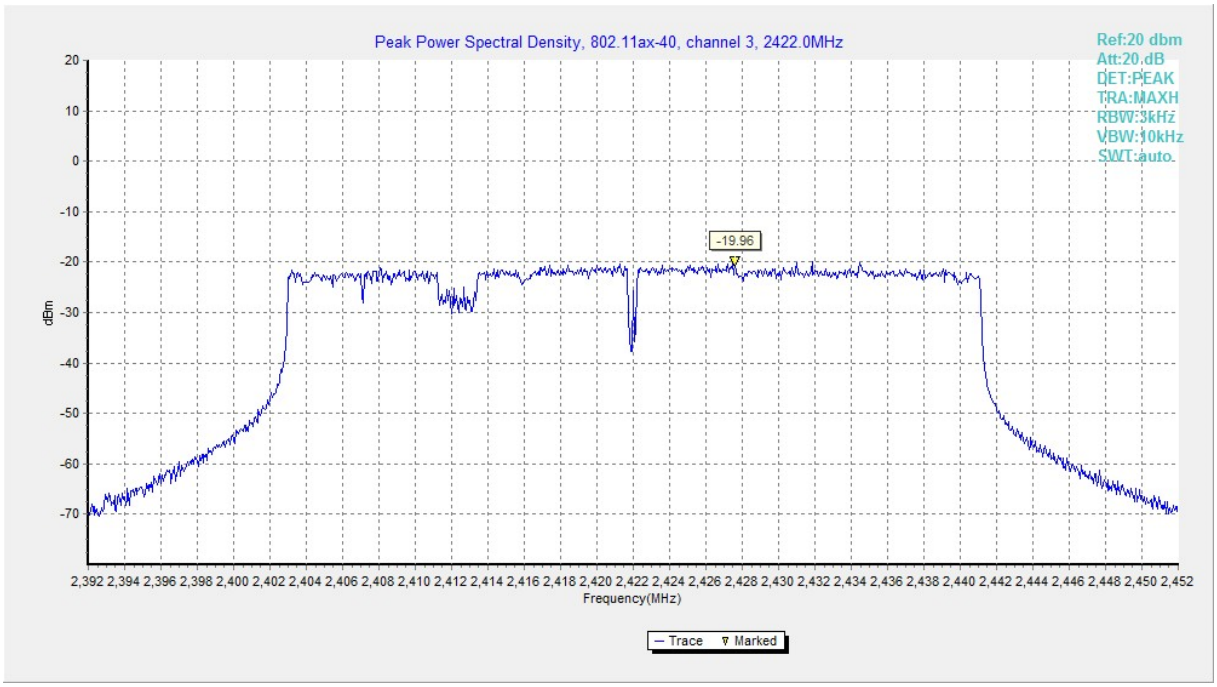

Fig.A.3.52 Power Spectral Density (802.11ax-HE40, Ch 3)

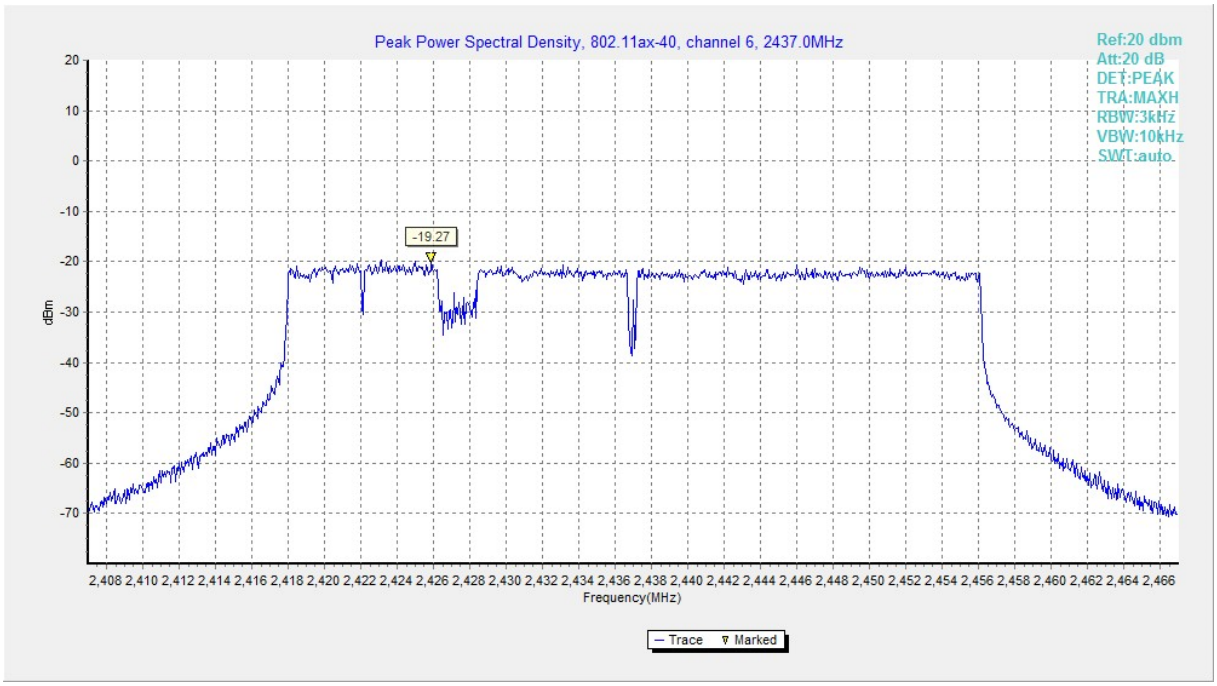

Fig.A.3.53 Power Spectral Density (802.11ax-HE40, Ch 6)

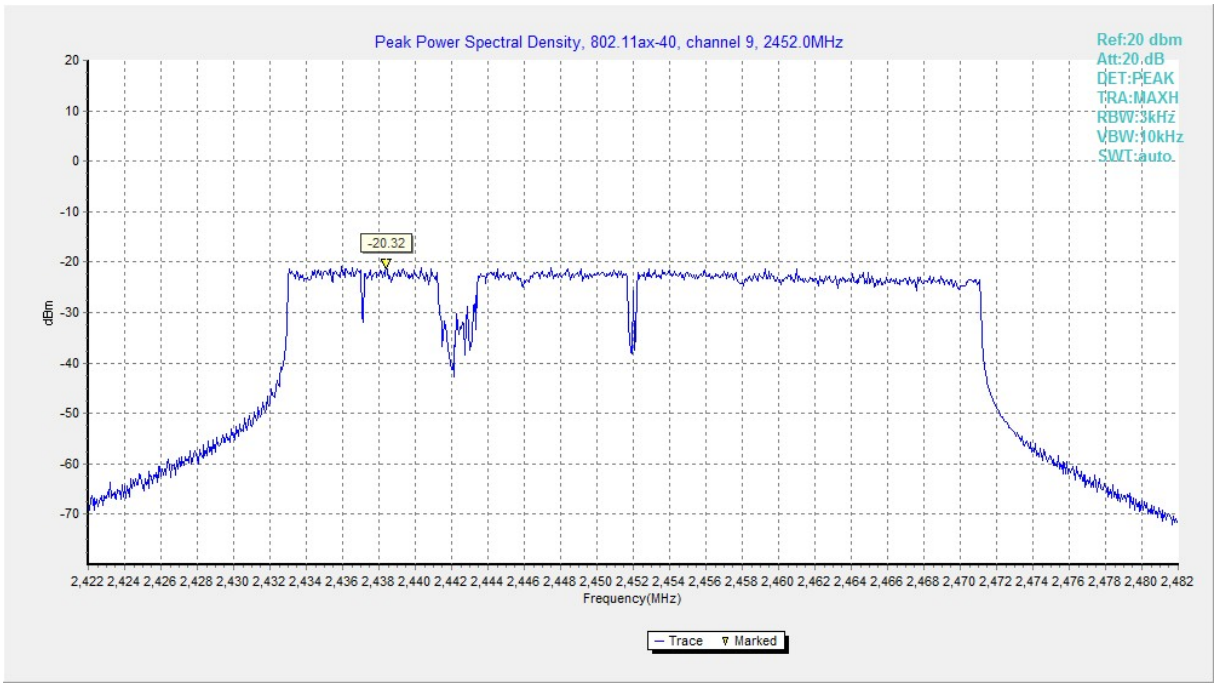

Fig.A.3.54 Power Spectral Density (802.11ax-HE40, Ch 9)

MIMO&CDD(W1&W2&W3&W4-W1)

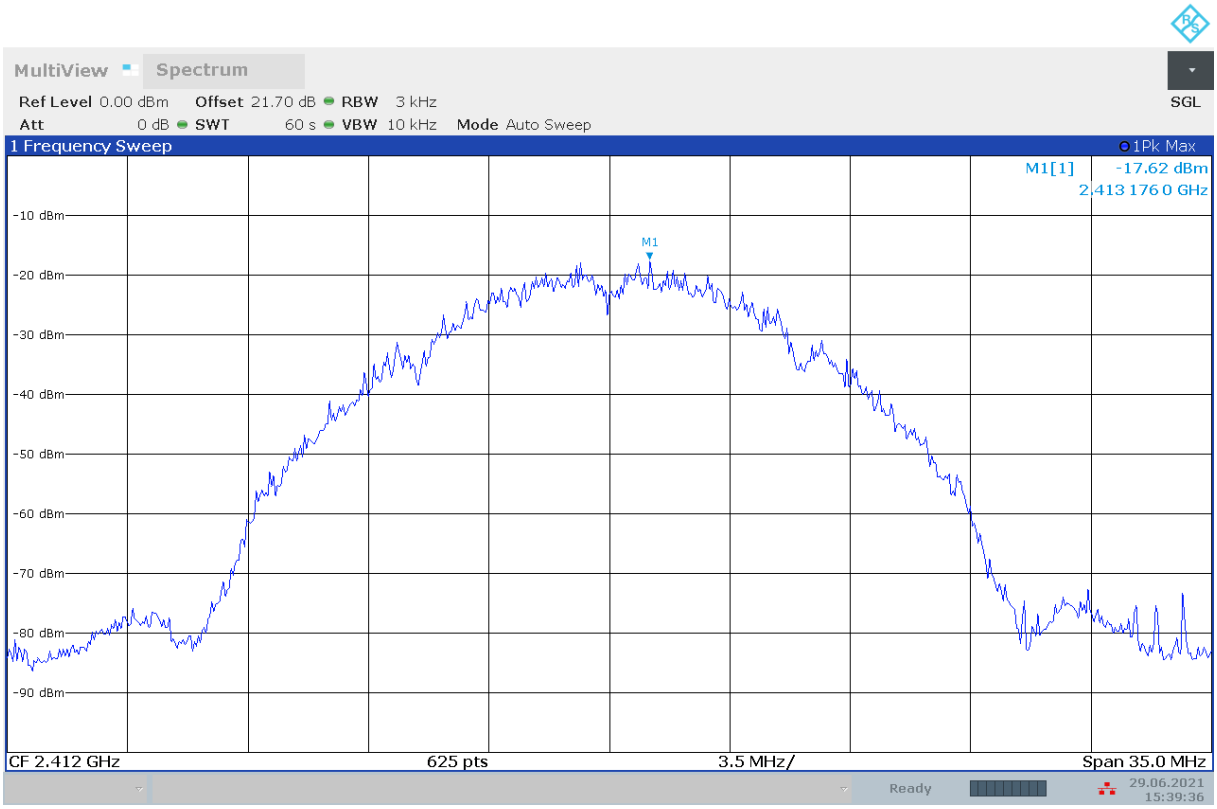

Fig.A.3.55 Power Spectral Density(802.11b,Ch1)

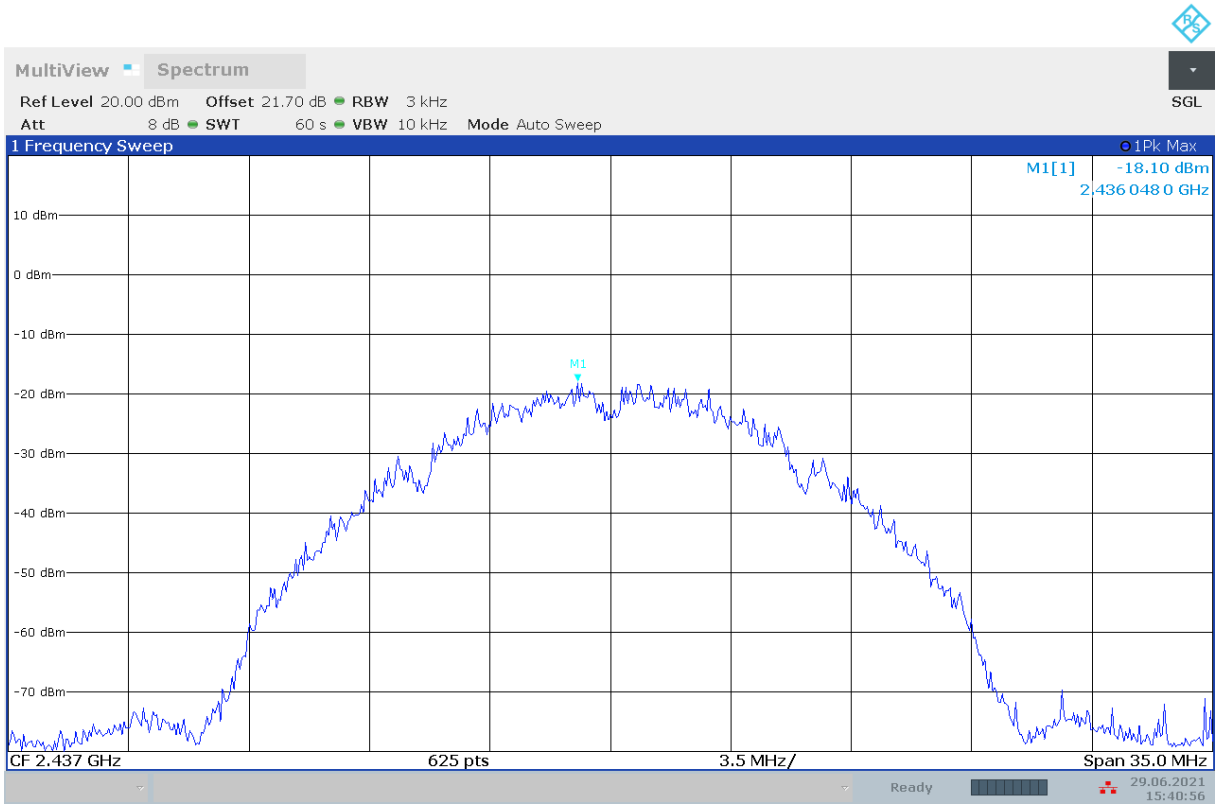

Fig.A.3.56 Power Spectral Density (802.11b, Ch 6)

