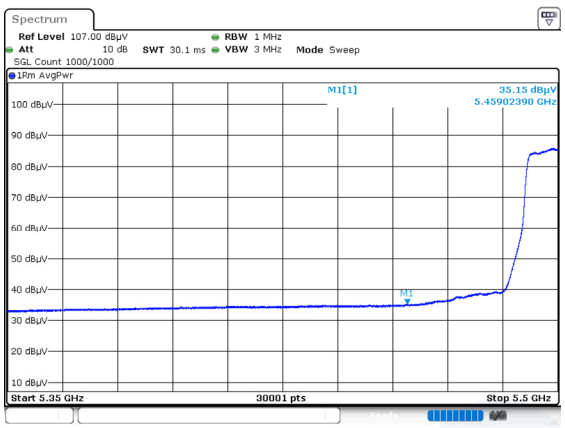
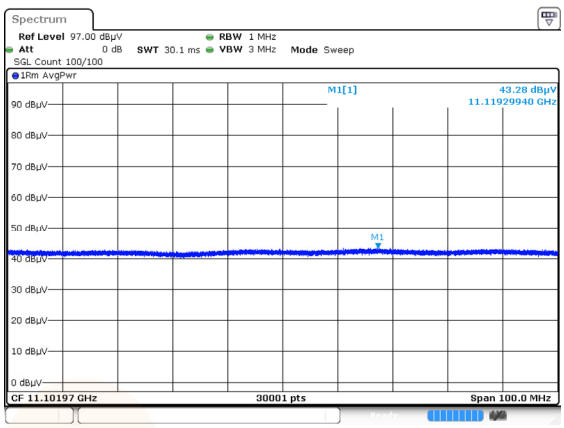
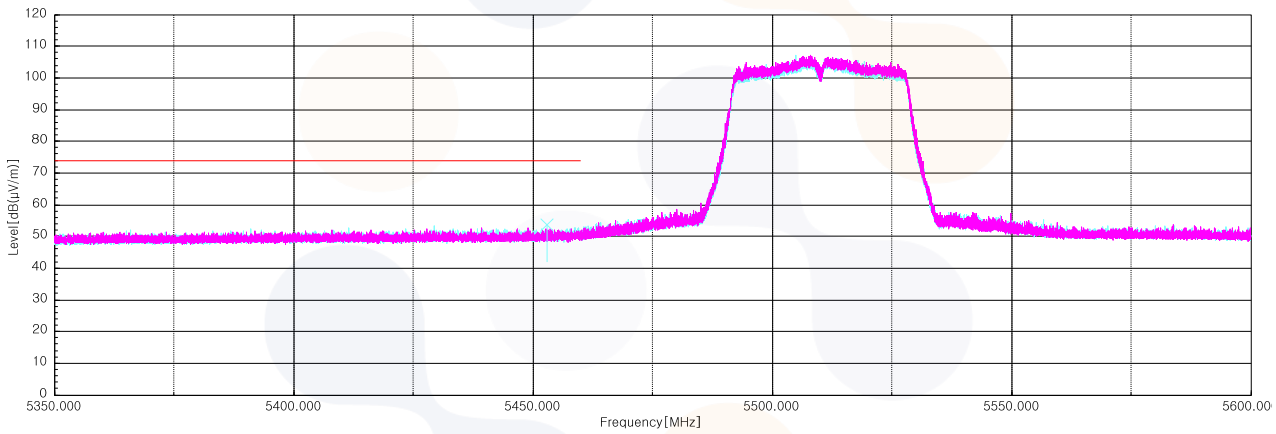
802.11n HT40_Lowest Channel (5 510 ㎒)

Average data



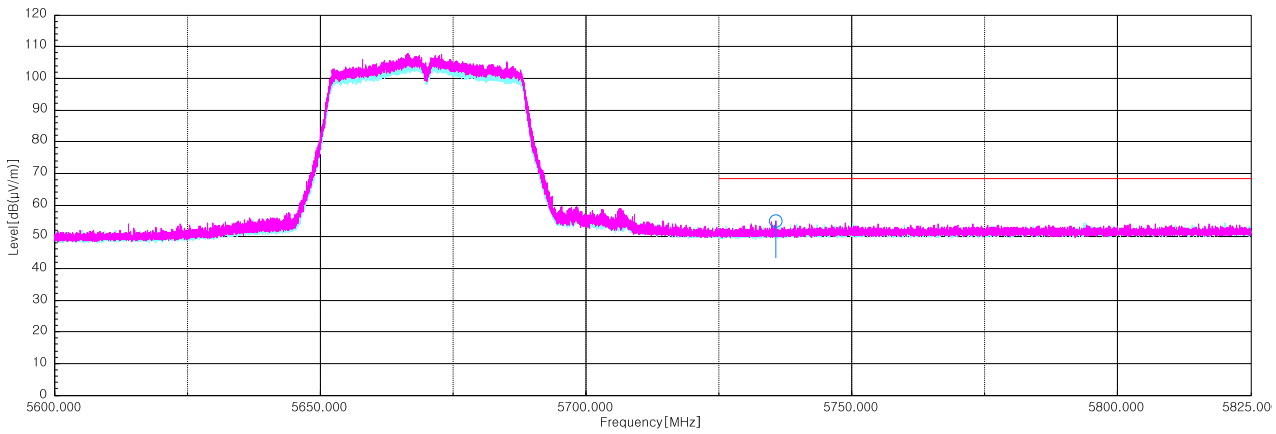


Horizontal/Vertical for Band-edge



Highest Channel (5 670 ㎒)

Horizontal/Vertical for Band-edge



802.11ac VHT20_Lowest Channel (5 500 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.68[1)]	V	46.50	33.00	-26.82	-	52.68	74.00	21.32
11 073.17[1)]	H	53.40	38.55	-41.82	-	50.13	74.00	23.87
16 562.12	V	52.30	38.40	-37.93	-	52.77	68.20	15.43
Average Data								
5 459.68[1)]	V	34.31	33.00	-26.82	0.61	41.10	54.00	12.90

802.11ac VHT20_Middle Channel (5 600 ㎒)

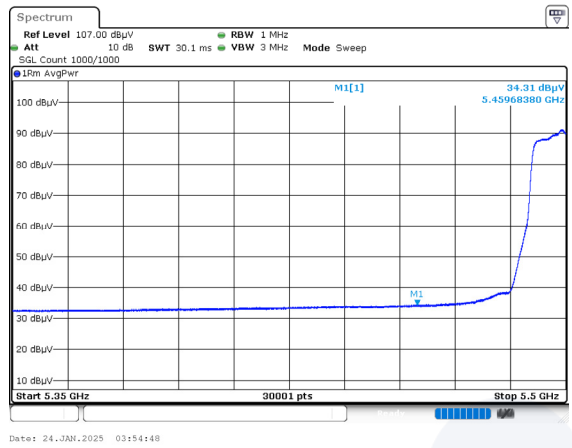
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
6 720.03	V	53.80	36.00	-40.76	-	49.04	68.20	19.16
11 239.92[1)]	V	53.80	38.70	-41.61	-	50.89	74.00	23.11
16 778.32	H	51.20	38.14	-37.95	-	51.39	68.20	16.81
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac VHT20_Highest Channel (5 700 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 738.78	V	46.70	33.56	-26.10	-	54.16	68.20	14.04
11 333.07[1)]	V	53.70	38.97	-41.68	-	50.99	74.00	23.01
17 135.20	H	50.90	38.00	-37.39	-	51.51	68.20	16.69
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

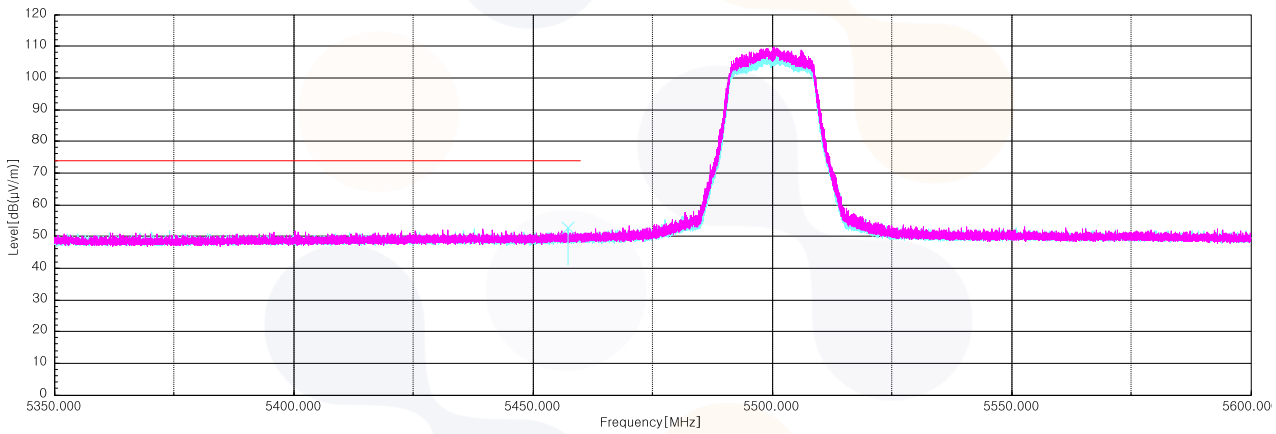
802.11ac VHT20_Lowest Channel (5 500 ㎒)

Average data



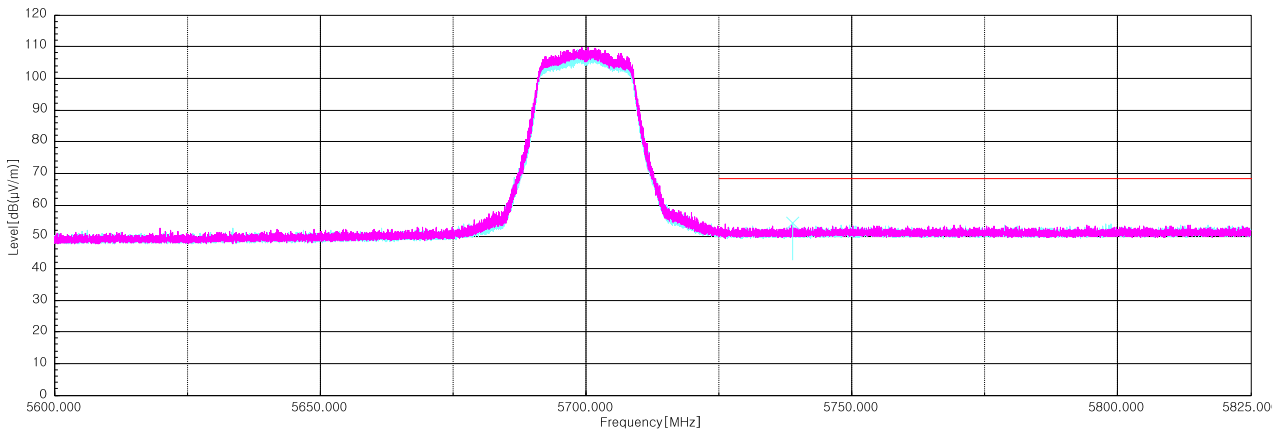
Blank

Horizontal/Vertical for Band-edge



Highest Channel (5 700 ㎒)

Horizontal/Vertical for Band-edge



802.11ac VHT40_Lowest Channel (5 510 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.22[1)]	H	45.60	33.00	-26.82	-	51.78	74.00	22.22
11 096.93[1)]	V	53.90	38.51	-41.64	-	50.77	74.00	23.23
16 481.62	H	52.20	38.30	-38.51	-	51.99	68.20	16.21
Average Data								
5 459.22[1)]	H	33.68	33.00	-26.82	1.10	40.96	54.00	13.04

802.11ac VHT40_Middle Channel (5 590 ㎒)

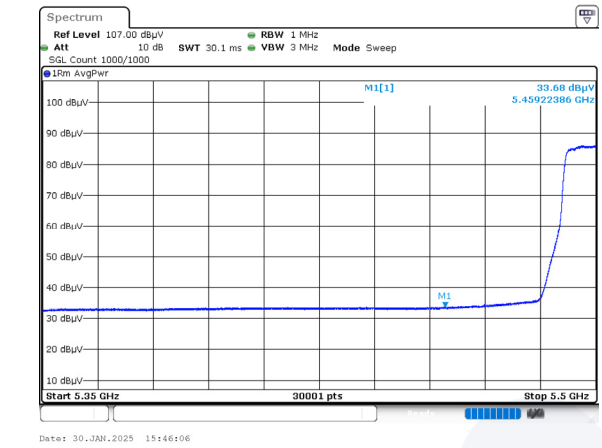
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 113.80[1)]	H	53.60	38.73	-41.60	-	50.73	74.00	23.27
16 751.48	V	52.20	38.20	-38.35	-	52.05	68.20	16.15
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac VHT40_Highest Channel (5 670 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 743.60	H	46.70	33.57	-26.09	-	54.18	68.20	14.02
11 207.33[1)]	H	53.80	38.70	-41.63	-	50.87	74.00	23.13
17 004.10	V	52.00	37.90	-37.37	-	52.53	68.20	15.67
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac VHT40_Lowest Channel (5 510 ㎒)

Average data



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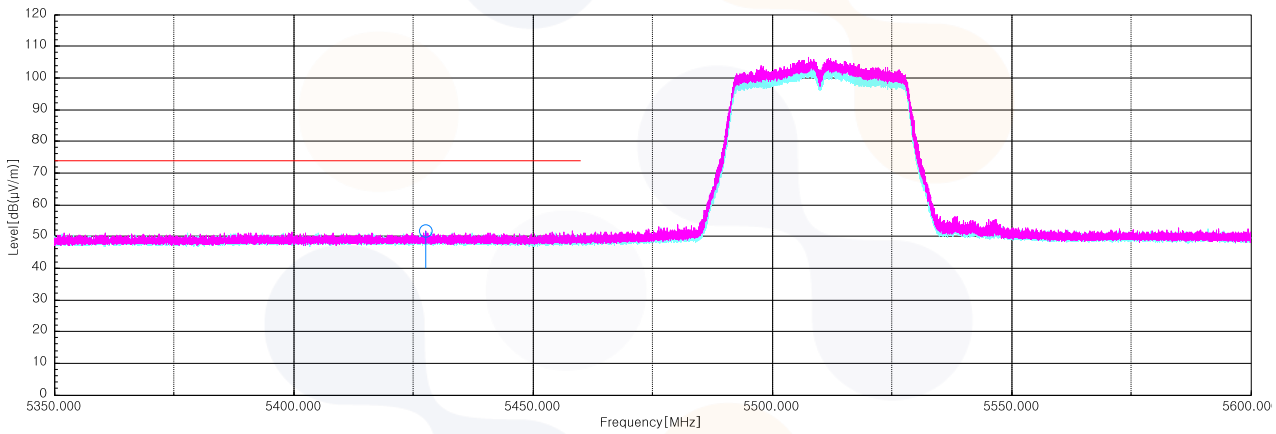
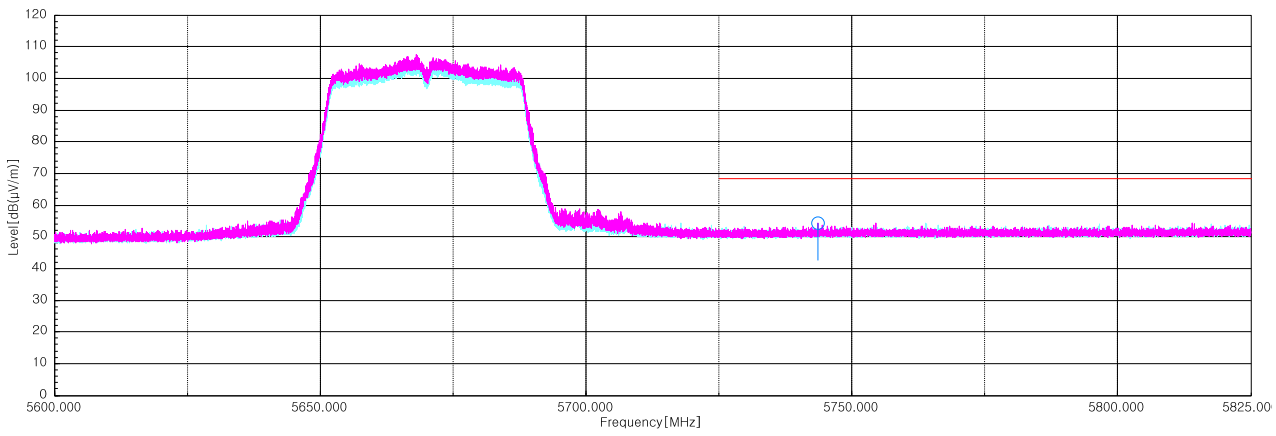
Horizontal/Vertical for Band-edge



