

TEST REPORT

Applicant: SIMCom Wireless Solutions Limited
Address: SIMCom Headquarters Building, Building 3, No.289
Linhong Road, Changning District, Shanghai, China
Equipment Type: Wi-Fi Module
Model Name: W82
Brand Name: SIMCom
FCC ID: 2AJYU-8XN0002
Test Standard: 47 CFR Part 15 Subpart E
(refer section 3.1)
Sample Arrival Date: Aug. 15, 2022
Test Date: Dec. 06, 2022 - Feb. 17, 2023
Date of Issue: Sep. 22, 2023

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Yu Yingyuan

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Approved by: Liao Jianming

(Technical Director)



Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Feb. 28, 2023</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Jul. 12, 2023</u>	<u>Delete the redundant criteria in section 3.1;</u> <u>Deletes related information other than</u> <u>Contention Based Protocol test items;</u> <u>Update the information in Section 2.5;</u> <u>Update the test setup in Section 4.5;</u> <u>Update the data in section A.1;</u> <u>Place the test setup photo in ANNEX B</u> <u>and delete the ANNEX C/D</u>
<u>Rev. 03</u>	<u>Sep. 22, 2023</u>	<u>Update table format and antenna gain in</u> <u>section A.1</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai, China

2.2 Manufacturer Information

Manufacturer	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai, China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Wi-Fi Module
Under Test Model Name	W82
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V1.01
Software Version	V1.0.01
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Technical Information

Network and Wireless connectivity	2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) and 802.11ax(HE20/40); 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) and 802.11ax(HE20/40/80/160), U-NII-1/2A/2C/3/5/6/7/8
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The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	U-NII-5: 5925 MHz to 6425 MHz U-NII-6: 6425 MHz to 6525 MHz U-NII-7: 6525 MHz to 6875 MHz U-NII-8: 6875 MHz to 7125 MHz	
Product Type	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location	
Modulation technology	OFDMA	
Modulation Type	1024QAM, 256QAM, 64QAM, 16QAM, BPSK, QPSK	
Transfer Rate (Mbps) (Single RF path)	802.11ax up to 1021 Mbps	
Channel Bandwidth	802.11ax: 20 MHz, 40 MHz, 80 MHz, 160MHz	
Antenna System (eg., MIMO, Smart Antenna)	Multi Input Multi Output (MIMO) for 802.11ax	
Categorization as Correlated or Completely Uncorrelated	Categorization as Uncorrelated for 802.11ax	
Antenna Type	Main Antenna	Sector Glue Stick Antenna (External Detachable)
	Aux. Antenna	
Antenna Gain	Main Antenna	U-NII-5: 3.99 dBi U-NII-6: 3.29 dBi
	Aux. Antenna	U-NII-7: 3.95 dBi U-NII-8: 3.82 dBi
Equipment Class	Low-power indoor Client	
About the Product	The EUT doesn't support channel puncturing and bandwidth reduction.	

2.6 Channel List

U-NII-5/6/7/8:

20 MHz		40 MHz		80 MHz		160 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	5955	3	5965	7	5985	15	6025
5	5975	11	6005	23	6065	47	6185
9	5995	19	6045	39	6145	79	6345
13	6015	27	6085	55	6225	111	6505
17	6035	35	6125	71	6305	143	6665
21	6055	43	6165	87	6385	175	6825
25	6075	51	6205	103	6465	207	6985
29	6095	59	6245	119	6545		
33	6115	67	6285	135	6625		
37	6135	75	6325	151	6705		
41	6155	83	6365	167	6785		
45	6175	91	6405	183	6865		
49	6195	99	6445	199	6945		
53	6215	107	6485	215	7025		
57	6235	115	6525				
61	6255	123	6565				
65	6275	131	6605				
69	6295	139	6645				
73	6315	147	6685				
77	6335	155	6725				
81	6355	163	6765				
85	6375	171	6805				
89	6395	179	6845				
93	6415	187	6885				
97	6435	195	6925				
101	6455	203	6965				
105	6475	211	7005				
109	6495	219	7045				
113	6515	227	7085				
117	6535						
121	6555						
125	6575						
129	6595						
133	6615						
137	6635						
141	6655						
145	6675						

149	6695						
153	6715						
157	6735						
161	6755						
165	6775						
169	6795						
173	6815						
177	6835						
181	6855						
185	6875						
189	6895						
193	6915						
197	6935						
201	6955						
205	6975						
209	6995						
213	7015						
217	7035						
221	7055						
225	7075						
229	7095						
233	7115						

The Lowest frequency, the middle frequency and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11ax (HE20)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
37	Mid	6135	101	Mid	6455

U-NII-7 (6525 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
133	Mid	6615	197	Mid	6935

For 802.11ax (HE160)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
47	Mid	6185	111	Mid	6505

U-NII-7 (6525 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
143	Mid	6665	207	Mid	6985

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Modulation Type	U-NII-5	U-NII-6	U-NII-7	U-NII-8
				Channel	Channel	Channel	Channel
Contention Based Protocol	11ax(20 MHz)	4	OFDMA	37	101	133	197
	11ax(160 MHz)	34		47	111	143	207

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E	Unlicensed National Information Infrastructure Devices
2	KDB Publication 987594 D02v01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure 6 GHz (U-NII) Devices Part 15, Subpart E

3.2 Test Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Contention Based Protocol	15.407(d)	ANNEX A.1	Pass

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	29% to 69%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+18.1°C to +23.2°C
Working Voltage of the EUT	NV (Normal Voltage)	3.8 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2022.01.04	2023.01.03
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2022.12.28	2023.12.27
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	2022.06.29	2023.06.28

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable test Setup
BL410R	BALUN	V2.1.1.488	N/A	The section 4.5.1
BL410E	BALUN	V19.8.28.435	N/A	The section 4.5.2&4.5.3&4.5.4&4.5.5

4.4 Measurement Uncertainty

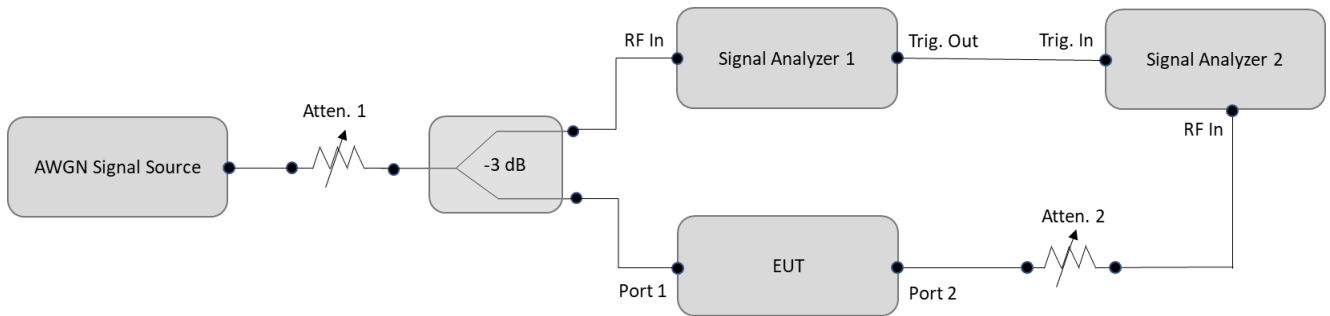
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.8°C
Humidity	4%

4.5 Description of Test Setup

4.5.1 For Antenna Port Test



(Diagram 1)

5 TEST ITEMS

5.1 Contention Based Protocol

5.1.1 Limit

FCC §15.15.407(d)

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

5.1.2 Test Setup

The section 4.5.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

The AWGN interference signal level is corrected according to the antenna gain, and the AWGN interference signal is modulated by the vector signal source. When AWGN interference exists, a spectrum analyzer is used to detect whether the EUT recognizes and stops transmission.

