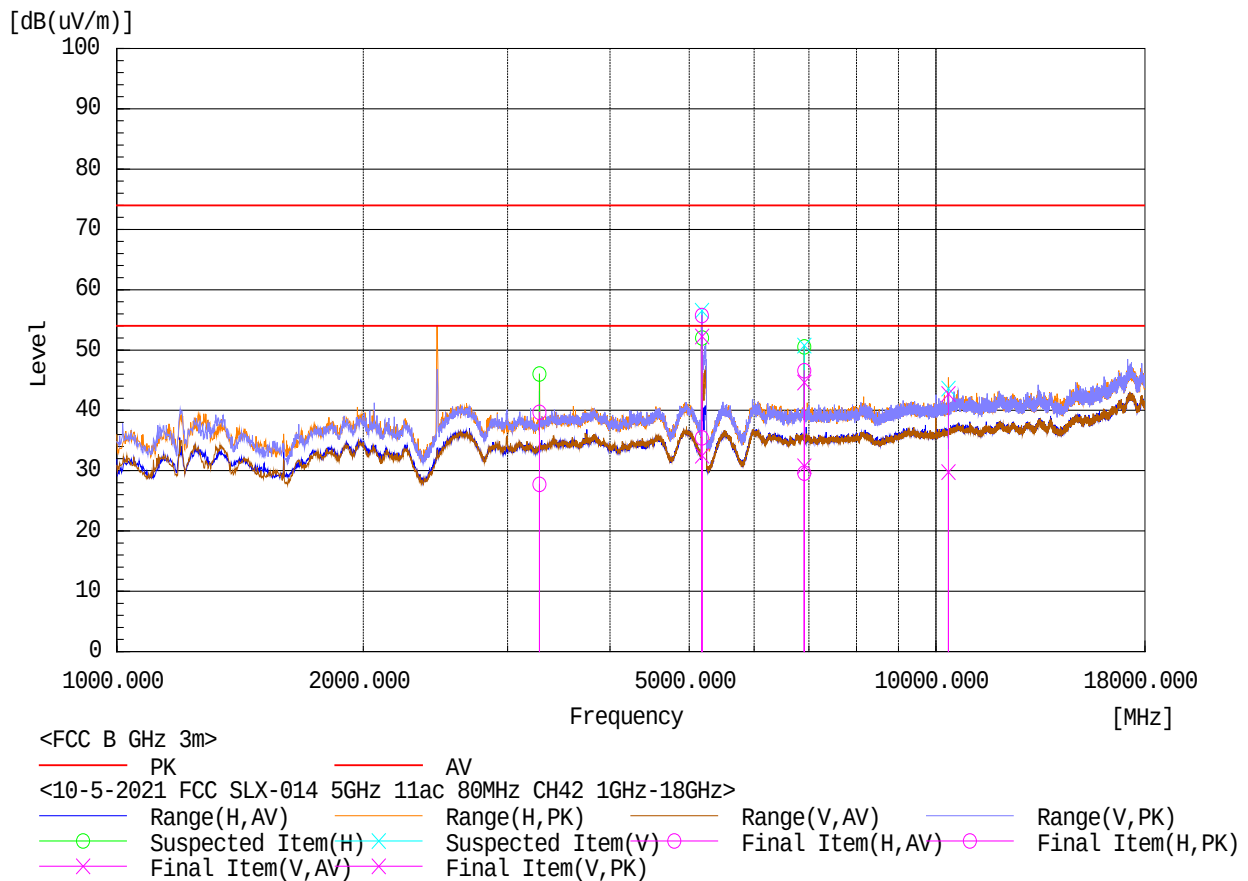
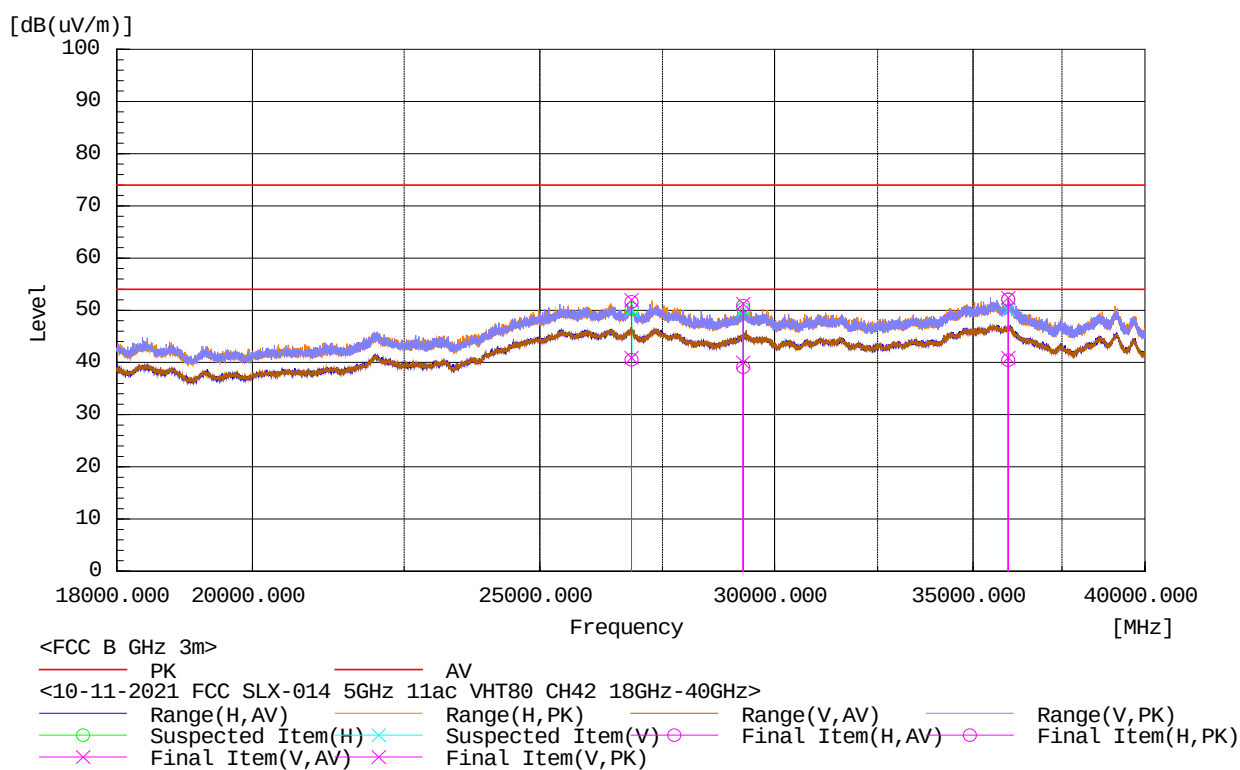


1GHz-40GHz, 802.11ac (VHT80), Ch:42, 5210MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	3281.729	H	36.6	48.6	-8.9	27.7	39.7	-	68.2	-	-28.5	329	1.5	Pass
2	5181.571	V	38.1	57.9	-5.6	32.5	52.3	-	68.2	-	-15.9	268	84.2	Pass
3	5181.085	H	41	61.3	-5.6	35.4	55.7	-	68.2	-	-12.5	231	197.4	Pass
4	35967.14	V	23.9	35.4	17	40.9	52.4	-	68.2	-	-15.8	100	170.9	Pass
5	26846.28	V	22	33.1	18.9	40.9	52	-	68.2	-	-16.2	329	112.5	Pass
6	26847.84	H	21.6	32.7	18.9	40.5	51.6	-	68.2	-	-16.6	170	30.5	Pass

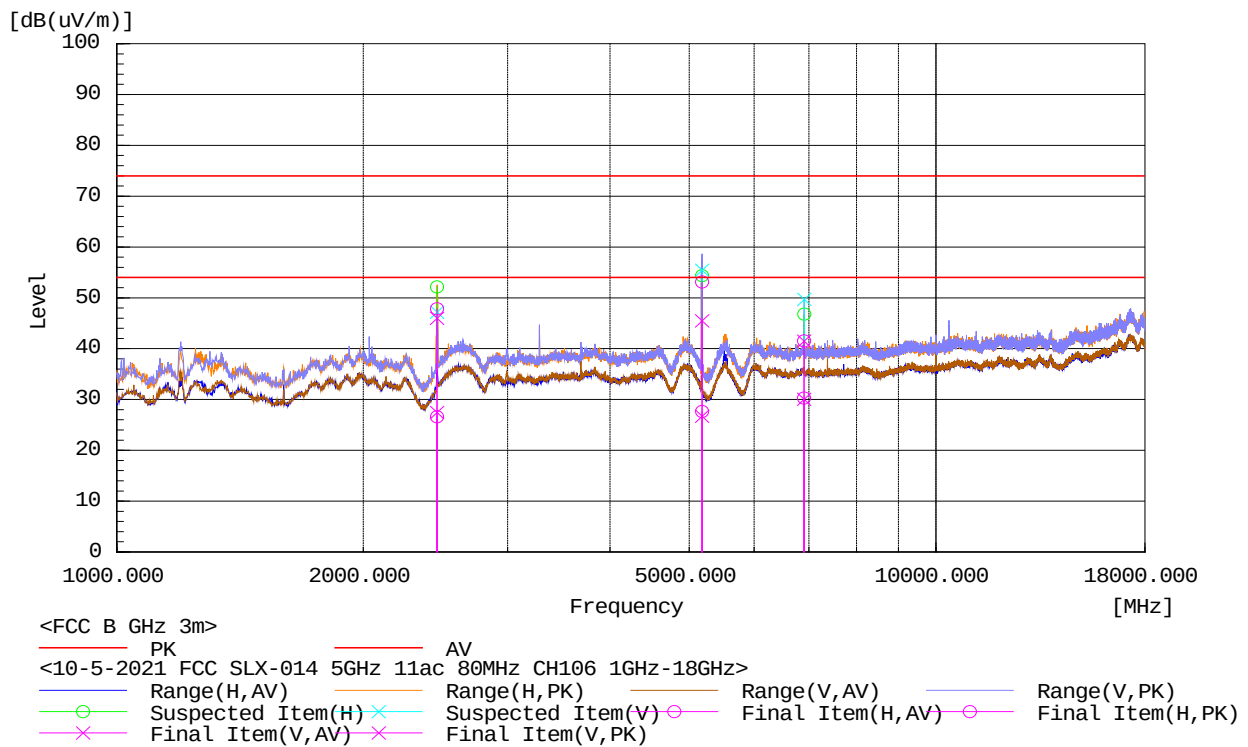


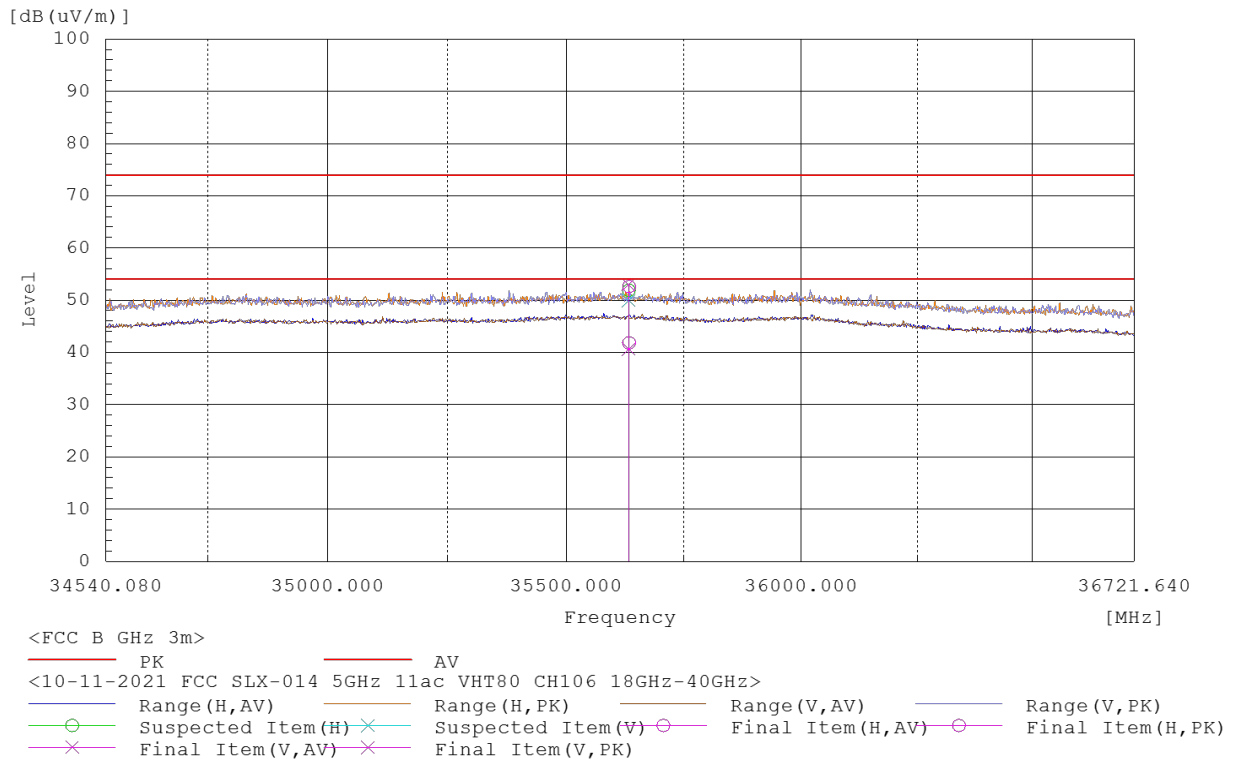


1GHz-40GHz, 802.11ac (VHT80), Ch:106, 5530MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

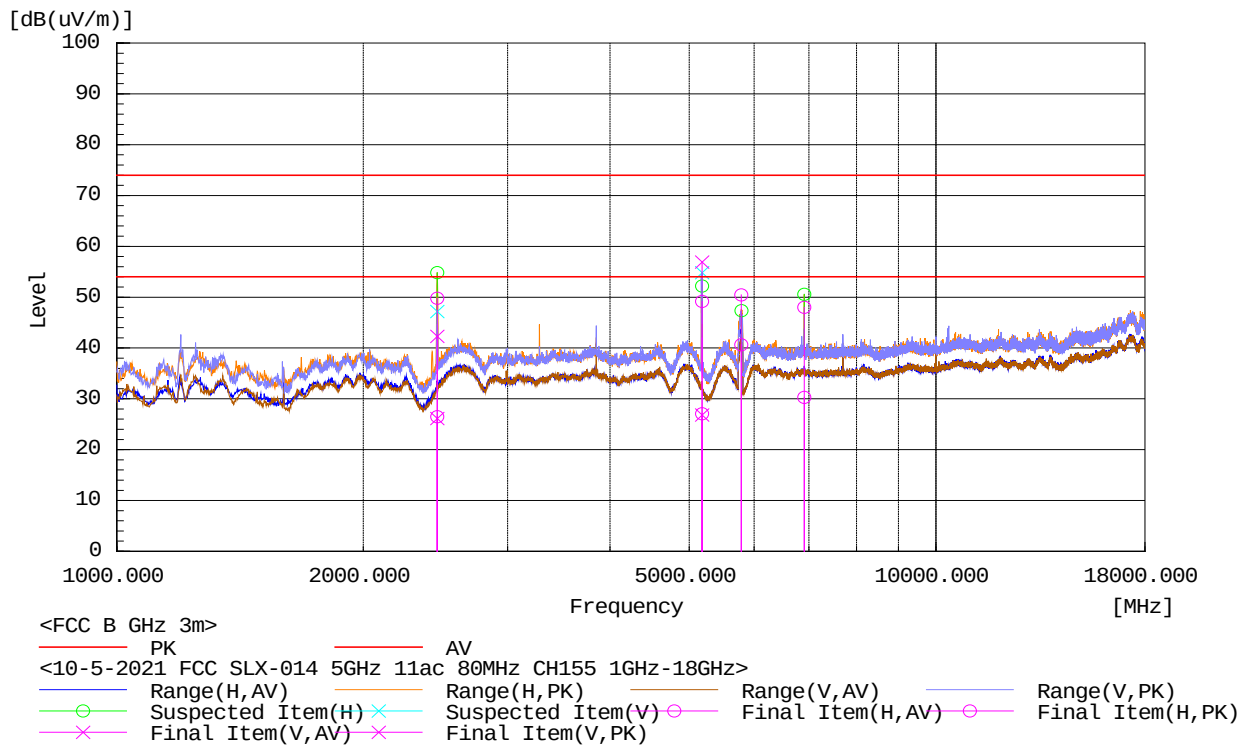
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	6905.619	H	31.6	42.8	-1.3	30.3	41.5	-	68.2	-	-26.7	298	87.3	Pass
2	6903.887	V	31.3	42.8	-1.3	30	41.5	-	68.2	-	-26.7	268	247.1	Pass
3	5183.699	H	33.3	58.7	-5.6	27.7	53.1	-	68.2	-	-15.1	253	294.9	Pass
4	27297.41	V	20.6	32.5	19.5	40.1	52	-	68.2	-	-16.2	125	1.4	Pass
5	27297.89	H	21.5	32.5	19.5	41	52	-	68.2	-	-16.2	216	127	Pass
6	29298.58	V	19.5	31.9	19.6	39.1	51.5	-	68.2	-	-16.7	208	208.7	Pass

