TUV SUD Limited Digitally signed by TUV SUD Limited Date: 2024.10.24 13:35:02 +01'00'

Protocol	Unwanted Emissions Within the RLAN Band	
	Margin (dB)	Frequency (MHz)
802.11ax HE20 SU SP	12.09	6443.000
802.11ax HE40 SU SP	5.82	6522.194
802.11ax HE80 SU SP	4.33	6560.000
802.11ax HE160 SU SP	5.64	5928.500

Table 319 - Unwanted Emissions Within the RLAN Band Summary Results

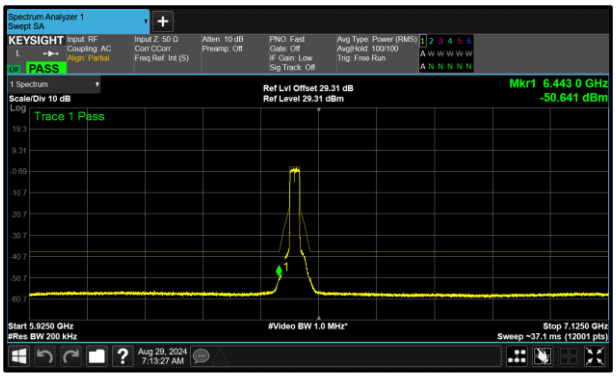

Figure 253 - A (Core 0) 802.11ax HE20 SU SP 6475 MHz (CH105)

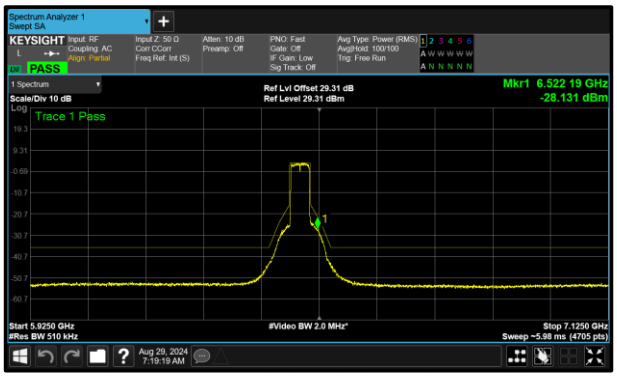

Figure 254 - A (Core 0) 802.11ax HE40 SU SP 6485 MHz (CH107)

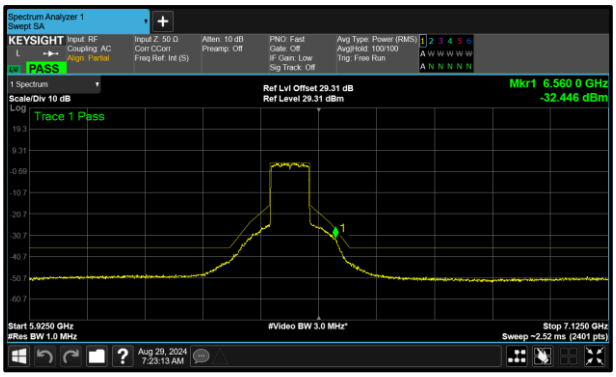

Figure 255 - A (Core 0) 802.11ax HE80 SU SP 6465 MHz (CH103)

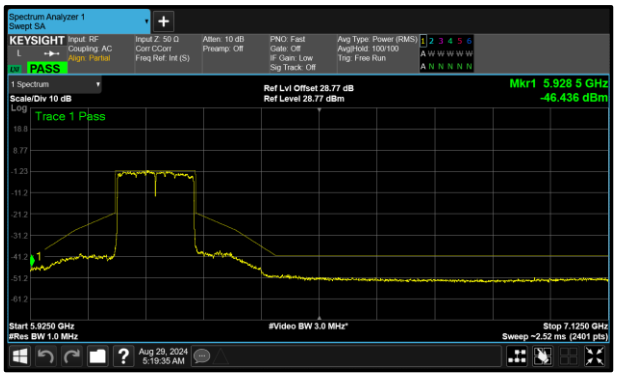

Figure 256 - A (Core 0) 802.11ax HE160 SU SP 6185 MHz (CH47)

Protocol	Unwanted Emissions Within the RLAN Band	
	Margin (dB)	Frequency (MHz)
802.11ax HE20 RU106 SP	16.76	6118.300
802.11ax HE20 RU26 SP	15.95	6425.700
802.11ax HE20 RU52 SP	15.58	6865.800

Table 320 - Unwanted Emissions Within the RLAN Band Summary Results

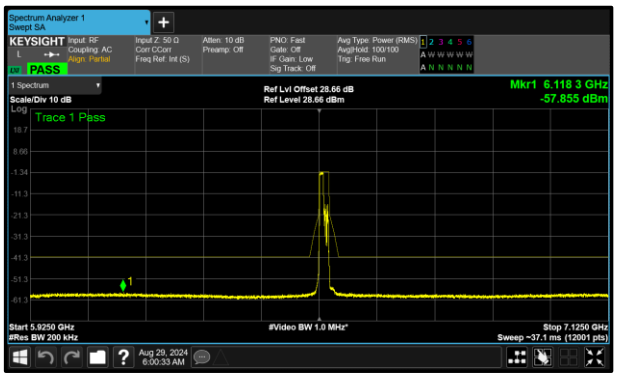

Figure 257 - B (Core 1) 802.11ax HE20 RU106 SP 6535 MHz (CH117)

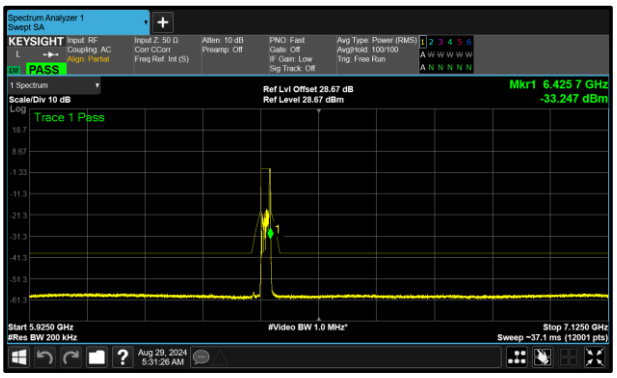

Figure 258 - B (Core 1) 802.11ax HE20 RU26 SP 6415 MHz (CH93)