5.1.4 Test Result

Please refer to ANNEX A.1.

ANNEX A TEST RESULT

A.1 Contention Based Protocol

Interference Signals used for Tests

Interference Signals Type	Bandwidth (MHz)
AWGN	10

Interference threshold level

Test Method	Interference threshold level
<input checked="" type="checkbox"/> Conducted	Interference threshold level = -62 dBm (assumes a 0 dBi receive antenna)
<input type="checkbox"/> Radiation	

Test Data

U-NII-5 (5925 MHz to 6425 MHz)									
Operation Mode	Channel Number	Channel Frequency (MHz)	AWGN Signal Frequency (MHz)	Injected (AWGN) Power (dBm)	Antenna Gain (dBi)	Path Loss ^{Note1} (dB)	Adjusted Power ^{Note2} (dBm)	Detection Limit (dBm)	EUT Tx Status ^{Note3}
802.11ax (HE20)	37	6135	6135	-71.51	3.50	0	-75.01	-62	Ceased
				-72.01	3.50	0	-75.51	-62	Minimal
				-82.00	3.50	0	-85.50	-62	Normal
802.11ax (HE160)	47	6185	6110	-67.77	3.05	0	-70.82	-62	Ceased
				-68.27	3.05	0	-71.32	-62	Minimal
				-82.00	3.05	0	-85.05	-62	Normal
			6185	-61.88	3.05	0	-64.93	-62	Ceased
				-62.38	3.05	0	-65.43	-62	Minimal
				-82.00	3.05	0	-85.05	-62	Normal
		6260	-66.73	3.05	0	-69.78	-62	Ceased	
			-67.23	3.05	0	-70.28	-62	Minimal	
			-82.00	3.05	0	-85.05	-62	Normal	

Note1: The corrected AWGN power is located at the antenna connection port, so path losses are not considered.

Note2: Adjusted Power (dBm) = Injected (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB).

Note3: The AWGN level is reported for the following conditions:

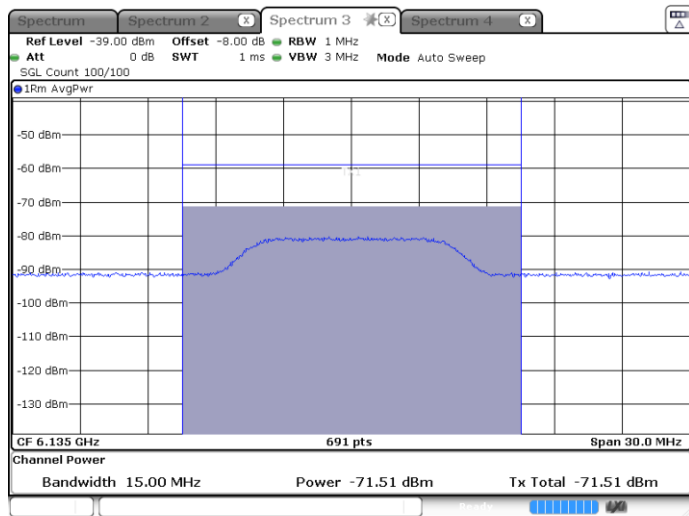
- Ceased: AWGN level at which no transmission is detected, consistently for a minimum period of 10 seconds.
- Minimal: AWGN level at which the system begins to trigger the transmission switch-off, albeit not being kept off consistently.
- Normal: AWGN level at which no impact on the transmission is detected, consistently for a minimum period of 10 seconds.

Contention Based Protocol Detection Rate													
Detection Limit		90%											
Operation Mode	AWGN Signal Frequency (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Rate	Test Result
802.11ax (HE20)	6135	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
802.11ax (HE160)	6110	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6185	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	90%	PASS
	6260	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS

Test Plots

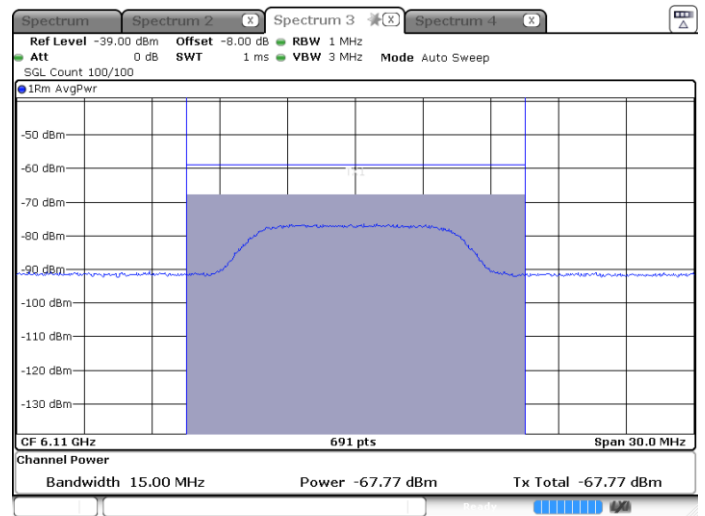
Plots of Incumbent signal (AWGN) Level

802.11ax (HE20)-Channel 37



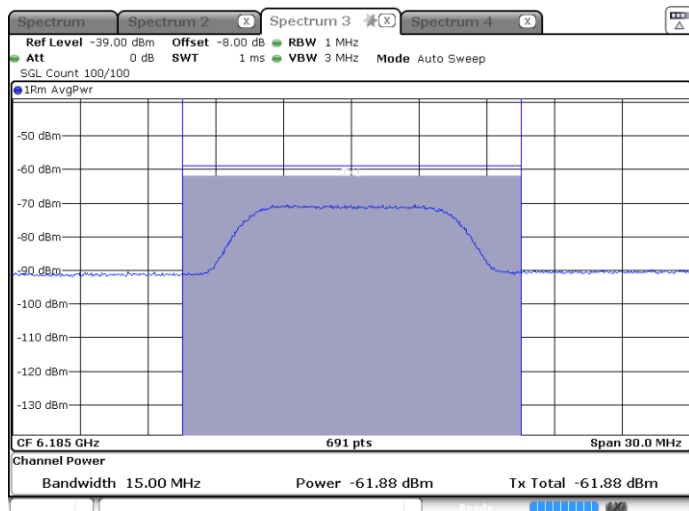
Date: 10.FEB.2023 19:17:41

802.11ax (HE160)-Channel 47 (Low Edge)



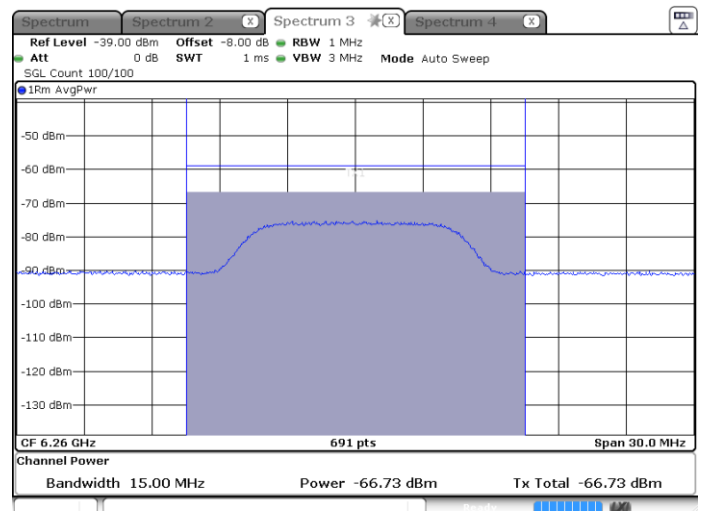
Date: 10.FEB.2023 19:18:26

802.11ax (HE160)-Channel 47 (Middle Edge)



