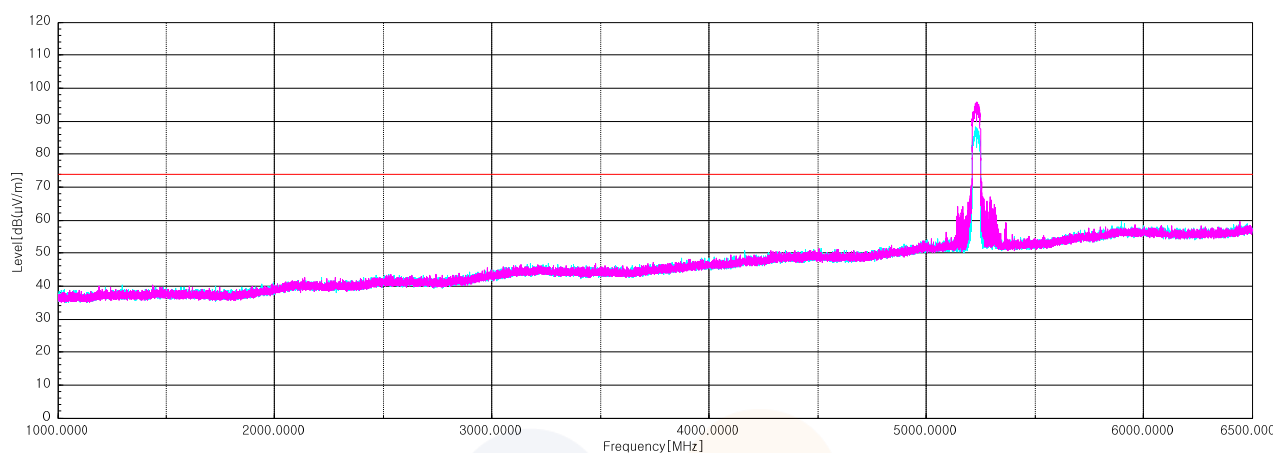
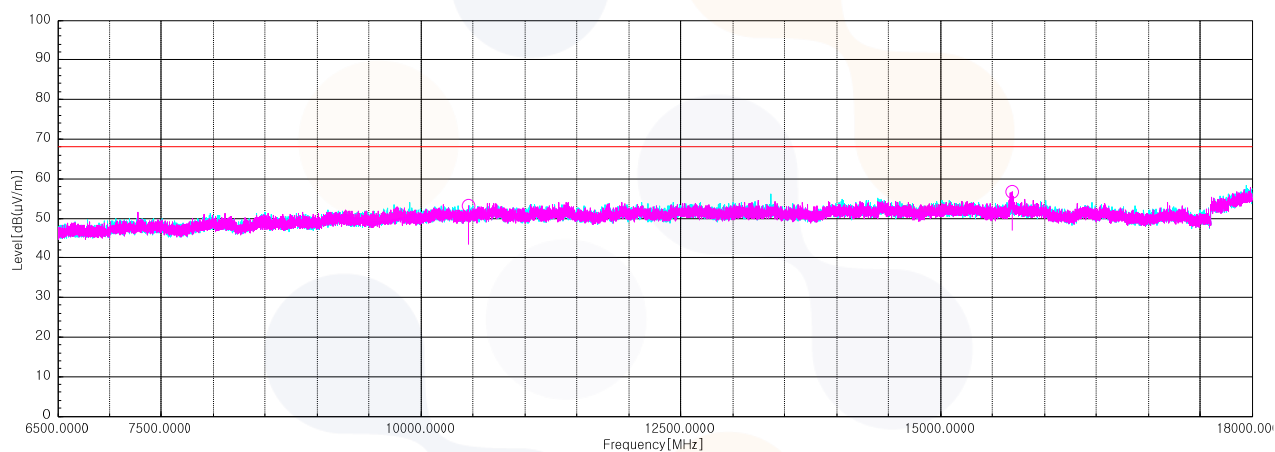


Horizontal/Vertical for 1 GHz ~ 6.5 GHz



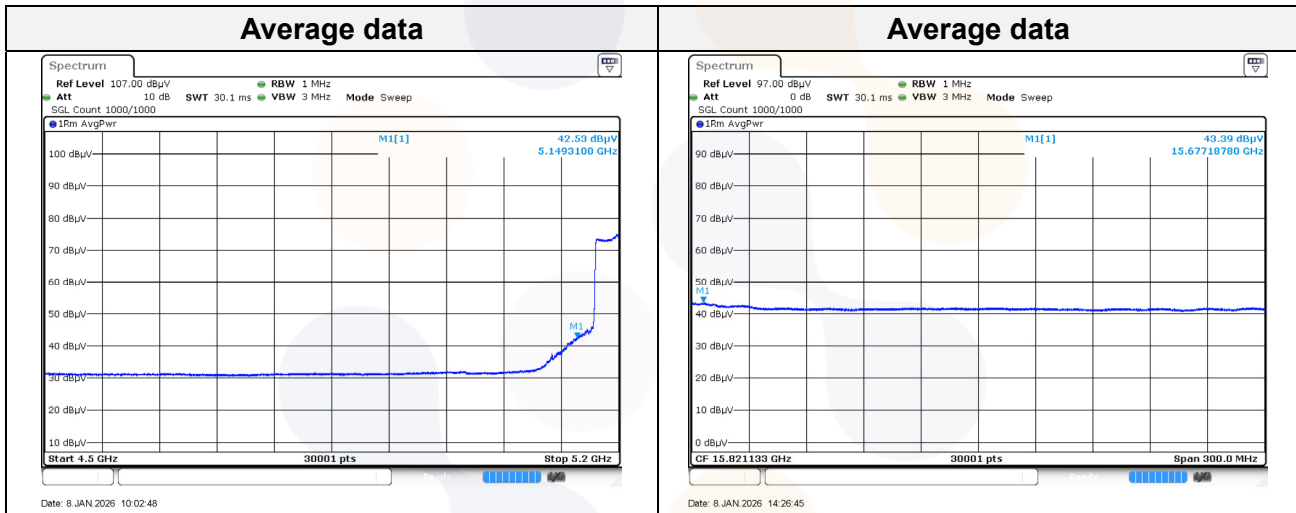
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



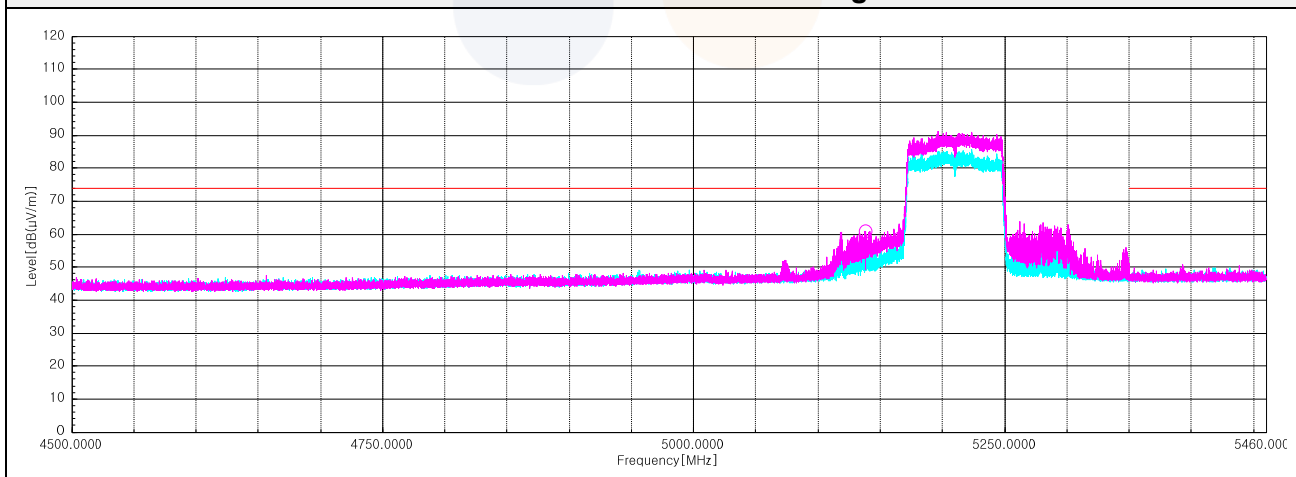
802.11ac VHT80 UNII 1

Lowest Channel (5 210 MHz)

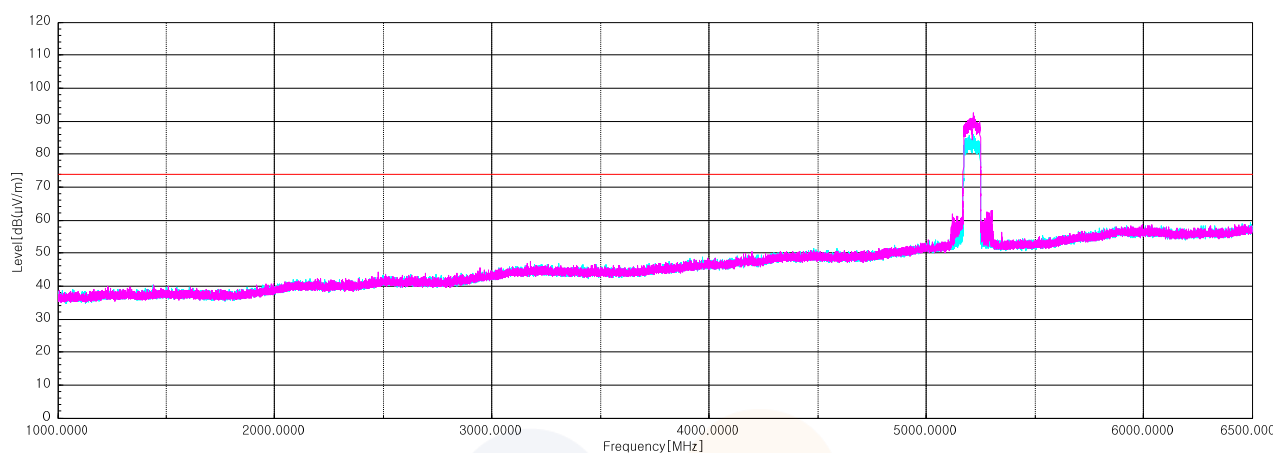
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 149.31 ¹⁾	H	55.60	33.30	-27.61	-	61.29	74.00	12.71
10 382.78	V	54.00	38.73	-39.99	-	52.74	68.20	15.46
15 677.19 ¹⁾	H	54.10	38.70	-37.50	-	55.30	74.00	18.70
Average Data								
5 149.31 ¹⁾	H	42.53	33.30	-27.61	1.25	49.47	54.00	4.53
15 677.19 ¹⁾	H	43.39	38.70	-37.50	1.25	45.84	54.00	8.16