Highest Channel (5 670 ㎒)

Horizontal/Vertical for Band-edge



802.11ac VHT80_Lowest Channel (5 530 ㎒)

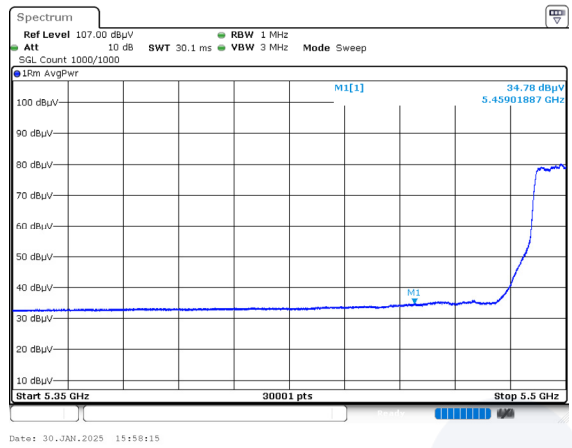
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 459.02[1)]	V	46.60	33.00	-26.82	-	52.78	74.00	21.22
11 108.82[1)]	V	53.80	38.72	-41.61	-	50.91	74.00	23.09
16 557.13	V	51.90	38.40	-37.91	-	52.39	68.20	15.81
Average Data								
5 459.02[1)]	V	34.78	33.00	-26.82	1.86	42.82	54.00	11.18

802.11ac VHT80_Highest Channel (5 610 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 744.30	H	45.80	33.58	-26.09	-	53.29	68.20	14.91
11 126.07[1)]	V	53.50	38.75	-41.58	-	50.67	74.00	23.33
16 754.17	V	51.40	38.19	-38.31	-	51.28	68.20	16.92
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac VHT80_Lowest Channel (5 530 ㎒)

Average data



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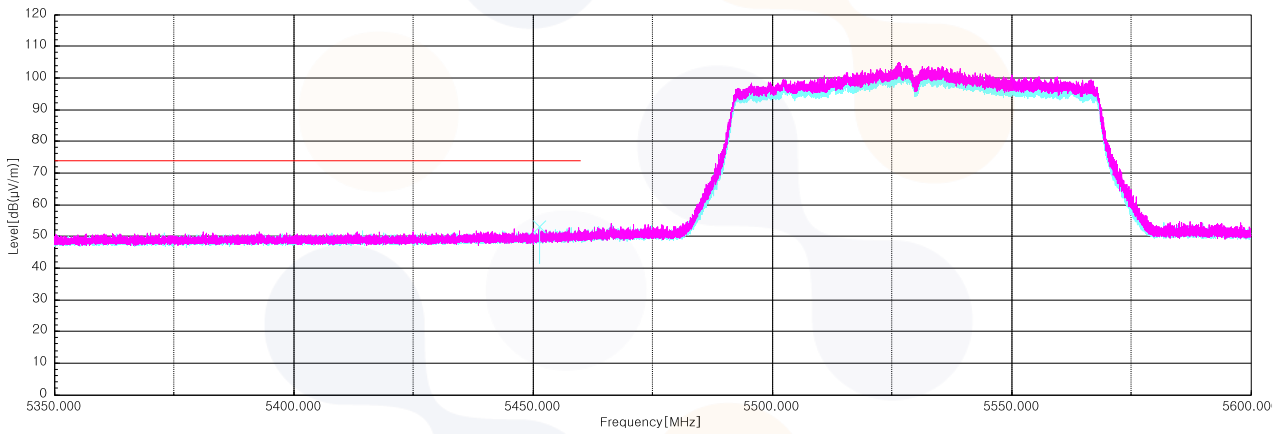
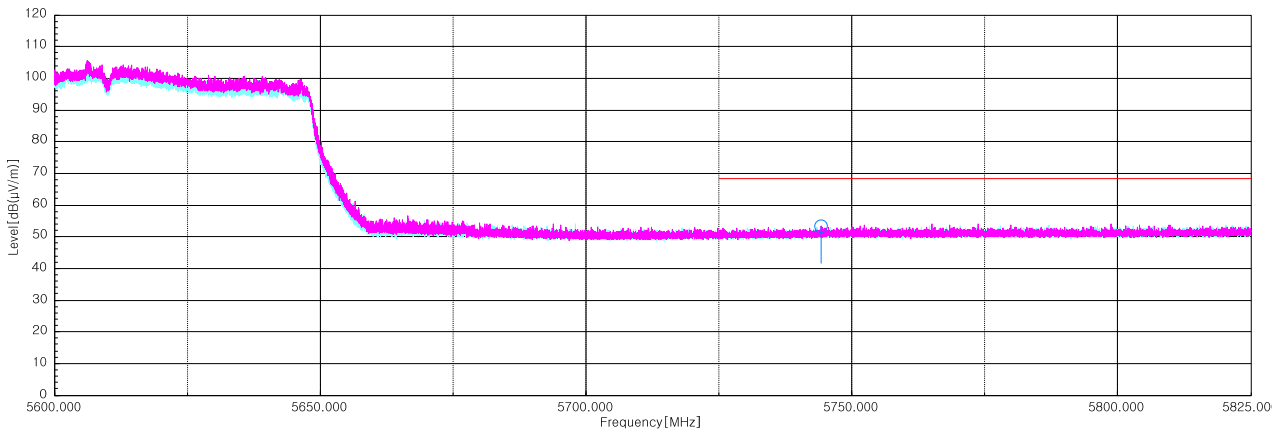
Horizontal/Vertical for Band-edge



Highest Channel (5 610㎒)

Horizontal/Vertical for Band-edge



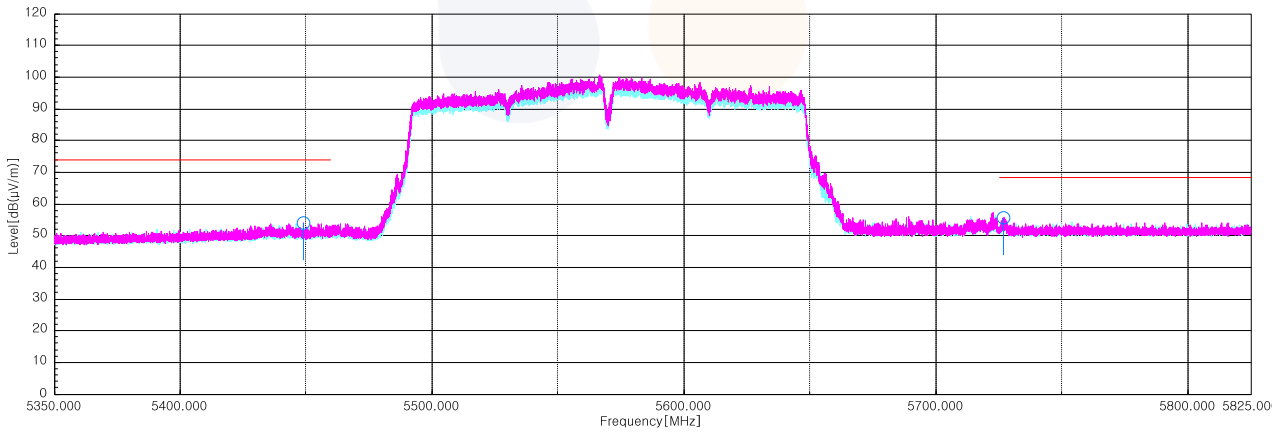
802.11ac VHT160_Middle Channel (5 570 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 441.24[1)]	H	47.70	33.00	-26.83	-	53.87	74.00	20.13
5 726.68	H	48.30	33.51	-26.14	-	55.67	68.20	12.53
11 092.33[1)]	V	53.90	38.52	-41.68	-	50.74	74.00	23.26
16 795.95	H	51.80	38.11	-37.69	-	52.22	68.20	15.98
Average Data								
5 441.24[1)]	H	36.27	33.00	-26.83	2.69	45.13	54.00	8.87

Average data

Blank

Horizontal/Vertical for Band-edge

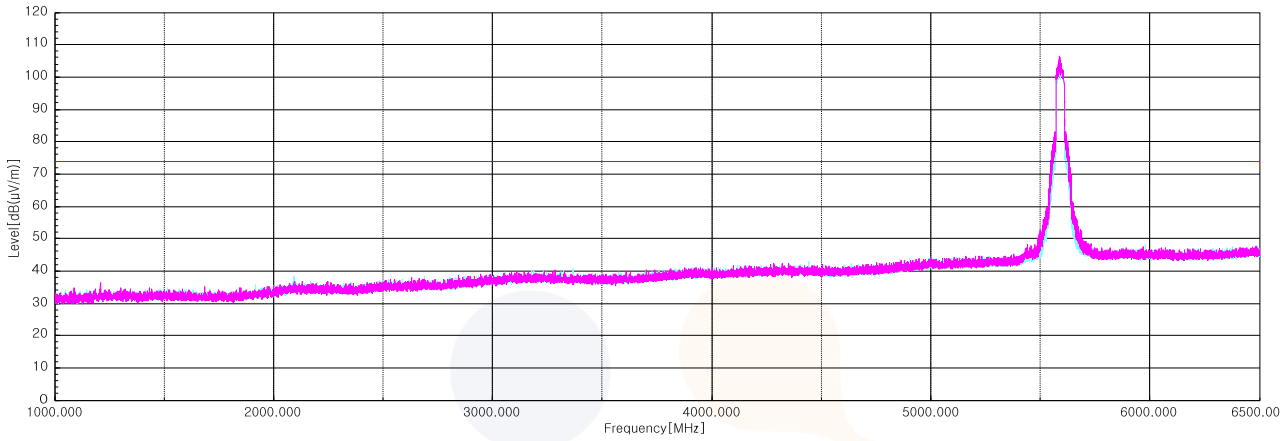


Plot of Harmonics and Spurious Emissions

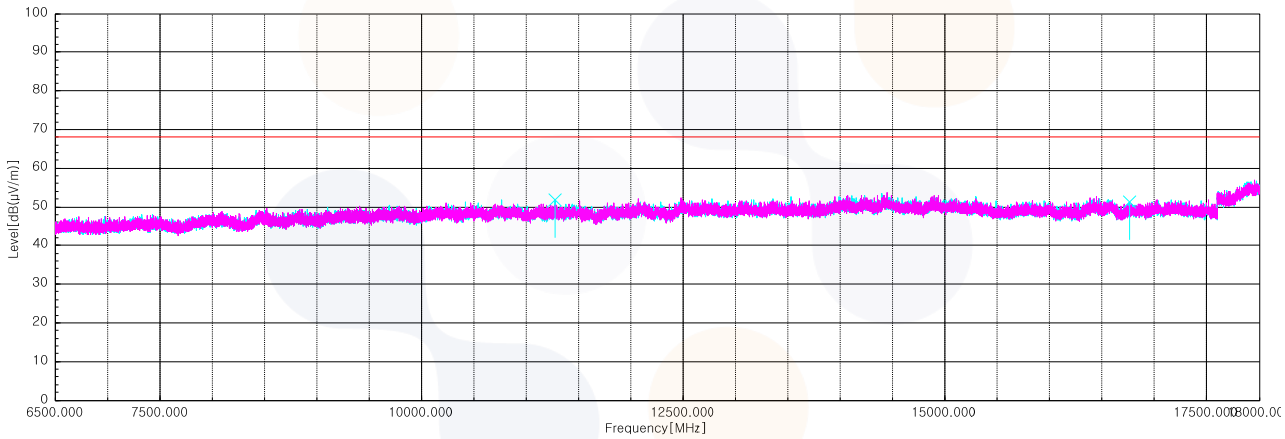
In order to simplify the report, attached plots were only the lowest margin condition

802.11n HT40_UNII 2C_2TX MIMO_Middle Channel (5 590 ㎒)

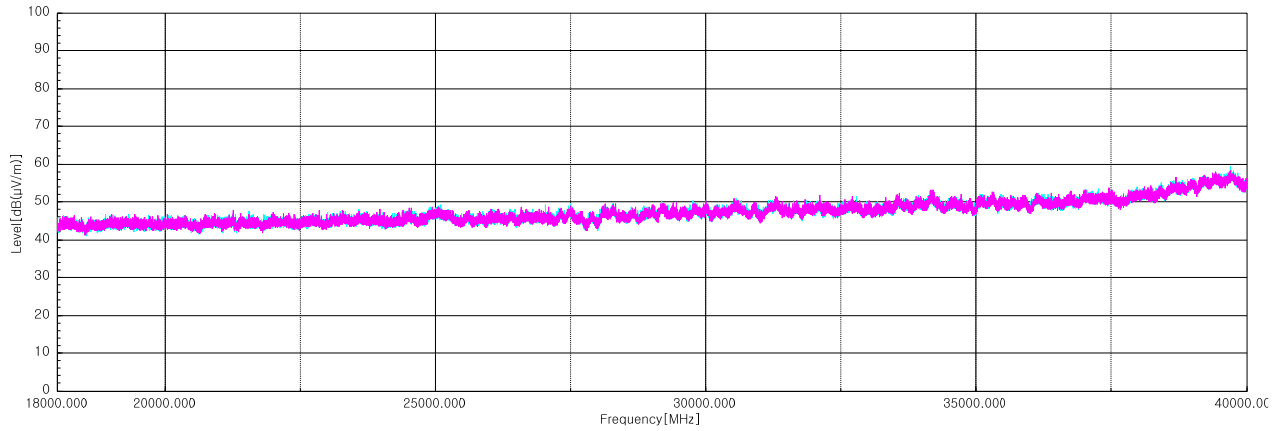
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