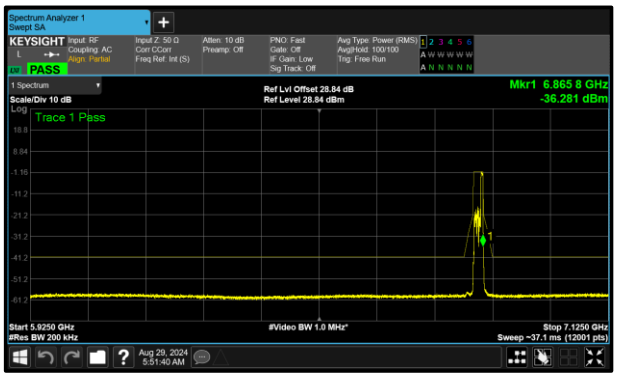

Figure 259 - B (Core 1) 802.11ax HE20 RU52 SP 6855 MHz (CH181)

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5955	16.33	16.65	-	-
6175	16.04	16.29	-	-
6415	14.92	15.96	-	-
6435	12.80	13.82	-	-
6475	12.09	13.13	-	-
6515	13.06	13.29	-	-
6535	15.98	15.86	-	-
6695	15.71	16.07	-	-
6855	15.58	16.10	-	-

Table 321 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE40 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5965	11.99	12.38	-	-
6165	8.69	10.77	-	-
6405	6.60	7.45	-	-
6445	6.01	7.34	-	-
6485	5.82	7.43	-	-
6525	8.59	9.80	-	-
6565	8.51	9.78	-	-
6685	8.20	7.71	-	-
6845	8.84	8.50	-	-

Table 322 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE80 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5985	10.20	10.90	-	-
6145	7.21	7.70	-	-
6465	4.33	4.48	-	-
6545	6.47	8.34	-	-
6385	5.15	5.61	-	-
6625	6.53	7.46	-	-
6705	6.02	8.12	-	-
6785	6.43	8.06	-	-

Table 323 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE160 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6025	8.61	7.69	-	-
6185	5.64	5.91	-	-
6345	5.75	6.40	-	-
6505	6.78	7.38	-	-
6665	6.67	7.58	-	-

Table 324 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 RU26 SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5955 (RU26.0)	17.97	17.75	-	-
6175 (RU26.0)	18.12	18.16	-	-
6415 (RU26.8)	17.66	15.95	-	-
6435 (RU26.0)	18.34	17.65	-	-
6475 (RU26.0)	19.09	17.55	-	-
6515 (RU26.8)	18.64	17.01	-	-
6535 (RU26.0)	16.72	17.27	-	-
6695 (RU26.0)	16.92	16.90	-	-
6855 (RU26.8)	16.81	16.58	-	-

Table 325 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 RU52 SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5955 (RU52.37)	17.15	17.72	-	-
6175 (RU52.37)	17.70	17.23	-	-
6415 (RU52.40)	18.09	16.02	-	-
6435 (RU52.37)	18.89	18.54	-	-
6475 (RU52.37)	18.54	18.79	-	-
6515 (RU52.40)	18.64	17.01	-	-
6535 (RU52.37)	16.91	17.39	-	-
6695 (RU52.37)	17.26	17.32	-	-
6855 (RU52.40)	16.98	15.58	-	-

Table 326 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407(b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 RU106 SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5955 (RU106.53)	17.66	17.01	-	-
6175 (RU106.53)	17.30	17.16	-	-
6415 (RU106.54)	18.39	18.40	-	-
6435 (RU106.53)	18.17	18.41	-	-
6475 (RU106.53)	18.06	18.64	-	-
6515 (RU106.54)	18.49	18.37	-	-
6535 (RU106.53)	17.17	16.76	-	-
6695 (RU106.53)	17.28	16.98	-	-
6855 (RU106.54)	17.03	17.13	-	-

Table 327 - Unwanted Emissions Within the Band Results

Protocol	Unwanted Emissions Within the RLAN Band	
	Margin (dB)	Frequency (MHz)
802.11ax HE20 SU VLP	10.29	6132.800
802.11ax HE40 SU VLP	9.51	6310.459
802.11ax HE80 SU VLP	8.42	6960.000
802.11ax HE160 SU VLP	7.76	5932.000

Table 328 - Unwanted Emissions Within the RLAN Band Summary Results

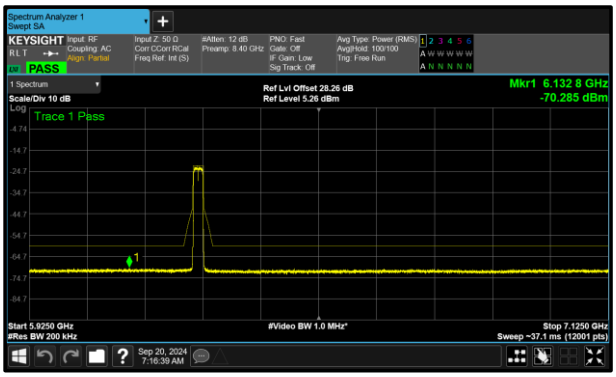

Figure 260 – A (Core 0) 802.11ax HE20 SU VLP 6275 MHz (CH65)

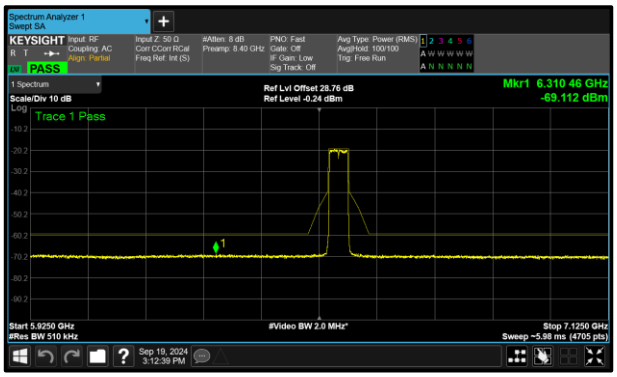

Figure 261 – A (Core 0) 802.11ax HE40 SU VLP 6565 MHz (CH123)

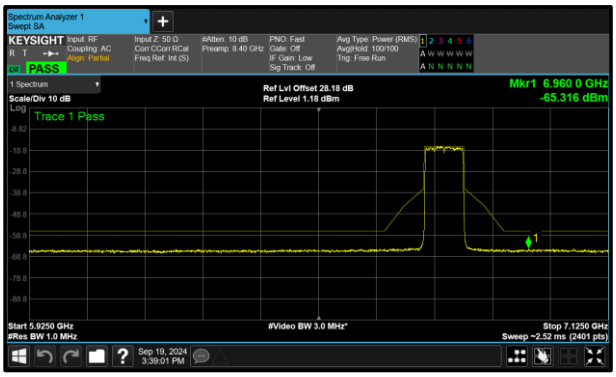

Figure 262 – B (Core 1) 802.11ax HE80 SU VLP 6785 MHz (CH167)

