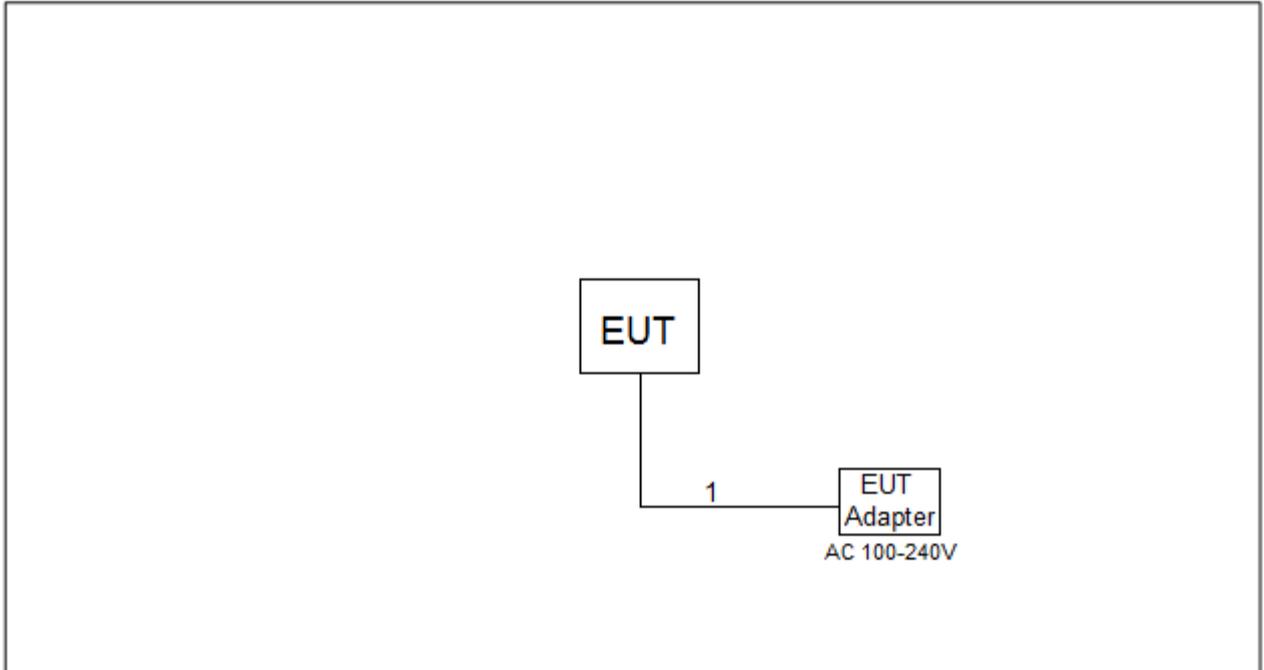
Non Beamforming

Test Software Version	QATool_20221007C			
Frequency (MHz)	5180	5320	5500	5700
IEEE 802.11a	11.5	12	18	18
IEEE 802.11n(HT20)	11.5	12	18	18
IEEE 802.11ac(VHT20)	11.5	12	18	18
IEEE 802.11ax(HE20)	11.5	11.5	18	18
IEEE 802.11be(EHT20)	11.5	11.5	18	18
Frequency (MHz)	5190	5310	5510	5670
IEEE 802.11n(HT40)	11.5	12	18	18.5
IEEE 802.11ac(VHT40)	11.5	12	18	18.5
IEEE 802.11ax(HE40)	11.5	11.5	18	18.5
IEEE 802.11be(EHT40)	11.5	11.5	18	18.5
Frequency (MHz)	5210	5290	5530	5610
IEEE 802.11ac(VHT80)	11.5	12	18	18
IEEE 802.11ax(HE80)	11	11.5	18	18
IEEE 802.11be(EHT80)	11	11.5	18	18
Frequency (MHz)	5250	5570		
IEEE 802.11ac(VHT160)	12	19		
IEEE 802.11ax(HE160)	12	18.5		
IEEE 802.11be(EHT160)	12	18.5		

Beamforming

Test Software Version	QATool_20221007C			
Frequency (MHz)	5180	5320	5500	5700
IEEE 802.11n(HT20)	8.5	9	15	15
IEEE 802.11ac(VHT20)	8.5	9	15	15
IEEE 802.11ax(HE20)	8.5	8.5	15	15
IEEE 802.11be(EHT20)	8.5	8.5	15	15.5
Frequency (MHz)	5190	5310	5510	5670
IEEE 802.11n(HT40)	8.5	9	15	15.5
IEEE 802.11ac(VHT40)	8.5	9	15	15.5
IEEE 802.11ax(HE40)	8.5	8.5	15	15.5
IEEE 802.11be(EHT40)	8.5	8.5	15	15.5
Frequency (MHz)	5210	5290	5530	5610
IEEE 802.11ac(VHT80)	8.5	8.5	15	15
IEEE 802.11ax(HE80)	8	8.5	15	15
IEEE 802.11be(EHT80)	8	8.5	15	15
Frequency (MHz)	5250	5570		
IEEE 802.11ac(VHT160)	9	16		
IEEE 802.11ax(HE160)	9	15.5		
IEEE 802.11be(EHT160)	9	15.5		

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 DESCRIPTION OF SUPPORT UNITS

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	Brand	Model No.
A	adapter	Meic	MN0369-E120300

Item	Cable Type	Shielded Type	Ferrite Core	Length	Calibrated until
1	DC Cable	NO	NO	1.5M	N/A

2.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3. CENTRE FREQUENCIES

3.1 LIMIT

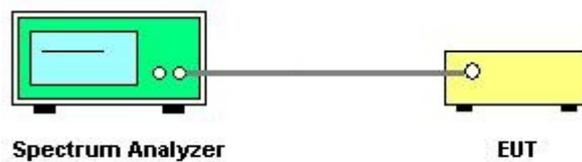
Clause	Test Item	Limit
4.2.1	Centre Frequencies	F(c) \pm 20ppm

3.2 TEST PROCEDURES

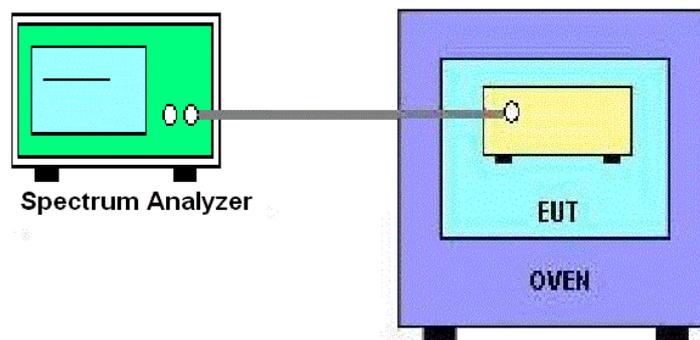
Refer to ETSI EN 301 893, clause 5.4.2.2.1.

3.3 TEST SETUP LAYOUT

Normal Condition



Extreme Condition



3.4 TEST DEVIATION

There is no deviation with the original standard.

3.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

3.6 TEST RESULTS

Please refer to the Appendix A.

4. NOMINAL / OCCUPIED CHANNEL BANDWIDTH

4.1 LIMIT

The Nominal Channel Bandwidth for a single Operating Channel shall be 20 MHz.

Alternatively, equipment may implement a lower Nominal Channel Bandwidth with a minimum of 5 MHz, providing they still comply with the Nominal Centre Frequencies defined in clause 4.2.1 of EN 301 893 (20 MHz raster).

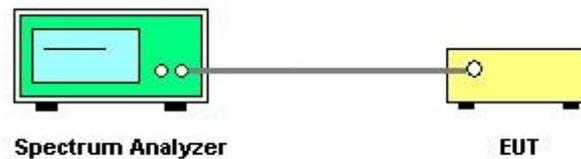
The Occupied Channel Bandwidth shall be between 80 % and 100 % of the Nominal Channel Bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement. The Occupied Channel Bandwidth might change with time/payload.

During a Channel Occupancy Time (COT), equipment may operate temporarily with an Occupied Channel Bandwidth of less than 80 % of its Nominal Channel Bandwidth with a minimum of 2 MHz.

4.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.3.2.1.

4.3 TEST SETUP LAYOUT



4.4 TEST DEVIATION

There is no deviation with the original standard.

4.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

4.6 TEST RESULTS

Please refer to the Appendix B.

5. RF OUTPUT POWER

5.1 LIMIT

Mean e.i.r.p. Limits for RF Output Power at the Highest Power Level		
Frequency Range (MHz)	Mean e.i.r.p. Limit for P_H (dBm)	
	With TPC	Without TPC
5150 to 5350	23	20/23 (see note1)
5470 to 5725	30 (see note2)	27 (see note2)

Note:	
(1)	The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 23 dBm.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

Mean e.i.r.p. Limits for RF Output Power at the Lowest Power Level(see note1)	
Frequency Range	Mean e.i.r.p. for P_L
5250 MHz to 5350 MHz	17 dBm
5470 MHz to 5725 MHz	24 dBm (see note2)

Note:	
(1)	For devices without TPC, the limits in the table do not apply.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

5.2 TEST PROCEDURES

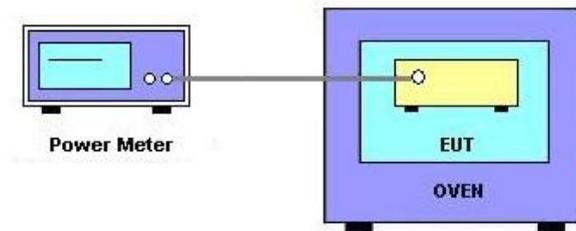
Refer to ETSI EN 301 893, clause 5.4.4.2.1.

5.3 TEST SETUP LAYOUT

Normal Condition



Extreme Condition



5.4 TEST DEVIATION

There is no deviation with the original standard.

5.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

5.6 TEST RESULTS

Please refer to the Appendix C.

6. POWER DENSITY

6.1 LIMIT

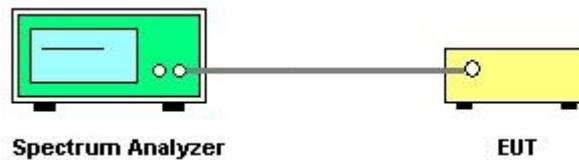
Mean e.i.r.p. Limits for Power Density at the Highest Power Level		
Frequency Range (MHz)	Mean e.i.r.p. Density Limit (dBm/MHz)	
	With TPC	Without TPC
5150 to 5350	10	7/10 (see note1)
5470 to 5725	17 (see note2)	14 (see note2)

Note:	
(1)	The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 10 dBm/MHz.
(2)	Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.

6.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.4.2.1.

6.3 TEST SETUP LAYOUT



6.4 TEST DEVIATION

There is no deviation with the original standard.

6.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

6.6 TEST RESULTS

Please refer to the Appendix D.

7. TRANSMITTER UNWANTED EMISSIONS (OUTSIDE THE 5 GHZ RLAN BANDS)

7.1 LIMIT

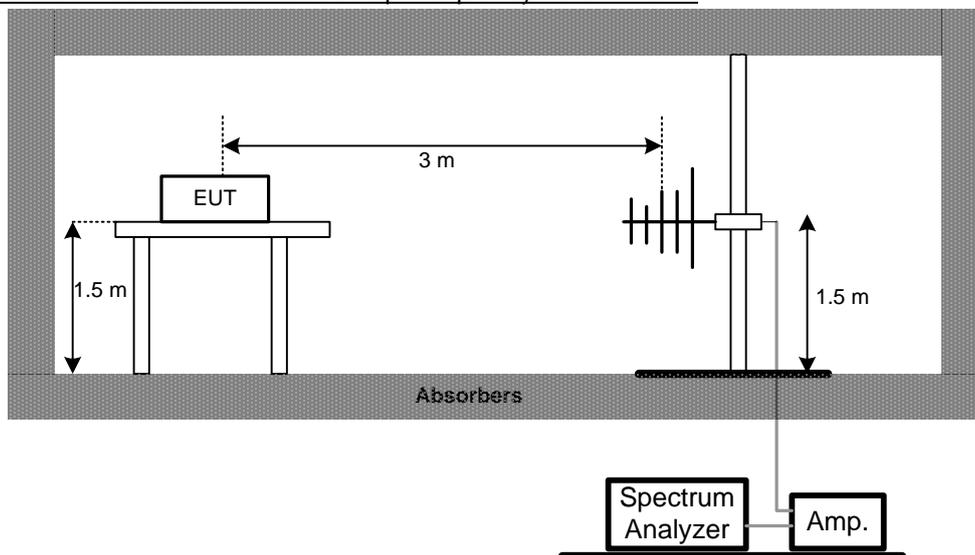
Clause	Test Item	Frequency(MHz)	Limit (dBm)
4.2.4.1	Transmitter Unwanted Emissions (Outside The 5 GHz RLAN Bands)	47 MHz to 74 MHz 87,5 MHz to 118 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	-54
		Other frequencies Below 1GHz	-36
		1GHz~26.5 GHz (Outside frequency ranges)	-30

7.2 TEST PROCEDURES

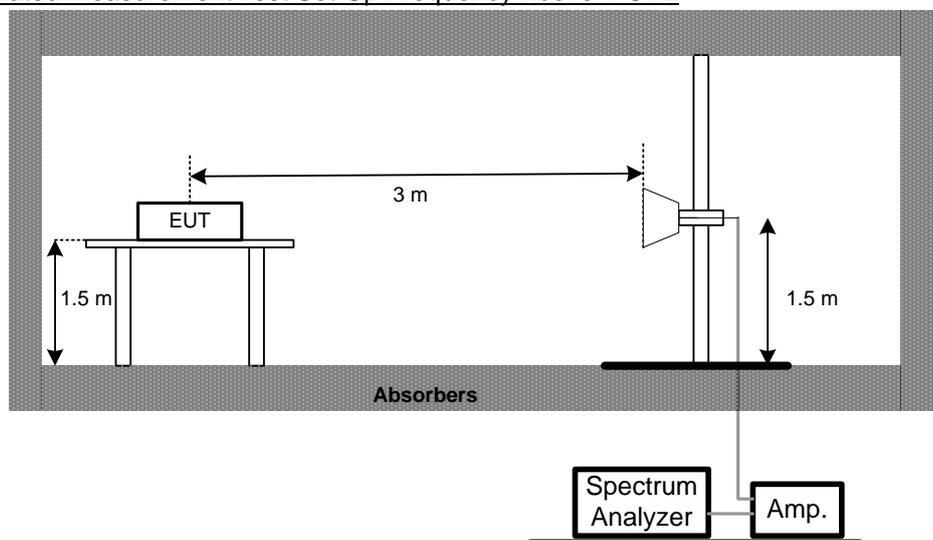
Refer to ETSI EN 301 893, clause 5.4.5.2.2.

7.3 TEST SETUP LAYOUT

Emission Radiated Measurement Test Set-Up Frequency Below 1 GHz



Emission Radiated Measurement Test Set-Up Frequency Above 1 GHz



7.4 TEST DEVIATION

There is no deviation with the original standard.

7.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

7.6 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the Appendix E.

7.7 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the Appendix F.

8. TRANSMITTER UNWANTED EMISSIONS(WITHIN THE 5 GHZ RLAN BANDS)

8.1 LIMIT

Clause	Test Item	Limit
4.2.4.2	Transmitter Unwanted Emissions (Within the 5 GHz RLAN bands)	

8.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.6.2.1.

8.3 TEST SETUP LAYOUT



8.4 TEST DEVIATION

There is no deviation with the original standard.

8.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously transmitting.

8.6 TEST RESULTS

Please refer to the Appendix G.

9. RECEIVER SPURIOUS EMISSIONS

9.1 LIMIT

Clause	Test Item	Frequency(MHz)	Limit
4.2.5	Receiver spurious emissions	30-1000	-57dBm
		1000~26500	-47dBm

9.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.7.2.2.

9.3 TEST SETUP LAYOUT

Please refer to clause 7.3.

9.4 TEST DEVIATION

There is no deviation with the original standard.

9.5 EUT OPERATION DURING TEST

The measurements shall be performed during continuously receiving.

9.6 TEST RESULTS (30 MHZ TO 1000 MHZ)

Please refer to the Appendix H.

9.7 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Appendix I.

10. ADAPTIVITY (CHANNEL ACCESS MECHANISM)

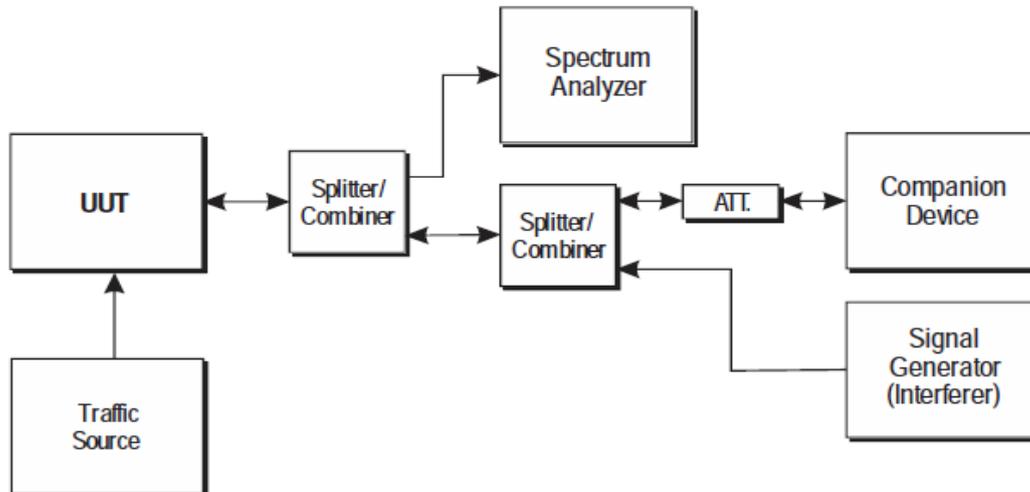
10.1 LIMIT

Refer to ETSI EN 301 893, clause 4.2.7

10.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.9.3.2.

10.3 TEST SETUP



10.4 TEST DEVIATION

There is no deviation with the original standard.

10.5 EUT OPERATION DURING TEST

The measurements shall be performed during normal operation.

10.6 TEST RESULTS

Please refer to the Appendix J.

11. RECEIVER BLOCKING

11.1 LIMIT

The minimum performance criterion shall be a PER of less than or equal to 10 %.

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 _{min} + 6 dB	5 100	-53	-59	Continuous Wave
P _{min} + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave

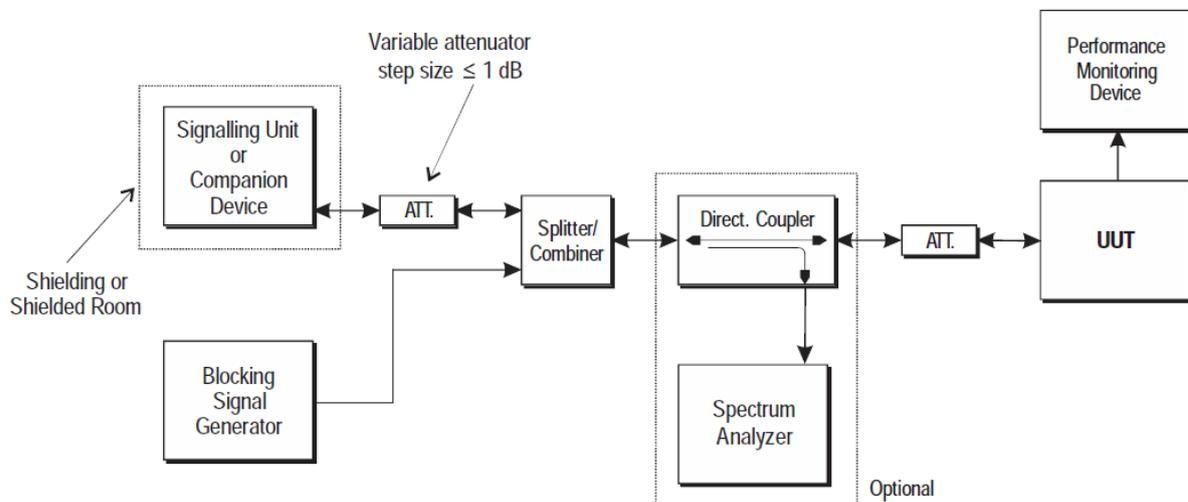
NOTE 1: P_{min} is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal.

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.

11.2 TEST PROCEDURES

Refer to ETSI EN 301 893, clause 5.4.10.2.1.

11.3 TEST SETUP



11.4 TEST DEVIATION

There is no deviation with the original standard.

11.5 EUT OPERATION DURING TEST

The measurements shall be performed during normal receiving.

11.6 TEST RESULTS

Please refer to the Appendix K.

12. DYNAMIC FREQUENCY SELECTION (DFS)

12.1 GENERAL DFS INFORMATION

12.1.1 DFS PARAMETERS

Table D.1: DFS requirement values	
Parameter	Value
Channel Availability Check Time	60 seconds (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 seconds
Channel Closing Transmission Time	1 second
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 Channel Availability Check Time shall be 10 minutes.
(2)	For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the Off-Channel CAC Time shall be within the range 1 to 24 hours.

Table D.2: Radar Detection Threshold Levels	
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 a RLAN device with a maximum e.i.r.p. density of 10dBm/MHz and assuming a 0 dBi receive antenna. For devices employing different e.i.r.p. spectral density and/or a different receive antenna gain G (dBi) the radar detection threshold level at the receiver input follows the following relationship: DFS Detection Threshold (dBm) = -62 + 10 - e.i.r.p. Spectral Density (dBm/MHz) + G (dBi), however the radar detection threshold level shall not be less than -64 dBm assuming a 0 dBi receive antenna gain.
(2)	Slave devices with a maximum e.i.r.p. of less than 23 dBm do not have to implement radar detection unless these devices are used in fixed outdoor point to point or fixed outdoor point to multipoint applications (see clause 4.2.6.1.3 of EN 301 893).

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 # (note 1 to 3)	Pulse width W [μs]		Pulse repetition frequency PRF [PPS]		Number of different PRFs	Pulses per burst for each PRF [PPB] (note 5)
	Min	Max	Min	Max		
1	0.5	5	200	1000	1	10 (note 6)
2	0.5	15	200	1600	1	15 (note 6)
3	0.5	15	2300	4000	1	25
4	20	30	2000	4000	1	20
5	0.5	2	300	400	2/3	10 (note 6)
6	0.5	2	400	1200	2/3	15 (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.								
(2)	<p>Radar test signal #4 is a modulated radar test signal. The modulation to be used is a chirp modulation with a $\pm 2,5$ MHz frequency deviation which is described below.</p> <table border="1"> <caption>Data points for Figure D.4</caption> <thead> <tr> <th>% of time (of width pulse)</th> <th>F (MHz)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>-2.5</td> </tr> <tr> <td>50</td> <td>0</td> </tr> <tr> <td>100</td> <td>2.5</td> </tr> </tbody> </table>	% of time (of width pulse)	F (MHz)	0	-2.5	50	0	100	2.5
% of time (of width pulse)	F (MHz)								
0	-2.5								
50	0								
100	2.5								
(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.								
(4)	Apart for the Off-Channel CAC testing, the radar test signals above shall only contain a single burst of pulses. See figure D.1, figure D.3 and figure D.4. For the Off-Channel CAC testing, repetitive bursts shall be used for the total duration of the test. See figure D.2 and figure D.5. See also clause 4.2.6.2.3, clause 5.4.8.2.1.4.2 and clause 5.4.8.2.1.4.3.								
(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.								
(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_d)	
	Channels whose nominal bandwidth falls partly or completely within the 5600 MHz to 5650 MHz band	Other channels
CAC, Off-Channel CAC	99,99 %	60 %
In-Service Monitoring	60 %	60 %

Note:	
(1)	P_d gives the probability of detection per simulated radar burst and represents a minimum level of detection performance under defined conditions. Therefore P_d does not represent the overall detection probability for any particular radar under real life conditions.

12.1.2 RADAR TEST SIGNAL FIGURE

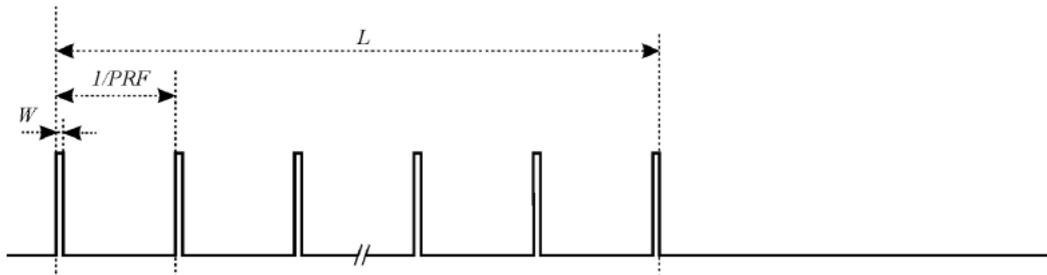


Figure D.1: General structure of a single burst/constant PRF based radar test signal

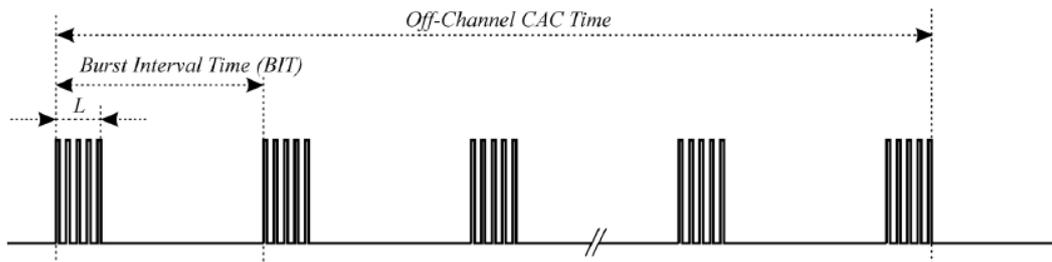


Figure D.2: General structure of a multiple burst/constant PRF based radar test signal

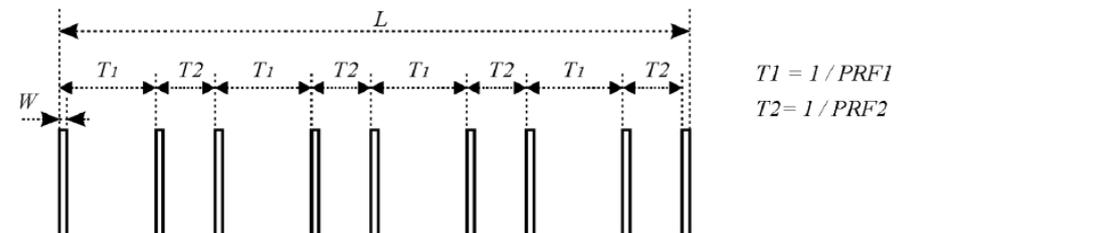


Figure D.3: General structure of a single burst/single pulse based staggered PRF radar test signal

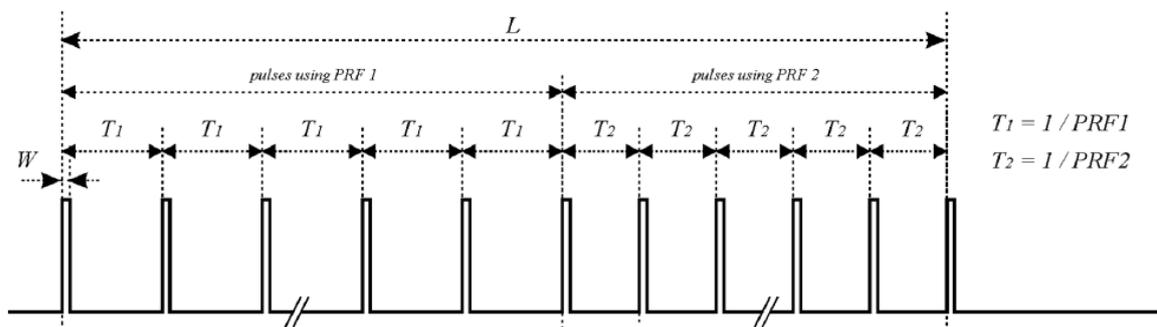


Figure D.4: General structure of a single burst/packet based staggered PRF radar test signal

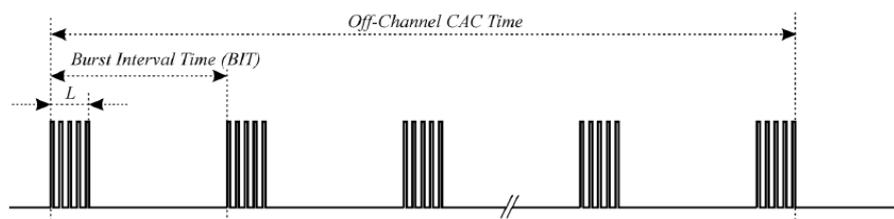


Figure D.5: General structure of a multiple burst/packet based staggered PRF based radar test signal

12.1.3 DFS TECHNICAL REQUIREMENTS SPECIFICATIONS

Requirement	DFS Operational mode		
	Master	Slave without radar detection (see table D.2, note2)	Slave with radar Detection (see table D.2, note2)
Channel Availability Check	√	Not required	√(note2)
Off-Channel CAC (note 1)	√	Not required	√(note2)
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.
- (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 and the Non-Occupancy Period resulting from this detection has elapsed.

12.1.4 DFS THRESHOLD LEVEL

DFS Threshold Level	
DFS Threshold level: -63.50 dBm	<input checked="" type="checkbox"/> at the antenna connector
	<input type="checkbox"/> in front of the antenna

Note:

- (1) $DFS\ Detection\ Threshold\ (dBm) = -62 + 10 \cdot Spectral\ Power\ Density\ e.i.r.p.\ (dBm/MHz) + G\ (dBi)$
Spectral Power Density e.i.r.p.=15.40 dBm/MHz, Antenna gain is 3.9 dBi.
- (2) However, the DFS threshold level shall not be lower than -64 dBm assuming a 0 dBi receive antenna gain. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the lowest gain shall be used.

12.2 CHANNEL AVAILABILITY CHECK (CAC)

12.2.1 LIMIT OF CHANNEL AVAILABILITY CHECK

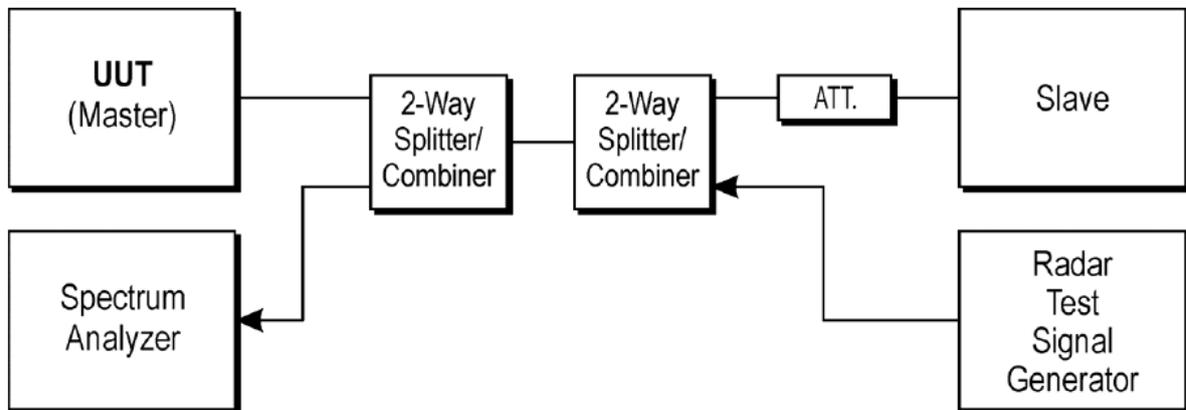
Channel Availability Check (CAC)	
1	The Channel Availability Check shall be performed during a continuous period in time (Channel Availability Check Time) which shall not be less than the value defined in table D.1.
2	During the Channel Availability Check, the RLAN shall be capable of detecting any of the radar test signals that fall within the ranges given by table D.4 with a level equal to the Radar Detection Threshold defined in table D.2.
3	The minimum required detection probability is defined in table D.5.

12.2.2 TEST PROCEDURES

<p>Channel Availability Check Time: Method of measurement: Refer as EN 301 893, clause 5.4.8.2.1.2.</p>
<p>Interference Detection Threshold during the Channel Availability Check: Method of measurement: Refer as EN 301 893, clause 5.4.8.2.1.3.</p>

12.2.3 TEST SETUP

Master Measurement



12.2.4 TEST RESULTS

Please refer to the Appendix L.

12.3 IN-SERVICE MONITORING

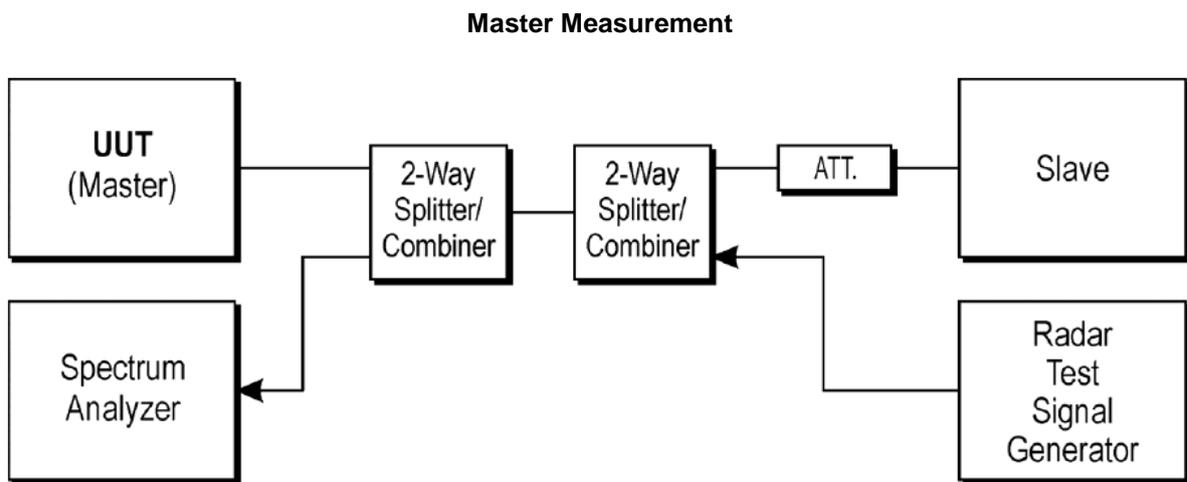
12.3.1 LIMIT OF IN-SERVICE MONITORING

In-Service Monitoring	
1	The In-Service Monitoring shall be used to monitor an Operating Channel.
2	The In-Service-Monitoring shall start immediately after the RLAN device has started transmissions on a channel.
3	During the In-Service Monitoring, the RLAN device shall be capable of detecting any of the radar test signals that fall within the ranges given by table D.4 with a level equal to the Radar Detection Threshold defined in table D.2.
4	The minimum required detection probability is defined in table D.5.

12.3.2 TEST PROCEDURES

Interference Detection Threshold during In-Service Monitoring:
Method of measurement: Refer as EN 301 893, clause 5.4.8.2.1.5

12.3.3 TEST SETUP



12.3.4 TEST RESULTS

Please refer to the Appendix M.

12.4 CHANNEL SHUTDOWN AND NON-OCCUPANCY PERIOD

12.4.1 LIMIT OF CHANNEL SHUTDOWN AND NON-OCCUPANCY PERIOD

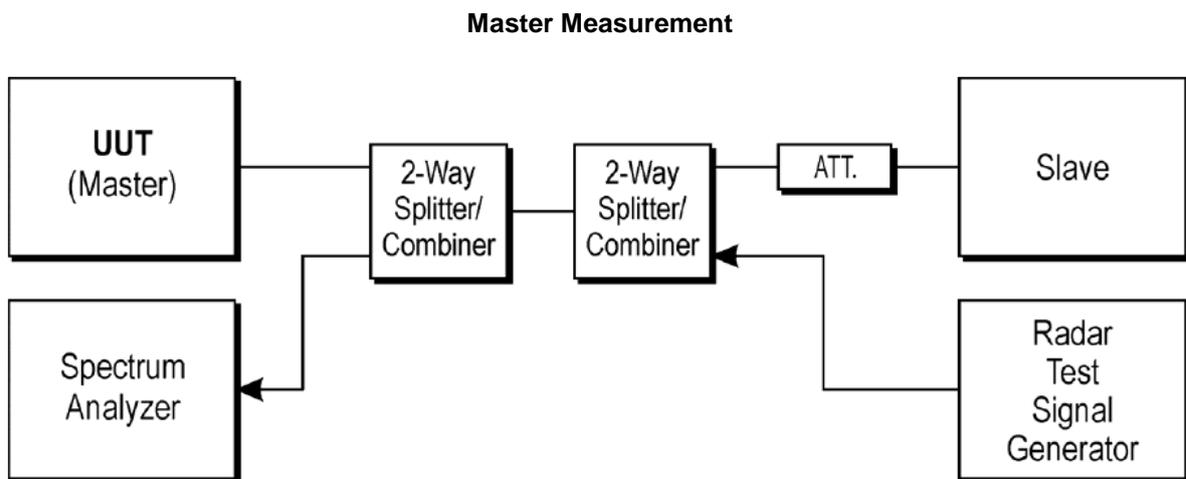
Channel Shutdown	
1	The Channel Move Time shall not exceed the limit defined in table D.1.
2	The Channel Closing Transmission Time shall not exceed the limit defined in table D.1.

Non-Occupancy Period	
1	The Non-Occupancy Period shall not be less than the value defined in table D.1.

12.4.2 TEST PROCEDURES

Channel Shutdown and Non-Occupancy Period:
Method of measurement: Refer as EN 301 893, clause 5.4.8.2.1.6

12.4.3 TEST SETUP



12.4.4 TEST RESULTS

Please refer to the Appendix N.

13. MEASUREMENT INSTRUMENTS LIST

Centre Frequency					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480543	Mar. 17, 2024
2	CE 300328&301893 test system	BTL	Ver 1.5736	N/A	N/A
3	Temperature And Humidity Box	Blue pand	BPHS-120B	170616454	Jul. 23, 2024

Nominal / Occupied Channel Bandwidth & Power Density & Transmitter Unwanted Emissions Within The 5 GHz RLAN Bands					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480543	Mar. 17, 2024
2	CE 300328&301893 test system	BTL	Ver 1.5736	N/A	N/A

RF Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	USB Peak and Average Power Sensor	Keysight	U2063XA	MY58000309	Jul. 21, 2024
2	USB Peak and Average Power Sensor	Keysight	U2063XA	MY58000306	Jul. 21, 2024
3	USB Peak and Average Power Sensor	Keysight	U2063XA	MY58000305	Jul. 21, 2024
4	USB Peak and Average Power Sensor	Keysight	U2063XA	MY58000307	Jul. 21, 2024
5	Temperature And Humidity Box	Blue pand	BPHS-120B	170616454	Jul. 23, 2024
6	IOT0047A Wireless IoT Devices Regulatory Compliance Test Solution	Keysight	Ver 23.7.25.17	N/A	N/A

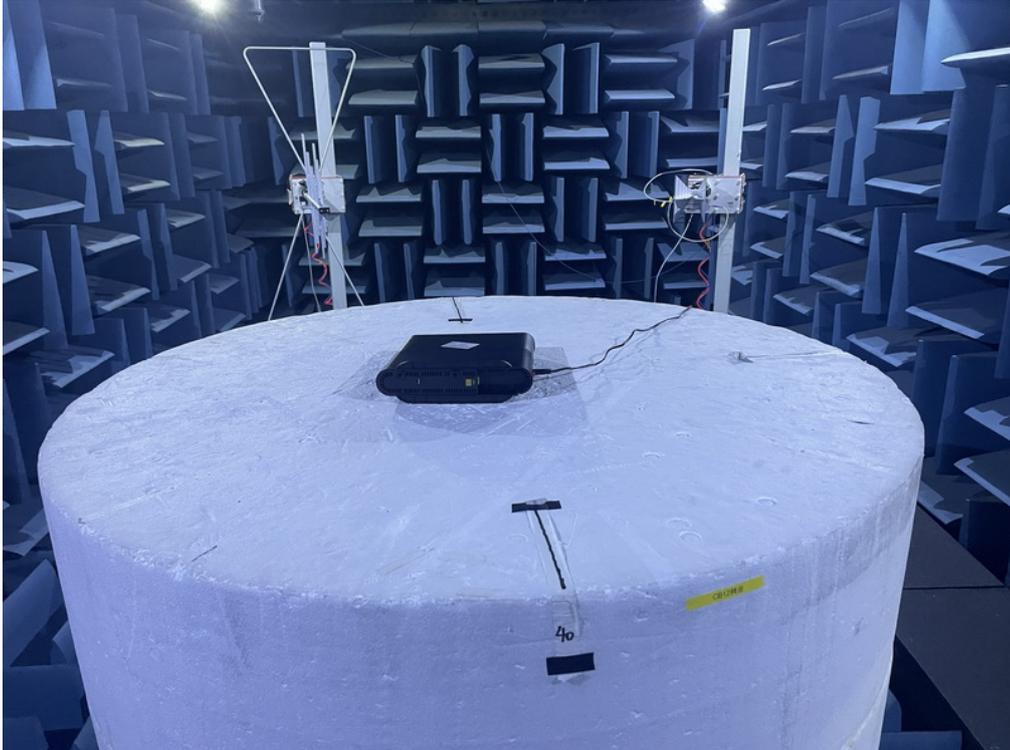
Adaptivity					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Adaptivity Test Unit	Keysight	AD211	57133523	N/A
2	MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY56200484	Jul. 21, 2024
3	Frequency Extender	Keysight	N5182BX07	MY61500105	Jul. 21, 2024
4	EXA Spectrum Analyzer	Keysight	N9010A	MY56480543	Mar. 17, 2024
5	CE 300328&301893 test system	BTL	Ver 1.5736	N/A	N/A
6	Predator Connect T7 Wi-Fi 7 Mesh Router	N/A	T7	N/A	N/A

Receiver Blocking					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480543	Mar. 17, 2024
2	MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY56200484	Jul. 21, 2024
3	Frequency Extender	Keysight	N5182BX07	MY61500105	Jul. 21, 2024
4	Widiband Radio Communication Test	R&S	CMW500	129246	Jul. 21, 2024

Transmitter and Receiver Spurious Emission (Radiated Measurement)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Horn Antenna	EMC Instruments corporation	DRH18-E	210801A18ES	Jun. 12, 2024
2	Pre-Amplifier	EMC Instruments corporation	EMC118A45SE	980910	Jun. 18, 2024
3	FSV Signal & Spectrum Analyzer	ROHDE&SCHWARZ	FSV3044	101478	Apr. 26, 2024
4	TRILOG Super Broadb Test Antenna	EMC Instruments corporation	VULB 9168	1468	Jun. 12, 2024
5	Pre-Amplifier	EMC Instruments corporation	EMC330N	980953	Jun. 12, 2024
6	Antenna	Schwarzbeck	BBHA9170	9170-651	Mar. 12, 2024
7	Pre-Amplifier	EMC INSTRUMENT	EMC184045B	980265	Mar. 17, 2024
8	CABLE	emci	EMC107-SM-NM-2500	230533	Jun. 11, 2024
9	CABLE	emci	EMC107-SM-NM-10000	230536	Jun. 11, 2024
10	CABLE	emci	EMC104-SM-SM-2500	170617	Jun. 16, 2024
11	CABLE	emci	EMC107-SM-NM-2500	230534	Jun. 11, 2024
12	CABLE	emci	EMC107-SM-NM-8000	230535	Jun. 11, 2024
13	CABLE	emci	RWP50-4.6A-SM SM-1M	20200928 003	Jun. 15, 2024
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

DFS					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Keysight	N9010A	MY56480543	Mar. 17, 2024
2	MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY56200484	Jul. 21, 2024
3	Frequency Extender	Keysight	N5182BX07	MY61500105	Jul. 21, 2024
4	Keysight Signal Studio for DFS Radar Profiles	Keysight	Ver 2.4.0.0	N/A	N/A
5	Attenuator	Solvang Technology	5.8GHz 0-65dB	STI02-0203-01	Jul. 21, 2024
6	Predator Connect T7 Wi-Fi 7 Mesh Router	N/A	T7	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