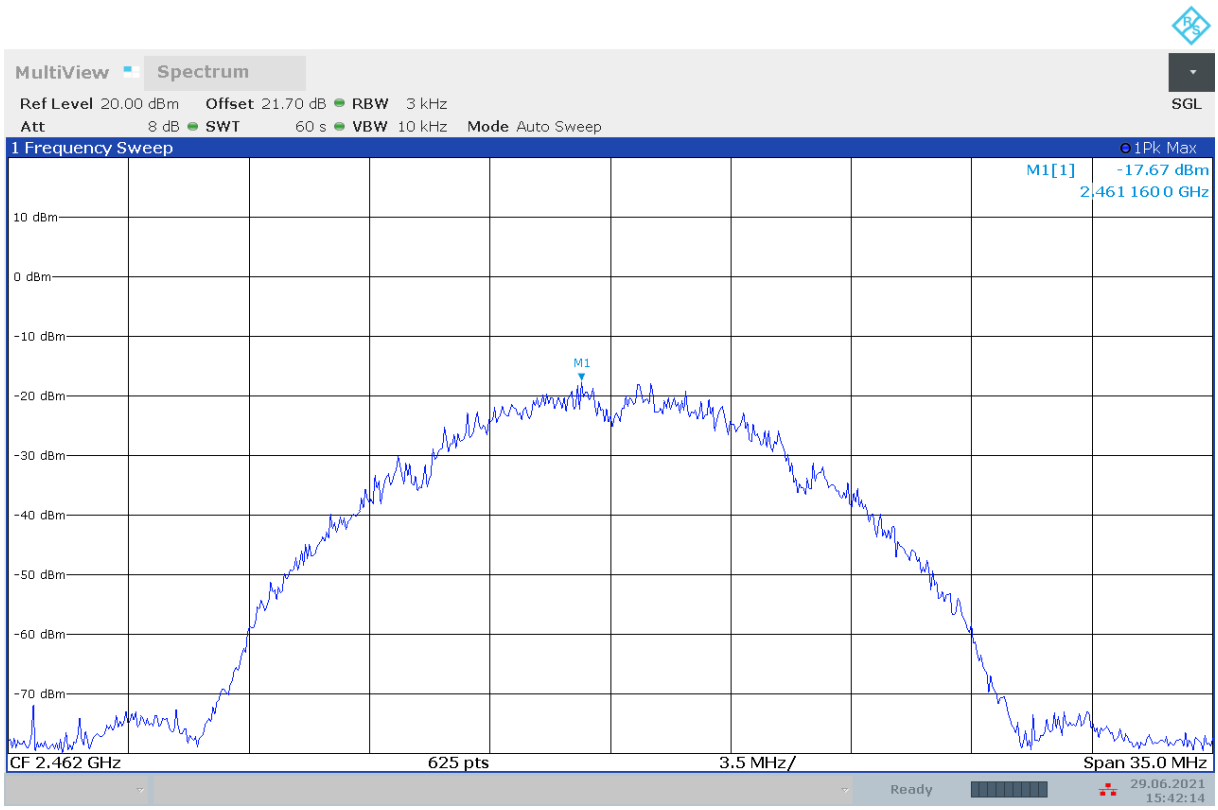

Fig.A.3.57 Power Spectral Density (802.11b, Ch 11)

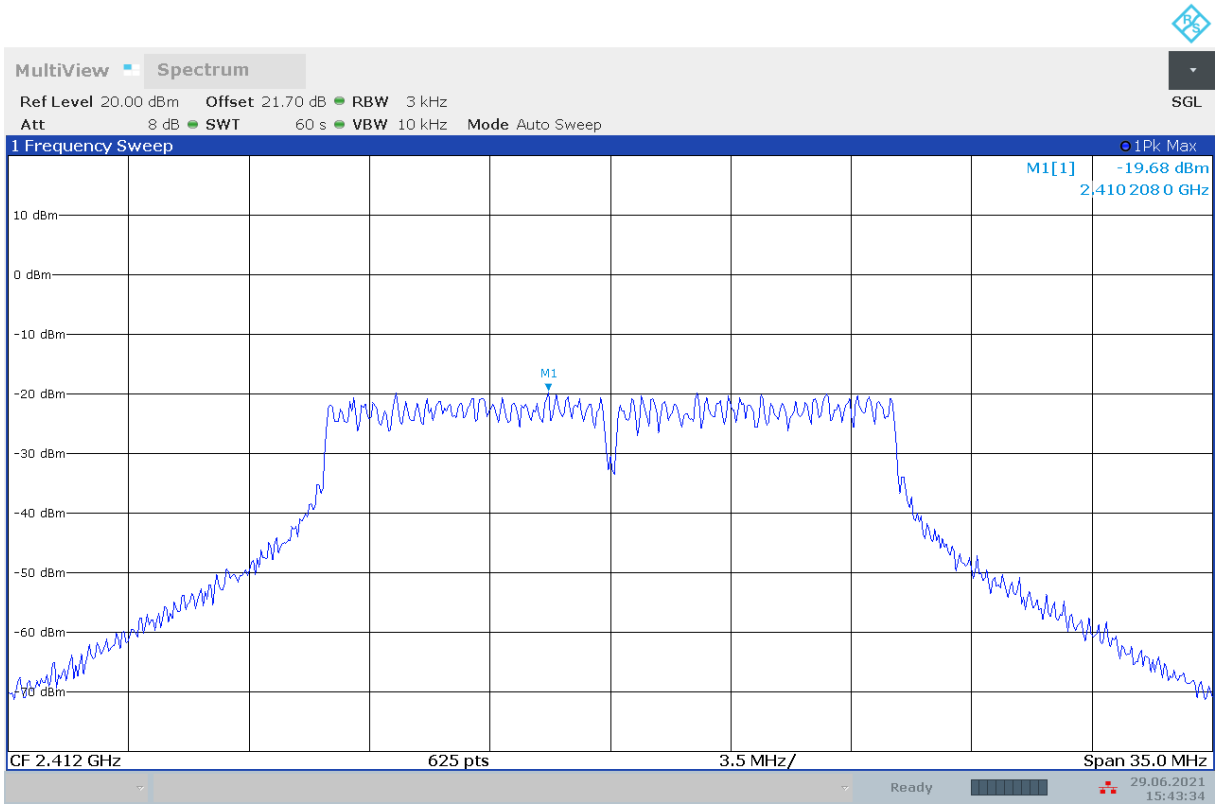

Fig.A.3.58 Power Spectral Density (802.11g, Ch 1)

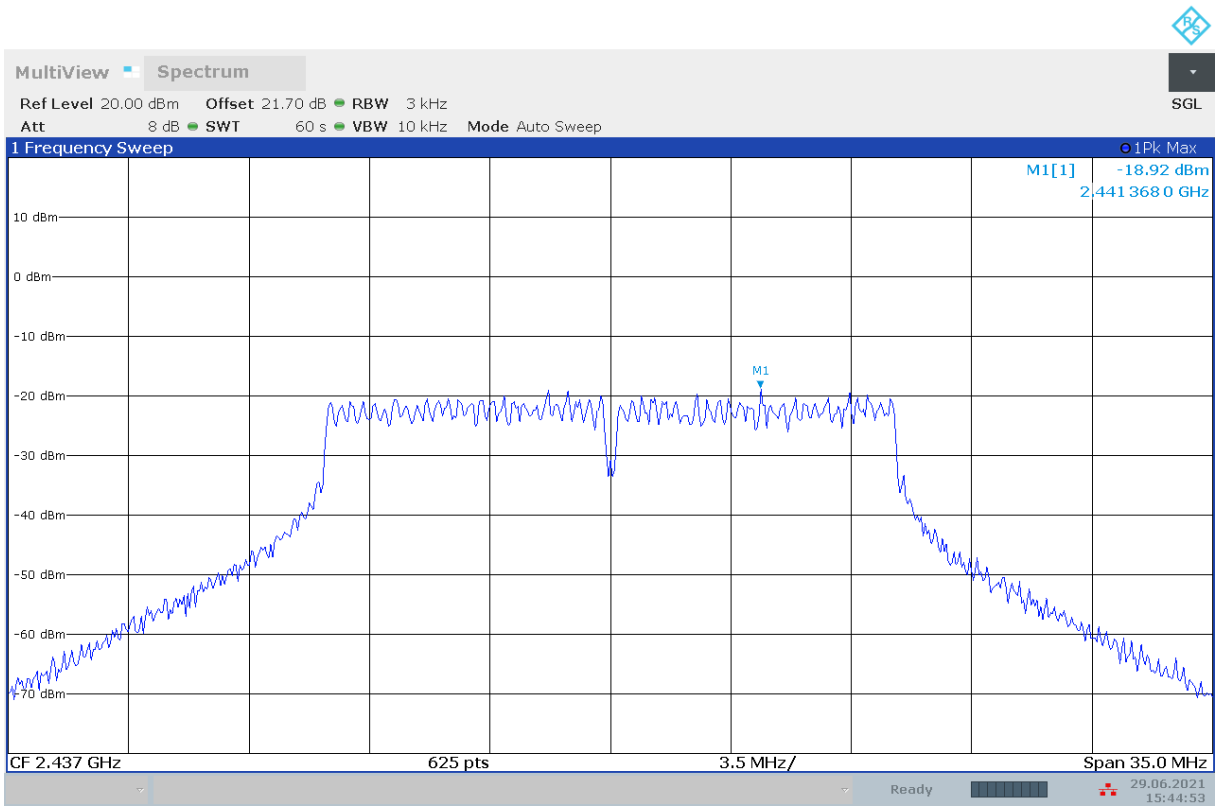

Fig.A.3.59 Power Spectral Density (802.11g, Ch 6)

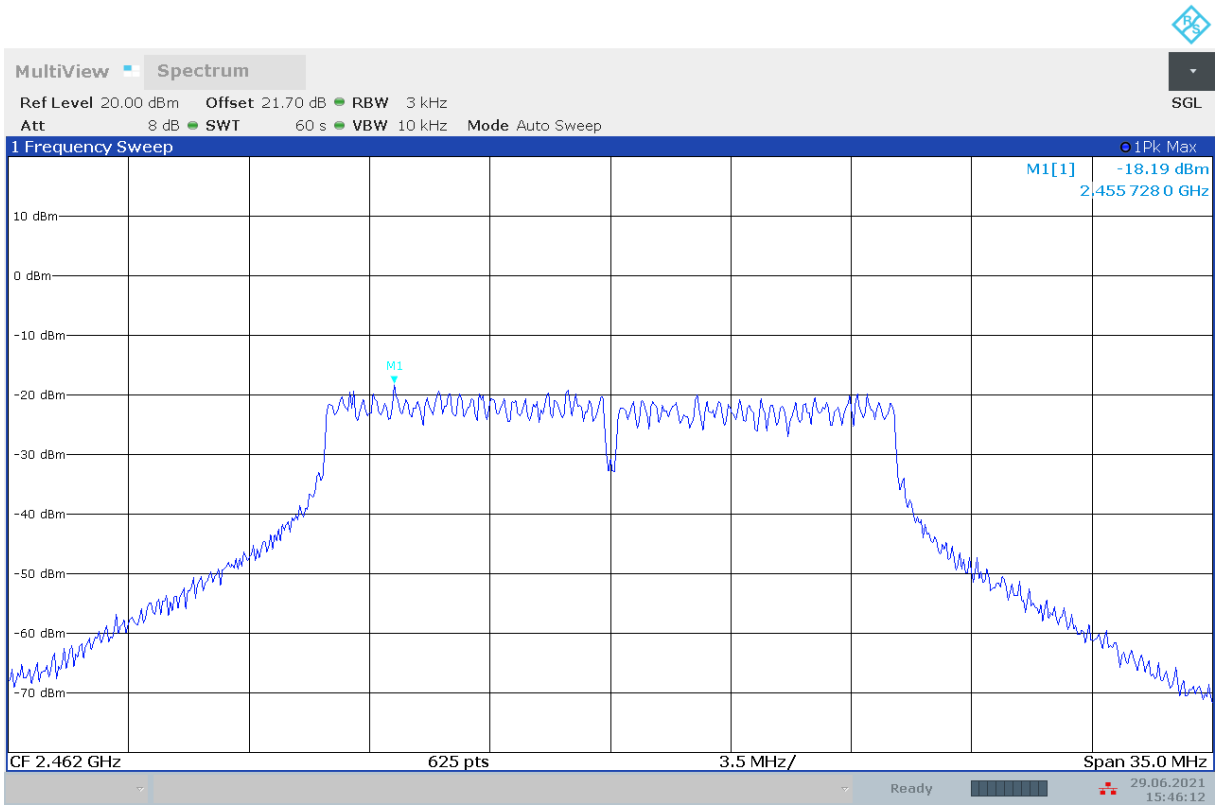

Fig.A.3.60 Power Spectral Density (802.11g, Ch 11)

