**Poker Cards Analysis – June 2025**

**The Directors**
Entain Plc

This is to confirm that iTech Labs has examined the game logs for Poker games for the period **June 01, 2025,** to **June 30, 2025** as recorded by the respective game servers and analyzed the Poker cards for statistical randomness. The results of the analysis are given below.

For details on the gaming sites serviced by the Entain Plc game servers and used in this audit refer to the List.

## 1. Poker hand types statistics

These calculations were done for Royal Flush, Straight Flush, Four of a Kind, Full House, Flush, Straight, 3 of a Kind, 2 pairs, 1 Pair, High Card.

The Poker hand types analysis involved creating subsets of data and conducting Chi-square tests on each subset.

The null hypothesis for the chi-square test is that the observed frequencies of each type of hand matches the theoretical values for a deck that has been shuffled using a perfect random number generator. The p-values observed in these multiple tests are expected to follow a uniform distribution for the range 0.0 to 1.0.

The analysis performs a KS Test (Kolmogorov-Smirnov test) for uniform distribution on the observed p-values, and the combined p-value result of this test is taken as the final result of the Poker hand types statistics tests.

### 1.1 Poker hand types statistics for 52 cards deck:

| Test No. | DOF | ChiSqr | P-Value |
|---|---|---|---|
| 1 | 9 | 5.19 | 0.81722 |
| 2 | 9 | 14.02 | 0.12154 |
| 3 | 9 | 9.11 | 0.42694 |
| 4 | 9 | 10.91 | 0.28184 |
| 5 | 9 | 8.00 | 0.53423 |
| 6 | 9 | 11.43 | 0.24758 |
| 7 | 9 | 5.10 | 0.82555 |
| 8 | 9 | 8.16 | 0.51785 |
| 9 | 9 | 12.50 | 0.18678 |
| 10 | 9 | 4.93 | 0.84004 |
| 11 | 9 | 14.65 | 0.10087 |
| 12 | 9 | 3.65 | 0.93297 |
| 13 | 9 | 8.09 | 0.52494 |
| 14 | 9 | 2.24 | 0.98701 |
| 15 | 9 | 8.96 | 0.44142 |
| 16 | 9 | 4.97 | 0.83678 |
| 17 | 9 | 19.70 | 0.01985 |
| 18 | 9 | 7.55 | 0.57980 |
| 19 | 9 | 4.33 | 0.88862 |
| 20 | 9 | 8.62 | 0.47293 |
| 21 | 9 | 4.48 | 0.87688 |
| 22 | 9 | 9.11 | 0.42737 |
| 23 | 9 | 19.31 | 0.02267 |
| 24 | 9 | 6.18 | 0.72197 |
| 25 | 9 | 5.25 | 0.81191 |
| 26 | 9 | 5.76 | 0.76408 |
| 27 | 9 | 9.81 | 0.36573 |

