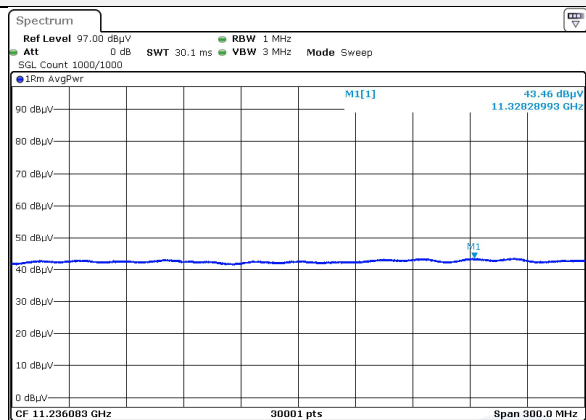


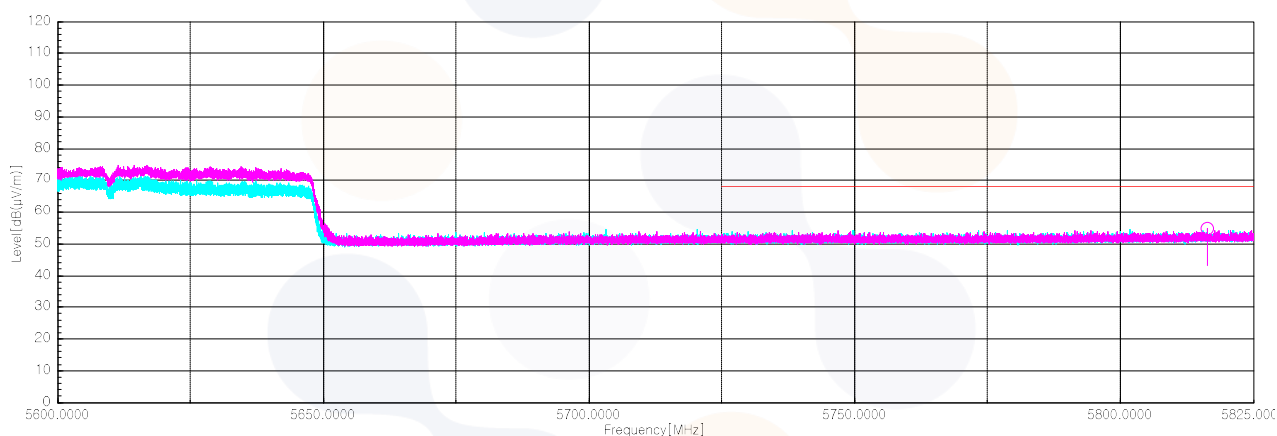
Highest Channel (5 610MHz)

Average data



Blank

Horizontal/Vertical for Band-edge

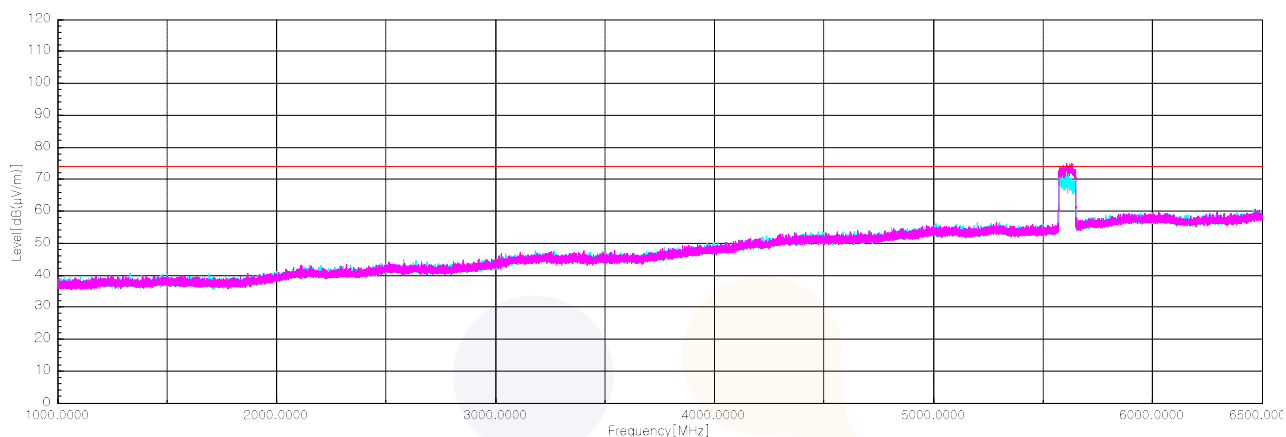


Plot of Harmonics and Spurious Emissions

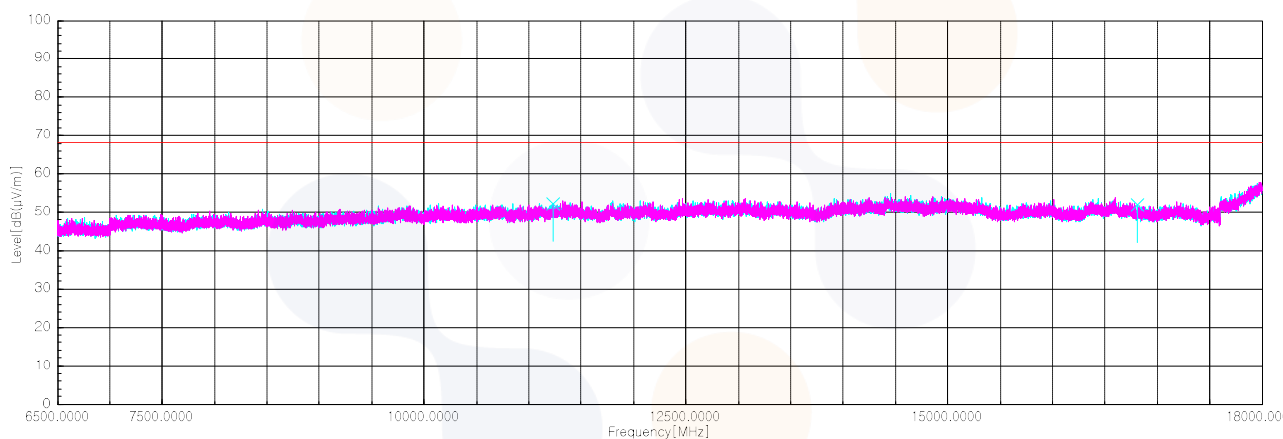
In order to simplify the report, attached plots were only the lowest margin condition

802.11ac VHT80_UNII 2C_High Channel (5 610 MHz)

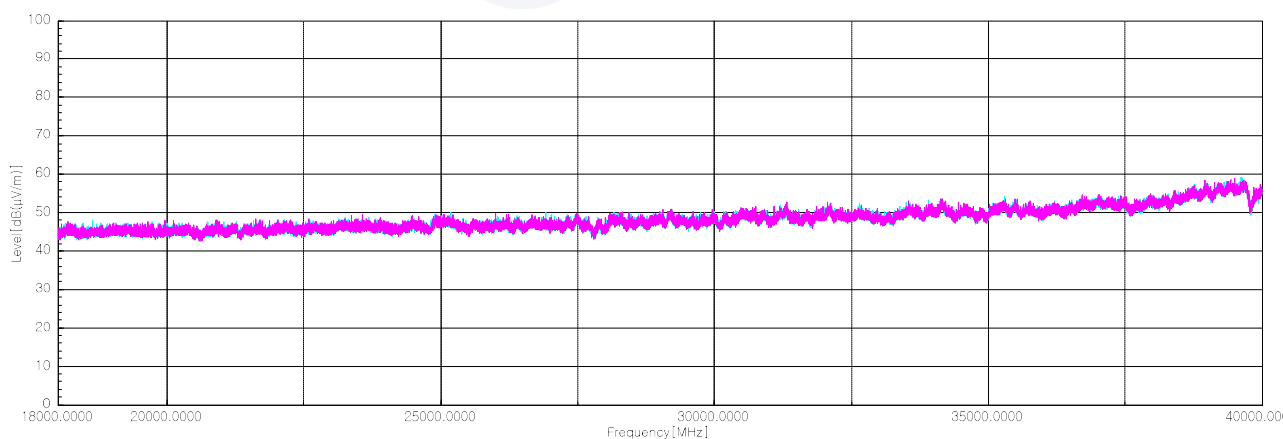
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