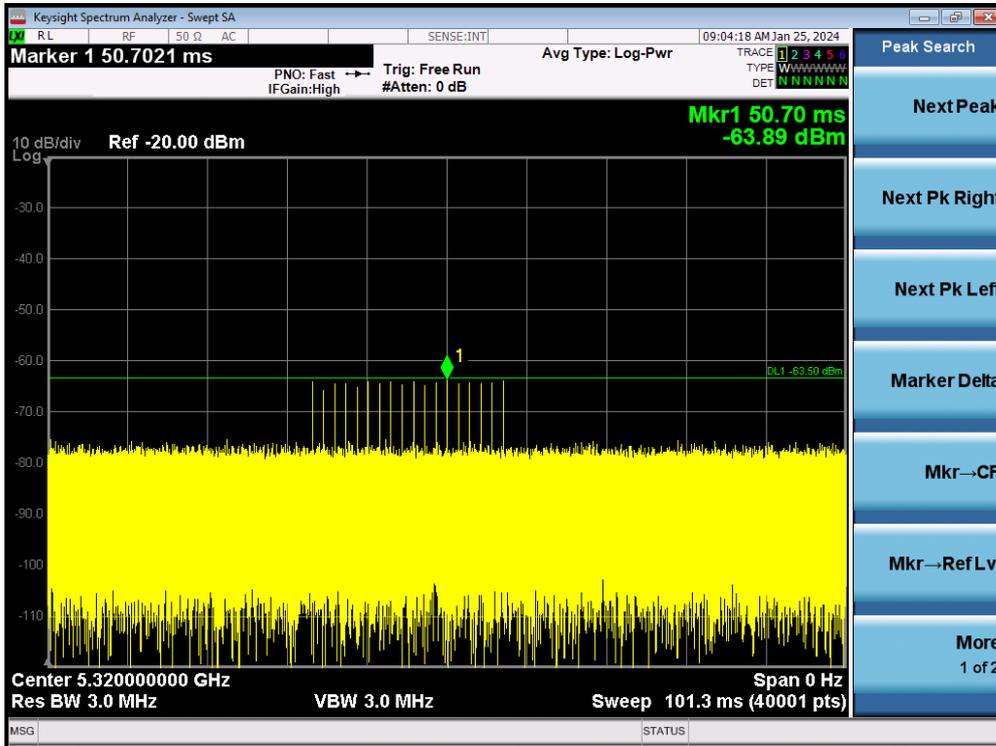
14. EUT TEST PHOTO**Radiated Emissions Test Photos**

DFS Test Photos

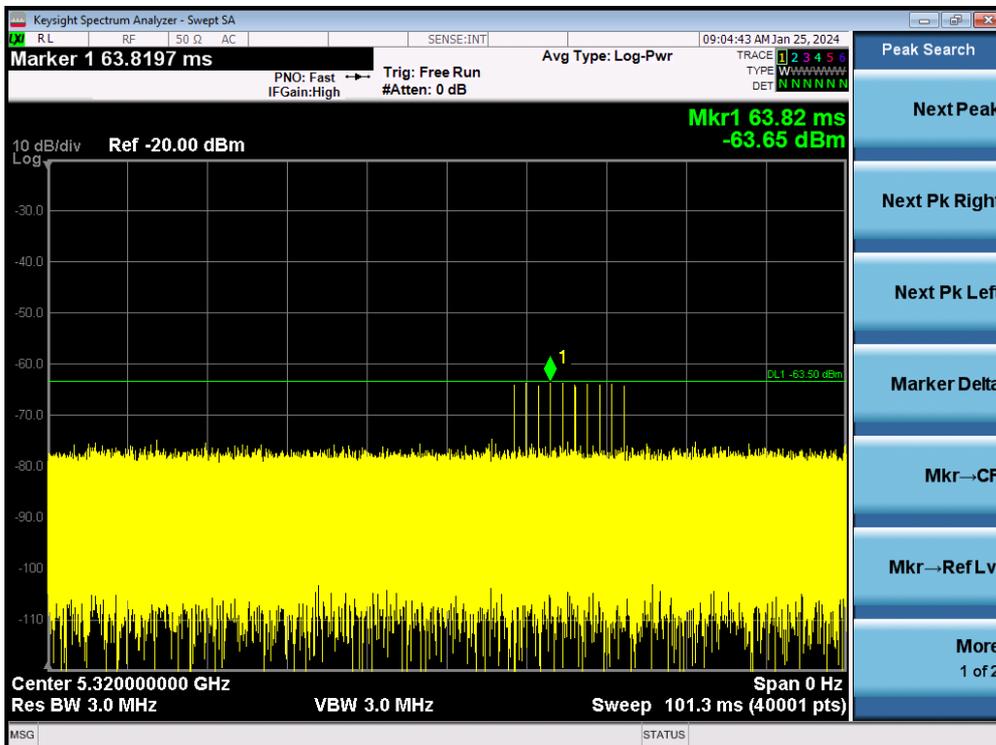


15. DFS DETECTION THRESHOLD

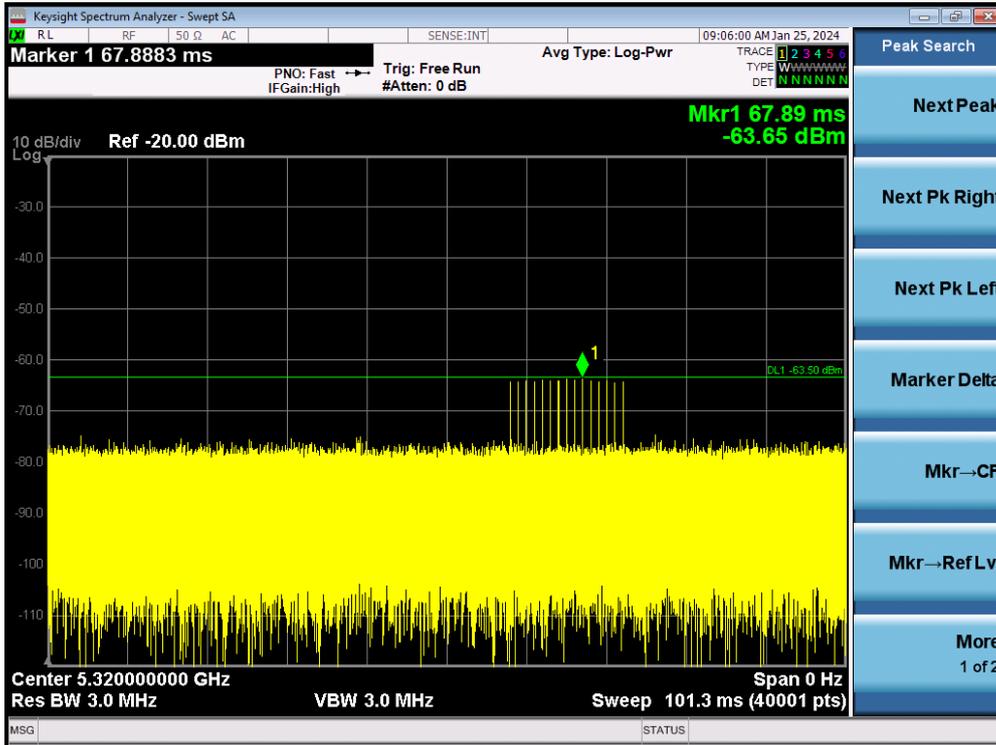
Radar Signal Reference



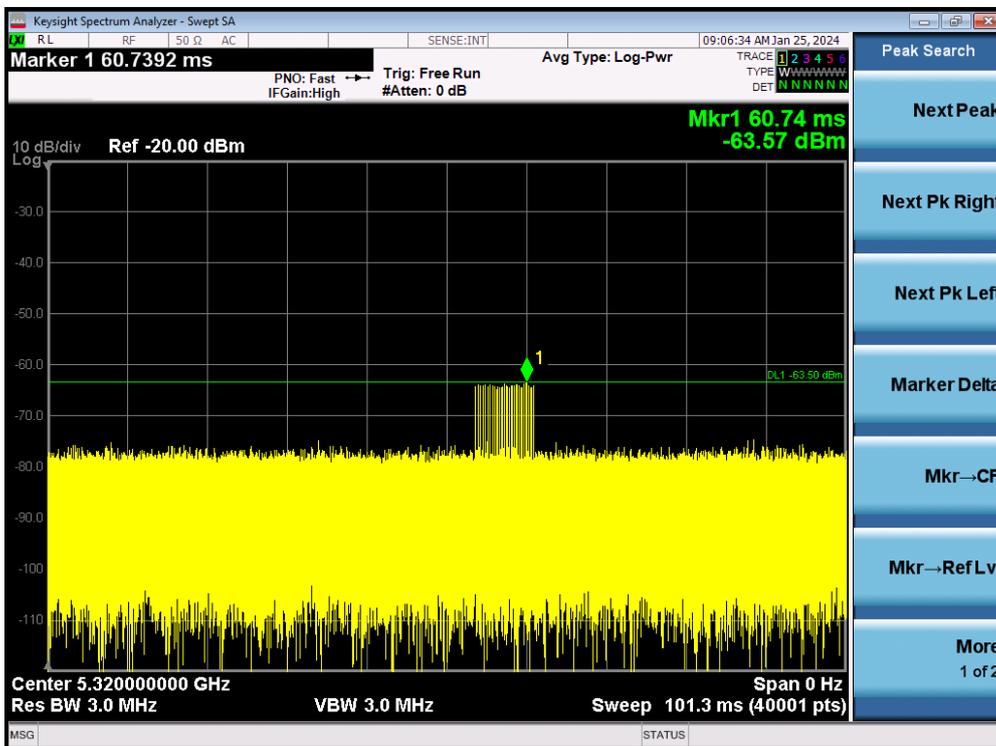
Radar Signal 1



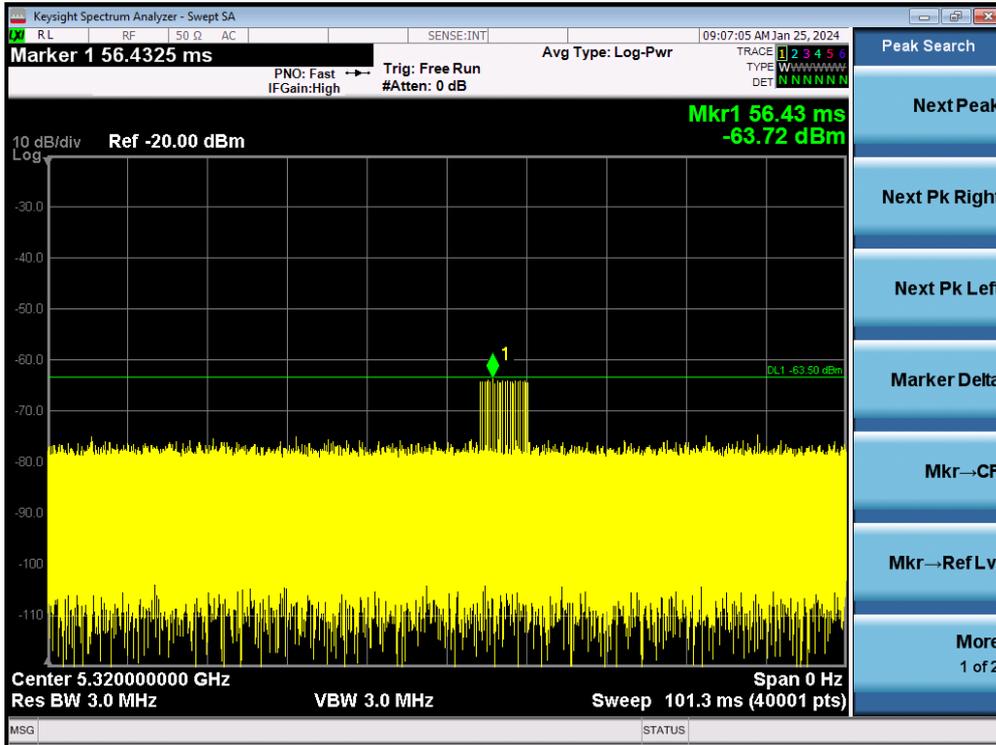
Radar Signal 2



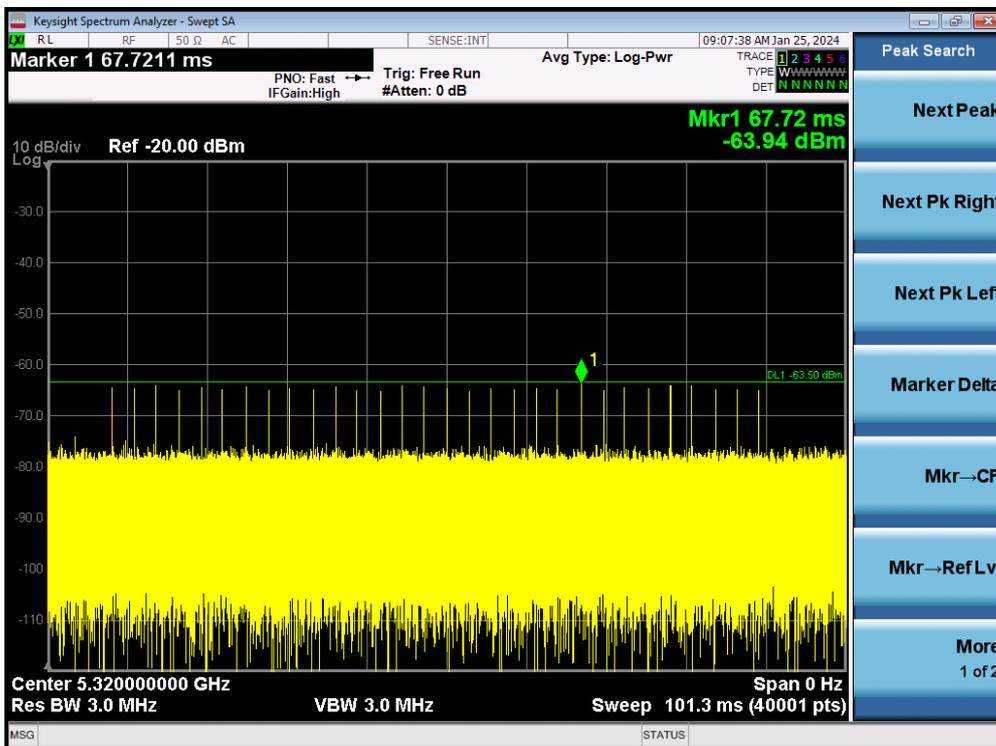
Radar Signal 3



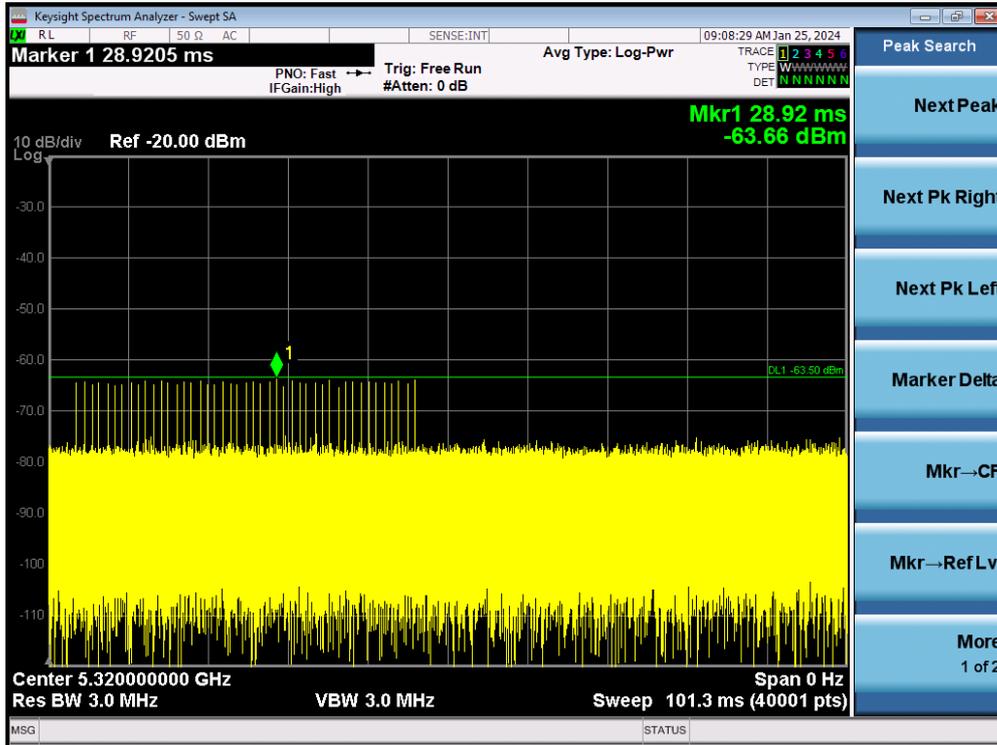
Radar Signal 4



Radar Signal 5



Radar Signal 6



16. RADAR TEST WAVEFORMS

Radar Signal Reference								
Trial ID	Radar Type	Pulse Width (μ s)	Number of Different PRFs	Pulse Repetition Frequency (PPS)	Pulses per Burst for Each PRF (PPB)	Number of Bursts	Chirp BW (MHz)	Waveform Length (μ s)
0	Reference	1	1	700	18	1	0	25714.8

Radar Signal 1								
Trial ID	Radar Type	Pulse Width (μs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)	Pulses per Burst for Each PRF (PPB)*	Number of Bursts	Chirp BW (MHz)	Waveform Length (μs)
0	Type 1	3	1	645	10	1	0	15504
1	Type 1	0.6	1	230	10	1	0	43478
2	Type 1	1.7	1	421	10	1	0	23753
3	Type 1	4.7	1	945	10	1	0	10582
4	Type 1	3.7	1	774	10	1	0	12920
5	Type 1	2.6	1	580	10	1	0	17241
6	Type 1	2.9	1	635	10	1	0	15748
7	Type 1	2.1	1	494	10	1	0	20243
8	Type 1	2.9	1	627	10	1	0	15949
9	Type 1	0.7	1	251	10	1	0	39841
10	Type 1	3.7	1	772	10	1	0	12953
11	Type 1	4.5	1	909	10	1	0	11001
12	Type 1	3	1	641	10	1	0	15601
13	Type 1	1.9	1	451	10	1	0	22173
14	Type 1	4.4	1	896	10	1	0	11161
15	Type 1	2.7	1	599	10	1	0	16694
16	Type 1	5	1	989	10	1	0	10111
17	Type 1	2.1	1	478	10	1	0	20921
18	Type 1	2.6	1	578	10	1	0	17301
19	Type 1	1.9	1	454	10	1	0	22026

***Note:**

- (1) When testing CAC and Off-Channel CAC in the band 5600 MHz to 5650 MHz, the minimum number of pulses (for each PRF) of the radar test signal will be changed to 18.

Radar Signal 2

Trial ID	Radar Type	Pulse Width (µs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)	Pulses per Burst for Each PRF (PPB)*	Number of Bursts	Chirp BW (MHz)	Waveform Length (µs)
0	Type 2	8.6	1	978	15	1	0	15337.5
1	Type 2	1	1	253	15	1	0	59289
2	Type 2	4.5	1	586	15	1	0	25597.5
3	Type 2	14	1	1503	15	1	0	9979.5
4	Type 2	10.9	1	1204	15	1	0	12459
5	Type 2	7.4	1	864	15	1	0	17361
6	Type 2	8.4	1	961	15	1	0	15609
7	Type 2	5.8	1	714	15	1	0	21009
8	Type 2	8.2	1	948	15	1	0	15823.5
9	Type 2	1.4	1	290	15	1	0	51724.5
10	Type 2	10.9	1	1200	15	1	0	12499.5
11	Type 2	13.4	1	1440	15	1	0	10416
12	Type 2	8.5	1	972	15	1	0	15432
13	Type 2	5	1	640	15	1	0	23437.5
14	Type 2	13.1	1	1417	15	1	0	10585.5
15	Type 2	7.7	1	899	15	1	0	16684.5
16	Type 2	14.8	1	1581	15	1	0	9487.5
17	Type 2	5.5	1	687	15	1	0	21834
18	Type 2	7.3	1	861	15	1	0	17421
19	Type 2	5.1	1	645	15	1	0	23256

***Note:**

- (1) When testing CAC and Off-Channel CAC in the band 5600 MHz to 5650 MHz, the minimum number of pulses (for each PRF) of the radar test signal will be changed to 18.

Radar Signal 3

Trial ID	Radar Type	Pulse Width (μs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)	Pulses per Burst for Each PRF (PPB)	Number of Bursts	Chirp BW (MHz)	Waveform Length (μs)
0	Type 3	8.6	1	3245	25	1	0	7705
1	Type 3	1	1	2365	25	1	0	10570
2	Type 3	4.5	1	2769	25	1	0	9027.5
3	Type 3	14	1	3882	25	1	0	6440
4	Type 3	10.9	1	3519	25	1	0	7105
5	Type 3	7.4	1	3107	25	1	0	8047.5
6	Type 3	8.4	1	3224	25	1	0	7755
7	Type 3	5.8	1	2924	25	1	0	8550
8	Type 3	8.2	1	3208	25	1	0	7792.5
9	Type 3	1.4	1	2410	25	1	0	10372.5
10	Type 3	10.9	1	3514	25	1	0	7115
11	Type 3	13.4	1	3806	25	1	0	6567.5
12	Type 3	8.5	1	3238	25	1	0	7720
13	Type 3	5	1	2834	25	1	0	8822.5
14	Type 3	13.1	1	3778	25	1	0	6617.5
15	Type 3	7.7	1	3149	25	1	0	7940
16	Type 3	14.8	1	3977	25	1	0	6285
17	Type 3	5.5	1	2892	25	1	0	8645
18	Type 3	7.3	1	3103	25	1	0	8057.5
19	Type 3	5.1	1	2840	25	1	0	8802.5

Radar Signal 4

Trial ID	Radar Type	Pulse Width (μs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)	Pulses per Burst for Each PRF (PPB)	Number of Bursts	Chirp BW (MHz)	Waveform Length (μs)
0	Type 4	25.6	1	3112	20	1	5	6426
1	Type 4	20.3	1	2076	20	1	5	9634
2	Type 4	22.7	1	2552	20	1	5	7836
3	Type 4	29.3	1	3861	20	1	5	5180
4	Type 4	27.2	1	3433	20	1	5	5826
5	Type 4	24.7	1	2949	20	1	5	6782
6	Type 4	25.4	1	3087	20	1	5	6478
7	Type 4	23.7	1	2734	20	1	5	7316
8	Type 4	25.3	1	3068	20	1	5	6518
9	Type 4	20.6	1	2129	20	1	5	9394
10	Type 4	27.2	1	3428	20	1	5	5834
11	Type 4	28.9	1	3771	20	1	5	5304
12	Type 4	25.5	1	3103	20	1	5	6446
13	Type 4	23.1	1	2628	20	1	5	7610
14	Type 4	28.7	1	3738	20	1	5	5350
15	Type 4	25	1	2999	20	1	5	6668
16	Type 4	29.9	1	3973	20	1	5	5034
17	Type 4	23.5	1	2696	20	1	5	7418
18	Type 4	24.7	1	2944	20	1	5	6794
19	Type 4	23.2	1	2636	20	1	5	7588

Radar Signal 5										
Trial ID	Radar Type	Pulse Width (µs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)			Pulses per Burst for Each PRF (PPB)*	Number of Bursts	Chirp BW (MHz)	Waveform Length (µs)
				PRF-1	PRF-2	PRF-3				
0	Type 5	1.4	3	356	377	329	10	1	0	85010
1	Type 5	0.5	2	303	331	-	10	1	0	63214
2	Type 5	0.9	2	327	375	-	10	1	0	57248
3	Type 5	2	3	393	351	373	10	1	0	80745
4	Type 5	1.7	3	372	394	352	10	1	0	80672
5	Type 5	1.3	2	347	383	-	10	1	0	54928
6	Type 5	1.4	3	354	376	334	10	1	0	84785
7	Type 5	1.1	2	337	384	-	10	1	0	55716
8	Type 5	1.4	3	353	382	332	10	1	0	84627
9	Type 5	0.6	2	306	352	-	10	1	0	61089
10	Type 5	1.7	3	372	322	352	10	1	0	86347
11	Type 5	2	3	389	349	369	10	1	0	81460
12	Type 5	1.4	3	355	384	334	10	1	0	84151
13	Type 5	1	2	331	360	-	10	1	0	57989
14	Type 5	1.9	3	387	337	358	10	1	0	83447
15	Type 5	1.3	2	350	382	-	10	1	0	54749
16	Type 5	2	3	399	378	353	10	1	0	79847
17	Type 5	1	2	335	383	-	10	1	0	55961
18	Type 5	1.3	2	347	378	-	10	1	0	55273
19	Type 5	1	2	332	376	-	10	1	0	56716

*Note:

- (1) When testing CAC and Off-Channel CAC in the band 5600 MHz to 5650 MHz, the minimum number of pulses (for each PRF) of the radar test signal will be changed to 18.

Radar Signal 6										
Trial ID	Radar Type	Pulse Width (µs)	Number of Different PRFs	Pulse Repetition Frequency (PPS)			Pulses per Burst for Each PRF (PPB)*	Number of Bursts	Chirp BW (MHz)	Waveform Length (µs)
				PRF-1	PRF-2	PRF-3				
0	Type 6	1.4	3	845	1103	1195	15	1	0	43902
1	Type 6	0.5	2	430	598	-	15	1	0	59967
2	Type 6	0.9	2	621	999	-	15	1	0	39169.5
3	Type 6	2	3	1145	835	1057	15	1	0	45256.5
4	Type 6	1.7	3	974	720	817	15	1	0	54594
5	Type 6	1.3	2	780	1031	-	15	1	0	33780
6	Type 6	1.4	3	835	935	626	15	1	0	57967.5
7	Type 6	1.1	2	694	1058	-	15	1	0	35791.5
8	Type 6	1.4	3	827	1084	924	15	1	0	48210
9	Type 6	0.6	2	451	809	-	15	1	0	51801
10	Type 6	1.7	3	972	732	1128	15	1	0	49221
11	Type 6	2	3	1109	918	1199	15	1	0	42375
12	Type 6	1.4	3	841	1023	727	15	1	0	53131.5
13	Type 6	1	2	651	830	-	15	1	0	41113.5
14	Type 6	1.9	3	1096	705	937	15	1	0	50970
15	Type 6	1.3	2	799	1003	-	15	1	0	33729
16	Type 6	2	3	1189	1097	795	15	1	0	45157.5
17	Type 6	1	2	678	1049	-	15	1	0	36423
18	Type 6	1.3	2	778	973	-	15	1	0	34695
19	Type 6	1	2	654	988	-	15	1	0	38118

*Note:

(1) When testing CAC and Off-Channel CAC in the band 5600 MHz to 5650 MHz, the minimum number of pulses (for each PRF) of the radar test signal will be changed to 18.

APPENDIX A - CENTRE FREQUENCIES

Test Mode: IEEE 802.11a Mode			
Test Conditions		Measurement Frequency (MHz)	
		5180MHz	5500MHz
T nom(°C)	25	5179.9420	5499.9380
T min(°C)	0	5179.9416	5499.9360
T max(°C)	40	5179.9449	5499.9394
Max. Deviation Frequency		-0.0584	-0.0640
Max. Frequency Error (ppm)		-11.27	-11.64
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT40) Mode			
Test Conditions		Measurement Frequency (MHz)	
		5190MHz	5510MHz
T nom(°C)	25	5189.9360	5509.9120
T min(°C)	0	5189.9366	5509.9127
T max(°C)	40	5189.9312	5509.9117
Max. Deviation Frequency		-0.0688	-0.0883
Max. Frequency Error (ppm)		-13.26	-16.03
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11ax(HE80) Mode			
Test Conditions		Measurement Frequency (MHz)	
		5210MHz	5530MHz
T nom(°C)	25	5209.9360	5529.9280
T min(°C)	0	5209.9350	5529.9235
T max(°C)	40	5209.9401	5529.9297
Max. Deviation Frequency		-0.0650	-0.0765
Max. Frequency Error (ppm)		-12.48	-13.83
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11ax(HE160) Mode

Test Conditions		Measurement Frequency (MHz)	
		5250MHz	5570MHz
T nom(°C)	25	5249.9040	5569.9360
T min(°C)	0	5249.9067	5569.9363
T max(°C)	40	5249.9028	5569.9382
Max. Deviation Frequency		-0.0972	-0.0640
Max. Frequency Error (ppm)		-18.51	-11.49
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11be(EHT20) Mode

Test Conditions		Measurement Frequency (MHz)	
		5180MHz	5500MHz
T nom(°C)	25	5179.9440	5499.9460
T min(°C)	0	5179.9434	5499.9438
T max(°C)	40	5179.9427	5499.9432
Max. Deviation Frequency		-0.0573	-0.0568
Max. Frequency Error (ppm)		-11.06	-10.33
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11be(EHT40) Mode

Test Conditions		Measurement Frequency (MHz)	
		5190MHz	5510MHz
T nom(°C)	25	5189.9800	5509.8960
T min(°C)	0	5189.9750	5509.8994
T max(°C)	40	5189.9802	5509.8947
Max. Deviation Frequency		-0.0250	-0.1053
Max. Frequency Error (ppm)		-4.82	-19.11
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11be(EHT80) Mode

Test Conditions		Measurement Frequency (MHz)	
		5210MHz	5530MHz
T nom(°C)	25	5209.9920	5529.9360
T min(°C)	0	5209.9875	5529.9351
T max(°C)	40	5209.9907	5529.9362
Max. Deviation Frequency		-0.0125	-0.0649
Max. Frequency Error (ppm)		-2.40	-11.74
Limit (ppm)		±20.00	
Result		Pass	

Test Mode: IEEE 802.11be(EHT160) Mode

Test Conditions		Measurement Frequency (MHz)	
		5250MHz	5570MHz
T nom(°C)	25	5249.9520	5569.9200
T min(°C)	0	5249.9552	5569.9227
T max(°C)	40	5249.9535	5569.9159
Max. Deviation Frequency		-0.0480	-0.0841
Max. Frequency Error (ppm)		-9.14	-15.10
Limit (ppm)		±20.00	
Result		Pass	

APPENDIX B - NOMINAL / OCCUPIED CHANNEL BANDWIDTH

Test Mode: IEEE 802.11a Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	25	16.35	16.39
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT20) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	25	17.54	17.59
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT40) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5190MHz	5510MHz
T nom (°C)	25	35.94	35.96
Limits		32~40	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT80) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5210MHz	5530MHz
T nom (°C)	25	75.25	75.20
Limits		64~80	
Result		Pass	

Test Mode: IEEE 802.11ac(VHT160) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5250MHz	5570MHz
T nom (°C)	25	154.13	154.34
Limits		128~160	
Result		Pass	

Test Mode: IEEE 802.11ax(HE20) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	25	18.86	18.84
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11ax(HE40) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5190MHz	5510MHz
T nom (°C)	25	37.51	37.52
Limits		32~40	
Result		Pass	

Test Mode: IEEE 802.11ax(HE80) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5210MHz	5530MHz
T nom (°C)	25	76.75	76.68
Limits		64~80	
Result		Pass	

Test Mode: IEEE 802.11ax(HE160) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5250MHz	5570MHz
T nom (°C)	25	155.47	155.81
Limits		128~160	
Result		Pass	

Test Mode: IEEE 802.11be(EHT20) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5180MHz	5500MHz
T nom (°C)	25	18.85	18.88
Limits		16~20	
Result		Pass	

Test Mode: IEEE 802.11be(EHT40) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5190MHz	5510MHz
T nom (°C)	25	37.52	37.46
Limits		32~40	
Result		Pass	

Test Mode: IEEE 802.11be(EHT80) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5210MHz	5530MHz
T nom (°C)	25	76.74	76.73
Limits		64~80	
Result		Pass	

Test Mode: IEEE 802.11be(EHT160) Mode			
Test Conditions		Occupied Channel Bandwidth (MHz)	
		5250MHz	5570MHz
T nom (°C)	25	155.52	155.86
Limits		128~160	
Result		Pass	

APPENDIX C - RF OUTPUT POWER

Non Beamforming

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11a	NT	5180	18.53	22.43	23.00	N/A	N/A	PASS
		5320	18.72	22.62	23.00	16.62	17.00	PASS
		5500	25.62	29.52	30.00	23.52	24.00	PASS
		5700	25.47	29.37	30.00	23.37	24.00	PASS
	LT	5180	18.67	22.57	23.00	N/A	N/A	PASS
		5320	18.86	22.76	23.00	16.76	17.00	PASS
		5500	25.75	29.65	30.00	23.65	24.00	PASS
		5700	25.59	29.49	30.00	23.49	24.00	PASS
	HT	5180	18.40	22.30	23.00	N/A	N/A	PASS
		5320	18.59	22.49	23.00	16.49	17.00	PASS
		5500	25.49	29.39	30.00	23.39	24.00	PASS
		5700	25.33	29.23	30.00	23.23	24.00	PASS
802.11n20	NT	5180	18.67	22.57	23.00	N/A	N/A	PASS
		5320	18.84	22.74	23.00	16.74	17.00	PASS
		5500	25.64	29.54	30.00	23.54	24.00	PASS
		5700	25.52	29.42	30.00	23.42	24.00	PASS
	LT	5180	18.81	22.71	23.00	N/A	N/A	PASS
		5320	18.97	22.87	23.00	16.87	17.00	PASS
		5500	25.76	29.66	30.00	23.66	24.00	PASS
		5700	25.66	29.56	30.00	23.56	24.00	PASS
	HT	5180	18.53	22.43	23.00	N/A	N/A	PASS
		5320	18.70	22.60	23.00	16.60	17.00	PASS
		5500	25.51	29.41	30.00	23.41	24.00	PASS
		5700	25.39	29.29	30.00	23.29	24.00	PASS
802.11n40	NT	5190	18.54	22.44	23.00	N/A	N/A	PASS
		5310	18.72	22.62	23.00	16.62	17.00	PASS
		5510	25.58	29.48	30.00	23.48	24.00	PASS
		5670	25.52	29.42	30.00	23.42	24.00	PASS
	LT	5190	18.68	22.58	23.00	N/A	N/A	PASS
		5310	18.86	22.76	23.00	16.76	17.00	PASS
		5510	25.70	29.60	30.00	23.60	24.00	PASS
		5670	25.69	29.59	30.00	23.59	24.00	PASS
	HT	5190	18.41	22.31	23.00	N/A	N/A	PASS
		5310	18.58	22.48	23.00	16.48	17.00	PASS
		5510	25.46	29.36	30.00	23.36	24.00	PASS
		5670	25.45	29.35	30.00	23.35	24.00	PASS
802.11ac40	NT	5190	18.56	22.46	23.00	N/A	N/A	PASS
		5310	18.88	22.78	23.00	16.78	17.00	PASS
		5510	25.61	29.51	30.00	23.51	24.00	PASS
		5670	25.60	29.50	30.00	23.50	24.00	PASS
	LT	5190	18.70	22.60	23.00	N/A	N/A	PASS
		5310	19.03	22.93	23.00	16.93	17.00	PASS
		5510	25.76	29.66	30.00	23.66	24.00	PASS
		5670	25.75	29.65	30.00	23.65	24.00	PASS
	HT	5190	18.42	22.32	23.00	N/A	N/A	PASS
		5310	18.74	22.64	23.00	16.64	17.00	PASS
		5510	25.41	29.31	30.00	23.31	24.00	PASS
		5670	25.40	29.30	30.00	23.30	24.00	PASS

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11ac80	NT	5210	18.69	22.59	23.00	N/A	N/A	PASS
		5290	18.50	22.40	23.00	16.40	17.00	PASS
		5530	25.57	29.47	30.00	23.47	24.00	PASS
		5610	25.36	29.26	30.00	23.26	24.00	PASS
	LT	5210	18.83	22.73	23.00	N/A	N/A	PASS
		5290	18.63	22.53	23.00	16.53	17.00	PASS
		5530	25.70	29.60	30.00	23.60	24.00	PASS
		5610	25.49	29.39	30.00	23.39	24.00	PASS
	HT	5210	18.56	22.46	23.00	N/A	N/A	PASS
		5290	18.36	22.26	23.00	16.26	17.00	PASS
		5530	25.43	29.33	30.00	23.33	24.00	PASS
		5610	25.23	29.13	30.00	23.13	24.00	PASS
802.11ac160	NT	5250	18.52	22.42	23.00	16.42	17.00	PASS
		5570	25.69	29.59	30.00	23.59	24.00	PASS
	LT	5250	18.66	22.56	23.00	16.56	17.00	PASS
		5570	25.83	29.73	30.00	23.73	24.00	PASS
	HT	5250	18.39	22.29	23.00	16.29	17.00	PASS
		5570	25.55	29.45	30.00	23.45	24.00	PASS
802.11ax20	NT	5180	18.81	22.71	23.00	N/A	N/A	PASS
		5320	18.56	22.46	23.00	16.46	17.00	PASS
		5500	25.61	29.51	30.00	23.51	24.00	PASS
		5700	25.60	29.50	30.00	23.50	24.00	PASS
	LT	5180	18.95	22.85	23.00	N/A	N/A	PASS
		5320	18.69	22.59	23.00	16.59	17.00	PASS
		5500	25.74	29.64	30.00	23.64	24.00	PASS
		5700	25.75	29.65	30.00	23.65	24.00	PASS
	HT	5180	18.67	22.57	23.00	N/A	N/A	PASS
		5320	18.42	22.32	23.00	16.32	17.00	PASS
		5500	25.46	29.36	30.00	23.36	24.00	PASS
		5700	25.48	29.38	30.00	23.38	24.00	PASS
802.11ax40	NT	5190	18.74	22.64	23.00	N/A	N/A	PASS
		5310	18.40	22.30	23.00	16.30	17.00	PASS
		5510	25.87	29.77	30.00	23.77	24.00	PASS
		5670	25.86	29.76	30.00	23.76	24.00	PASS
	LT	5190	18.87	22.77	23.00	N/A	N/A	PASS
		5310	18.55	22.45	23.00	16.45	17.00	PASS
		5510	25.98	29.88	30.00	23.88	24.00	PASS
		5670	25.95	29.85	30.00	23.85	24.00	PASS
	HT	5190	18.60	22.50	23.00	N/A	N/A	PASS
		5310	18.28	22.18	23.00	16.18	17.00	PASS
		5510	25.71	29.61	30.00	23.61	24.00	PASS
		5670	25.67	29.57	30.00	23.57	24.00	PASS
802.11ax80	NT	5210	18.48	22.38	23.00	N/A	N/A	PASS
		5290	18.73	22.63	23.00	16.63	17.00	PASS
		5530	25.86	29.76	30.00	23.76	24.00	PASS
		5610	25.81	29.71	30.00	23.71	24.00	PASS
	LT	5210	18.62	22.52	23.00	N/A	N/A	PASS
		5290	18.86	22.76	23.00	16.76	17.00	PASS
		5530	26.00	29.90	30.00	23.90	24.00	PASS
		5610	25.94	29.84	30.00	23.84	24.00	PASS
	HT	5210	18.33	22.23	23.00	N/A	N/A	PASS
		5290	18.61	22.51	23.00	16.51	17.00	PASS
		5530	25.73	29.63	30.00	23.63	24.00	PASS
		5610	25.66	29.56	30.00	23.56	24.00	PASS

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11ax160	NT	5250	18.69	22.59	23.00	16.59	17.00	PASS
		5570	25.50	29.40	30.00	23.40	24.00	PASS
	LT	5250	18.82	22.72	23.00	16.72	17.00	PASS
		5570	25.64	29.54	30.00	23.54	24.00	PASS
	HT	5250	18.57	22.47	23.00	16.47	17.00	PASS
		5570	25.36	29.26	30.00	23.26	24.00	PASS
802.11be20	NT	5180	18.82	22.72	23.00	N/A	N/A	PASS
		5320	18.63	22.53	23.00	16.53	17.00	PASS
		5500	25.66	29.56	30.00	23.56	24.00	PASS
		5700	25.70	29.60	30.00	23.60	24.00	PASS
	LT	5180	18.95	22.85	23.00	N/A	N/A	PASS
		5320	18.77	22.67	23.00	16.67	17.00	PASS
		5500	25.79	29.69	30.00	23.69	24.00	PASS
		5700	25.84	29.74	30.00	23.74	24.00	PASS
	HT	5180	18.69	22.59	23.00	N/A	N/A	PASS
		5320	18.50	22.40	23.00	16.40	17.00	PASS
		5500	25.53	29.43	30.00	23.43	24.00	PASS
		5700	25.56	29.46	30.00	23.46	24.00	PASS
802.11be40	NT	5190	18.78	22.68	23.00	N/A	N/A	PASS
		5310	18.41	22.31	23.00	16.31	17.00	PASS
		5510	26.04	29.94	30.00	23.94	24.00	PASS
		5670	25.91	29.81	30.00	23.81	24.00	PASS
	LT	5190	18.91	22.81	23.00	N/A	N/A	PASS
		5310	18.54	22.44	23.00	16.44	17.00	PASS
		5510	25.91	29.81	30.00	23.81	24.00	PASS
		5670	25.88	29.78	30.00	23.78	24.00	PASS
	HT	5190	18.66	22.56	23.00	N/A	N/A	PASS
		5310	18.27	22.17	23.00	16.17	17.00	PASS
		5510	25.72	29.62	30.00	23.62	24.00	PASS
		5670	25.71	29.61	30.00	23.61	24.00	PASS
802.11be80	NT	5210	18.49	22.39	23.00	N/A	N/A	PASS
		5290	18.77	22.67	23.00	16.67	17.00	PASS
		5530	25.88	29.78	30.00	23.78	24.00	PASS
		5610	25.86	29.76	30.00	23.76	24.00	PASS
	LT	5210	18.62	22.52	23.00	N/A	N/A	PASS
		5290	18.91	22.81	23.00	16.81	17.00	PASS
		5530	26.01	29.91	30.00	23.91	24.00	PASS
		5610	25.99	29.89	30.00	23.89	24.00	PASS
	HT	5210	18.34	22.24	23.00	N/A	N/A	PASS
		5290	18.62	22.52	23.00	16.52	17.00	PASS
		5530	25.75	29.65	30.00	23.65	24.00	PASS
		5610	25.74	29.64	30.00	23.64	24.00	PASS
802.11be160	NT	5250	18.80	22.70	23.00	16.70	17.00	PASS
		5570	25.56	29.46	30.00	23.46	24.00	PASS
	LT	5250	18.93	22.83	23.00	16.83	17.00	PASS
		5570	25.68	29.58	30.00	23.58	24.00	PASS
	HT	5250	18.68	22.58	23.00	16.58	17.00	PASS
		5570	25.43	29.33	30.00	23.33	24.00	PASS

Note: e.i.r.p. = Conducted output power + G (Ant Gain)

NT is 25°C, LT is 0°C, HT is 40°C

Beamforming

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11a	NT	5180	15.48	22.38	23.00	N/A	N/A	PASS
		5320	15.65	22.55	23.00	16.55	17.00	PASS
		5500	22.58	29.48	30.00	23.48	24.00	PASS
		5700	22.42	29.32	30.00	23.32	24.00	PASS
	LT	5180	15.61	22.51	23.00	N/A	N/A	PASS
		5320	15.78	22.68	23.00	16.68	17.00	PASS
		5500	22.72	29.62	30.00	23.62	24.00	PASS
		5700	22.57	29.47	30.00	23.47	24.00	PASS
	HT	5180	15.33	22.23	23.00	N/A	N/A	PASS
		5320	15.50	22.40	23.00	16.40	17.00	PASS
		5500	22.45	29.35	30.00	23.35	24.00	PASS
		5700	22.30	29.20	30.00	23.20	24.00	PASS
802.11n20	NT	5180	15.61	22.51	23.00	N/A	N/A	PASS
		5320	15.76	22.66	23.00	16.66	17.00	PASS
		5500	22.61	29.51	30.00	23.51	24.00	PASS
		5700	22.47	29.37	30.00	23.37	24.00	PASS
	LT	5180	15.74	22.64	23.00	N/A	N/A	PASS
		5320	15.88	22.78	23.00	16.78	17.00	PASS
		5500	22.74	29.64	30.00	23.64	24.00	PASS
		5700	22.60	29.50	30.00	23.50	24.00	PASS
	HT	5180	15.47	22.37	23.00	N/A	N/A	PASS
		5320	15.64	22.54	23.00	16.54	17.00	PASS
		5500	22.49	29.39	30.00	23.39	24.00	PASS
		5700	22.32	29.22	30.00	23.22	24.00	PASS
802.11n40	NT	5190	15.50	22.40	23.00	N/A	N/A	PASS
		5310	15.67	22.57	23.00	16.57	17.00	PASS
		5510	22.56	29.46	30.00	23.46	24.00	PASS
		5670	22.51	29.41	30.00	23.41	24.00	PASS
	LT	5190	15.64	22.54	23.00	N/A	N/A	PASS
		5310	15.81	22.71	23.00	16.71	17.00	PASS
		5510	22.67	29.57	30.00	23.57	24.00	PASS
		5670	22.62	29.52	30.00	23.52	24.00	PASS
	HT	5190	15.37	22.27	23.00	N/A	N/A	PASS
		5310	15.53	22.43	23.00	16.43	17.00	PASS
		5510	22.43	29.33	30.00	23.33	24.00	PASS
		5670	22.37	29.27	30.00	23.27	24.00	PASS
802.11ac20	NT	5180	15.66	22.56	23.00	N/A	N/A	PASS
		5320	15.79	22.69	23.00	16.69	17.00	PASS
		5500	22.60	29.50	30.00	23.50	24.00	PASS
		5700	22.53	29.43	30.00	23.43	24.00	PASS
	LT	5180	15.80	22.70	23.00	N/A	N/A	PASS
		5320	15.93	22.83	23.00	16.83	17.00	PASS
		5500	22.72	29.62	30.00	23.62	24.00	PASS
		5700	22.67	29.57	30.00	23.57	24.00	PASS
	HT	5180	15.53	22.43	23.00	N/A	N/A	PASS
		5320	15.66	22.56	23.00	16.56	17.00	PASS
		5500	22.45	29.35	30.00	23.35	24.00	PASS
		5700	22.41	29.31	30.00	23.31	24.00	PASS

