Tables of simulation results

Contents

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Simple random sampling

Type I errors ($n = 500$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	2	0.100	0.045	0.008
WaldVCF	1000	1000	2	0.098	0.045	0.008
WaldDiag,MM3	1000	1000	2	0.032	0.007	0.000
WaldDiag,RS2	1000	1000	2	0.032	0.008	0.000
Pearson,MM3	1000	1000	2	0.073	0.029	0.004
Pearson,RS2	1000	1000	2	0.072	0.030	0.004
1F 8V						
Wald	1000	1000	0	0.094	0.043	0.008
WaldVCF	1000	1000	0	0.092	0.041	0.008
WaldDiag,MM3	1000	1000	0	0.052	0.023	0.005
WaldDiag,RS2	1000	1000	0	0.054	0.024	0.005
Pearson,MM3	1000	1000	0	0.086	0.038	0.004
Pearson,RS2	1000	1000	0	0.086	0.043	0.005
1F 15V						
Wald	1000	1000	15	0.102	0.064	0.020
WaldVCF	1000	1000	15	0.101	0.061	0.019
WaldDiag,MM3	1000	1000	15	0.065	0.033	0.008
WaldDiag,RS2	1000	1000	15	0.066	0.034	0.009
Pearson,MM3	1000	1000	15	0.093	0.043	0.010
Pearson,RS2	1000	1000	15	0.094	0.047	0.011
2F 10V						
Wald	1000	1000	8	0.112	0.053	0.010
WaldVCF	1000	1000	8	0.105	0.051	0.008
WaldDiag,MM3	1000	1000	8	0.026	0.005	0.000
WaldDiag,RS2	1000	1000	8	0.028	0.005	0.000
Pearson,MM3	1000	1000	8	0.081	0.044	0.009
Pearson,RS2	1000	1000	8	0.081	0.045	0.009
3F 15V						
Wald	1000	1000	24	0.113	0.063	0.005
WaldVCF	1000	1000	24	0.106	0.058	0.004
WaldDiag,MM3	1000	1000	24	0.025	0.008	0.000
WaldDiag,RS2	1000	1000	24	0.026	0.009	0.000
Pearson,MM3	1000	1000	24	0.091	0.050	0.008
Pearson,RS2	1000	1000	24	0.093	0.053	0.009

Type I errors ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.116	0.064	0.008
WaldVCF	1000	1000	0	0.114	0.061	0.008
WaldDiag,MM3	1000	1000	0	0.065	0.031	0.003
WaldDiag,RS2	1000	1000	0	0.064	0.032	0.003
Pearson,MM3	1000	1000	0	0.087	0.046	0.012
Pearson,RS2	1000	1000	0	0.087	0.050	0.014
1F 8V						
Wald	1000	1000	1	0.112	0.067	0.008
WaldVCF	1000	1000	1	0.111	0.066	0.008
WaldDiag,MM3	1000	1000	1	0.083	0.040	0.008
WaldDiag,RS2	1000	1000	1	0.083	0.041	0.009
Pearson,MM3	1000	1000	1	0.094	0.039	0.004
Pearson,RS2	1000	1000	1	0.096	0.043	0.008
1F 15V						
Wald	1000	1000	7	0.098	0.058	0.017
WaldVCF	1000	1000	7	0.097	0.058	0.016
WaldDiag,MM3	1000	1000	7	0.066	0.042	0.010
WaldDiag,RS2	1000	1000	7	0.067	0.042	0.011
Pearson,MM3	1000	1000	7	0.094	0.045	0.013
Pearson,RS2	1000	1000	7	0.095	0.048	0.014
2F 10V						
Wald	1000	1000	5	0.101	0.051	0.012
WaldVCF	1000	1000	5	0.097	0.050	0.011
WaldDiag,MM3	1000	1000	5	0.052	0.023	0.002
WaldDiag,RS2	1000	1000	5	0.054	0.023	0.003
Pearson,MM3	1000	1000	5	0.104	0.056	0.014
Pearson,RS2	1000	1000	5	0.105	0.061	0.016
3F 15V						
Wald	1000	1000	34	0.115	0.061	0.013
WaldVCF	1000	1000	34	0.109	0.056	0.013
WaldDiag,MM3	1000	1000	34	0.057	0.025	0.006
WaldDiag,RS2	1000	1000	34	0.057	0.026	0.007
Pearson,MM3	1000	1000	34	0.108	0.064	0.012
Pearson,RS2	1000	1000	34	0.111	0.067	0.017

Type I errors ($n = 2000$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.097	0.046	0.015
WaldVCF	1000	1000	0	0.096	0.046	0.015
WaldDiag,MM3	1000	1000	0	0.067	0.029	0.010
WaldDiag,RS2	1000	1000	0	0.066	0.030	0.013
Pearson,MM3	1000	1000	0	0.090	0.048	0.014
Pearson,RS2	1000	1000	0	0.088	0.049	0.015
1F 8V						
Wald	1000	1000	4	0.099	0.046	0.007
WaldVCF	1000	1000	4	0.099	0.046	0.007
WaldDiag,MM3	1000	1000	4	0.079	0.033	0.008
WaldDiag,RS2	1000	1000	4	0.081	0.036	0.009
Pearson,MM3	1000	1000	4	0.097	0.053	0.009
Pearson,RS2	1000	1000	4	0.097	0.059	0.012
1F 15V						
Wald	1000	1000	19	0.090	0.045	0.006
WaldVCF	1000	1000	19	0.089	0.045	0.006
WaldDiag,MM3	1000	1000	19	0.067	0.032	0.008
WaldDiag,RS2	1000	1000	19	0.067	0.034	0.008
Pearson,MM3	1000	1000	19	0.103	0.052	0.013
Pearson,RS2	1000	1000	19	0.104	0.057	0.015
2F 10V						
Wald	1000	1000	15	0.108	0.061	0.009
WaldVCF	1000	1000	15	0.107	0.059	0.008
WaldDiag,MM3	1000	1000	15	0.080	0.042	0.006
WaldDiag,RS2	1000	1000	15	0.081	0.044	0.009
Pearson,MM3	1000	1000	15	0.086	0.046	0.009
Pearson,RS2	1000	1000	15	0.087	0.050	0.011
3F 15V						
Wald	1000	1000	47	0.110	0.063	0.019
WaldVCF	1000	1000	47	0.096	0.058	0.016
WaldDiag,MM3	1000	1000	47	0.072	0.043	0.007
WaldDiag,RS2	1000	1000	47	0.076	0.044	0.009
Pearson,MM3	1000	1000	47	0.108	0.048	0.011
Pearson,RS2	1000	1000	47	0.110	0.050	0.012

Type I errors ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.092	0.051	0.005
WaldVCF	1000	1000	1	0.090	0.050	0.005
WaldDiag,MM3	1000	1000	1	0.072	0.036	0.002
WaldDiag,RS2	1000	1000	1	0.071	0.037	0.003
Pearson,MM3	1000	1000	1	0.085	0.044	0.007
Pearson,RS2	1000	1000	1	0.084	0.045	0.008
1F 8V						
Wald	1000	1000	1	0.104	0.049	0.005
WaldVCF	1000	1000	1	0.104	0.048	0.005
WaldDiag,MM3	1000	1000	1	0.090	0.043	0.006
WaldDiag,RS2	1000	1000	1	0.092	0.045	0.006
Pearson,MM3	1000	1000	1	0.094	0.044	0.010
Pearson,RS2	1000	1000	1	0.095	0.050	0.013
1F 15V						
Wald	1000	1000	27	0.109	0.059	0.006
WaldVCF	1000	1000	27	0.107	0.056	0.006
WaldDiag,MM3	1000	1000	27	0.097	0.049	0.010
WaldDiag,RS2	1000	1000	27	0.097	0.051	0.012
Pearson,MM3	1000	1000	27	0.107	0.049	0.011
Pearson,RS2	1000	1000	27	0.108	0.050	0.015
2F 10V						
Wald	1000	1000	16	0.106	0.057	0.010
WaldVCF	1000	1000	16	0.104	0.051	0.009
WaldDiag,MM3	1000	1000	16	0.072	0.043	0.005
WaldDiag,RS2	1000	1000	16	0.073	0.043	0.006
Pearson,MM3	1000	1000	16	0.088	0.035	0.011
Pearson,RS2	1000	1000	16	0.092	0.037	0.012
3F 15V						
Wald	1000	1000	47	0.117	0.059	0.010
WaldVCF	1000	1000	47	0.104	0.056	0.010
WaldDiag,MM3	1000	1000	47	0.086	0.038	0.007
WaldDiag,RS2	1000	1000	47	0.086	0.040	0.008
Pearson,MM3	1000	1000	47	0.098	0.053	0.012
Pearson,RS2	1000	1000	47	0.100	0.054	0.015