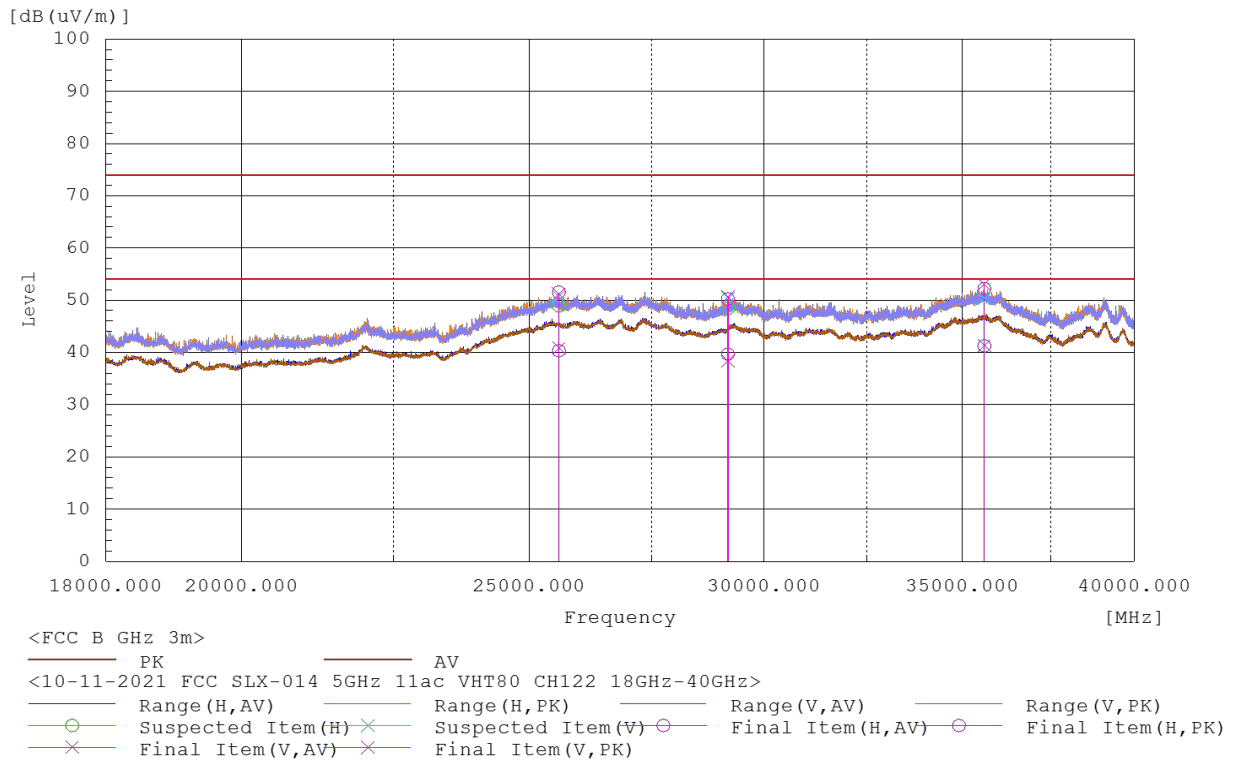




1GHz-40GHz, 802.11ac (VHT80), Ch:155, 5775MHz

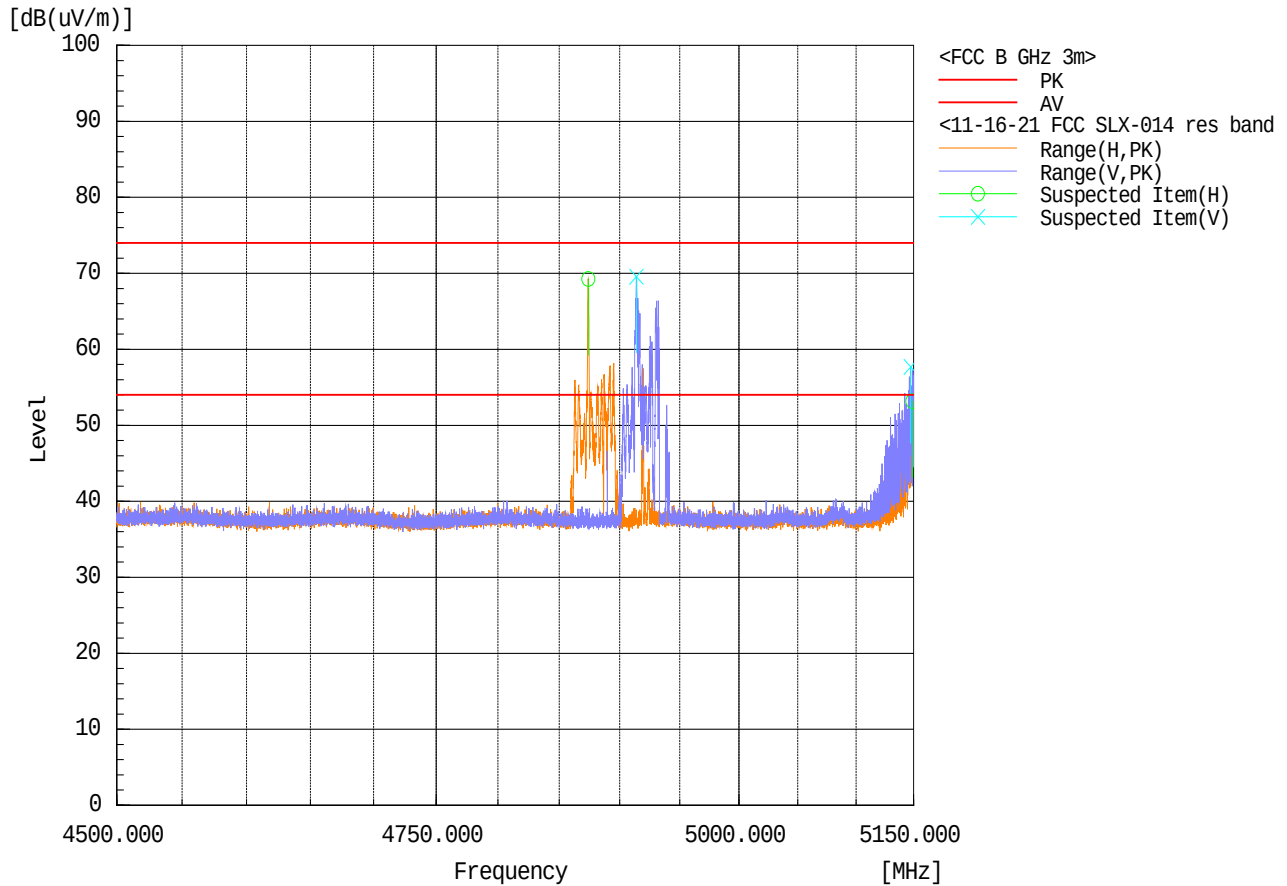
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	LimitAV [dB(uV/m)]	LimitPK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	5787.881	H	44.7	54.5	-4.1	40.6	50.4	-	68.2	-	-17.8	223	96.5	Pass
2	6906.462	H	31.6	49.3	-1.3	30.3	48	-	68.2	-	-20.2	100	68.2	Pass
3	5182.536	H	32.6	54.8	-5.6	27	49.2	-	68.2	-	-19	99	89.2	Pass
4	25587.86	V	22.1	32.4	18.8	40.9	51.2	-	68.2	-	-17	253	35.7	Pass
5	25589.54	H	21.5	32.7	18.8	40.3	51.5	-	68.2	-	-16.7	253	135.4	Pass
6	29180.25	V	19	31.2	19.4	38.4	50.6	-	68.2	-	-17.6	306	173.6	Pass





4.1.7 Test Results: Band Edge

Band Edge (802.11a_5180MHz)



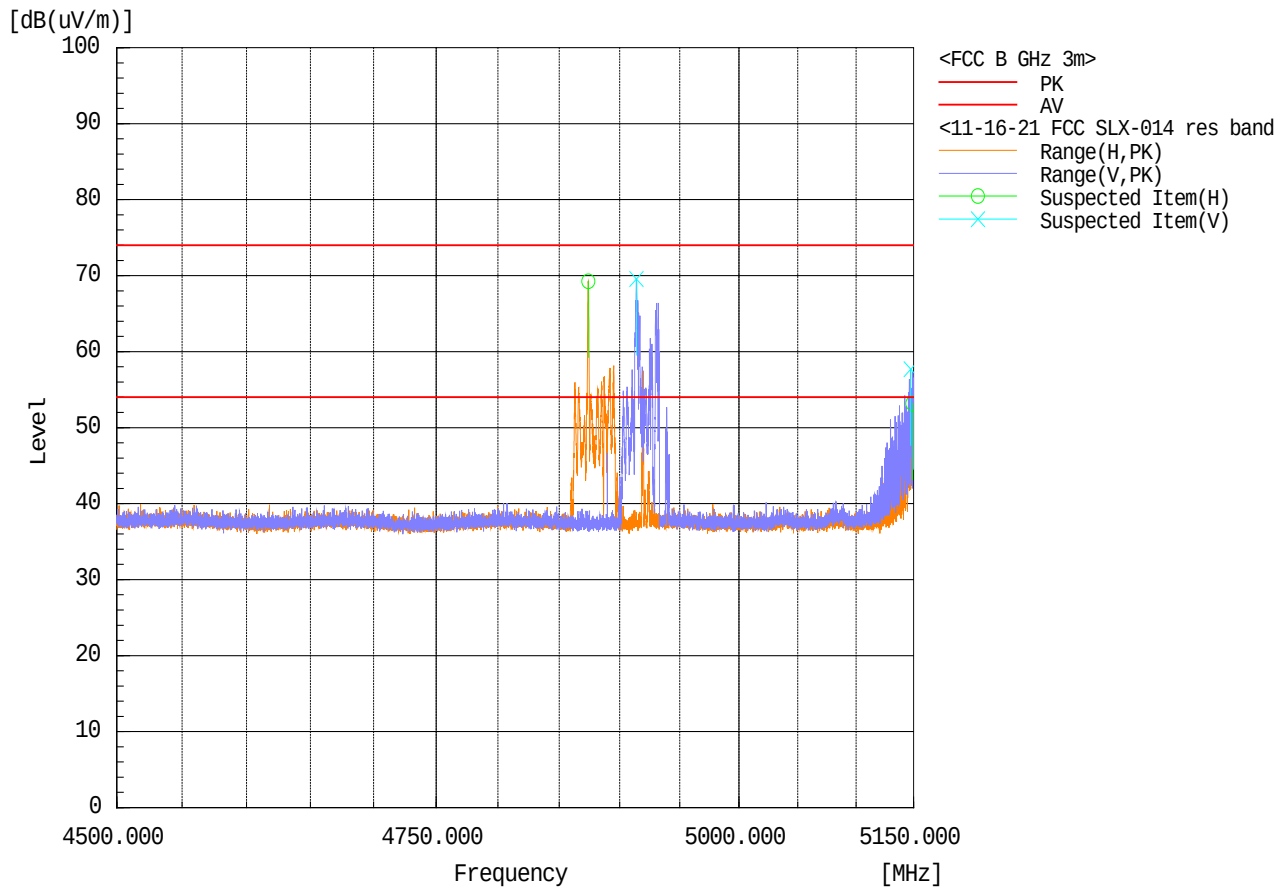
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4873.566	H	33.6	49.6	-6	27.6	43.6	54	74	-26.4	-30.4	253	135.9	Pass
2	4912.418	V	34.7	66	-5.9	28.8	60.1	54	74	-25.2	-13.9	238	128.8	Pass
3	5148.056	V	38.1	62.2	-5.7	32.4	56.5	54	74	-21.6	-17.5	177	135.4	Pass
4	5148.759	H	35.9	59.1	-5.7	30.2	53.4	54	74	-23.8	-20.6	208	102.2	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) -Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5180MHz)



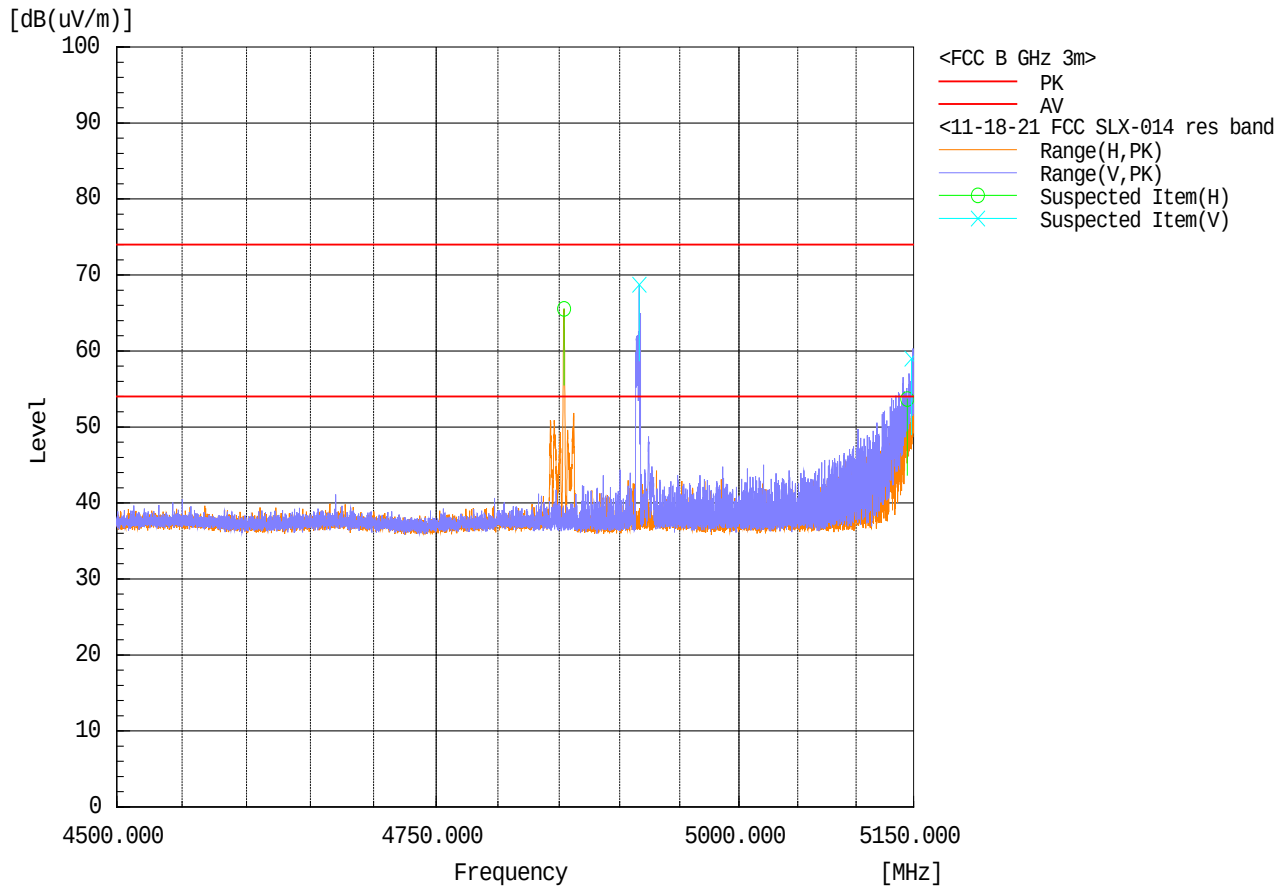
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4873.566	H	33.6	49.6	-6	27.6	43.6	54	74	-26.4	-30.4	253	135.9	Pass
2	4912.418	V	34.7	66	-5.9	28.8	60.1	54	74	-25.2	-13.9	238	128.8	Pass
3	5148.056	V	38.1	62.2	-5.7	32.4	56.5	54	74	-21.6	-17.5	177	135.4	Pass
4	5148.759	H	35.9	59.1	-5.7	30.2	53.4	54	74	-23.8	-20.6	208	102.2	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5190MHz)