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11ac40	NT	5190	15.52	22.42	23.00	N/A	N/A	PASS
		5310	15.84	22.74	23.00	16.74	17.00	PASS
		5510	22.60	29.50	30.00	23.50	24.00	PASS
		5670	22.50	29.40	30.00	23.40	24.00	PASS
	LT	5190	15.66	22.56	23.00	N/A	N/A	PASS
		5310	15.97	22.87	23.00	16.87	17.00	PASS
		5510	22.73	29.63	30.00	23.63	24.00	PASS
		5670	22.64	29.54	30.00	23.54	24.00	PASS
	HT	5190	15.38	22.28	23.00	N/A	N/A	PASS
		5310	15.71	22.61	23.00	16.61	17.00	PASS
		5510	22.46	29.36	30.00	23.36	24.00	PASS
		5670	22.37	29.27	30.00	23.27	24.00	PASS
802.11ac80	NT	5210	15.66	22.56	23.00	N/A	N/A	PASS
		5290	15.46	22.36	23.00	16.36	17.00	PASS
		5530	22.51	29.41	30.00	23.41	24.00	PASS
		5610	22.32	29.22	30.00	23.22	24.00	PASS
	LT	5210	15.79	22.69	23.00	N/A	N/A	PASS
		5290	15.60	22.50	23.00	16.50	17.00	PASS
		5530	22.65	29.55	30.00	23.55	24.00	PASS
		5610	22.46	29.36	30.00	23.36	24.00	PASS
	HT	5210	15.52	22.42	23.00	N/A	N/A	PASS
		5290	15.33	22.23	23.00	16.23	17.00	PASS
		5530	22.37	29.27	30.00	23.27	24.00	PASS
		5610	22.18	29.08	30.00	23.08	24.00	PASS
802.11ac160	NT	5250	15.48	22.38	23.00	16.38	17.00	PASS
		5570	22.63	29.53	30.00	23.53	24.00	PASS
	LT	5250	15.62	22.52	23.00	16.52	17.00	PASS
		5570	22.76	29.66	30.00	23.66	24.00	PASS
	HT	5250	15.33	22.23	23.00	16.23	17.00	PASS
		5570	22.49	29.39	30.00	23.39	24.00	PASS
802.11ax20	NT	5180	15.79	22.69	23.00	N/A	N/A	PASS
		5320	15.51	22.41	23.00	16.41	17.00	PASS
		5500	22.55	29.45	30.00	23.45	24.00	PASS
		5700	22.55	29.45	30.00	23.45	24.00	PASS
	LT	5180	15.91	22.81	23.00	N/A	N/A	PASS
		5320	15.64	22.54	23.00	16.54	17.00	PASS
		5500	22.69	29.59	30.00	23.59	24.00	PASS
		5700	22.68	29.58	30.00	23.58	24.00	PASS
	HT	5180	15.64	22.54	23.00	N/A	N/A	PASS
		5320	15.39	22.29	23.00	16.29	17.00	PASS
		5500	22.42	29.32	30.00	23.32	24.00	PASS
		5700	22.41	29.31	30.00	23.31	24.00	PASS
802.11ax40	NT	5190	15.66	22.56	23.00	N/A	N/A	PASS
		5310	15.39	22.29	23.00	16.29	17.00	PASS
		5510	22.83	29.73	30.00	23.73	24.00	PASS
		5670	22.65	29.55	30.00	23.55	24.00	PASS
	LT	5190	15.80	22.70	23.00	N/A	N/A	PASS
		5310	15.53	22.43	23.00	16.43	17.00	PASS
		5510	22.97	29.87	30.00	23.87	24.00	PASS
		5670	22.79	29.69	30.00	23.69	24.00	PASS
	HT	5190	15.52	22.42	23.00	N/A	N/A	PASS
		5310	15.26	22.16	23.00	16.16	17.00	PASS
		5510	22.69	29.59	30.00	23.59	24.00	PASS
		5670	22.48	29.38	30.00	23.38	24.00	PASS

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm		
802.11ax80	NT	5210	15.44	22.34	23.00	N/A	N/A	PASS
		5290	15.68	22.58	23.00	16.58	17.00	PASS
		5530	22.83	29.73	30.00	23.73	24.00	PASS
		5610	22.79	29.69	30.00	23.69	24.00	PASS
	LT	5210	15.57	22.47	23.00	N/A	N/A	PASS
		5290	15.80	22.70	23.00	16.70	17.00	PASS
		5530	22.97	29.87	30.00	23.87	24.00	PASS
		5610	22.92	29.82	30.00	23.82	24.00	PASS
	HT	5210	15.30	22.20	23.00	N/A	N/A	PASS
		5290	15.55	22.45	23.00	16.45	17.00	PASS
		5530	22.68	29.58	30.00	23.58	24.00	PASS
		5610	22.65	29.55	30.00	23.55	24.00	PASS
802.11ax160	NT	5250	15.63	22.53	23.00	16.53	17.00	PASS
		5570	22.45	29.35	30.00	23.35	24.00	PASS
	LT	5250	15.75	22.65	23.00	16.65	17.00	PASS
		5570	22.58	29.48	30.00	23.48	24.00	PASS
	HT	5250	15.49	22.39	23.00	16.39	17.00	PASS
		5570	22.31	29.21	30.00	23.21	24.00	PASS
802.11be20	NT	5180	15.76	22.66	23.00	N/A	N/A	PASS
		5320	15.61	22.51	23.00	16.51	17.00	PASS
		5500	22.61	29.51	30.00	23.51	24.00	PASS
		5700	22.62	29.52	30.00	23.52	24.00	PASS
	LT	5180	15.89	22.79	23.00	N/A	N/A	PASS
		5320	15.75	22.65	23.00	16.65	17.00	PASS
		5500	22.74	29.64	30.00	23.64	24.00	PASS
		5700	22.76	29.66	30.00	23.66	24.00	PASS
	HT	5180	15.62	22.52	23.00	N/A	N/A	PASS
		5320	15.47	22.37	23.00	16.37	17.00	PASS
		5500	22.49	29.39	30.00	23.39	24.00	PASS
		5700	22.48	29.38	30.00	23.38	24.00	PASS
802.11be40	NT	5190	15.72	22.62	23.00	N/A	N/A	PASS
		5310	15.35	22.25	23.00	16.25	17.00	PASS
		5510	22.83	29.73	30.00	23.73	24.00	PASS
		5670	22.73	29.63	30.00	23.63	24.00	PASS
	LT	5190	15.85	22.75	23.00	N/A	N/A	PASS
		5310	15.48	22.38	23.00	16.38	17.00	PASS
		5510	22.98	29.88	30.00	23.88	24.00	PASS
		5670	22.86	29.76	30.00	23.76	24.00	PASS
	HT	5190	15.58	22.48	23.00	N/A	N/A	PASS
		5310	15.21	22.11	23.00	16.11	17.00	PASS
		5510	22.69	29.59	30.00	23.59	24.00	PASS
		5670	22.60	29.50	30.00	23.50	24.00	PASS

Mode	Temp	Freq. (MHz)	Power	Total EIRP (With Duty Factor)	Limit	TPC	Limit	Results
			dBm	dBm	dBm	dBm	dBm	
802.11be80	NT	5210	15.43	22.33	23.00	N/A	N/A	PASS
		5290	15.70	22.60	23.00	16.60	17.00	PASS
		5530	22.83	29.73	30.00	23.73	24.00	PASS
		5610	22.79	29.69	30.00	23.69	24.00	PASS
	LT	5210	15.57	22.47	23.00	N/A	N/A	PASS
		5290	15.84	22.74	23.00	16.74	17.00	PASS
		5530	22.95	29.85	30.00	23.85	24.00	PASS
		5610	22.93	29.83	30.00	23.83	24.00	PASS
	HT	5210	15.30	22.20	23.00	N/A	N/A	PASS
		5290	15.57	22.47	23.00	16.47	17.00	PASS
		5530	22.69	29.59	30.00	23.59	24.00	PASS
		5610	22.67	29.57	30.00	23.57	24.00	PASS
802.11be160	NT	5250	15.76	22.66	23.00	16.66	17.00	PASS
		5570	22.51	29.41	30.00	23.41	24.00	PASS
	LT	5250	15.89	22.79	23.00	16.79	17.00	PASS
		5570	22.65	29.55	30.00	23.55	24.00	PASS
	HT	5250	15.63	22.53	23.00	16.53	17.00	PASS
		5570	22.39	29.29	30.00	23.29	24.00	PASS

Note: e.i.r.p. = Conducted output power + G (Ant Gain) + Y (Beamforming Gain)

NT is 25°C, LT is 0°C, HT is 40°C

APPENDIX D - POWER DENSITY

Non Beamforming

Test Mode: IEEE 802.11a Mode					
Test Conditions		Spectral Power Density e.i.r.p. (dBm / MHz)			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	25	8.45	8.35	14.85	14.70
Limits		10	10	17	
Result		Pass			

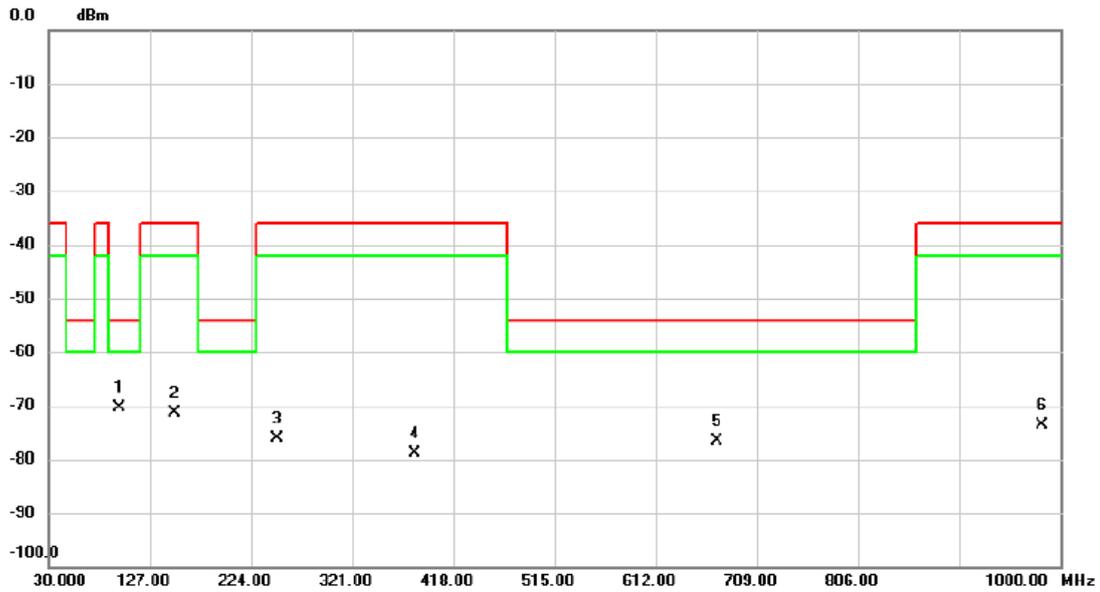
Test Mode: IEEE 802.11ac(VHT20) Mode					
Test Conditions		Spectral Power Density e.i.r.p. (dBm / MHz)			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	25	8.24	8.25	15.37	15.40
Limits		10	10	17	
Result		Pass			

Test Mode: IEEE 802.11ax(HE20) Mode					
Test Conditions		Spectral Power Density e.i.r.p. (dBm / MHz)			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	25	8.22	7.94	14.40	14.83
Limits		10	10	17	
Result		Pass			

Test Mode: IEEE 802.11be(EHT20)Mode					
Test Conditions		Spectral Power Density e.i.r.p. (dBm / MHz)			
		5180MHz	5320MHz	5500MHz	5700MHz
T nom (°C)	25	8.12	6.73	13.54	13.81
Limits		10	10	17	
Result		Pass			

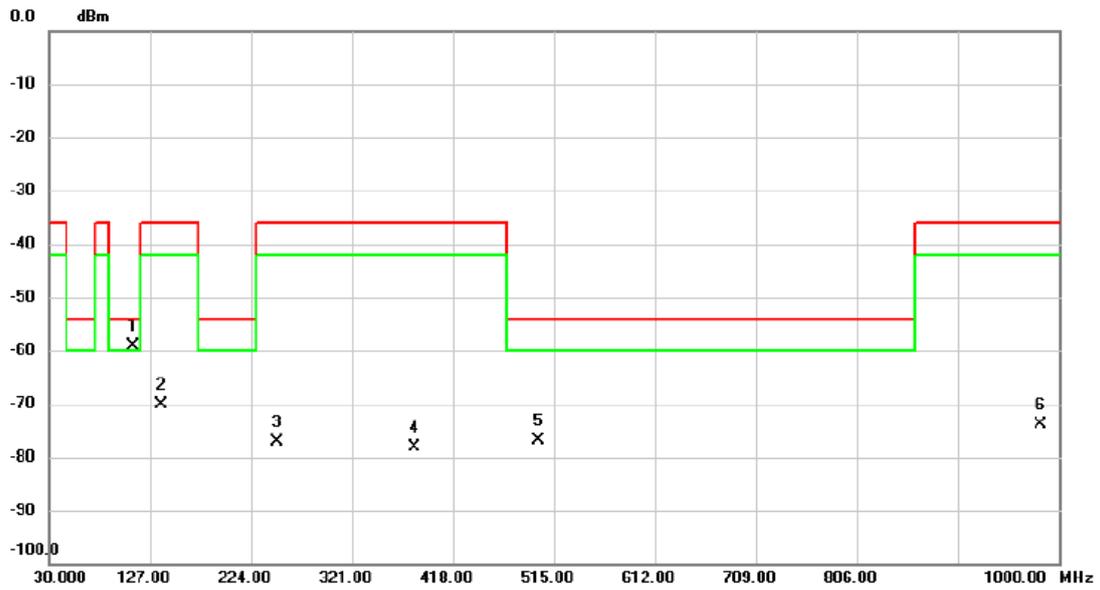
APPENDIX E - TRANSMITTER UNWANTED EMISSIONS OUTSIDE THE 5 GHZ RLAN BANDS (30MHZ TO 1000MHZ)

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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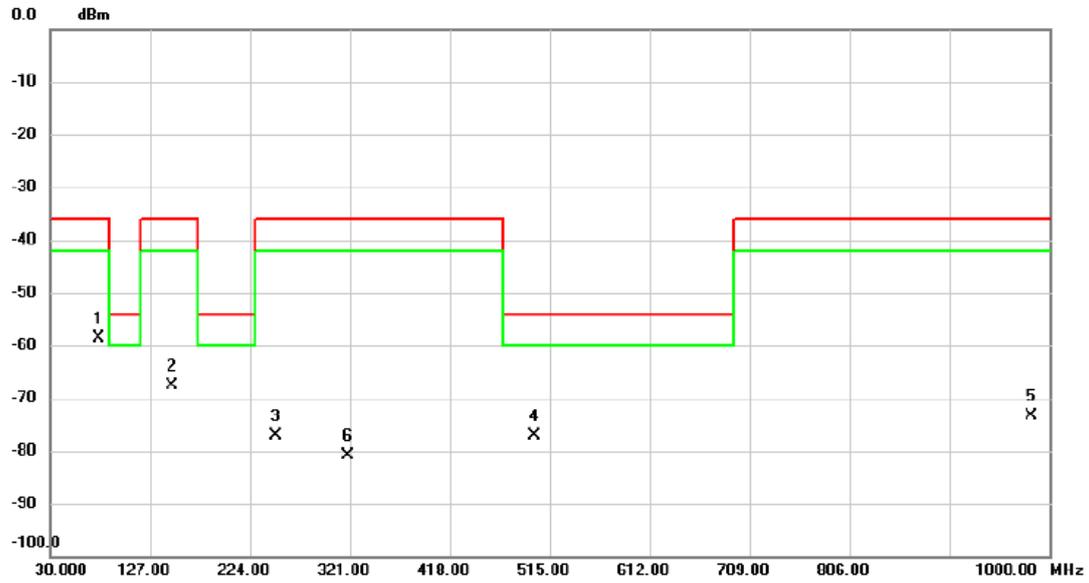
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	97.9000	-65.63	-4.85	-70.48	-54.00	-16.48	RMS	
2	151.2500	-70.42	-1.06	-71.48	-36.00	-35.48	RMS	
3	249.7050	-71.41	-4.75	-76.16	-36.00	-40.16	RMS	
4	380.6550	-77.65	-1.33	-78.98	-36.00	-42.98	RMS	
5	670.6850	-80.52	3.81	-76.71	-54.00	-22.71	RMS	
6	982.0550	-81.91	8.30	-73.61	-36.00	-37.61	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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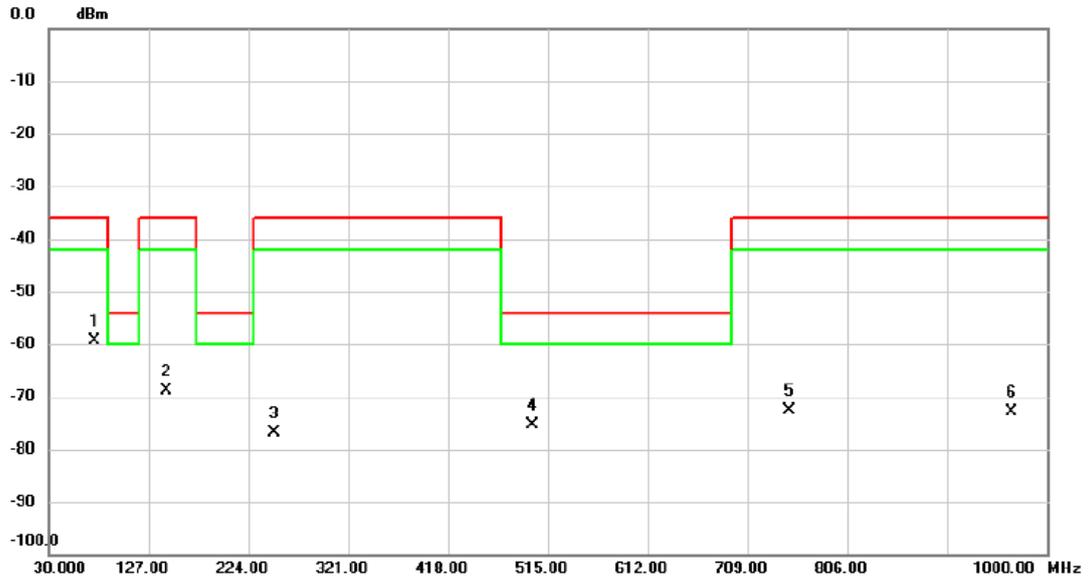
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	110.5100	-53.19	-5.90	-59.09	-54.00	-5.09	RMS	
2		138.1550	-67.63	-2.37	-70.00	-36.00	-34.00	RMS	
3		249.7050	-72.42	-4.61	-77.03	-36.00	-41.03	RMS	
4		380.6550	-76.55	-1.55	-78.10	-36.00	-42.10	RMS	
5		499.9650	-77.26	0.43	-76.83	-54.00	-22.83	RMS	
6		982.0550	-82.35	8.42	-73.93	-36.00	-37.93	RMS	

Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Vertical
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No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	77.5300	-51.97	-6.56	-58.53	-36.00	-22.53	RMS	
2	147.8550	-66.35	-1.22	-67.57	-36.00	-31.57	RMS	
3	249.7050	-72.34	-4.75	-77.09	-36.00	-41.09	RMS	
4	499.9650	-77.80	0.56	-77.24	-54.00	-23.24	RMS	
5	983.0250	-81.60	8.29	-73.31	-36.00	-37.31	RMS	
6	319.5450	-78.10	-2.81	-80.91	-36.00	-44.91	RMS	

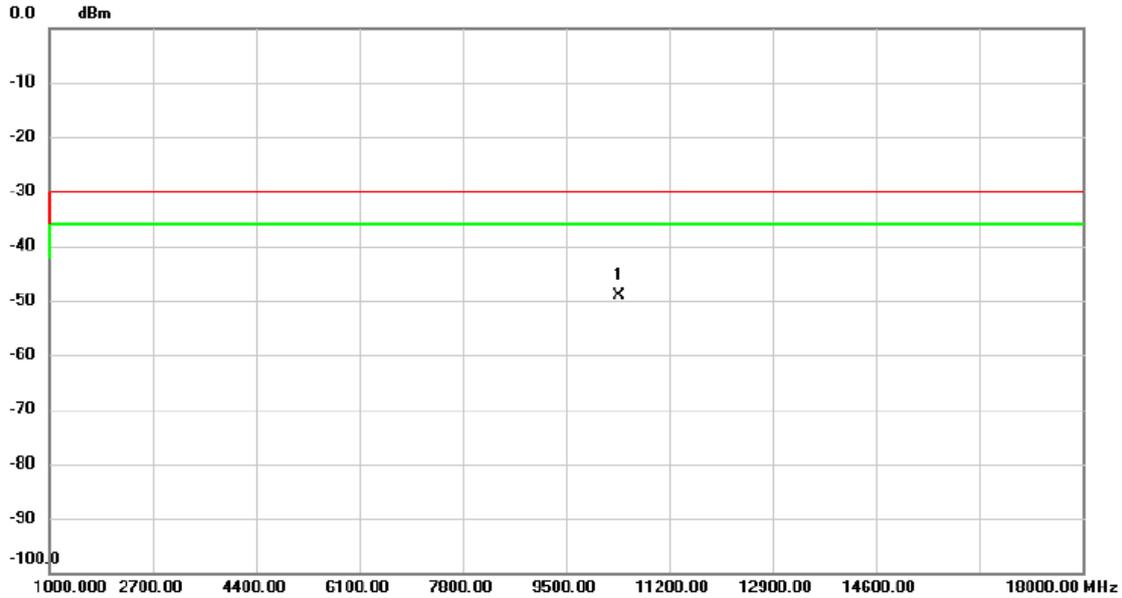
Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Horizontal
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No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1	74.1350	-51.13	-8.28	-59.41	-36.00	-23.41	RMS	
2	144.9450	-66.79	-2.03	-68.82	-36.00	-32.82	RMS	
3	249.7050	-72.36	-4.61	-76.97	-36.00	-40.97	RMS	
4 *	499.9650	-75.91	0.43	-75.48	-54.00	-21.48	RMS	
5	749.7400	-78.59	5.93	-72.66	-36.00	-36.66	RMS	
6	965.0800	-81.24	8.44	-72.80	-36.00	-36.80	RMS	

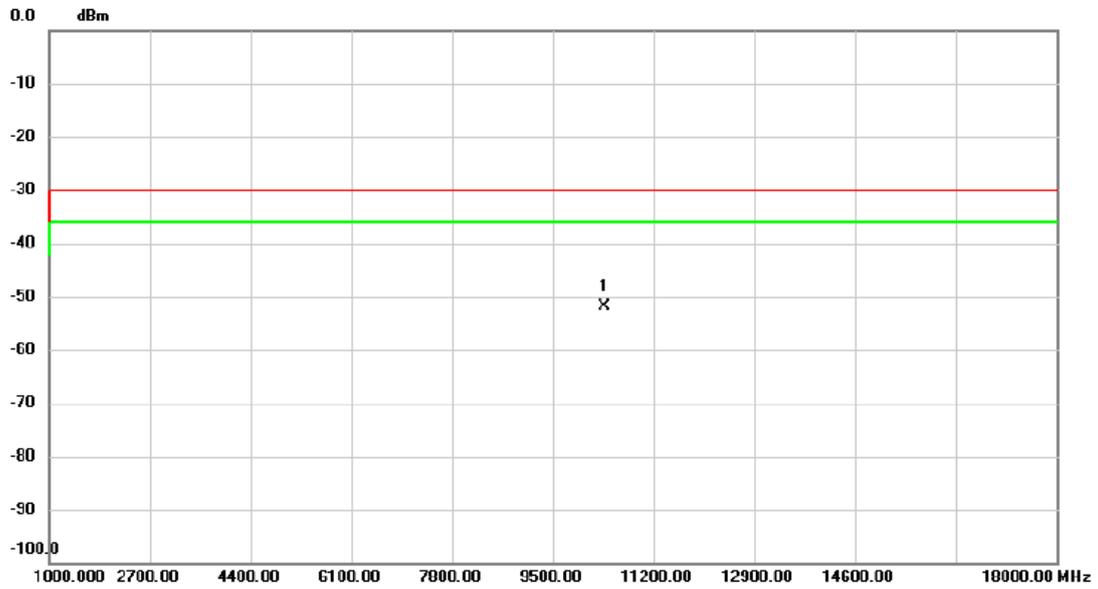
APPENDIX F - TRANSMITTER UNWANTED EMISSIONS OUTSIDE THE 5 GHZ RLAN BANDS (ABOVE 1000MHZ)

Test Mode	TX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Vertical
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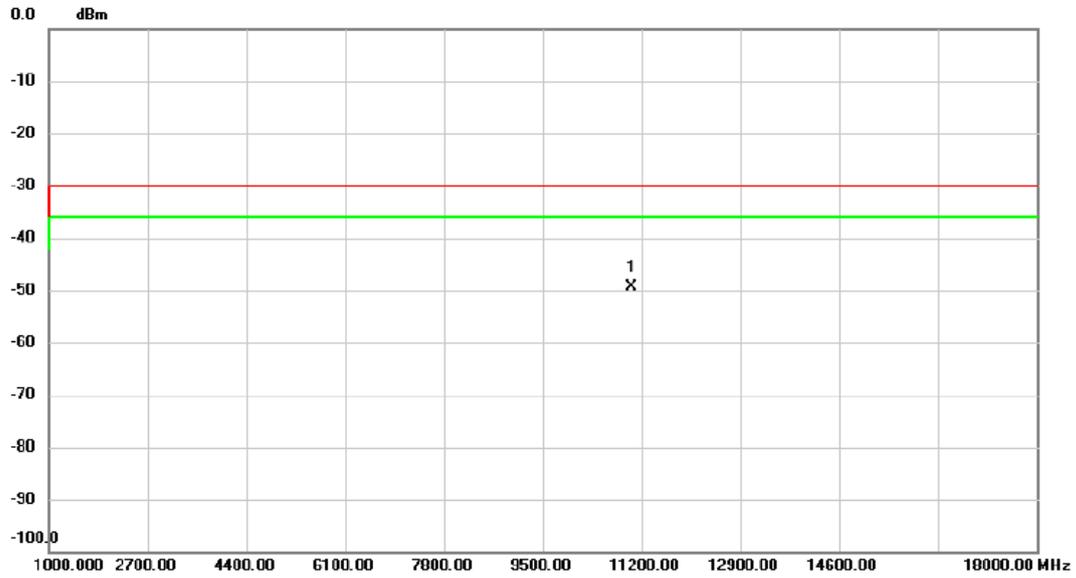
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	10380.00	-67.14	17.93	-49.21	-30.00	-19.21	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Horizontal
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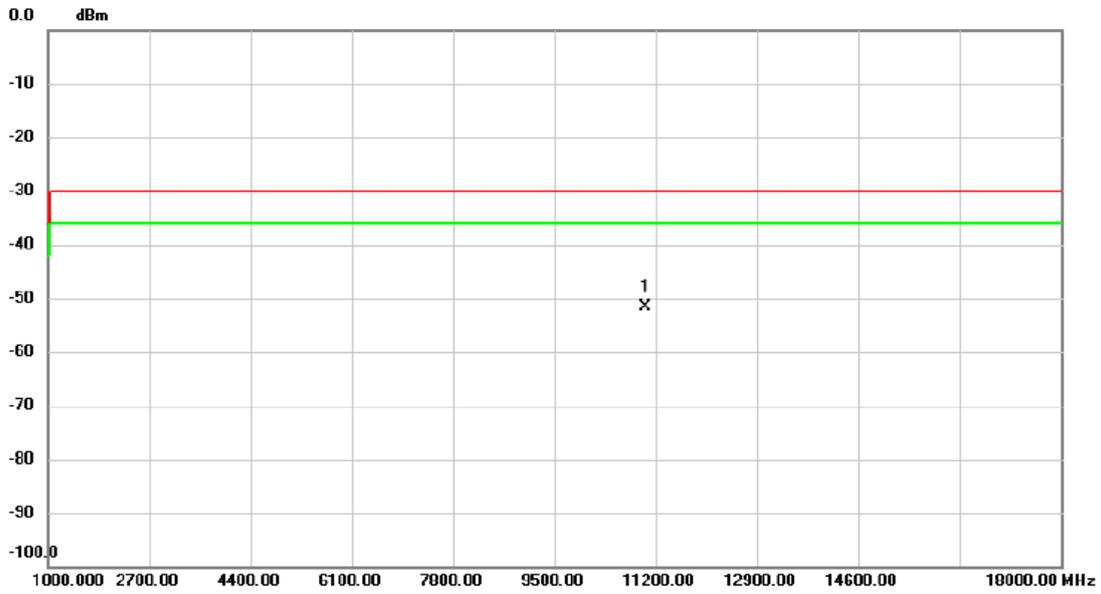
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	10380.00	-67.17	15.38	-51.79	-30.00	-21.79	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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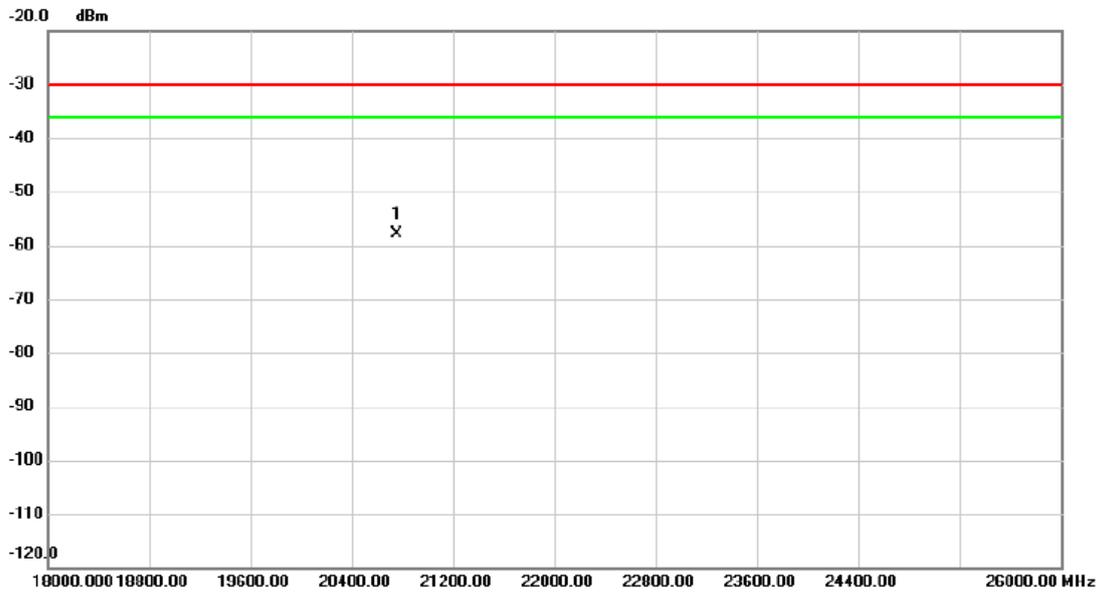
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	11020.00	-67.07	17.82	-49.25	-30.00	-19.25	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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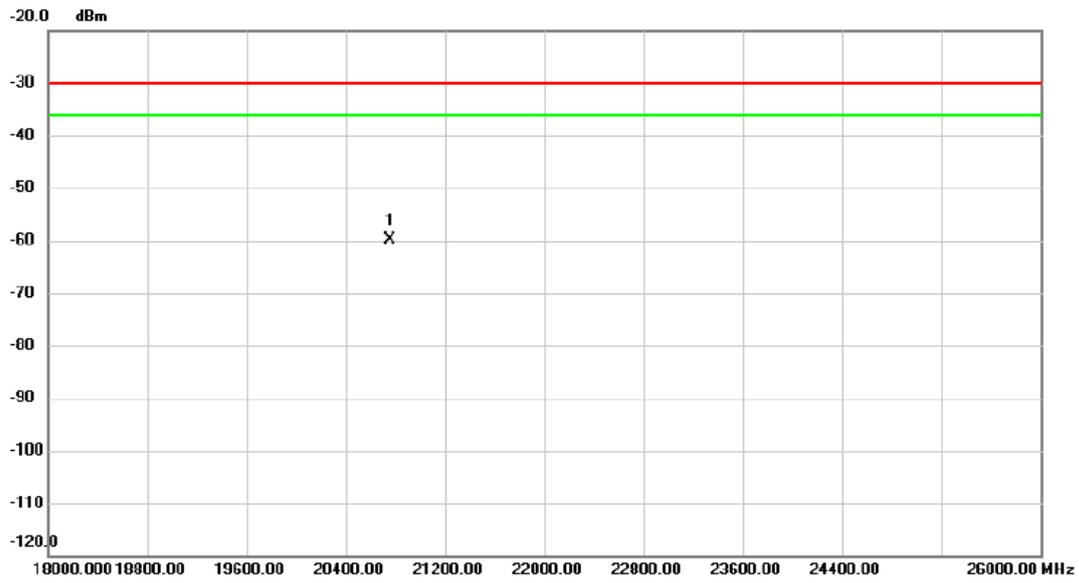
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	11200.00	-67.42	15.69	-51.73	-30.00	-21.73	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Vertical
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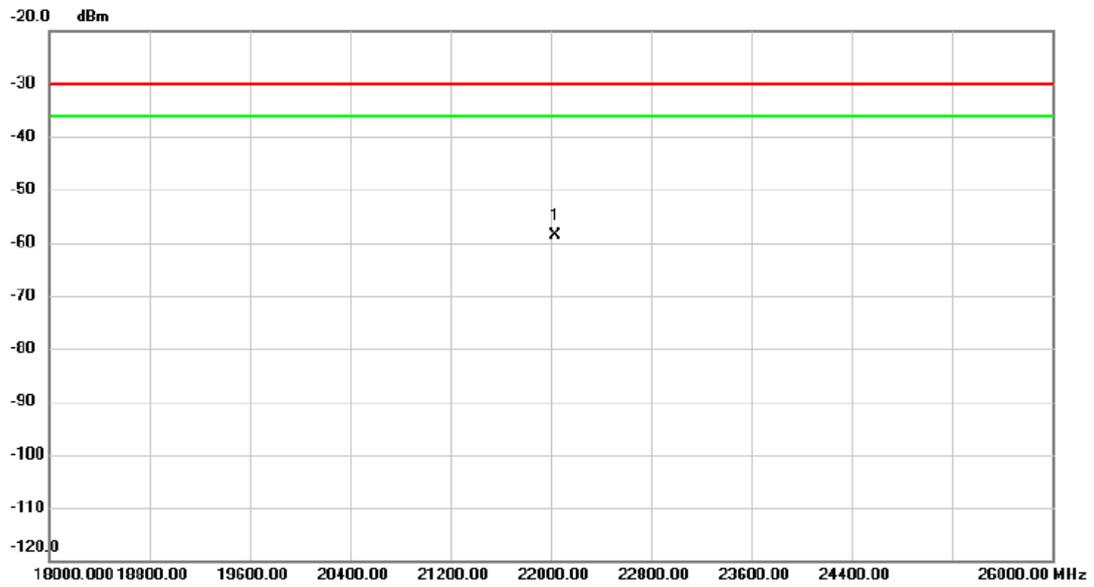
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	20760.00	-57.40	-0.38	-57.78	-30.00	-27.78	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Horizontal
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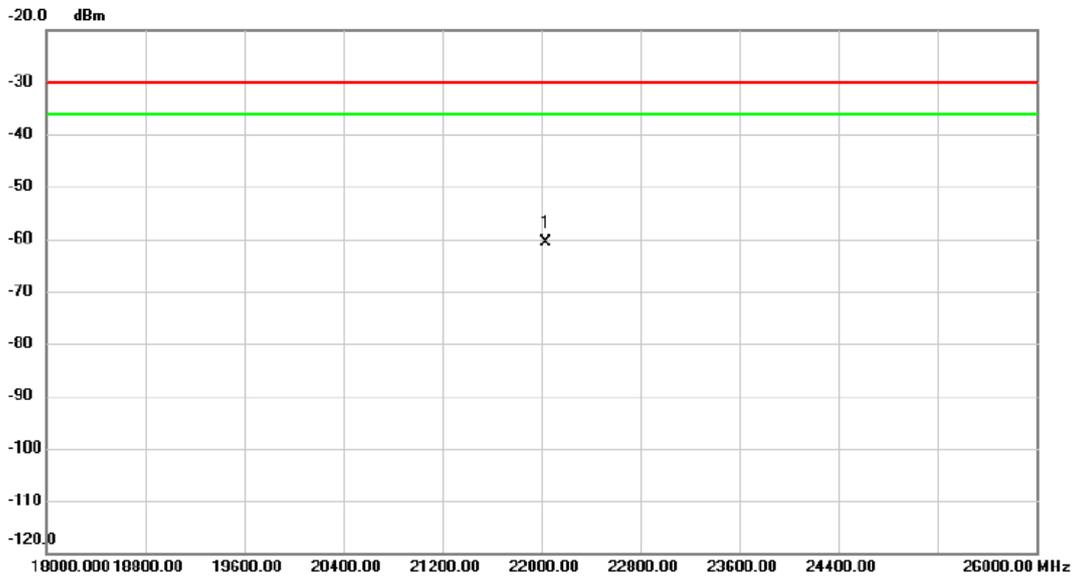
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	20760.00	-57.91	-2.08	-59.99	-30.00	-29.99	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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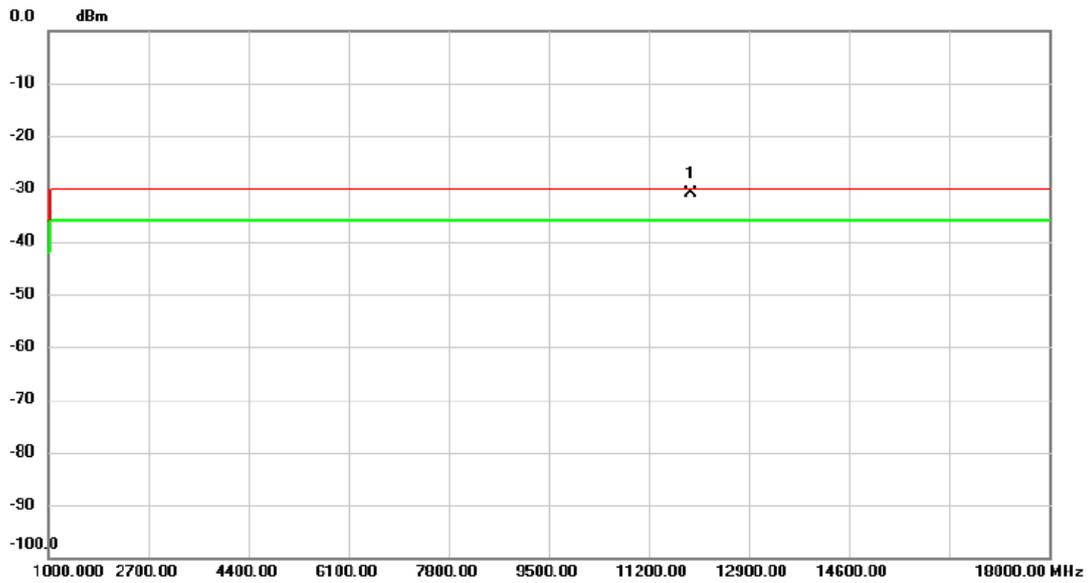
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	22040.00	-57.83	-0.88	-58.71	-30.00	-28.71	RMS	

Test Mode	TX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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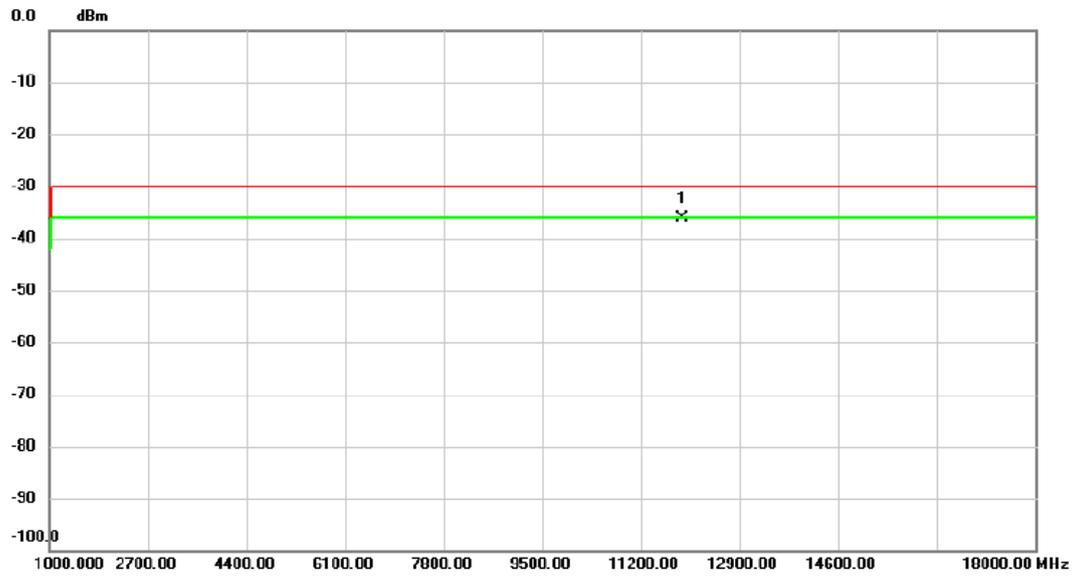
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	22040.00	-57.71	-2.80	-60.51	-30.00	-30.51	RMS	

Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Vertical
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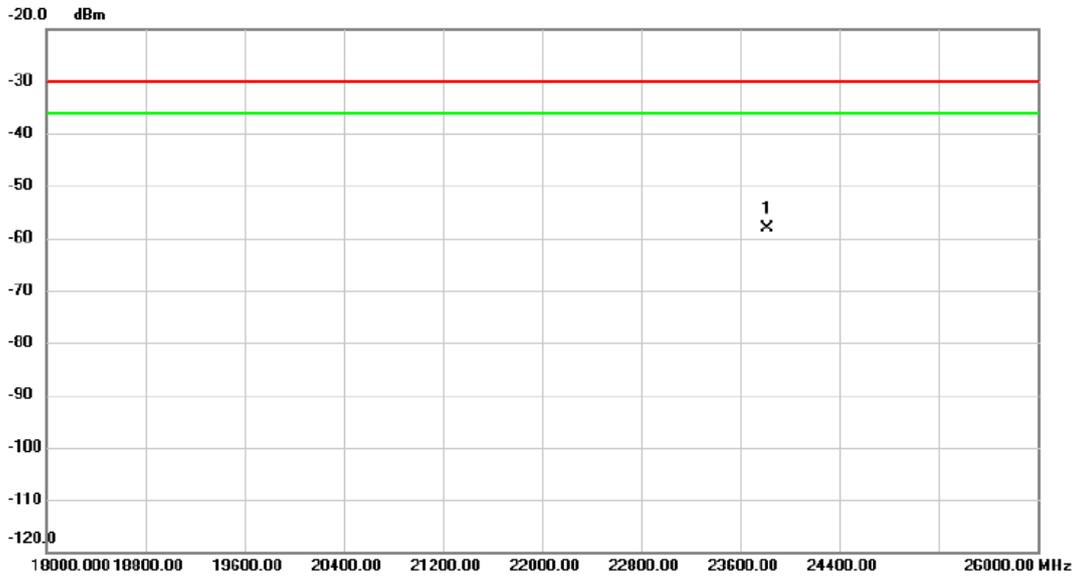
No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1 *	11914.00	-49.75	18.78	-30.97	-30.00	-0.97	RMS	

Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Horizontal
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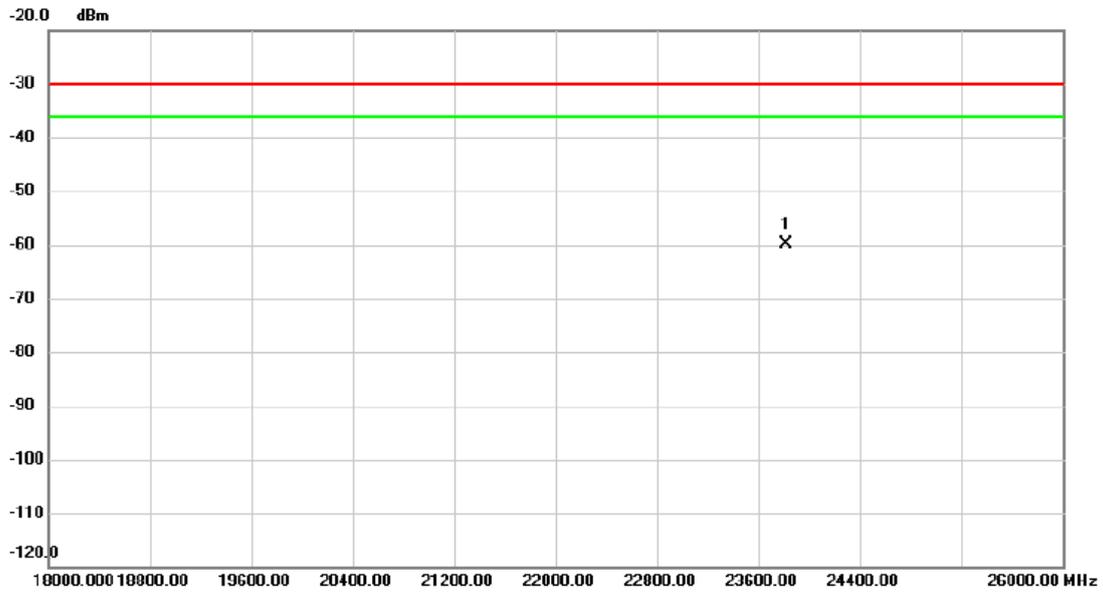
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	11909.75	-53.16	16.93	-36.23	-30.00	-6.23	RMS	

Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	23820.00	-61.04	2.86	-58.18	-30.00	-28.18	RMS	

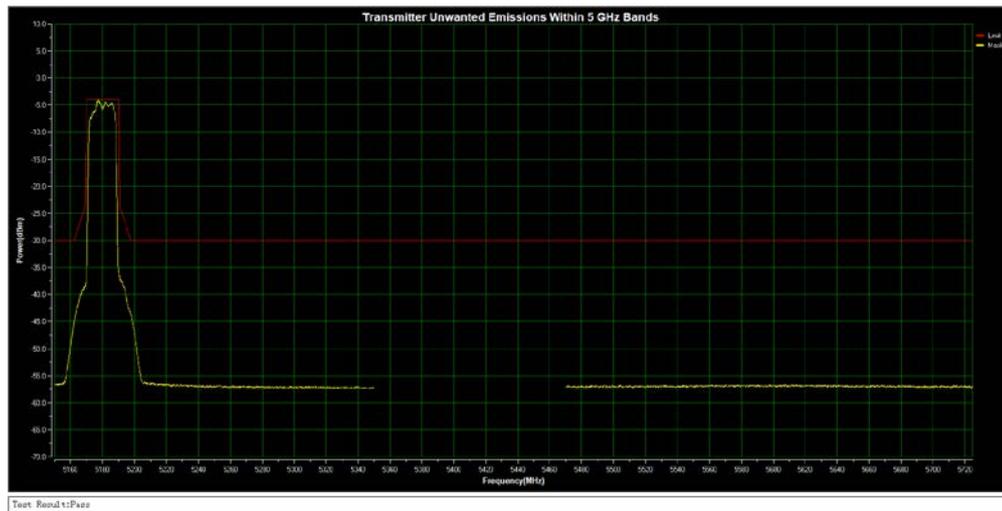
Test Mode	TX Mode _ WIFI 2.4G+ WIFI 5G+WIFI 6E	Polarization	Horizontal
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	23820.00	-61.08	1.31	-59.77	-30.00	-29.77	RMS	

APPENDIX G - TRANSMITTER UNWANTED EMISSIONS WITHIN THE 5 GHZ RLAN BANDS

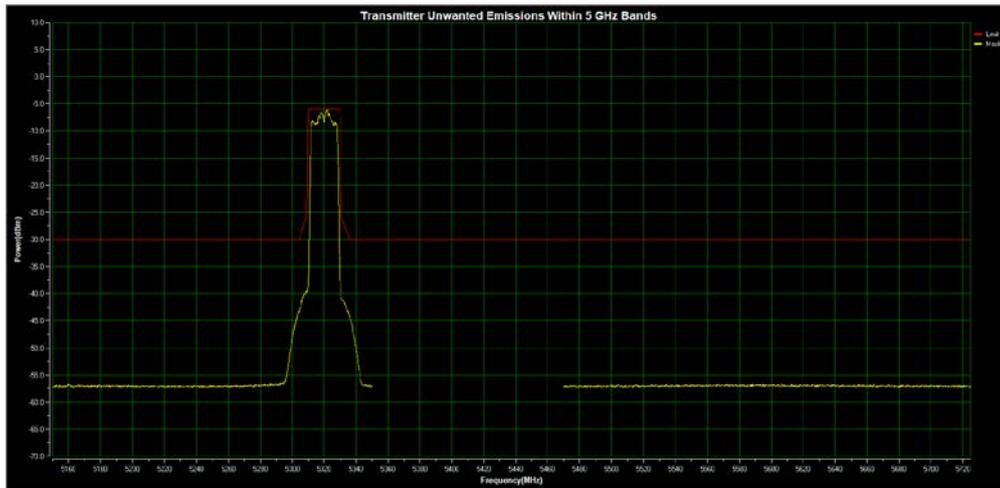
Test Mode :	IEEE 802.11a_5180MHz
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Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

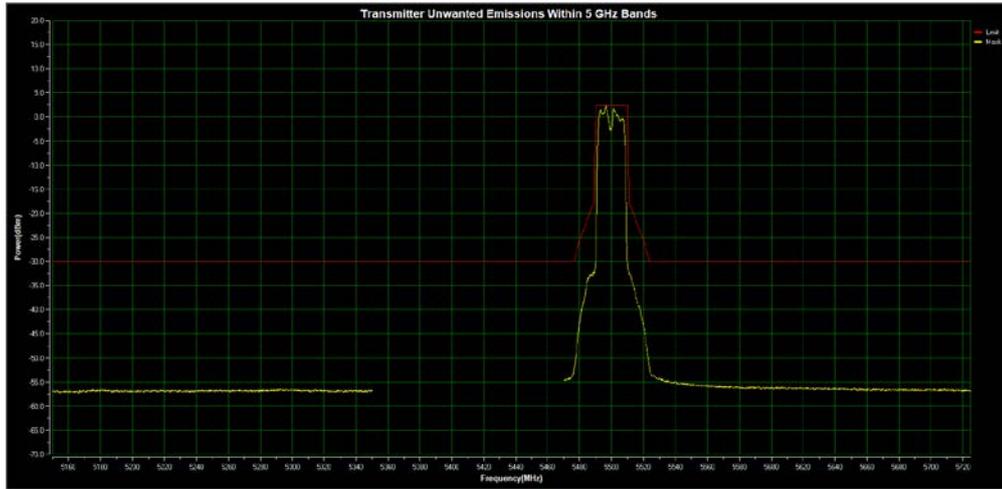
Test Mode : IEEE 802.11a_5320MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

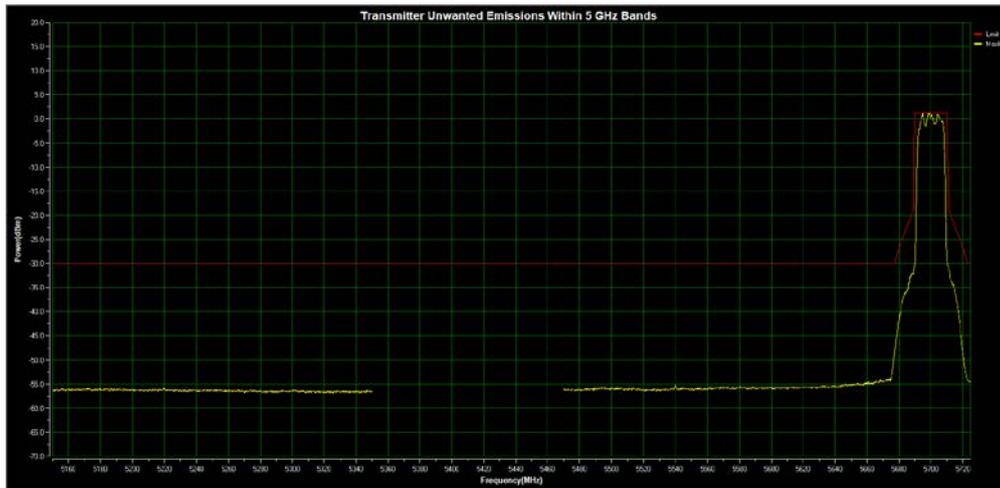
Test Mode : IEEE 802.11a_5500MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11a_5700MHz

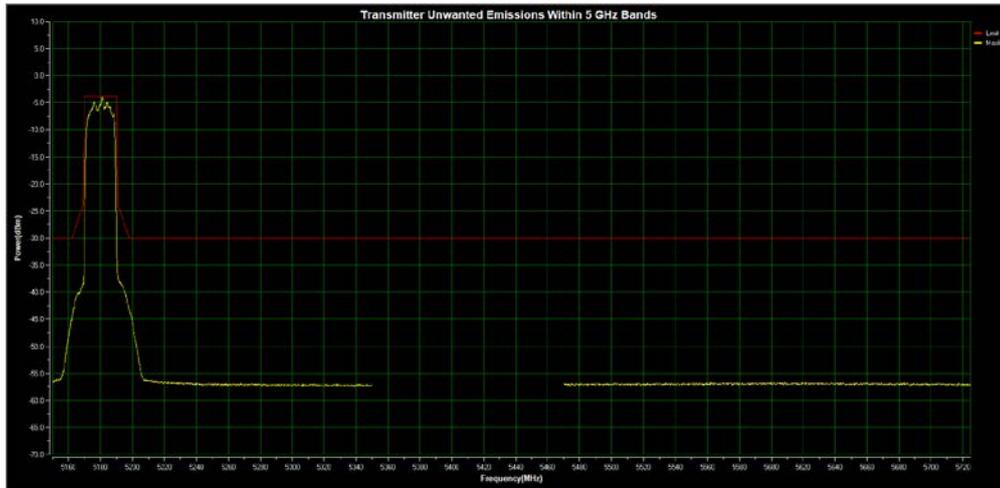


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

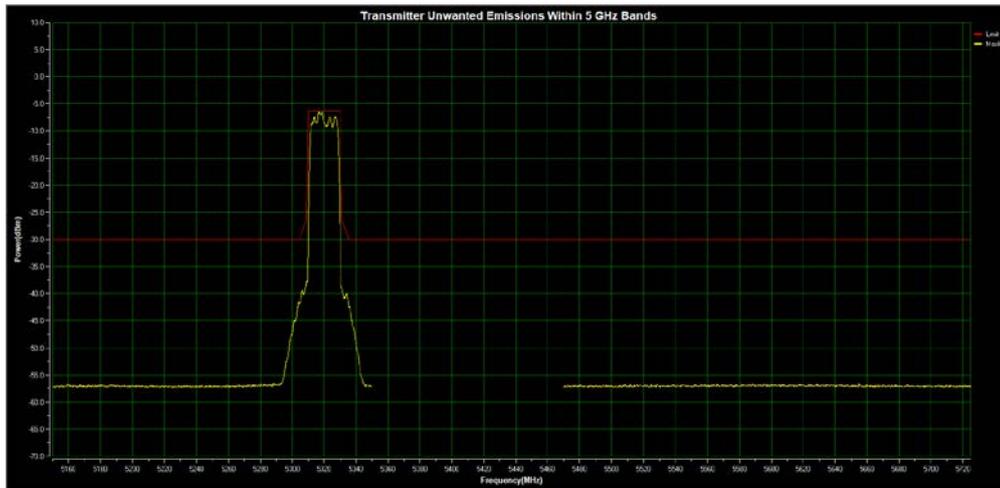
Test Mode : IEEE 802.11ac(VHT20)_5180MHz



Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT20)_5320MHz

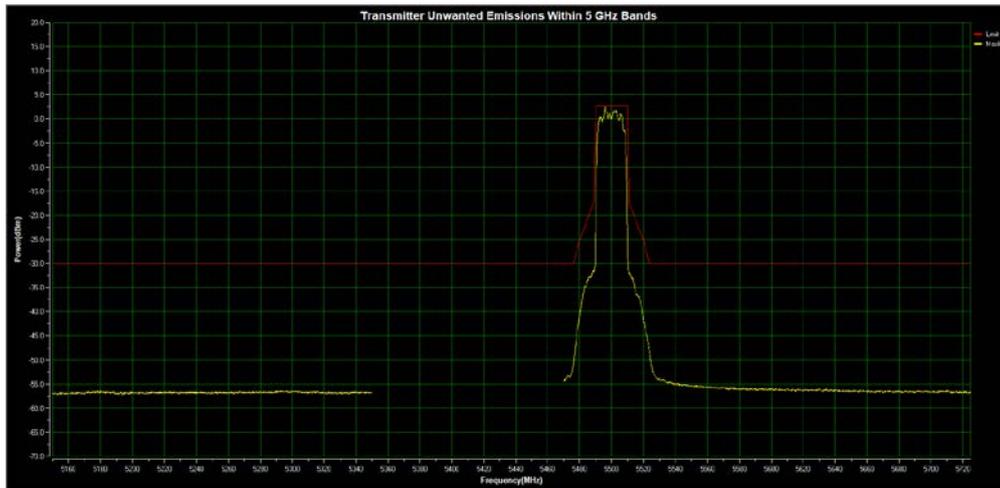


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT20)_5500MHz

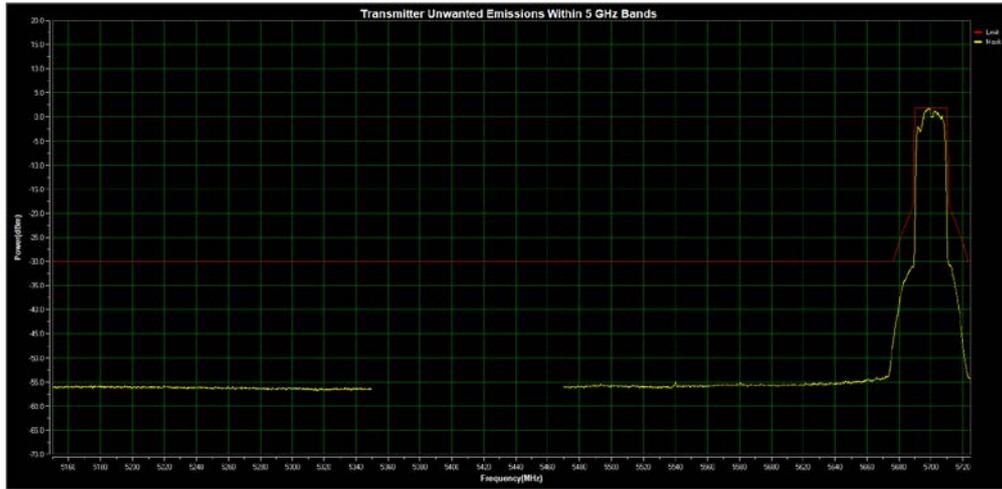


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

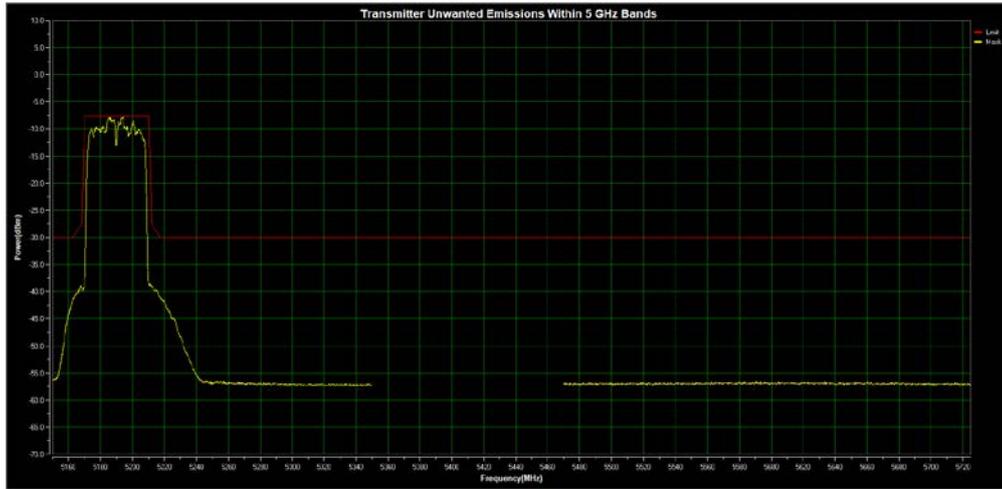
Test Mode : IEEE 802.11ac(VHT20)_5700MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

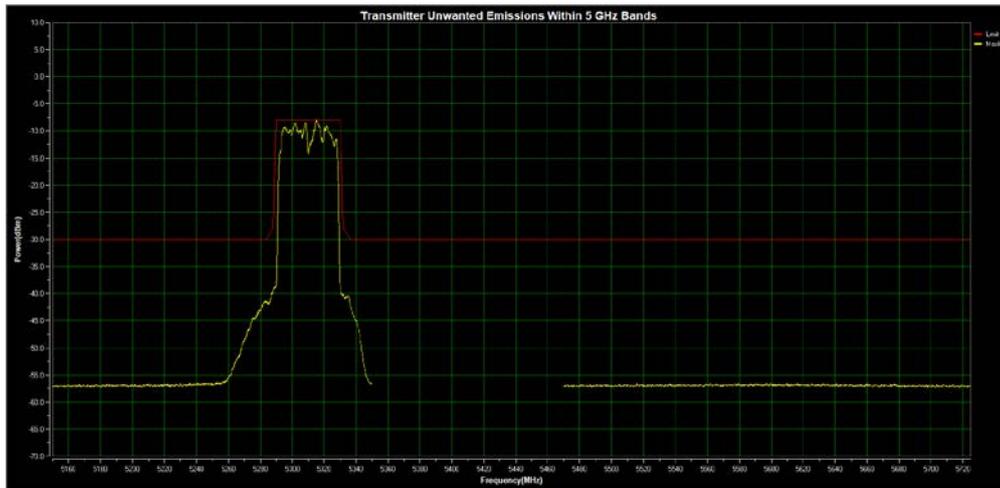
Test Mode : IEEE 802.11ac(VHT40)_5190MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

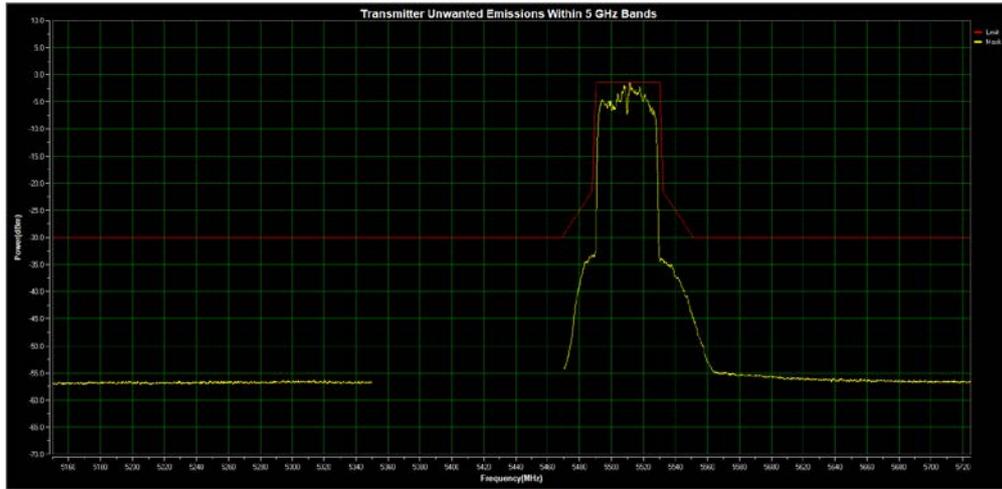
Test Mode : IEEE 802.11ac(VHT40)_5310MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

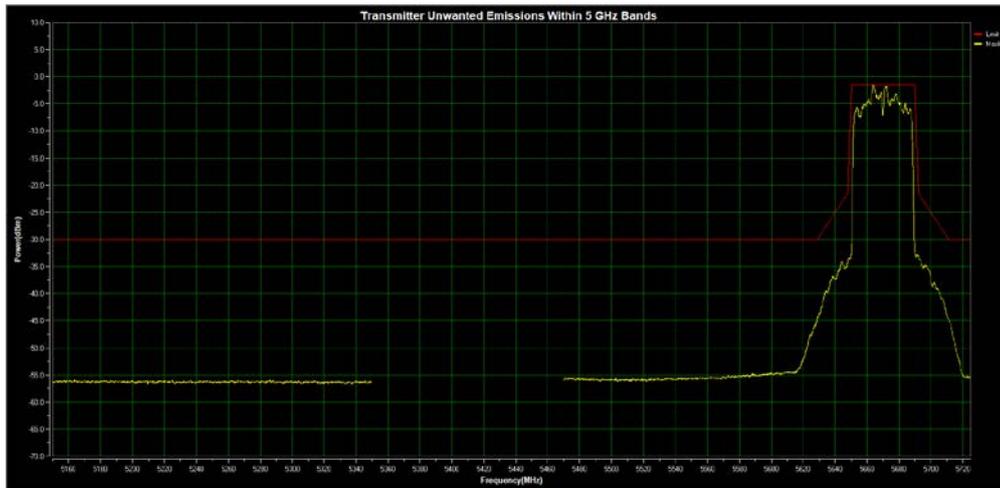
Test Mode : IEEE 802.11ac(VHT40)_5510MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT40)_5670MHz

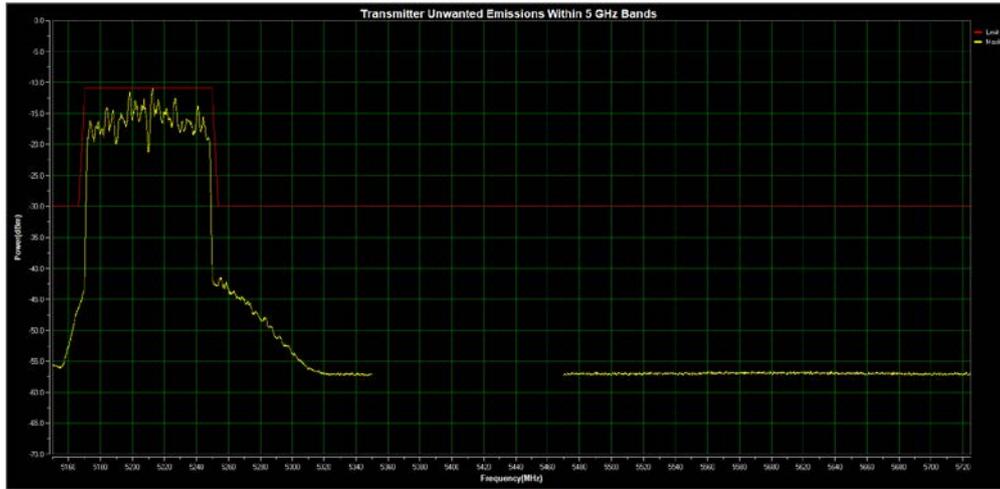


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT80)_5210MHz



Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT80)_5290MHz

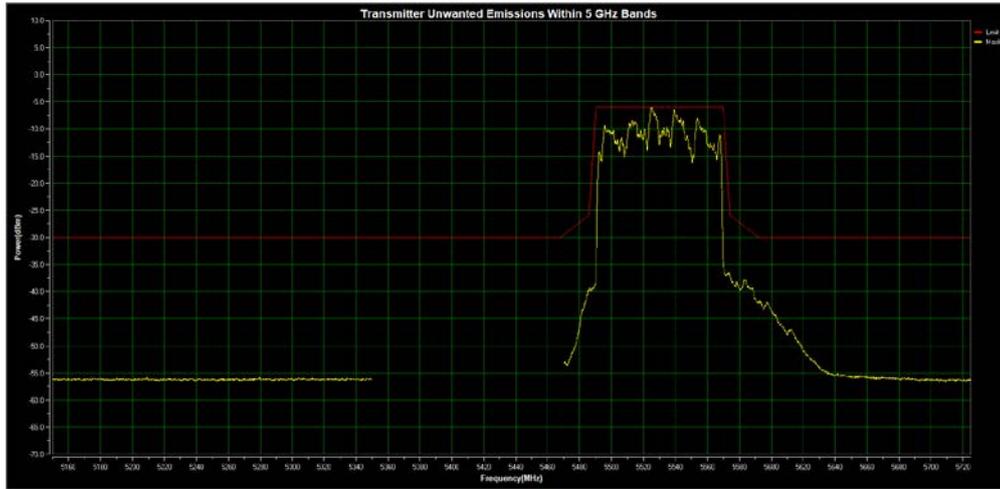


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

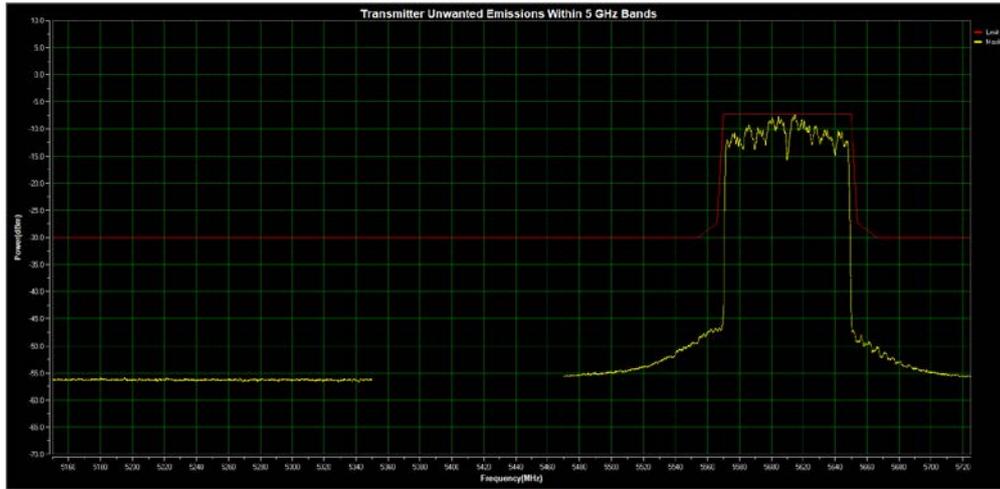
Test Mode : IEEE 802.11ac(VHT80)_5530MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

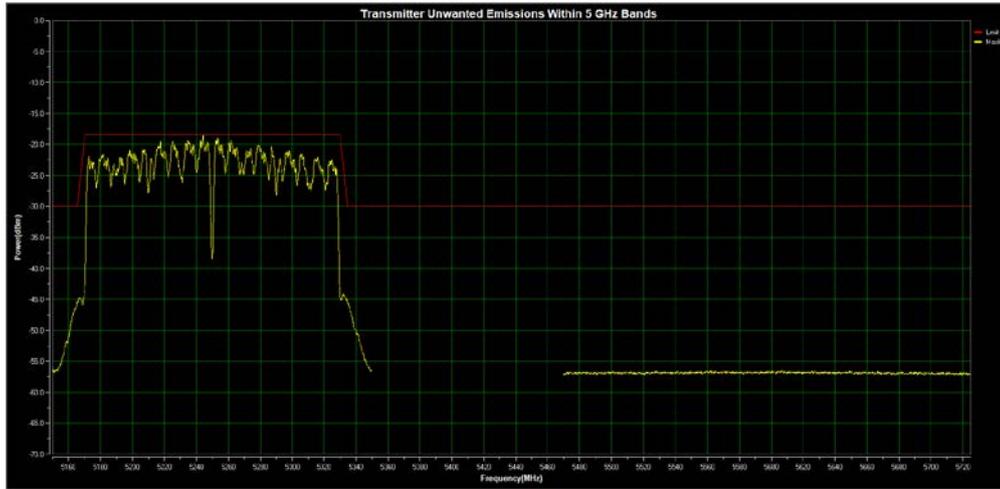
Test Mode : IEEE 802.11ac(VHT80)_5610MHz



Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

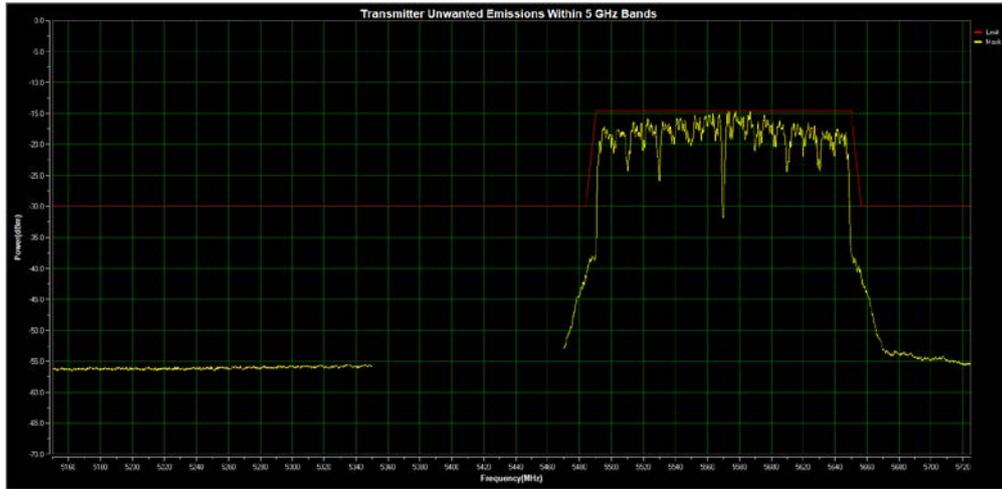
Test Mode : IEEE 802.11ac(VHT160)_5250MHz



Test Results:Pass

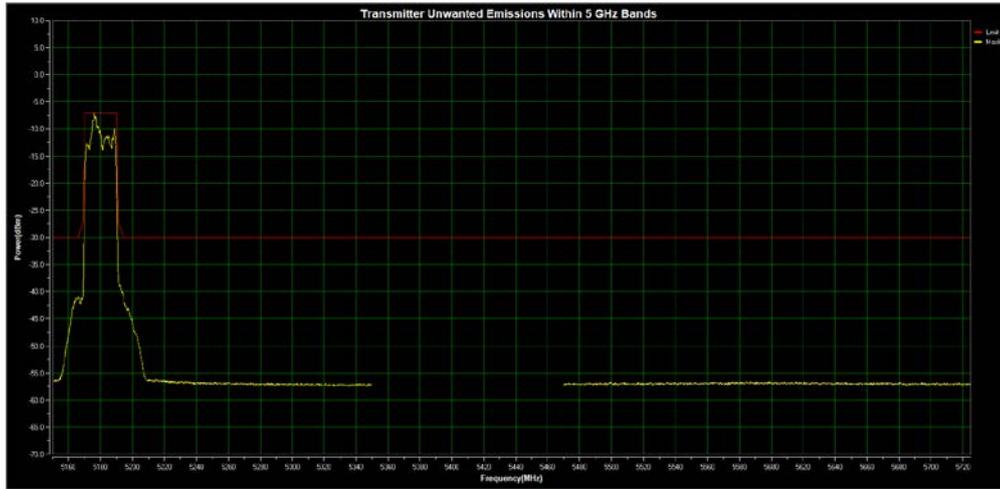
Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ac(VHT160)_5570MHz



Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

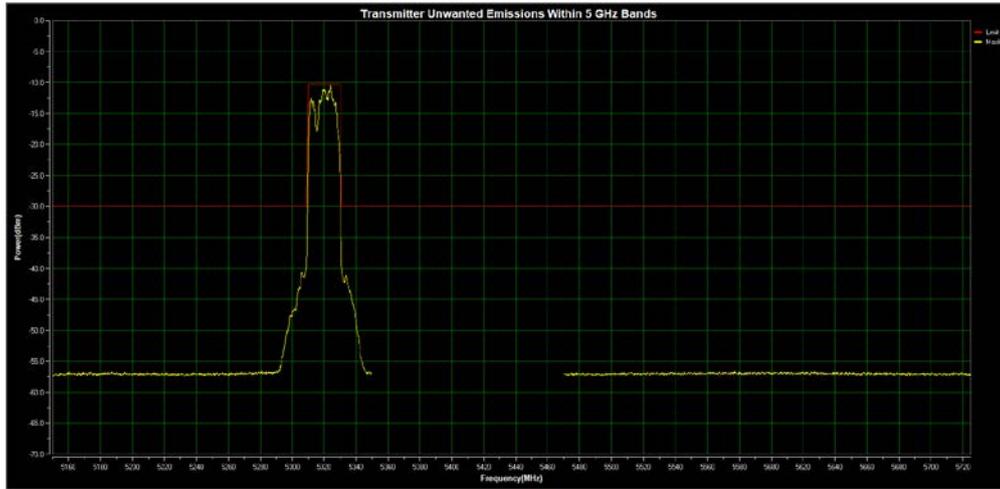
Test Mode : IEEE 802.11ax(HE20)_5180MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

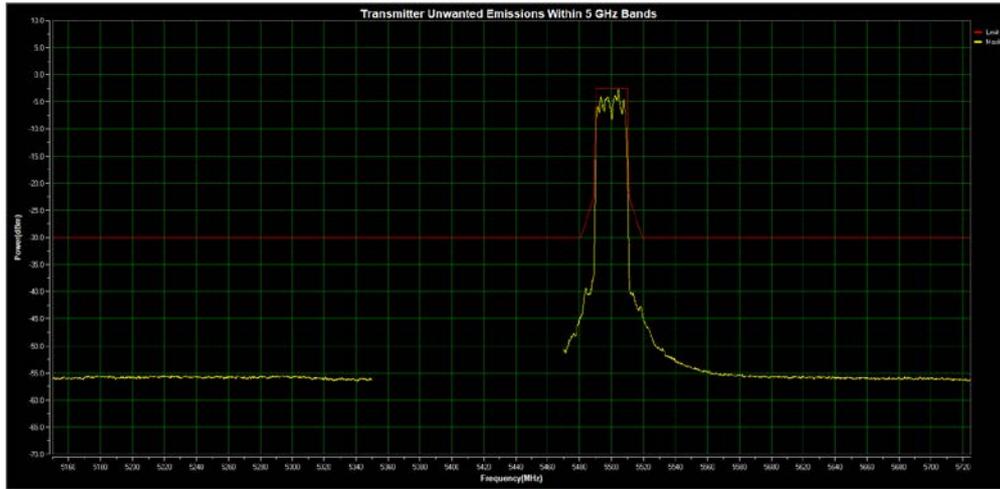
Test Mode : IEEE 802.11ax(HE20)_5320MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

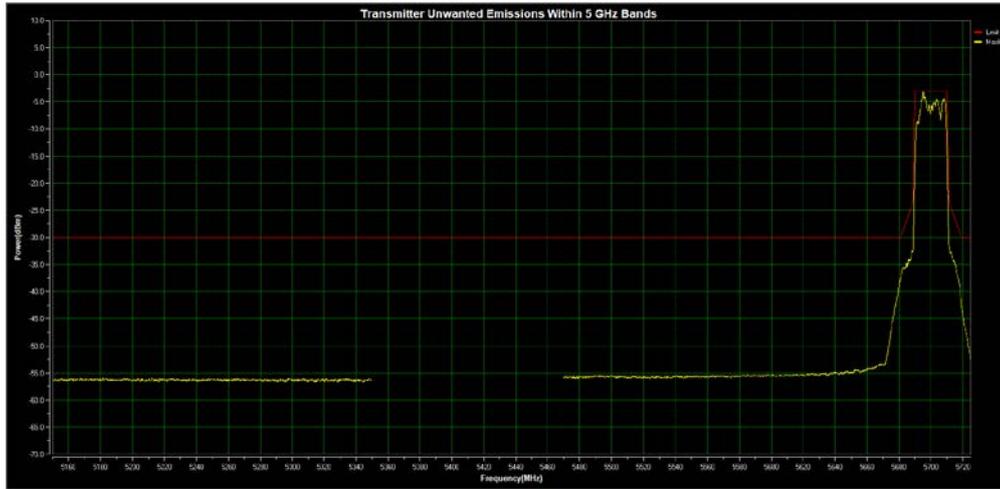
Test Mode : IEEE 802.11ax(HE20)_5500MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

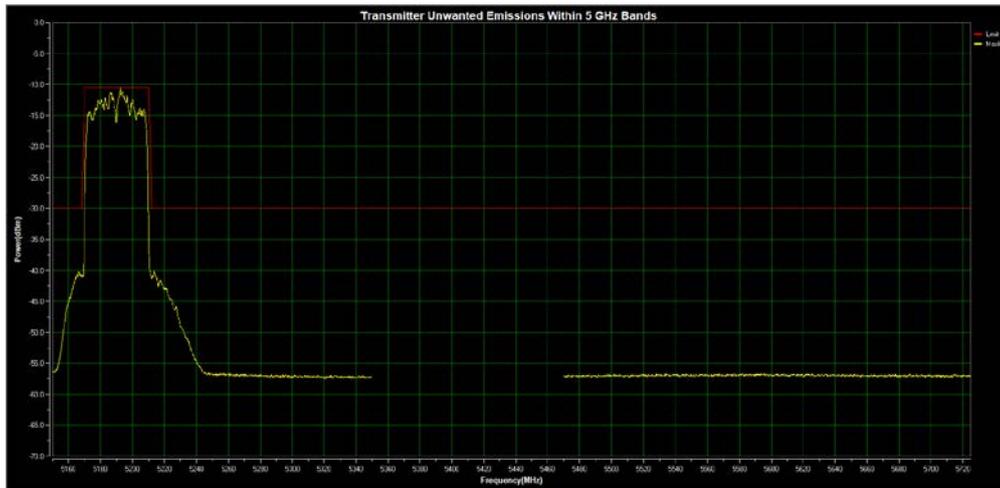
Test Mode : IEEE 802.11ax(HE20)_5700MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE40)_5190MHz



Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

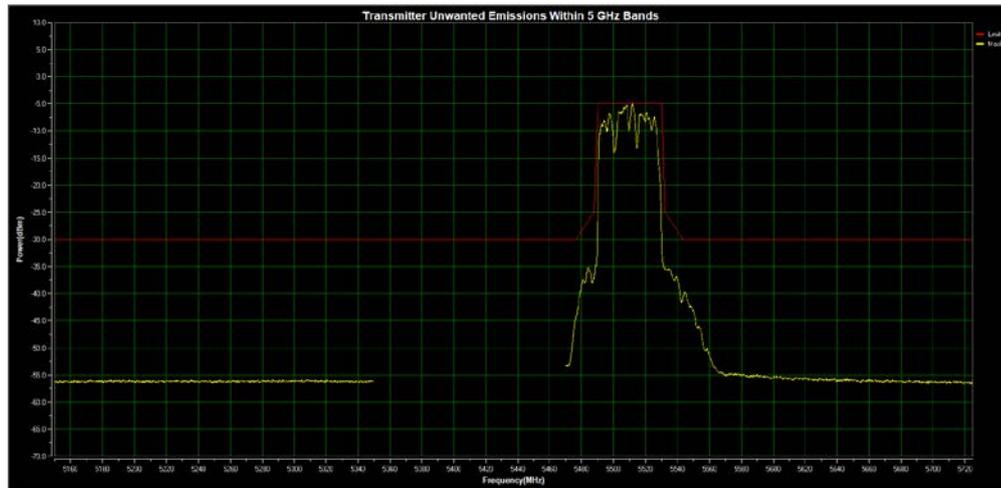
Test Mode : IEEE 802.11ax(HE40)_5310MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE40)_5510MHz

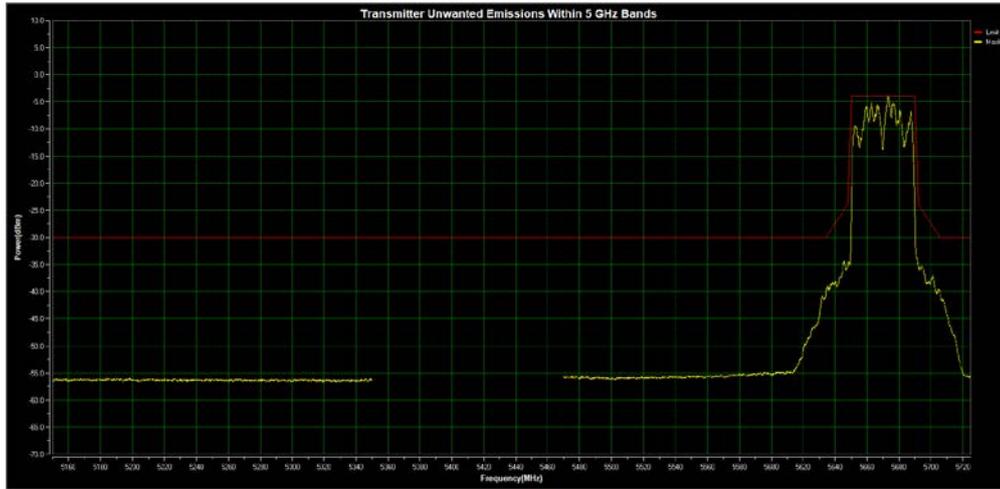


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

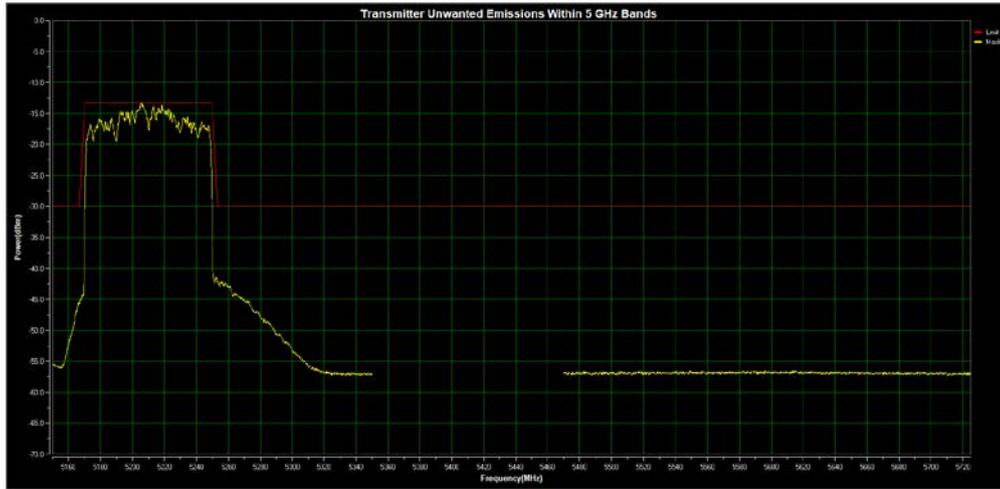
Test Mode : IEEE 802.11ax(HE40)_5670MHz



Test Results:Pass

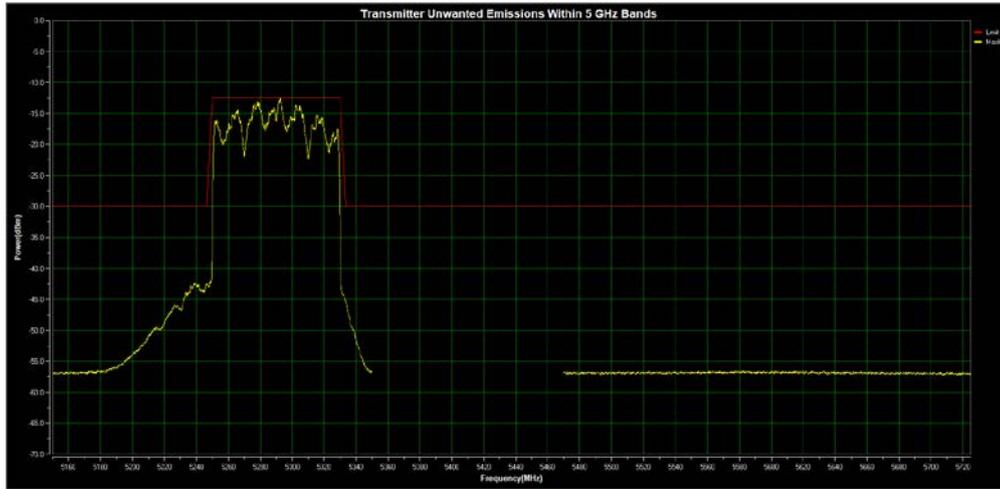
Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE80)_5210MHz



Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

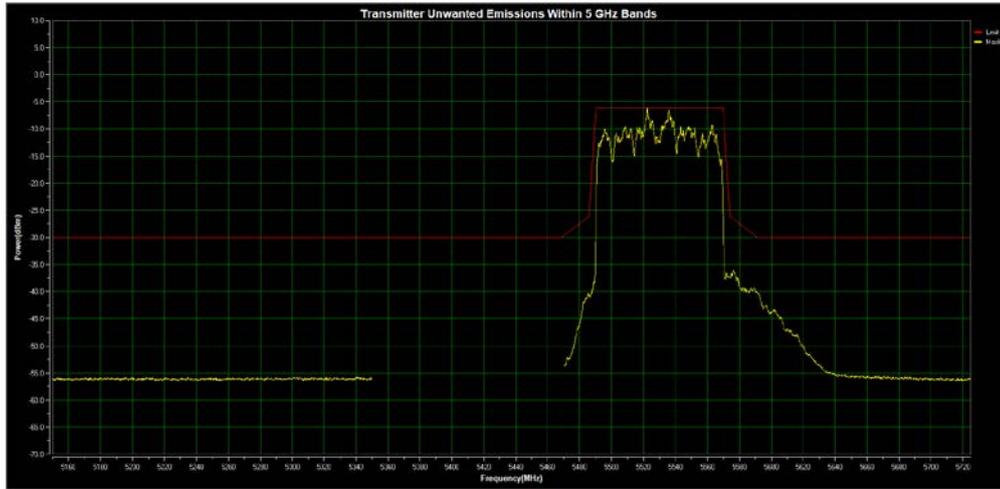
Test Mode : IEEE 802.11ax(HE80)_5290MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11ax(HE80)_5530MHz

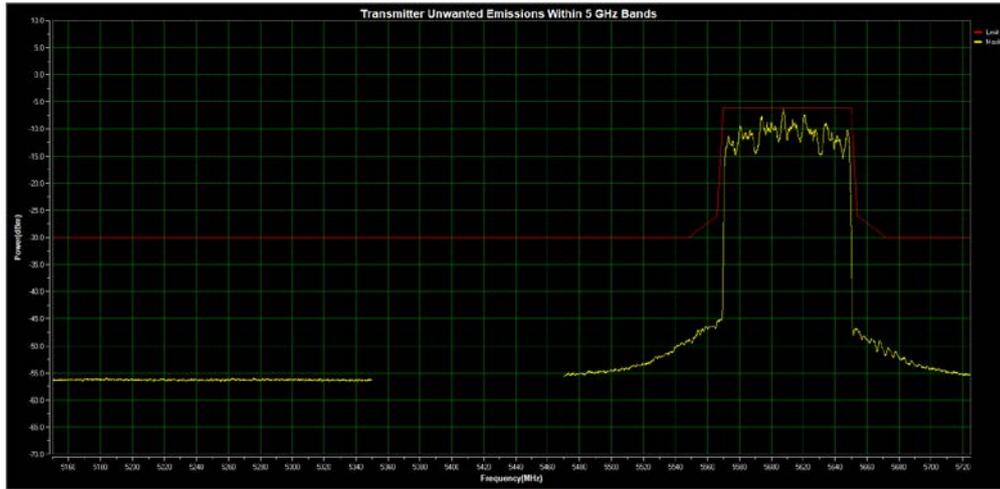


Test Results:Pass

Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

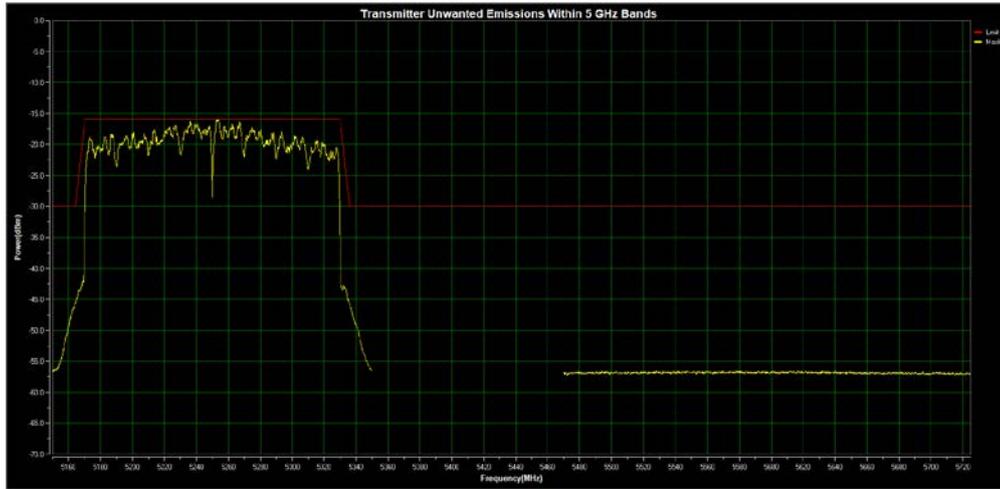
Test Mode : IEEE 802.11ax(HE80)_5610MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

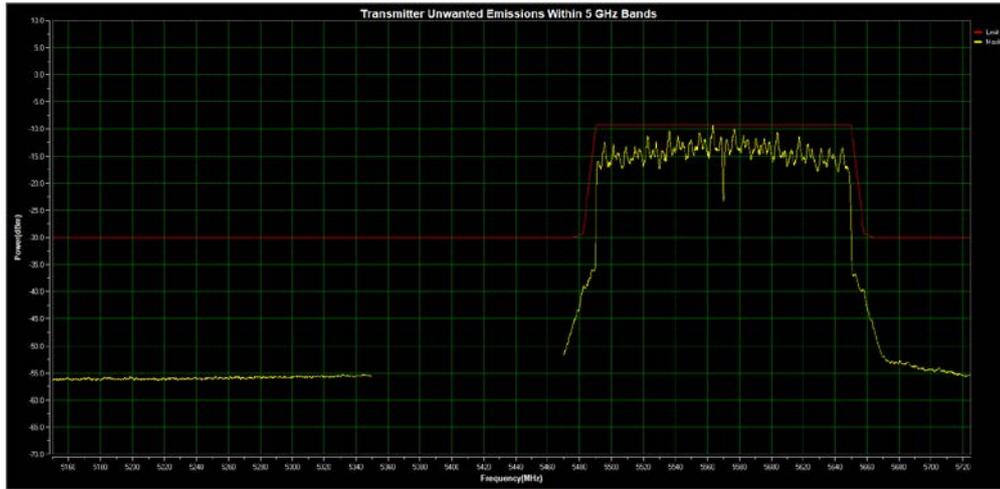
Test Mode : IEEE 802.11ax(HE160)_5250MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

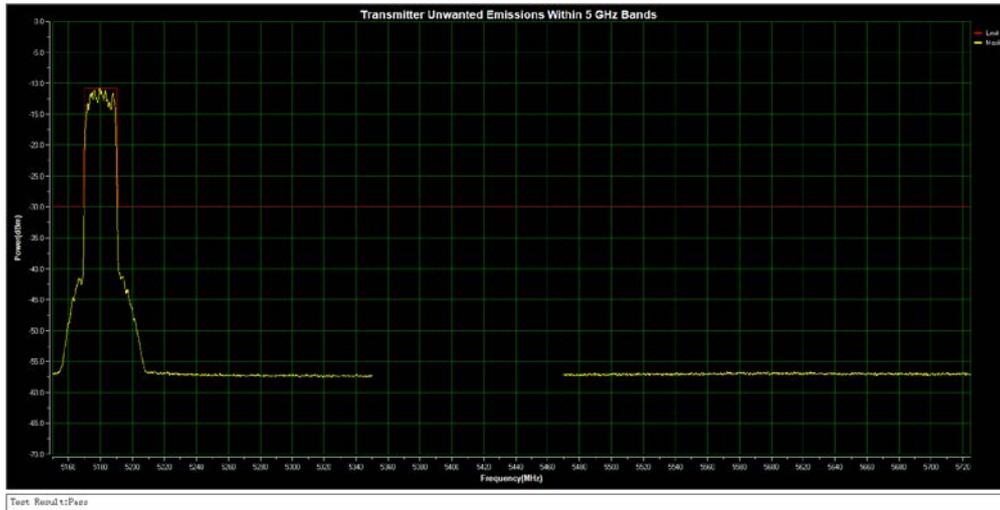
Test Mode : IEEE 802.11ax(HE160)_5570MHz



Test Results:Pass

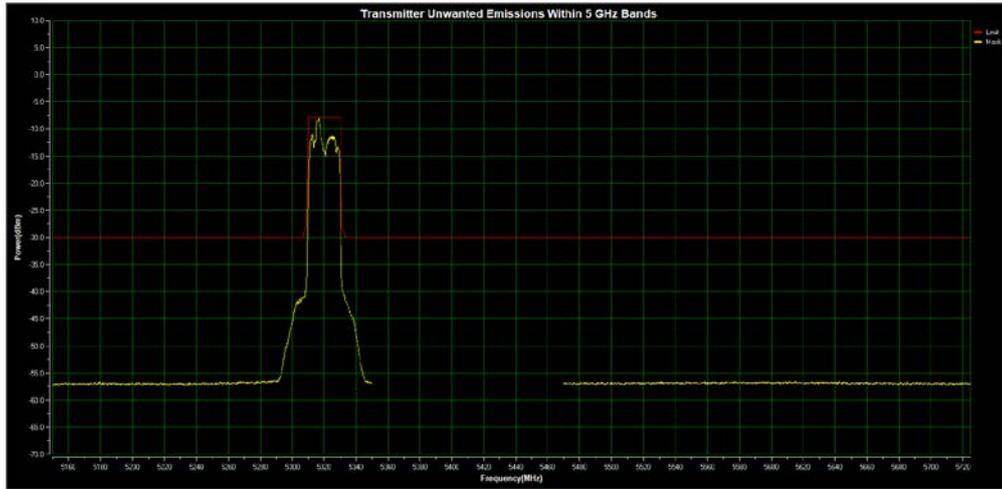
Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11be(EHT20) _5180MHz



Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

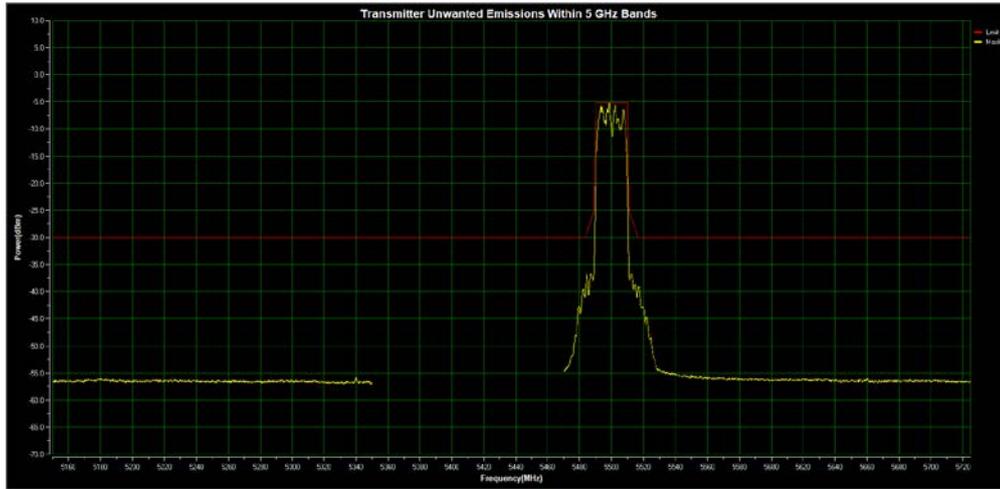
Test Mode : IEEE 802.11be(EHT20)_5320MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

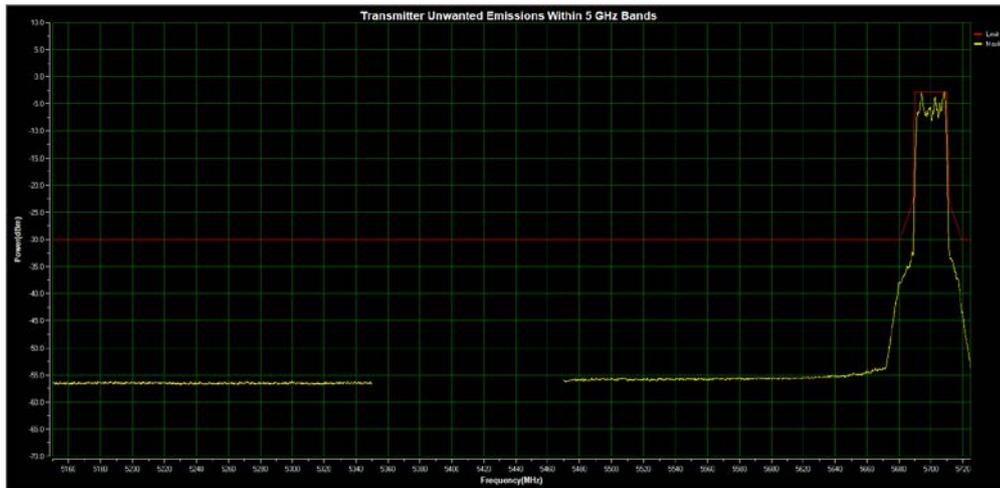
Test Mode : IEEE 802.11be(EHT20)_5500MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

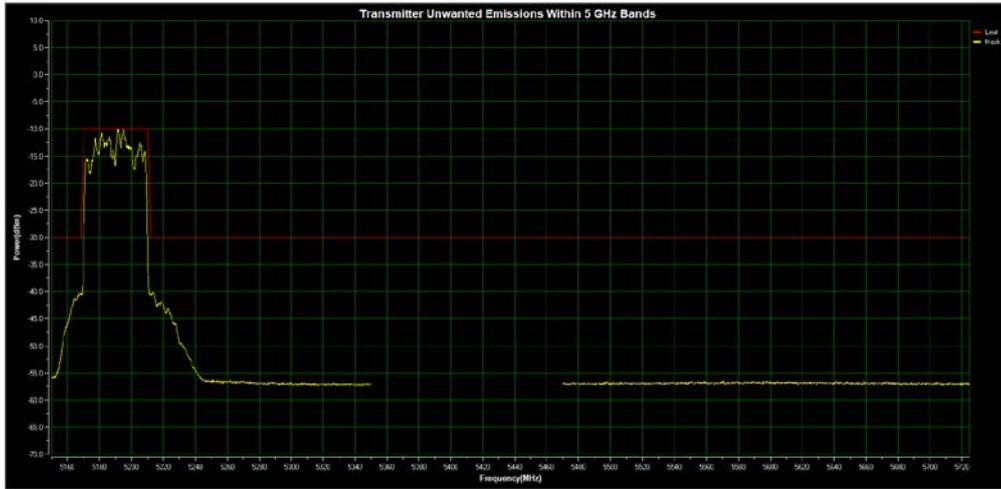
Test Mode : IEEE 802.11be(EHT20)_5700MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

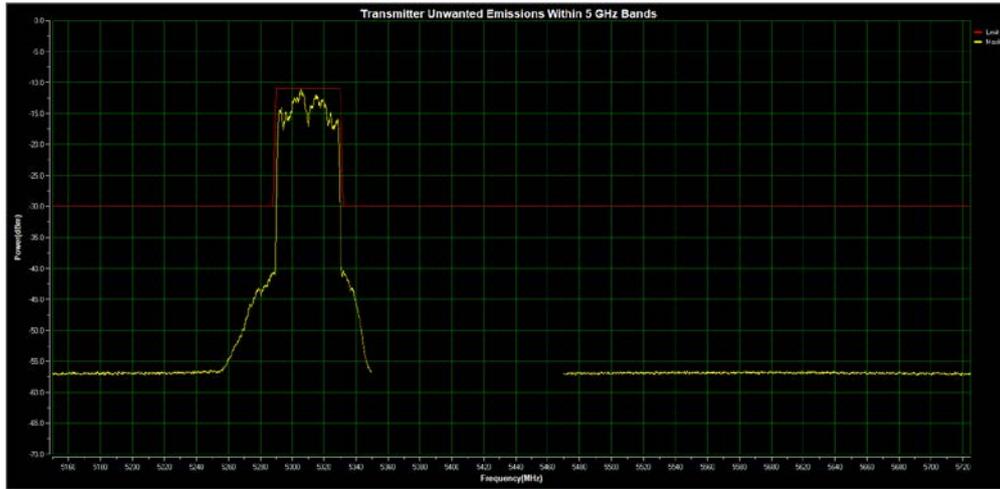
Test Mode : IEEE 802.11be(EHT40)_5190MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

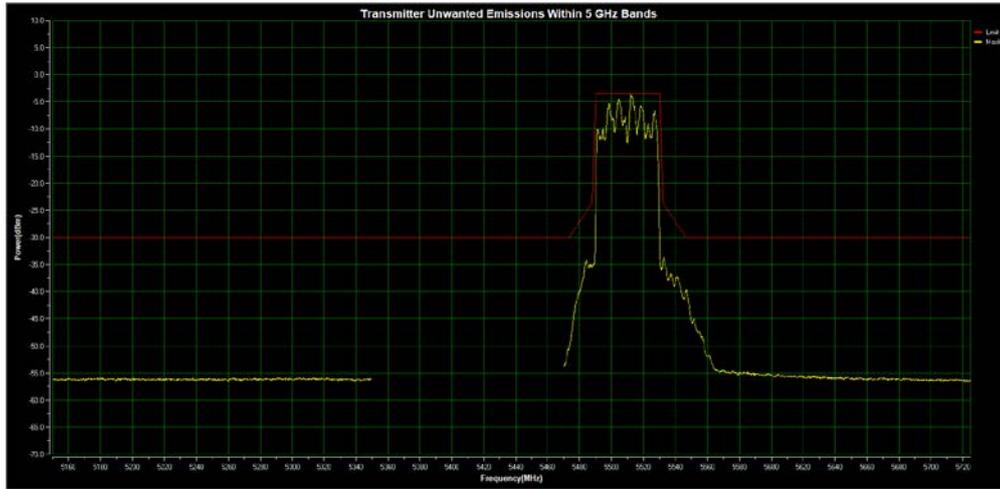
Test Mode : IEEE 802.11be(EHT40)_5310MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

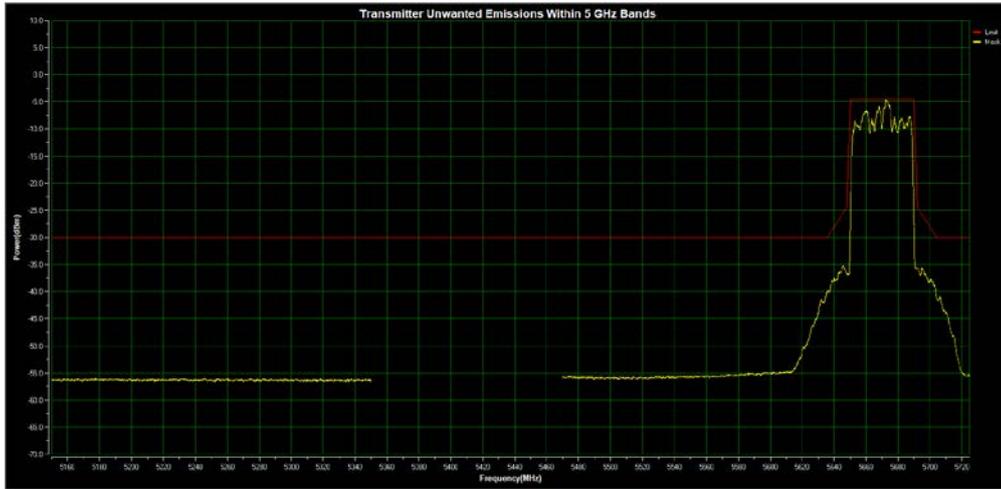
Test Mode : IEEE 802.11be(EHT40)_5510MHz



Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

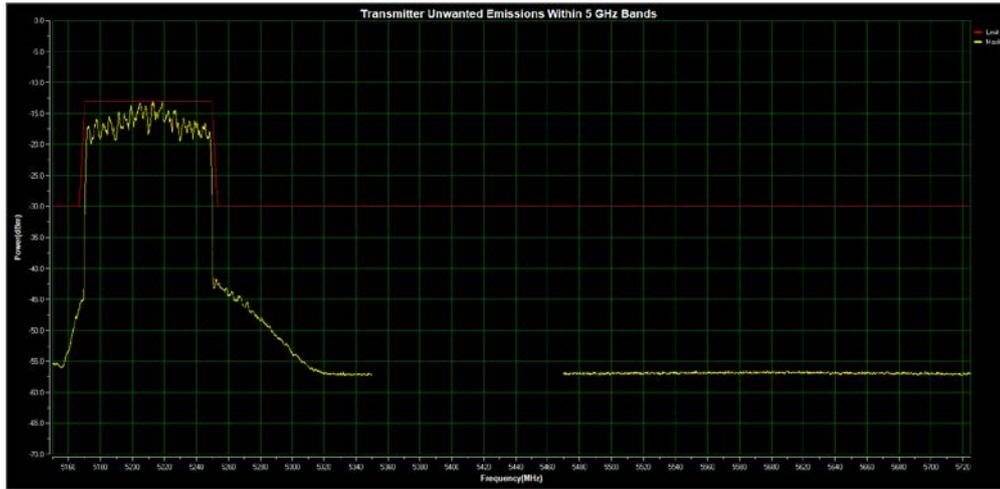
Test Mode : IEEE 802.11be(EHT40)_5670MHz



Test Results:Pass

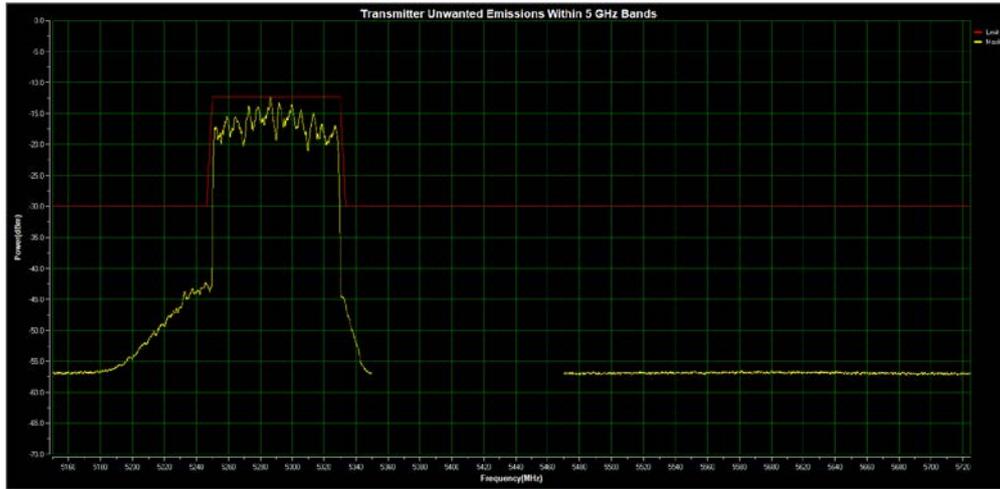
Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11be(EHT40)_5210MHz



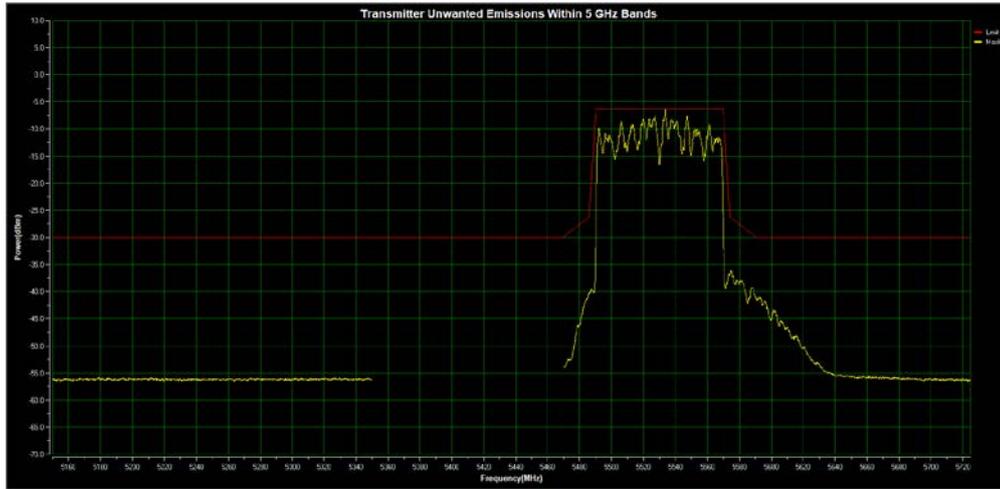
Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11be(EHT40)_5290MHz



Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

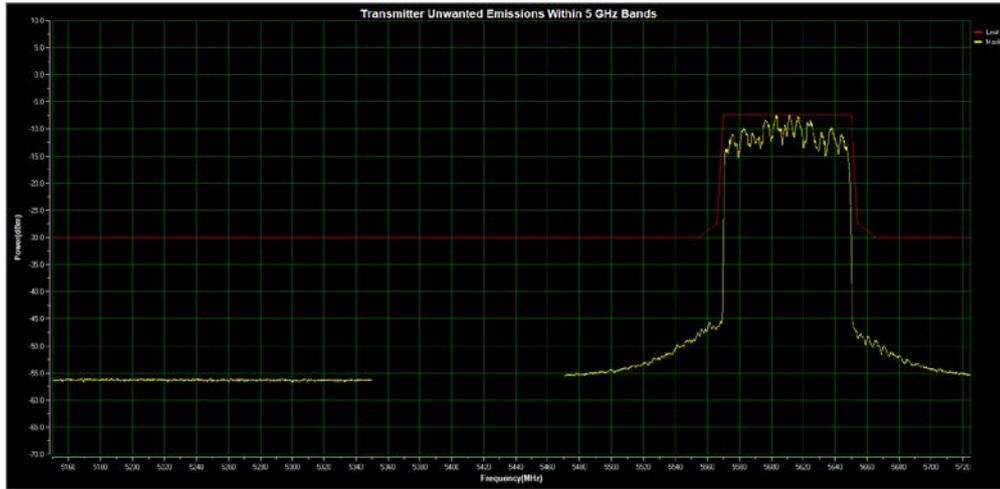
Test Mode : IEEE 802.11be(EHT80)_5530MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

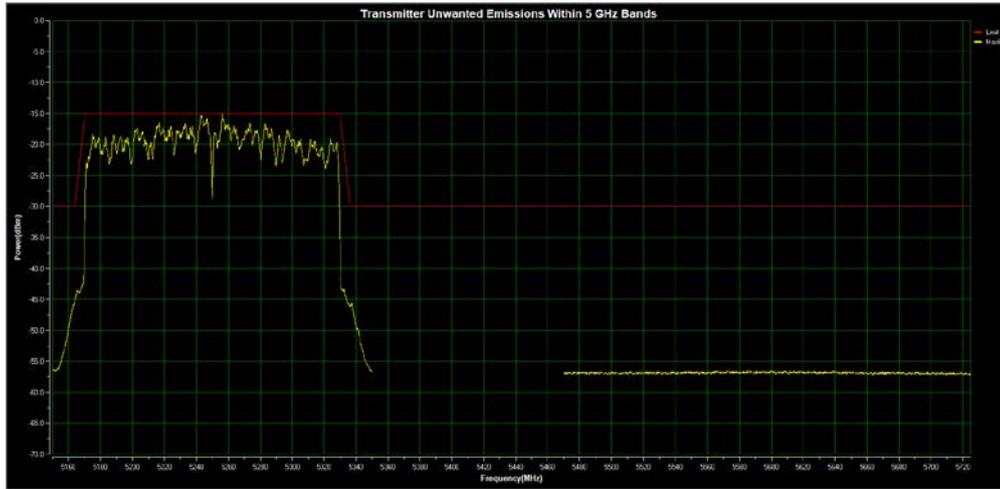
Test Mode : IEEE 802.11be(EHT80)_5610MHz



Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

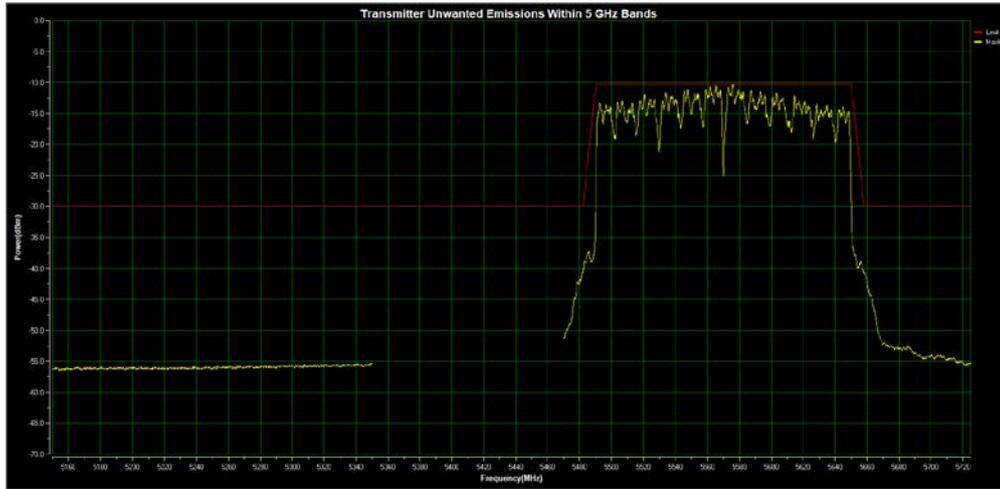
Test Mode : IEEE 802.11be(EHT160)_5250MHz



Note:

The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz. 5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

Test Mode : IEEE 802.11be(EHT160)_5570MHz

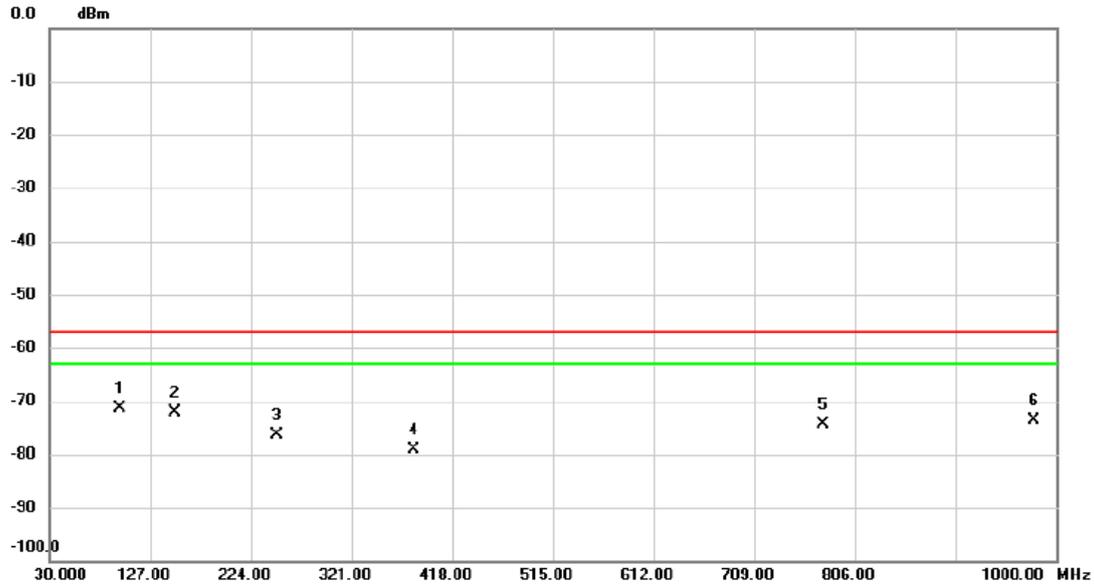


Test Results:Pass

Note:
The MASK is only applicable within the 5150MHz to 5350MHz and 5470MHz to 5725MHz.
5350MHz to 5470MHz is applicable within the Radiation spurious,so the waveform is not displayed in the test data.

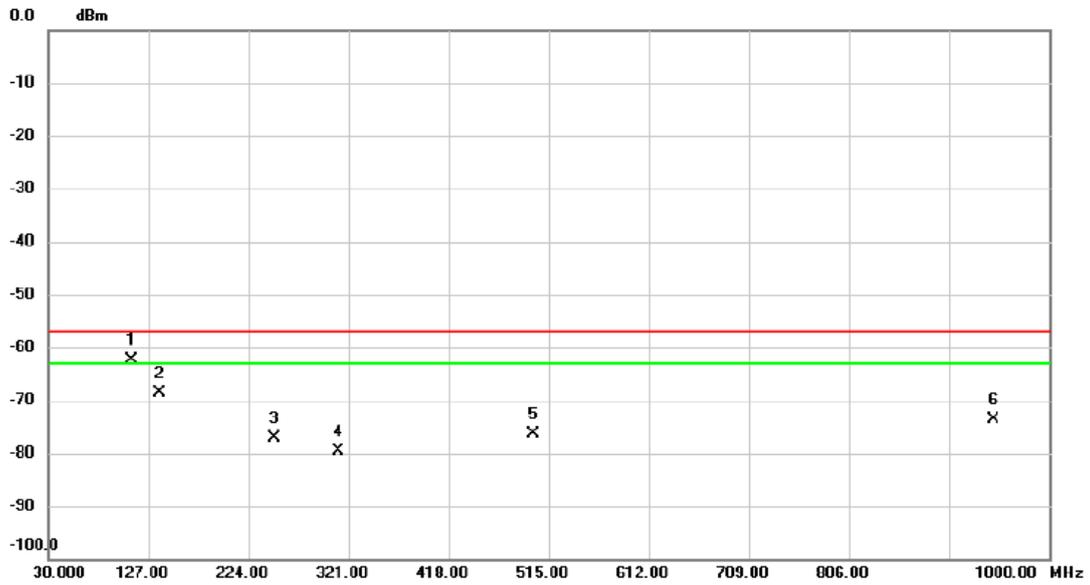
APPENDIX H - RECEIVER SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)

Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	97.9000	-66.59	-4.85	-71.44	-57.00	-14.44	RMS	
2		151.2500	-70.94	-1.06	-72.00	-57.00	-15.00	RMS	
3		249.7050	-71.69	-4.75	-76.44	-57.00	-19.44	RMS	
4		380.6550	-77.88	-1.33	-79.21	-57.00	-22.21	RMS	
5		775.9300	-80.43	6.12	-74.31	-57.00	-17.31	RMS	
6		979.1450	-81.87	8.31	-73.56	-57.00	-16.56	RMS	

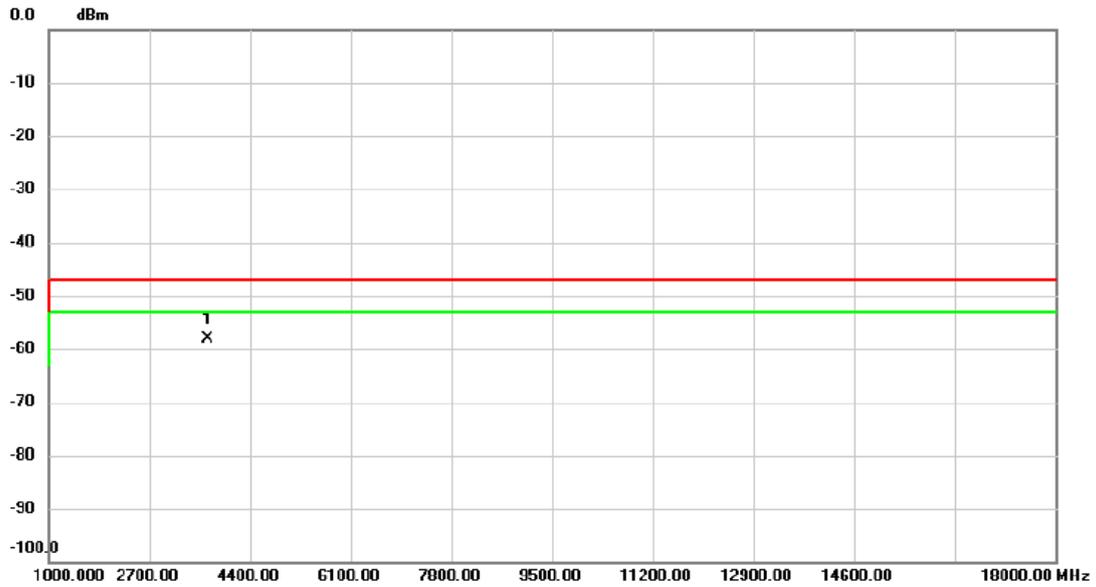
Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	110.9950	-56.42	-5.87	-62.29	-57.00	-5.29	RMS	
2	138.1550	-66.21	-2.37	-68.58	-57.00	-11.58	RMS	
3	249.7050	-72.42	-4.61	-77.03	-57.00	-20.03	RMS	
4	310.8150	-76.45	-3.27	-79.72	-57.00	-22.72	RMS	
5	499.9650	-76.78	0.43	-76.35	-57.00	-19.35	RMS	
6	946.1650	-81.84	8.31	-73.53	-57.00	-16.53	RMS	

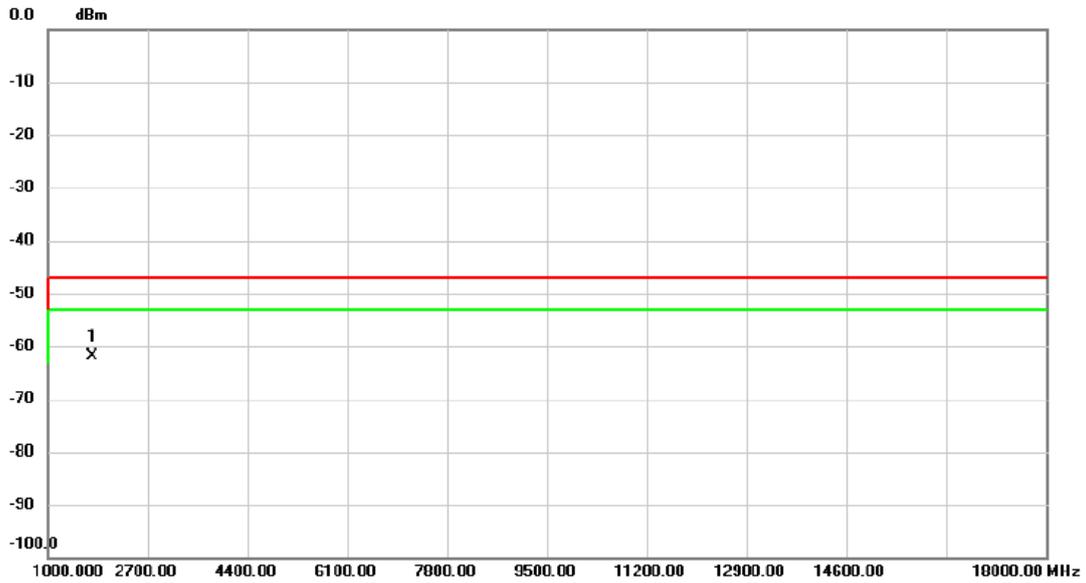
APPENDIX I - RECEIVER SPURIOUS EMISSIONS (ABOVE 1000MHZ)

