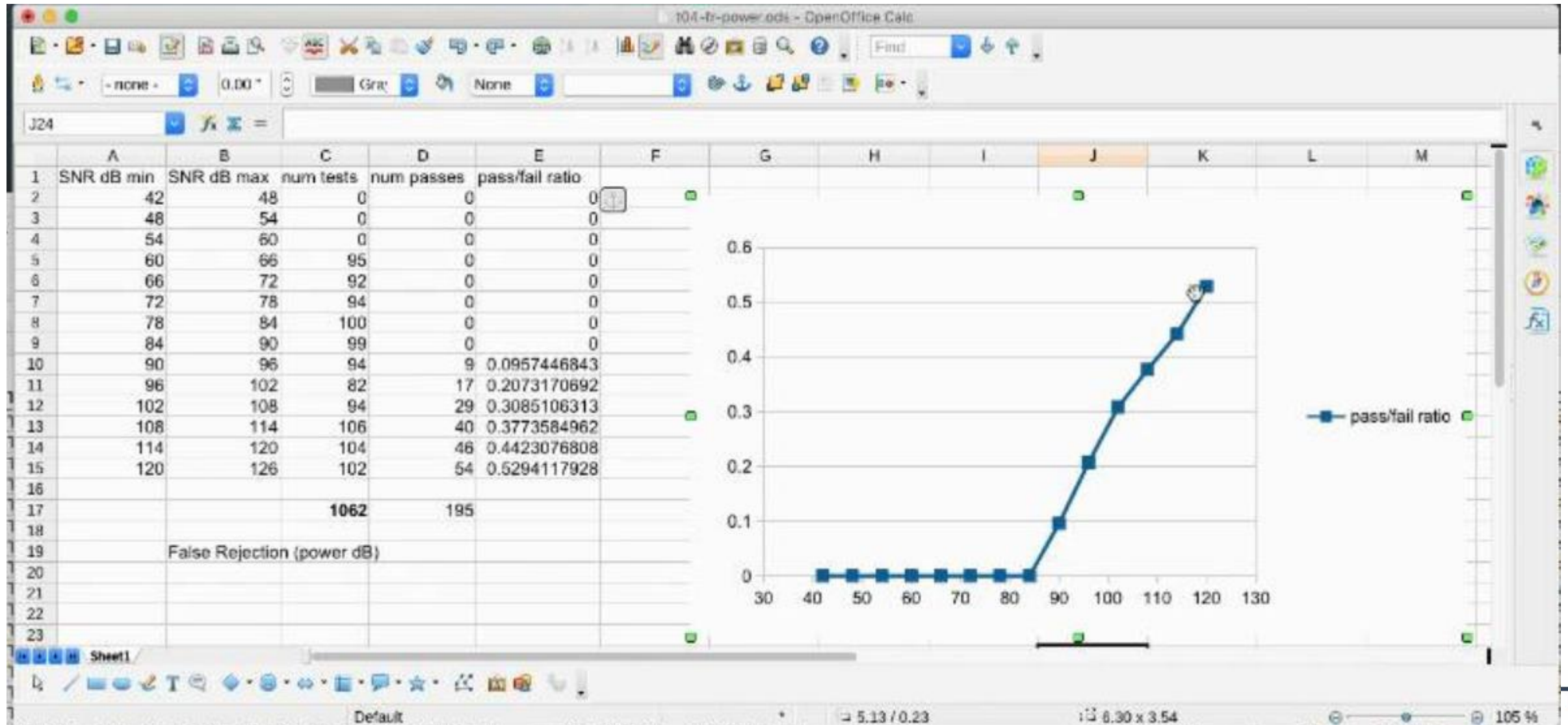


10/15/2020

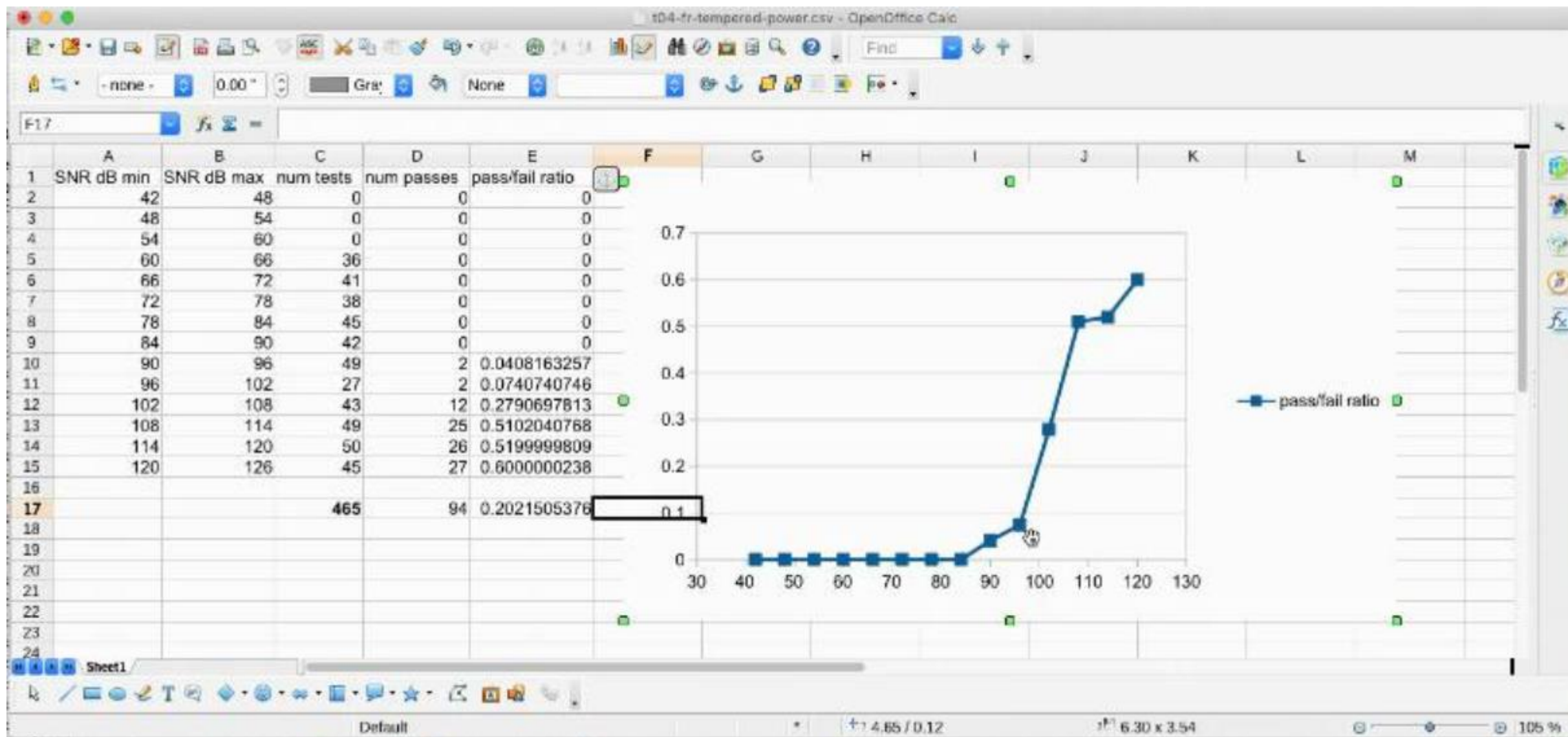
Notes

- Has updated the SPL extraction to use a window, will resent the spreadsheet
- Almost all of the cases where we missed glassbreak and IAS triggered it where CNNbackground
- NG – non-glass breaking