Straddle Channel

802.11a (5 720 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 347.18 ¹⁾	V	54.30	38.99	-40.43	-	52.86	74.00	21.14
17 167.40	H	50.40	38.13	-36.31	-	52.22	68.20	15.98
Average Data								
11 347.18 ¹⁾	V	43.88	38.99	-40.43	-	42.44	54.00	11.56

802.11n HT20 (5 720 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 352.80 ¹⁾	H	54.60	38.90	-40.44	-	53.06	74.00	20.94
17 133.67	V	50.40	38.00	-36.45	-	51.95	68.20	16.25
Average Data								
11 352.80 ¹⁾	H	43.54	38.90	-40.44	-	42.00	54.00	12.00

802.11n HT40 (5 710 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 350.37 ¹⁾	V	54.60	38.90	-40.43	-	53.07	74.00	20.93
17 140.57	H	50.70	38.00	-36.42	-	52.28	68.20	15.92
Average Data								
11 350.37 ¹⁾	V	43.69	38.90	-40.43	0.17	42.33	54.00	11.67

802.11ac VHT20 (5 720 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 461.23 ¹⁾	H	54.90	38.78	-40.62	-	53.06	74.00	20.94
17 160.88	H	50.60	38.12	-36.33	-	52.39	68.20	15.81
Average Data								
11 461.23 ¹⁾	H	42.84	38.78	-40.62	-	41.00	54.00	13.00

802.11ac VHT40 (5 710 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 349.19 ¹⁾	H	54.20	39.00	-40.43	-	52.77	74.00	21.23
17 140.95	V	51.80	38.00	-36.42	-	53.38	68.20	14.82
Average Data								
11 349.19 ¹⁾	H	43.63	39.00	-40.43	0.17	42.37	54.00	11.63

802.11ac VHT80 (5 690 MHz)

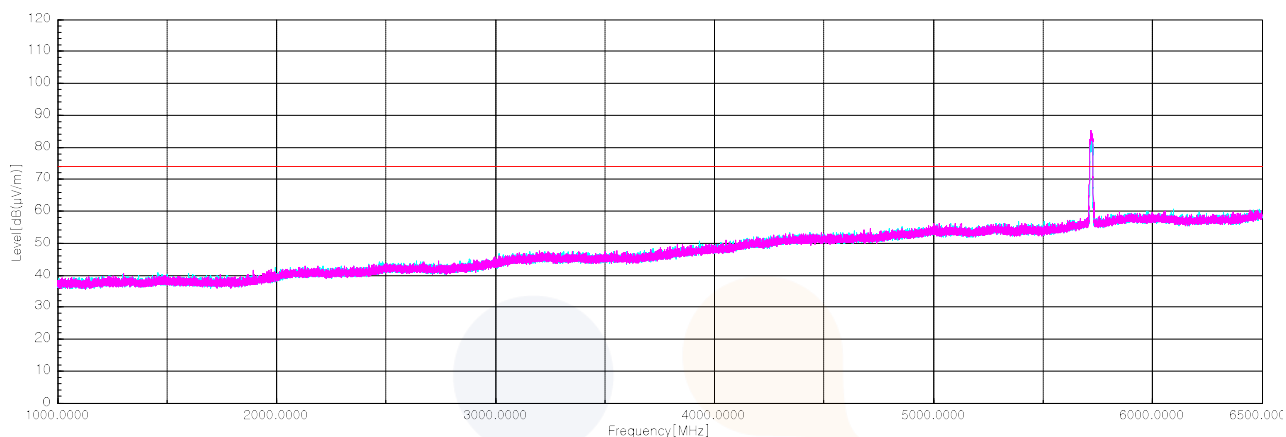
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 393.63 ¹⁾	H	54.20	38.90	-40.51	-	52.59	74.00	21.41
17 116.03	H	50.20	38.00	-36.53	-	51.67	68.20	16.53
Average Data								
11 328.15 ¹⁾	H	43.49	38.96	-40.40	0.33	42.38	54.00	11.62

Plot of Harmonics and Spurious Emissions

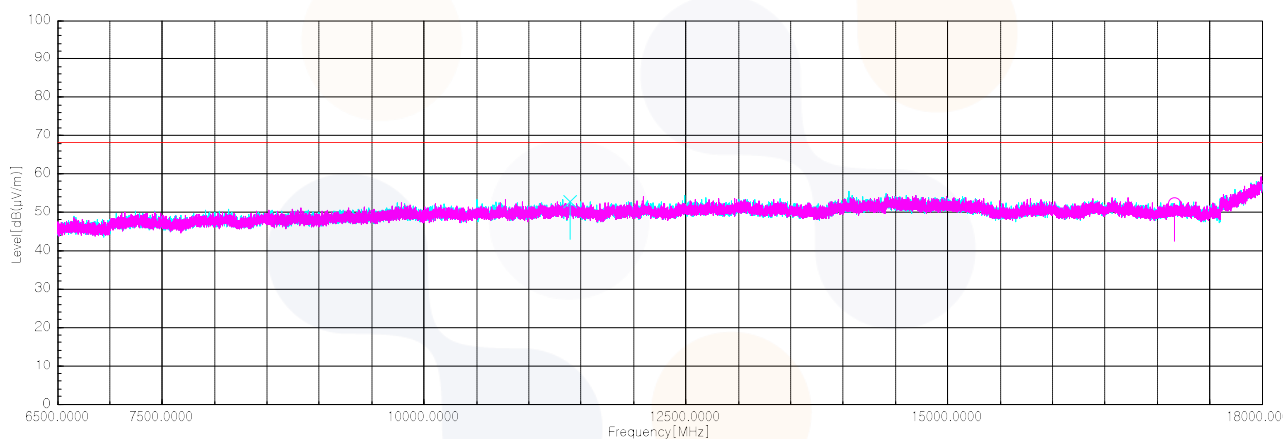
In order to simplify the report, attached plots were only the lowest margin condition

802.11a_Straddle Channel (5 720 MHz)

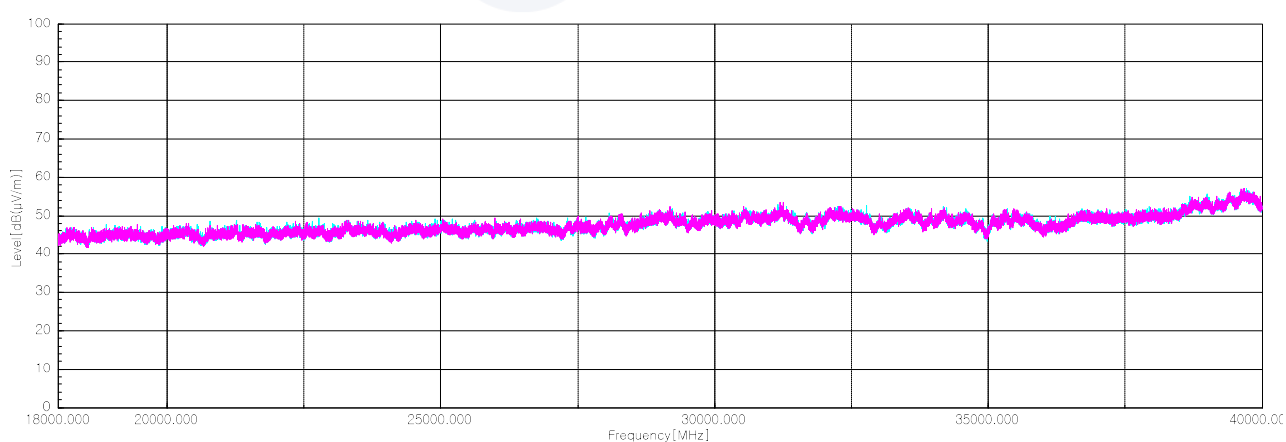
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz



Horizontal/Vertical for 18 GHz ~ 40 GHz



UNII 3

802.11a_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 723.82	H	45.40	33.55	-25.72	-	53.23	119.50	66.27
11 411.83 ¹⁾	V	53.90	38.90	-40.54	-	52.26	74.00	21.74
17 290.83	H	50.30	38.56	-36.02	-	52.84	68.20	15.36
Average Data								
11 411.83 ¹⁾	V	42.80	38.90	-40.54	-	41.16	54.00	12.84