Straddle Channel

MIMO

802.11a (5 720 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 399.38[1)]	V	54.20	38.90	-41.83	-	51.27	74.00	22.73
17 183.50	V	50.90	38.17	-36.93	-	52.14	68.20	16.06
Average Data								
11 399.38[1)]	V	43.68	38.90	-41.83	0.28	41.03	54.00	12.97

802.11n HT20 (5 720 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 390.77[1)]	H	54.20	38.90	-41.82	-	51.28	74.00	22.72
17 157.05	H	51.80	38.11	-37.20	-	52.71	68.20	15.49
Average Data								
11 390.77[1)]	H	43.51	38.90	-41.82	0.61	41.20	54.00	12.80

802.11n HT40 (5 710 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 452.71[1)]	V	54.50	38.79	-41.55	-	51.74	74.00	22.26
17 179.28	H	51.50	38.16	-36.97	-	52.69	68.20	15.51
Average Data								
11 452.71[1)]	V	43.41	38.79	-41.55	1.11	41.76	54.00	12.24

802.11ac VHT20 (5 720 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 453.56[1)]	H	54.50	38.79	-41.55	-	51.74	74.00	22.26
17 052.40	H	51.00	38.00	-37.55	-	51.45	68.20	16.75
Average Data								
11 453.56[1)]	H	43.11	38.79	-41.55	0.61	40.96	54.00	13.04

802.11ac VHT40 (5 710 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 505.18[1)]	H	53.60	38.80	-41.47	-	50.93	74.00	23.07
17 218.77	H	50.10	38.24	-36.79	-	51.55	68.20	16.65
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac VHT80 (5 690 ㎒)

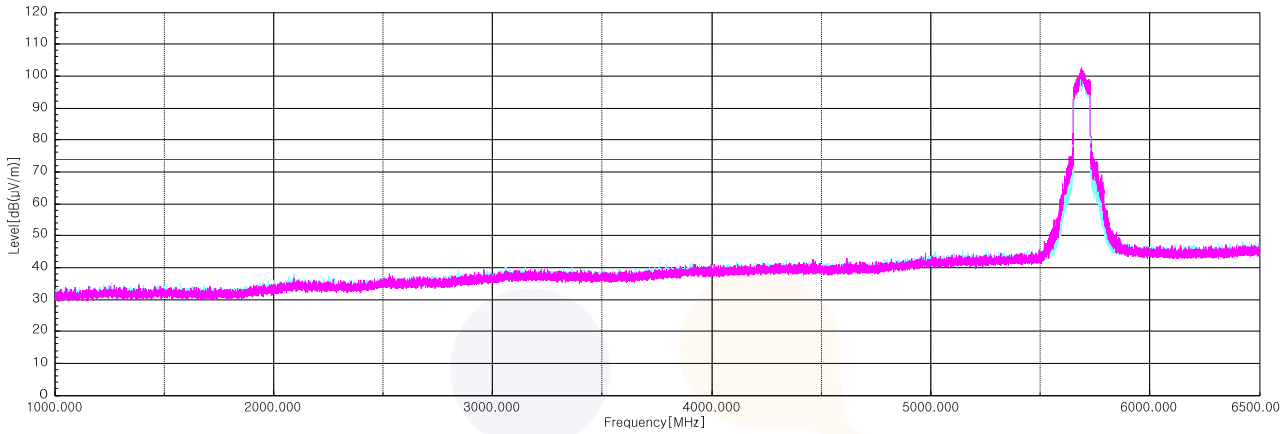
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 500.63[1)]	V	54.10	38.80	-41.43	-	51.47	74.00	22.53
17 050.48	H	51.20	38.00	-37.54	-	51.66	68.20	16.54
Average Data								
11 500.63[1)]	V	43.17	38.80	-41.43	1.86	42.40	54.00	11.60

Plot of Harmonics and Spurious Emissions

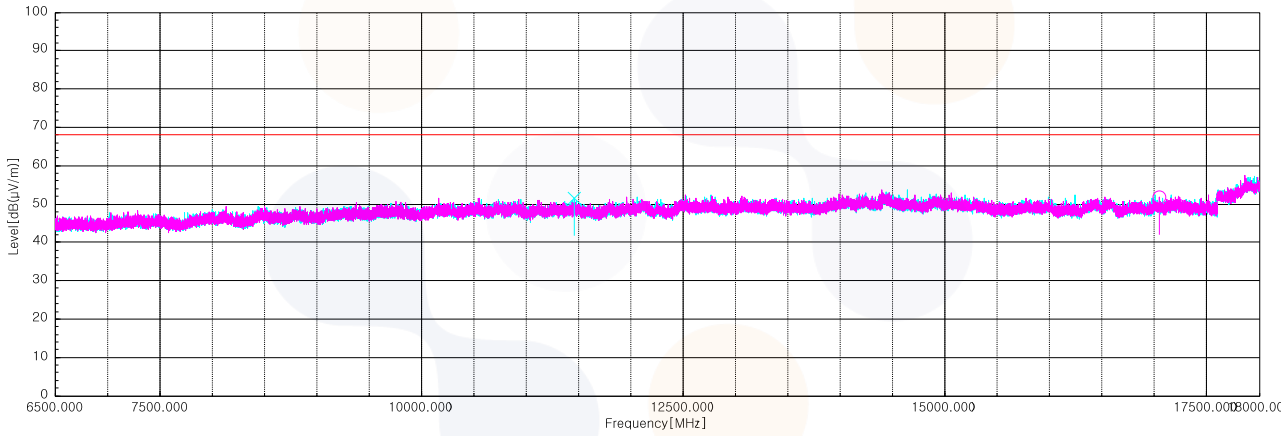
In order to simplify the report, attached plots were only the lowest margin condition

802.11ac VHT80_Straddle Channel (5 690 ㎒)

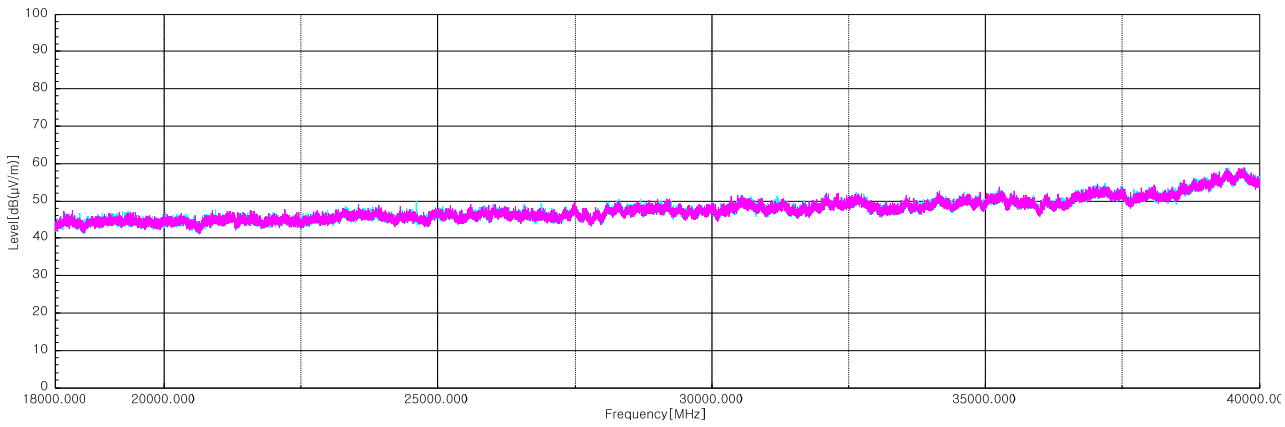
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



UNII 3 2TX MIMO

802.11a_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 718.55	H	52.50	33.47	-26.16	-	59.81	110.40	50.59
11 512.47[1)]	V	53.50	38.80	-41.52	-	50.78	74.00	23.22
17 269.37	V	51.70	38.48	-36.86	-	53.32	68.20	14.88
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

802.11a_Middle Channel (5 785 ㎒)

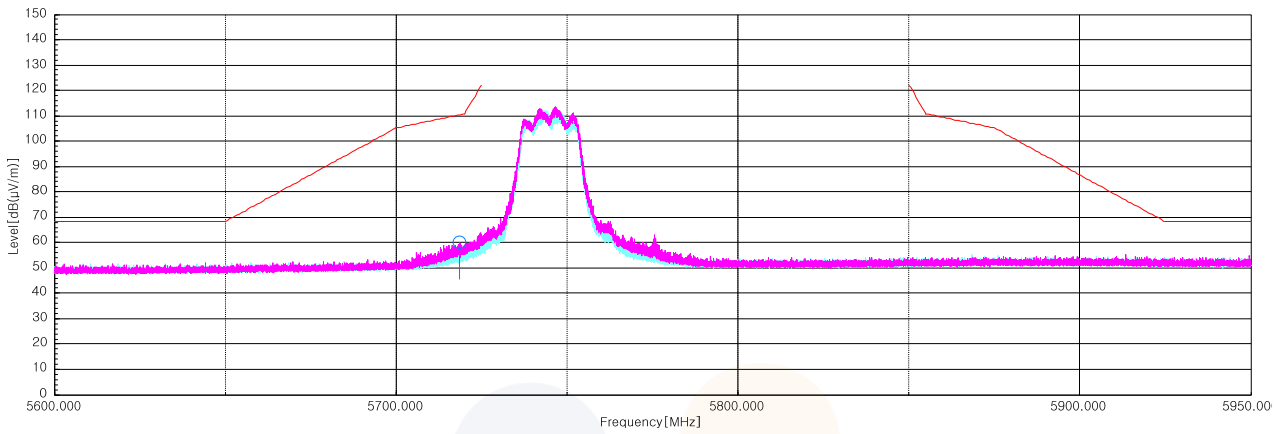
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 570.35[1)]	V	53.60	38.66	-41.69	-	50.57	74.00	23.43
17 355.23	H	50.50	38.82	-37.15	-	52.17	68.20	16.03
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

802.11a_Highest Channel (5 825 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 855.51	H	50.80	34.22	-25.93	-	59.09	110.70	51.61
11 812.62[1)]	V	53.30	38.53	-40.86	-	50.97	74.00	23.03
17 469.47	H	48.60	39.32	-36.39	-	51.53	68.20	16.67
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

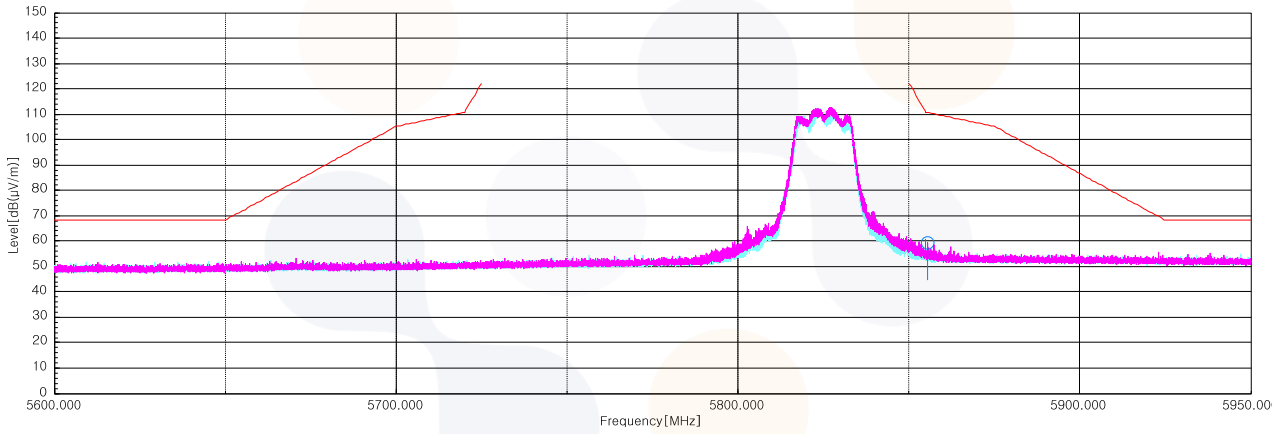
802.11a_Lowest Channel (5 745 ㎒)

Horizontal/Vertical for Band-edge



802.11a_Highest Channel (5 825 ㎒)

Horizontal/Vertical for Band-edge



802.11n_HT20_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 719.85	H	49.20	33.48	-26.16	-	56.52	110.80	54.28
11 345.74[1)]	V	54.10	38.99	-41.73	-	51.36	74.00	22.64
17 211.87	H	50.70	38.22	-36.78	-	52.14	68.20	16.06
Average Data								
11 345.74[1)]	V	43.69	38.99	-41.73	0.61	41.56	54.00	12.44

802.11n_HT20_Middle Channel (5 785 ㎒)

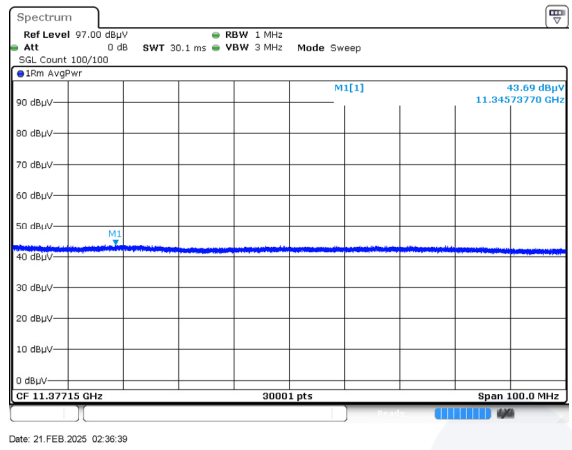
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 517.07[1)]	V	53.70	38.80	-41.56	-	50.94	74.00	23.06
17 250.97	V	51.20	38.40	-36.84	-	52.76	68.20	15.44
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11n_HT20_Highest Channel (5 825 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 872.31	V	46.20	34.29	-25.90	-	54.59	106.00	51.41
11 523.02[1)]	H	54.50	38.80	-41.60	-	51.70	74.00	22.30
17 498.60	V	48.90	39.49	-36.71	-	51.68	68.20	16.52
Average Data								
11 523.02[1)]	H	43.25	38.80	-41.60	0.61	41.06	54.00	12.94