| | | | |
|---|---|---|---|
| 28 | 9 | 12.04 | 0.21089 |
| 29 | 9 | 11.30 | 0.25579 |
| 30 | 9 | 9.91 | 0.35806 |
| 31 | 9 | 8.06 | 0.52856 |
| 32 | 9 | 3.31 | 0.95077 |
| 33 | 9 | 9.25 | 0.41497 |
| 34 | 9 | 7.03 | 0.63395 |
| 35 | 9 | 13.28 | 0.15026 |
| 36 | 9 | 10.49 | 0.31237 |
| 37 | 9 | 13.10 | 0.15824 |
| 38 | 9 | 7.13 | 0.62315 |
| 39 | 9 | 16.95 | 0.04945 |
| 40 | 9 | 15.02 | 0.09028 |
| 41 | 9 | 4.01 | 0.91050 |
| 42 | 9 | 4.45 | 0.87932 |
| 43 | 9 | 4.87 | 0.84572 |
| 44 | 9 | 8.65 | 0.47022 |
| 45 | 9 | 2.60 | 0.97814 |
| 46 | 9 | 12.37 | 0.19330 |
| 47 | 9 | 5.63 | 0.77587 |
| 48 | 9 | 4.42 | 0.88163 |
| 49 | 9 | 7.38 | 0.59726 |
| 50 | 9 | 5.74 | 0.76582 |
| 51 | 9 | 4.96 | 0.83755 |
| 52 | 9 | 10.25 | 0.33030 |
| 53 | 9 | 4.59 | 0.86881 |
| 54 | 9 | 5.75 | 0.76429 |
| 55 | 9 | 2.68 | 0.97568 |
| 56 | 9 | 5.56 | 0.78268 |
| 57 | 9 | 8.53 | 0.48191 |
| 58 | 9 | 9.13 | 0.42548 |
| 59 | 9 | 3.39 | 0.94671 |
| 60 | 9 | 14.25 | 0.11364 |
| 61 | 9 | 9.39 | 0.40209 |
| 62 | 9 | 5.73 | 0.76621 |
| 63 | 9 | 14.22 | 0.11481 |
| 64 | 9 | 7.55 | 0.57990 |
| 65 | 9 | 7.75 | 0.55908 |
| 66 | 9 | 7.76 | 0.55811 |
| 67 | 9 | 8.13 | 0.52107 |
| 68 | 9 | 6.24 | 0.71615 |
| 69 | 9 | 6.28 | 0.71195 |
| 70 | 9 | 2.92 | 0.96739 |
| 71 | 9 | 5.60 | 0.77904 |
| 72 | 9 | 7.53 | 0.58218 |
| 73 | 9 | 12.71 | 0.17624 |
| 74 | 9 | 18.84 | 0.02654 |
| 75 | 9 | 8.11 | 0.52306 |
| 76 | 9 | 6.83 | 0.65437 |
| 77 | 9 | 14.63 | 0.10160 |
| 78 | 9 | 7.91 | 0.54352 |
| 79 | 9 | 8.98 | 0.43903 |
| 80 | 9 | 15.62 | 0.07526 |
| 81 | 9 | 20.25 | 0.01646 |
| 82 | 9 | 12.48 | 0.18766 |
| 83 | 9 | 8.78 | 0.45790 |

| | | | |
|---|---|---|---|
| 84 | 9 | 5.75 | 0.76470 |
| 85 | 9 | 17.40 | 0.04280 |
| 86 | 9 | 6.45 | 0.69422 |
| 87 | 9 | 6.74 | 0.66395 |
| 88 | 9 | 7.24 | 0.61198 |
| 89 | 9 | 3.30 | 0.95143 |
| 90 | 9 | 14.28 | 0.11282 |
| 91 | 9 | 11.39 | 0.25000 |
| 92 | 9 | 11.08 | 0.27030 |
| 93 | 9 | 19.95 | 0.01820 |
| 94 | 9 | 8.58 | 0.47693 |
| 95 | 9 | 7.13 | 0.62366 |
| 96 | 9 | 8.36 | 0.49806 |
| 97 | 9 | 8.63 | 0.47242 |
| 98 | 9 | 6.59 | 0.67943 |
| 99 | 9 | 12.54 | 0.18431 |
| 100 | 9 | 9.19 | 0.41956 |
| | | | |
| Combined P-value for all tests (Using KS method) | | | 0.44904 |

*Notes:*

*1)* The P-values are observed probabilities from the Chi-Square tests. The last row shows the result of the KS Test performed on the p-values for all Chi-Square tests, where there are sufficient data.

## 2. Poker rank statistics

The Poker rank analysis aims to establish that the rank of the cards in each position was equally distributed in one of the 13 possible ranks (2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K, A) for a 52 card deck.

The Poker rank analysis involved creating subsets of data and conducting Chi-square tests on each subset. The analysis performs a KS Test (Kolmogorov-Smirnov test) for uniform distribution on the observed p-values, and the combined p-value result of this test is taken as the final result of the Ranks statistics tests.

### 2.1 Poker rank statistics for 52 cards deck:

| Test No. | DOF | ChiSqr | P-Value |
|---|---|---|---|
| 1 | 84 | 67.98 | 0.89835 |
| 2 | 84 | 86.12 | 0.41540 |
| 3 | 84 | 60.05 | 0.97762 |
| 4 | 84 | 85.63 | 0.43001 |
| 5 | 84 | 75.79 | 0.72680 |
| 6 | 84 | 100.85 | 0.10162 |
| 7 | 84 | 73.25 | 0.79260 |
| 8 | 84 | 103.90 | 0.06953 |
| 9 | 84 | 76.26 | 0.71373 |
| 10 | 84 | 74.43 | 0.76322 |
| 11 | 84 | 89.99 | 0.30761 |
| 12 | 84 | 85.65 | 0.42933 |
| 13 | 84 | 78.59 | 0.64606 |
| 14 | 84 | 99.54 | 0.11845 |
| 15 | 84 | 61.53 | 0.96894 |
| 16 | 84 | 82.78 | 0.51728 |
| 17 | 84 | 132.07 | 0.00064 |
| 18 | 84 | 85.79 | 0.42515 |
| 19 | 84 | 93.05 | 0.23398 |
| 20 | 84 | 91.15 | 0.27821 |
| 21 | 84 | 81.95 | 0.54284 |
| 22 | 84 | 88.38 | 0.35065 |
| 23 | 84 | 83.84 | 0.48436 |
| 24 | 84 | 87.82 | 0.36637 |