802.11a_Middle Channel (5 785 MHz)

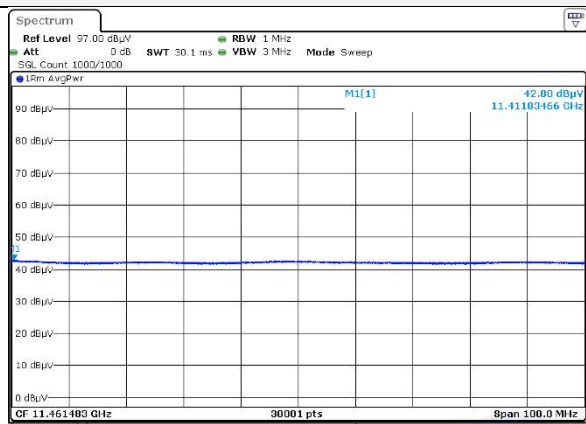
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 572.31 ¹⁾	V	53.30	38.66	-40.49	-	51.47	74.00	22.53
17 333.38	H	48.60	38.73	-36.10	-	51.23	68.20	16.97
Average Data								
11 572.31 ¹⁾	V	42.52	38.66	-40.49	-	40.69	54.00	13.31

802.11a_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 851.15	H	45.30	34.30	-25.56	-	54.04	119.60	65.56
11 682.14 ¹⁾	V	53.00	38.44	-40.20	-	51.24	74.00	22.76
17 516.23	H	48.20	39.73	-36.31	-	51.62	68.20	16.58
Average Data								
11 682.14 ¹⁾	V	42.50	38.44	-40.20	-	40.74	54.00	13.26

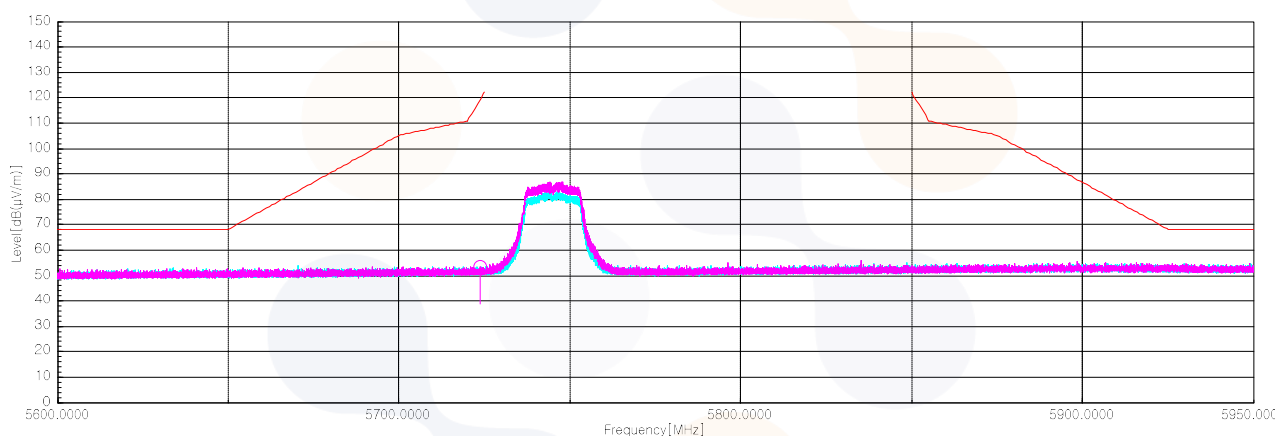
802.11a_Lowest Channel (5 745 MHz)

Average data



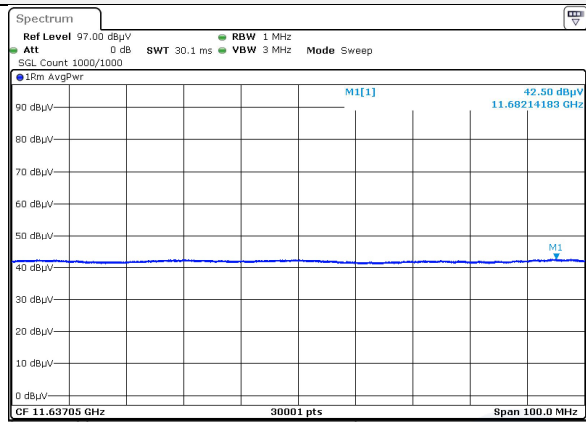
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Horizontal/Vertical for Band-edge



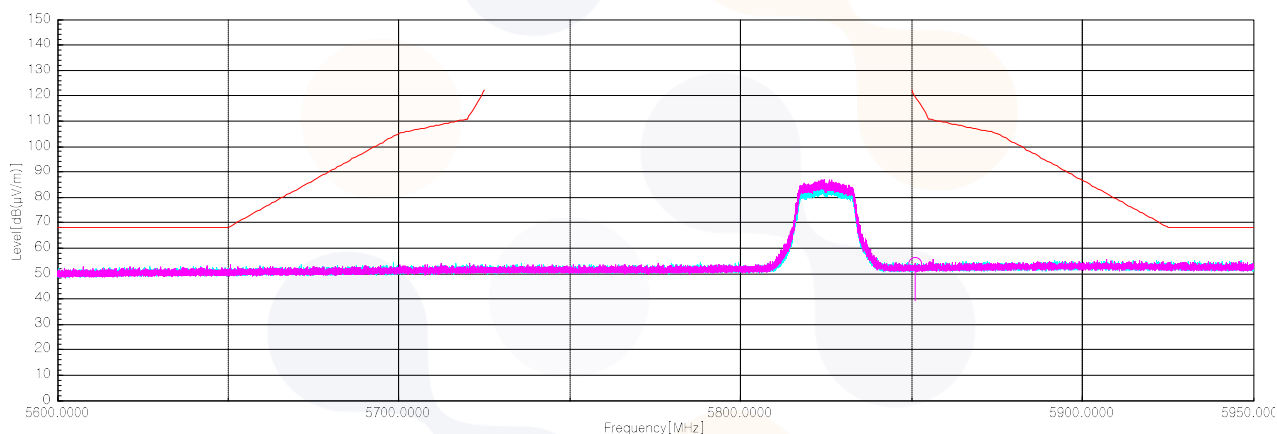
802.11a_Highest Channel (5 825 MHz)

Average data



Blank

Horizontal/Vertical for Band-edge



802.11n_HT20_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 721.73	V	45.60	33.54	-25.73	-	53.41	114.70	61.29
11 410.39 ¹⁾	V	53.60	38.90	-40.53	-	51.97	74.00	22.03
17 219.92	H	50.10	38.24	-36.08	-	52.26	68.20	15.94
Average Data								
11 410.39 ¹⁾	V	42.78	38.90	-40.53	-	41.15	54.00	12.85

802.11n_HT20_Middle Channel (5 785 MHz)

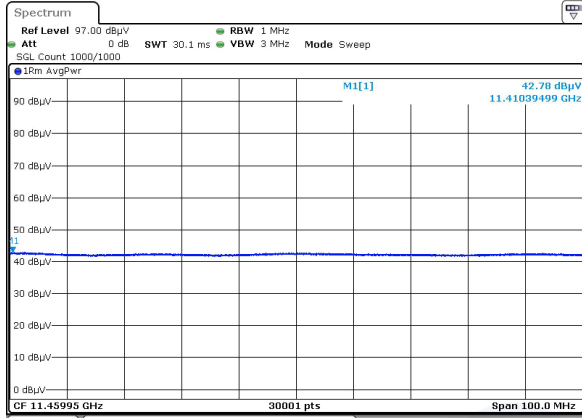
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 682.08 ¹⁾	V	54.60	38.44	-40.20	-	52.84	74.00	21.16
17 310.77	H	49.20	38.64	-36.06	-	51.78	68.20	16.42
Average Data								
11 682.08 ¹⁾	V	42.46	38.44	-40.20	-	40.70	54.00	13.30

802.11n_HT20_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 851.53	V	45.20	34.31	-25.56	-	53.95	118.70	64.75
11 546.53 ¹⁾	H	54.10	38.80	-40.56	-	52.34	74.00	21.66
17 468.70	H	48.70	39.31	-36.33	-	51.68	68.20	16.52
Average Data								
11 546.53 ¹⁾	H	42.55	38.80	-40.56	-	40.79	54.00	13.21

