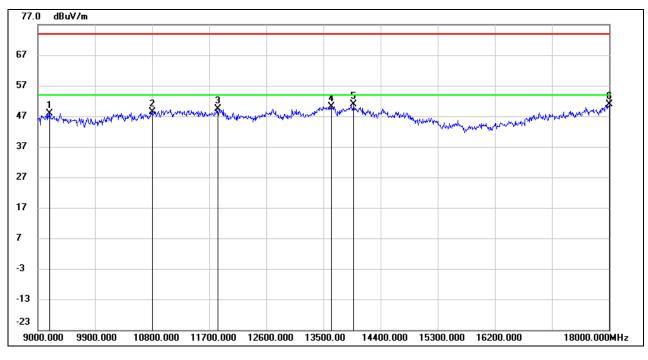


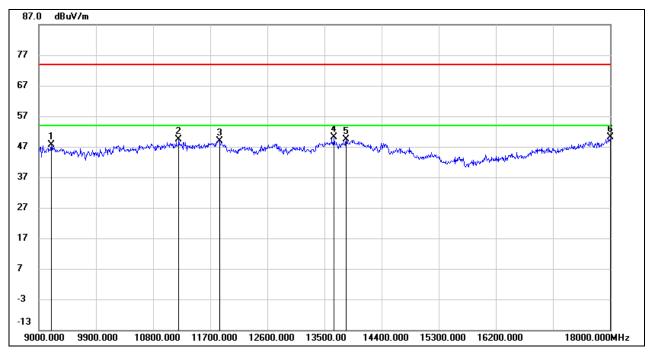
Test Mode:	802.11ax HE160	Channel:	6825 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	9189.000	36.98	10.84	47.82	74.00	-26.18	peak
2	10809.000	34.33	14.12	48.45	74.00	-25.55	peak
3	11835.000	31.81	17.46	49.27	74.00	-24.73	peak
4	13626.000	29.05	21.08	50.13	74.00	-23.87	peak
5	13977.000	28.95	21.83	50.78	74.00	-23.22	peak
6	18000.000	25.68	25.16	50.84	74.00	-23.16	peak



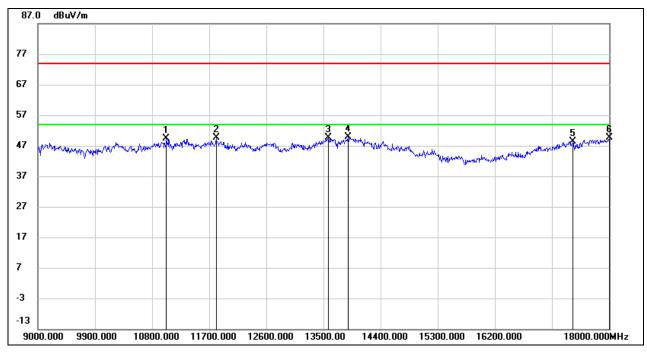
Test Mode:	802.11ax HE160	Channel:	6985 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	9198.000	36.67	10.85	47.52	74.00	-26.48	peak
2	11205.000	33.91	15.48	49.39	74.00	-24.61	peak
3	11844.000	31.46	17.48	48.94	74.00	-25.06	peak
4	13653.000	28.90	21.14	50.04	74.00	-23.96	peak
5	13842.000	27.72	21.54	49.26	74.00	-24.74	peak
6	18000.000	25.03	25.16	50.19	74.00	-23.81	peak



Test Mode:	802.11ax HE160	Channel:	6985 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V

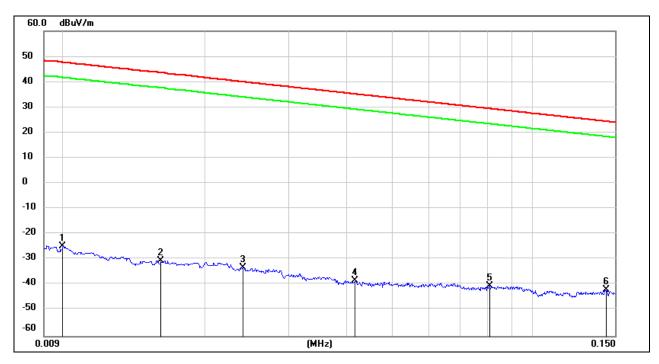


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	11025.000	34.62	14.83	49.45	74.00	-24.55	peak
2	11808.000	32.33	17.38	49.71	74.00	-24.29	peak
3	13581.000	28.55	20.99	49.54	74.00	-24.46	peak
4	13887.000	28.15	21.64	49.79	74.00	-24.21	peak
5	17433.000	26.64	21.70	48.34	74.00	-25.66	peak
6	18000.000	24.44	25.16	49.60	74.00	-24.40	peak



# 8.4. SPURIOUS EMISSIONS (9 kHz ~ 30 MHz)

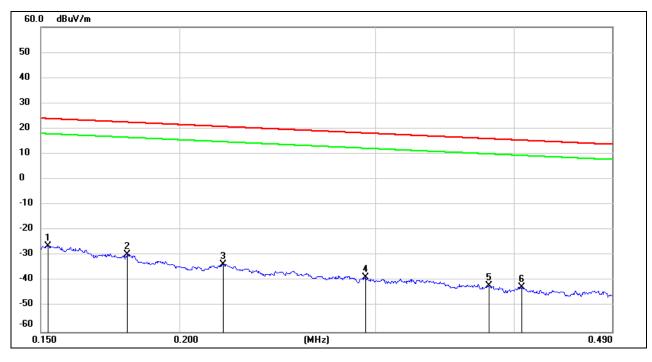
Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0100	76.72	-101.40	-24.68	47.60	-72.28	peak
2	0.0160	70.97	-101.37	-30.40	43.52	-73.92	peak
3	0.0240	68.32	-101.36	-33.04	40.00	-73.04	peak
4	0.0417	63.08	-101.44	-38.36	35.20	-73.56	peak
5	0.0806	61.18	-101.63	-40.45	29.47	-69.92	peak
6	0.1440	59.71	-101.65	-41.94	24.43	-66.37	peak