Power ($n = 500$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.328	0.227	0.089
WaldVCF	1000	1000	0	0.327	0.225	0.089
WaldDiag,MM3	1000	1000	0	0.135	0.058	0.011
WaldDiag,RS2	1000	1000	0	0.135	0.059	0.012
Pearson,MM3	1000	1000	0	0.333	0.217	0.089
Pearson,RS2	1000	1000	0	0.331	0.223	0.100
1F 8V						
Wald	1000	1000	0	0.610	0.494	0.281
WaldVCF	1000	1000	0	0.610	0.492	0.278
WaldDiag,MM3	1000	1000	0	0.409	0.276	0.095
WaldDiag,RS2	1000	1000	0	0.409	0.279	0.104
Pearson,MM3	1000	1000	0	0.359	0.225	0.074
Pearson,RS2	1000	1000	0	0.360	0.232	0.085
1F 15V						
Wald	1000	1000	8	0.415	0.307	0.132
WaldVCF	1000	1000	8	0.406	0.302	0.129
WaldDiag,MM3	1000	1000	8	0.279	0.186	0.061
WaldDiag,RS2	1000	1000	8	0.280	0.191	0.068
Pearson,MM3	1000	1000	8	0.586	0.448	0.253
Pearson,RS2	1000	1000	8	0.588	0.452	0.268
2F 10V						
Wald	1000	1000	11	0.189	0.123	0.030
WaldVCF	1000	1000	11	0.178	0.117	0.027
WaldDiag,MM3	1000	1000	11	0.108	0.044	0.009
WaldDiag,RS2	1000	1000	11	0.111	0.046	0.011
Pearson,MM3	1000	1000	11	0.217	0.136	0.045
Pearson,RS2	1000	1000	11	0.219	0.143	0.053
3F 15V						
Wald	1000	1000	26	0.222	0.152	0.056
WaldVCF	1000	1000	26	0.213	0.146	0.053
WaldDiag,MM3	1000	1000	26	0.136	0.081	0.021
WaldDiag,RS2	1000	1000	26	0.139	0.084	0.024
Pearson,MM3	1000	1000	26	0.266	0.168	0.058
Pearson,RS2	1000	1000	26	0.269	0.172	0.071

Power ($n = 1000$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.527	0.422	0.228
WaldVCF	1000	1000	0	0.527	0.419	0.226
WaldDiag,MM3	1000	1000	0	0.376	0.240	0.077
WaldDiag,RS2	1000	1000	0	0.375	0.245	0.083
Pearson,MM3	1000	1000	0	0.545	0.446	0.258
Pearson,RS2	1000	1000	0	0.545	0.452	0.264
1F 8V						
Wald	1000	1000	1	0.898	0.832	0.665
WaldVCF	1000	1000	1	0.896	0.830	0.661
WaldDiag,MM3	1000	1000	1	0.764	0.669	0.372
WaldDiag,RS2	1000	1000	1	0.769	0.679	0.394
Pearson,MM3	1000	1000	1	0.646	0.504	0.263
Pearson,RS2	1000	1000	1	0.647	0.515	0.287
1F 15V						
Wald	1000	1000	6	0.715	0.615	0.396
WaldVCF	1000	1000	6	0.710	0.610	0.391
WaldDiag,MM3	1000	1000	6	0.589	0.475	0.247
WaldDiag,RS2	1000	1000	6	0.593	0.480	0.264
Pearson,MM3	1000	1000	6	0.881	0.810	0.633
Pearson,RS2	1000	1000	6	0.883	0.813	0.648
2F 10V						
Wald	1000	1000	13	0.314	0.210	0.090
WaldVCF	1000	1000	13	0.297	0.199	0.082
WaldDiag,MM3	1000	1000	13	0.272	0.166	0.059
WaldDiag,RS2	1000	1000	13	0.273	0.173	0.068
Pearson,MM3	1000	1000	13	0.388	0.284	0.141
Pearson,RS2	1000	1000	13	0.391	0.295	0.154
3F 15V						
Wald	1000	1000	25	0.399	0.298	0.143
WaldVCF	1000	1000	25	0.381	0.285	0.126
WaldDiag,MM3	1000	1000	25	0.379	0.265	0.127
WaldDiag,RS2	1000	1000	25	0.380	0.271	0.135
Pearson,MM3	1000	1000	25	0.498	0.383	0.216
Pearson,RS2	1000	1000	25	0.498	0.396	0.226

Power ($n = 2000$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.796	0.708	0.513
WaldVCF	1000	1000	0	0.796	0.708	0.510
WaldDiag,MM3	1000	1000	0	0.672	0.543	0.284
WaldDiag,RS2	1000	1000	0	0.669	0.548	0.297
Pearson,MM3	1000	1000	0	0.811	0.744	0.537
Pearson,RS2	1000	1000	0	0.811	0.749	0.552
1F 8V						
Wald	1000	1000	0	0.995	0.986	0.973
WaldVCF	1000	1000	0	0.995	0.986	0.973
WaldDiag,MM3	1000	1000	0	0.983	0.972	0.885
WaldDiag,RS2	1000	1000	0	0.983	0.972	0.900
Pearson,MM3	1000	1000	0	0.950	0.890	0.701
Pearson,RS2	1000	1000	0	0.950	0.892	0.728
1F 15V						
Wald	1000	1000	7	0.958	0.932	0.835
WaldVCF	1000	1000	7	0.956	0.932	0.831
WaldDiag,MM3	1000	1000	7	0.921	0.877	0.695
WaldDiag,RS2	1000	1000	7	0.921	0.879	0.711
Pearson,MM3	1000	1000	7	0.995	0.988	0.951
Pearson,RS2	1000	1000	7	0.995	0.989	0.958
2F 10V						
Wald	1000	1000	10	0.534	0.424	0.260
WaldVCF	1000	1000	10	0.520	0.406	0.240
WaldDiag,MM3	1000	1000	10	0.527	0.418	0.250
WaldDiag,RS2	1000	1000	10	0.534	0.425	0.264
Pearson,MM3	1000	1000	10	0.609	0.505	0.340
Pearson,RS2	1000	1000	10	0.611	0.513	0.372
3F 15V						
Wald	1000	1000	42	0.662	0.575	0.384
WaldVCF	1000	1000	42	0.650	0.552	0.363
WaldDiag,MM3	1000	1000	42	0.698	0.592	0.400
WaldDiag,RS2	1000	1000	42	0.700	0.600	0.421
Pearson,MM3	1000	1000	42	0.768	0.686	0.515
Pearson,RS2	1000	1000	42	0.769	0.689	0.531

Power ($n = 3000$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.924	0.879	0.740
WaldVCF	1000	1000	0	0.923	0.879	0.739
WaldDiag,MM3	1000	1000	0	0.854	0.782	0.546
WaldDiag,RS2	1000	1000	0	0.853	0.785	0.565
Pearson,MM3	1000	1000	0	0.933	0.889	0.756
Pearson,RS2	1000	1000	0	0.933	0.891	0.770
1F 8V						
Wald	1000	1000	3	1.000	1.000	0.998
WaldVCF	1000	1000	3	1.000	1.000	0.998
WaldDiag,MM3	1000	1000	3	1.000	0.998	0.990
WaldDiag,RS2	1000	1000	3	1.000	0.998	0.990
Pearson,MM3	1000	1000	3	0.992	0.978	0.923
Pearson,RS2	1000	1000	3	0.992	0.979	0.930
1F 15V						
Wald	1000	1000	14	0.997	0.994	0.982
WaldVCF	1000	1000	14	0.997	0.993	0.981
WaldDiag,MM3	1000	1000	14	0.996	0.987	0.938
WaldDiag,RS2	1000	1000	14	0.996	0.988	0.946
Pearson,MM3	1000	1000	14	0.999	0.999	0.997
Pearson,RS2	1000	1000	14	0.999	0.999	0.998
2F 10V						
Wald	1000	1000	12	0.651	0.557	0.393
WaldVCF	1000	1000	12	0.636	0.541	0.373
WaldDiag,MM3	1000	1000	12	0.680	0.567	0.397
WaldDiag,RS2	1000	1000	12	0.680	0.578	0.410
Pearson,MM3	1000	1000	12	0.709	0.635	0.473
Pearson,RS2	1000	1000	12	0.710	0.646	0.497
3F 15V						
Wald	1000	1000	39	0.812	0.731	0.578
WaldVCF	1000	1000	39	0.801	0.718	0.557
WaldDiag,MM3	1000	1000	39	0.844	0.784	0.622
WaldDiag,RS2	1000	1000	39	0.845	0.787	0.644
Pearson,MM3	1000	1000	39	0.869	0.811	0.682
Pearson,RS2	1000	1000	39	0.871	0.817	0.700