802.11n_HT20_Lowest Channel (5 745 MHz)

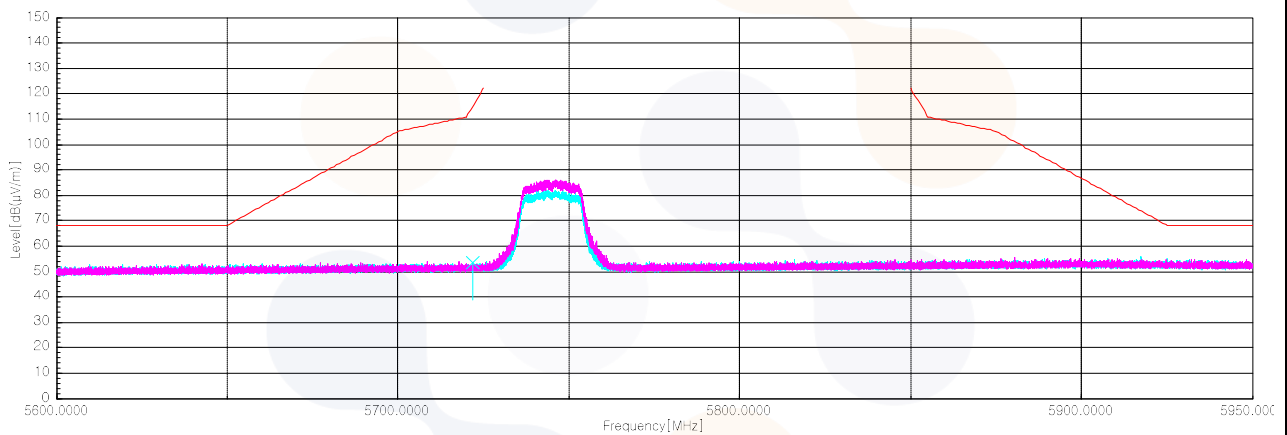
Average data



Date: 27.SEP.2025 16:11:57

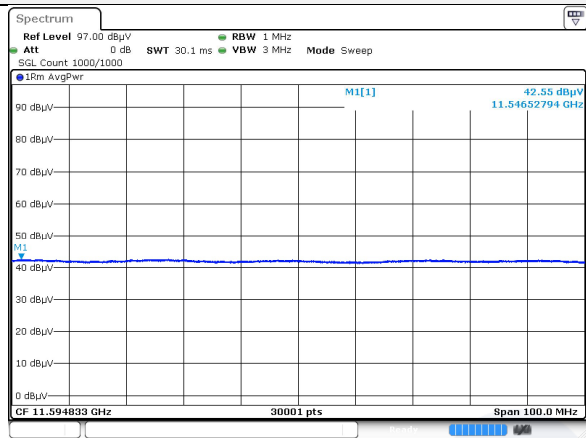
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Horizontal/Vertical for Band-edge

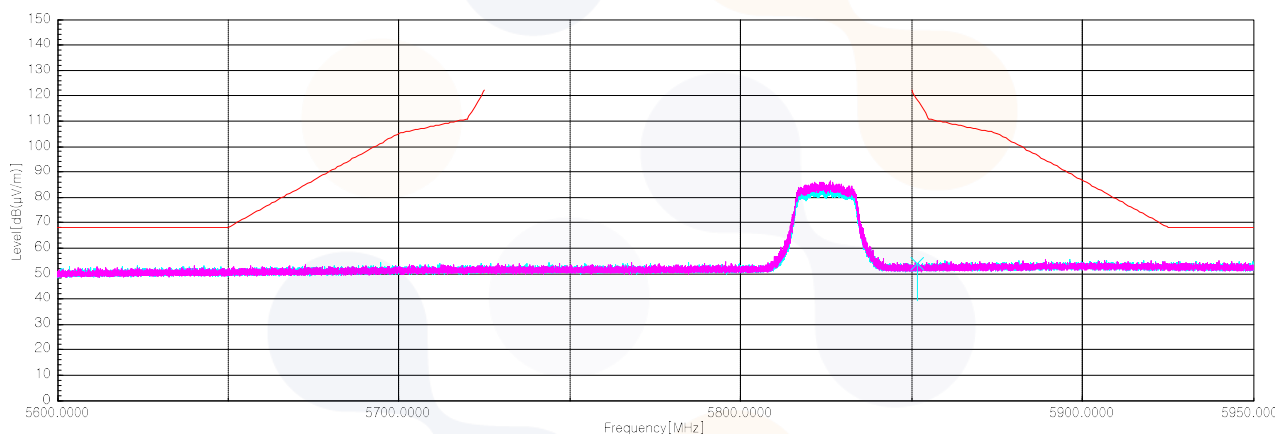


802.11n_HT20_Highest Channel (5 825 MHz)

Average data



Horizontal/Vertical for Band-edge



802.11n_HT40_Lowest Channel (5 755 MHz)

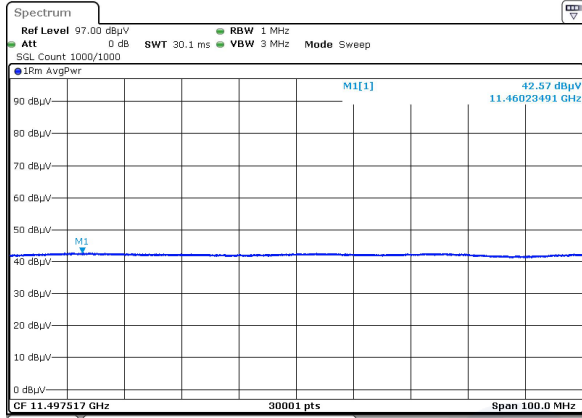
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 721.74	H	46.10	33.54	-25.73	-	53.91	114.80	60.89
11 460.23 ¹⁾	V	53.70	38.78	-40.61	-	51.87	74.00	22.13
17 216.08	V	50.40	38.23	-36.10	-	52.53	68.20	15.67
Average Data								
11 460.23 ¹⁾	V	42.57	38.78	-40.61	0.17	40.91	54.00	13.09

802.11n_HT40_Highest Channel (5 795 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 854.07	V	45.50	34.32	-25.56	-	54.26	112.90	58.64
11 681.38 ¹⁾	V	54.30	38.44	-40.20	-	52.54	74.00	21.46
17 358.30	V	48.60	38.83	-36.14	-	51.29	68.20	16.91
Average Data								
11 681.38 ¹⁾	V	42.51	38.44	-40.20	0.17	40.92	54.00	13.08

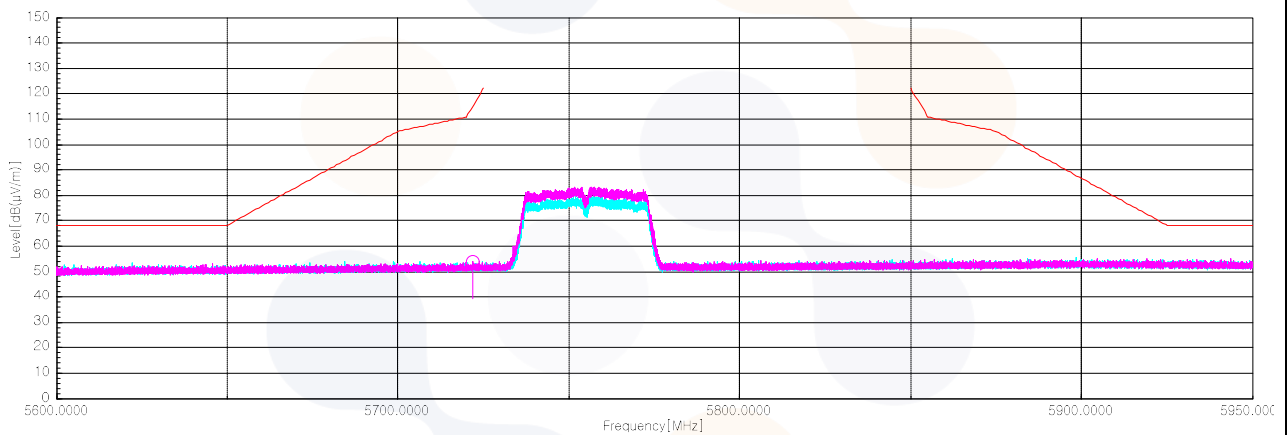
802.11n_HT40_Lowest Channel (5 755 MHz)