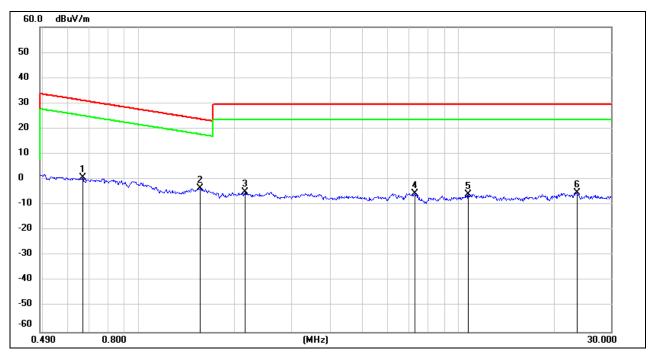
Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.1524	75.30	-101.63	-26.33	23.94	-50.27	peak
2	0.1794	72.27	-101.68	-29.41	22.53	-51.94	peak
3	0.2190	68.27	-101.75	-33.48	20.79	-54.27	peak
4	0.2942	63.32	-101.85	-38.53	18.23	-56.76	peak
5	0.3800	60.02	-101.94	-41.92	16.01	-57.93	peak
6	0.4062	59.64	-101.96	-42.32	15.43	-57.75	peak



Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Loop Antenna Face On To The EUT	Test Voltage:	DC 12 V

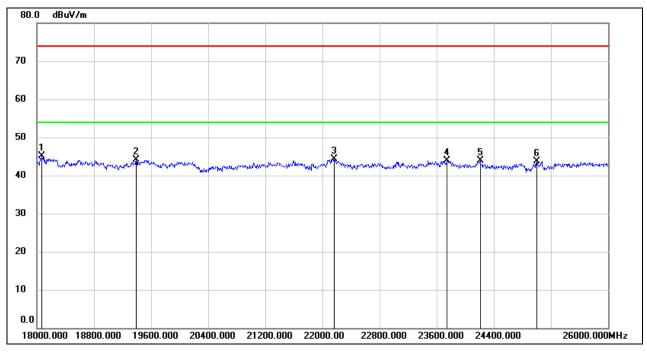


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.6671	62.75	-62.10	0.65	31.12	-30.47	peak
2	1.5564	58.68	-62.02	-3.34	23.76	-27.10	peak
3	2.1463	56.77	-61.79	-5.02	29.54	-34.56	peak
4	7.3361	55.58	-61.17	-5.59	29.54	-35.13	peak
5	10.7299	54.98	-60.83	-5.85	29.54	-35.39	peak
6	23.4783	55.24	-60.56	-5.32	29.54	-34.86	peak



# 8.5. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

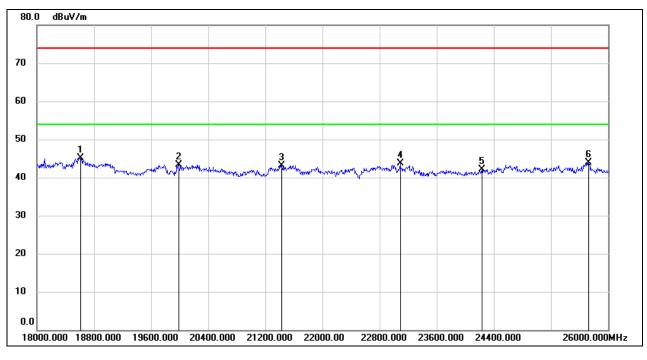
Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18072.000	50.45	-5.43	45.02	74.00	-28.98	peak
2	19392.000	49.62	-5.57	44.05	74.00	-29.95	peak
3	22160.000	48.58	-4.31	44.27	74.00	-29.73	peak
4	23744.000	47.15	-3.20	43.95	74.00	-30.05	peak
5	24208.000	46.71	-2.81	43.90	74.00	-30.10	peak
6	25000.000	45.86	-2.10	43.76	74.00	-30.24	peak



Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V

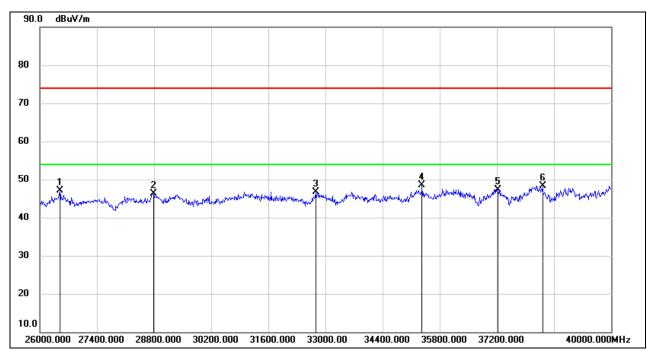


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18616.000	50.39	-5.34	45.05	74.00	-28.95	peak
2	19984.000	48.71	-5.44	43.27	74.00	-30.73	peak
3	21432.000	47.74	-4.71	43.03	74.00	-30.97	peak
4	23088.000	47.02	-3.41	43.61	74.00	-30.39	peak
5	24232.000	44.96	-2.82	42.14	74.00	-31.86	peak
6	25728.000	44.61	-0.72	43.89	74.00	-30.11	peak



# 8.6. SPURIOUS EMISSIONS (26 GHz ~ 40 GHz)

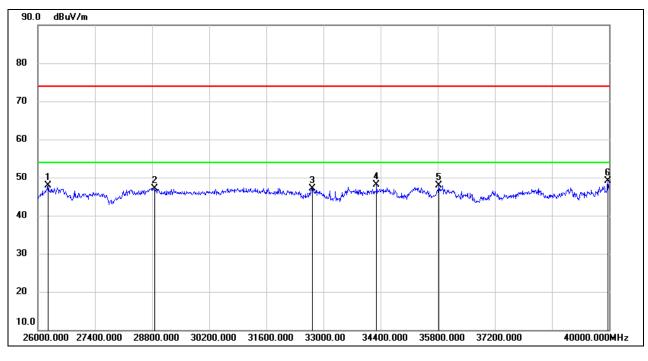
Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	26490.000	51.79	-4.74	47.05	74.00	-26.95	peak
2	28786.000	46.99	-0.64	46.35	74.00	-27.65	peak
3	32762.000	47.95	-1.21	46.74	74.00	-27.26	peak
4	35366.000	45.90	2.59	48.49	74.00	-25.51	peak
5	37228.000	44.23	3.14	47.37	74.00	-26.63	peak
6	38320.000	44.56	3.77	48.33	74.00	-25.67	peak



Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Vertical	Test Voltage:	DC 12 V

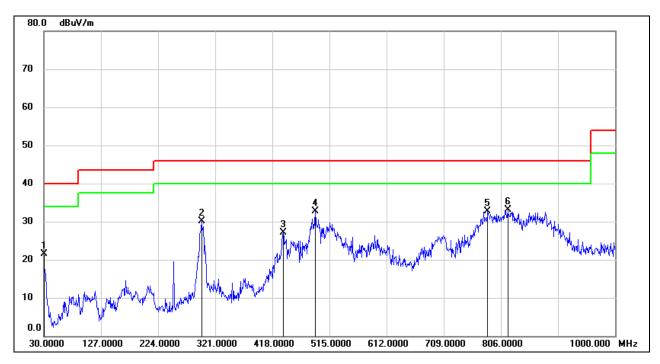


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	26252.000	53.18	-5.35	47.83	74.00	-26.17	peak
2	28870.000	48.10	-0.95	47.15	74.00	-26.85	peak
3	32720.000	48.38	-1.28	47.10	74.00	-26.90	peak
4	34302.000	46.95	1.10	48.05	74.00	-25.95	peak
5	35828.000	44.25	3.67	47.92	74.00	-26.08	peak
6	39972.000	43.95	5.13	49.08	74.00	-24.92	peak



# 8.7. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

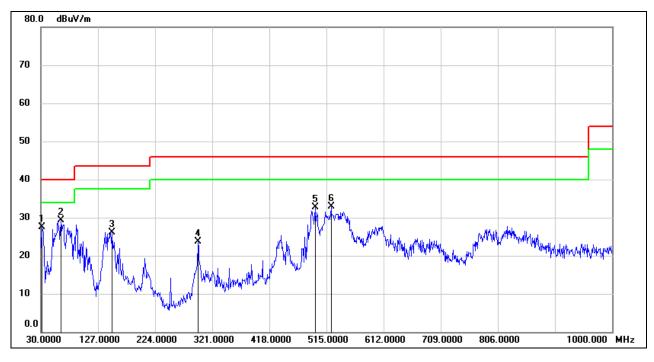
Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.0000	40.53	-18.94	21.59	40.00	-18.41	QP
2	297.7200	45.60	-15.44	30.16	46.00	-15.84	QP
3	436.4300	39.68	-12.63	27.05	46.00	-18.95	QP
4	490.7500	44.47	-11.68	32.79	46.00	-13.21	QP
5	783.6900	40.26	-7.53	32.73	46.00	-13.27	QP
6	817.6400	39.96	-6.95	33.01	46.00	-12.99	QP



Test Mode:	802.11ax HE160	Channel:	6185 MHz
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	31.9400	46.72	-19.13	27.59	40.00	-12.41	QP
2	63.9500	49.84	-20.53	29.31	40.00	-10.69	QP
3	151.2500	44.38	-18.21	26.17	43.50	-17.33	QP
4	296.7500	39.28	-15.50	23.78	46.00	-22.22	QP
5	495.6000	44.32	-11.57	32.75	46.00	-13.25	QP
6	522.7600	44.01	-11.01	33.00	46.00	-13.00	QP



# 9. AC POWER LINE CONDUCTED EMISSION

## LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

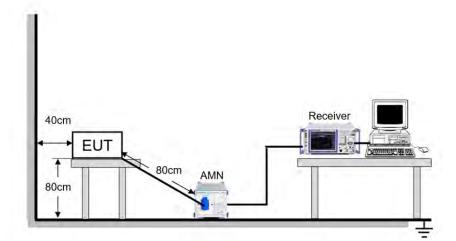
#### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

### TEST SETUP



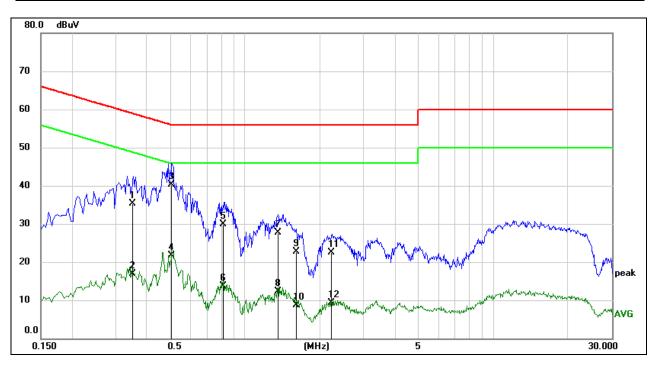
#### **TEST ENVIRONMENT**

Temperature	<b>20</b> .1℃	Relative Humidity	57.7%
Atmosphere Pressure	101kPa	Test Voltage	DC 12 V



## TEST RESULTS

Test Mode:	802.11ax HE160	Channel:	6185 MHz
Line:	L1	Test Voltage	AC 120 V, 60 Hz