Stratified sampling

Type I errors ($n = 500$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.178	0.108	0.032
WaldVCF	1000	1000	1	0.148	0.075	0.015
WaldDiag,MM3	1000	1000	1	0.065	0.025	0.002
WaldDiag,RS2	1000	1000	1	0.061	0.025	0.002
Pearson,MM3	1000	1000	1	0.118	0.060	0.010
Pearson,RS2	1000	1000	1	0.117	0.059	0.011
1F 8V						
Wald	1000	1000	5	0.353	0.241	0.105
WaldVCF	1000	1000	5	0.178	0.107	0.031
WaldDiag,MM3	1000	1000	5	0.087	0.043	0.007
WaldDiag,RS2	1000	1000	5	0.087	0.043	0.009
Pearson,MM3	1000	1000	5	0.177	0.107	0.023
Pearson,RS2	1000	1000	5	0.175	0.110	0.029
1F 15V						
Wald	1000	1000	13	0.913	0.838	0.636
WaldVCF	1000	1000	13	0.351	0.189	0.057
WaldDiag,MM3	1000	1000	13	0.114	0.049	0.004
WaldDiag,RS2	1000	1000	13	0.116	0.055	0.005
Pearson,MM3	1000	1000	13	0.254	0.152	0.046
Pearson,RS2	1000	1000	13	0.254	0.159	0.050
2F 10V						
Wald	1000	1000	14	0.436	0.315	0.146
WaldVCF	1000	1000	14	0.235	0.140	0.036
WaldDiag,MM3	1000	1000	14	0.067	0.026	0.004
WaldDiag,RS2	1000	1000	14	0.067	0.028	0.005
Pearson,MM3	1000	1000	14	0.183	0.104	0.024
Pearson,RS2	1000	1000	14	0.183	0.108	0.032
3F 15V						
Wald	1000	1000	40	0.704	0.572	0.328
WaldVCF	1000	1000	40	0.309	0.165	0.040
WaldDiag,MM3	1000	1000	40	0.079	0.032	0.003
WaldDiag,RS2	1000	1000	40	0.079	0.034	0.005
Pearson,MM3	1000	1000	40	0.188	0.108	0.021
Pearson,RS2	1000	1000	40	0.189	0.113	0.023

Type I errors ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.133	0.080	0.020
WaldVCF	1000	1000	1	0.118	0.064	0.011
WaldDiag,MM3	1000	1000	1	0.093	0.038	0.003
WaldDiag,RS2	1000	1000	1	0.084	0.038	0.003
Pearson,MM3	1000	1000	1	0.123	0.060	0.011
Pearson,RS2	1000	1000	1	0.116	0.059	0.011
1F 8V						
Wald	1000	1000	2	0.256	0.157	0.048
WaldVCF	1000	1000	2	0.185	0.100	0.020
WaldDiag,MM3	1000	1000	2	0.107	0.045	0.007
WaldDiag,RS2	1000	1000	2	0.106	0.045	0.008
Pearson,MM3	1000	1000	2	0.185	0.097	0.032
Pearson,RS2	1000	1000	2	0.185	0.099	0.035
1F 15V						
Wald	1000	1000	17	0.617	0.500	0.270
WaldVCF	1000	1000	17	0.324	0.212	0.065
WaldDiag,MM3	1000	1000	17	0.173	0.084	0.019
WaldDiag,RS2	1000	1000	17	0.173	0.091	0.020
Pearson,MM3	1000	1000	17	0.296	0.180	0.040
Pearson,RS2	1000	1000	17	0.300	0.182	0.047
2F 10V						
Wald	1000	1000	8	0.272	0.167	0.063
WaldVCF	1000	1000	8	0.188	0.110	0.032
WaldDiag,MM3	1000	1000	8	0.093	0.054	0.011
WaldDiag,RS2	1000	1000	8	0.094	0.054	0.013
Pearson,MM3	1000	1000	8	0.164	0.091	0.024
Pearson,RS2	1000	1000	8	0.164	0.096	0.028
3F 15V						
Wald	1000	1000	38	0.524	0.382	0.178
WaldVCF	1000	1000	38	0.316	0.201	0.065
WaldDiag,MM3	1000	1000	38	0.136	0.074	0.014
WaldDiag,RS2	1000	1000	38	0.138	0.076	0.017
Pearson,MM3	1000	1000	38	0.236	0.119	0.046
Pearson,RS2	1000	1000	38	0.238	0.123	0.049

Type I errors ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.146	0.079	0.021
WaldVCF	1000	1000	1	0.140	0.074	0.018
WaldDiag,MM3	1000	1000	1	0.108	0.052	0.012
WaldDiag,RS2	1000	1000	1	0.104	0.046	0.012
Pearson,MM3	1000	1000	1	0.129	0.075	0.018
Pearson,RS2	1000	1000	1	0.127	0.074	0.018
1F 8V						
Wald	1000	1000	0	0.215	0.118	0.042
WaldVCF	1000	1000	0	0.179	0.089	0.027
WaldDiag,MM3	1000	1000	0	0.130	0.070	0.015
WaldDiag,RS2	1000	1000	0	0.130	0.073	0.015
Pearson,MM3	1000	1000	0	0.197	0.130	0.037
Pearson,RS2	1000	1000	0	0.196	0.130	0.039
1F 15V						
Wald	1000	1000	20	0.392	0.266	0.088
WaldVCF	1000	1000	20	0.263	0.154	0.033
WaldDiag,MM3	1000	1000	20	0.163	0.064	0.013
WaldDiag,RS2	1000	1000	20	0.164	0.072	0.015
Pearson,MM3	1000	1000	20	0.273	0.175	0.054
Pearson,RS2	1000	1000	20	0.273	0.175	0.063
2F 10V						
Wald	1000	1000	11	0.268	0.160	0.061
WaldVCF	1000	1000	11	0.216	0.122	0.049
WaldDiag,MM3	1000	1000	11	0.153	0.078	0.018
WaldDiag,RS2	1000	1000	11	0.153	0.080	0.024
Pearson,MM3	1000	1000	11	0.191	0.115	0.037
Pearson,RS2	1000	1000	11	0.191	0.123	0.042
3F 15V						
Wald	1000	1000	44	0.411	0.297	0.099
WaldVCF	1000	1000	44	0.330	0.198	0.057
WaldDiag,MM3	1000	1000	44	0.202	0.102	0.020
WaldDiag,RS2	1000	1000	44	0.202	0.109	0.025
Pearson,MM3	1000	1000	44	0.250	0.152	0.049
Pearson,RS2	1000	1000	44	0.253	0.160	0.053

Type I errors ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.147	0.083	0.025
WaldVCF	1000	1000	1	0.144	0.076	0.022
WaldDiag,MM3	1000	1000	1	0.113	0.063	0.016
WaldDiag,RS2	1000	1000	1	0.108	0.060	0.016
Pearson,MM3	1000	1000	1	0.132	0.075	0.017
Pearson,RS2	1000	1000	1	0.125	0.074	0.017
1F 8V						
Wald	1000	1000	4	0.183	0.109	0.033
WaldVCF	1000	1000	4	0.168	0.092	0.030
WaldDiag,MM3	1000	1000	4	0.127	0.059	0.012
WaldDiag,RS2	1000	1000	4	0.127	0.062	0.013
Pearson,MM3	1000	1000	4	0.180	0.106	0.035
Pearson,RS2	1000	1000	4	0.180	0.109	0.042
1F 15V						
Wald	1000	1000	23	0.353	0.213	0.083
WaldVCF	1000	1000	23	0.258	0.153	0.047
WaldDiag,MM3	1000	1000	23	0.187	0.102	0.026
WaldDiag,RS2	1000	1000	23	0.188	0.102	0.027
Pearson,MM3	1000	1000	23	0.286	0.182	0.050
Pearson,RS2	1000	1000	23	0.286	0.184	0.057
2F 10V						
Wald	1000	1000	15	0.234	0.131	0.047
WaldVCF	1000	1000	15	0.204	0.109	0.037
WaldDiag,MM3	1000	1000	15	0.136	0.076	0.014
WaldDiag,RS2	1000	1000	15	0.136	0.077	0.017
Pearson,MM3	1000	1000	15	0.193	0.101	0.024
Pearson,RS2	1000	1000	15	0.193	0.105	0.028
3F 15V						
Wald	1000	1000	53	0.381	0.275	0.087
WaldVCF	1000	1000	53	0.322	0.200	0.054
WaldDiag,MM3	1000	1000	53	0.198	0.109	0.034
WaldDiag,RS2	1000	1000	53	0.200	0.111	0.036
Pearson,MM3	1000	1000	53	0.275	0.175	0.054
Pearson,RS2	1000	1000	53	0.275	0.179	0.058

