

Tables of simulation results

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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 ($n = 2000$)

| | Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|--------|--------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | | 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 ($n = 500$)

| | Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|--------|--------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | | 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 ($n = 1000$)

| | Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|--------|--------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | | 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 ($n = 2000$)

| | Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|--------|--------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | | 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 ($n = 3000$)

| | Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|--------|--------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | | 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 ($n = 500$)

| Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|---------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | 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 | 0.065 | 0.027 | 0.002 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.118 | 0.060 | 0.010 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.117 | 0.061 | 0.012 |
| 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 | 0.088 | 0.043 | 0.009 |
| Pearson,MM3 | 1000 | 1000 | 5 | 0.177 | 0.107 | 0.023 |
| Pearson,RS2 | 1000 | 1000 | 5 | 0.178 | 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 | 0.068 | 0.028 | 0.005 |
| Pearson,MM3 | 1000 | 1000 | 14 | 0.183 | 0.104 | 0.024 |
| Pearson,RS2 | 1000 | 1000 | 14 | 0.184 | 0.110 | 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 | 0.080 | 0.034 | 0.005 |
| Pearson,MM3 | 1000 | 1000 | 40 | 0.188 | 0.108 | 0.021 |
| Pearson,RS2 | 1000 | 1000 | 40 | 0.190 | 0.114 | 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 | 0.091 | 0.040 | 0.005 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.123 | 0.060 | 0.011 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.122 | 0.062 | 0.013 |
| 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 | 0.109 | 0.048 | 0.008 |
| Pearson,MM3 | 1000 | 1000 | 2 | 0.185 | 0.097 | 0.032 |
| Pearson,RS2 | 1000 | 1000 | 2 | 0.186 | 0.101 | 0.036 |
| 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 | 0.021 |
| Pearson,MM3 | 1000 | 1000 | 17 | 0.296 | 0.180 | 0.040 |
| Pearson,RS2 | 1000 | 1000 | 17 | 0.300 | 0.183 | 0.048 |
| 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 | 0.095 | 0.054 | 0.013 |
| Pearson,MM3 | 1000 | 1000 | 8 | 0.164 | 0.091 | 0.024 |
| Pearson,RS2 | 1000 | 1000 | 8 | 0.166 | 0.100 | 0.029 |
| 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 | 0.139 | 0.076 | 0.018 |
| Pearson,MM3 | 1000 | 1000 | 38 | 0.236 | 0.119 | 0.046 |
| Pearson,RS2 | 1000 | 1000 | 38 | 0.241 | 0.125 | 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 | 0.108 | 0.054 | 0.014 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.129 | 0.075 | 0.018 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.129 | 0.075 | 0.019 |
| 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 | 0.075 | 0.015 |
| Pearson,MM3 | 1000 | 1000 | 0 | 0.197 | 0.130 | 0.037 |
| Pearson,RS2 | 1000 | 1000 | 0 | 0.201 | 0.132 | 0.041 |
| 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 | 0.165 | 0.072 | 0.015 |
| Pearson,MM3 | 1000 | 1000 | 20 | 0.273 | 0.175 | 0.054 |
| Pearson,RS2 | 1000 | 1000 | 20 | 0.273 | 0.178 | 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 | 0.155 | 0.080 | 0.025 |
| Pearson,MM3 | 1000 | 1000 | 11 | 0.191 | 0.115 | 0.037 |
| Pearson,RS2 | 1000 | 1000 | 11 | 0.192 | 0.124 | 0.043 |
| 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 | 0.161 | 0.054 |