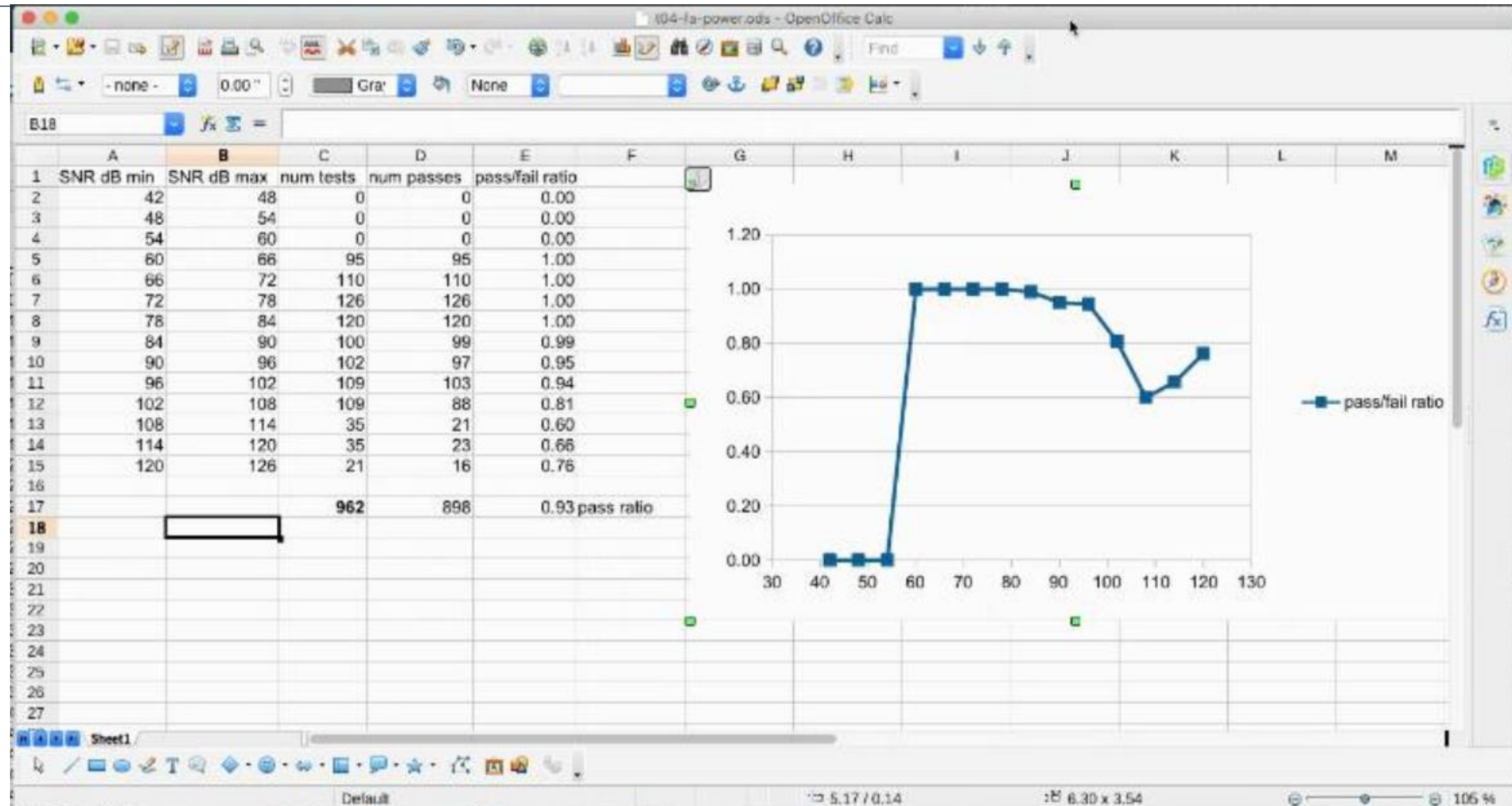
All



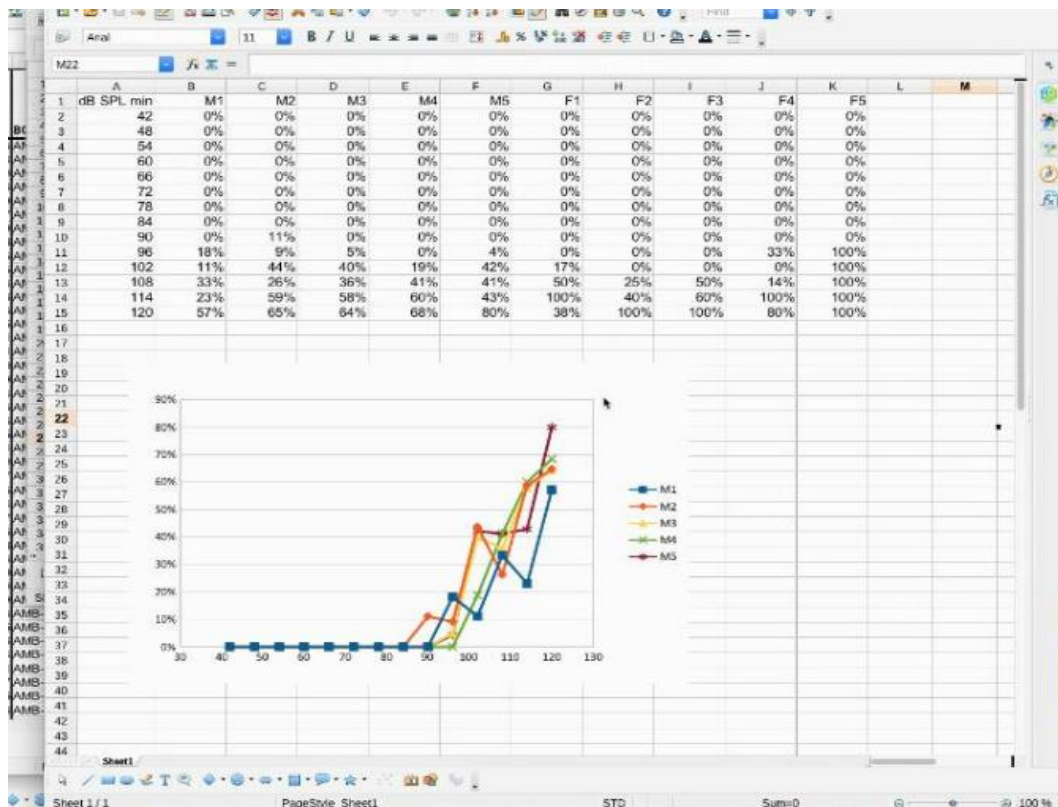
Tempered



Overall false accept