| | | | |
|---|---|---|---|
| 25 | 84 | 74.42 | 0.76332 |
| 26 | 84 | 84.88 | 0.45251 |
| 27 | 84 | 98.27 | 0.13678 |
| 28 | 84 | 95.50 | 0.18388 |
| 29 | 84 | 60.03 | 0.97774 |
| 30 | 84 | 68.98 | 0.88170 |
| 31 | 84 | 82.53 | 0.52497 |
| 32 | 84 | 95.34 | 0.18685 |
| 33 | 84 | 74.70 | 0.75625 |
| 34 | 84 | 91.21 | 0.27696 |
| 35 | 84 | 89.14 | 0.32988 |
| 36 | 84 | 82.26 | 0.53347 |
| 37 | 84 | 88.30 | 0.35300 |
| 38 | 84 | 83.82 | 0.48517 |
| 39 | 84 | 54.68 | 0.99452 |
| 40 | 84 | 77.28 | 0.68471 |
| 41 | 84 | 89.66 | 0.31619 |
| 42 | 84 | 69.61 | 0.87045 |
| 43 | 84 | 81.60 | 0.55387 |
| 44 | 84 | 85.33 | 0.43886 |
| 45 | 84 | 78.27 | 0.65570 |
| 46 | 84 | 88.60 | 0.34475 |
| 47 | 84 | 97.05 | 0.15634 |
| 48 | 84 | 101.63 | 0.09246 |
| 49 | 84 | 75.27 | 0.74090 |
| 50 | 84 | 63.75 | 0.95121 |
| 51 | 84 | 85.06 | 0.44711 |
| 52 | 84 | 98.51 | 0.13314 |
| 53 | 84 | 83.00 | 0.51038 |
| 54 | 84 | 94.16 | 0.21037 |
| 55 | 84 | 70.27 | 0.85785 |
| 56 | 84 | 54.95 | 0.99405 |
| 57 | 84 | 73.12 | 0.79589 |
| 58 | 84 | 69.51 | 0.87230 |
| 59 | 84 | 98.76 | 0.12949 |
| 60 | 84 | 98.17 | 0.13825 |
| 61 | 84 | 70.89 | 0.84547 |
| 62 | 84 | 73.69 | 0.78192 |
| 63 | 84 | 78.98 | 0.63455 |
| 64 | 84 | 91.59 | 0.26762 |
| 65 | 84 | 88.92 | 0.33581 |
| 66 | 84 | 85.68 | 0.42867 |
| 67 | 84 | 112.15 | 0.02178 |
| 68 | 84 | 78.90 | 0.63680 |
| 69 | 84 | 60.36 | 0.97599 |
| 70 | 84 | 69.67 | 0.86934 |
| 71 | 84 | 79.54 | 0.61738 |
| 72 | 84 | 100.30 | 0.10841 |
| 73 | 84 | 85.75 | 0.42655 |
| 74 | 84 | 97.35 | 0.15126 |
| 75 | 84 | 96.30 | 0.16918 |
| 76 | 84 | 98.68 | 0.13057 |
| 77 | 84 | 73.16 | 0.79485 |
| 78 | 84 | 93.57 | 0.22277 |
| 79 | 84 | 105.32 | 0.05780 |
| 80 | 84 | 98.84 | 0.12825 |

| | | | |
|---|---|---|---|
| 81 | 84 | 93.18 | 0.23113 |
| 82 | 84 | 83.45 | 0.49628 |
| 83 | 84 | 106.06 | 0.05230 |
| 84 | 84 | 81.62 | 0.55308 |
| 85 | 84 | 92.19 | 0.25341 |
| 86 | 84 | 81.00 | 0.57244 |
| 87 | 84 | 70.67 | 0.85002 |
| 88 | 84 | 77.44 | 0.68019 |
| 89 | 84 | 72.64 | 0.80717 |
| 90 | 84 | 63.83 | 0.95047 |
| 91 | 84 | 58.60 | 0.98416 |
| 92 | 84 | 104.42 | 0.06504 |
| 93 | 84 | 96.48 | 0.16604 |
| 94 | 84 | 81.11 | 0.56901 |
| 95 | 84 | 63.63 | 0.95229 |
| 96 | 84 | 79.89 | 0.60670 |
| 97 | 84 | 107.88 | 0.04073 |
| 98 | 84 | 87.65 | 0.37125 |
| 99 | 84 | 98.64 | 0.13117 |
| 100 | 84 | 87.66 | 0.37087 |
| | | | |
| Combined P-value for all tests (Using KS method) | | | 0.95621 |