Power ($n = 500$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.409	0.289	0.121
WaldVCF	1000	1000	1	0.365	0.230	0.084
WaldDiag,MM3	1000	1000	1	0.183	0.084	0.010
WaldDiag,RS2	1000	1000	1	0.181	0.087	0.016
Pearson,MM3	1000	1000	1	0.384	0.257	0.097
Pearson,RS2	1000	1000	1	0.382	0.260	0.112
1F 8V						
Wald	1000	1000	3	0.795	0.711	0.516
WaldVCF	1000	1000	3	0.551	0.414	0.172
WaldDiag,MM3	1000	1000	3	0.378	0.239	0.072
WaldDiag,RS2	1000	1000	3	0.379	0.250	0.078
Pearson,MM3	1000	1000	3	0.441	0.308	0.119
Pearson,RS2	1000	1000	3	0.445	0.321	0.133
1F 15V						
Wald	1000	1000	14	0.996	0.991	0.964
WaldVCF	1000	1000	14	0.608	0.437	0.180
WaldDiag,MM3	1000	1000	14	0.400	0.245	0.061
WaldDiag,RS2	1000	1000	14	0.406	0.255	0.076
Pearson,MM3	1000	1000	14	0.671	0.533	0.270
Pearson,RS2	1000	1000	14	0.675	0.541	0.295
2F 10V						
Wald	1000	1000	11	0.560	0.437	0.238
WaldVCF	1000	1000	11	0.315	0.195	0.046
WaldDiag,MM3	1000	1000	11	0.162	0.071	0.015
WaldDiag,RS2	1000	1000	11	0.164	0.079	0.020
Pearson,MM3	1000	1000	11	0.316	0.195	0.071
Pearson,RS2	1000	1000	11	0.317	0.208	0.086
3F 15V						
Wald	1000	1000	20	0.859	0.753	0.505
WaldVCF	1000	1000	20	0.404	0.261	0.074
WaldDiag,MM3	1000	1000	20	0.208	0.095	0.012
WaldDiag,RS2	1000	1000	20	0.211	0.100	0.014
Pearson,MM3	1000	1000	20	0.430	0.286	0.118
Pearson,RS2	1000	1000	20	0.437	0.292	0.135

Power ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.540	0.434	0.237
WaldVCF	1000	1000	0	0.525	0.412	0.207
WaldDiag,MM3	1000	1000	0	0.371	0.244	0.065
WaldDiag,RS2	1000	1000	0	0.369	0.251	0.077
Pearson,MM3	1000	1000	0	0.582	0.470	0.260
Pearson,RS2	1000	1000	0	0.582	0.478	0.275
1F 8V						
Wald	1000	1000	0	0.939	0.884	0.719
WaldVCF	1000	1000	0	0.866	0.765	0.521
WaldDiag,MM3	1000	1000	0	0.724	0.592	0.303
WaldDiag,RS2	1000	1000	0	0.725	0.605	0.332
Pearson,MM3	1000	1000	0	0.731	0.591	0.326
Pearson,RS2	1000	1000	0	0.732	0.600	0.354
1F 15V						
Wald	1000	1000	9	0.965	0.930	0.809
WaldVCF	1000	1000	9	0.777	0.671	0.397
WaldDiag,MM3	1000	1000	9	0.685	0.531	0.257
WaldDiag,RS2	1000	1000	9	0.688	0.546	0.287
Pearson,MM3	1000	1000	9	0.911	0.853	0.664
Pearson,RS2	1000	1000	9	0.913	0.857	0.685
2F 10V						
Wald	1000	1000	9	0.500	0.375	0.181
WaldVCF	1000	1000	9	0.358	0.253	0.085
WaldDiag,MM3	1000	1000	9	0.305	0.183	0.053
WaldDiag,RS2	1000	1000	9	0.306	0.192	0.062
Pearson,MM3	1000	1000	9	0.469	0.339	0.148
Pearson,RS2	1000	1000	9	0.470	0.347	0.164
3F 15V						
Wald	1000	1000	35	0.749	0.635	0.381
WaldVCF	1000	1000	35	0.554	0.409	0.173
WaldDiag,MM3	1000	1000	35	0.438	0.292	0.099
WaldDiag,RS2	1000	1000	35	0.441	0.298	0.111
Pearson,MM3	1000	1000	35	0.650	0.523	0.302
Pearson,RS2	1000	1000	35	0.653	0.535	0.326

Power ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.827	0.729	0.536
WaldVCF	1000	1000	0	0.820	0.722	0.518
WaldDiag,MM3	1000	1000	0	0.677	0.540	0.291
WaldDiag,RS2	1000	1000	0	0.673	0.546	0.311
Pearson,MM3	1000	1000	0	0.869	0.783	0.624
Pearson,RS2	1000	1000	0	0.868	0.783	0.642
1F 8V						
Wald	1000	1000	0	0.999	0.994	0.973
WaldVCF	1000	1000	0	0.995	0.993	0.949
WaldDiag,MM3	1000	1000	0	0.982	0.956	0.819
WaldDiag,RS2	1000	1000	0	0.983	0.956	0.835
Pearson,MM3	1000	1000	0	0.974	0.930	0.754
Pearson,RS2	1000	1000	0	0.975	0.935	0.774
1F 15V						
Wald	1000	1000	13	0.987	0.972	0.891
WaldVCF	1000	1000	13	0.964	0.924	0.769
WaldDiag,MM3	1000	1000	13	0.938	0.866	0.684
WaldDiag,RS2	1000	1000	13	0.940	0.873	0.705
Pearson,MM3	1000	1000	13	0.996	0.992	0.956
Pearson,RS2	1000	1000	13	0.996	0.992	0.961
2F 10V						
Wald	1000	1000	7	0.623	0.497	0.262
WaldVCF	1000	1000	7	0.550	0.423	0.183
WaldDiag,MM3	1000	1000	7	0.574	0.435	0.190
WaldDiag,RS2	1000	1000	7	0.574	0.445	0.213
Pearson,MM3	1000	1000	7	0.698	0.590	0.359
Pearson,RS2	1000	1000	7	0.700	0.601	0.399
3F 15V						
Wald	1000	1000	32	0.855	0.738	0.505
WaldVCF	1000	1000	32	0.764	0.638	0.376
WaldDiag,MM3	1000	1000	32	0.785	0.674	0.421
WaldDiag,RS2	1000	1000	32	0.788	0.680	0.451
Pearson,MM3	1000	1000	32	0.928	0.859	0.697
Pearson,RS2	1000	1000	32	0.928	0.867	0.718

Power ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.959	0.917	0.770
WaldVCF	1000	1000	0	0.958	0.913	0.763
WaldDiag,MM3	1000	1000	0	0.892	0.799	0.538
WaldDiag,RS2	1000	1000	0	0.892	0.802	0.554
Pearson,MM3	1000	1000	0	0.975	0.947	0.838
Pearson,RS2	1000	1000	0	0.975	0.948	0.848
1F 8V						
Wald	1000	1000	1	1.000	1.000	0.999
WaldVCF	1000	1000	1	1.000	1.000	0.999
WaldDiag,MM3	1000	1000	1	1.000	0.997	0.985
WaldDiag,RS2	1000	1000	1	1.000	0.997	0.989
Pearson,MM3	1000	1000	1	1.000	0.994	0.969
Pearson,RS2	1000	1000	1	1.000	0.995	0.971
1F 15V						
Wald	1000	1000	14	0.997	0.990	0.965
WaldVCF	1000	1000	14	0.991	0.983	0.941
WaldDiag,MM3	1000	1000	14	0.990	0.974	0.915
WaldDiag,RS2	1000	1000	14	0.990	0.974	0.927
Pearson,MM3	1000	1000	14	1.000	1.000	0.998
Pearson,RS2	1000	1000	14	1.000	1.000	0.998
2F 10V						
Wald	1000	1000	11	0.762	0.642	0.387
WaldVCF	1000	1000	11	0.708	0.584	0.318
WaldDiag,MM3	1000	1000	11	0.773	0.646	0.395
WaldDiag,RS2	1000	1000	11	0.774	0.660	0.426
Pearson,MM3	1000	1000	11	0.866	0.785	0.595
Pearson,RS2	1000	1000	11	0.867	0.795	0.635
3F 15V						
Wald	1000	1000	39	0.935	0.868	0.691
WaldVCF	1000	1000	39	0.894	0.815	0.608
WaldDiag,MM3	1000	1000	39	0.941	0.884	0.712
WaldDiag,RS2	1000	1000	39	0.941	0.894	0.729
Pearson,MM3	1000	1000	39	0.985	0.968	0.896
Pearson,RS2	1000	1000	39	0.986	0.968	0.907