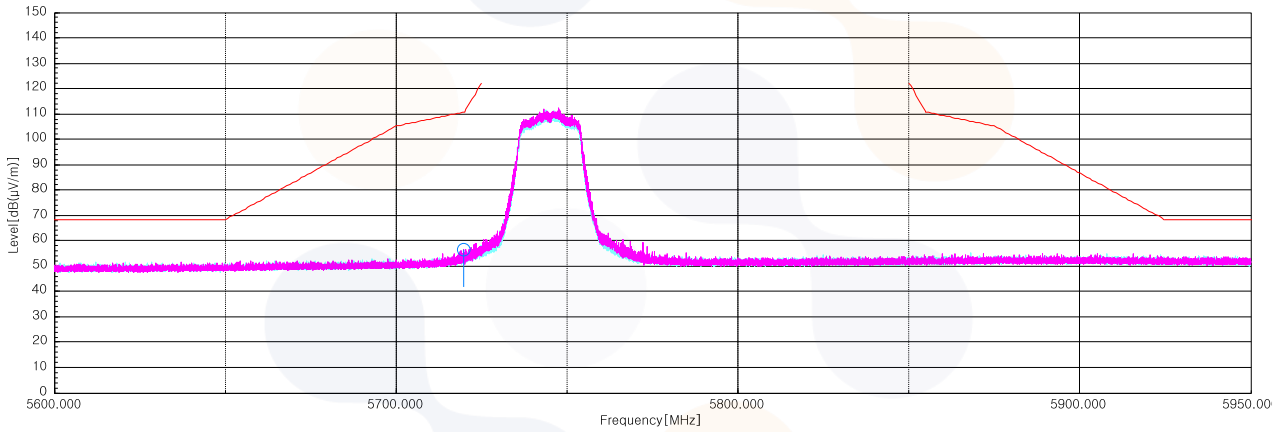
802.11n_HT20_Lowest Channel (5 745 ㎒)

Average data



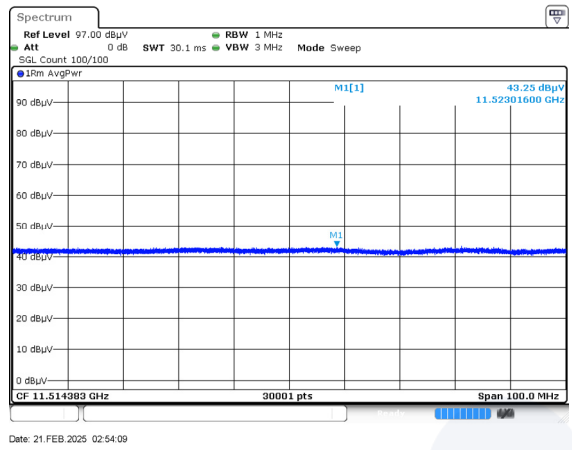
Blank

Horizontal/Vertical for Band-edge



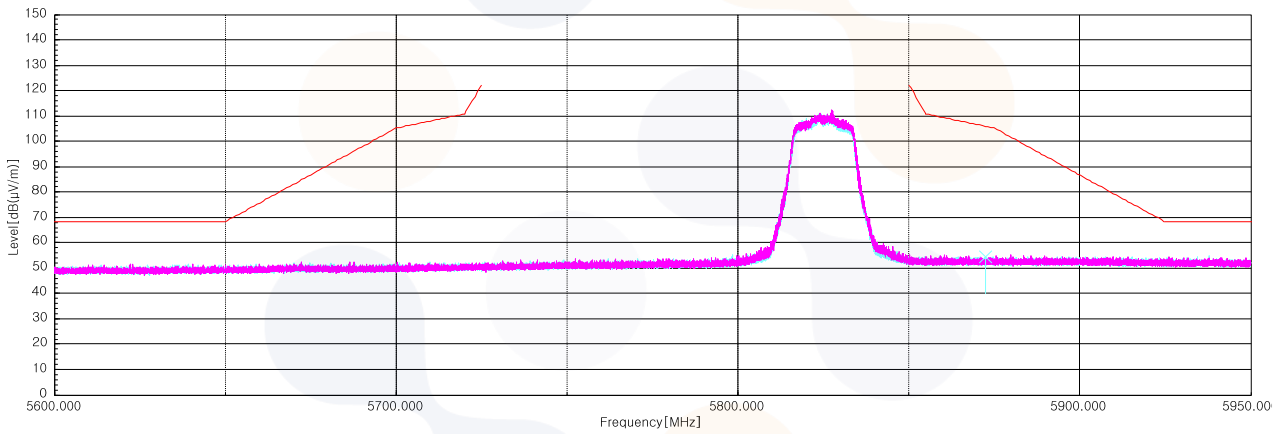
802.11n_HT20_Highest Channel (5 825 ㎒)

Average data



Blank

Horizontal/Vertical for Band-edge



802.11n_HT40_Lowest Channel (5 755 ㎒)

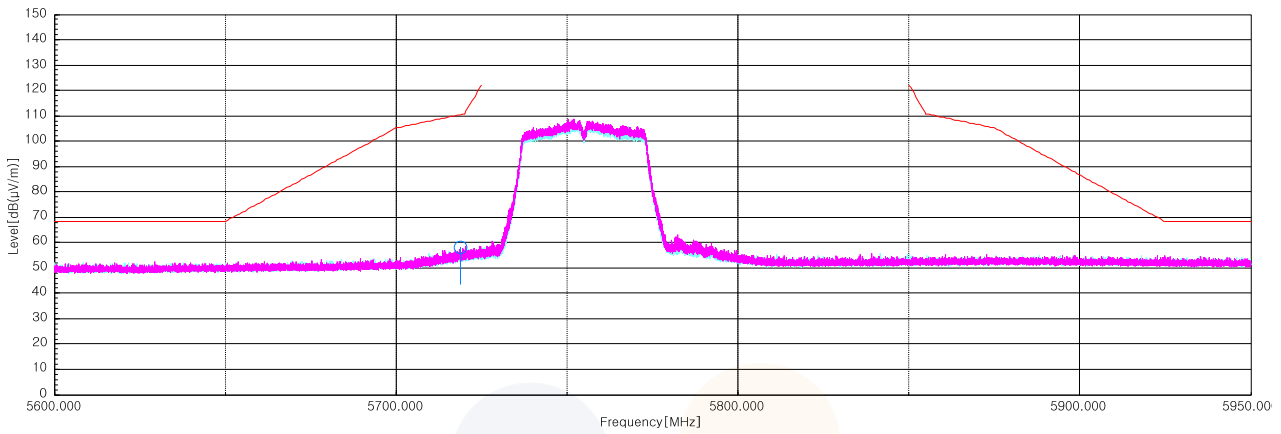
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 718.98	H	50.70	33.48	-26.16	-	58.02	110.50	52.48
11 477.97[1)]	V	53.70	38.74	-41.49	-	50.95	74.00	23.05
17 265.15	V	50.30	38.46	-36.85	-	51.91	68.20	16.29
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11n_HT40_Highest Channel (5 795 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 873.08	V	46.00	34.29	-25.90	-	54.39	105.70	51.31
11 752.82[1)]	V	53.40	38.40	-41.25	-	50.55	74.00	23.45
17 285.85	H	51.10	38.54	-36.87	-	52.77	68.20	15.43
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

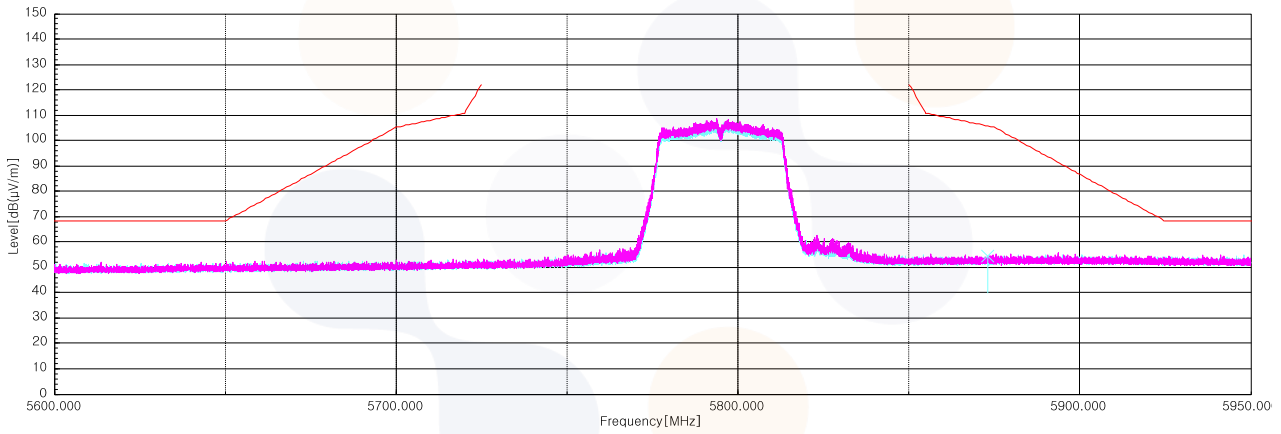
802.11n_HT40_Lowest Channel (5 755 ㎒)

Horizontal/Vertical for Band-edge



802.11n_HT40_Highest Channel (5 795 ㎒)

Horizontal/Vertical for Band-edge



802.11ac_VHT20_Lowest Channel (5 745 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 719.57	H	52.00	33.48	-26.16	-	59.32	110.70	51.38
11 518.22[1)]	H	53.60	38.80	-41.56	-	50.84	74.00	23.16
17 172.77	V	51.10	38.15	-37.04	-	52.21	68.20	15.99
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

802.11ac_VHT20_Middle Channel (5 785 ㎒)

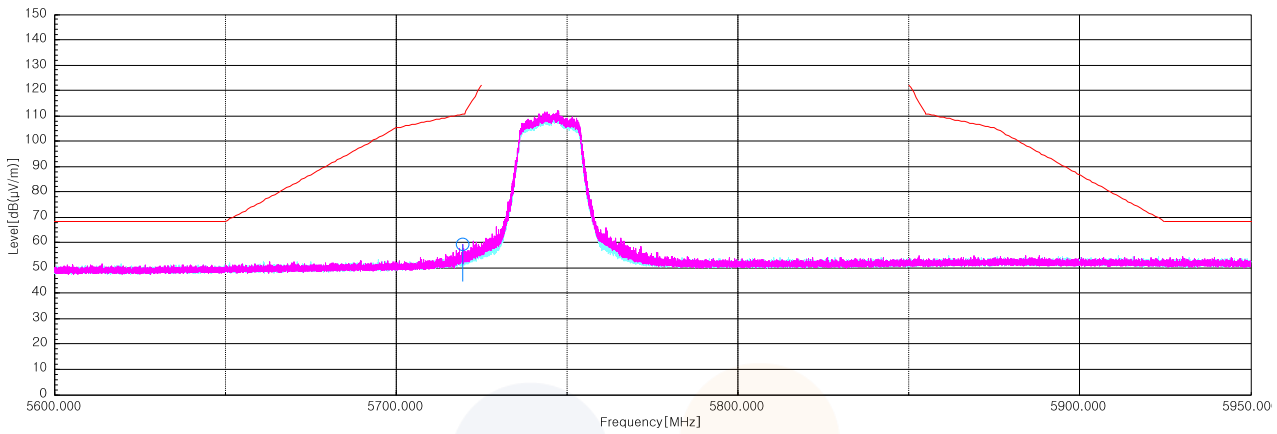
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
11 518.98[1)]	H	53.40	38.80	-41.57	-	50.63	74.00	23.37
17 241.77	V	50.50	38.28	-36.83	-	51.95	68.20	16.25
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

802.11ac_VHT20_Highest Channel (5 825 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 872.18	H	46.90	34.29	-25.90	-	55.29	106.00	50.71
11 633.98[1)]	H	53.90	38.53	-41.58	-	50.85	74.00	23.15
17 510.10	V	48.10	39.68	-36.74	-	51.04	68.20	17.16
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

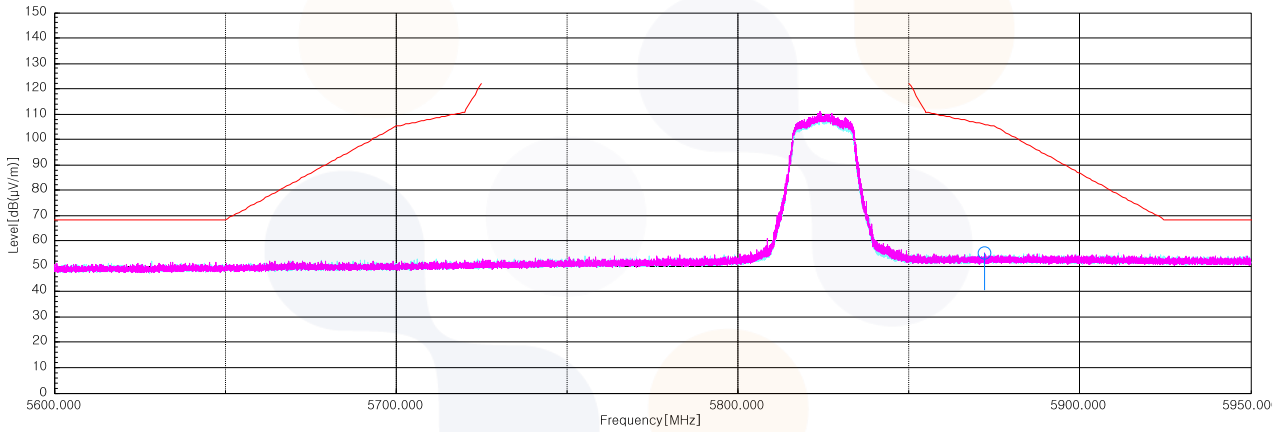
802.11ac_VHT20_Lowest Channel (5 745 ㎒)

Horizontal/Vertical for Band-edge



802.11ac_VHT20_Highest Channel (5 825 ㎒)

Horizontal/Vertical for Band-edge



802.11ac_VHT40_Lowest Channel (5 755 ㎒)

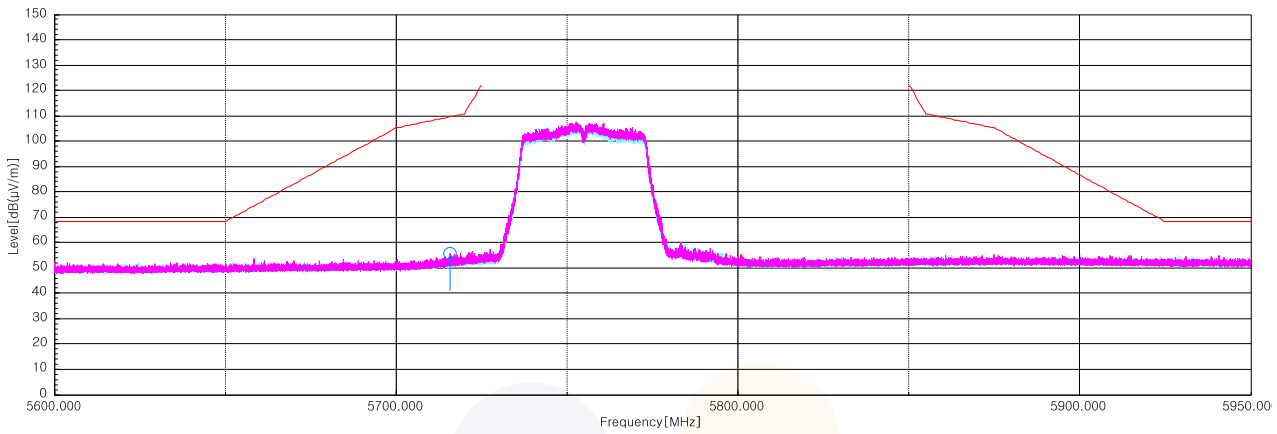
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 715.91	H	48.30	33.46	-26.17	-	55.59	109.70	54.11
11 453.82[1)]	H	53.70	38.79	-41.55	-	50.94	74.00	23.06
17 250.97	V	50.90	38.40	-36.84	-	52.46	68.20	15.74
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit.								