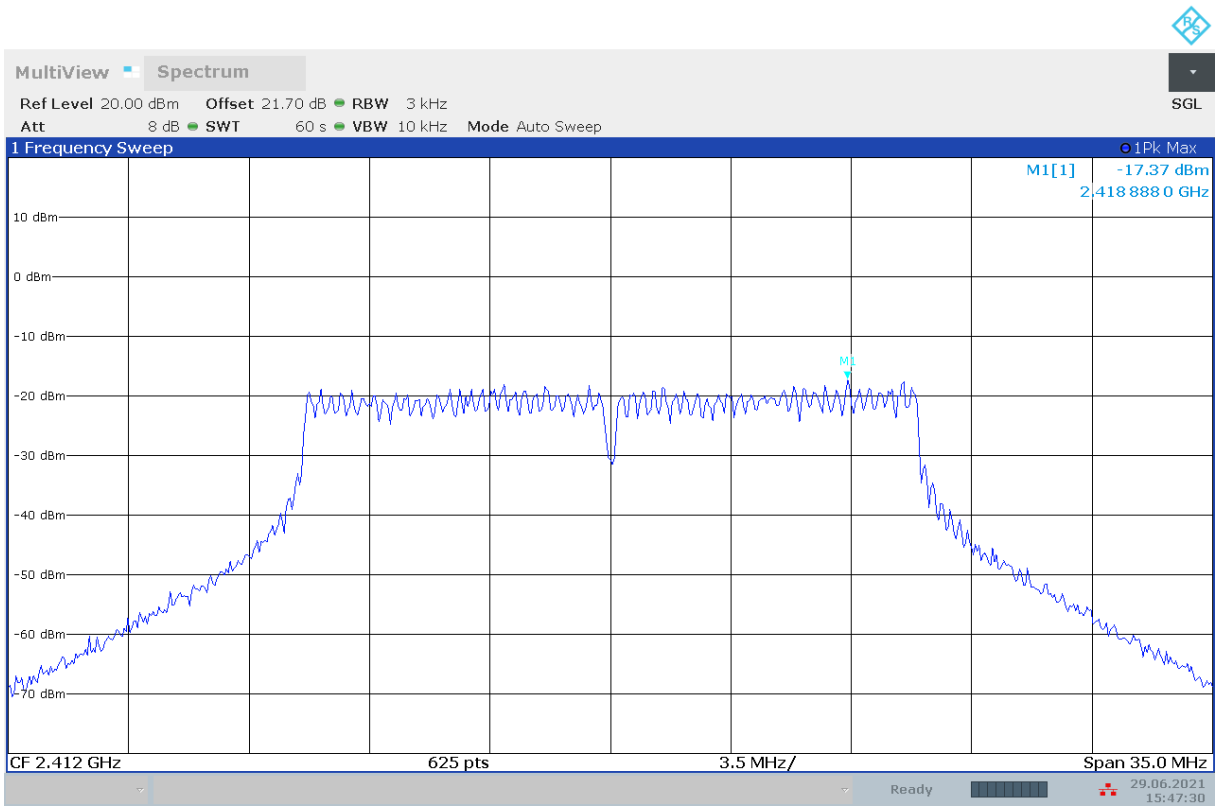

Fig.A.3.61 Power Spectral Density (802.11n-HT20, Ch 1)

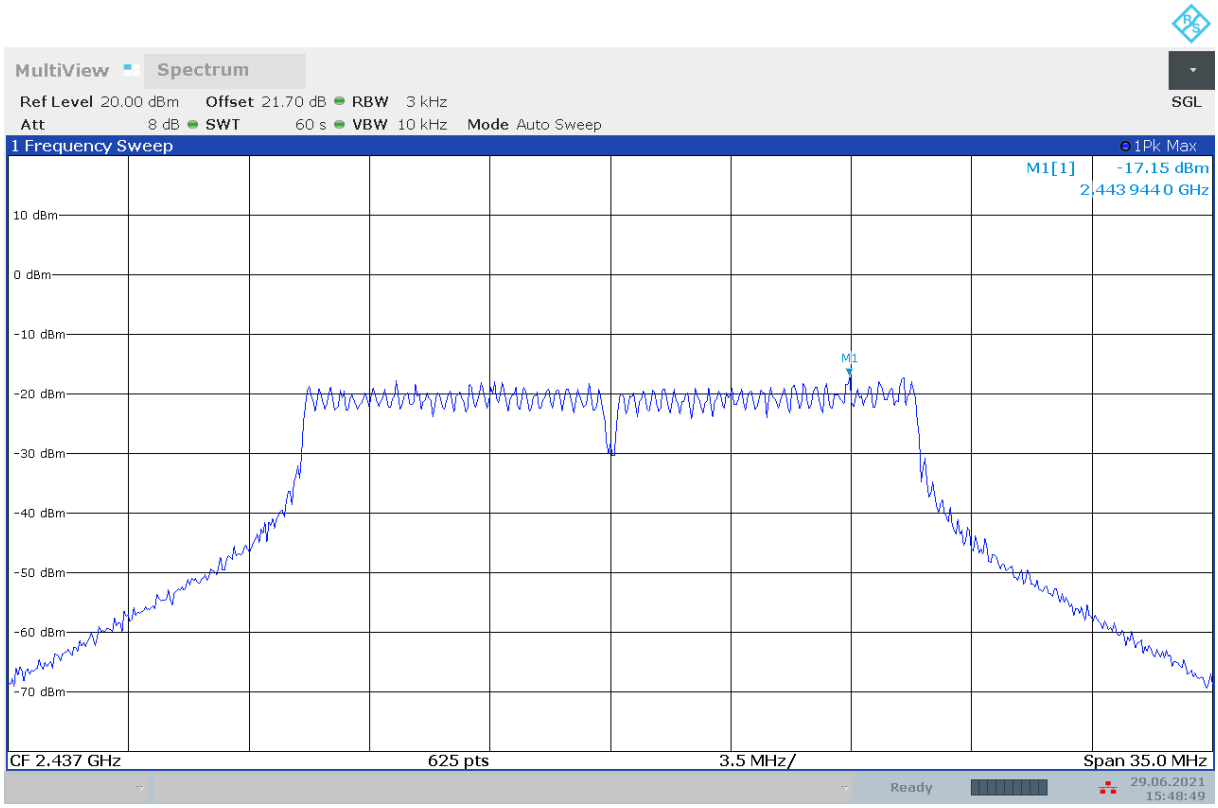

Fig.A.3.62 Power Spectral Density (802.11n-HT20, Ch 6)

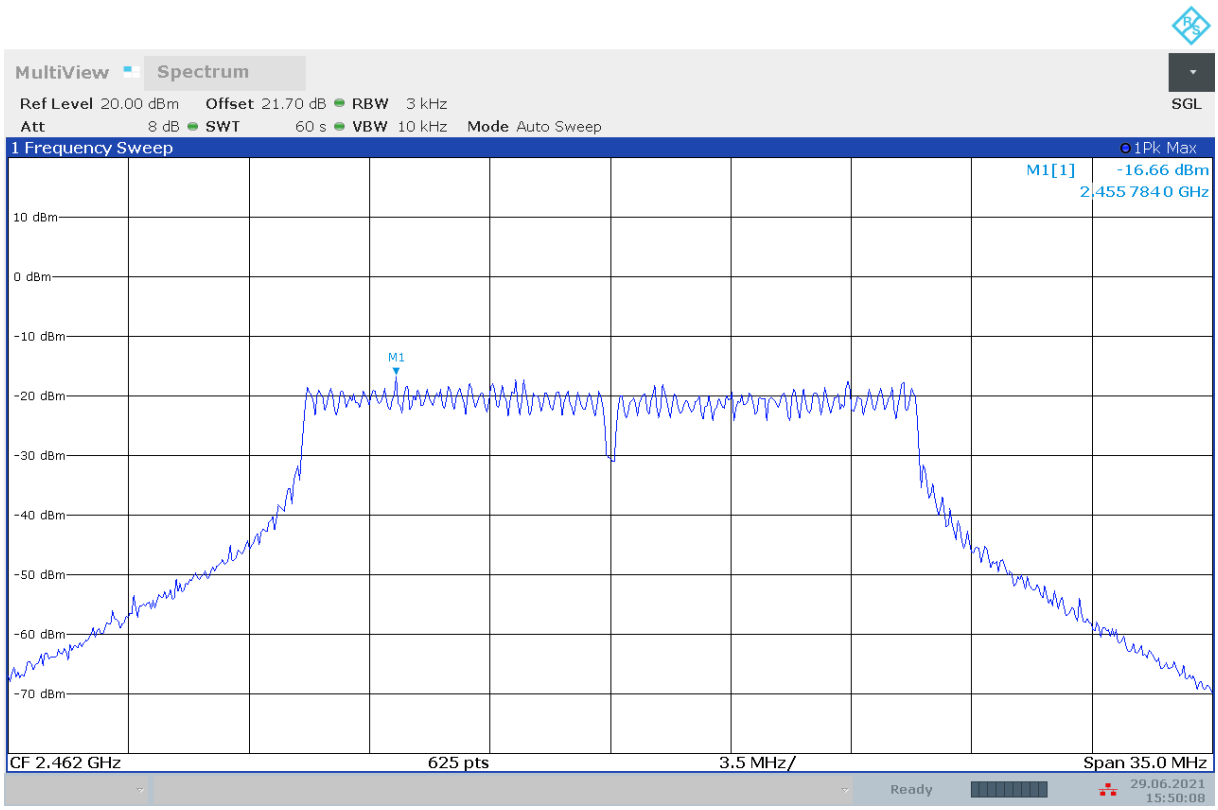

Fig.A.3.63 Power Spectral Density (802.11n-HT20, Ch 11)

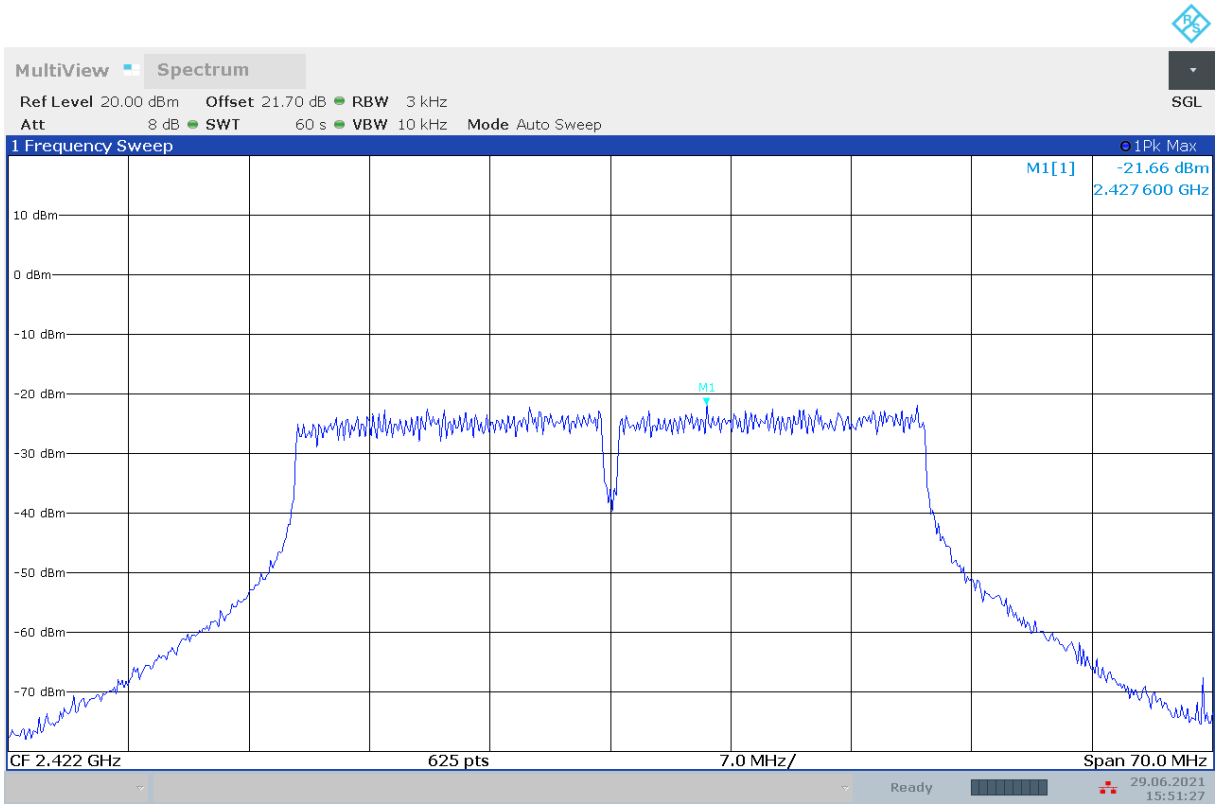

Fig.A.3.64 Power Spectral Density (802.11n-HT40, Ch 3)

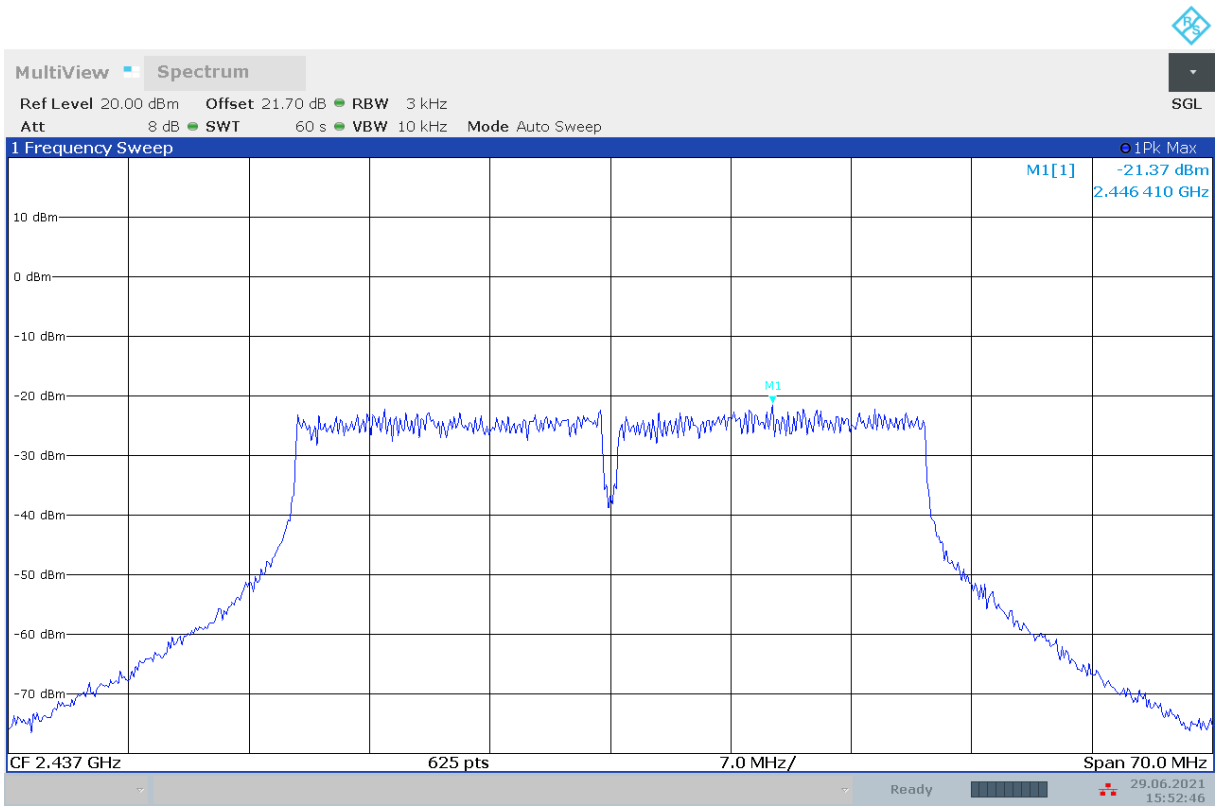

Fig.A.3.65 Power Spectral Density (802.11n-HT40, Ch 6)