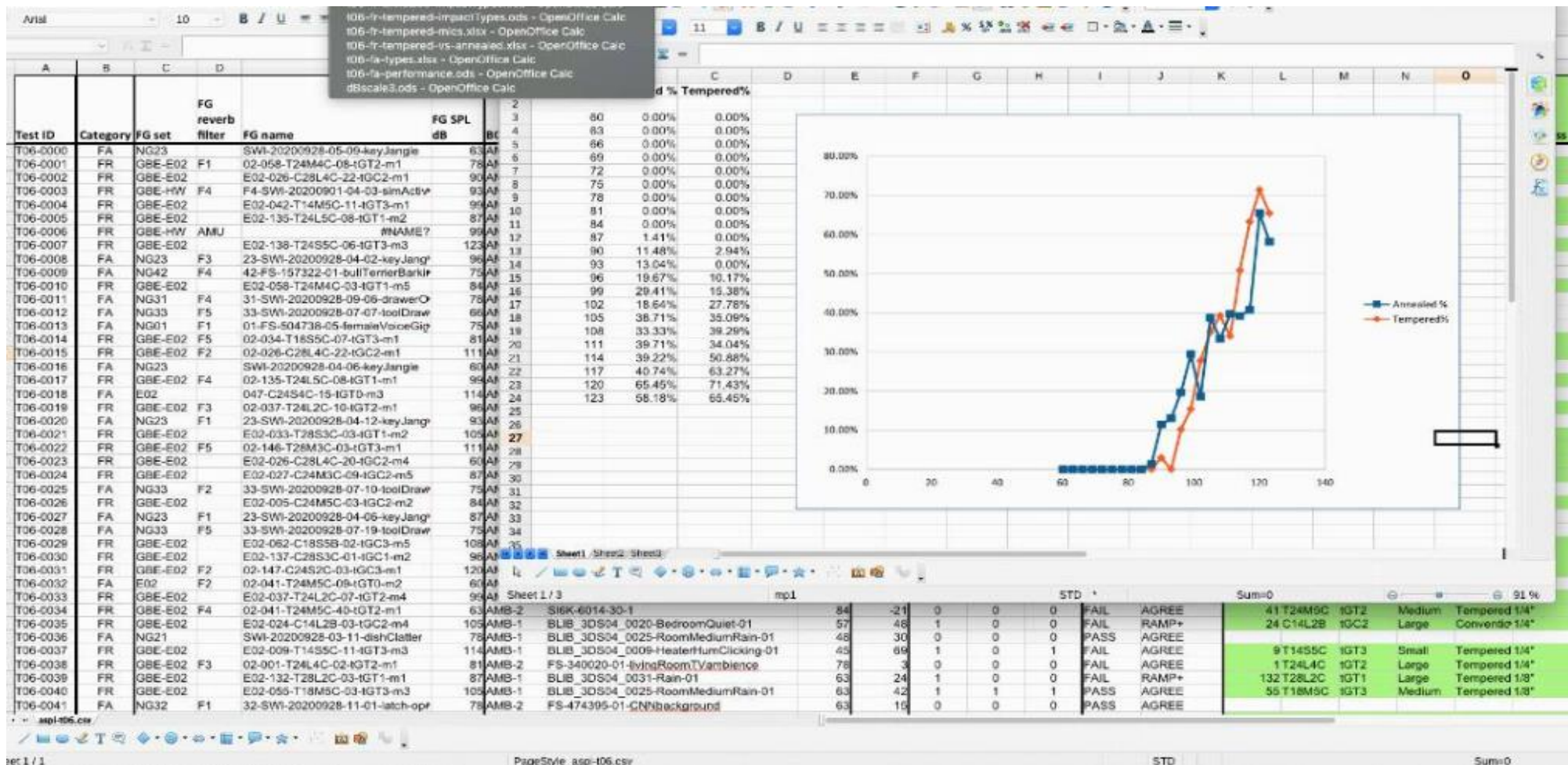


TPR vs mic placement



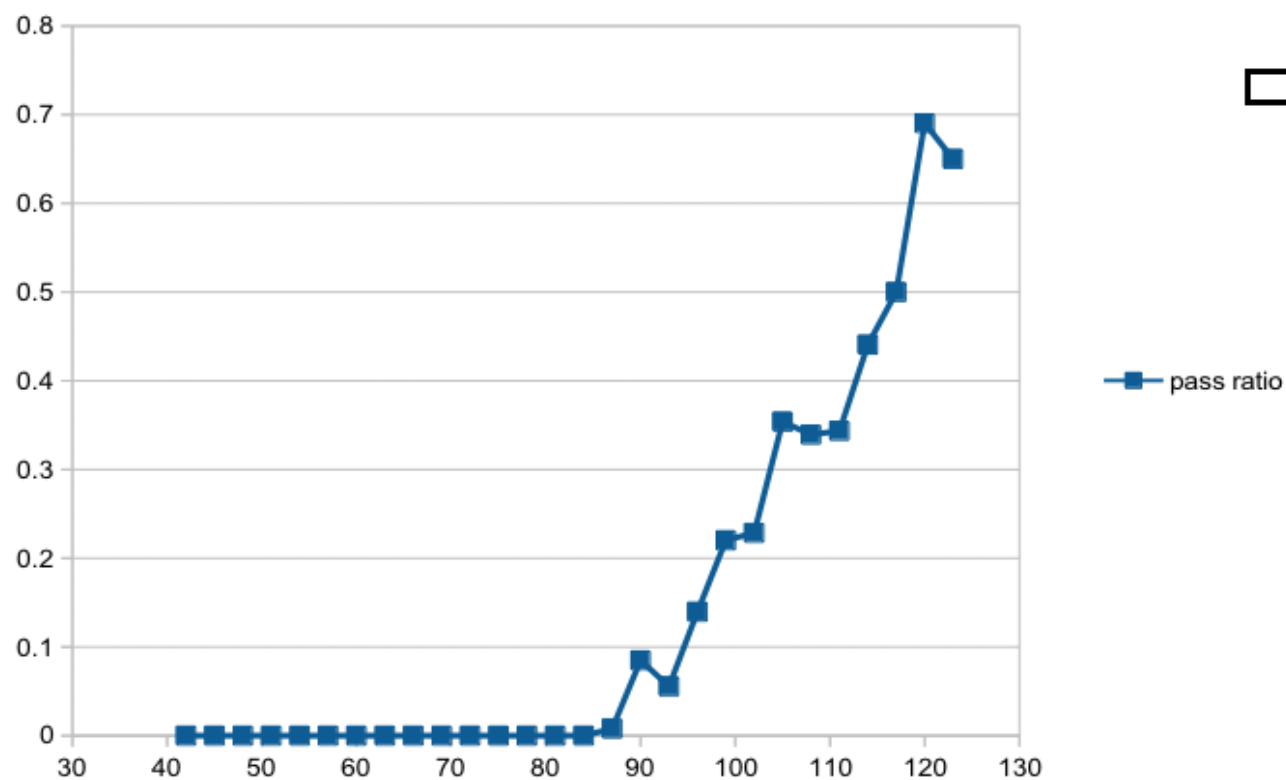
- different mics for tpr - no substantial performance change w/ mic distance
 - m1 is closest, they are normalized to the same level