Average data



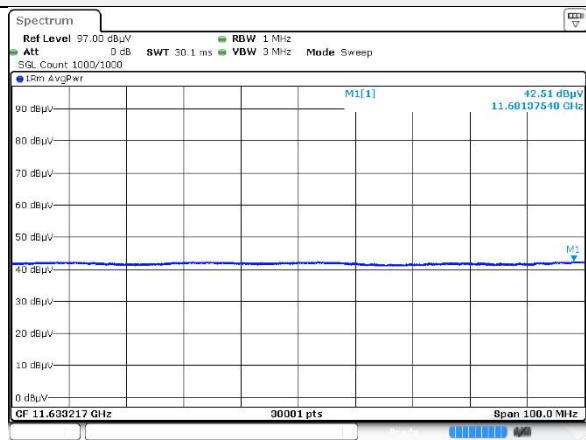
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Horizontal/Vertical for Band-edge



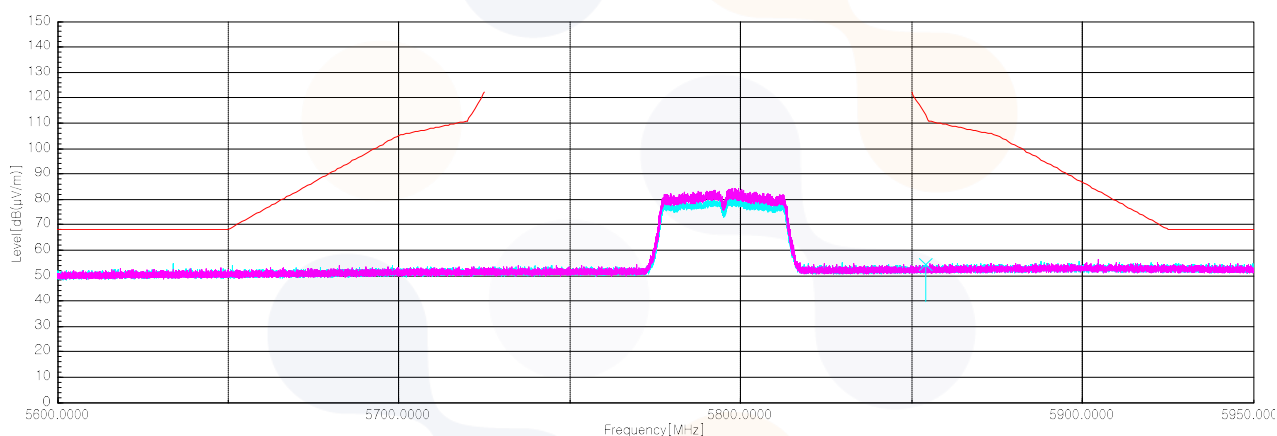
802.11n_HT40_Highest Channel (5 795 MHz)

Average data



Blank

Horizontal/Vertical for Band-edge



802.11ac_VHT20_Lowest Channel (5 745 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 721.36	V	45.50	33.54	-25.73	-	53.31	113.90	60.59
11 401.77 ¹⁾	H	53.70	38.90	-40.52	-	52.08	74.00	21.92
17 186.95	H	50.70	38.17	-36.22	-	52.65	68.20	15.55
Average Data								
11 401.77 ¹⁾	H	42.98	38.90	-40.52	-	41.36	54.00	12.64

802.11ac_VHT20_Middle Channel (5 785 MHz)

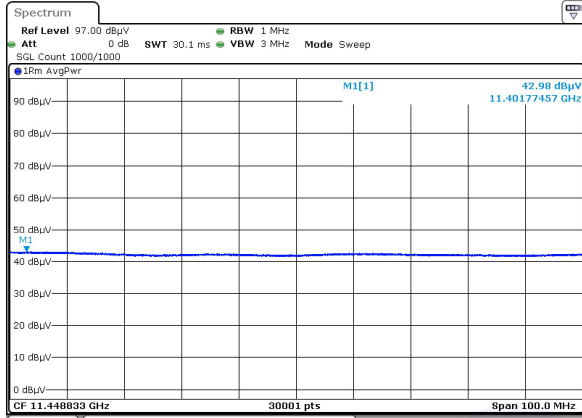
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
11 569.24 ¹⁾	H	54.10	38.66	-40.50	-	52.26	74.00	21.74
17 357.53	V	48.30	38.83	-36.14	-	50.99	68.20	17.21
Average Data								
11 569.24 ¹⁾	H	42.57	38.66	-40.50	-	40.73	54.00	13.27

802.11ac_VHT20_Highest Channel (5 825 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 851.00	V	45.60	34.30	-25.56	-	54.34	119.90	65.56
11 569.63 ¹⁾	V	53.10	38.66	-40.50	-	51.26	74.00	22.74
17 517.77	V	48.10	39.74	-36.31	-	51.53	68.20	16.67
Average Data								
11 569.63 ¹⁾	V	42.43	38.66	-40.50	-	40.59	54.00	13.41

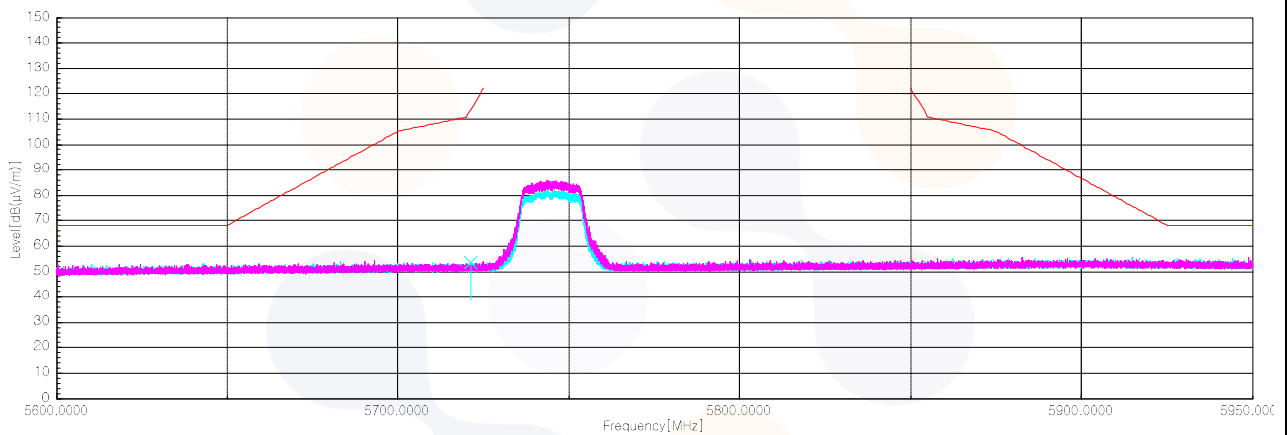
802.11ac_VHT20_Lowest Channel (5 745 MHz)

Average data



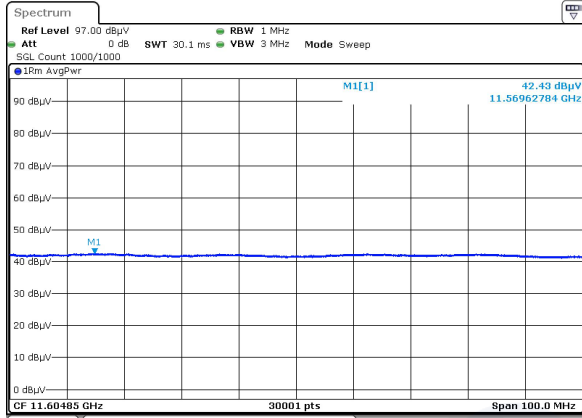
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Horizontal/Vertical for Band-edge



