



Designation : Lin sweep 660MHz FUTP
Testorder : HCAT6A FUTP

Length : 328 ft
Test Date/Time : 6/18/2013 5:31 AM

Temp : 82°F
Sample-ID-No. : 000007XK31

Customer : HI
Cable type : CAT6A
Specification : 6A

Drum no. : 2
Order number : Modified near end
Operator : DGi

Test Result: PASS

Final inspection

Worst Case Summary

{ v = Value l = Limit m = Margin f = Frequency (MHz) p = Pair / Combo < = Lower Limit > = Upper Limit }

{ Pair/Combo: n=near, f=far f=forward, r=reverse a=wire a b=wire b }

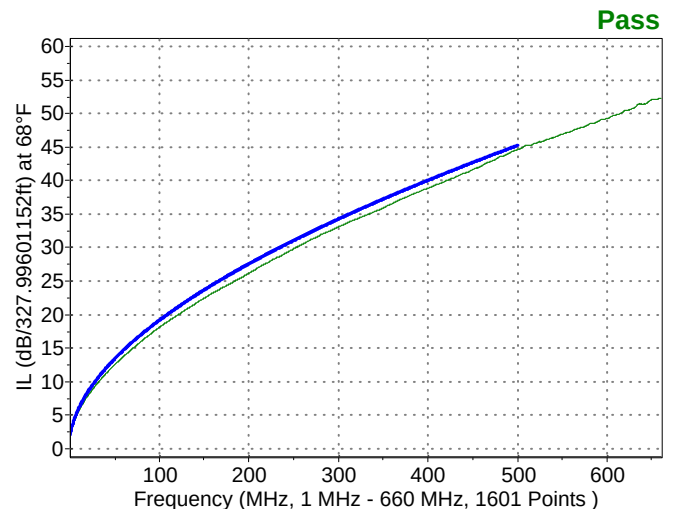
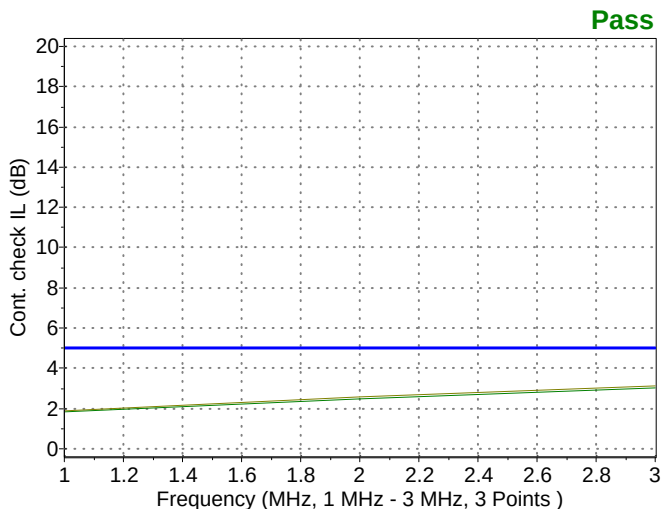
Parameter	Frequency	Points	Minimum	{ v [f] p }	Maximum	{ v [f] p }	Min. Margin	{ m (v l) [f] p }	Result
Cont. check IL (dB)	1-3	3	1.83	[1] 2	3.14	[3] 1	1.86	(3.14 > 5.00) [3] 1	✓
IL (dB/327.99601152ft) at 68°F	1-660	1601	1.78	[1] 1	52.33	[659.2] 1	0.30	(2.09 > 2.39) [1.412] 1	✓
Phase delay (ns/327.99601152ft)	1-660	1601	513.41	[660] 1	520.97	[3.471] 1	22.00	(513.67 > 535.67) [466.4] 1	✓
NEXT (dB)	1-660	1601	38.47	[657.9] 1-2	82.62	[2.236] 2-4	0.45	(59.45 < 59.00) [10.47] 2-4	✓
PS NEXT (dB)	1-660	1601	36.89	[658.4] 2	81.48	[1] 4	2.34	(59.34 < 57.00) [10.47] 4	✓
FEXT (dB)	1-660	1601	62.94	[71.43] 1-3	86.95	[548.8] 2-4			
ACR-F (dB)	1-660	1601	28.4	[645.6] 2-4	84.4	[1] 1-3			
PS ACR-F (dB)	1-660	1601	26.7	[645.2] 3	82.4	[1] 2			
ZIN (Ohm)	1-660	1601	88.39	[642.3] 2	124.34	[633.2] 3			
RL (dB)	1-660	1601	18.22	[640.2] 2	39.40	[95.32] 3	2.70	(26.48 < 23.78) [29.83] 2	✓
IL dd (dB/328.0760105472ft) at 68°F f1-660	801		1.78	[1] 1	52.35	[659.2] 1			
IL dd (dB/328.0760105472ft) at 68°F r1-660	801		1.78	[1] 1	52.35	[659.2] 1			
TCL cd (dB) f	1-660	801	18.8	[657.5] 2	61.7	[1] 3	2.6	(25.9 < 23.4) [462.3] 4	✓
TCL cd (dB) r	1-660	801	25.1	[604.8] 4	62.9	[1] 4	2.9	(26.1 < 23.2) [481.2] 4	✓
TCTL cd (dB) f	1-660	801	36.3	[6.766] 3	73.0	[334.6] 1			
TCTL cd (dB) r	1-660	801	34.6	[6.766] 3	70.7	[586.7] 3			
ELTCTL cd (dB) f	1-660	801	0.7	[635.3] 1	46.6	[1] 3	10.6	(37.1 < 26.5) [2.647] 3	✓
ELTCTL cd (dB) r	1-660	801	9.8	[635.3] 1	44.2	[1] 3	9.2	(44.2 < 35.0) [1] 3	✓

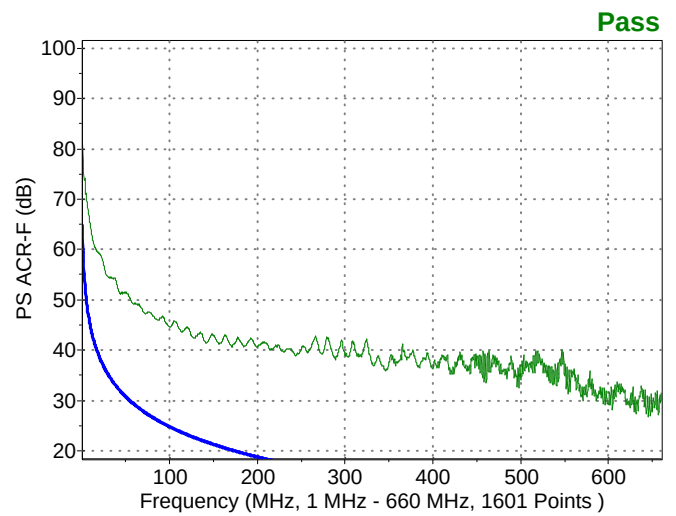
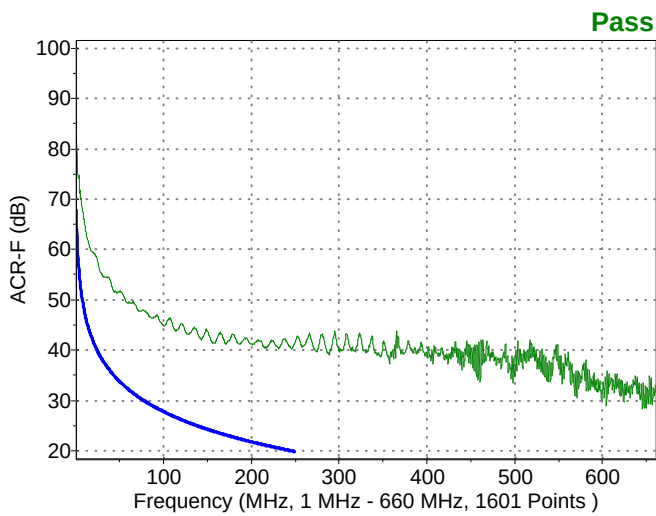
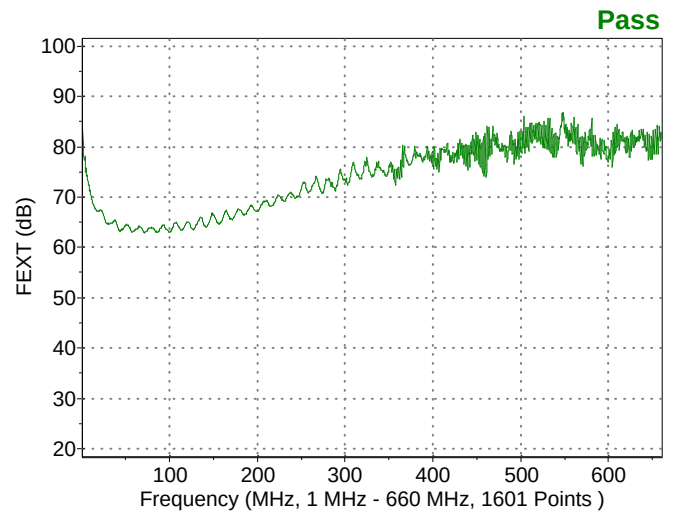
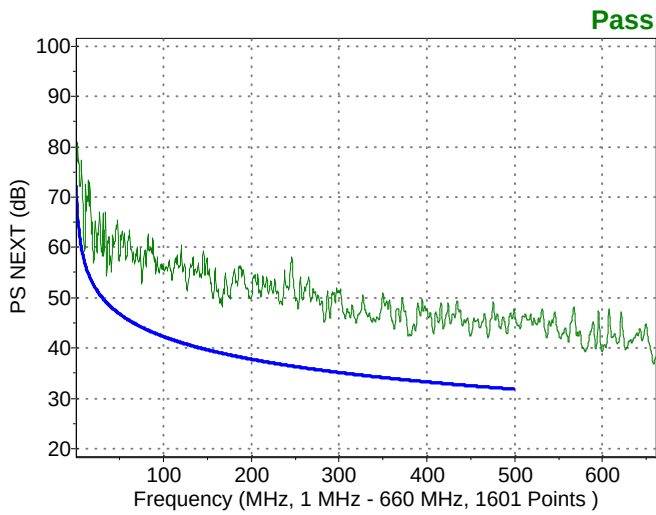
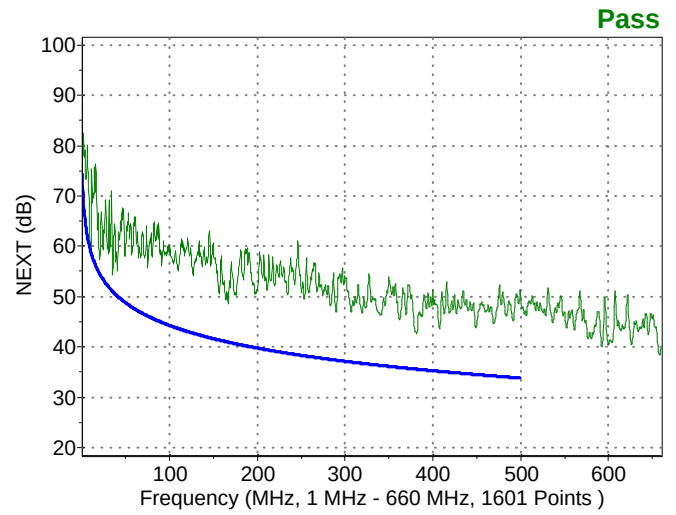
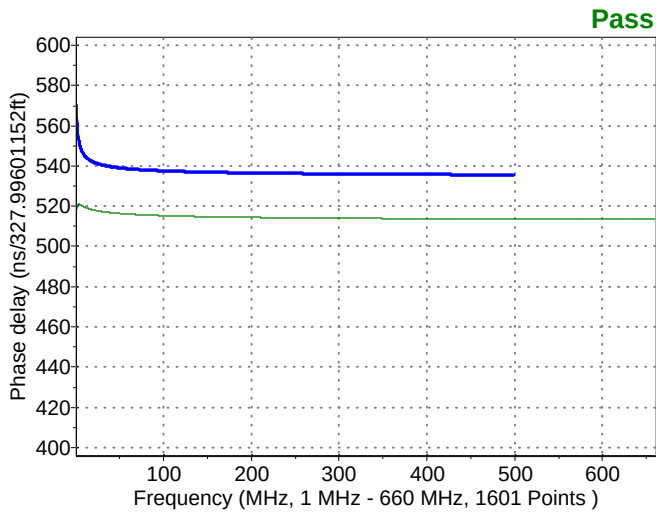
Legend

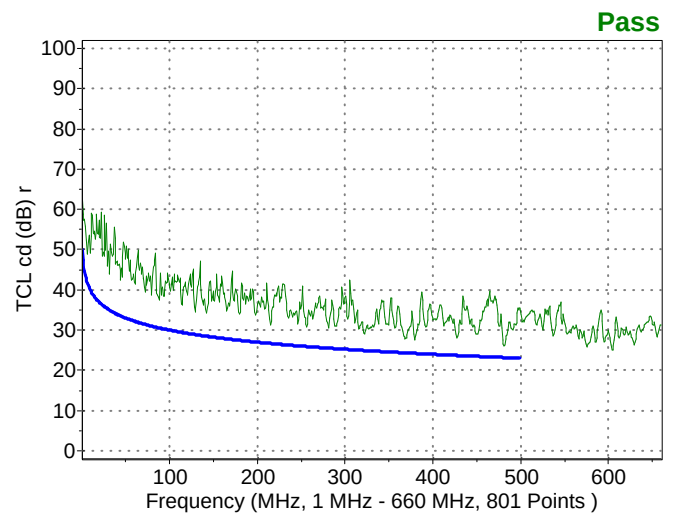
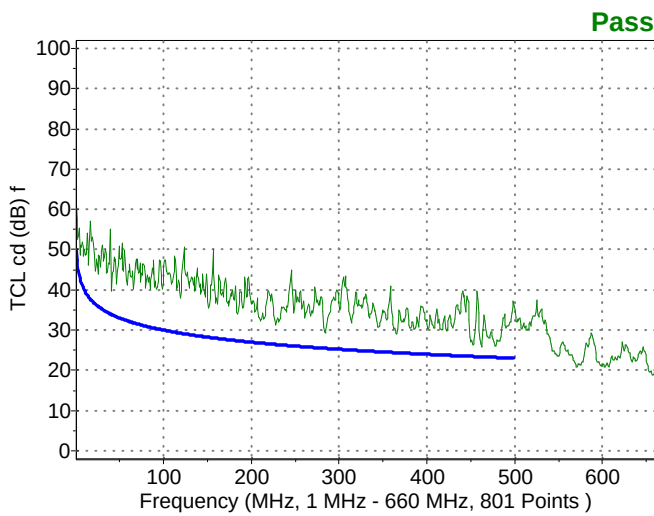
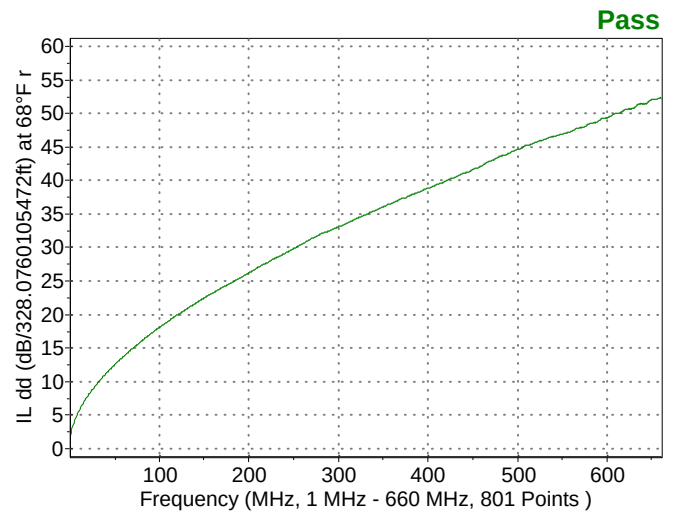
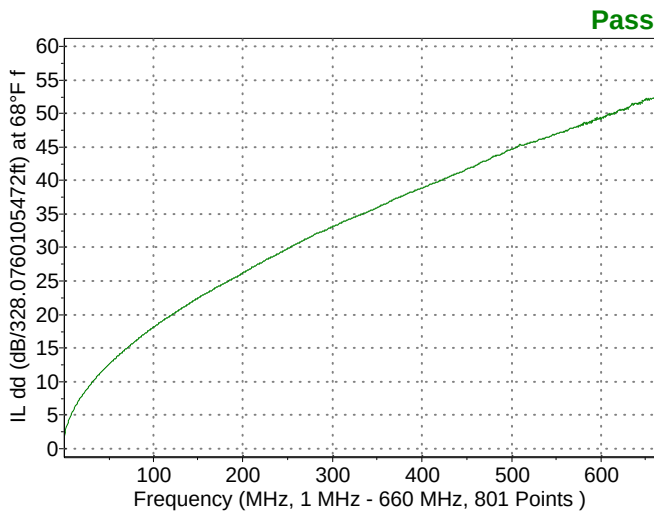
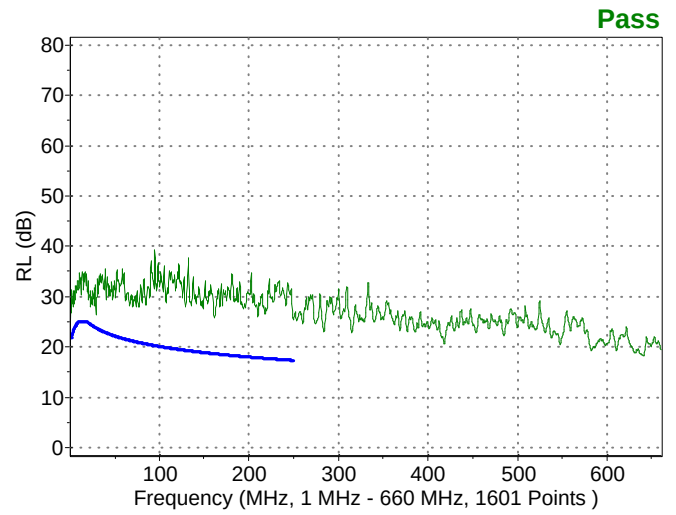
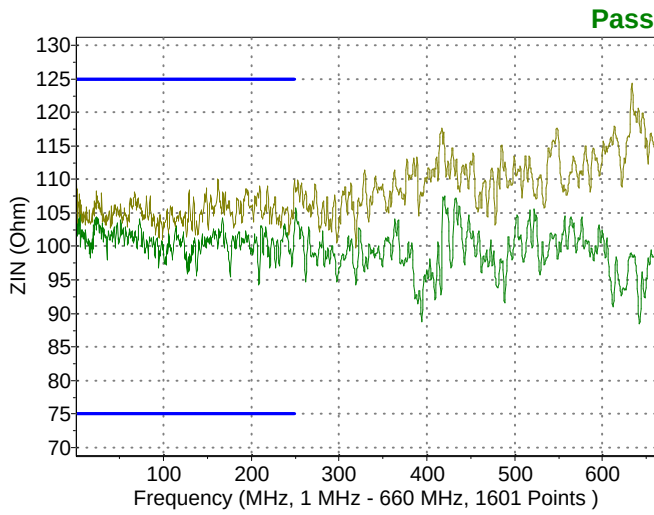
Cont. check IL = Continuity check IL
PS NEXT = Power Sum NEXT
PS ACR-F = Power Sum ACR-F
IL dd = Insertion loss dd
ELTCTL cd = Equal Level TCTL cd

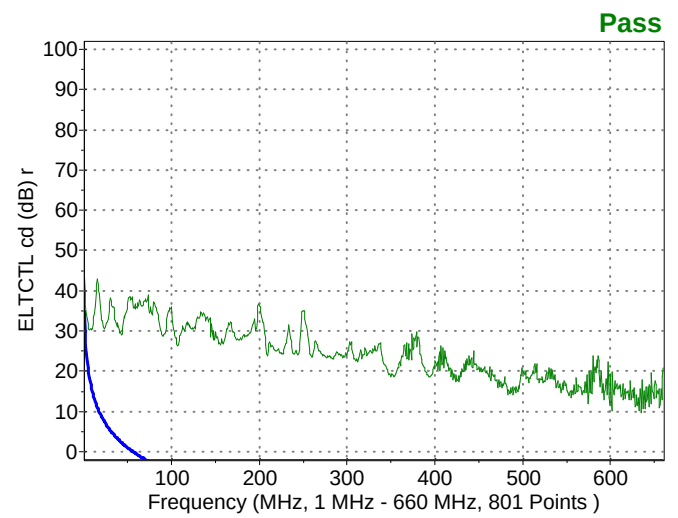
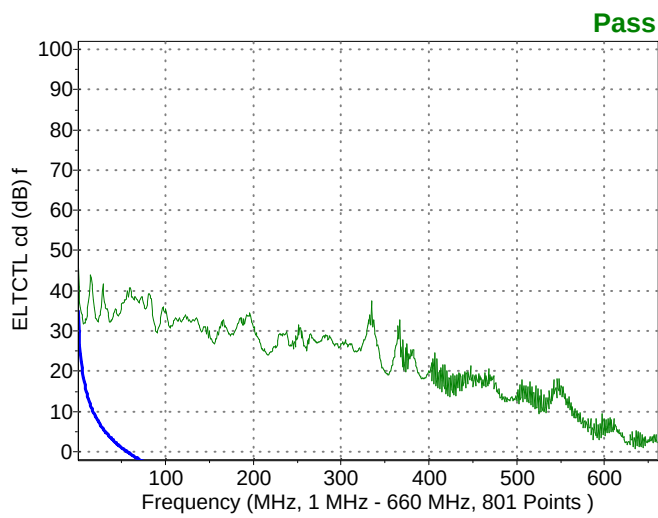
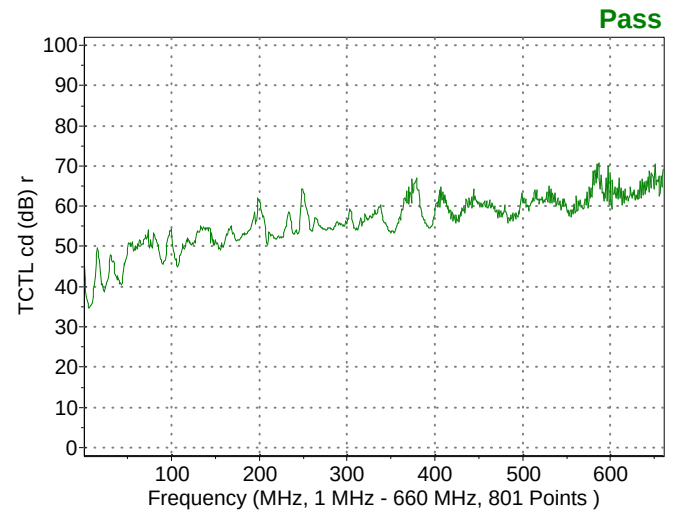
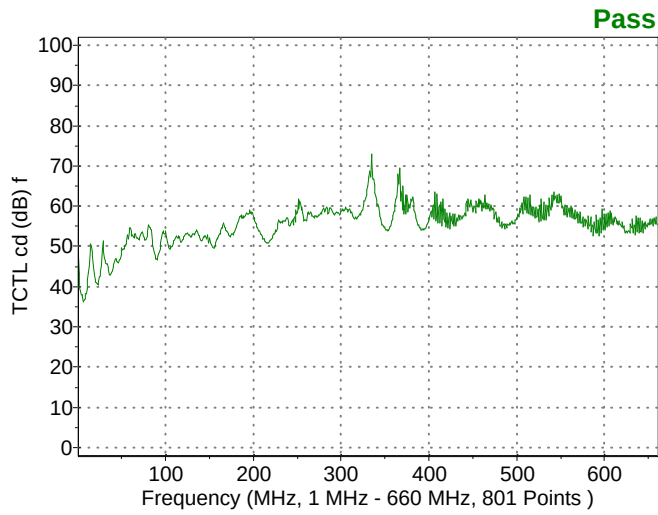
Phase delay = Phase delay
FEXT = Far End Crosstalk
ZIN = Input Impedance
TCL cd = transverse conv. loss cd

NEXT = Near End Crosstalk
ACR-F = Attenuation Crosstalk-F Ratio
RL = Return Loss
TCTL cd = transverse conv. transfer loss cd





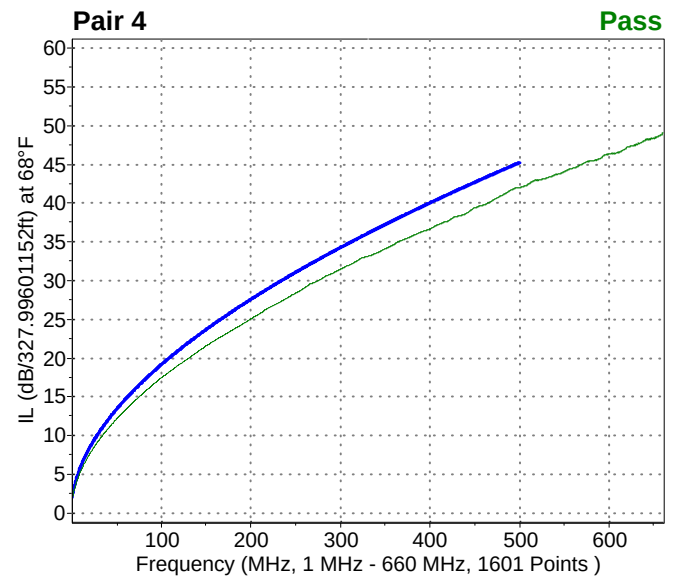
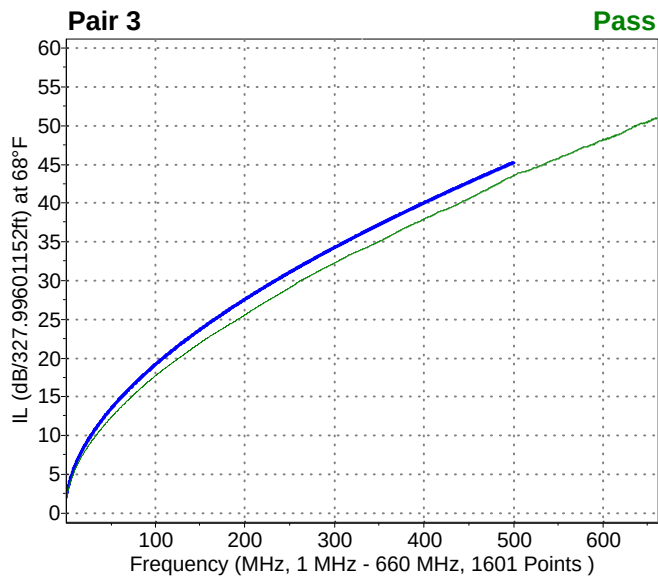
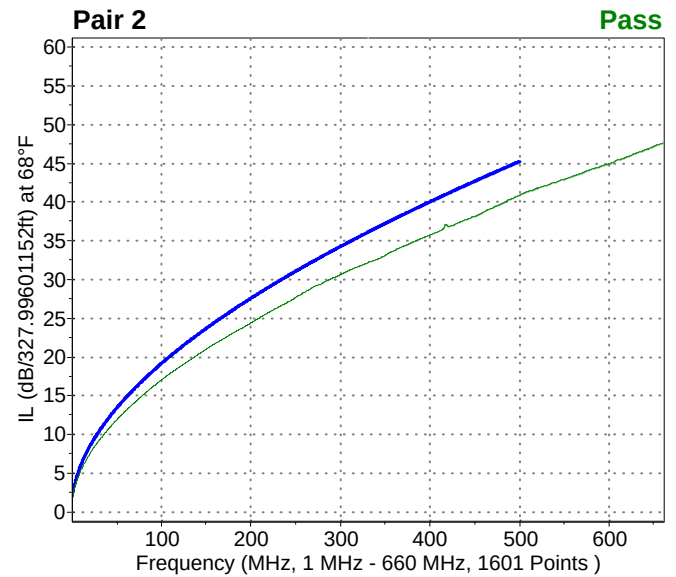
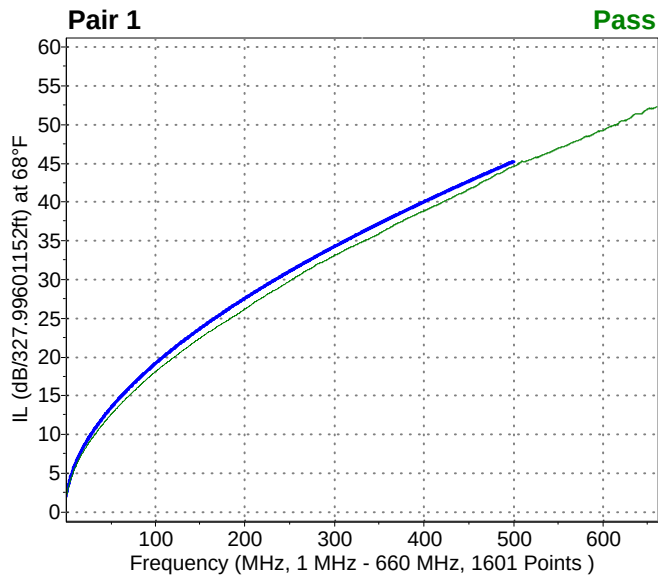




Summary and Graphic: Insertion loss (IL)

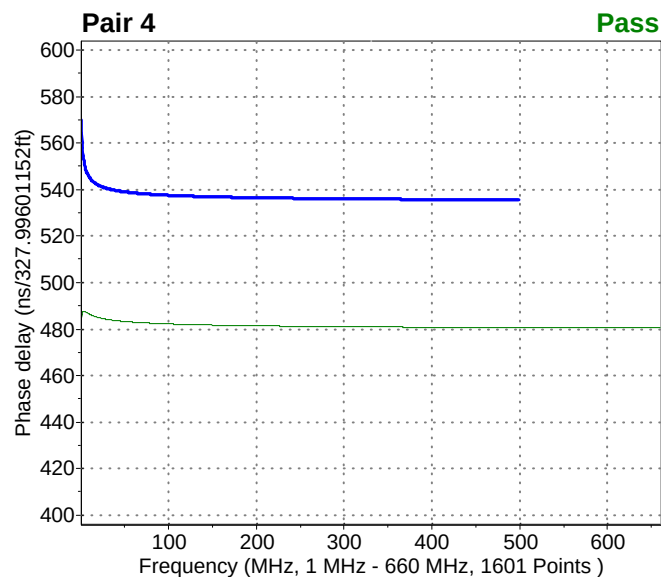
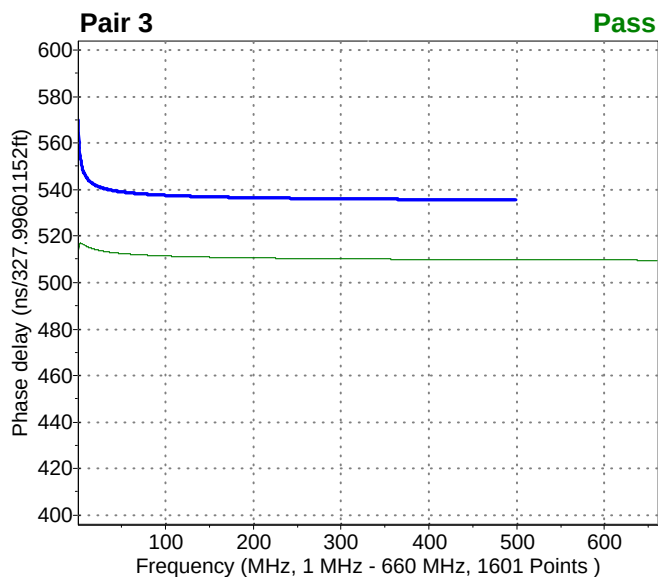
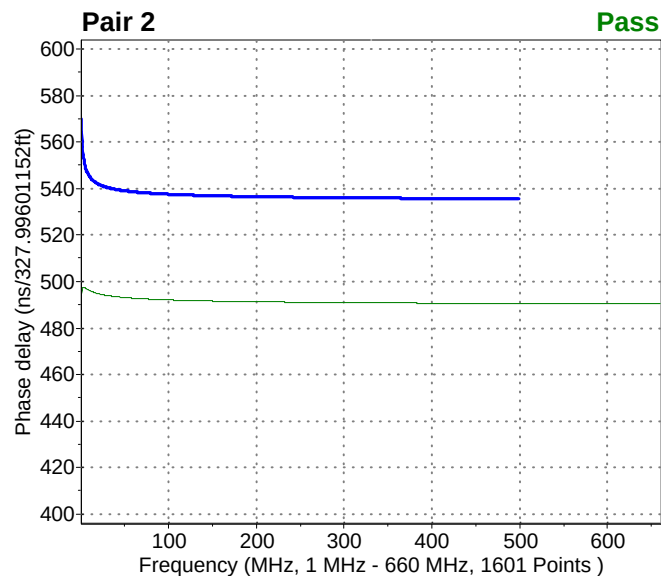
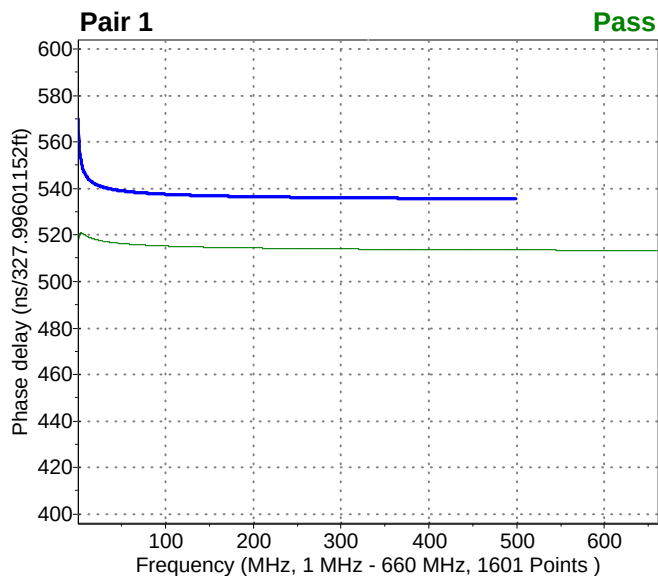
{ v = Value (dB/327.99601152ft) at 68°F l = Limit (dB/327.99601152ft) at 68°F m = Margin (dB/327.99601152ft) at 68°F f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum	{ v [f] }	Maximum	{ v [f] }	Min. Margin	{ m (v l) [f] }	Result
1	1	660	1601	1.78	[1]	52.33	[659.2]	0.30	(2.09 > 2.39) [1.412]	✓
2	1	660	1601	1.72	[1]	47.63	[660]	0.36	(1.72 > 2.08) [1]	✓
3	1	660	1601	1.77	[1]	51.03	[660]	0.31	(1.77 > 2.08) [1]	✓
4	1	660	1601	1.74	[1]	49.06	[659.6]	0.34	(1.74 > 2.08) [1]	✓



**Summary and Graphic: Phase delay (Phase delay)**{ v = Value (ns/327.99601152ft) } / { l = Limit (ns/327.99601152ft) } m = Margin (ns/327.99601152ft) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v / l) [f] }	Result
1	1	660	1601	513.41 [660]	520.97 [3.471]	22.00 (513.67 > 535.67) [466.4]	✓
2	1	660	1601	490.42 [659.2]	497.47 [3.471]	45.03 (490.61 > 535.63) [485]	✓
3	1	660	1601	509.65 [659.6]	517.00 [3.471]	25.77 (509.88 > 535.65) [475.9]	✓
4	1	660	1601	480.50 [654.6]	487.72 [3.471]	54.95 (480.67 > 535.62) [495.2]	✓

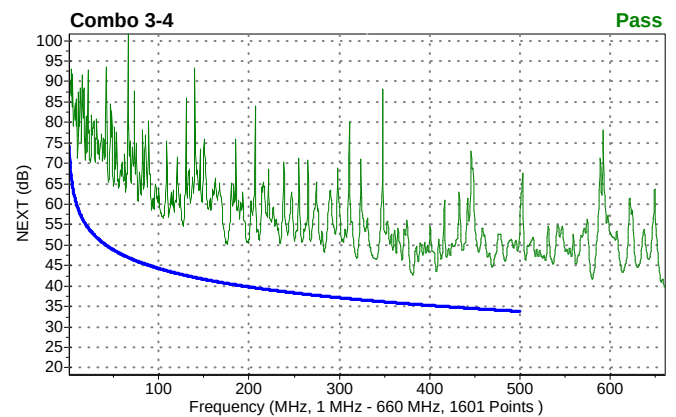
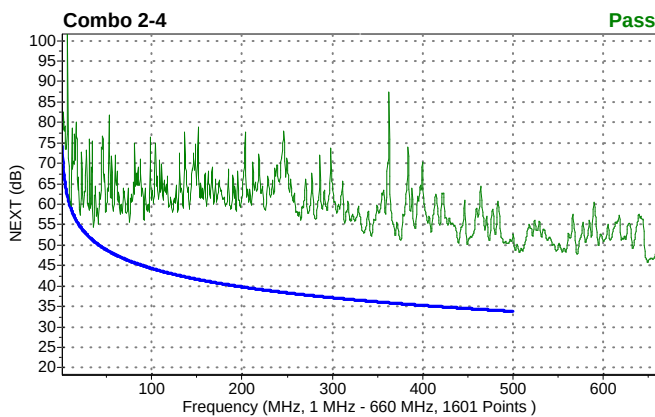
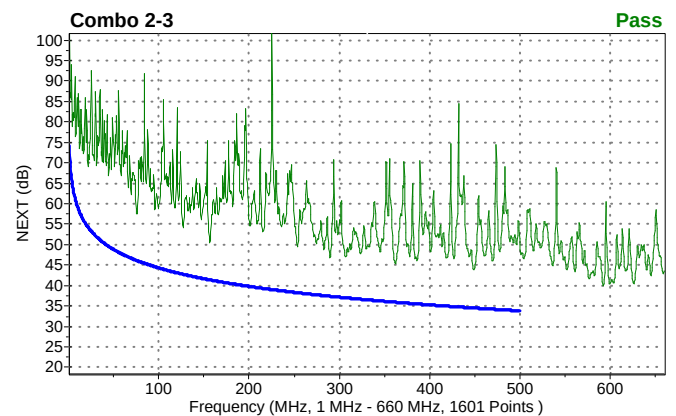
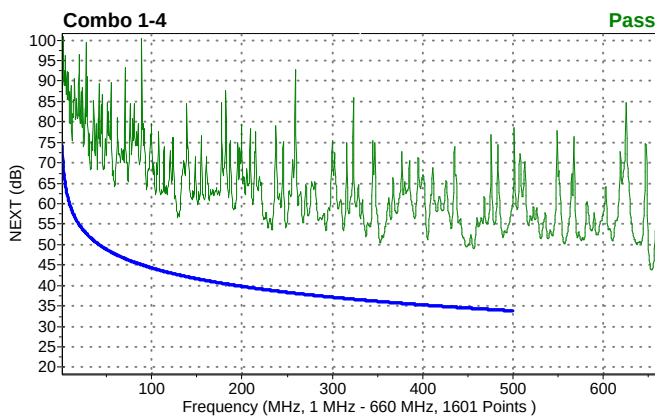
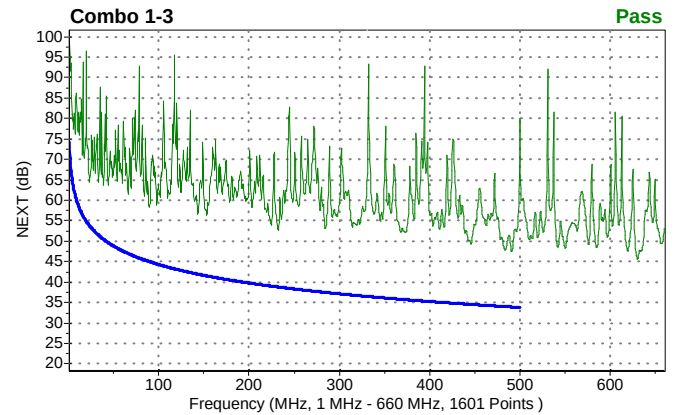
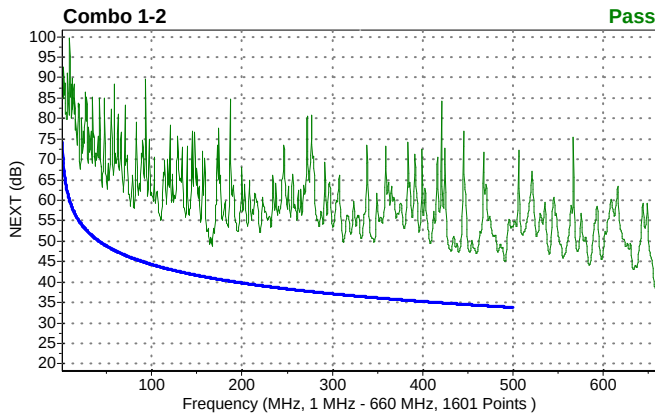




Summary and Graphic: Near End Crosstalk (NEXT)

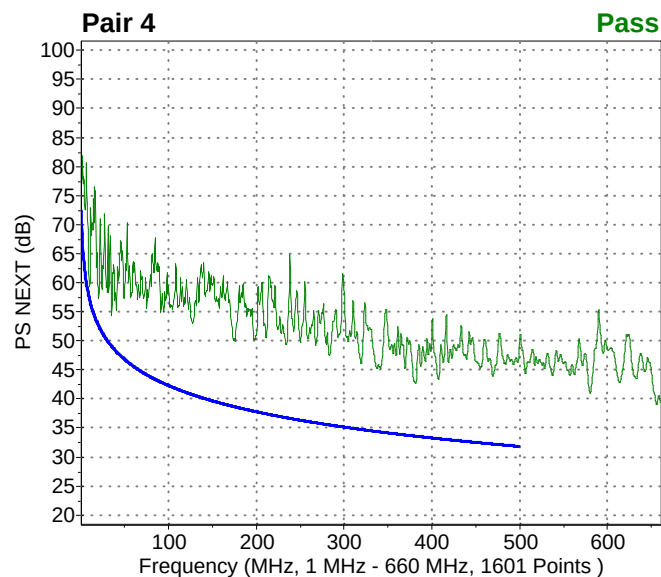
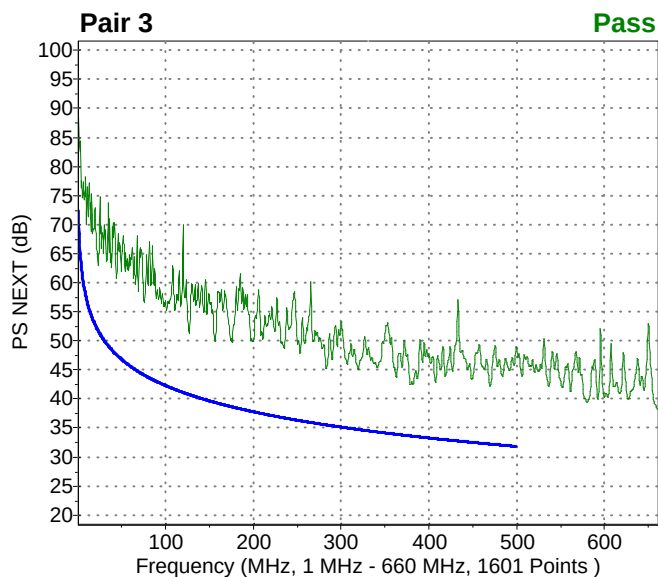
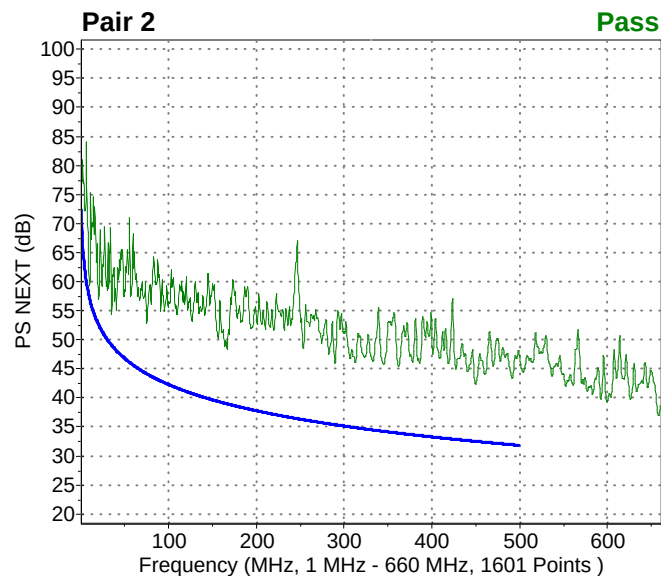
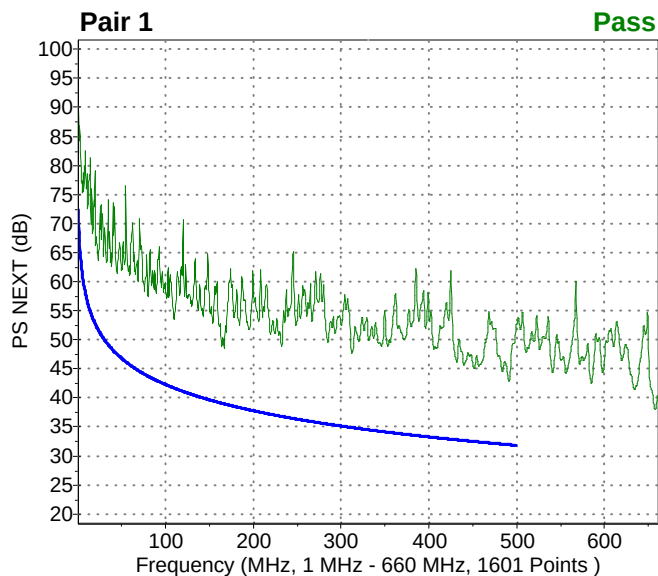
{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1-2	1	660	1601	38.47 [657.9]	99.71 [9.237]	7.72 (48.68 < 40.96) [167]	✓
1-3	1	660	1601	45.66 [630.3]	99.28 [1.412]	10.48 (64.29 < 53.81) [23.24]	✓
1-4	1	660	1601	43.84 [653.8]	102.28 [1.412]	13.94 (56.58 < 42.64) [129.1]	✓
2-3	1	660	1601	39.98 [592.5]	106.14 [1.412]	9.16 (50.53 < 41.37) [156.7]	✓
2-4	1	660	1601	45.69 [649.7]	102.78 [6.766]	0.45 (59.45 < 59.00) [10.47]	✓
3-4	1	660	1601	39.81 [660]	101.97 [66.08]	7.13 (42.71 < 35.58) [381.6]	✓



**Summary and Graphic: Power Sum NEXT (PS NEXT)**{ v = Value (dB) / l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

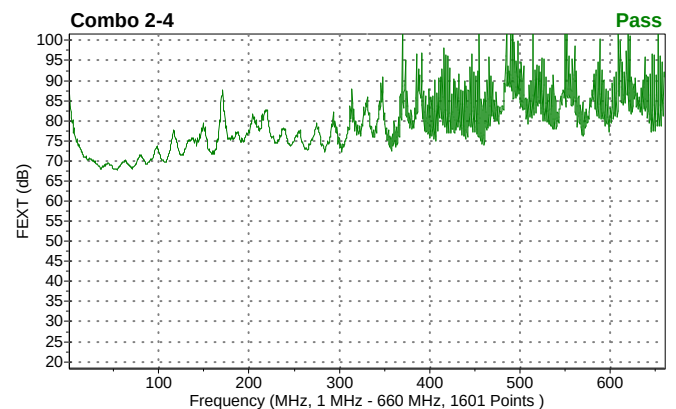
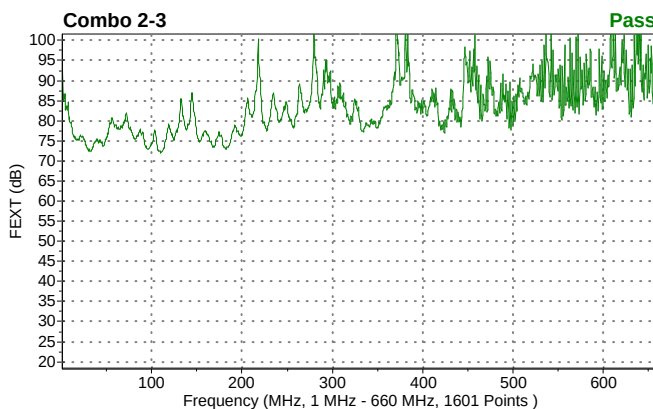
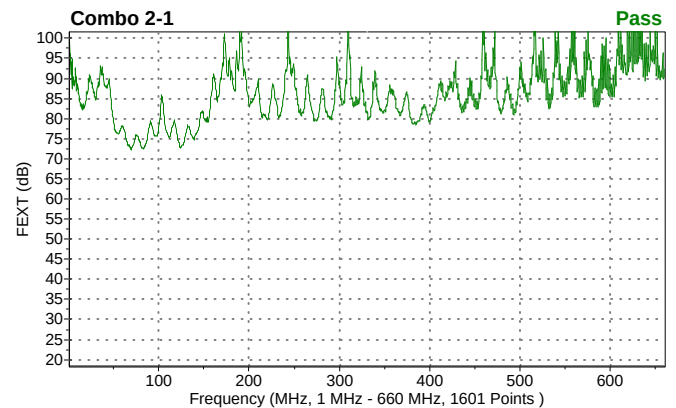
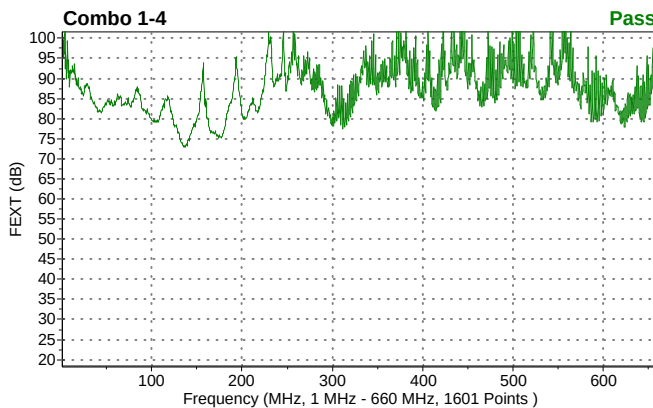
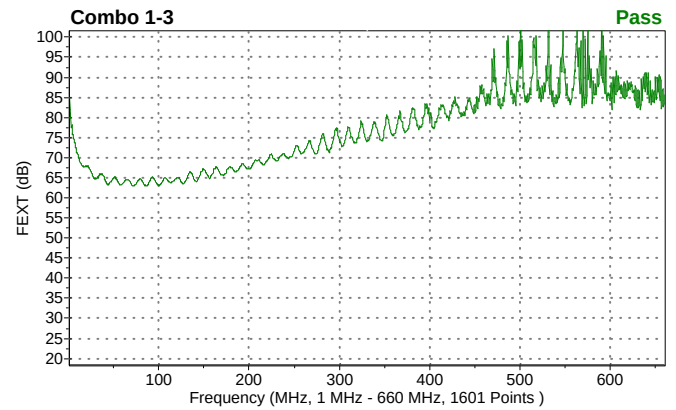
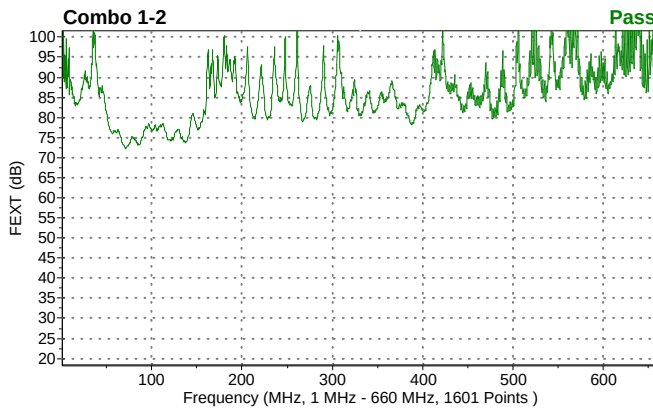
Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/l)[f]$ }	Result
1	1	660	1601	38.02 [657.9]	90.57 [1.412]	9.51 (48.47 < 38.96) [167]	✓
2	1	660	1601	36.89 [658.4]	84.05 [6.766]	2.40 (59.39 < 57.00) [10.47]	✓
3	1	660	1601	38.18 [660]	89.49 [1.412]	8.82 (42.44 < 33.62) [379.1]	✓
4	1	660	1601	39.07 [655.9]	81.90 [2.236]	2.34 (59.34 < 57.00) [10.47]	✓

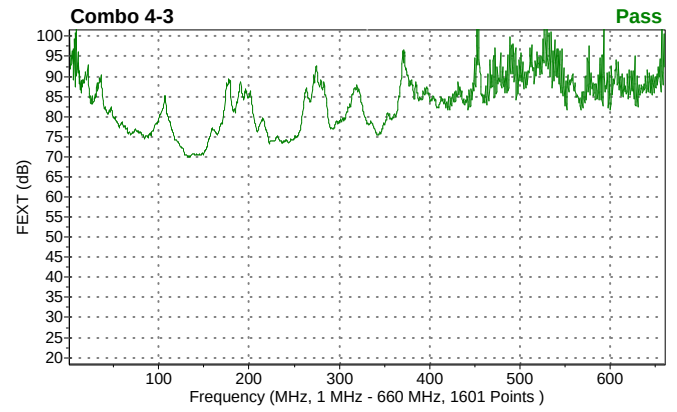
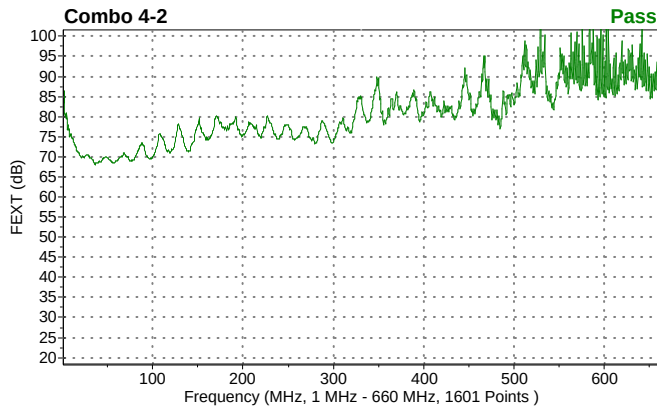
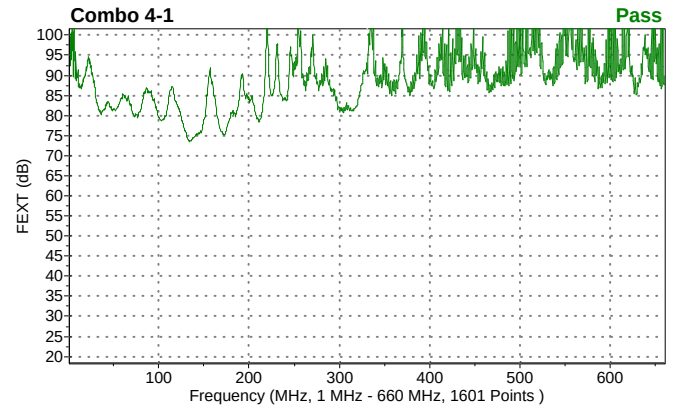
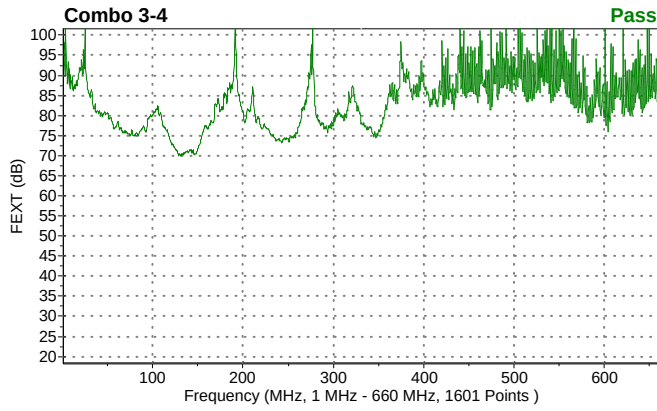
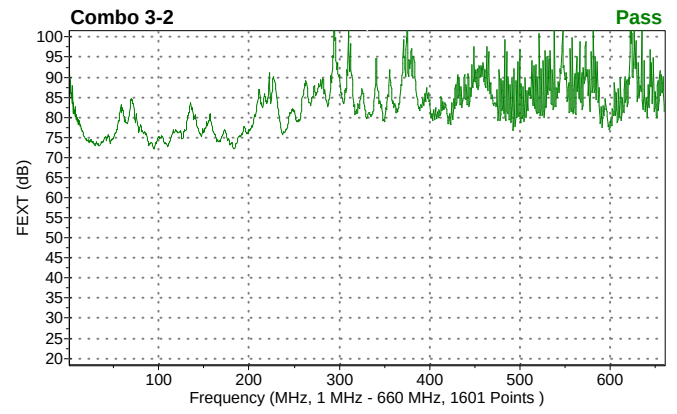
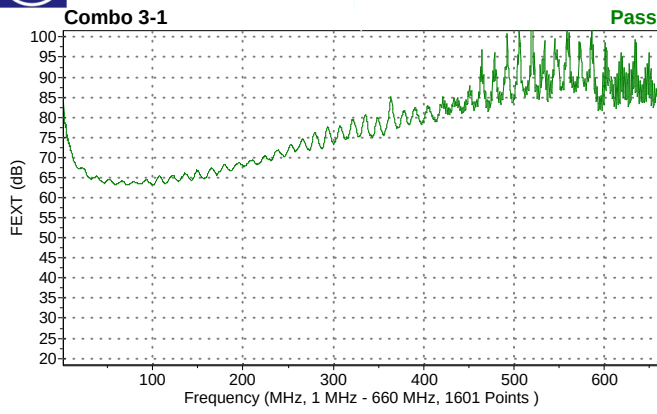


**Summary and Graphic: Far End Crosstalk (FEXT)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

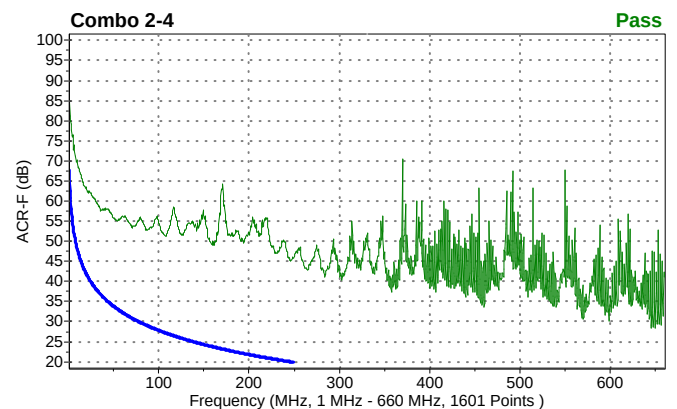
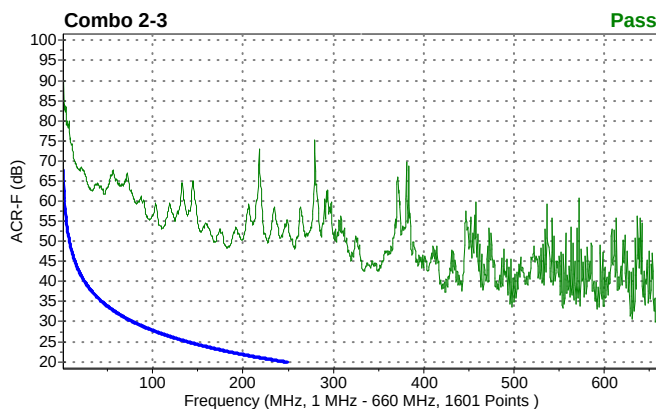
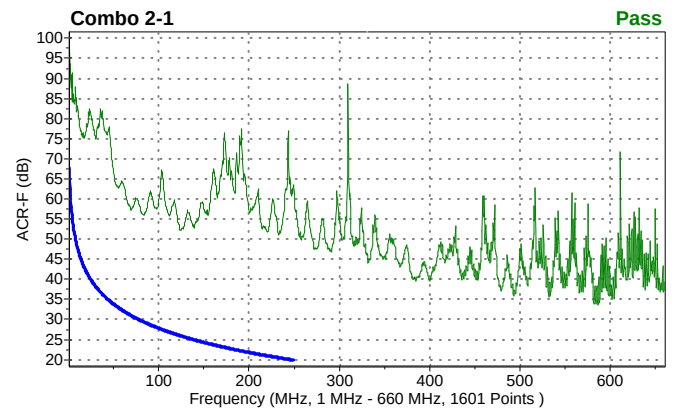
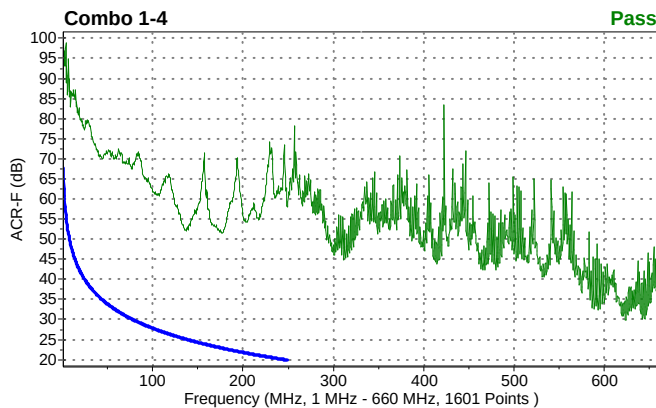
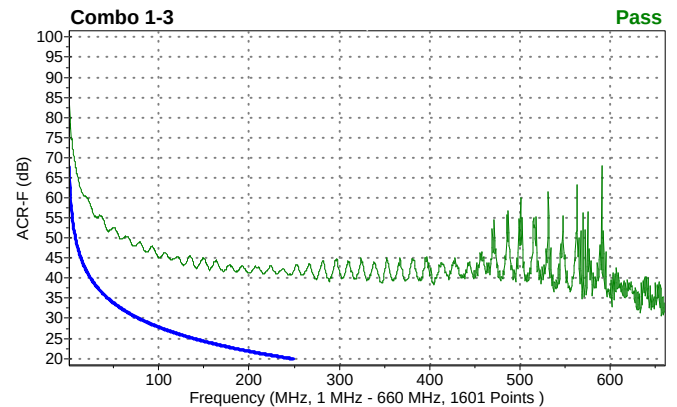
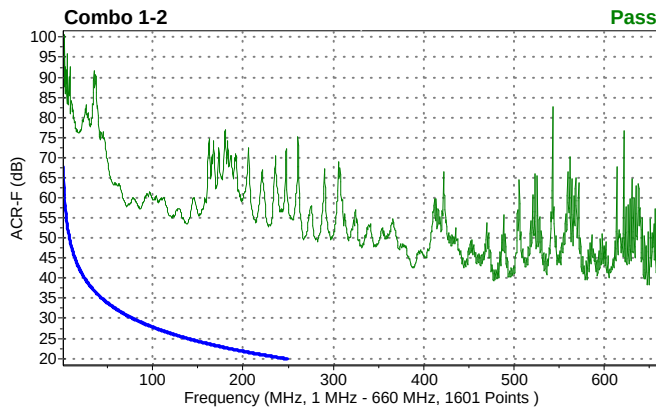
Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1-2	1	660	1601	72.25 [71.02]	126.10 [543]	✓
1-3	1	660	1601	62.94 [71.43]	116.42 [590.8]	✓
1-4	1	660	1601	72.96 [136.9]	121.96 [422.8]	✓
2-1	1	660	1601	72.25 [69.37]	122.79 [309.9]	✓
2-3	1	660	1601	72.00 [110.1]	108.27 [572.3]	✓
2-4	1	660	1601	67.83 [53.72]	112.43 [550]	✓
3-1	1	660	1601	63.12 [72.67]	110.79 [520]	✓
3-2	1	660	1601	72.11 [94.5]	128.90 [375.4]	✓
3-4	1	660	1601	69.88 [131.2]	114.79 [566.5]	✓
4-1	1	660	1601	73.56 [134]	118.98 [599.9]	✓
4-2	1	660	1601	68.02 [36.01]	122.03 [529.8]	✓
4-3	1	660	1601	70.03 [134.9]	112.61 [527.8]	✓