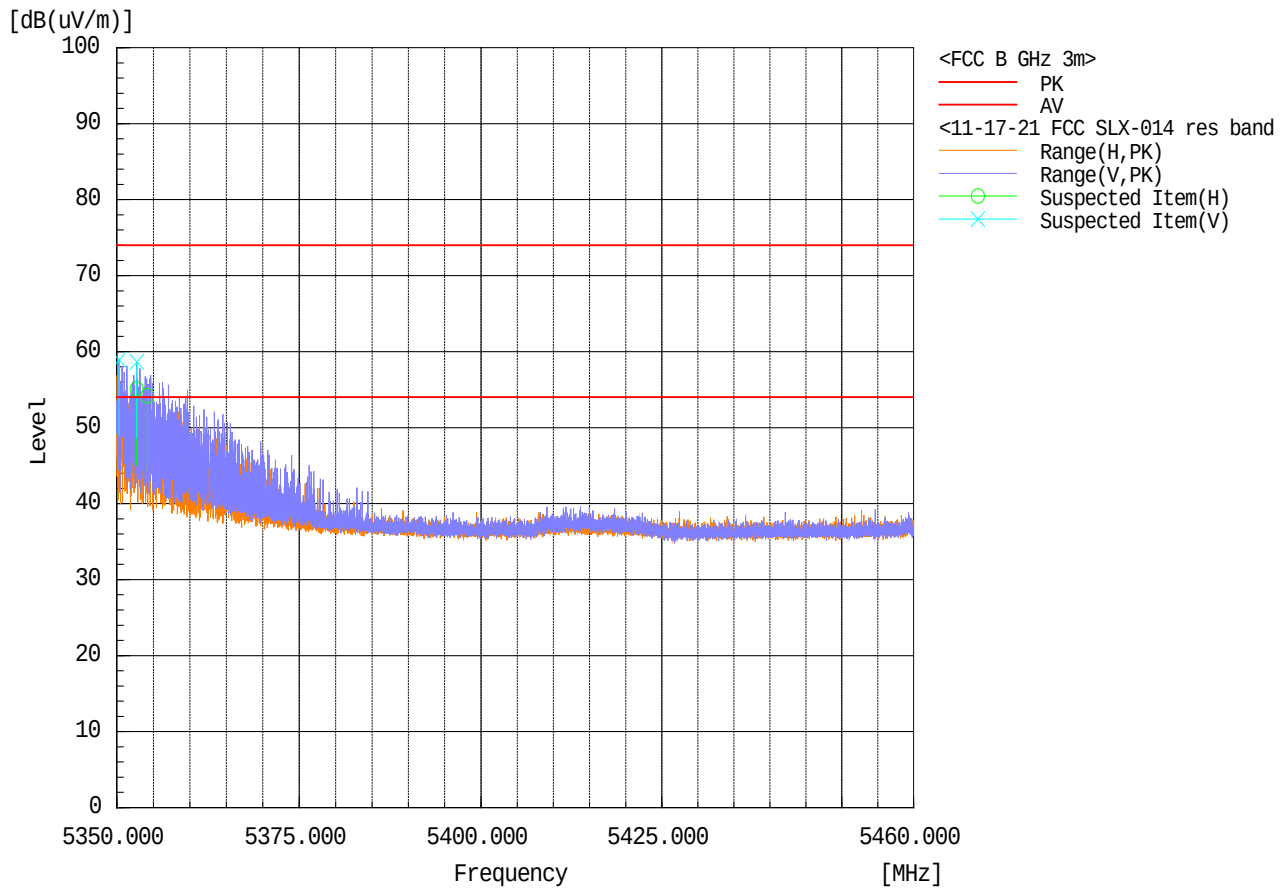
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4853.839	H	33.8	46.1	-6	27.8	40.1	54	74	-26.2	-33.9	268	217.2	Pass
2	4916.099	V	34.1	46	-5.9	28.2	40.1	54	74	-25.8	-33.9	132	335.1	Pass
3	5143.995	H	45.6	65.3	-5.7	39.9	59.6	54	74	-14.1	-14.4	177	111.5	Pass
4	5148.359	V	49.7	69.4	-5.7	44	63.7	54	74	-10	-10.3	163	104.7	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11a_5320MHz)



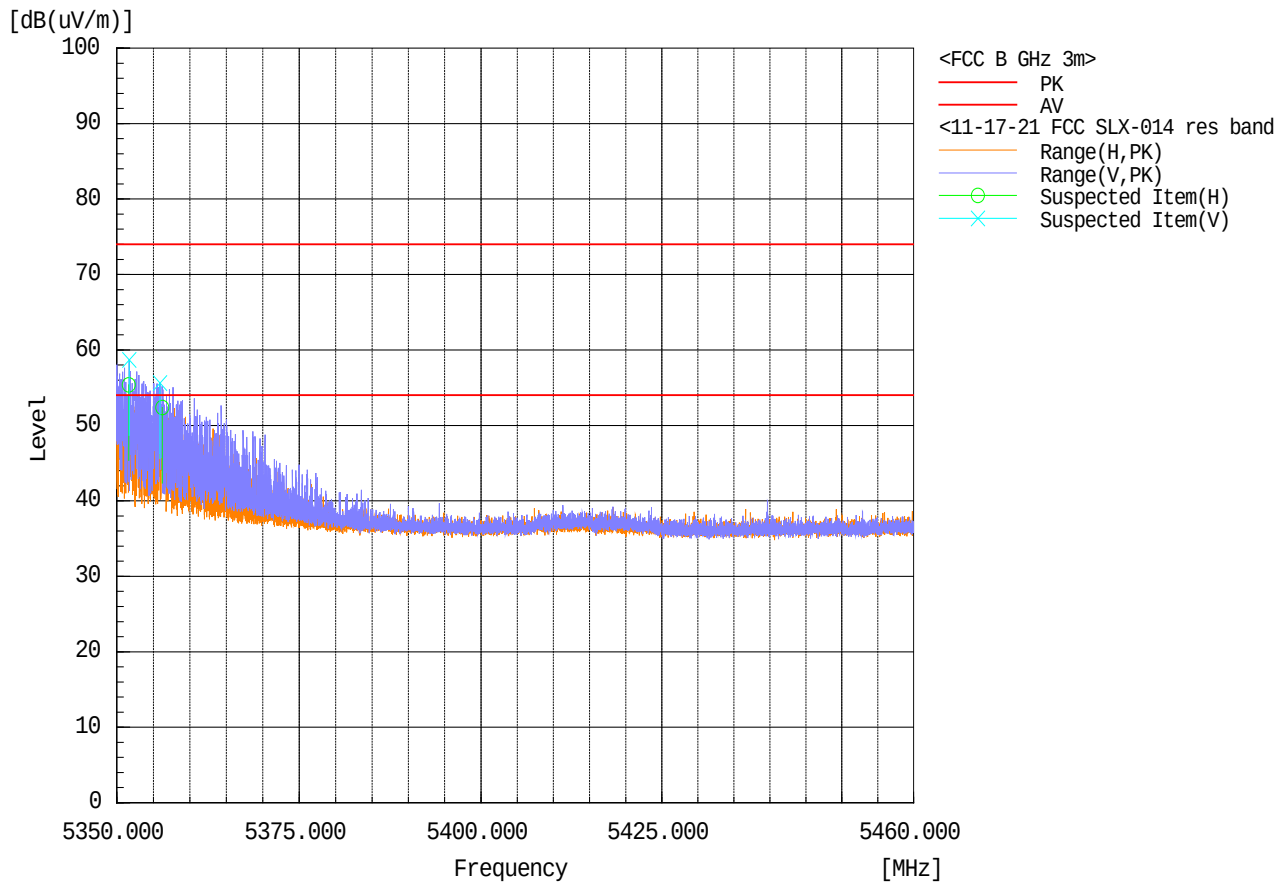
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5350.057	V	40.5	65.9	-5.9	34.6	60	54	74	-19.4	-14	223	86.1	Pass
2	5352.474	H	38.3	63.2	-5.9	32.4	57.3	54	74	-21.6	-16.7	223	71.6	Pass
3	5352.891	V	40	63.7	-5.9	34.1	57.9	54	74	-19.9	-16.1	283	133.7	Pass
4	5352.782	H	40	63.3	-5.9	34.1	57.4	54	74	-19.9	-16.6	177	95.7	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5320MHz)

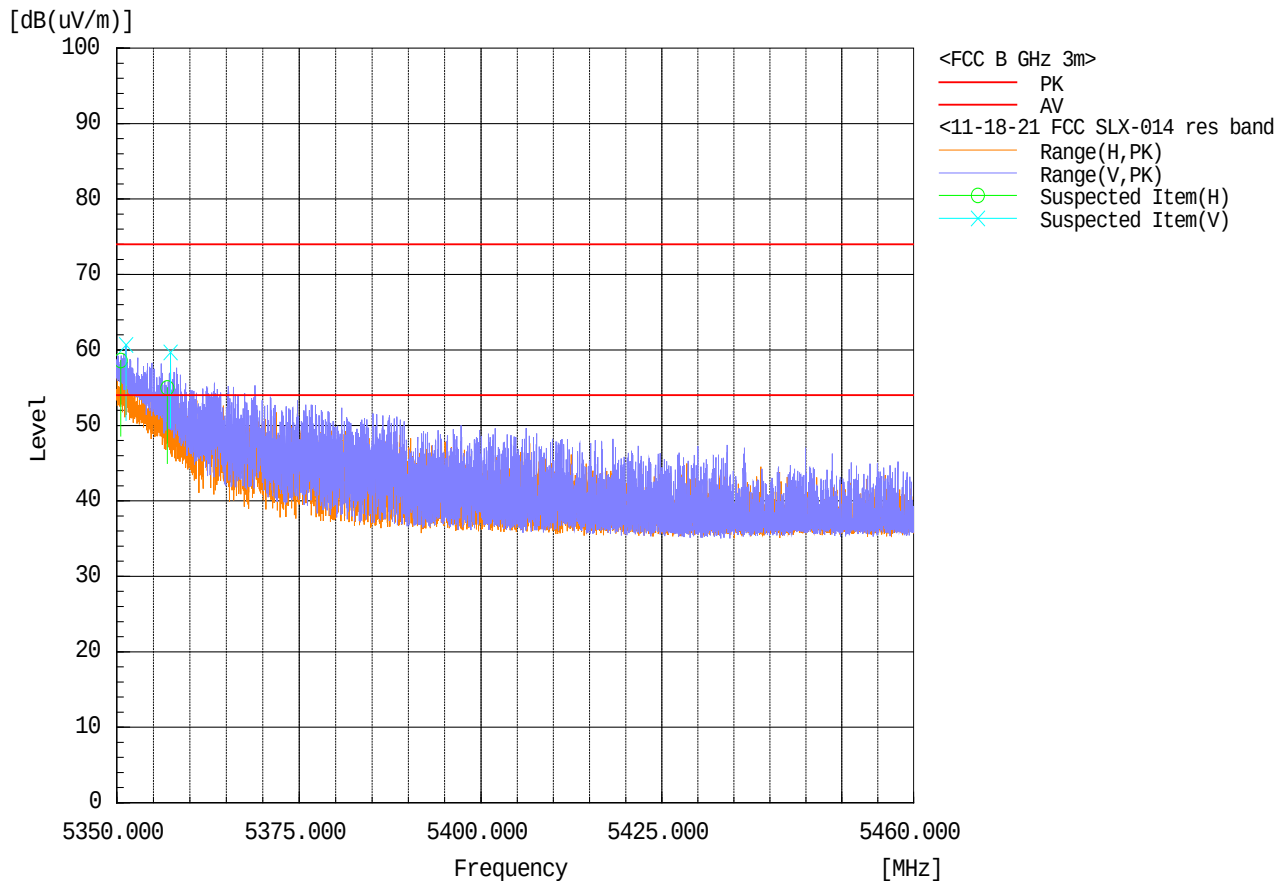


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5350.364	H	37.2	62.7	-5.9	31.3	56.8	54	74	-22.7	-17.2	208	102.1	Pass
2	5350.538	V	39.4	64	-5.9	33.5	58.1	54	74	-20.5	-15.9	177	80.9	Pass
3	5355.746	V	37.1	58.7	-5.8	31.3	52.9	54	74	-22.7	-21.1	103	94.9	Pass
4	5354.847	H	37.2	60.2	-5.8	31.4	54.4	54	74	-22.6	-19.6	177	111.4	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5310MHz)



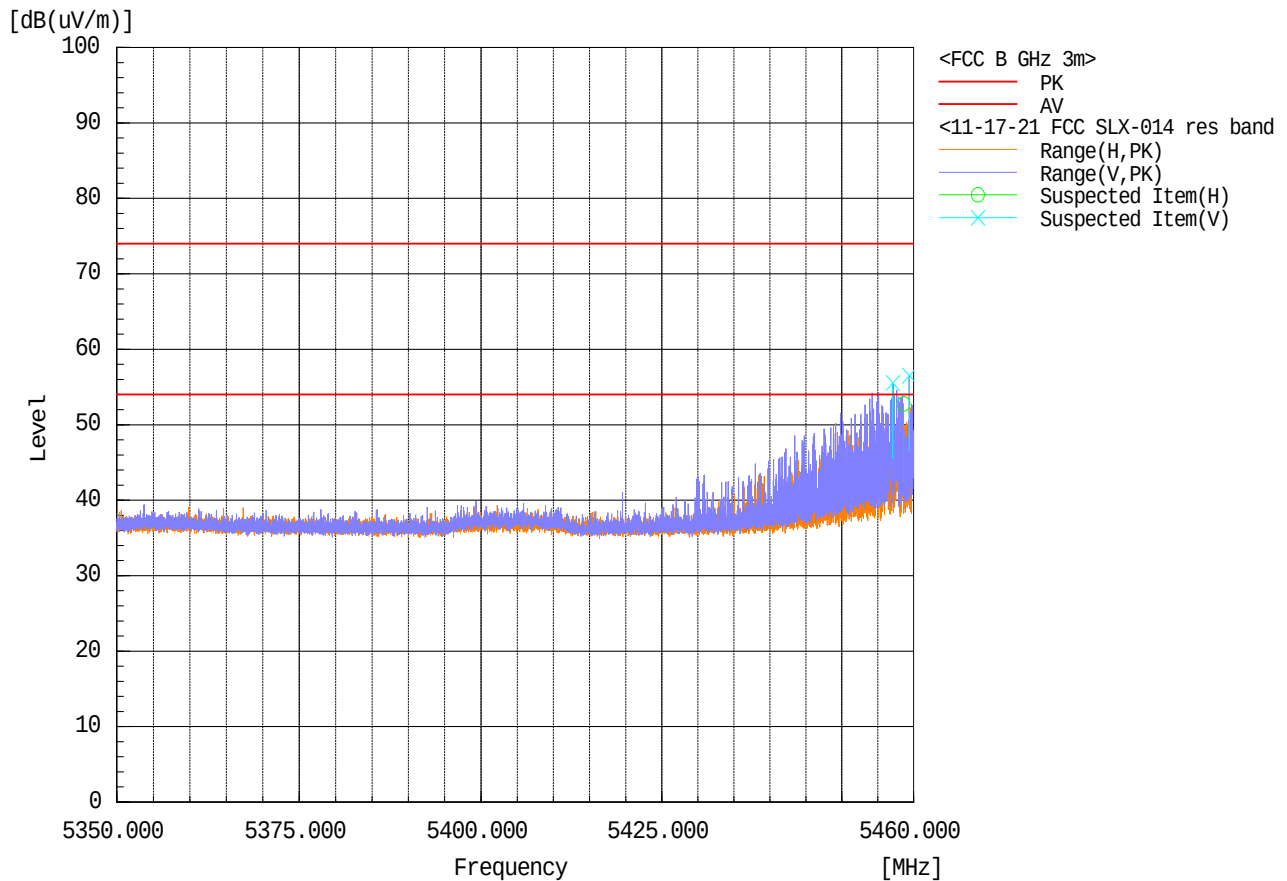
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5350.264	V	52.7	69.7	-5.9	46.8	63.8	54	74	-7.2	-10.2	223	135.4	Pass
2	5350.55	H	45.7	66.6	-5.9	39.8	60.7	54	74	-14.2	-13.3	223	79.2	Pass
3	5356.136	H	46.6	64.4	-5.8	40.8	58.6	54	74	-13.2	-15.4	192	95.5	Pass
4	5356.622	V	48.9	68	-5.8	43.1	62.2	54	74	-10.9	-11.8	208	123.2	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) –Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11a_5500MHz)