802.11ac_VHT40_Highest Channel (5 795 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 868.33	V	46.40	34.27	-25.91	-	54.76	107.10	52.34
11 496.37[1)]	H	54.90	38.71	-41.44	-	52.17	74.00	21.83
17 342.20	H	49.80	38.77	-37.16	-	51.41	68.20	16.79
Average Data								
11 496.37[1)]	H	43.33	38.71	-41.44	1.10	41.70	54.00	12.30

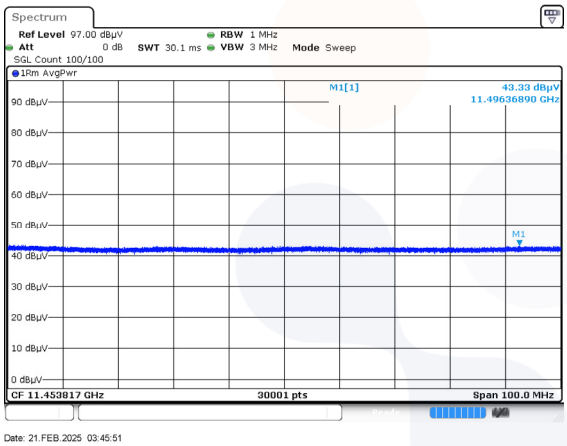
802.11ac_VHT40_Lowest Channel (5 755 ㎒)

Horizontal/Vertical for Band-edge



802.11ac_VHT40_Highest Channel (5 795 ㎒)

Average data



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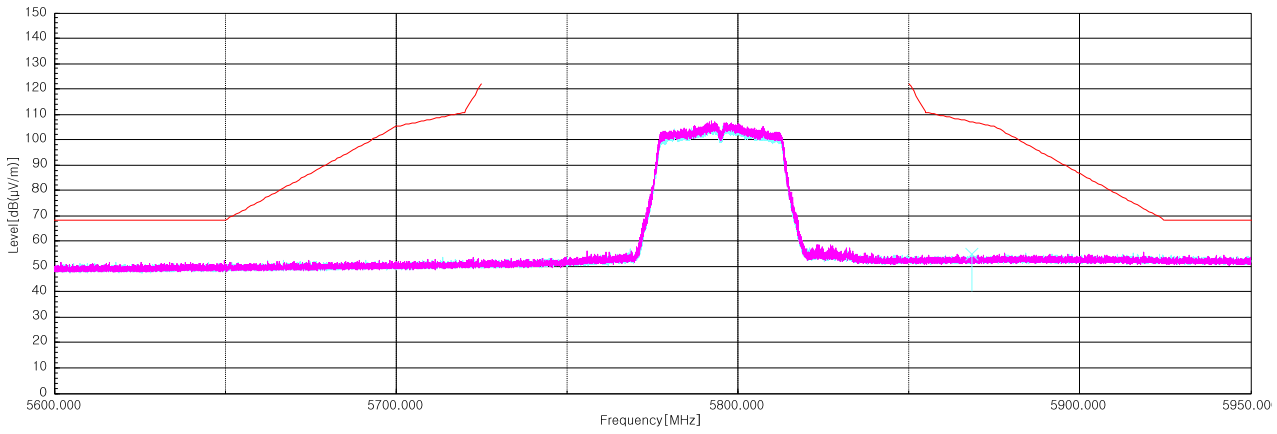
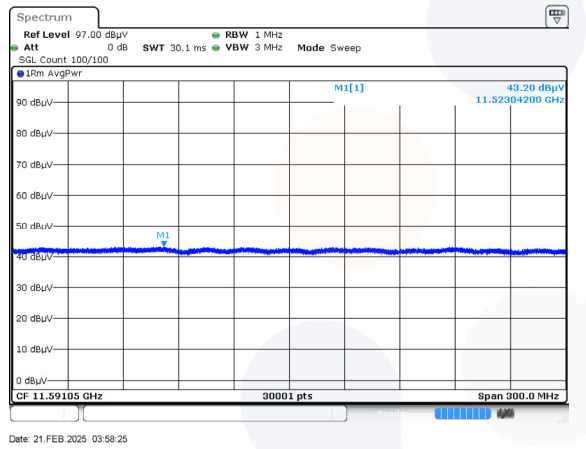
Horizontal/Vertical for Band-edge



802.11ac_VHT80_Middle Channel (5 775 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 711.76	H	49.30	33.45	-26.18	-	56.57	108.50	51.93
5 857.13	H	47.20	34.23	-25.92	-	55.51	110.20	54.69
11 523.04[1)]	V	54.30	38.80	-41.60	-	51.50	74.00	22.50
17 398.93	H	49.50	39.00	-36.66	-	51.84	68.20	16.36
Average Data								
11 523.04[1)]	V	43.20	38.80	-41.60	1.86	42.26	54.00	11.74

Average data



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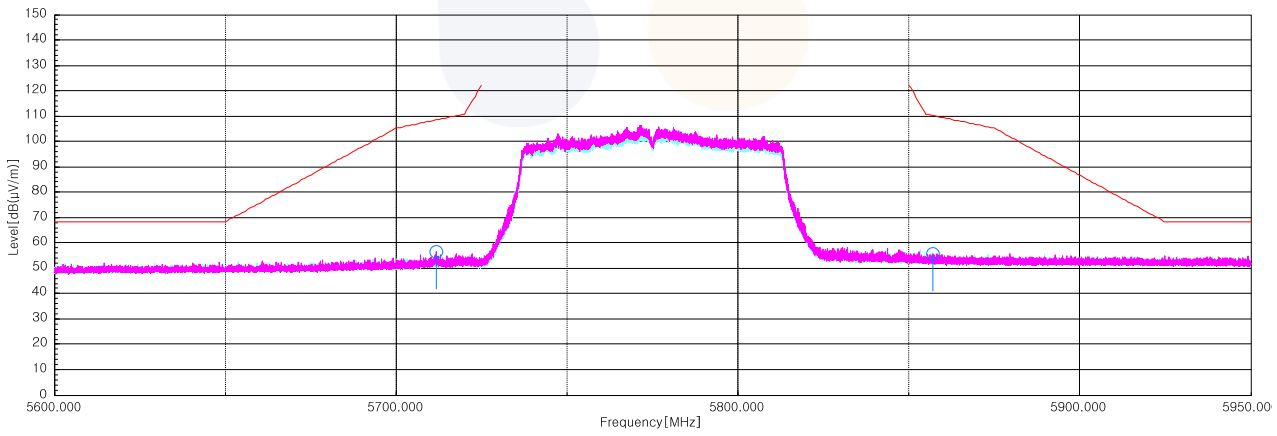
Horizontal/Vertical for Band-edge

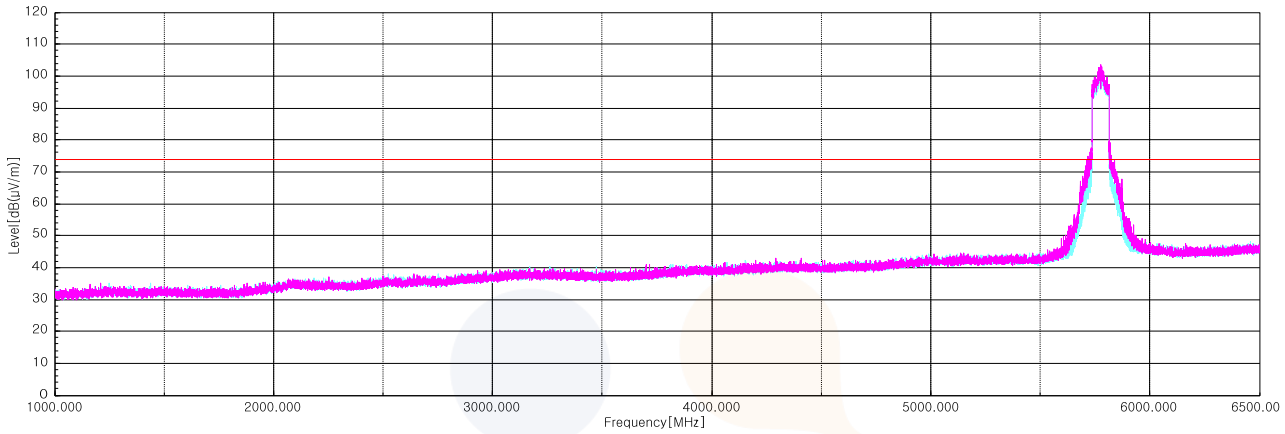


Plot of Harmonics and Spurious Emissions

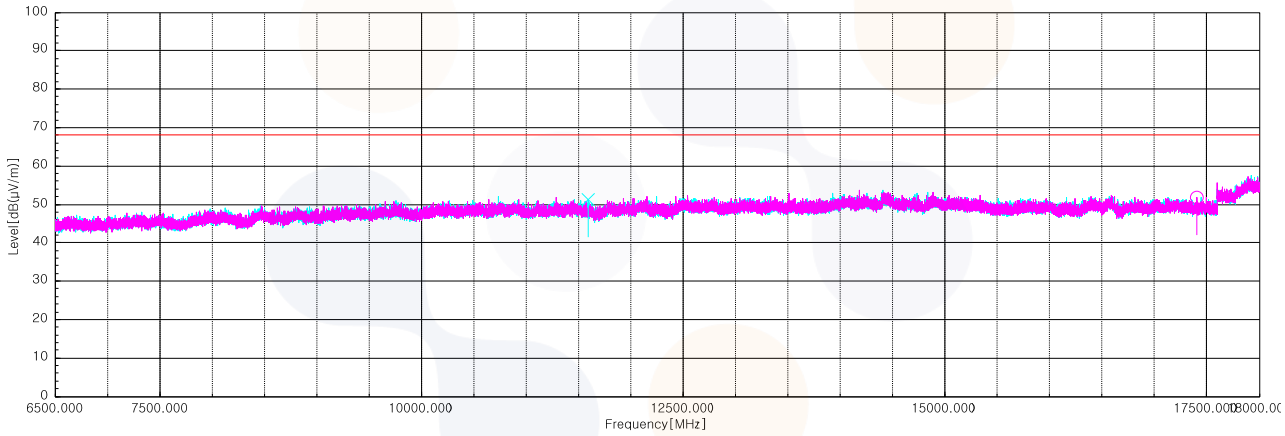
In order to simplify the report, attached plots were only the lowest margin condition

802.11ac_VHT80_UNII 3_2TX MIMO_Middle Channel (5 775 ㎒)

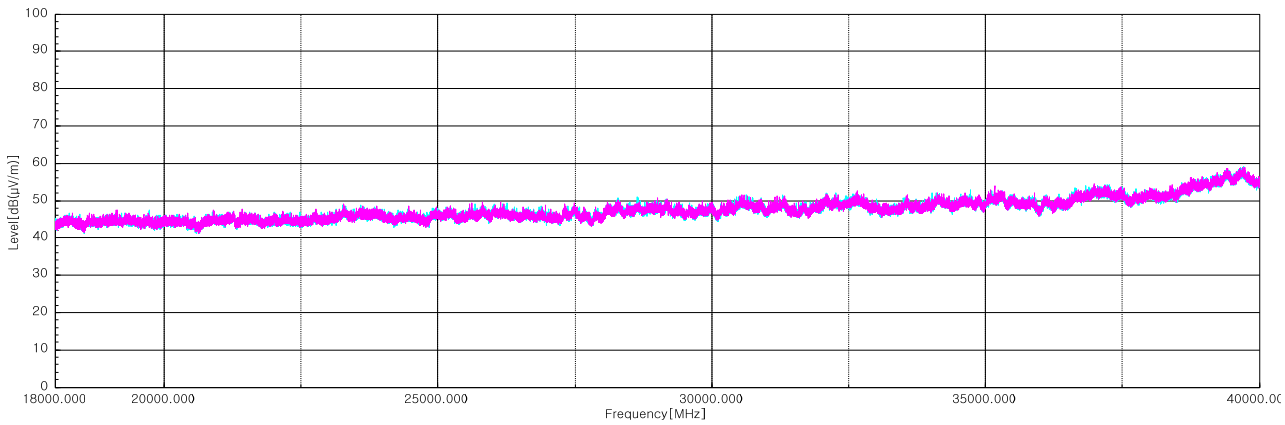
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓



Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



UNII 4 2TX MIMO

802.11a_Lowest Channel (5 845 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 915.08	H	46.40	34.33	-25.85	-	54.88	95.50	40.62
7 792.98	V	59.00	36.77	-41.01	-	54.76	68.20	13.44
11 835.88[1)]	V	53.60	38.57	-40.86	-	51.31	74.00	22.69
17 622.03	H	49.70	40.19	-36.03	-	53.86	68.20	14.34
Average Data								
11 835.88[1)]	V	43.17	38.57	-40.86	0.28	41.16	54.00	12.84

802.11a_Middle Channel (5 865 ㎒)

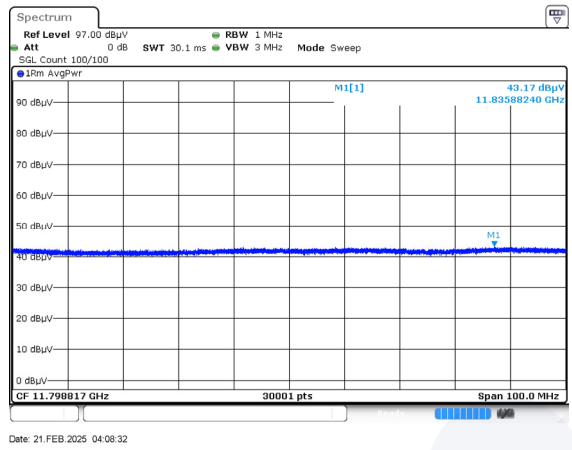
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
7 820.20	V	53.50	36.88	-41.04	-	49.34	68.20	18.86
11 752.43[1)]	H	53.60	38.40	-41.25	-	50.75	74.00	23.25
17 614.75	V	50.20	40.16	-36.07	-	54.29	68.20	13.91
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

802.11a_Highest Channel (5 885 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 895.03	H	79.30	34.38	-25.87	-	87.81	110.10	22.29
7 846.65	V	58.00	36.99	-41.08	-	53.91	68.20	14.29
11 786.93[1)]	V	53.50	38.40	-40.97	-	50.93	74.00	23.07
17 631.23	H	50.70	40.22	-35.98	-	54.94	68.20	13.26
Average Data								
5 895.03	H	65.27	34.38	-25.87	0.28	74.06	90.10	16.04

802.11a_Lowest Channel (5 845 ㎒)