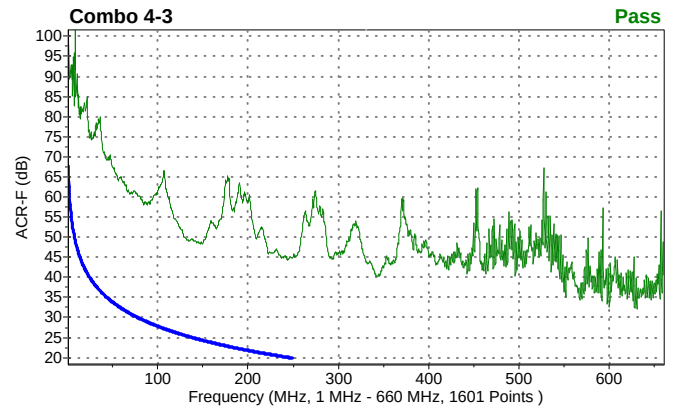
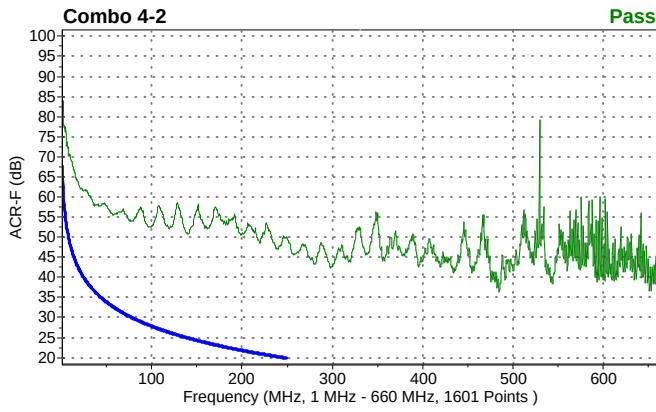
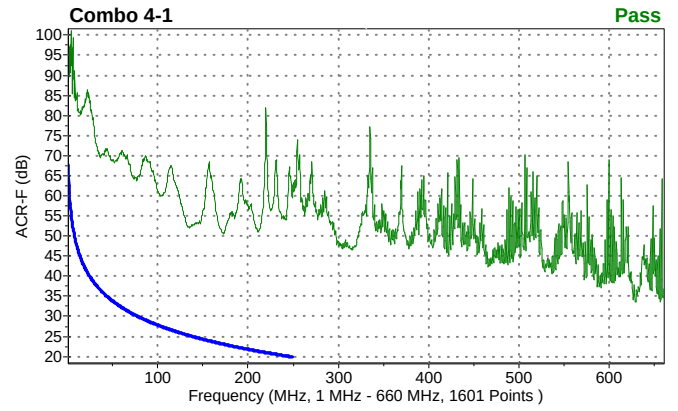
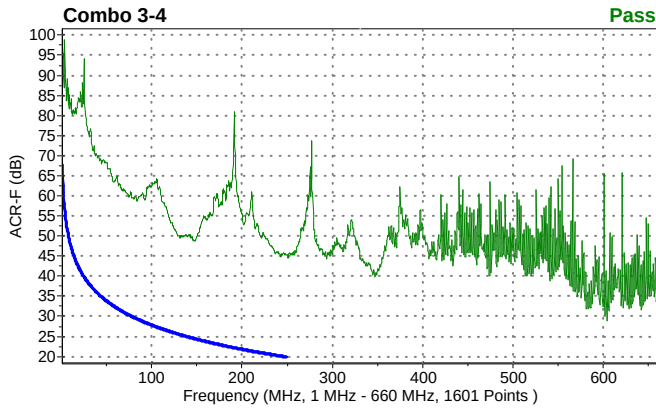
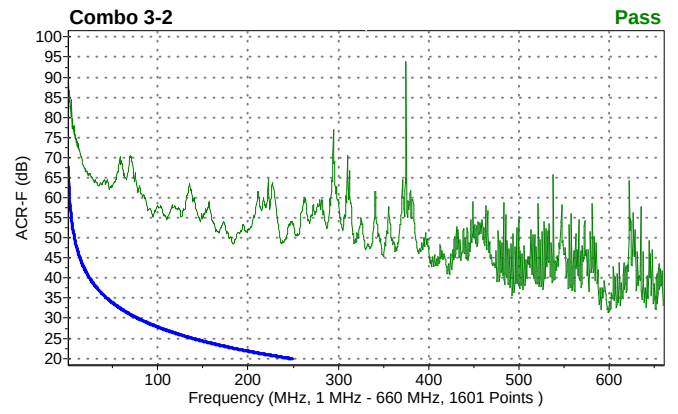
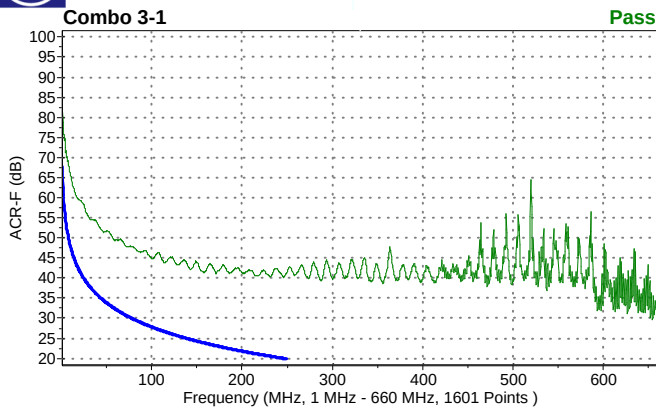




**Summary and Graphic: Attenuation Crosstalk-F Ratio (ACR-F)**{ *v* = Value (dB) *l* = Limit (dB) *m* = Margin (dB) *f* = Frequency (MHz) }

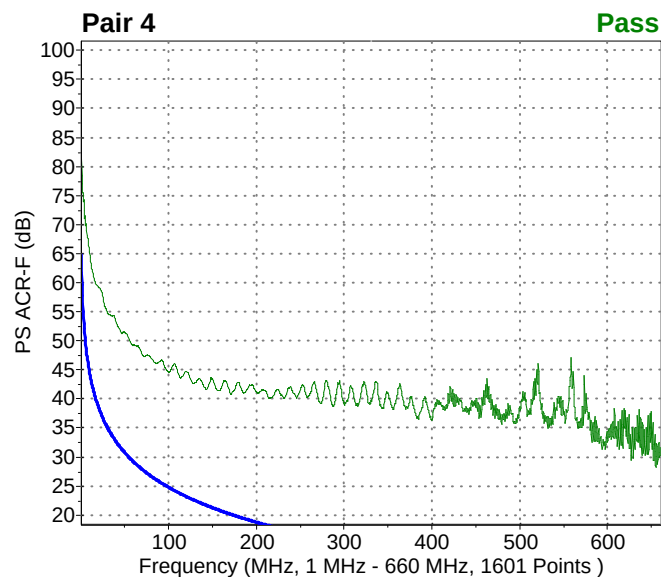
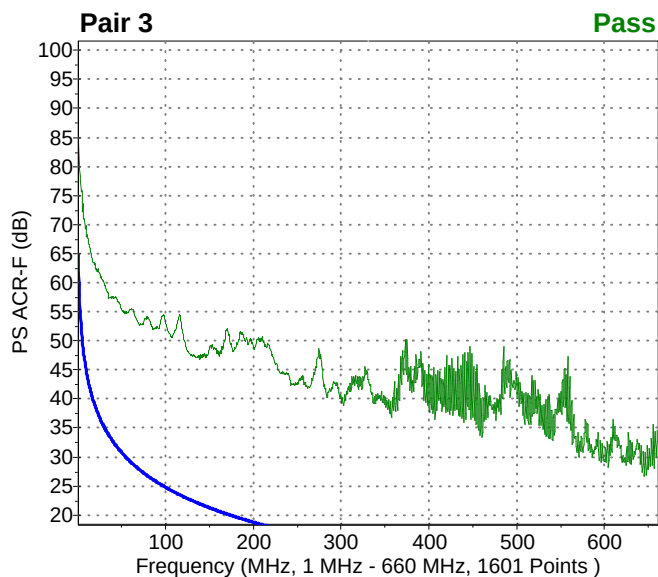
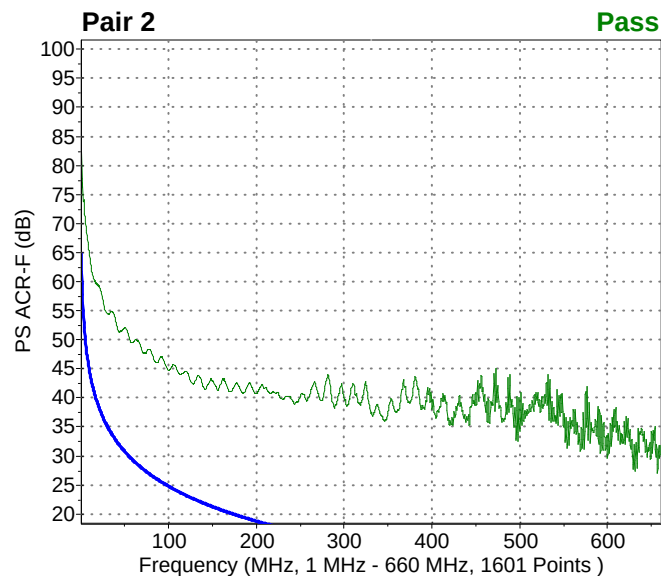
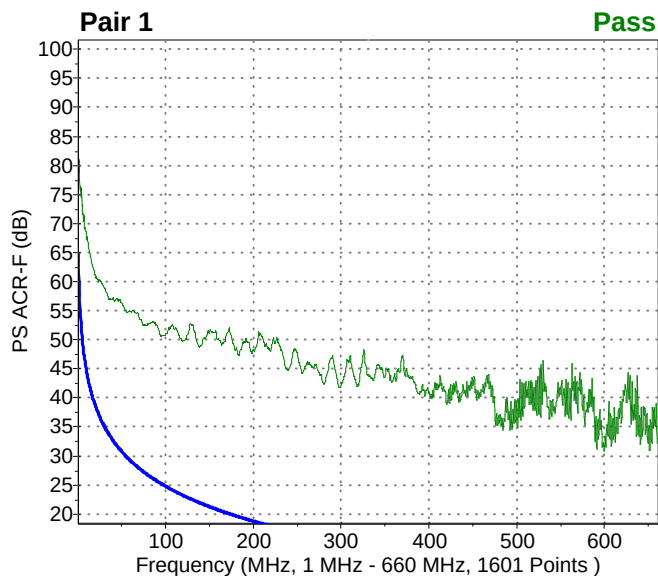
Combo	Start <i>f</i>	Stop <i>f</i>	Points	Minimum { <i>v</i> [<i>f</i>] }	Maximum { <i>v</i> [<i>f</i>] }	Min. Margin { <i>m</i> (<i>v</i> <i>l</i>) [<i>f</i>] }	Result
1-2	1	660	1601	38.4 [650.1]	101.0 [1.412]		✓
1-3	1	660	1601	30.5 [657.1]	84.4 [1]		✓
1-4	1	660	1601	29.8 [624.2]	99.8 [1.412]		✓
2-1	1	660	1601	33.6 [586.3]	102.4 [1]		✓
2-3	1	660	1601	30.0 [657.1]	92.2 [1.412]		✓
2-4	1	660	1601	28.4 [645.6]	88.6 [1]		✓
3-1	1	660	1601	29.6 [654.6]	86.2 [1]		✓
3-2	1	660	1601	31.3 [599.5]	93.9 [375.4]		✓
3-4	1	660	1601	28.9 [604.4]	98.8 [3.471]		✓
4-1	1	660	1601	33.6 [657.1]	101.2 [3.883]		✓
4-2	1	660	1601	36.3 [485]	92.5 [1]		✓
4-3	1	660	1601	32.1 [630.8]	101.8 [8.826]		✓





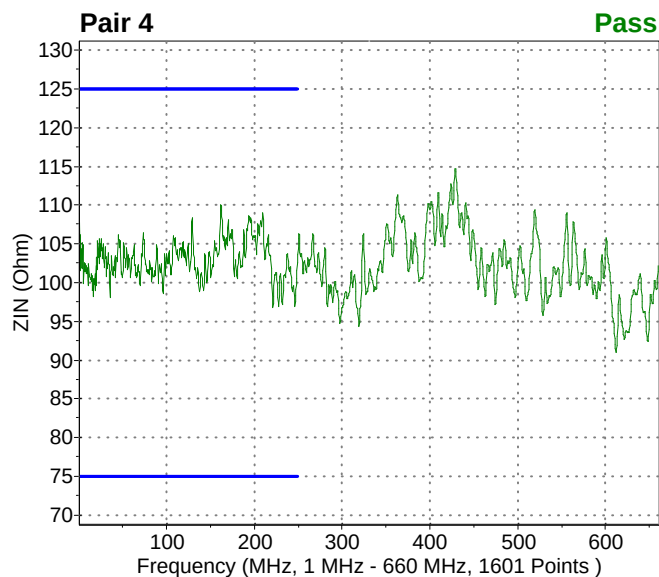
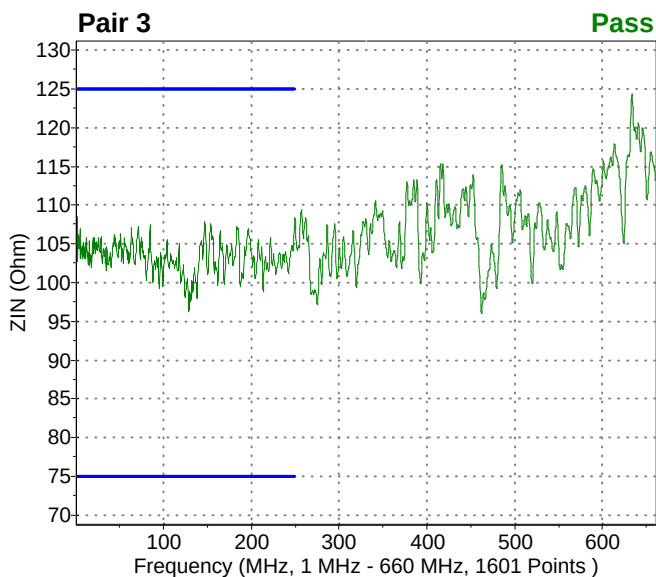
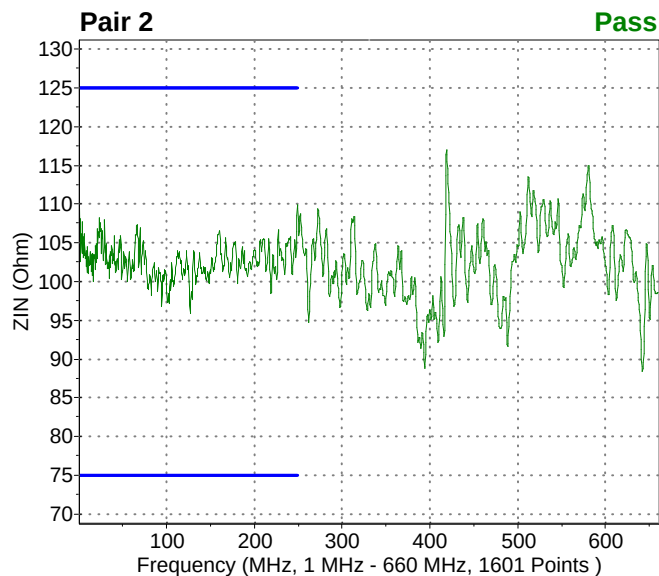
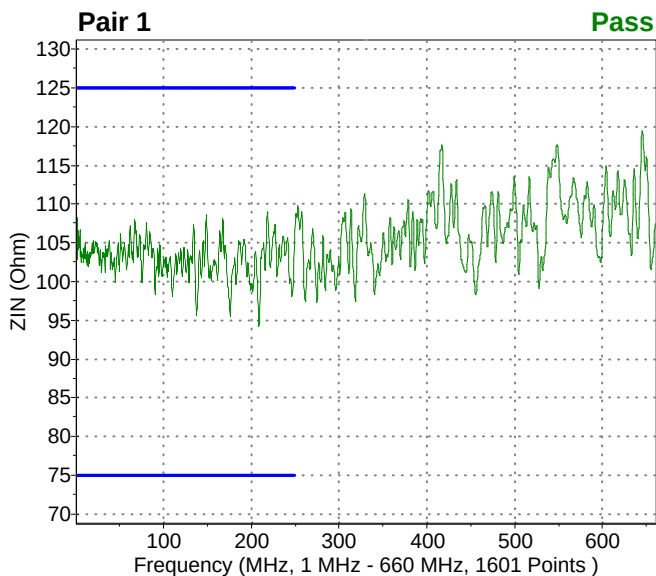
**Summary and Graphic: Power Sum ACR-F (PS ACR-F)**{ v = Value (dB) / = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/l)[f]$ }	Result
1	1	660	1601	30.7 [599.5]	88.2 [1]		✓
2	1	660	1601	27.0 [657.1]	83.2 [1.412]		✓
3	1	660	1601	26.7 [645.2]	87.7 [1]		✓
4	1	660	1601	28.2 [655.1]	86.0 [1]		✓



**Summary and Graphic: Input Impedance (ZIN)**{ v = Value (Ohm) l = Limit (Ohm) m = Margin (Ohm) f = Frequency (MHz) }

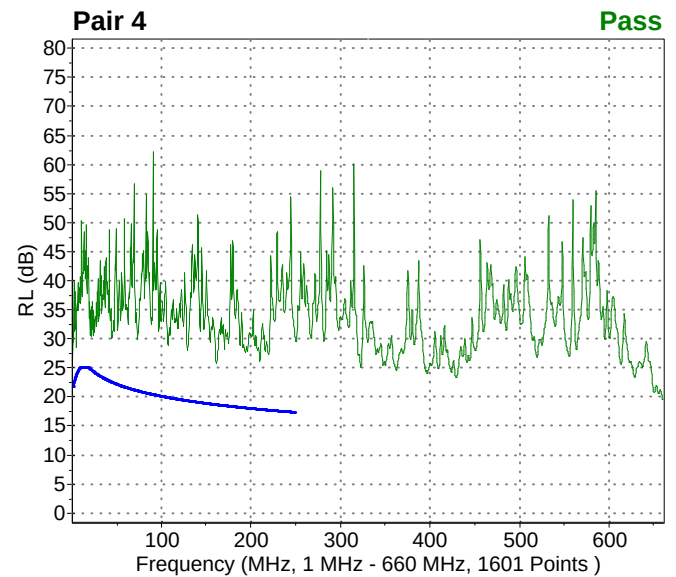
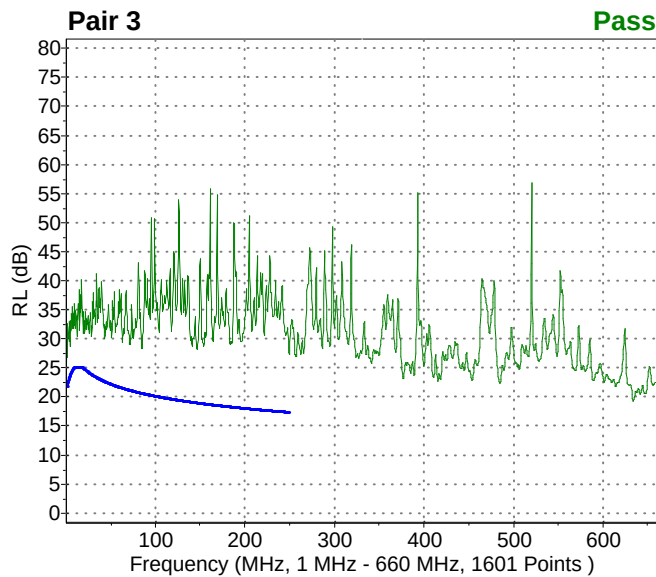
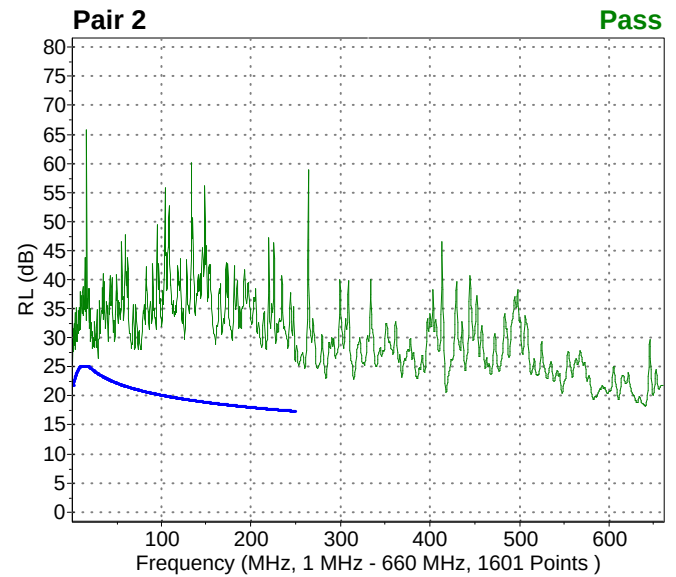
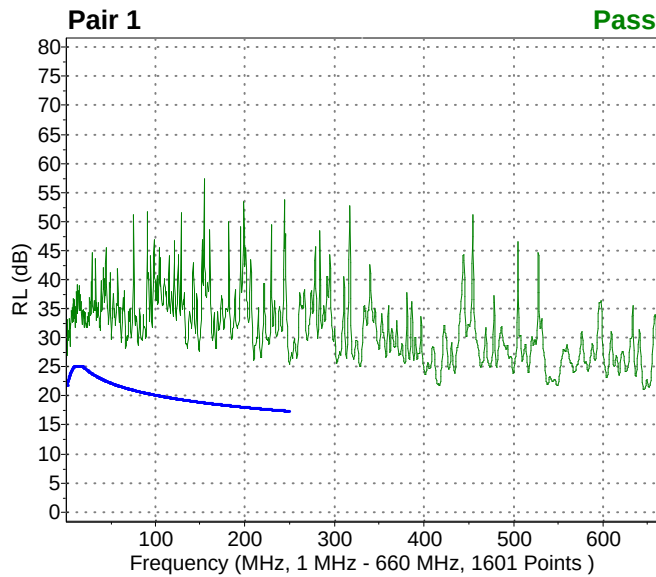
Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v,l)[f]$ }	Result
1	1	660	1601	94.21 [209]	119.40 [645.2]		✓
2	1	660	1601	88.39 [642.3]	116.99 [419.1]		✓
3	1	660	1601	96.04 [462.3]	124.34 [633.2]		✓
4	1	660	1601	90.96 [612.2]	114.70 [428.9]		✓



Summary and Graphic: Return Loss (RL)

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	21.07 [645.2]	57.29 [154.6]	4.99 (28.53 < 23.55) [5.119]	✓
2	1	660	1601	18.22 [640.2]	65.86 [17.06]	2.70 (26.48 < 23.78) [29.83]	✓
3	1	660	1601	19.23 [633.2]	56.80 [520]	4.95 (26.70 < 21.75) [2.236]	✓
4	1	660	1601	19.48 [660]	62.18 [91.2]	4.85 (28.56 < 23.71) [5.531]	✓



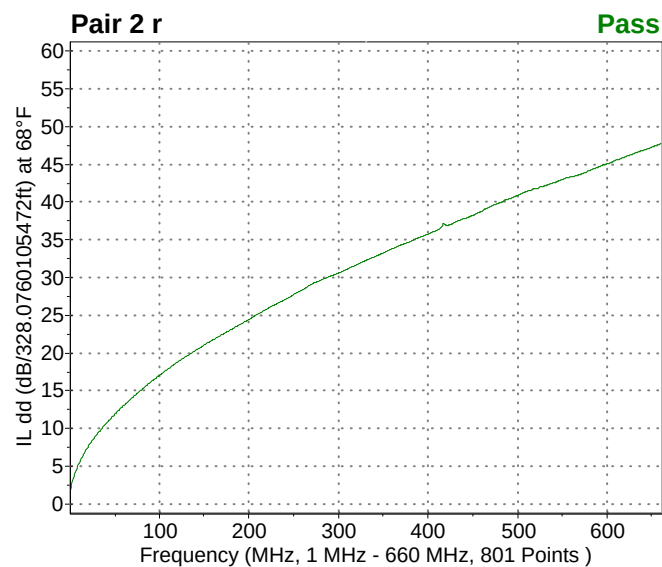
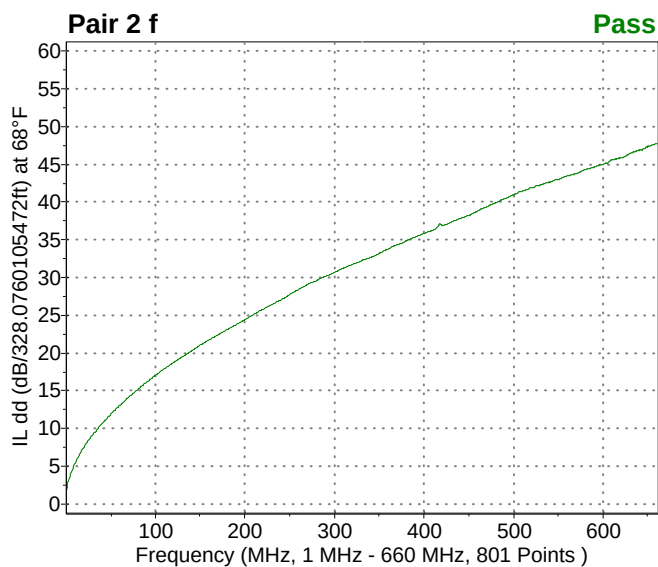
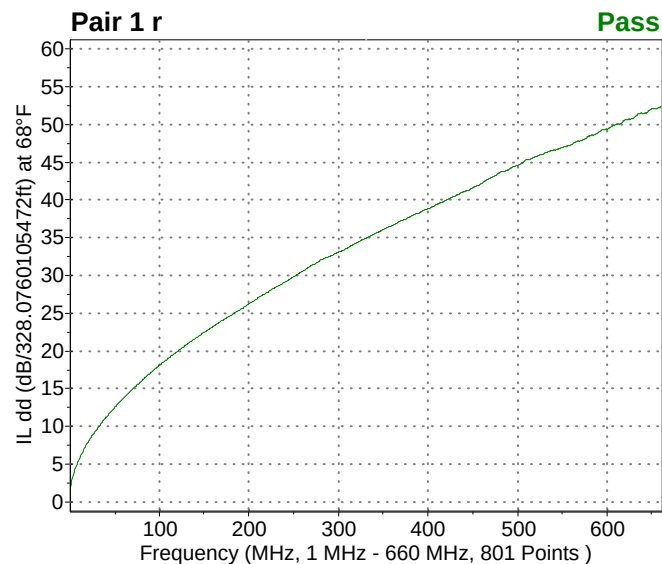
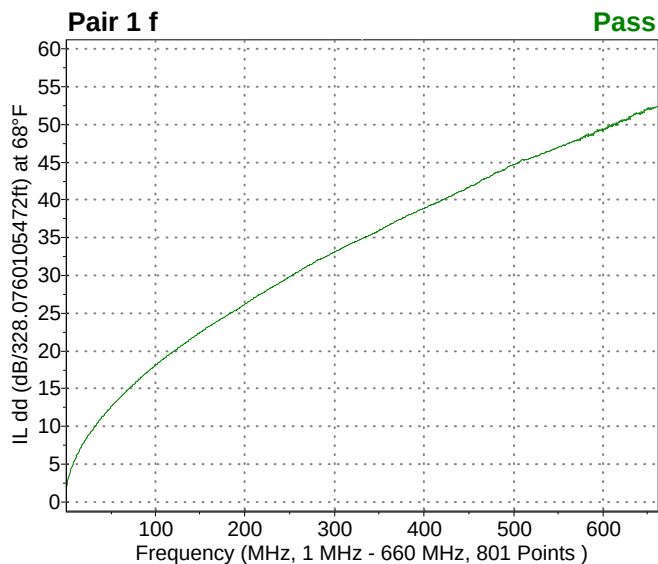
Final control authorized signature:

**Summary and Graphic: Insertion loss dd (IL dd)**

{ v = Value (dB/328.0760105472ft) at 68°F l = Limit (dB/328.0760105472ft) at 68°F m = Margin (dB/328.0760105472ft) at 68°F f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

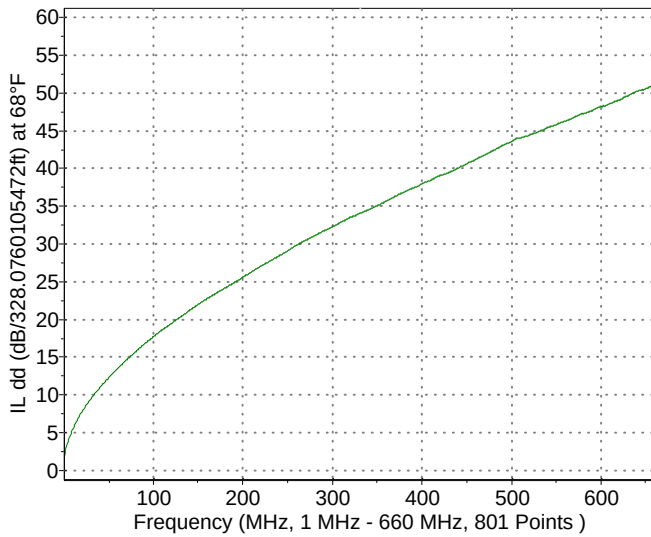
Pair	Start f	Stop f	Points	Minimum	{ v [f] }	Maximum	{ v [f] }	Result
1 f	1	660	801	1.78	[1]	52.35	[659.2]	✓
1 r	1	660	801	1.78	[1]	52.35	[659.2]	✓
2 f	1	660	801	1.72	[1]	47.73	[660]	✓
2 r	1	660	801	1.72	[1]	47.71	[660]	✓
3 f	1	660	801	1.77	[1]	51.06	[660]	✓
3 r	1	660	801	1.77	[1]	51.07	[660]	✓
4 f	1	660	801	1.74	[1]	49.08	[659.2]	✓
4 r	1	660	801	1.74	[1]	49.07	[659.2]	✓





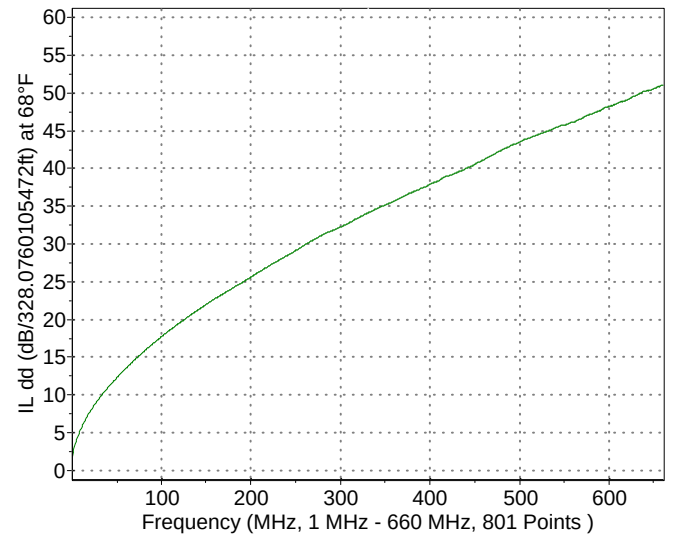
Pair 3 f

Pass



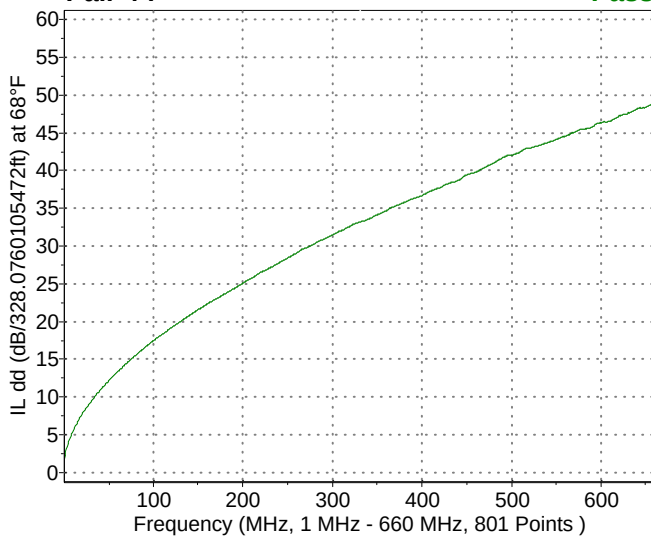
Pair 3 r

Pass



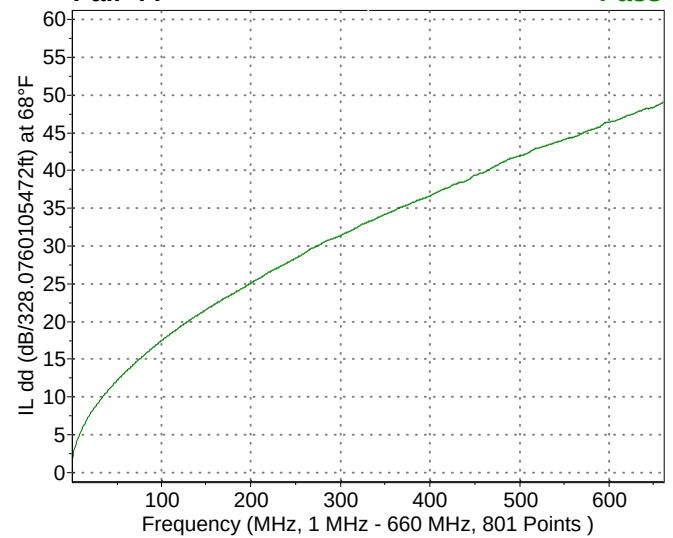
Pair 4 f

Pass



Pair 4 r

Pass

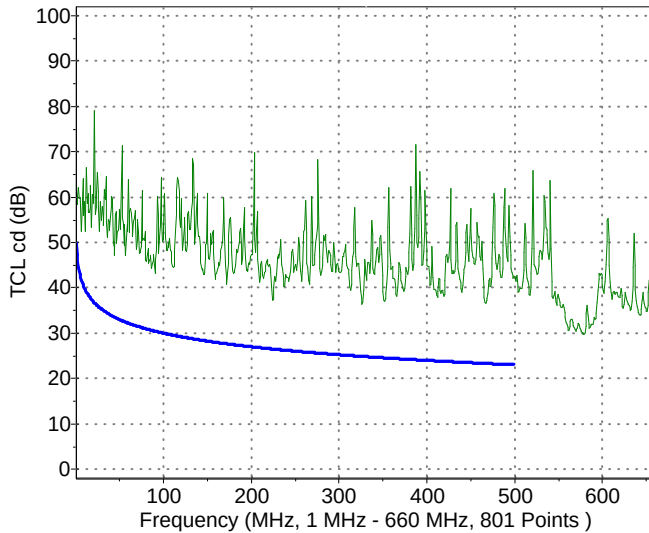
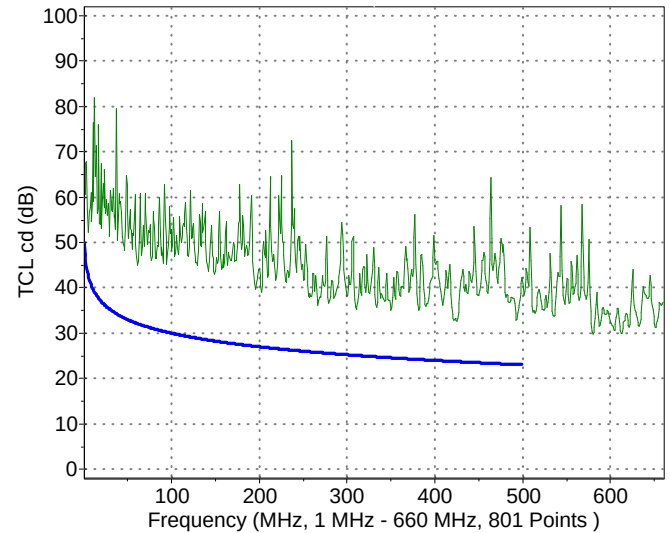
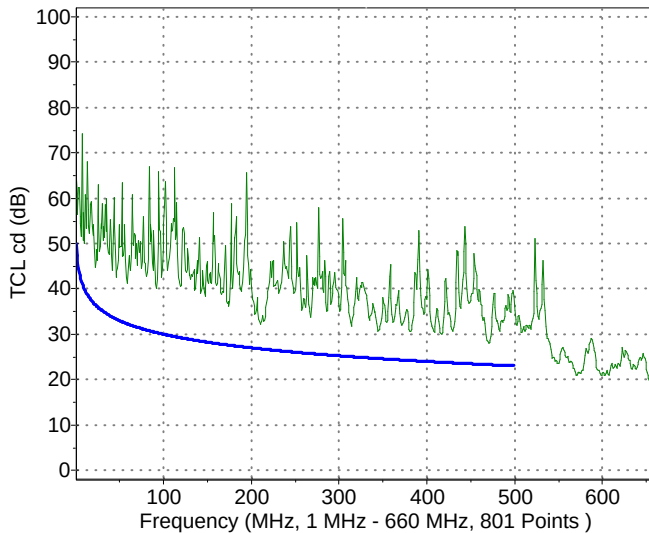
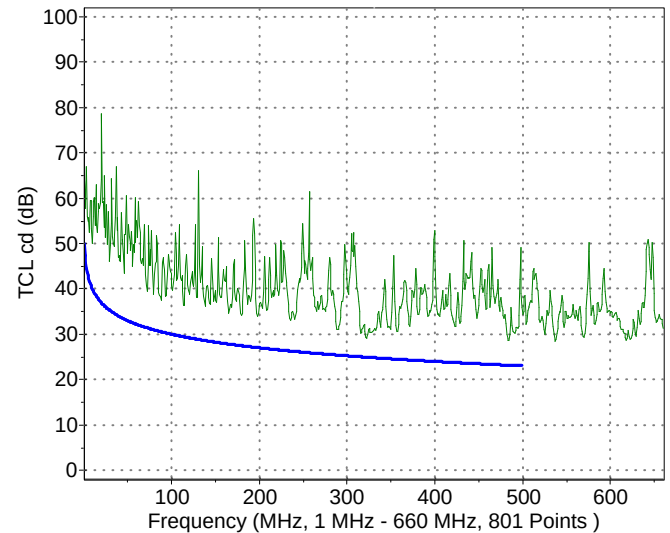


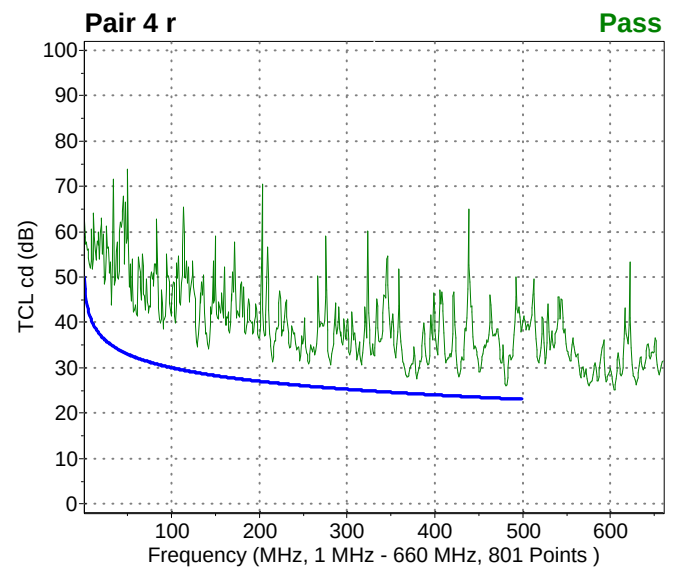
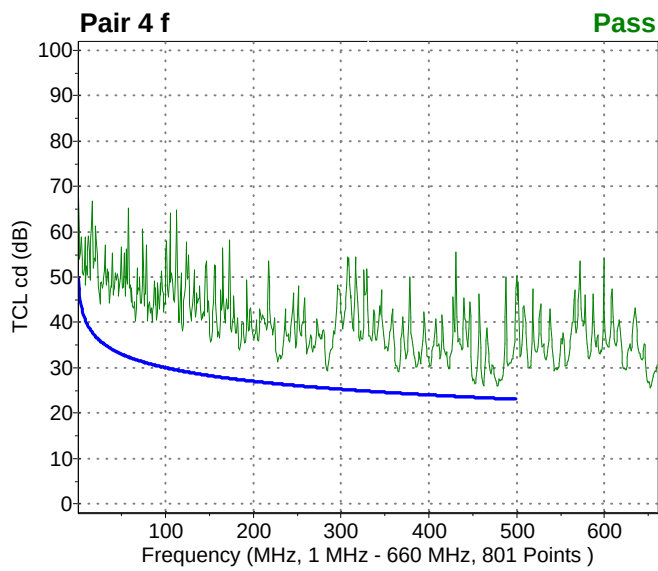
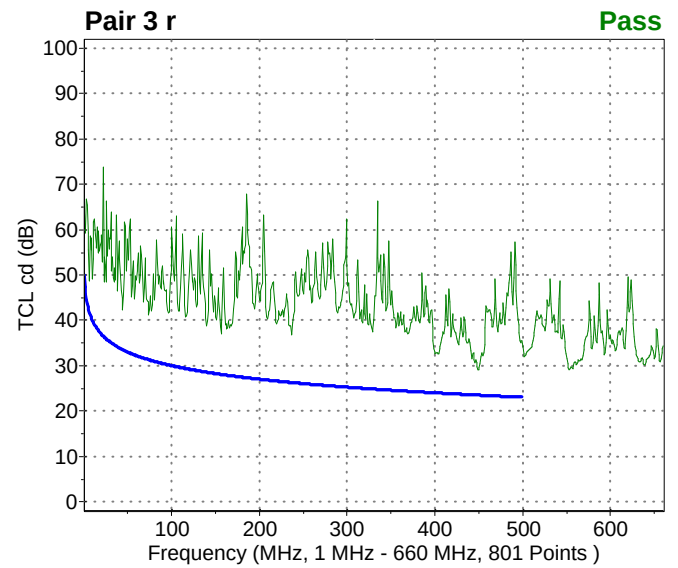
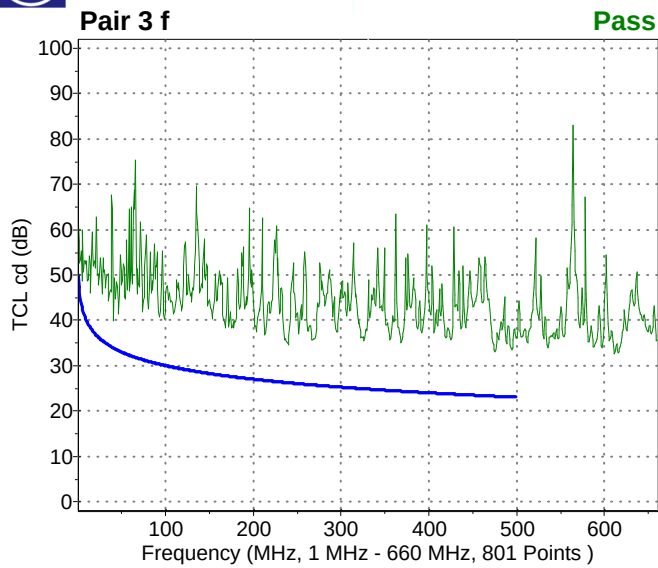
**Summary and Graphic: transverse conv. loss cd (TCL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	29.7 [579.3]	79.2 [21.59]	10.7 (52.4 < 41.7) [6.766]	✓
1 r	1	660	801	29.8 [580.1]	81.9 [12.53]	8.8 (32.5 < 23.7) [425.2]	✓
2 f	1	660	801	18.8 [657.5]	74.2 [7.59]	4.7 (28.0 < 23.3) [470.5]	✓
2 r	1	660	801	28.4 [537.3]	78.6 [20.77]	4.1 (29.1 < 24.9) [322.3]	✓
3 f	1	660	801	32.5 [611.4]	83.0 [564.4]	5.7 (48.6 < 42.9) [5.119]	✓
3 r	1	660	801	29.0 [449.9]	73.9 [22.42]	5.5 (29.0 < 23.5) [449.9]	✓
4 f	1	660	801	25.5 [652.6]	69.0 [1]	2.6 (25.9 < 23.4) [462.3]	✓
4 r	1	660	801	25.1 [604.8]	73.8 [50.42]	2.9 (26.1 < 23.2) [481.2]	✓

Pair 1 f**Pass****Pair 1 r****Pass****Pair 2 f****Pass****Pair 2 r****Pass**

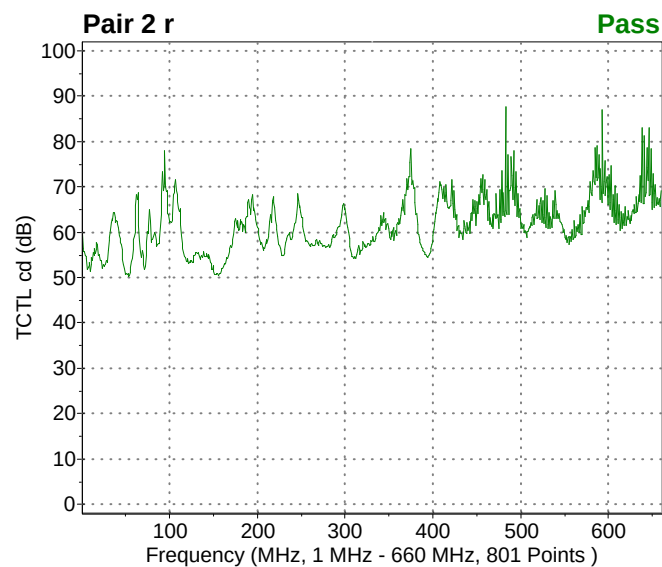
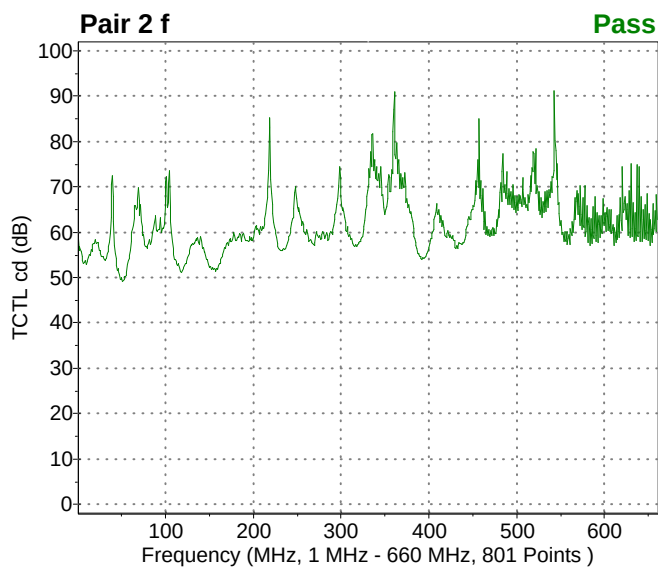
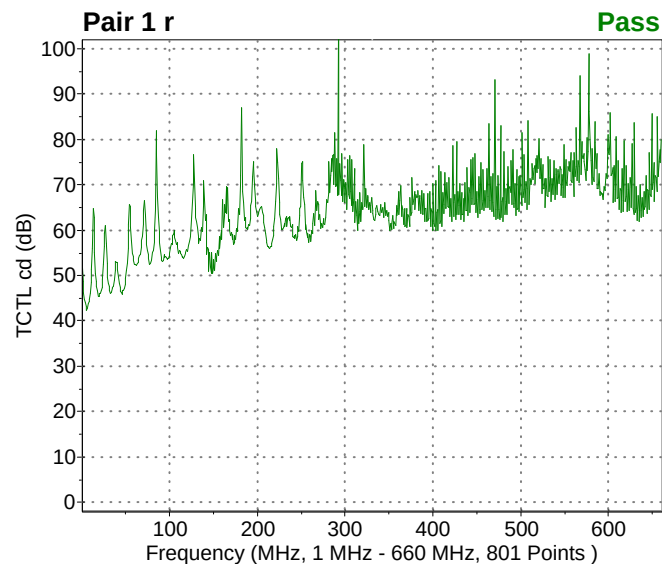
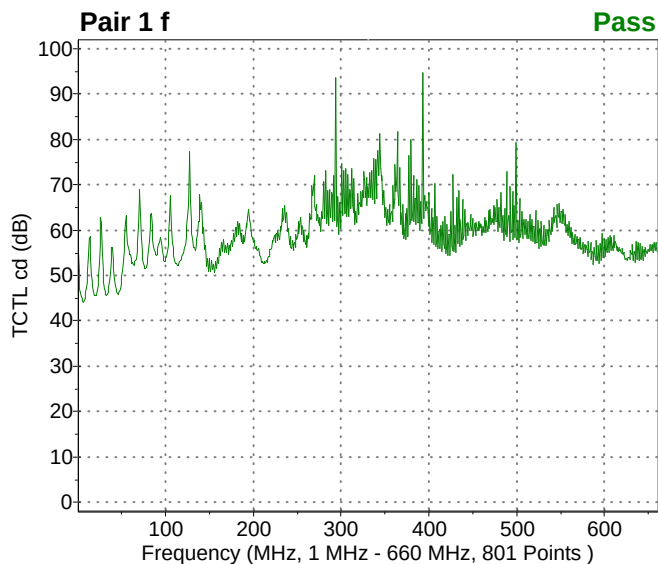


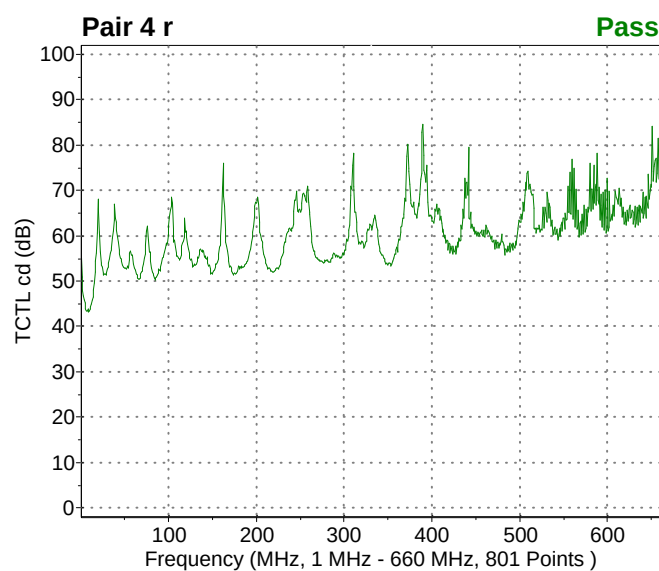
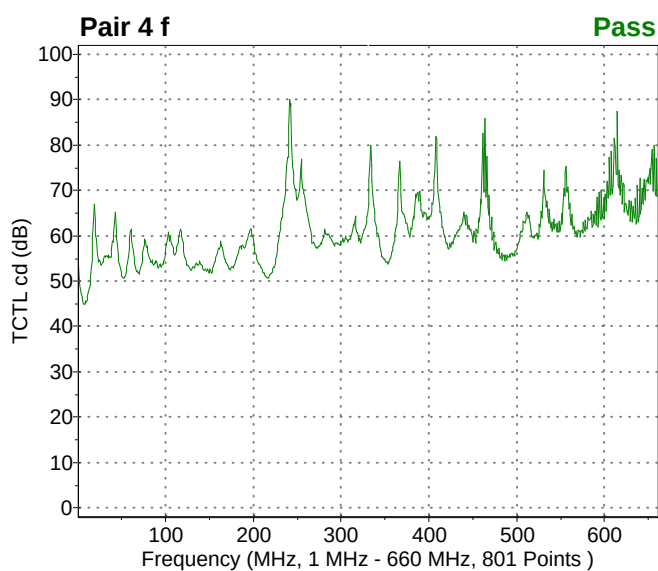
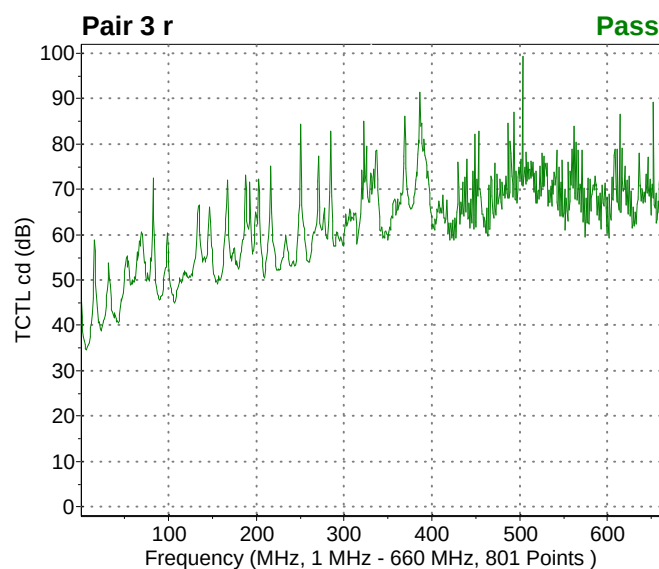
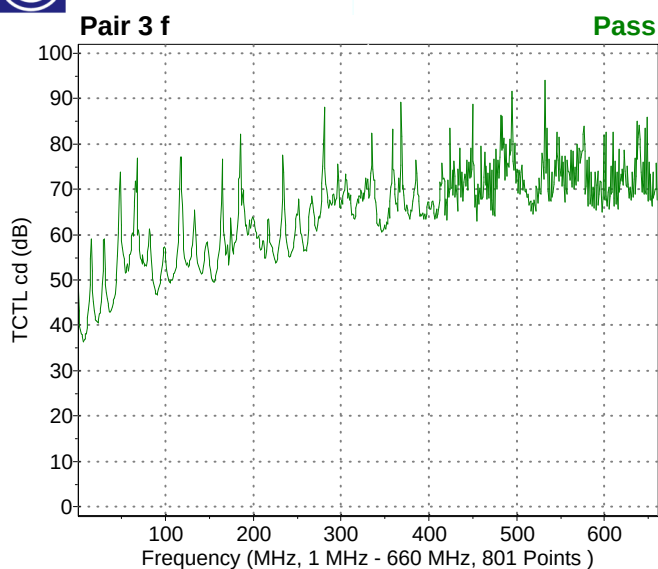
**Summary and Graphic: transverse conv. transfer loss cd (TCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1 f	1	660	801	44.0 [6.766]	94.7 [393.1]	✓
1 r	1	660	801	42.2 [5.942]	114.3 [292.6]	✓
2 f	1	660	801	49.2 [51.25]	91.1 [543]	✓
2 r	1	660	801	50.2 [53.72]	87.6 [482.9]	✓
3 f	1	660	801	36.3 [6.766]	94.1 [532.3]	✓
3 r	1	660	801	34.6 [6.766]	99.4 [503.5]	✓
4 f	1	660	801	44.9 [8.414]	90.0 [241.5]	✓
4 r	1	660	801	43.1 [9.237]	84.6 [389.8]	✓



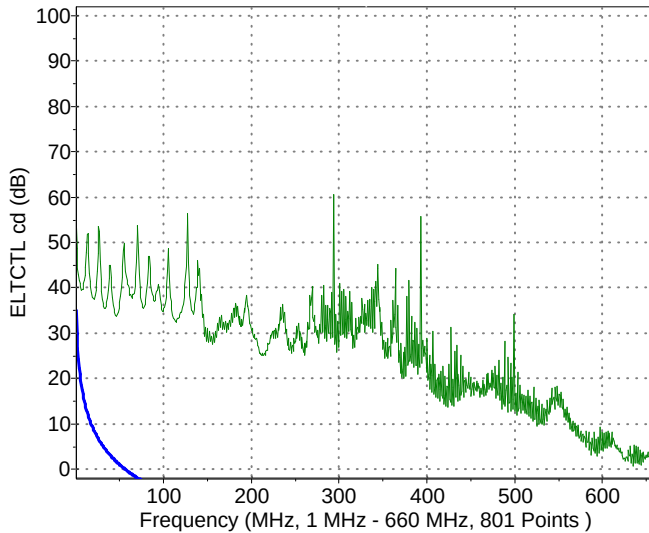
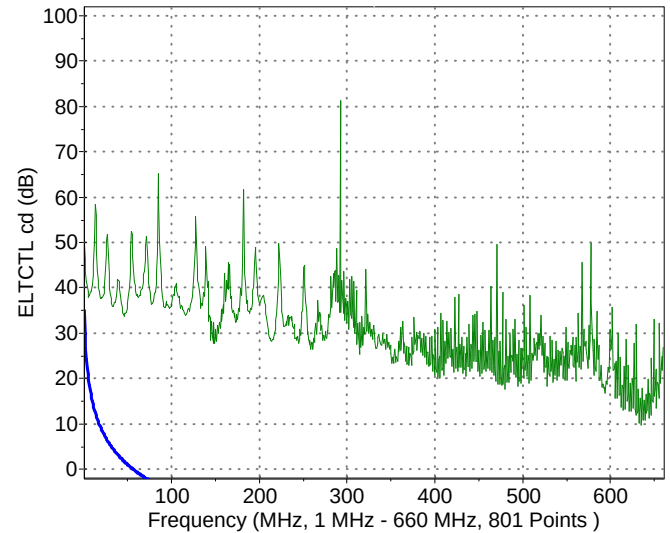
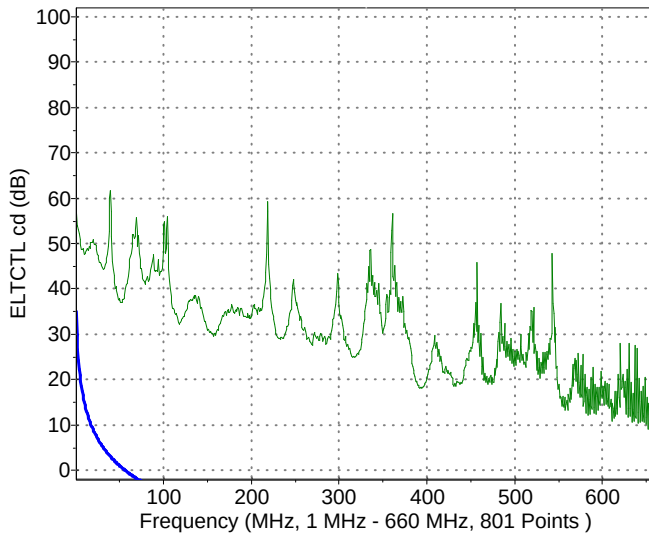
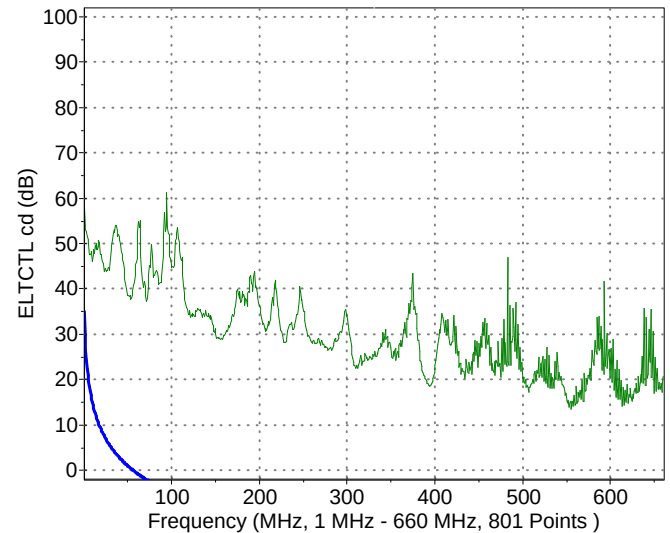


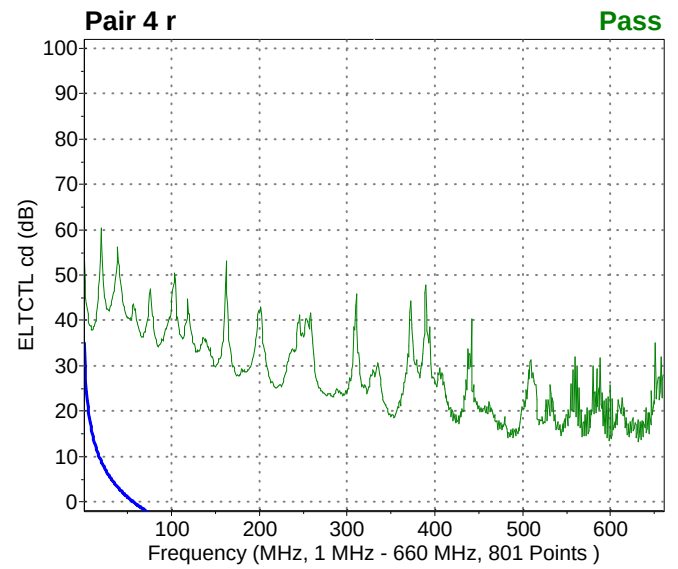
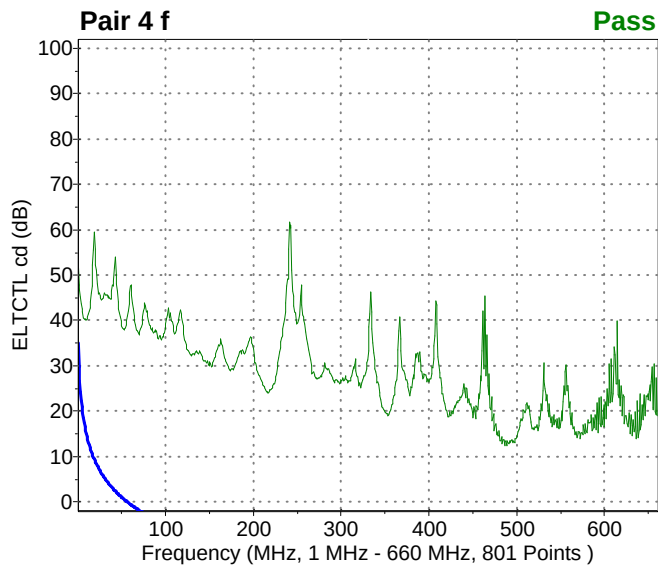
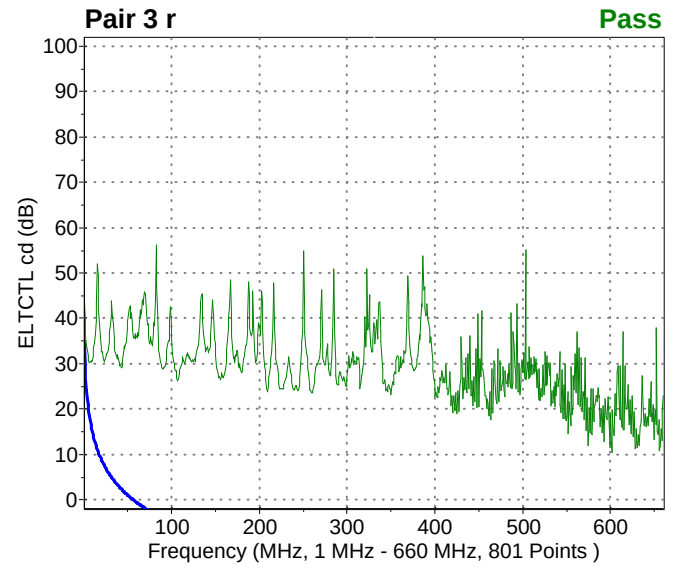
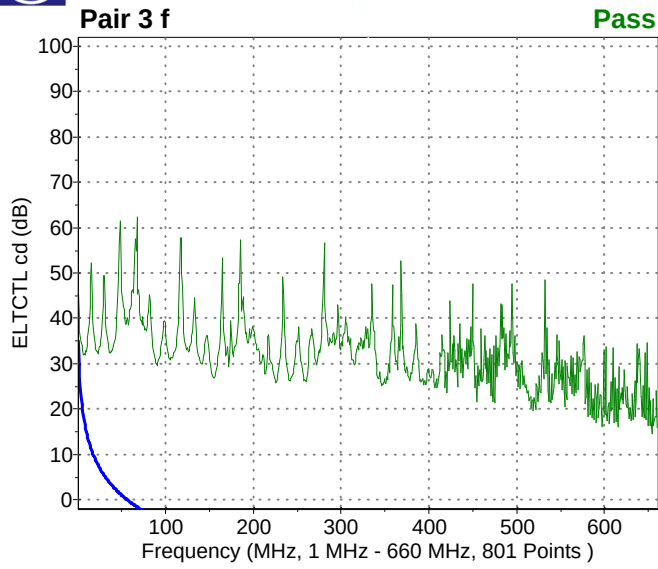
**Summary and Graphic: Equal Level TCTL cd (ELTCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	0.7 [635.3]	60.5 [294.3]	17.6 (44.2 < 26.5) [2.647]	✓
1 r	1	660	801	9.8 [635.3]	81.2 [292.6]	15.4 (50.4 < 35.0) [1]	✓
2 f	1	660	801	8.9 [651.8]	61.7 [39.72]	22.2 (57.2 < 35.0) [1]	✓
2 r	1	660	801	13.5 [555.4]	61.3 [94.91]	23.7 (58.7 < 35.0) [1]	✓
3 f	1	660	801	14.6 [654.2]	62.3 [67.72]	10.6 (37.1 < 26.5) [2.647]	✓
3 r	1	660	801	10.2 [601.5]	56.3 [82.55]	9.2 (44.2 < 35.0) [1]	✓
4 f	1	660	801	12.3 [488.7]	61.8 [241.5]	17.4 (52.4 < 35.0) [1]	✓
4 r	1	660	801	13.3 [632]	60.4 [19.95]	18.7 (45.2 < 26.5) [2.647]	✓