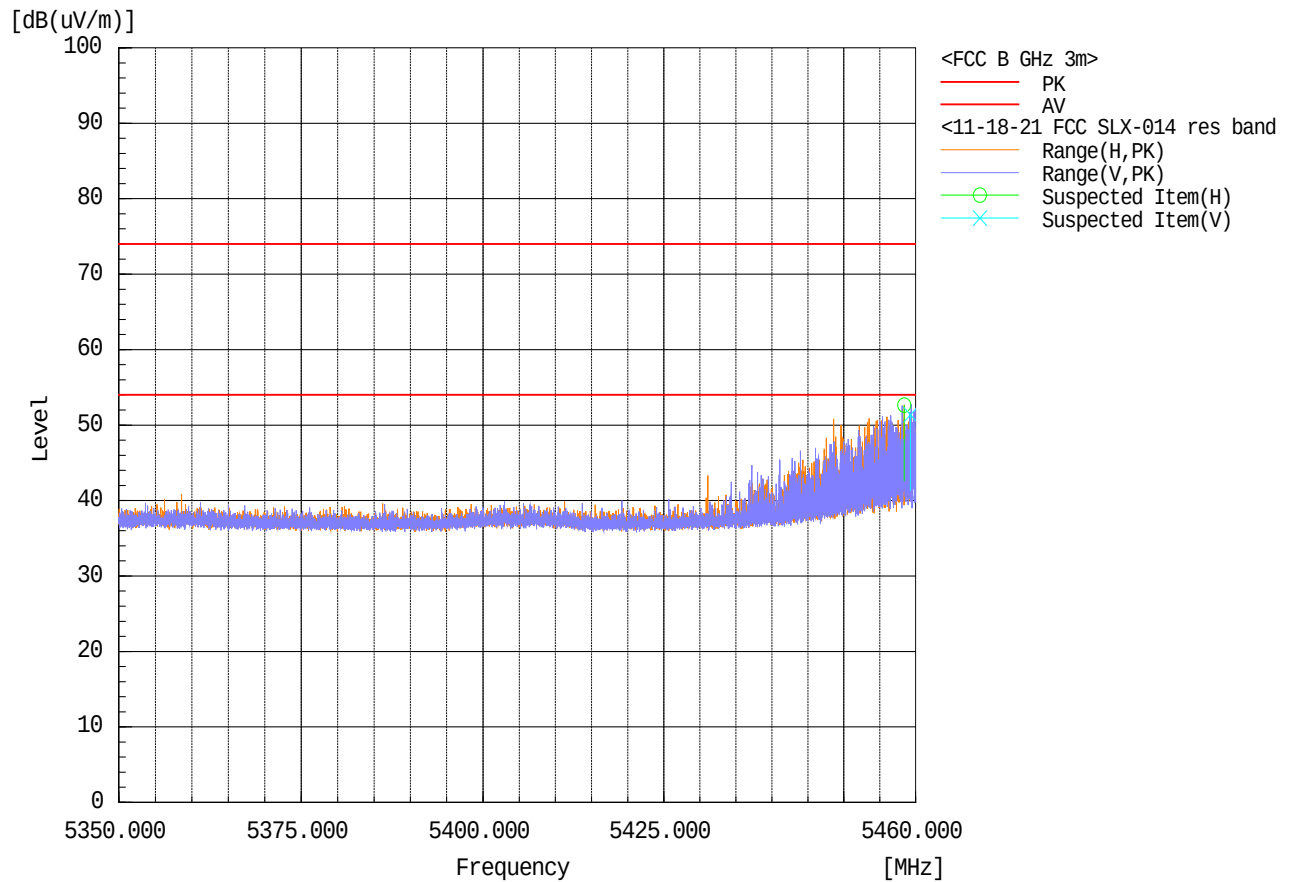
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5457.797	V	39.4	63.6	-5.7	33.7	57.9	54	74	-20.3	-16.1	223	136.1	Pass
2	5457.596	H	35.6	58.3	-5.7	29.9	52.6	54	74	-24.1	-21.4	132	3.2	Pass
3	5459.729	V	38.4	62	-5.7	32.7	56.3	54	74	-21.3	-17.7	177	125.7	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5500MHz)

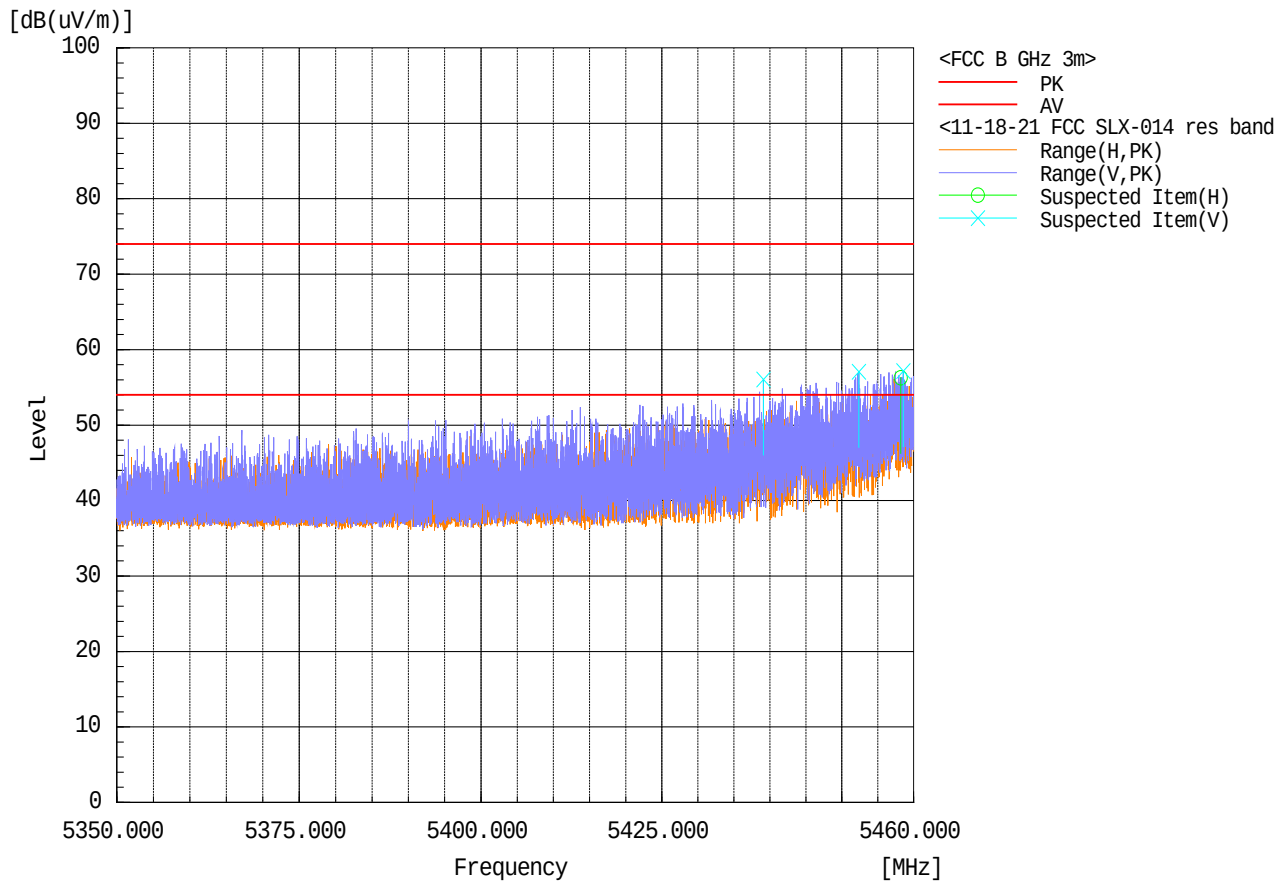


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5458.838	H	37.2	57.7	-5.7	31.5	52	54	74	-22.5	-22	177	18.6	Pass
2	5459.046	V	39.1	62.3	-5.7	33.4	56.6	54	74	-20.6	-17.4	177	87.8	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) –Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5510MHz)

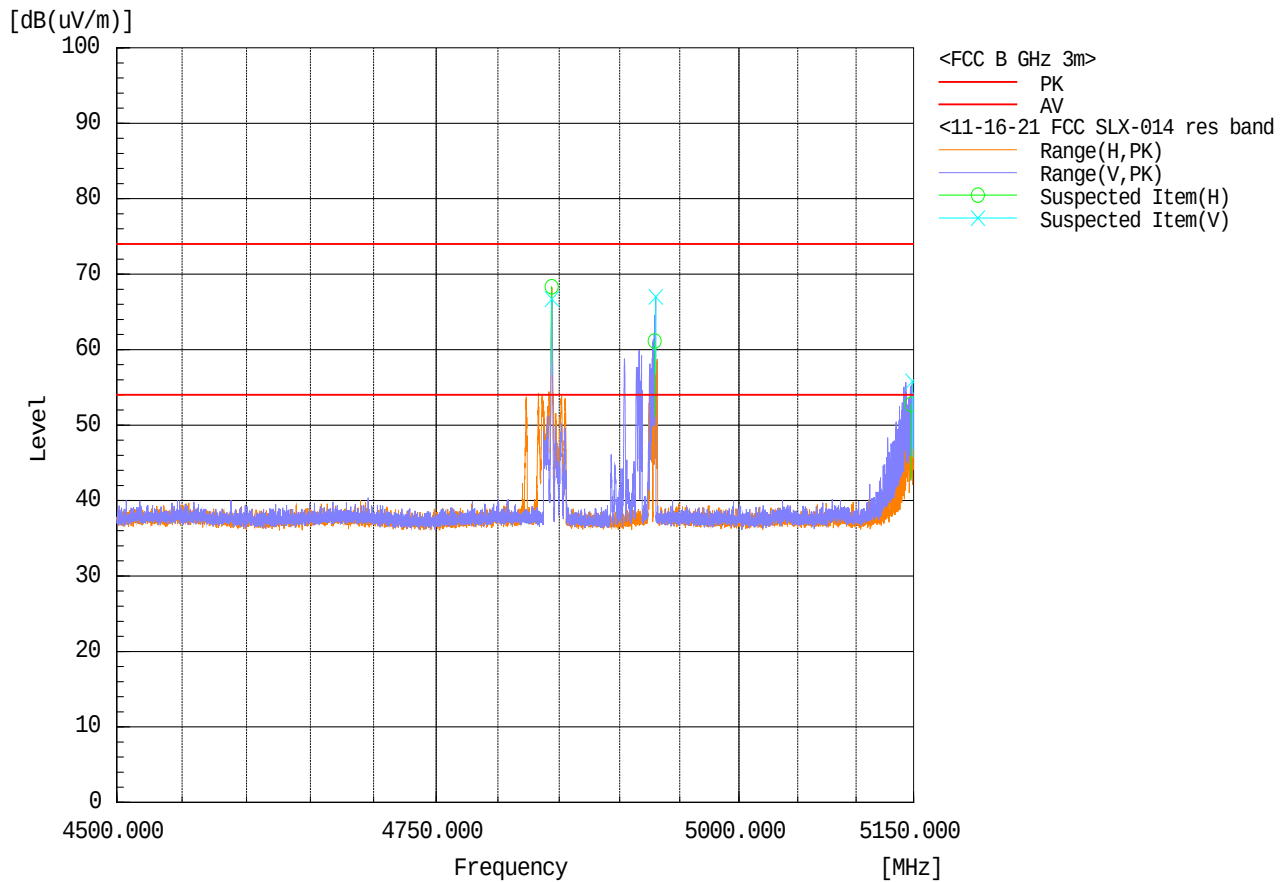


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5438.636	V	39.3	62.9	-5.7	33.6	57.2	54	74	-20.4	-16.8	223	128.3	Pass
2	5452.406	V	41.6	65.8	-5.7	35.9	60.1	54	74	-18.1	-13.9	223	133.8	Pass
3	5458.505	H	38.7	62.3	-5.7	33	56.6	54	74	-21	-17.4	103	68.8	Pass
4	5458.01	V	33.1	53.8	-5.7	27.4	48.1	54	74	-26.6	-25.9	298	71.1	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5180MHz)

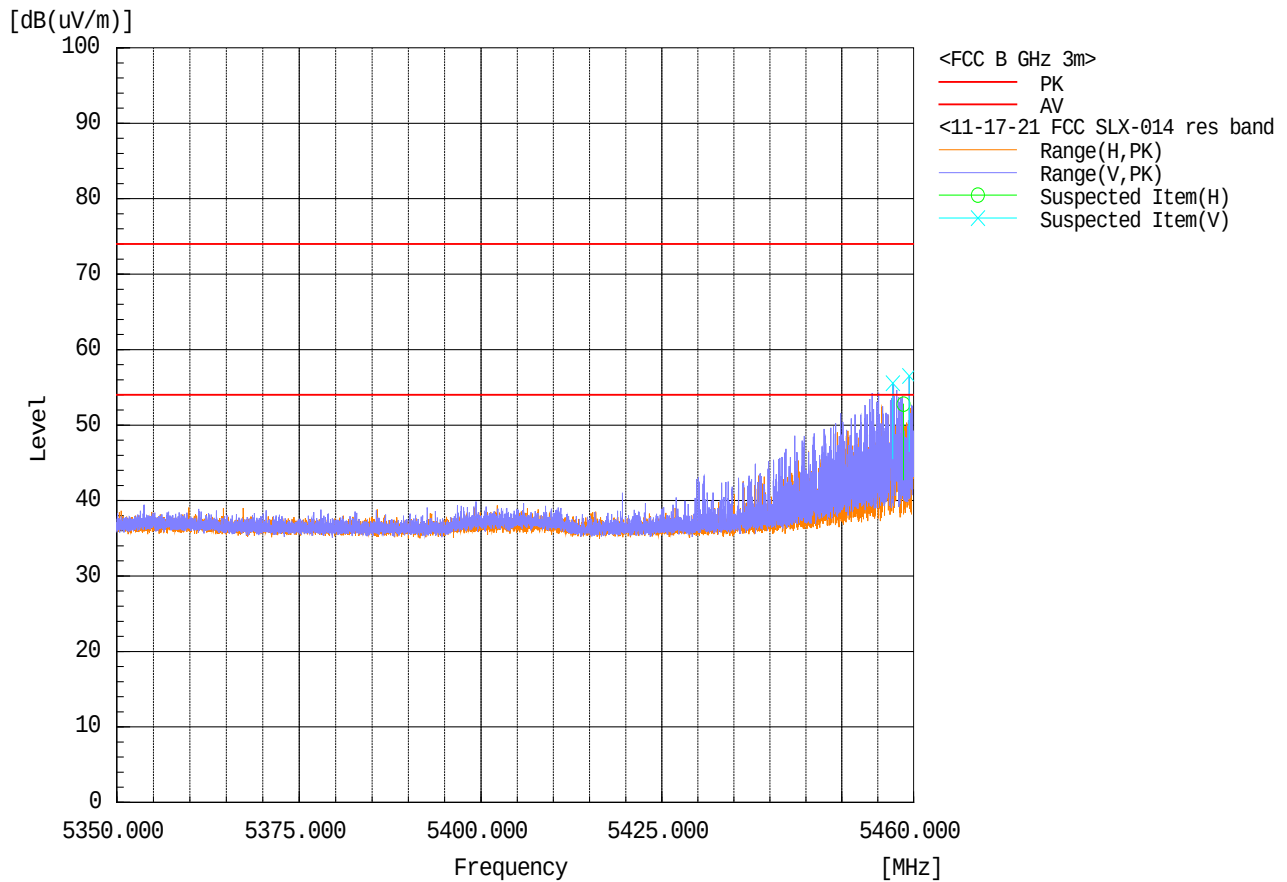


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4842.769	H	33.3	45.6	-6	27.3	39.6	54	74	-26.7	-34.4	314	142.4	Pass
2	4845.113	V	34.7	46.3	-6	28.7	40.3	54	74	-25.3	-33.7	162	334.9	Pass
3	4930.249	H	34.3	62	-5.9	28.4	56.1	54	74	-25.6	-17.9	208	49.2	Pass
4	4930.474	V	33.7	56.2	-5.9	27.8	50.3	54	74	-26.2	-23.7	298	124	Pass
5	5147.063	H	41.4	61.6	-5.7	35.7	55.9	54	74	-18.3	-18.1	132	33.2	Pass
6	5148.627	V	42.3	64.2	-5.7	36.6	58.5	54	74	-17.4	-15.5	147	126.1	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11a_5550MHz)