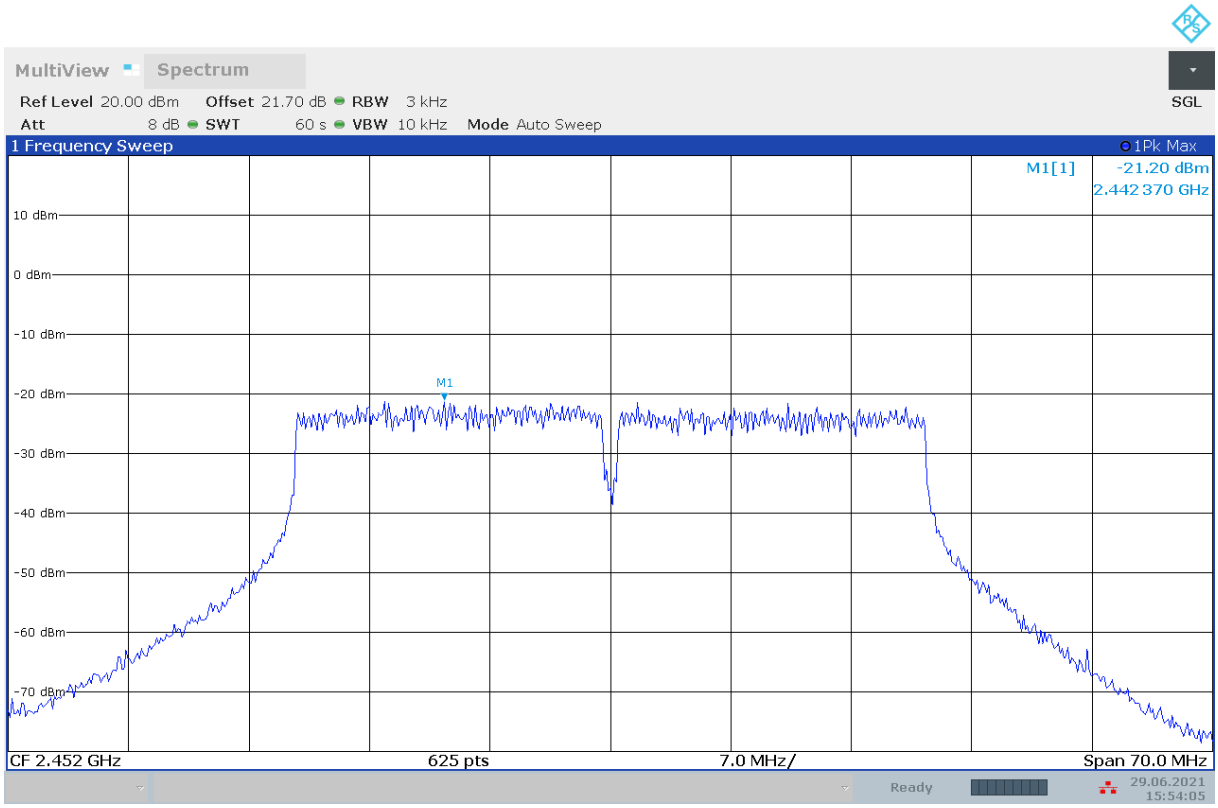

Fig.A.3.66 Power Spectral Density (802.11n-HT40, Ch 9)

MIMO&CDD(W1&W2&W3&W4-W2)

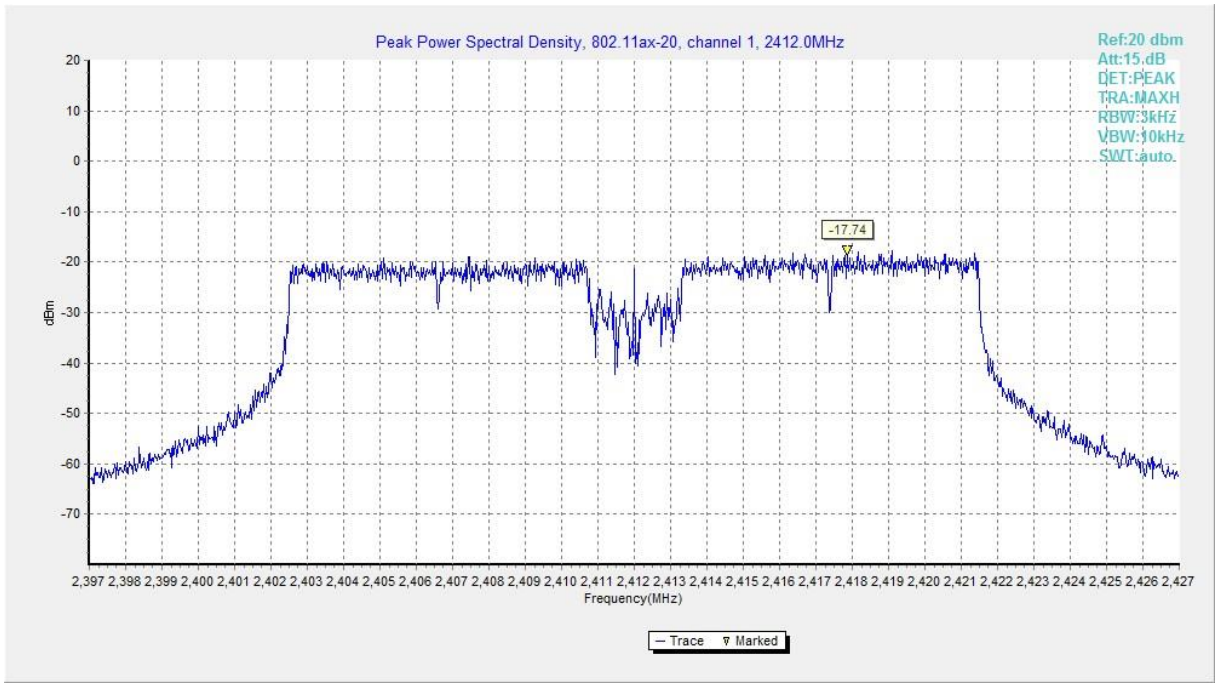

Fig.A.3.67 Power Spectral Density (802.11ax-HE20, Ch 1)

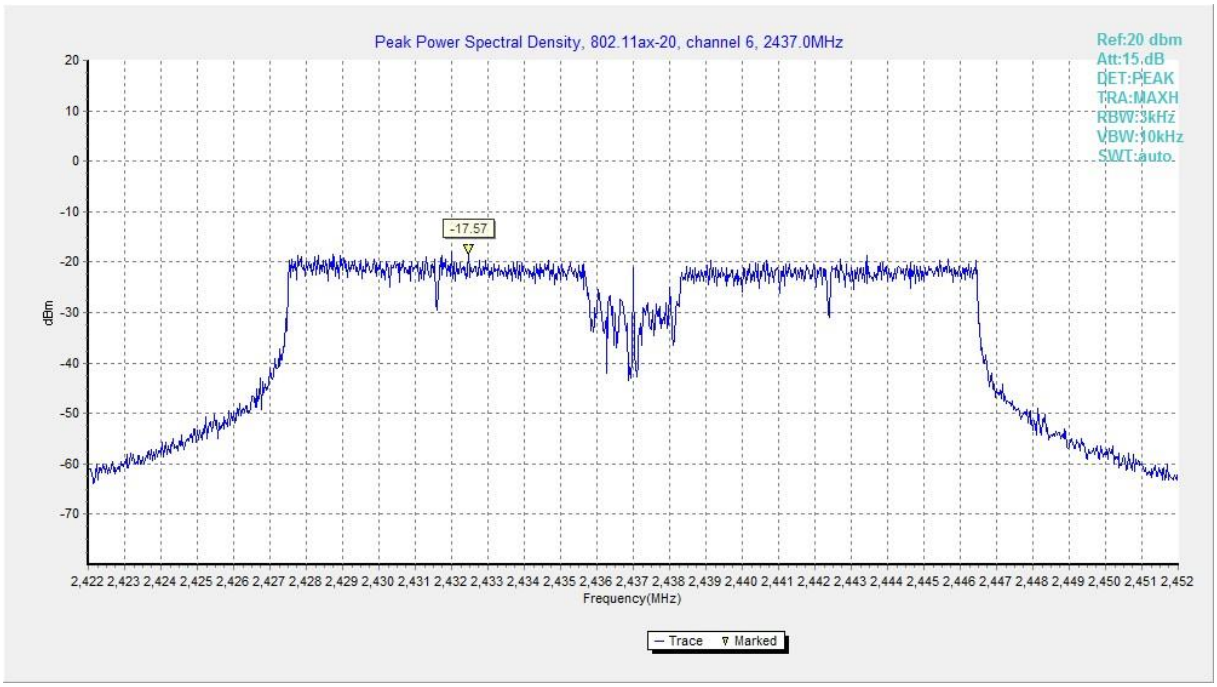

Fig.A.3.68 Power Spectral Density (802.11ax-HE20, Ch 6)

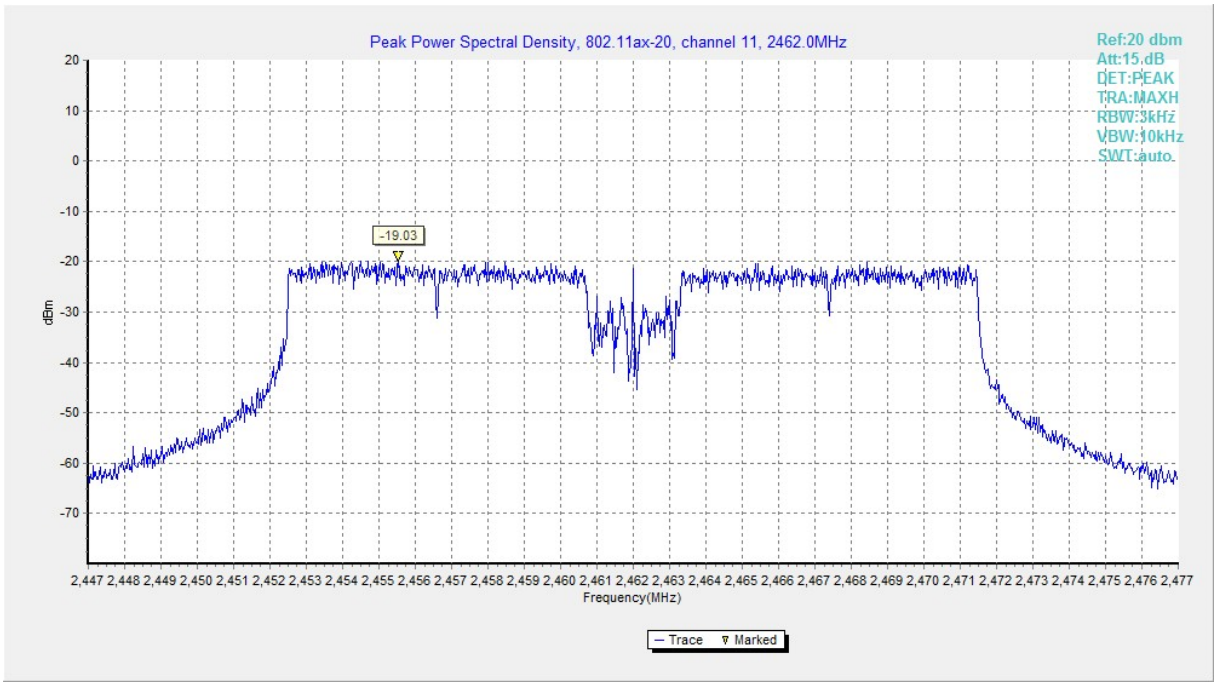

Fig.A.3.69 Power Spectral Density (802.11ax-HE20, Ch 11)

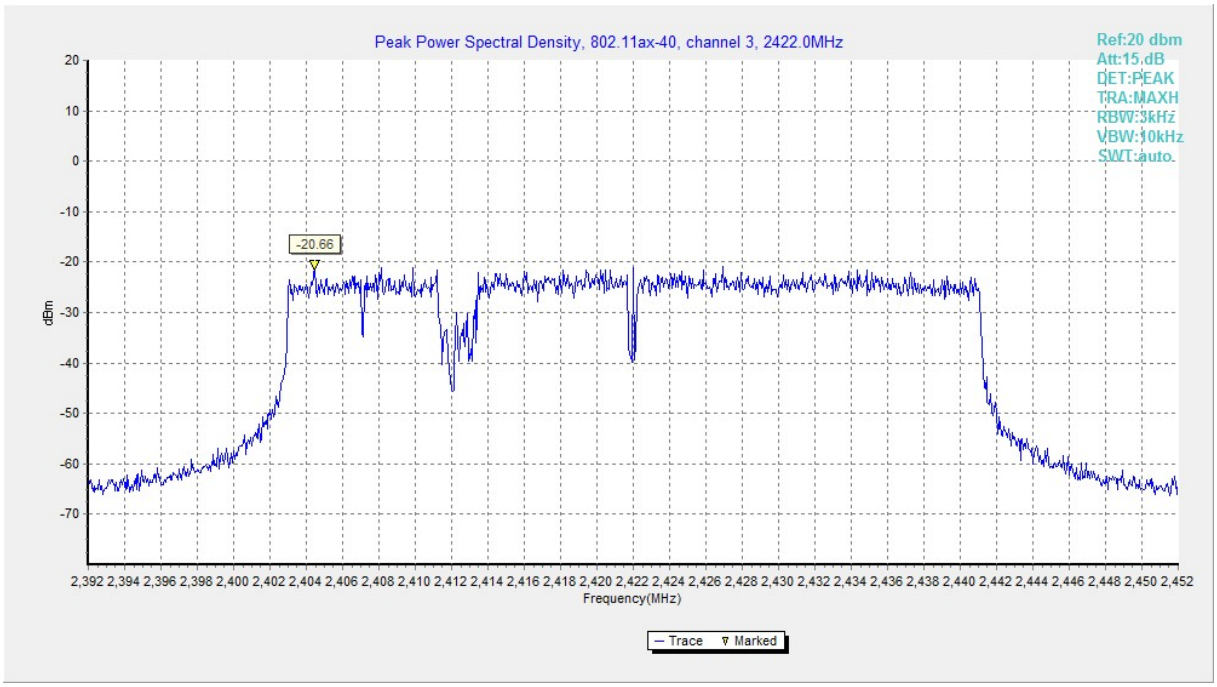

Fig.A.3.70 Power Spectral Density (802.11ax-HE40, Ch 3)