*Notes:*

*1)* The P-values are observed probabilities from the Chi-Square tests. The last row shows the result of the KS Test performed on the p-values for all Chi-Square tests, where there are sufficient data.

## 3. Poker suits statistics

The Poker suits analysis aims to verify that that the cards dealt exhibit an equal probability of all 4 suits (Clubs, Diamonds, Hearts and Spades) in all positions.

The Poker suits analysis involved creating subsets of data and conducting Chi-square tests on each subset. The analysis performs a KS Test (Kolmogorov-Smirnov test) for uniform distribution on the observed p-values, and the combined p-value result of this test is taken as the final result of the Suits statistics tests.

### 3.1 Poker suits statistics for 52 cards deck:

| Test No. | Positions | DOF | ChiSqr | P-Value |
|---|---|---|---|---|
| 1 | 7 | 21 | 11.09 | 0.96094 |
| 2 | 7 | 21 | 27.09 | 0.16801 |
| 3 | 7 | 21 | 18.09 | 0.64305 |
| 4 | 7 | 21 | 17.18 | 0.70030 |
| 5 | 7 | 21 | 18.47 | 0.61911 |
| 6 | 7 | 21 | 21.83 | 0.40951 |
| 7 | 7 | 21 | 20.71 | 0.47706 |
| 8 | 7 | 21 | 18.44 | 0.62096 |
| 9 | 7 | 21 | 17.18 | 0.70041 |
| 10 | 7 | 21 | 17.02 | 0.71008 |
| 11 | 7 | 21 | 31.07 | 0.07258 |
| 12 | 7 | 21 | 26.79 | 0.17782 |
| 13 | 7 | 21 | 37.87 | 0.01334 |
| 14 | 7 | 21 | 10.42 | 0.97289 |
| 15 | 7 | 21 | 24.82 | 0.25498 |
| 16 | 7 | 21 | 16.16 | 0.76051 |
| 17 | 7 | 21 | 21.15 | 0.44964 |
| 18 | 7 | 21 | 20.40 | 0.49626 |
| 19 | 7 | 21 | 23.70 | 0.30790 |
| 20 | 7 | 21 | 19.22 | 0.57088 |
| 21 | 7 | 21 | 19.95 | 0.52441 |
| 22 | 7 | 21 | 24.92 | 0.25050 |