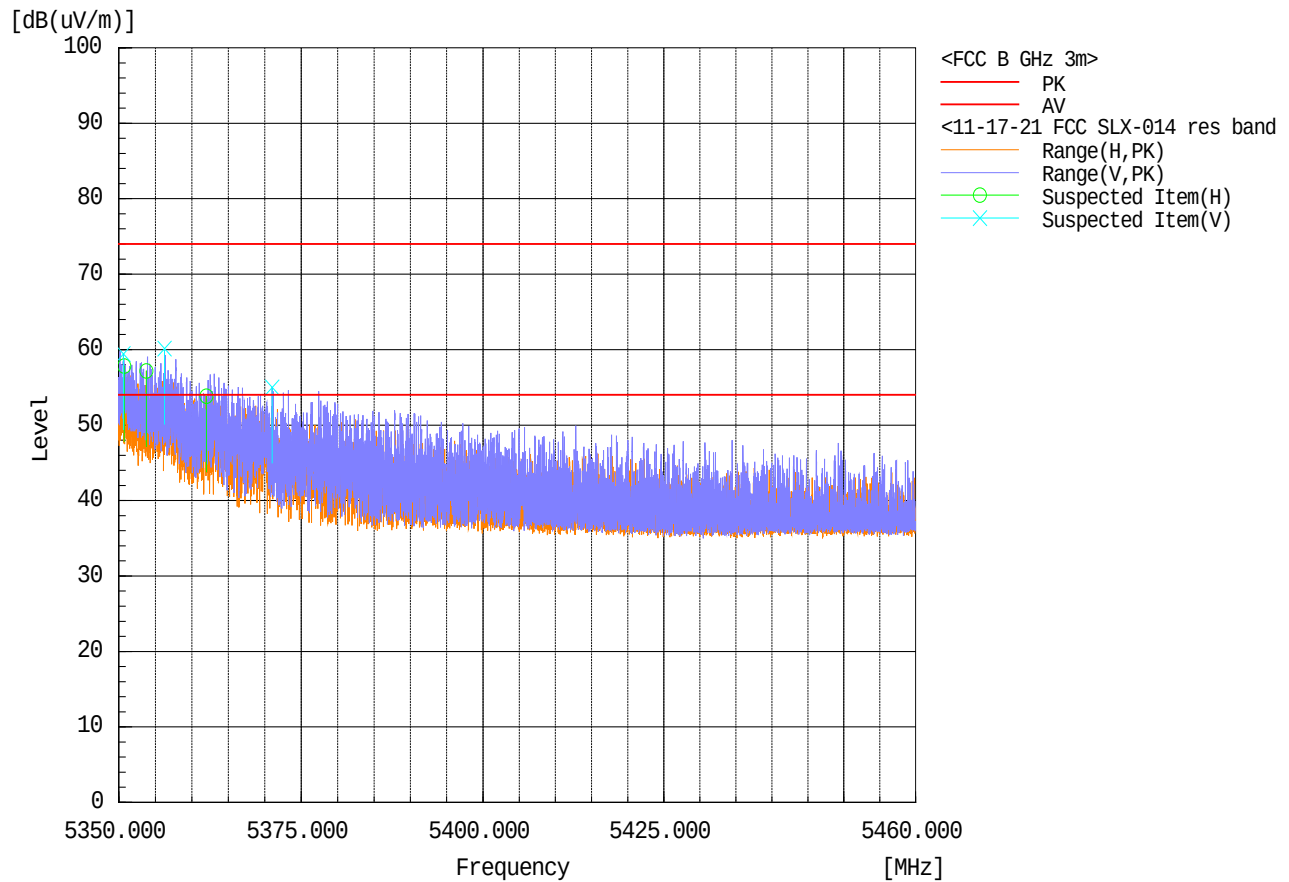


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5457.797	V	39.4	63.6	-5.7	33.7	57.9	54	74	-20.3	-16.1	223	136.1	Pass
2	5457.596	H	35.6	58.3	-5.7	29.9	52.6	54	74	-24.1	-21.4	132	3.2	Pass
3	5459.729	V	38.4	62	-5.7	32.7	56.3	54	74	-21.3	-17.7	177	125.7	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5310MHz)

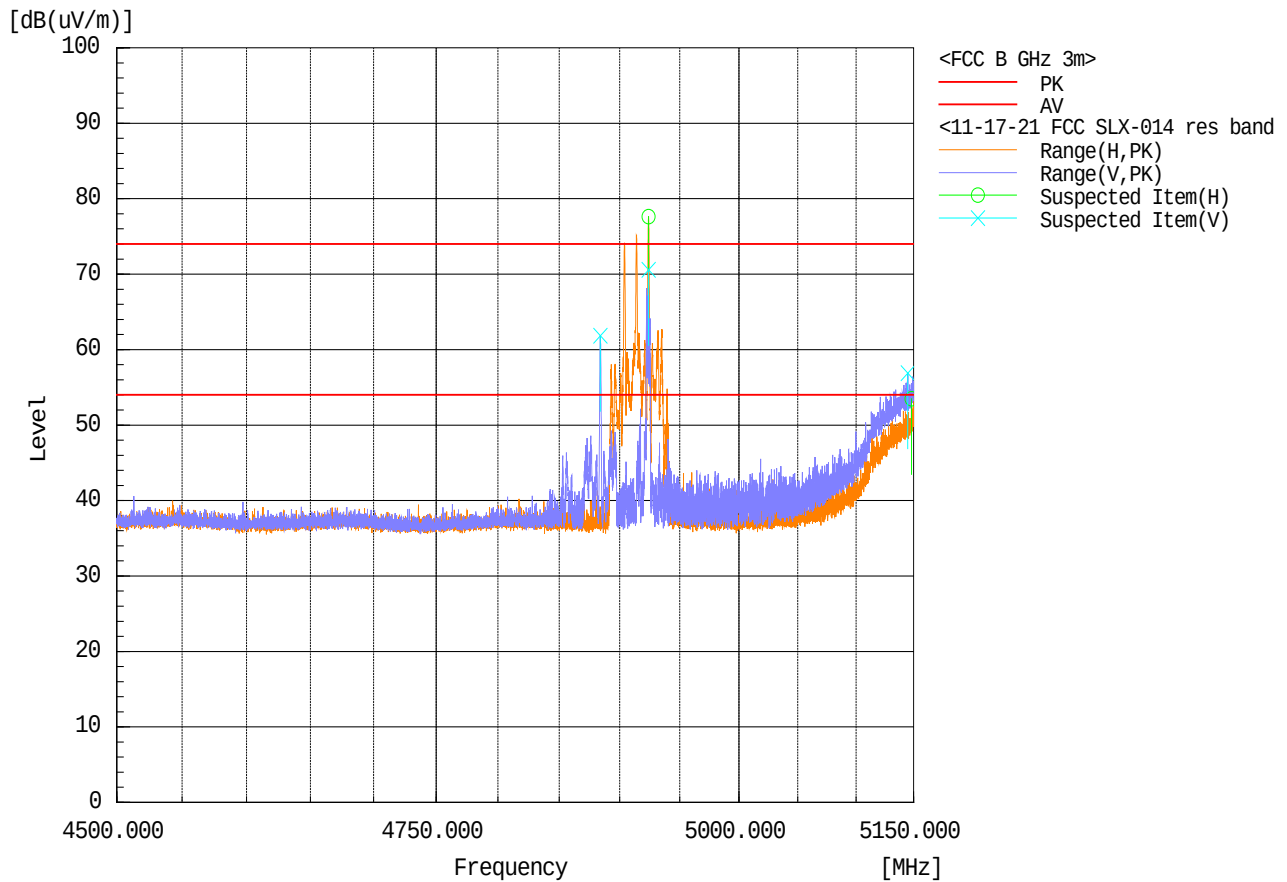


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5350.637	V	42.9	66	-5.9	37	60.1	54	74	-17	-13.9	298	127.4	Pass
2	5351.69	H	45.5	68.5	-5.9	39.6	62.6	54	74	-14.4	-11.4	238	72.1	Pass
3	5353.62	H	42.4	62.1	-5.8	36.6	56.3	54	74	-17.4	-17.7	177	87.8	Pass
4	5356.134	V	41.1	63.7	-5.8	35.3	57.9	54	74	-18.7	-16.1	100	165.9	Pass
5	5361.811	H	40.3	63.5	-5.8	34.5	57.7	54	74	-19.5	-16.3	132	117.8	Pass
6	5371.087	V	35.1	57.5	-5.8	29.3	51.7	54	74	-24.7	-22.3	103	70.1	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) –Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5210MHz)

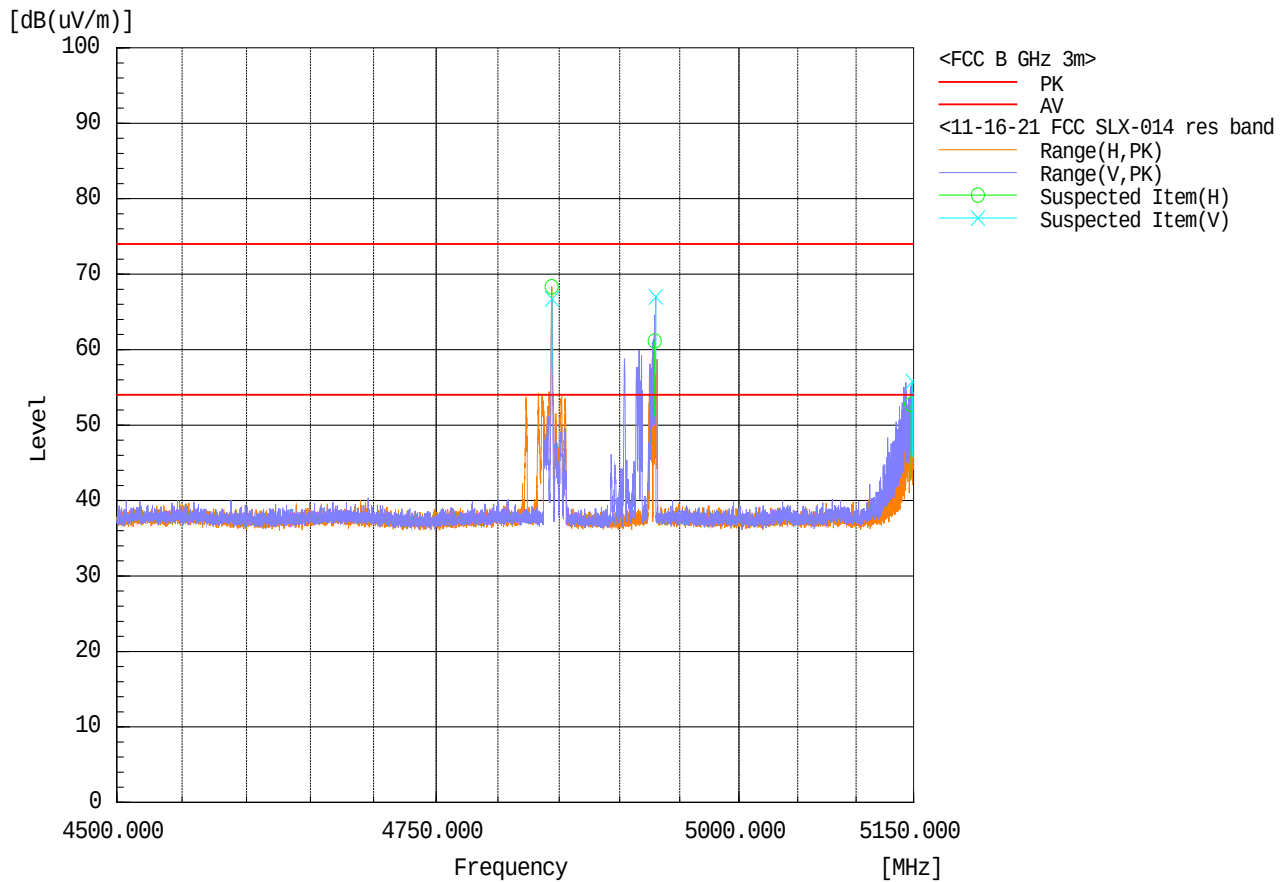


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4883.537	V	33.4	46.9	-6	27.4	40.9	54	74	-26.6	-33.1	283	96.8	Pass
2	4923.874	H	35	45.6	-5.9	29.1	39.7	54	74	-24.9	-34.3	132	232.2	Pass
3	4924.276	V	34	75.3	-5.9	28.1	69.4	54	74	-25.9	-4.6	132	165.4	Pass
4	5145.324	V	50.2	63.9	-5.7	44.5	58.2	54	74	-9.5	-15.8	147	194.8	Pass
5	5148.093	H	45.7	60.9	-5.7	40	55.2	54	74	-14	-18.8	103	95.4	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5180MHz)



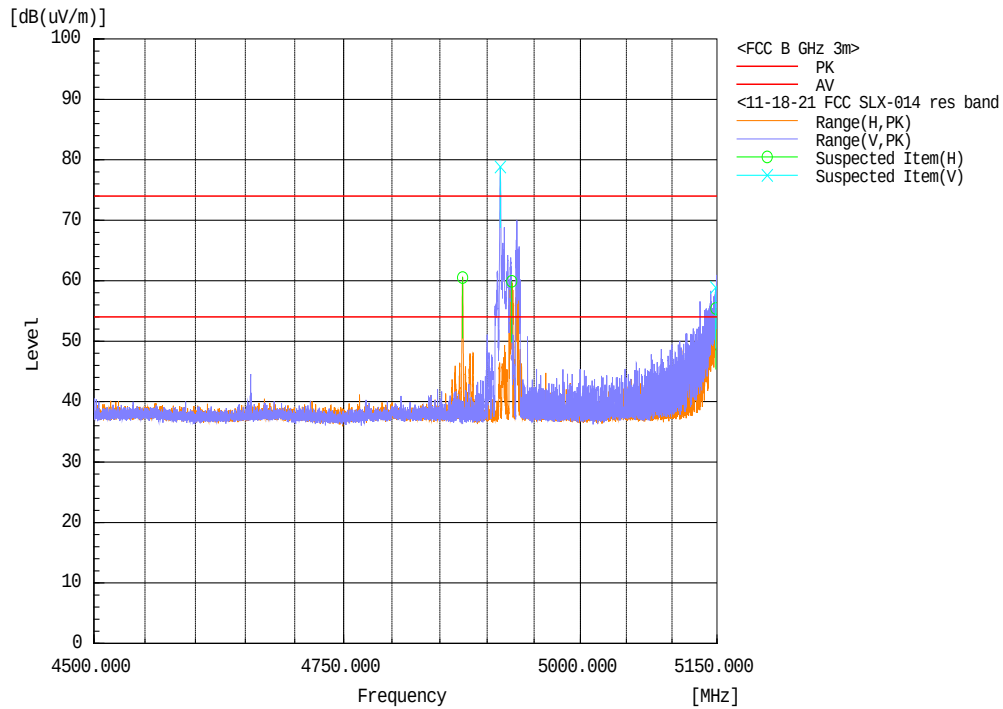
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4842.769	H	33.3	45.6	-6	27.3	39.6	54	74	-26.7	-34.4	314	142.4	Pass
2	4845.113	V	34.7	46.3	-6	28.7	40.3	54	74	-25.3	-33.7	162	334.9	Pass
3	4930.249	H	34.3	62	-5.9	28.4	56.1	54	74	-25.6	-17.9	208	49.2	Pass
4	4930.474	V	33.7	56.2	-5.9	27.8	50.3	54	74	-26.2	-23.7	298	124	Pass
5	5147.063	H	41.4	61.6	-5.7	35.7	55.9	54	74	-18.3	-18.1	132	33.2	Pass
6	5148.627	V	42.3	64.2	-5.7	36.6	58.5	54	74	-17.4	-15.5	147	126.1	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5190MHz)



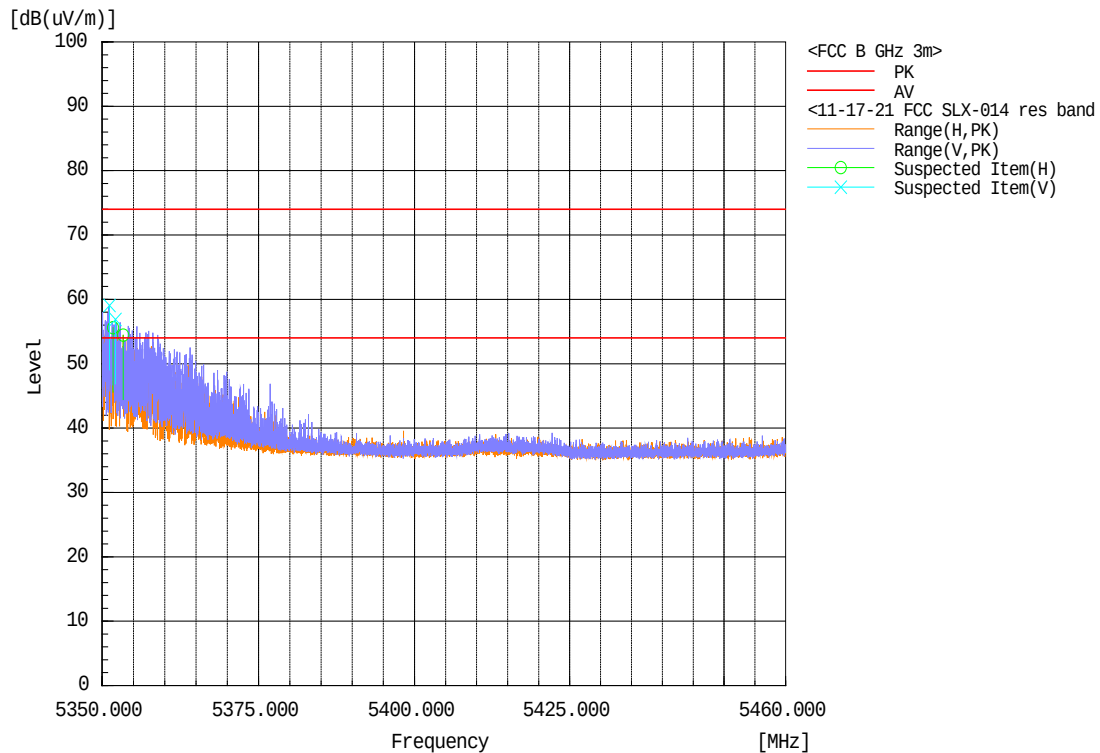
Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK(dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	LimitAV (dBuV/m)	LimitPK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	4874.051	H	33	45.4	-6	27	39.4	54	74	-27	-34.6	329	170.3	Pass
2	4913.287	V	35.3	60.2	-5.9	29.4	54.3	54	74	-24.6	-19.7	117	228.9	Pass
3	4925.218	H	33.4	46.6	-5.9	27.5	40.7	54	74	-26.5	-33.3	298	4.2	Pass
4	5148.657	V	48.9	67.7	-5.7	43.2	62	54	74	-10.8	-12	103	128.4	Pass
5	5148.87	H	48.6	66.5	-5.7	42.9	60.8	54	74	-11.1	-13.2	177	119.8	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) –Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5320MHz)