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 | 0.113 | 0.064 | 0.018 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.132 | 0.075 | 0.017 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.131 | 0.077 | 0.021 |
| 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 | 0.063 | 0.015 |
| Pearson,MM3 | 1000 | 1000 | 4 | 0.180 | 0.106 | 0.035 |
| Pearson,RS2 | 1000 | 1000 | 4 | 0.181 | 0.110 | 0.044 |
| 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 | 0.189 | 0.102 | 0.027 |
| Pearson,MM3 | 1000 | 1000 | 23 | 0.286 | 0.182 | 0.050 |
| Pearson,RS2 | 1000 | 1000 | 23 | 0.287 | 0.186 | 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 | 0.138 | 0.078 | 0.018 |
| Pearson,MM3 | 1000 | 1000 | 15 | 0.193 | 0.101 | 0.024 |
| Pearson,RS2 | 1000 | 1000 | 15 | 0.194 | 0.109 | 0.032 |
| 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 | 0.112 | 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 | 0.035 | 0.012 | 0.002 |
| Pearson,MM3 | 1000 | 1000 | 6 | 0.084 | 0.036 | 0.007 |
| Pearson,RS2 | 1000 | 1000 | 6 | 0.084 | 0.037 | 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 | 0.056 | 0.024 | 0.004 |
| Pearson,MM3 | 1000 | 1000 | 6 | 0.088 | 0.040 | 0.007 |
| Pearson,RS2 | 1000 | 1000 | 6 | 0.088 | 0.043 | 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 | 0.048 | 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 | 0.074 | 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 | 0.049 | 0.015 | 0.000 |
| Pearson,MM3 | 999 | 999 | 78 | 0.086 | 0.046 | 0.009 |
| Pearson,RS2 | 999 | 999 | 78 | 0.086 | 0.051 | 0.012 |

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 | 0.009 |
| Pearson,MM3 | 1000 | 1000 | 2 | 0.115 | 0.067 | 0.013 |
| Pearson,RS2 | 1000 | 1000 | 2 | 0.115 | 0.070 | 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 | 0.093 | 0.041 | 0.009 |
| Pearson,MM3 | 1000 | 1000 | 3 | 0.086 | 0.049 | 0.009 |
| Pearson,RS2 | 1000 | 1000 | 3 | 0.086 | 0.050 | 0.012 |
| 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 | 0.088 | 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 | 0.071 | 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 | 0.099 | 0.053 | 0.014 |
| Pearson,MM3 | 1000 | 1000 | 2 | 0.099 | 0.047 | 0.008 |
| Pearson,RS2 | 1000 | 1000 | 2 | 0.099 | 0.049 | 0.011 |
| 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 | 0.058 | 0.008 |
| Pearson,MM3 | 1000 | 1000 | 4 | 0.096 | 0.048 | 0.008 |
| Pearson,RS2 | 1000 | 1000 | 4 | 0.096 | 0.049 | 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 | 0.101 | 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 | 0.049 | 0.008 |
| Pearson,MM3 | 1000 | 1000 | 21 | 0.116 | 0.059 | 0.011 |
| Pearson,RS2 | 1000 | 1000 | 21 | 0.118 | 0.063 | 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 | 0.041 | 0.012 |
| Pearson,MM3 | 1000 | 1000 | 32 | 0.100 | 0.052 | 0.010 |
| Pearson,RS2 | 1000 | 1000 | 32 | 0.103 | 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 | 0.086 | 0.034 | 0.008 |
| Pearson,MM3 | 1000 | 1000 | 4 | 0.094 | 0.047 | 0.007 |
| Pearson,RS2 | 1000 | 1000 | 4 | 0.092 | 0.048 | 0.008 |
| 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 | 0.049 | 0.011 |
| Pearson,MM3 | 1000 | 1000 | 7 | 0.093 | 0.033 | 0.004 |
| Pearson,RS2 | 1000 | 1000 | 7 | 0.093 | 0.033 | 0.006 |
| 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 | 0.134 | 0.060 | 0.017 |
| Pearson,MM3 | 1000 | 1000 | 28 | 0.105 | 0.056 | 0.009 |
| Pearson,RS2 | 1000 | 1000 | 28 | 0.107 | 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 | 0.091 | 0.045 | 0.013 |
| Pearson,MM3 | 1000 | 1000 | 18 | 0.109 | 0.052 | 0.010 |
| Pearson,RS2 | 1000 | 1000 | 18 | 0.113 | 0.054 | 0.012 |
| 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 | 0.141 | 0.071 | 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 ($n = 500$)

| Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|---------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | 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 | 0.056 | 0.020 | 0.001 |
| Pearson,MM3 | 1000 | 1000 | 5 | 0.103 | 0.049 | 0.008 |
| Pearson,RS2 | 1000 | 1000 | 5 | 0.099 | 0.050 | 0.011 |
| 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 | 0.065 | 0.016 | 0.003 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.119 | 0.059 | 0.009 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.119 | 0.063 | 0.015 |
| 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 | 0.119 | 0.064 | 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 | 0.045 | 0.020 | 0.002 |
| Pearson,MM3 | 1000 | 1000 | 10 | 0.099 | 0.045 | 0.005 |
| Pearson,RS2 | 1000 | 1000 | 10 | 0.099 | 0.048 | 0.008 |
| 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 | 0.047 | 0.014 | 0.002 |
| Pearson,MM3 | 1000 | 1000 | 35 | 0.129 | 0.060 | 0.012 |
| Pearson,RS2 | 1000 | 1000 | 35 | 0.130 | 0.064 | 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 | 0.063 | 0.027 | 0.003 |
| Pearson,MM3 | 1000 | 1000 | 0 | 0.110 | 0.056 | 0.007 |
| Pearson,RS2 | 1000 | 1000 | 0 | 0.109 | 0.056 | 0.011 |
| 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 | 0.087 | 0.044 | 0.007 |
| Pearson,MM3 | 1000 | 1000 | 1 | 0.117 | 0.064 | 0.017 |
| Pearson,RS2 | 1000 | 1000 | 1 | 0.119 | 0.069 | 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 | 0.065 | 0.030 | 0.007 |
| Pearson,MM3 | 1000 | 1000 | 11 | 0.118 | 0.057 | 0.012 |
| Pearson,RS2 | 1000 | 1000 | 11 | 0.118 | 0.065 | 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 | 0.108 | 0.052 | 0.006 |
| Pearson,MM3 | 1000 | 1000 | 36 | 0.146 | 0.085 | 0.020 |
| Pearson,RS2 | 1000 | 1000 | 36 | 0.148 | 0.088 | 0.024 |

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 | 0.087 | 0.039 | 0.005 |
| Pearson,MM3 | 1000 | 1000 | 2 | 0.114 | 0.061 | 0.016 |
| Pearson,RS2 | 1000 | 1000 | 2 | 0.114 | 0.065 | 0.018 |
| 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 | 0.080 | 0.042 | 0.009 |
| Pearson,MM3 | 1000 | 1000 | 7 | 0.129 | 0.063 | 0.018 |
| Pearson,RS2 | 1000 | 1000 | 7 | 0.130 | 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 | 0.167 | 0.096 | 0.023 |
| 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 | 0.087 | 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 | 0.094 | 0.046 | 0.015 |
| Pearson,MM3 | 1000 | 1000 | 43 | 0.140 | 0.068 | 0.012 |
| Pearson,RS2 | 1000 | 1000 | 43 | 0.143 | 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 | 0.103 | 0.043 | 0.010 |
| Pearson,MM3 | 1000 | 1000 | 0 | 0.113 | 0.055 | 0.014 |
| Pearson,RS2 | 1000 | 1000 | 0 | 0.113 | 0.057 | 0.017 |
| 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 | 0.101 | 0.048 | 0.009 |
| Pearson,MM3 | 1000 | 1000 | 5 | 0.128 | 0.072 | 0.020 |
| Pearson,RS2 | 1000 | 1000 | 5 | 0.128 | 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 | 0.016 |
| Pearson,MM3 | 1000 | 1000 | 17 | 0.180 | 0.102 | 0.025 |
| Pearson,RS2 | 1000 | 1000 | 17 | 0.181 | 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 | 0.100 | 0.058 | 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 | 0.061 | 0.019 |
| Pearson,MM3 | 1000 | 1000 | 59 | 0.154 | 0.081 | 0.016 |
| Pearson,RS2 | 1000 | 1000 | 59 | 0.157 | 0.084 | 0.022 |

Power ($n = 500$)

| Name | No. repl. | Converged | Rank def. | Rejection rate | | |
|---------------|-----------|-----------|-----------|----------------|-------|-------|
| | | | | 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 |