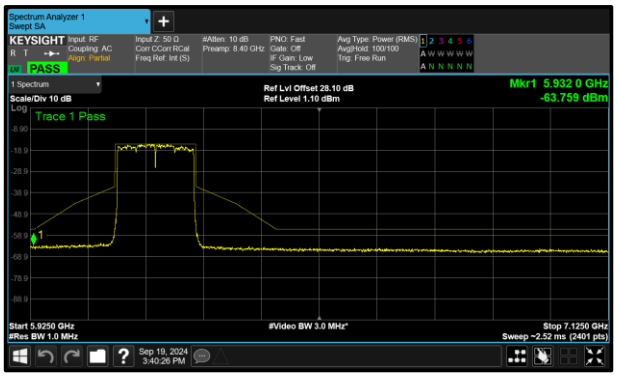

Figure 263 – A (Core 0) 802.11ax HE160 SU VLP 6185 MHz (CH47)

Test Configuration			
Frequency Range:	5.925-6.425 GHz	Band:	U-NII-5
Limit Clause(s):	15.407(b)	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 SU VLP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6275	10.29	10.79	-	-
6335	16.71	16.99	-	-
6415	16.72	17.06	-	-

Table 329 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-7
Limit Clause(s):	15.407(b)	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE40 SU VLP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6125	10.18	10.74	-	-
6285	11.50	11.29	-	-
6405	9.89	11.19	-	-
6565	9.51	10.26	-	-
6685	10.10	10.18	-	-
6845	11.22	11.69	-	-

Table 330 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-7
Limit Clause(s):	15.407(b)	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE80 SU VLP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6145	8.71	10.78	-	-
6305	8.94	9.46	-	-
6385	9.25	9.81	-	-
6625	9.98	9.12	-	-
6705	10.05	10.32	-	-
6785	9.51	8.42	-	-

Table 331 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-7
Limit Clause(s):	15.407(b)	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE160 SU VLP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x2	DCCF (dB):	-
Antenna Configuration:	MIMO SDM	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6185	7.76	8.80	-	-
6345	8.26	8.44	-	-
6665	8.96	9.19	-	-

Table 332 - Unwanted Emissions Within the Band Results

TxBF

Protocol	Unwanted Emissions Within the RLAN Band	
	Margin (dB)	Frequency (MHz)
802.11ax HE40 SU LPI	8.38	6300.510
802.11ax HE80 SU LPI	6.86	6349.000

Table 333 - Unwanted Emissions Within the RLAN Band Summary Results LPI

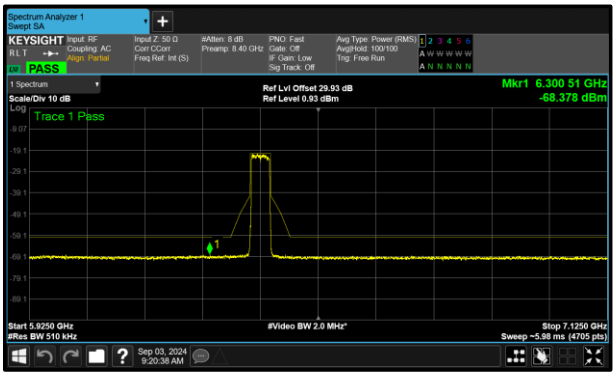

Figure 264 - A (Core 0) 802.11ax HE40 SU LPI 6405 MHz (CH91)

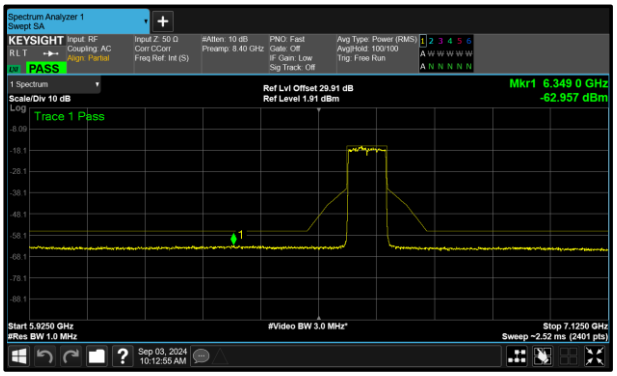

Figure 265 - A (Core 0) 802.11ax HE80 SU LPI 6625 MHz (CH135)

Protocol	Unwanted Emissions Within the RLAN Band	
	Margin (dB)	Frequency (MHz)
802.11ax HE20 SU SP	11.00	5992.900
802.11ax HE40 SU SP	10.06	7080.102
802.11ax HE80 SU SP	7.75	7071.000

Table 334 - Unwanted Emissions Within the RLAN Band Summary Results SP

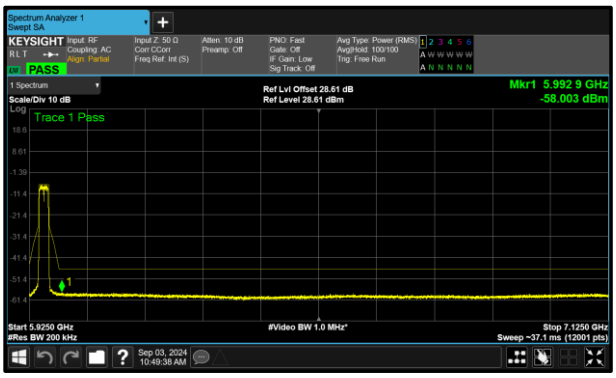

Figure 266 - B (Core 1) 802.11ax HE20 SU SP 5955 MHz (CH1)

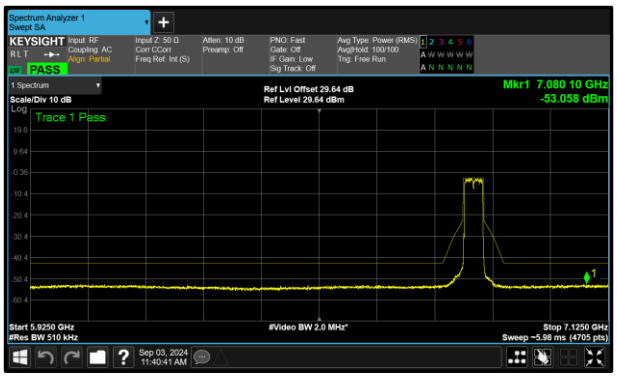

Figure 267 - B (Core 1) 802.11ax HE40 SU SP 6845 MHz (CH179)