Test Mode	RX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Vertical
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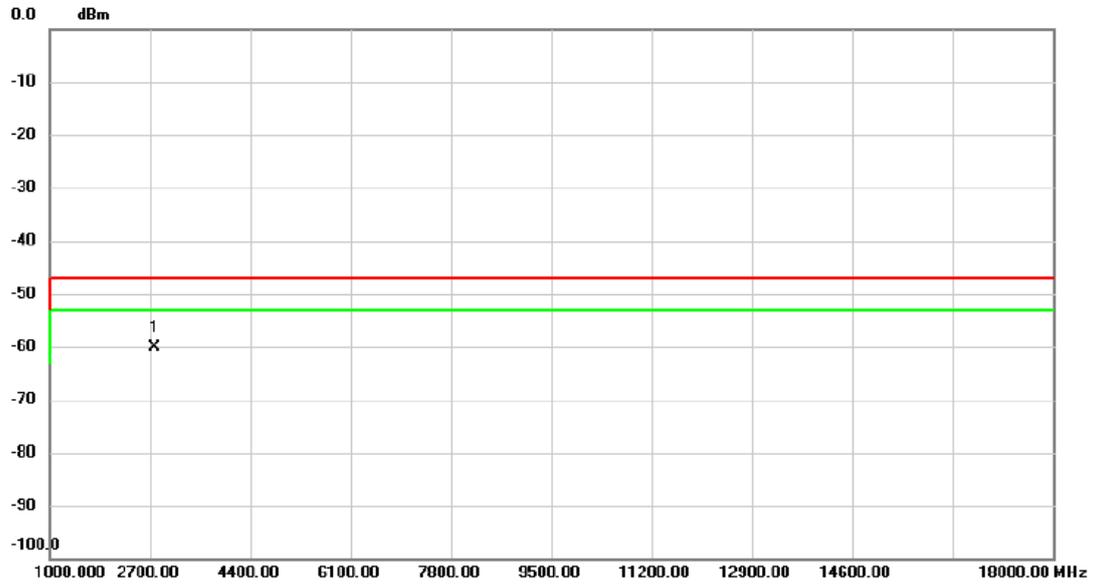
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	3674.950	-68.05	9.88	-58.17	-47.00	-11.17	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Horizontal
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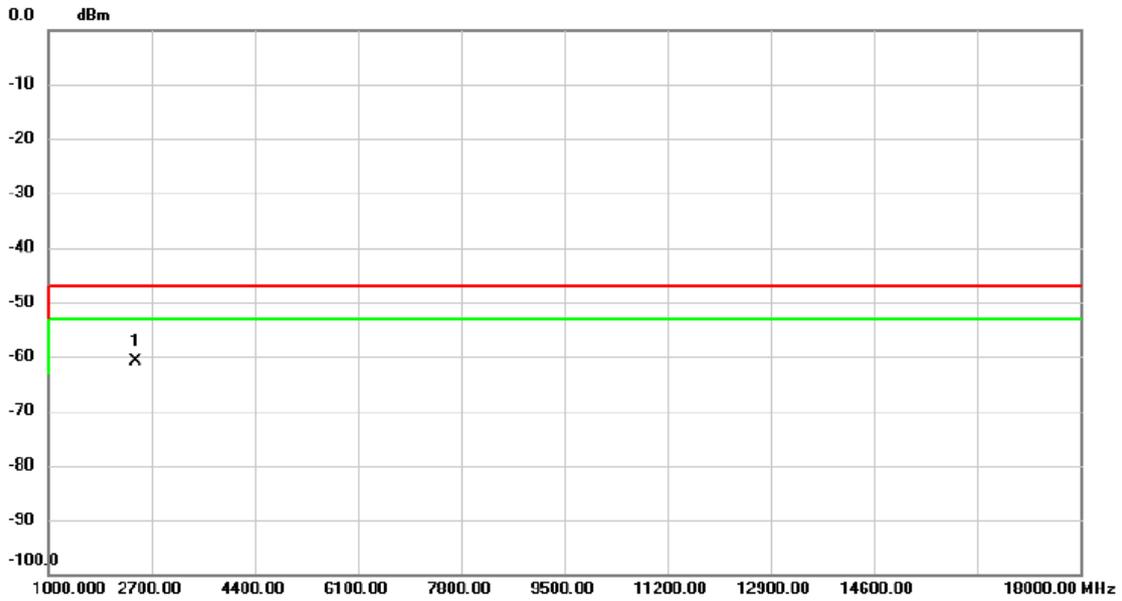
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	1749.700	-66.06	4.08	-61.98	-47.00	-14.98	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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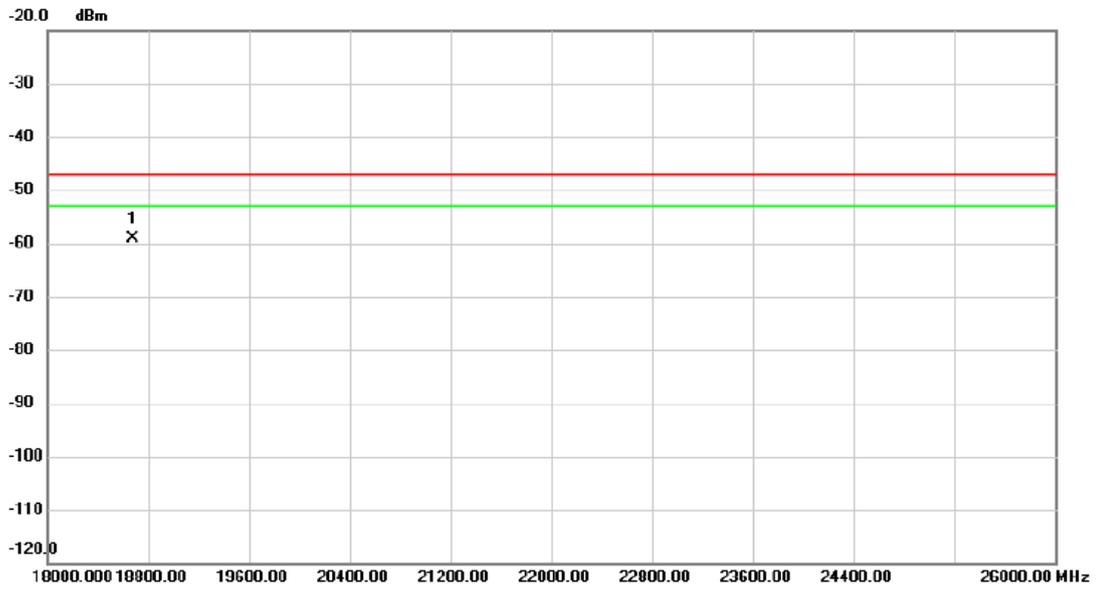
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2772.250	-68.12	8.12	-60.00	-47.00	-13.00	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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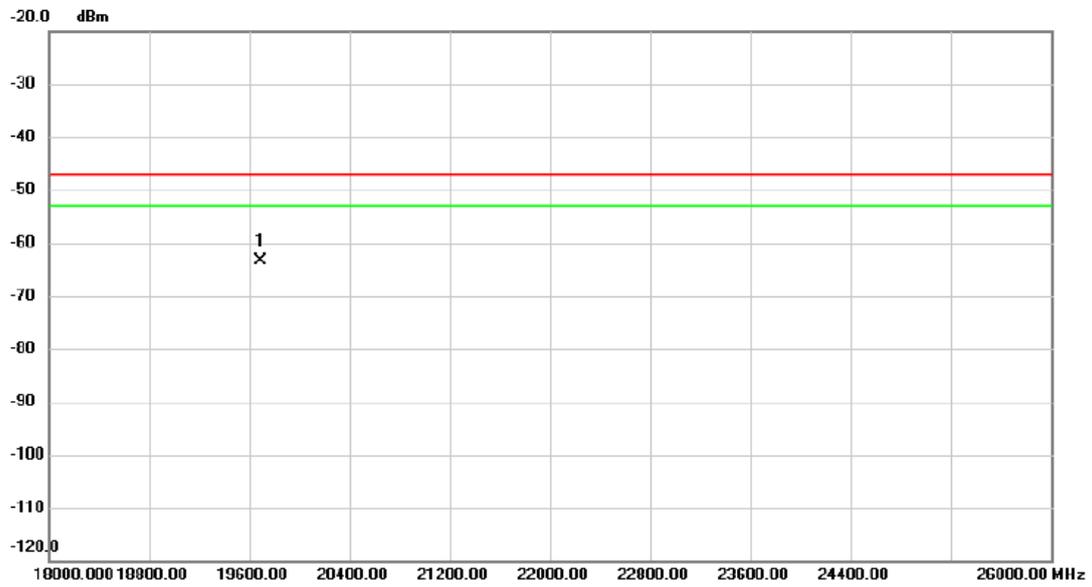
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2443.300	-67.57	6.65	-60.92	-47.00	-13.92	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Vertical
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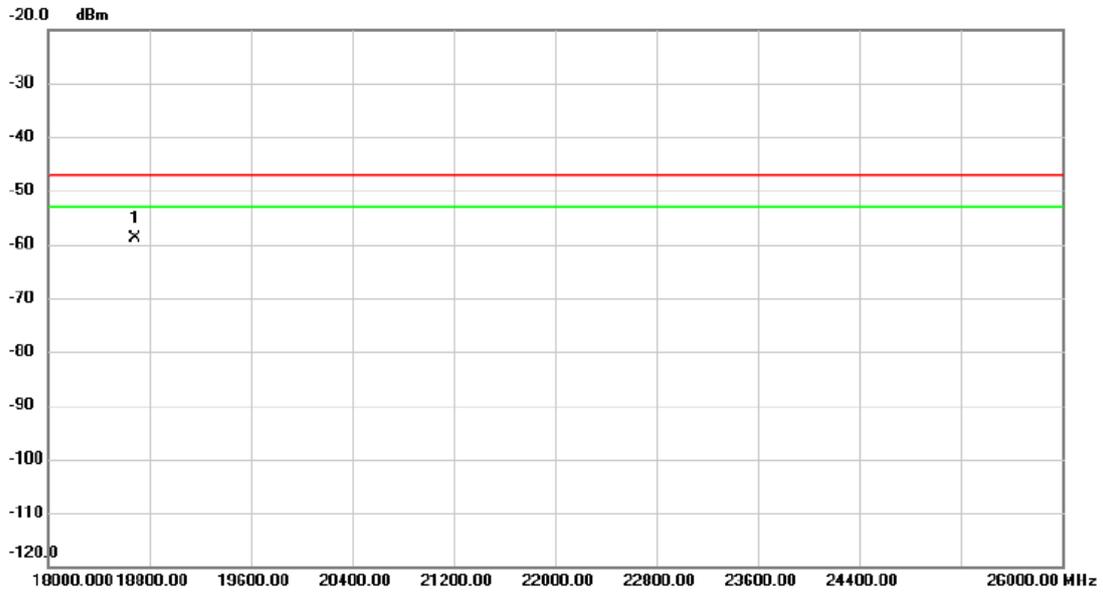
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	18679.20	-55.52	-3.54	-59.06	-47.00	-12.06	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5190MHz	Polarization	Horizontal
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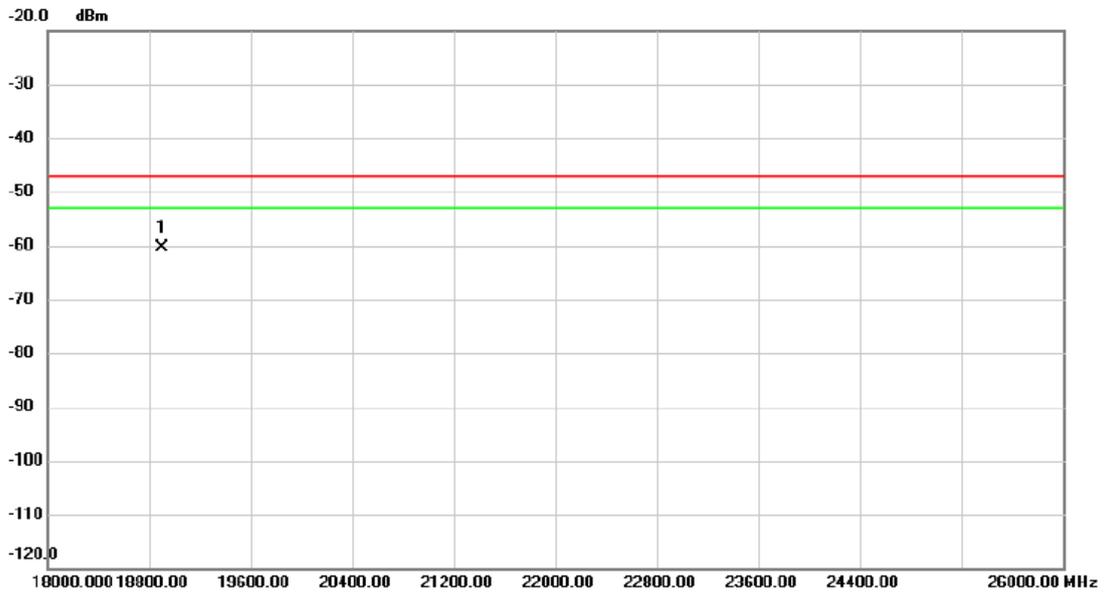
No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	19694.40	-61.10	-2.26	-63.36	-47.00	-16.36	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	18688.80	-55.28	-3.51	-58.79	-47.00	-11.79	RMS	

Test Mode	RX Mode IEEE 802.11be(EHT40)_5510MHz	Polarization	Horizontal
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	18905.60	-57.29	-3.17	-60.46	-47.00	-13.46	RMS	

APPENDIX J - ADAPTIVITY

EUT Operational Mode	Frame Based Equipment	
	Load Based Equipment (CCA using 'energy detect')	√
	Load Based Equipment (CCA not using any of the mechanisms referenced)	

Clause	Test Parameter	Remark	Pass/Fail
4.2.7.3.1	Adaptive (Frame Based Equipment)	Not Applicable	N/A
4.2.7.3.2	Adaptive (Load Based Equipment)	Applicable	Pass
4.2.7.3.3	Short Control Signalling Transmissions	Applicable	Pass

Test Mode:	TX Mode_ IEEE 802.11ax(HE20)_5180MHz,IEEE 802.11ax(HE40)_5190MHz
------------	--

Channel Occupancy Time and Priority Class Measured Results		
Freq.(MHz)	Channel Occupancy Time (ms)	Priority Class
5180	5.463	3
5190	3.996	3

Adaptivity Results				
Detection Threshold Level			-75 dBm/MHz	
Interference Signal	Freq.(MHz)		Short Control Signalling Transmissions (ms)	Number of Short Control Signalling Transmissions
AWGN	AX20	5180	0	0
OFDM		5180	0	0
LTE		5180	0	0
AWGN	AX40	5180	0	0
		5200	0	0
Limit			2.5	≤ 50
Result			Pass	

Note:

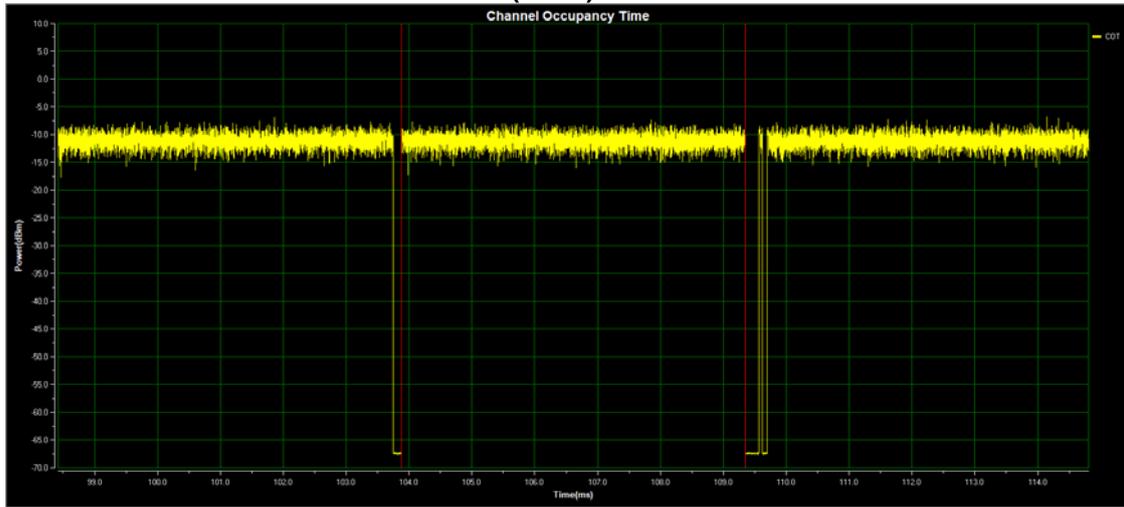
- For an EUT with a non-zero dBi antenna gain, the final interference detection threshold level T_L at the port of the radio module in a conducted test setup shall be adjusted by the gain of the bypassed antenna and is calculated using below formulas:

$$\text{Threshold Level} = -75 \text{ dBm/MHz} + \text{EUT Antenna Gain.}$$

- Short Control Signalling Transmissions = 50 (ms) * Duty cycle (%)

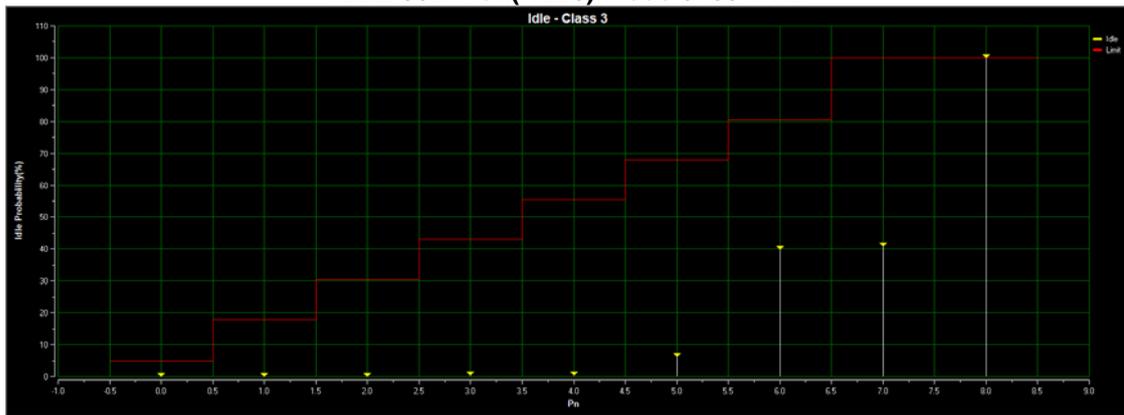
Single Channel device test results

IEEE 802.11ax(HE20) Mode 5180 MHz



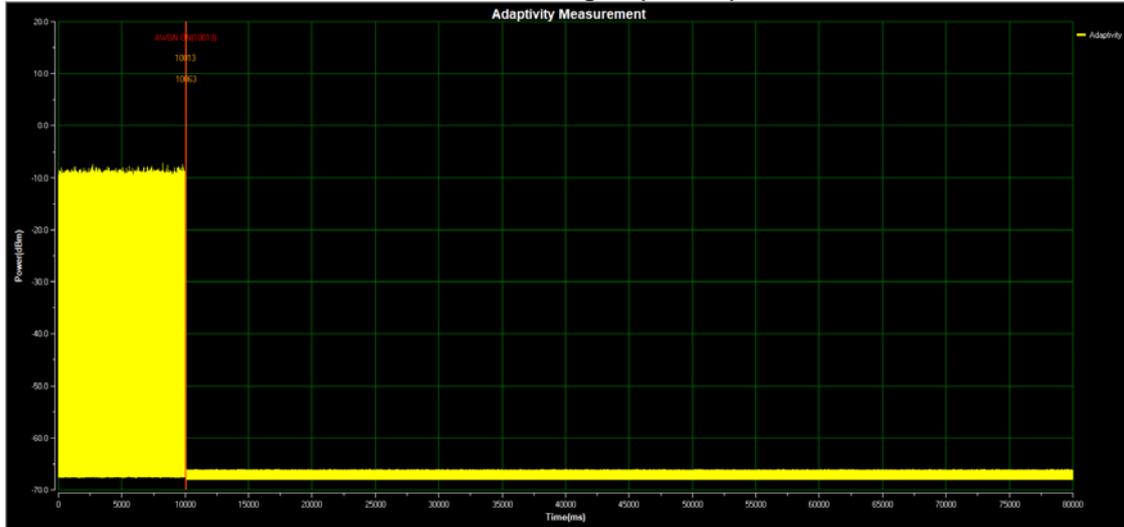
COT Number:10048 Idle Number:9890
Maximum COT(ms):5.463 Minimum Idle Time(us):33

IEEE 802.11ax(HE20) Mode 5180 MHz



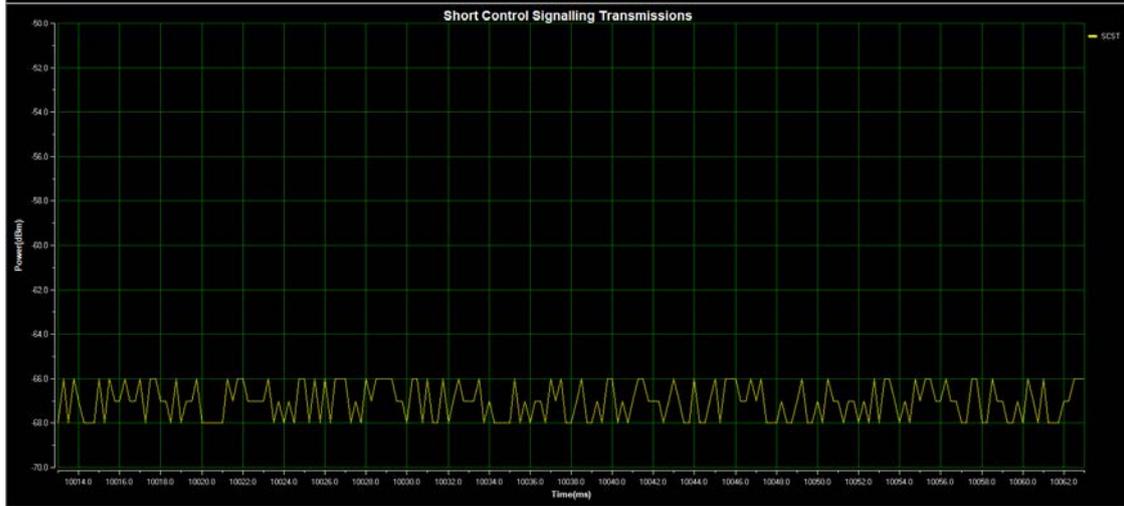
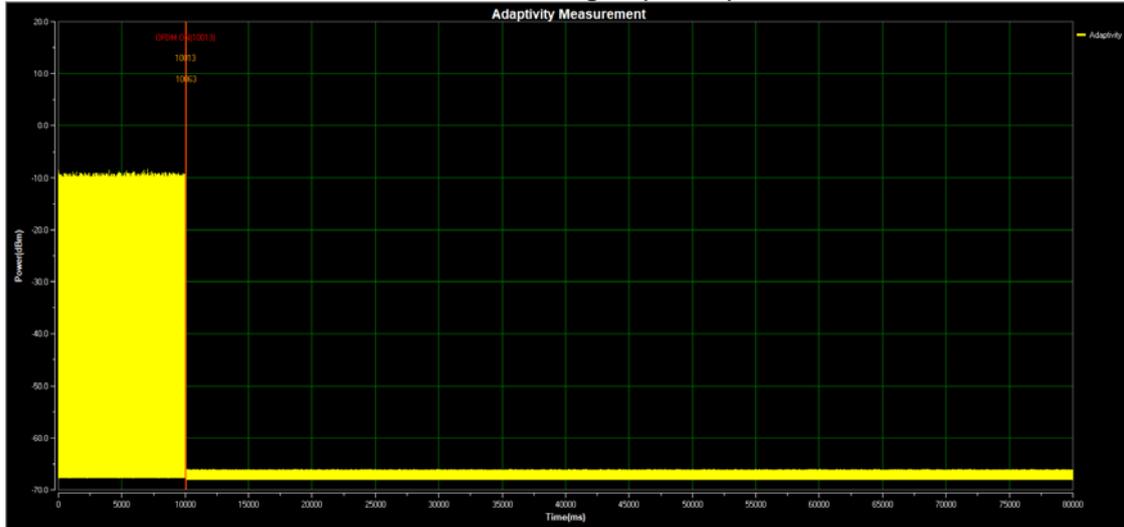
Pn	Idle Num	Result(%)	Limit(%)	Status
0	0	0	5	Pass
1	0	0	18	Pass
2	1	0.01	30.5	Pass
3	33	0.344	43	Pass
4	15	0.495	55.5	Pass
5	558	6.138	68	Pass
6	3227	39.778	80.5	Pass
7	107	40.859	100	Pass
8	5849	100	100	Pass

IEEE 802.11ax(HE20) Mode 5180 MHz Interference Signal(AWGN)



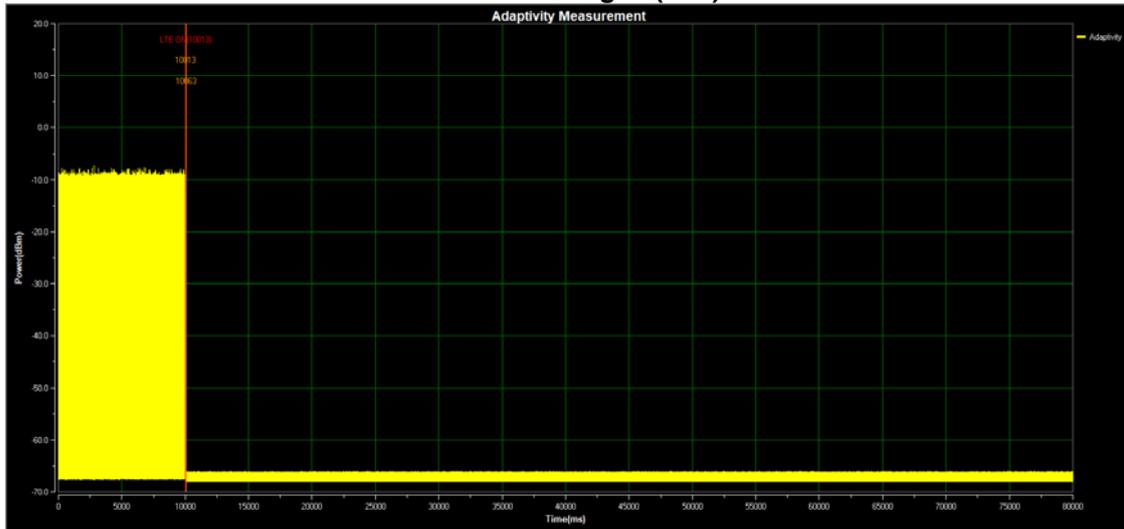
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

IEEE 802.11ax(HE20) Mode 5180 MHz Interference Signal(OFDM)



Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

**IEEE 802.11ax(HE20) Mode 5180 MHz
Interference Signal(LTE)**



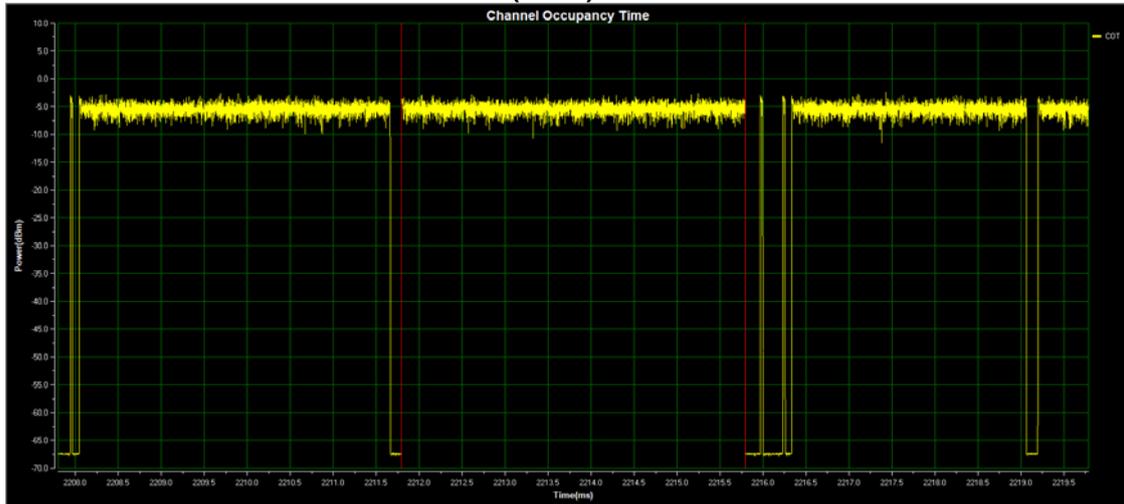
Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

Multi-Channel device test results

Option 2:

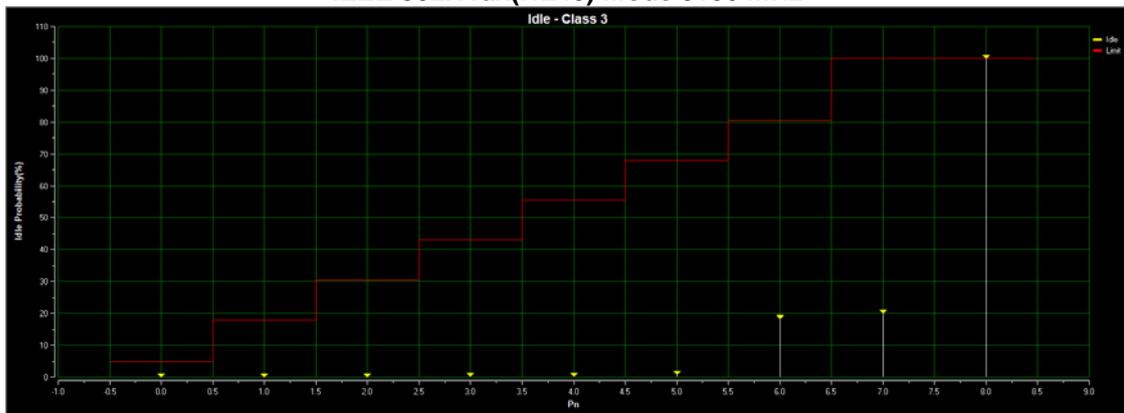
The EUT is set to a channel bandwidth of 40MHz with the primary operating channel 5180MHz. One additional adjacent 20MHz operating channel that constructs the full 40 MHz channel bandwidth is located at 5200 MHz. Data traffic is started and then an interfering signal is injected into the EUT at 5200 MHz.

IEEE 802.11ax(HE40) Mode 5190 MHz



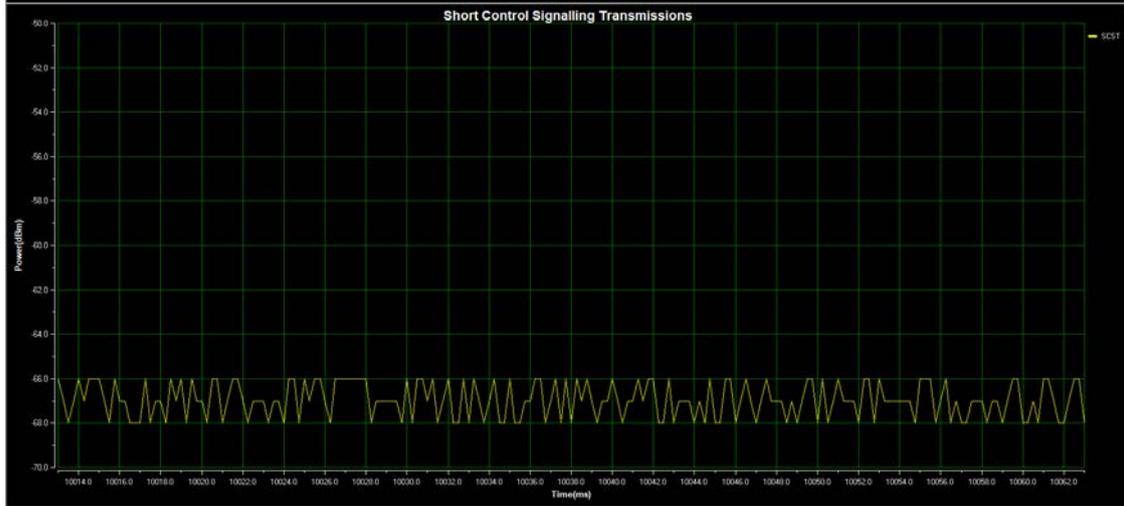
COT Number:10149 Idle Number:10134
Maximum COT(ms):3.996 Minimum Idle Time(us):27

IEEE 802.11ax(HE40) Mode 5190 MHz



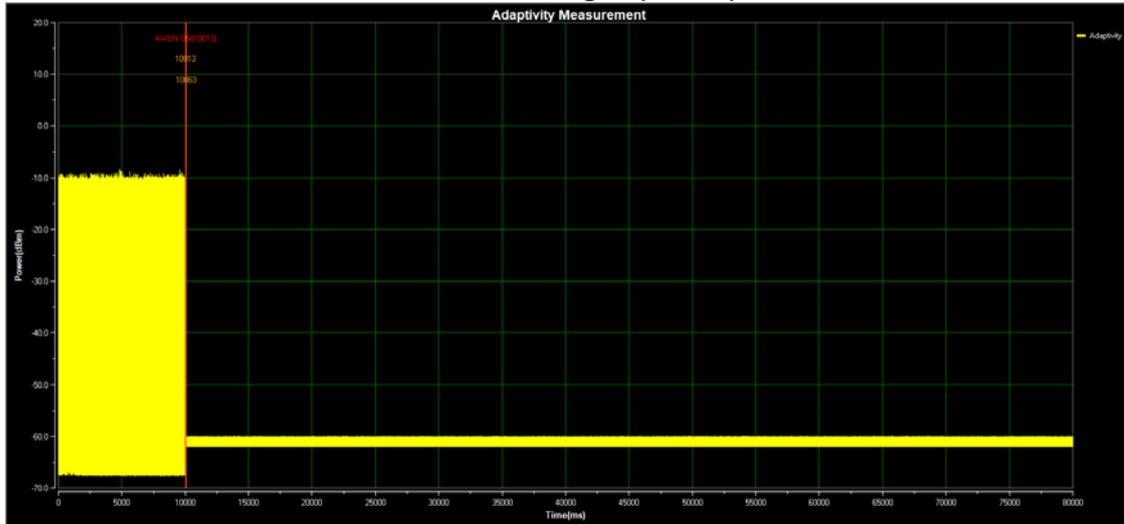
Pn	Idle Num	Result(%)	Limit(%)	Status
0	0	0	5	Pass
1	1	0.01	18	Pass
2	2	0.03	30.5	Pass
3	8	0.109	43	Pass
4	1	0.118	55.5	Pass
5	78	0.888	68	Pass
6	1766	18.315	80.5	Pass
7	173	20.022	100	Pass
8	8105	100	100	Pass

IEEE 802.11ax(HE40) Mode 5180 MHz Interference Signal(AWGN)



Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

**IEEE 802.11ax(HE40) Mode 5200 MHz
Interference Signal(AWGN)**



Duty Cycle(%):0.00 Short Control Signalling Transmissions Time(ms):0.00
Test Result:Pass

APPENDIX K - RECEIVER BLOCKING

Receiver Blocking Result						
P_{min} (dBm)	-92					
Modulation Mode	Operation Freq. (MHz)	Wanted Signal Mean Power from Companion Device (dBm) $P_{min} + 6$ dB	Blocking Signal Freq. (MHz)	Receiver Blocking Power (dBm)	PER (%)	Blocking Signal Level at which the Performance Criteria is no longer met(dBm) (See Note)
IEEE 802.11a 6 Mbps	5180	-86	5100	-53	0	-20
			4900	-47	0.4	-20
			5000	-47	0	-20
			5975	-47	0	-20
Limit	PER(Packet Error Rate) $\leq 10\%$					N/A
Result	Pass					Record Only

Receiver Blocking Result						
P_{min} (dBm)	-90					
Modulation Mode	Operation Freq. (MHz)	Wanted Signal Mean Power from Companion Device (dBm) $P_{min} + 6$ dB	Blocking Signal Freq. (MHz)	Receiver Blocking Power (dBm)	PER (%)	Blocking Signal Level at which the Performance Criteria is no longer met(dBm) (See Note)
IEEE 802.11a 6 Mbps	5700	-84	5100	-53	0	-19
			4900	-47	1.4	-19
			5000	-47	0	-19
			5975	-47	0	-19
Limit	PER(Packet Error Rate) $\leq 10\%$					N/A
Result	Pass					Record Only

Note:

The performance criteria had been met, the level of the blocking signal at the UUT were further increased in steps of 1 dB until the level whereby the performance criteria were no longer met.

APPENDIX L - CHANNEL AVAILABILITY CHECK

Test Mode:	IEEE 802.11a
------------	--------------

Test Frequency	Radar Test Signal	Timing of radar burst (within the 60 sec/10 min CAC time)	DFS triggered (Yes/No)
C5 within 5250 MHz to 5350 MHz 5320MHz (see note 1)	See EN 301 893, table D.3	Within 0 to 2 second window	Yes
		Within 58 to 60 second window	Yes
C6 within 5470 MHz to 5725 MHz 5700MHz (see note 1)	See EN 301893, table D.3	Within 0 to 2 second window	Yes
		Within 58 to 60 second window	Yes
C6' within 5600 MHz to 5650 MHz 5620MHz (see note 1)	See EN 301 893, table D.3	Within 0 to 2 second window	Yes
		Within 598 to 600 second window	Yes

Note:

According to EN 301 893, DFS testing shall be performed on one channel within the range 5250 MHz to 5350 MHz and one channel within 5470 MHz to 5725 MHz range.

The choice of the channel is at the discretion of the test laboratory. Where the declared

- (1) channel plan includes channels whose nominal bandwidth falls completely or partly within the 5600 MHz to 5650 MHz band, the tests for the Channel Availability Check shall be performed on one of these channels in addition to a channel within the band 5470 MHz to 5600 MHz or 5650 MHz to 5725 MHz band.

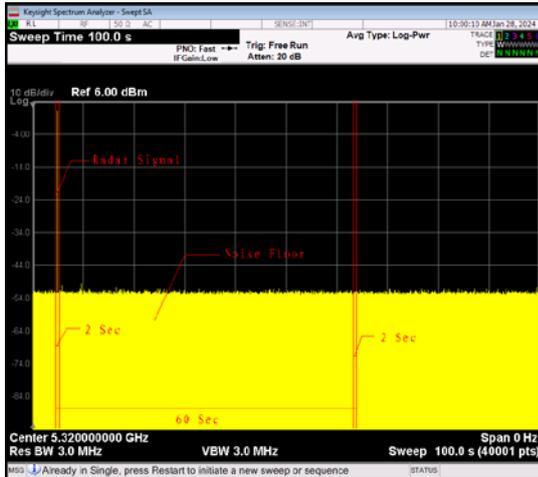
Test Mode:	IEEE 802.11a
------------	--------------

Test Frequency	Radar Test Signal (#)	Nr of times triggered (# out of 20)	Detection Probability
C5 within 5250 MHz to 5350 MHz 5320MHz (see note 2)	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%
C6 within 5470 MHz to 5725 MHz 5700MHz (see note 2)	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%
C6' within 5600 MHz to 5650 MHz 5620MHz (see note 3)	1	20	100%
	2	20	100%
	5	20	100%
	6	20	100%

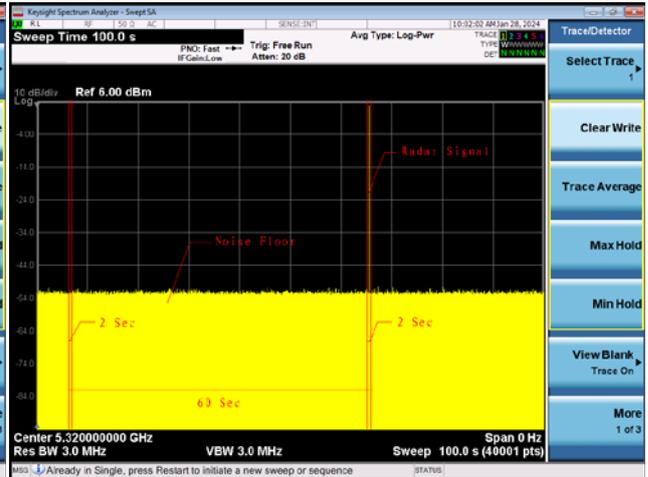
Note:

- (1) Although testing has to be repeated 20 times, only one timing plot or analyzer screen capture from a successful DFS trigger is necessary.
- (2) According to EN 301 893, clause 5.4.8.2.1.3, Step e) shall be performed 20 times, each time a different radar test signal shall be generated from options provided in table D.4.
According to EN 301 893, clause 5.4.8.2.1.3, Step g) shall be performed 20 times, each time a different radar test signal shall be generated from options provided in table D.4
- (3) time a different radar test signal shall be generated from options provided in table D.4 (except signals #3 and #4).

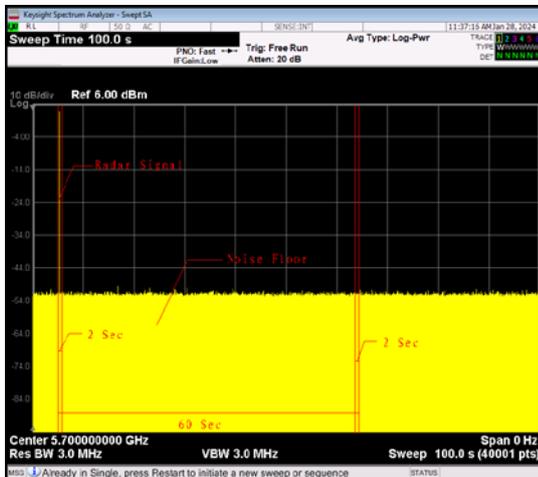
C5 (Within 0 to 2 second window)



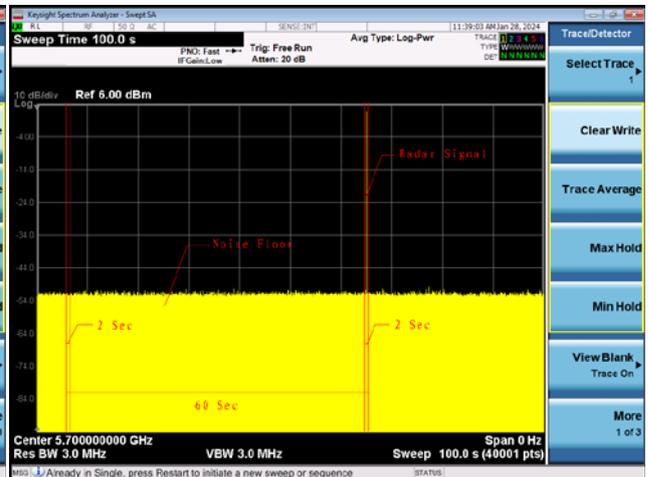
C5 (Within 58 to 60 second window)



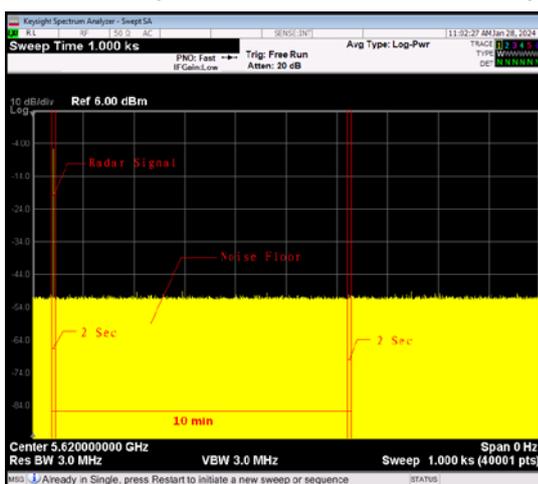
C6 (Within 0 to 2 second window)



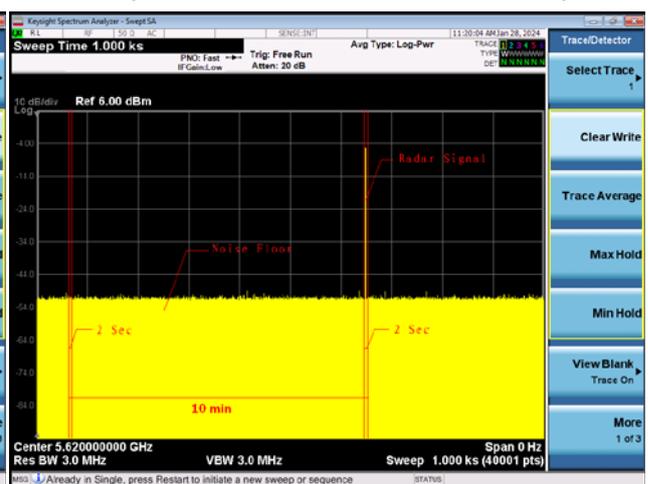
C6 (Within 58 to 60 second window)



C6' (Within 0 to 2 second window)



C6' (Within 598 to 600 second window)



Test Mode:	IEEE 802.11be(EHT160)
------------	-----------------------

Test Frequency	Radar Test Signal	Timing of radar burst (within the 60 sec/10 min CAC time)	DFS triggered (Yes/No)
C5 within 5250 MHz to 5350 MHz 5250MHz (see note 1)	See EN 301 893, table D.3	Within 0 to 2 second window	Yes
		Within 58 to 60 second window	Yes
C6' within 5600 MHz to 5650 MHz 5570MHz (see note 1)	See EN 301 893, table D.3	Within 0 to 2 second window	Yes
		Within 598 to 600 second window	Yes

Note:

According to EN 301 893, DFS testing shall be performed on one channel within the range 5250 MHz to 5350 MHz and one channel within 5470 MHz to 5725 MHz range.

The choice of the channel is at the discretion of the test laboratory. Where the declared

- (1) channel plan includes channels whose nominal bandwidth falls completely or partly within the 5600 MHz to 5650 MHz band, the tests for the Channel Availability Check shall be performed on one of these channels in addition to a channel within the band 5470 MHz to 5600 MHz or 5650 MHz to 5725 MHz band.

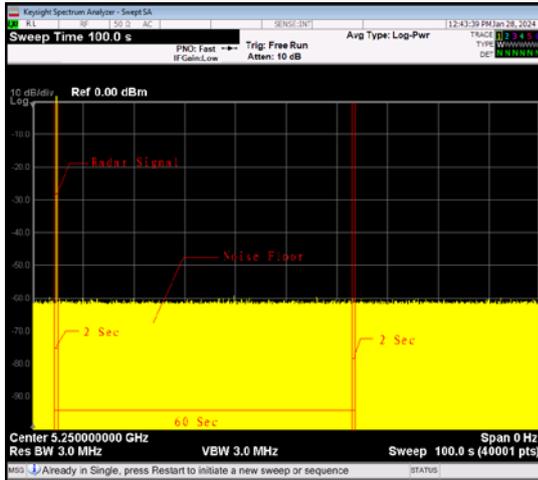
Test Mode:	IEEE 802.11be(EHT160)
------------	-----------------------

Test Frequency	Radar Test Signal (#)	Nr of times triggered (# out of 20)	Detection Probability
C5 within 5250 MHz to 5350 MHz 5250MHz (see note 2)	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%
C6' within 5600 MHz to 5650 MHz 5570MHz (see note 3)	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%

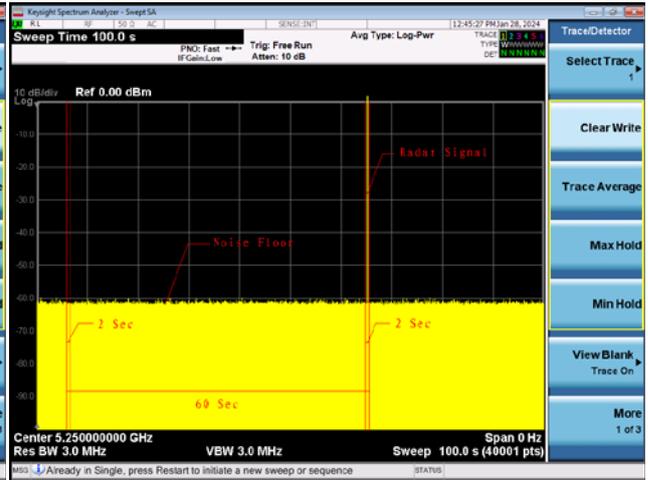
Note:

- (1) Although testing has to be repeated 20 times, only one timing plot or analyzer screen capture from a successful DFS trigger is necessary.
- (2) According to EN 301 893, clause 5.4.8.2.1.3, Step e) shall be performed 20 times, each time a different radar test signal shall be generated from options provided in table D.4.
According to EN 301 893, clause 5.4.8.2.1.3, Step g) shall be performed 20 times, each time a different radar test signal shall be generated from options provided in table D.4
- (3) time a different radar test signal shall be generated from options provided in table D.4 **(except signals #3 and #4).**

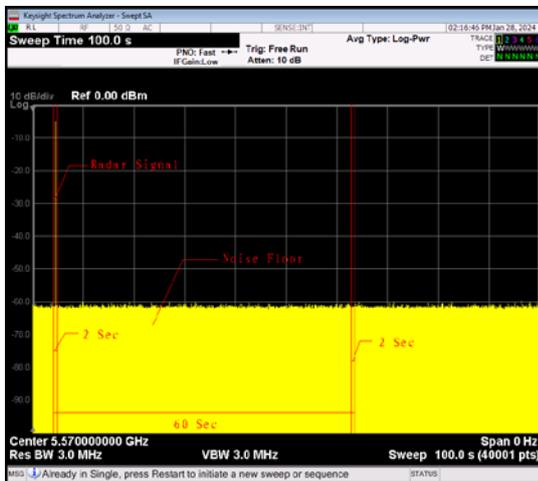
C5 (Within 0 to 2 second window)



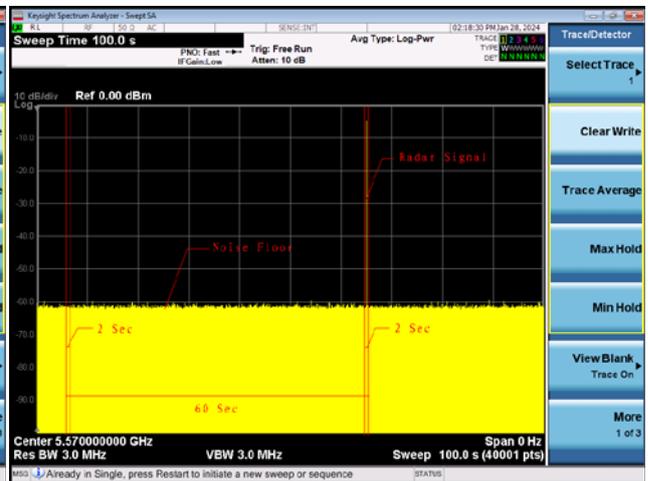
C5 (Within 58 to 60 second window)



C6' (Within 0 to 2 second window)



C6' (Within 598 to 600 second window)



APPENDIX M - IN-SERVICE MONITORING

Test Mode:	IEEE 802.11a
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Test Frequency	Radar Test Signal (#)	Nr of times triggered (# out of 20)	Detection Probability
C5 within 5250 MHz to 5350 MHz 5320MHz	1	20	100%
	2	19	95%
	3	20	100%
	4	20	100%
	5	19	95%
	6	20	100%
C6 within 5470 MHz to 5725 MHz 5700MHz	1	20	100%
	2	19	95%
	3	19	95%
	4	20	100%
	5	20	100%
	6	20	100%
C6' within 5600 MHz to 5650 MHz 5620MHz	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%

Note:

- (1) Although testing has to be repeated 20 times, only one timing plot or analyzer screen capture from a successful DFS trigger is necessary.