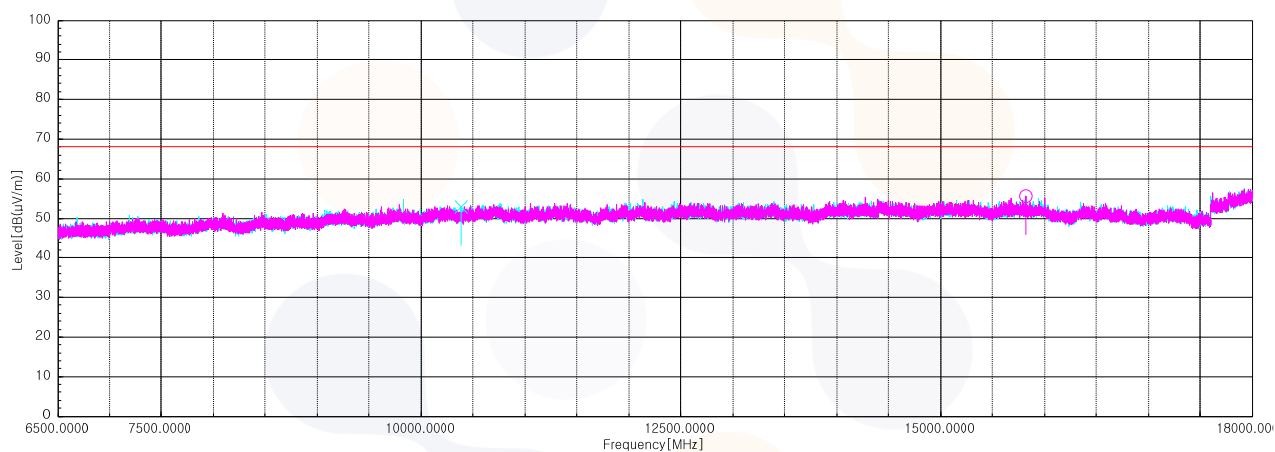
Horizontal/Vertical for Band-edge



Horizontal/Vertical for 1 GHz ~ 6.5 GHz

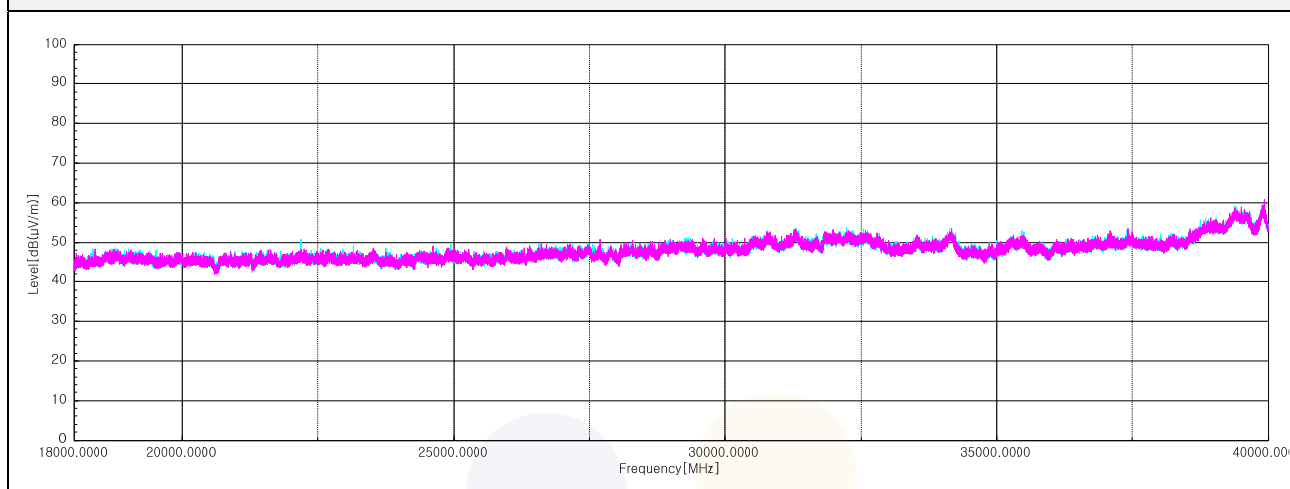


Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Test results (Above 18 GHz) – Worst case: 802.11a_UNII 1_5 200 MHz

Horizontal/Vertical for 18 GHz ~ 40 GHz

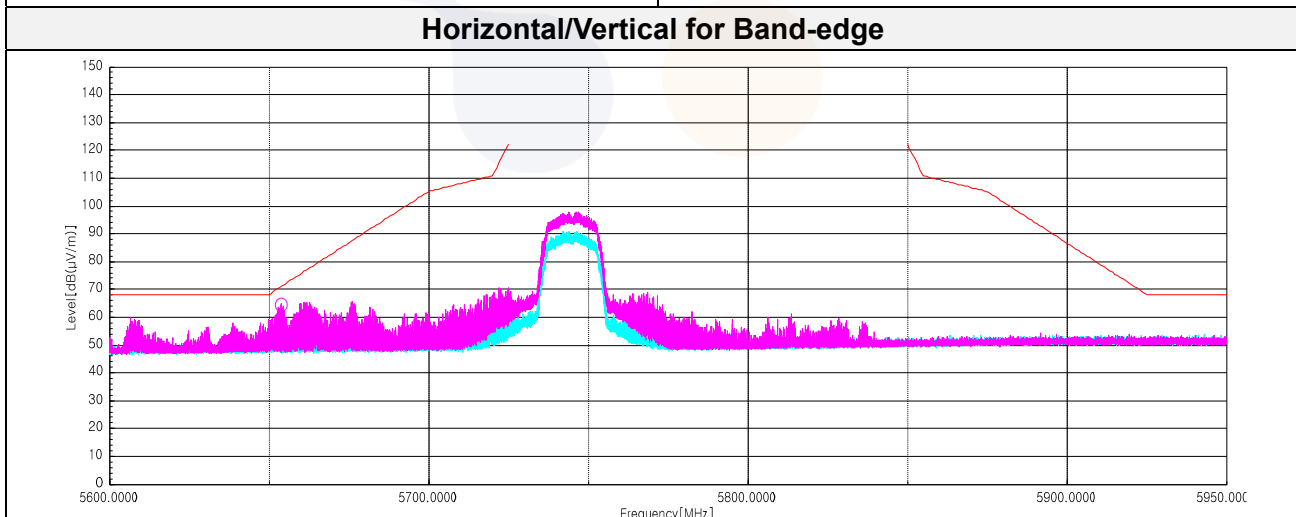
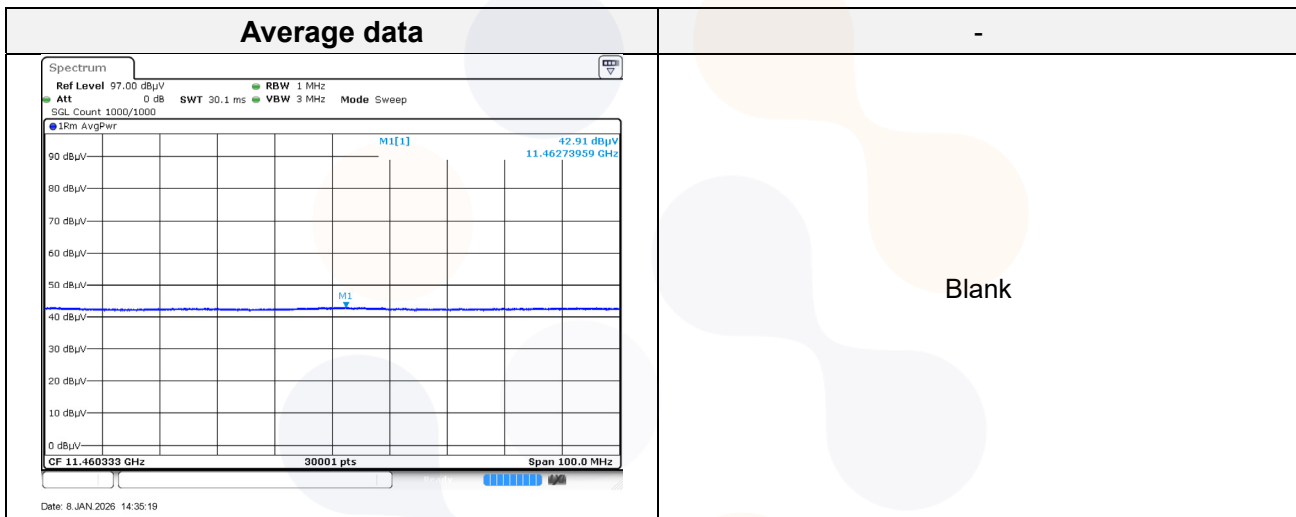


Note: The Worst case was based on the lowest margin condition considering Harmonic and Spurious Emission.