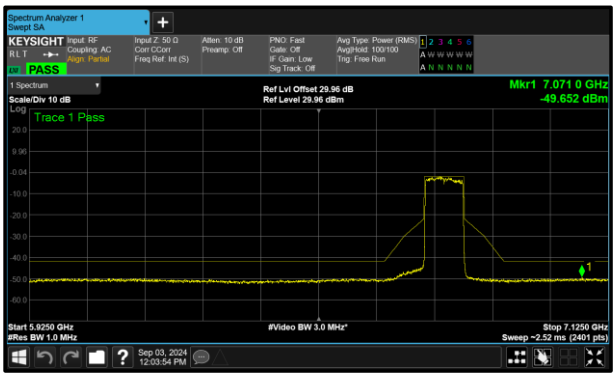

Figure 268 - A (Core 0) 802.11ax HE80 SU SP 6785 MHz (CH167)

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.875-7.125 GHz	Band:	U-NII-5 U-NII-6 U-NII-8
Limit Clause(s):	15.407 (b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE40 SU LPI	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	TxBF	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
6285	9.72	10.54	-	-
6365	9.98	10.46	-	-
6405	8.38	9.98	-	-
6445	9.47	10.10	-	-
6485	9.56	9.82	-	-
6925	10.44	9.37	-	-
7005	9.86	8.86	-	-
7085	10.00	9.77	-	-

Table 335 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6.425-6.525 GHz 6.525-6.875 GHz 6.875-7.125 GHz	Band:	U-NII-5 U-NII-6 U-NII-7 U-NII-8
Limit Clause(s):	15.407 (b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE80 SU LPI	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	TxBF	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5985	9.04	7.92	-	-
6145	9.11	7.16	-	-
6385	10.00	8.50	-	-
6465	9.47	8.18	-	-
6545	9.03	9.82	-	-
6625	6.86	7.78	-	-
6705	8.74	9.01	-	-
6785	8.81	9.22	-	-
6865	9.06	9.35	-	-
6945	10.19	9.56	-	-
7025	10.24	10.21	-	-

Table 336 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6425-6525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407 (b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE20 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	TxBF	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5955	11.87	11.00	-	-
6175	12.01	12.84	-	-
6415	12.34	12.98	-	-
6435	13.55	13.30	-	-
6475	13.93	14.27	-	-
6515	14.07	14.36	-	-
6535	12.12	12.94	-	-
6695	12.57	11.86	-	-
6855	11.99	11.92	-	-

Table 337 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6425-6525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407 (b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE40 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	TxBF	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5965	12.91	13.03	-	-
6165	11.92	13.19	-	-
6405	11.86	12.07	-	-
6445	11.74	11.67	-	-
6485	11.26	12.32	-	-
6525	10.63	10.42	-	-
6565	10.26	10.88	-	-
6685	10.53	10.62	-	-
6845	10.18	10.06	-	-

Table 338 - Unwanted Emissions Within the Band Results

Test Configuration			
Frequency Range:	5.925-6.425 GHz 6425-6525 GHz 6.525-6.875 GHz	Band:	U-NII-5 U-NII-6 U-NII-7
Limit Clause(s):	15.407 (b)(7) RSS-248 4.6.2	Test Method(s):	KDB 987594 clause j

DUT Configuration			
Mode:	802.11ax HE80 SU SP	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	TxBF	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain Id(s):	0+1

Test Frequency (MHz)	Unwanted Emissions Within the RLAN Band Margin (dB)			
	A	B	C	D
5985	8.15	8.55	-	-
6145	8.16	8.79	-	-
6385	9.50	9.24	-	-
6465	8.74	8.83	-	-
6545	8.28	8.23	-	-
6625	9.25	9.49	-	-
6705	9.19	9.93	-	-
6785	7.75	8.07	-	-

Table 339 - Unwanted Emissions Within the Band Results

FCC 47 CFR Part 15, Limit Clause 15.407(b)(6)

For transmitters operating within the 5.925-7.125 GHz bands:

Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel centre, and by 40 dB at one- and one-half times the channel bandwidth away from channel centre. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the centre of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel centre by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

2.8.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18 and RF Laboratory 14.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	07-Nov-2024
1800-6000 MHz Power Splitter	Mini-Circuits	ZN2PD-63-S+	4055	-	O/P Mon
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
Attenuator 5W 30dB DC-18GHz	Aaren	AT40A-4041-D18-30	5505	12	22-Feb-2025
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Dec-2024
2-Way Power Divider (2-8 GHz)	Aaren	AT30A-TE0208-2-AF	5685	12	02-Jan-2025
AC Programmable Power Supply	iTech	IT7324	5907	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5919	24	18-Mar-2026
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Cable (SMA to SMA 1m)	Junkosha	MWX221/B	6305	12	20-May-2025
Cable (SMA to SMA 3m)	Junkosha	MWX221-03000AMSAMS/A	6317	12	23-May-2025
MXA Signal Analyser	Keysight Technologies	N9020B	6417	24	26-Feb-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6426	12	07-Feb-2025
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	6447	-	O/P Mon
Directional Coupler 2-8GHz	RF-Lambda	RFDC2G8G10	6448	-	O/P Mon
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6518	12	16-Feb-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6519	12	08-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6520	12	09-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6521	12	09-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6529	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	16-Feb-2025
AC Programmable Power Supply	iTech	IT7324	6662	-	O/P Mon
WiFi 6E Tri-Band Gaming Router	Asus	GT-AXE110000	6694	-	TU
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6752	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6753	12	06-Feb-2025

Table 340

TU - Traceability Unscheduled
O/P Mon - Output Monitored using calibrated equipment

2.9 Contention Based Protocol

2.9.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (d)(6)

2.9.2 Equipment Under Test and Modification State

A3186, S/N: M6L2V7JQ91 - Modification State 0

2.9.3 Date of Test

06-August-2024

2.9.4 Test Method

This test was performed in accordance with KDB 987594 D02, clause I.

The AWGN signal level was initially set at a level much less than the required threshold level (<< -62 dBm) it was verified at this point that transmissions from the device under test (DUT) were present. The signal level was gradually increased until it was observed that the DUT continuously ceased transmissions with the AWGN signal present, i.e. no partial transmissions other than short control signalling transmissions.

The AWGN Signal level recorded is the level into the DUT's receiver, corrected for all cable losses. The minimum antenna gain value was then used to correct the level as described in KDB 987594 D04.

Timing plots showing verification that transmissions from the DUT responded to the interferer have been included in the test results below.