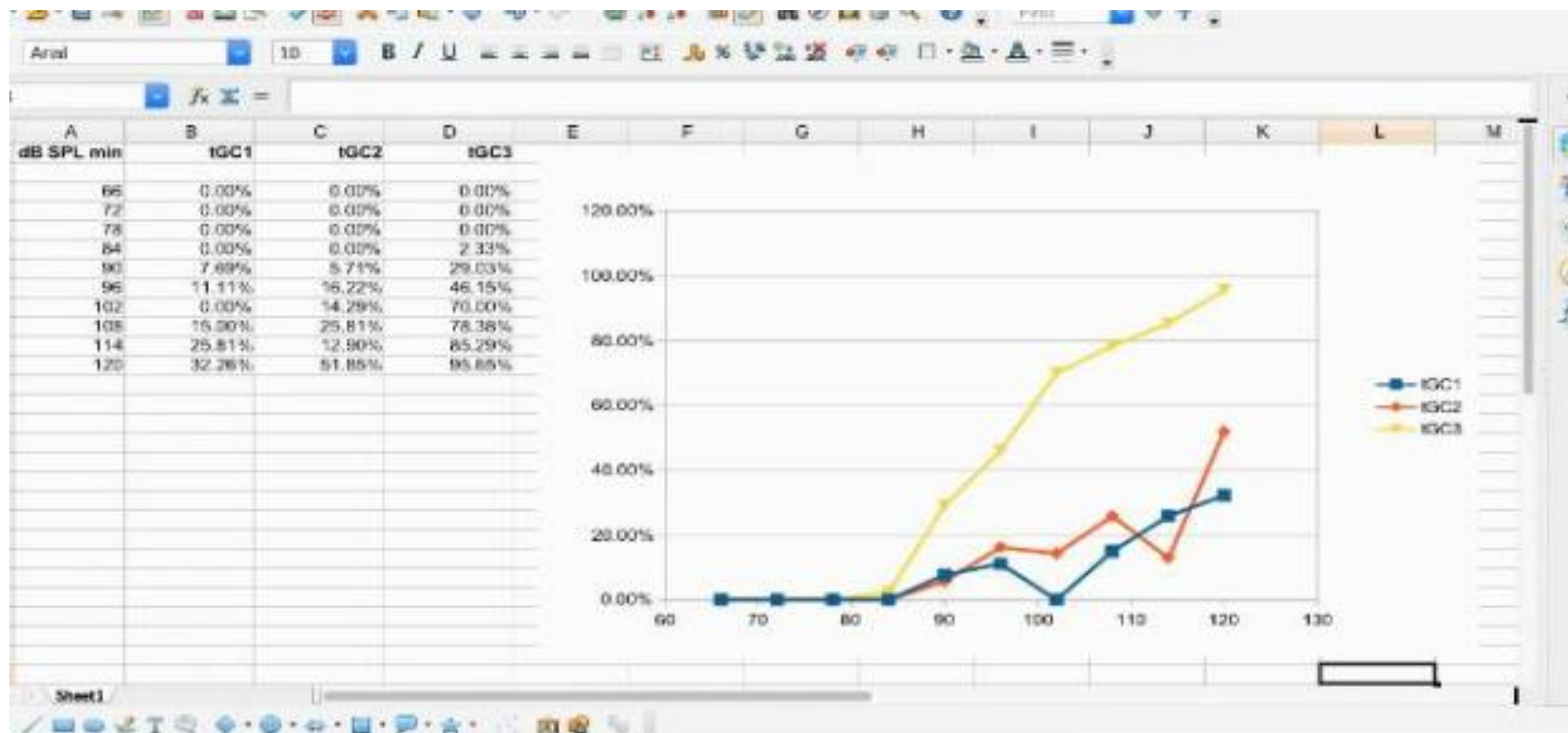
FRR plot 2

dB SPL min	dB SPL max	num tests	num passes	pass ratio
42	45	0	0	0
45	48	0	0	0
48	51	0	0	0
51	54	0	0	0
54	57	0	0	0
57	60	0	0	0
60	63	112	0	0
63	66	110	0	0
66	69	126	0	0
69	72	102	0	0
72	75	124	0	0
75	78	127	0	0
78	81	112	0	0
81	84	102	0	0
84	87	110	0	0
87	90	127	1	0.0078740157
90	93	106	9	0.0849056616
93	96	108	6	0.0555555556
96	99	129	18	0.1395348907
99	102	109	24	0.2201834917
102	105	105	24	0.2285714298
105	108	130	46	0.3538461626
108	111	112	38	0.3392857015
111	114	131	45	0.3435114622
114	117	118	52	0.4406779706
117	120	110	55	0.5
120	123	126	87	0.6904761791
123	126	120	78	0.6499999762