Test Mode:	IEEE 802.11be(EHT160)
------------	-----------------------

Test Frequency	Radar Test Signal (#)	Nr of times triggered (# out of 20)	Detection Probability
C5 within 5250 MHz to 5350 MHz 5250MHz	1	20	100%
	2	19	95%
	3	20	100%
	4	20	100%
	5	19	95%
	6	20	100%
C6 within 5470 MHz to 5725 MHz 5570MHz	1	20	100%
	2	19	95%
	3	19	95%
	4	20	100%
	5	20	100%
	6	20	100%
C6' within 5600 MHz to 5650 MHz 5610MHz	1	20	100%
	2	20	100%
	3	20	100%
	4	20	100%
	5	20	100%
	6	20	100%

Note:

- (1) Although testing has to be repeated 20 times, only one timing plot or analyzer screen capture from a successful DFS trigger is necessary.

APPENDIX N - CHANNEL SHUTDOWN AND NON-OCCUPANCY PERIOD

Test Mode:	IEEE 802.11a
------------	--------------

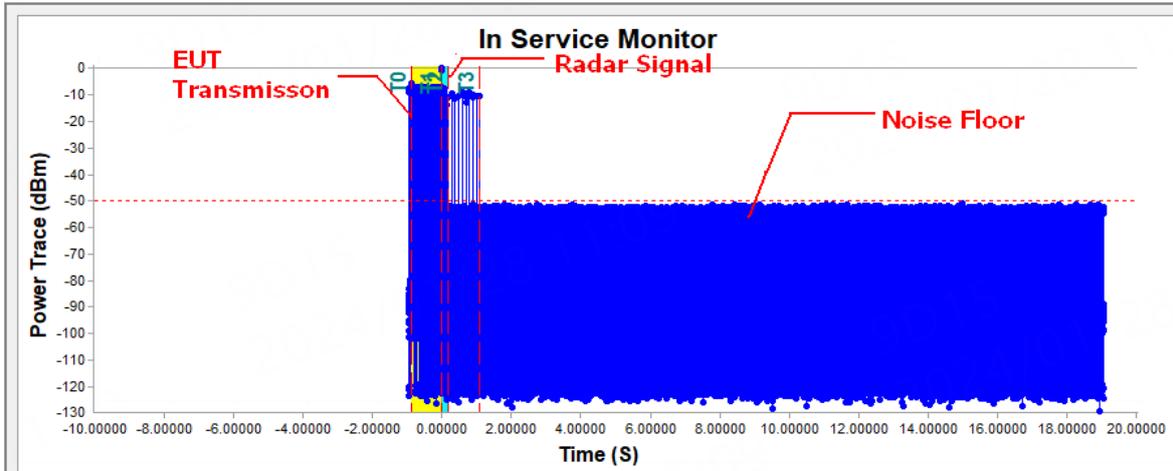
Test Frequency	Radar Test Signal	Channel Closing Transmission Time (s)	Channel Move Time (s)	Non-Occupancy Period (min) (see note 1)
C5 within 5250 MHz to 5350 MHz 5320MHz	See EN 301 893, table D.3	<1	<10	>30
C6 within 5470 MHz to 5725 MHz 5700MHz	See EN 301 893, table D.3	<1	<10	>30

Note:

The Non-Occupancy Period (NOP) is only applicable on a Master device or a Slave device with a Radar Interference Detection function. There is no need to verify the

- (1) NOP for a period longer than 30 minutes which is the minimum time required. If the NOP is shorter than 30 minutes, indicate the exact time, if the NOP is longer than 30 minutes just mention '>30' as the result.

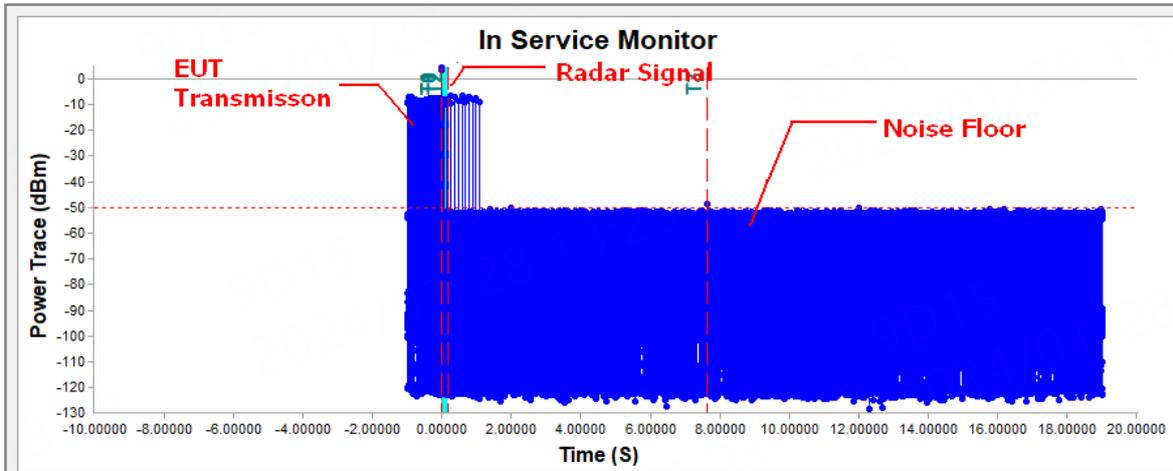
C5 Channel Closing Transmission Time (With Reference Radar)



Time Index Info

T0 : -0.8860 S (Radar Injection Start)	Time Per Bin:0.4999875	Channel Move Time: 1.1039724 S
T1 : 0.0000 S (Radar Injection Stop)	T2~T3 Bins Over Threshold:	Channel Close Time: 0.0059999 S
T2 : 0.2000 S (200msec Interval)	= 12 Bins	
T3 : 1.1040 S (Channel Move Time)		

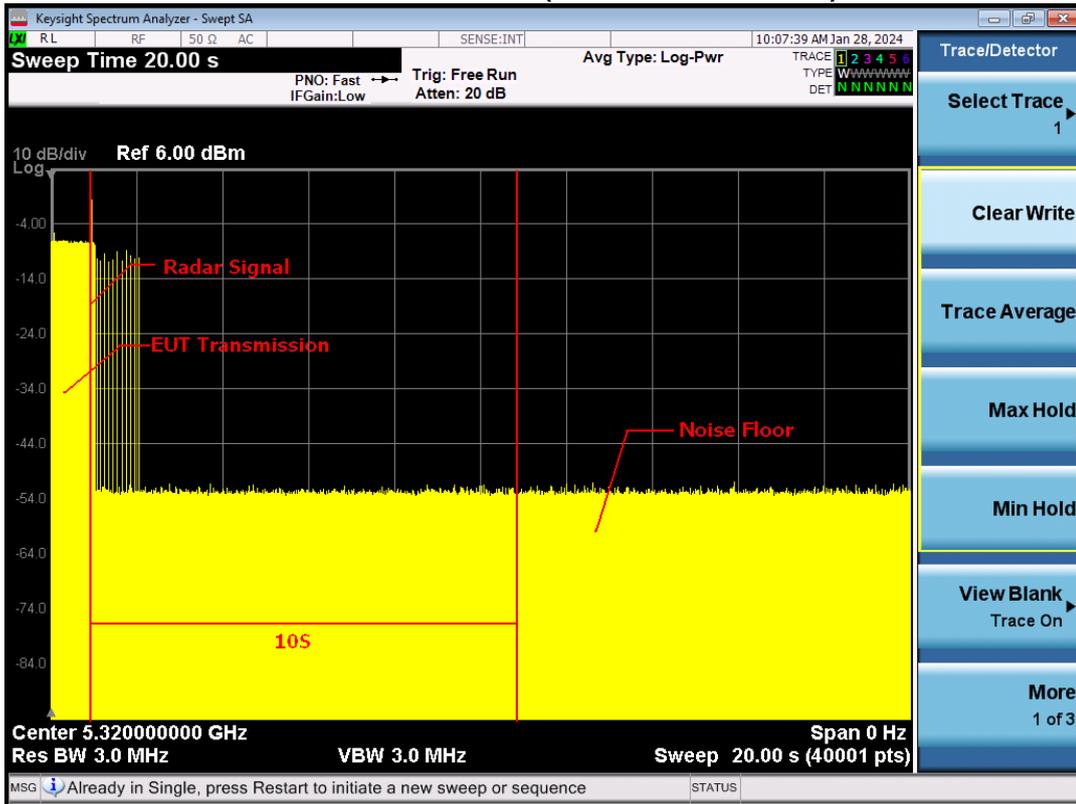
C6 Channel Closing Transmission Time (With Reference Radar)



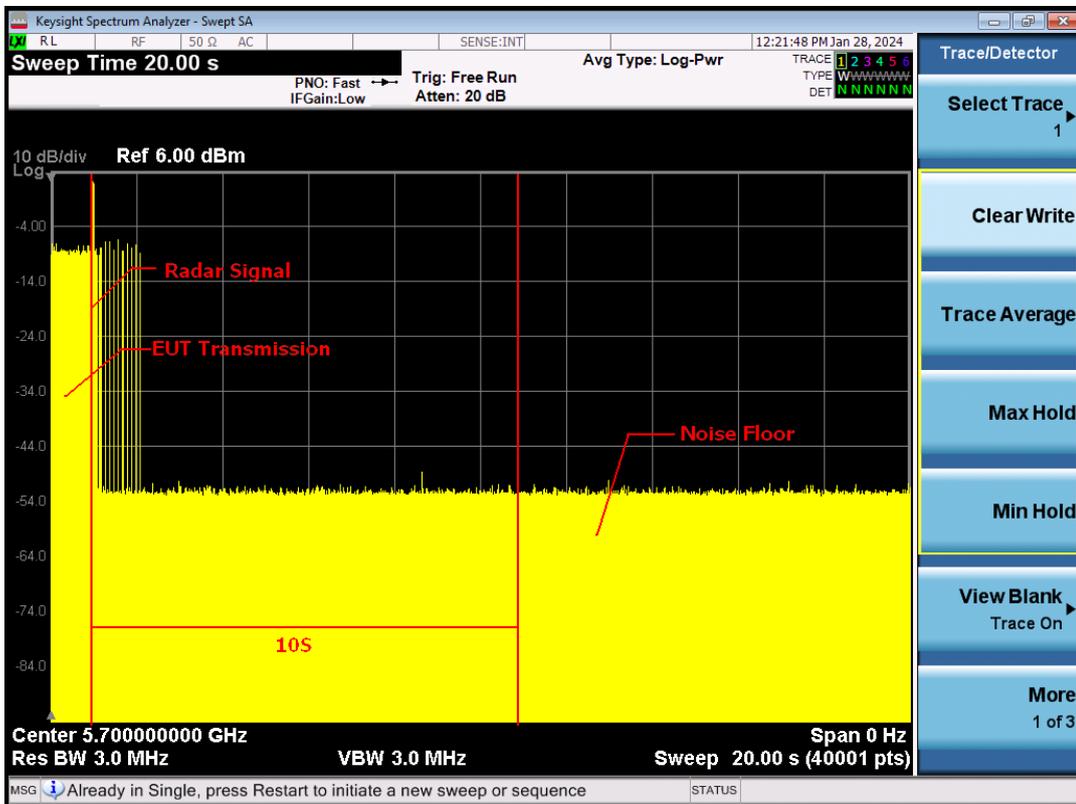
Time Index Info

T0 : -0.0240 S (Radar Injection Start)	Time Per Bin:0.4999875	Channel Move Time: 7.6468088 S
T1 : 0.0000 S (Radar Injection Stop)	T2~T3 Bins Over Threshold:	Channel Close Time: 0.0069998 S
T2 : 0.2000 S (200msec Interval)	= 14 Bins	
T3 : 7.6468 S (Channel Move Time)		

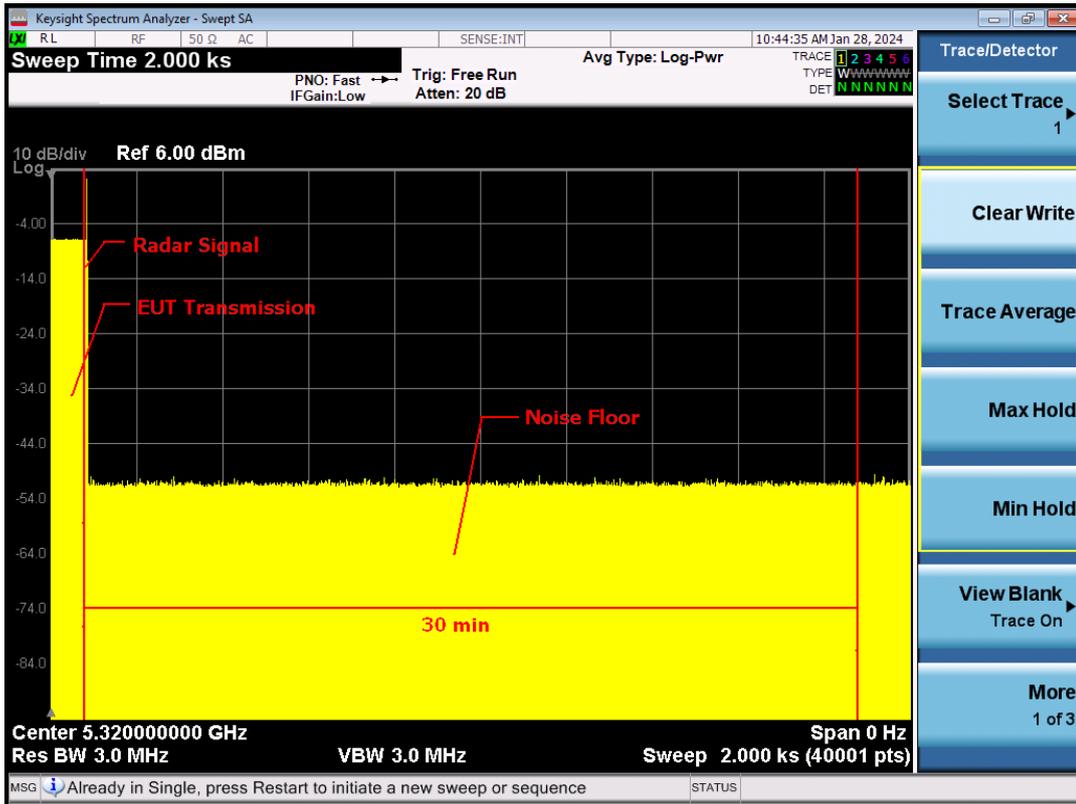
C5 Channel Move Time (With Reference Radar)



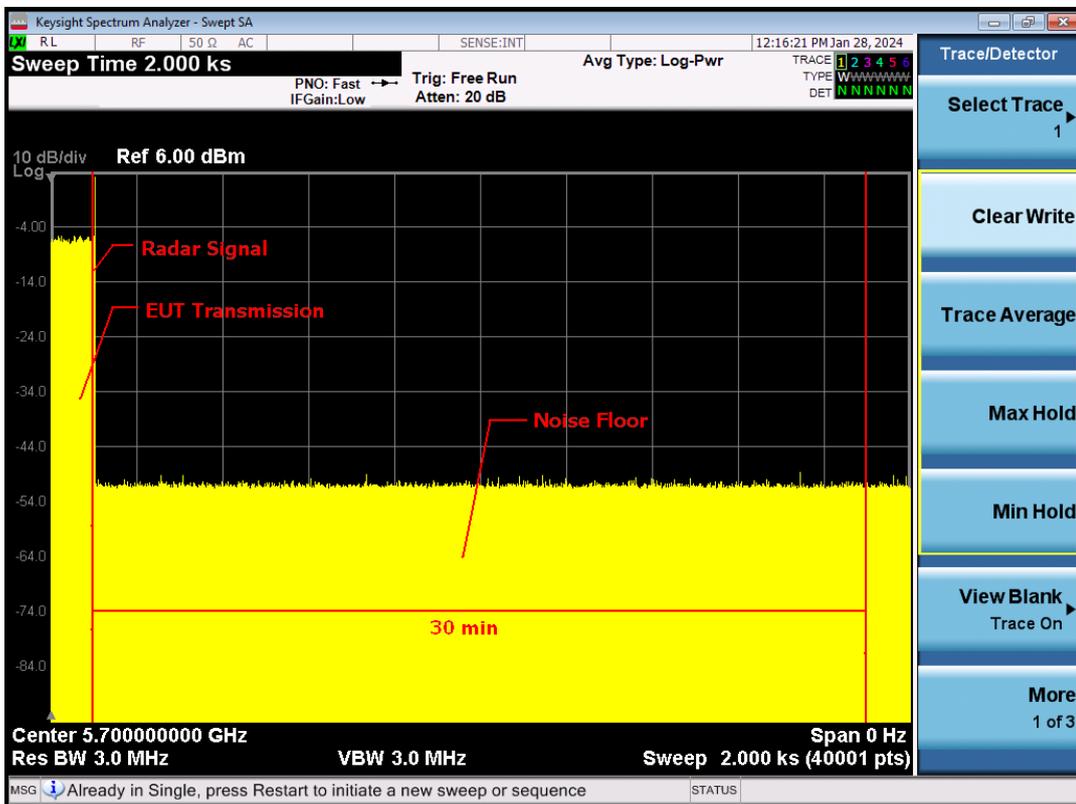
C6 Channel Move Time (With Reference Radar)



C5 Non-Occupancy Period (With Reference Radar)



C6 Non-Occupancy Period (With Reference Radar)



Test Mode:	IEEE 802.11be(EHT160)
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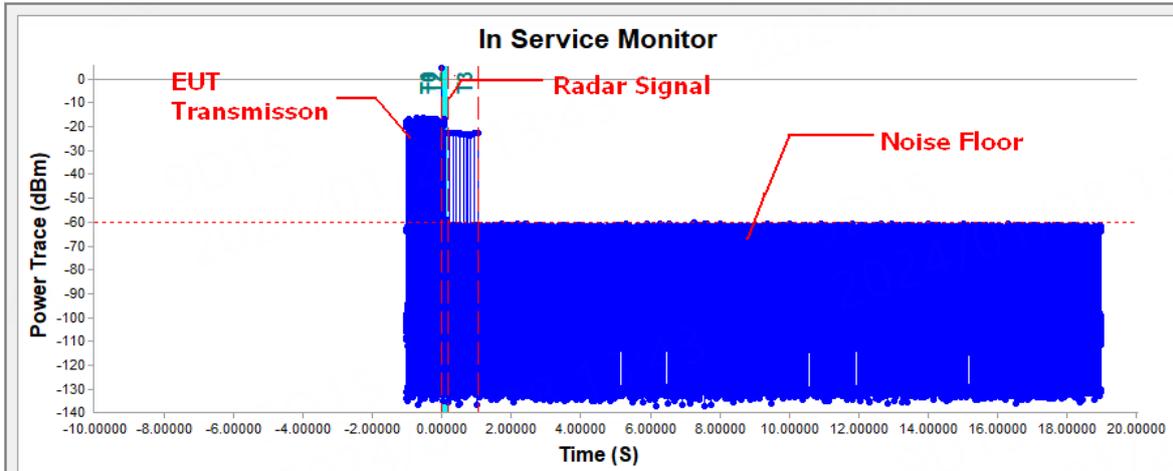
Test Frequency	Radar Test Signal	Channel Closing Transmission Time (s)	Channel Move Time (s)	Non-Occupancy Period (min) (see note 1)
C5 within 5250 MHz to 5350 MHz 5250MHz	See EN 301 893, table D.3	<1	<10	>30
C6 within 5470 MHz to 5725 MHz 5570MHz	See EN 301 893, table D.3	<1	<10	>30

Note:

The Non-Occupancy Period (NOP) is only applicable on a Master device or a Slave device with a Radar Interference Detection function. There is no need to verify the

- (1) NOP for a period longer than 30 minutes which is the minimum time required. If the NOP is shorter than 30 minutes, indicate the exact time, if the NOP is longer than 30 minutes just mention '>30' as the result.

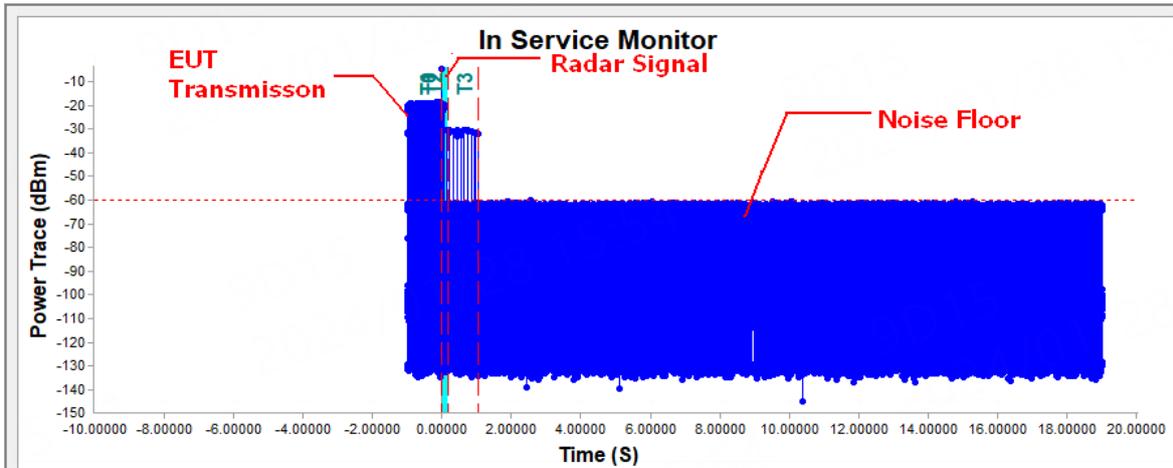
C5 Channel Closing Transmission Time (With Reference Radar)



Time Index Info

T0 : -0.0240 S (Radar Injection Start)	Time Per Bin:0.4999875	Channel Move Time: 1.0349741 S
T1 : 0.0000 S (Radar Injection Stop)	T2~T3 Bins Over Threshold:	Channel Close Time: 0.0074998 S
T2 : 0.2000 S (200msec Interval)	= 15 Bins	
T3 : 1.0350 S (Channel Move Time)		

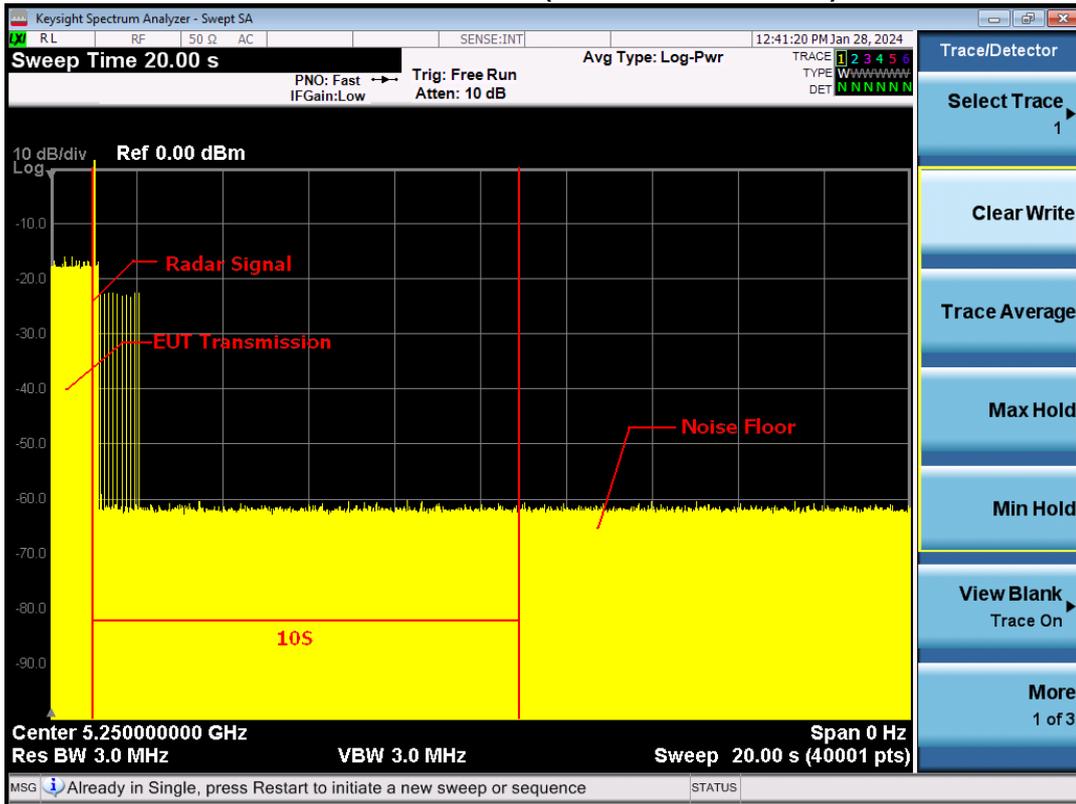
C6 Channel Closing Transmission Time (With Reference Radar)



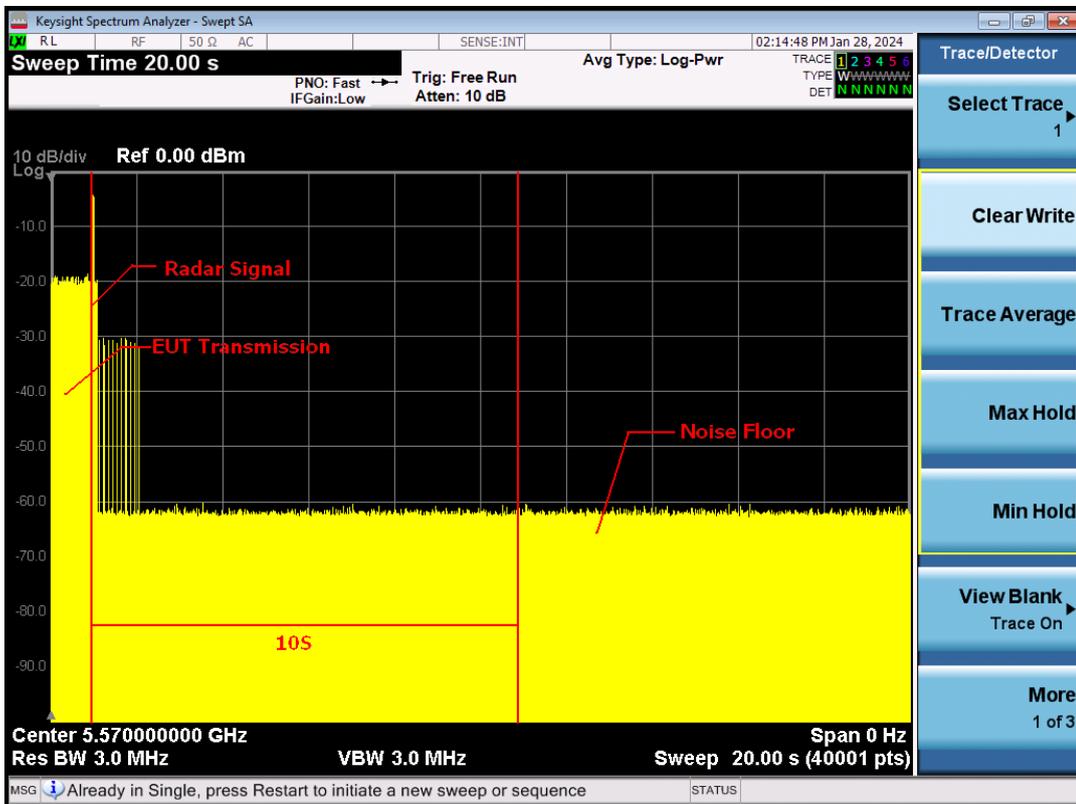
Time Index Info

T0 : -0.0250 S (Radar Injection Start)	Time Per Bin:0.4999875	Channel Move Time: 1.0559736 S
T1 : 0.0000 S (Radar Injection Stop)	T2~T3 Bins Over Threshold:	Channel Close Time: 0.0074998 S
T2 : 0.2000 S (200msec Interval)	= 15 Bins	
T3 : 1.0560 S (Channel Move Time)		

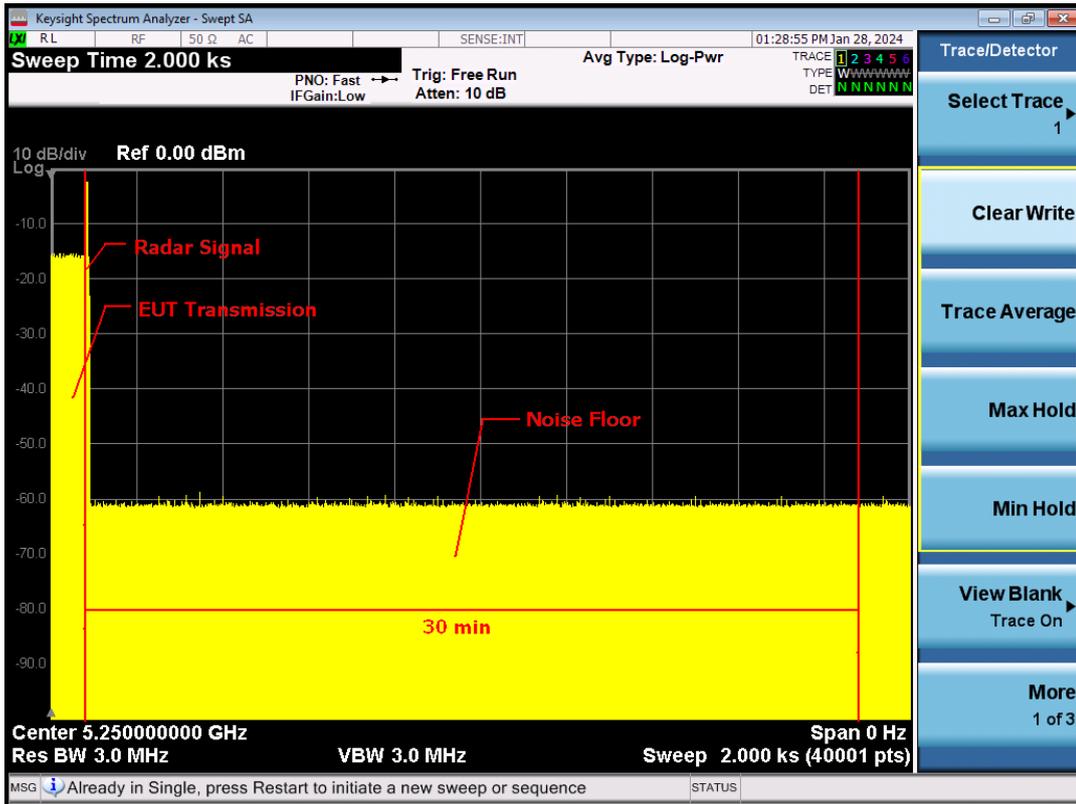
C5 Channel Move Time (With Reference Radar)



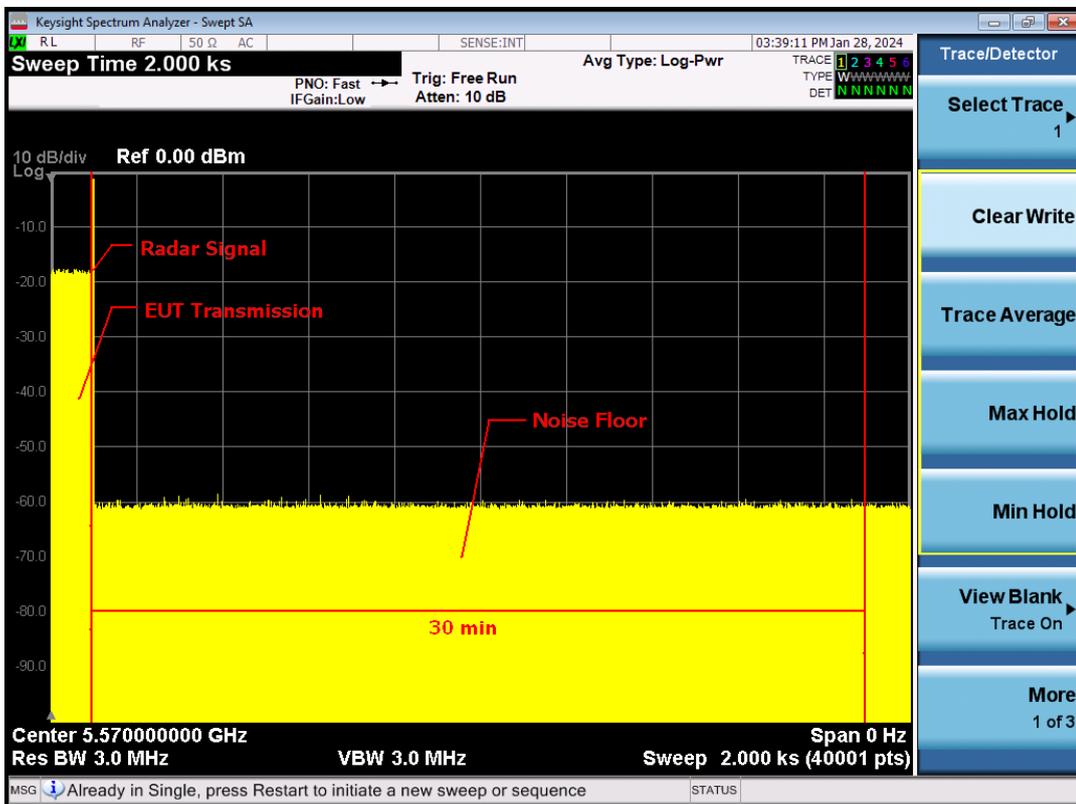
C6 Channel Move Time (With Reference Radar)



C5 Non-Occupancy Period (With Reference Radar)

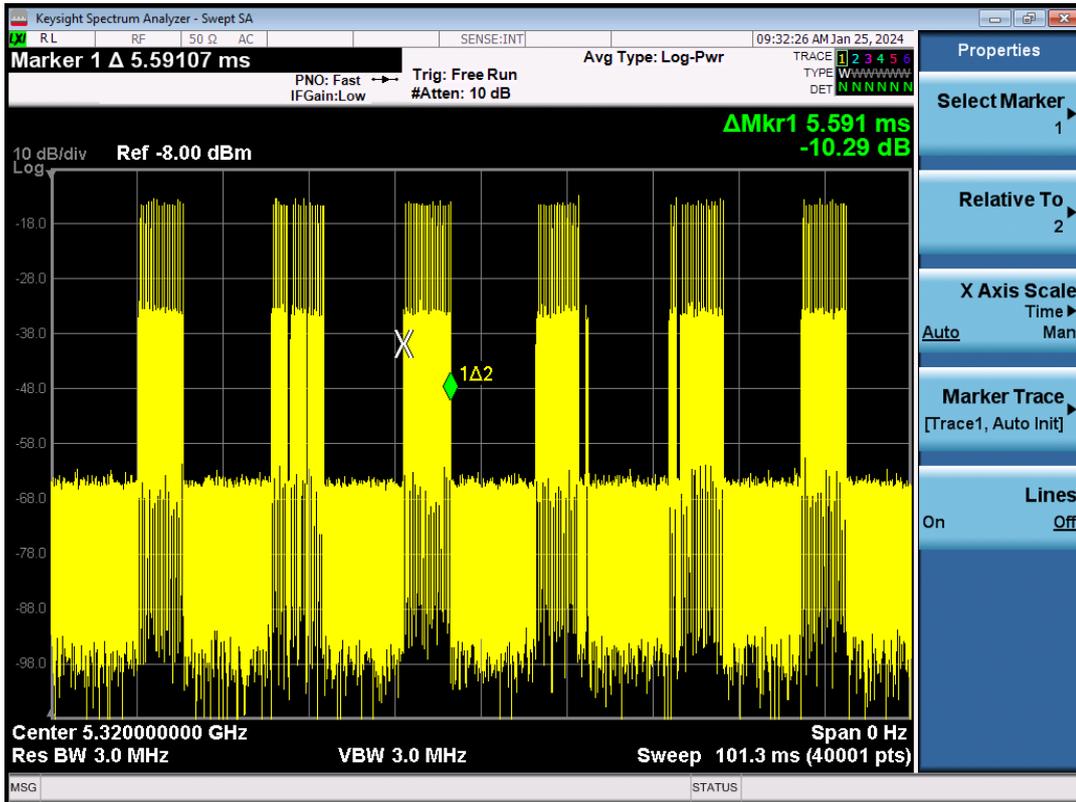


C6 Non-Occupancy Period (With Reference Radar)

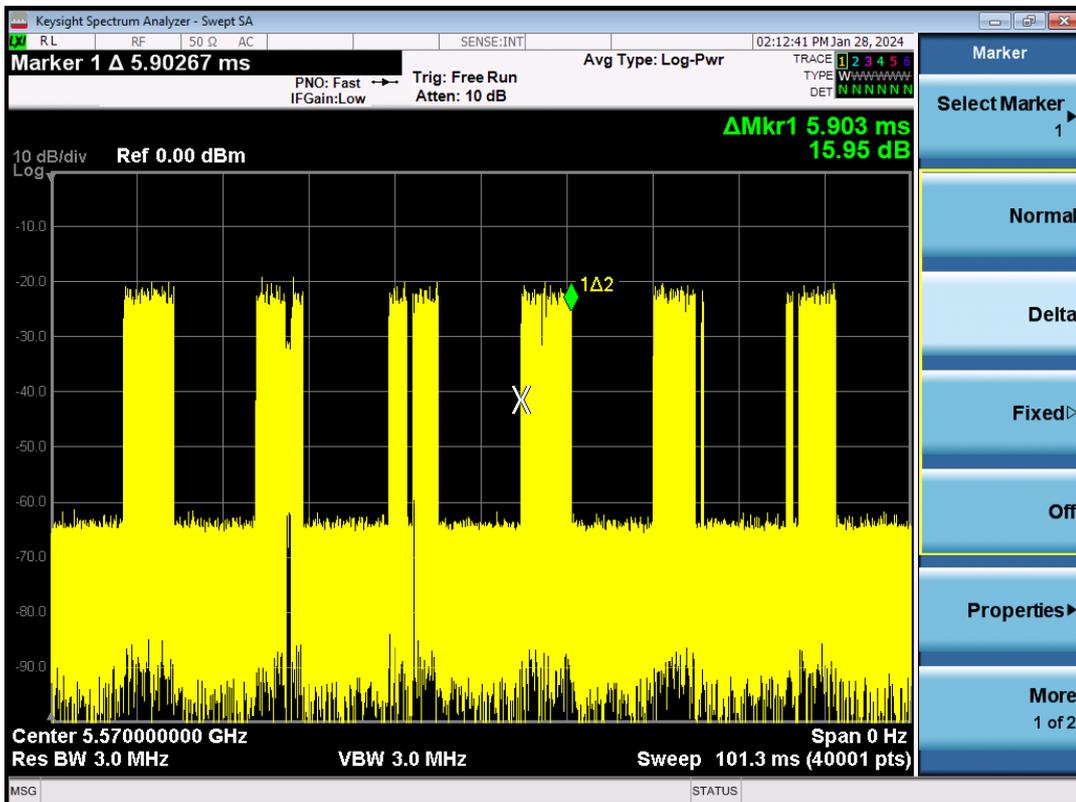


Channel Loading

IEEE 802.11a



IEEE 802.11be(EHT160)



Frequency (MHz)	Marker Delta (ms)	Number	On Time (ms)	Total Time (ms)	Duty cycle (%)	Limit (%)
5320	5.591	6	33.546	101.3	33.12%	30.00
5570	5.903	6	35.418	101.3	34.96%	30.00

APPENDIX O - INFORMATION AS REQUIRED BY EN 301 893 V2.1.1, CLAUSE 5.4.1

In accordance with ETSI EN 301 893, clause 5.4.1, the following information is provided by the manufacturer.

a) The Nominal Channel Bandwidth(s):

Nominal Channel Bandwidth 1: 20 MHz

Nominal Channel Bandwidth 2: 40 MHz

Nominal Channel Bandwidth 3: 80 MHz

Nominal Channel Bandwidth 4: 160 MHz

The associated centre frequencies: in clause 1.4 of the test report.

b) For Load Based Equipment that supports multi-channel operation:

The LBE equipment supports Option 1 as described in clause 4.2.7.3.2.3

The LBE equipment supports Option 2 as described in clause 4.2.7.3.2.3

• The (maximum) number of channels used for multi-channel operation: 18

• These channels are adjacent channels: Yes No

• In case of non-adjacent channels, whether or not these channels are in different sub-bands:

Yes No

• for LBE equipment implementing option 1 (see clause 4.2.7.3.2.3), the number of channels used for multi-channel operation when performing the test described in clause 5.4.9.3.2.3.1: 4

In case of multi-channel operation, further information defining the channels used for these simultaneous transmissions may be required.

c) The different transmit operating modes (see clause 5.3.3.2) (tick all that apply):

- Operating mode 1:** Single Antenna Equipment
 - a) Equipment with only 1 antenna
 - b) Equipment with diversity antennas but only 1 antenna active at any moment in time
 - c) Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1 antenna is used.
- Operating mode 2:** Smart Antenna Systems - Multiple Antennas without beamforming
 - a) Single spatial stream/Standard throughput
 - b) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
 - c) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2
 - d) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 3
 - e) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 4
- Operating mode 3:** Smart Antenna Systems - Multiple Antennas with beamforming
 - a) Single spatial stream/Standard throughput
 - b) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 1
 - c) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 2
 - d) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 3
 - e) High Throughput (> 1 spatial stream) using Nominal Channel Bandwidth 4

d) In case of Smart Antenna Systems or multiple antenna systems:

- The number of Receive chains: 4
- The number of Transmit chains: 4
- Equal power distribution among the transmit chains: Yes No
- In case of beamforming, the maximum (additional) beamforming gain: dB

NOTE: Beamforming gain does not include the basic gain of a single antenna (assembly).

e) TPC feature available: Yes No

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

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

i) User access restrictions (please check box below to confirm):

the equipment is constructed to comply with the requirements contained in clause 4.2.9 in ETSI EN 301 893 V2.1.1.

j) For equipment with Off-Channel CAC functionality:

The equipment has an "Off-Channel CAC" function: Yes No

If yes, specify the "Off-Channel CAC Time"

- For channels outside the 5 600 MHz to 5 650 MHz range: hours
- If applicable, for channels (partially) within the 5 600 MHz to 5 650 MHz range: hours

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

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

l) Operating Frequency Range(s):

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

Range 2: 5 470 MHz to 5 725 MHz

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

Range 4: other, please specify:

If the equipment has more than one Operating Frequency Range, tick all that apply.

m) The extreme operating temperature and supply voltage range that apply to the equipment:

- 20 °C to +55 °C (Outdoor & Indoor usage)
 0 °C to +35 °C (Indoor usage only)
 Other: 0 °C to 40 °C.