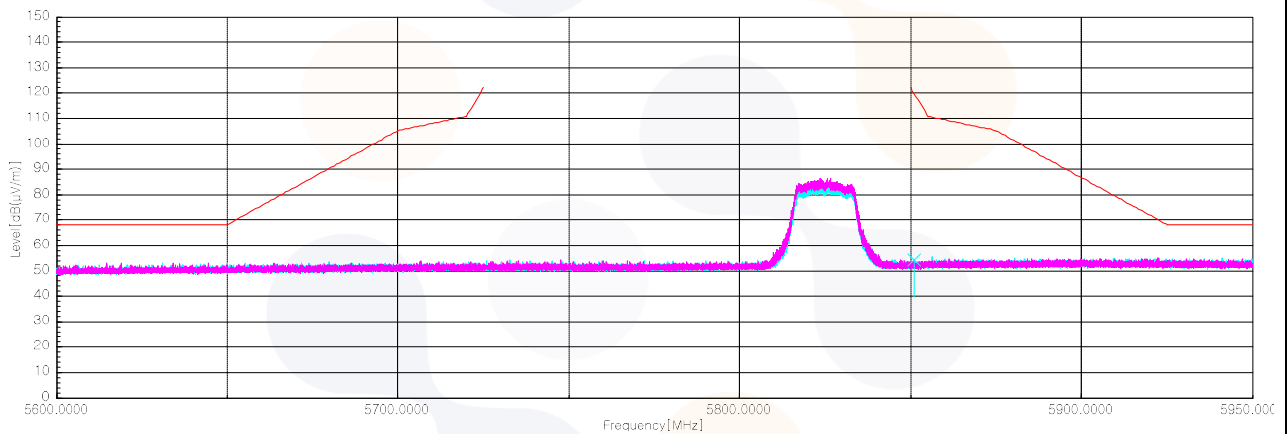
802.11ac_VHT20_Highest Channel (5 825 MHz)

Average data



Blank

Horizontal/Vertical for Band-edge



802.11ac_VHT40_Lowest Channel (5 755 MHz)

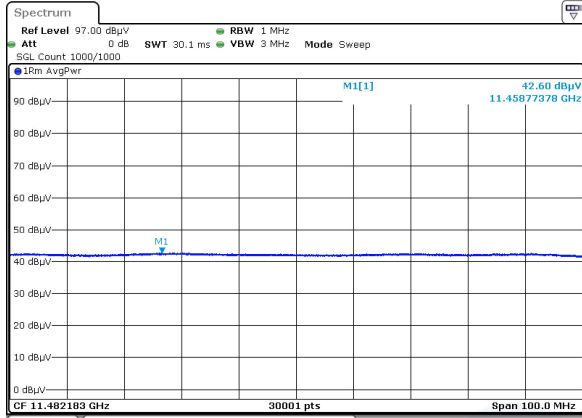
Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 720.28	H	45.40	33.54	-25.73	-	53.21	111.40	58.19
11 458.77 ¹⁾	V	54.50	38.78	-40.61	-	52.67	74.00	21.33
17 278.18	H	49.50	38.51	-36.00	-	52.01	68.20	16.19
Average Data								
11 458.77 ¹⁾	V	42.60	38.78	-40.61	0.17	40.94	54.00	13.06

802.11ac_VHT40_Highest Channel (5 795 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 851.42	H	46.00	34.31	-25.56	-	54.75	119.00	64.25
11 520.73 ¹⁾	H	54.30	38.80	-40.63	-	52.47	74.00	21.53
17 337.98	H	49.00	38.75	-36.10	-	51.65	68.20	16.55
Average Data								
11 520.73 ¹⁾	H	42.66	38.80	-40.63	0.17	41.00	54.00	13.00

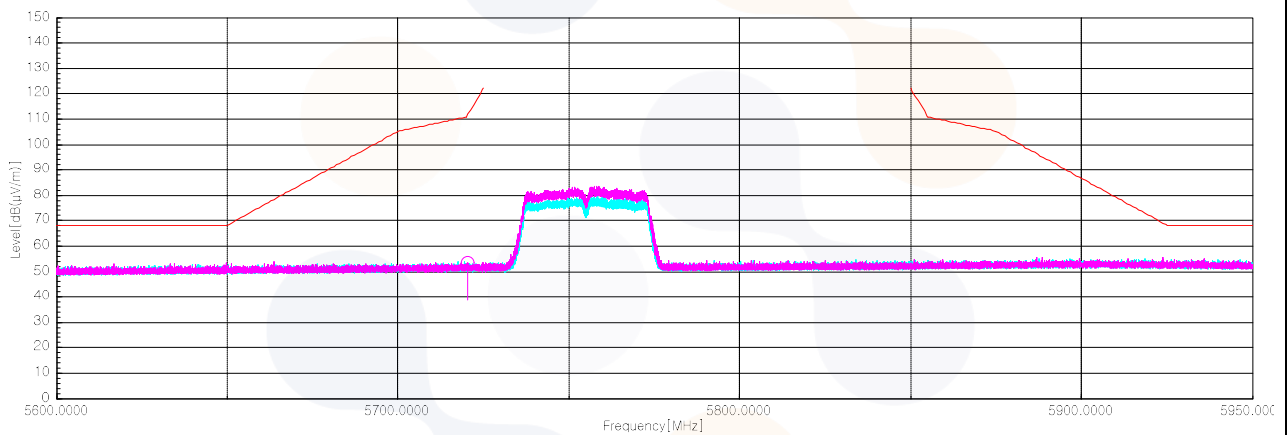
802.11ac_VHT40_Lowest Channel (5 755 MHz)

Average data



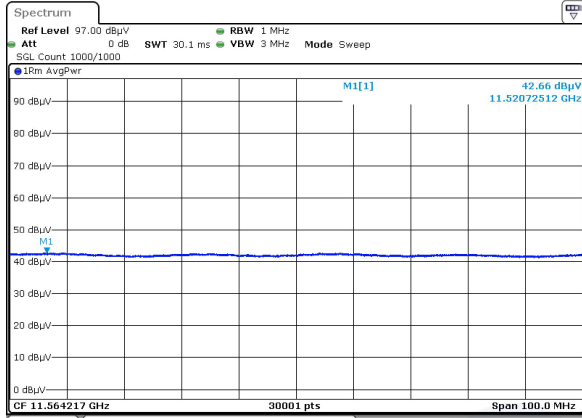
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Horizontal/Vertical for Band-edge



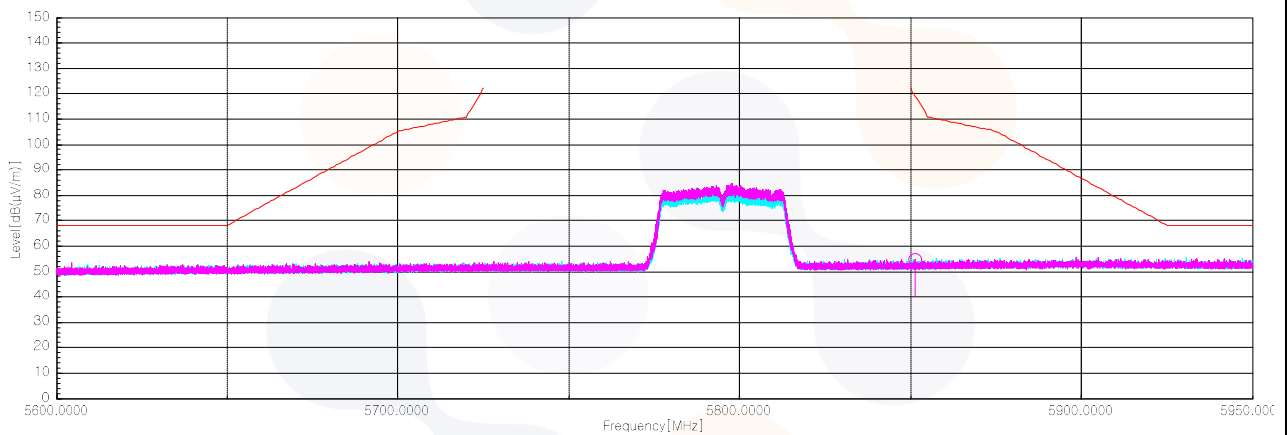
802.11ac_VHT40_Highest Channel (5 795 MHz)