Cluster sampling

Type I errors ($n = 500$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	6	0.149	0.081	0.025
WaldVCF	1000	1000	6	0.106	0.051	0.009
WaldDiag,MM3	1000	1000	6	0.036	0.012	0.002
WaldDiag,RS2	1000	1000	6	0.033	0.012	0.002
Pearson,MM3	1000	1000	6	0.084	0.036	0.007
Pearson,RS2	1000	1000	6	0.080	0.034	0.007
1F 8V						
Wald	1000	1000	6	0.332	0.233	0.114
WaldVCF	1000	1000	6	0.124	0.060	0.011
WaldDiag,MM3	1000	1000	6	0.056	0.021	0.002
WaldDiag,RS2	1000	1000	6	0.055	0.024	0.003
Pearson,MM3	1000	1000	6	0.088	0.040	0.007
Pearson,RS2	1000	1000	6	0.087	0.041	0.009
1F 15V						
Wald	1000	1000	79	0.847	0.786	0.610
WaldVCF	1000	1000	79	0.145	0.067	0.011
WaldDiag,MM3	1000	1000	79	0.068	0.027	0.003
WaldDiag,RS2	1000	1000	79	0.069	0.030	0.004
Pearson,MM3	1000	1000	79	0.091	0.046	0.008
Pearson,RS2	1000	1000	79	0.092	0.047	0.009
2F 10V						
Wald	1000	1000	21	0.301	0.202	0.076
WaldVCF	1000	1000	21	0.125	0.069	0.010
WaldDiag,MM3	1000	1000	21	0.037	0.015	0.000
WaldDiag,RS2	1000	1000	21	0.037	0.017	0.001
Pearson,MM3	1000	1000	21	0.074	0.039	0.009
Pearson,RS2	1000	1000	21	0.073	0.042	0.010
3F 15V						
Wald	999	999	78	0.518	0.387	0.162
WaldVCF	999	999	78	0.124	0.060	0.010
WaldDiag,MM3	999	999	78	0.048	0.014	0.000
WaldDiag,RS2	999	999	78	0.048	0.015	0.000
Pearson,MM3	999	999	78	0.086	0.046	0.009
Pearson,RS2	999	999	78	0.086	0.051	0.011

Type I errors ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	2	0.139	0.075	0.025
WaldVCF	1000	1000	2	0.122	0.066	0.019
WaldDiag,MM3	1000	1000	2	0.088	0.042	0.006
WaldDiag,RS2	1000	1000	2	0.086	0.042	0.007
Pearson,MM3	1000	1000	2	0.115	0.067	0.013
Pearson,RS2	1000	1000	2	0.110	0.067	0.016
1F 8V						
Wald	1000	1000	3	0.206	0.128	0.038
WaldVCF	1000	1000	3	0.122	0.063	0.012
WaldDiag,MM3	1000	1000	3	0.092	0.038	0.006
WaldDiag,RS2	1000	1000	3	0.092	0.041	0.008
Pearson,MM3	1000	1000	3	0.086	0.049	0.009
Pearson,RS2	1000	1000	3	0.085	0.050	0.011
1F 15V						
Wald	1000	1000	15	0.499	0.373	0.183
WaldVCF	1000	1000	15	0.156	0.080	0.014
WaldDiag,MM3	1000	1000	15	0.086	0.032	0.000
WaldDiag,RS2	1000	1000	15	0.087	0.038	0.003
Pearson,MM3	1000	1000	15	0.093	0.043	0.007
Pearson,RS2	1000	1000	15	0.094	0.044	0.007
2F 10V						
Wald	1000	1000	13	0.213	0.125	0.043
WaldVCF	1000	1000	13	0.144	0.074	0.012
WaldDiag,MM3	1000	1000	13	0.068	0.024	0.004
WaldDiag,RS2	1000	1000	13	0.068	0.025	0.006
Pearson,MM3	1000	1000	13	0.105	0.046	0.012
Pearson,RS2	1000	1000	13	0.105	0.047	0.018
3F 15V						
Wald	1000	1000	44	0.315	0.202	0.063
WaldVCF	1000	1000	44	0.139	0.077	0.013
WaldDiag,MM3	1000	1000	44	0.057	0.025	0.005
WaldDiag,RS2	1000	1000	44	0.057	0.027	0.005
Pearson,MM3	1000	1000	44	0.090	0.043	0.005
Pearson,RS2	1000	1000	44	0.090	0.044	0.008

Type I errors ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	2	0.123	0.069	0.020
WaldVCF	1000	1000	2	0.108	0.064	0.017
WaldDiag,MM3	1000	1000	2	0.099	0.052	0.009
WaldDiag,RS2	1000	1000	2	0.098	0.051	0.009
Pearson,MM3	1000	1000	2	0.099	0.047	0.008
Pearson,RS2	1000	1000	2	0.095	0.046	0.008
1F 8V						
Wald	1000	1000	4	0.153	0.086	0.019
WaldVCF	1000	1000	4	0.116	0.060	0.009
WaldDiag,MM3	1000	1000	4	0.102	0.051	0.007
WaldDiag,RS2	1000	1000	4	0.102	0.054	0.008
Pearson,MM3	1000	1000	4	0.096	0.048	0.008
Pearson,RS2	1000	1000	4	0.095	0.048	0.010
1F 15V						
Wald	1000	1000	24	0.253	0.166	0.064
WaldVCF	1000	1000	24	0.134	0.077	0.024
WaldDiag,MM3	1000	1000	24	0.100	0.049	0.008
WaldDiag,RS2	1000	1000	24	0.100	0.052	0.009
Pearson,MM3	1000	1000	24	0.099	0.050	0.011
Pearson,RS2	1000	1000	24	0.100	0.051	0.012
2F 10V						
Wald	1000	1000	21	0.153	0.095	0.023
WaldVCF	1000	1000	21	0.121	0.066	0.017
WaldDiag,MM3	1000	1000	21	0.099	0.045	0.007
WaldDiag,RS2	1000	1000	21	0.099	0.048	0.007
Pearson,MM3	1000	1000	21	0.116	0.059	0.011
Pearson,RS2	1000	1000	21	0.116	0.060	0.016
3F 15V						
Wald	1000	1000	32	0.193	0.115	0.030
WaldVCF	1000	1000	32	0.130	0.057	0.012
WaldDiag,MM3	1000	1000	32	0.085	0.039	0.010
WaldDiag,RS2	1000	1000	32	0.086	0.040	0.012
Pearson,MM3	1000	1000	32	0.100	0.052	0.010
Pearson,RS2	1000	1000	32	0.102	0.056	0.010

Type I errors ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	4	0.108	0.054	0.013
WaldVCF	1000	1000	4	0.102	0.049	0.012
WaldDiag,MM3	1000	1000	4	0.086	0.033	0.008
WaldDiag,RS2	1000	1000	4	0.083	0.032	0.008
Pearson,MM3	1000	1000	4	0.094	0.047	0.007
Pearson,RS2	1000	1000	4	0.086	0.045	0.007
1F 8V						
Wald	1000	1000	7	0.128	0.071	0.013
WaldVCF	1000	1000	7	0.109	0.057	0.006
WaldDiag,MM3	1000	1000	7	0.096	0.048	0.009
WaldDiag,RS2	1000	1000	7	0.096	0.048	0.011
Pearson,MM3	1000	1000	7	0.093	0.033	0.004
Pearson,RS2	1000	1000	7	0.091	0.033	0.005
1F 15V						
Wald	1000	1000	28	0.225	0.145	0.037
WaldVCF	1000	1000	28	0.154	0.076	0.016
WaldDiag,MM3	1000	1000	28	0.132	0.057	0.015
WaldDiag,RS2	1000	1000	28	0.133	0.059	0.016
Pearson,MM3	1000	1000	28	0.105	0.056	0.009
Pearson,RS2	1000	1000	28	0.106	0.057	0.011
2F 10V						
Wald	1000	1000	18	0.149	0.083	0.020
WaldVCF	1000	1000	18	0.129	0.067	0.015
WaldDiag,MM3	1000	1000	18	0.088	0.043	0.011
WaldDiag,RS2	1000	1000	18	0.088	0.045	0.013
Pearson,MM3	1000	1000	18	0.109	0.052	0.010
Pearson,RS2	1000	1000	18	0.109	0.053	0.011
3F 15V						
Wald	1000	1000	47	0.209	0.133	0.035
WaldVCF	1000	1000	47	0.160	0.091	0.024
WaldDiag,MM3	1000	1000	47	0.113	0.068	0.021
WaldDiag,RS2	1000	1000	47	0.113	0.069	0.023
Pearson,MM3	1000	1000	47	0.137	0.068	0.013
Pearson,RS2	1000	1000	47	0.138	0.070	0.020