2.9.5 Test Setup Diagram

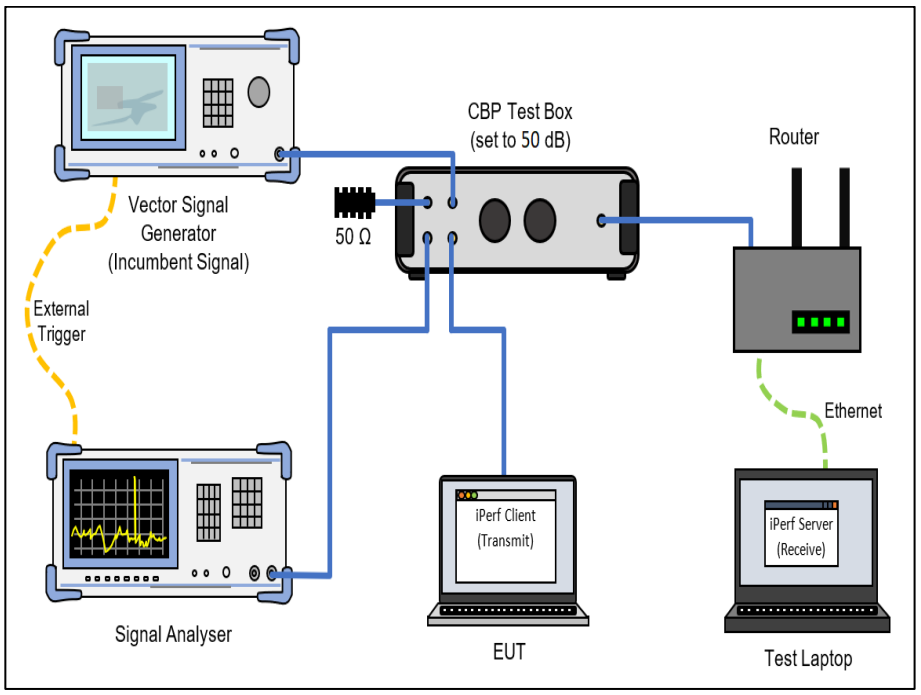

Figure 269 - Test Equipment Setup Diagram

2.9.6 Environmental Conditions

Ambient Temperature	22.8 °C
Relative Humidity	37.3 %

2.9.7 Test Results

6 GHz WLAN

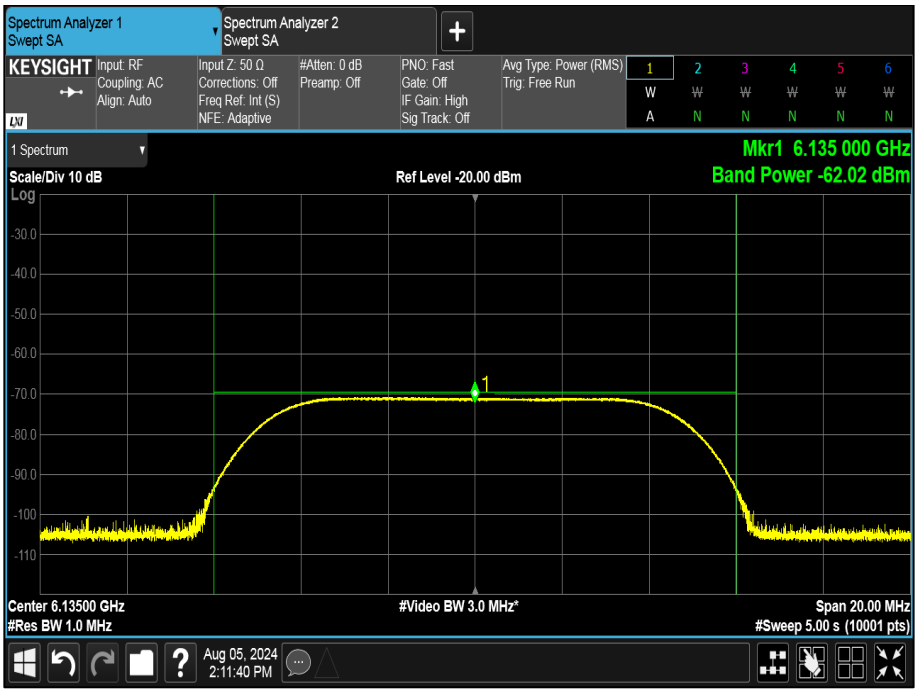

Figure 270 - Example of AWGN Signal

Parameter	Results		
U-NII Band	5	5	5
Channel Number	37	37	37
Bandwidth (MHz)	20	20	20
DUT Centre Frequency (MHz)	6135	6135	6135
AWGN Centre Frequency (MHz)	6135	6135	6135
AWGN Signal Power (dBm)	-69.68	-68.39	-64.66
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.78	-70.49	-66.76
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 341 - U-NII-5, Minimum Bandwidth

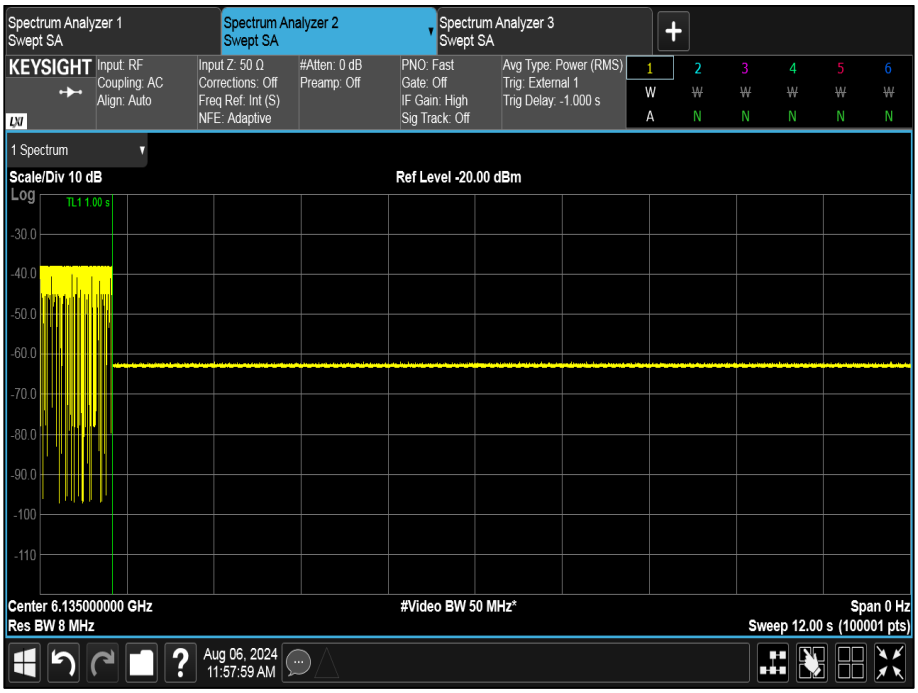

Figure 271 - U-NII-5, Minimum Bandwidth

Parameter	Results		
U-NII Band	5	5	5
Channel Number	47	47	47
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6185	6185	6185
AWGN Centre Frequency (MHz)	6110	6110	6110
AWGN Signal Power (dBm)	-68.48	-66.80	-66.38
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-70.58	-68.90	-68.48
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 342 - U-NII-5, Maximum Bandwidth (AWGN Low)