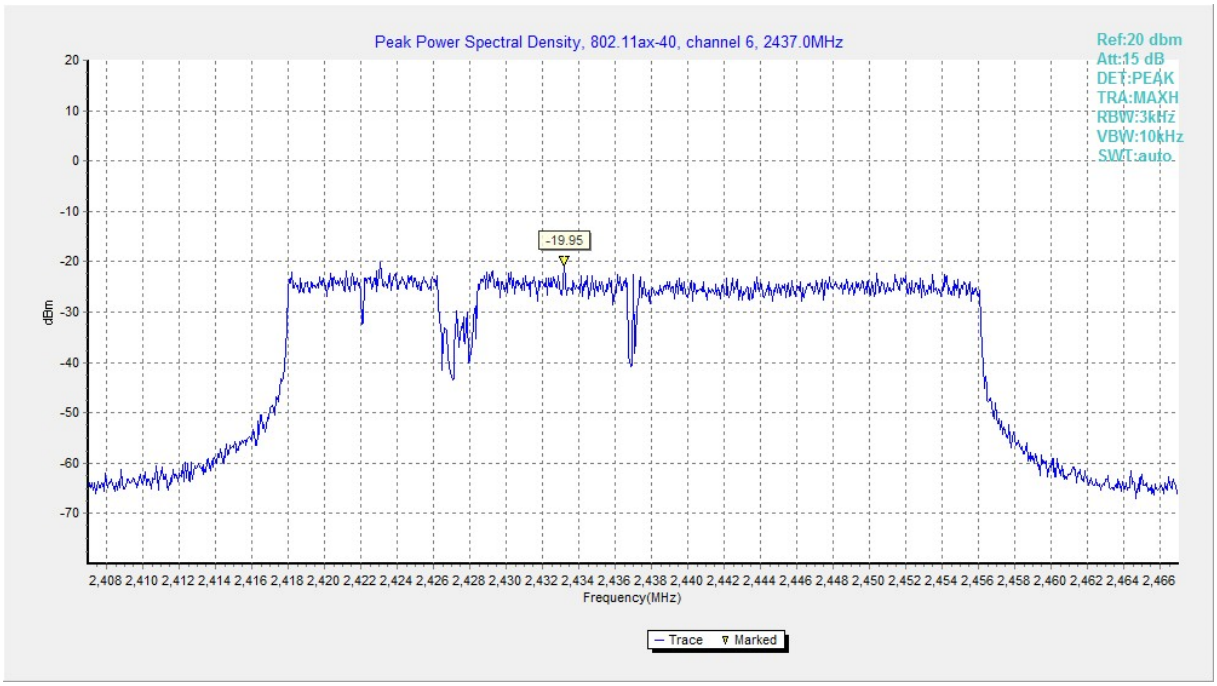

Fig.A.3.71 Power Spectral Density (802.11ax-HE40, Ch 6)

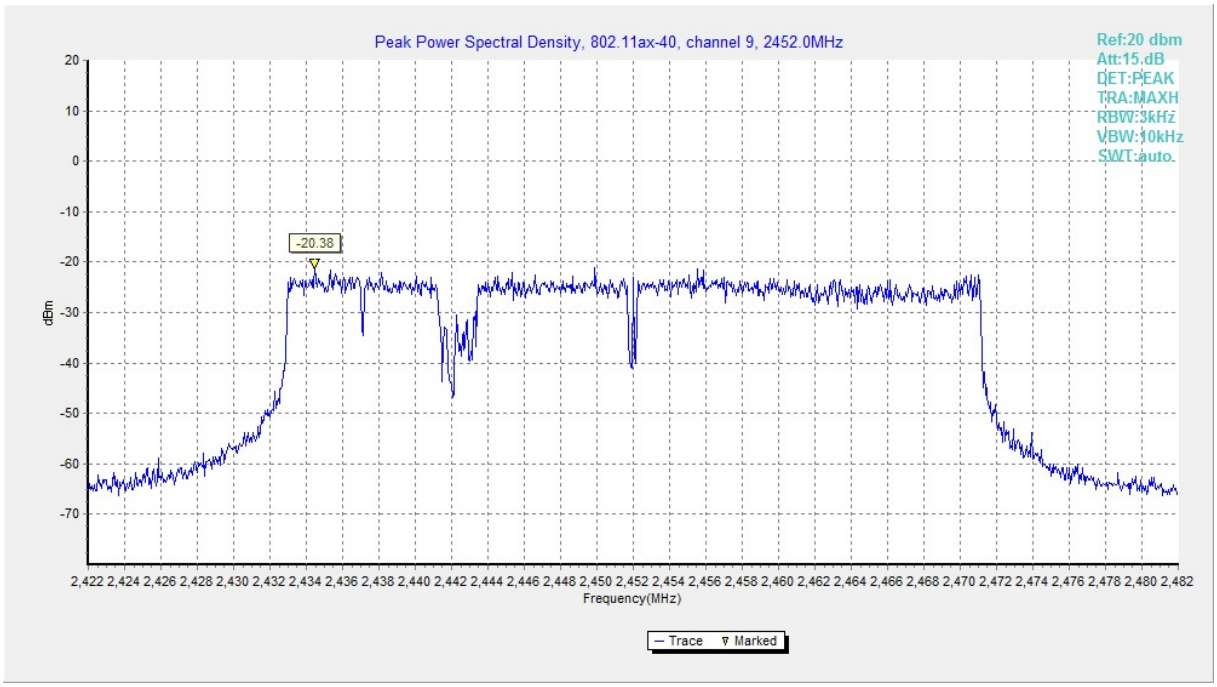

Fig.A.3.72 Power Spectral Density (802.11ax-HE40, Ch 9)

A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See ANSI C63.10-2013 section 11.8.1.

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) = 300 kHz.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

EUT ID: EUT2/3/4

Measurement Result:

SISO(802.11b/n20 is W2; 802.11g/n40 is W1)

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11b	1	7.65	**P**
	6	8.30	**P**
	11	7.55	**P**
802.11g	1	16.05	**P**
	6	16.35	**P**
	11	16.30	**P**

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT20)	1	17.10	**P**
	6	17.55	**P**
	11	17.60	**P**

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT40)	3	35.52	**P**
	6	36.08	**P**
	9	35.92	**P**

SISO-W2

802.11ax-HE20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE20)	1	18.95	P
	6	19.00	P
	11	18.95	P

802.11ax-HE40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE40)	3	38.08	P
	6	38.08	P
	9	38.08	P

(W1&W2-W1)

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11b	1	8.05	P
	6	7.45	P
	11	8.00	P
802.11g	1	16.40	P
	6	16.50	P
	11	16.50	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT20)	1	17.75	P
	6	17.70	P
	11	17.75	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT40)	3	36.48	P
	6	36.56	P
	9	36.48	P

802.11ax-HE20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax	1	18.85	P

(HE20)	6	18.95	**P**
	11	19.05	**P**

802.11ax-HE40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE40)	3	38.16	**P**
	6	38.08	**P**
	9	38.08	**P**

(W1&W2&W4-W1)

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11b	1	7.60	**P**
	6	7.55	**P**
	11	8.05	**P**
802.11g	1	16.45	**P**
	6	16.50	**P**
	11	16.50	**P**

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT20)	1	17.70	**P**
	6	17.60	**P**
	11	17.80	**P**

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT40)	3	36.48	**P**
	6	36.48	**P**
	9	36.48	**P**

(W1&W2&W4-W2)

802.11ax-HE20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE20)	1	18.95	**P**
	6	19.00	**P**
	11	18.90	**P**

802.11ax-HE40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE40)	3	38.16	P
	6	38.24	P
	9	38.16	P

(W1&W2&W3&W4-W1)

802.11b/g mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11b	1	7.55	P
	6	7.10	P
	11	7.10	P
802.11g	1	16.45	P
	6	16.50	P
	11	16.50	P

802.11n-HT20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT20)	1	17.75	P
	6	17.70	P
	11	17.70	P

802.11n-HT40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11n (HT40)	3	36.48	P
	6	36.48	P
	9	36.48	P

(W1&W2&W3&W4-W2)

802.11ax-HE20 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE20)	1	18.90	P
	6	18.95	P
	11	18.95	P

802.11ax-HE40 mode

Mode	Channel	Occupied 6dB Bandwidth (MHz)	conclusion
802.11ax (HE40)	3	38.16	P
	6	38.24	P

	9	38.24	**P**

Conclusion: Pass

Test graphs as below:

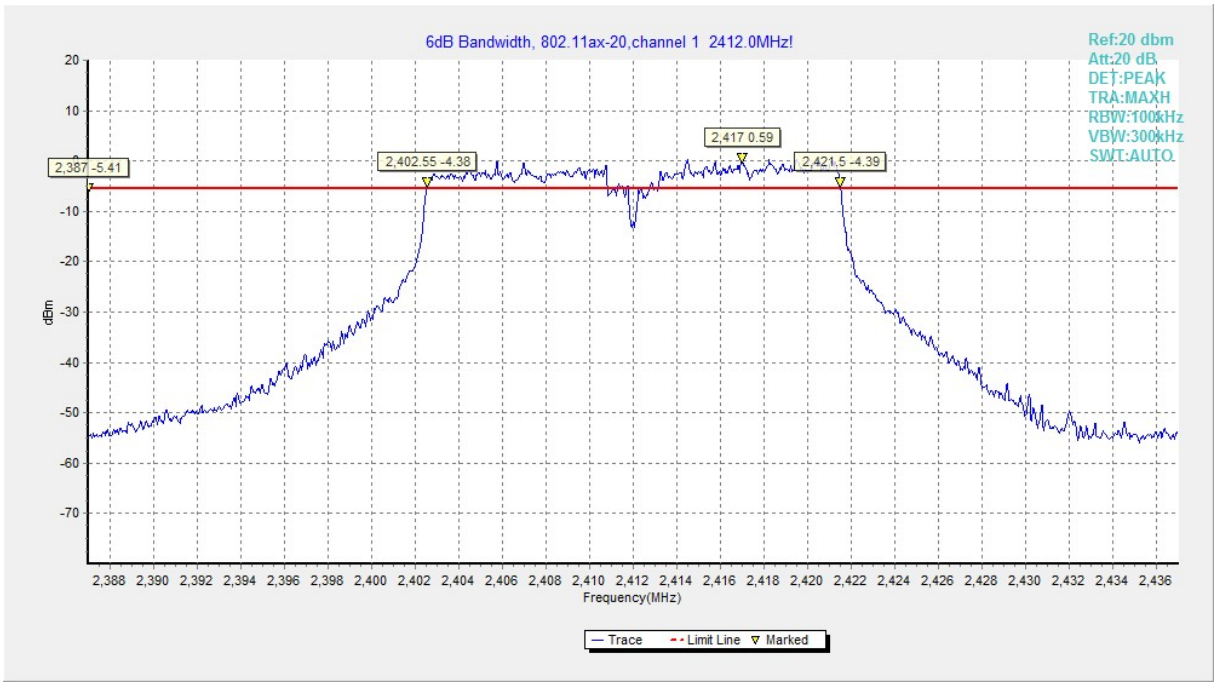

Fig.A.4.1 Occupied 6dB Bandwidth (802.11nax-20MHz, Ch 1)

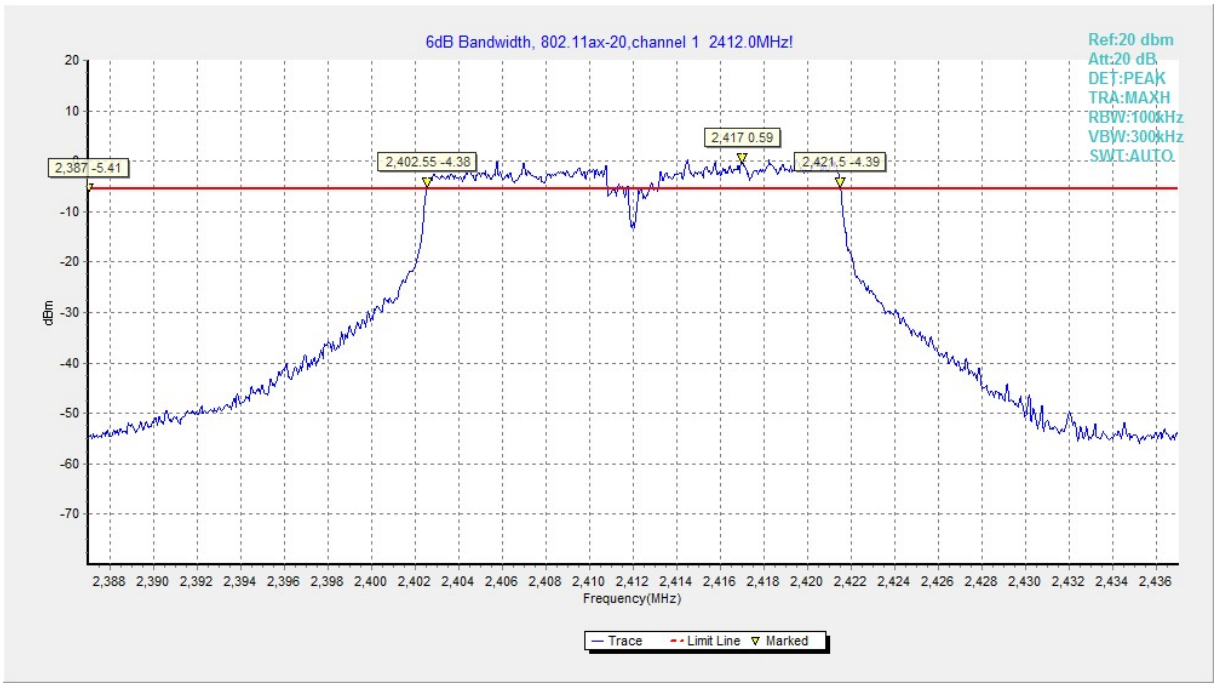

Fig.A.4.2 Occupied 6dB Bandwidth (802.11ax-HT20, Ch 6)