Average data



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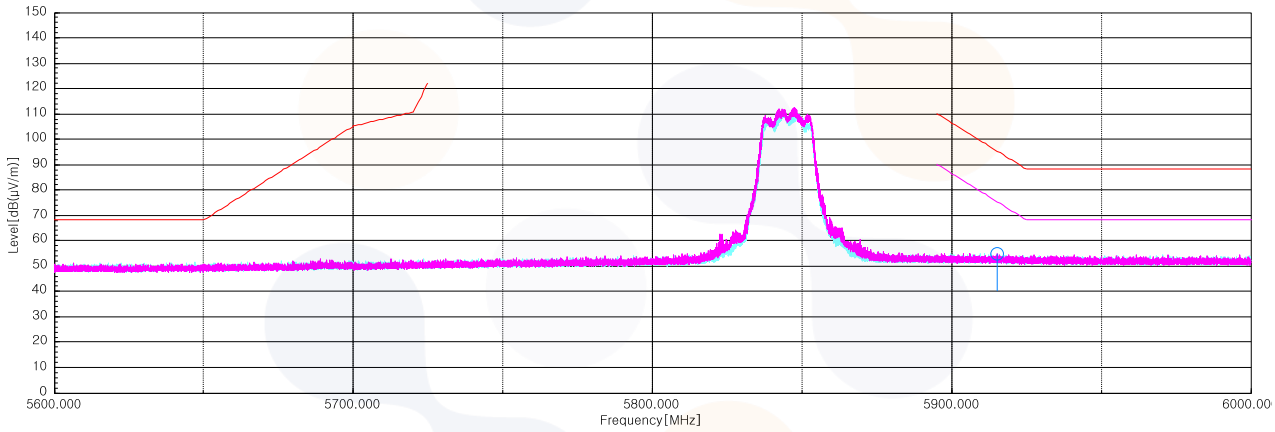
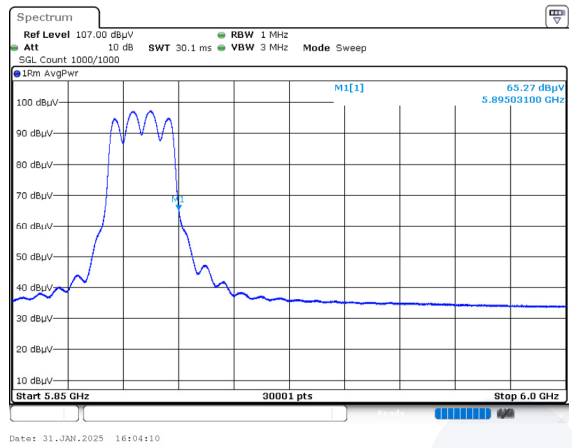
Horizontal/Vertical for Band-edge



802.11a_Highest Channel (5 885 ㎒)

Average data



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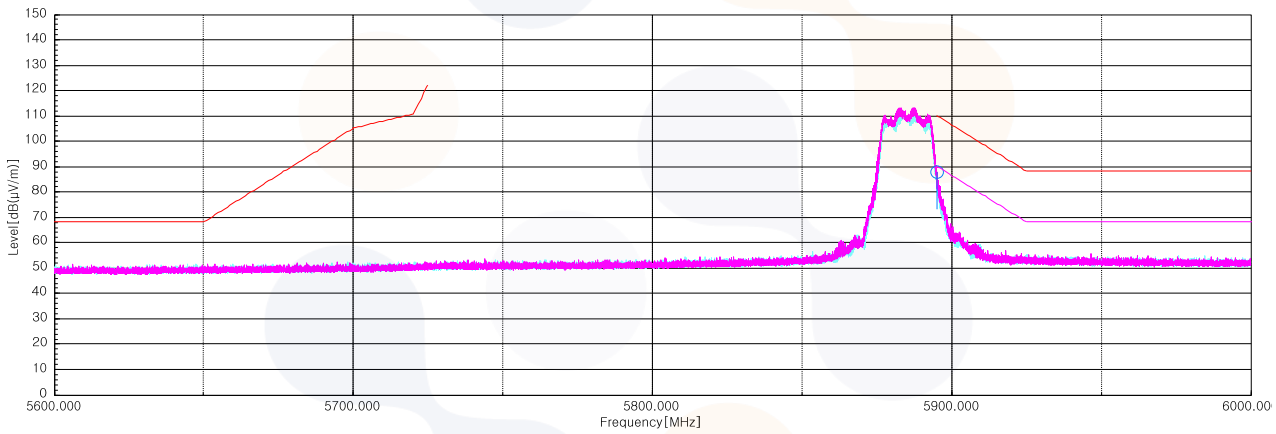
Horizontal/Vertical for Band-edge



802.11n_HT20_Lowest Channel (5 845 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 904.44	V	46.50	34.31	-25.86	-	54.95	103.30	48.35
7 793.37	V	59.20	36.77	-41.01	-	54.96	68.20	13.24
11 621.33[1)]	H	53.30	38.56	-41.56	-	50.30	74.00	23.70
17 445.70	H	49.40	38.99	-36.22	-	52.17	68.20	16.03
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

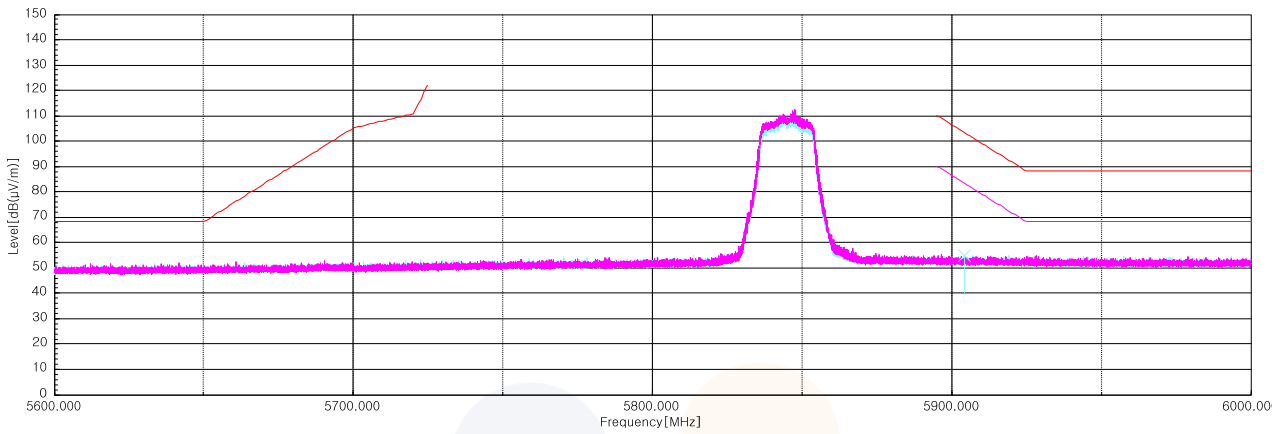
802.11n_HT20_Middle Channel (5 865 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
7 819.82	V	60.50	36.88	-41.04	-	56.34	68.20	11.86
11 838.88[1)]	V	53.70	38.58	-40.86	-	51.42	74.00	22.58
17 621.27	H	50.40	40.19	-36.04	-	54.55	68.20	13.65
Average Data								
11 838.88[1)]	V	43.11	38.58	-40.86	0.61	41.44	54.00	12.56

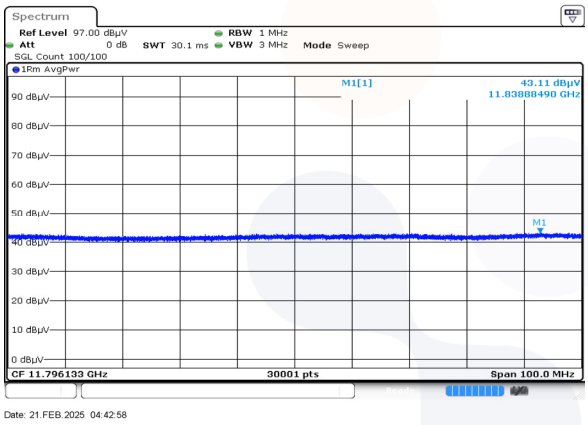
802.11n_HT20_Highest Channel (5 885 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 895.01	H	85.50	34.38	-25.87	-	94.01	110.20	16.19
7 846.65	V	59.20	36.99	-41.08	-	55.11	68.20	13.09
11 810.27[1)]	H	54.10	38.52	-40.86	-	51.76	74.00	22.24
17 680.68	H	49.90	40.58	-35.90	-	54.58	68.20	13.62
Average Data								
5 895.01	H	70.79	34.38	-25.87	0.61	79.91	90.20	10.29
11 810.27[1)]	H	43.09	38.52	-40.86	0.61	41.36	54.00	12.64

802.11n_HT20_Lowest Channel (5 845 ㎒)

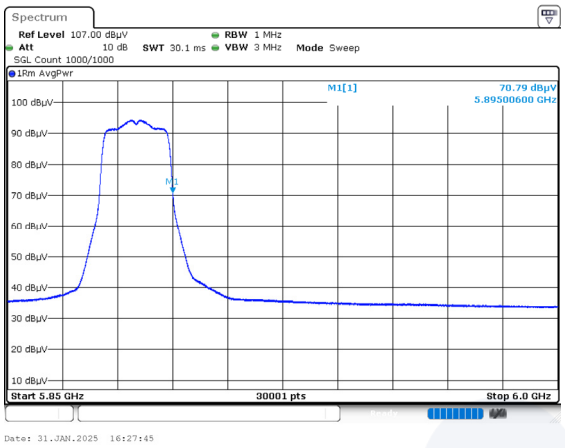
Horizontal/Vertical for Band-edge


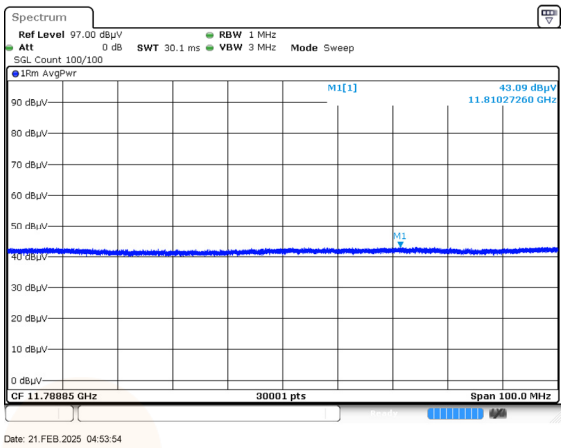
802.11n_HT20_Middle Channel (5 865 ㎒)

Average data	
	Blank

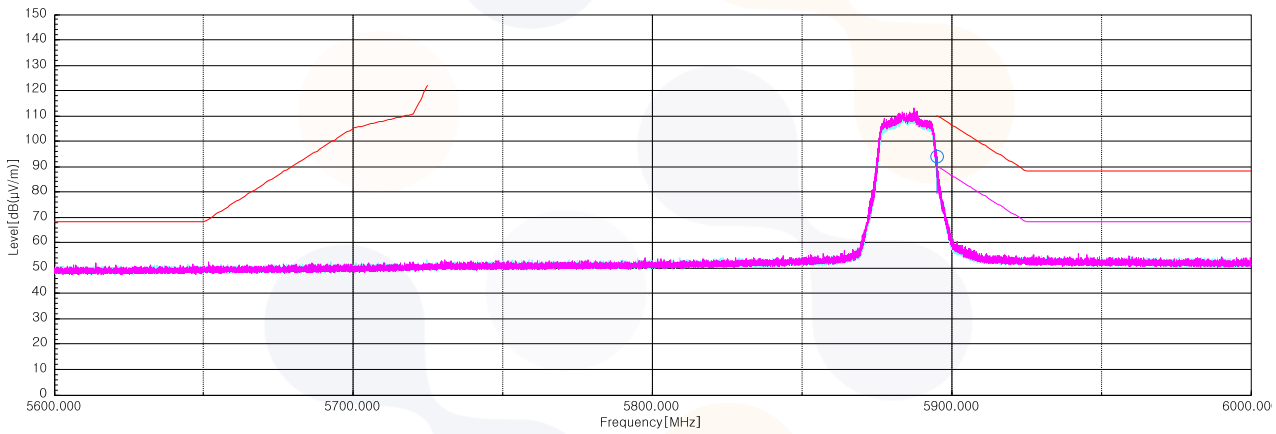
802.11n_HT20_Highest Channel (5 885 ㎒)

Average data





Horizontal/Vertical for Band-edge



802.11n_HT40_Lowest Channel (5 835 ㎒)

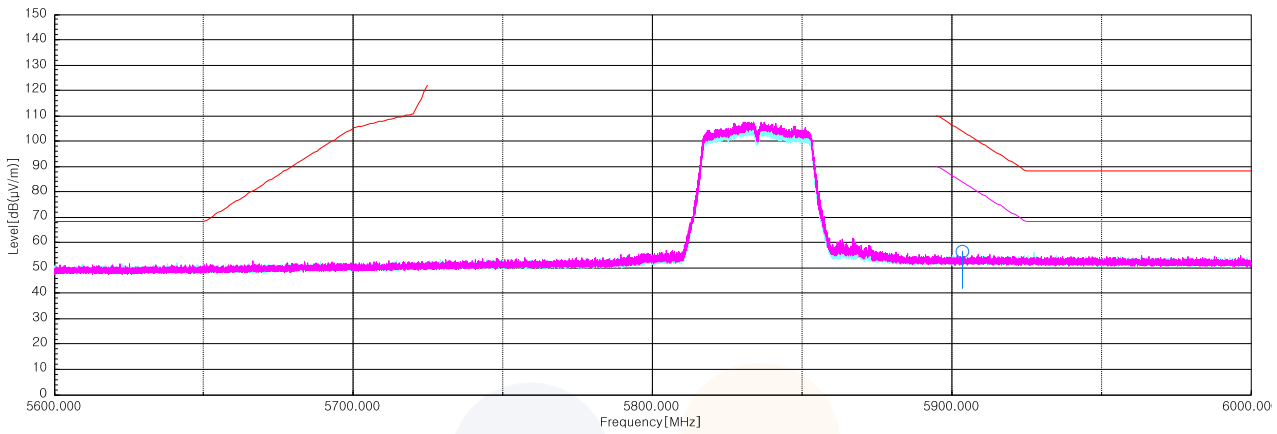
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 903.60	H	48.10	34.31	-25.86	-	56.55	103.90	47.35
7 779.95	V	60.80	36.72	-41.03	-	56.49	68.20	11.71
11 797.67[1)]	V	53.30	38.40	-40.88	-	50.82	74.00	23.18
17 464.48	H	48.70	39.29	-36.34	-	51.65	68.20	16.55
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

802.11n_HT40_Highest Channel (5 875 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 895.12	H	74.40	34.38	-25.87	-	82.91	110.10	27.19
11 791.53[1)]	H	53.10	38.40	-40.93	-	50.57	74.00	23.43
17 668.80	V	50.10	40.51	-35.90	-	54.71	68.20	13.49
Average Data								
No spurious emissions were detected within 20 ㏈ of the limit								