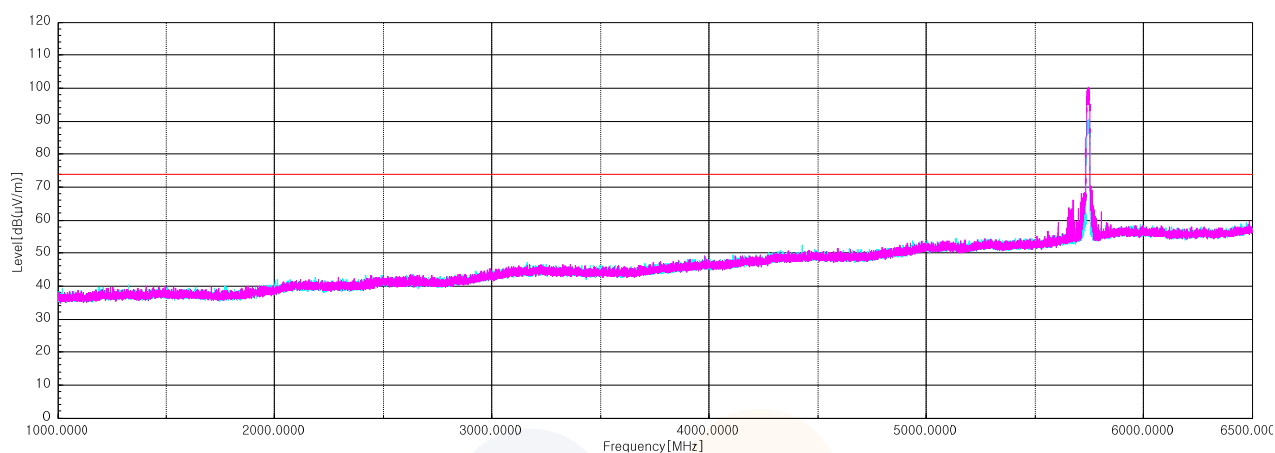
802.11a UNII 3

Lowest Channel (5 745 MHz)

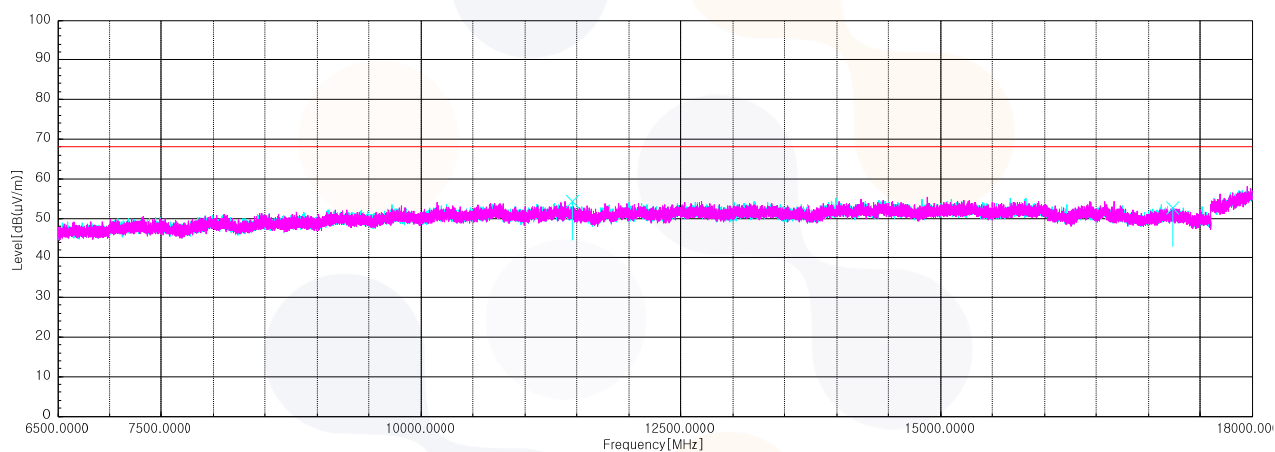
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 653.83	H	58.20	33.32	-27.04	-	64.48	71.00	6.52
11 462.74 ¹⁾	V	54.90	38.97	-39.76	-	54.11	74.00	19.89
17 239.85	V	49.60	38.18	-35.31	-	52.47	68.20	15.73
Average Data								
11 462.74 ¹⁾	V	42.91	38.97	-39.76	0.32	42.44	54.00	11.56



Horizontal/Vertical for 1 GHz ~ 6.5 GHz



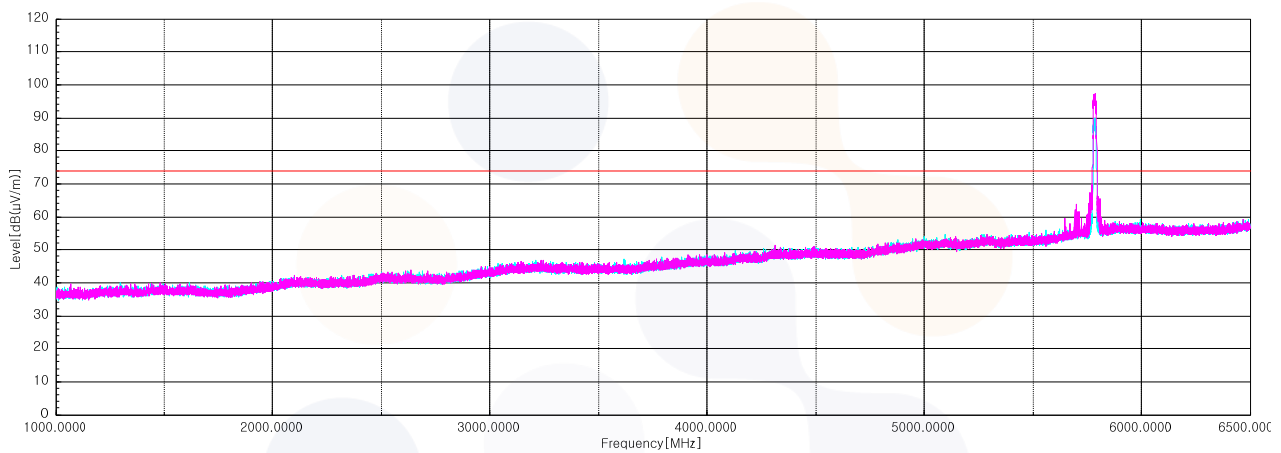
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



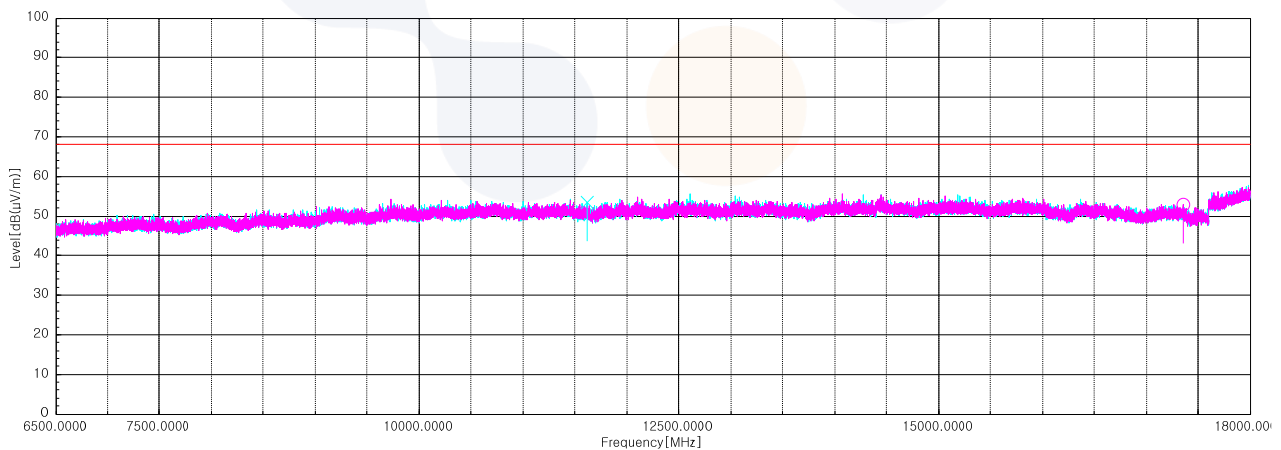
Middle Channel (5 785 MHz)

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 571.99 ¹⁾	V	54.10	38.76	-39.67	-	53.19	74.00	20.81
17 356.00	H	49.50	38.62	-35.21	-	52.91	68.20	15.29
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