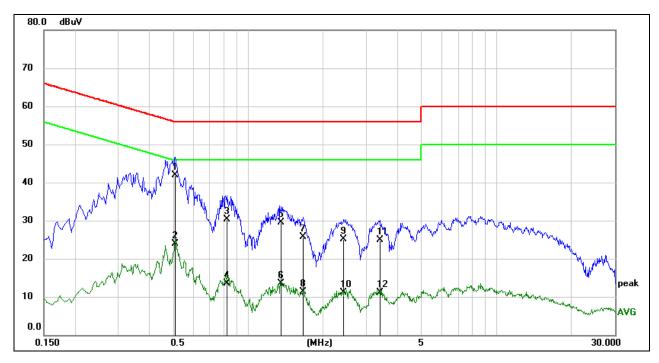
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.3502	25.64	9.59	35.23	58.96	-23.73	QP
2	0.3502	7.33	9.59	16.92	48.96	-32.04	AVG
3	0.5052	30.72	9.60	40.32	56.00	-15.68	QP
4	0.5052	12.07	9.60	21.67	46.00	-24.33	AVG
5	0.8137	20.30	9.60	29.90	56.00	-26.10	QP
6	0.8137	4.19	9.60	13.79	46.00	-32.21	AVG
7	1.3585	18.05	9.61	27.66	56.00	-28.34	QP
8	1.3585	2.75	9.61	12.36	46.00	-33.64	AVG
9	1.6050	13.15	9.62	22.77	56.00	-33.23	QP
10	1.6050	-0.86	9.62	8.76	46.00	-37.24	AVG
11	2.2225	12.79	9.64	22.43	56.00	-33.57	QP
12	2.2225	-0.29	9.64	9.35	46.00	-36.65	AVG

Note:

- 1. Result = Reading + Correct Factor.
- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
- 4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.



Test Mode:	802.11ax HE160	Channel:	6185 MHz
Line:	Ν	Test Voltage	AC 120 V, 60 Hz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.5086	32.33	9.60	41.93	56.00	-14.07	QP
2	0.5086	14.38	9.60	23.98	46.00	-22.02	AVG
3	0.8260	20.75	9.60	30.35	56.00	-25.65	QP
4	0.8260	3.96	9.60	13.56	46.00	-32.44	AVG
5	1.3575	19.83	9.61	29.44	56.00	-26.56	QP
6	1.3575	3.99	9.61	13.60	46.00	-32.40	AVG
7	1.6728	16.02	9.62	25.64	56.00	-30.36	QP
8	1.6728	1.62	9.62	11.24	46.00	-34.76	AVG
9	2.4361	15.39	9.65	25.04	56.00	-30.96	QP
10	2.4361	1.39	9.65	11.04	46.00	-34.96	AVG
11	3.4028	15.20	9.68	24.88	56.00	-31.12	QP
12	3.4028	1.41	9.68	11.09	46.00	-34.91	AVG

Note:

- 1. Result = Reading + Correct Factor.
- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
- 4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.



# **10. FREQUENCY STABILITY**

### <u>LIMITS</u>

The frequency of the carrier signal shall be maintained within band of operation.

### TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between 0  $^{\circ}$ C ~ 40  $^{\circ}$ C (declared by customer).

2. The temperature was incremented by 10 °C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

3. The primary supply voltage is varied from 85 % to 115 % of the nominal value for non handcarried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

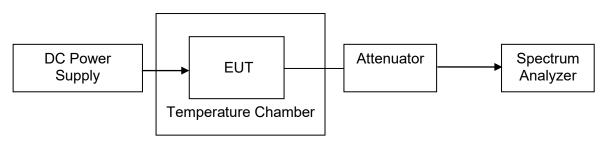
Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Connect the EUT to the spectrum analyser and use the following settings:

4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

### TEST SETUP





### **TEST ENVIRONMENT**

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	20 % - 75 %	/
<b>Atmospheric Pressure</b>	100 kPa ~ 102 kPa	/
Temperature	T <sub>N</sub> (Normal Temperature):	T <sub>L</sub> (Low Temperature): 0 °C
	25.1 °C	T <sub>H</sub> (High Temperature): 40 °C
Supply Voltage	V <sub>N</sub> (Normal Voltage): DC 12 V	V <sub>L</sub> (Low Voltage): DC 10.20 V
Supply Voltage	VN (Normal Voltage). DC 12 V	V <sub>H</sub> (High Voltage): DC 13.80 V

#### **RESULTS**

Please refer to Appendix G.



# 11. CONTENTION BASED PROTOCOL

## APPLICABILITY OF DFS REQUIREMENTS

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 (in which incumbent signal is transmitted) and stay off the incumbent channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm)1. The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain. To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel. For example, an 802.11 device that plans to transmit a 40 MHz- wide signal (on a primary 20 MHz channel and a secondary 20 MHz channel) must detect energy throughout the entire 40 MHz channel. Additionally, low-power indoor devices must detect co-channel energy with 90% or greater certainty.

### a) Simulating Incumbent Signal

The incumbent signal is assumed to be noise-like. One example of such transmission could be Digital Video Broadcasting (DVB) systems that use Orthogonal Frequency Division Multiplexing (OFDM). Incumbent systems may also use different bandwidths for their transmissions. A 10 MHz-wide additive white Gaussian noise (AWGN) signal is selected to simulate and represent incumbent transmission.

### b) Required number of tests

Incumbent and EUT (access point, subordinate or client) signals may occupy different portions of the channel. Depending on the EUT transmission bandwidth and incumbent signal center frequency (simulated by a 10 MHz-wide AWGN signal), the center frequency of the EUT signal *ffcc*1 may fall within the incumbent's occupied bandwidth (Figure 1.a), or outside of it (Figure 1.b).

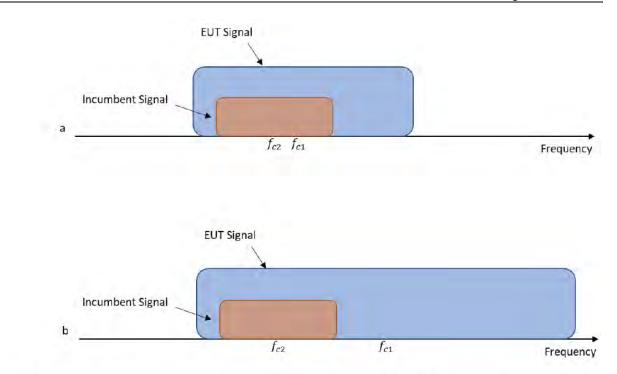


Figure 1. Two possible scenarios where a) center frequency of EUT transmission falls within incumbent's bandwidth, or b) outside of it

To ensure EUT reliably detects an incumbent signal in both scenarios shown in Figure 1, the detection threshold test may be repeated more than once with the incumbent signal (having center frequency ffcc2) tuned to different center frequencies within the UT transmission bandwidth. The criteria specified in Table 1 determines how many times the detection threshold test must be performed;