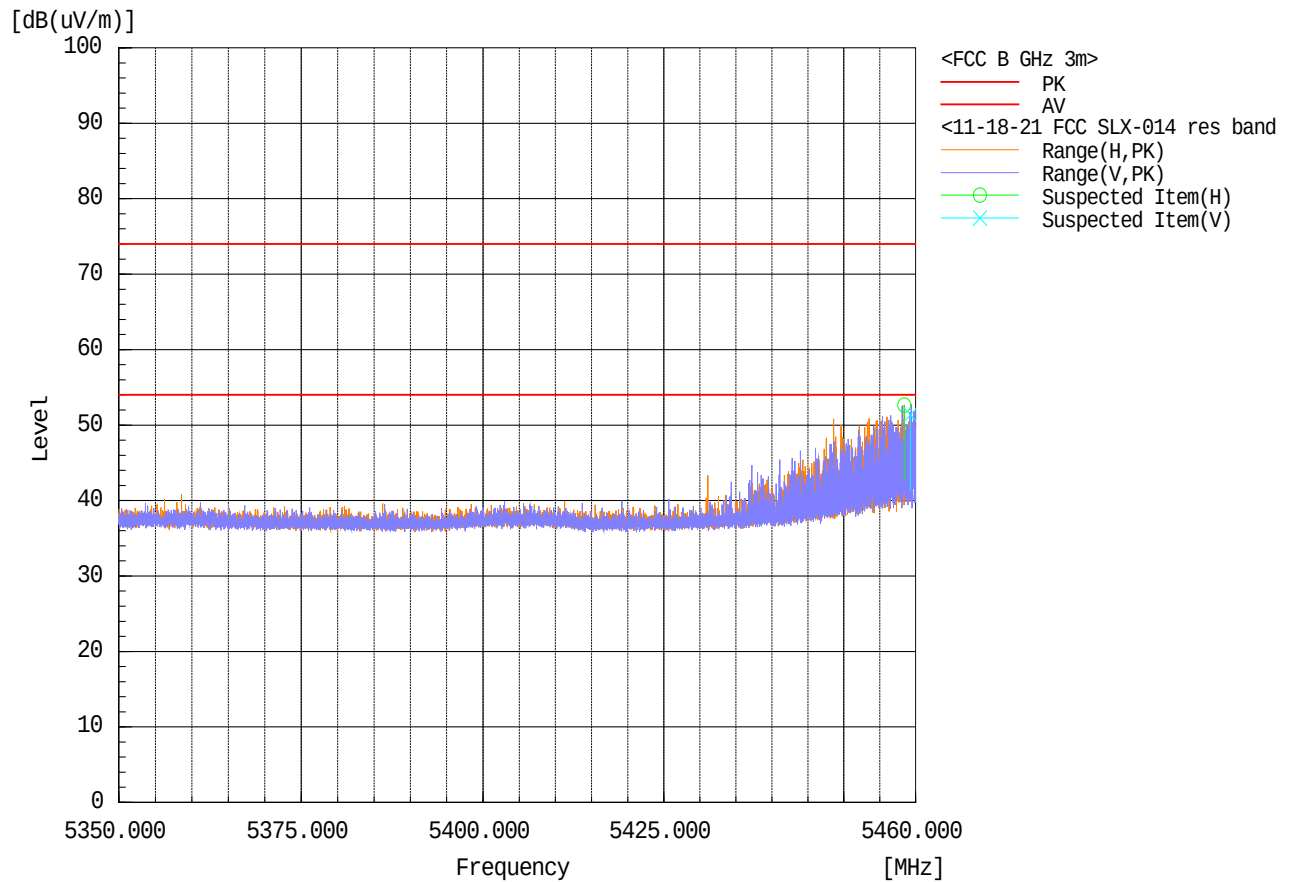


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5350.847	V	42.4	67.3	-5.9	36.5	61.4	54	74	-17.5	-12.6	238	135	Pass
2	5351.76	H	35	56.1	-5.9	29.1	50.2	54	74	-24.9	-23.8	314	71.8	Pass
3	5351.386	V	40.2	64.2	-5.9	34.3	58.3	54	74	-19.7	-15.7	223	111.2	Pass
4	5352.553	H	37.3	60.9	-5.9	31.4	55	54	74	-22.6	-19	207	103.6	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5500MHz)

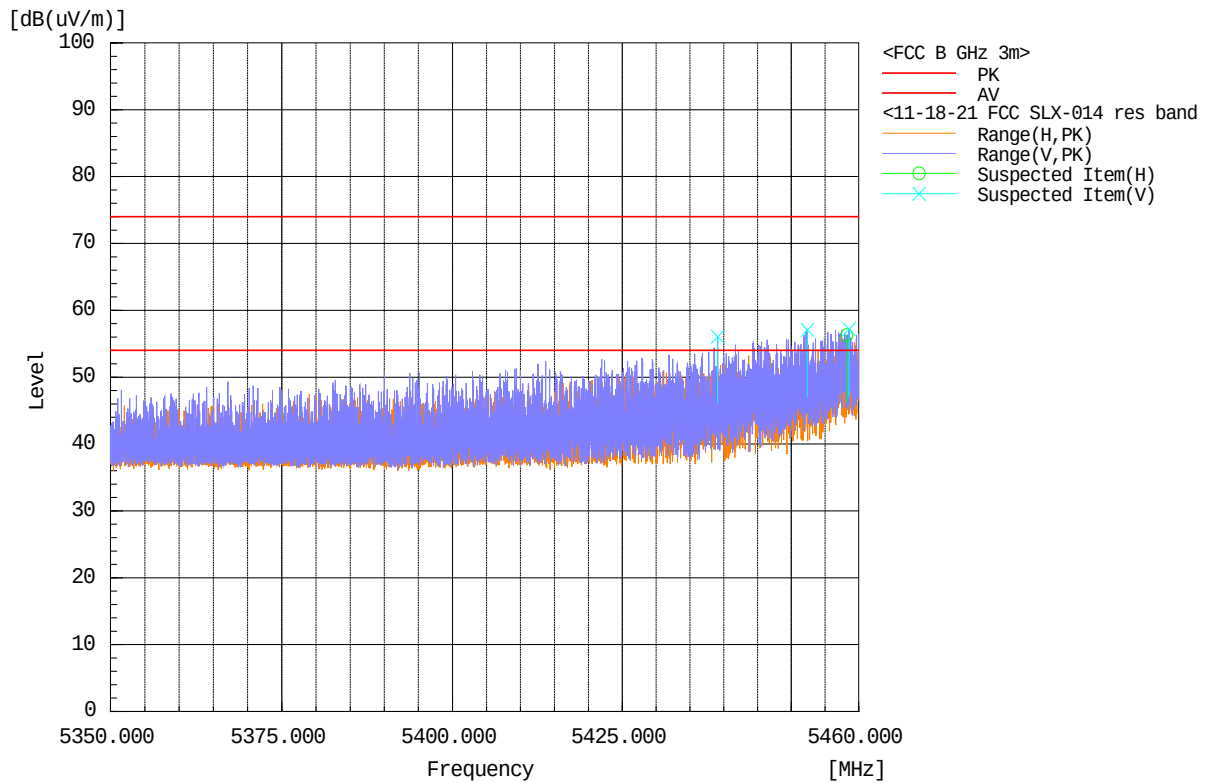


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5458.838	H	37.2	57.7	-5.7	31.5	52	54	74	-22.5	-22	177	18.6	Pass
2	5459.046	V	39.1	62.3	-5.7	33.4	56.6	54	74	-20.6	-17.4	177	87.8	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11n_5510MHz)

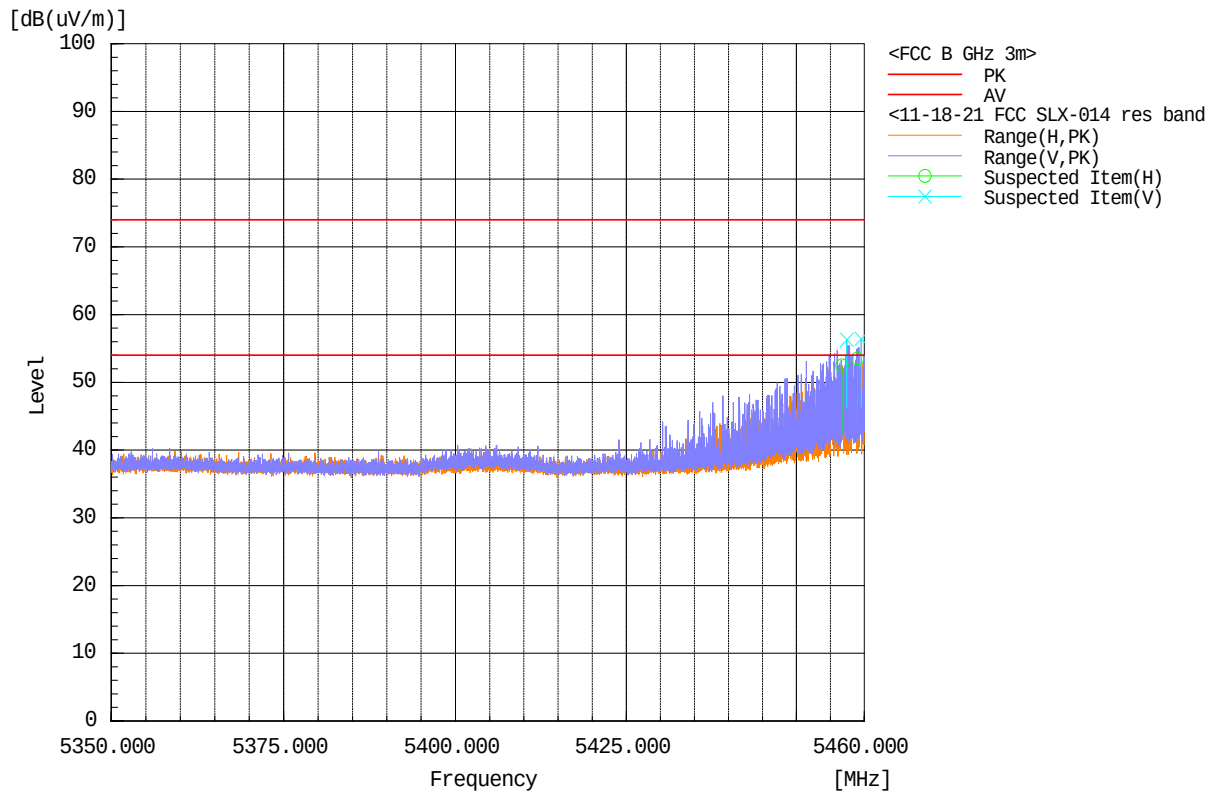


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5438.636	V	39.3	62.9	-5.7	33.6	57.2	54	74	-20.4	-16.8	223	128.3	Pass
2	5452.406	V	41.6	65.8	-5.7	35.9	60.1	54	74	-18.1	-13.9	223	133.8	Pass
3	5458.505	H	38.7	62.3	-5.7	33	56.6	54	74	-21	-17.4	103	68.8	Pass
4	5458.01	V	33.1	53.8	-5.7	27.4	48.1	54	74	-26.6	-25.9	298	71.1	Pass

REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) - Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5500MHz)

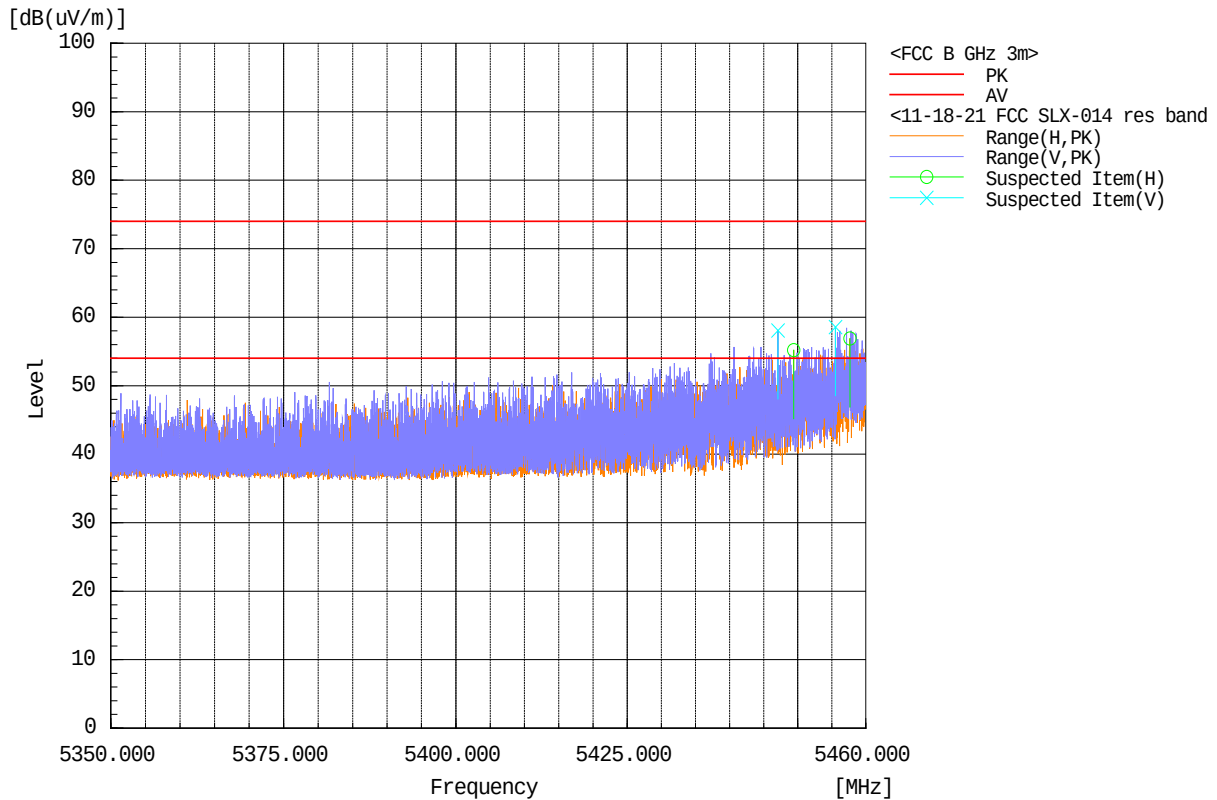


Antenna Polarity & Test Distance: Vertical and Horizontal at 3m														
No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5456.807	H	36	58.4	-5.7	30.3	52.7	54	74	-23.7	-21.3	193	61.9	Pass
2	5456.392	V	36.4	58	-5.7	30.7	52.3	54	74	-23.3	-21.7	268	125.7	Pass
3	5459.633	H	34.8	51.8	-5.7	29.1	46.1	54	74	-24.9	-27.9	100	141.8	Pass
4	5459.85	V	38.1	62.1	-5.7	32.4	56.4	54	74	-21.6	-17.6	238	143.7	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Band Edge (802.11ac_5510MHz)



Antenna Polarity & Test Distance: Vertical and Horizontal at 3m

No.	Frequency (MHz)	Polarization (H/V)	Reading AV (dBuV)	Reading PK (dBuV)	Factor [dB(1/m)]	Level AV (dBuV/m)	Level PK (dBuV/m)	Limit AV (dBuV/m)	Limit PK (dBuV/m)	Margin AV [dB]	Margin PK [dB]	Height (cm)	Angle (Deg)	Pass/Fail
1	5446.561	V	35.9	60.6	-5.7	30.2	54.9	54	74	-23.8	-19.1	238	96.2	Pass
2	5450.373	H	35.7	57.3	-5.7	30	51.6	54	74	-24	-22.4	192	126.9	Pass
3	5456.464	V	36.2	60.4	-5.7	30.5	54.7	54	74	-23.5	-19.3	103	204.3	Pass
4	5457.621	H	39.5	64.4	-5.7	33.8	58.7	54	74	-20.2	-15.3	103	41.2	Pass