Horizontal/Vertical for 1 GHz ~ 6.5 GHz

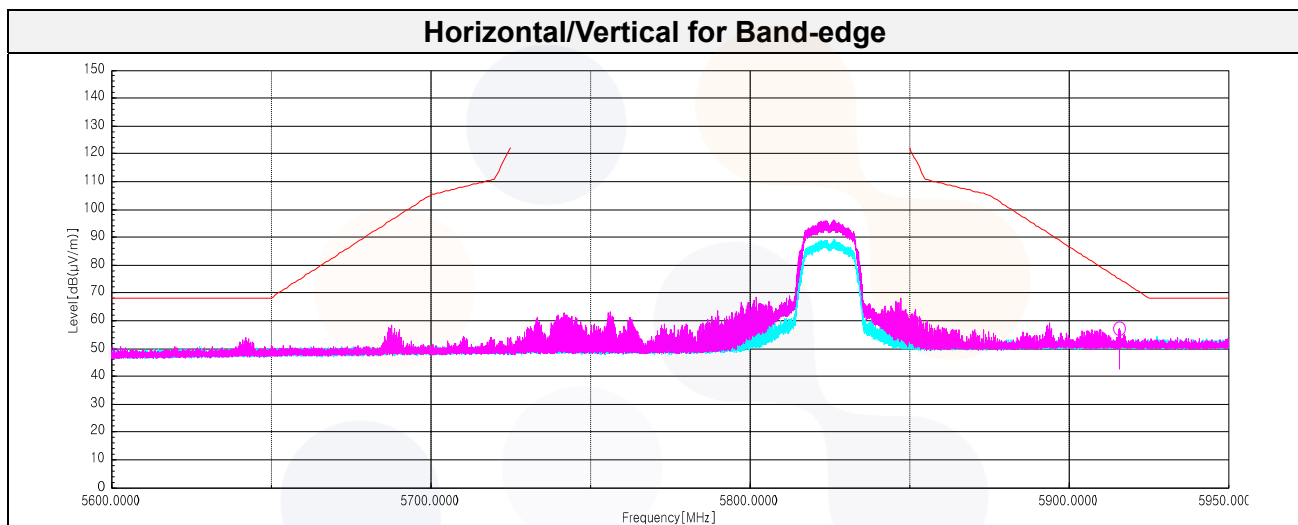


Horizontal/Vertical for 6.5 GHz ~ 18 GHz

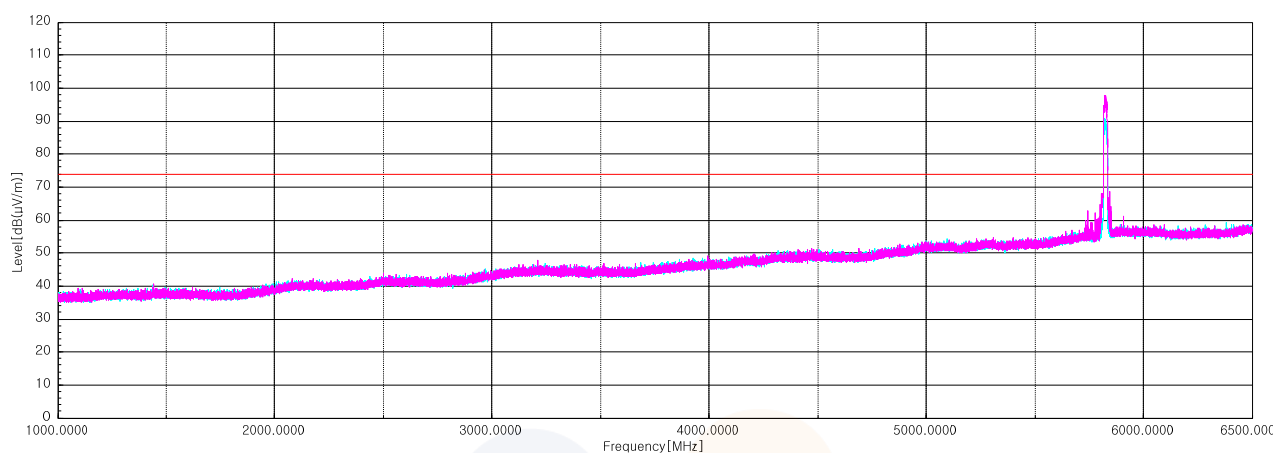


Highest Channel (5 825 MHz)

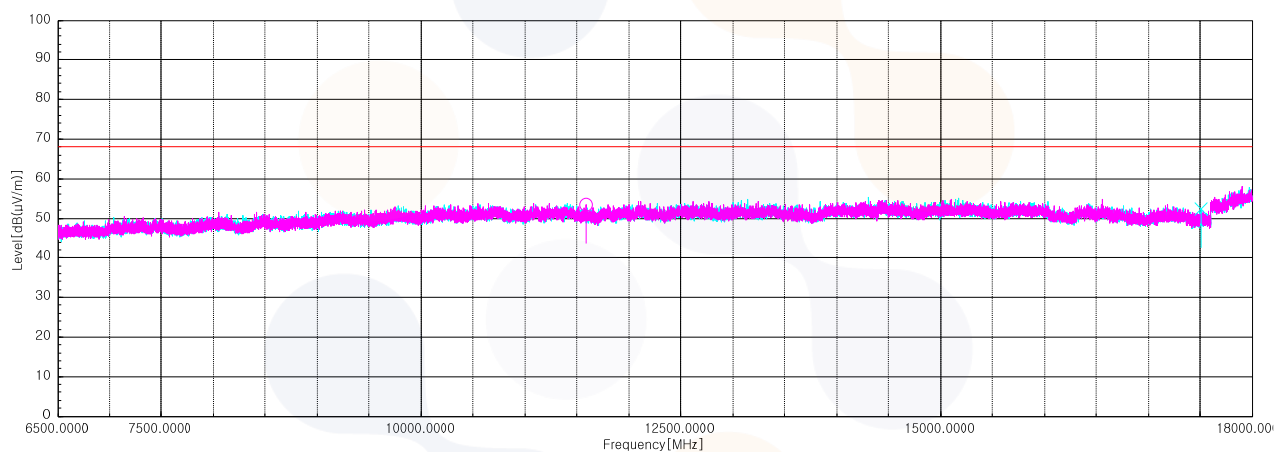
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 915.83	H	48.50	34.23	-25.72	-	57.01	75.00	17.99
11 618.52	H	54.20	38.80	-39.59	-	53.41	74.00	20.59
17 514.70	V	48.10	39.39	-35.09	-	52.40	68.20	15.80
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz



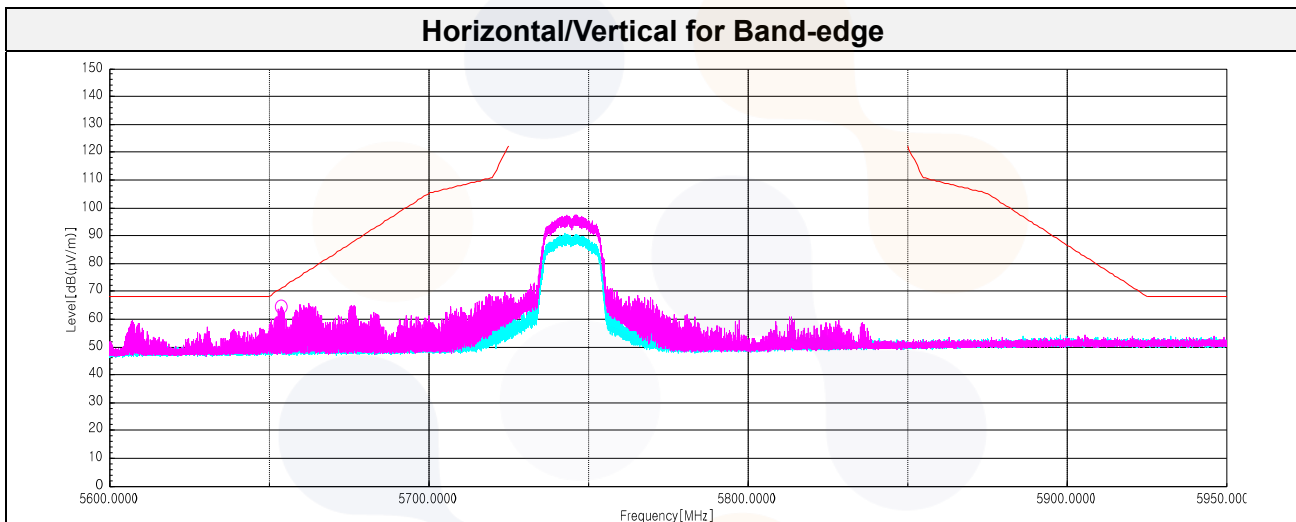
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



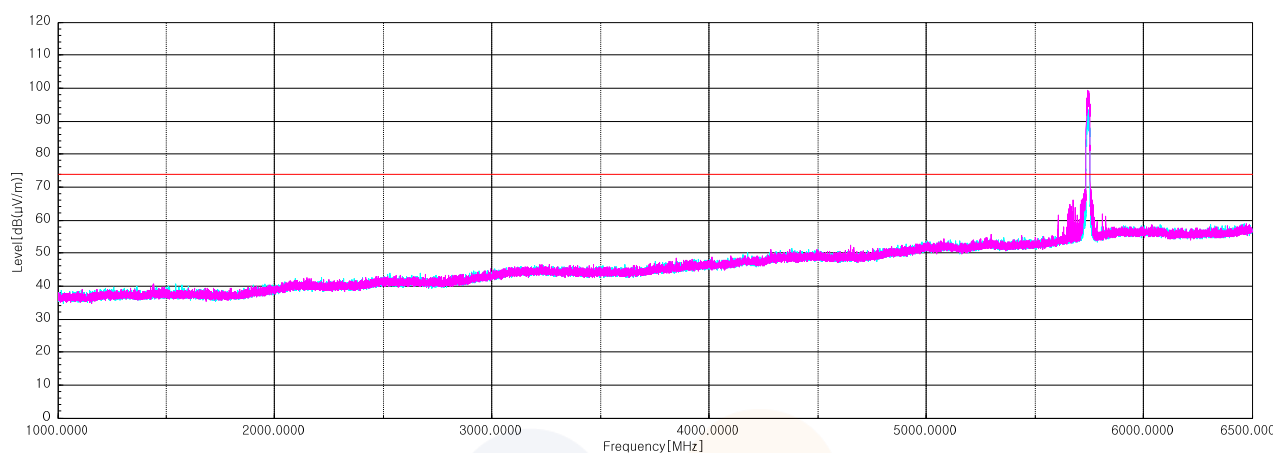
802.11n HT20 UNII 3

Lowest Channel (5 745 MHz)

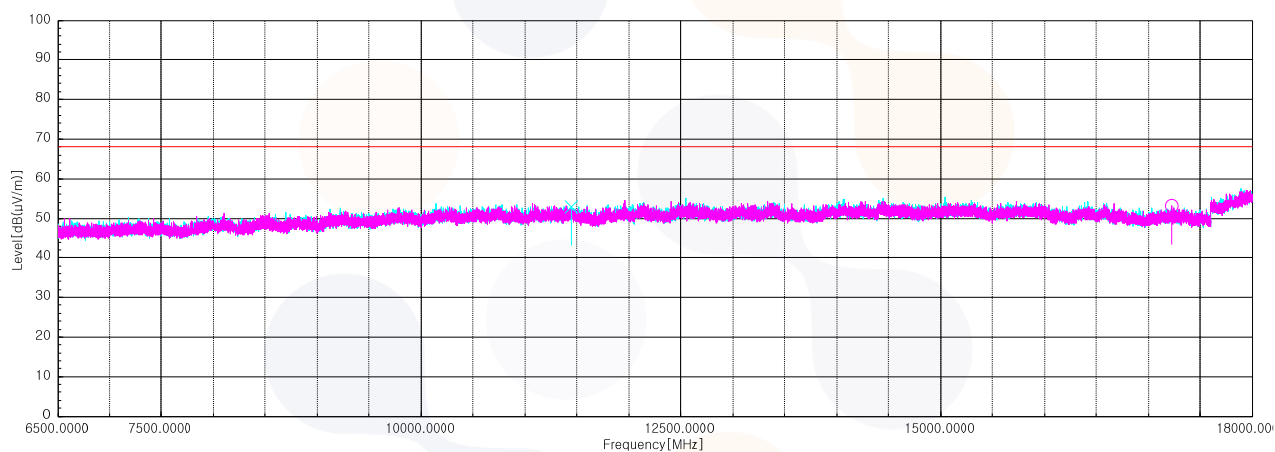
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
5 653.80	H	58.30	33.32	-27.04	-	64.58	71.00	6.42
11 443.47 ¹⁾	V	53.50	39.10	-39.74	-	52.86	74.00	21.14
17 224.13	H	50.30	38.15	-35.40	-	53.05	68.20	15.15
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz



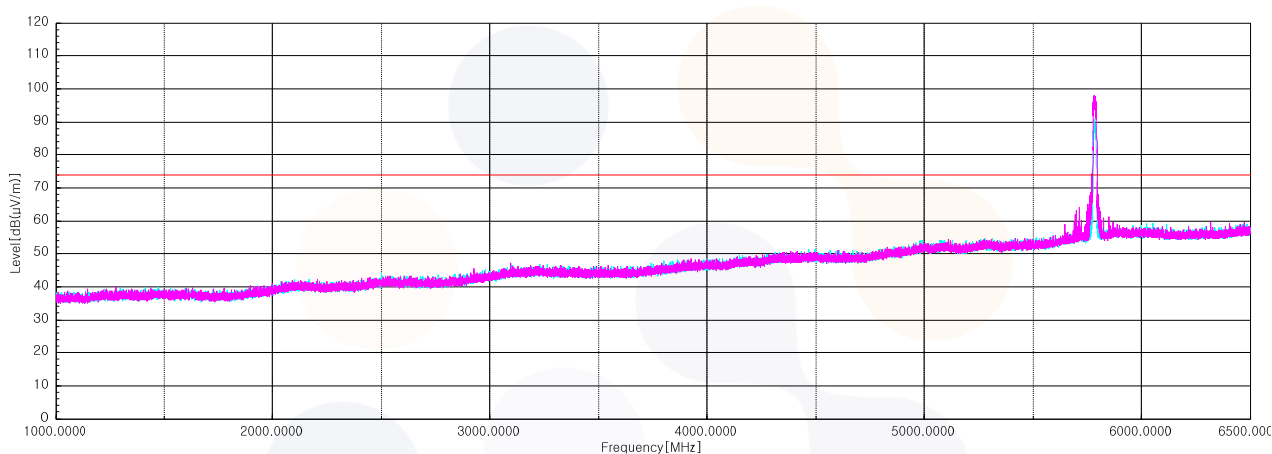
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



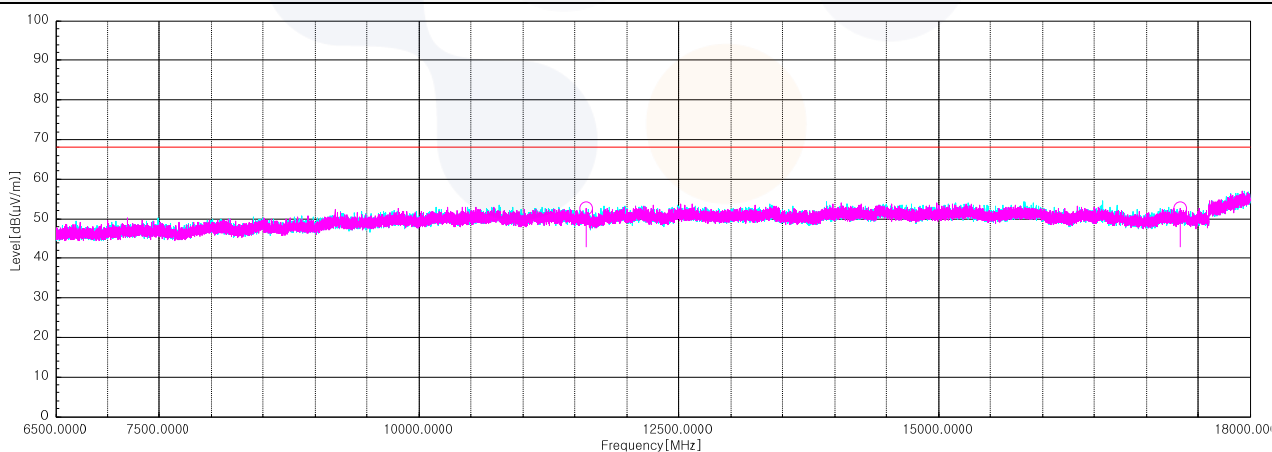
Middle Channel (5 785 MHz)

Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 604.47 ¹⁾	H	53.30	38.80	-39.61	-	52.49	74.00	21.51
17 328.02	H	49.30	38.51	-35.22	-	52.59	68.20	15.61
Average Data								
No spurious emissions were detected within 20 dB of the limit.								

Horizontal/Vertical for 1 GHz ~ 6.5 GHz

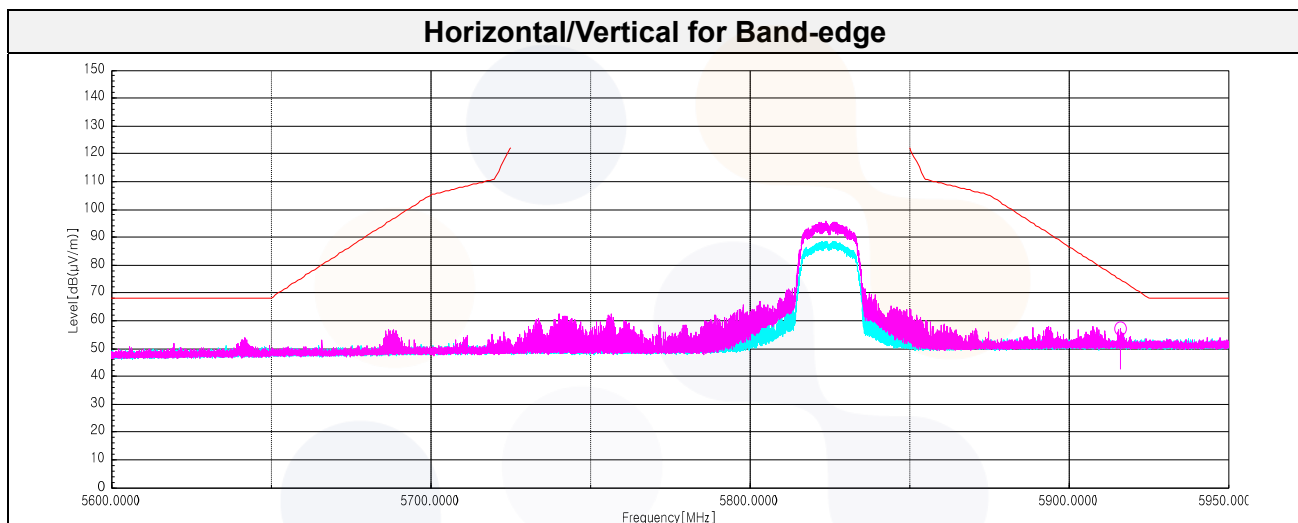


Horizontal/Vertical for 6.5 GHz ~ 18 GHz

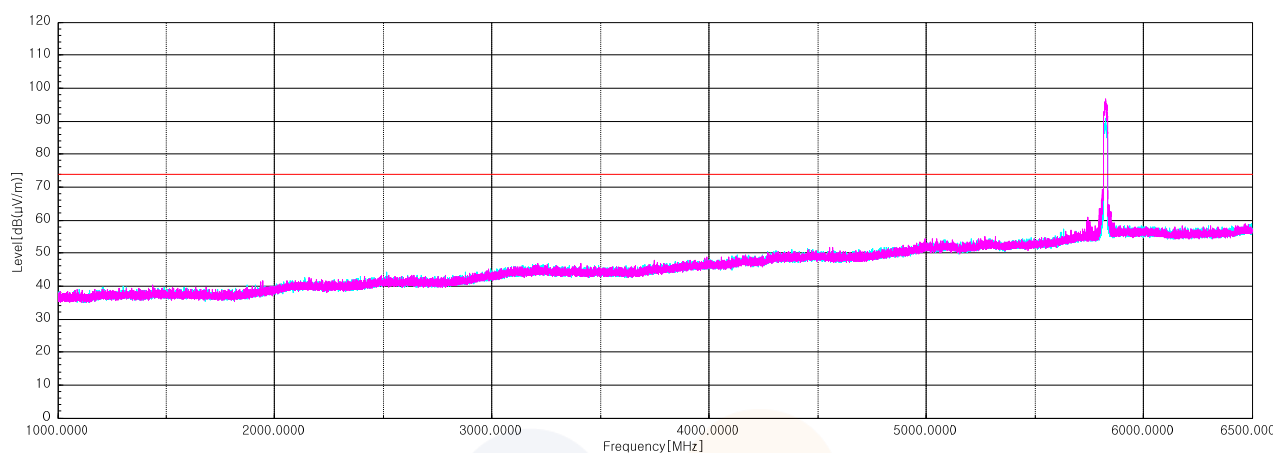


Highest Channel (5 825 MHz)