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leq BW_{Inc}$	Once	Tune incumbent and EUT transmissions $(f_{c1} = f_{c2})$
$BW_{Inc} < BW_{EUT} \le 2BW_{Inc}$	Once	Incumbent transmission is contained within $BW_{EUT}$
$2BW_{Inc} < BW_{EUT} \le 4BW_{Inc}$	Twice. Incumbent transmission is contained within $BW_{EUT}$	Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel
$BW_{EUT} > 4BW_{Inc}$	Three times	Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel

Table 1. Criteria to determine number of times detection threshold test may be performed



## where:

 $BW_{\mbox{\scriptsize EUT}}$ : Transmission bandwidth of EUT signal

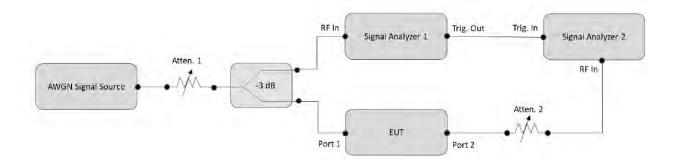
BW<sub>Inc</sub>: Transmission bandwidth of the simulated incumbent signal (10 MHz wide AWGN signal)

 $f_{c1}$ : Center frequency of EUT transmission

f c2: Center frequency of simulated incumbent signal

# TEST SETUP AND PROCEDURE

To ensure the EUT is capable of detecting co-channel energy, the first step is to configure the EUT to transmit with a constant duty cycle.2 To simulate an incumbent signal, a signal generator (or similar source) that is capable of generating band-limited additive white Gaussian noise (AWGN) is required. Depending on the EUT antenna configuration, the AWGN signal can be provided to the EUT receiver via a conducted method (Figure 2) or a radiated method (Figure 3). Figure 2 shows the conducted test setup where a band-limited AWGN signal is generated at a very low power level and injected into the EUT's antenna port. The AWGN signal power level is then incrementally increased while the EUT transmission is monitored on a signal analyzer 2 to verify if the EUT can sense the AWGN signal and can subsequently cease its transmission. A triggered measurement, as shown in Figure 2, is optional, and assists with determining the time it takes the EUT to cease transmission (or vacate the channel) upon detecting RF energy. If the EUT has only one antenna port, then an AWGN signal source can be connected to the same antenna port.



1. Configure the EUT to transmit with a constant duty cycle.

2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth.

3. Set the signal analyzer center frequency to the nominal EEUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.

Connect the output port of the EUT to the signal analyzer 2, as shown in Figure 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver. 4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.

5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.

6. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.

7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.



8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.

9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty. 10. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal and repeat the process.

#### TEST ENVIRONMENT

Temperature	23.4 °C	Relative Humidity	56.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

#### **RESULTS**

Please refer to Appendix F.



# 12. ANTENNA REQUIREMENTS

# APPLICABLE REQUIREMENTS

# Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

# Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

## **RESULTS**

Complies



## 12.1. Appendix A1: Emission Bandwidth 12.1.1. Test Result

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
	Ant1	6115	21.280	6104.400	6125.680	PASS
	Ant2	6115	21.760	6104.120	6125.880	PASS
	Ant1	6275	21.400	6264.240	6285.640	PASS
	Ant2	6275	21.240	6264.560	6285.800	PASS
	Ant1	6415	22.000	6404.000	6426.000	PASS
	Ant2	6415	21.240	6404.280	6425.520	PASS
	Ant1	6435	21.960	6423.960	6445.920	PASS
	Ant2	6435	21.520	6424.280	6445.800	PASS
	Ant1	6475	21.400	6464.520	6485.920	PASS
	Ant2	6475	21.080	6464.360	6485.440	PASS
	Ant1	6515	21.560	6504.040	6525.600	PASS
11AX20MIMO	Ant2	6515	21.520	6504.000	6525.520	PASS
ΠΑΛΖΟΙΝΠΝΙΟ	Ant1	6535	21.240	6524.280	6545.520	PASS
	Ant2	6535	21.000	6524.600	6545.600	PASS
	Ant1	6715	21.400	6704.360	6725.760	PASS
	Ant2	6715	21.160	6704.240	6725.400	PASS
	Ant1	6875	21.080	6864.480	6885.560	PASS
	Ant2	6875	21.120	6864.560	6885.680	PASS
	Ant1	6895	21.200	6884.400	6905.600	PASS
	Ant2	6895	21.320	6884.400	6905.720	PASS
	Ant1	7015	21.360	7004.440	7025.800	PASS
	Ant2	7015	21.160	7004.280	7025.440	PASS
	Ant1	7095	23.240	7082.960	7106.200	PASS
	Ant2	7095	22.240	7083.560	7105.800	PASS
	Ant1	6125	39.520	6105.320	6144.840	PASS
	Ant2	6125	39.440	6105.320	6144.760	PASS
	Ant1	6285	39.680	6265.160	6304.840	PASS
	Ant2	6285	39.600	6265.240	6304.840	PASS
	Ant1	6405	39.680	6385.160	6424.840	PASS
	Ant2	6405	39.600	6385.320	6424.920	PASS
	Ant1	6445	39.600	6425.320	6464.920	PASS
	Ant2	6445	39.440	6425.400	6464.840	PASS
	Ant1	6485	39.600	6465.240	6504.840	PASS
	Ant2	6485	39.600	6465.240	6504.840	PASS
11AX40MIMO	Ant1	6525	39.600	6505.240	6544.840	PASS
	Ant2	6525	39.600	6505.240	6544.840	PASS
	Ant1	6725	39.600	6705.240	6744.840	PASS
	Ant2	6725	39.600	6705.160	6744.760	PASS
	Ant1	6845	39.680	6825.160	6864.840	PASS
	Ant2	6845	39.440	6825.320	6864.760	PASS
	Ant1	6885	39.680	6865.160	6904.840	PASS
	Ant2	6885	39.760	6865.080	6904.840	PASS
	Ant1	7005	39.760	6985.160	7024.920	PASS
	Ant2	7005	39.680	6985.160	7024.840	PASS
	Ant1	7085	44.560	7065.400	7109.960	PASS
	Ant2	7085	43.040	7065.240	7108.280	PASS
	Ant1	6145	80.000	6105.160	6185.160	PASS
	Ant2	6145	80.000	6105.160	6185.160	PASS
	Ant1	6225	80.320	6185.000	6265.320	PASS
11AX80MIMO	Ant2	6225	80.320	6185.000	6265.320	PASS
	Ant1	6385	80.000	6345.160	6425.160	PASS
	Ant2	6385	80.000	6345.160	6425.160	PASS
	Ant1	6465	80.160	6425.000	6505.160	PASS
	Ant2	6465	80.160	6425.000	6505.160	PASS