Date: 10.FEB.2023 19:20:11

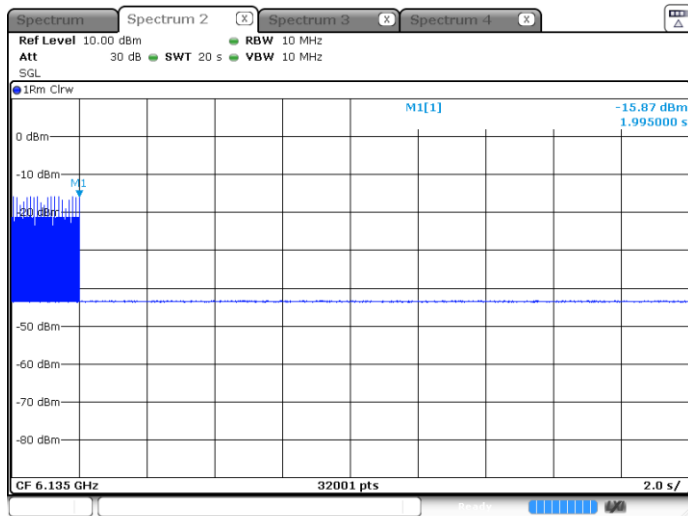
802.11ax (HE160)-Channel 47 (High Edge)



Date: 10.FEB.2023 19:21:04

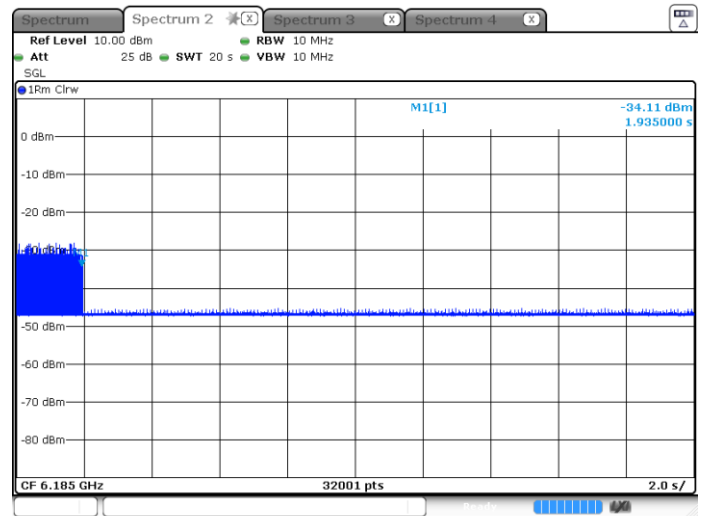
Plots of EUT Tx waveform

802.11ax (HE20)-Channel 37



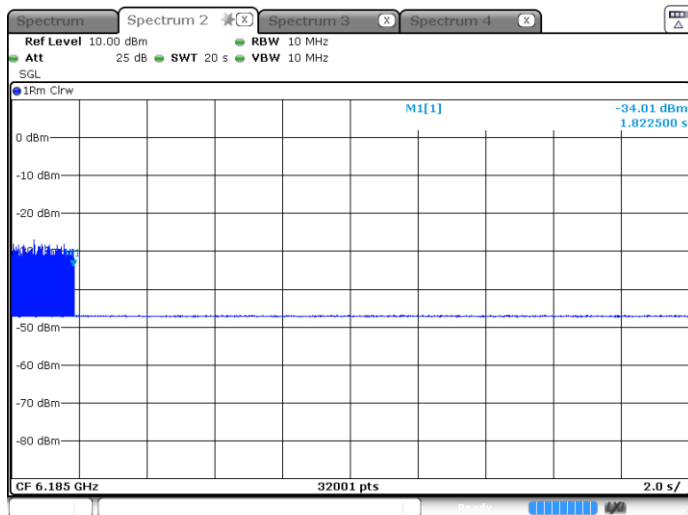
Date: 10.FEB.2023 18:25:12

802.11ax (HE160)-Channel 47 (Low Edge)



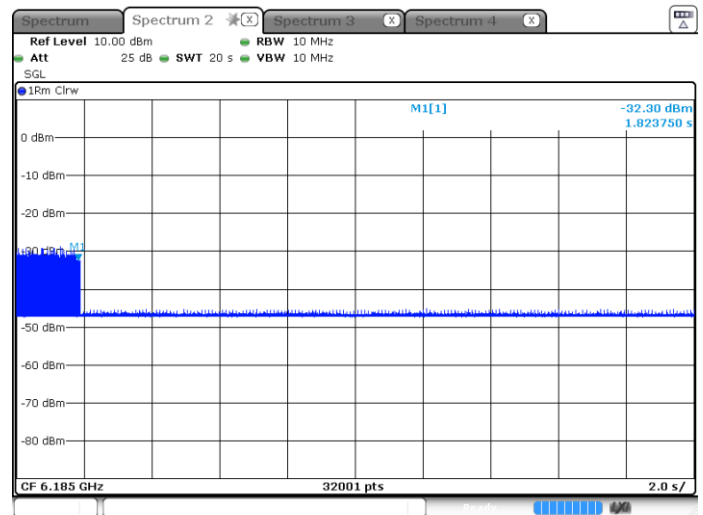
Date: 10.FEB.2023 15:04:53

802.11ax (HE160)-Channel 47 (Middle Edge)



Date: 10.FEB.2023 15:28:05

802.11ax (HE160)-Channel 47 (High Edge)



Date: 10.FEB.2023 15:49:36

Interference Signals used for Tests

Interference Signals Type	Bandwidth (MHz)
AWGN	10

Interference threshold level

Test Method	Interference threshold level
<input checked="" type="checkbox"/> Conducted	Interference threshold level = -62 dBm (assumes a 0 dBi receive antenna)
<input type="checkbox"/> Radiation	

Test Data

U-NII-6 (6425 MHz to 6525 MHz)									
Operation Mode	Channel Number	Channel Frequency (MHz)	AWGN Signal Frequency (MHz)	Injected (AWGN) Power (dBm)	Antenna Gain (dBi)	Path Loss ^{Note1} (dB)	Adjusted Power ^{Note2} (dBm)	Detection Limit (dBm)	EUT Tx Status ^{Note3}
802.11ax (HE20)	101	6455	6455	-68.21	3.23	0	-71.44	-62	Ceased
				-68.71	3.23	0	-71.94	-62	Minimal
				-82.00	3.23	0	-85.23	-62	Normal
802.11ax (HE160)	111	6505	6430	-66.27	3.02	0	-69.29	-62	Ceased
				-66.77	3.02	0	-69.79	-62	Minimal
				-82.00	3.02	0	-85.02	-62	Normal
			6505	-60.07	3.02	0	-63.09	-62	Ceased
				-60.57	3.02	0	-63.59	-62	Minimal
				-82.00	3.02	0	-85.02	-62	Normal
			6580	-67.38	3.02	0	-70.40	-62	Ceased
				-67.88	3.02	0	-70.90	-62	Minimal
				-82.00	3.02	0	-85.02	-62	Normal

Note1: The corrected AWGN power is located at the antenna connection port, so path losses are not considered.

Note2: Adjusted Power (dBm) = Injected (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB).