Power ($n = 500$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.351	0.241	0.096
WaldVCF	1000	1000	1	0.310	0.187	0.059
WaldDiag,MM3	1000	1000	1	0.125	0.054	0.004
WaldDiag,RS2	1000	1000	1	0.124	0.057	0.006
Pearson,MM3	1000	1000	1	0.332	0.199	0.074
Pearson,RS2	1000	1000	1	0.330	0.204	0.079
1F 8V						
Wald	1000	1000	2	0.750	0.683	0.507
WaldVCF	1000	1000	2	0.484	0.345	0.111
WaldDiag,MM3	1000	1000	2	0.319	0.178	0.036
WaldDiag,RS2	1000	1000	2	0.320	0.187	0.046
Pearson,MM3	1000	1000	2	0.334	0.217	0.049
Pearson,RS2	1000	1000	2	0.336	0.223	0.064
1F 15V						
Wald	1000	1000	41	0.976	0.954	0.871
WaldVCF	1000	1000	41	0.285	0.168	0.044
WaldDiag,MM3	1000	1000	41	0.207	0.111	0.020
WaldDiag,RS2	1000	1000	41	0.210	0.119	0.024
Pearson,MM3	1000	1000	41	0.462	0.330	0.147
Pearson,RS2	1000	1000	41	0.465	0.341	0.161
2F 10V						
Wald	999	998	19	0.413	0.306	0.143
WaldVCF	999	998	19	0.185	0.097	0.020
WaldDiag,MM3	999	998	19	0.090	0.040	0.003
WaldDiag,RS2	999	998	19	0.091	0.046	0.003
Pearson,MM3	999	998	19	0.206	0.110	0.026
Pearson,RS2	999	998	19	0.207	0.120	0.032
3F 15V						
Wald	1000	999	58	0.683	0.543	0.296
WaldVCF	1000	999	58	0.219	0.127	0.022
WaldDiag,MM3	1000	999	58	0.115	0.047	0.005
WaldDiag,RS2	1000	999	58	0.116	0.051	0.006
Pearson,MM3	1000	999	58	0.271	0.173	0.058
Pearson,RS2	1000	999	58	0.274	0.181	0.065

Power ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.549	0.417	0.199
WaldVCF	1000	1000	0	0.534	0.391	0.170
WaldDiag,MM3	1000	1000	0	0.349	0.212	0.058
WaldDiag,RS2	1000	1000	0	0.348	0.212	0.065
Pearson,MM3	1000	1000	0	0.602	0.468	0.242
Pearson,RS2	1000	1000	0	0.600	0.473	0.258
1F 8V						
Wald	1000	1000	2	0.906	0.844	0.681
WaldVCF	1000	1000	2	0.815	0.697	0.448
WaldDiag,MM3	1000	1000	2	0.673	0.522	0.247
WaldDiag,RS2	1000	1000	2	0.674	0.527	0.274
Pearson,MM3	1000	1000	2	0.642	0.484	0.233
Pearson,RS2	1000	1000	2	0.645	0.493	0.260
1F 15V						
Wald	1000	1000	11	0.855	0.779	0.569
WaldVCF	1000	1000	11	0.520	0.390	0.177
WaldDiag,MM3	1000	1000	11	0.470	0.325	0.117
WaldDiag,RS2	1000	1000	11	0.472	0.335	0.134
Pearson,MM3	1000	1000	11	0.786	0.693	0.468
Pearson,RS2	1000	1000	11	0.788	0.706	0.485
2F 10V						
Wald	1000	1000	12	0.402	0.270	0.104
WaldVCF	1000	1000	12	0.265	0.153	0.040
WaldDiag,MM3	1000	1000	12	0.239	0.140	0.027
WaldDiag,RS2	1000	1000	12	0.246	0.149	0.034
Pearson,MM3	1000	1000	12	0.364	0.260	0.103
Pearson,RS2	1000	1000	12	0.365	0.265	0.127
3F 15V						
Wald	1000	1000	21	0.568	0.417	0.197
WaldVCF	1000	1000	21	0.338	0.205	0.062
WaldDiag,MM3	1000	1000	21	0.300	0.175	0.049
WaldDiag,RS2	1000	1000	21	0.305	0.188	0.057
Pearson,MM3	1000	1000	21	0.505	0.372	0.176
Pearson,RS2	1000	1000	21	0.509	0.385	0.195

Power ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	2	0.833	0.748	0.540
WaldVCF	1000	1000	2	0.828	0.742	0.531
WaldDiag,MM3	1000	1000	2	0.693	0.571	0.295
WaldDiag,RS2	1000	1000	2	0.693	0.572	0.317
Pearson,MM3	1000	1000	2	0.885	0.810	0.638
Pearson,RS2	1000	1000	2	0.885	0.813	0.647
1F 8V						
Wald	1000	1000	2	0.997	0.995	0.969
WaldVCF	1000	1000	2	0.994	0.989	0.935
WaldDiag,MM3	1000	1000	2	0.982	0.951	0.788
WaldDiag,RS2	1000	1000	2	0.982	0.954	0.814
Pearson,MM3	1000	1000	2	0.957	0.910	0.723
Pearson,RS2	1000	1000	2	0.957	0.916	0.745
1F 15V						
Wald	1000	1000	8	0.942	0.903	0.755
WaldVCF	1000	1000	8	0.880	0.798	0.560
WaldDiag,MM3	1000	1000	8	0.847	0.749	0.499
WaldDiag,RS2	1000	1000	8	0.848	0.759	0.524
Pearson,MM3	1000	1000	8	0.985	0.970	0.923
Pearson,RS2	1000	1000	8	0.985	0.970	0.930
2F 10V						
Wald	1000	1000	6	0.548	0.420	0.211
WaldVCF	1000	1000	6	0.474	0.339	0.155
WaldDiag,MM3	1000	1000	6	0.506	0.380	0.161
WaldDiag,RS2	1000	1000	6	0.507	0.388	0.190
Pearson,MM3	1000	1000	6	0.694	0.555	0.334
Pearson,RS2	1000	1000	6	0.695	0.574	0.365
3F 15V						
Wald	1000	1000	27	0.730	0.601	0.334
WaldVCF	1000	1000	27	0.610	0.467	0.215
WaldDiag,MM3	1000	1000	27	0.696	0.575	0.311
WaldDiag,RS2	1000	1000	27	0.702	0.583	0.346
Pearson,MM3	1000	1000	27	0.870	0.794	0.586
Pearson,RS2	1000	1000	27	0.871	0.800	0.610

Power ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.958	0.925	0.771
WaldVCF	1000	1000	1	0.958	0.922	0.761
WaldDiag,MM3	1000	1000	1	0.893	0.805	0.543
WaldDiag,RS2	1000	1000	1	0.893	0.807	0.562
Pearson,MM3	1000	1000	1	0.976	0.945	0.853
Pearson,RS2	1000	1000	1	0.976	0.947	0.863
1F 8V						
Wald	1000	1000	5	1.000	1.000	0.999
WaldVCF	1000	1000	5	1.000	0.999	0.999
WaldDiag,MM3	1000	1000	5	0.999	0.999	0.988
WaldDiag,RS2	1000	1000	5	0.999	0.999	0.989
Pearson,MM3	1000	1000	5	0.999	0.993	0.954
Pearson,RS2	1000	1000	5	0.999	0.994	0.968
1F 15V						
Wald	1000	1000	13	0.996	0.984	0.935
WaldVCF	1000	1000	13	0.990	0.970	0.876
WaldDiag,MM3	1000	1000	13	0.987	0.963	0.863
WaldDiag,RS2	1000	1000	13	0.987	0.966	0.873
Pearson,MM3	1000	1000	13	0.999	0.999	0.998
Pearson,RS2	1000	1000	13	0.999	0.999	0.998
2F 10V						
Wald	1000	1000	10	0.649	0.525	0.301
WaldVCF	1000	1000	10	0.593	0.463	0.242
WaldDiag,MM3	1000	1000	10	0.673	0.559	0.315
WaldDiag,RS2	1000	1000	10	0.675	0.569	0.346
Pearson,MM3	1000	1000	10	0.801	0.723	0.528
Pearson,RS2	1000	1000	10	0.802	0.733	0.552
3F 15V						
Wald	1000	1000	40	0.865	0.791	0.563
WaldVCF	1000	1000	40	0.822	0.719	0.468
WaldDiag,MM3	1000	1000	40	0.889	0.818	0.622
WaldDiag,RS2	1000	1000	40	0.891	0.826	0.649
Pearson,MM3	1000	1000	40	0.961	0.936	0.865
Pearson,RS2	1000	1000	40	0.961	0.939	0.881