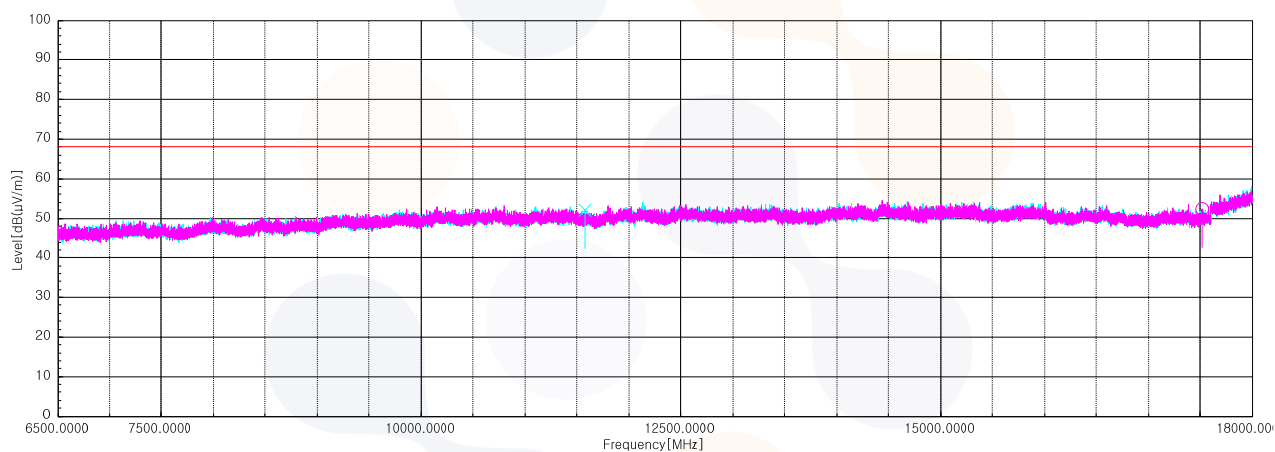
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 916.12	H	48.40	34.23	-25.72	-	56.91	74.70	17.79
11 573.03 ¹⁾	V	53.10	38.75	-39.67	-	52.18	74.00	21.82
17 517.38	H	47.90	39.40	-35.08	-	52.22	68.20	15.98
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz



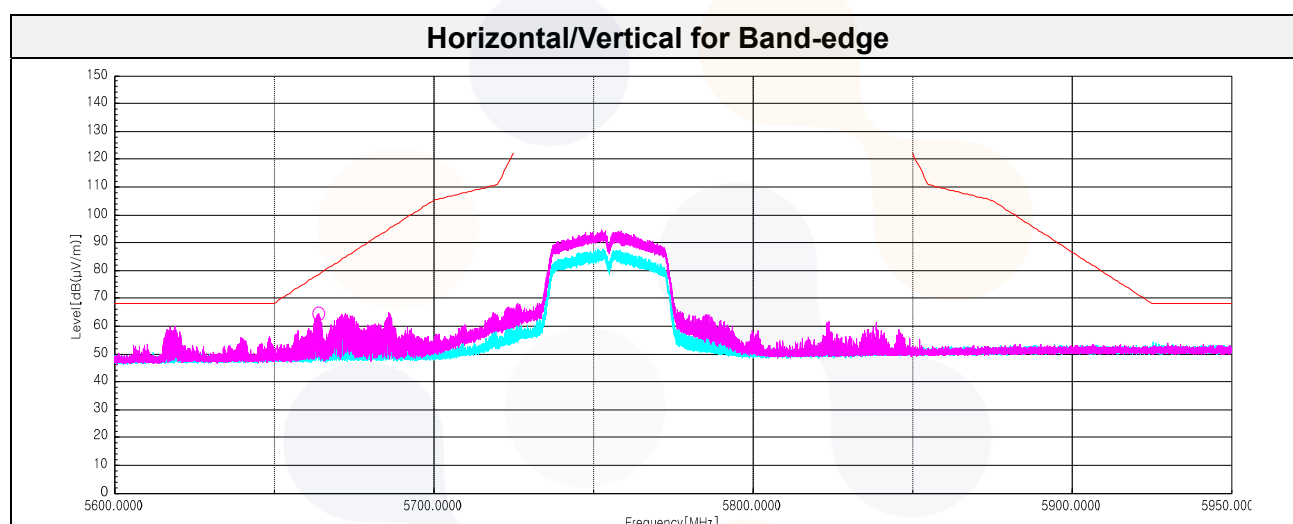
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



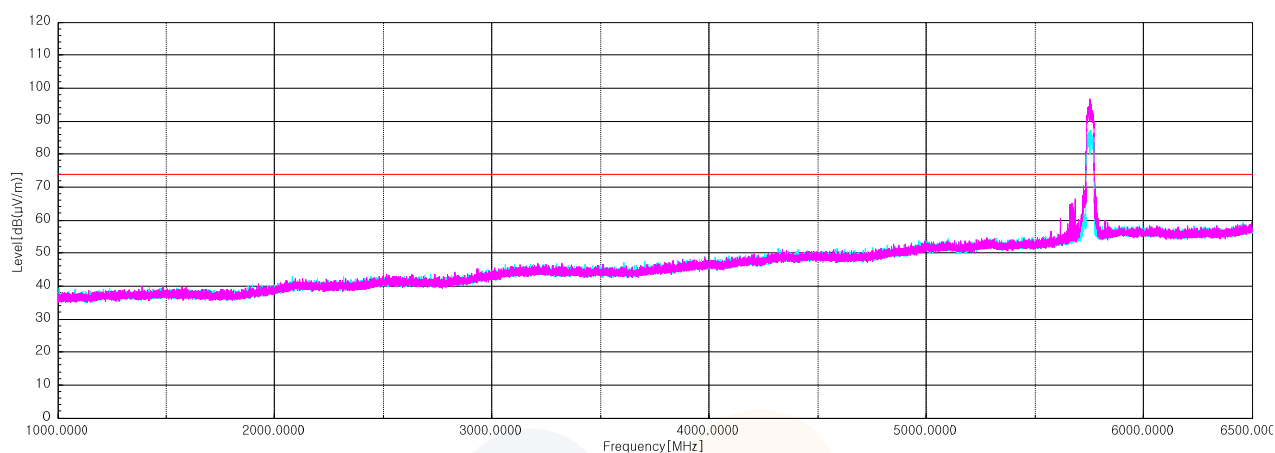
802.11n HT40 UNII 3

Lowest Channel (5 755 MHz)

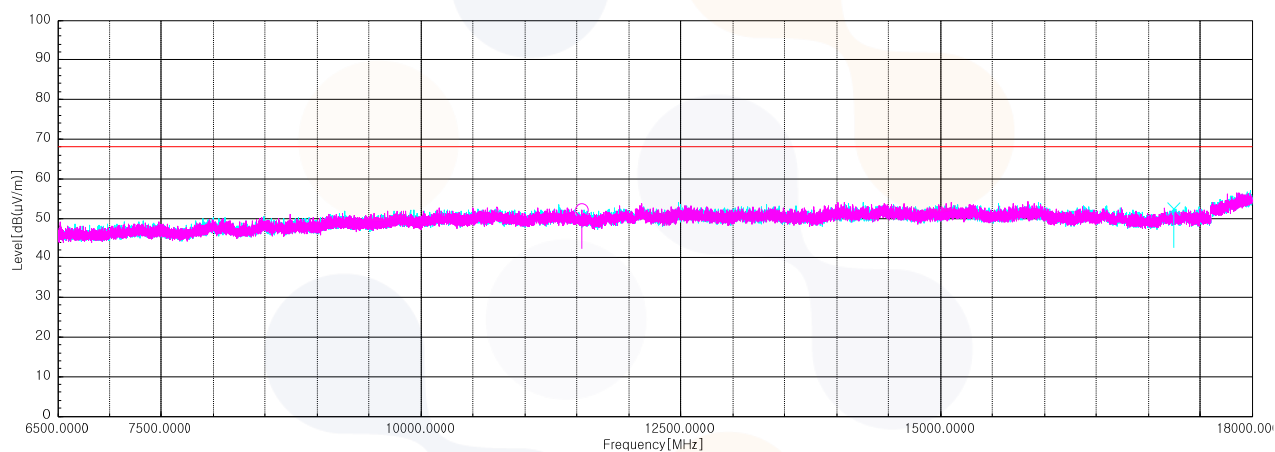
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 663.92	H	58.00	33.36	-27.01	-	64.35	78.50	14.15
11 545.82 ¹⁾	H	53.00	38.81	-39.71	-	52.10	74.00	21.90
17 244.83	V	49.40	38.19	-35.29	-	52.30	68.20	15.90
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz

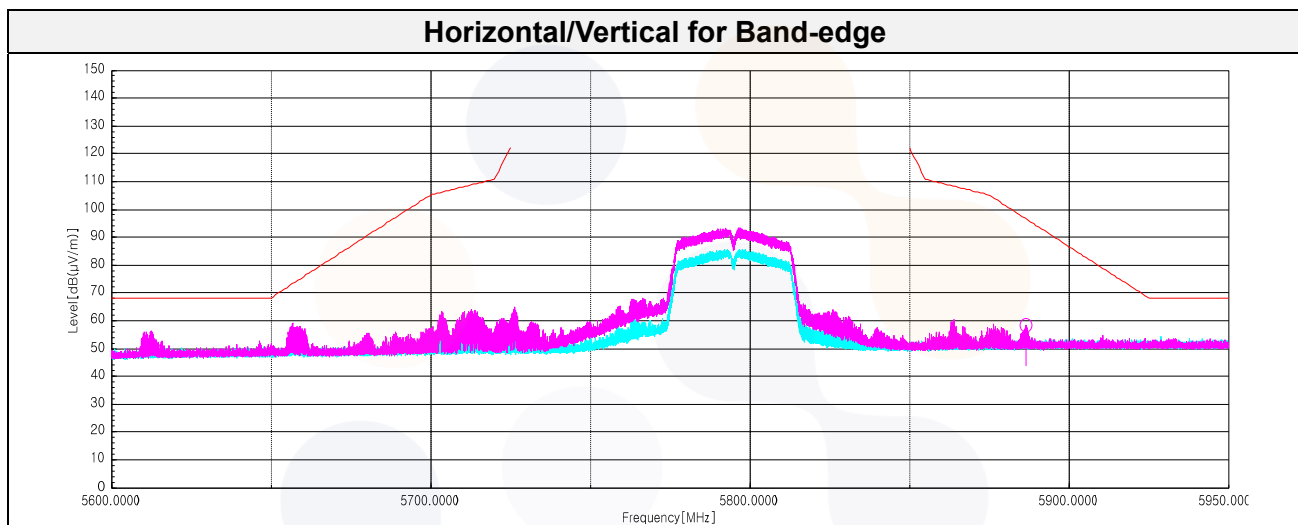


Horizontal/Vertical for 6.5 GHz ~ 18 GHz

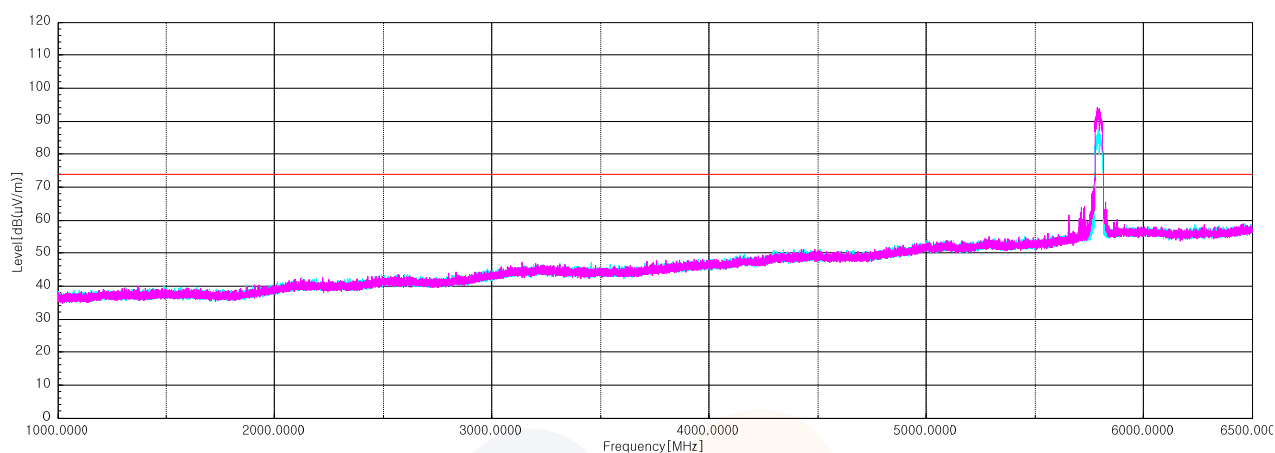


Highest Channel (5 795 MHz)

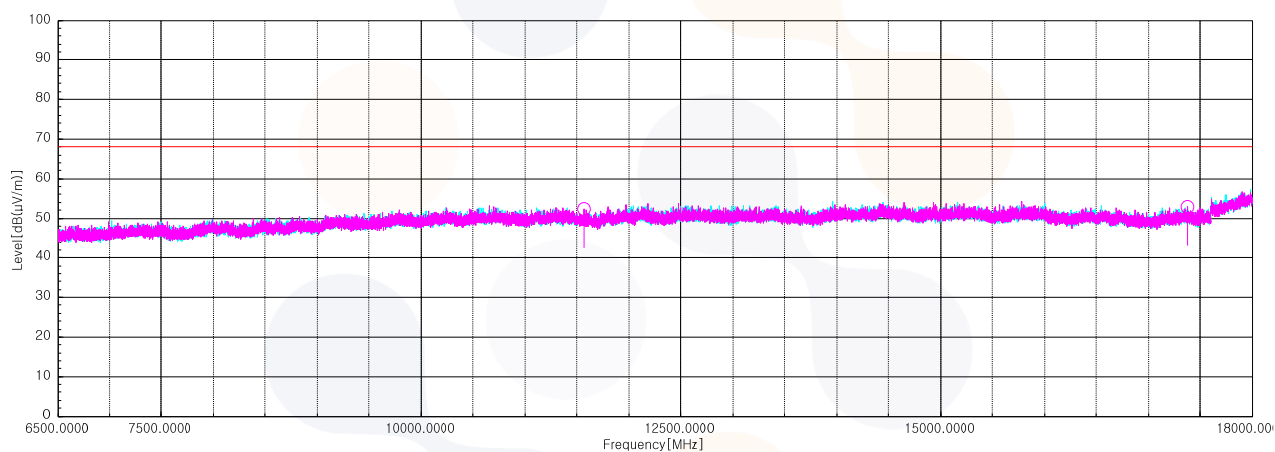
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 886.48	H	49.90	34.25	-25.90	-	58.25	96.70	38.45
11 566.90 ¹⁾	H	53.30	38.77	-39.68	-	52.39	74.00	21.61
17 380.15	H	49.50	38.72	-35.20	-	53.02	68.20	15.18
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz



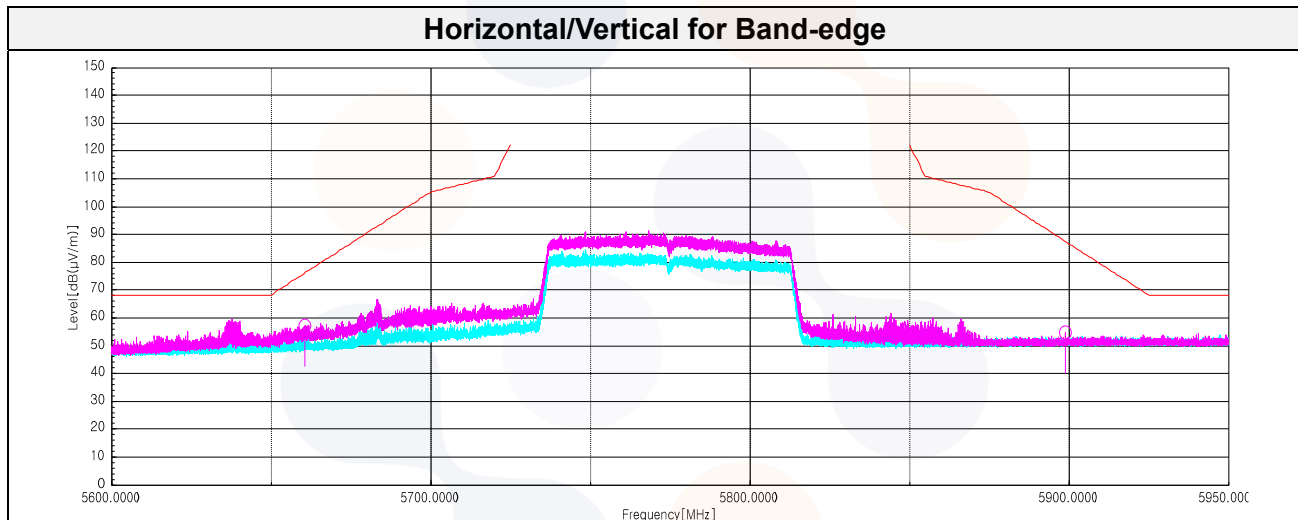
Horizontal/Vertical for 6.5 GHz ~ 18 GHz



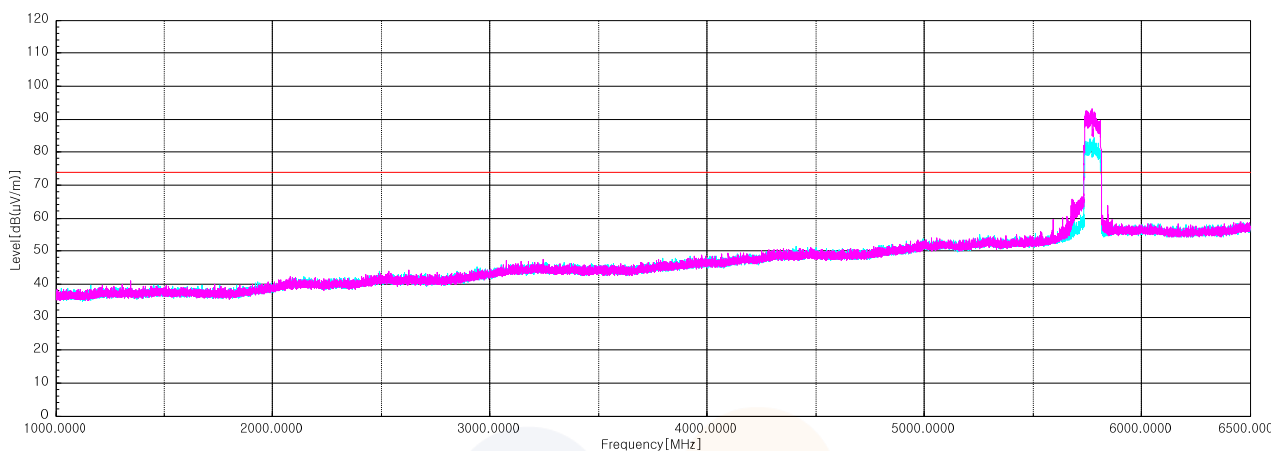
802.11ac VHT80 UNII 3

Lowest Channel (5 775 MHz)

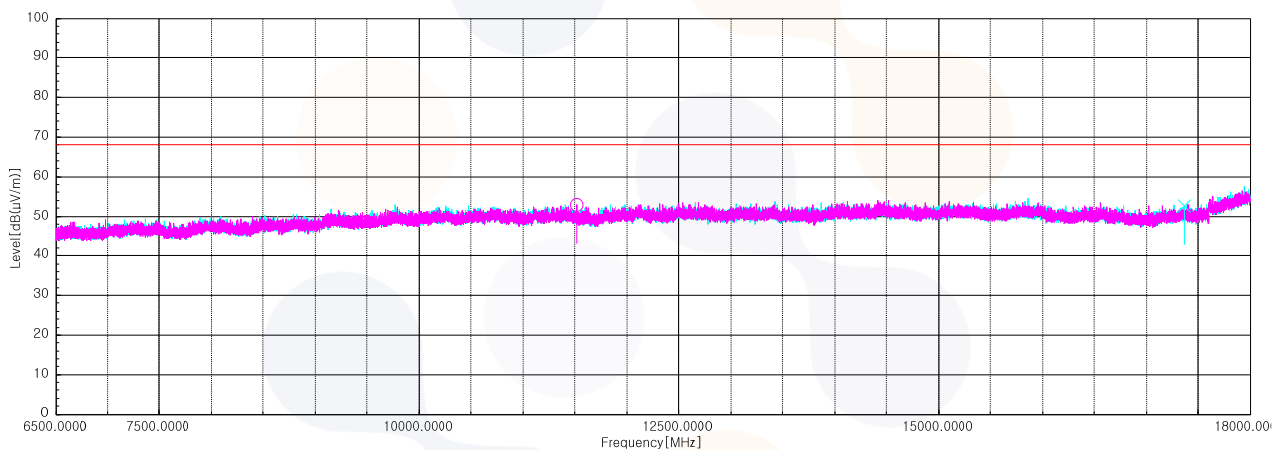
Frequency	Pol.	Reading	Antenna Factor	Amp. + Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB($\mu V/m$))	(dB($\mu V/m$))	(dB)
Peak data								
5 660.69	H	50.90	33.34	-27.02	-	57.22	76.10	18.88
5 898.78	H	46.10	34.30	-25.82	-	54.58	87.60	33.02
11 519.37 ¹⁾	H	53.80	38.86	-39.76	-	52.90	74.00	21.10
17 365.20	V	49.10	38.66	-35.20	-	52.56	68.20	15.64
Average Data								
No spurious emissions were detected within 20 dB of the limit.								