Figure 272 - U-NII-5, Maximum Bandwidth (AWGN Low)

Parameter	Results		
U-NII Band	5	5	5
Channel Number	47	47	47
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6185	6185	6185
AWGN Centre Frequency (MHz)	6185	6185	6185
AWGN Signal Power (dBm)	-69.46	-66.97	-62.11
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.56	-69.07	-64.21
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 343 - U-NII-5, Maximum Bandwidth (AWGN Mid)

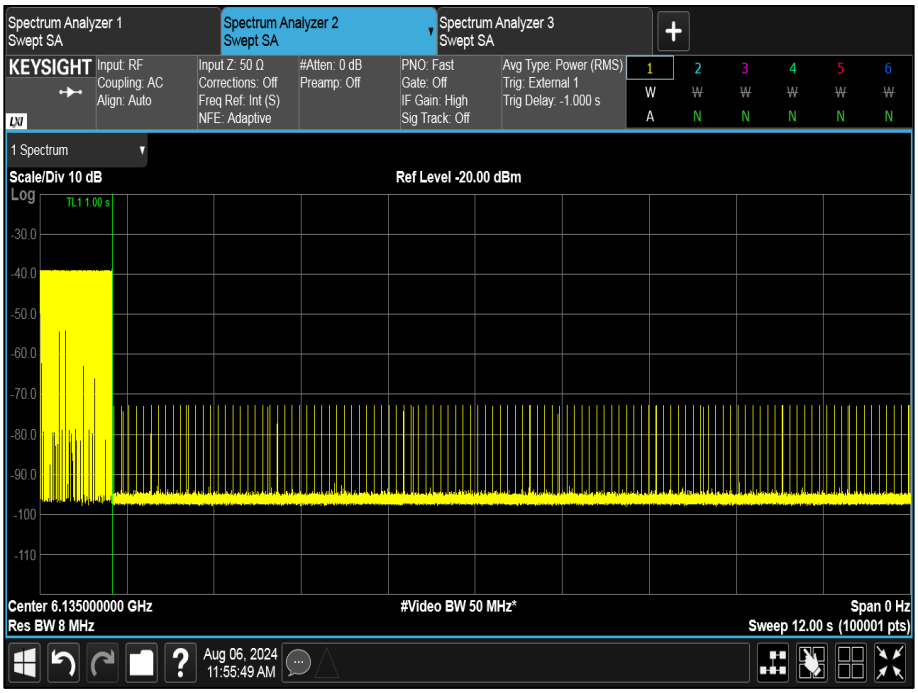

Figure 273 - U-NII-5, Maximum Bandwidth (AWGN Mid)

Parameter	Results		
U-NII Band	5	5	5
Channel Number	47	47	47
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6185	6185	6185
AWGN Centre Frequency (MHz)	6260	6260	6260
AWGN Signal Power (dBm)	-65.93	-64.31	-62.92
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-68.03	-66.41	-65.02
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 344 - U-NII-5, Maximum Bandwidth (AWGN High)

Figure 274 - U-NII-5, Maximum Bandwidth (AWGN High)

Parameter	Results		
U-NII Band	6	6	6
Channel Number	101	101	101
Bandwidth (MHz)	20	20	20
DUT Centre Frequency (MHz)	6455	6455	6455
AWGN Centre Frequency (MHz)	6455	6455	6455
AWGN Signal Power (dBm)	-71.81	-68.73	-66.19
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-73.91	-70.83	-68.29
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 345 - U-NII-6, Minimum Bandwidth

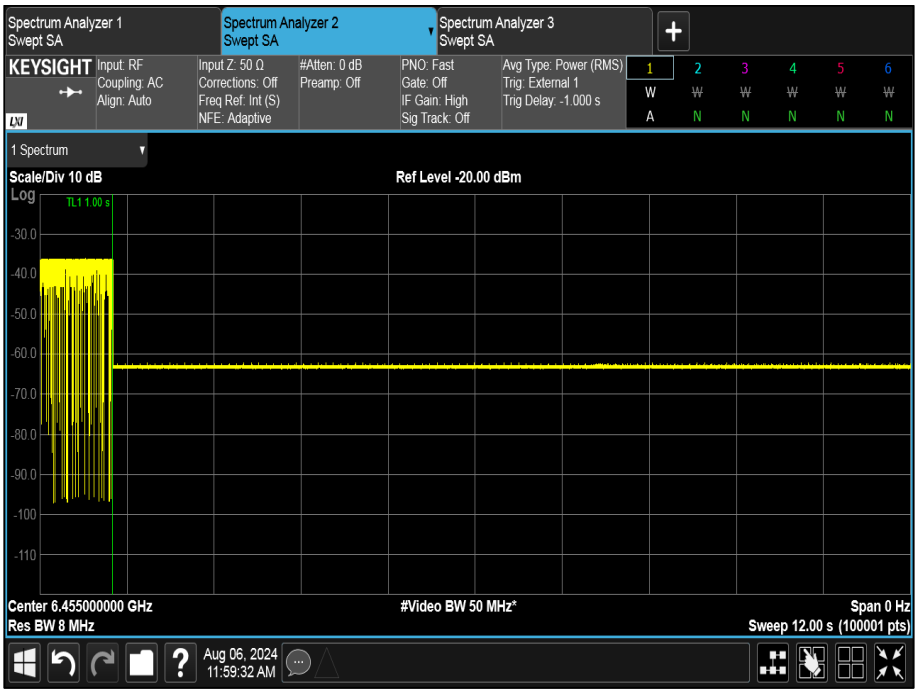

Figure 275 - U-NII-6, Minimum Bandwidth

Parameter	Results		
U-NII Band	6	6	6
Channel Number	111	111	111
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6505	6505	6505
AWGN Centre Frequency (MHz)	6430	6430	6430
AWGN Signal Power (dBm)	-68.69	-65.52	-63.73
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-70.79	-67.62	-65.83
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 346 - U-NII-6, Maximum Bandwidth (AWGN Low)