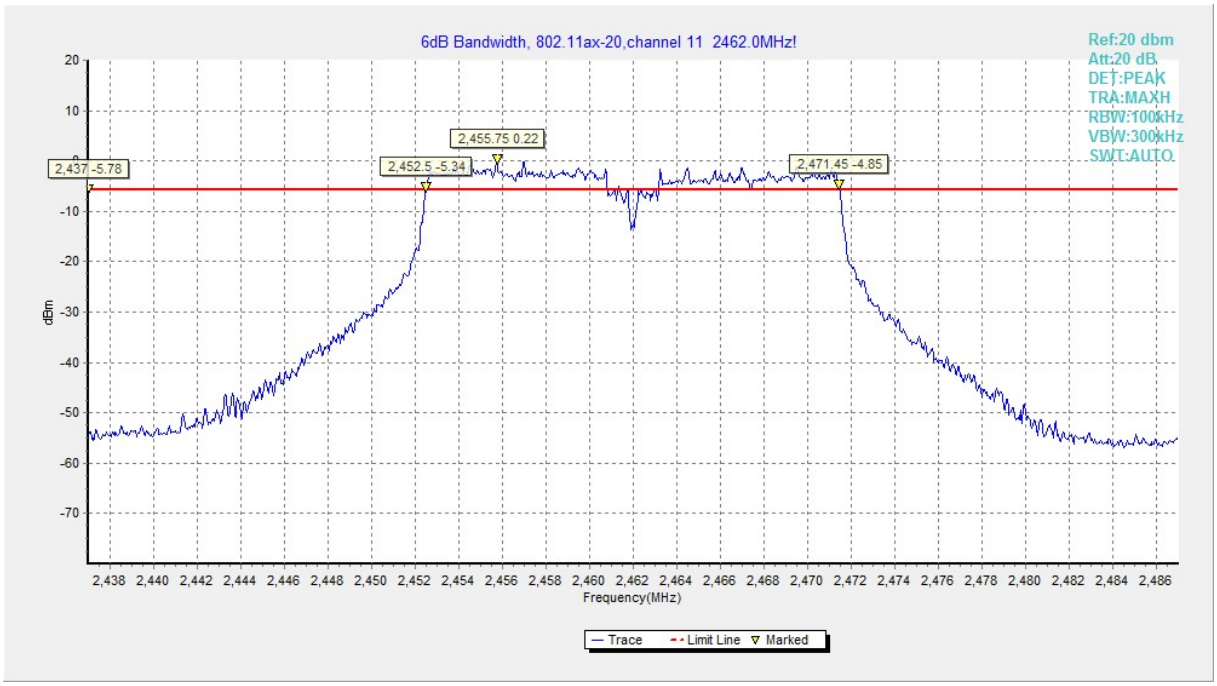

Fig.A.4.3 Occupied 6dB Bandwidth (802.11ax-HT20, Ch 11)

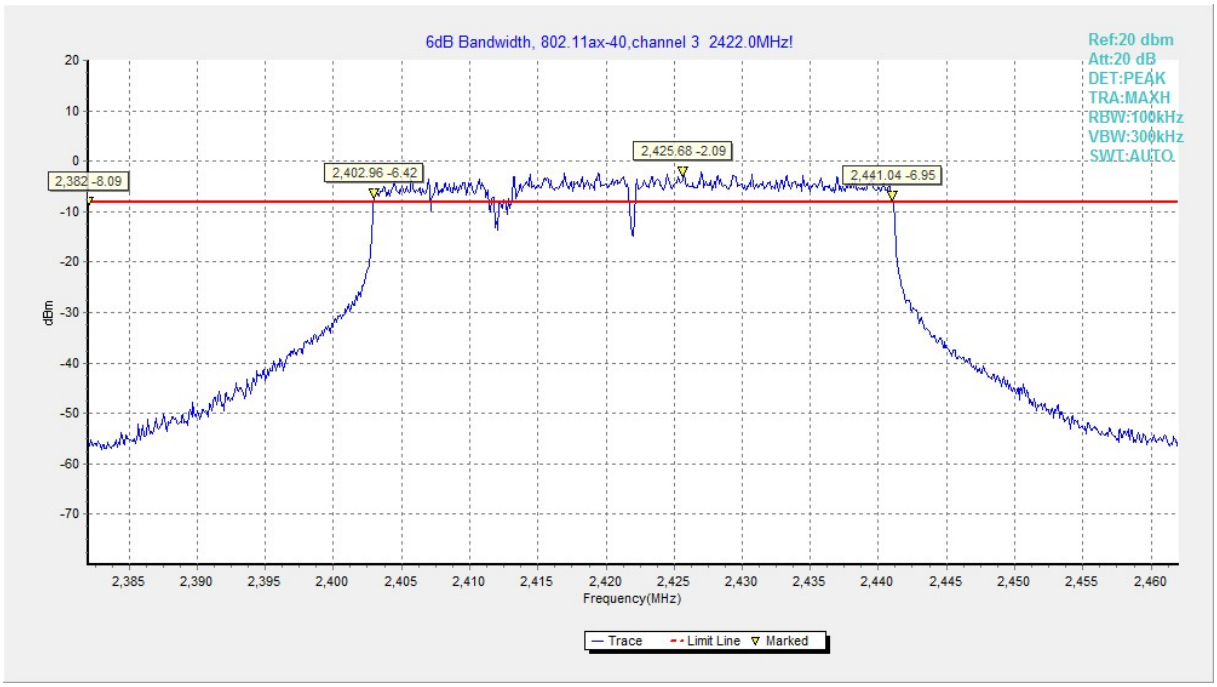

Fig.A.4.4 Occupied 6dB Bandwidth (802.11ax-40MHz, Ch 3)

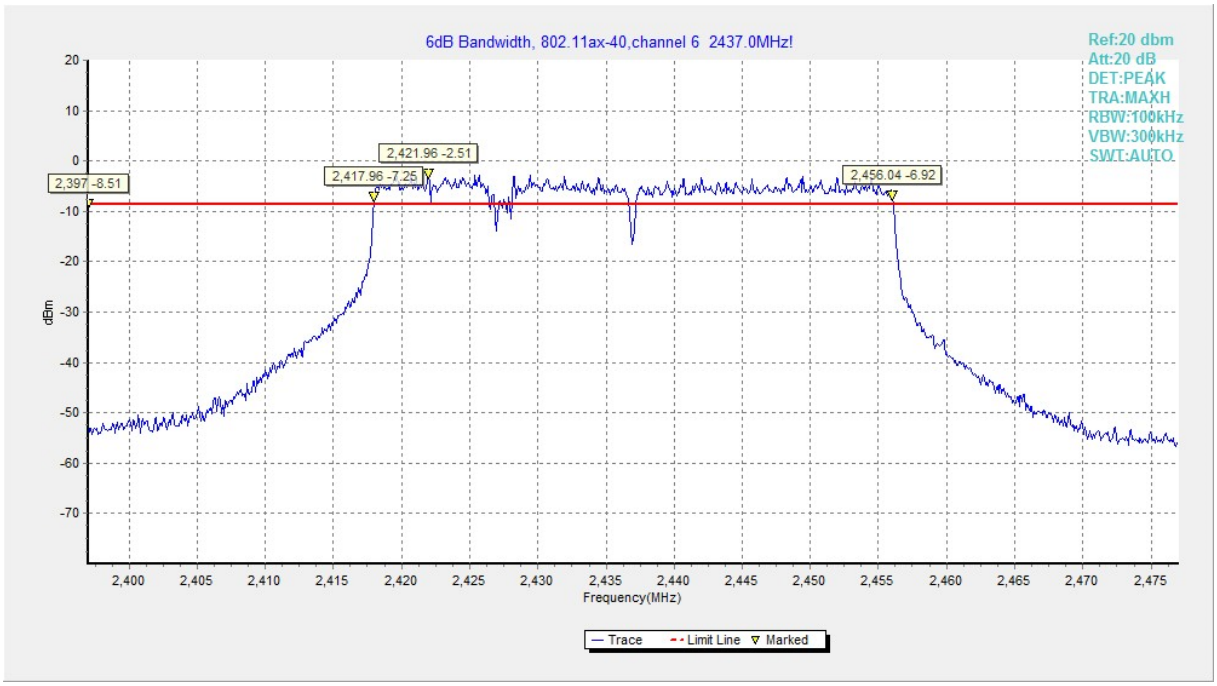

Fig.A.4.5 Occupied 6dB Bandwidth (802.11ax-HT40, Ch 6)

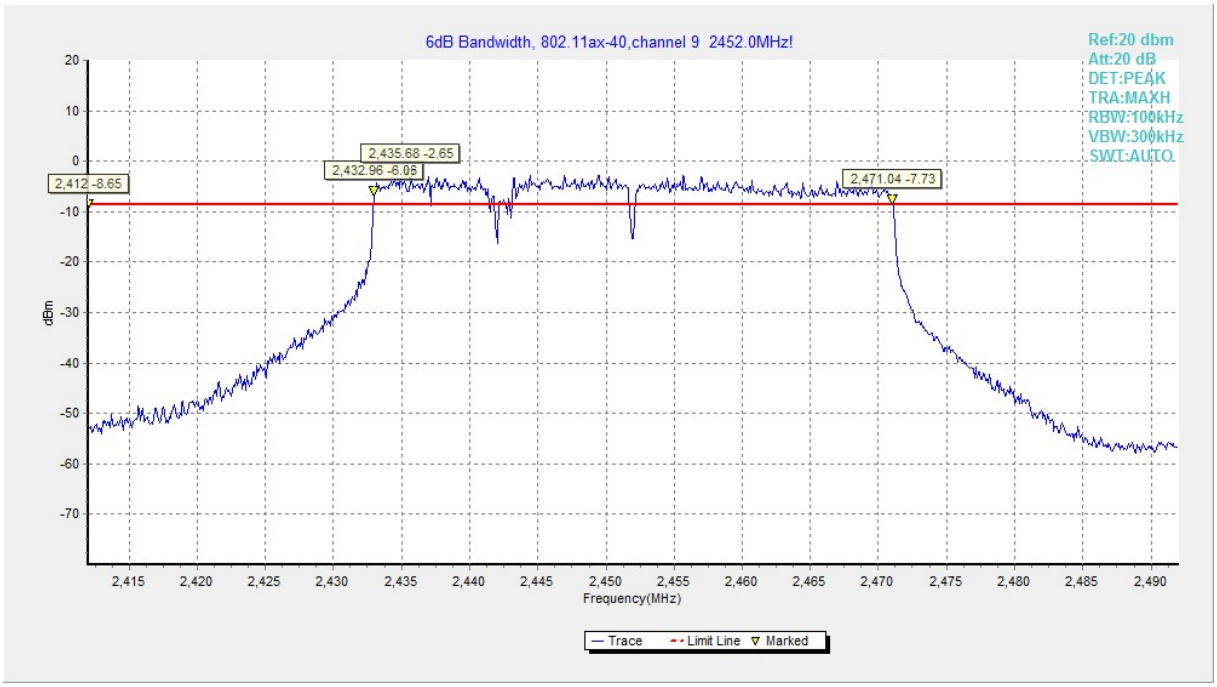

Fig.A.4.6 Occupied 6dB Bandwidth (802.11ax-HT40, Ch 9)

A.5. Band Edges Compliance

A.5.1 Band Edges Compliance – Conducted

Method of Measurement: See ANSI C63.10-2013-clause 6.10.4

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below.

a) Set Span = 100MHz
b) Sweep Time: coupled
c) Set the RBW= 100 kHz
c) Set the VBW= 300 kHz
d) Detector: Peak
e) Trace: Max hold

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

EUT ID: EUT2/3/4

Measurement Result:

SISO(802.11b/n20 is W2; 802.11g/n40 is W1)

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.1	**P**
	11	Fig.A.5.2	**P**
802.11g	1	Fig.A.5.3	**P**
	11	Fig.A.5.4	**P**

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.5	**P**
	11	Fig.A.5.6	**P**

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.7	**P**
	9	Fig.A.5.8	**P**

SISO-W2

802.11ax-HE20 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE20)	1	Fig.A.5.9	**P**
	11	Fig.A.5.10	**P**

802.11ax-HE40 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE40)	3	Fig.A.5.11	P
	9	Fig.A.5.12	P

(W1&W2-W1)

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.13	P
	11	Fig.A.5.14	P
802.11g	1	Fig.A.5.15	P
	11	Fig.A.5.16	P

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.17	P
	11	Fig.A.5.18	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.19	P
	9	Fig.A.5.20	P

802.11ax-HE20 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE20)	1	Fig.A.5.21	P
	11	Fig.A.5.22	P

802.11ax-HE40 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE40)	3	Fig.A.5.23	P
	9	Fig.A.5.24	P

Both of the W1 and W2 are measured, as the power of W1 is the worse case, so the results of W1 are reflected in the report.

(W1&W2&W4-W1)

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.25	P
	11	Fig.A.5.26	P
802.11g	1	Fig.A.5.27	P
	11	Fig.A.5.28	P

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion

802.11n (HT20)	1	Fig.A.5.29	**P**
	11	Fig.A.5.30	**P**

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.31	**P**
	9	Fig.A.5.32	**P**

All of the W1, W2 and W4 are measured, as the power of W1 is the worse case, so the results of W1 are reflected in the report.

(W1&W2&W4-W2)

802.11ax-HE20 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE20)	1	Fig.A.5.33	**P**
	11	Fig.A.5.34	**P**

802.11ax-HE40 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE40)	3	Fig.A.5.35	**P**
	9	Fig.A.5.36	**P**

All of the W1, W2 and W4 are measured, as the power of W2 is the worse case, so the results of W2 are reflected in the report.