Note3: The AWGN level is reported for the following conditions:

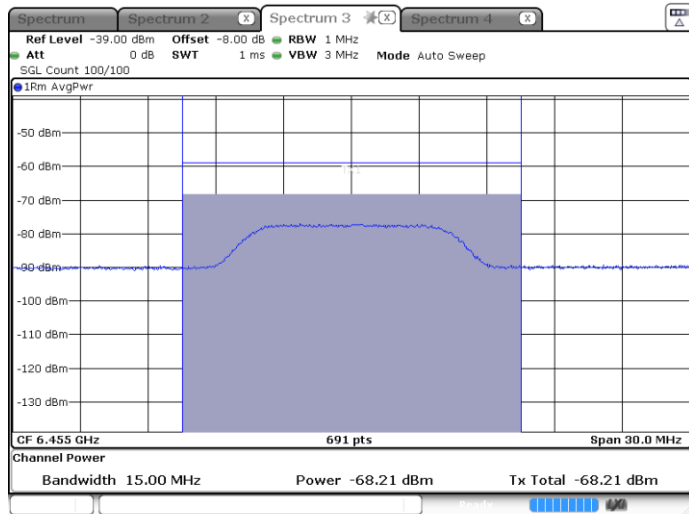
- Ceased: AWGN level at which no transmission is detected, consistently for a minimum period of 10 seconds.
- Minimal: AWGN level at which the system begins to trigger the transmission switch-off, albeit not being kept off consistently.
- Normal: AWGN level at which no impact on the transmission is detected, consistently for a minimum period of 10 seconds.

Contention Based Protocol Detection Rate													
Detection Limit		90%											
Operation Mode	AWGN Signal Frequency (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Rate	Test Result
802.11ax (HE20)	6455	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	90%	PASS
802.11ax (HE160)	6430	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6505	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6580	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS

Test Plots

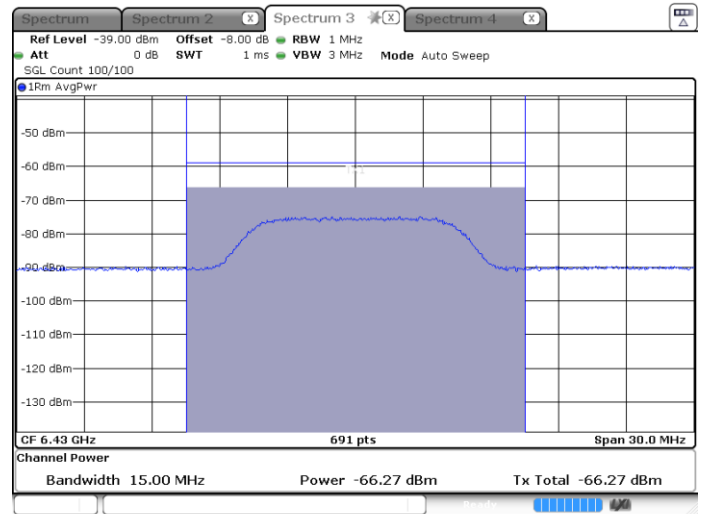
Plots of Incumbent signal (AWGN) Level

802.11ax (HE20)-Channel 101



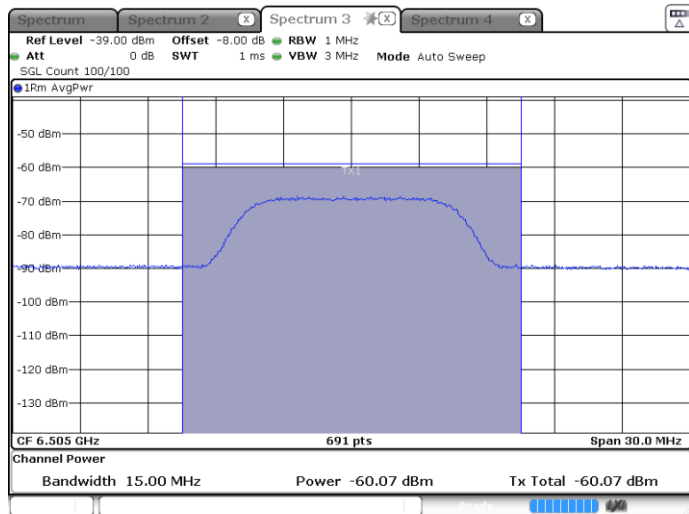
Date: 10.FEB.2023 19:17:00

802.11ax (HE160)-Channel 111 (Low Edge)



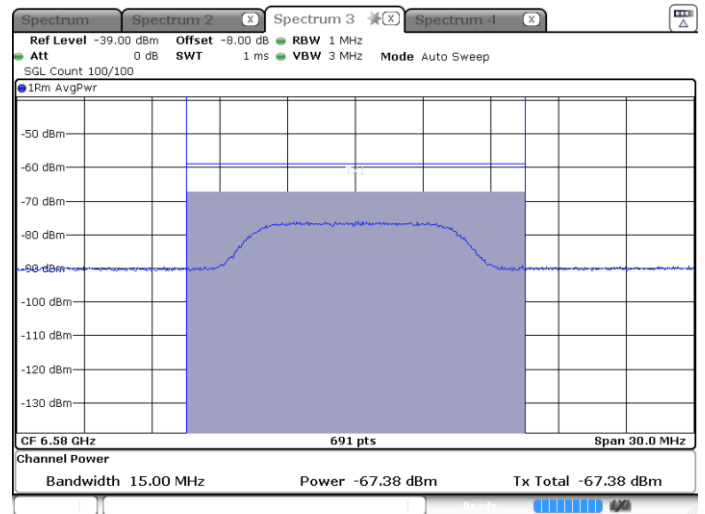
Date: 10.FEB.2023 19:22:01

802.11ax (HE160)-Channel 111 (Middle Edge)



Date: 10.FEB.2023 19:22:51

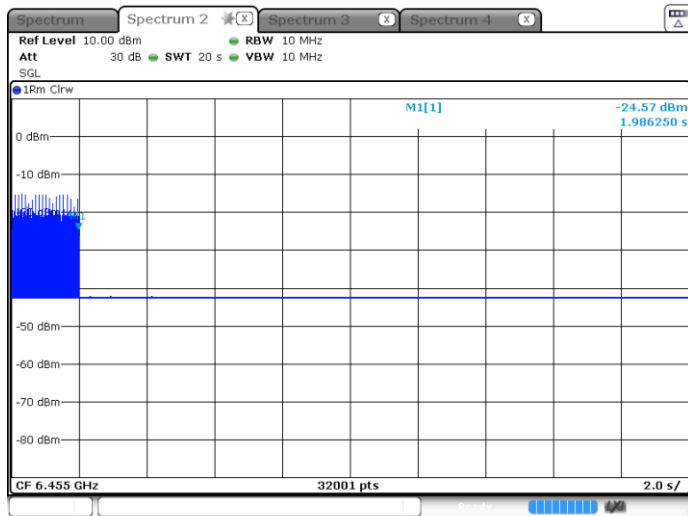
802.11ax (HE160)-Channel 111 (High Edge)