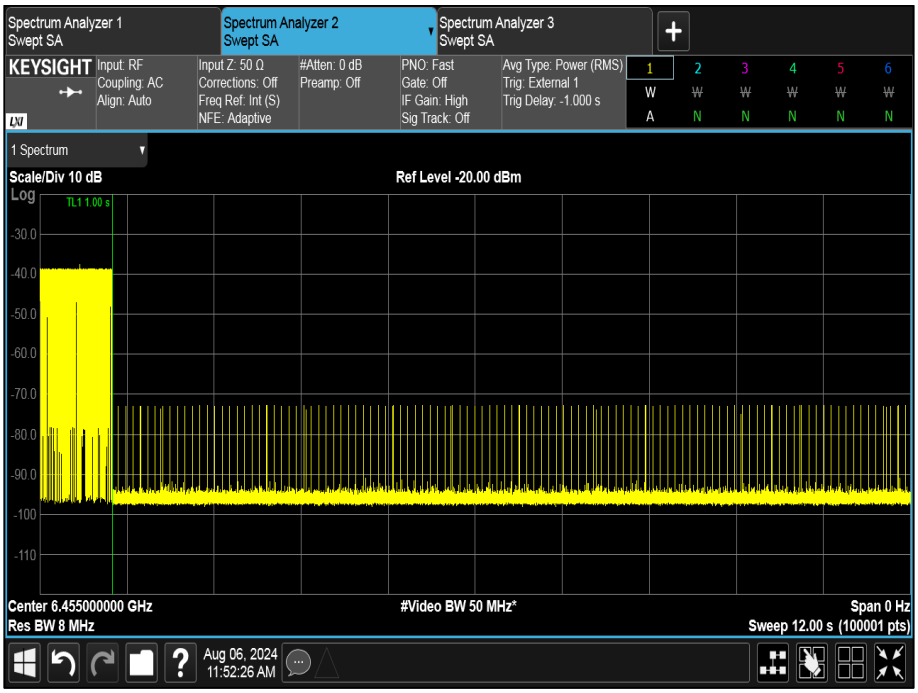

Figure 276 - U-NII-6, Maximum Bandwidth (AWGN Low)

Parameter	Results		
U-NII Band	6	6	6
Channel Number	111	111	111
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6505	6505	6505
AWGN Centre Frequency (MHz)	6505	6505	6505
AWGN Signal Power (dBm)	-69.87	-69.27	-66.97
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.97	-71.37	-69.07
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 347 - U-NII-6, Maximum Bandwidth (AWGN Mid)

Figure 277 - U-NII-6, Maximum Bandwidth (AWGN Mid)

Parameter	Results		
U-NII Band	6	6	6
Channel Number	111	111	111
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6505	6505	6505
AWGN Centre Frequency (MHz)	6580	6580	6580
AWGN Signal Power (dBm)	-65.67	-63.04	-61.75
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-67.77	-65.14	-63.85
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 348 - U-NII-6, Maximum Bandwidth (AWGN High)

Figure 278 - U-NII-6, Maximum Bandwidth (AWGN High)

Parameter	Results		
U-NII Band	7	7	7
Channel Number	133	133	133
Bandwidth (MHz)	20	20	20
DUT Centre Frequency (MHz)	6615	6615	6615
AWGN Centre Frequency (MHz)	6615	6615	6615
AWGN Signal Power (dBm)	-70.73	-69.57	-68.07
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-72.83	-71.67	-70.17
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 349 - U-NII-7, Minimum Bandwidth

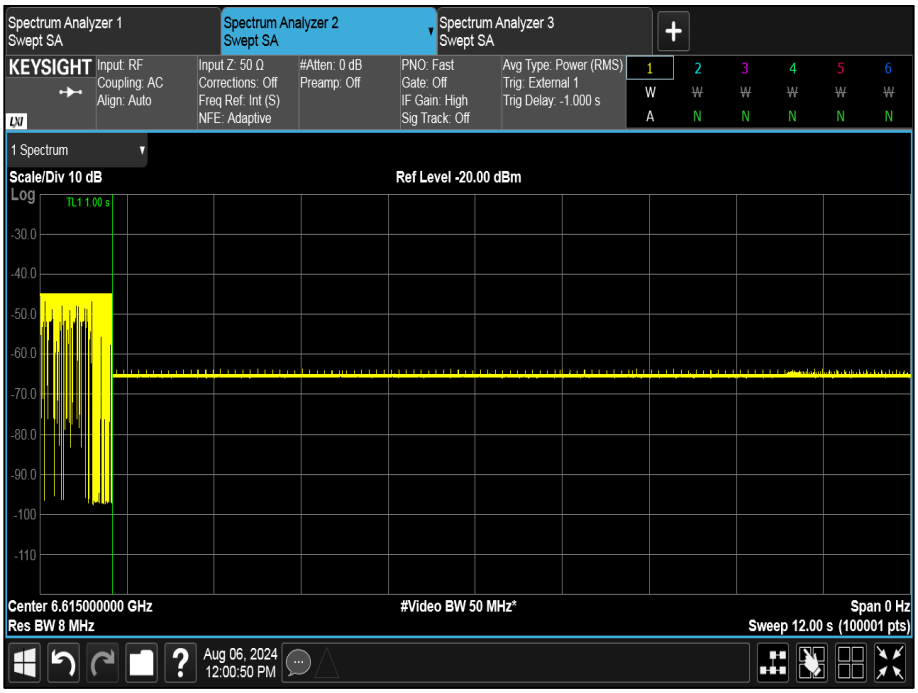

Figure 279 - U-NII-7, Minimum Bandwidth

Parameter	Results		
U-NII Band	7	7	7
Channel Number	143	143	143
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6665	6665	6665
AWGN Centre Frequency (MHz)	6590	6590	6590
AWGN Signal Power (dBm)	-69.16	-67.77	-65.37
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.26	-69.87	-67.47
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 350 - U-NII-7, Maximum Bandwidth (AWGN Low)

Figure 280 - U-NII-7, Maximum Bandwidth (AWGN Low)

Parameter	Results		
U-NII Band	7	7	7
Channel Number	143	143	143
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6665	6665	6665
AWGN Centre Frequency (MHz)	6665	6665	6665
AWGN Signal Power (dBm)	-68.83	-66.84	-63.62
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-70.93	-68.94	-65.72
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 351 - U-NII-7, Maximum Bandwidth (AWGN Mid)