Pair 1 f**Pass****Pair 1 r****Pass****Pair 2 f****Pass****Pair 2 r****Pass**





Designation : Lin sweep 660MHz FUTP
Testorder : HCAT6A FUTP

Length : 328 ft
Test Date/Time : 6/18/2013 1:01 AM

Temp : 82°F
Sample-ID-No. : 000007WNKE

Customer : HI
Cable type : CAT6A
Specification : 6A

Drum no. : 1
Order number : Connection 3
Operator : DGi

Test Result: PASS

Final inspection

Worst Case Summary

{ v = Value l = Limit m = Margin f = Frequency (MHz) p = Pair / Combo < = Lower Limit > = Upper Limit }

{ Pair/Combo: n=near, f=far f=forward, r=reverse a=wire a b=wire b }

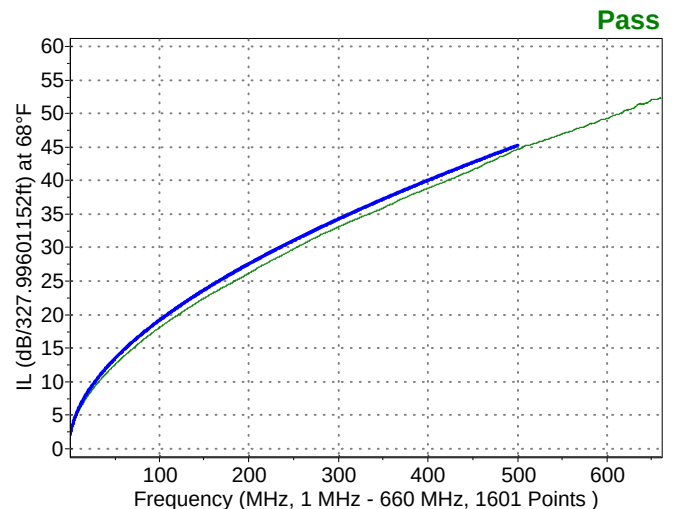
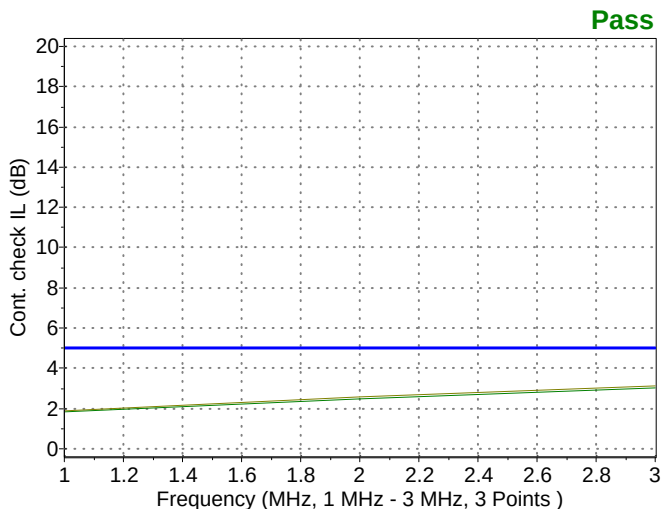
Parameter	Frequency	Points	Minimum	{ v [f] p }	Maximum	{ v [f] p }	Min. Margin	{ m (v l) [f] p }	Result
Cont. check IL (dB)	1-3	3	1.83	[1] 2	3.14	[3] 1	1.86	(3.14 > 5.00) [3] 1	✓
IL (dB/327.99601152ft) at 68°F	1-660	1601	1.77	[1] 1	52.34	[658.8] 1	0.30	(2.08 > 2.39) [1.412] 1	✓
Phase delay (ns/327.99601152ft)	1-660	1601	513.45	[660] 1	521.04	[3.471] 1	21.96	(513.69 > 535.64) [479.6] 1	✓
NEXT (dB)	1-660	1601	38.27	[657.9] 1-2	83.96	[2.647] 2-4	0.54	(59.54 < 59.00) [10.47] 2-4	✓
PS NEXT (dB)	1-660	1601	37.09	[657.9] 2	82.81	[1] 2	2.43	(59.43 < 57.00) [10.47] 4	✓
FEXT (dB)	1-660	1601	62.72	[59.49] 3-1	88.83	[618.8] 4-3			
ACR-F (dB)	1-660	1601	30.4	[646.8] 2-4	82.1	[1] 3-1			
PS ACR-F (dB)	1-660	1601	28.7	[657.1] 2	81.3	[1] 4			
ZIN (Ohm)	1-660	1601	94.96	[648.1] 4	145.63	[633.2] 3			
RL (dB)	1-660	1601	13.59	[632.8] 3	37.78	[94.5] 4	2.96	(20.29 < 17.32) [249.8] 1	✓
IL dd (dB/328.0760105472ft) at 68°F f1-660	801		1.77	[1] 1	52.34	[659.2] 1			
IL dd (dB/328.0760105472ft) at 68°F r1-660	801		1.77	[1] 1	52.33	[659.2] 1			
TCL cd (dB) f	1-660	801	27.1	[484.5] 4	65.6	[1] 1	3.4	(29.9 < 26.4) [227.5] 4	✓
TCL cd (dB) r	1-660	801	26.2	[575.2] 4	64.9	[1] 3	3.0	(27.2 < 24.2) [379.9] 4	✓
TCTL cd (dB) f	1-660	801	34.7	[6.766] 3	72.8	[532.3] 2			
TCTL cd (dB) r	1-660	801	34.9	[6.766] 3	73.1	[650.9] 3			
ELTCTL cd (dB) f	1-660	801	11.3	[638.6] 1	44.9	[1] 3	9.7	(36.3 < 26.5) [2.647] 3	✓
ELTCTL cd (dB) r	1-660	801	10.5	[592.5] 3	44.1	[1] 3	9.1	(44.1 < 35.0) [1] 3	✓

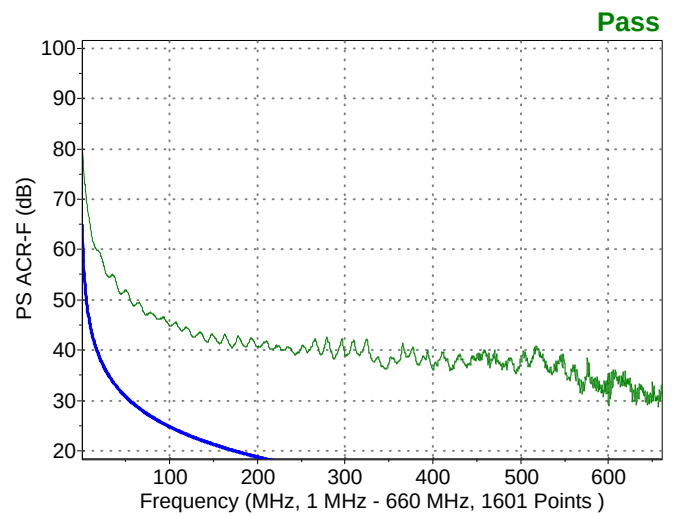
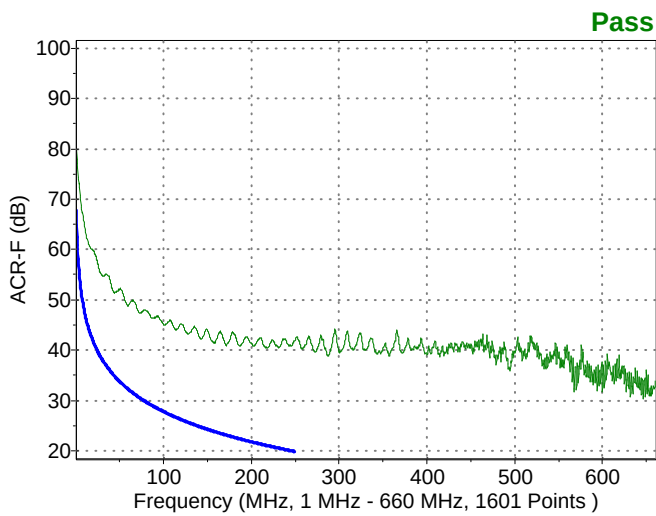
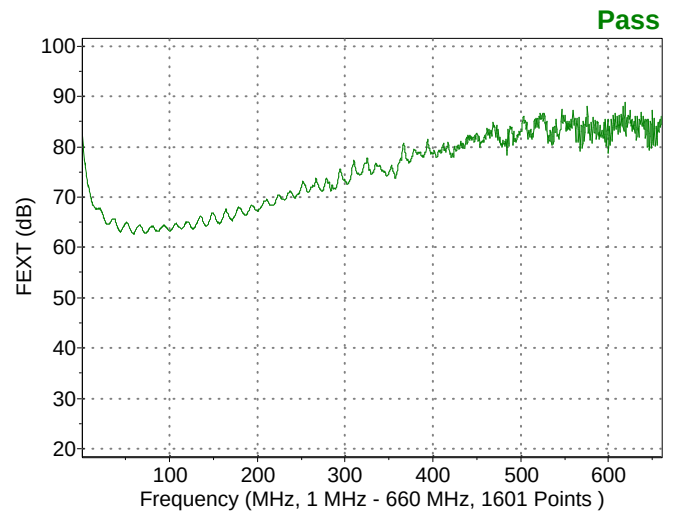
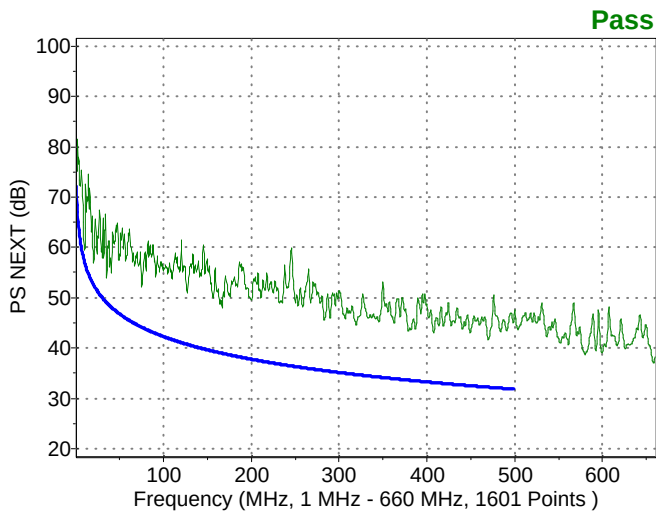
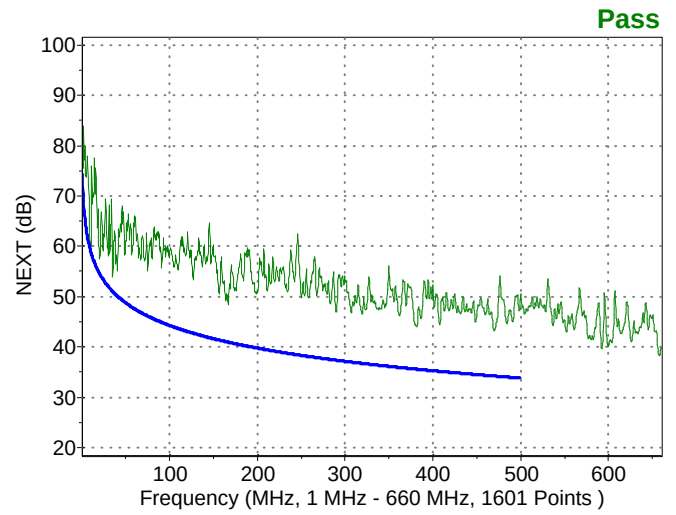
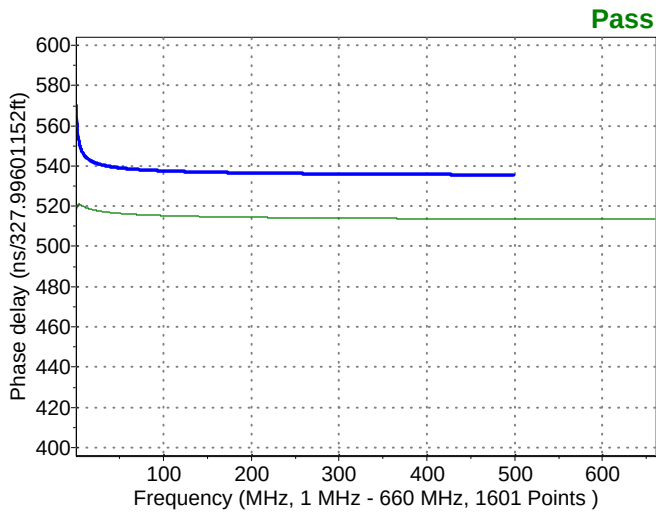
Legend

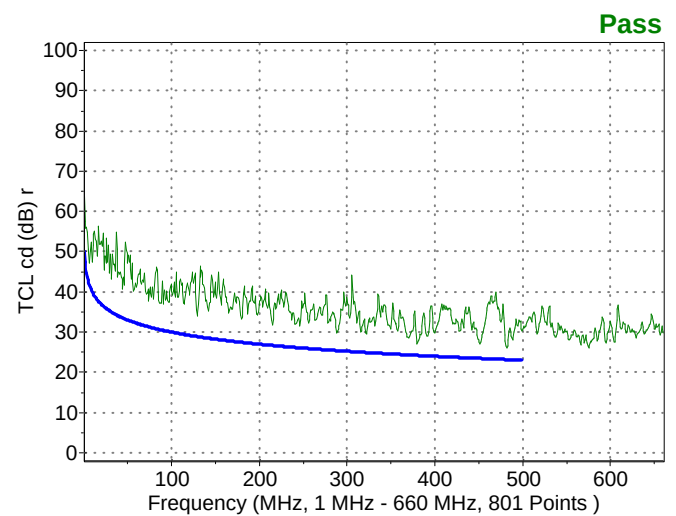
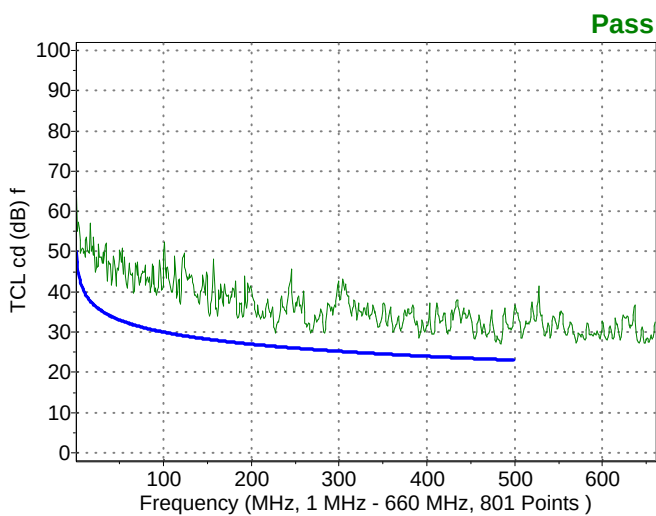
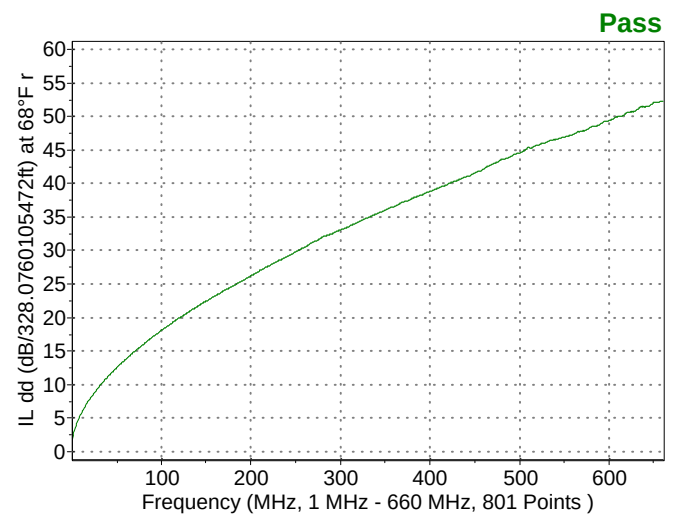
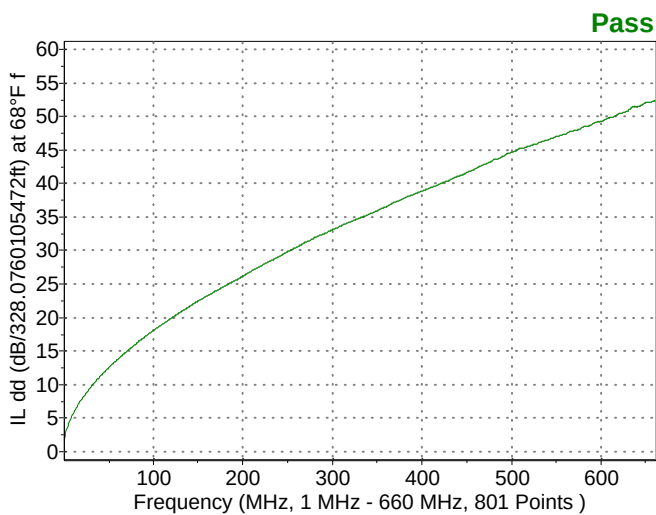
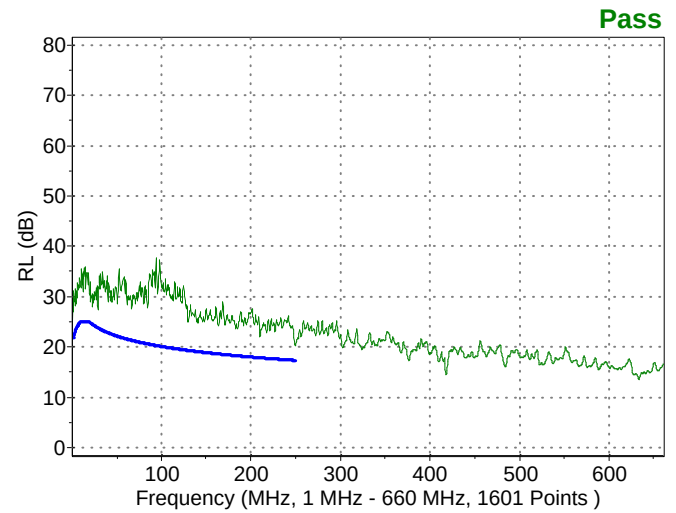
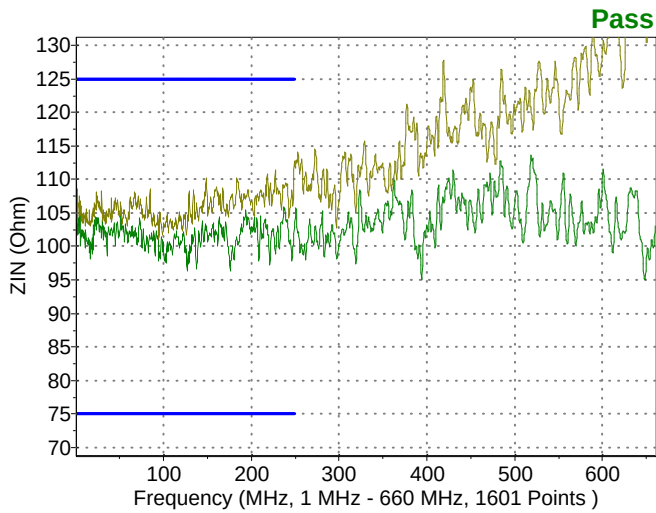
Cont. check IL = Continuity check IL
PS NEXT = Power Sum NEXT
PS ACR-F = Power Sum ACR-F
IL dd = Insertion loss dd
ELTCTL cd = Equal Level TCTL cd

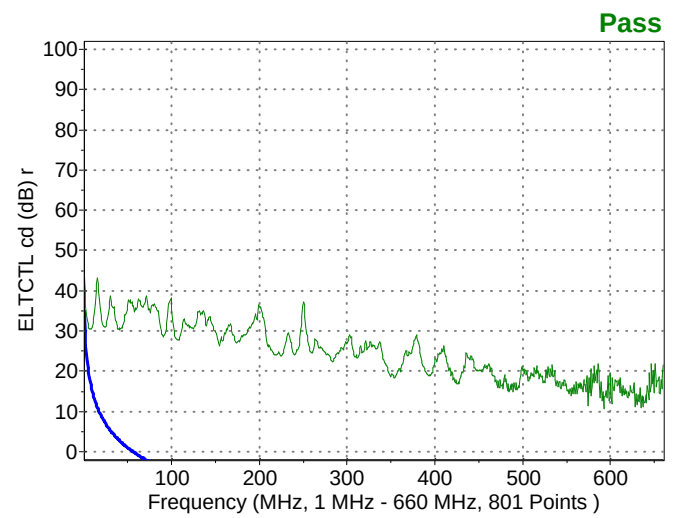
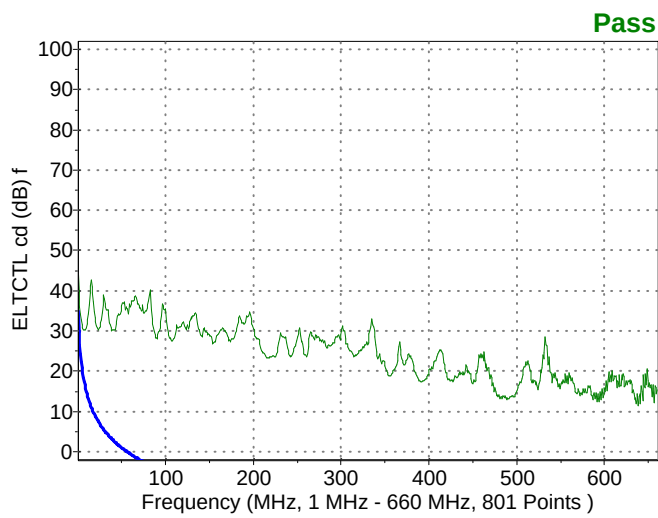
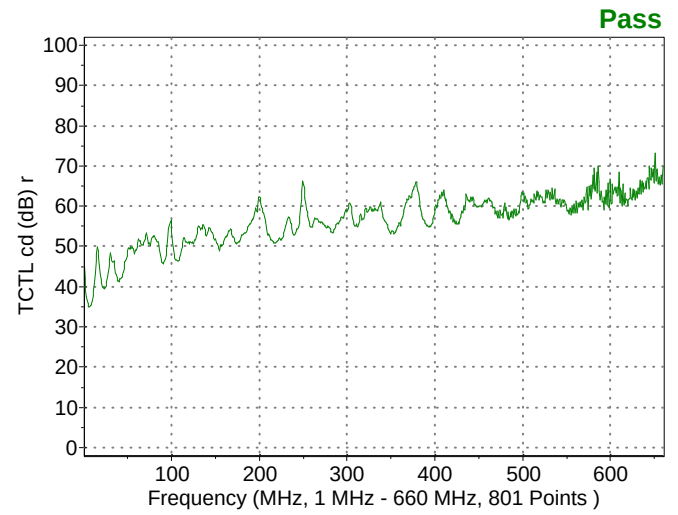
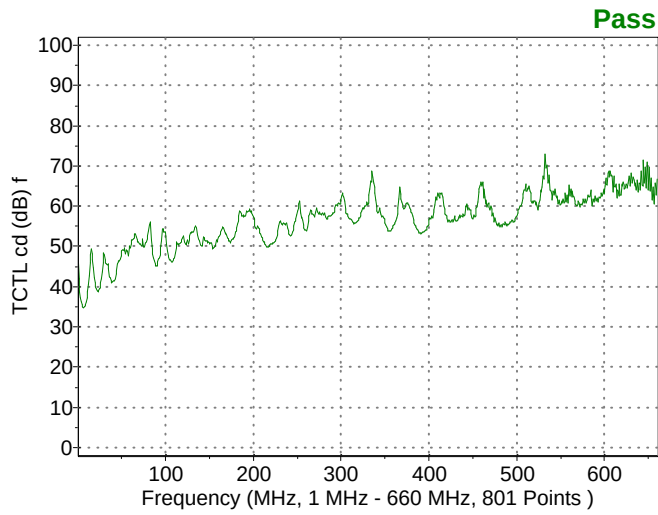
Phase delay = Phase delay
FEXT = Far End Crosstalk
ZIN = Input Impedance
TCL cd = transverse conv. loss cd

NEXT = Near End Crosstalk
ACR-F = Attenuation Crosstalk-F Ratio
RL = Return Loss
TCTL cd = transverse conv. transfer loss cd





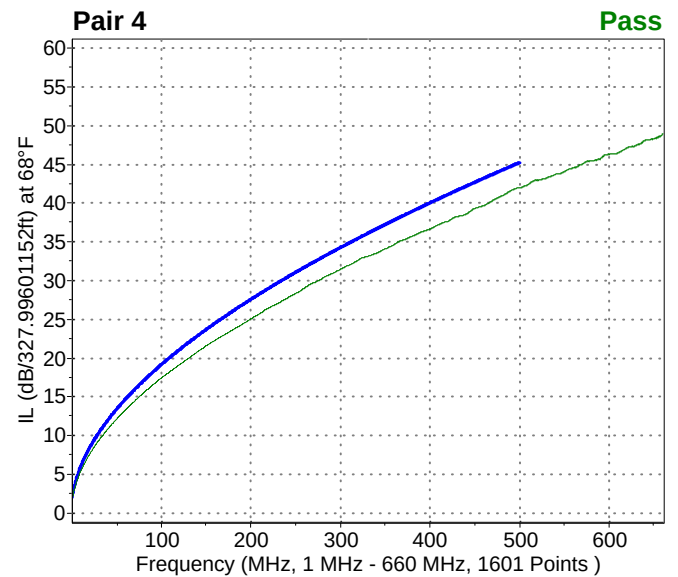
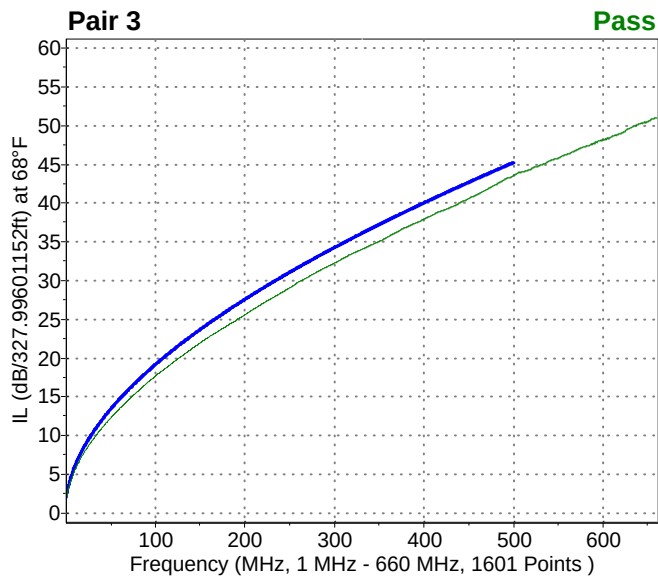
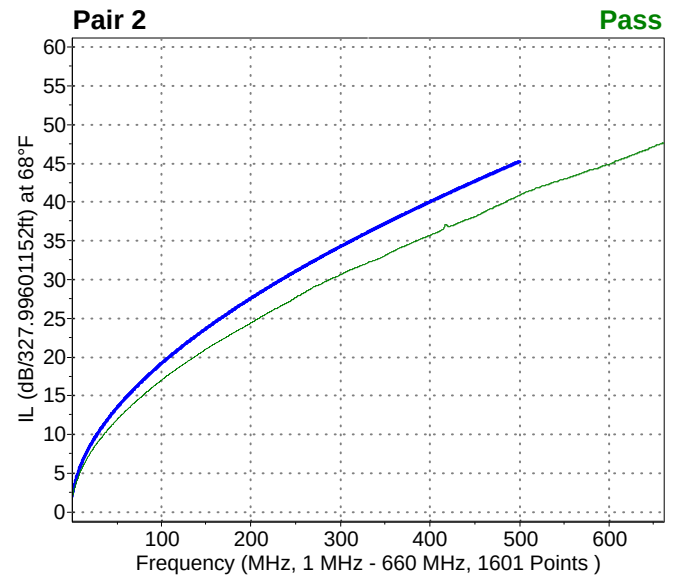
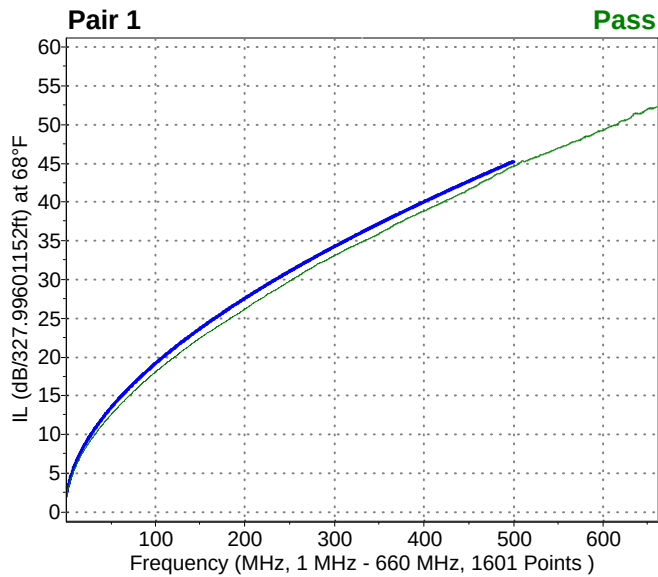




Summary and Graphic: Insertion loss (IL)

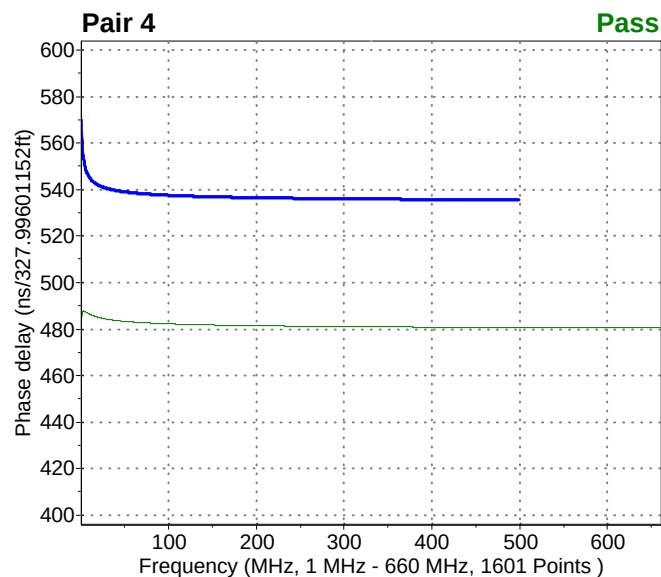
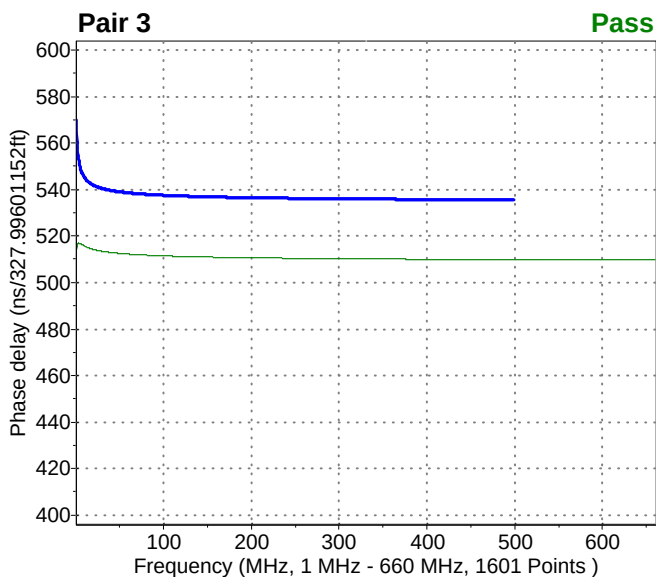
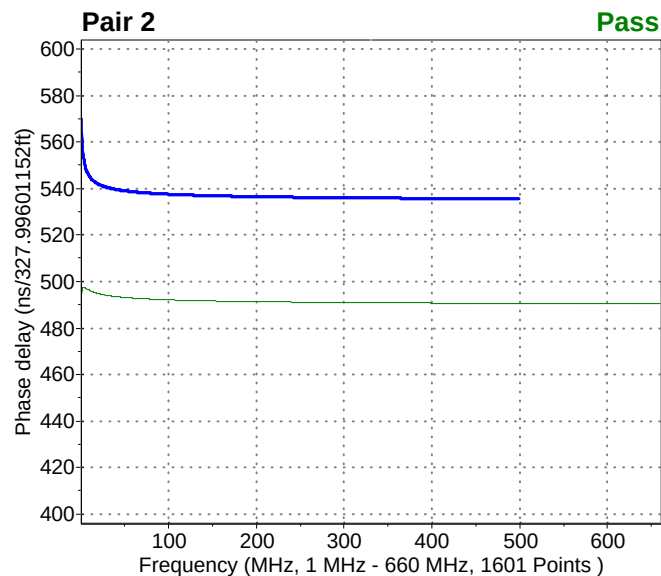
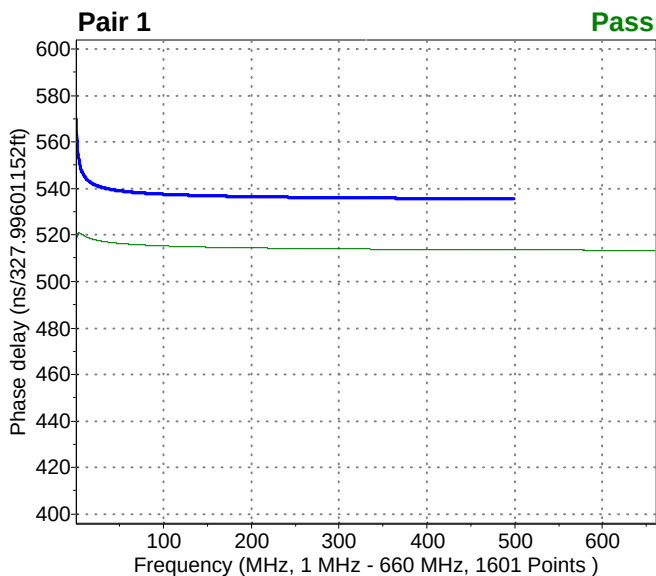
{ v = Value (dB/327.99601152ft) at 68°F l = Limit (dB/327.99601152ft) at 68°F m = Margin (dB/327.99601152ft) at 68°F f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum	{ $v[f]$ }	Maximum	{ $v[f]$ }	Min. Margin	{ $m(v,l)[f]$ }	Result
1	1	660	1601	1.77	[1]	52.34	[658.8]	0.30	(2.08 > 2.39) [1.412]	✓
2	1	660	1601	1.72	[1]	47.61	[659.6]	0.36	(1.72 > 2.08) [1]	✓
3	1	660	1601	1.77	[1]	51.07	[660]	0.31	(1.77 > 2.08) [1]	✓
4	1	660	1601	1.74	[1]	48.96	[659.2]	0.34	(1.74 > 2.08) [1]	✓



**Summary and Graphic: Phase delay (Phase delay)**{ v = Value (ns/327.99601152ft) } / { l = Limit (ns/327.99601152ft) } m = Margin (ns/327.99601152ft) f = Frequency (MHz) }

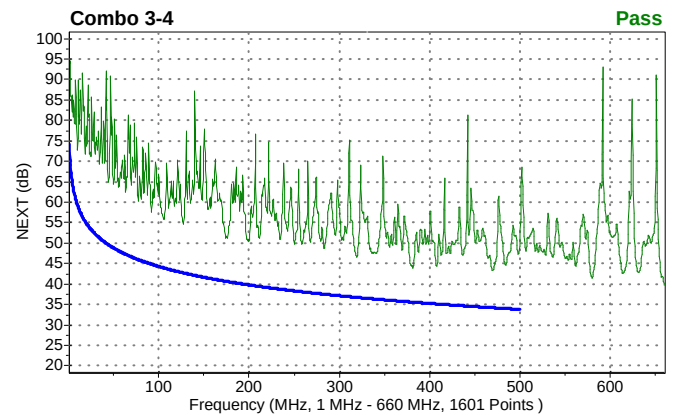
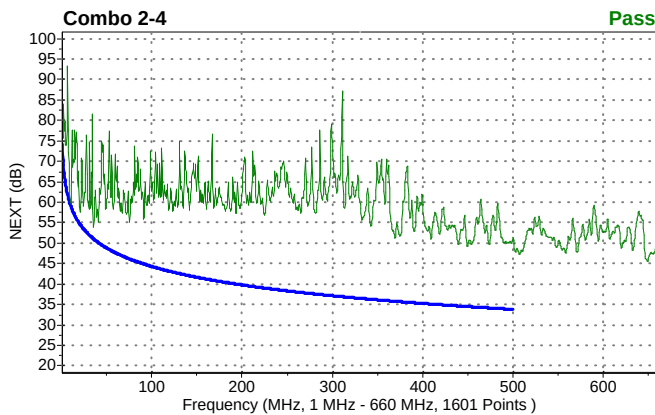
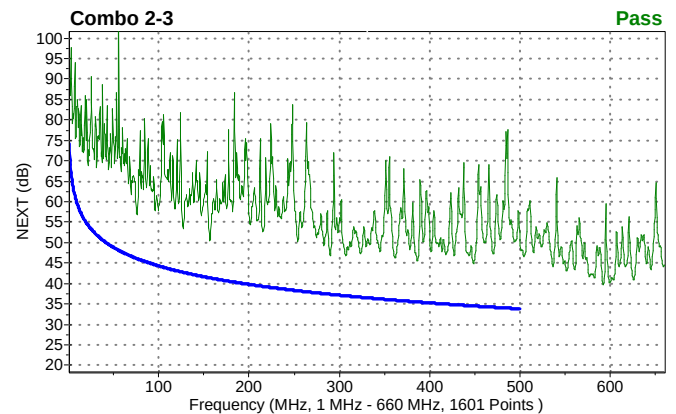
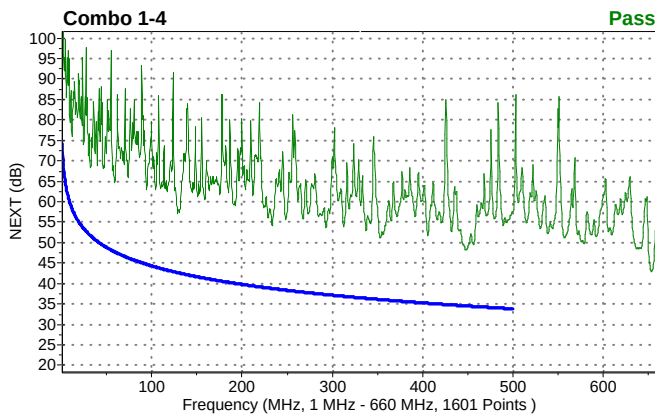
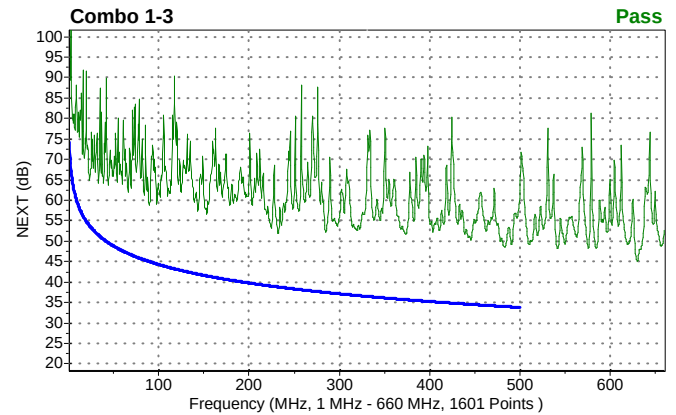
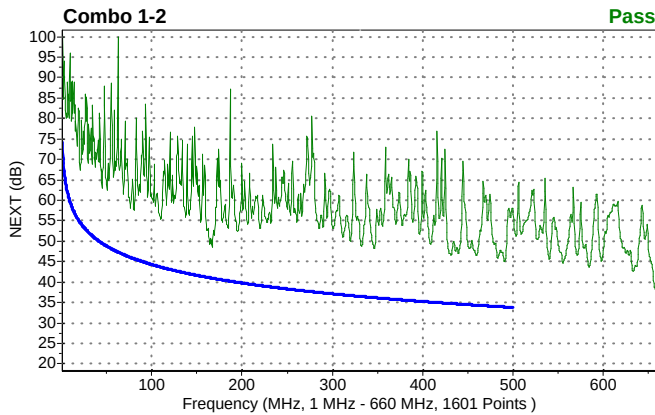
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v / l) [f] }	Result
1	1	660	1601	513.45 [660]	521.04 [3.471]	21.96 (513.69 > 535.64) [479.6]	✓
2	1	660	1601	490.44 [658.8]	497.51 [3.471]	45.00 (490.63 > 535.64) [484.5]	✓
3	1	660	1601	509.69 [659.6]	517.05 [3.471]	25.73 (509.92 > 535.65) [475.9]	✓
4	1	660	1601	480.53 [654.6]	487.77 [3.471]	54.92 (480.70 > 535.62) [495.2]	✓



Summary and Graphic: Near End Crosstalk (NEXT)

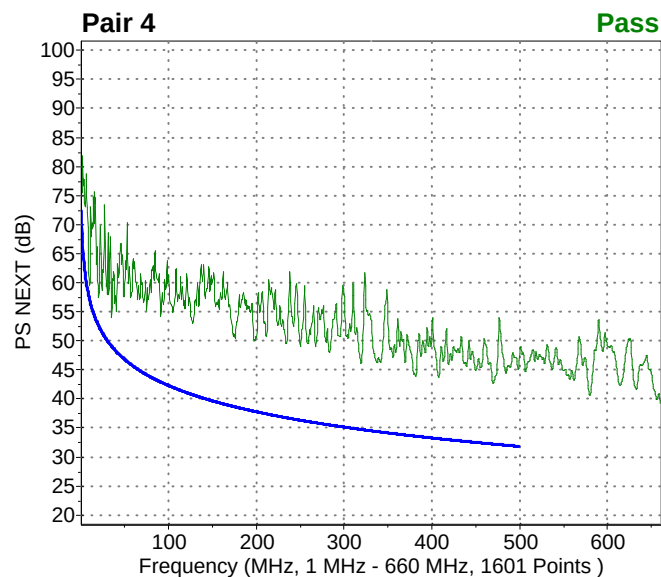
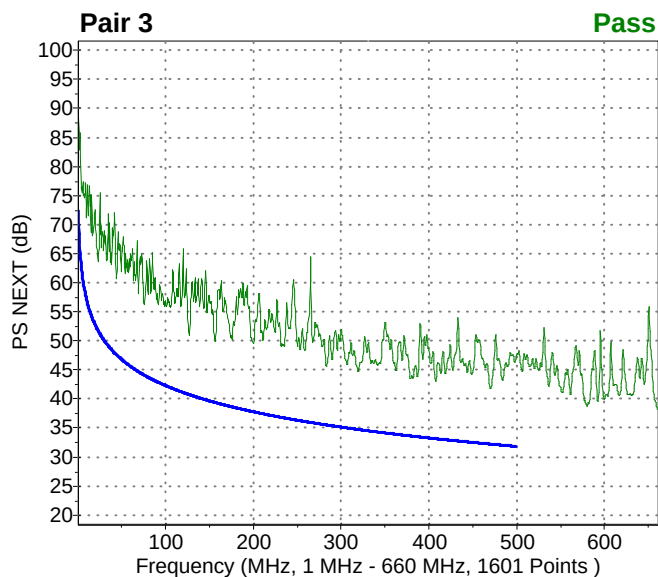
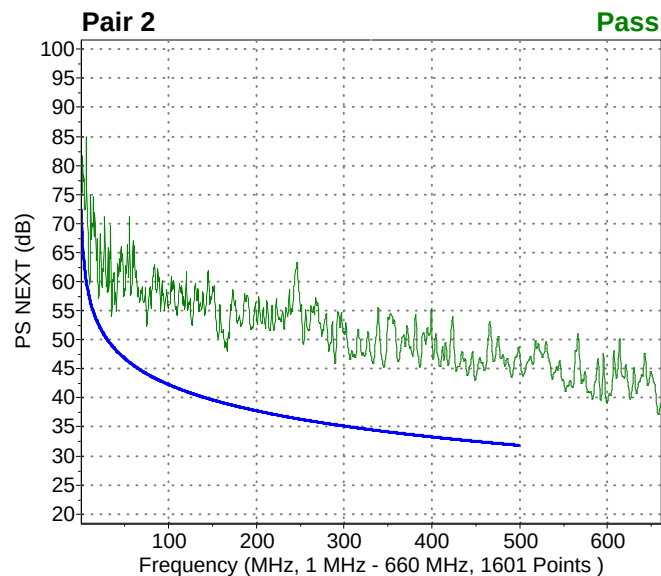
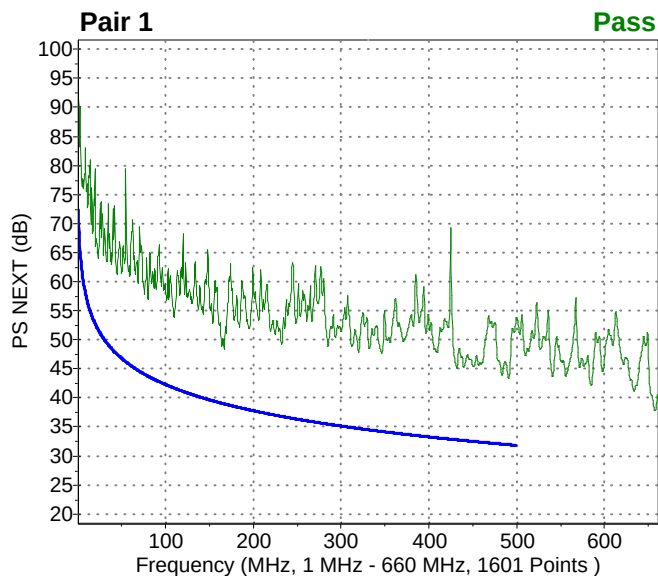
{ v = Value (dB) } l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Combo	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v,l)[f]$ }	Result
1-2	1	660	1601	38.27 [657.9]	103.03 [1.412]	7.49 (48.45 < 40.96) [167]	✓
1-3	1	660	1601	45.12 [629.9]	111.80 [3.059]	10.80 (85.10 < 74.30) [1]	✓
1-4	1	660	1601	42.94 [653.4]	102.13 [1.824]	13.62 (48.15 < 34.53) [448.3]	✓
2-3	1	660	1601	39.60 [592.5]	108.00 [55.78]	9.15 (50.53 < 41.37) [156.7]	✓
2-4	1	660	1601	45.62 [649.3]	93.22 [6.766]	0.54 (59.54 < 59.00) [10.47]	✓
3-4	1	660	1601	39.58 [660]	98.69 [1]	8.39 (43.97 < 35.58) [381.6]	✓



**Summary and Graphic: Power Sum NEXT (PS NEXT)**{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

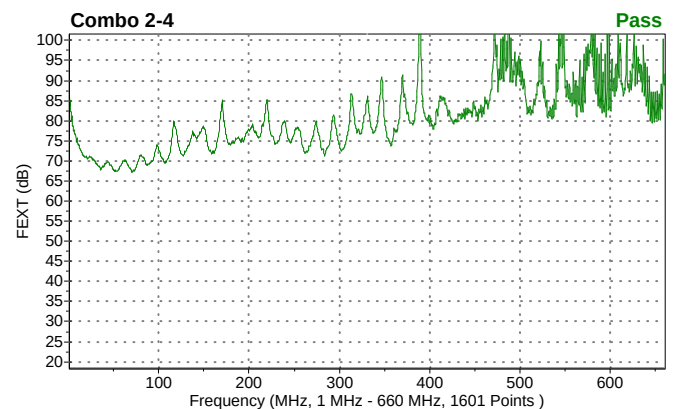
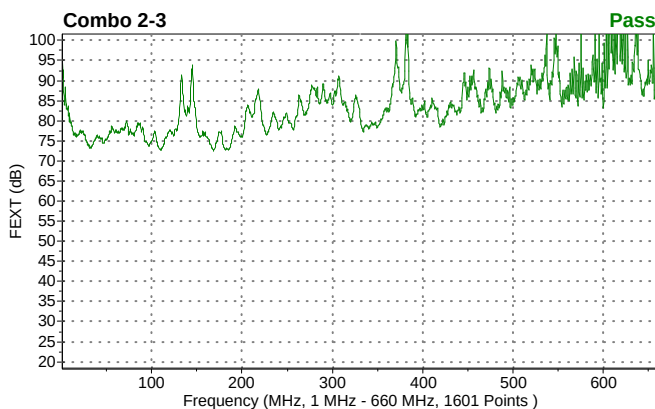
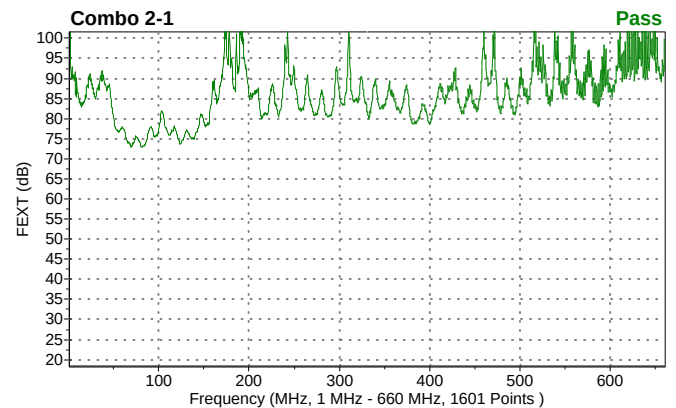
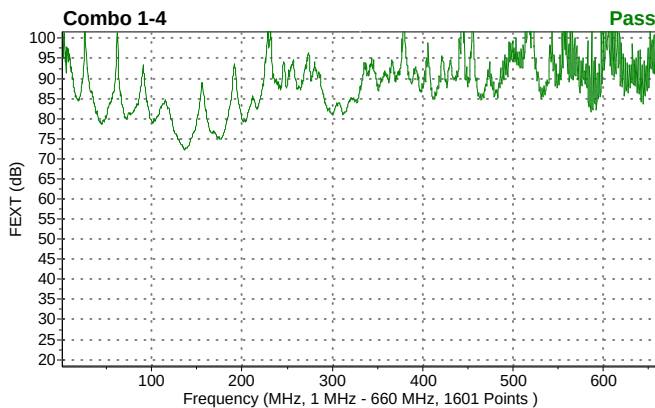
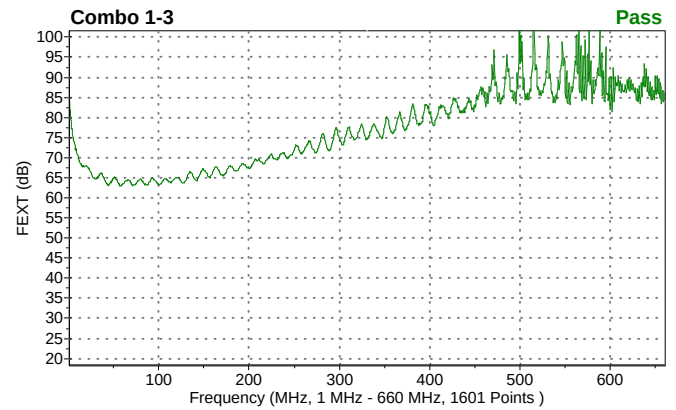
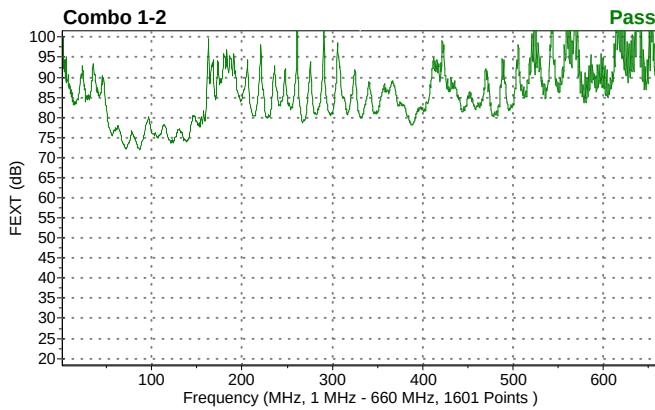
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	37.76 [657.5]	91.74 [1.412]	9.35 (48.31 < 38.96) [167]	✓
2	1	660	1601	37.09 [657.9]	84.85 [6.766]	2.50 (59.50 < 57.00) [10.47]	✓
3	1	660	1601	38.23 [660]	88.84 [1.412]	9.51 (41.72 < 32.22) [470.1]	✓
4	1	660	1601	39.26 [660]	83.52 [1]	2.43 (59.43 < 57.00) [10.47]	✓

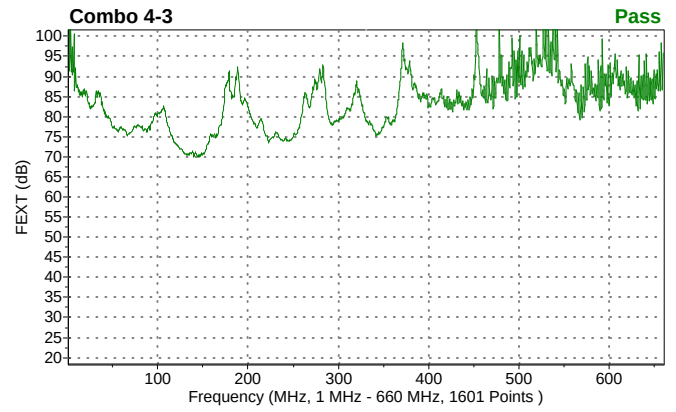
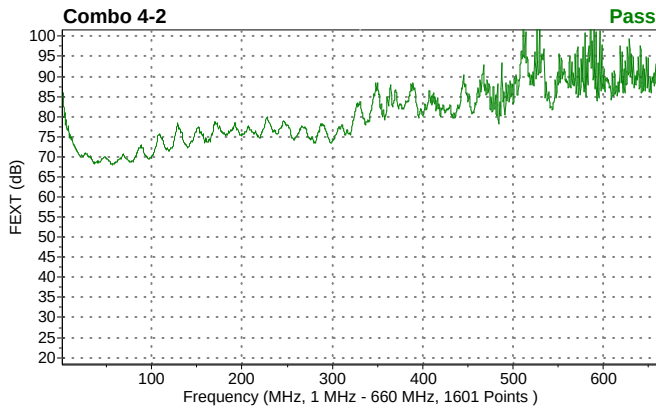
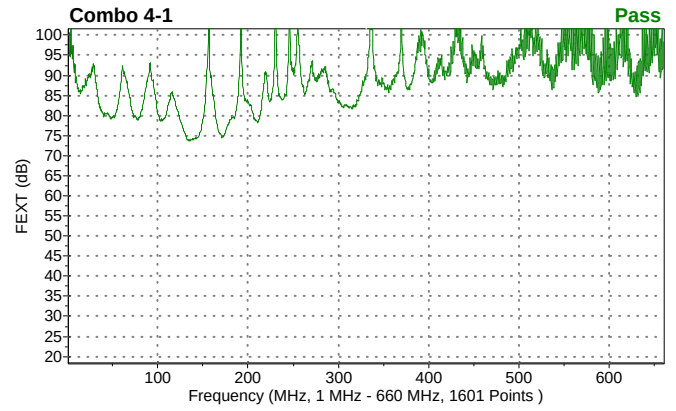
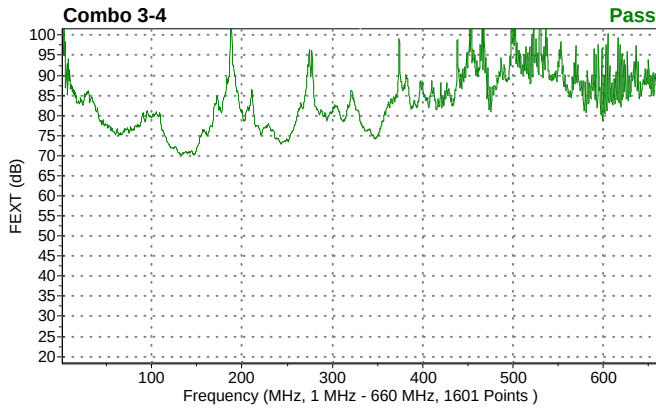
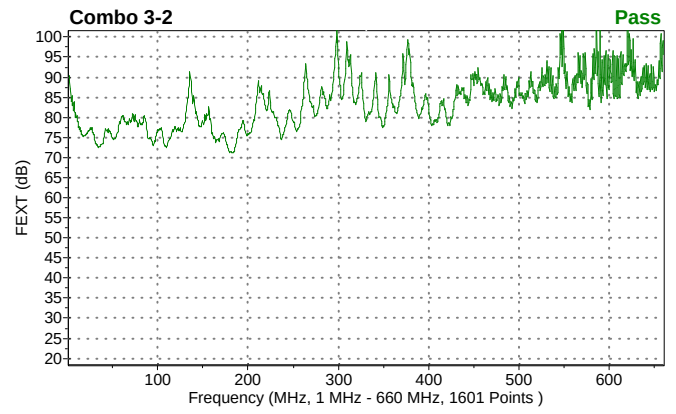
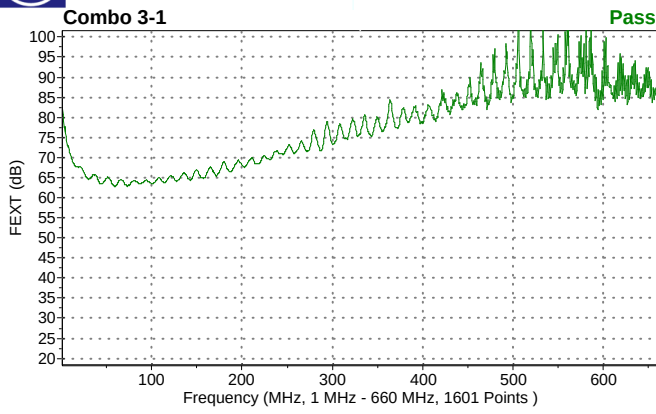


**Summary and Graphic: Far End Crosstalk (FEXT)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

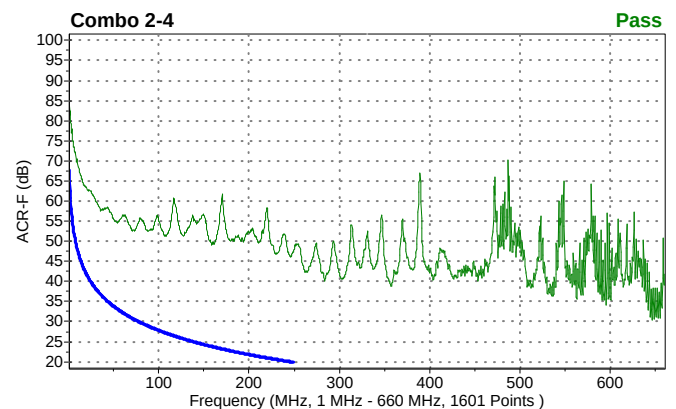
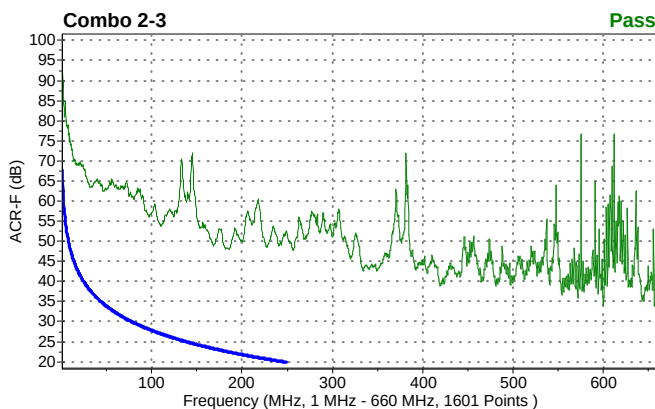
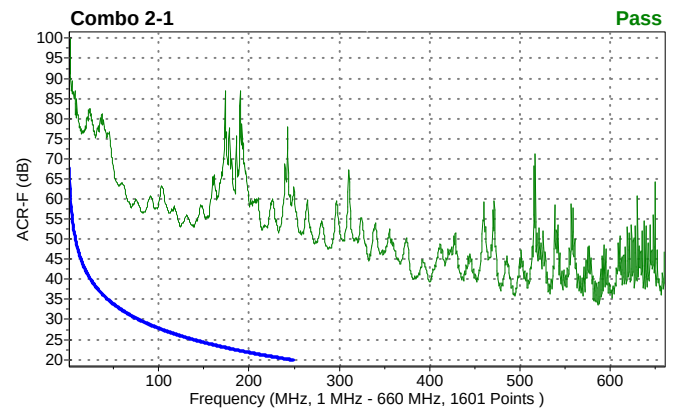
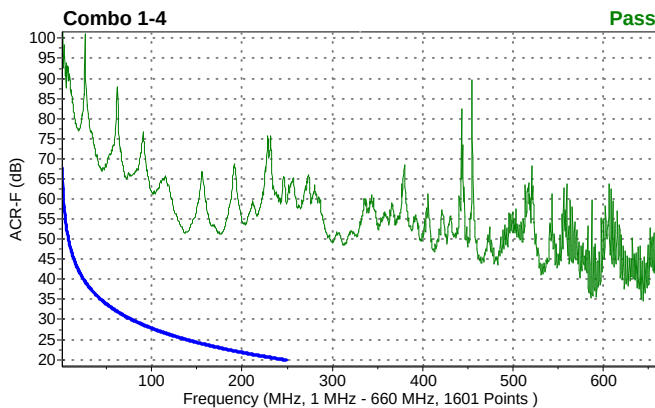
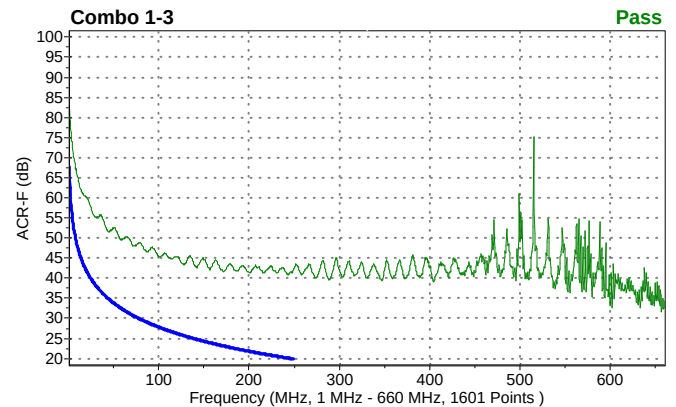
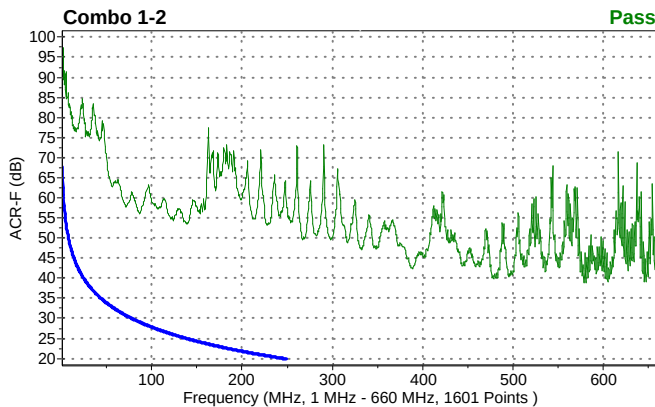
Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1-2	1	660	1601	72.05 [86.67]	117.71 [617.2]	✓
1-3	1	660	1601	62.97 [57.84]	120.16 [515.4]	✓
1-4	1	660	1601	72.27 [136.5]	129.82 [454.9]	✓
2-1	1	660	1601	72.88 [69.37]	117.29 [517.1]	✓
2-3	1	660	1601	72.51 [168.6]	126.07 [612.2]	✓
2-4	1	660	1601	67.24 [70.61]	112.19 [487.4]	✓
3-1	1	660	1601	62.72 [59.49]	116.02 [506]	✓
3-2	1	660	1601	71.19 [182.2]	108.77 [585.9]	✓
3-4	1	660	1601	70.23 [131.6]	117.52 [454.1]	✓
4-1	1	660	1601	73.76 [133.6]	122.37 [510.5]	✓
4-2	1	660	1601	67.97 [56.6]	118.15 [586.3]	✓
4-3	1	660	1601	69.99 [146.8]	120.54 [453.2]	✓