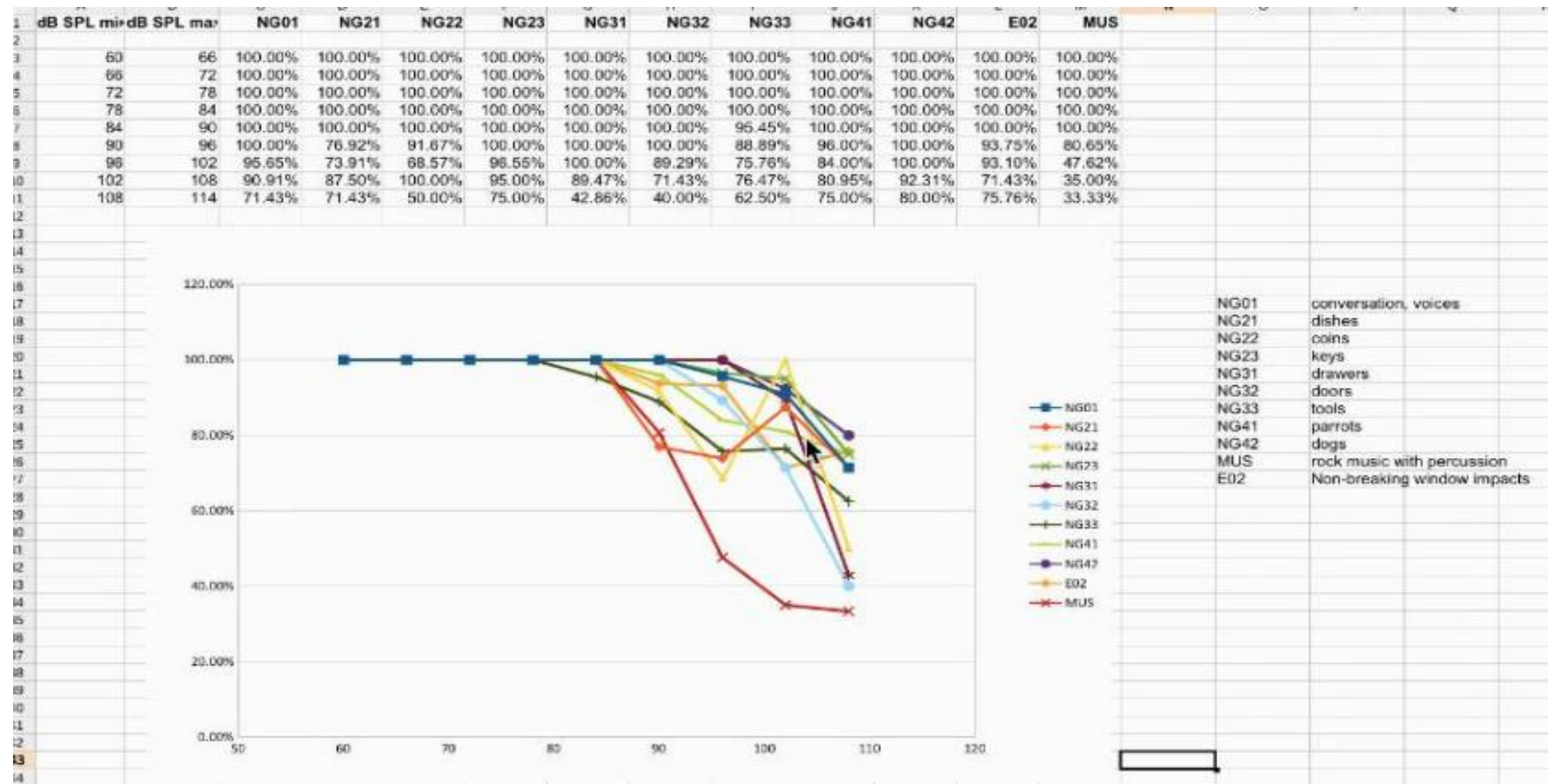


FRR plot – vs perceptibility

- tgc3 very audibly clear to be a window break, tgc2 & tgc1 are less distinct

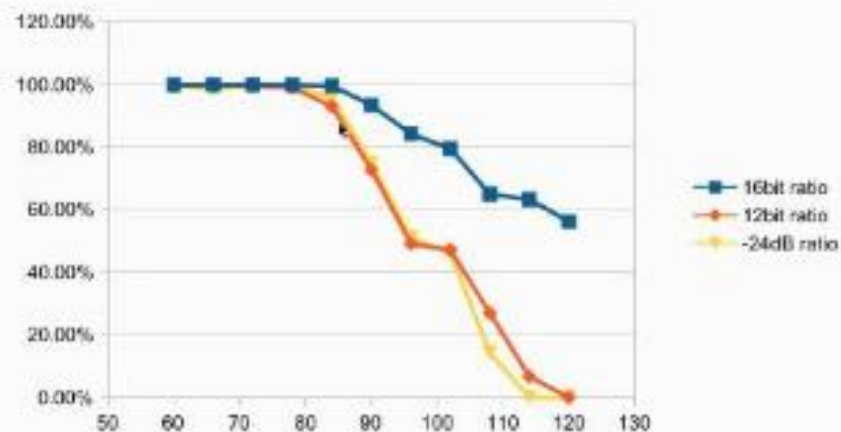


FAR

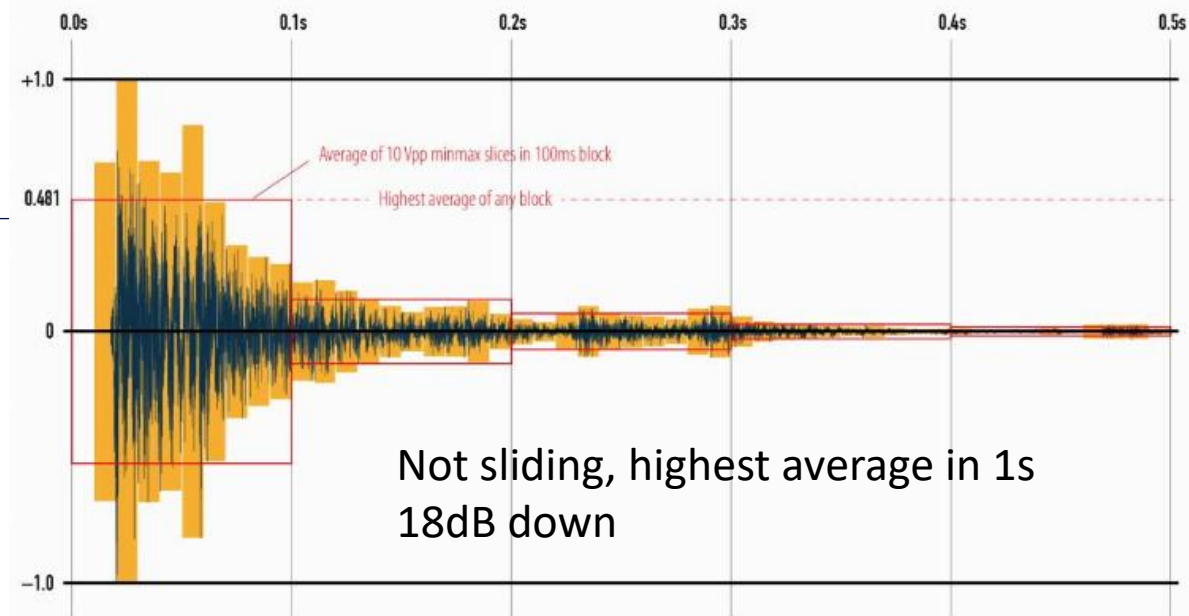


	A	B	C	D	E	F	G	H	I	J
1	dB SPL min	dB SPL max	num tests	16bit passes	16bit ratio	12bit passes	12bit ratio	-24dB passes	-24dB ratio	
2										
3	60	66	310	310	100.00%	309	99.68%	75	100.00%	
4	66	72	274	274	100.00%	274	100.00%	59	98.33%	
5	72	78	282	282	100.00%	281	99.65%	59	100.00%	
6	78	84	329	329	100.00%	326	99.09%	73	100.00%	
7	84	90	304	303	99.67%	283	93.09%	67	95.71%	
8	90	96	290	271	93.45%	211	72.76%	42	75.00%	
9	96	102	299	252	84.28%	147	49.16%	41	51.25%	
10	102	108	210	167	79.52%	99	47.14%	18	46.15%	
11	108	114	100	65	65.00%	27	27.00%	3	14.29%	
12	114	120	30	19	63.33%	2	6.67%	0	0.00%	
13	120	126	16	9	56.25%	0	0.00%	0	0.00%	
14										

TRUE NEGATIVES / SUCCESSFUL REJECTION



Normalization Basis



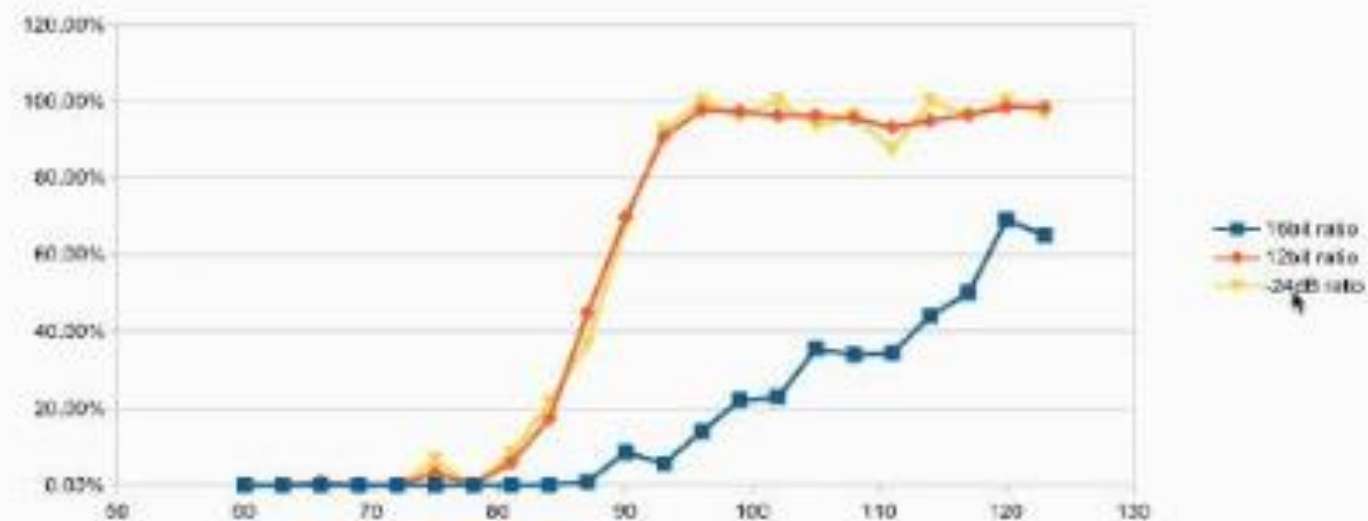
Average of the peaks in each

120	130	Nom 0 eq					
mic dB SPL (est.)	mic dB SPL (est.)	dB mic signal	Linear SPL	16-bit ymin	16-bit ymax	12-bit ymin	12-bit ymax