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

Details provided are for the:

- stand-alone equipment
 combined (or host) equipment
 test jig

Supply Voltage AC mains State AC voltage: Minimum: 207V Nominal: 230V Maximum: 253V
 DC State DC voltage: Minimum: ... Nominal: ... Maximum: ...

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

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

n) The test sequence/test software used (see also ETSI EN 301 893 (V2.1.1), clause 5.3.1.2):

QATool 20221007C

o) Type of Equipment:

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

p) Adaptivity (Channel Access Mechanism):

- Frame Based Equipment
 Load Based Equipment

r) With regards to Adaptivity for Load Based Equipment:

- The Load Based Equipment operates as a Supervising Device
- The Load Based Equipment operates as a Supervised Device
- The Load Based Equipment can operate as a Supervising and as a Supervised Device
- The Load Based Equipment makes use of note 1 in table 7 or note 1 in table 8 of ETSI EN 301 893

V2.1.1

The Priority Classes implemented by the Load Based Equipment

● When operating as a Supervising Device

- Priority Class 4 (Highest priority)
- Priority Class 3
- Priority Class 2
- Priority Class 1 (Lowest priority)

● When operating as a Supervised Device

- Priority Class 4 (Highest priority)
- Priority Class 3
- Priority Class 2
- Priority Class 1 (Lowest priority)

- The Load Based Equipment operates as an Initiating Device
- The Load Based Equipment operates as an Responding Device
- The Load Based Equipment can operate as an Initiating Device and as a Responding Device

With regard to Energy Detection Threshold, the Load Based Equipment has implemented either option 1 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1 or option 2 of clause 4.2.7.3.2.5 of ETSI EN 301 893 V2.1.1:

- Option 1
- Option 2

Specify which protocol has been implemented:

- IEEE 802.11™
- Other: _____

s) The equipment supports a geo-location capability as defined in clause 4.2.10 of ETSI EN 301 893

V2.1.1:

- Yes
- No

APPENDIX P - PHOTOGRAPHS OF EUT

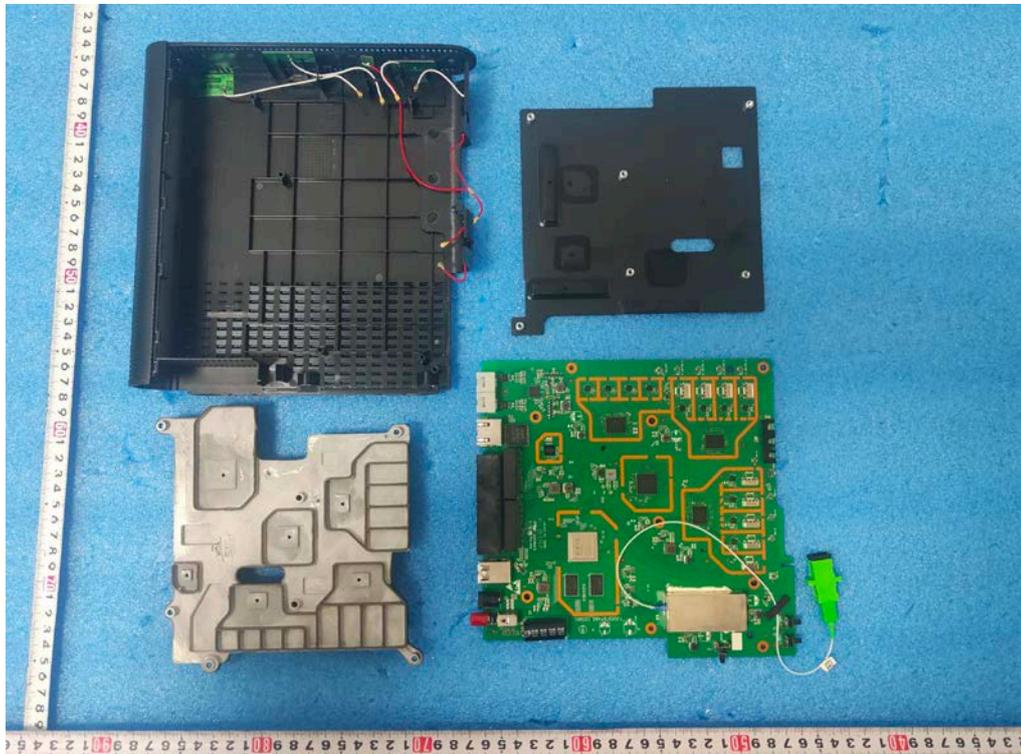
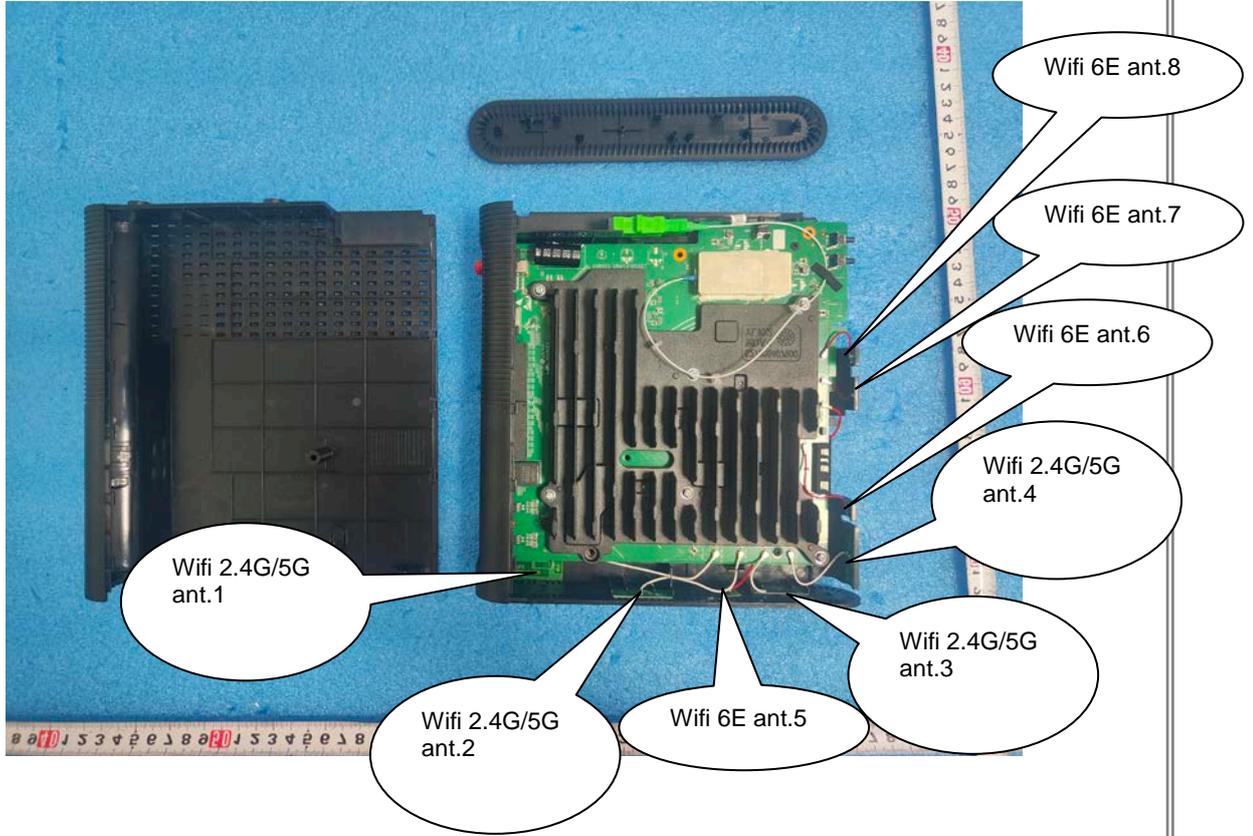


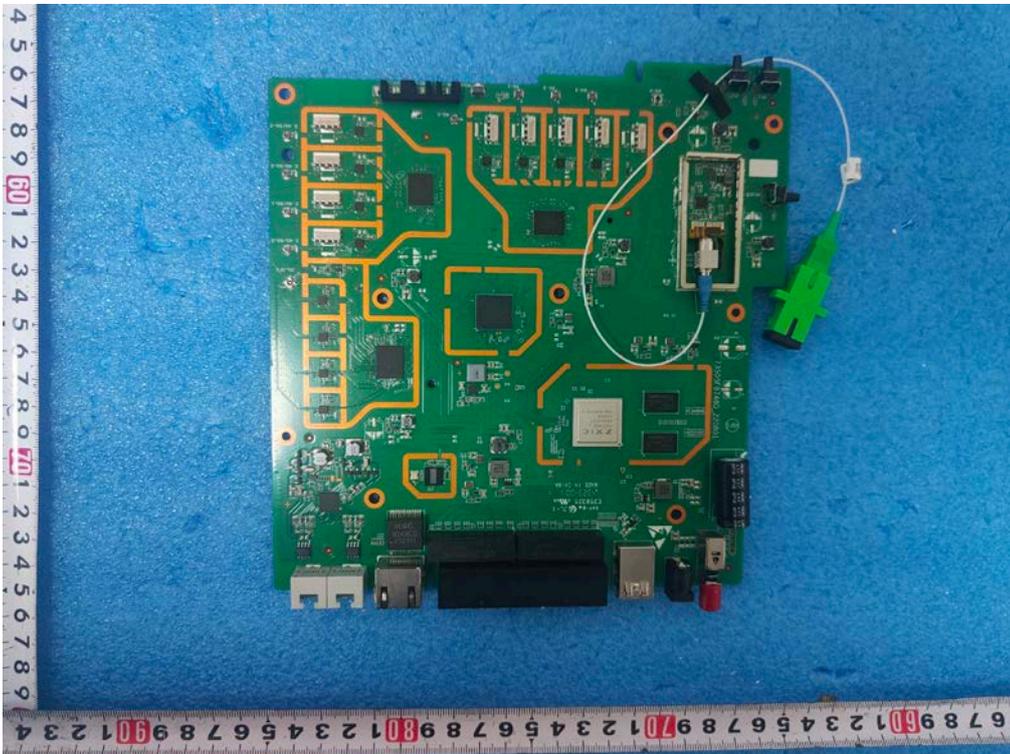
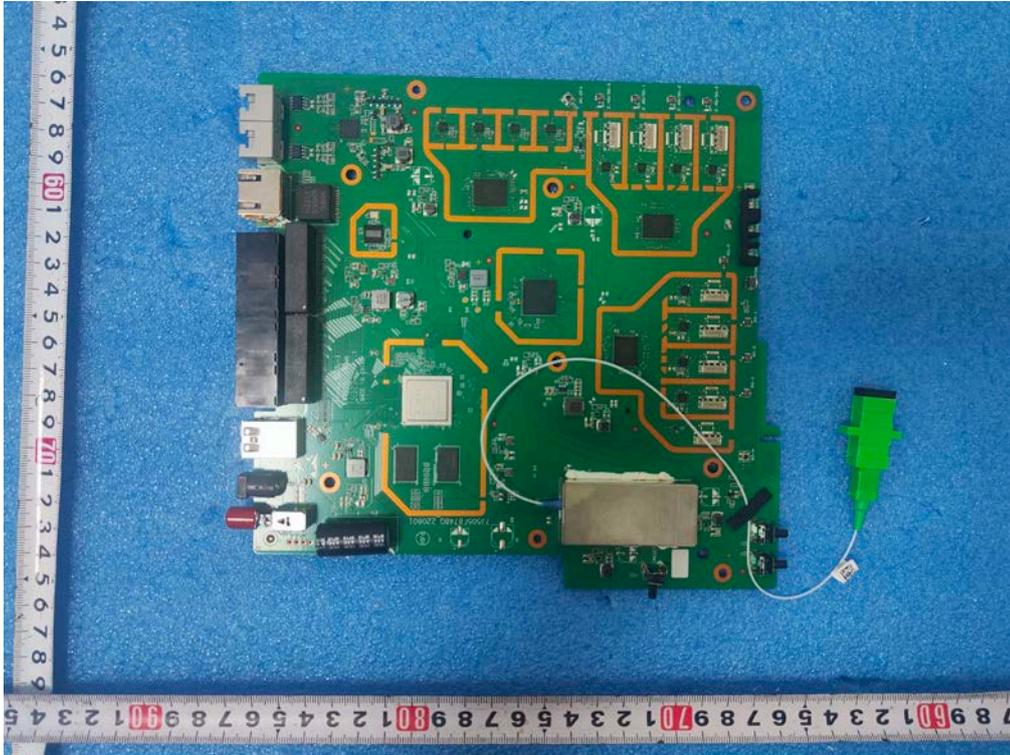


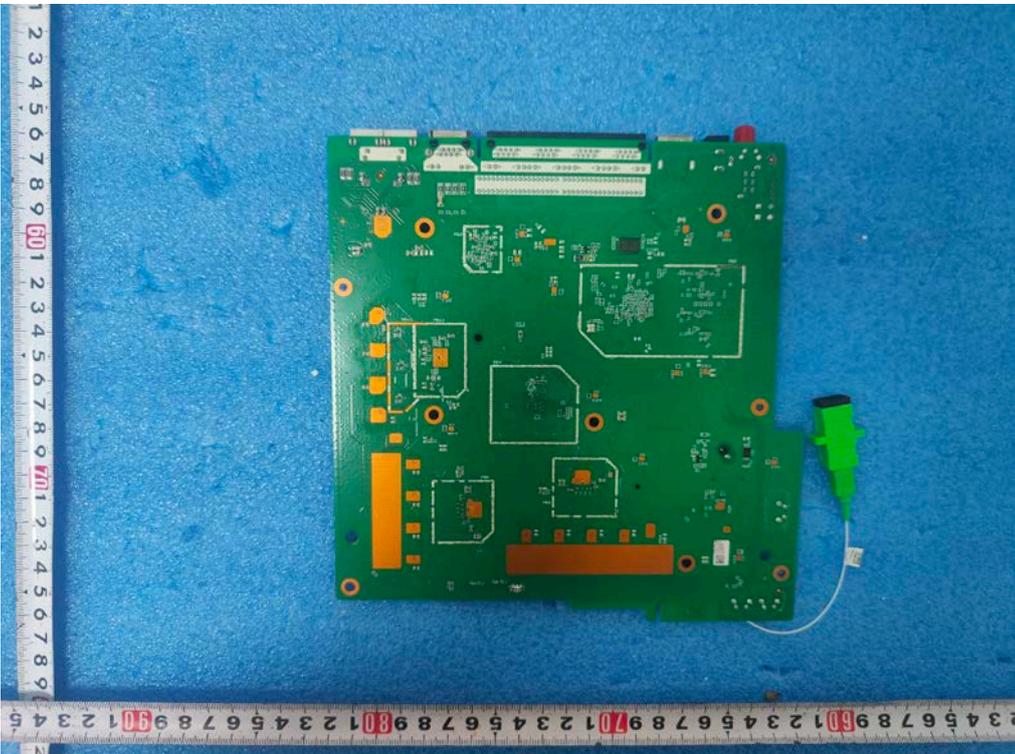
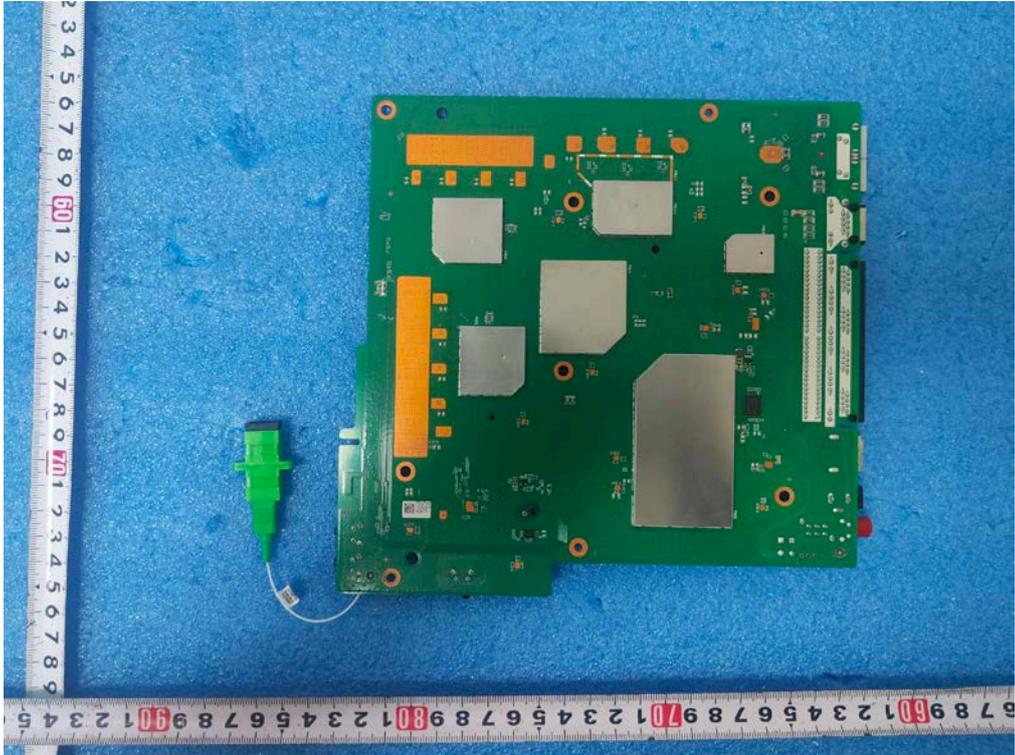


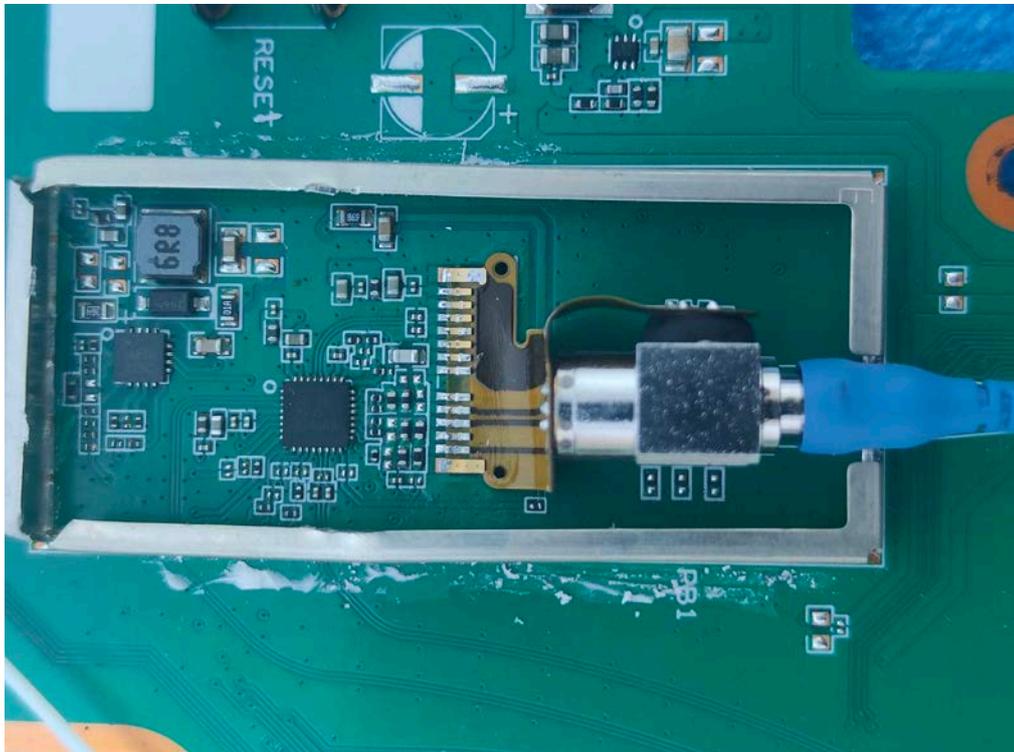


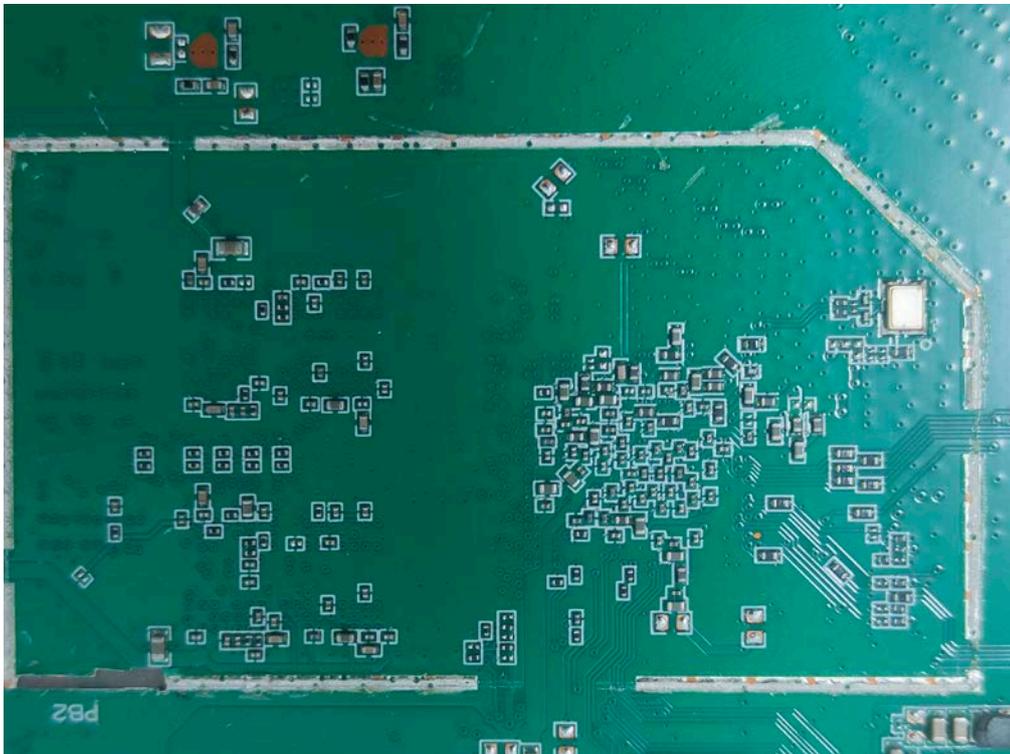
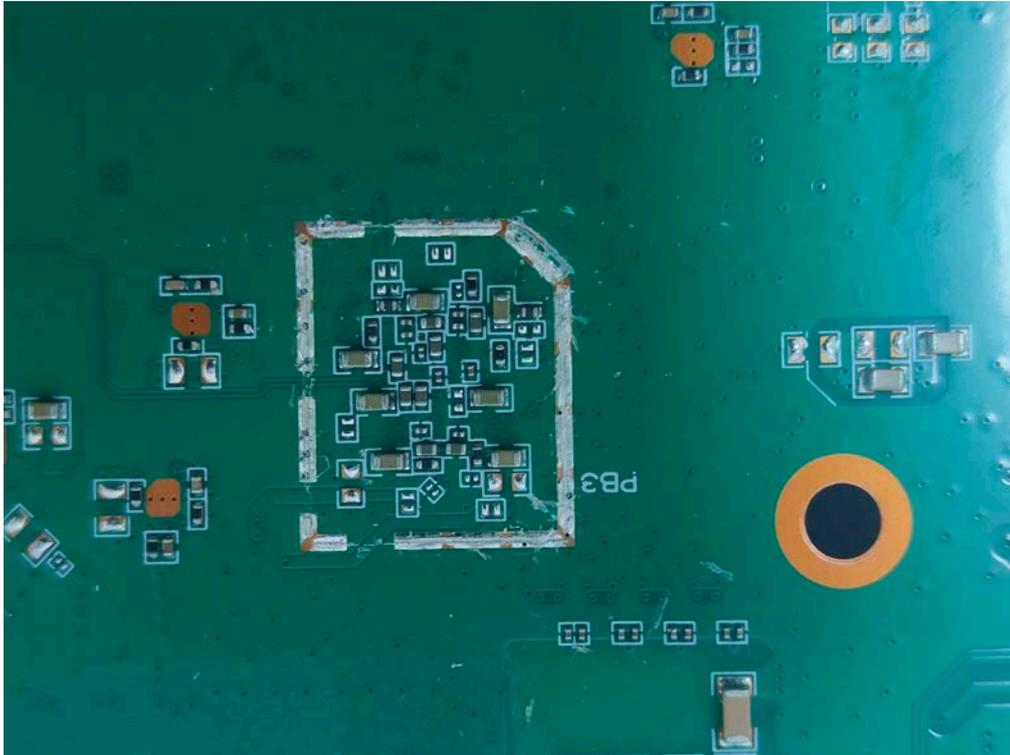


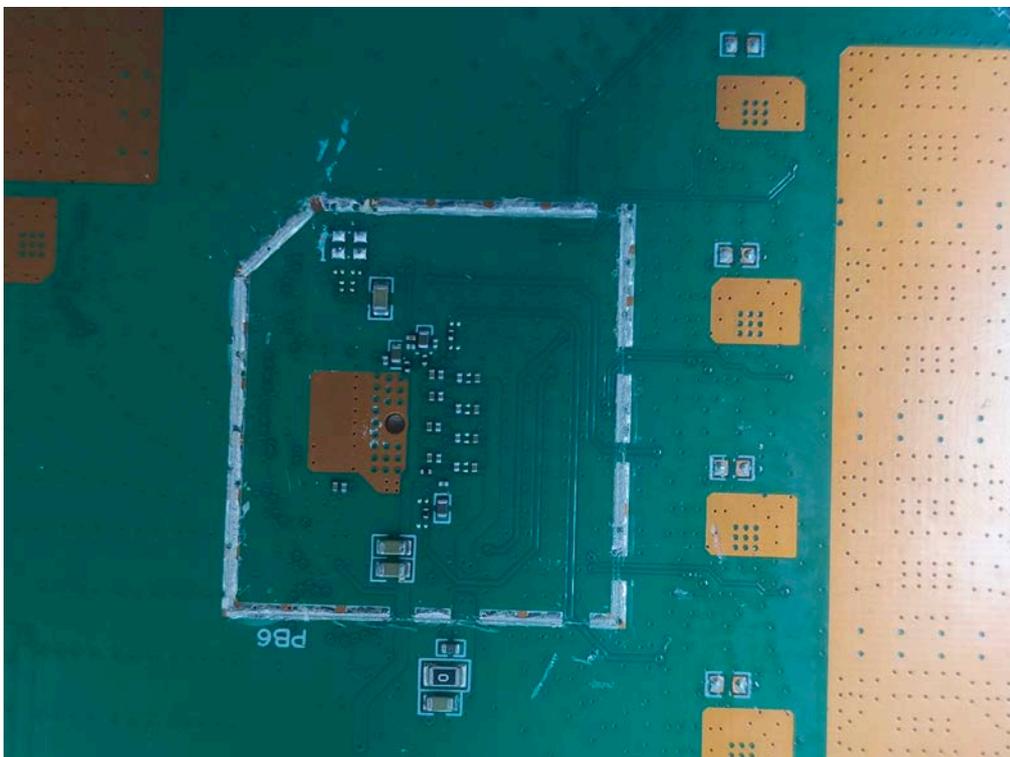
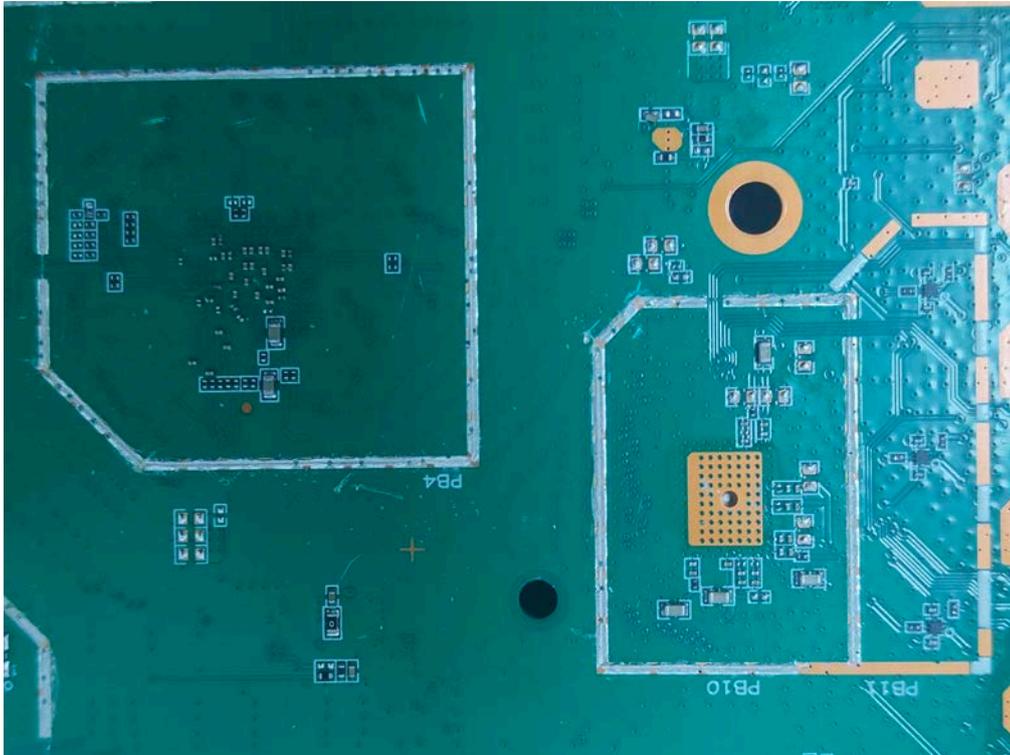


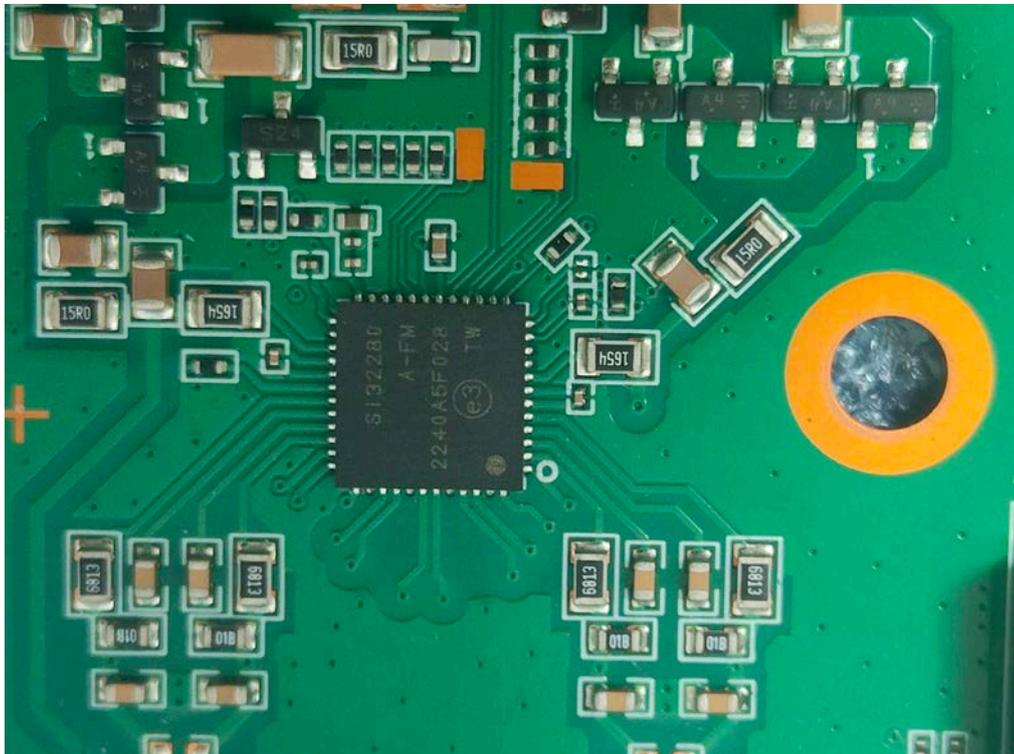
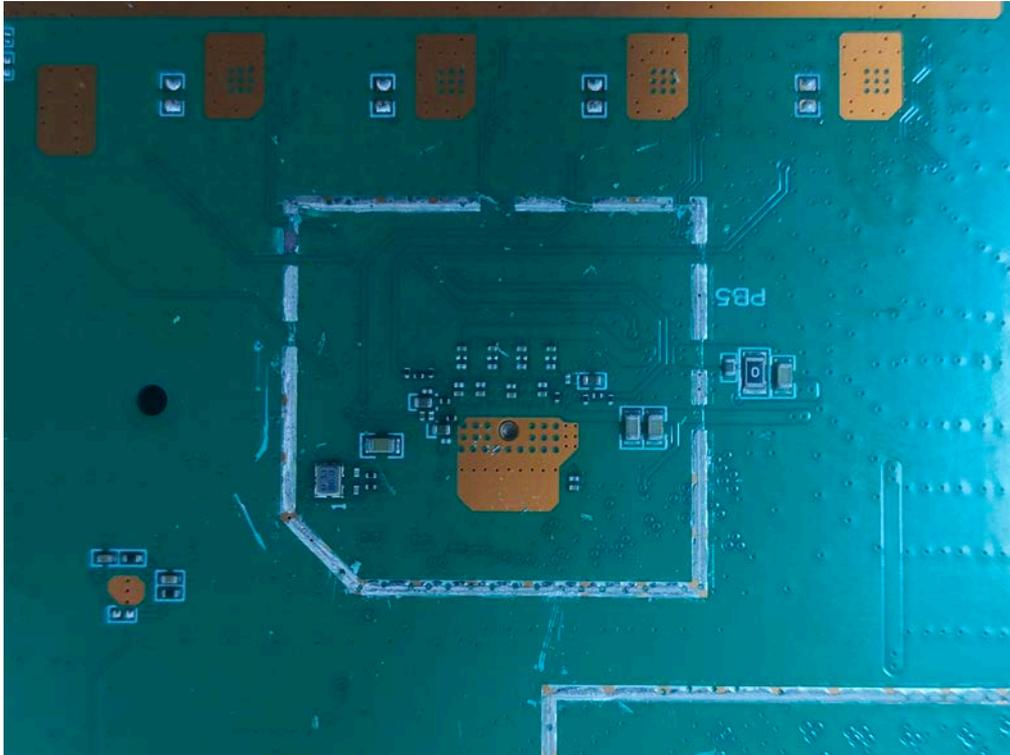


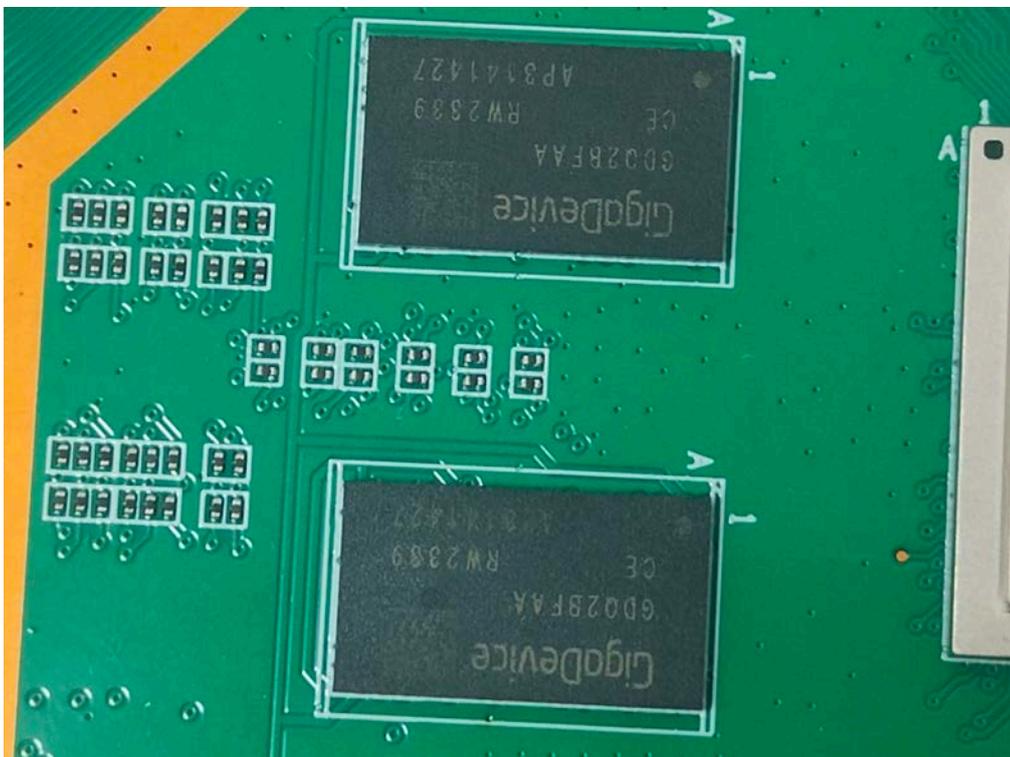
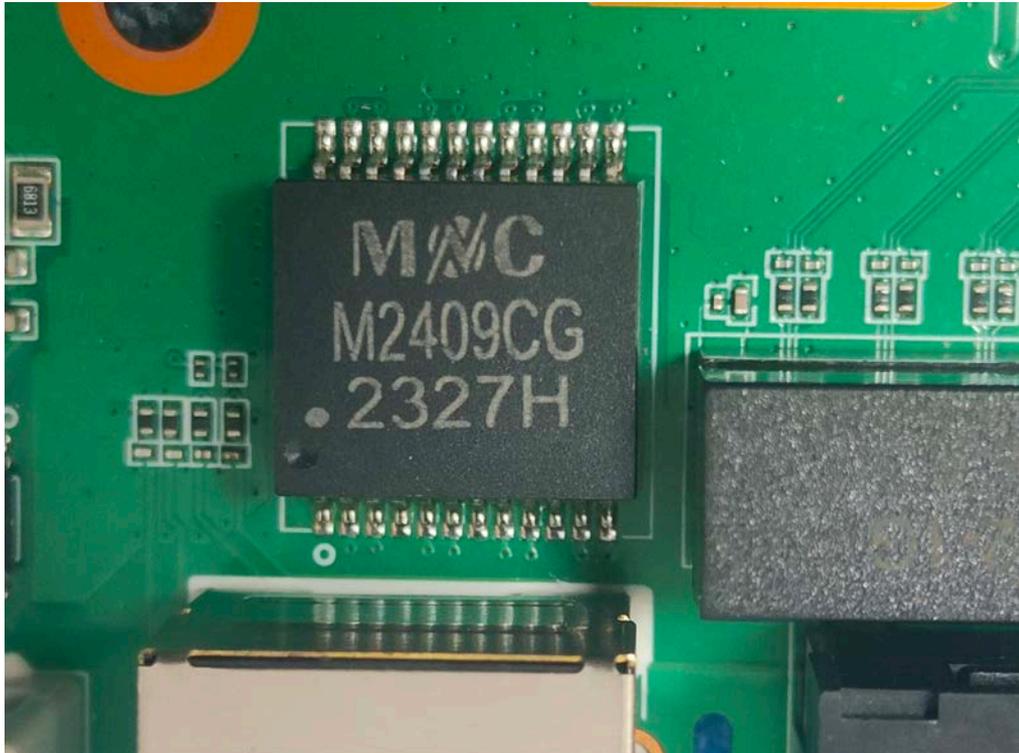


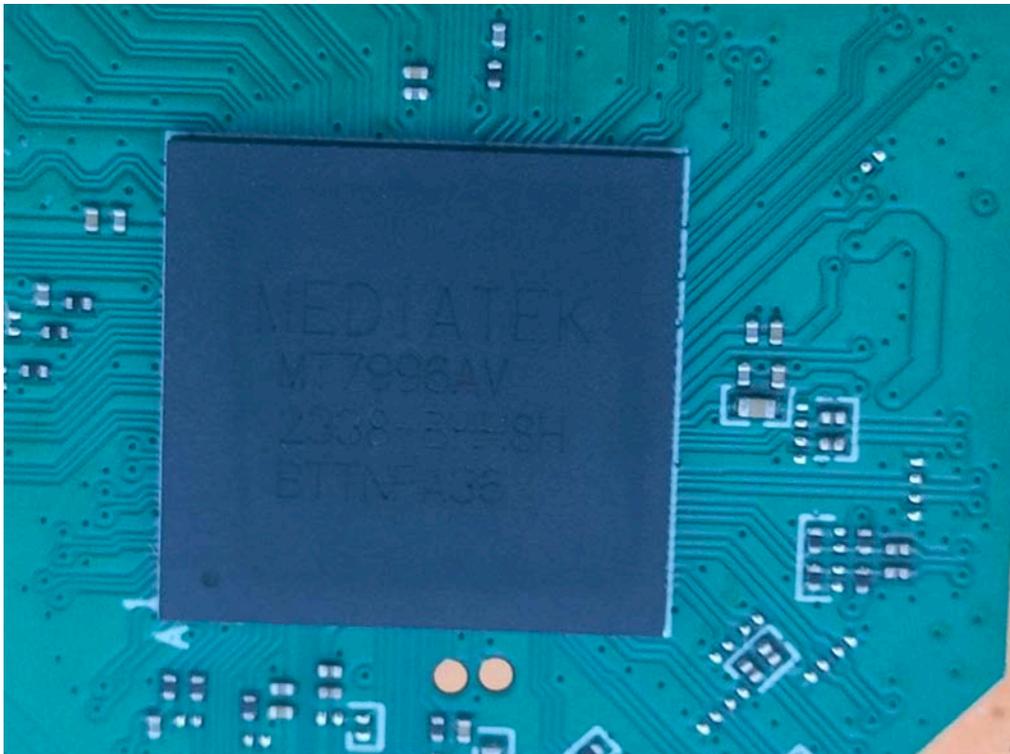
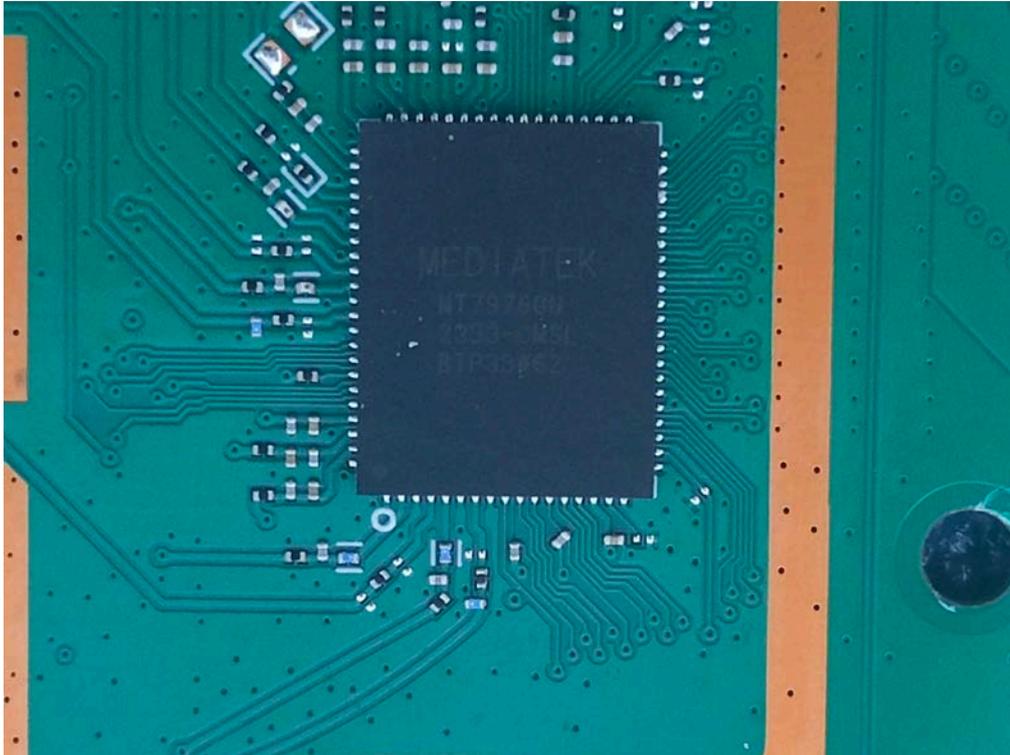














End of Test Report