Date: 10.FEB.2023 19:23:32

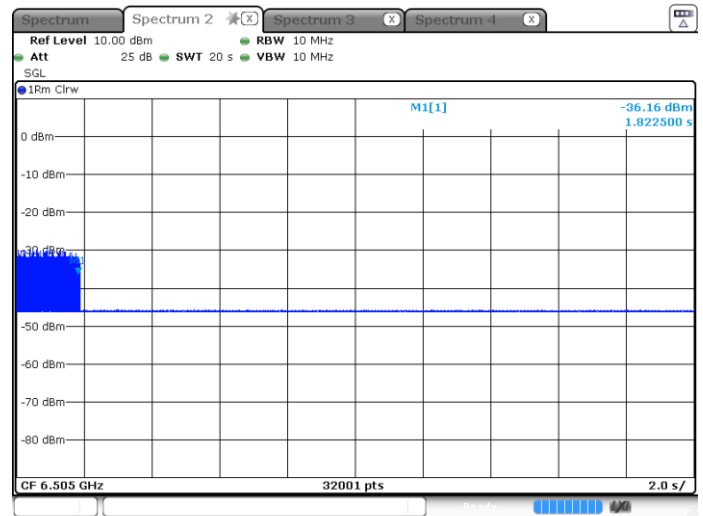
Plots of EUT Tx waveform

802.11ax (HE20)-Channel 101



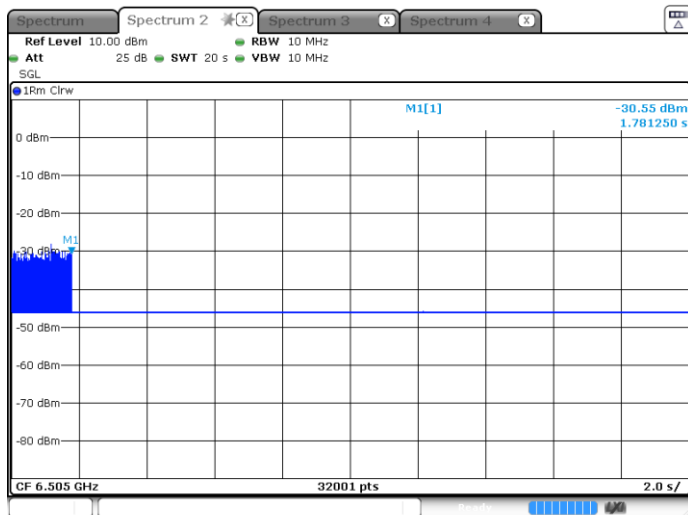
Date: 10.FEB.2023 18:46:29

802.11ax (HE160)-Channel 111 (Low Edge)



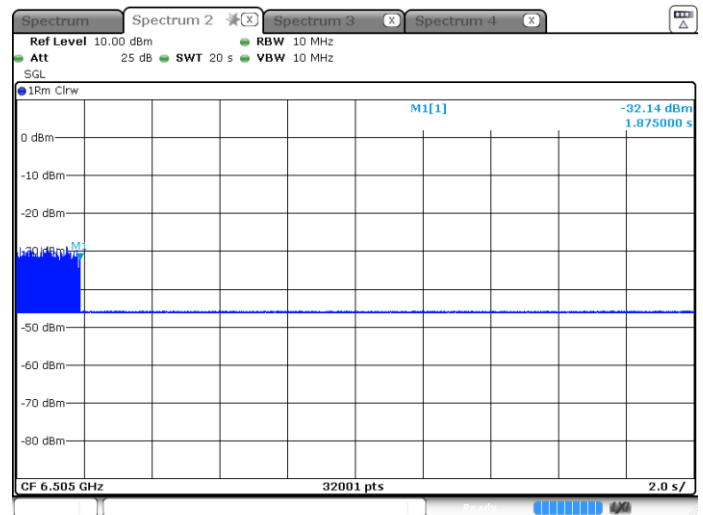
Date: 10.FEB.2023 15:55:29

802.11ax (HE160)-Channel 111 (Middle Edge)



Date: 10.FEB.2023 16:08:08

802.11ax (HE160)-Channel 111 (High Edge)



Date: 10.FEB.2023 16:22:40

Interference Signals used for Tests

Interference Signals Type	Bandwidth (MHz)
AWGN	10

Interference threshold level

Test Method	Interference threshold level
<input checked="" type="checkbox"/> Conducted	Interference threshold level = -62 dBm (assumes a 0 dBi receive antenna)
<input type="checkbox"/> Radiation	

Test Data

U-NII-7 (6525 MHz to 6875 MHz)									
Operation Mode	Channel Number	Channel Frequency (MHz)	AWGN Signal Frequency (MHz)	Injected (AWGN) Power (dBm)	Antenna Gain (dBi)	Path Loss ^{Note1} (dB)	Adjusted Power ^{Note2} (dBm)	Detection Limit (dBm)	EUT Tx Status ^{Note3}
802.11ax (HE20)	133	6615	6615	-66.25	3.40	0	-69.65	-62	Ceased
				-66.75	3.40	0	-70.15	-62	Minimal
				-82.00	3.40	0	-85.40	-62	Normal
802.11ax (HE160)	143	6665	6590	-66.80	3.22	0	-70.02	-62	Ceased
				-67.30	3.22	0	-70.52	-62	Minimal
				-82.00	3.22	0	-85.22	-62	Normal
			6665	-60.99	3.22	0	-64.21	-62	Ceased
				-61.49	3.22	0	-64.71	-62	Minimal
				-82.00	3.22	0	-85.22	-62	Normal
			6740	-70.04	3.22	0	-73.26	-62	Ceased
				-70.54	3.22	0	-73.76	-62	Minimal
				-82.00	3.22	0	-85.22	-62	Normal

Note1: The corrected AWGN power is located at the antenna connection port, so path losses are not considered.

Note2: Adjusted Power (dBm) = Injected (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB).

Note3: The AWGN level is reported for the following conditions:

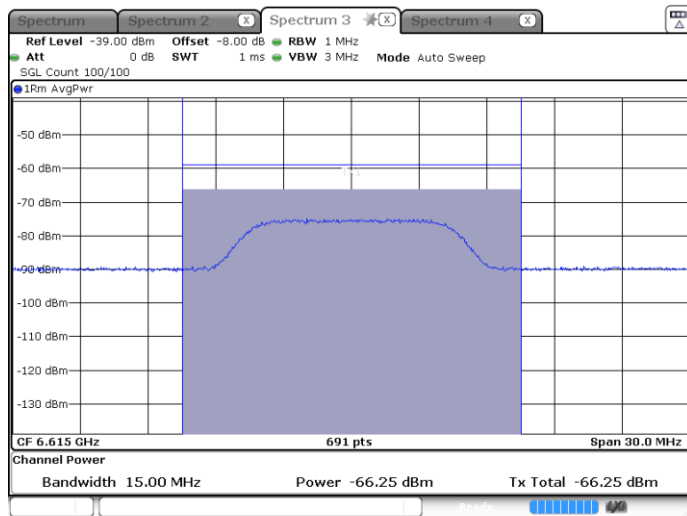
- Ceased: AWGN level at which no transmission is detected, consistently for a minimum period of 10 seconds.
- Minimal: AWGN level at which the system begins to trigger the transmission switch-off, albeit not being kept off consistently.
- Normal: AWGN level at which no impact on the transmission is detected, consistently for a minimum period of 10 seconds.

Contention Based Protocol Detection Rate													
Detection Limit		90%											
Operation Mode	AWGN Signal Frequency (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Rate	Test Result
802.11ax (HE20)	6615	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
802.11ax (HE160)	6590	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6665	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6740	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS

Test Plots

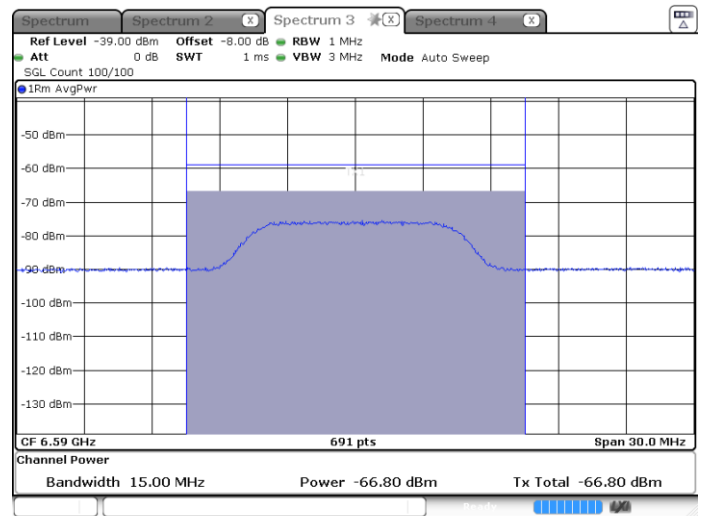
Plots of Incumbent signal (AWGN) Level

802.11ax (HE20)-Channel 133



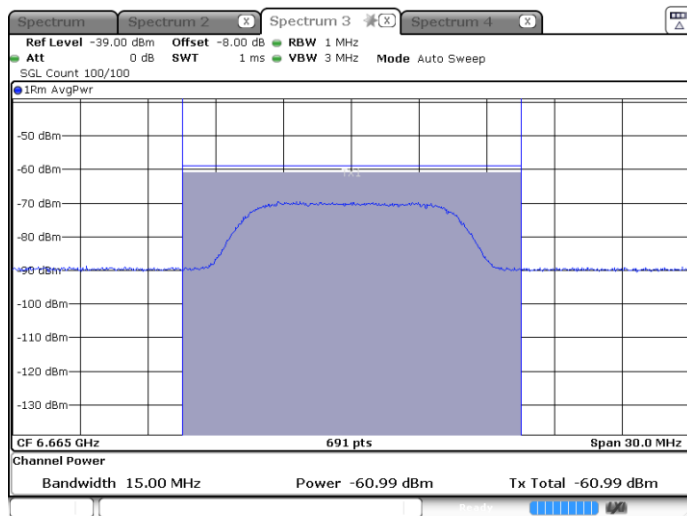
Date: 10.FEB.2023 19:16:10

802.11ax (HE160)-Channel 143 (Low Edge)



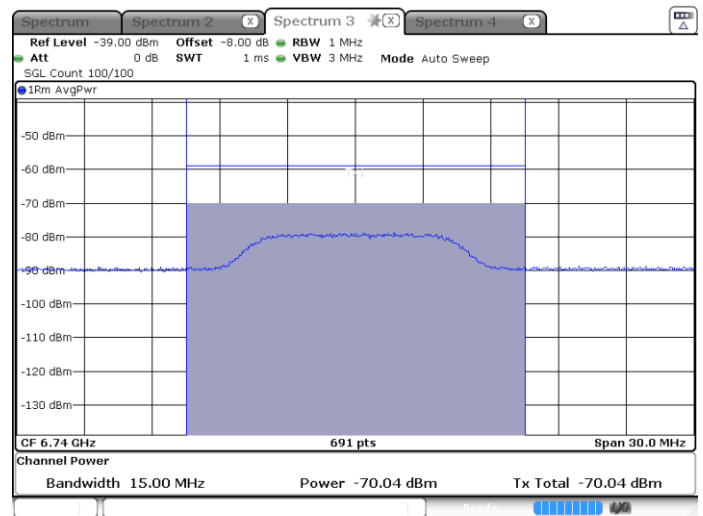
Date: 10.FEB.2023 19:24:12

802.11ax (HE160)-Channel 143 (Middle Edge)



Date: 10.FEB.2023 19:24:55

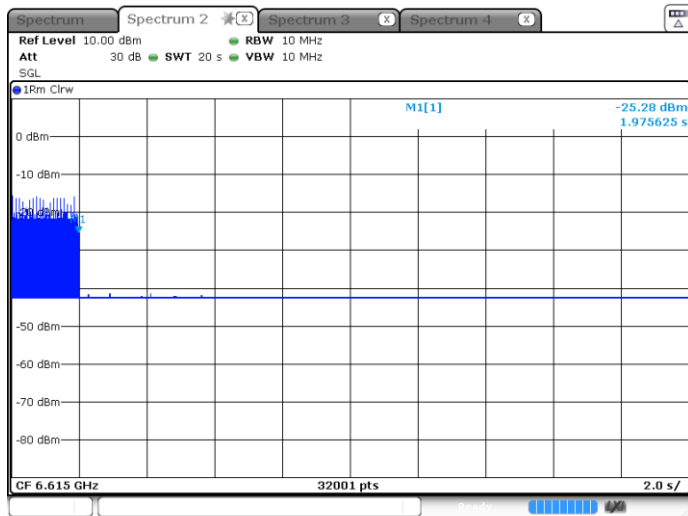
802.11ax (HE160)-Channel 143 (High Edge)



Date: 10.FEB.2023 19:25:36

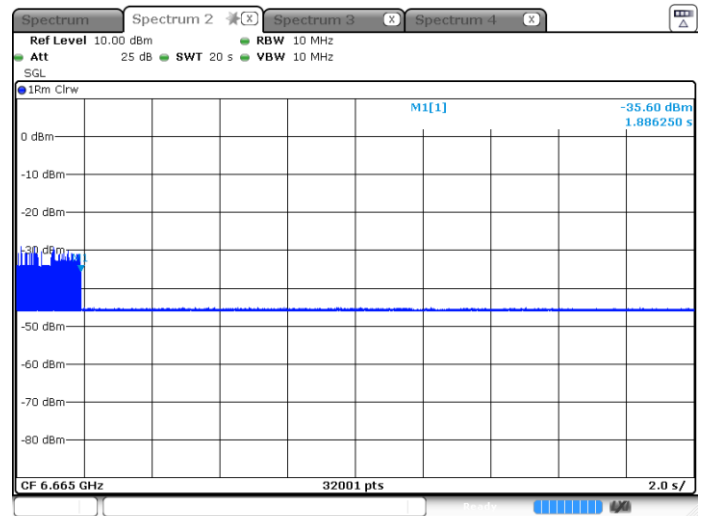
Plots of EUT Tx waveform

802.11ax (HE20)-Channel 133



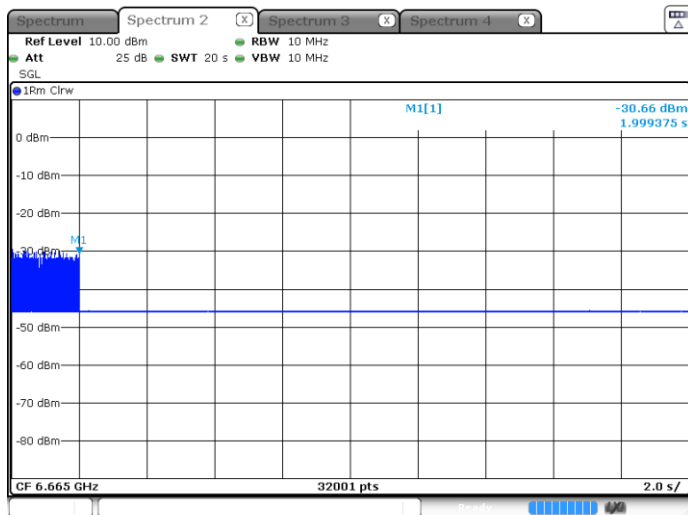
Date: 10.FEB.2023 18:58:20

802.11ax (HE160)-Channel 143 (Low Edge)



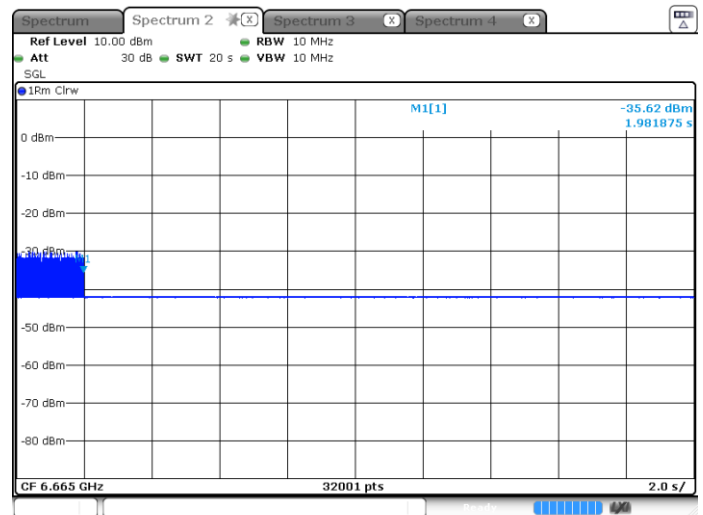
Date: 10.FEB.2023 16:29:44

802.11ax (HE160)-Channel 143 (Middle Edge)