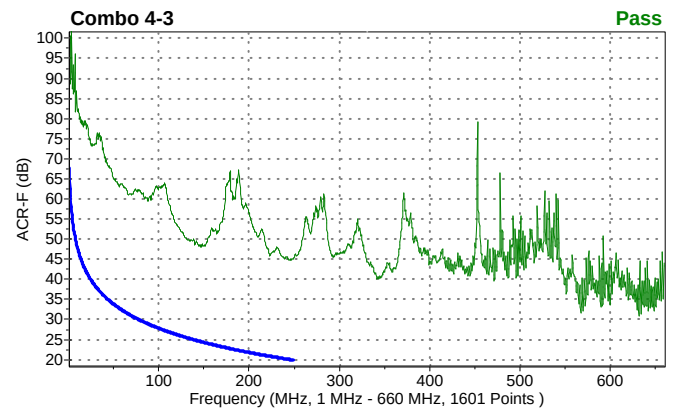
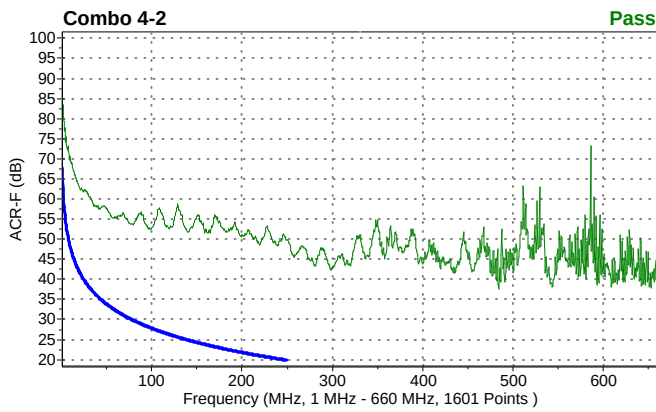
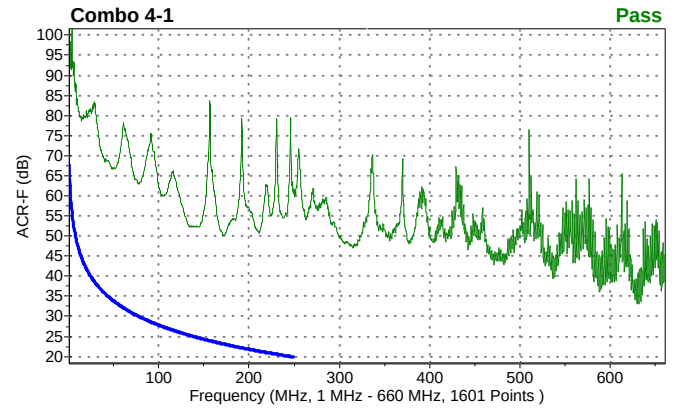
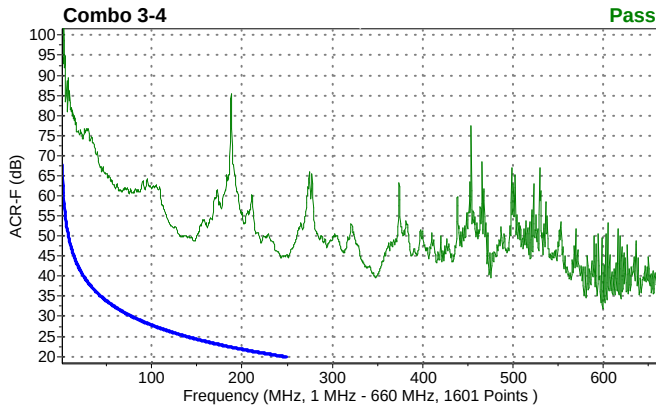
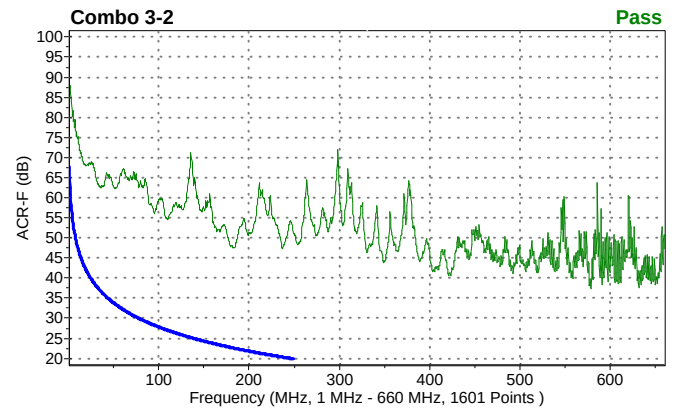
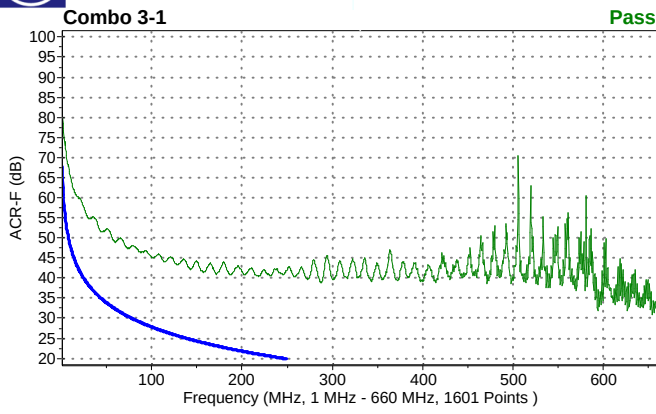




**Summary and Graphic: Attenuation Crosstalk-F Ratio (ACR-F)**{ *v* = Value (dB) *l* = Limit (dB) *m* = Margin (dB) *f* = Frequency (MHz) }

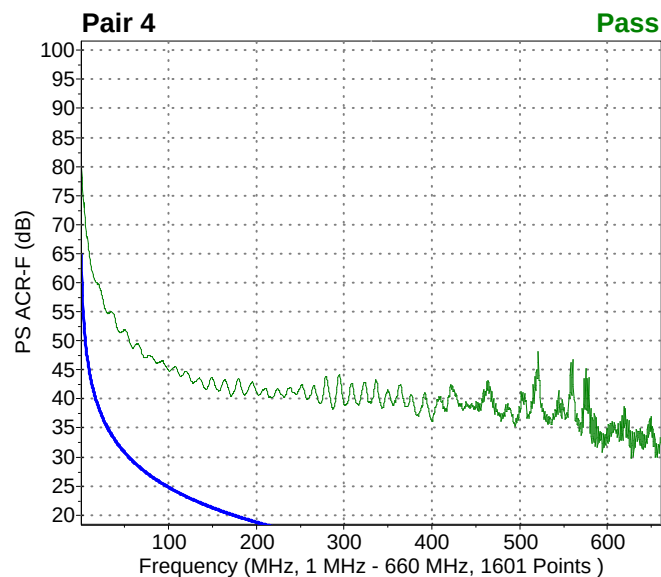
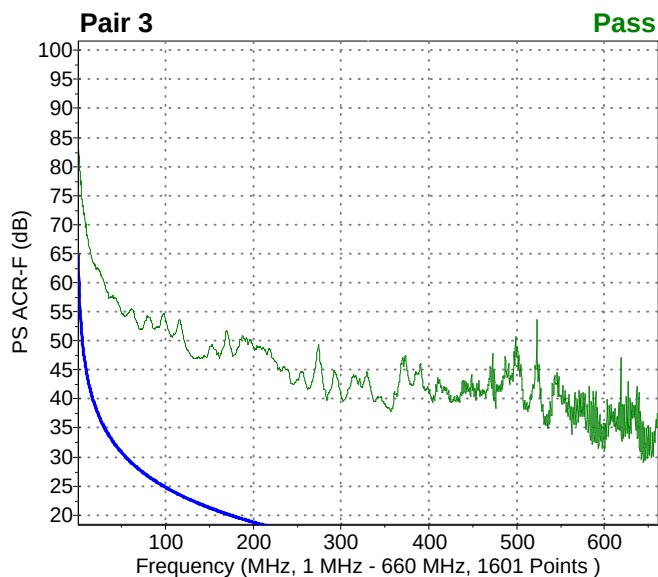
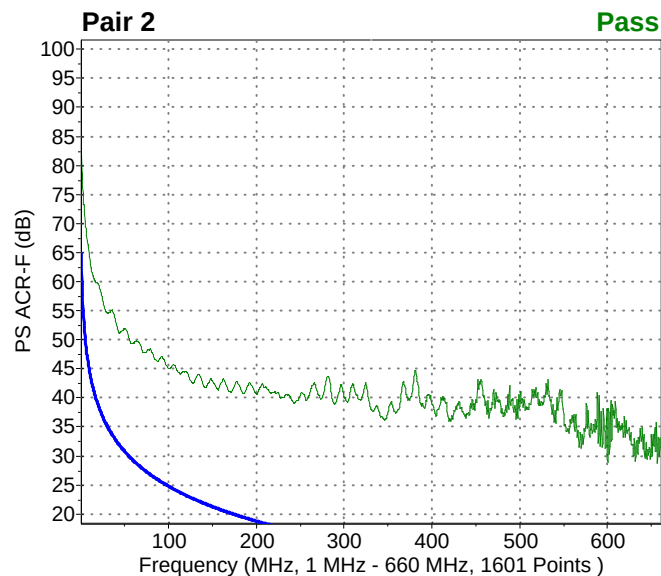
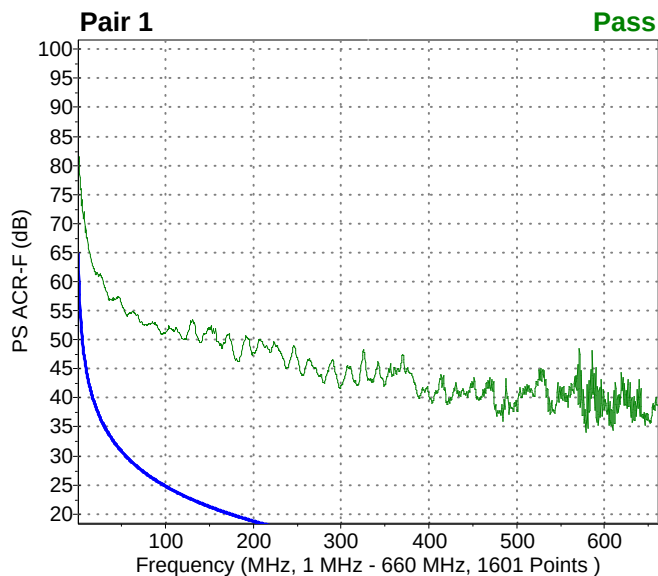
Combo	Start <i>f</i>	Stop <i>f</i>	Points	Minimum { <i>v</i> [<i>f</i>] }	Maximum { <i>v</i> [<i>f</i>] }	Min. Margin { <i>m</i> (<i>v</i> <i>l</i>) [<i>f</i>] }	Result
1-2	1	660	1601	38.7 [581.3]	110.4 [1]		✓
1-3	1	660	1601	31.7 [657.1]	86.8 [1]		✓
1-4	1	660	1601	34.7 [644.3]	113.5 [1.412]		✓
2-1	1	660	1601	33.7 [586.3]	100.0 [2.236]		✓
2-3	1	660	1601	33.8 [657.1]	93.2 [1.412]		✓
2-4	1	660	1601	30.4 [646.8]	86.0 [1]		✓
3-1	1	660	1601	30.8 [654.6]	82.1 [1]		✓
3-2	1	660	1601	37.2 [578.9]	96.3 [1]		✓
3-4	1	660	1601	31.7 [599.9]	105.9 [2.647]		✓
4-1	1	660	1601	33.1 [629.9]	110.2 [3.883]		✓
4-2	1	660	1601	37.7 [484.5]	89.1 [1]		✓
4-3	1	660	1601	30.8 [632]	105.2 [1]		✓





**Summary and Graphic: Power Sum ACR-F (PS ACR-F)**{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v,l)[f]$ }	Result
1	1	660	1601	34.1 [578.9]	88.3 [1]		✓
2	1	660	1601	28.7 [657.1]	84.4 [1]		✓
3	1	660	1601	29.1 [644.3]	85.4 [1]		✓
4	1	660	1601	29.8 [627.5]	81.3 [1]		✓

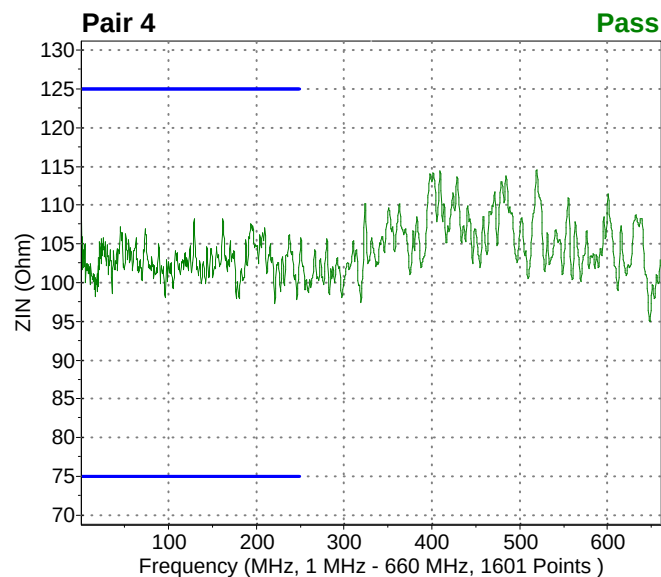
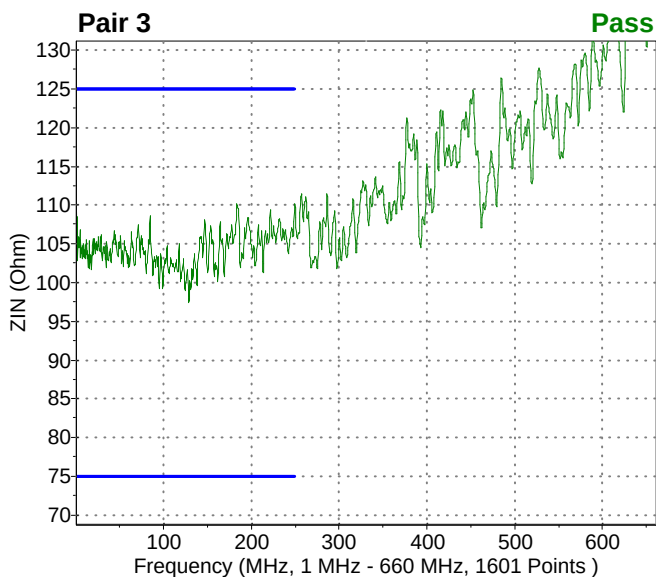
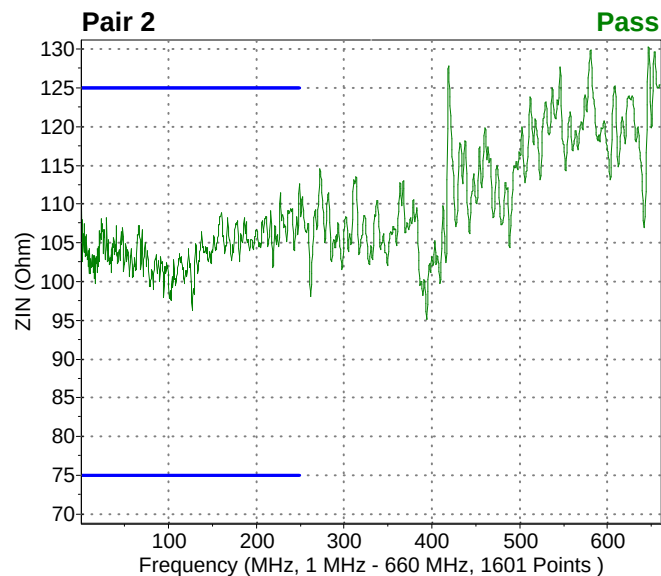
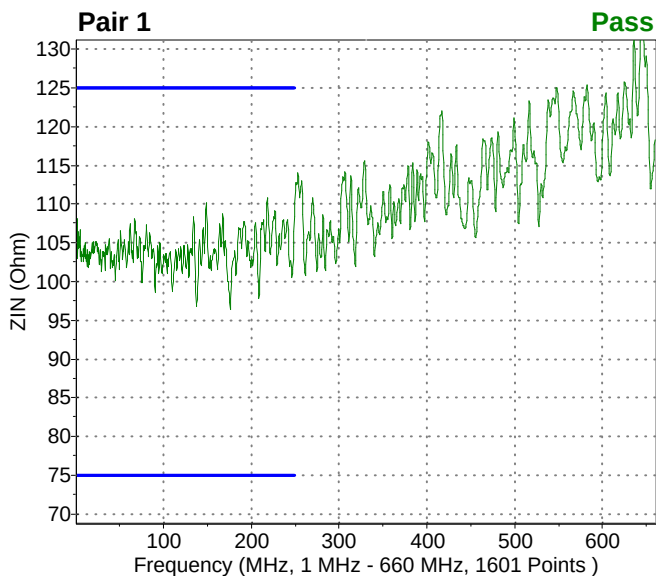




Summary and Graphic: Input Impedance (ZIN)

{ v = Value (Ohm) l = Limit (Ohm) m = Margin (Ohm) f = Frequency (MHz) }

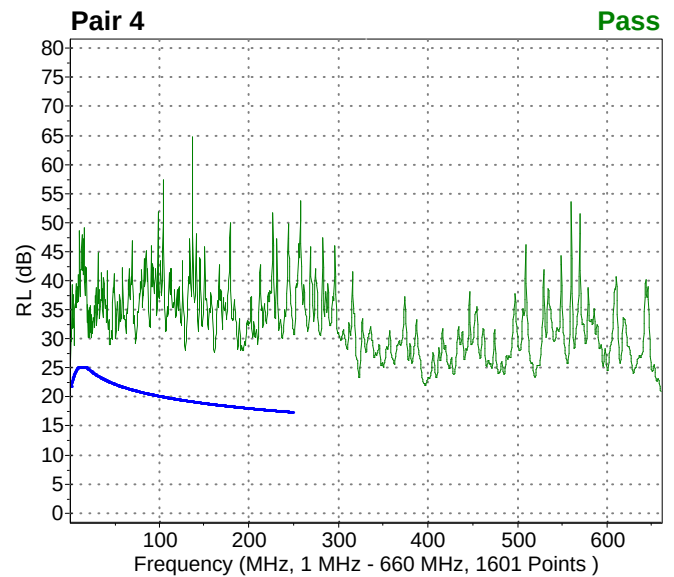
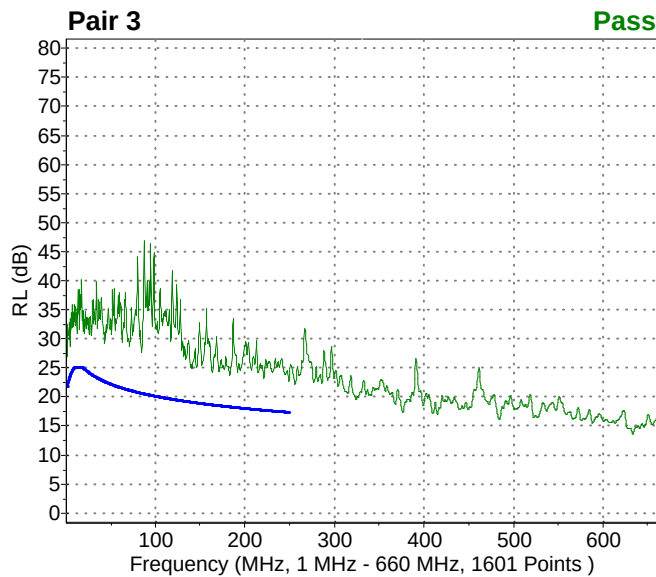
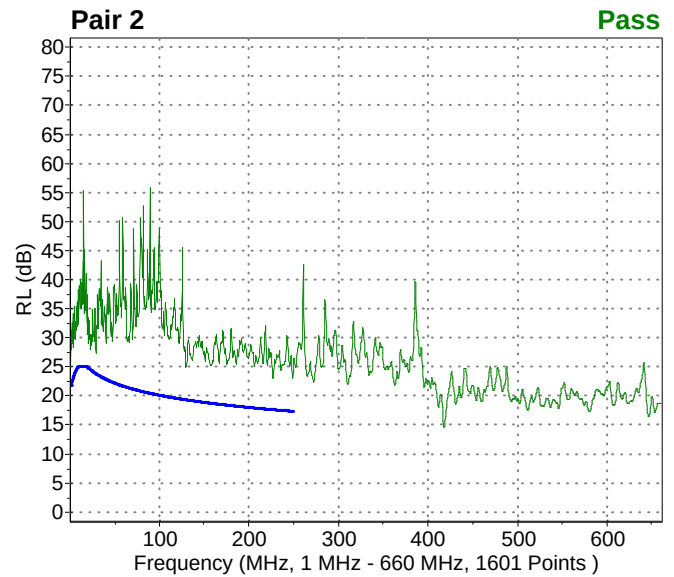
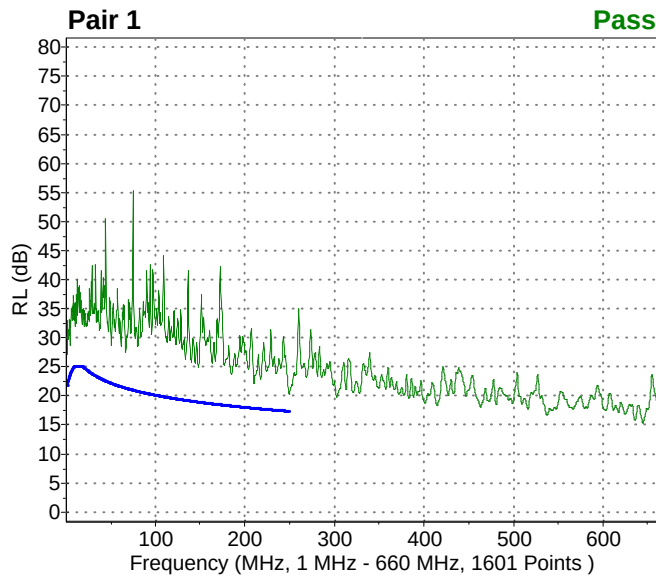
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	96.39 [176]	135.86 [644.8]		✓
2	1	660	1601	95.06 [394.3]	130.25 [646.8]		✓
3	1	660	1601	97.42 [129.1]	145.63 [633.2]		✓
4	1	660	1601	94.96 [648.1]	114.55 [519.6]		✓



Summary and Graphic: Return Loss (RL)

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	15.31 [643.9]	55.31 [75.55]	2.96 (20.29 < 17.32) [249.8]	✓
2	1	660	1601	14.51 [417.8]	55.86 [89.96]	3.52 (27.30 < 23.78) [29.83]	✓
3	1	660	1601	13.59 [632.8]	46.86 [87.91]	5.17 (28.71 < 23.55) [5.119]	✓
4	1	660	1601	20.91 [660]	64.72 [137.3]	5.19 (28.90 < 23.71) [5.531]	✓



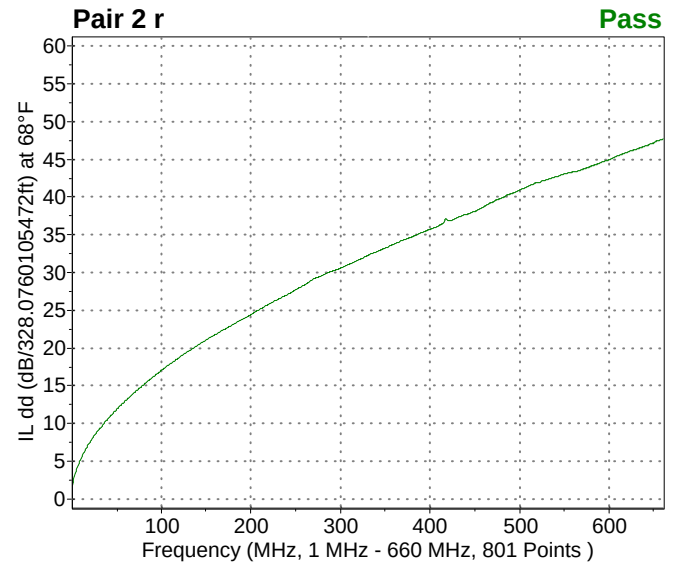
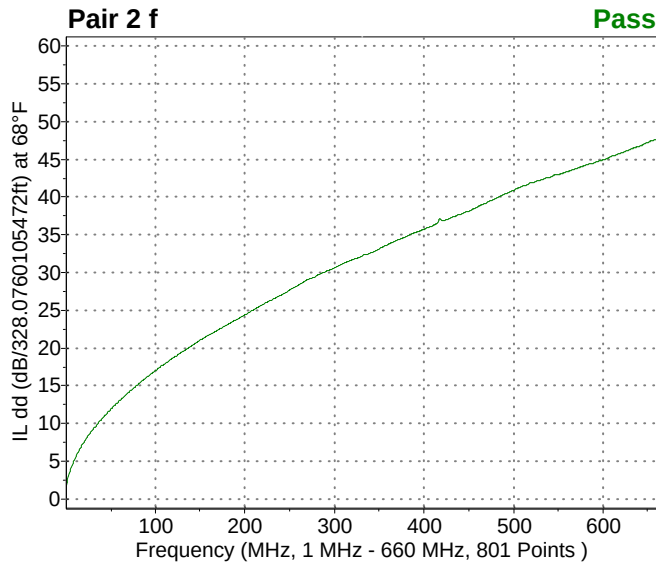
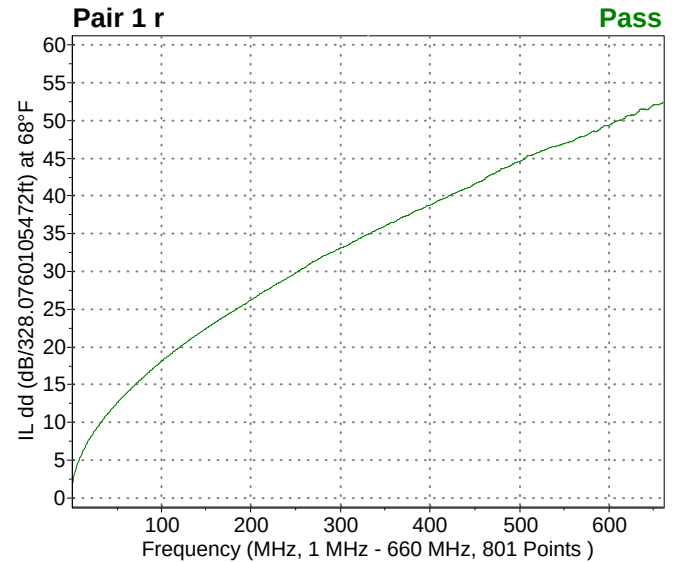
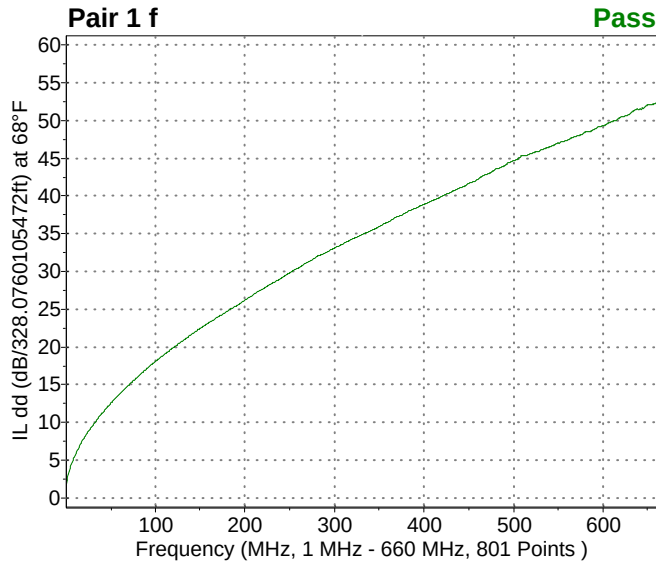
Final control authorized signature:

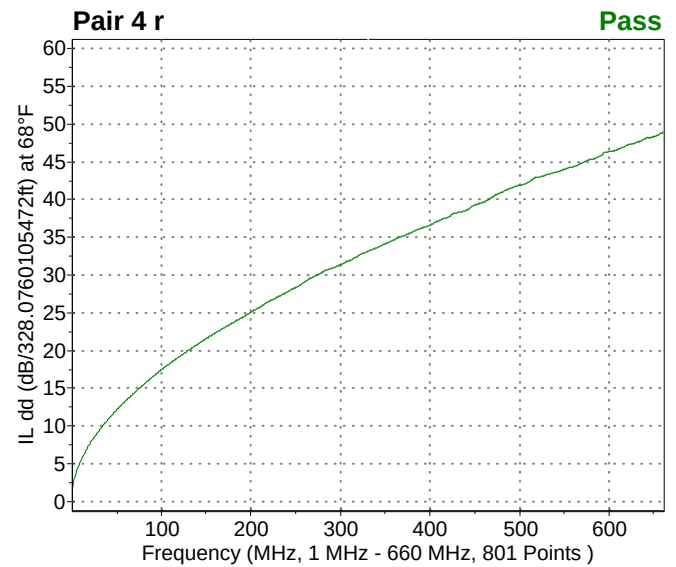
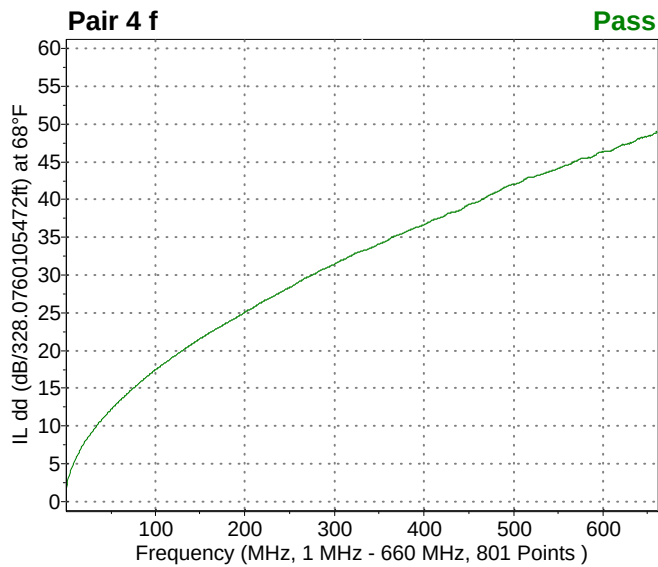
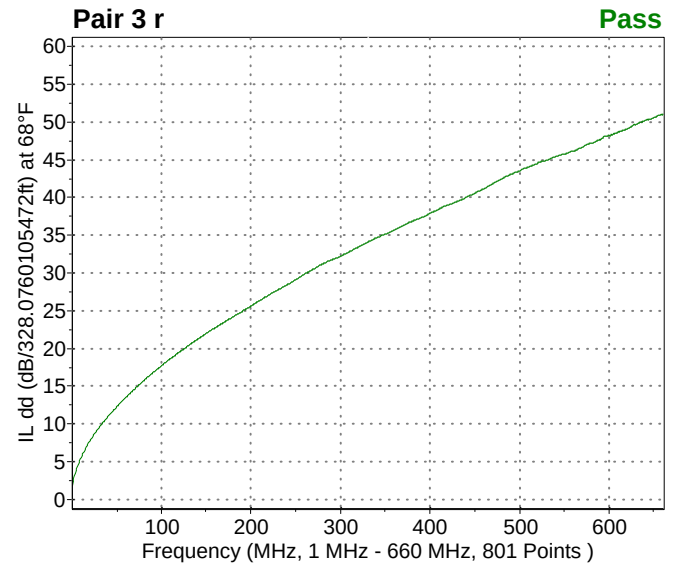
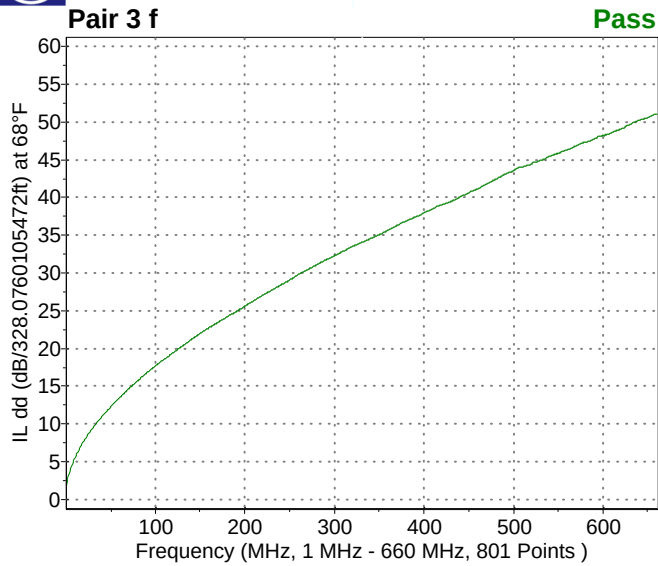
Summary and Graphic: Insertion loss dd (IL dd)

{ v = Value (dB/328.0760105472ft) at 68°F l = Limit (dB/328.0760105472ft) at 68°F m = Margin (dB/328.0760105472ft) at 68°F f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum	{ $v[f]$ }	Maximum	{ $v[f]$ }	Result
1 f	1	660	801	1.77	[1]	52.34	[659.2]	✓
1 r	1	660	801	1.77	[1]	52.33	[659.2]	✓
2 f	1	660	801	1.72	[1]	47.64	[660]	✓
2 r	1	660	801	1.71	[1]	47.66	[660]	✓
3 f	1	660	801	1.77	[1]	51.05	[660]	✓
3 r	1	660	801	1.76	[1]	51.06	[660]	✓
4 f	1	660	801	1.74	[1]	48.97	[659.2]	✓
4 r	1	660	801	1.74	[1]	48.96	[659.2]	✓



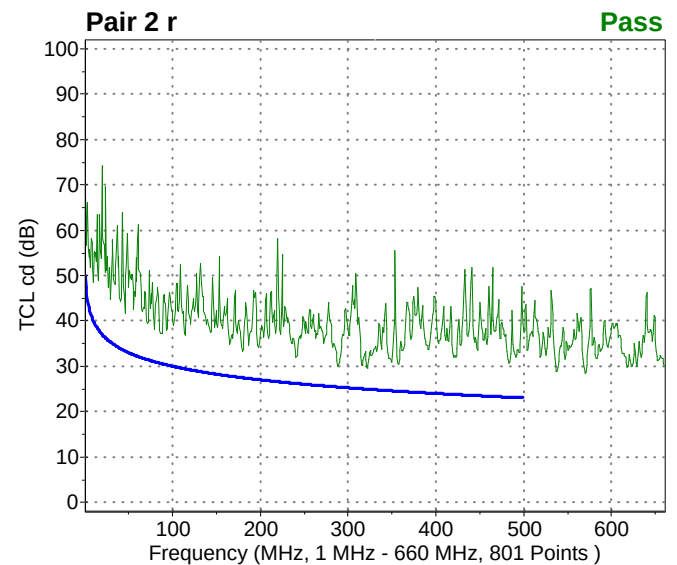
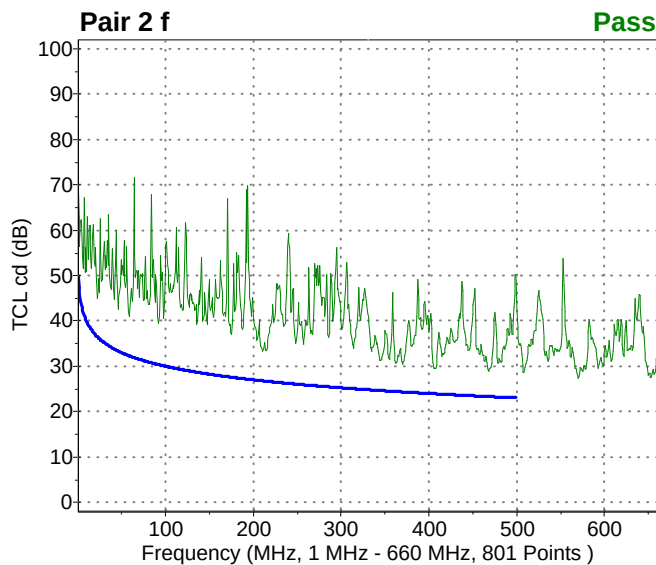
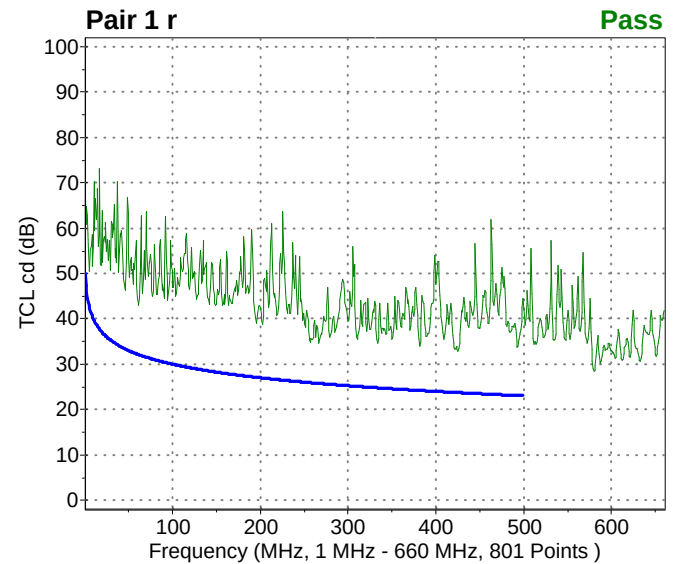
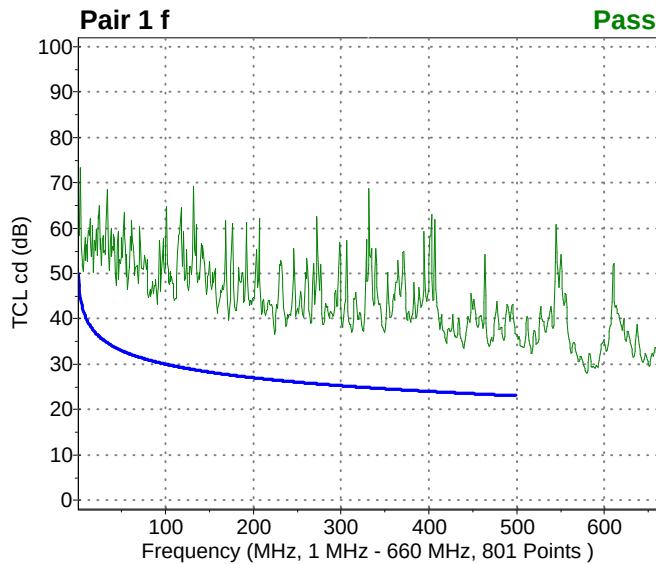


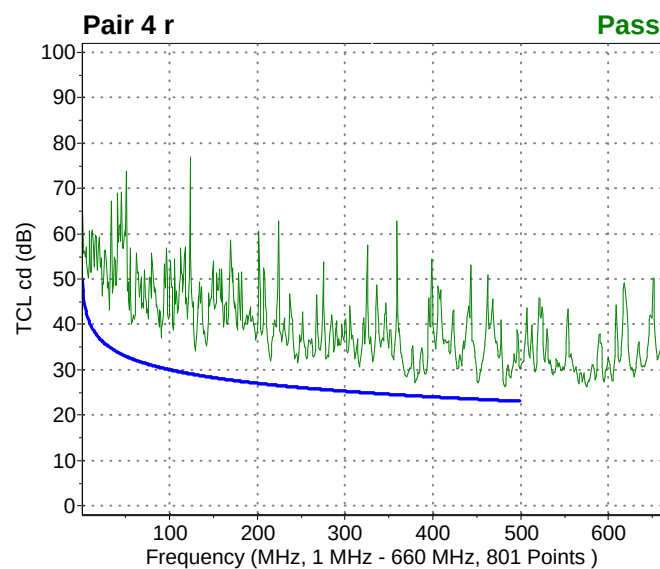
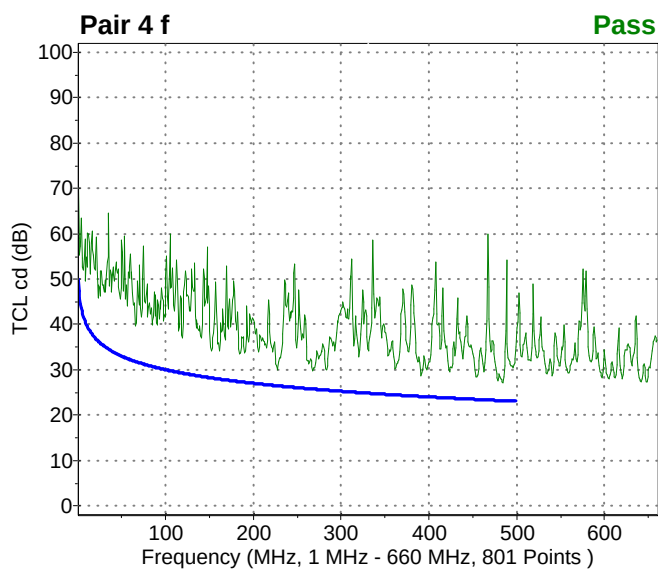
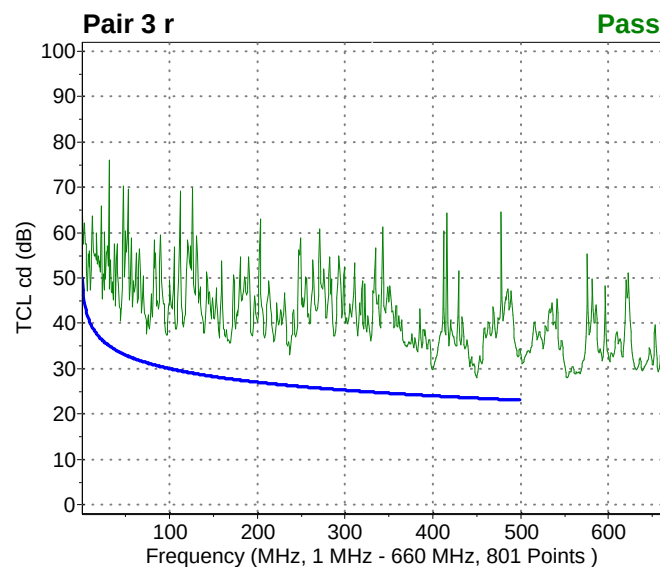
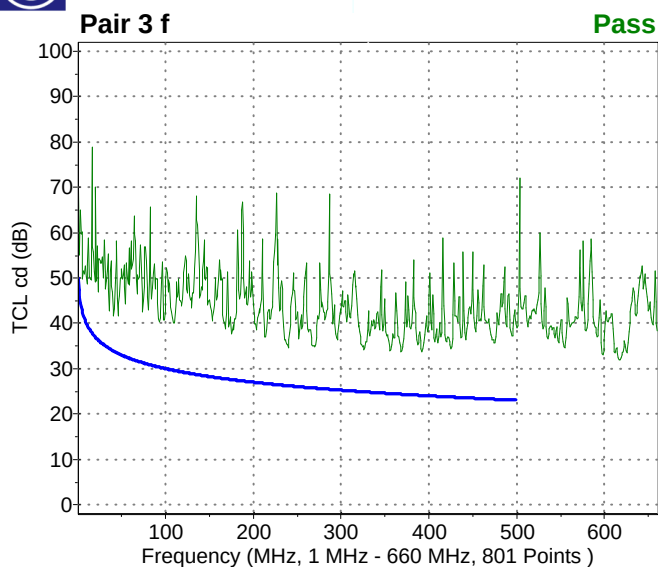


Summary and Graphic: transverse conv. loss cd (TCL cd)

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }
{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	28.0 [580.1]	73.3 [3.471]	8.7 (50.4 < 41.7) [6.766]	✓
1 r	1	660	801	28.4 [580.1]	73.0 [17.47]	7.8 (50.7 < 42.9) [5.119]	✓
2 f	1	660	801	27.3 [570.2]	71.5 [64.43]	5.5 (28.8 < 23.3) [468.1]	✓
2 r	1	660	801	28.4 [570.2]	74.1 [19.95]	4.5 (29.9 < 25.4) [288.5]	✓
3 f	1	660	801	31.8 [616.3]	78.8 [16.65]	7.5 (49.7 < 42.3) [5.942]	✓
3 r	1	660	801	27.9 [552.9]	76.1 [31.48]	4.5 (28.0 < 23.5) [449.9]	✓
4 f	1	660	801	27.1 [484.5]	72.8 [1]	3.4 (29.9 < 26.4) [227.5]	✓
4 r	1	660	801	26.2 [575.2]	76.8 [123.7]	3.0 (27.2 < 24.2) [379.9]	✓



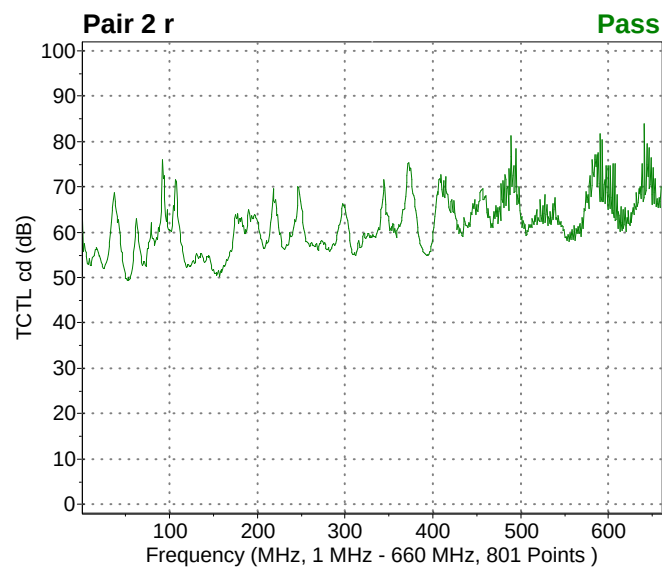
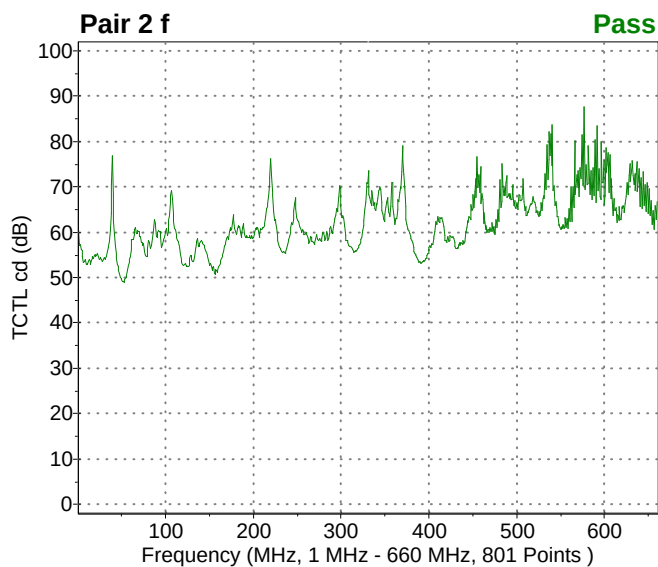
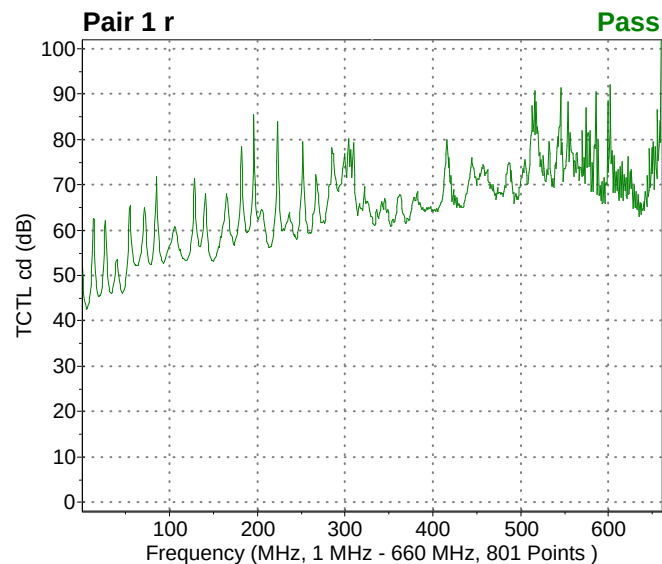
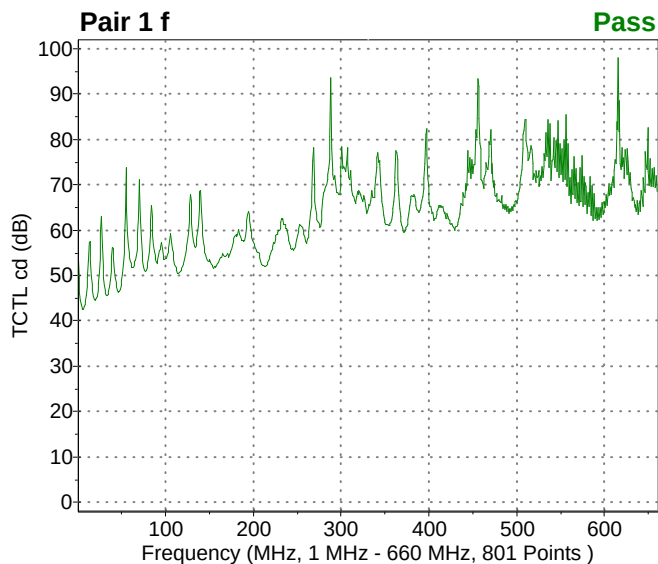


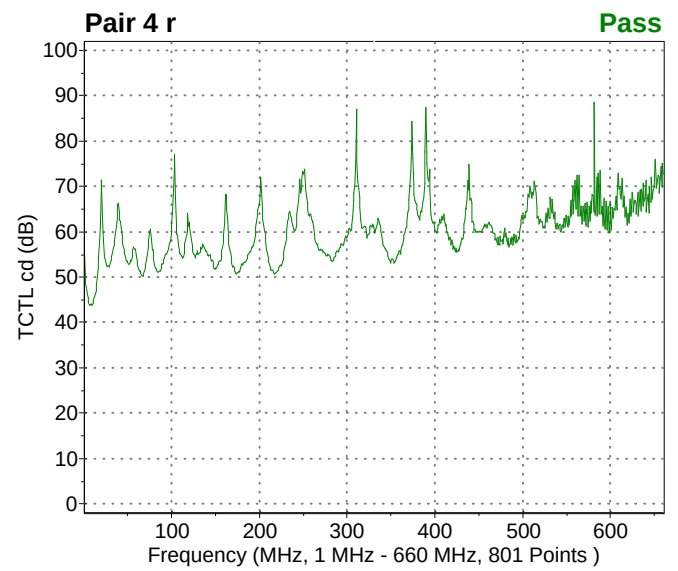
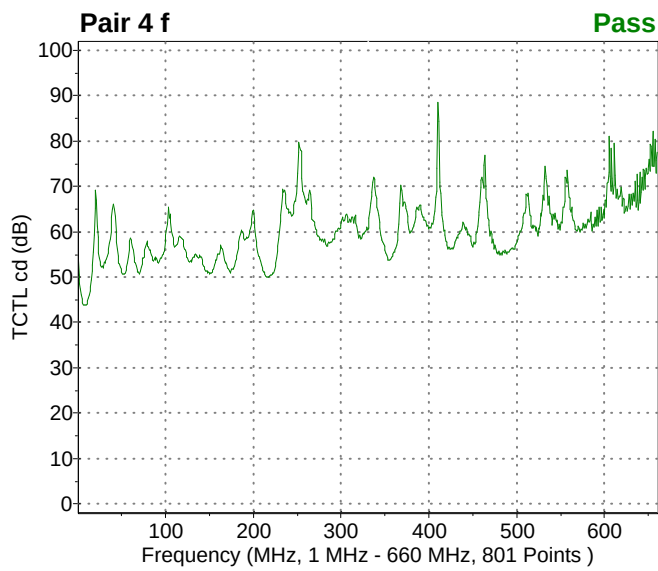
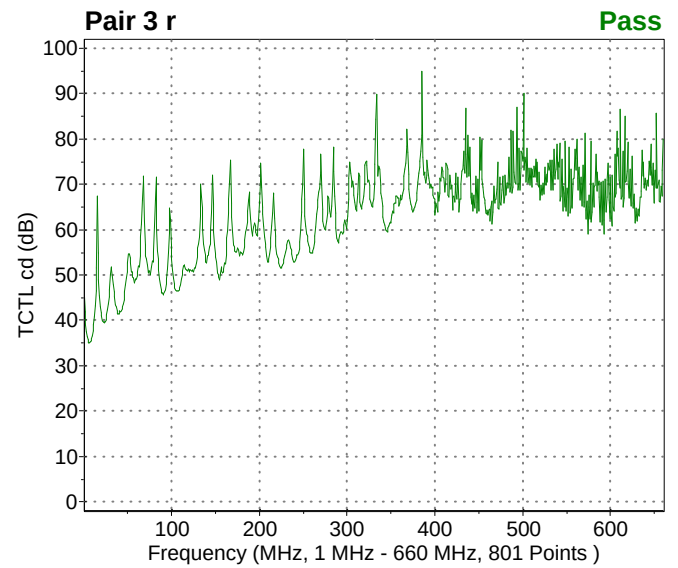
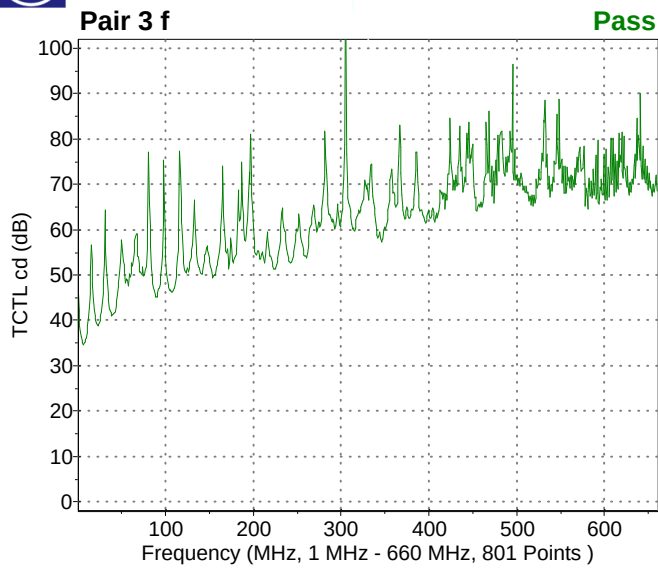
**Summary and Graphic: transverse conv. transfer loss cd (TCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1 f	1	660	801	42.4 [5.942]	97.9 [615.5]	✓
1 r	1	660	801	42.6 [5.942]	101.8 [660]	✓
2 f	1	660	801	49.0 [52.9]	87.8 [576.8]	✓
2 r	1	660	801	49.4 [52.07]	83.9 [641.1]	✓
3 f	1	660	801	34.7 [6.766]	123.7 [305]	✓
3 r	1	660	801	34.9 [6.766]	94.9 [385.7]	✓
4 f	1	660	801	43.7 [9.237]	88.5 [410.4]	✓
4 r	1	660	801	43.8 [10.06]	88.6 [581.7]	✓



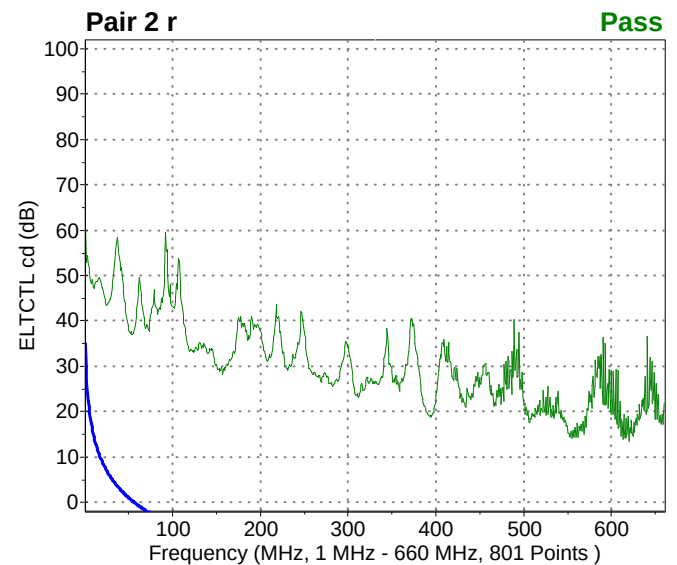
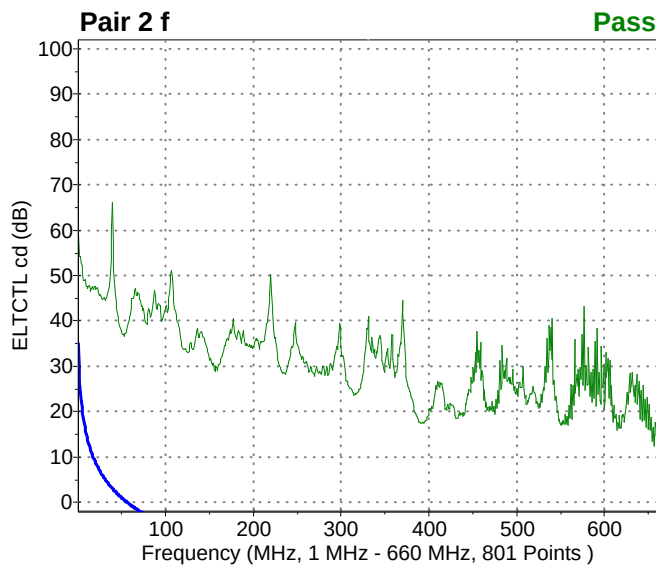
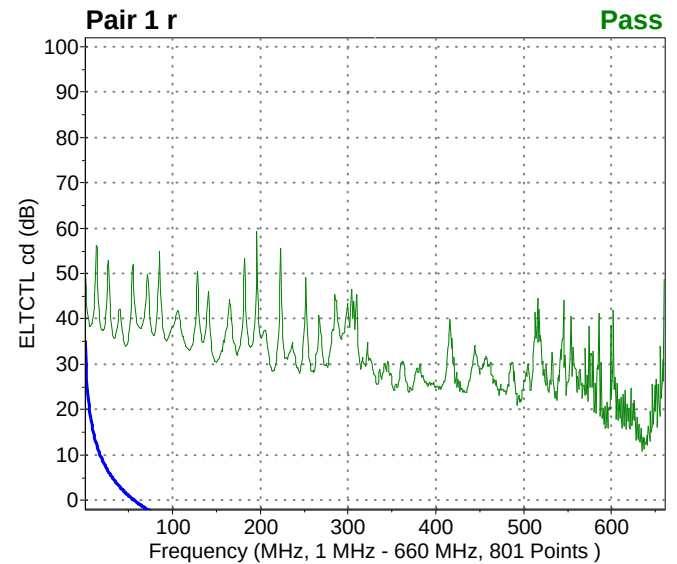
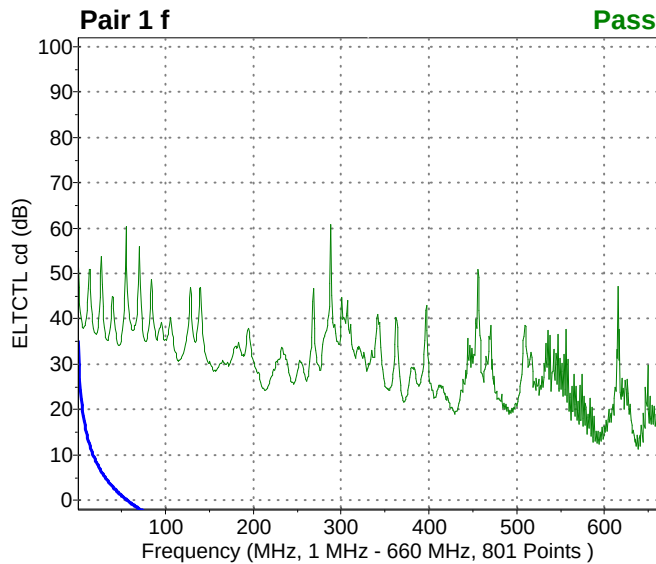