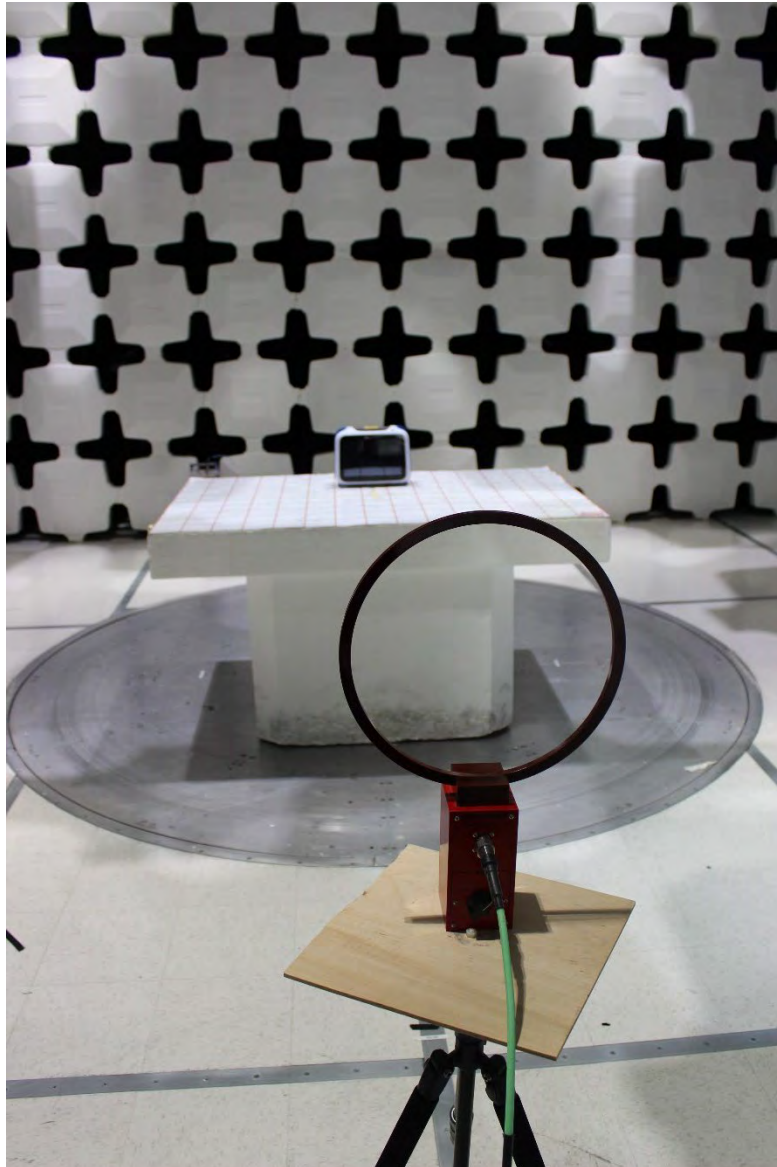
REMARKS:

- Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
- Factor (dB(1/m)) = Antenna Factor (AF) (dB(1/m)) + Cable Loss (dB) – Preamplifier Gain (dB)
- Margin = Level (dBuV/m) - Limit value (dBuV/m)