129	139	9	2.818383	-92353	92350	-5769	5772
126	136	6	1.995262	-65381	65379	-4084	4086
123	133	3	1.412538	-46286	46285	-2891	2893
120	130	0	1.000000	-32768	32767	-2047	2048
117	127	-3	0.707946	-23198	23197	-1449	1450
114	124	-6	0.501187	-16423	16422	-1026	1026
111	121	-9	0.354813	-11627	11626	-726	727
108	118	-12	0.251189	-8231	8231	-514	514
105	115	-15	0.177828	-5827	5827	-364	364
102	112	-18	0.125893	-4125	4125	-258	258
99	109	-21	0.089125	-2920	2920	-182	183
96	106	-24	0.063096	-2068	2067	-129	129
93	103	-27	0.044668	-1464	1464	-91	91
90	100	-30	0.031623	-1036	1036	-65	65
87	97	-33	0.022387	-734	734	-46	46
84	94	-36	0.015849	-519	519	-32	32
81	91	-39	0.011220	-368	368	-23	23
78	88	-42	0.007943	-260	260	-16	16
75	85	-45	0.005623	-184	184	-12	12
72	82	-48	0.003981	-130	130	-8	8
69	79	-51	0.002818	-92	92	-6	6
66	76	-54	0.001995	-65	65	-4	4
63	73	-57	0.001413	-46	46	-3	3
60	70	-60	0.001000	-33	33	-2	2
57	67	-63	0.000708	-23	23	-1	1
54	64	-66	0.000501	-16	16	-1	1
51	61	-69	0.000355	-12	12	-1	1
48	58	-72	0.000251	-8	8	-1	1
45	55	-75	0.000178	-6	6	0	0
42	52	-78	0.000126	-4	4	0	0
39	49	-81	0.000089	-3	3	0	0
36	46	-84	0.000063	-2	2	0	0