(W1&W2&W3&W4-W1)

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.37	**P**
	11	Fig.A.5.38	**P**
802.11g	1	Fig.A.5.39	**P**
	11	Fig.A.5.40	**P**

802.11n-HT20 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.41	**P**
	11	Fig.A.5.42	**P**

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.43	**P**
	9	Fig.A.5.44	**P**

All of the W1, W2, W3 and W4 are measured, as the power of W1 is the worse case, so the results of W1 are reflected in the report.

(W1&W2&W3&W4-W2)

802.11ax-HE20 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE20)	1	Fig.A.5.45	**P**
	11	Fig.A.5.46	**P**

802.11ax-HE40 mode

Mode	Channel	Test Results	Conclusion
802.11ax (HE40)	3	Fig.A.5.47	**P**
	9	Fig.A.5.48	**P**

All of the W1, W2, W3 and W4 are measured, as the power of W2 is the worse case, so the results of W2 are reflected in the report.

Conclusion: Pass

Test graphs as below:

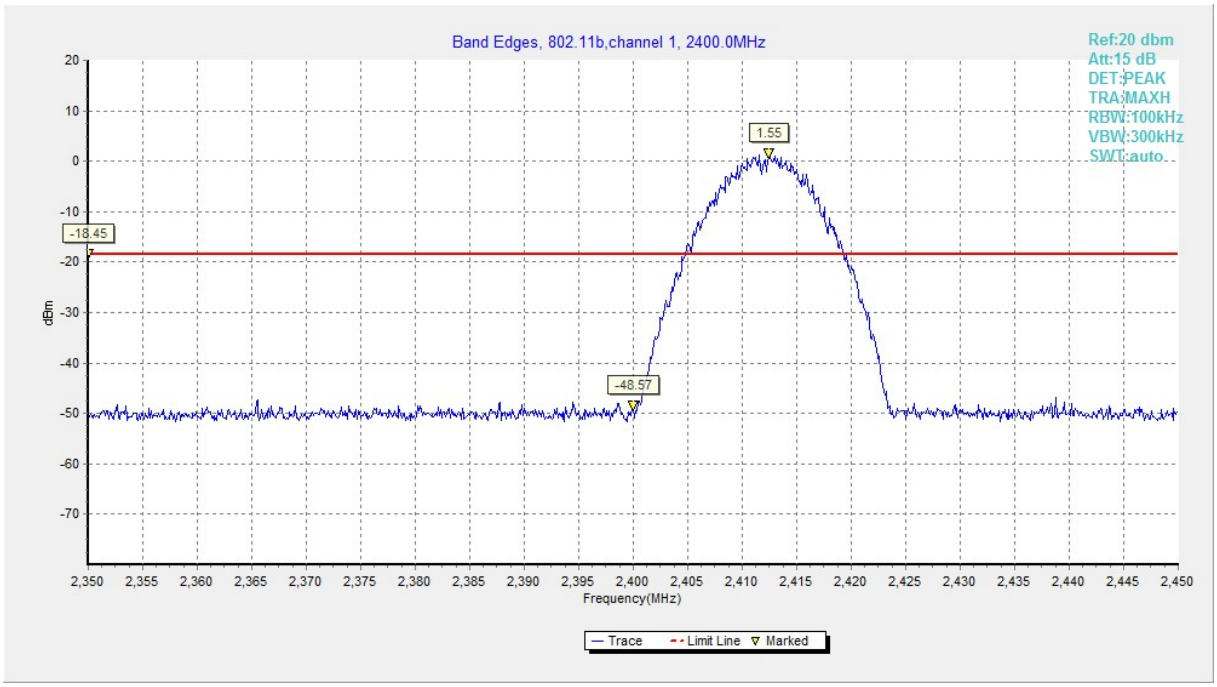

Fig.A.5.1 Band Edges (802.11b, Ch 1)

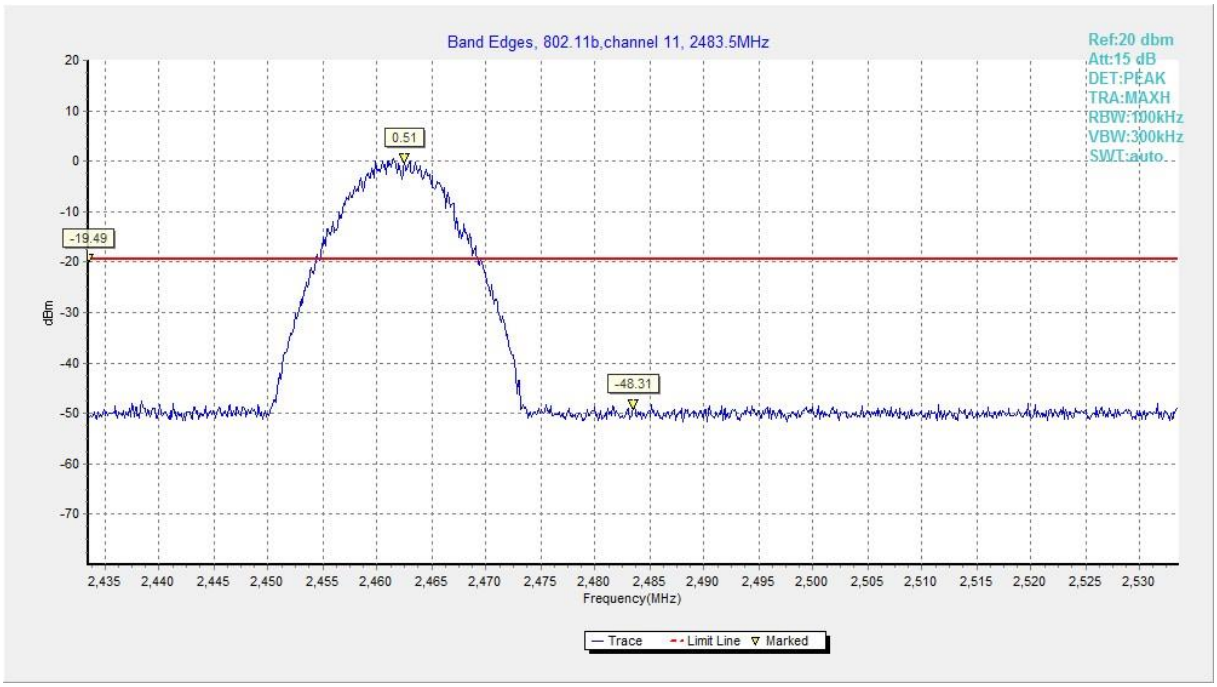

Fig.A.5.2 Band Edges (802.11b, Ch 11)

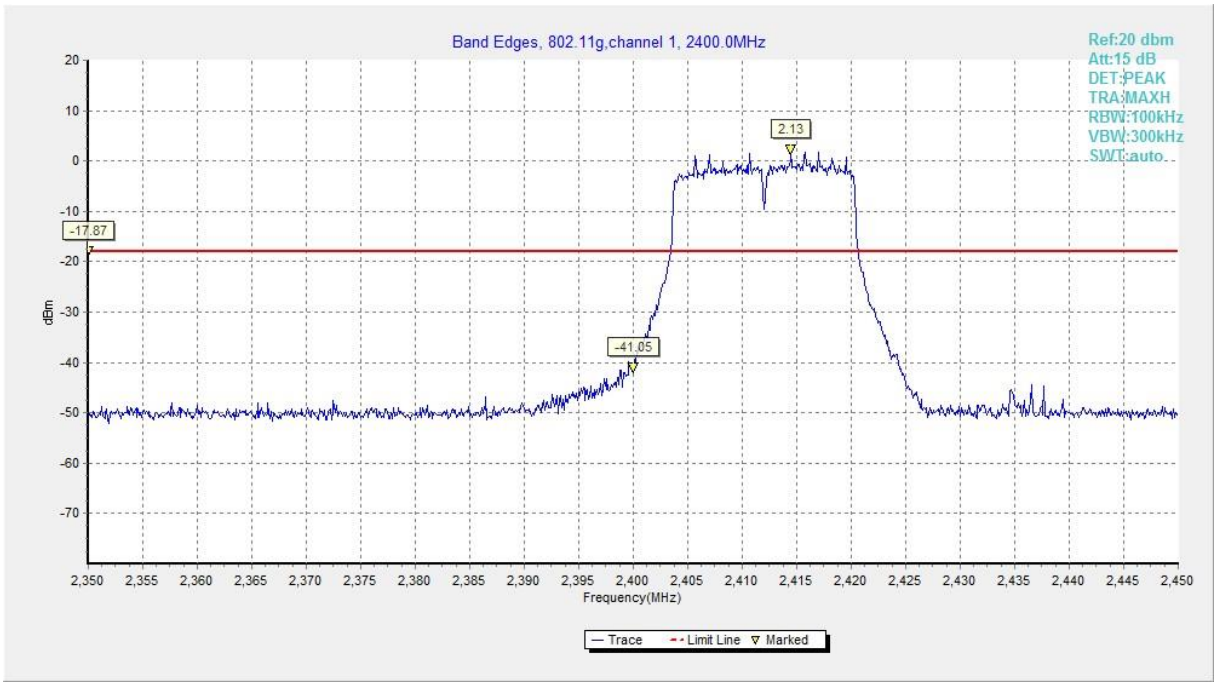

Fig.A.5.3 Band Edges (802.11g, Ch 1)

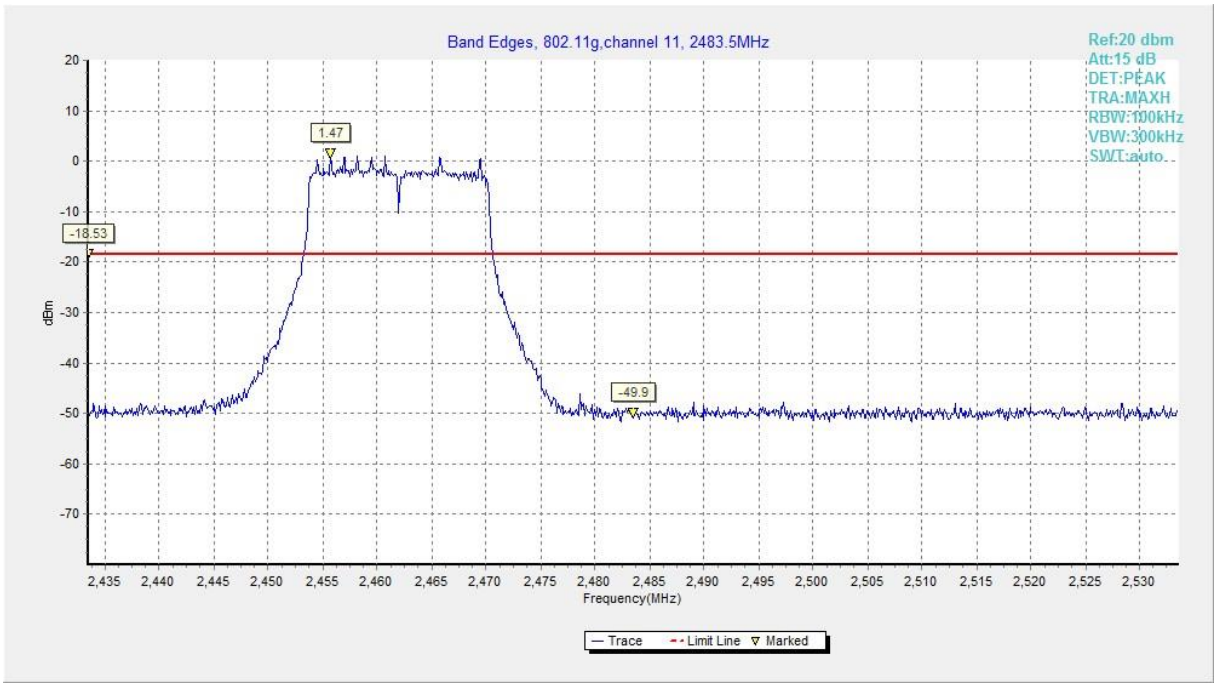

Fig.A.5.4 Band Edges (802.11g, Ch 11)

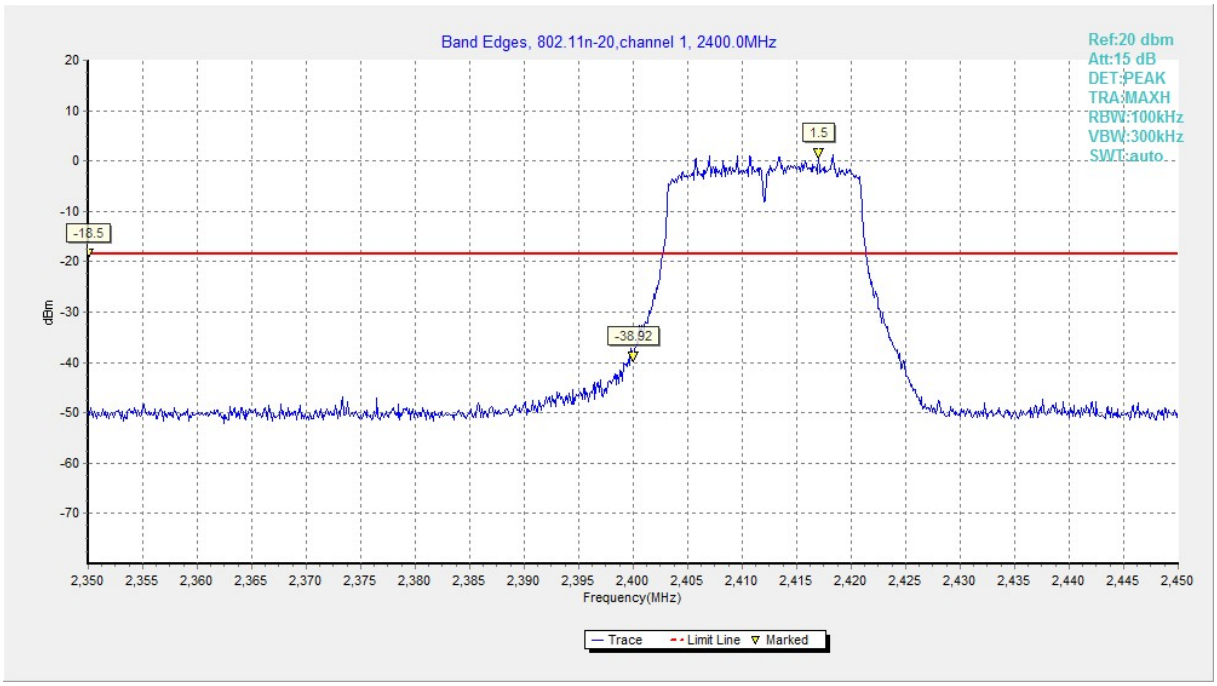

Fig.A.5.5 Band Edges (802.11n-HT20, Ch 1)