Date: 10.FEB.2023 17:27:27

802.11ax (HE160)-Channel 143 (High Edge)



Date: 10.FEB.2023 18:13:34

Interference Signals used for Tests

Interference Signals Type	Bandwidth (MHz)
AWGN	10

Interference threshold level

Test Method	Interference threshold level
<input checked="" type="checkbox"/> Conducted	Interference threshold level = -62 dBm (assumes a 0 dBi receive antenna)
<input type="checkbox"/> Radiation	

Test Data

U-NII-8 (6875 MHz to 7125 MHz)									
Operation Mode	Channel Number	Channel Frequency (MHz)	AWGN Signal Frequency (MHz)	Injected (AWGN) Power (dBm)	Antenna Gain (dBi)	Path Loss ^{Note1} (dB)	Adjusted Power ^{Note2} (dBm)	Detection Limit (dBm)	EUT Tx Status ^{Note3}
802.11ax (HE20)	197	6935	6935	-69.47	3.22	0	-72.69	-62	Ceased
				-69.97	3.22	0	-73.19	-62	Minimal
				-82.00	3.22	0	-85.22	-62	Normal
802.11ax (HE160)	207	6985	6910	-66.90	2.48	0	-69.38	-62	Ceased
				-67.40	2.48	0	-69.88	-62	Minimal
				-82.00	2.48	0	-84.48	-62	Normal
			6985	-60.88	2.48	0	-63.36	-62	Ceased
				-61.38	2.48	0	-63.86	-62	Minimal
				-82.00	2.48	0	-84.48	-62	Normal
			7060	-65.88	2.48	0	-68.36	-62	Ceased
				-66.38	2.48	0	-68.86	-62	Minimal
				-82.00	2.48	0	-84.48	-62	Normal

Note1: The corrected AWGN power is located at the antenna connection port, so path losses are not considered.

Note2: Adjusted Power (dBm) = Injected (AWGN) Power (dBm) - Antenna Gain (dBi) + Path Loss (dB).

Note3: The AWGN level is reported for the following conditions:

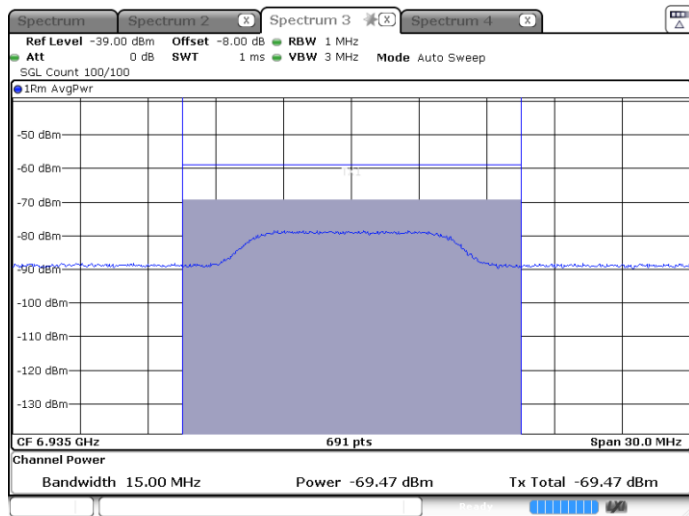
- Ceased: AWGN level at which no transmission is detected, consistently for a minimum period of 10 seconds.
- Minimal: AWGN level at which the system begins to trigger the transmission switch-off, albeit not being kept off consistently.
- Normal: AWGN level at which no impact on the transmission is detected, consistently for a minimum period of 10 seconds.

Contention Based Protocol Detection Rate													
Detection Limit		90%											
Operation Mode	AWGN Signal Frequency (MHz)	#01	#02	#03	#04	#05	#06	#07	#08	#09	#10	Detection Rate	Test Result
802.11ax (HE20)	6935	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
802.11ax (HE160)	6910	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	6985	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	100%	PASS
	7060	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	90%	PASS

Test Plots

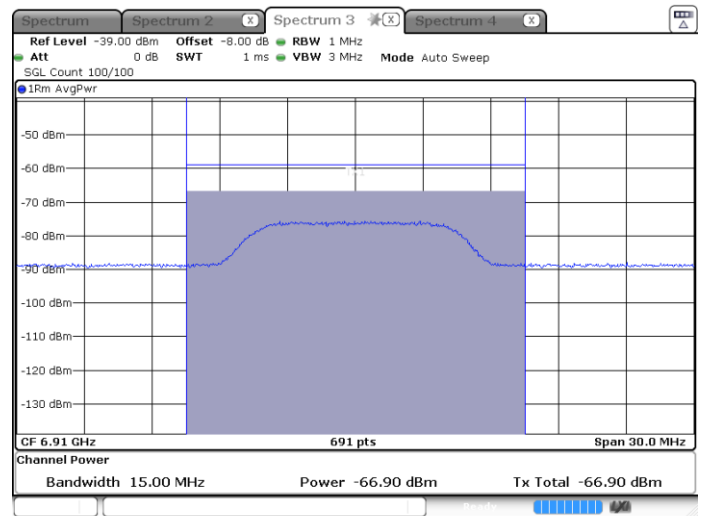
Plots of Incumbent signal (AWGN) Level

802.11ax (HE20)-Channel 197



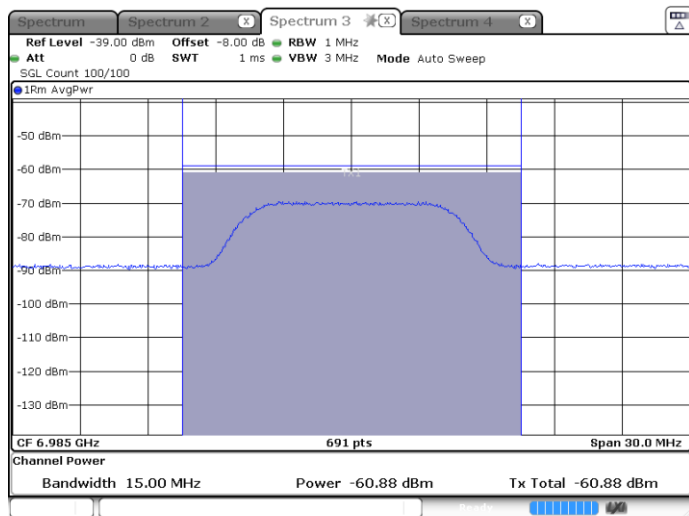
Date: 10.FEB.2023 19:15:11

802.11ax (HE160)-Channel 207 (Low Edge)



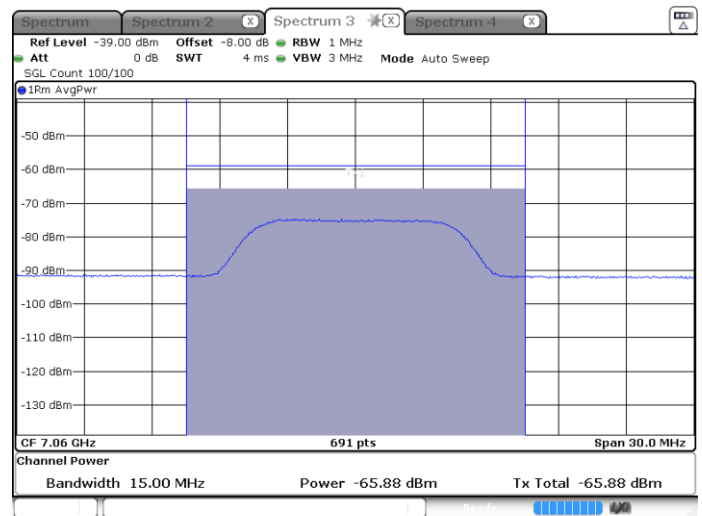
Date: 10.FEB.2023 19:26:17

802.11ax (HE160)-Channel 207 (Middle Edge)