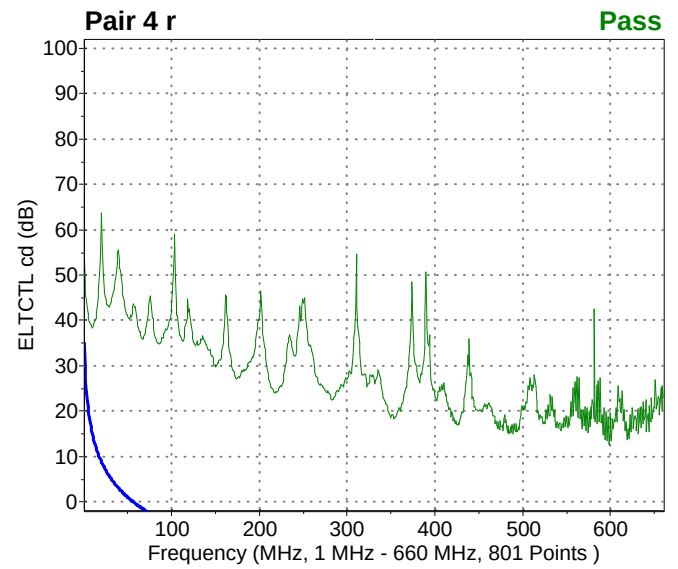
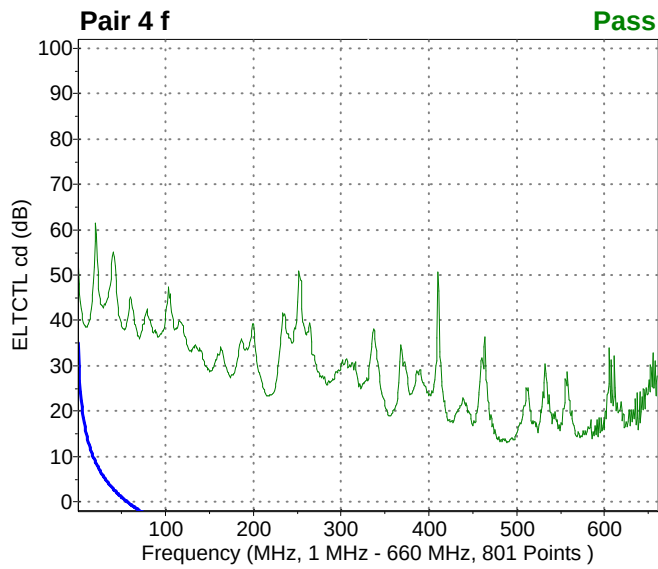
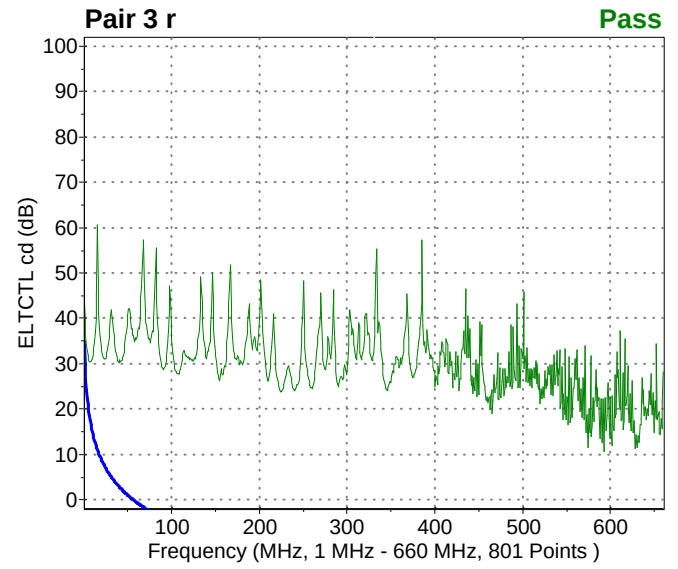
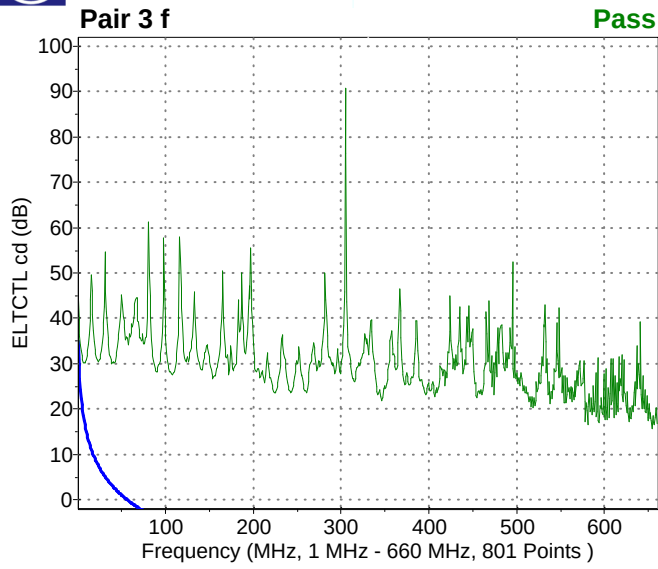
**Summary and Graphic: Equal Level TCTL cd (ELTCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	11.3 [638.6]	60.7 [288.5]	17.0 (43.5 < 26.5) [2.647]	✓
1 r	1	660	801	10.8 [634.5]	59.2 [196.2]	15.5 (50.5 < 35.0) [1]	✓
2 f	1	660	801	12.3 [656.7]	66.2 [39.72]	24.6 (59.6 < 35.0) [1]	✓
2 r	1	660	801	13.5 [619.6]	62.2 [1]	24.3 (54.1 < 29.8) [1.824]	✓
3 f	1	660	801	15.7 [654.2]	90.7 [305]	9.7 (36.3 < 26.5) [2.647]	✓
3 r	1	660	801	10.5 [592.5]	60.6 [15.83]	9.1 (44.1 < 35.0) [1]	✓
4 f	1	660	801	13.0 [488.7]	61.4 [20.77]	17.5 (52.5 < 35.0) [1]	✓
4 r	1	660	801	12.7 [598.2]	63.6 [20.77]	18.3 (48.0 < 29.8) [1.824]	✓







Designation : Lin sweep 660MHz FUTP
Testorder : HCAT6A FUTP

Length : 328 ft
Test Date/Time : 6/18/2013 12:48 AM

Temp : 82°F
Sample-ID-No. : 000007WLR9

Customer : HI
Cable type : CAT6A
Specification : 6A

Drum no. : 1
Order number : Connection 2
Operator : DGi

Test Result: PASS

Final inspection

Worst Case Summary

{ v = Value l = Limit m = Margin f = Frequency (MHz) p = Pair / Combo < = Lower Limit > = Upper Limit }

{ Pair/Combo: n=near, f=far f=forward, r=reverse a=wire a b=wire b }

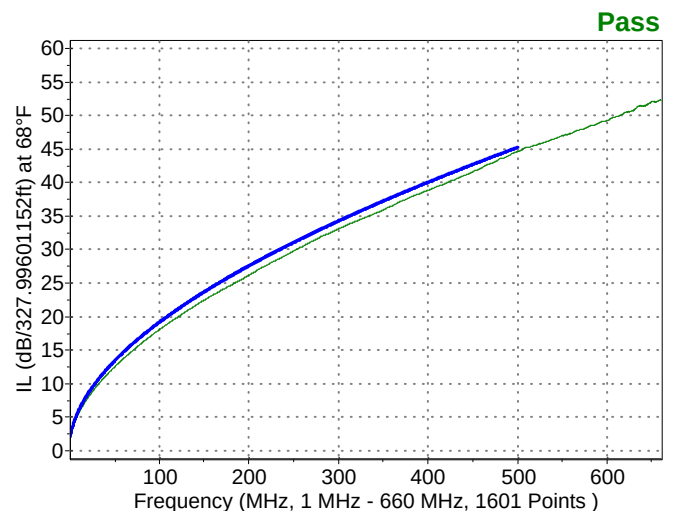
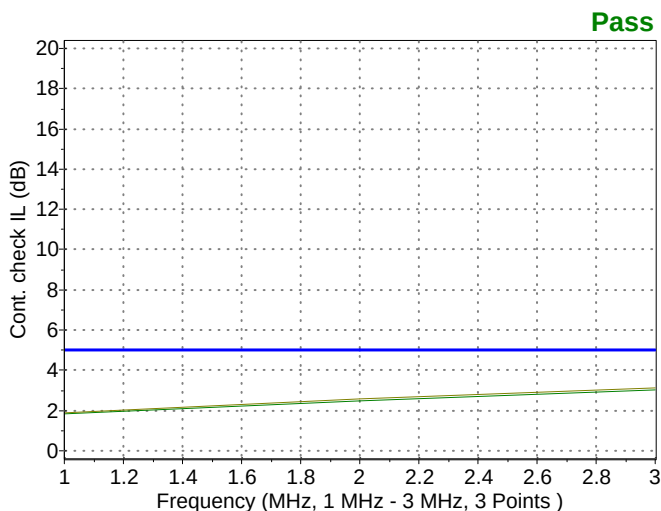
Parameter	Frequency	Points	Minimum	{ v [f] p }	Maximum	{ v [f] p }	Min. Margin	{ m (v l) [f] p }	Result
Cont. check IL (dB)	1-3	3	1.83	[1] 2	3.14	[3] 1	1.86	(3.14 > 5.00) [3] 1	✓
IL (dB/327.99601152ft) at 68°F	1-660	1601	1.77	[1] 1	52.35	[659.2] 1	0.30	(2.08 > 2.39) [1.412] 1	✓
Phase delay (ns/327.99601152ft)	1-660	1601	513.45	[658.8] 1	521.03	[3.471] 1	21.96	(513.71 > 535.66) [467.7] 1	✓
NEXT (dB)	1-660	1601	38.03	[657.9] 1-2	83.88	[2.647] 2-4	0.53	(59.53 < 59.00) [10.47] 2-4	✓
PS NEXT (dB)	1-660	1601	36.80	[658.4] 2	83.24	[1] 2	2.42	(59.42 < 57.00) [10.47] 4	✓
FEXT (dB)	1-660	1601	62.72	[59.07] 3-1	87.65	[559.9] 4-3			
ACR-F (dB)	1-660	1601	29.6	[646.4] 2-4	84.6	[1] 3-1			
PS ACR-F (dB)	1-660	1601	28.5	[644.3] 3	84.2	[1] 4			
ZIN (Ohm)	1-660	1601	95.60	[394.3] 2	143.88	[633.2] 3			
RL (dB)	1-660	1601	13.92	[632.8] 3	36.47	[94.5] 4	2.56	(19.89 < 17.32) [249.8] 1	✓
IL dd (dB/328.0760105472ft) at 68°F f1-660	801		1.77	[1] 1	52.33	[659.2] 1			
IL dd (dB/328.0760105472ft) at 68°F r1-660	801		1.77	[1] 1	52.32	[659.2] 1			
TCL cd (dB) f	1-660	801	26.8	[648.5] 4	64.2	[1] 1	3.8	(30.3 < 26.4) [227.5] 4	✓
TCL cd (dB) r	1-660	801	26.1	[575.2] 4	65.4	[1] 3	3.0	(27.2 < 24.2) [379.9] 4	✓
TCTL cd (dB) f	1-660	801	34.7	[6.766] 3	74.2	[532.3] 1			
TCTL cd (dB) r	1-660	801	34.8	[6.766] 3	73.2	[650.9] 3			
ELTCTL cd (dB) f	1-660	801	11.0	[638.6] 1	44.9	[1] 3	9.7	(36.3 < 26.5) [2.647] 3	✓
ELTCTL cd (dB) r	1-660	801	10.4	[592.5] 3	44.1	[1] 3	9.1	(44.1 < 35.0) [1] 3	✓

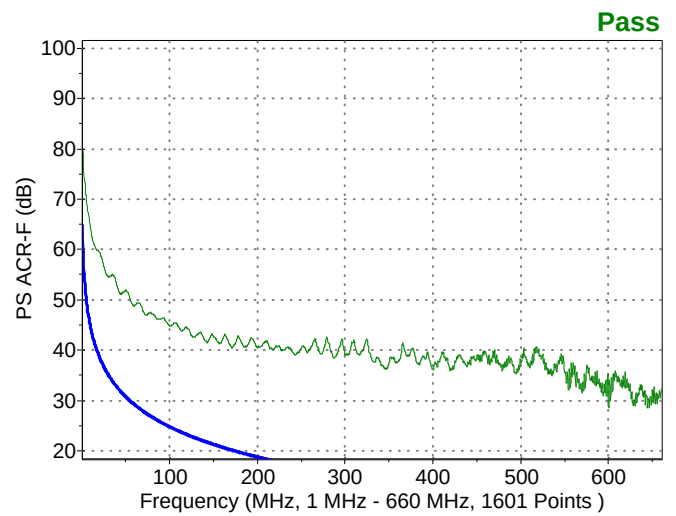
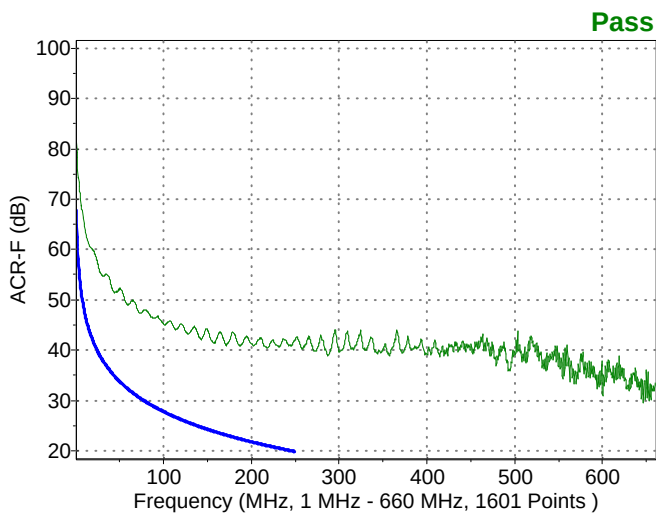
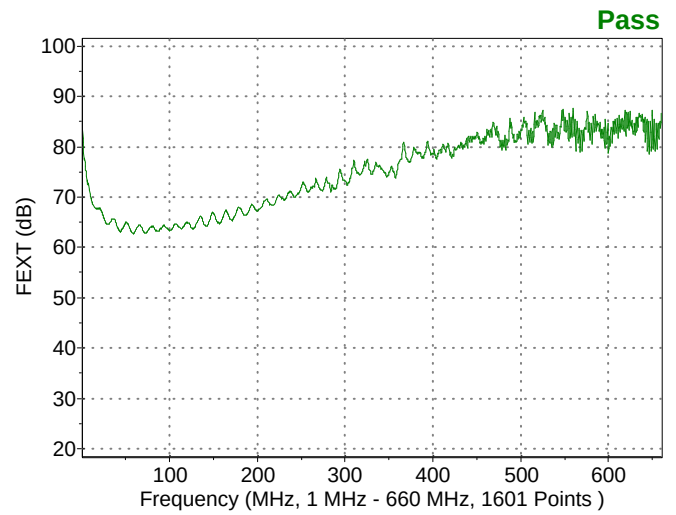
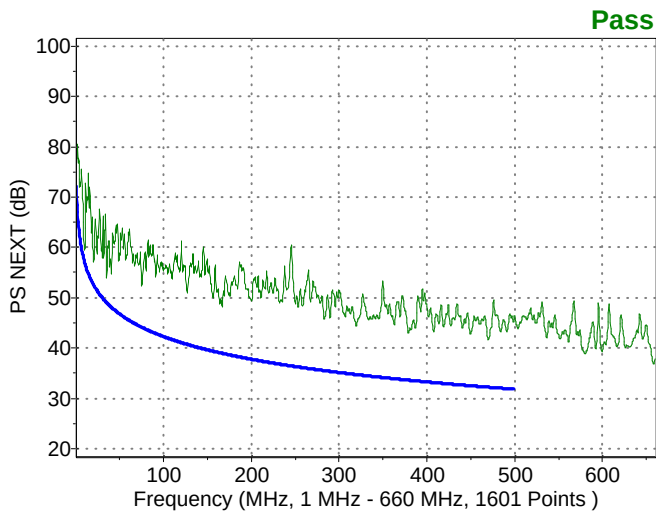
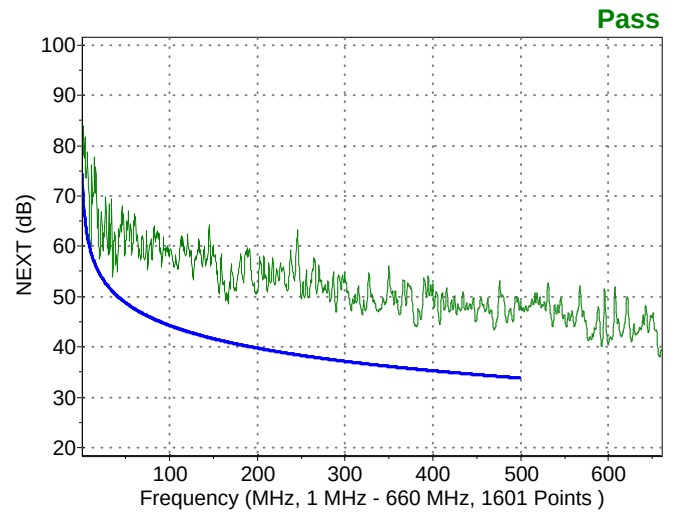
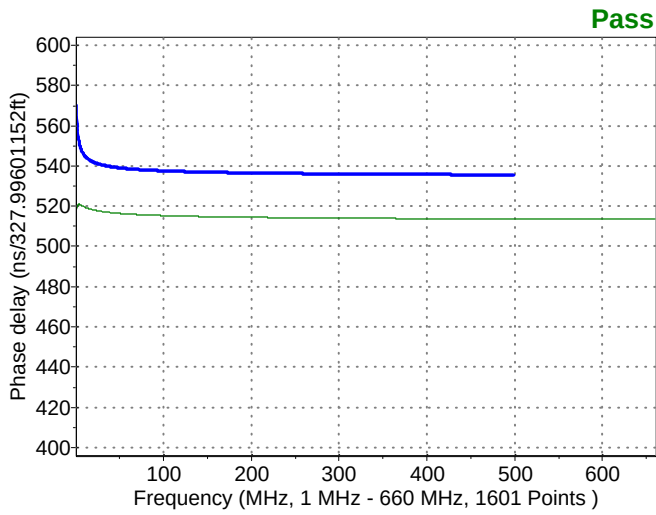
Legend

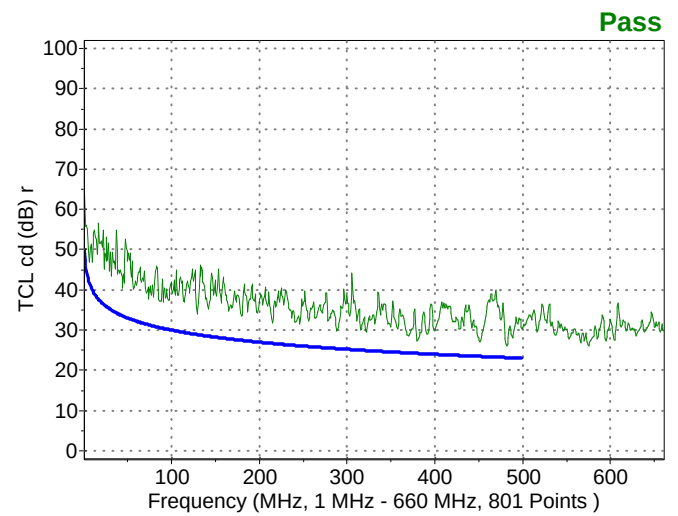
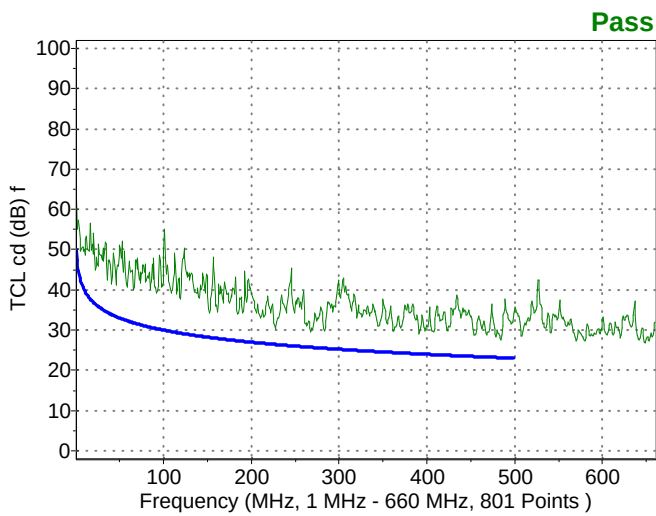
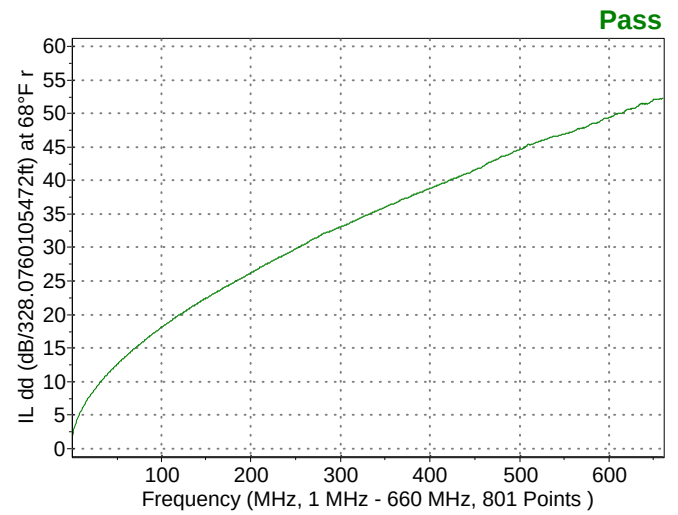
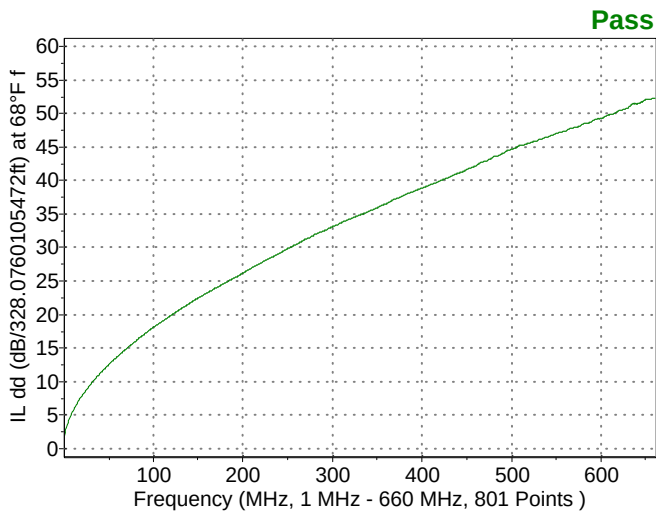
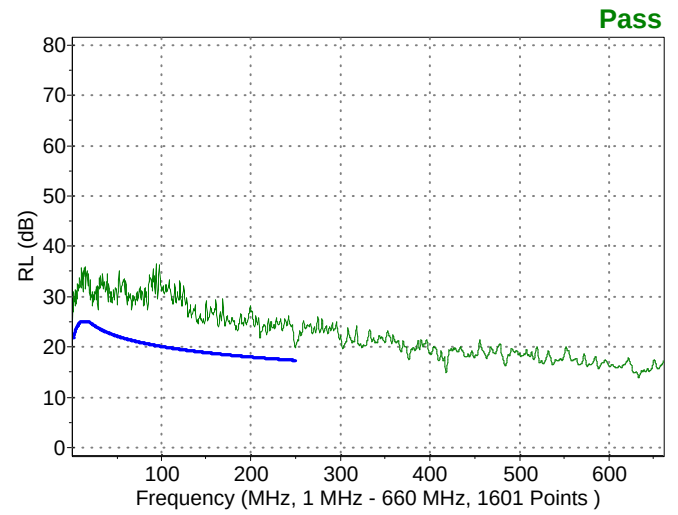
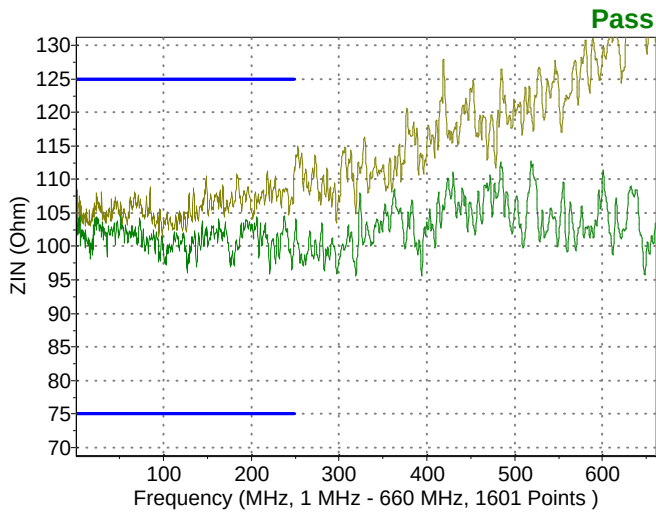
Cont. check IL = Continuity check IL
PS NEXT = Power Sum NEXT
PS ACR-F = Power Sum ACR-F
IL dd = Insertion loss dd
ELTCTL cd = Equal Level TCTL cd

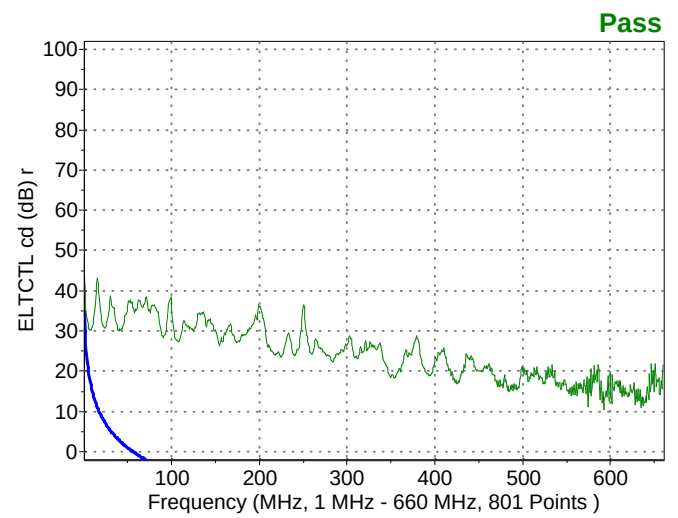
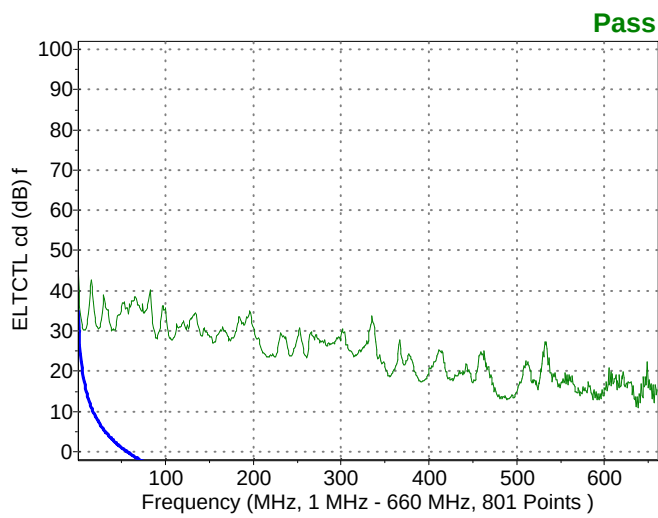
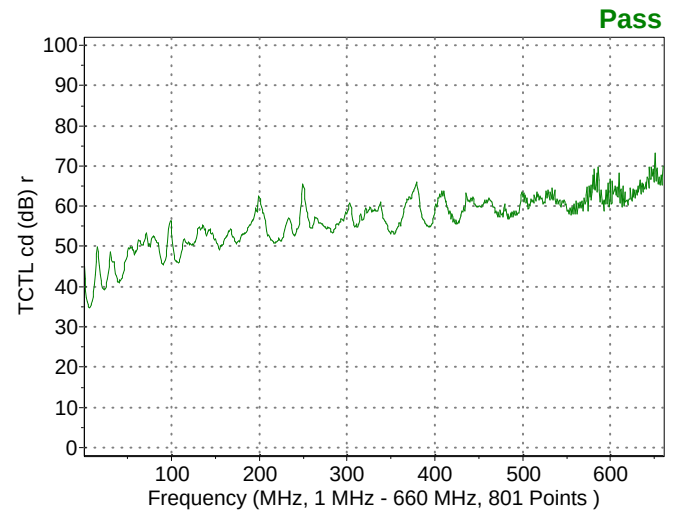
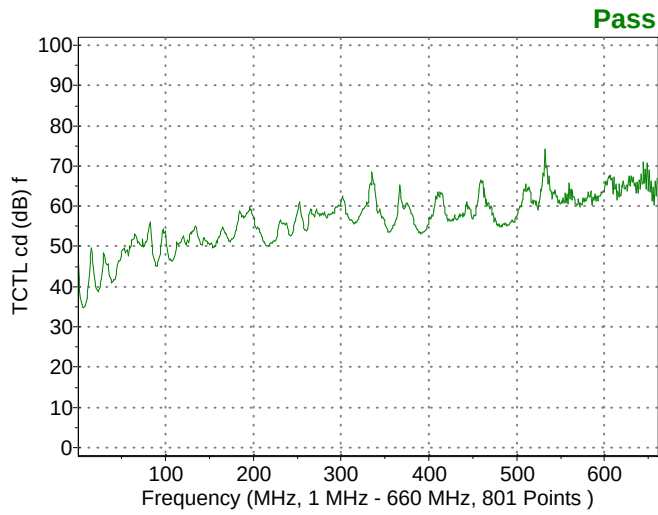
Phase delay = Phase delay
FEXT = Far End Crosstalk
ZIN = Input Impedance
TCL cd = transverse conv. loss cd

NEXT = Near End Crosstalk
ACR-F = Attenuation Crosstalk-F Ratio
RL = Return Loss
TCTL cd = transverse conv. transfer loss cd





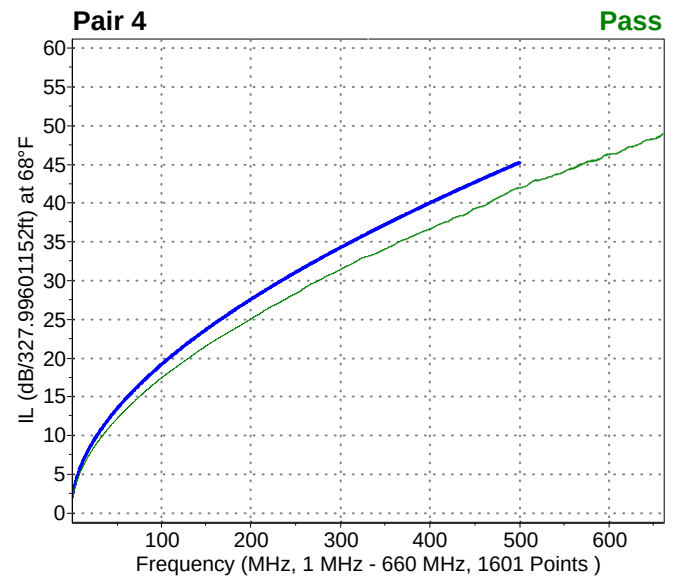
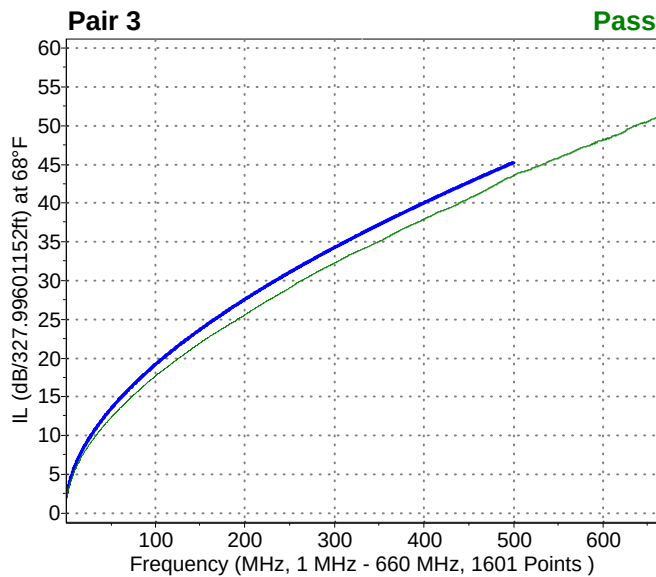
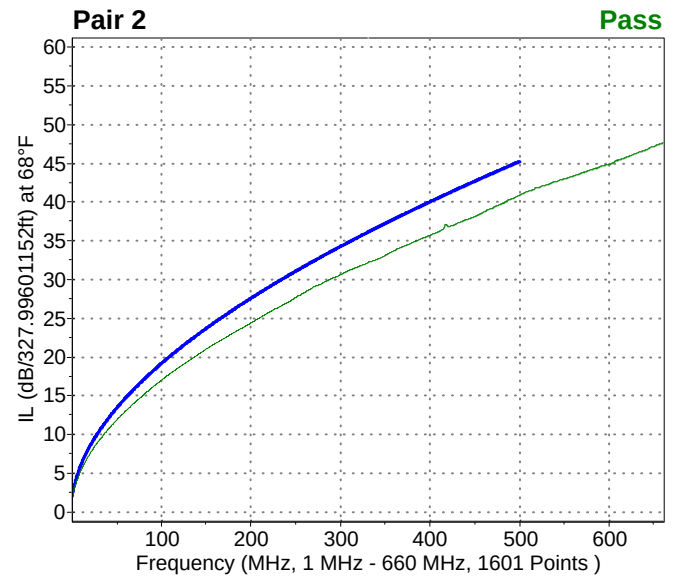
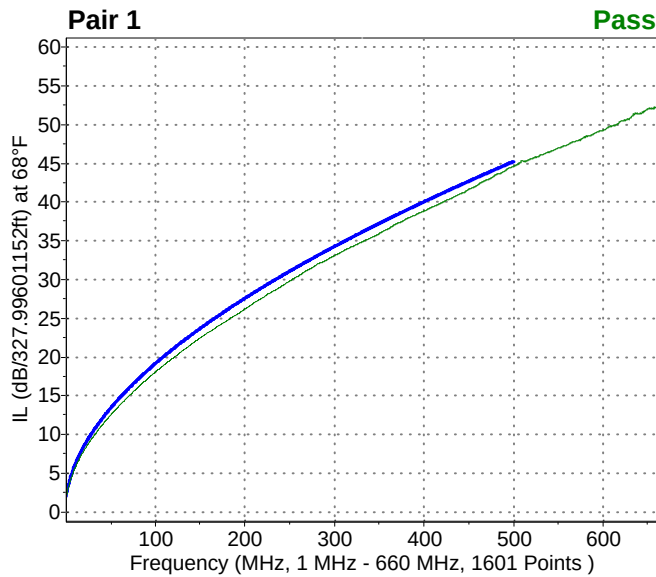




Summary and Graphic: Insertion loss (IL)

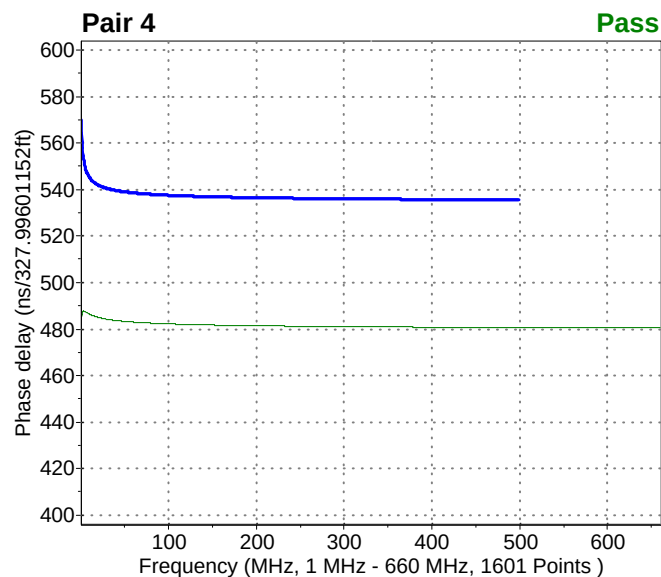
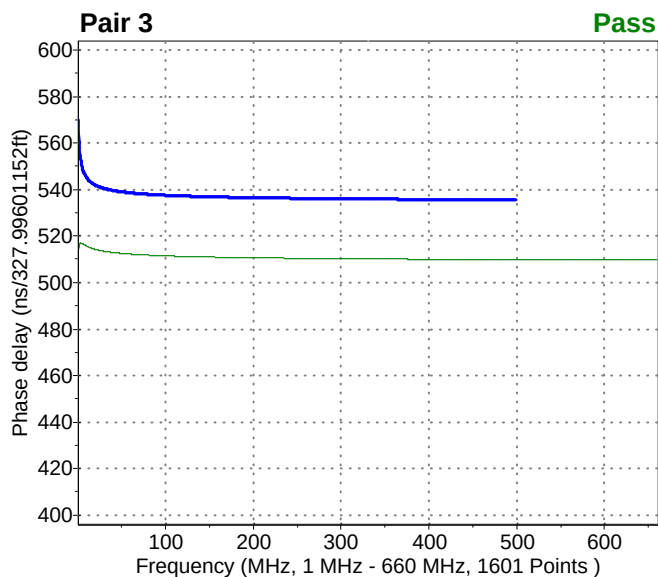
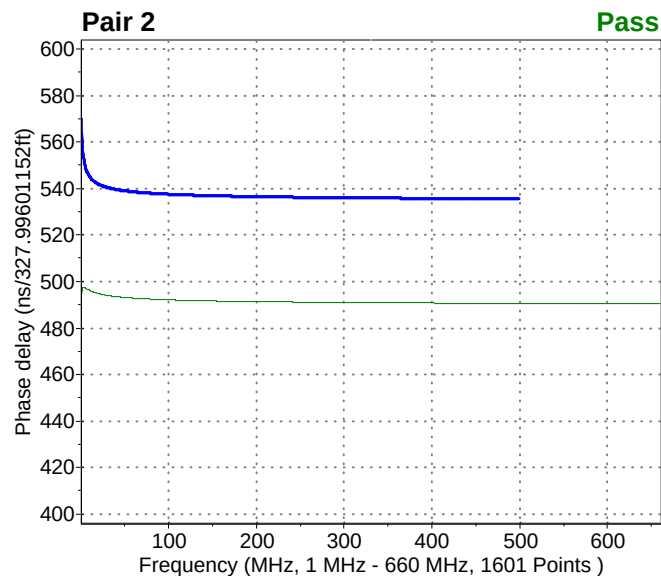
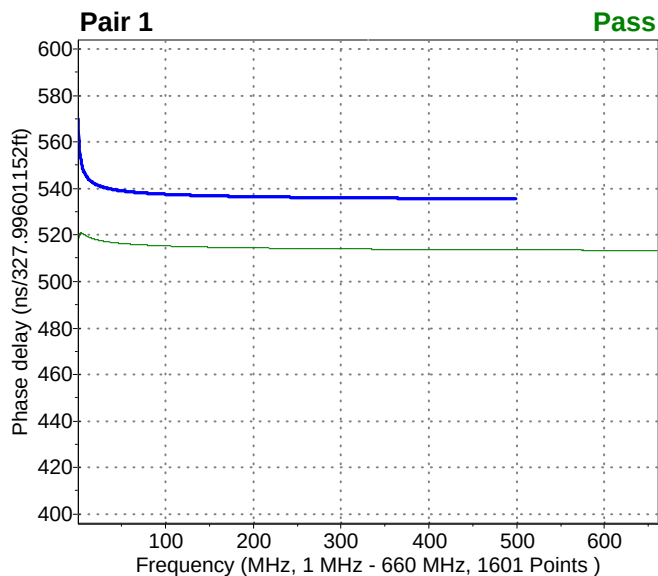
{ v = Value (dB/327.99601152ft) at 68°F l = Limit (dB/327.99601152ft) at 68°F m = Margin (dB/327.99601152ft) at 68°F f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum	{ v [f] }	Maximum	{ v [f] }	Min. Margin	{ m (v l) [f] }	Result
1	1	660	1601	1.77	[1]	52.35	[659.2]	0.30	(2.08 > 2.39) [1.412]	✓
2	1	660	1601	1.72	[1]	47.64	[660]	0.36	(1.72 > 2.08) [1]	✓
3	1	660	1601	1.77	[1]	51.05	[660]	0.31	(1.77 > 2.08) [1]	✓
4	1	660	1601	1.74	[1]	48.97	[660]	0.34	(1.74 > 2.08) [1]	✓



**Summary and Graphic: Phase delay (Phase delay)**{ v = Value (ns/327.99601152ft) } l = Limit (ns/327.99601152ft) m = Margin (ns/327.99601152ft) f = Frequency (MHz) }

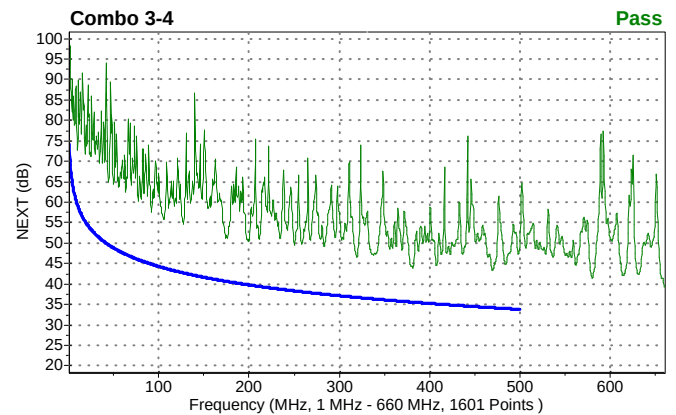
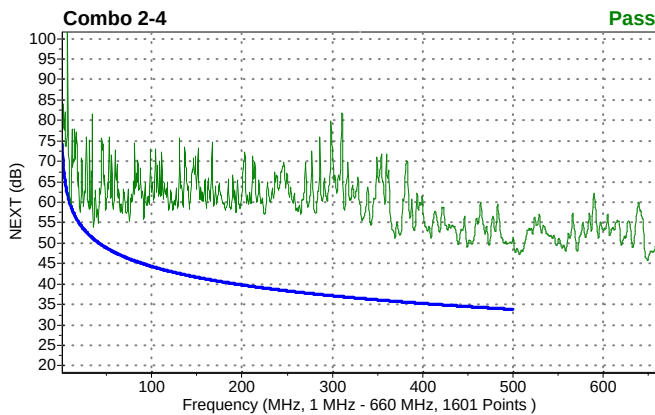
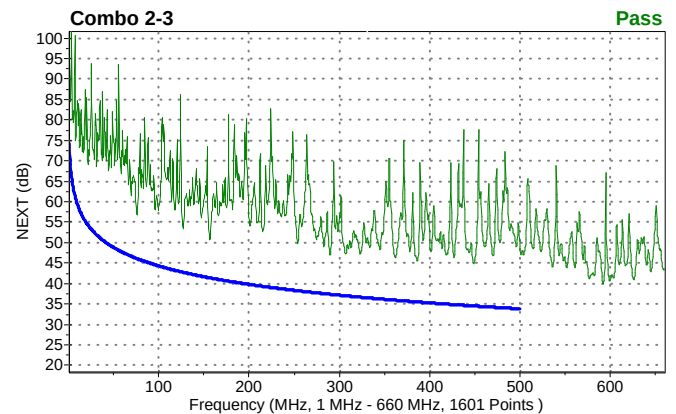
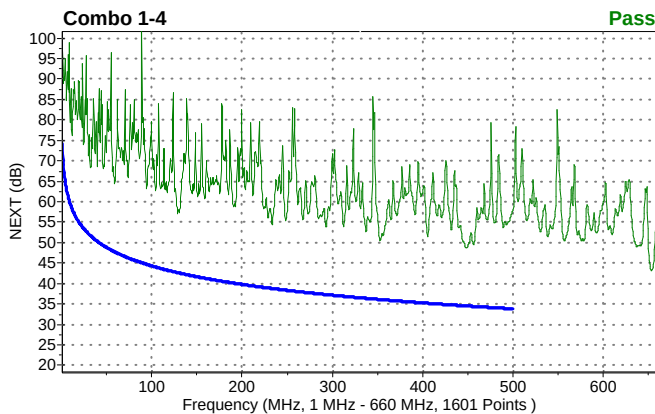
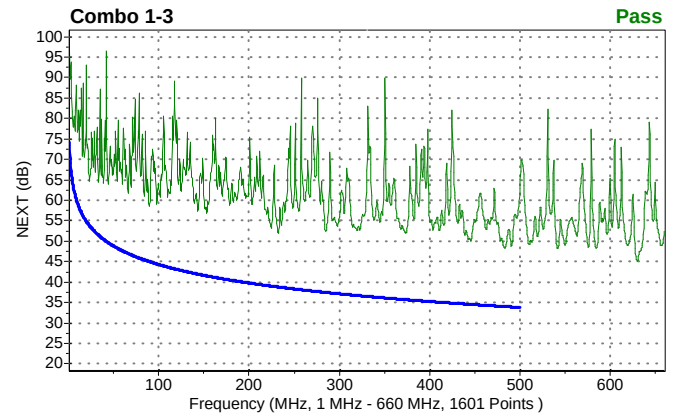
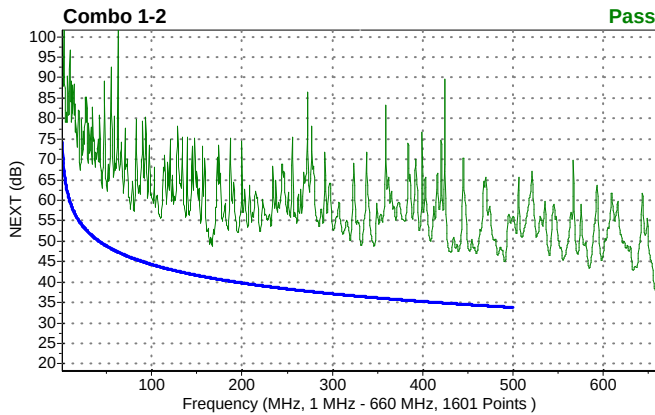
Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/l)[f]$ }	Result
1	1	660	1601	513.45 [658.8]	521.03 [3.471]	21.96 (513.71 > 535.66) [467.7]	✓
2	1	660	1601	490.45 [659.2]	497.54 [3.471]	45.00 (490.64 > 535.64) [484.1]	✓
3	1	660	1601	509.69 [659.6]	517.07 [3.471]	25.73 (509.92 > 535.65) [475.9]	✓
4	1	660	1601	480.53 [654.6]	487.78 [3.471]	54.92 (480.70 > 535.62) [495.2]	✓



Summary and Graphic: Near End Crosstalk (NEXT)

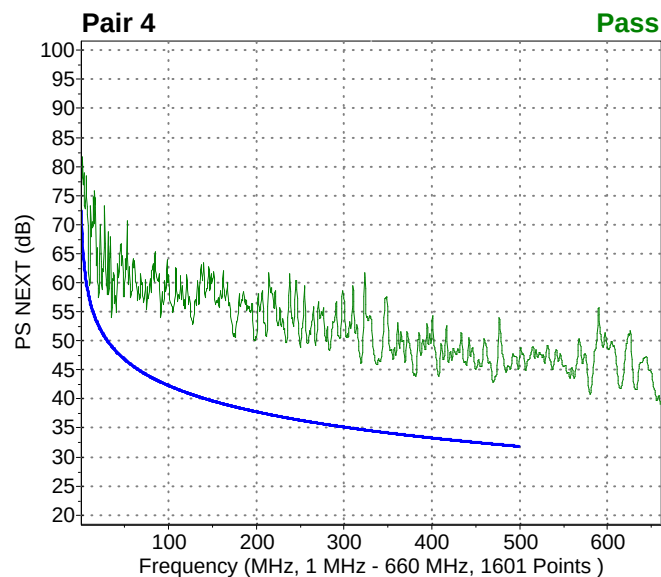
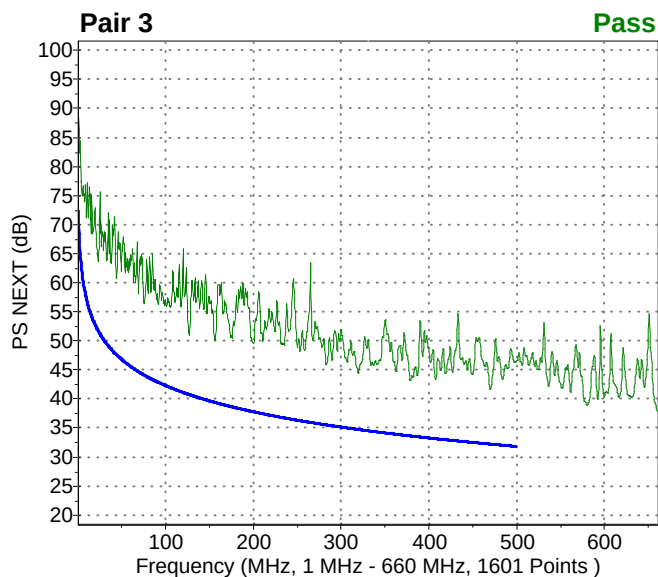
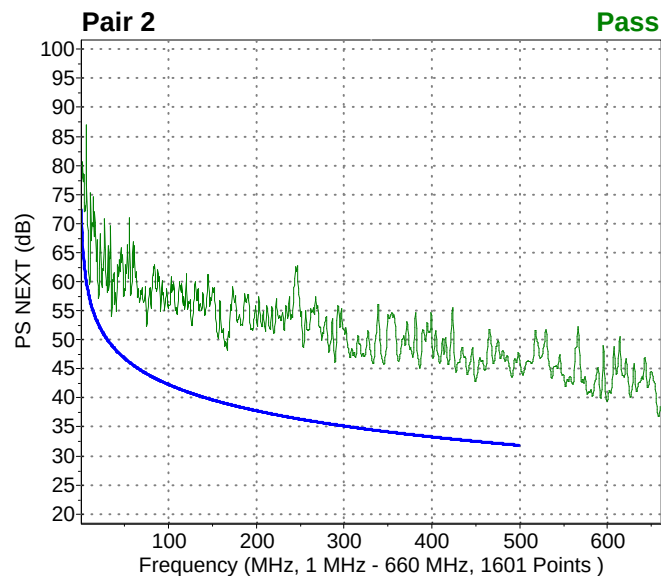
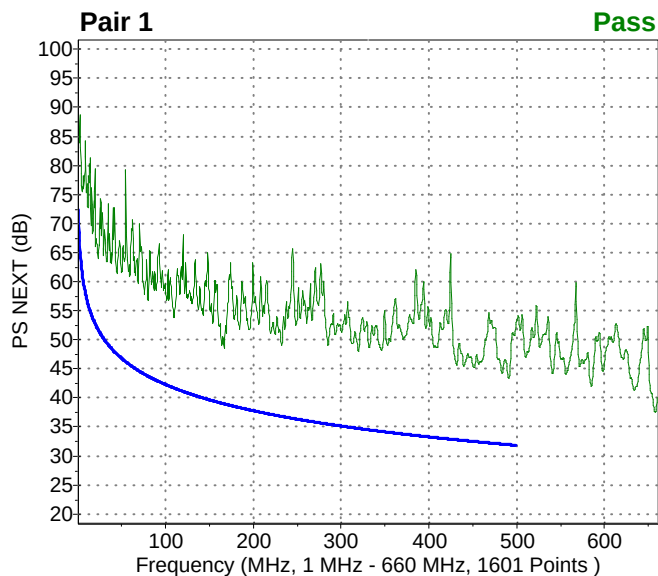
{ *v* = Value (dB) *l* = Limit (dB) *m* = Margin (dB) *f* = Frequency (MHz) }

Combo	Start <i>f</i>	Stop <i>f</i>	Points	Minimum { <i>v</i> [<i>f</i>] }	Maximum { <i>v</i> [<i>f</i>] }	Min. Margin { <i>m</i> (<i>v</i> <i>l</i>) [<i>f</i>] }	Result
1-2	1	660	1601	38.03 [657.9]	108.47 [3.059]	7.68 (48.64 < 40.96) [167]	✓
1-3	1	660	1601	45.02 [630.3]	97.74 [1.412]	10.91 (64.72 < 53.81) [23.24]	✓
1-4	1	660	1601	43.20 [653.4]	104.09 [89.14]	14.17 (48.69 < 34.52) [448.7]	✓
2-3	1	660	1601	39.96 [592.5]	102.41 [3.471]	9.23 (50.60 < 41.37) [156.7]	✓
2-4	1	660	1601	45.79 [649.3]	102.64 [6.766]	0.53 (59.53 < 59.00) [10.47]	✓
3-4	1	660	1601	39.26 [660]	99.86 [1]	8.36 (43.93 < 35.58) [381.6]	✓



**Summary and Graphic: Power Sum NEXT (PS NEXT)**{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

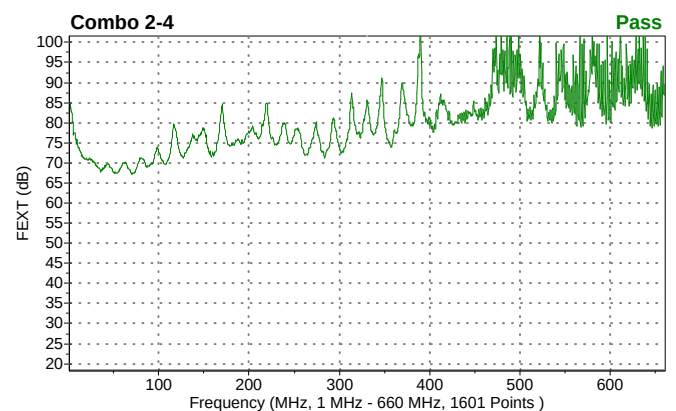
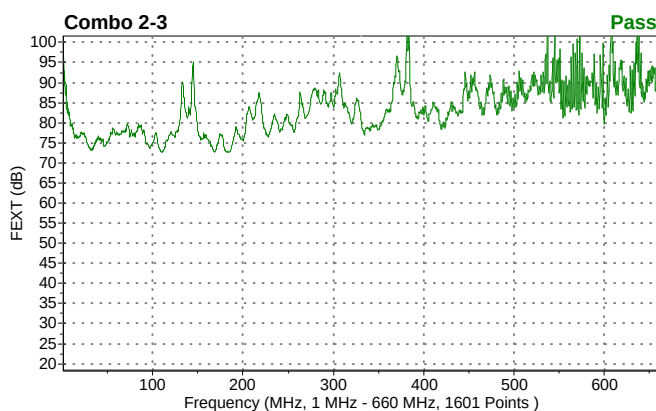
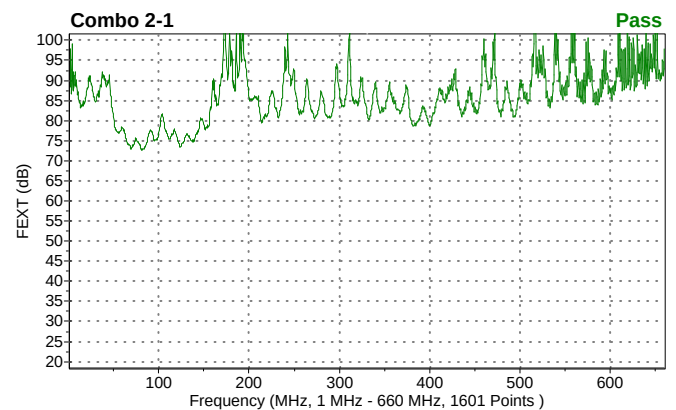
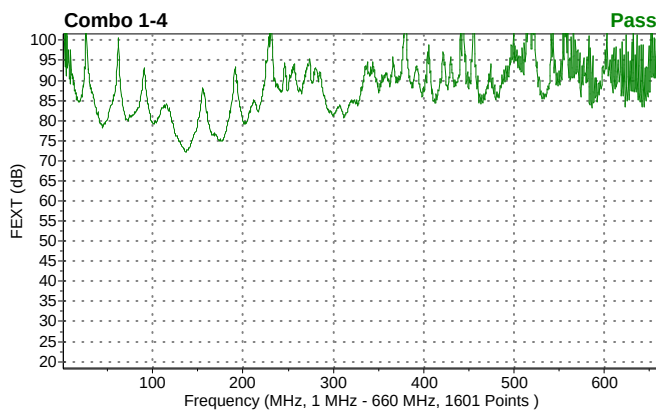
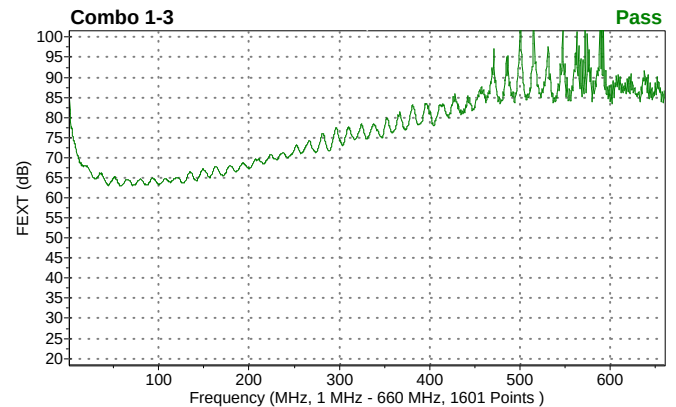
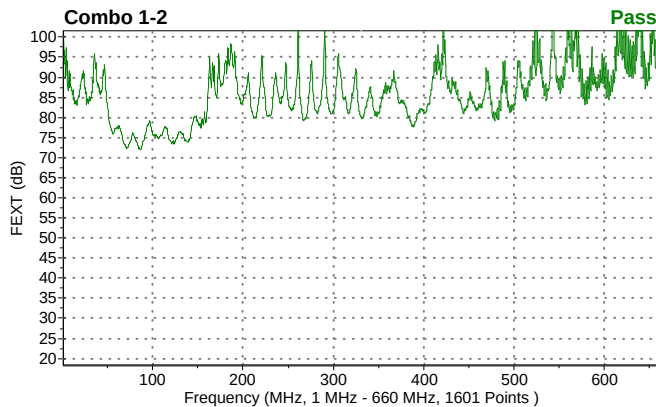
Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v,l)[f]$ }	Result
1	1	660	1601	37.56 [657.9]	89.63 [1.412]	9.52 (48.48 < 38.96) [167]	✓
2	1	660	1601	36.80 [658.4]	87.03 [6.766]	2.48 (59.48 < 57.00) [10.47]	✓
3	1	660	1601	37.78 [660]	89.18 [1.412]	9.44 (41.66 < 32.22) [470.1]	✓
4	1	660	1601	39.02 [660]	83.28 [1]	2.42 (59.42 < 57.00) [10.47]	✓

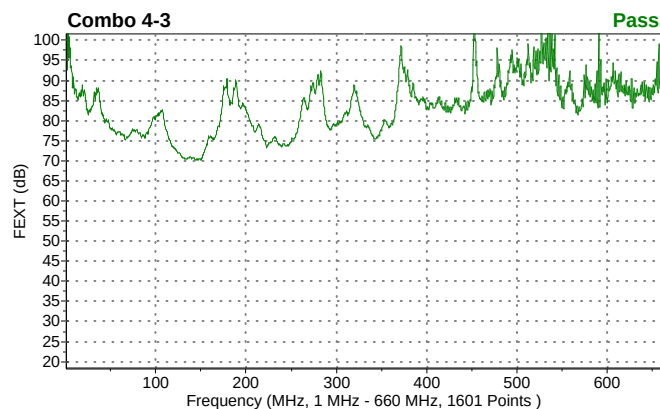
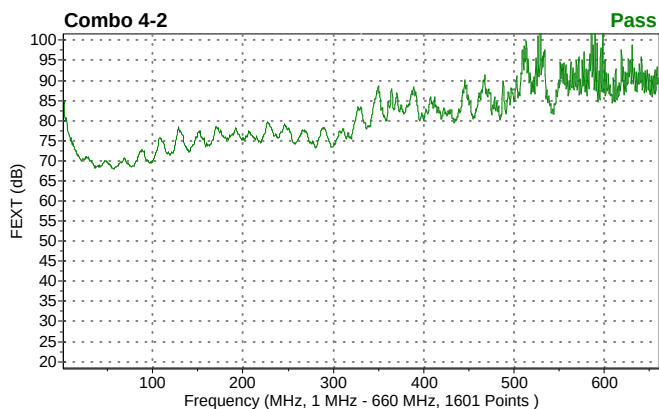
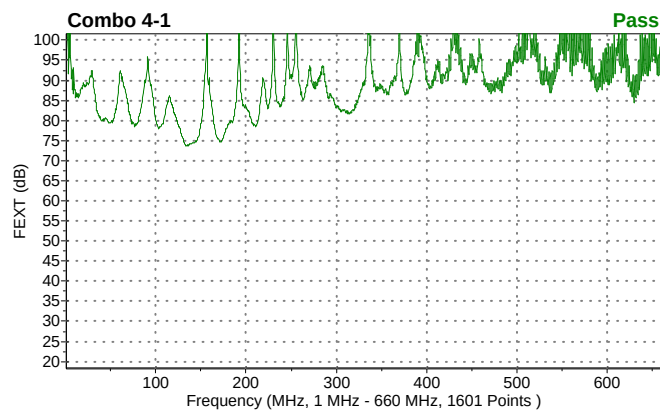
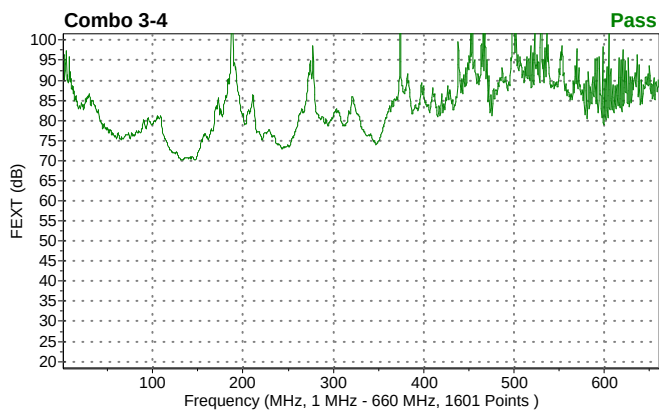
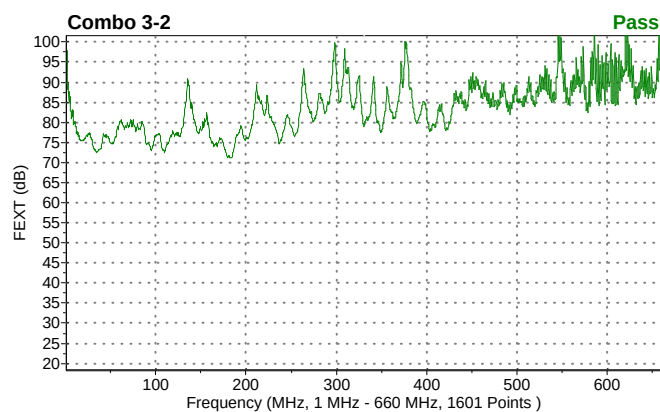
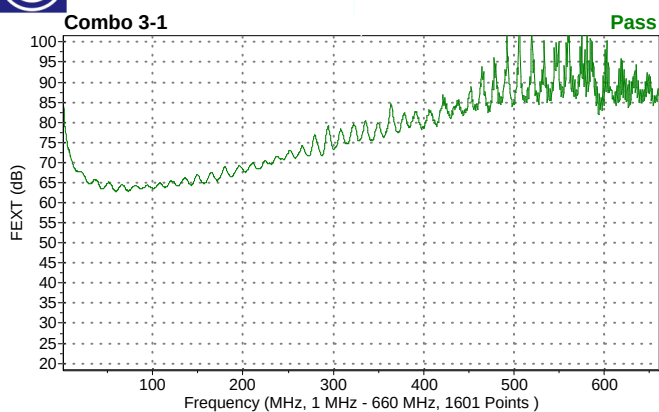


**Summary and Graphic: Far End Crosstalk (FEXT)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1-2	1	660	1601	71.94 [86.67]	117.71 [617.2]	✓
1-3	1	660	1601	62.89 [57.84]	110.64 [515.4]	✓
1-4	1	660	1601	72.15 [136.1]	124.47 [556.6]	✓
2-1	1	660	1601	72.75 [81.32]	122.72 [173.2]	✓
2-3	1	660	1601	72.60 [184.3]	132.43 [537.7]	✓
2-4	1	660	1601	67.19 [70.61]	110.90 [611.4]	✓
3-1	1	660	1601	62.72 [59.07]	115.18 [581.3]	✓
3-2	1	660	1601	71.22 [182.6]	107.46 [585.9]	✓
3-4	1	660	1601	70.10 [146.8]	116.86 [187.6]	✓
4-1	1	660	1601	73.74 [133.6]	120.08 [230.4]	✓
4-2	1	660	1601	67.95 [56.6]	105.41 [586.3]	✓
4-3	1	660	1601	70.19 [146.8]	112.66 [452.4]	✓