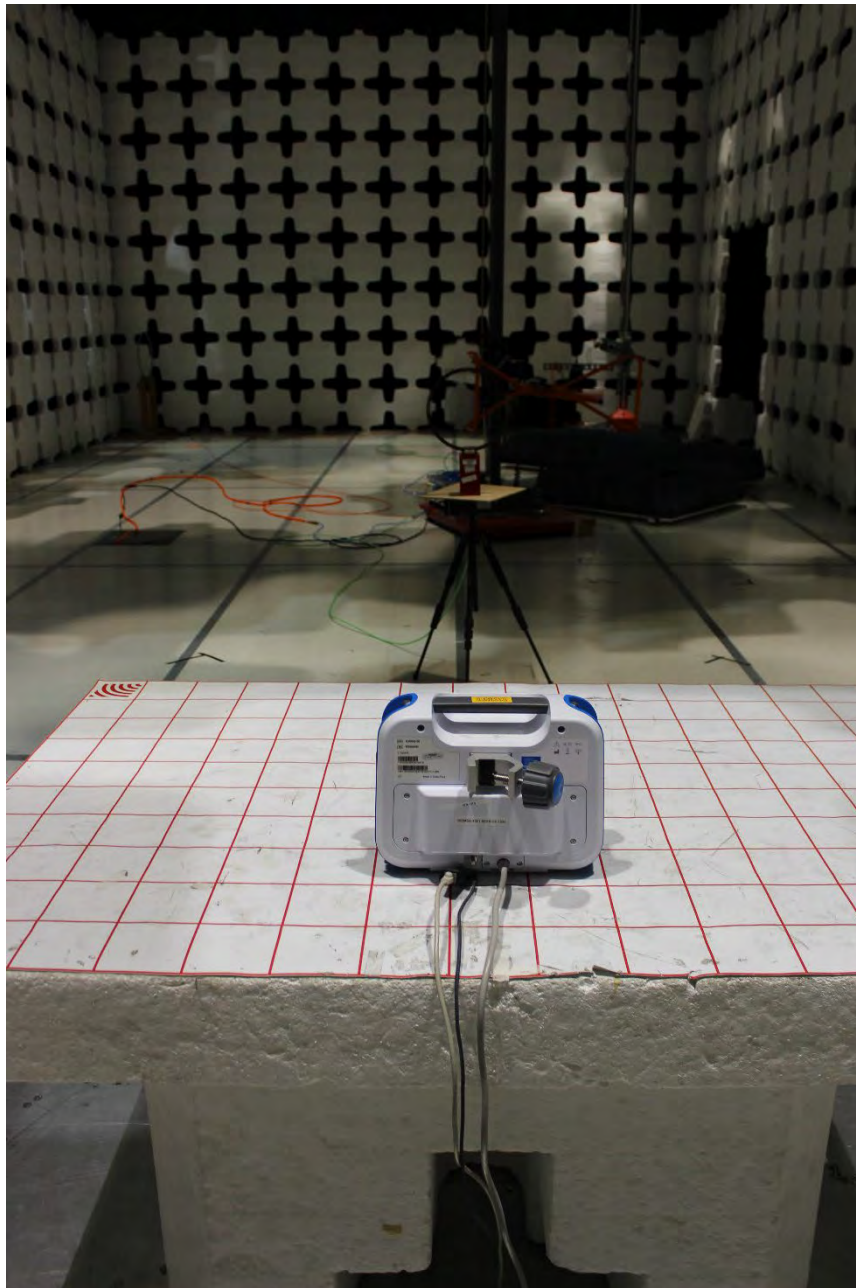
5 Pictures of Test Arrangements

5.1 Radiated Emissions 9 KHz to 30 MHz

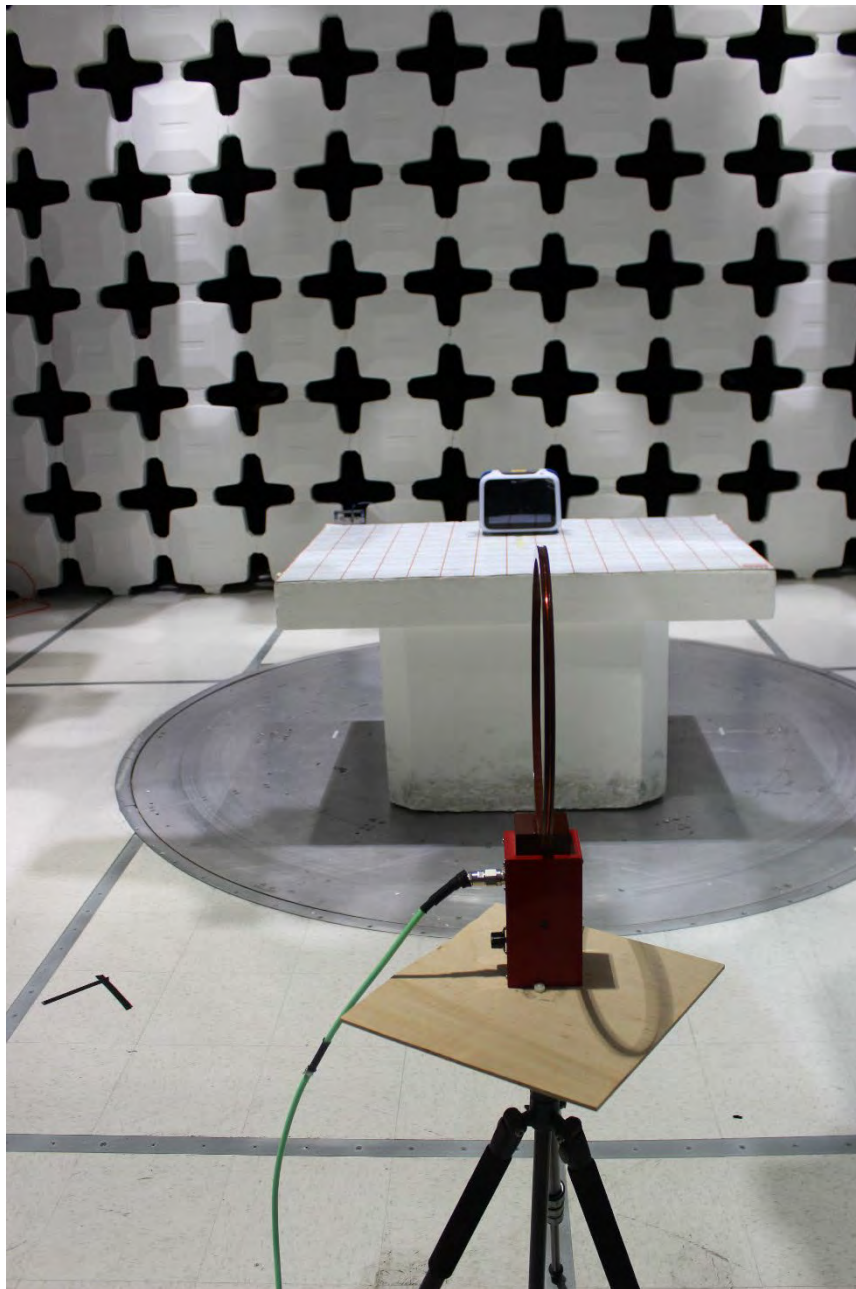
Setup 9KHz-30MHz Loop Antenna 90°



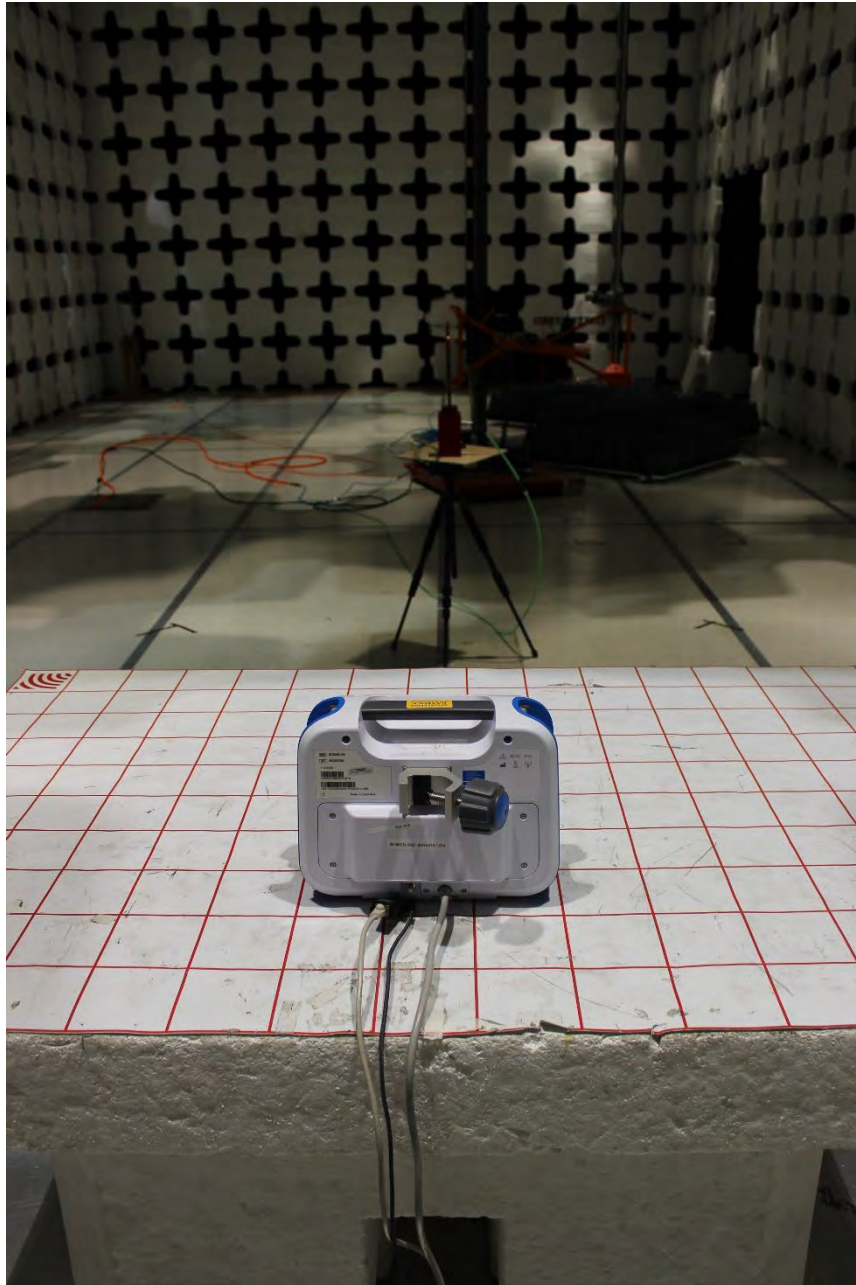
Setup 9KHz-30MHz Loop Antenna 90° Rear



Setup 9KHz-30MHz Loop Antenna 0° Front

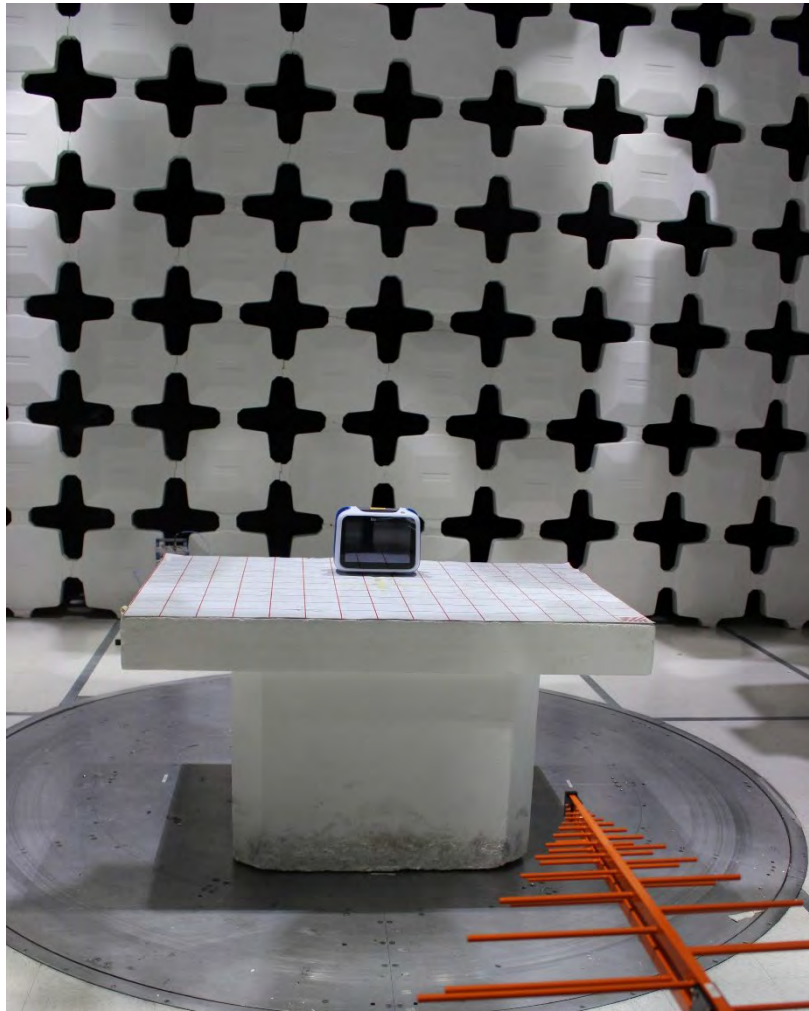


Setup 9KHz-30MHz Loop Antenna 0° Rear

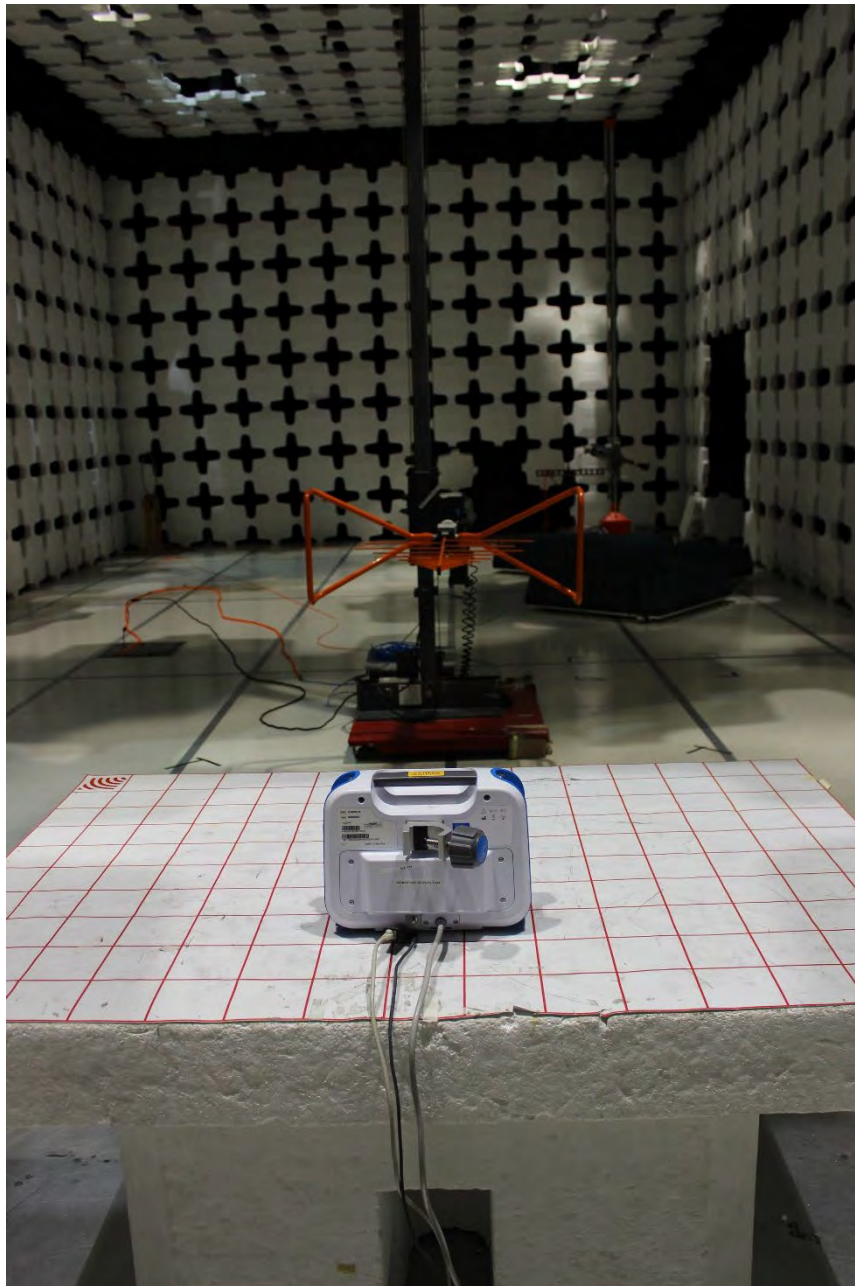


5.2 Radiated Emissions up to 1 GHz

Setup 30-1000MHz Front

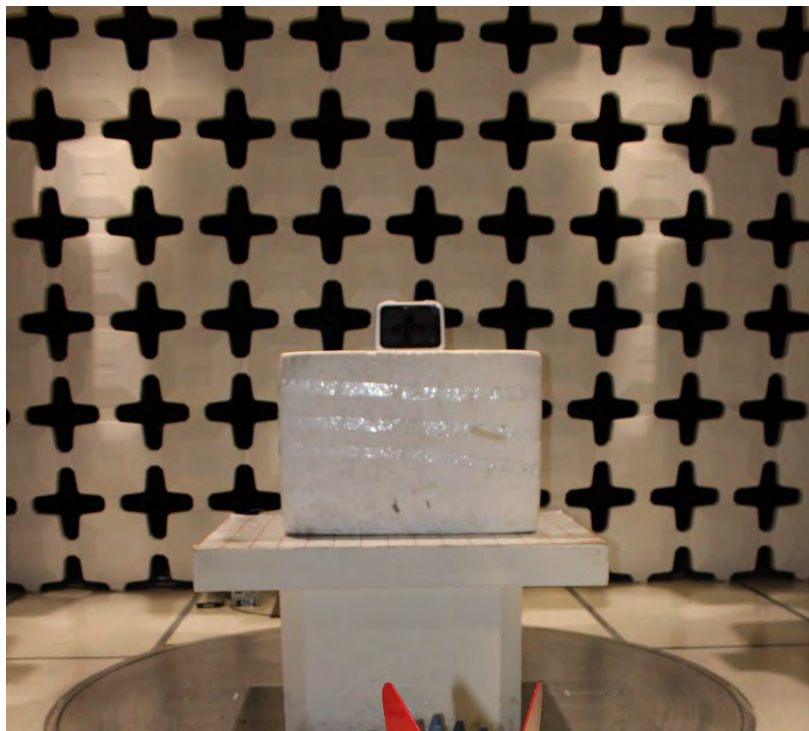


Setup 30-1000MHz Front

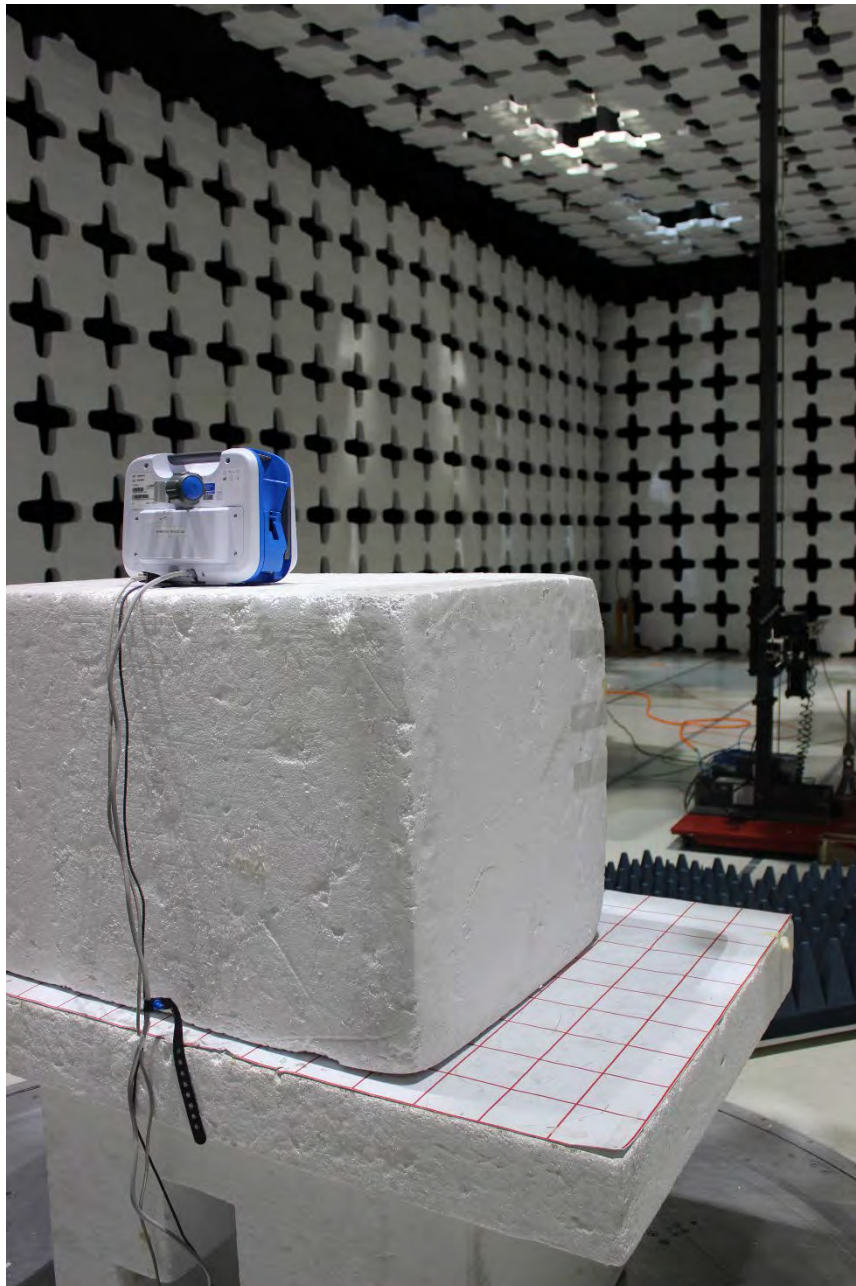


5.3 Radiated Emissions above 1 GHz

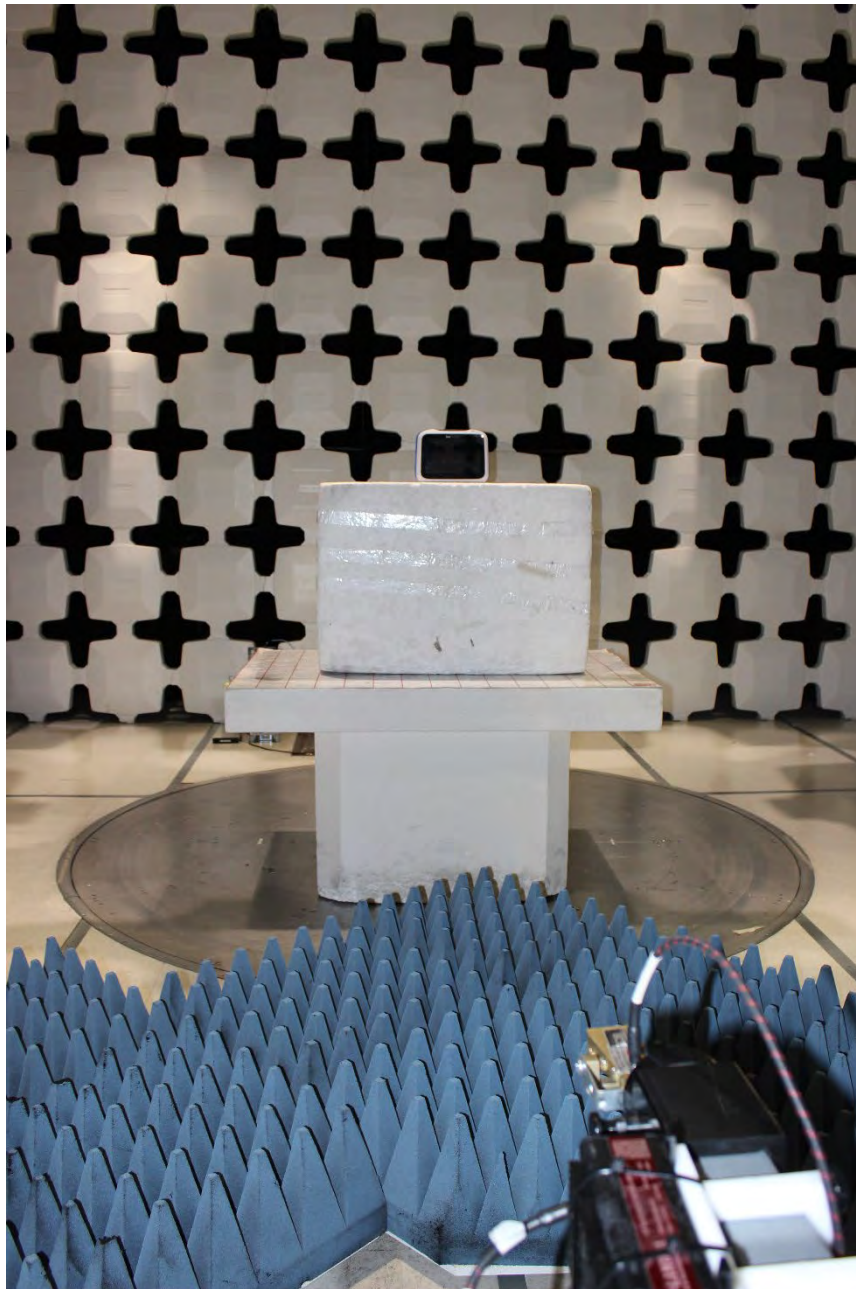
Setup 1-18 GHz Front



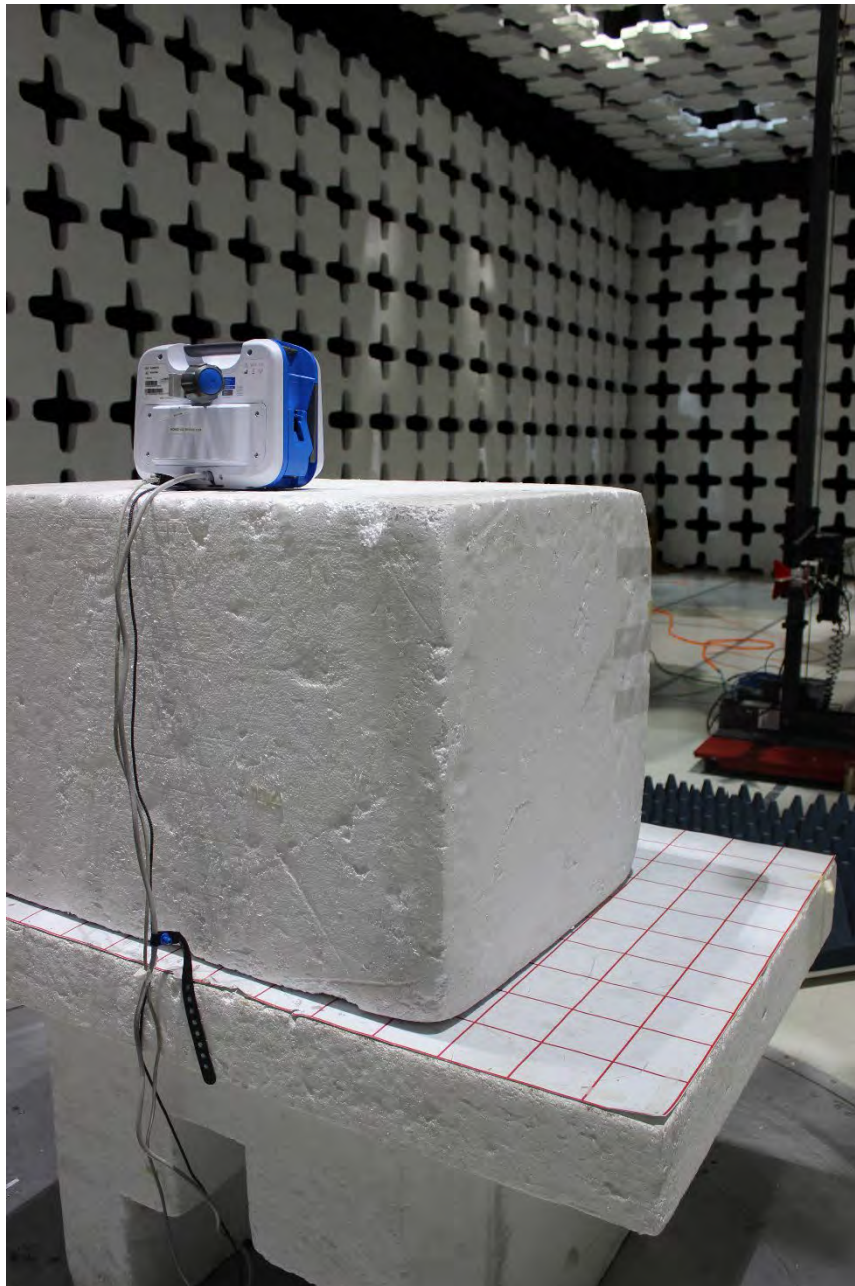
Setup 1-18 GHz Rear



Setup 18-25 GHz Front



Setup 18-25 GHz Rear



Appendix – Information on the Testing Laboratories

Bureau Veritas is a global leader in testing, inspection and certification (TIC) services. We help businesses improve safety, sustainability and productivity; and our clients include the majority of leading brands in retail, manufacturing and other industries. With a presence in every major country around the world, our quality assurance and compliance solutions are vital in helping our customers enhance product quality and concept-to-consumer journeys. We also assist with increasing speed to market, profitability and brand equity throughout the supply chain. Bureau Veritas is a leading wireless/IoT testing, inspection, audit and certification provider, with a global network of test laboratories to support the IoT industry in areas of connectivity, security, interoperability as well as quality, health & safety, and environmental/chemical requirements.

If you have any comments, please feel free to contact us at the following:

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Sunnyvale OTA/Bluetooth Lab

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Littleton EMC/RF/Safety/Environmental Lab

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Tel: +1 978 486 8880

Irvine OTA/PTCRB/Bluetooth/V2X Lab

15 Musick, Irvine, CA 92618
Tel: +1 949 716 6512

Email: sales.eaw@us.bureauveritas.com

Web Site: www.cpsusa-bureauveritas.com

The address and road map of all our labs can be found in our web site also.

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