Date: 10.FEB.2023 19:26:59

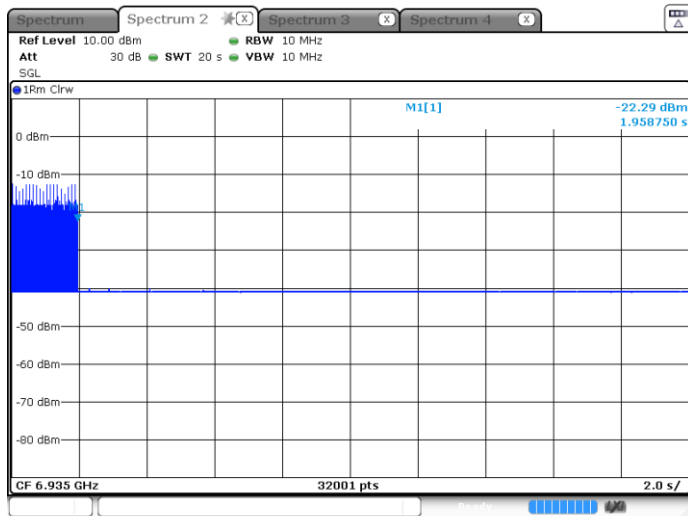
802.11ax (HE160)-Channel 207 (High Edge)



Date: 10.FEB.2023 19:27:55

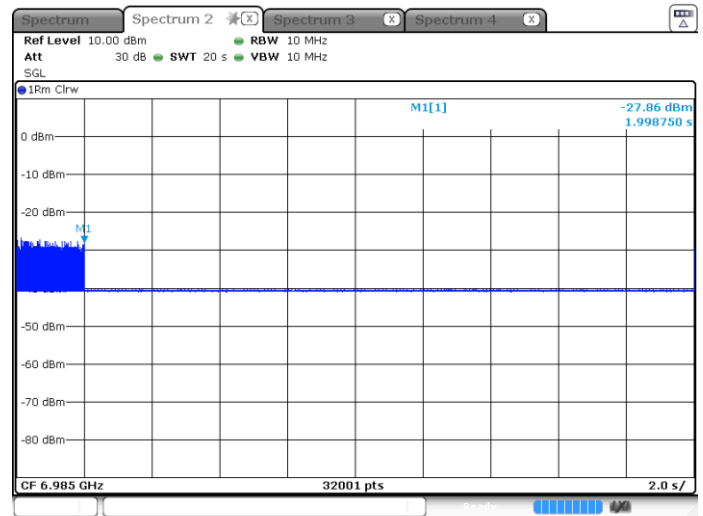
Plots of EUT Tx waveform

802.11ax (HE20)-Channel 197



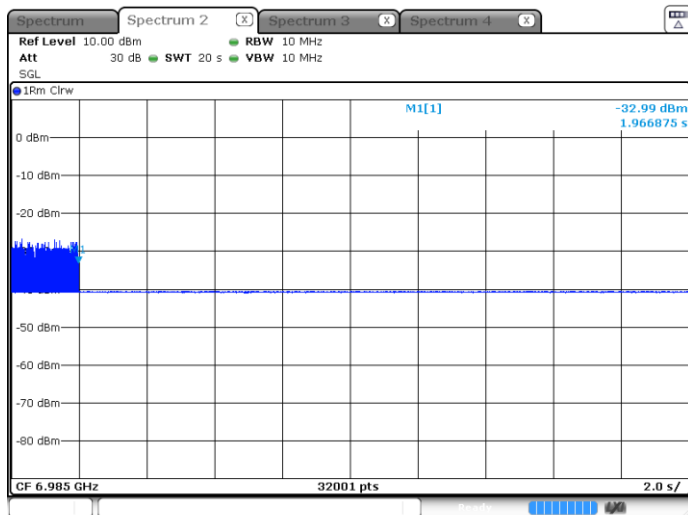
Date: 10.FEB.2023 19:07:47

802.11ax (HE160)-Channel 207 (Low Edge)



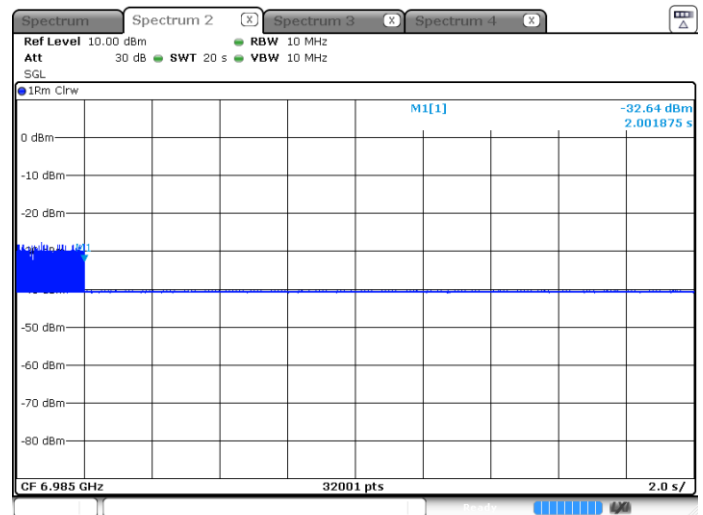
Date: 10.FEB.2023 17:49:47

802.11ax (HE160)-Channel 207 (Middle Edge)



Date: 10.FEB.2023 17:59:06

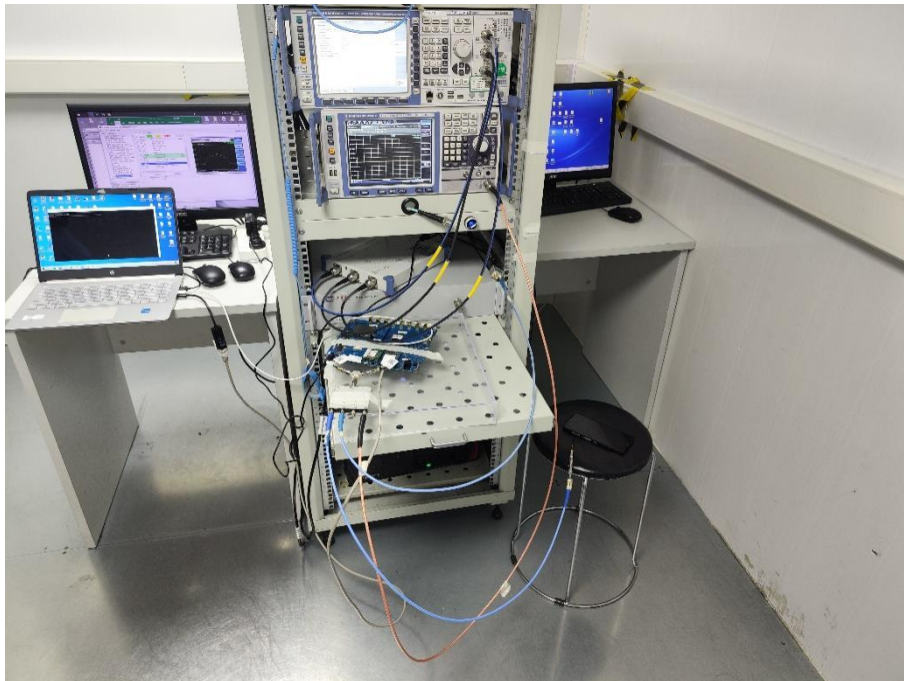
802.11ax (HE160)-Channel 207 (High Edge)



Date: 10.FEB.2023 18:09:40

ANNEX B TEST SETUP PHOTOS

CBP Test



Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--