Average data



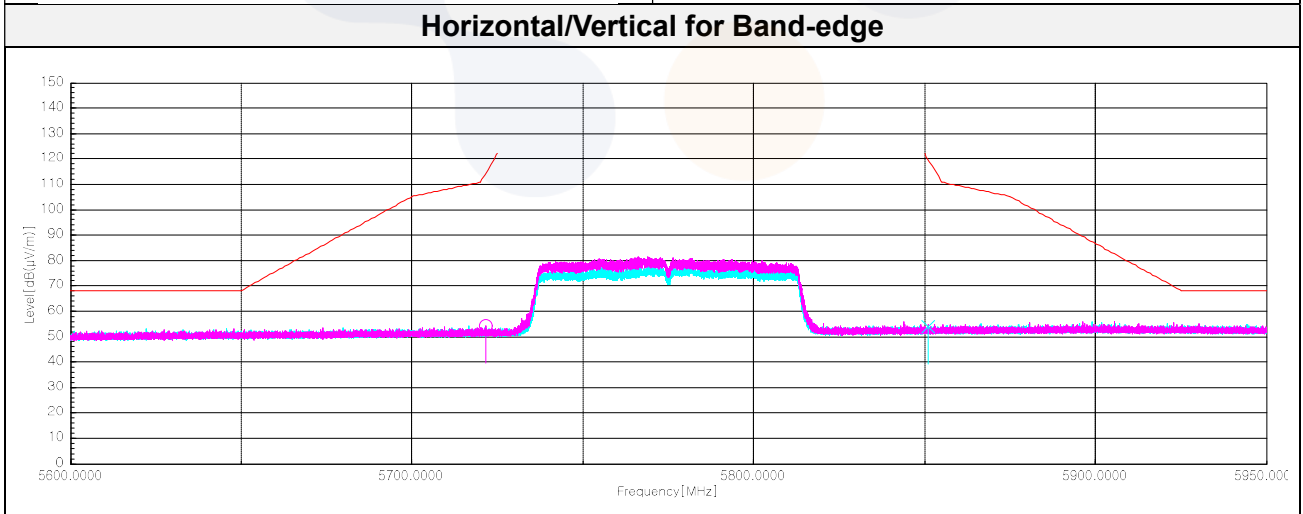
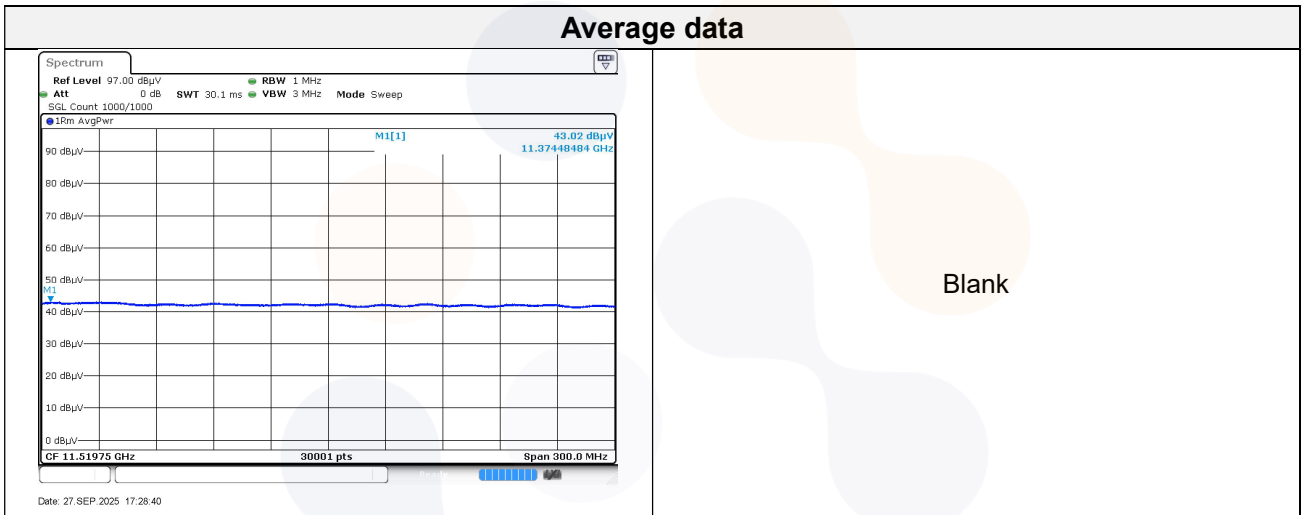
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Horizontal/Vertical for Band-edge



802.11ac_VHT80_Middle Channel (5 775 MHz)

Frequency	Pol.	Reading	Ant. Factor	Amp.+Cable	DCF	Result	Limit	Margin
(MHz)	(V/H)	(dB(μV))	(dB)	(dB)	(dB)	(dB(μV/m))	(dB(μV/m))	(dB)
Peak data								
5 721.56	H	46.40	33.54	-25.73	-	54.21	114.30	60.09
5 850.99	V	45.30	34.30	-25.56	-	54.04	120.00	65.96
11 374.48 ¹⁾	H	53.50	38.90	-40.47	-	51.93	74.00	22.07
17 292.75	H	49.00	38.57	-36.03	-	51.54	68.20	16.66
Average Data								
11 374.48 ¹⁾	H	43.02	38.90	-40.47	0.33	41.78	54.00	12.22

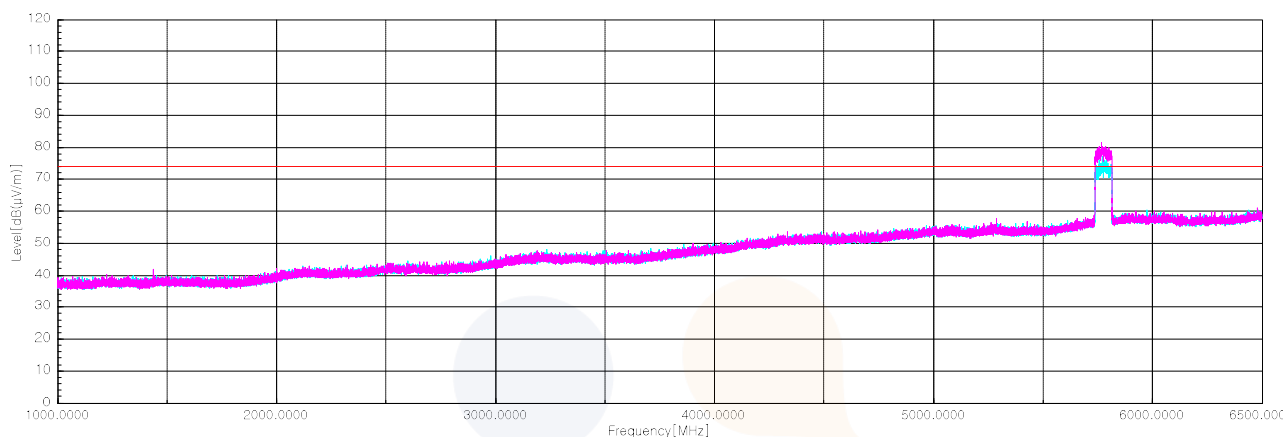


Plot of Harmonics and Spurious Emissions

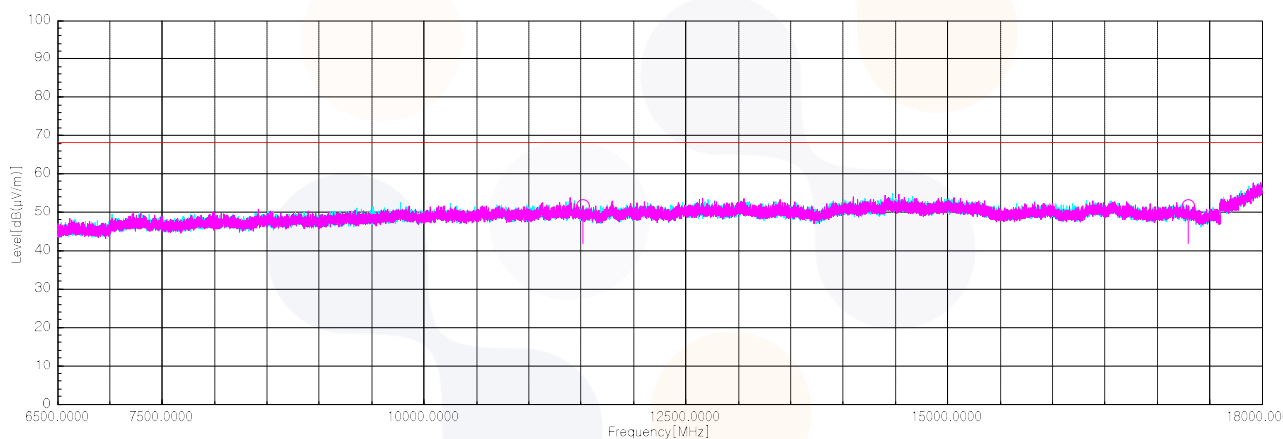
In order to simplify the report, attached plots were only the lowest margin condition