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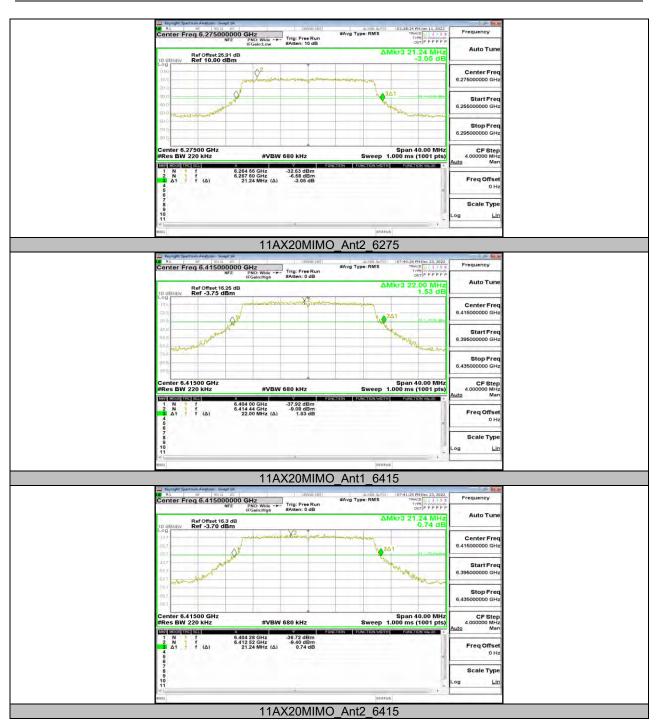
	Ant1	6545	80.640	6504.840	6585.480	PASS
	Ant2	6545	80.320	6504.840	6585.160	PASS
	Ant1	6705	80.320	6665.000	6745.320	PASS
	Ant2	6705	80.160	6665.000	6745.160	PASS
	Ant1	6865	80.480	6824.840	6905.320	PASS
	Ant2	6865	80.320	6824.840	6905.160	PASS
	Ant1	6945	80.320	6905.160	6985.480	PASS
	Ant2	6945	80.320	6905.000	6985.320	PASS
	Ant1	7025	86.240	6979.240	7065.480	PASS
	Ant2	7025	84.320	6984.520	7068.840	PASS
	Ant1	6185	161.280	6104.360	6265.640	PASS
	Ant2	6185	161.280	6104.360	6265.640	PASS
	Ant1	6345	161.280	6264.360	6425.640	PASS
	Ant2	6345	161.280	6264.360	6425.640	PASS
	Ant1	6505	161.280	6424.360	6585.640	PASS
11AX160MIMO	Ant2	6505	161.280	6424.360	6585.640	PASS
	Ant1	6665	161.280	6584.360	6745.640	PASS
	Ant2	6665	161.280	6584.360	6745.640	PASS
	Ant1	6825	161.280	6744.360	6905.640	PASS
	Ant2	6825	161.280	6744.360	6905.640	PASS
	Ant1	6985	161.600	6904.360	7065.960	PASS
	Ant2	6985	162.240	6904.040	7066.280	PASS