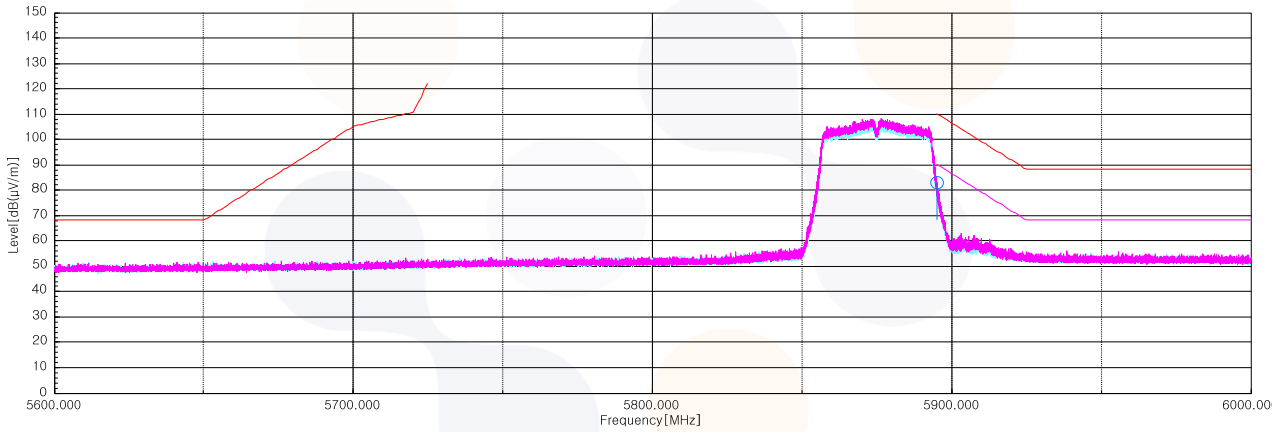
802.11n_HT40_Lowest Channel (5 835 ㎒)

Horizontal/Vertical for Band-edge



802.11n_HT40_Highest Channel (5 875 ㎒)

Horizontal/Vertical for Band-edge



802.11ac_VHT20_Lowest Channel (5 845 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 924.39	H	46.30	34.35	-25.83	-	54.82	88.60	33.78
7 793.37	V	60.10	36.77	-41.01	-	55.86	68.20	12.34
11 543.63[1)]	H	54.50	38.80	-41.75	-	51.55	74.00	22.45
17 557.63	V	48.00	39.95	-36.68	-	51.27	68.20	16.93
Average Data								
11 543.63[1)]	H	43.16	38.80	-41.75	0.61	40.82	54.00	13.18

802.11ac_VHT20_Middle Channel (5 865 ㎒)

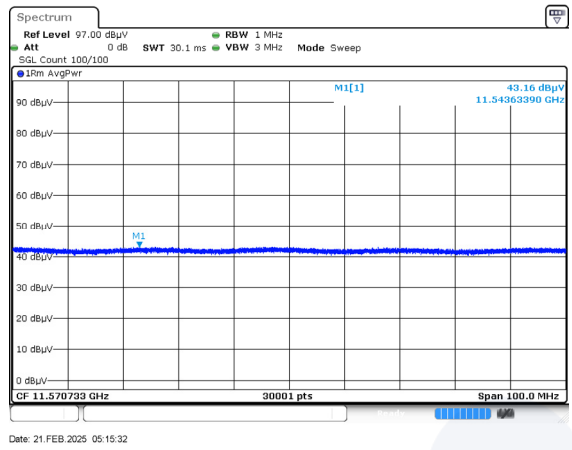
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
7 819.82	V	60.50	36.88	-41.04	-	56.34	68.20	11.86
11 775.43[1)]	H	53.60	38.40	-41.06	-	50.94	74.00	23.06
17 620.88	H	50.00	40.18	-36.04	-	54.14	68.20	14.06
Average Data								
No spurious emissions were detected within 20 dB of the limit								

802.11ac_VHT20_Highest Channel (5 885 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 895.00	H	82.90	34.38	-25.87	-	91.41	110.10	18.69
7 846.65	V	58.70	36.99	-41.08	-	54.61	68.20	13.59
11 809.72[1)]	V	54.50	38.52	-40.86	-	52.16	74.00	21.84
17 686.82	V	50.50	40.62	-35.91	-	55.21	68.20	12.99
Average Data								
5 895.00	H	69.88	34.38	-25.87	0.61	79.00	90.10	11.10
11 809.72[1)]	V	43.13	38.52	-40.86	0.61	41.40	54.00	12.60

802.11ac_VHT20_Lowest Channel (5 845 ㎒)

Average data



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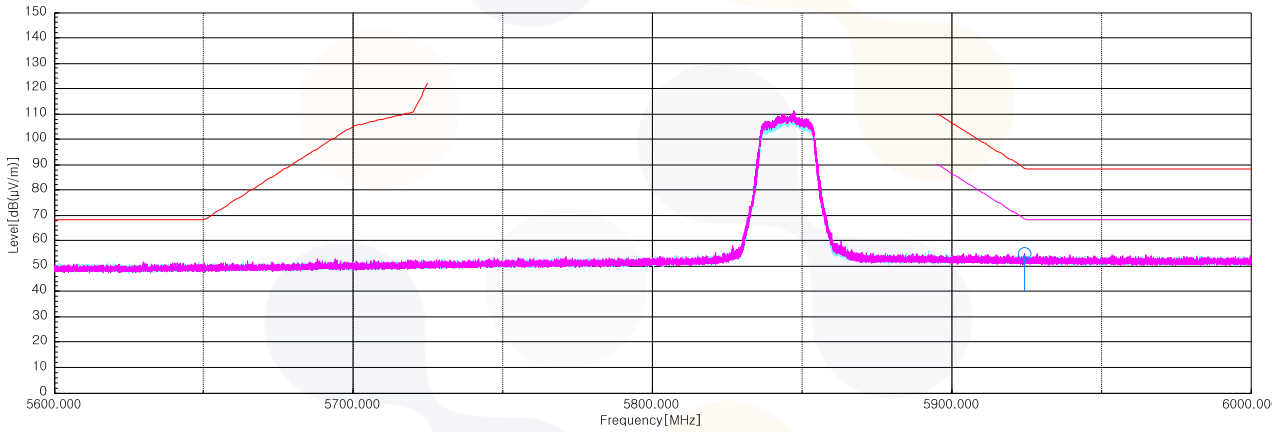
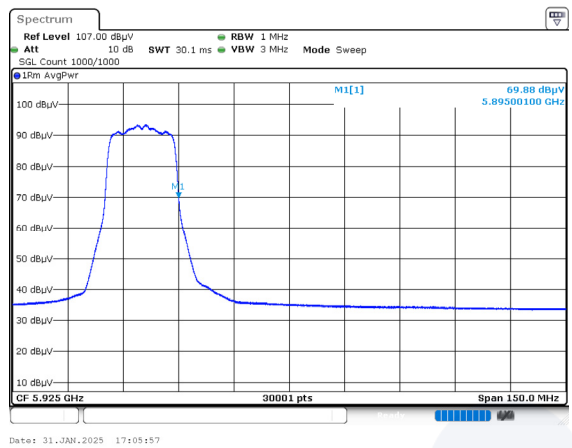
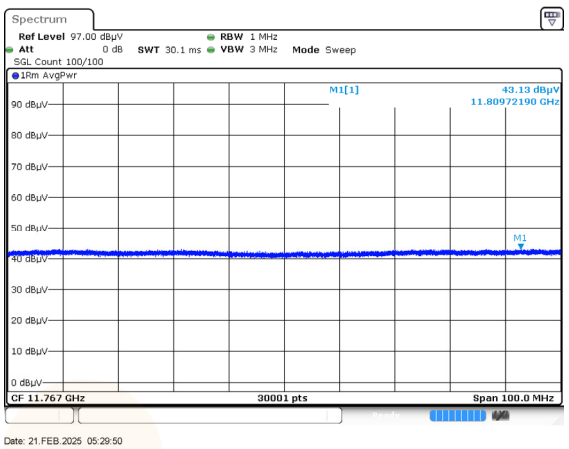
Horizontal/Vertical for Band-edge



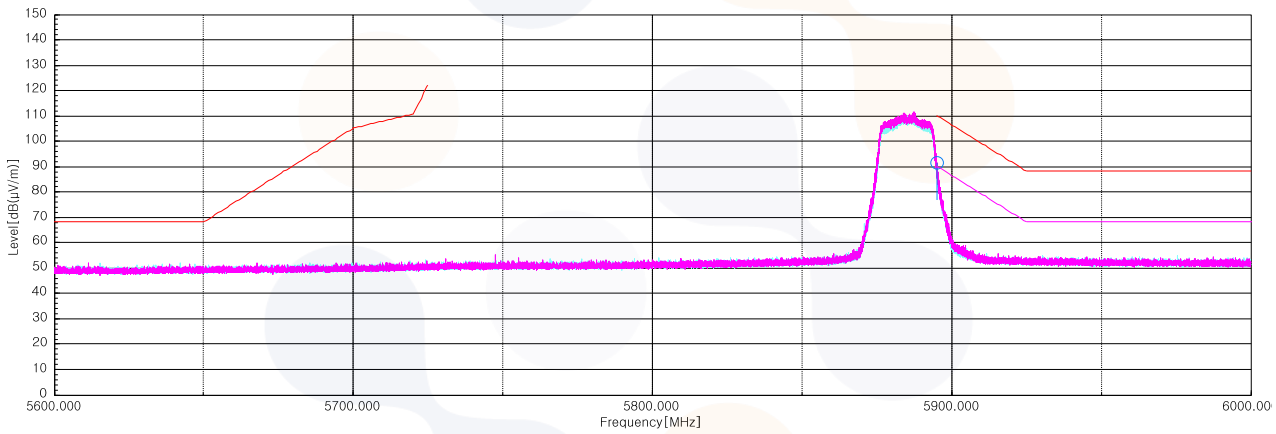
802.11ac_VHT20_Highest Channel (5 885 ㎒)

Average data





Horizontal/Vertical for Band-edge



802.11ac_VHT40_Lowest Channel (5 835 ㎒)

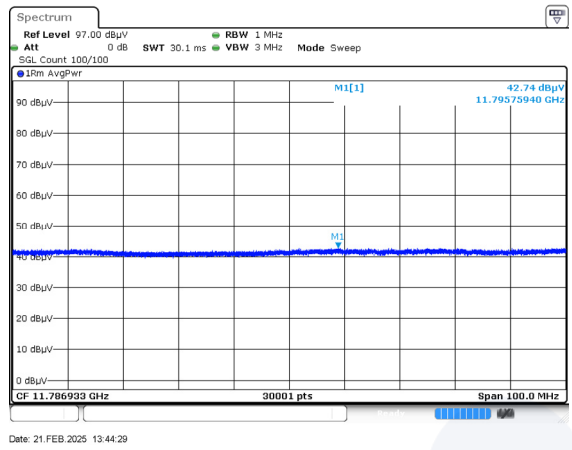
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 903.93	V	47.40	34.31	-25.86	-	55.85	103.60	47.75
7 779.95	V	60.70	36.72	-41.03	-	56.39	68.20	11.81
11 795.76[1)]	H	53.80	38.40	-40.89	-	51.31	74.00	22.69
17 381.68	V	49.40	38.93	-36.86	-	51.47	68.20	16.73
Average Data								
11 795.76[1)]	H	42.74	38.40	-40.89	1.10	41.35	54.00	12.65

802.11ac_VHT40_Highest Channel (5 875 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 895.09	H	74.10	34.38	-25.87	-	82.61	110.10	27.49
11 835.70[1)]	V	53.80	38.57	-40.86	-	51.51	74.00	22.49
17 632.77	H	50.50	40.23	-35.97	-	54.76	68.20	13.44
Average Data								
11 835.70[1)]	V	43.23	38.57	-40.86	1.10	42.04	54.00	11.96

802.11ac_VHT40_Lowest Channel (5 835 ㎒)

Average data



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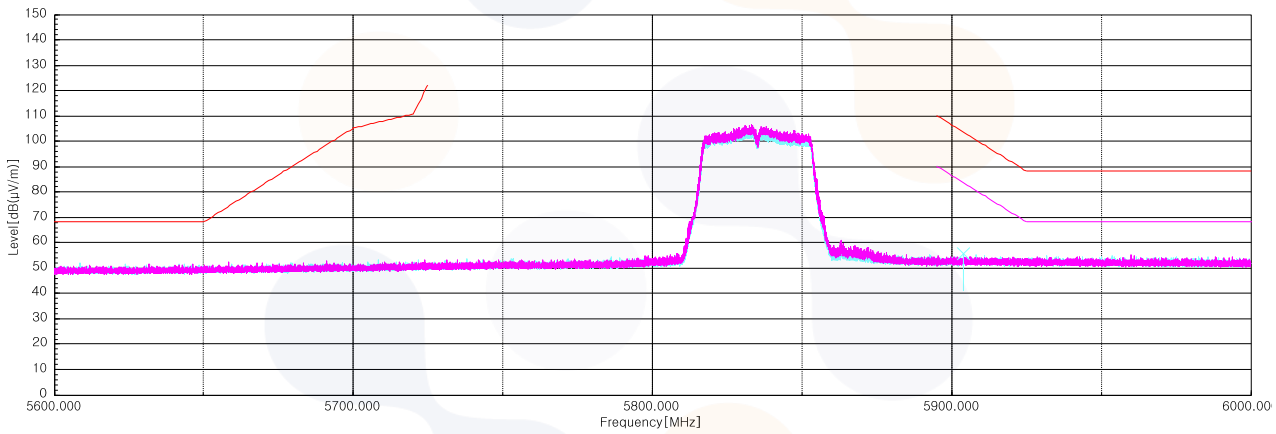
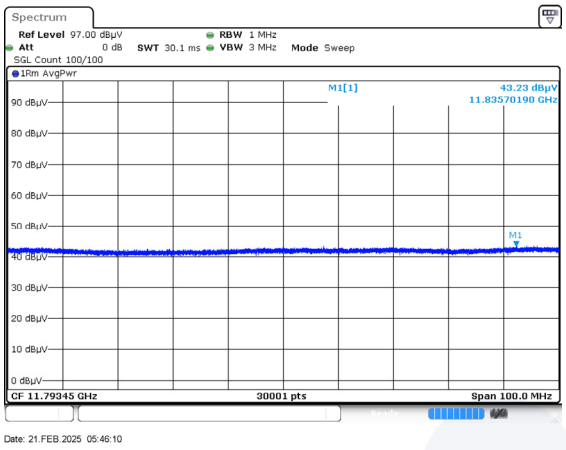
Horizontal/Vertical for Band-edge



802.11ac_VHT40_Highest Channel (5 875 ㎒)