802.11ac VHT80_UNII 3_Middle Channel (5 775 MHz)

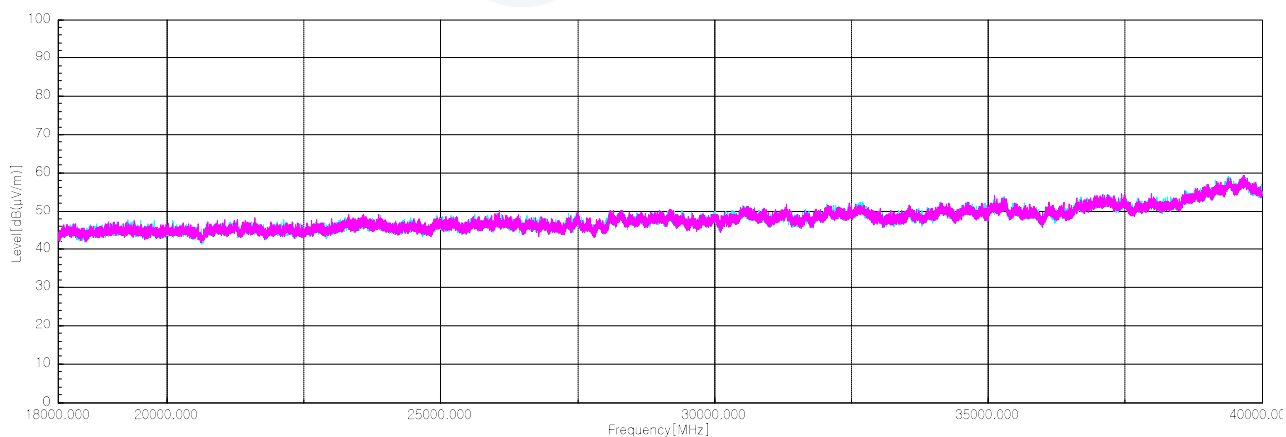
Horizontal/Vertical for 1 GHz ~ 6.5 GHz



Horizontal/Vertical for 6.5 GHz ~ 18 GHz

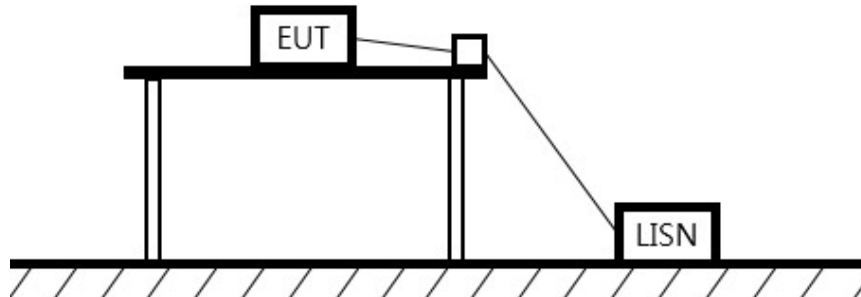


Horizontal/Vertical for 18 GHz ~ 40 GHz



7.9. 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 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.

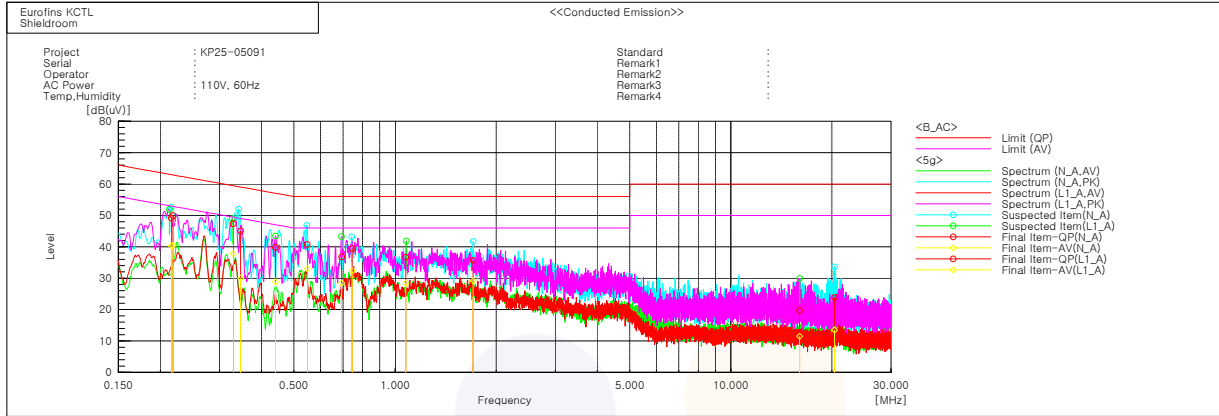
Frequency of Emission (MHz)	Conducted limit (dB μ V/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

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: 802.11ac VHT80 / UNII 2C_5 610 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	0.21791	40.0	30.6	9.9	49.9	40.5	62.9	52.9	13.0	12.4
2	0.34676	35.2	20.1	9.9	45.1	30.0	59.0	49.0	13.9	19.0
3	0.54746	30.7	23.0	10.0	40.7	33.0	56.0	46.0	15.3	13.0
4	0.74532	29.4	22.4	10.0	39.4	32.4	56.0	46.0	16.6	13.6
5	1.70839	25.7	19.3	9.9	35.6	29.2	56.0	46.0	20.4	16.8
6	20.361	12.9	2.5	11.0	23.9	13.5	60.0	50.0	36.1	36.5

--- 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	0.21551	39.3	30.4	9.9	49.2	40.3	63.0	53.0	13.8	12.7
2	0.32936	37.4	27.9	9.9	47.3	37.8	59.5	49.5	12.2	11.7
3	0.44019	29.8	18.8	10.0	39.8	28.8	57.1	47.1	17.3	18.3
4	0.69371	26.8	18.5	10.0	36.8	28.5	56.0	46.0	19.2	17.5
5	1.07626	26.7	18.5	9.9	36.6	28.4	56.0	46.0	19.4	17.6
6	16.0296	9.1	0.8	10.7	19.8	11.5	60.0	50.0	40.2	38.5

8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSV3030	1330.5000K30-101710-Wt	26.06.30
Spectrum Analyzer	R&S	FSV40	100988	26.04.24
EMI TEST RECEIVER	R&S	ESC13	101408	26.08.11
Signal Generator	R&S	SMB100A	176206	26.01.17
Vector Signal Generator	R&S	SMBV100A	257566	26.07.01
Attenuator	HUBER+SUHNER	6610_SK-50-1/199_NE	ATT10	26.03.17
Power Splitter	Mini-Circuits	ZX10-2-98-S+	1	26.06.30
Power Splitter	Mini-Circuits	ZX10-2-98-S+	3	26.06.30
Step Attenuator	KEYSIGHT	8495D	MY42144296	26.01.20
Midd 4 Way Power Divider	KRYTAR	7005265	151063	26.04.28
DC Power Supply	TOYOTECH	TL305TP	21040051	26.06.30
Bilog Antenna	Teseq GmbH	CBL 6112D	61521	26.12.11
Loop Antenna	R&S	HFH2-Z2	100355	26.06.25
Horn Antenna	SCHWARZBECK	BBHA9120D	2764	26.06.30
Horn Antenna	SCHWARZBECK	BBHA9170	1266	26.06.29
Amplifier	SONOMA INSTRUMENT	310N	421910	26.07.01
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
High Pass Filter	Wainwright Instruments GmbH	WHKX8-5655-6500-18000-40SS	SN7	26.06.27
High Pass Filter	Qotana	DBHF058004000A	23041800061	26.04.28
TWO-LINE V - NETWORK	R&S	ENV216	101358	26.04.22
Controller	INNCO SYSTEMS	CO3000	1442/54370322/P	-
Antenna Mast	INNCO SYSTEMS	MA4640-XP-ET	AM002	-
Turn Device	INNCO SYSTEMS	DS1200-S-1t	0001	-

End of test report