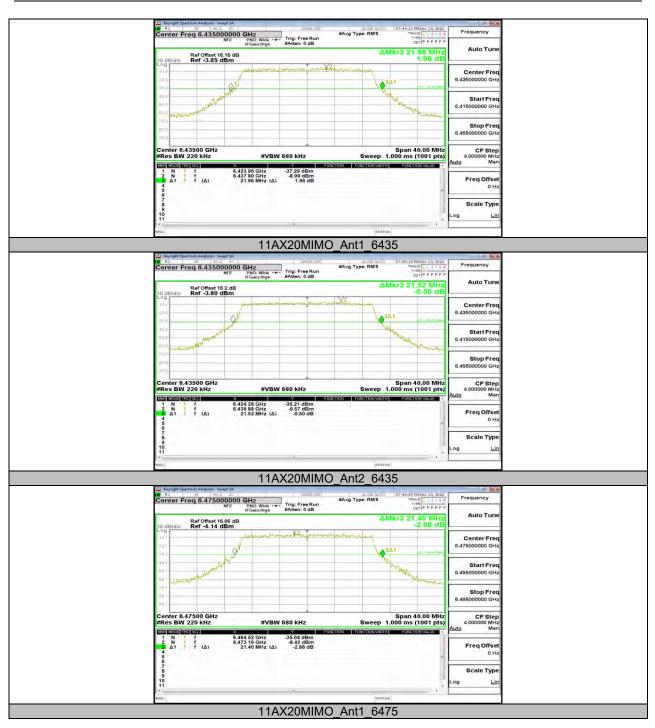


# 12.1.2. Test Graphs









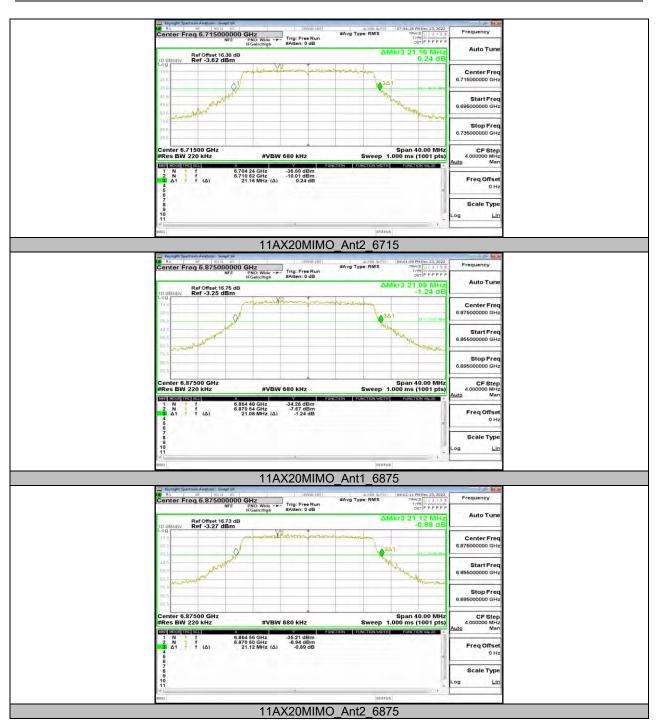




















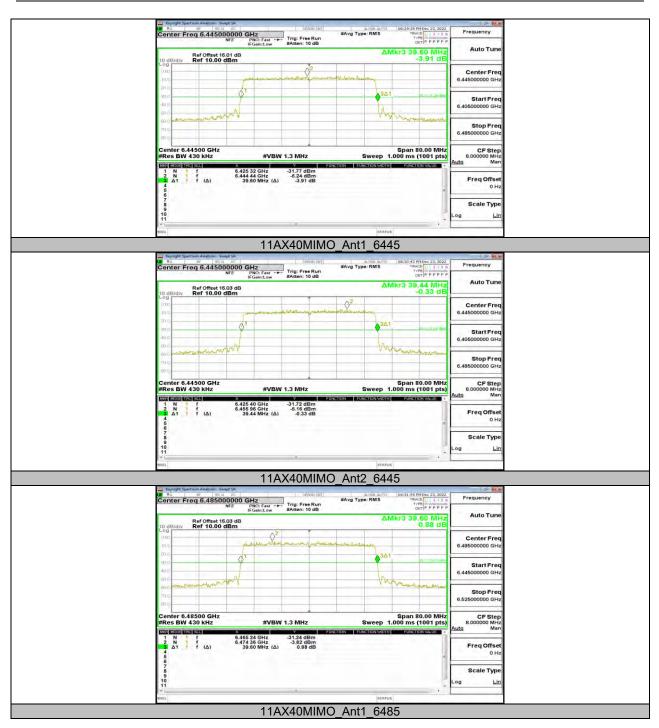








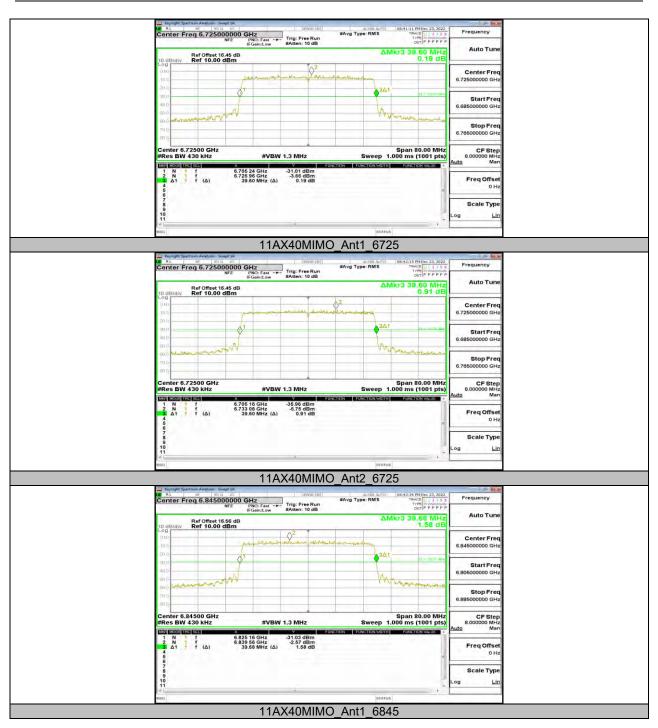


































































## 12.2. Appendix A2: Occupied Channel Bandwidth 12.2.1. Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11AX20MIMO	Ant1	6115	19.054	6105.5282	6124.5822	PASS
	Ant2	6115	19.048	6105.5299	6124.5779	PASS
	Ant1	6275	19.098	6265.4606	6284.5586	PASS
	Ant2	6275	19.130	6265.4715	6284.6015	PASS
	Ant1	6415	19.034	6405.4707	6424.5047	PASS
	Ant2	6415	19.141	6405.4269	6424.5679	PASS
	Ant1	6435	19.088	6425.4352	6444.5232	PASS
	Ant2	6435	19.052	6425.4625	6444.5145	PASS
	Ant1	6475	19.134	6465.4165	6484.5505	PASS
	Ant2	6475	19.019	6465.4950	6484.5140	PASS
	Ant1	6515	19.023	6505.4792	6524.5022	PASS
	Ant2	6515	19.074	6505.4607	6524.5347	PASS
	Ant1	6535	19.065	6525.4716	6544.5366	PASS
	Ant2	6535	19.018	6525.5208	6544.5388	PASS
	Ant1	6715	19.070	6705.4668	6724.5368	PASS
	Ant2	6715	19.017	6705.4858	6724.5028	PASS
	Ant1	6875	19.215	6865.3650	6884.5800	PASS
	Ant2	6875	19.207	6865.4369	6884.6439	PASS
	Ant1	6895	19.083	6885.4617	6904.5447	PASS
	Ant2	6895	19.045	6885.4901	6904.5351	PASS
	Ant1	7015	18.989	7005.5073	7024.4963	PASS
	Ant2	7015	19.041	7005.4607	7024.5017	PASS
	Ant1	7095	19.135	7085.4384	7104.5734	PASS
	Ant2	7095	19.177	7085.4260	7104.6030	PASS
	Ant1	6125	37.910	6106.1498	6144.0598	PASS
	Ant2	6125	37.843	6106.1740	6144.0170	PASS
	Ant1	6285	37.851	6266.0962	6303.9472	PASS
	Ant2	6285	37.841	6266.0906	6303.9316	PASS
	Ant1	6405	37.786	6386.1321	6423.9181	PASS
	Ant2	6405	37.862	6386.0795	6423.9415	PASS
	Ant1	6445	37.814	6426.1621	6463.9761	PASS
11AX40MIMO	Ant2	6445	37.809	6426.1598	6463.9688	PASS
	Ant1	6485	37.669	6466.1843	6503.8533	PASS
	Ant2	6485	37.781	6466.1183	6503.8993	PASS
	Ant1	6525	37.883	6506.1084	6543.9914	PASS
	Ant2	6525	37.838	6506.1227	6543.9607	PASS
	Ant1	6725	37.799	6706.1558	6743.9548	PASS
	Ant2	6725	37.773	6706.1587	6743.9317	PASS
	Ant1	6845	37.942	6826.0378	6863.9798	PASS
	Ant2	6845	37.767	6826.1338	6863.9008	PASS
	Ant1	6885	37.847	6866.1073	6903.9543	PASS
	Ant2	6885	37.886	6866.0667	6903.9527	PASS
	Ant1	7005	37.816	6986.1340	7023.9500	PASS
	Ant2	7005	37.817	6986.1672	7023.9842	PASS
	Ant1	7085	38.045	7066.0569	7104.1019	PASS
11AX80MIMO	Ant2	7085	37.934	7066.0503	7103.9843	PASS
	Ant1	6145	77.237	6106.5849	6183.8219	PASS
	Ant2	6145	77.280	6106.6351	6183.9151	PASS
	Ant1	6225	77.485	6186.3769	6263.8619	PASS
	Ant2	6225	77.581	6186.3323	6263.9133	PASS
	Ant1	6385	77.153	6346.5050	6423.6580	PASS
	Ant2	6385	77.212	6346.6131	6423.8251	PASS
	Ant1	6465	77.203	6426.6368	6503.8398	PASS
	Ant2	6465	77.072	6426.6352	6503.7072	PASS