Average data



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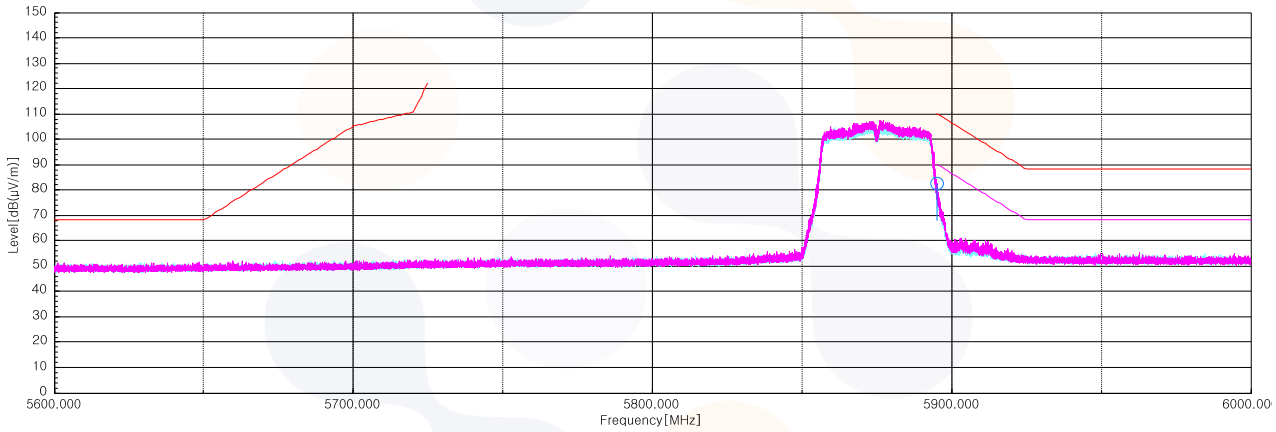
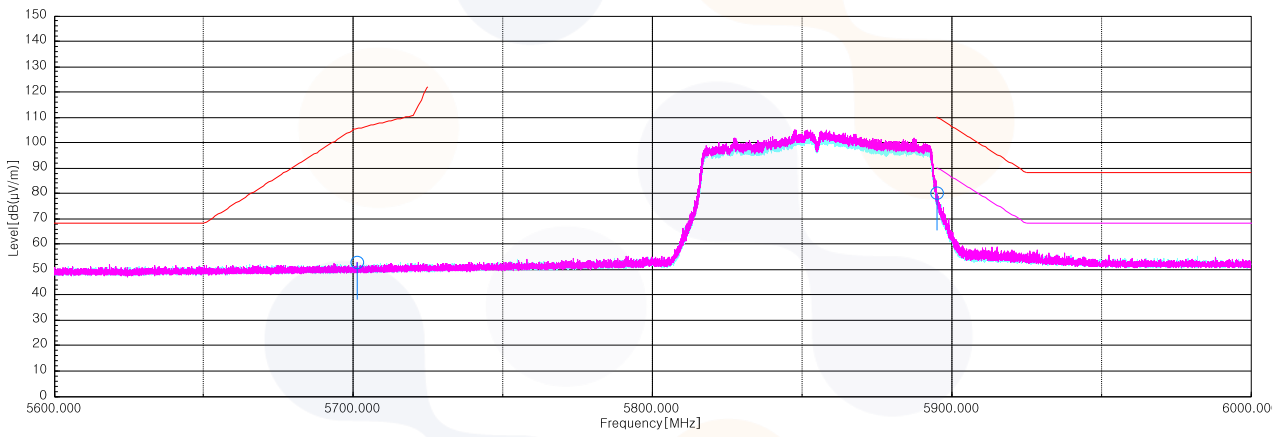
Horizontal/Vertical for Band-edge



802.11ac_VHT80_Middle Channel (5 855 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 701.48	H	45.50	33.41	-26.21	-	52.70	105.60	52.90
5 895.01	H	71.60	34.38	-25.87	-	80.11	110.20	30.09
7 806.78	V	60.10	36.83	-41.01	-	55.92	68.20	12.28
11 632.45[1)]	V	53.30	38.54	-41.58	-	50.26	74.00	23.74
17 606.32	V	50.30	40.13	-36.12	-	54.31	68.20	13.89
Average Data								
No spurious emissions were detected within 20 dB of the limit								

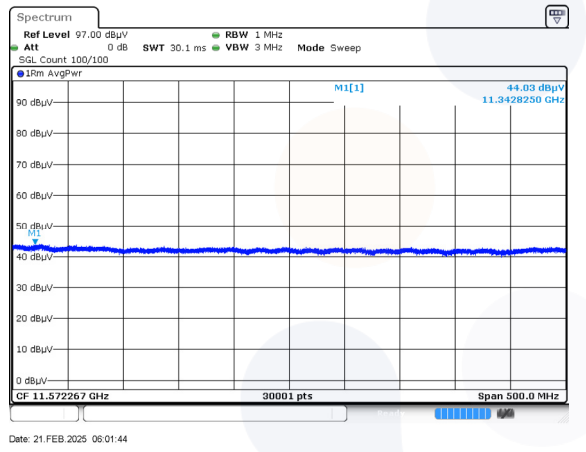
Horizontal/Vertical for Band-edge



802.11ac_VHT160_Middle Channel (5 815 ㎒)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(㎒)	(V/H)	(dB(㎶))	(dB)	(dB)	(dB)	(dB(㎶/m))	(dB(㎶/m))	(dB)
Peak data								
5 707.92	H	49.40	33.43	-26.19	-	56.64	107.40	50.76
5 895.00	H	71.70	34.38	-25.87	-	80.21	110.20	29.99
11 342.83[1)]	V	54.30	38.99	-41.72	-	51.57	74.00	22.43
17 516.23	V	49.00	39.73	-36.75	-	51.98	68.20	16.22
Average Data								
11 342.83[1)]	V	44.03	38.99	-41.72	2.69	43.99	54.00	10.01

Average data



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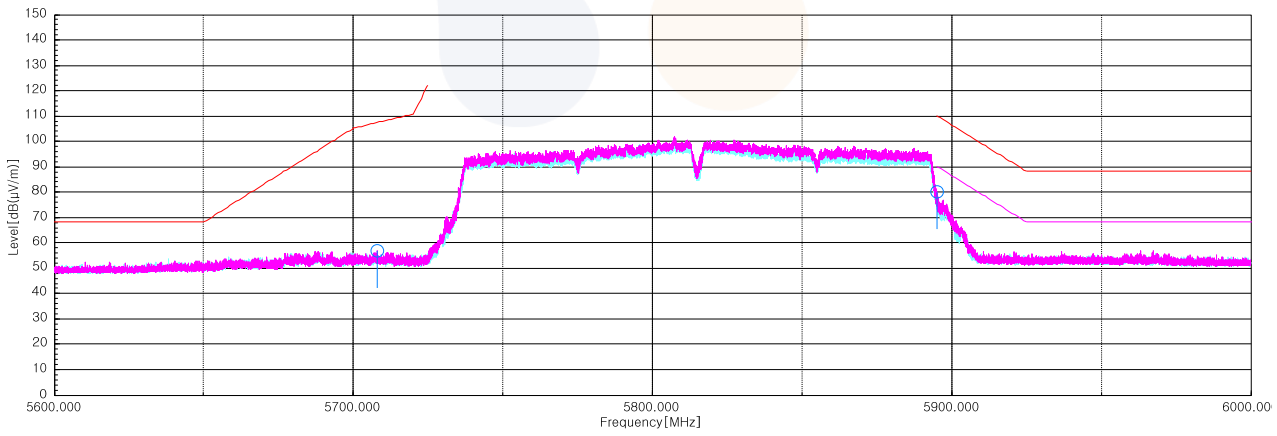
Horizontal/Vertical for Band-edge

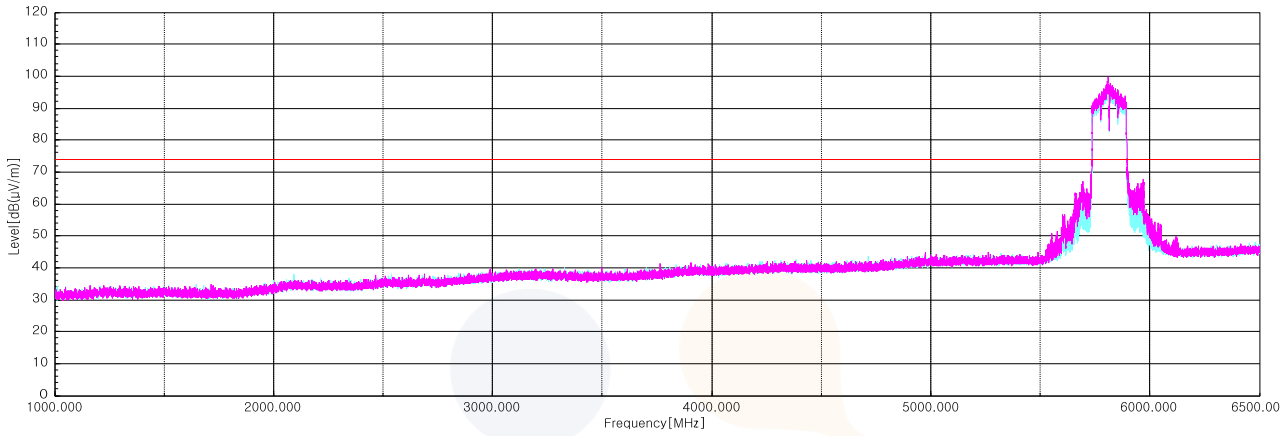


Plot of Harmonics and Spurious Emissions

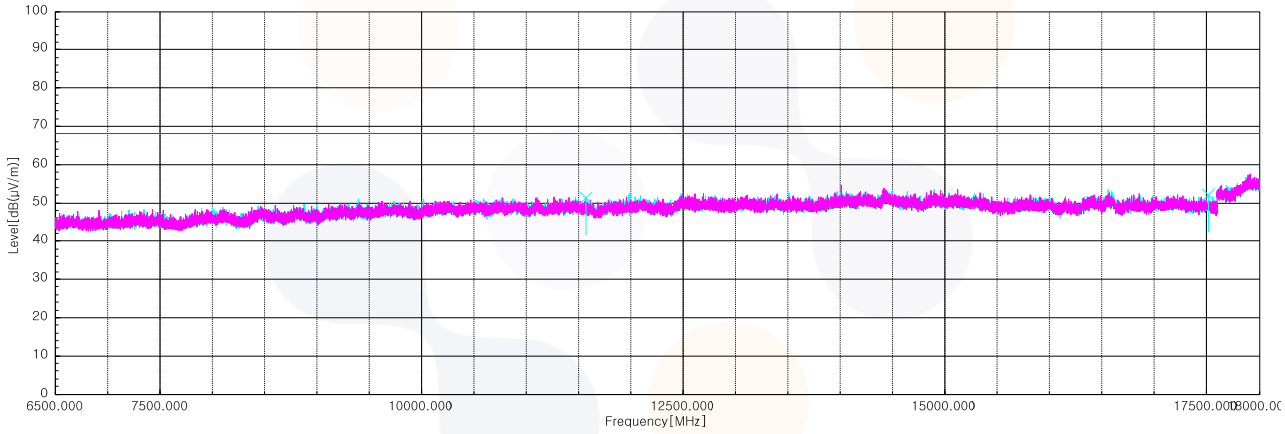
In order to simplify the report, attached plots were only the lowest margin condition

802.11ac_VHT160_UNII 4_2TX MIMO_Middle Channel (5 815 ㎒)

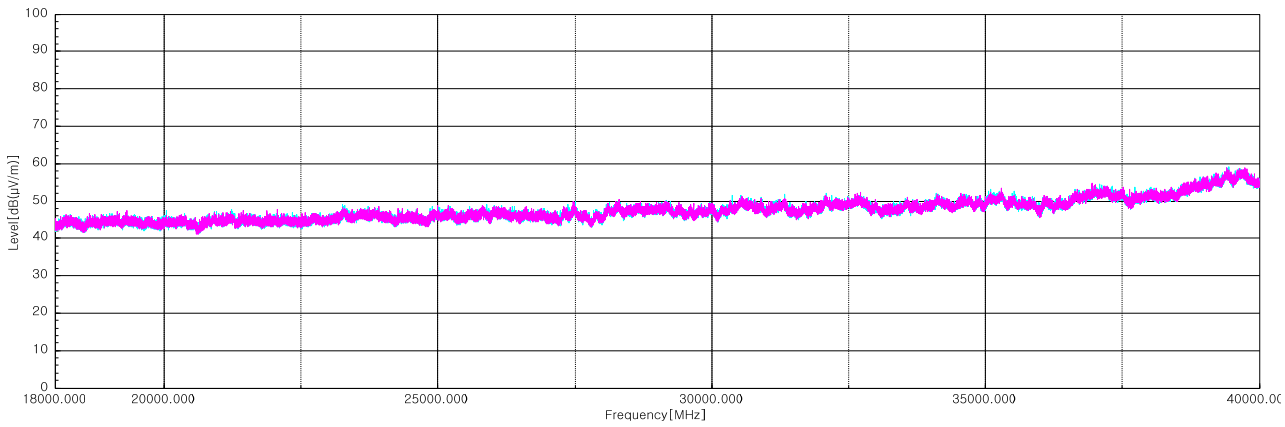
Horizontal/Vertical for 1 ㎓ ~ 6.5 ㎓



Horizontal/Vertical for 6.5 ㎓ ~ 18 ㎓

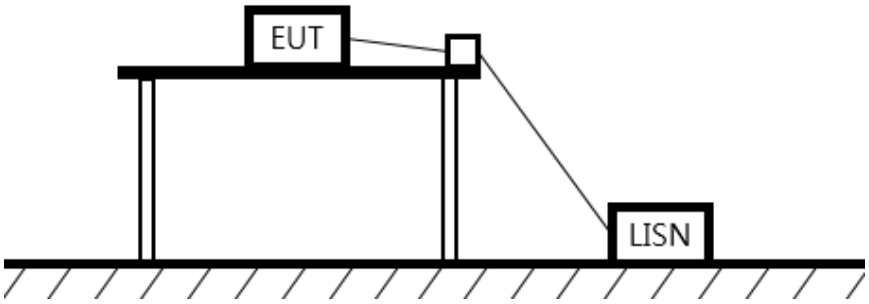


Horizontal/Vertical for 18 ㎓ ~ 40 ㎓



8.8. AC Conducted emission

Test setup



Limit

According to 15.207(a),

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 ㎑ to 30 ㎒, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (㎒)	Conducted limit (dBμV/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

Measurement procedure

1. The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 ㎝ in which is located 40 ㎝ away from the vertical wall and 1.5m away from the side wall of the shielded room.
2. Each current-carrying conductor of the EUT power cord was individually connected through a 50Ω/50μH LISN, which is an input transducer to a spectrum analyzer or an EMI/Field Intensity Meter, to the input power source.
3. Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
4. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 ㎒ to 30 ㎒.
5. The measurements were made with the detector set to peak amplitude within a bandwidth of 10 ㎑ or to quasi-peak and average within a bandwidth of 9 ㎑. The EUT was in transmitting mode during the measurements.