trying to figure
out mic signal
level correlation
to real-world
dB SPL

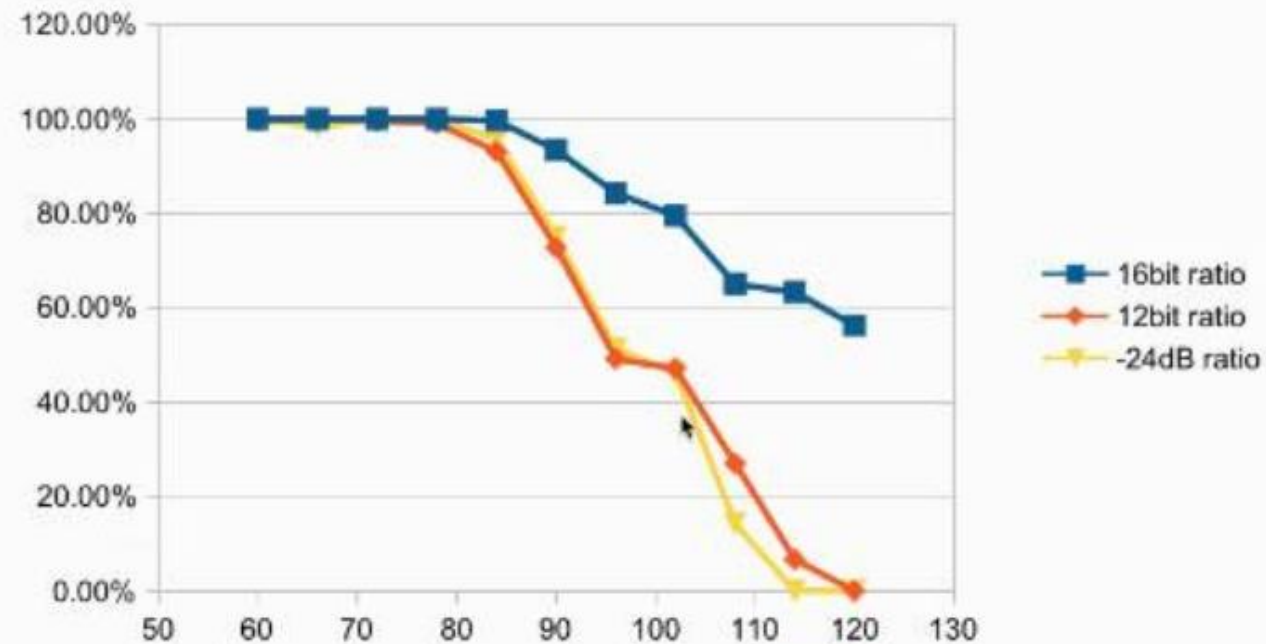
dB SPL min	dB SPL max	num tests	16bit passes	16bit ratio	12bit passes	12bit ratio	-24dB passes	-24dB ratio
60	63	112	0	0.00%	0	0.00%	0	0.00%
63	66	110	0	0.00%	0	0.00%	0	0.00%
66	69	126	0	0.00%	1	0.79%	0	0.00%
69	72	102	0	0.00%	0	0.00%	0	0.00%
72	75	124	0	0.00%	0	0.00%	0	0.00%
75	78	127	0	0.00%	4	3.15%	2	1.57%
78	81	112	0	0.00%	0	0.00%	0	0.00%
81	84	102	0	0.00%	6	5.88%	2	1.96%
84	87	110	0	0.00%	19	17.27%	8	7.27%
87	90	127	1	0.79%	57	44.88%	11	8.66%
90	93	108	9	8.49%	74	68.51%	15	13.89%
93	96	108	8	7.41%	98	90.74%	25	23.15%
96	99	120	18	15.00%	126	105.00%	22	18.33%
99	102	100	24	24.00%	106	106.00%	25	25.00%
102	105	105	24	22.86%	101	96.19%	21	20.00%
105	108	130	40	30.77%	125	96.15%	29	22.31%
108	111	112	38	33.93%	107	95.54%	24	21.43%
111	114	131	45	34.35%	122	93.13%	34	26.72%
114	117	118	52	44.07%	112	94.92%	33	28.00%
117	120	110	55	50.00%	100	90.91%	24	21.82%
120	123	126	87	69.05%	124	98.41%	23	18.25%
123	126	120	70	58.33%	118	98.33%	28	23.33%

TRUE POSITIVES / SUCCESSFUL DETECTION



dB SPL min	dB SPL max	num tests	16bit passes	16bit ratio	12bit passes	12bit ratio	-24dB passes	-24dB ratio
60	66	310	310	100.00%	309	99.68%	75	100.00%
66	72	274	274	100.00%	274	100.00%	59	98.33%
72	78	282	282	100.00%	281	99.65%	59	100.00%
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90	96	290	271	93.45%	211	72.76%	42	75.00%
96	102	299	252	84.28%	147	49.16%	41	51.25%
102	108	210	167	79.52%	99	47.14%	18	46.15%
108	114	100	65	65.00%	27	27.00%	3	14.29%
114	120	30	19	63.33%	2	6.67%	0	0.00%
120	126	16	9	56.25%	0	0.00%	0	0.00%

TRUE NEGATIVES / SUCCESSFUL REJECTION



Generator Pipeline for False Rejection Stochastic Test Cases