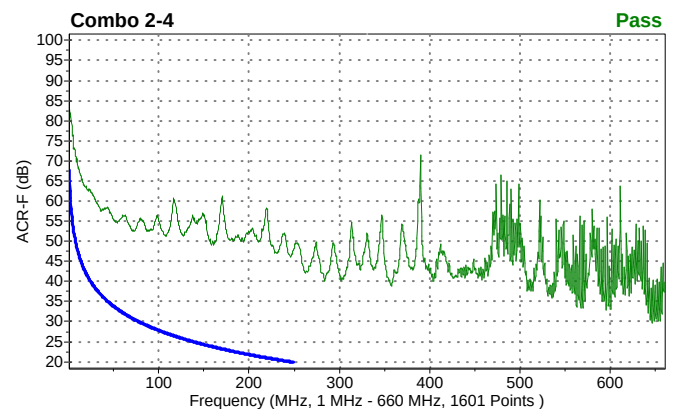
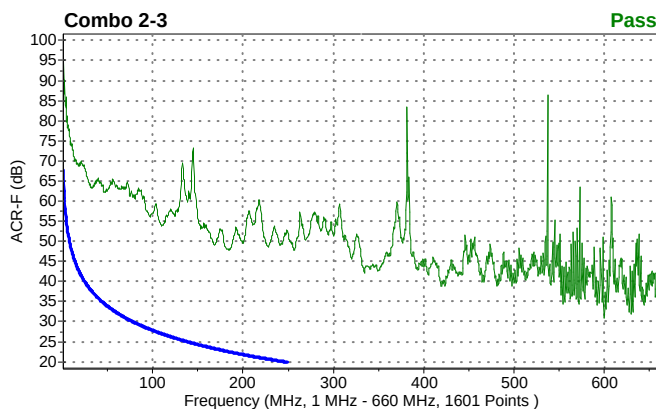
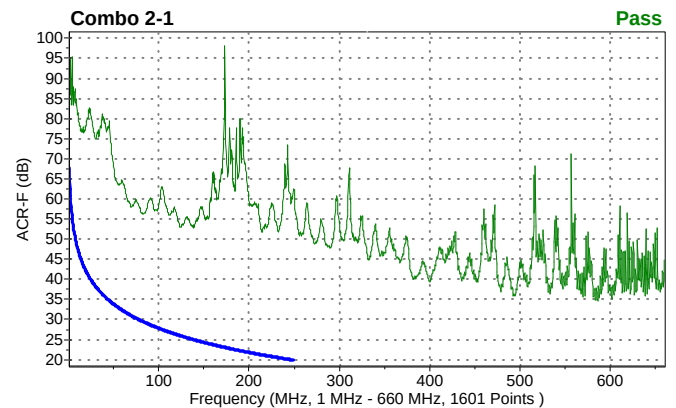
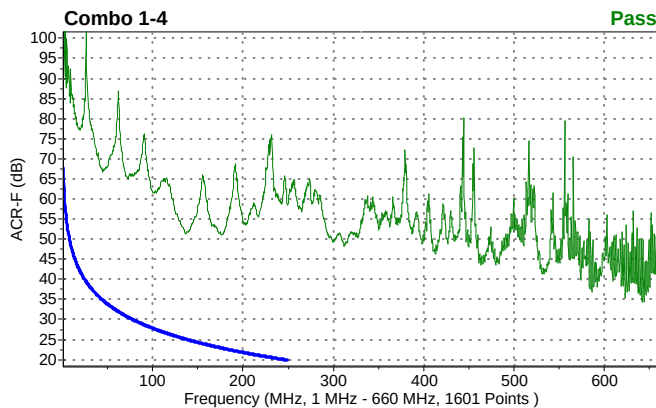
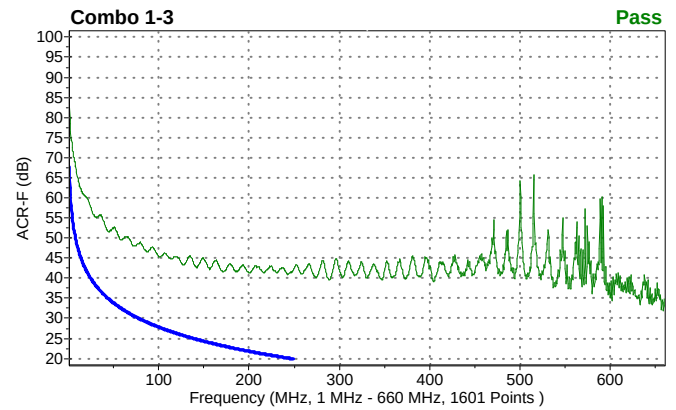
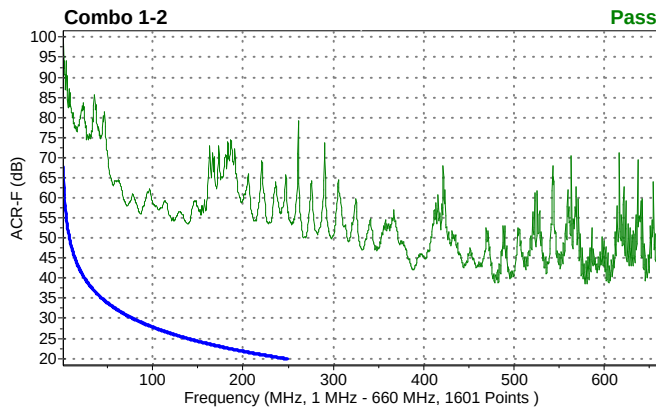


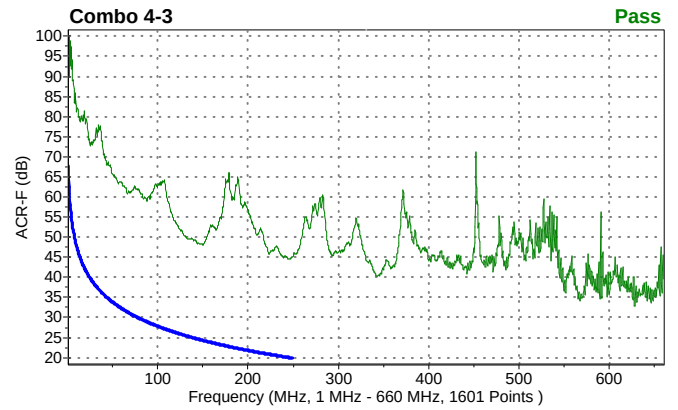
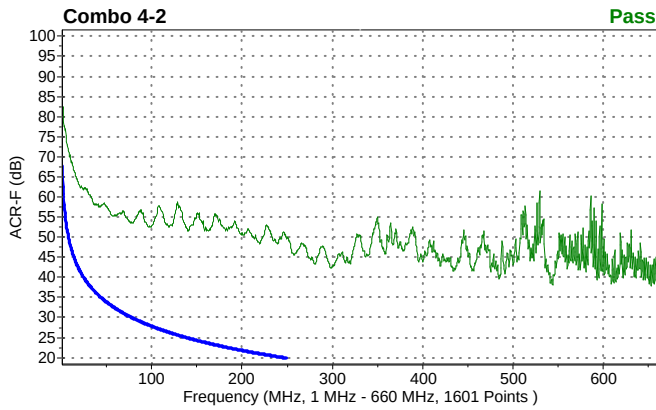
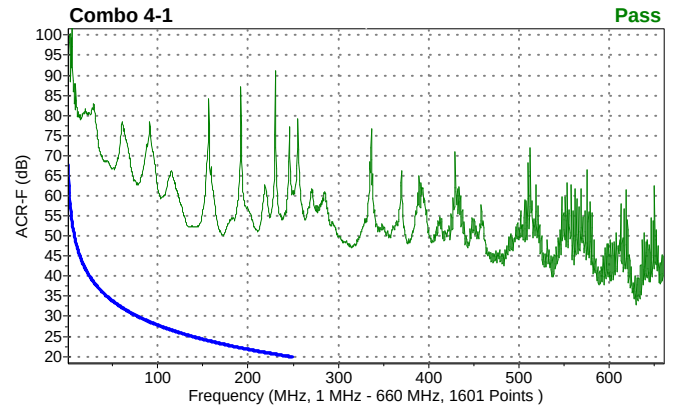
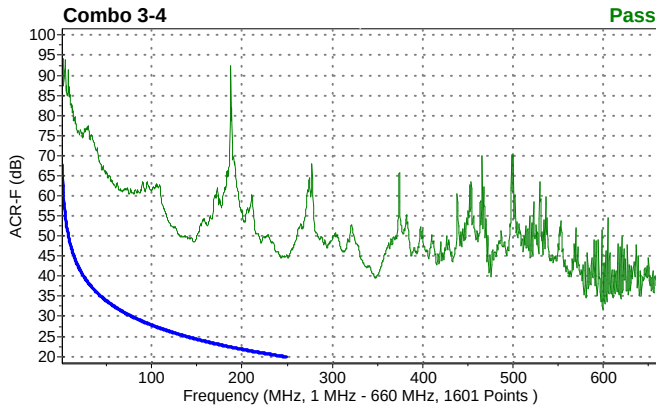
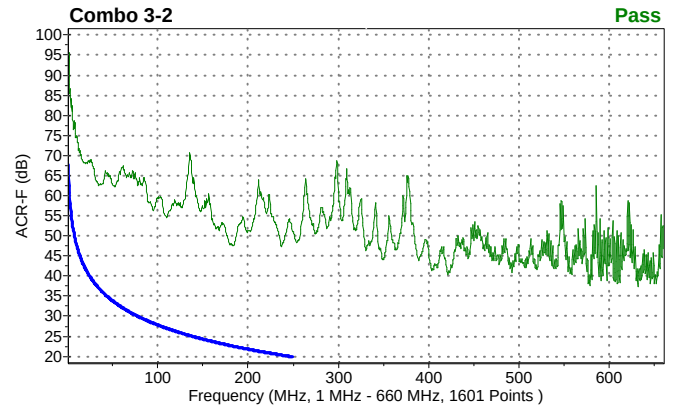
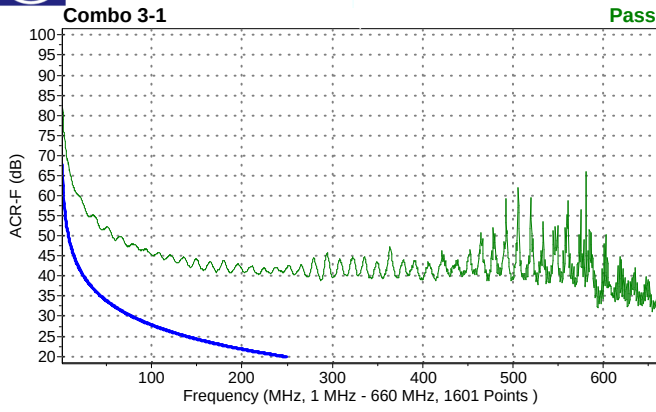


**Summary and Graphic: Attenuation Crosstalk-F Ratio (ACR-F)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

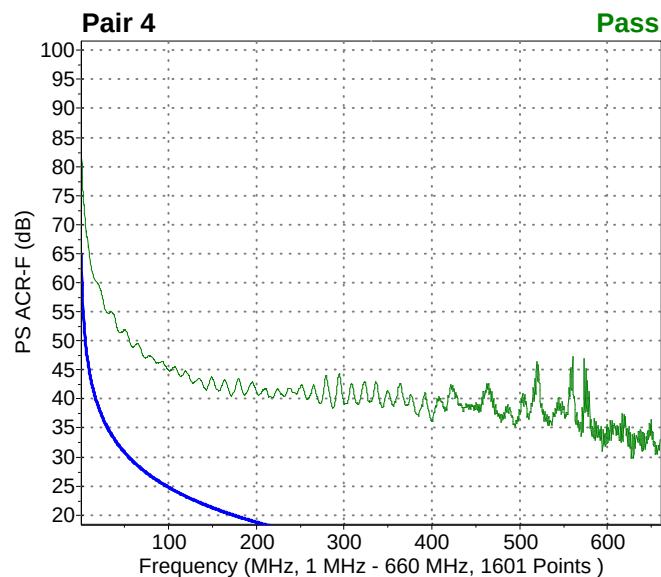
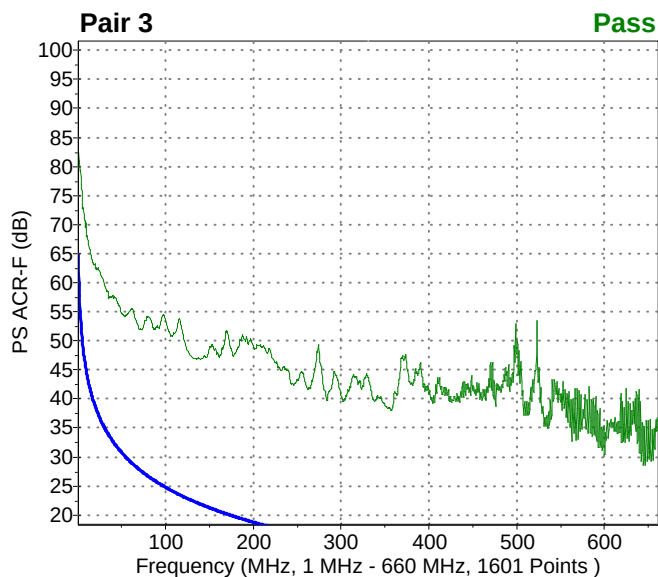
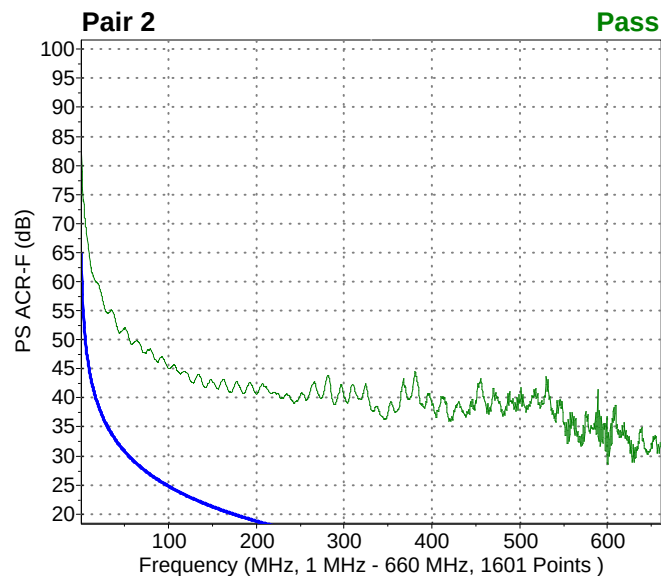
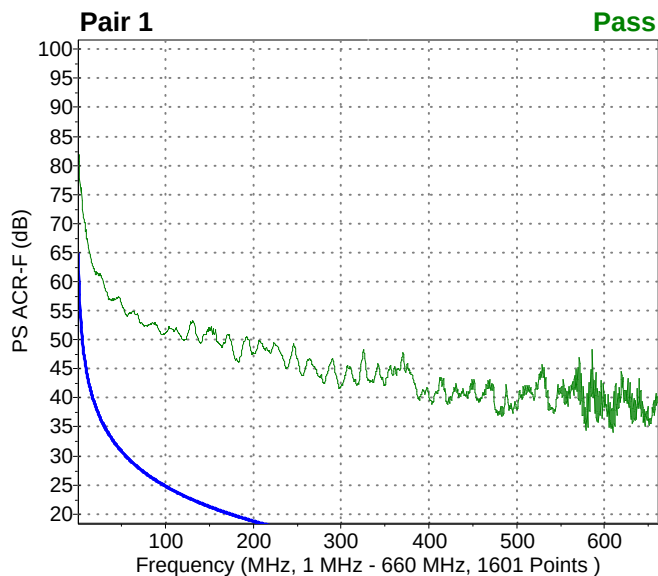
Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1-2	1	660	1601	38.5 [578.9]	100.1 [1.412]		✓
1-3	1	660	1601	31.9 [658.8]	86.4 [1]		✓
1-4	1	660	1601	34.4 [641.9]	108.7 [26.54]		✓
2-1	1	660	1601	34.6 [586.3]	98.2 [173.2]		✓
2-3	1	660	1601	30.9 [600.3]	96.1 [1.412]		✓
2-4	1	660	1601	29.6 [646.4]	87.9 [1]		✓
3-1	1	660	1601	31.2 [654.6]	84.6 [1]		✓
3-2	1	660	1601	37.4 [632]	95.6 [1.824]		✓
3-4	1	660	1601	31.8 [599.9]	99.5 [1]		✓
4-1	1	660	1601	32.7 [629.9]	108.6 [5.119]		✓
4-2	1	660	1601	37.7 [653]	86.7 [1]		✓
4-3	1	660	1601	32.8 [628.3]	102.0 [1]		✓





**Summary and Graphic: Power Sum ACR-F (PS ACR-F)**{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/l)[f]$ }	Result
1	1	660	1601	34.1 [609.3]	85.1 [1]		✓
2	1	660	1601	28.5 [600.3]	85.7 [1]		✓
3	1	660	1601	28.5 [644.3]	87.0 [1]		✓
4	1	660	1601	29.7 [627.5]	84.2 [1]		✓

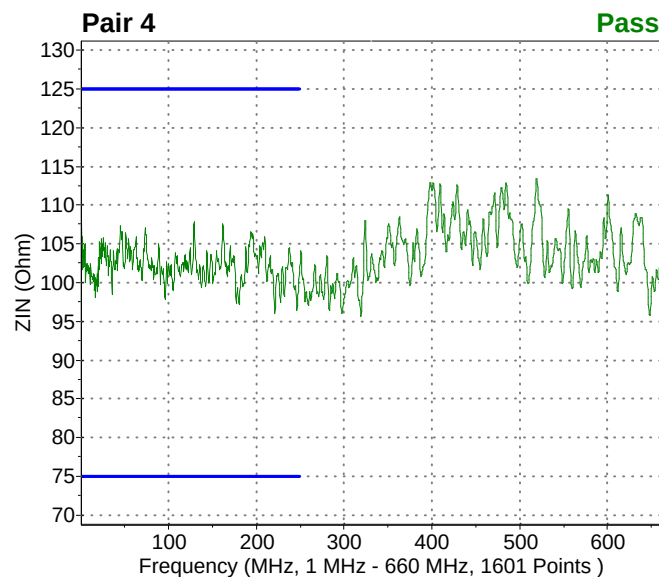
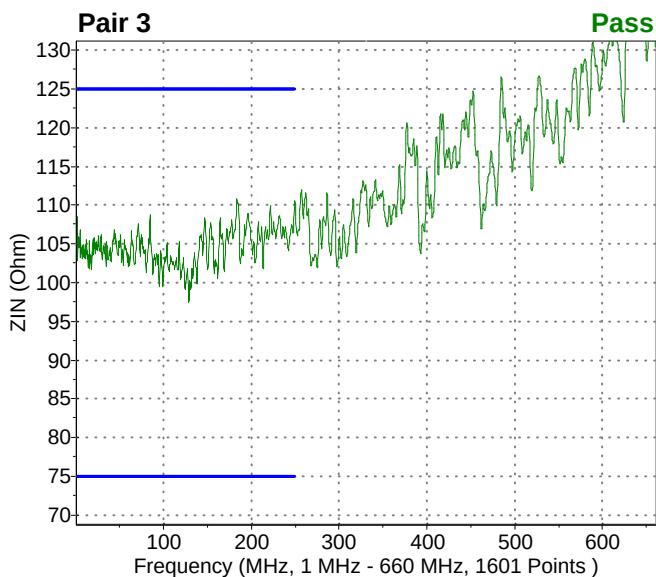
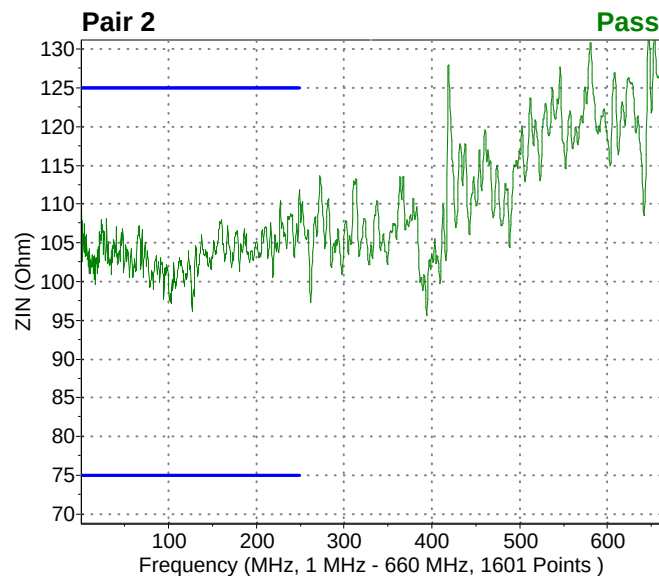
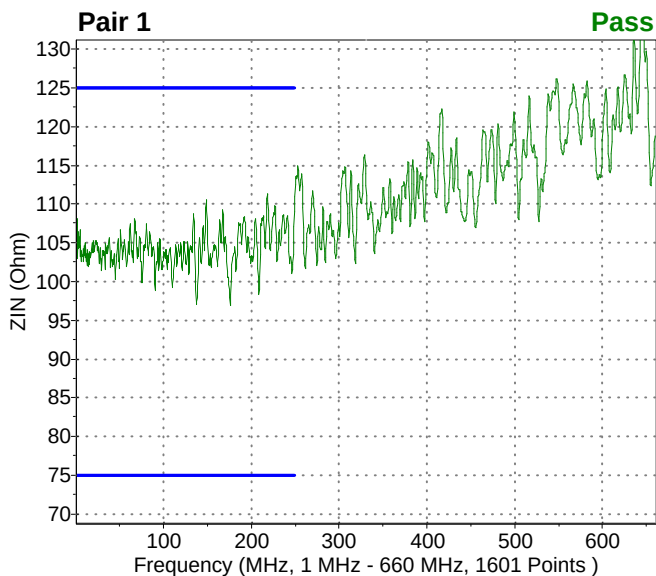




Summary and Graphic: Input Impedance (ZIN)

{ v = Value (Ohm) l = Limit (Ohm) m = Margin (Ohm) f = Frequency (MHz) }

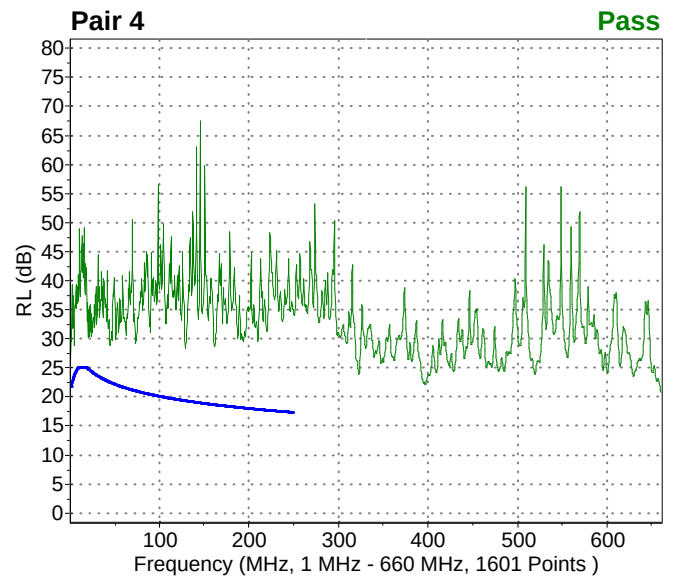
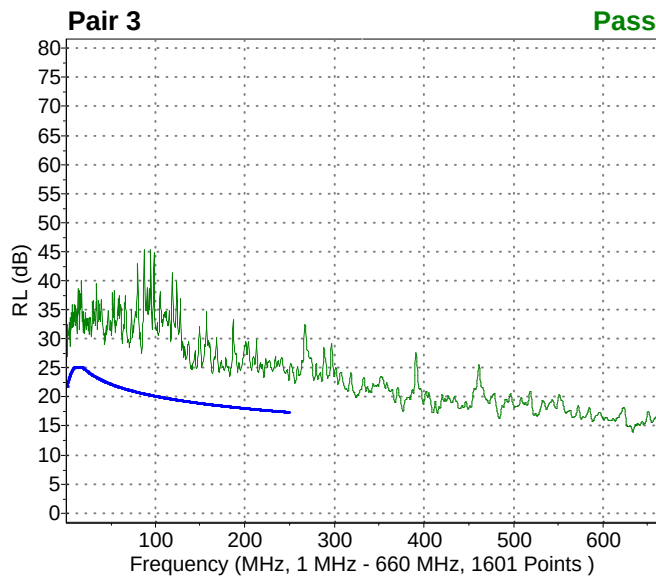
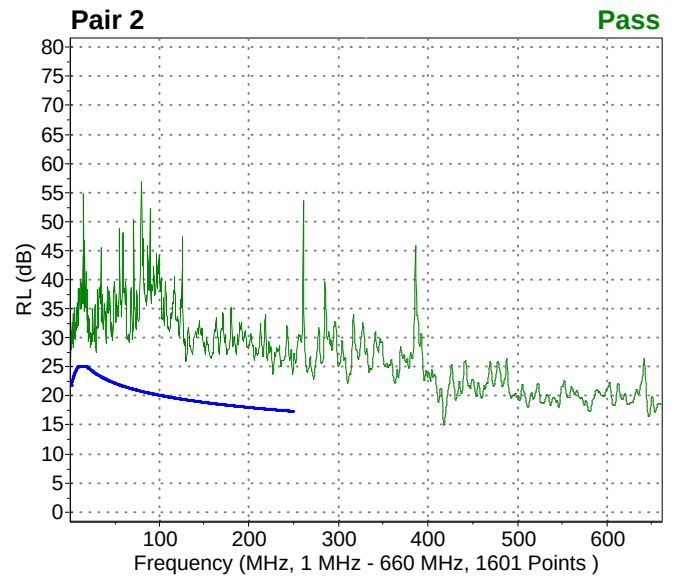
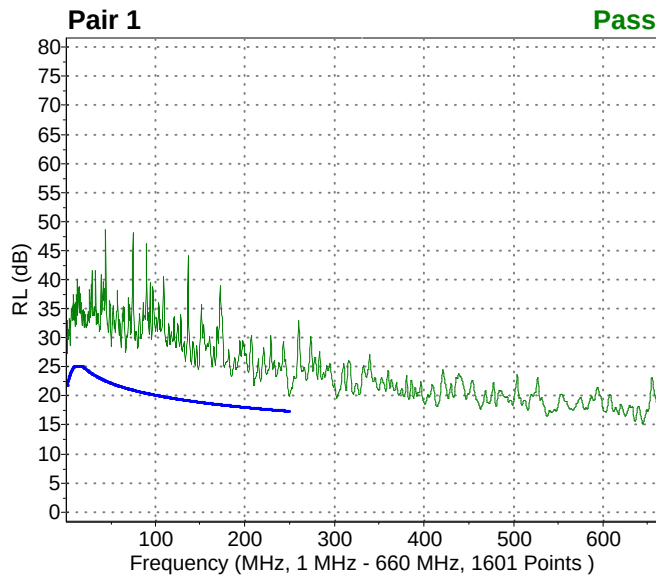
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	96.94 [176]	136.26 [644.8]		✓
2	1	660	1601	95.60 [394.3]	132.77 [646.8]		✓
3	1	660	1601	97.46 [129.1]	143.88 [633.2]		✓
4	1	660	1601	95.63 [319.4]	113.45 [519.6]		✓



Summary and Graphic: Return Loss (RL)

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	15.15 [643.9]	48.68 [45.07]	2.56 (19.89 < 17.32) [249.8]	✓
2	1	660	1601	14.95 [417.8]	56.83 [80.49]	3.59 (27.37 < 23.78) [29.83]	✓
3	1	660	1601	13.92 [632.8]	45.31 [94.91]	5.19 (28.74 < 23.55) [5.119]	✓
4	1	660	1601	20.79 [660]	67.50 [146]	5.17 (28.89 < 23.71) [5.531]	✓



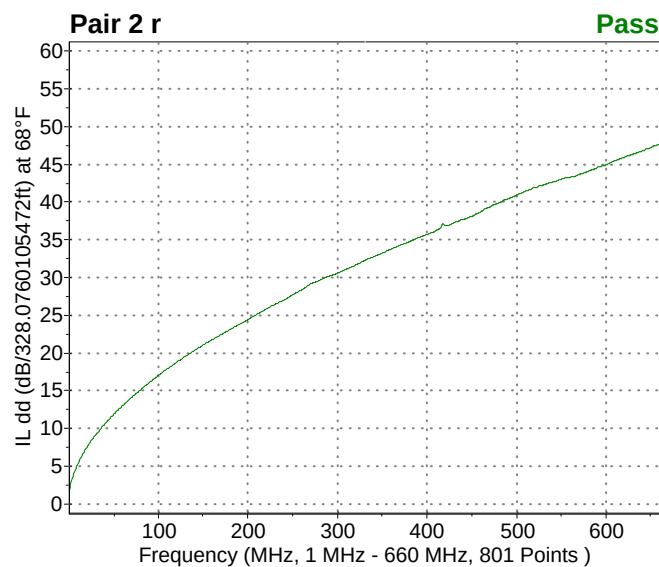
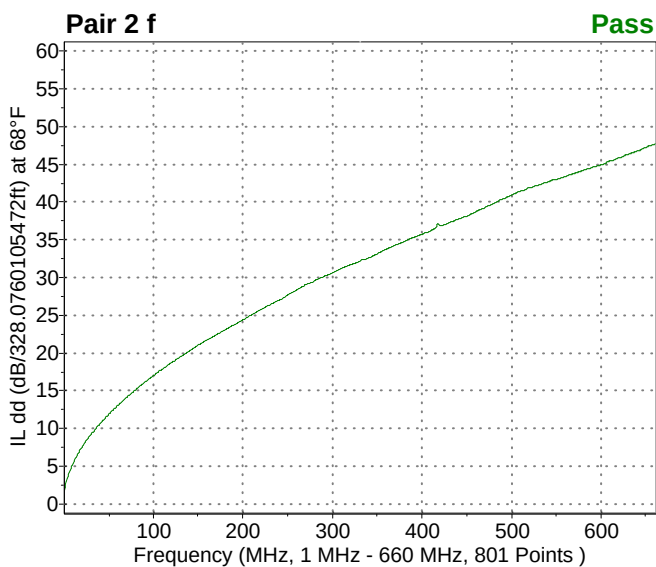
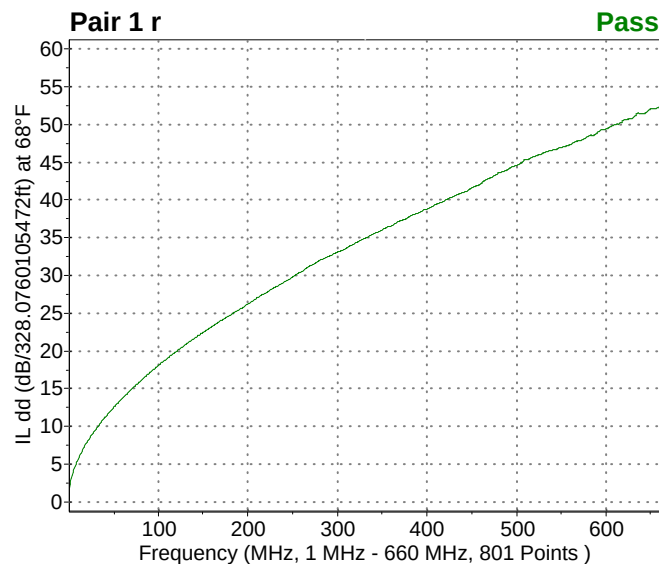
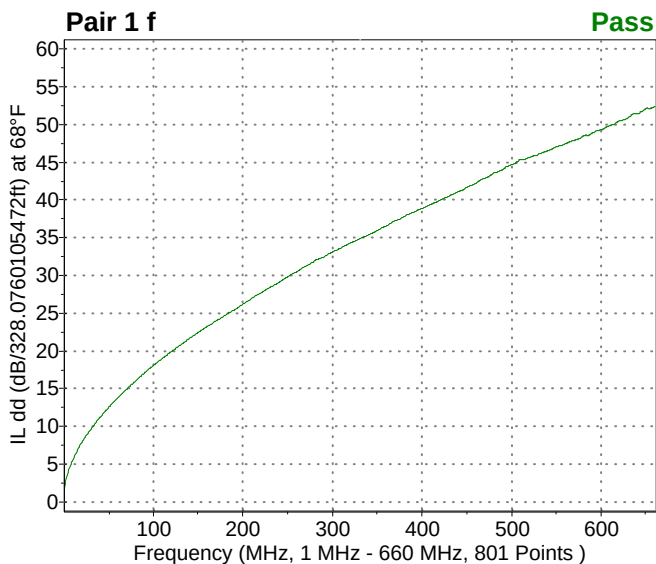
Final control authorized signature:

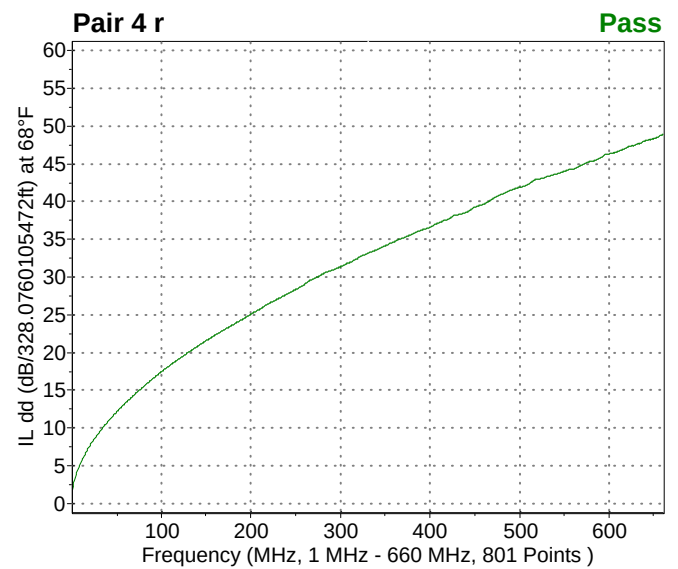
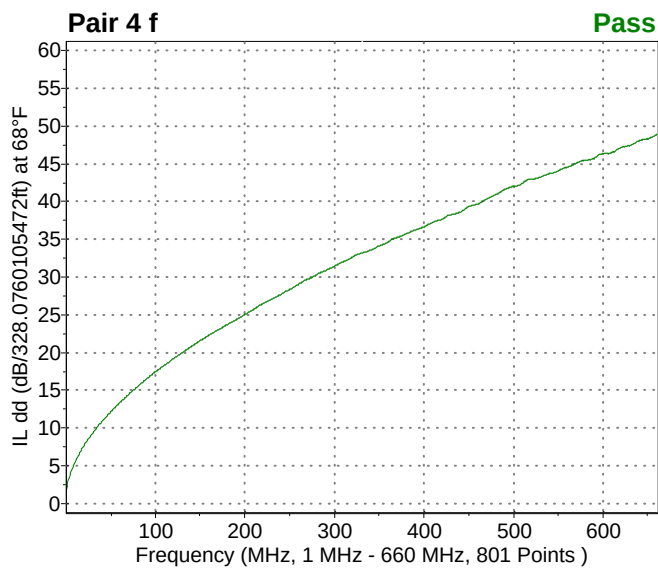
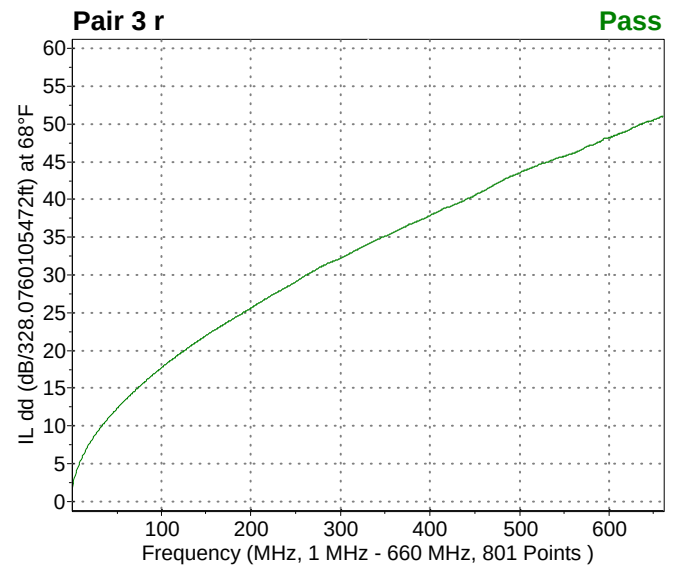
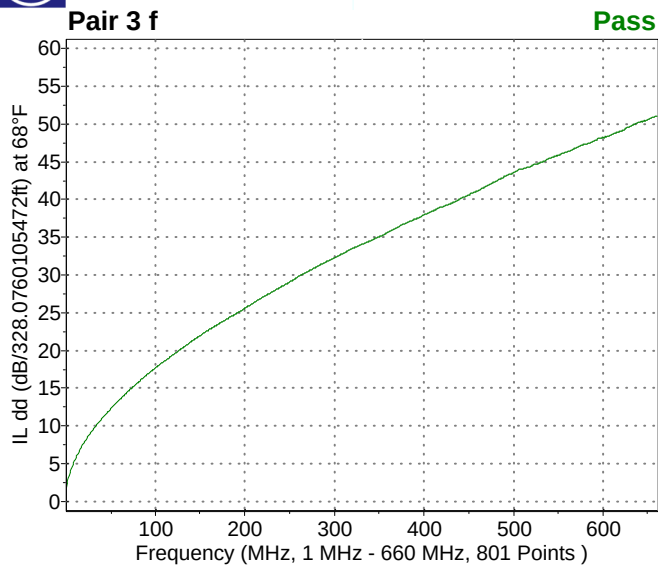
**Summary and Graphic: Insertion loss dd (IL dd)**

{ v = Value (dB/328.0760105472ft) at 68°F l = Limit (dB/328.0760105472ft) at 68°F m = Margin (dB/328.0760105472ft) at 68°F f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum	{ $v[f]$ }	Maximum	{ $v[f]$ }	Result
1 f	1	660	801	1.77	[1]	52.33	[659.2]	✓
1 r	1	660	801	1.77	[1]	52.32	[659.2]	✓
2 f	1	660	801	1.72	[1]	47.65	[660]	✓
2 r	1	660	801	1.71	[1]	47.67	[660]	✓
3 f	1	660	801	1.77	[1]	51.05	[660]	✓
3 r	1	660	801	1.76	[1]	51.03	[660]	✓
4 f	1	660	801	1.74	[1]	48.96	[659.2]	✓
4 r	1	660	801	1.74	[1]	48.94	[659.2]	✓

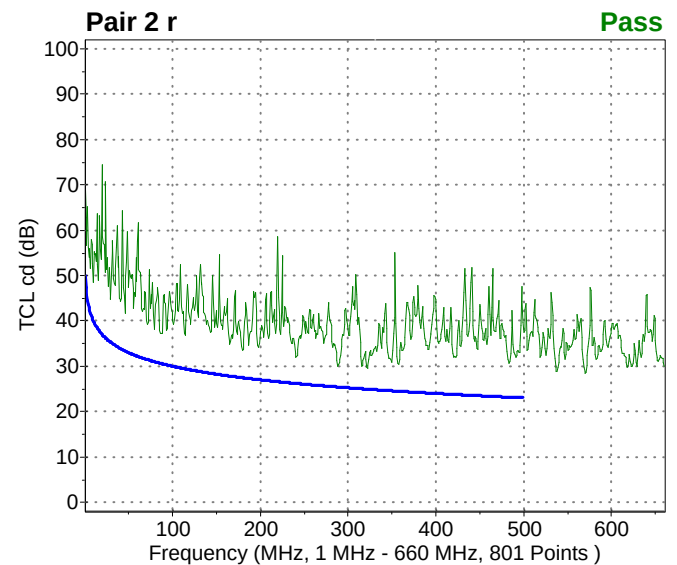
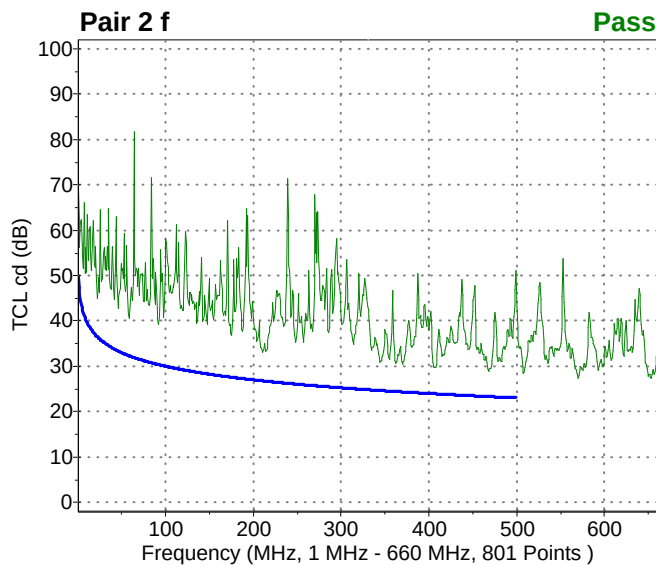
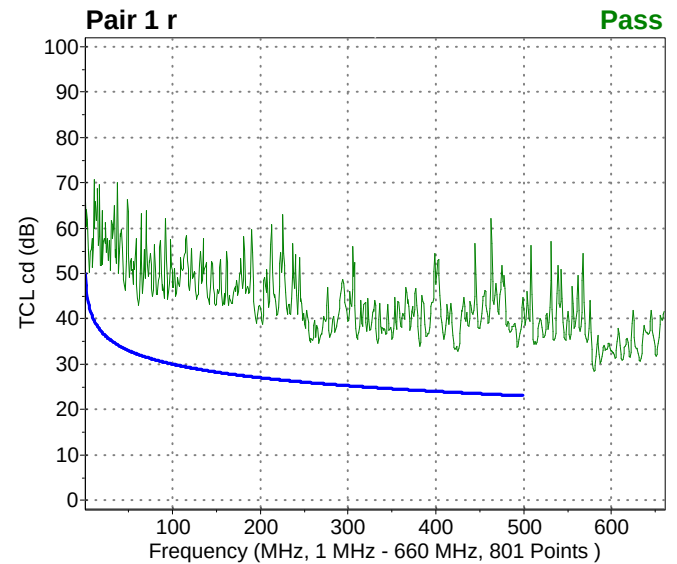
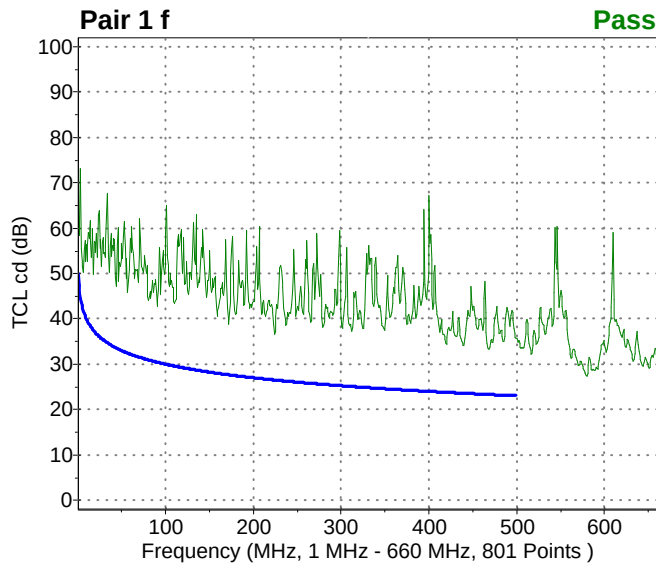


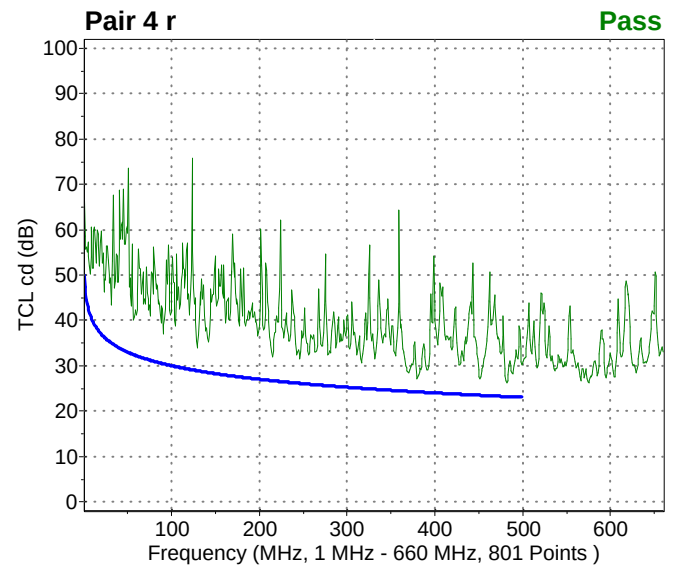
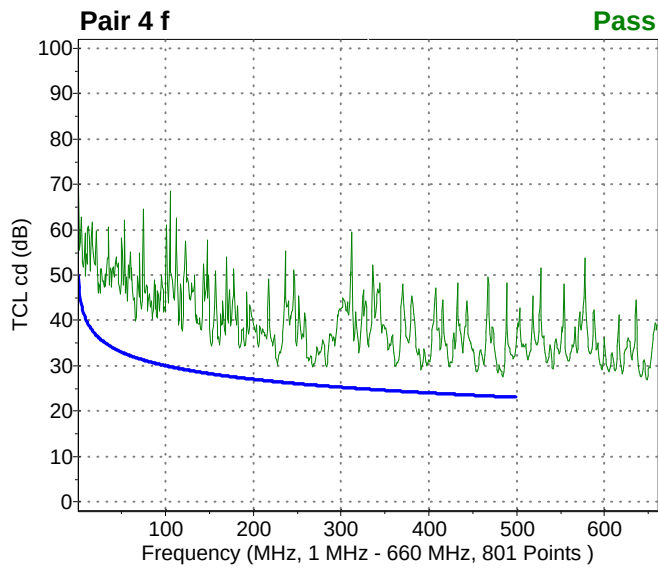
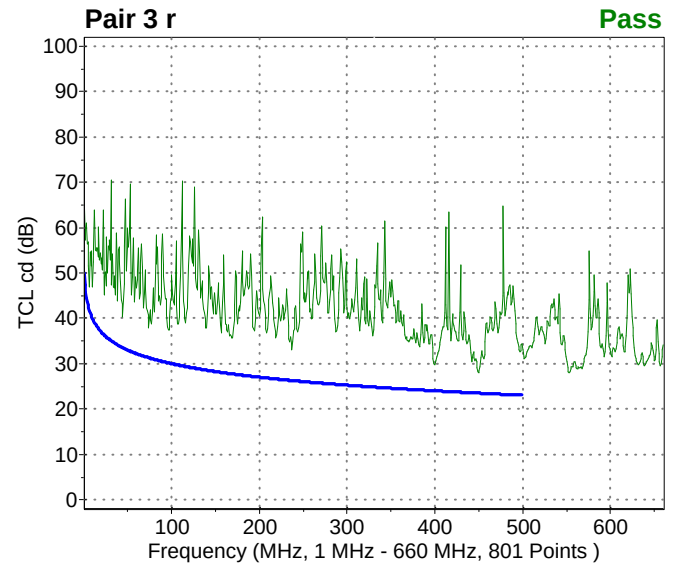
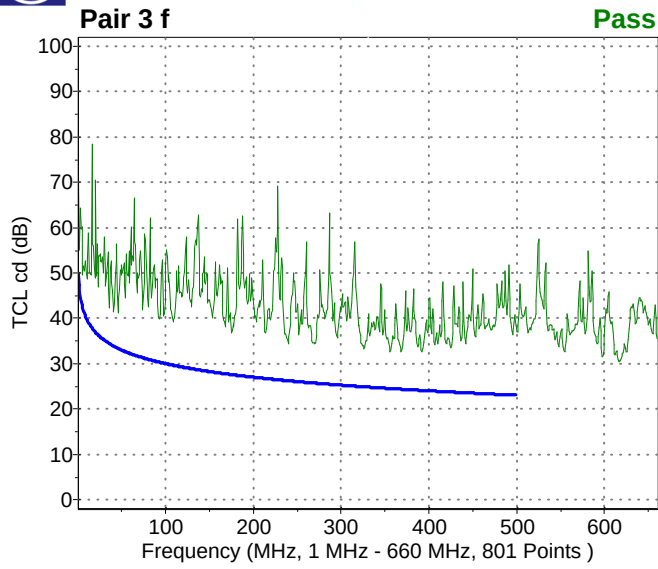


**Summary and Graphic: transverse conv. loss cd (TCL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }
{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	27.4 [580.1]	73.2 [3.471]	8.5 (50.2 < 41.7) [6.766]	✓
1 r	1	660	801	28.3 [580.1]	70.8 [10.88]	7.6 (50.5 < 42.9) [5.119]	✓
2 f	1	660	801	27.3 [570.2]	81.7 [64.43]	5.5 (28.8 < 23.3) [468.1]	✓
2 r	1	660	801	28.4 [570.2]	74.5 [19.95]	4.5 (29.9 < 25.4) [288.5]	✓
3 f	1	660	801	30.5 [616.3]	78.4 [16.65]	7.3 (49.6 < 42.3) [5.942]	✓
3 r	1	660	801	27.9 [552.9]	70.5 [31.48]	4.5 (28.0 < 23.5) [449.9]	✓
4 f	1	660	801	26.8 [648.5]	71.2 [1]	3.8 (30.3 < 26.4) [227.5]	✓
4 r	1	660	801	26.1 [575.2]	75.7 [123.7]	3.0 (27.2 < 24.2) [379.9]	✓



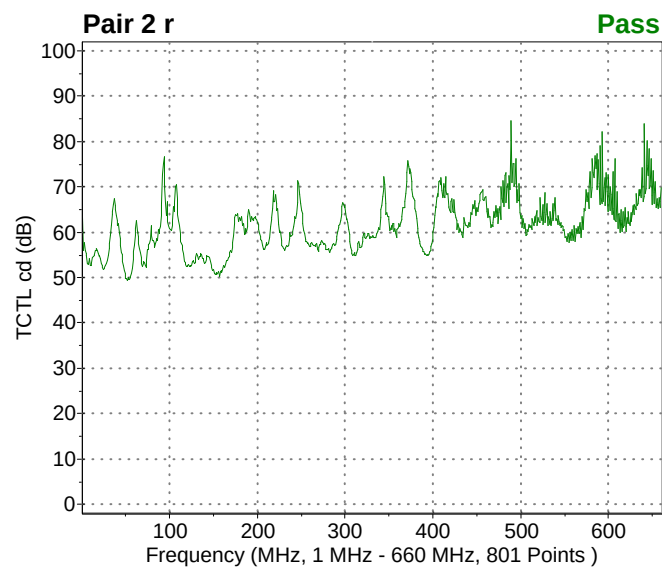
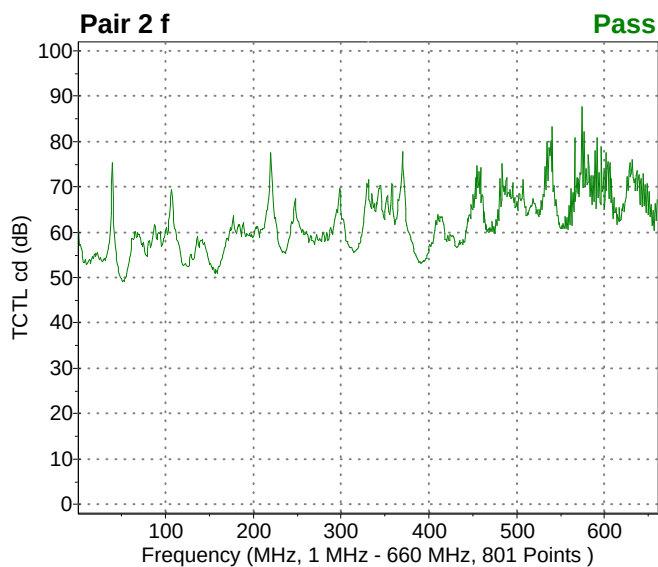
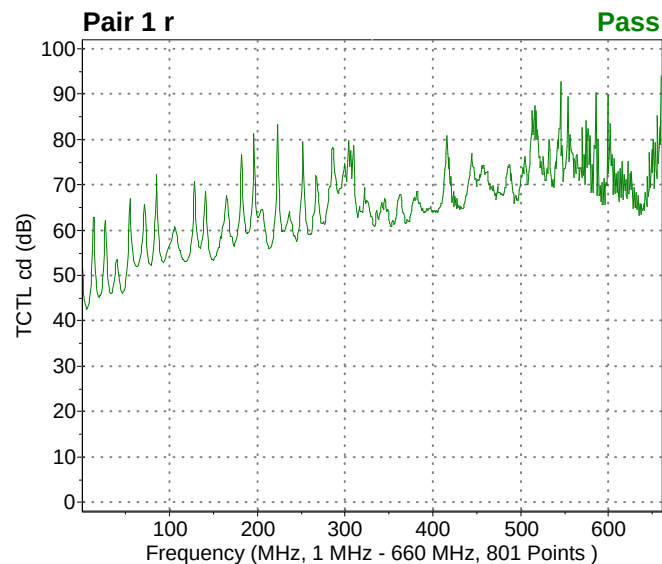
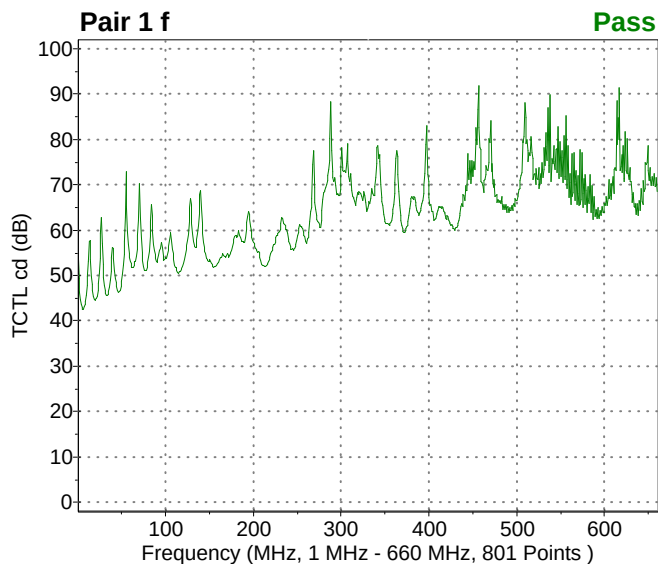


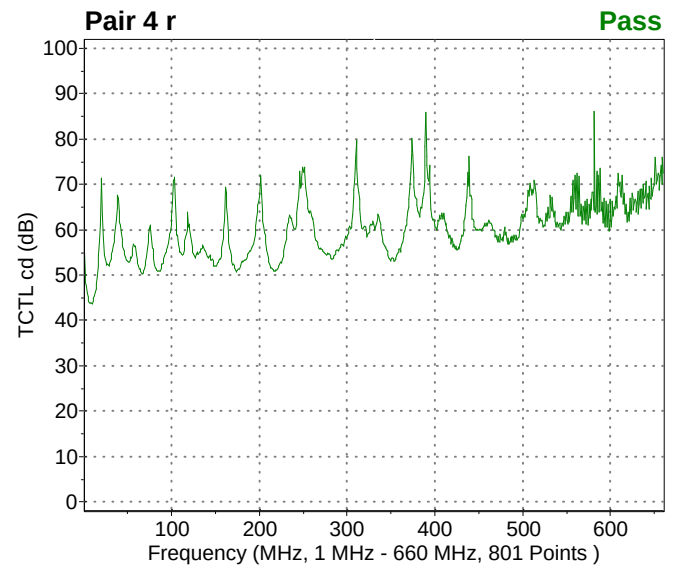
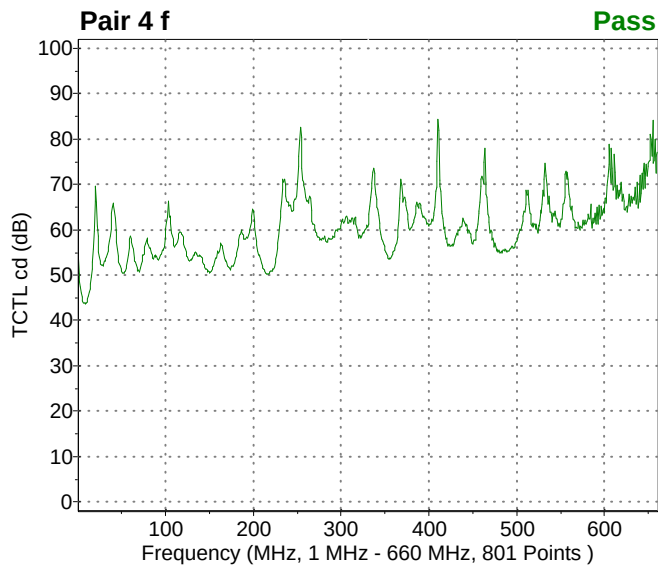
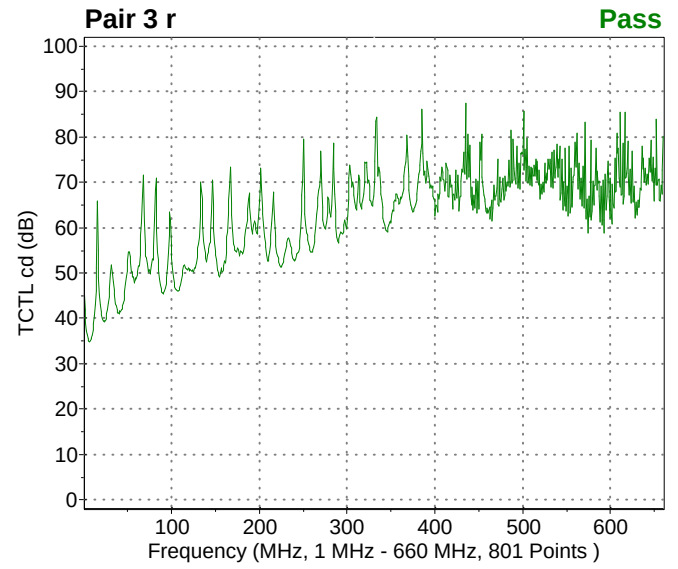
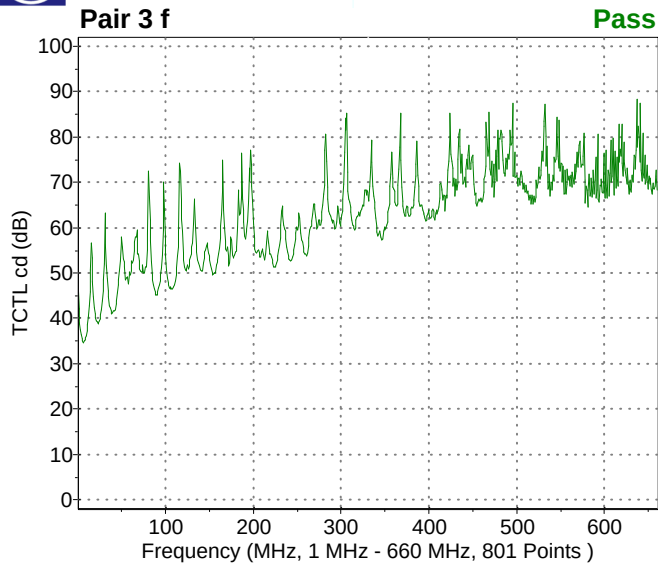
**Summary and Graphic: transverse conv. transfer loss cd (TCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1 f	1	660	801	42.4 [5.942]	91.9 [456.5]	✓
1 r	1	660	801	42.5 [5.942]	94.0 [660]	✓
2 f	1	660	801	49.0 [52.9]	87.6 [574.3]	✓
2 r	1	660	801	49.4 [52.07]	84.6 [489.5]	✓
3 f	1	660	801	34.7 [6.766]	88.4 [636.9]	✓
3 r	1	660	801	34.8 [6.766]	87.4 [435.1]	✓
4 f	1	660	801	43.7 [9.237]	84.4 [410.4]	✓
4 r	1	660	801	43.7 [10.06]	86.1 [581.7]	✓



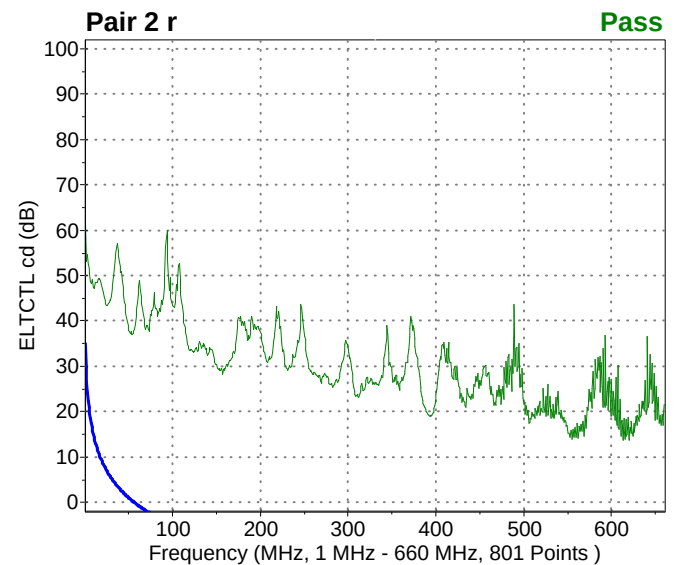
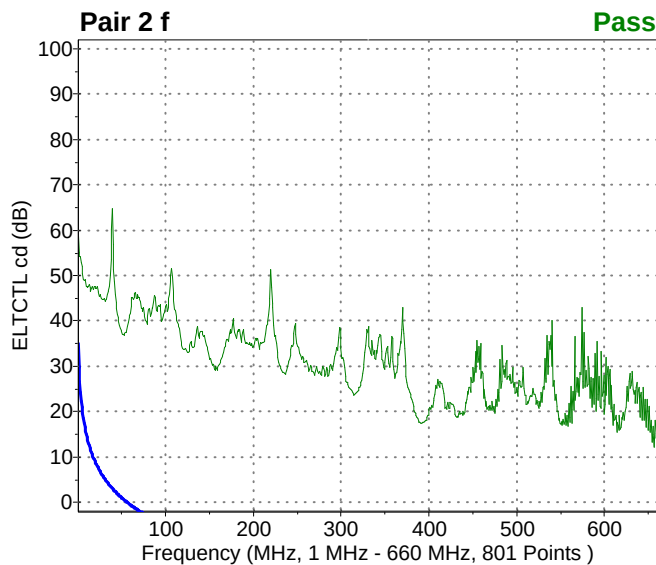
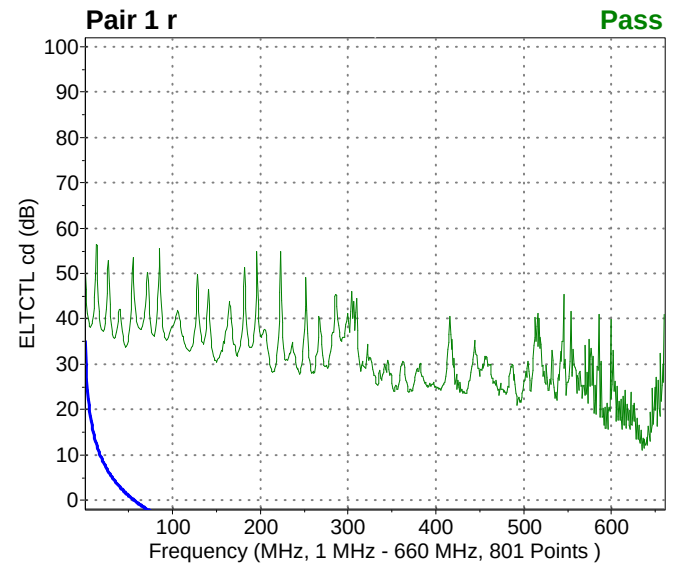
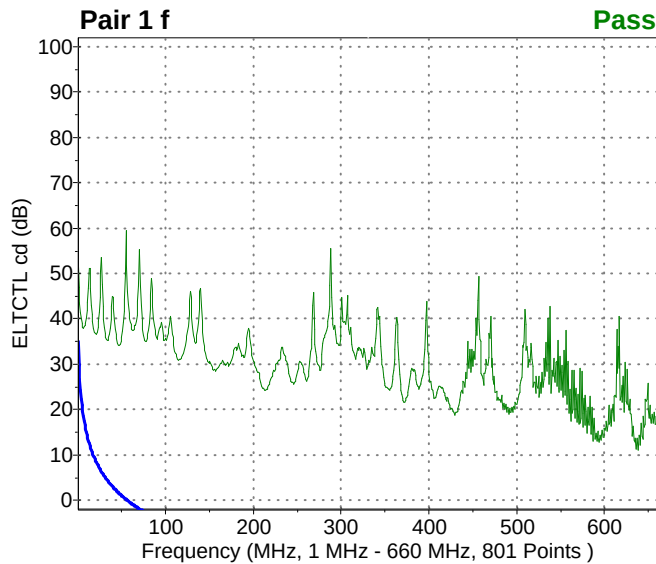