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	Ant1	6545	77.405	6506.3768	6583.7818	PASS
	Ant2	6545	77.264	6506.4807	6583.7447	PASS
	Ant1	6705	77.303	6666.6007	6743.9037	PASS
	Ant2	6705	77.116	6666.7015	6743.8175	PASS
	Ant1	6865	77.599	6826.3247	6903.9237	PASS
	Ant2	6865	77.615	6826.3673	6903.9823	PASS
	Ant1	6945	77.061	6906.7682	6983.8292	PASS
	Ant2	6945	77.361	6906.4860	6983.8470	PASS
	Ant1	7025	77.738	6986.3087	7064.0467	PASS
	Ant2	7025	77.655	6986.3464	7064.0014	PASS
11AX160MIMO	Ant1	6185	156.54	6106.9088	6263.4488	PASS
	Ant2	6185	156.53	6107.2249	6263.7549	PASS
	Ant1	6345	156.68	6266.3648	6423.0448	PASS
	Ant2	6345	156.84	6266.2968	6423.1368	PASS
	Ant1	6505	156.61	6426.6313	6583.2413	PASS
	Ant2	6505	156.30	6426.8496	6583.1496	PASS
	Ant1	6665	156.90	6586.6353	6743.5353	PASS
	Ant2	6665	156.87	6586.6080	6743.4780	PASS
	Ant1	6825	156.30	6746.6220	6902.9220	PASS
	Ant2	6825	156.65	6746.4598	6903.1098	PASS
	Ant1	6985	156.77	6906.7781	7063.5481	PASS
	Ant2	6985	156.84	6906.6686	7063.5086	PASS



## Center Freq 6.115000000 GHz Center Freq: 6.115000000 GHz Trig: Free Run Avg|Hold: 100/100 02:24:49 PMJan 11, Radio Std: None Frequency Radio Device: BTS Mkr1 6.12004 GHz -1.7799 dBm Ref Offset 25.91 o Ref 10.00 dBn Center Fred 6.115000000 GHz enter 6.115 GHz Res BW 430 kHz Span 40 MHz Sweep 1 ms CF Step 4.000000 MHz #VBW 1.3 MHz Total Power 9.72 dBm Occupied Bandwidth 19.054 MHz Freq Offse OH 55.148 kHz Transmit Freq Error % of OBW Power 99.00 % x dB Bandwidth 21.39 MHz -26.00 dB x dB 11AX20MIMO\_Ant1\_6115 02:26:10 PMJan 11 Radio Std: None Center Freq 6.115000000 GHz Freque Center Freq: 6.115000000 GHz Trig: Free Run Avg|Hold: 100/100 100 Radio Device: BTS Mkr1 6.11672 GHz -4.3619 dBm Ref Offset 25.88 dE Ref 10.00 dBm • Center Fred 6.115000000 GHz Span 40 MH Sweep 1 m enter 6.115 GHz Res BW 430 kHz CF Step 4.000000 MH #VBW 1.3 MHz Total Power 8.26 dBm Occupied Bandwidth 19.048 MHz Freq Offse 0 H Transmit Freg Error 53.871 kHz % of OBW Power 99.00 % 21.73 MHz x dB Bandwidth x dB -26.00 dB 11AX20MIMO\_Ant2\_6115 RL HF 50 G DC Center Freq 6.27500000 GHz 02:27:56 PMJan 11, Radio Std: None 000 GHz Avg|Hold: 100/100 Frequency Center Freq Trig: Free R Radio Device: BTS 6.27284 GH Ref Offset 25.92 dl Ref 10.00 dBm ٥ Center Free CF Step 4.000000 MH: Mar Span 40 MHz Sweep 1 ms Center 6.275 GHz #Res BW 430 kHz #VBW 1.3 MHz Occupied Bandwidth **Total Power** 9.92 dBm 19.098 MHz Freq Offs Transmit Freq Error 9.563 kHz % of OBW Power 99.00 % 0 H x dB Bandwidth 22.24 MHz x dB -26.00 dB

## 12.2.2. Test Graphs

11AX20MIMO\_Ant1\_6275