Strat-clust sampling

Type I errors ($n = 500$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	5	0.159	0.097	0.029
WaldVCF	1000	1000	5	0.122	0.060	0.014
WaldDiag,MM3	1000	1000	5	0.056	0.019	0.000
WaldDiag,RS2	1000	1000	5	0.053	0.019	0.001
Pearson,MM3	1000	1000	5	0.103	0.049	0.008
Pearson,RS2	1000	1000	5	0.097	0.048	0.010
1F 8V						
Wald	1000	1000	1	0.274	0.174	0.063
WaldVCF	1000	1000	1	0.102	0.054	0.011
WaldDiag,MM3	1000	1000	1	0.064	0.014	0.002
WaldDiag,RS2	1000	1000	1	0.064	0.016	0.003
Pearson,MM3	1000	1000	1	0.119	0.059	0.009
Pearson,RS2	1000	1000	1	0.119	0.062	0.013
1F 15V						
Wald	1000	1000	10	0.789	0.711	0.496
WaldVCF	1000	1000	10	0.155	0.060	0.013
WaldDiag,MM3	1000	1000	10	0.051	0.015	0.000
WaldDiag,RS2	1000	1000	10	0.052	0.016	0.000
Pearson,MM3	1000	1000	10	0.116	0.058	0.008
Pearson,RS2	1000	1000	10	0.118	0.061	0.013
2F 10V						
Wald	1000	1000	10	0.305	0.199	0.084
WaldVCF	1000	1000	10	0.136	0.074	0.013
WaldDiag,MM3	1000	1000	10	0.044	0.018	0.001
WaldDiag,RS2	1000	1000	10	0.044	0.019	0.002
Pearson,MM3	1000	1000	10	0.099	0.045	0.005
Pearson,RS2	1000	1000	10	0.099	0.047	0.007
3F 15V						
Wald	1000	1000	35	0.578	0.448	0.186
WaldVCF	1000	1000	35	0.167	0.077	0.009
WaldDiag,MM3	1000	1000	35	0.046	0.013	0.002
WaldDiag,RS2	1000	1000	35	0.046	0.014	0.002
Pearson,MM3	1000	1000	35	0.129	0.060	0.012
Pearson,RS2	1000	1000	35	0.129	0.063	0.012

Type I errors ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.127	0.066	0.014
WaldVCF	1000	1000	0	0.114	0.055	0.011
WaldDiag,MM3	1000	1000	0	0.063	0.026	0.002
WaldDiag,RS2	1000	1000	0	0.060	0.025	0.002
Pearson,MM3	1000	1000	0	0.110	0.056	0.007
Pearson,RS2	1000	1000	0	0.107	0.055	0.008
1F 8V						
Wald	1000	1000	1	0.196	0.128	0.035
WaldVCF	1000	1000	1	0.131	0.068	0.017
WaldDiag,MM3	1000	1000	1	0.087	0.040	0.006
WaldDiag,RS2	1000	1000	1	0.085	0.042	0.007
Pearson,MM3	1000	1000	1	0.117	0.064	0.017
Pearson,RS2	1000	1000	1	0.117	0.068	0.020
1F 15V						
Wald	1000	1000	15	0.427	0.302	0.119
WaldVCF	1000	1000	15	0.154	0.075	0.021
WaldDiag,MM3	1000	1000	15	0.072	0.033	0.003
WaldDiag,RS2	1000	1000	15	0.072	0.036	0.004
Pearson,MM3	1000	1000	15	0.123	0.067	0.020
Pearson,RS2	1000	1000	15	0.123	0.068	0.025
2F 10V						
Wald	1000	1000	11	0.204	0.126	0.034
WaldVCF	1000	1000	11	0.144	0.076	0.014
WaldDiag,MM3	1000	1000	11	0.062	0.026	0.005
WaldDiag,RS2	1000	1000	11	0.062	0.029	0.007
Pearson,MM3	1000	1000	11	0.118	0.057	0.012
Pearson,RS2	1000	1000	11	0.118	0.060	0.014
3F 15V						
Wald	1000	1000	36	0.352	0.249	0.104
WaldVCF	1000	1000	36	0.200	0.126	0.040
WaldDiag,MM3	1000	1000	36	0.106	0.046	0.005
WaldDiag,RS2	1000	1000	36	0.107	0.051	0.006
Pearson,MM3	1000	1000	36	0.146	0.085	0.020
Pearson,RS2	1000	1000	36	0.147	0.087	0.023

Type I errors ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	2	0.120	0.068	0.021
WaldVCF	1000	1000	2	0.115	0.059	0.014
WaldDiag,MM3	1000	1000	2	0.088	0.037	0.005
WaldDiag,RS2	1000	1000	2	0.082	0.037	0.005
Pearson,MM3	1000	1000	2	0.114	0.061	0.016
Pearson,RS2	1000	1000	2	0.110	0.059	0.017
1F 8V						
Wald	1000	1000	7	0.141	0.078	0.021
WaldVCF	1000	1000	7	0.108	0.053	0.014
WaldDiag,MM3	1000	1000	7	0.079	0.041	0.008
WaldDiag,RS2	1000	1000	7	0.078	0.042	0.009
Pearson,MM3	1000	1000	7	0.129	0.063	0.018
Pearson,RS2	1000	1000	7	0.128	0.066	0.019
1F 15V						
Wald	1000	1000	22	0.263	0.176	0.055
WaldVCF	1000	1000	22	0.161	0.088	0.021
WaldDiag,MM3	1000	1000	22	0.111	0.054	0.009
WaldDiag,RS2	1000	1000	22	0.111	0.056	0.011
Pearson,MM3	1000	1000	22	0.166	0.094	0.019
Pearson,RS2	1000	1000	22	0.166	0.095	0.021
2F 10V						
Wald	1000	1000	19	0.181	0.104	0.029
WaldVCF	1000	1000	19	0.144	0.085	0.015
WaldDiag,MM3	1000	1000	19	0.103	0.052	0.008
WaldDiag,RS2	1000	1000	19	0.103	0.055	0.009
Pearson,MM3	1000	1000	19	0.138	0.085	0.016
Pearson,RS2	1000	1000	19	0.138	0.086	0.020
3F 15V						
Wald	1000	1000	43	0.251	0.154	0.048
WaldVCF	1000	1000	43	0.174	0.091	0.028
WaldDiag,MM3	1000	1000	43	0.091	0.043	0.012
WaldDiag,RS2	1000	1000	43	0.092	0.045	0.015
Pearson,MM3	1000	1000	43	0.140	0.068	0.012
Pearson,RS2	1000	1000	43	0.142	0.072	0.017

Type I errors ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.124	0.064	0.013
WaldVCF	1000	1000	0	0.120	0.060	0.012
WaldDiag,MM3	1000	1000	0	0.103	0.042	0.010
WaldDiag,RS2	1000	1000	0	0.100	0.039	0.010
Pearson,MM3	1000	1000	0	0.113	0.055	0.014
Pearson,RS2	1000	1000	0	0.108	0.054	0.016
1F 8V						
Wald	1000	1000	5	0.136	0.077	0.015
WaldVCF	1000	1000	5	0.114	0.066	0.012
WaldDiag,MM3	1000	1000	5	0.101	0.047	0.008
WaldDiag,RS2	1000	1000	5	0.100	0.047	0.009
Pearson,MM3	1000	1000	5	0.128	0.072	0.020
Pearson,RS2	1000	1000	5	0.127	0.074	0.022
1F 15V						
Wald	1000	1000	17	0.227	0.128	0.044
WaldVCF	1000	1000	17	0.150	0.083	0.024
WaldDiag,MM3	1000	1000	17	0.119	0.065	0.013
WaldDiag,RS2	1000	1000	17	0.119	0.070	0.015
Pearson,MM3	1000	1000	17	0.180	0.102	0.025
Pearson,RS2	1000	1000	17	0.180	0.108	0.034
2F 10V						
Wald	1000	1000	26	0.172	0.090	0.018
WaldVCF	1000	1000	26	0.152	0.074	0.013
WaldDiag,MM3	1000	1000	26	0.099	0.054	0.008
WaldDiag,RS2	1000	1000	26	0.099	0.056	0.011
Pearson,MM3	1000	1000	26	0.133	0.075	0.016
Pearson,RS2	1000	1000	26	0.133	0.077	0.020
3F 15V						
Wald	1000	1000	59	0.211	0.124	0.034
WaldVCF	1000	1000	59	0.158	0.080	0.023
WaldDiag,MM3	1000	1000	59	0.117	0.058	0.017
WaldDiag,RS2	1000	1000	59	0.118	0.060	0.019
Pearson,MM3	1000	1000	59	0.154	0.081	0.016
Pearson,RS2	1000	1000	59	0.156	0.084	0.022

Power ($n = 500$)