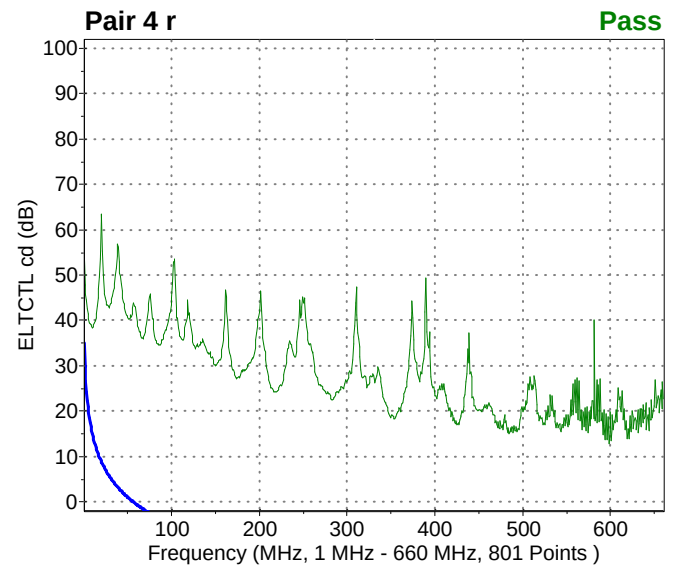
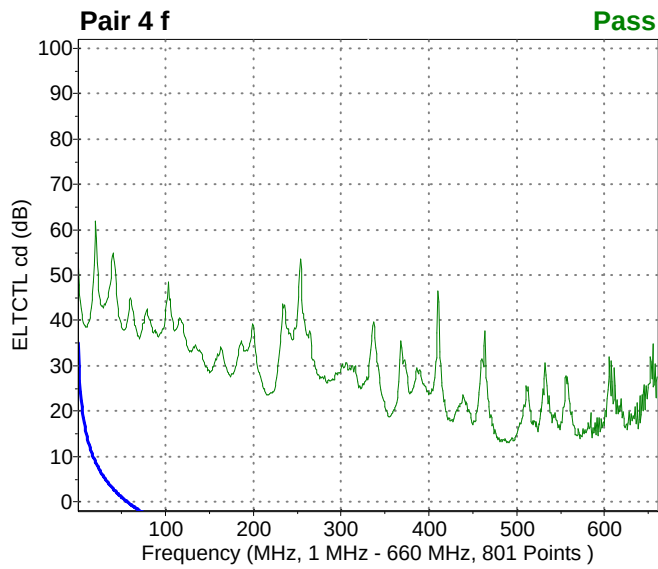
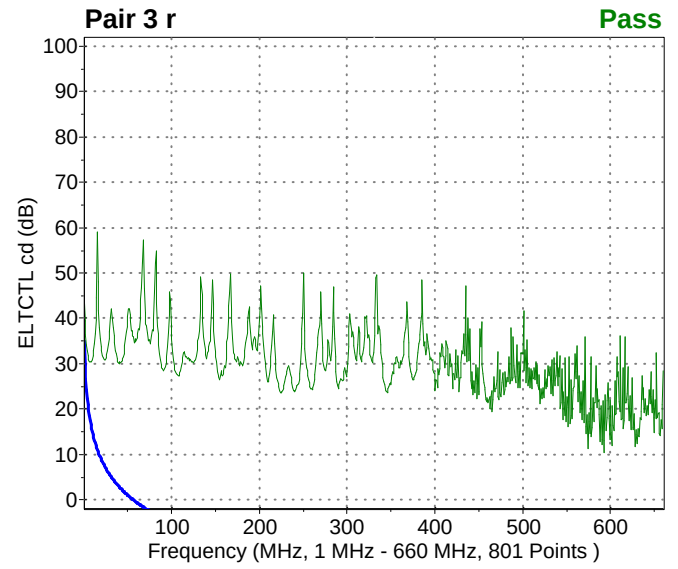
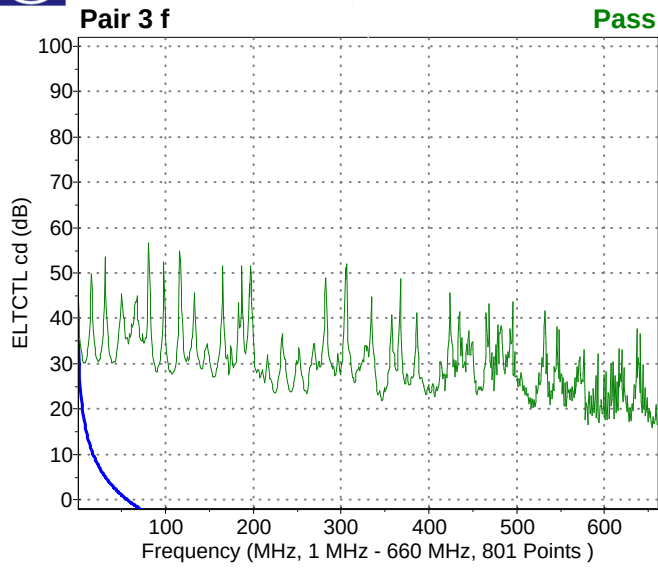
**Summary and Graphic: Equal Level TCTL cd (ELTCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	11.0 [638.6]	59.6 [55.37]	17.0 (43.5 < 26.5) [2.647]	✓
1 r	1	660	801	11.0 [634.5]	56.3 [13.36]	15.6 (50.6 < 35.0) [1]	✓
2 f	1	660	801	12.0 [656.7]	64.7 [39.72]	24.5 (59.5 < 35.0) [1]	✓
2 r	1	660	801	13.6 [619.6]	62.8 [1]	24.5 (54.2 < 29.8) [1.824]	✓
3 f	1	660	801	15.9 [654.2]	56.6 [80.9]	9.7 (36.3 < 26.5) [2.647]	✓
3 r	1	660	801	10.4 [592.5]	58.9 [15.83]	9.1 (44.1 < 35.0) [1]	✓
4 f	1	660	801	13.0 [488.7]	61.9 [20.77]	17.4 (52.4 < 35.0) [1]	✓
4 r	1	660	801	12.7 [598.2]	63.5 [20.77]	18.1 (47.9 < 29.8) [1.824]	✓





Designation : Lin sweep 660MHz FUTP
Testorder : HCAT6A FUTP

Length : 328 ft
Test Date/Time : 6/18/2013 12:26 AM

Temp : 82°F
Sample-ID-No. : 000007WKR4

Customer : HI
Cable type : CAT6A
Specification : 6A

Drum no. : 1
Order number : Connection 1
Operator : DGi

Test Result: PASS

Final inspection

Worst Case Summary

{ v = Value l = Limit m = Margin f = Frequency (MHz) p = Pair / Combo < = Lower Limit > = Upper Limit }

{ Pair/Combo: n=near, f=far f=forward, r=reverse a=wire a b=wire b }

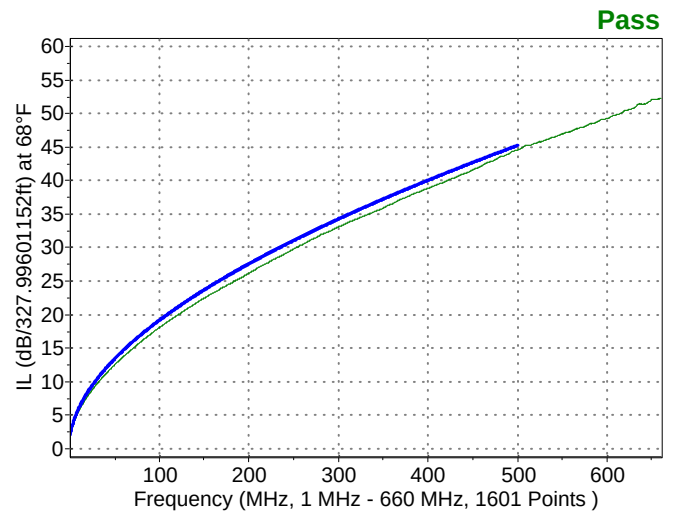
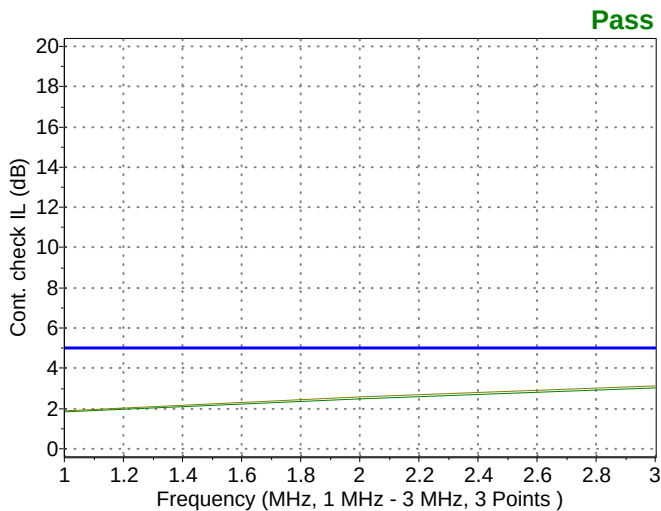
Parameter	Frequency	Points	Minimum	{ v [f] p }	Maximum	{ v [f] p }	Min. Margin	{ m (v l) [f] p }	Result
Cont. check IL (dB)	1-3	3	1.83	[1] 2	3.14	[3] 1	1.86	(3.14 > 5.00) [3] 1	✓
IL (dB/327.99601152ft) at 68°F	1-660	1601	1.77	[1] 1	52.32	[658.8] 1	0.30	(2.08 > 2.39) [1.412] 1	✓
Phase delay (ns/327.99601152ft)	1-660	1601	513.45	[660] 1	521.04	[3.471] 1	21.95	(513.69 > 535.64) [479.6] 1	✓
NEXT (dB)	1-660	1601	38.39	[657.9] 1-2	84.24	[1] 2-4	0.48	(59.48 < 59.00) [10.47] 2-4	✓
PS NEXT (dB)	1-660	1601	37.08	[657.9] 2	83.23	[1] 4	2.37	(59.37 < 57.00) [10.47] 4	✓
FEXT (dB)	1-660	1601	62.77	[59.07] 3-1	87.77	[559.5] 3-4			
ACR-F (dB)	1-660	1601	28.4	[651.4] 2-4	81.9	[1] 1-3			
PS ACR-F (dB)	1-660	1601	27.6	[651.4] 3	81.8	[1] 2			
ZIN (Ohm)	1-660	1601	95.39	[394.3] 2	145.06	[633.2] 3			
RL (dB)	1-660	1601	13.85	[632.8] 3	38.23	[98.2] 2	3.24	(20.56 < 17.32) [249.8] 1	✓
IL dd (dB/328.0760105472ft) at 68°F f1-660	801		1.77	[1] 1	52.33	[659.2] 1			
IL dd (dB/328.0760105472ft) at 68°F r1-660	801		1.77	[1] 1	52.33	[659.2] 1			
TCL cd (dB) f	1-660	801	25.3	[570.2] 2	64.0	[1] 1	3.9	(27.9 < 24.1) [391.5] 4	✓
TCL cd (dB) r	1-660	801	26.0	[482.1] 4	64.9	[1] 3	2.8	(26.0 < 23.2) [482.1] 4	✓
TCTL cd (dB) f	1-660	801	34.7	[6.766] 3	72.9	[532.3] 1			
TCTL cd (dB) r	1-660	801	34.8	[6.766] 3	71.7	[650.9] 3			
ELTCTL cd (dB) f	1-660	801	11.3	[641.1] 1	44.9	[1] 3	9.7	(36.3 < 26.5) [2.647] 3	✓
ELTCTL cd (dB) r	1-660	801	9.9	[592.5] 3	44.1	[1] 3	9.1	(44.1 < 35.0) [1] 3	✓

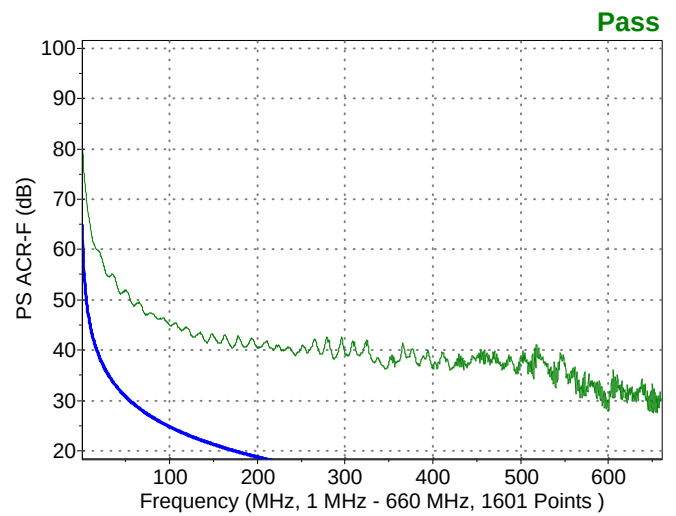
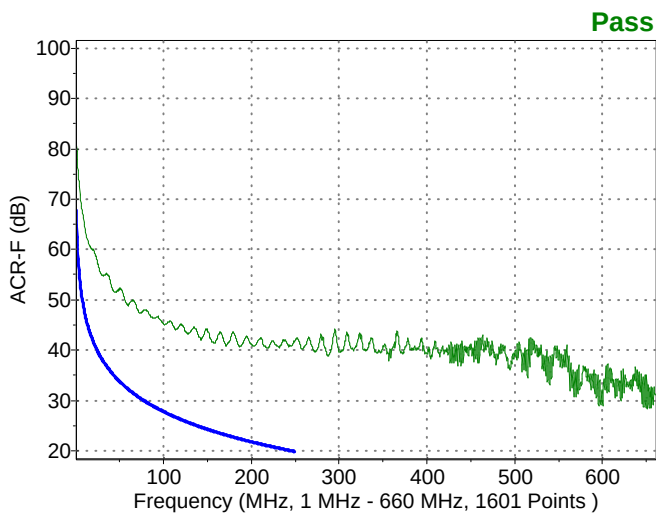
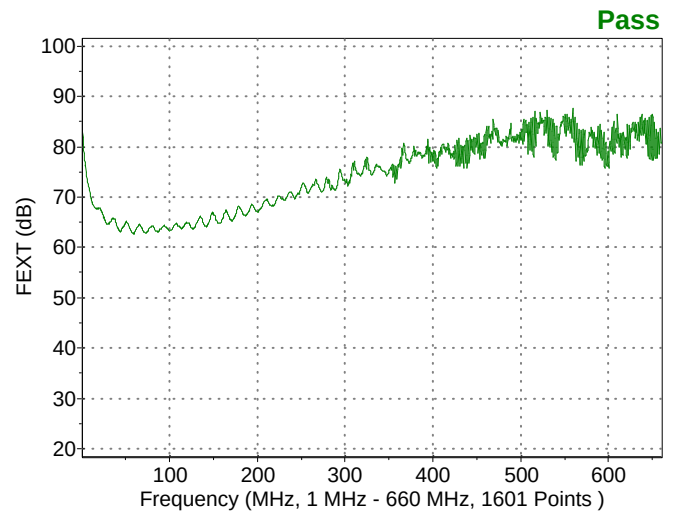
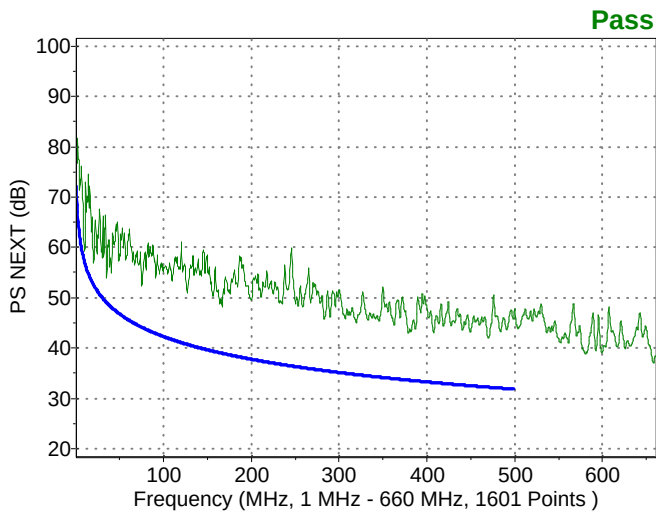
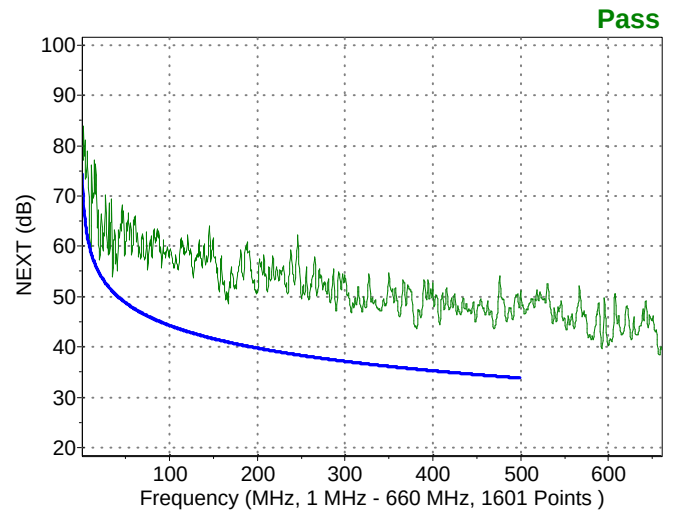
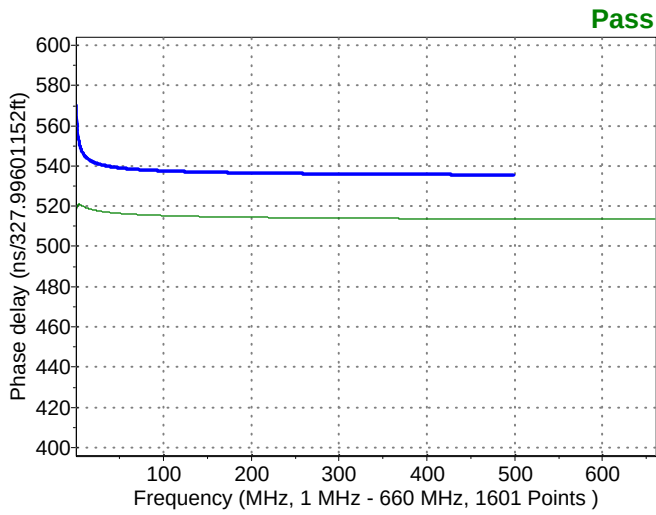
Legend

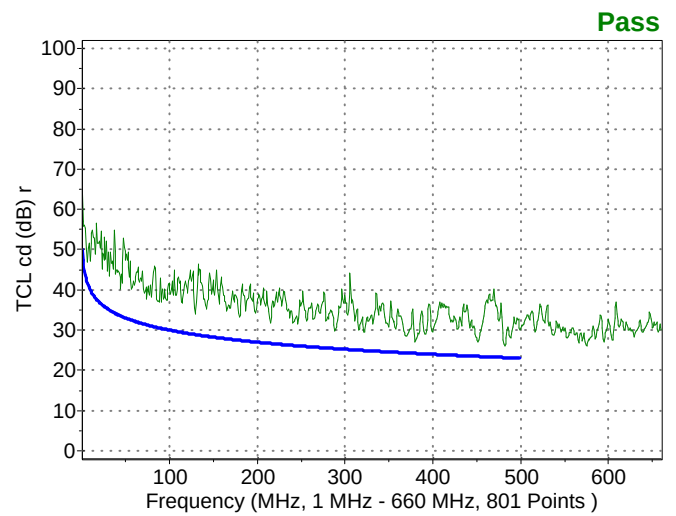
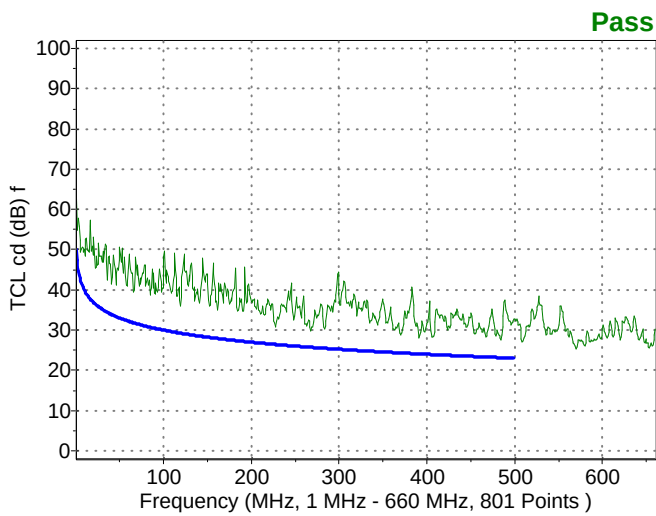
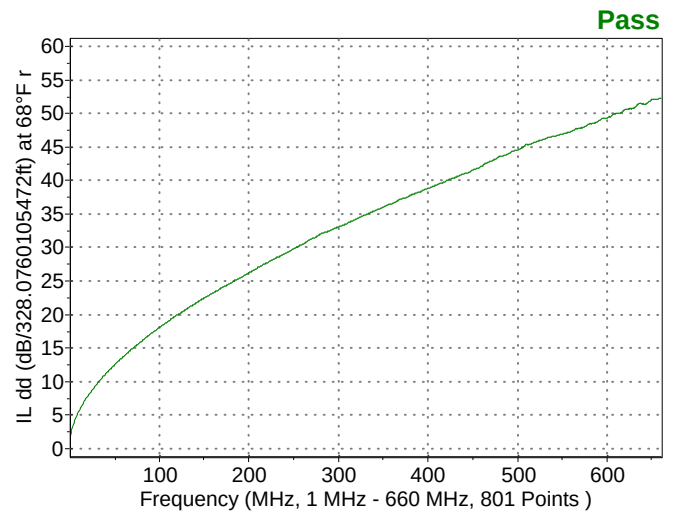
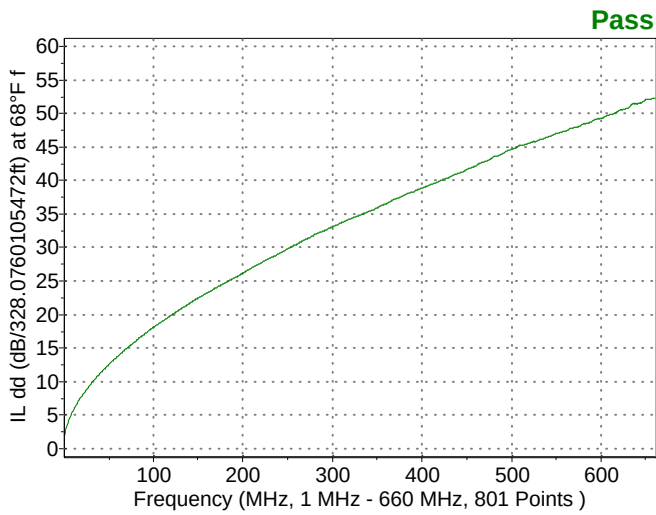
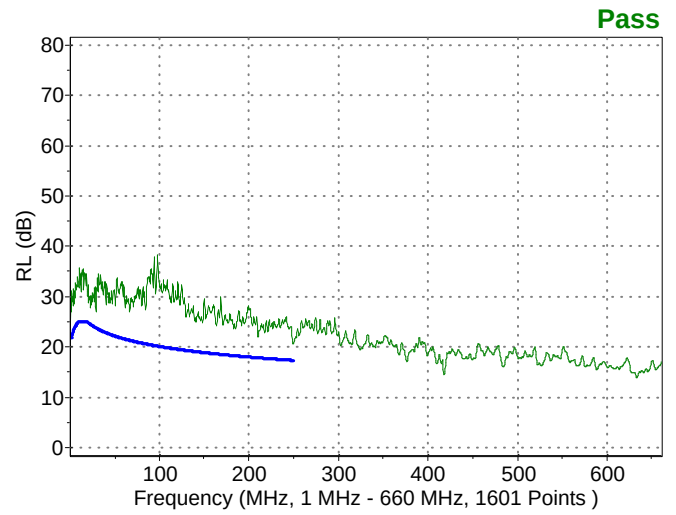
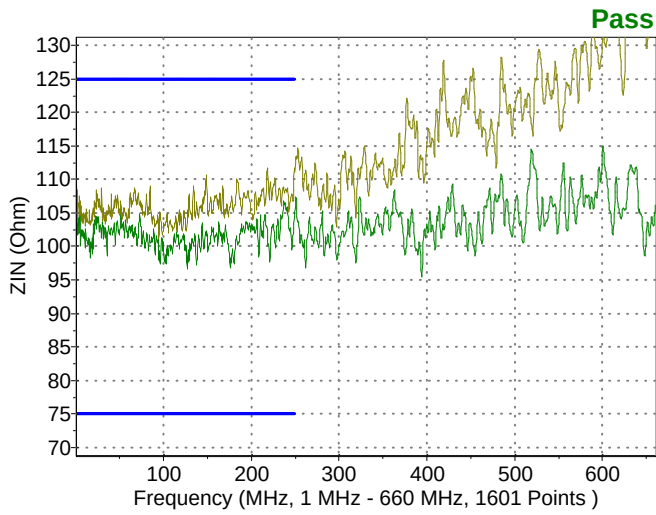
Cont. check IL = Continuity check IL
PS NEXT = Power Sum NEXT
PS ACR-F = Power Sum ACR-F
IL dd = Insertion loss dd
ELTCTL cd = Equal Level TCTL cd

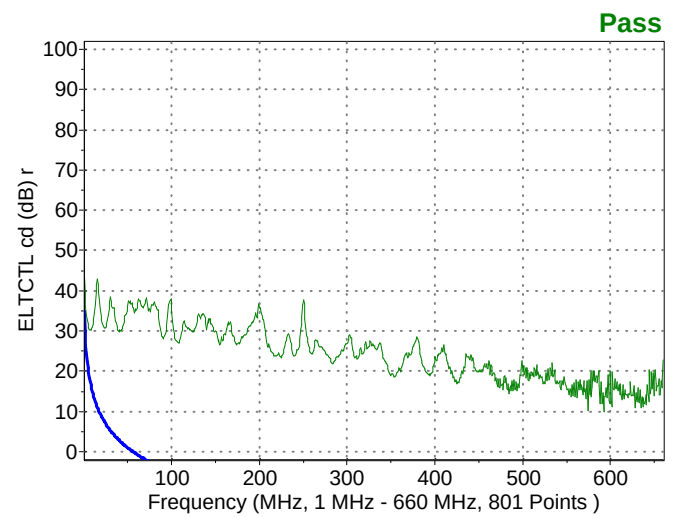
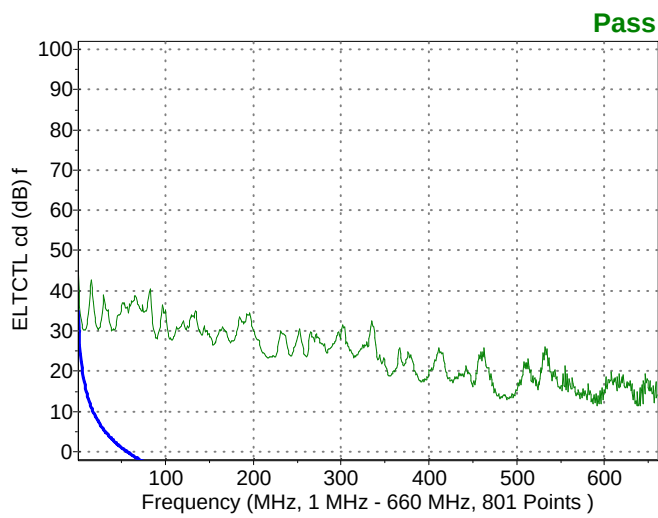
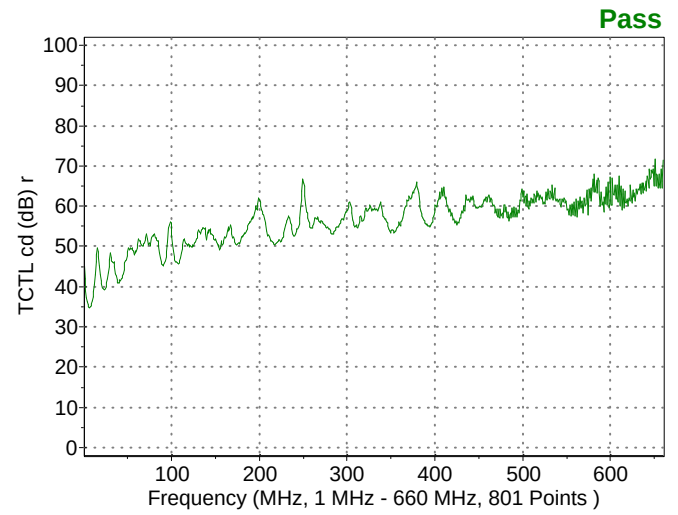
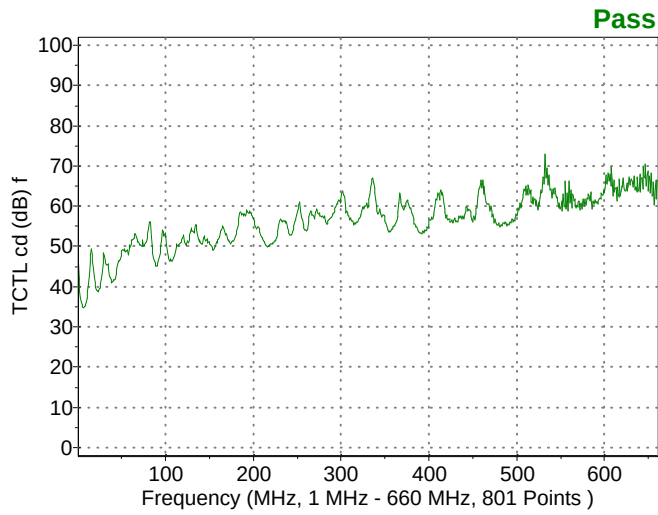
Phase delay = Phase delay
FEXT = Far End Crosstalk
ZIN = Input Impedance
TCL cd = transverse conv. loss cd

NEXT = Near End Crosstalk
ACR-F = Attenuation Crosstalk-F Ratio
RL = Return Loss
TCTL cd = transverse conv. transfer loss cd





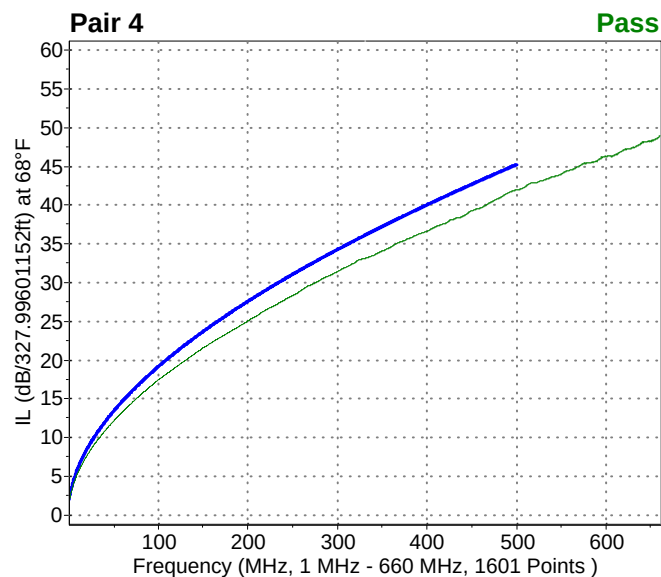
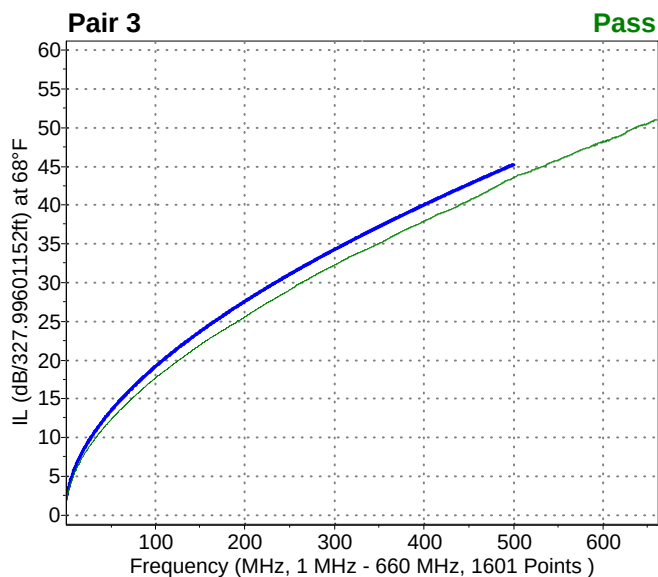
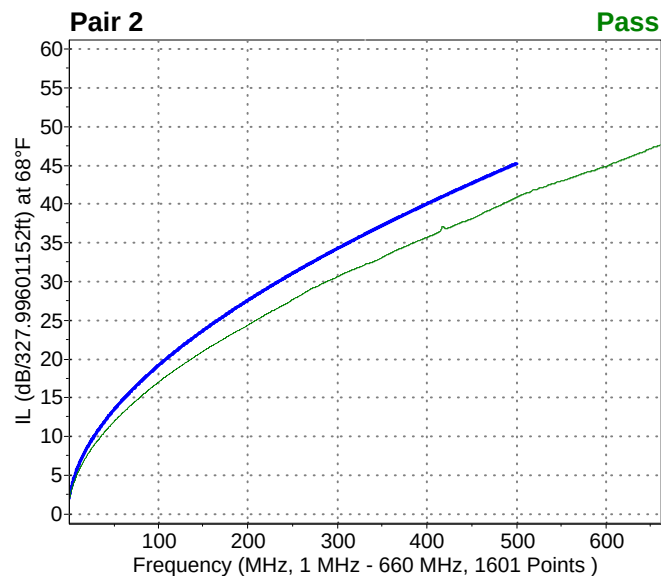
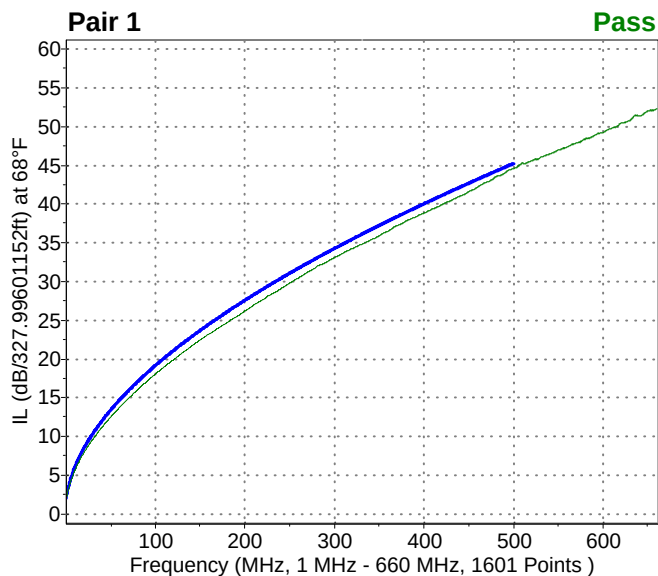




**Summary and Graphic: Insertion loss (IL)**

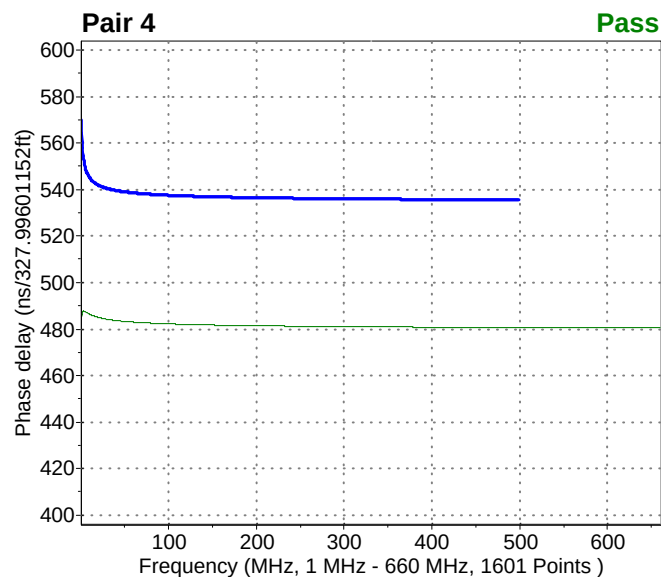
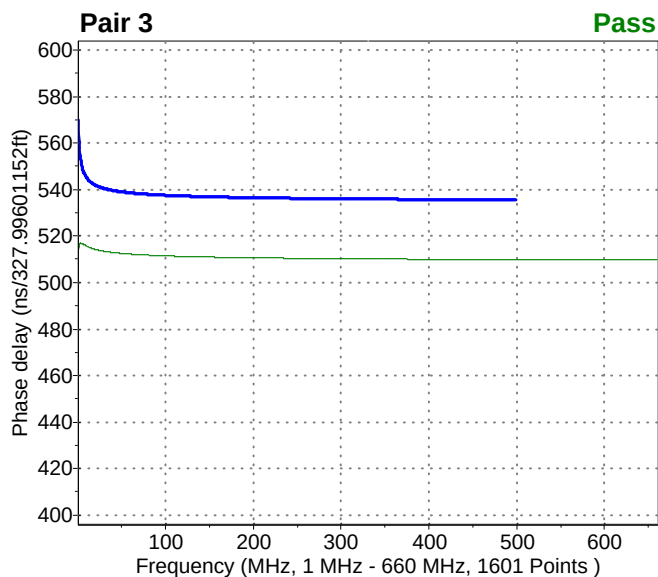
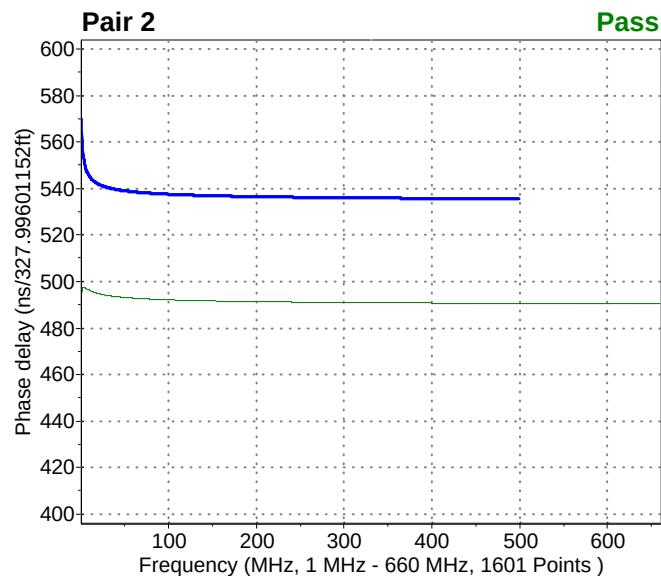
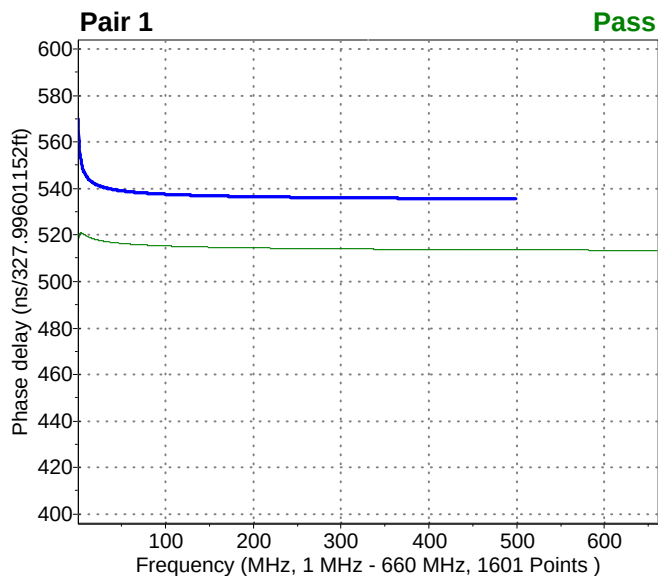
{ v = Value (dB/327.99601152ft) at 68°F l = Limit (dB/327.99601152ft) at 68°F m = Margin (dB/327.99601152ft) at 68°F f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum	{ v [f] }	Maximum	{ v [f] }	Min. Margin	{ m (v l) [f] }	Result
1	1	660	1601	1.77	[1]	52.32	[658.8]	0.30	(2.08 > 2.39) [1.412]	✓
2	1	660	1601	1.72	[1]	47.61	[660]	0.36	(1.72 > 2.08) [1]	✓
3	1	660	1601	1.76	[1]	51.04	[660]	0.31	(1.76 > 2.08) [1]	✓
4	1	660	1601	1.74	[1]	48.93	[659.2]	0.34	(1.74 > 2.08) [1]	✓



**Summary and Graphic: Phase delay (Phase delay)**{ v = Value (ns/327.99601152ft) } / { l = Limit (ns/327.99601152ft) } m = Margin (ns/327.99601152ft) f = Frequency (MHz) }

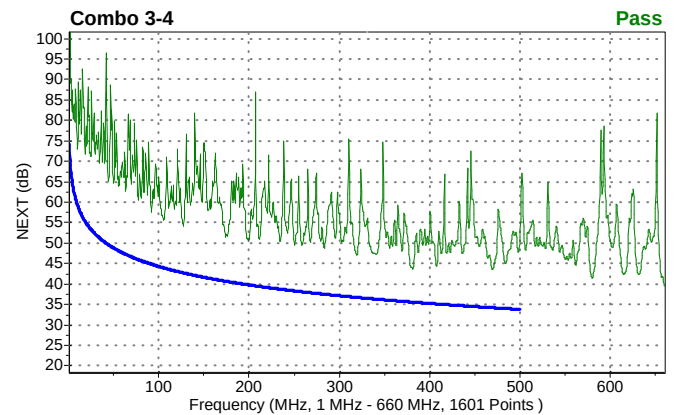
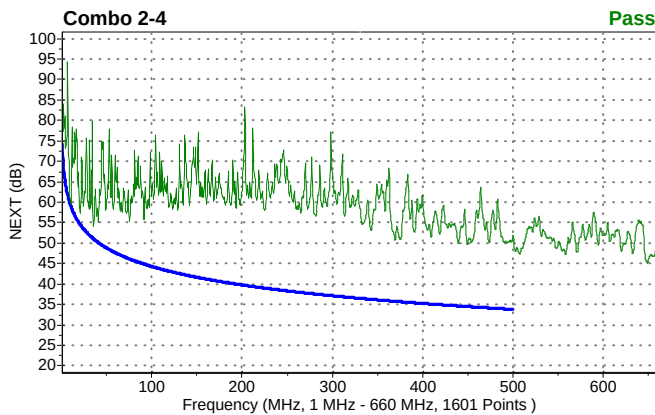
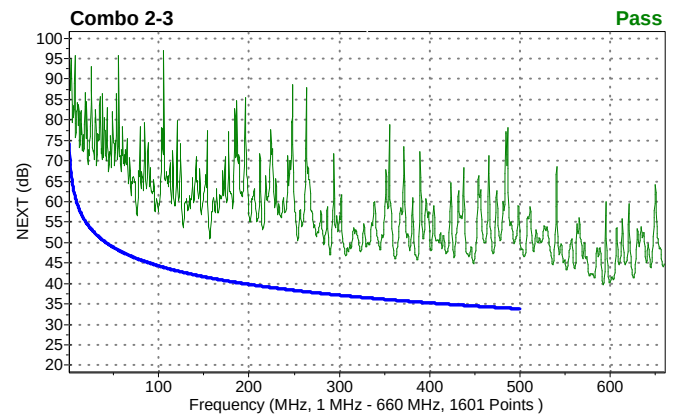
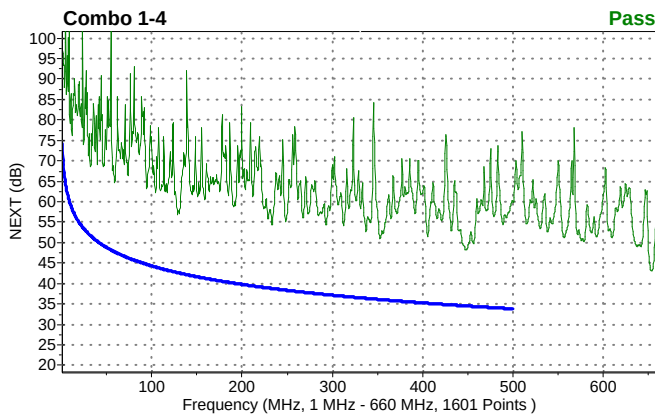
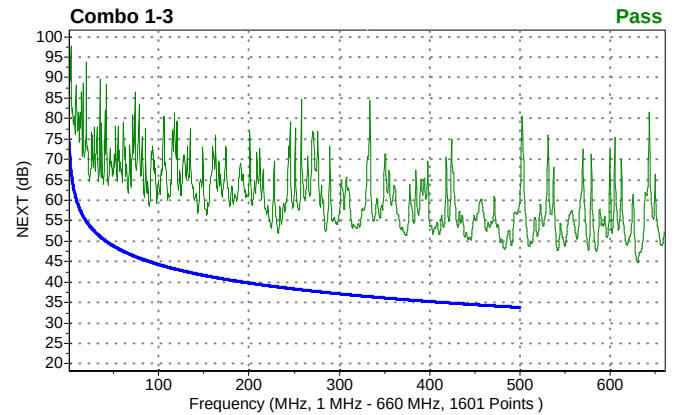
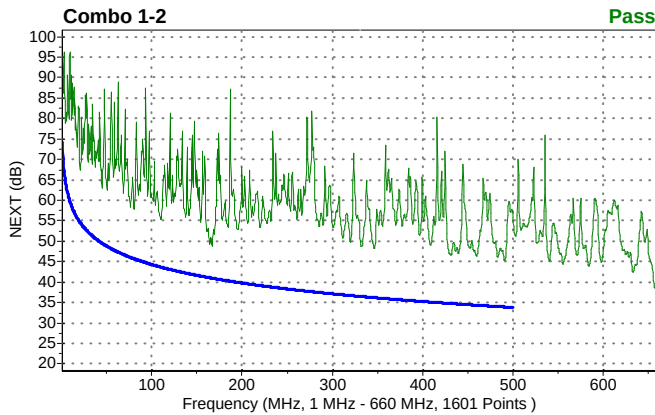
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v / l) [f] }	Result
1	1	660	1601	513.45 [660]	521.04 [3.471]	21.95 (513.69 > 535.64) [479.6]	✓
2	1	660	1601	490.45 [658.8]	497.53 [3.471]	45.00 (490.64 > 535.64) [484.5]	✓
3	1	660	1601	509.69 [659.6]	517.07 [3.471]	25.73 (509.92 > 535.65) [475.9]	✓
4	1	660	1601	480.53 [654.6]	487.78 [3.471]	54.92 (480.70 > 535.62) [495.2]	✓



Summary and Graphic: Near End Crosstalk (NEXT)

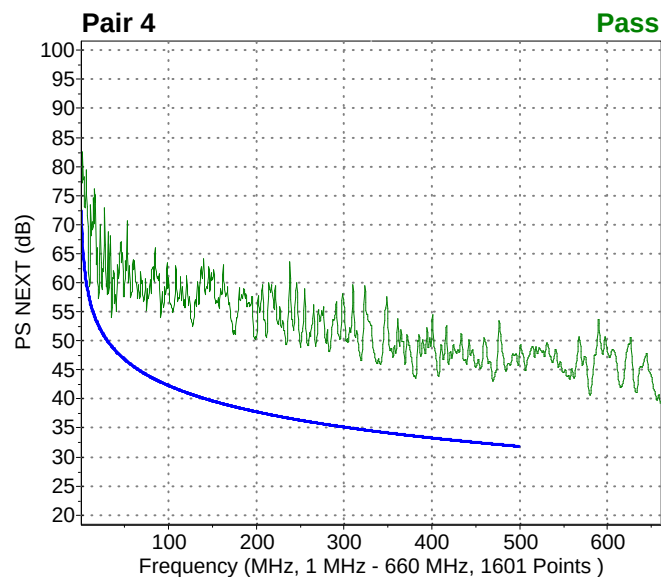
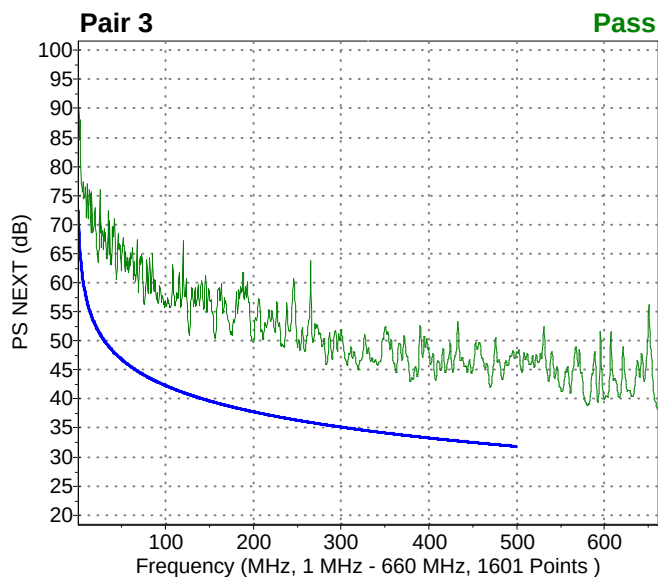
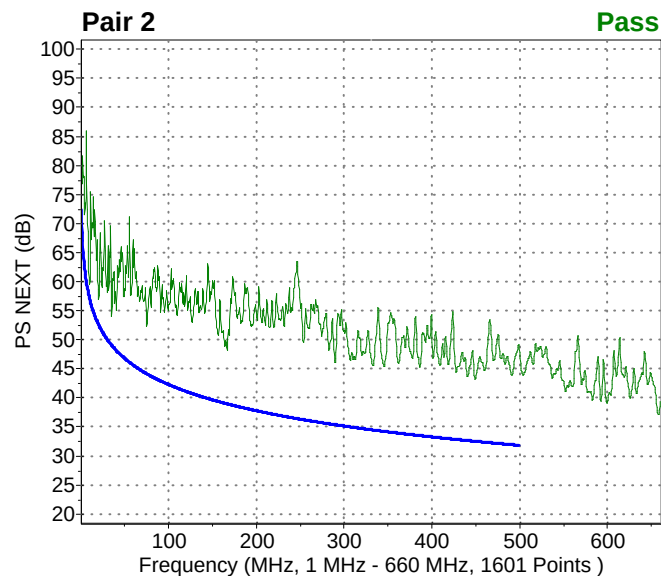
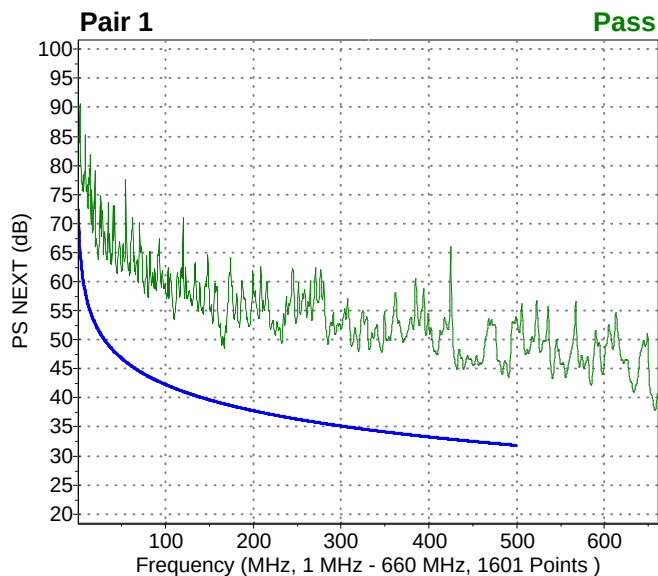
{ v = Value (dB) } I = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Combo	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/I)[f]$ }	Result
1-2	1	660	1601	38.39 [657.9]	99.60 [1]	7.69 (48.65 < 40.96) [167]	✓
1-3	1	660	1601	44.78 [630.3]	97.59 [3.059]	10.83 (64.63 < 53.81) [23.24]	✓
1-4	1	660	1601	43.03 [653.4]	110.69 [54.96]	13.70 (48.23 < 34.53) [448.3]	✓
2-3	1	660	1601	39.63 [592.5]	97.10 [1]	9.65 (51.02 < 41.37) [156.7]	✓
2-4	1	660	1601	45.19 [649.3]	94.26 [6.766]	0.48 (59.48 < 59.00) [10.47]	✓
3-4	1	660	1601	39.50 [660]	107.49 [2.236]	8.11 (43.69 < 35.58) [381.6]	✓



**Summary and Graphic: Power Sum NEXT (PS NEXT)**{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

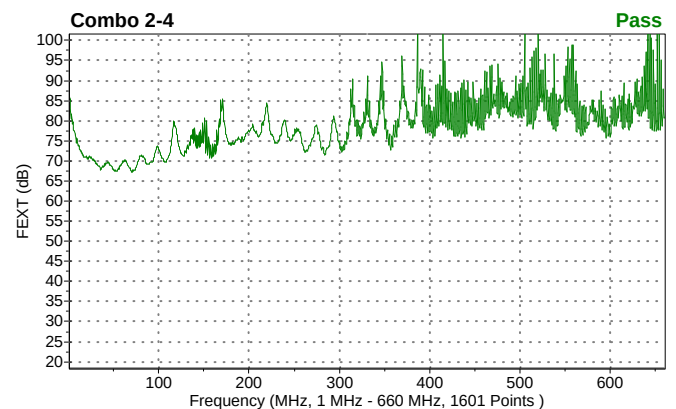
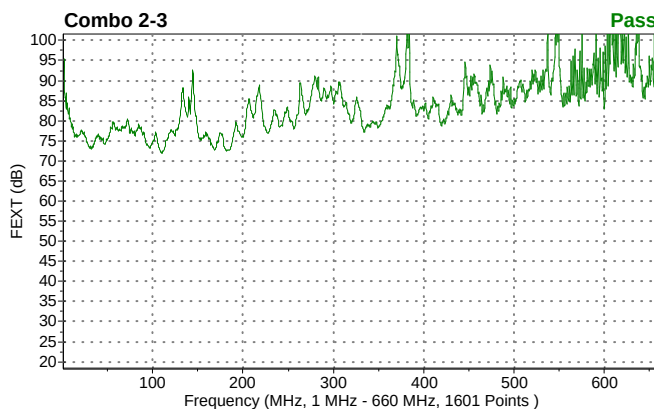
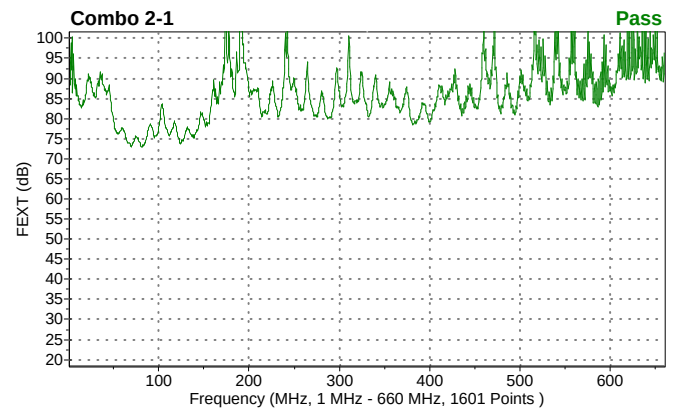
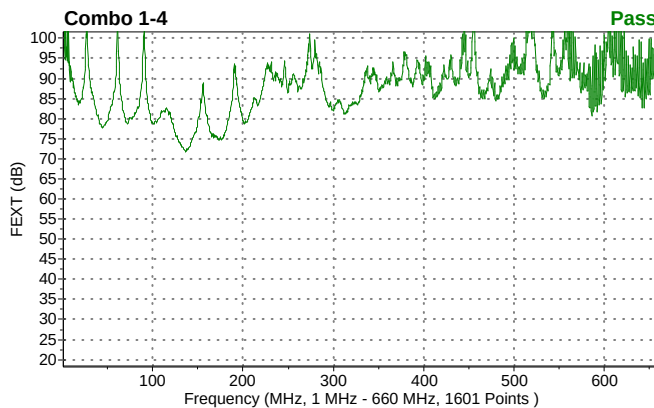
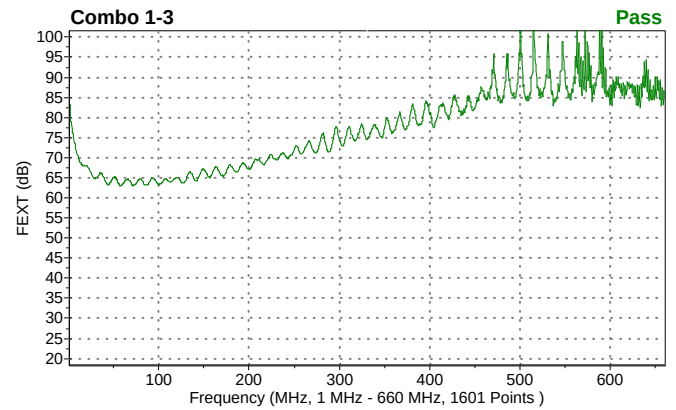
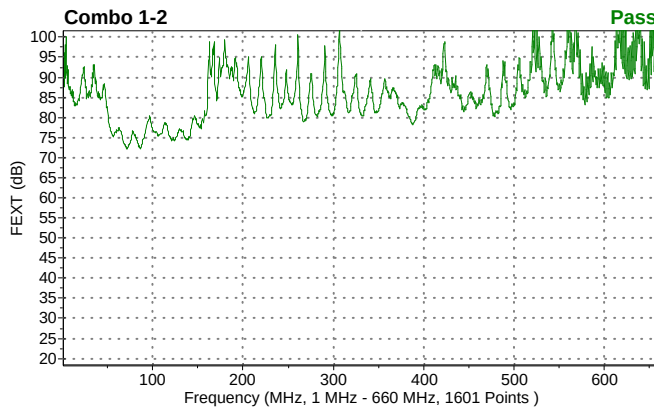
Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v,l)[f]$ }	Result
1	1	660	1601	37.86 [657.5]	90.94 [1.412]	9.55 (48.51 < 38.96) [167]	✓
2	1	660	1601	37.08 [657.9]	86.01 [6.766]	2.43 (59.43 < 57.00) [10.47]	✓
3	1	660	1601	38.23 [660]	90.93 [1.412]	9.40 (43.02 < 33.62) [379.1]	✓
4	1	660	1601	39.13 [660]	83.23 [1]	2.37 (59.37 < 57.00) [10.47]	✓

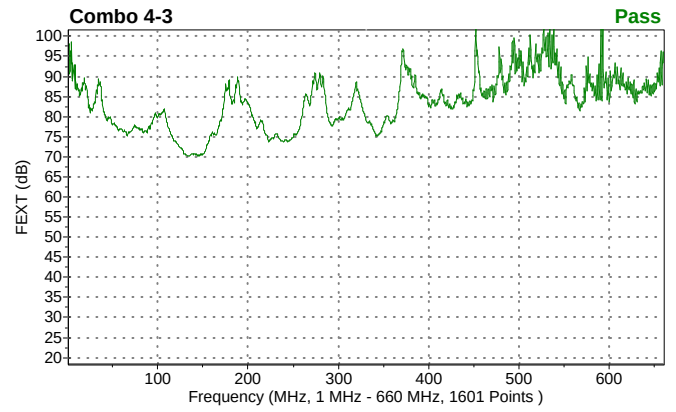
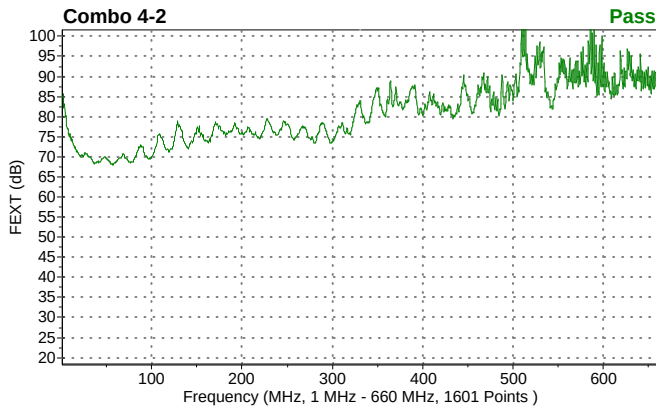
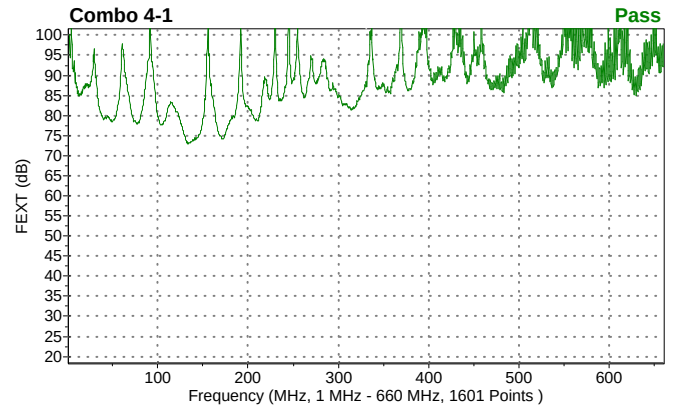
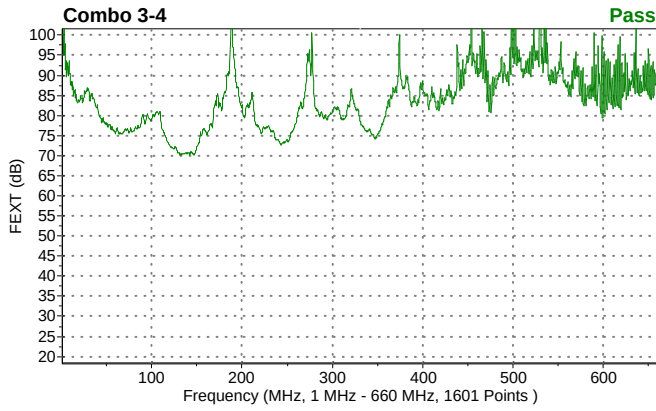
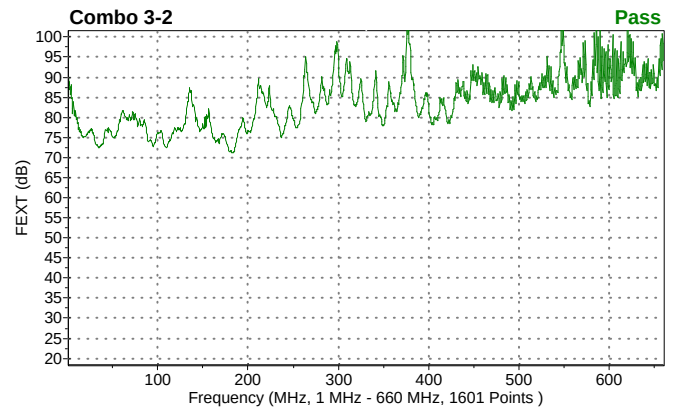
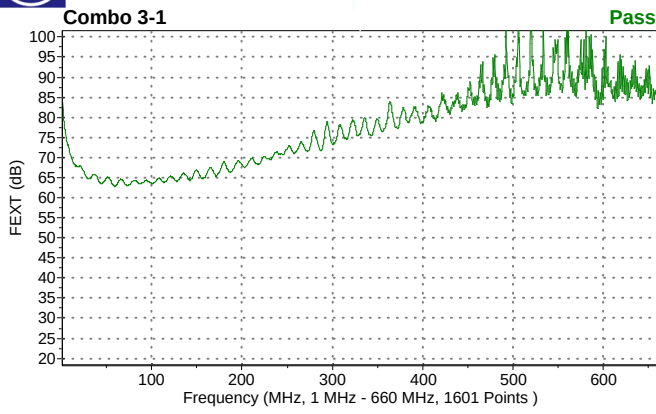