Figure 281 - U-NII-7, Maximum Bandwidth (AWGN Mid)

Parameter	Results		
U-NII Band	7	7	7
Channel Number	143	143	143
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6665	6665	6665
AWGN Centre Frequency (MHz)	6740	6740	6740
AWGN Signal Power (dBm)	-66.02	-65.32	-62.37
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-68.12	-67.42	-64.47
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 352 - U-NII-7, Maximum Bandwidth (AWGN High)

Figure 282 - U-NII-7, Maximum Bandwidth (AWGN High)

Parameter	Results		
U-NII Band	8	8	8
Channel Number	197	197	197
Bandwidth (MHz)	20	20	20
DUT Centre Frequency (MHz)	6935	6935	6935
AWGN Centre Frequency (MHz)	6935	6935	6935
AWGN Signal Power (dBm)	-69.75	-68.35	-67.65
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.85	-70.45	-69.75
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 353 - U-NII-8, Minimum Bandwidth

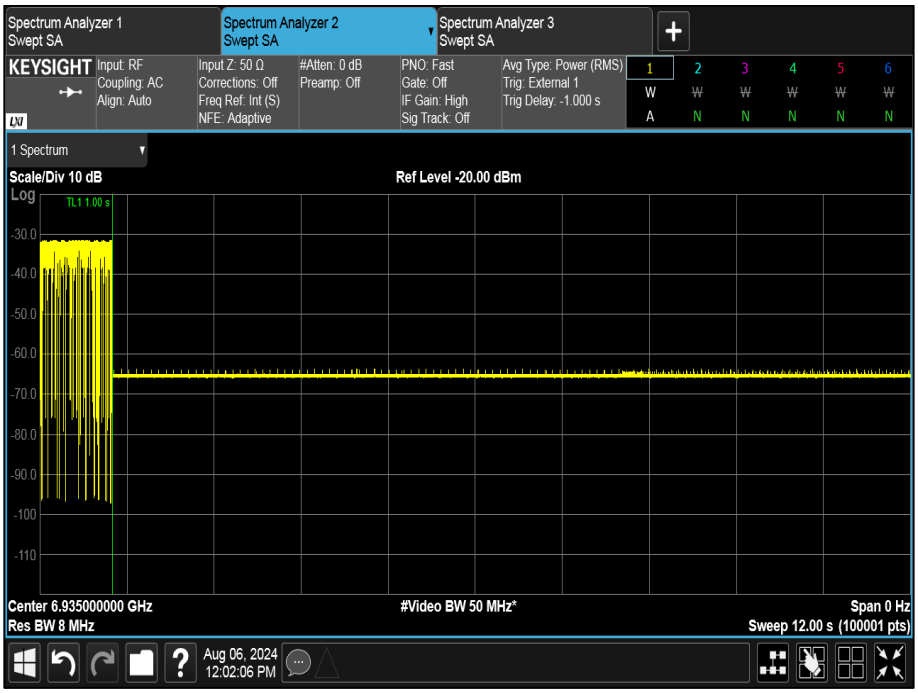

Figure 283 - U-NII-8, Minimum Bandwidth

Parameter	Results		
U-NII Band	8	8	8
Channel Number	207	207	207
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6985	6985	6985
AWGN Centre Frequency (MHz)	6910	6910	6910
AWGN Signal Power (dBm)	-63.41	-62.44	-61.14
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-65.51	-64.54	-63.24
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 354 - U-NII-8, Maximum Bandwidth (AWGN Low)

Figure 284 - U-NII-8, Maximum Bandwidth (AWGN Low)

Parameter	Results		
U-NII Band	8	8	8
Channel Number	207	207	207
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6985	6985	6985
AWGN Centre Frequency (MHz)	6985	6985	6985
AWGN Signal Power (dBm)	-69.42	-67.92	-64.80
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-71.52	-70.02	-66.90
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 355 - U-NII-8, Maximum Bandwidth (AWGN Mid)

Figure 285 - U-NII-8, Maximum Bandwidth (AWGN Mid)

Parameter	Results		
U-NII Band	8	8	8
Channel Number	207	207	207
Bandwidth (MHz)	160	160	160
DUT Centre Frequency (MHz)	6985	6985	6985
AWGN Centre Frequency (MHz)	7060	7060	7060
AWGN Signal Power (dBm)	-65.20	-64.80	-61.71
Antenna Gain (dBi)	2.10	2.10	2.10
Adjusted Power (dBm)	-67.30	-66.90	-63.81
Detection Limit (dBm)	-62.0	-62.0	-62.0
EUT Tx Status (OFF/Minimal/ON)	ON	Minimal	OFF

Table 356 - U-NII-8, Maximum Bandwidth (AWGN High)

Figure 286 - U-NII-8, Maximum Bandwidth (AWGN High)

FCC 47 CFR Part 15.407 (d)(6)

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band must employ a contention-based protocol.

KDB 987594, Limit Clause I

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). 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.

2.9.8 Test Location and Test Equipment Used

This test was carried out in Shielded Laboratory 1.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
EXA Signal Analyser	Keysight Technologies	N9010B	4968	24	29-Jan-2026
Cable (K Type 2m)	Junkosha	MWX241-02000KMS	5421	12	07-Mar-2025
3.5 mm 2m Cable	Junkosha	MWX221-02000DMS	5429	12	16-May-2025
Cable (K Type 2m)	Junkosha	MWX241-02000KMSKMS/B	5936	12	23-May-2025
Cable (K Type 2m)	Junkosha	MWX241-02000KMSKMS/B	5938	12	23-May-2025
WiFi 6E Tri-Band Gaming Router	Asus	GT-AXE110000	6251	-	TU
Thermohygrometer	R.S Components	1364	6352	12	13-Jun-2025
Test Coupling Network	TUV SUD	TUV_RxTest_001	6387	12	04-Sep-2024
Vector Signal Generator (7.5GHz)	Rohde & Schwarz	SMM100A	6532	36	11-Apr-2026

Table 357

TU - Traceability Unscheduled

3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Emission Bandwidth	± 3.91 MHz
Dual Client Test	± 1.38 dB
Transmit Power Control	± 1.49 dB
Maximum Conducted Output Power	± 1.38 dB
Maximum Conducted Power Spectral Density	± 1.49 dB
Authorised Band Edges	± 6.3 dB
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Unwanted Emissions within the 5925-7125 MHz band	± 3.45 dB
Contention Based Protocol	Time: 0.30% Interferer BW: 267.98 kHz Interferer Level: 0.80 dB

Table 358

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.