				Rejection rate		
Name	No. repl.	Converged	Rank def.	10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.350	0.243	0.107
WaldVCF	1000	1000	1	0.307	0.199	0.075
WaldDiag,MM3	1000	1000	1	0.144	0.061	0.013
WaldDiag,RS2	1000	1000	1	0.144	0.062	0.015
Pearson,MM3	1000	1000	1	0.331	0.225	0.077
Pearson,RS2	1000	1000	1	0.331	0.230	0.090
1F 8V						
Wald	1000	1000	1	0.747	0.640	0.430
WaldVCF	1000	1000	1	0.459	0.305	0.117
WaldDiag,MM3	1000	1000	1	0.311	0.186	0.044
WaldDiag,RS2	1000	1000	1	0.312	0.193	0.052
Pearson,MM3	1000	1000	1	0.368	0.224	0.074
Pearson,RS2	1000	1000	1	0.368	0.230	0.087
1F 15V						
Wald	1000	1000	8	0.985	0.969	0.897
WaldVCF	1000	1000	8	0.420	0.273	0.073
WaldDiag,MM3	1000	1000	8	0.266	0.135	0.031
WaldDiag,RS2	1000	1000	8	0.270	0.146	0.034
Pearson,MM3	1000	1000	8	0.566	0.438	0.186
Pearson,RS2	1000	1000	8	0.569	0.444	0.211
2F 10V						
Wald	1000	1000	7	0.458	0.324	0.163
WaldVCF	1000	1000	7	0.201	0.117	0.029
WaldDiag,MM3	1000	1000	7	0.116	0.043	0.005
WaldDiag,RS2	1000	1000	7	0.118	0.049	0.006
Pearson,MM3	1000	1000	7	0.252	0.148	0.038
Pearson,RS2	1000	1000	7	0.254	0.157	0.048
3F 15V						
Wald	1000	1000	27	0.696	0.582	0.318
WaldVCF	1000	1000	27	0.234	0.132	0.028
WaldDiag,MM3	1000	1000	27	0.102	0.048	0.006
WaldDiag,RS2	1000	1000	27	0.103	0.051	0.008
Pearson,MM3	1000	1000	27	0.283	0.178	0.053
Pearson,RS2	1000	1000	27	0.286	0.185	0.067

Power ($n = 1000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.578	0.457	0.249
WaldVCF	1000	1000	1	0.567	0.439	0.221
WaldDiag,MM3	1000	1000	1	0.386	0.261	0.075
WaldDiag,RS2	1000	1000	1	0.384	0.264	0.087
Pearson,MM3	1000	1000	1	0.627	0.522	0.307
Pearson,RS2	1000	1000	1	0.626	0.523	0.317
1F 8V						
Wald	1000	1000	2	0.930	0.888	0.714
WaldVCF	1000	1000	2	0.860	0.754	0.499
WaldDiag,MM3	1000	1000	2	0.714	0.574	0.270
WaldDiag,RS2	1000	1000	2	0.715	0.578	0.287
Pearson,MM3	1000	1000	2	0.679	0.544	0.295
Pearson,RS2	1000	1000	2	0.681	0.554	0.326
1F 15V						
Wald	1000	1000	13	0.930	0.876	0.720
WaldVCF	1000	1000	13	0.685	0.535	0.269
WaldDiag,MM3	1000	1000	13	0.592	0.427	0.160
WaldDiag,RS2	1000	1000	13	0.597	0.439	0.182
Pearson,MM3	1000	1000	13	0.870	0.792	0.599
Pearson,RS2	1000	1000	13	0.872	0.800	0.619
2F 10V						
Wald	1000	1000	11	0.431	0.301	0.127
WaldVCF	1000	1000	11	0.307	0.180	0.068
WaldDiag,MM3	1000	1000	11	0.268	0.146	0.048
WaldDiag,RS2	1000	1000	11	0.272	0.152	0.054
Pearson,MM3	1000	1000	11	0.406	0.287	0.128
Pearson,RS2	1000	1000	11	0.407	0.300	0.148
3F 15V						
Wald	1000	1000	38	0.619	0.494	0.243
WaldVCF	1000	1000	38	0.409	0.261	0.100
WaldDiag,MM3	1000	1000	38	0.383	0.252	0.077
WaldDiag,RS2	1000	1000	38	0.384	0.264	0.082
Pearson,MM3	1000	1000	38	0.617	0.480	0.271
Pearson,RS2	1000	1000	38	0.620	0.489	0.294

Power ($n = 2000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	0	0.821	0.722	0.484
WaldVCF	1000	1000	0	0.813	0.716	0.474
WaldDiag,MM3	1000	1000	0	0.663	0.522	0.264
WaldDiag,RS2	1000	1000	0	0.661	0.530	0.274
Pearson,MM3	1000	1000	0	0.863	0.793	0.589
Pearson,RS2	1000	1000	0	0.863	0.795	0.609
1F 8V						
Wald	1000	1000	3	0.998	0.995	0.974
WaldVCF	1000	1000	3	0.996	0.988	0.950
WaldDiag,MM3	1000	1000	3	0.978	0.953	0.791
WaldDiag,RS2	1000	1000	3	0.978	0.954	0.813
Pearson,MM3	1000	1000	3	0.959	0.915	0.737
Pearson,RS2	1000	1000	3	0.959	0.918	0.755
1F 15V						
Wald	1000	1000	12	0.959	0.930	0.818
WaldVCF	1000	1000	12	0.911	0.851	0.649
WaldDiag,MM3	1000	1000	12	0.886	0.817	0.601
WaldDiag,RS2	1000	1000	12	0.889	0.822	0.623
Pearson,MM3	1000	1000	12	0.992	0.980	0.949
Pearson,RS2	1000	1000	12	0.992	0.982	0.952
2F 10V						
Wald	1000	1000	9	0.533	0.385	0.193
WaldVCF	1000	1000	9	0.448	0.312	0.137
WaldDiag,MM3	1000	1000	9	0.525	0.382	0.158
WaldDiag,RS2	1000	1000	9	0.527	0.389	0.183
Pearson,MM3	1000	1000	9	0.665	0.552	0.339
Pearson,RS2	1000	1000	9	0.665	0.556	0.370
3F 15V						
Wald	1000	1000	38	0.750	0.635	0.360
WaldVCF	1000	1000	38	0.652	0.497	0.238
WaldDiag,MM3	1000	1000	38	0.726	0.597	0.324
WaldDiag,RS2	1000	1000	38	0.729	0.605	0.349
Pearson,MM3	1000	1000	38	0.887	0.821	0.624
Pearson,RS2	1000	1000	38	0.889	0.827	0.659

Power ($n = 3000$)

Name	No. repl.	Converged	Rank def.	Rejection rate 10%	5%	1%
1F 5V						
Wald	1000	1000	1	0.947	0.901	0.755
WaldVCF	1000	1000	1	0.947	0.900	0.750
WaldDiag,MM3	1000	1000	1	0.885	0.778	0.523
WaldDiag,RS2	1000	1000	1	0.883	0.784	0.534
Pearson,MM3	1000	1000	1	0.964	0.938	0.821
Pearson,RS2	1000	1000	1	0.964	0.938	0.832
1F 8V						
Wald	1000	1000	0	1.000	1.000	0.999
WaldVCF	1000	1000	0	1.000	1.000	0.998
WaldDiag,MM3	1000	1000	0	1.000	0.998	0.987
WaldDiag,RS2	1000	1000	0	1.000	0.999	0.988
Pearson,MM3	1000	1000	0	0.999	0.998	0.965
Pearson,RS2	1000	1000	0	0.999	0.998	0.970
1F 15V						
Wald	1000	1000	10	0.998	0.992	0.950
WaldVCF	1000	1000	10	0.994	0.972	0.921
WaldDiag,MM3	1000	1000	10	0.991	0.977	0.904
WaldDiag,RS2	1000	1000	10	0.991	0.979	0.912
Pearson,MM3	1000	1000	10	1.000	1.000	0.999
Pearson,RS2	1000	1000	10	1.000	1.000	0.999
2F 10V						
Wald	1000	1000	6	0.671	0.550	0.314
WaldVCF	1000	1000	6	0.616	0.489	0.251
WaldDiag,MM3	1000	1000	6	0.730	0.609	0.348
WaldDiag,RS2	1000	1000	6	0.734	0.616	0.381
Pearson,MM3	1000	1000	6	0.845	0.765	0.556
Pearson,RS2	1000	1000	6	0.845	0.770	0.589
3F 15V						
Wald	1000	1000	34	0.887	0.811	0.598
WaldVCF	1000	1000	34	0.846	0.745	0.495
WaldDiag,MM3	1000	1000	34	0.909	0.840	0.643
WaldDiag,RS2	1000	1000	34	0.912	0.847	0.664
Pearson,MM3	1000	1000	34	0.976	0.957	0.891
Pearson,RS2	1000	1000	34	0.976	0.960	0.902