Fig.A.5.6 Band Edges (802.11n-HT20, Ch 11)

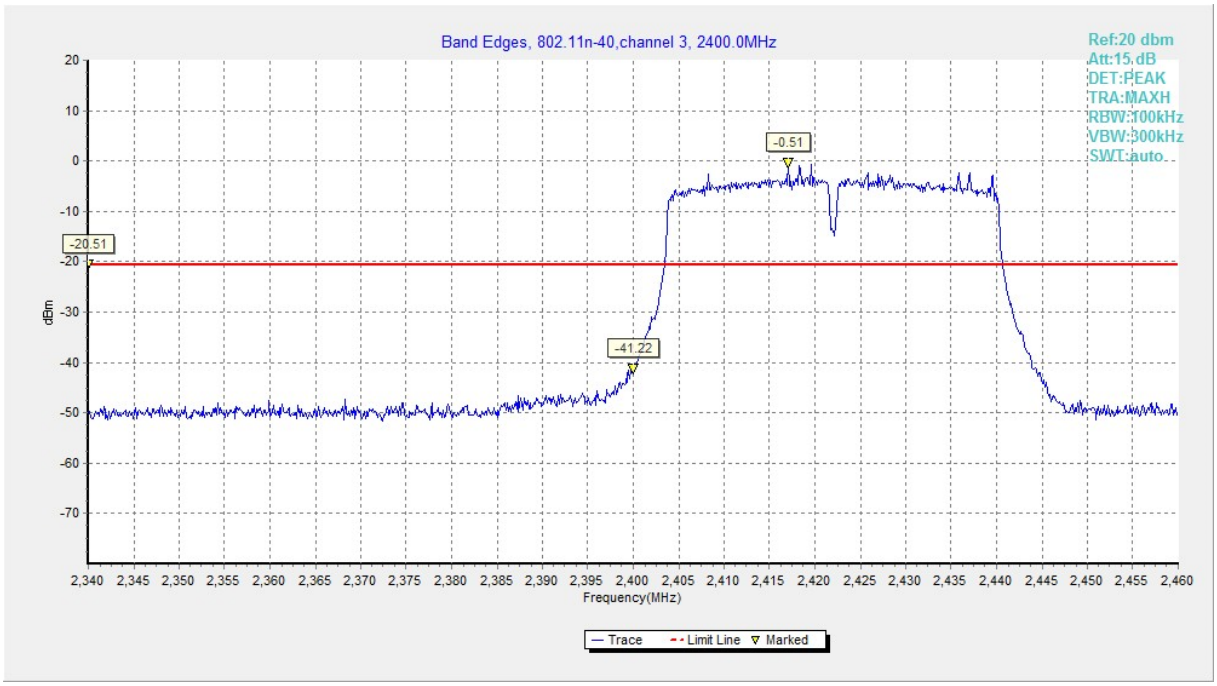

Fig.A.5.7 Band Edges (802.11n-HT40, Ch 3)

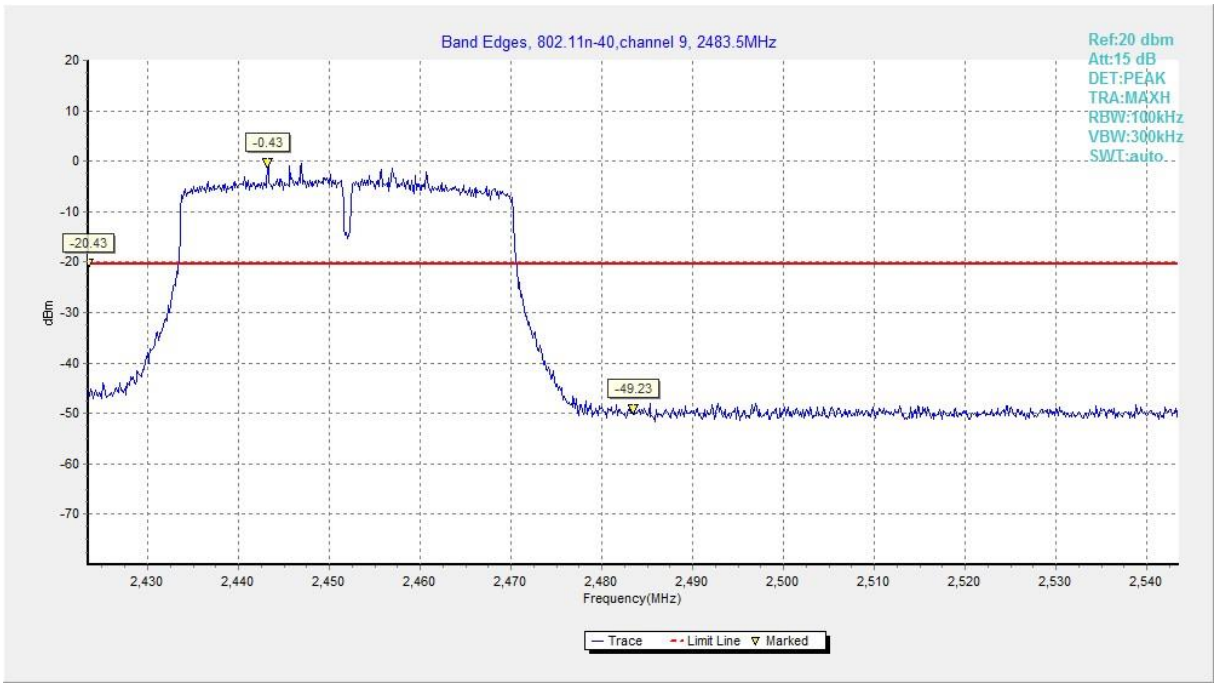

Fig.A.5.8 Band Edges (802.11n-HT40, Ch 9)

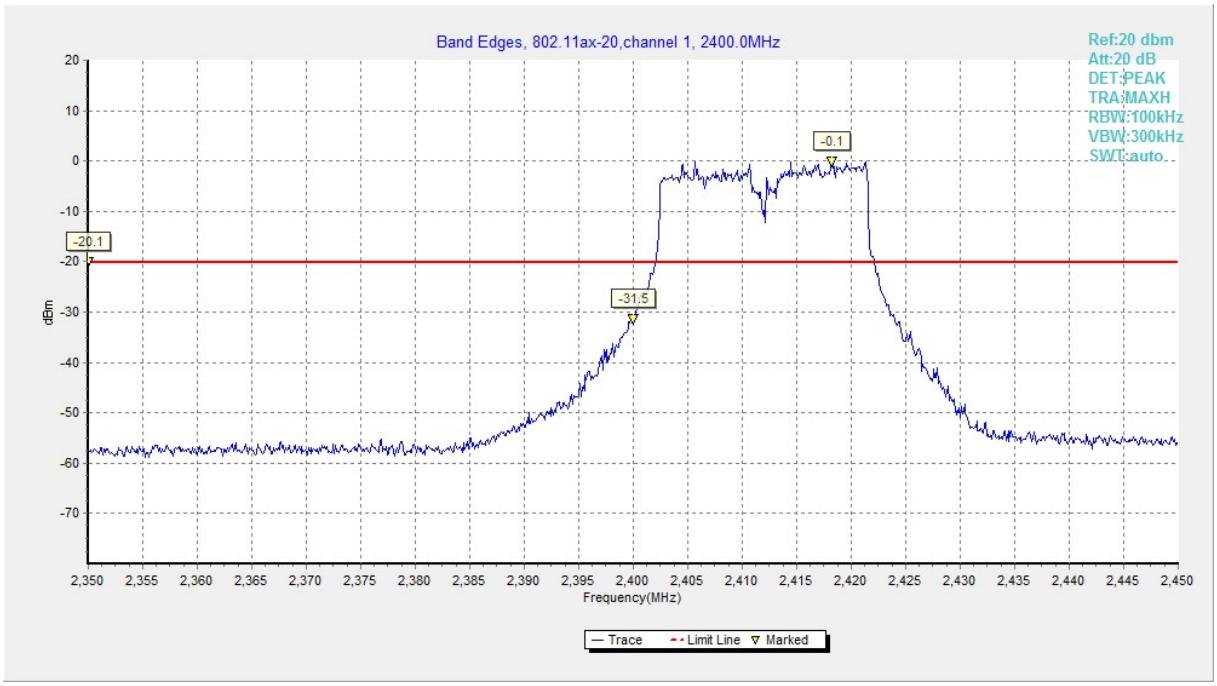

Fig.A.5.9 Band Edges (802.11ax-HE20, Ch 1)

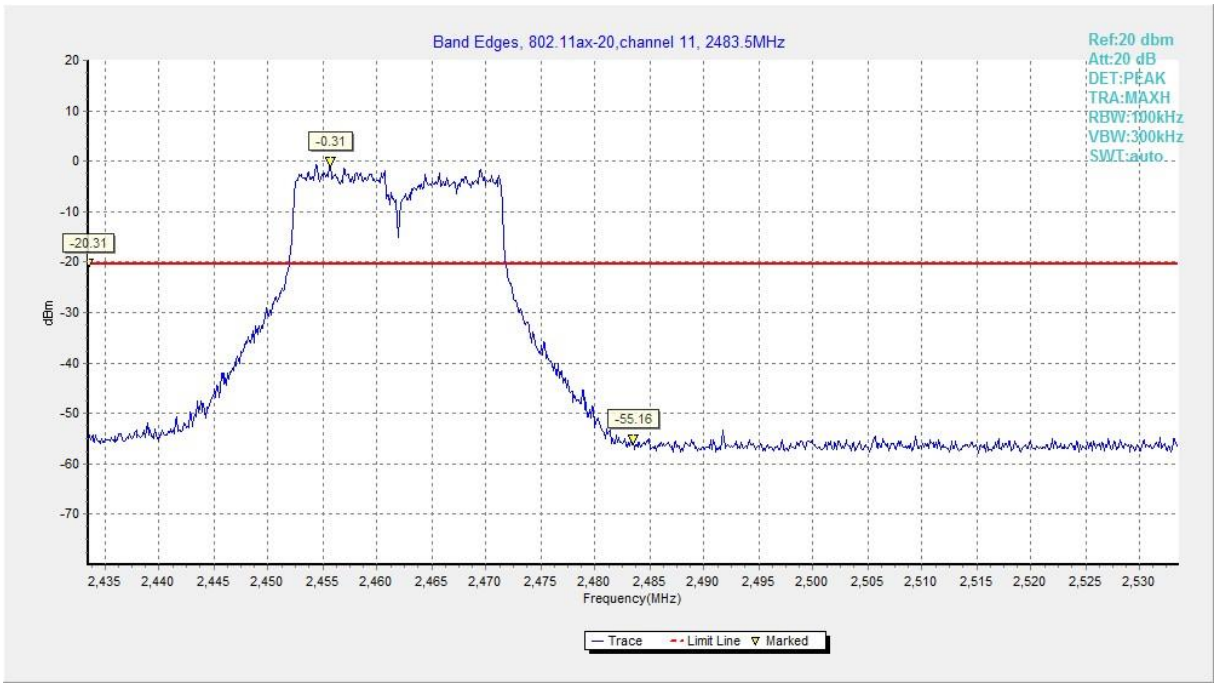

Fig.A.5.10 Band Edges (802.11ax-HE20, Ch 11)

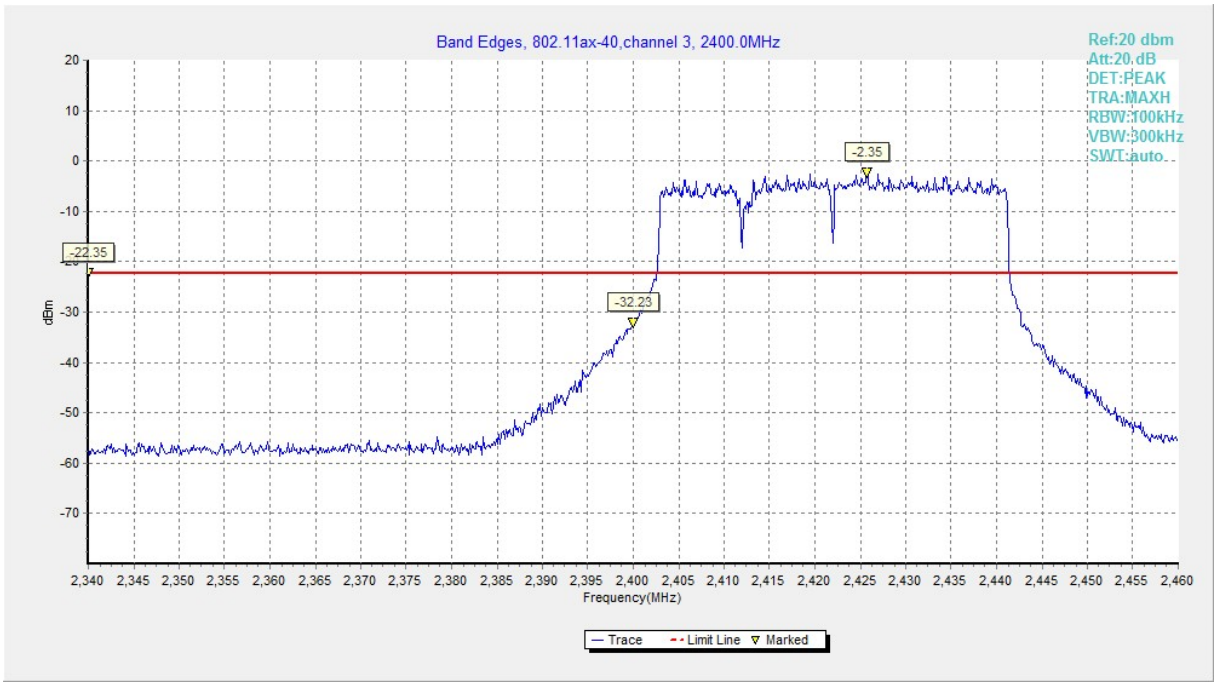

Fig.A.5.11 Band Edges (802.11ax-HE40, Ch 3)