Horizontal/Vertical for 1 GHz ~ 6.5 GHz

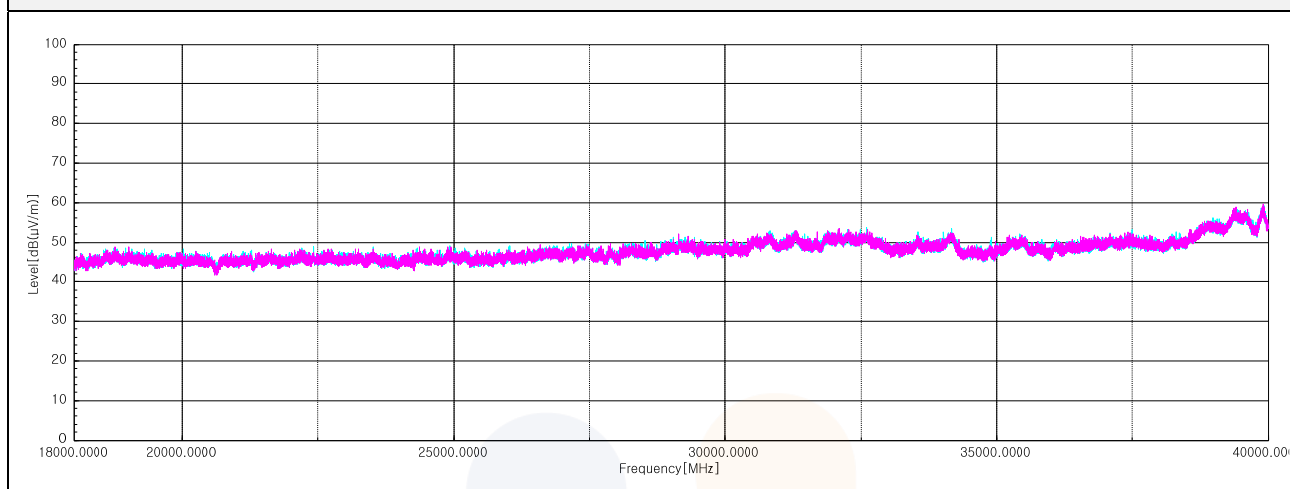


Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Test results (Above 18 GHz) – Worst case: 802. 11n HT20_UNII 3_5 745 MHz

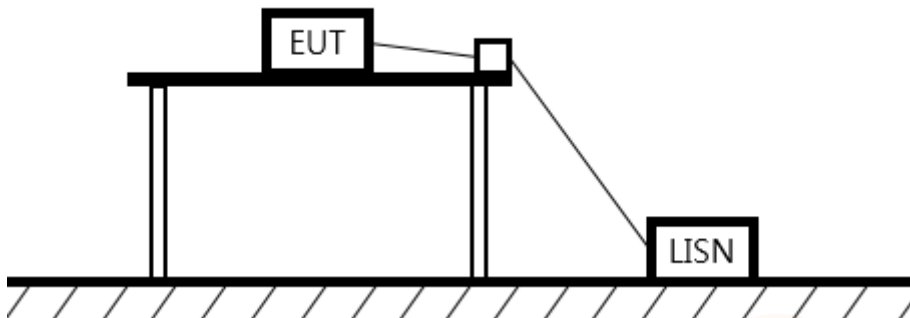
Horizontal/Vertical for 18 GHz ~ 40 GHz



Note: The Worst case was based on the lowest margin condition considering Harmonic and Spurious Emission.

7.6. 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 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

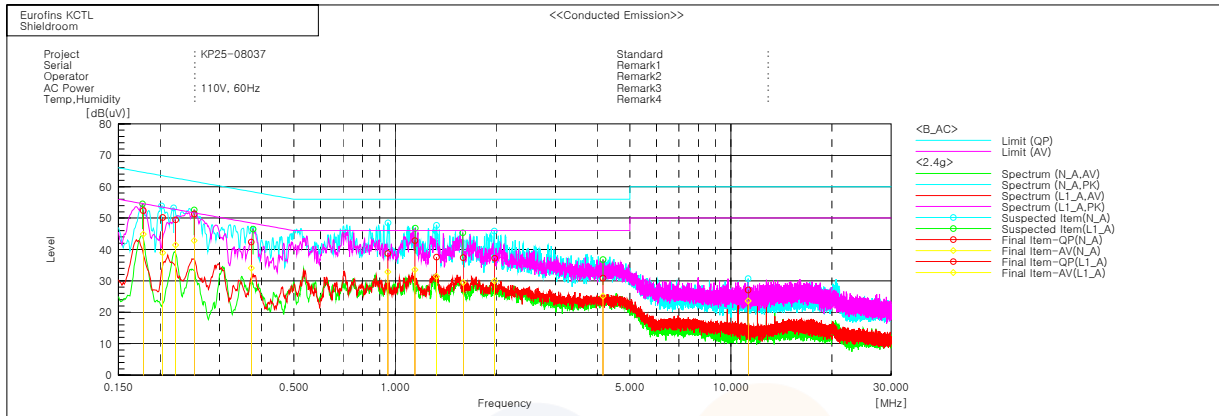
Frequency of Emission (MHz)	Conducted limit (dB μ V/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

Measurement procedure

1. The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 cm in which is located 40 cm 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 50 Ω /50 μ H 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 MHz to 30 MHz.
5. The measurements were made with the detector set to peak amplitude within a bandwidth of 10 kHz or to quasi-peak and average within a bandwidth of 9 kHz. The EUT was in transmitting mode during the measurements.

Test results

Worst case: 802.11a_UNII 3_5 825 MHz



Final Result

--- N_A Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.20308	40.1	28.9	10.1	50.2	39.0	63.5	53.5	13.3	14.5
2	0.2219	39.4	31.4	10.0	49.4	41.4	62.7	52.7	13.3	11.3
3	0.95221	28.6	22.8	10.1	38.7	32.9	56.0	46.0	17.3	13.1
4	1.32913	27.6	21.4	10.0	37.6	31.4	56.0	46.0	18.4	14.6
5	1.97855	27.2	20.0	10.0	37.2	30.0	56.0	46.0	18.8	16.0
6	11.25337	16.6	13.1	10.5	27.1	23.6	60.0	50.0	32.9	26.4

--- L1_A Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1779	42.1	34.6	10.3	52.4	44.9	64.6	54.6	12.2	9.7
2	0.25237	41.4	32.9	9.9	51.3	42.8	61.7	51.7	10.4	8.9
3	0.37298	32.3	23.9	10.1	42.4	34.0	58.4	48.4	16.0	14.4
4	1.14487	32.7	23.5	10.1	42.8	33.6	56.0	46.0	13.2	12.4
5	1.59455	27.4	19.5	10.0	37.4	29.5	56.0	46.0	18.6	16.5
6	4.16032	20.9	15.2	10.0	30.9	25.2	56.0	46.0	25.1	20.8

8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSV3044	101052	26.03.12
Spectrum Analyzer	R&S	FSVA3030	101127	26.11.21
Spectrum Analyzer	R&S	FSV40	100988	26.04.24
Signal Generator	R&S	SMB100A	176206	27.01.15
DC Power Supply	AGILENT	E3632A	MY40027567	26.04.23
Attenuator	HUBER+SUHNER	6610_SK-50-1/199_NE	ATT11	26.07.07
Attenuator	R&S	DNF Dämpfungsglied 10 dB in N-50 Ohm	31211	26.04.23
Power Sensor	R&S	NRP-Z81	1137.9009.02-106223-bB	26.04.23
Pulse Power Meter	ANRITSU	ML2495A	1608009	26.07.01
Pulse Power Sensor	ANRITSU	MA2411B	1726174	26.07.01
TWO-LINE V - NETWORK	R&S	ENV216	101584	26.03.25
EMI TEST RECEIVER	R&S	ESCI3	101428	26.08.12
Broadband PreAmplifier	SCHWARZBECK	BBV9718D	53	26.07.01
Low Noise Amplifier	TESTEK	TK-PA18H	220123-L	26.07.01
Low Noise Amplifier	TESTEK	TK-PA1840H	220234-L	26.06.30
Horn Antenna	SCHWARZBECK	BBHA9120D	2764	26.06.30
Horn Antenna	SCHWARZBECK	BBHA9170	1266	26.06.29
High Pass Filter	Wainwright Instruments GmbH	WHKX12-2805-3000-18000-40SS	SN59	26.06.27
High Pass Filter	Wainwright Instruments GmbH	WHKX8-5655-6500-18000-40SS	SN7	26.06.27
High Pass Filter	Qotana	DBHF058004000A	23041800061	26.04.28
Amplifier	SONOMA INSTRUMENT	310N	421910	26.07.01
Bi-log Antenna	Teseq GmbH	CBL 6112D	61521	26.12.11
Loop Antenna	R&S	HFH2-Z2	100355	26.06.25
DC Power Supply	POWERCOM	DCP-50100A	20220610-01	27.01.16

End of test report