**Summary and Graphic: Far End Crosstalk (FEXT)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

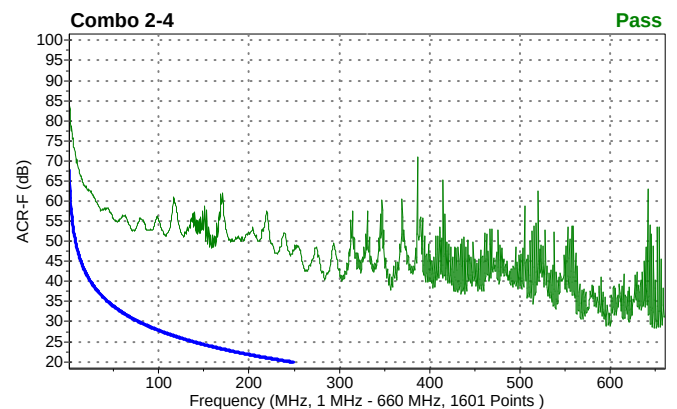
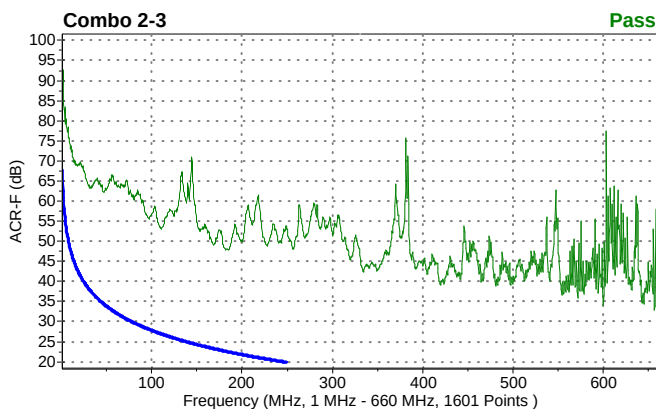
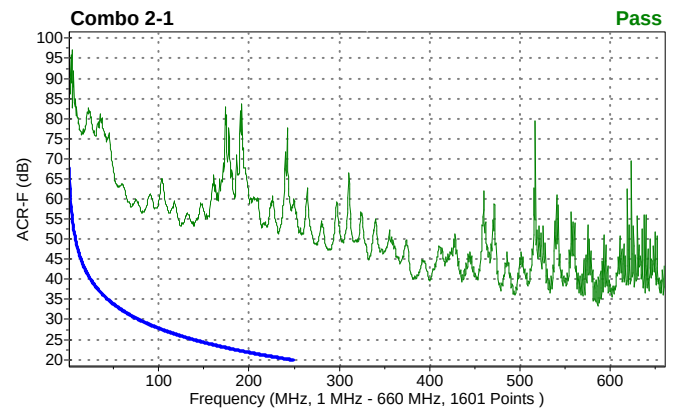
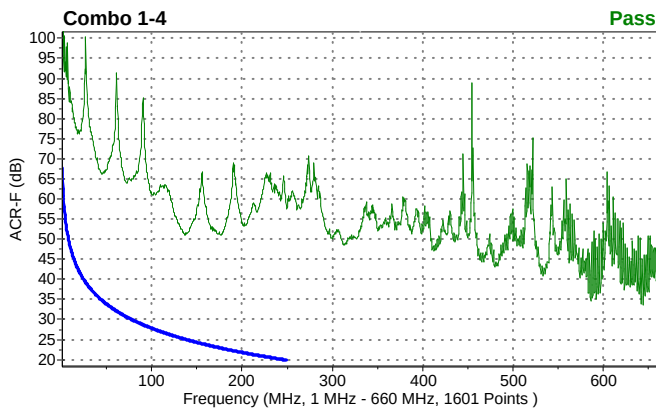
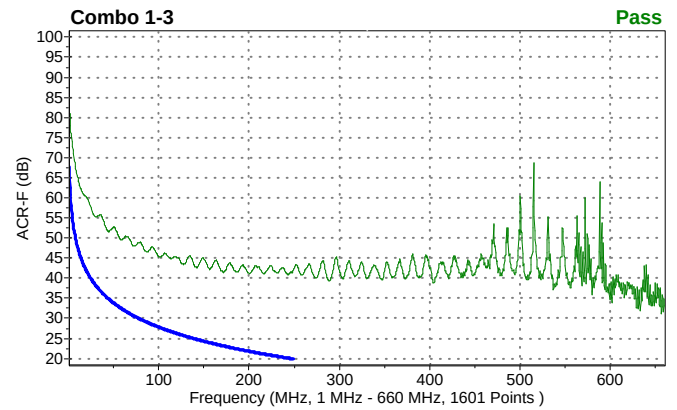
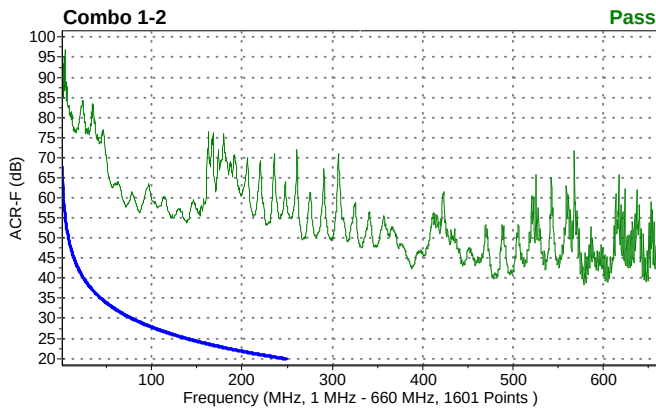
Combo	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1-2	1	660	1601	72.24 [71.43]	116.14 [568.2]	✓
1-3	1	660	1601	62.94 [57.84]	113.64 [515.4]	✓
1-4	1	660	1601	71.82 [136.5]	128.95 [454.9]	✓
2-1	1	660	1601	72.96 [69.37]	125.53 [517.1]	✓
2-3	1	660	1601	72.01 [110.6]	126.50 [603.6]	✓
2-4	1	660	1601	67.30 [70.61]	111.92 [641.9]	✓
3-1	1	660	1601	62.77 [59.07]	107.45 [520]	✓
3-2	1	660	1601	71.18 [182.6]	110.80 [547.6]	✓
3-4	1	660	1601	70.12 [146.8]	124.12 [188.8]	✓
4-1	1	660	1601	72.93 [134]	117.97 [613]	✓
4-2	1	660	1601	67.98 [56.6]	107.72 [590]	✓
4-3	1	660	1601	70.15 [134]	107.54 [593.3]	✓

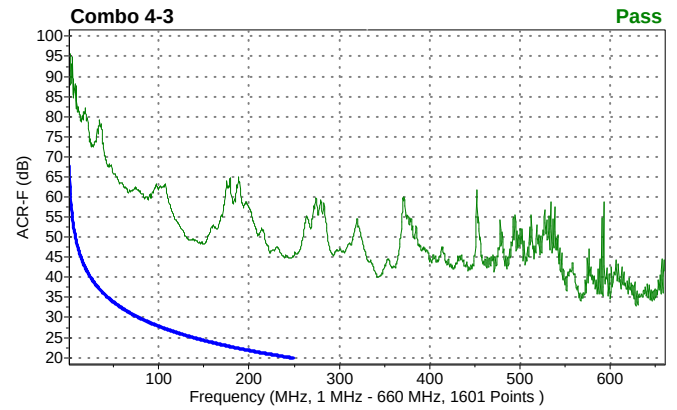
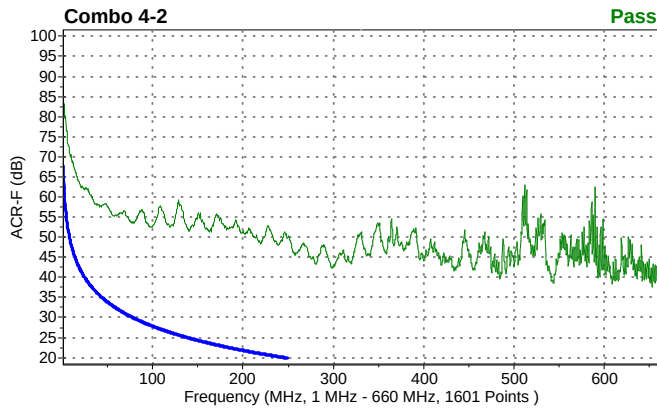
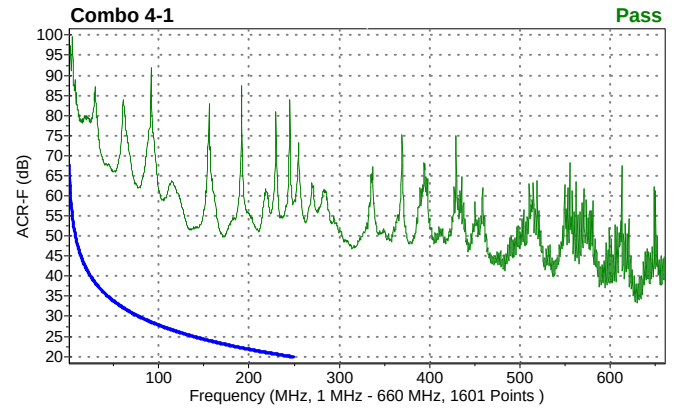
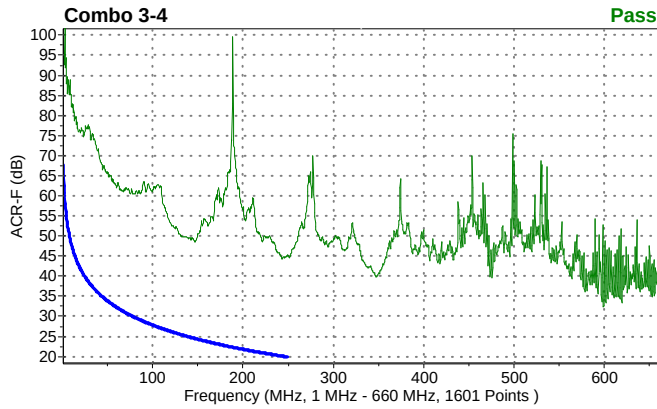
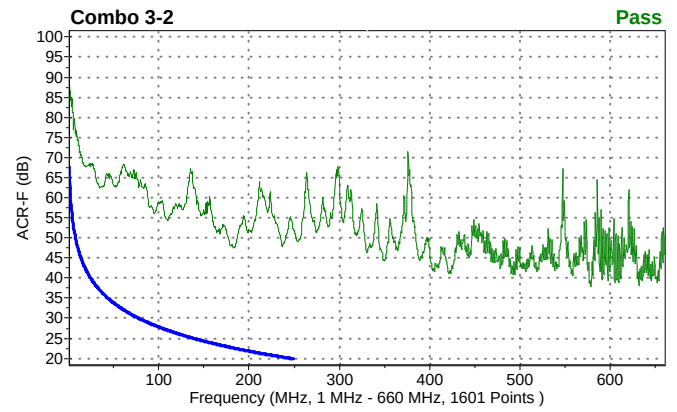
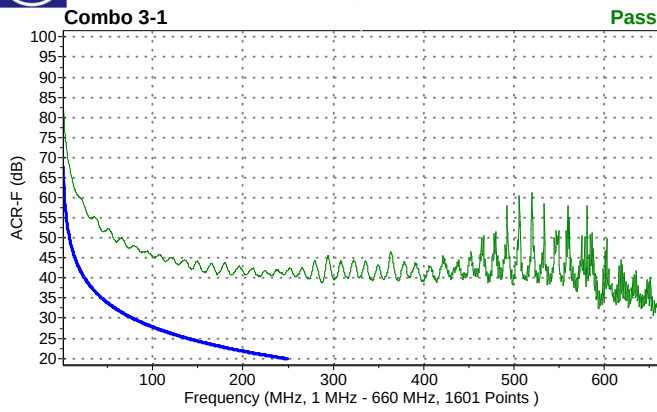




**Summary and Graphic: Attenuation Crosstalk-F Ratio (ACR-F)**{ *v* = Value (dB) *l* = Limit (dB) *m* = Margin (dB) *f* = Frequency (MHz) }

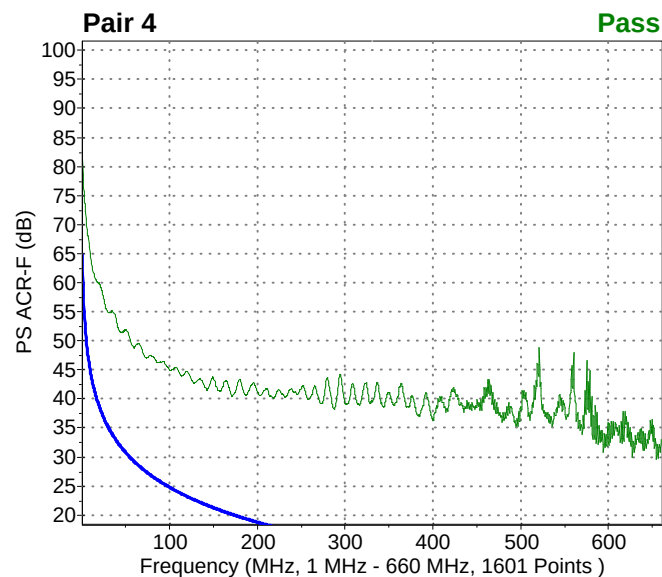
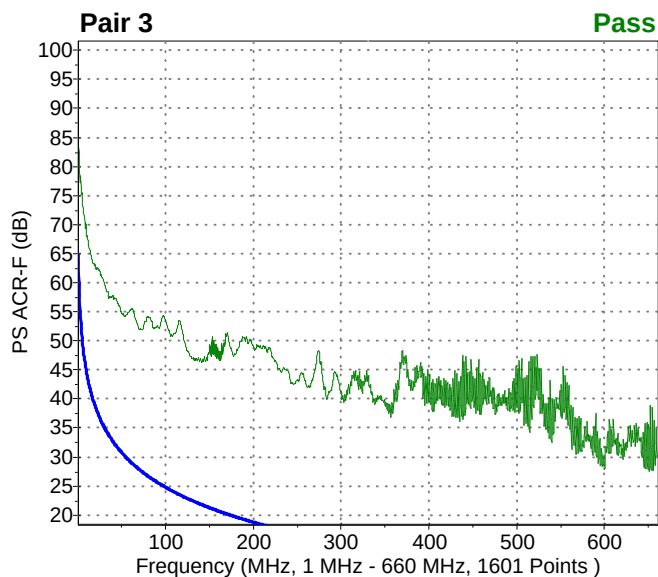
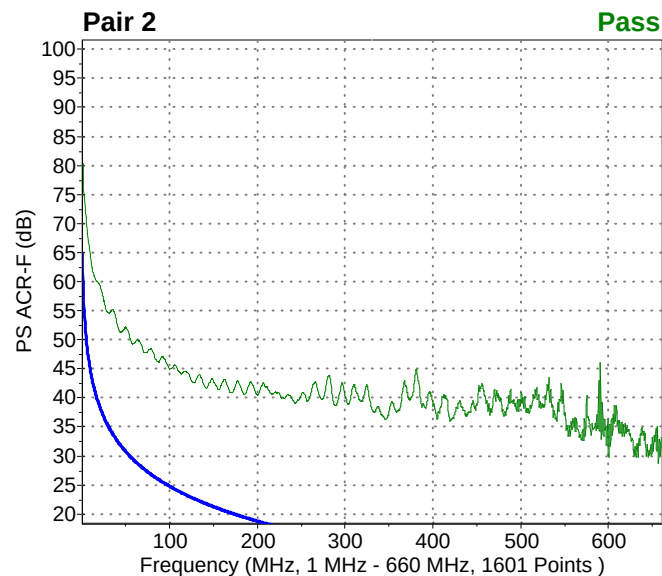
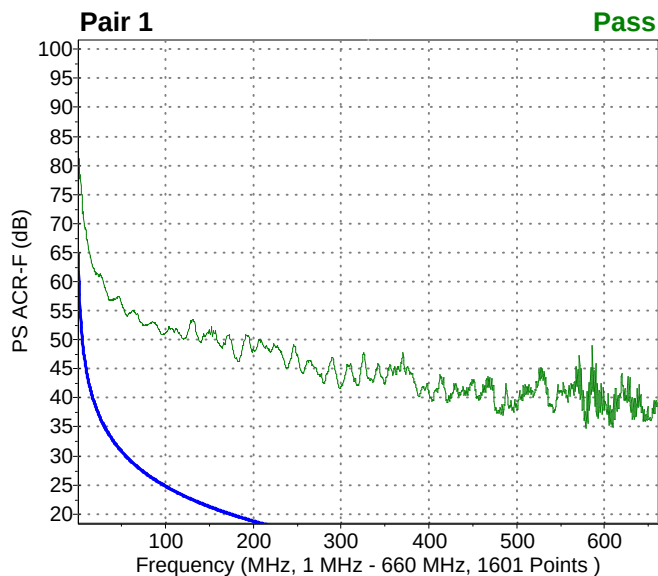
Combo	Start <i>f</i>	Stop <i>f</i>	Points	Minimum { <i>v</i> [<i>f</i>] }	Maximum { <i>v</i> [<i>f</i>] }	Min. Margin { <i>m</i> (<i>v</i> <i>l</i>) [<i>f</i>] }	Result
1-2	1	660	1601	38.4 [578.9]	96.9 [3.883]		✓
1-3	1	660	1601	31.1 [657.1]	81.9 [1]		✓
1-4	1	660	1601	33.7 [644.3]	102.8 [2.236]		✓
2-1	1	660	1601	33.5 [586.3]	99.5 [1]		✓
2-3	1	660	1601	32.8 [657.1]	101.0 [1]		✓
2-4	1	660	1601	28.4 [651.4]	87.0 [1]		✓
3-1	1	660	1601	30.6 [654.6]	83.6 [1]		✓
3-2	1	660	1601	37.9 [578.9]	90.5 [1]		✓
3-4	1	660	1601	32.4 [599.5]	104.4 [3.059]		✓
4-1	1	660	1601	33.3 [629.9]	100.5 [1]		✓
4-2	1	660	1601	37.6 [653.4]	89.2 [1]		✓
4-3	1	660	1601	32.9 [628.7]	98.4 [1]		✓





**Summary and Graphic: Power Sum ACR-F (PS ACR-F)**{ v = Value (dB) } / = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { $v[f]$ }	Maximum { $v[f]$ }	Min. Margin { $m(v/l)[f]$ }	Result
1	1	660	1601	34.7 [578.9]	86.2 [1]		✓
2	1	660	1601	28.6 [657.1]	81.8 [1]		✓
3	1	660	1601	27.6 [651.4]	85.6 [1]		✓
4	1	660	1601	29.7 [654.6]	83.4 [1]		✓

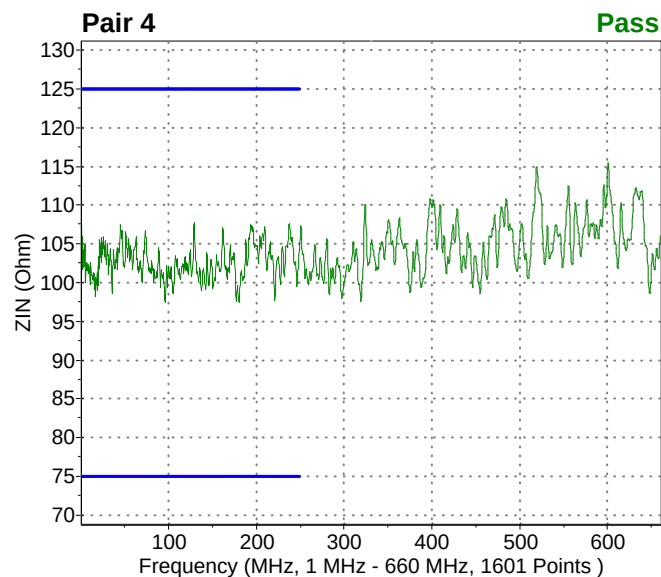
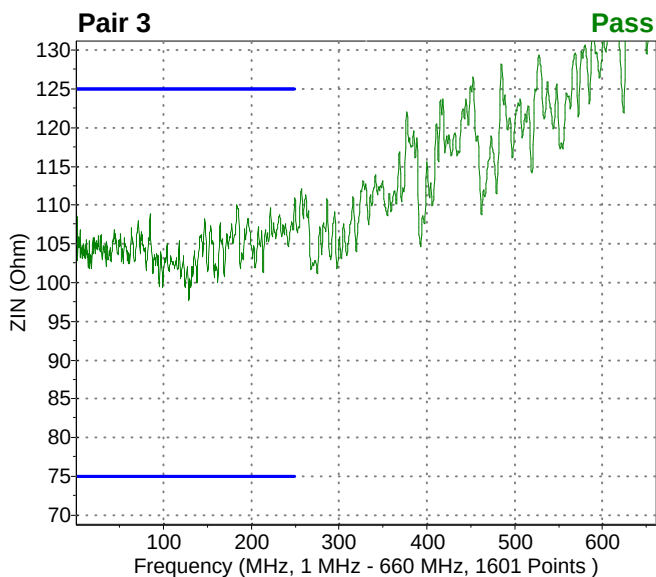
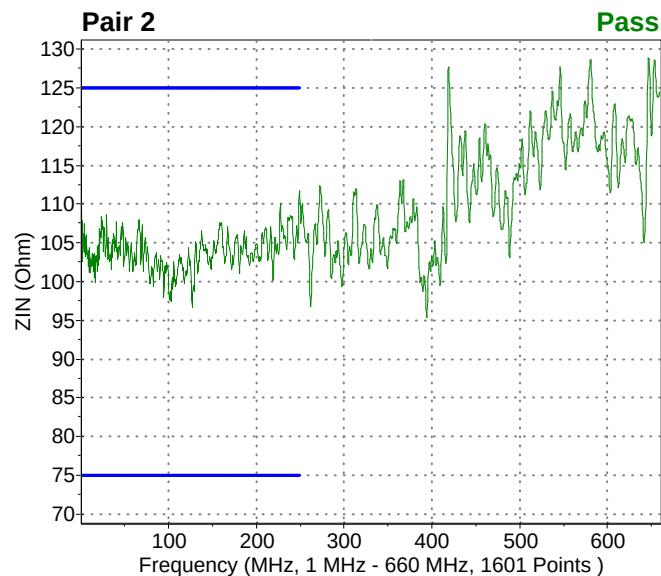
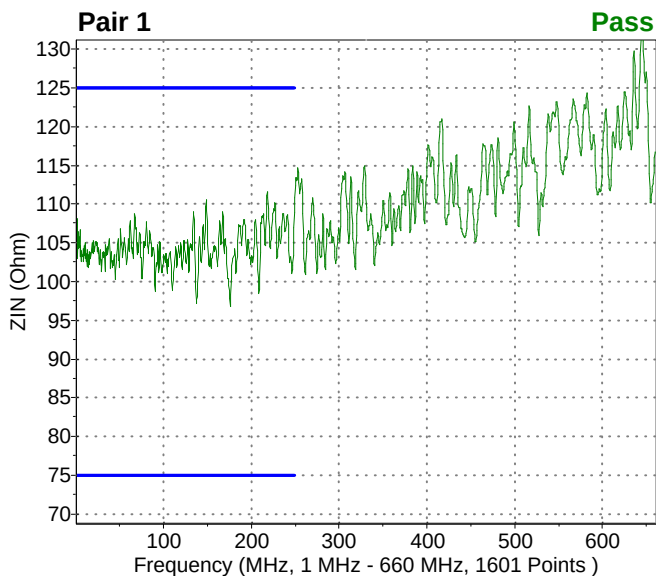




Summary and Graphic: Input Impedance (ZIN)

{ v = Value (Ohm) l = Limit (Ohm) m = Margin (Ohm) f = Frequency (MHz) }

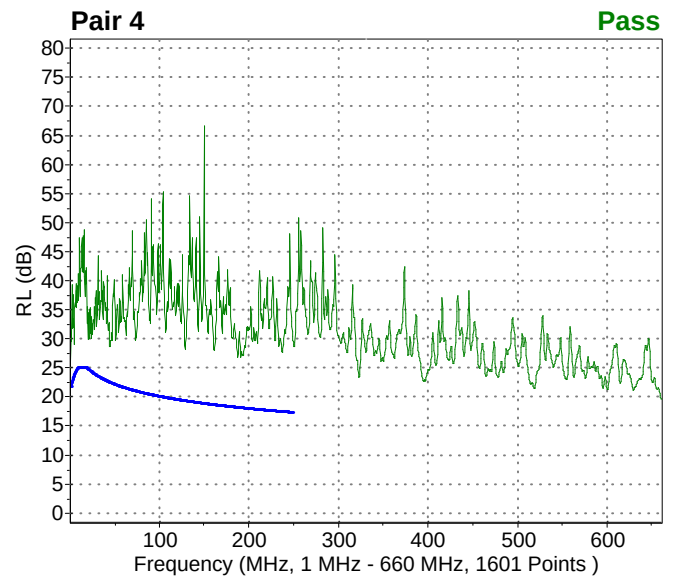
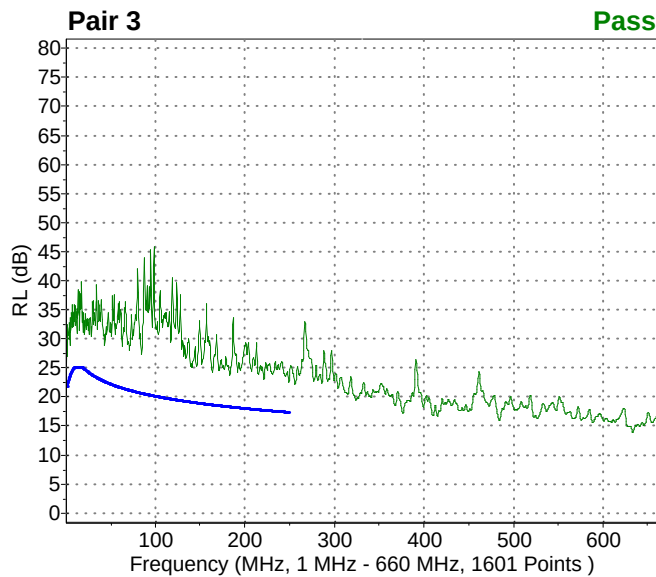
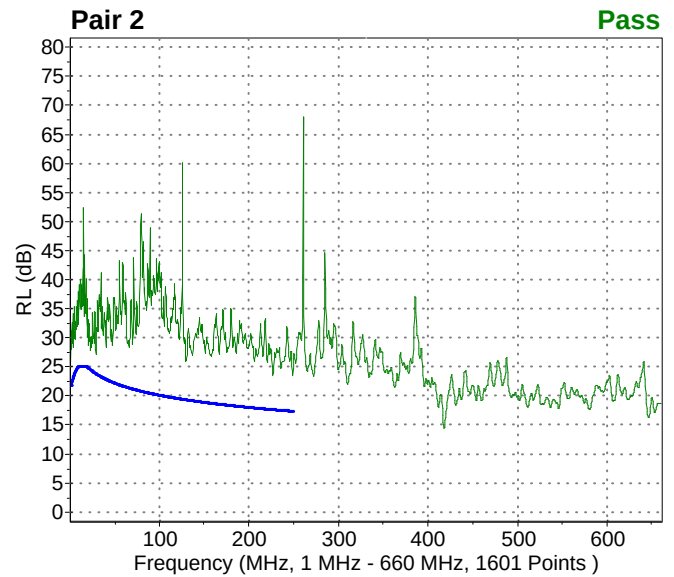
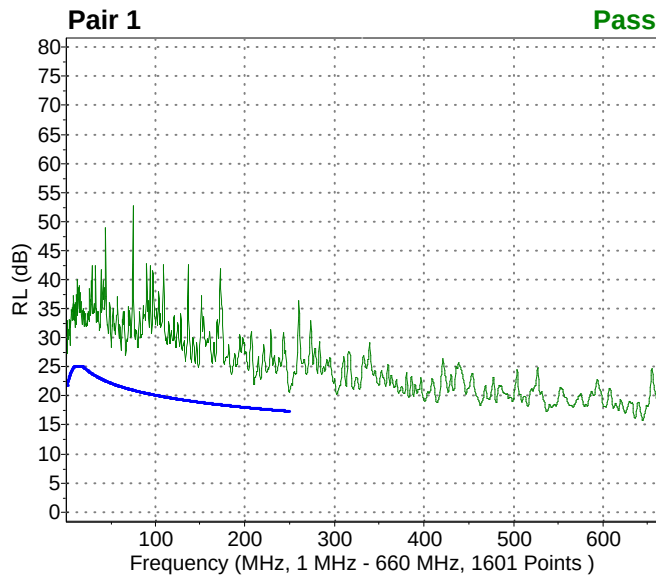
Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	96.83 [176]	133.77 [644.8]		✓
2	1	660	1601	95.39 [394.3]	128.84 [646.8]		✓
3	1	660	1601	97.70 [129.1]	145.06 [633.2]		✓
4	1	660	1601	97.42 [96.55]	115.47 [600.7]		✓



Summary and Graphic: Return Loss (RL)

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1	1	660	1601	15.70 [643.9]	52.68 [75.55]	3.24 (20.56 < 17.32) [249.8]	✓
2	1	660	1601	14.40 [417.8]	68.07 [260.9]	3.25 (27.74 < 24.49) [23.65]	✓
3	1	660	1601	13.85 [632.8]	45.86 [99.03]	5.14 (22.47 < 17.33) [249.4]	✓
4	1	660	1601	19.61 [660]	66.56 [150.5]	5.05 (29.94 < 24.89) [20.77]	✓



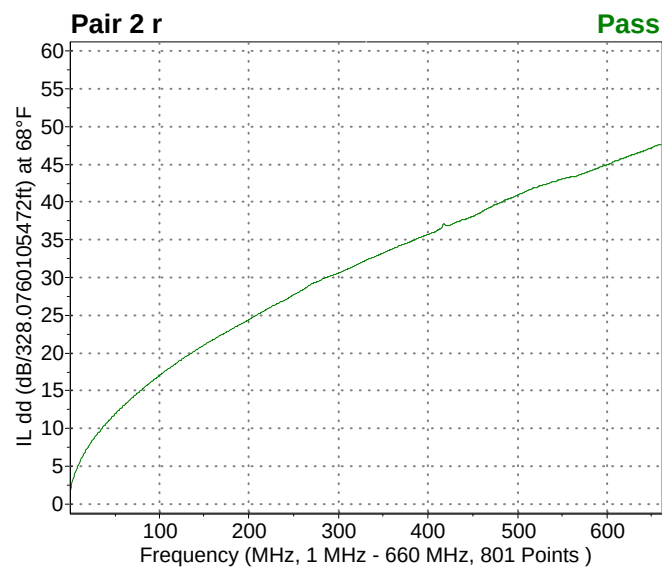
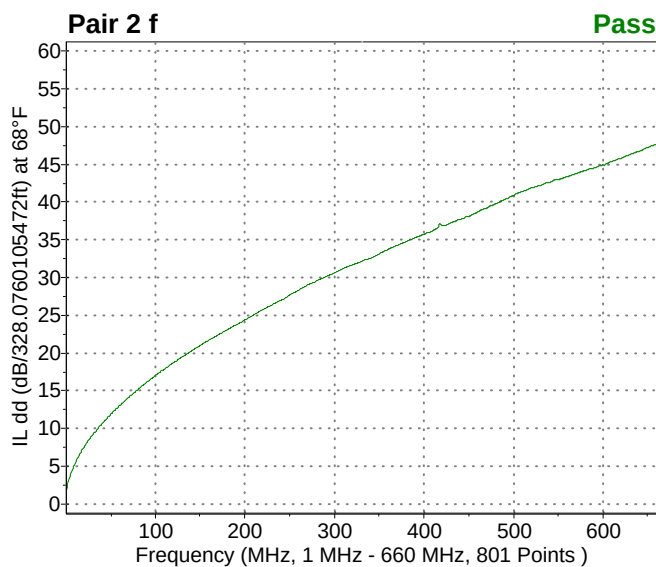
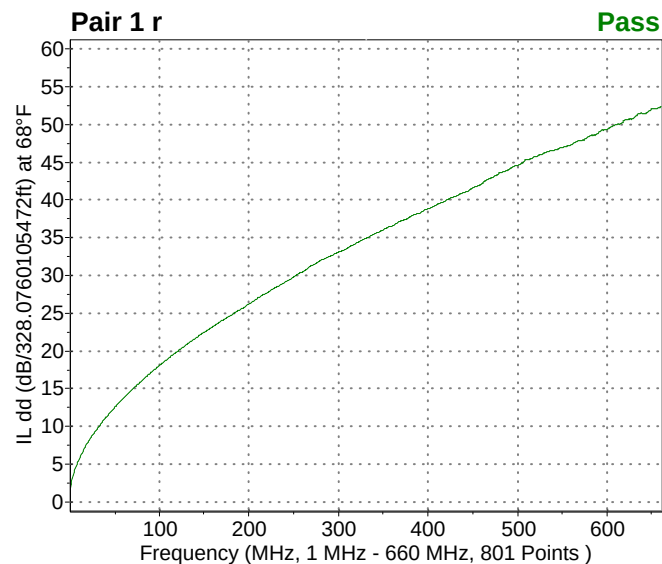
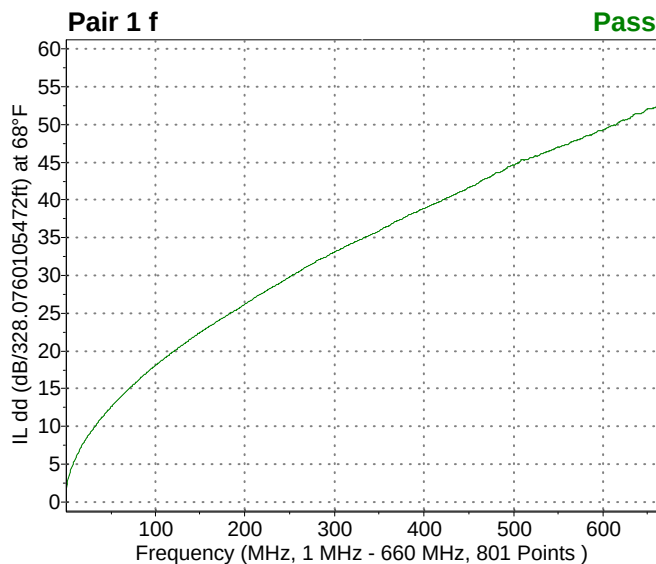
Final control authorized signature:

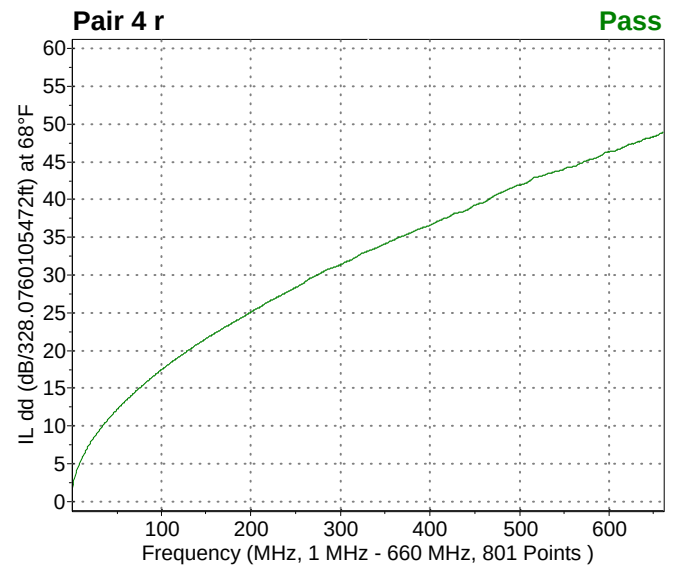
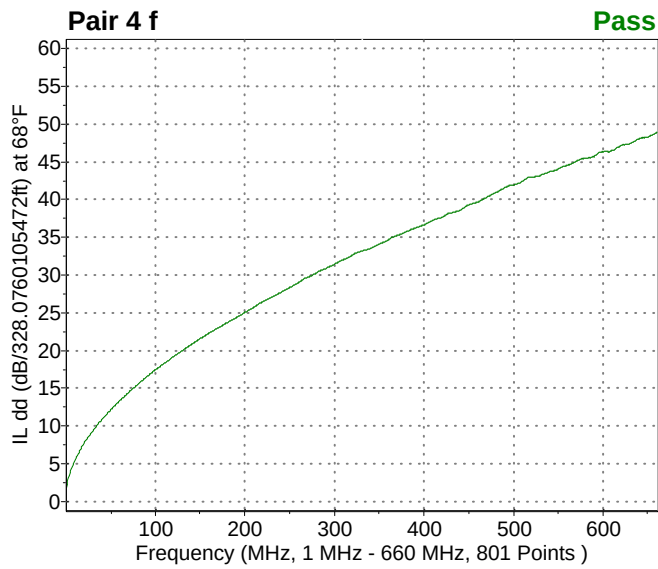
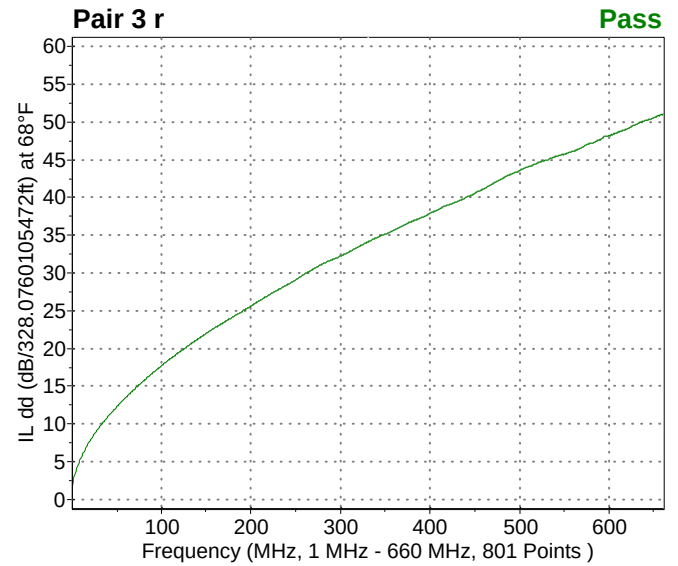
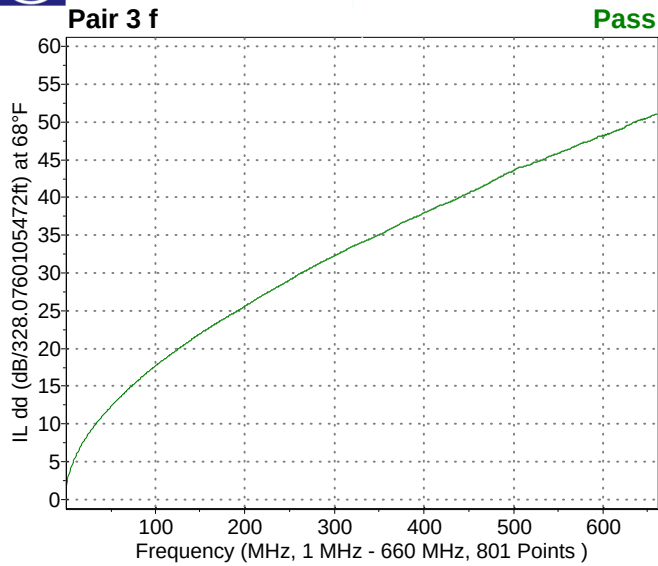
**Summary and Graphic: Insertion loss dd (IL dd)**

{ v = Value (dB/328.0760105472ft) at 68°F l = Limit (dB/328.0760105472ft) at 68°F m = Margin (dB/328.0760105472ft) at 68°F f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum	{ $v[f]$ }	Maximum	{ $v[f]$ }	Result
1 f	1	660	801	1.77	[1]	52.33	[659.2]	✓
1 r	1	660	801	1.77	[1]	52.33	[659.2]	✓
2 f	1	660	801	1.72	[1]	47.63	[660]	✓
2 r	1	660	801	1.72	[1]	47.65	[660]	✓
3 f	1	660	801	1.77	[1]	51.06	[660]	✓
3 r	1	660	801	1.76	[1]	51.04	[660]	✓
4 f	1	660	801	1.74	[1]	48.94	[659.2]	✓
4 r	1	660	801	1.74	[1]	48.92	[659.2]	✓

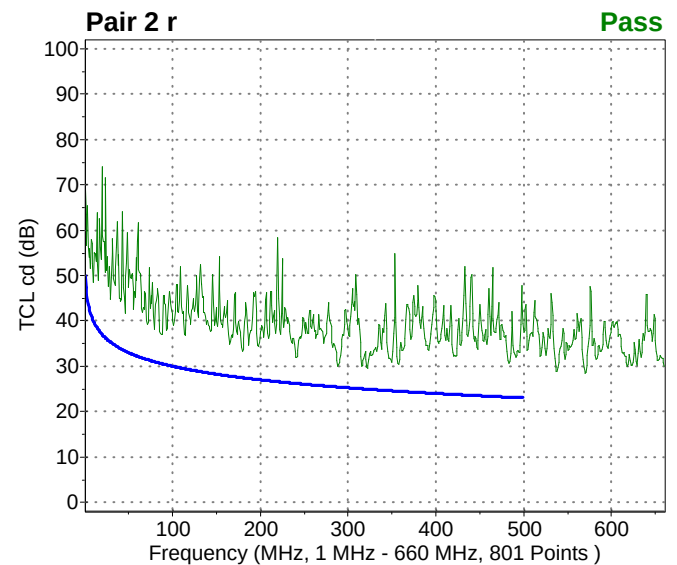
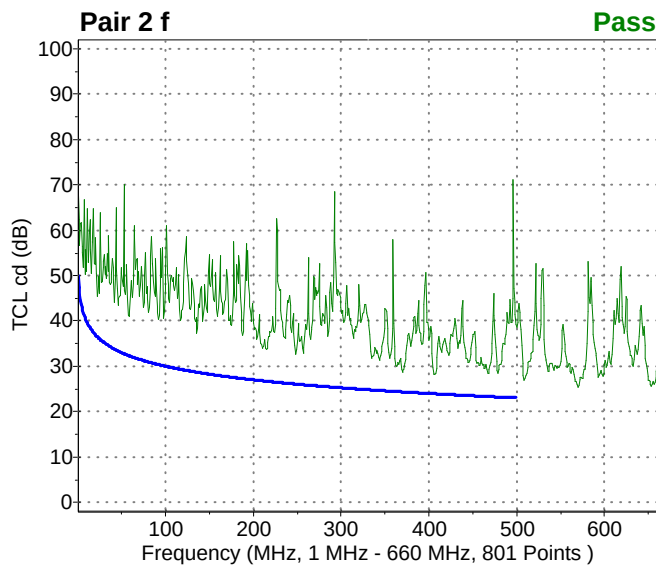
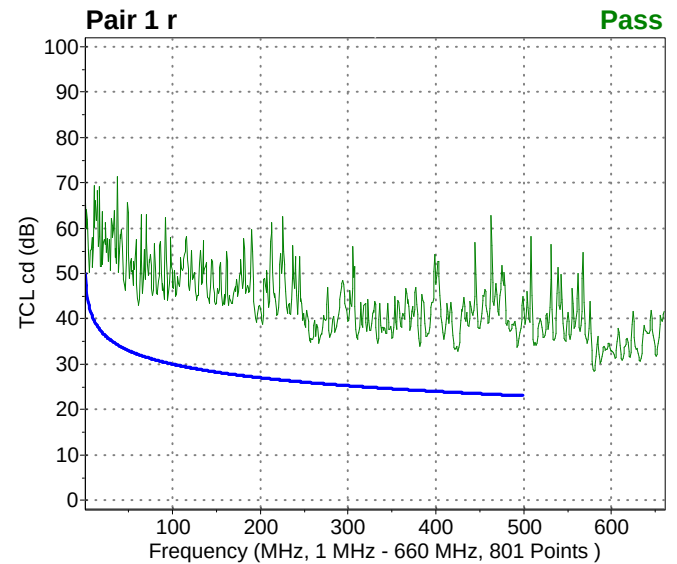
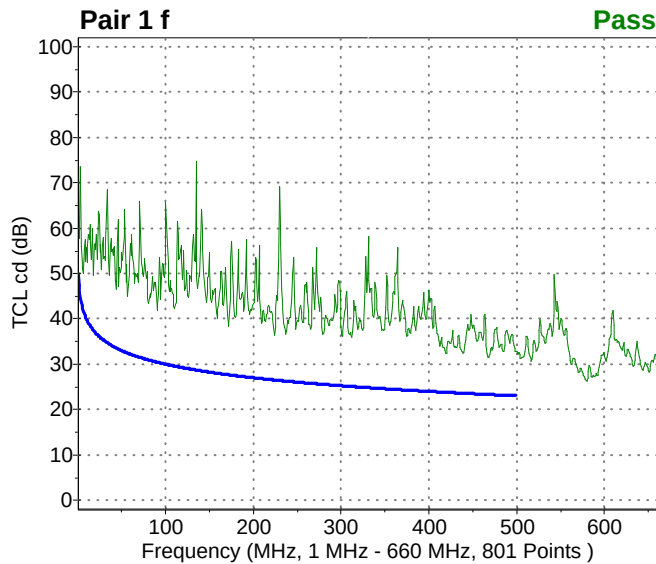


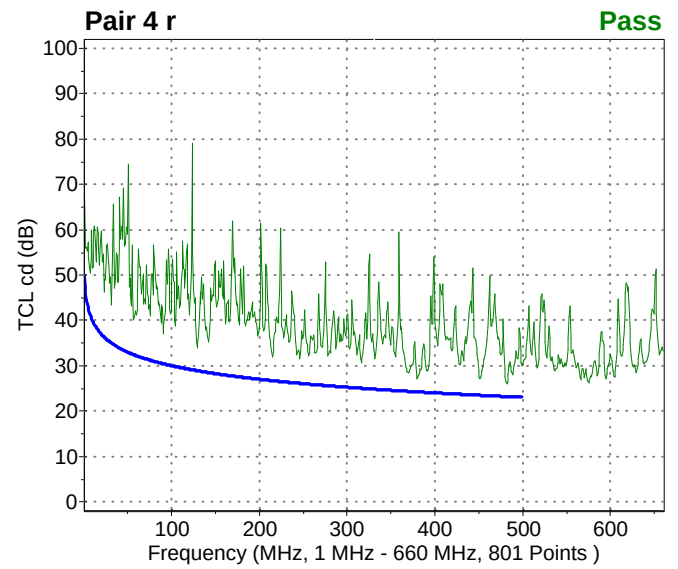
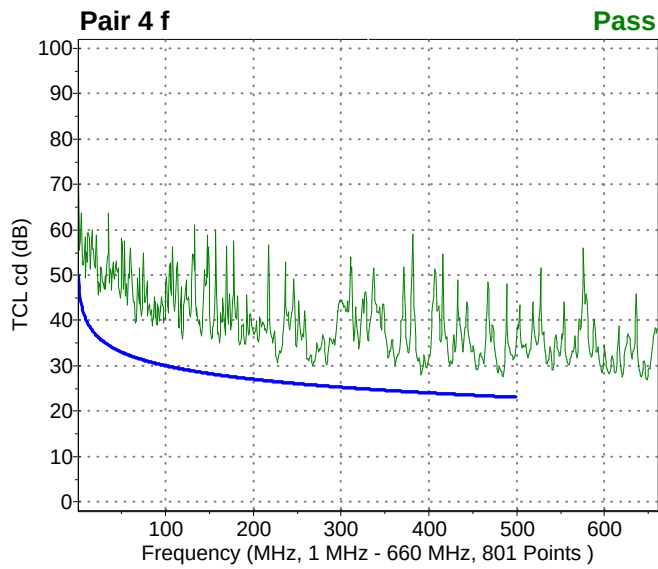
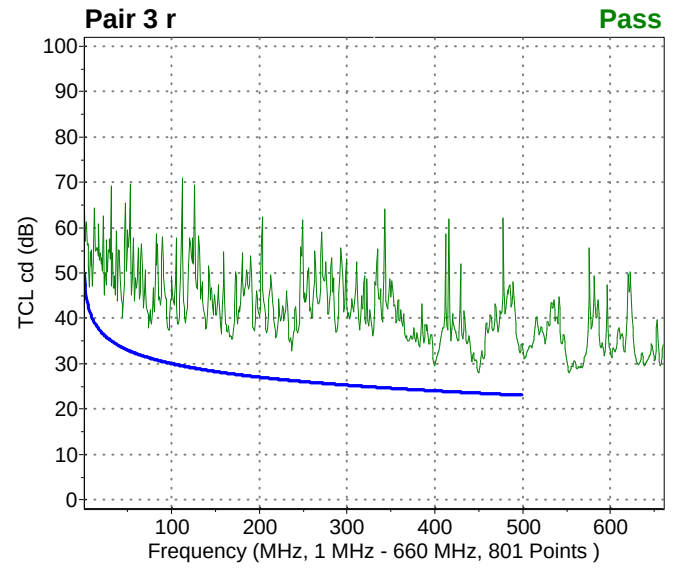
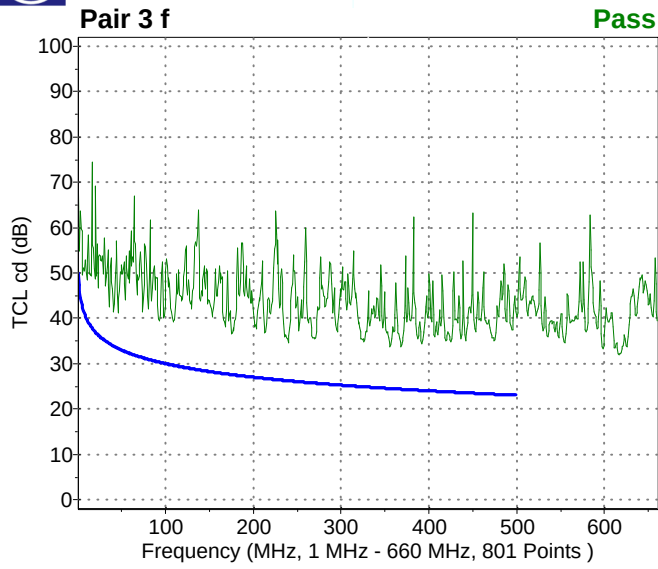


**Summary and Graphic: transverse conv. loss cd (TCL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }
{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	26.2 [580.1]	74.8 [135.3]	8.2 (31.5 < 23.3) [468.1]	✓
1 r	1	660	801	28.3 [580.1]	71.3 [37.24]	7.6 (50.5 < 42.9) [5.119]	✓
2 f	1	660	801	25.3 [570.2]	71.2 [496.1]	4.3 (28.2 < 23.9) [406.3]	✓
2 r	1	660	801	28.4 [570.2]	73.9 [19.95]	4.5 (29.9 < 25.4) [288.5]	✓
3 f	1	660	801	31.9 [616.3]	74.6 [16.65]	7.2 (49.5 < 42.3) [5.942]	✓
3 r	1	660	801	27.9 [449.9]	71.0 [112.2]	4.5 (27.9 < 23.5) [449.9]	✓
4 f	1	660	801	26.8 [648.5]	73.4 [1]	3.9 (27.9 < 24.1) [391.5]	✓
4 r	1	660	801	26.0 [482.1]	79.1 [123.7]	2.8 (26.0 < 23.2) [482.1]	✓

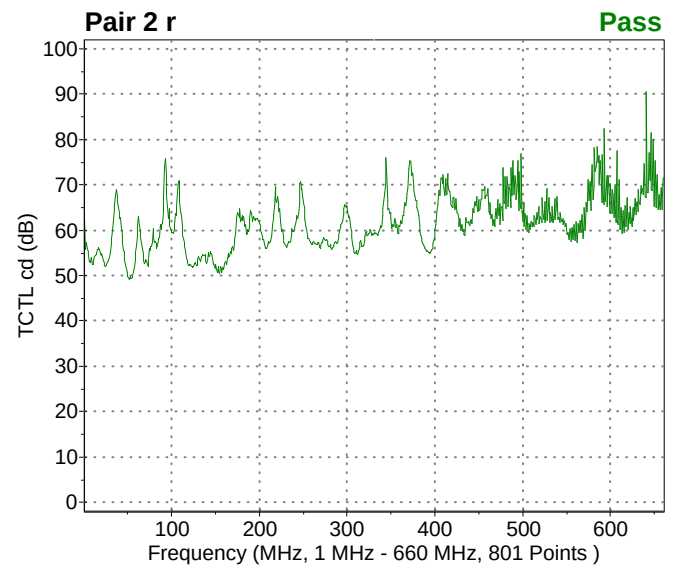
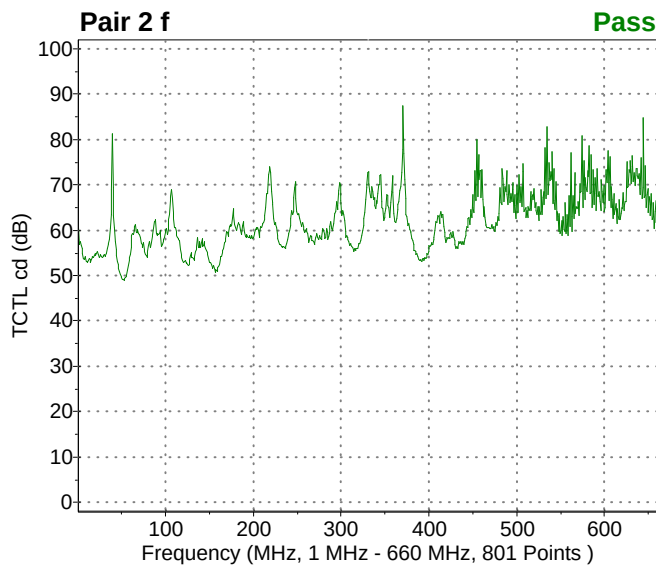
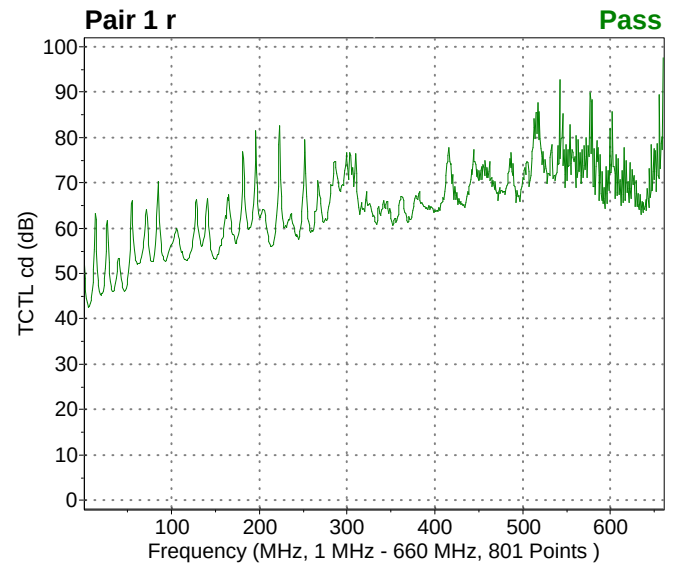
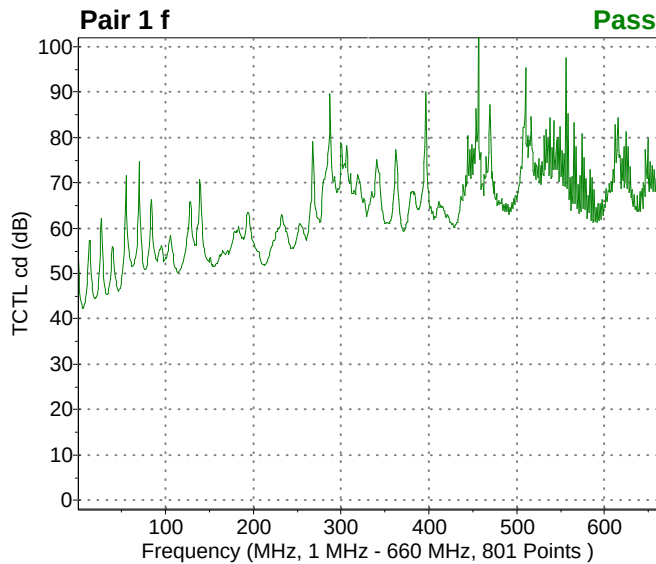


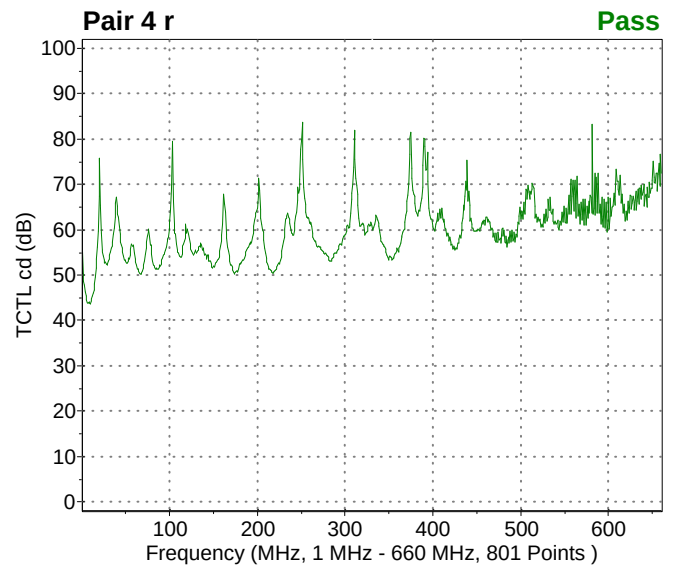
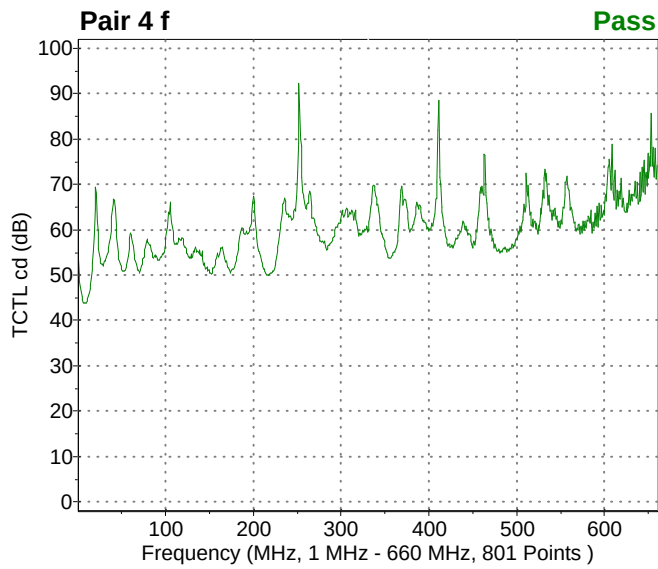
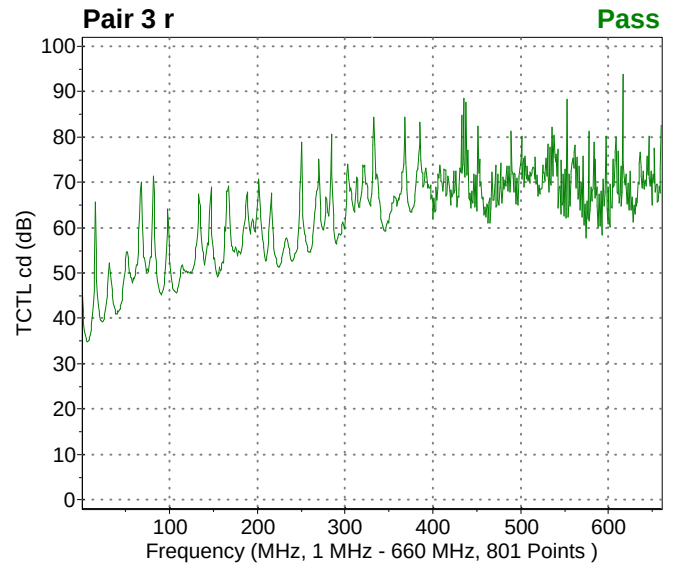
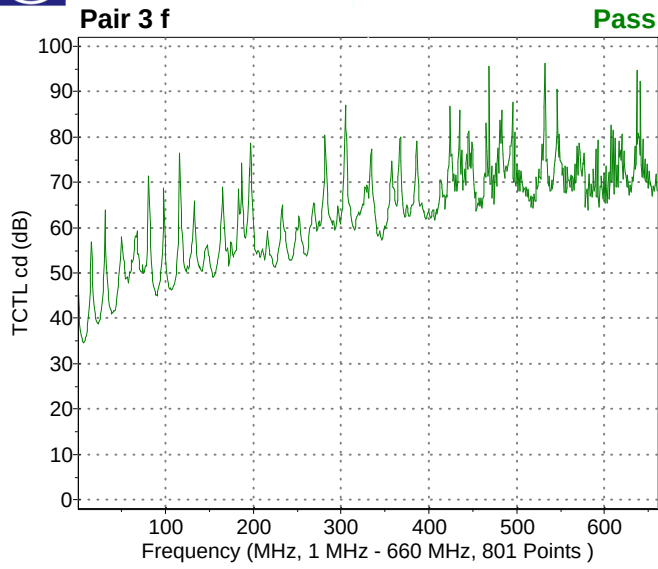


**Summary and Graphic: transverse conv. transfer loss cd (TCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }
{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Result
1 f	1	660	801	42.4 [5.942]	119.7 [456.5]	✓
1 r	1	660	801	42.5 [5.942]	97.7 [660]	✓
2 f	1	660	801	48.9 [52.9]	87.4 [370.9]	✓
2 r	1	660	801	49.2 [52.07]	90.5 [641.1]	✓
3 f	1	660	801	34.7 [6.766]	96.2 [532.3]	✓
3 r	1	660	801	34.8 [6.766]	93.8 [616.3]	✓
4 f	1	660	801	43.8 [9.237]	92.2 [252.2]	✓
4 r	1	660	801	43.7 [10.06]	83.7 [251.4]	✓





**Summary and Graphic: Equal Level TCTL cd (ELTCTL cd)**

{ v = Value (dB) l = Limit (dB) m = Margin (dB) f = Frequency (MHz) }

{ Pair: f=forward, r=reverse a=wire a b=wire b }

Pair	Start f	Stop f	Points	Minimum { v [f] }	Maximum { v [f] }	Min. Margin { m (v l) [f] }	Result
1 f	1	660	801	11.3 [641.1]	77.1 [456.5]	16.8 (43.4 < 26.5) [2.647]	✓
1 r	1	660	801	10.9 [634.5]	56.8 [13.36]	15.7 (50.7 < 35.0) [1]	✓
2 f	1	660	801	12.2 [656.7]	70.6 [39.72]	24.6 (59.6 < 35.0) [1]	✓
2 r	1	660	801	12.9 [613]	62.2 [1]	24.1 (53.9 < 29.8) [1.824]	✓
3 f	1	660	801	15.4 [654.2]	57.0 [116.3]	9.7 (36.3 < 26.5) [2.647]	✓
3 r	1	660	801	9.9 [592.5]	58.8 [15.83]	9.1 (44.1 < 35.0) [1]	✓
4 f	1	660	801	13.0 [488.7]	63.4 [252.2]	17.4 (52.4 < 35.0) [1]	✓
4 r	1	660	801	12.5 [598.2]	67.9 [20.77]	18.2 (48.0 < 29.8) [1.824]	✓