| | | | | |
|---|---|---|---|---|
| 23 | 7 | 21 | 20.16 | 0.51085 |
| 24 | 7 | 21 | 18.96 | 0.58764 |
| 25 | 7 | 21 | 19.64 | 0.54389 |
| 26 | 7 | 21 | 20.84 | 0.46897 |
| 27 | 7 | 21 | 8.93 | 0.98979 |
| 28 | 7 | 21 | 21.97 | 0.40142 |
| 29 | 7 | 21 | 18.75 | 0.60108 |
| 30 | 7 | 21 | 14.73 | 0.83635 |
| 31 | 7 | 21 | 19.84 | 0.53137 |
| 32 | 7 | 21 | 16.82 | 0.72166 |
| 33 | 7 | 21 | 21.51 | 0.42791 |
| 34 | 7 | 21 | 30.74 | 0.07818 |
| 35 | 7 | 21 | 12.95 | 0.91023 |
| 36 | 7 | 21 | 23.16 | 0.33536 |
| 37 | 7 | 21 | 21.18 | 0.44798 |
| 38 | 7 | 21 | 19.02 | 0.58388 |
| 39 | 7 | 21 | 24.24 | 0.28179 |
| 40 | 7 | 21 | 11.79 | 0.94504 |
| 41 | 7 | 21 | 22.69 | 0.36096 |
| 42 | 7 | 21 | 22.92 | 0.34803 |
| 43 | 7 | 21 | 24.44 | 0.27240 |
| 44 | 7 | 21 | 25.07 | 0.24401 |
| 45 | 7 | 21 | 21.46 | 0.43114 |
| 46 | 7 | 21 | 28.91 | 0.11609 |
| 47 | 7 | 21 | 24.69 | 0.26104 |
| 48 | 7 | 21 | 13.89 | 0.87427 |
| 49 | 7 | 21 | 29.83 | 0.09537 |
| 50 | 7 | 21 | 10.42 | 0.97300 |
| 51 | 7 | 21 | 17.43 | 0.68488 |
| 52 | 7 | 21 | 21.39 | 0.43553 |
| 53 | 7 | 21 | 23.65 | 0.31019 |
| 54 | 7 | 21 | 15.43 | 0.80100 |
| 55 | 7 | 21 | 36.92 | 0.01717 |
| 56 | 7 | 21 | 32.83 | 0.04819 |
| 57 | 7 | 21 | 21.86 | 0.40760 |
| 58 | 7 | 21 | 12.32 | 0.93055 |
| 59 | 7 | 21 | 11.15 | 0.95983 |
| 60 | 7 | 21 | 18.27 | 0.63161 |
| 61 | 7 | 21 | 19.82 | 0.53255 |
| 62 | 7 | 21 | 19.37 | 0.56148 |
| 63 | 7 | 21 | 24.60 | 0.26496 |
| 64 | 7 | 21 | 10.39 | 0.97345 |
| 65 | 7 | 21 | 22.33 | 0.38080 |
| 66 | 7 | 21 | 26.50 | 0.18799 |
| 67 | 7 | 21 | 16.46 | 0.74317 |
| 68 | 7 | 21 | 13.11 | 0.90489 |
| 69 | 7 | 21 | 42.97 | 0.00317 |
| 70 | 7 | 21 | 20.30 | 0.50204 |
| 71 | 7 | 21 | 31.33 | 0.06829 |
| 72 | 7 | 21 | 27.78 | 0.14659 |
| 73 | 7 | 21 | 17.10 | 0.70501 |
| 74 | 7 | 21 | 26.24 | 0.19754 |
| 75 | 7 | 21 | 25.15 | 0.24070 |
| 76 | 7 | 21 | 11.82 | 0.94442 |
| 77 | 7 | 21 | 21.54 | 0.42672 |
| 78 | 7 | 21 | 16.59 | 0.73544 |

| | | | | |
|---|---|---|---|---|
| 79 | 7 | 21 | 22.59 | 0.36602 |
| 80 | 7 | 21 | 12.67 | 0.91986 |
| 81 | 7 | 21 | 29.03 | 0.11327 |
| 82 | 7 | 21 | 12.61 | 0.92162 |
| 83 | 7 | 21 | 20.12 | 0.51344 |
| 84 | 7 | 21 | 27.90 | 0.14290 |
| 85 | 7 | 21 | 22.62 | 0.36483 |
| 86 | 7 | 21 | 20.00 | 0.52096 |
| 87 | 7 | 21 | 25.76 | 0.21591 |
| 88 | 7 | 21 | 29.03 | 0.11326 |
| 89 | 7 | 21 | 27.00 | 0.17089 |
| 90 | 7 | 21 | 19.09 | 0.57930 |
| 91 | 7 | 21 | 21.19 | 0.44766 |
| 92 | 7 | 21 | 30.87 | 0.07579 |
| 93 | 7 | 21 | 21.58 | 0.42425 |
| 94 | 7 | 21 | 23.20 | 0.33355 |
| 95 | 7 | 21 | 20.07 | 0.51687 |
| 96 | 7 | 21 | 28.21 | 0.13436 |
| 97 | 7 | 21 | 17.08 | 0.70600 |
| 98 | 7 | 21 | 29.08 | 0.11209 |
| 99 | 7 | 21 | 24.57 | 0.26639 |
| 100 | 7 | 21 | 18.84 | 0.59536 |
| | | | | |
| Combined P-value for all tests (Using KS method) | | | | 0.38992 |

*Not*es:

*1)* The P-values are observed probabilities from the Chi-Square tests. The last row shows the result of the KS Test performed on the p-values for all Chi-Square tests, where there are sufficient data.

## 4. Summary of the analysis

### 4.1 Summary of the analysis of 52 cards deck:

The analysis of 52 cards completes by combining the result of the KS Test performed in the 3 types of analysis (Hand Types, Ranks and Suits) for 52 card decks using the Holm's method and producing a single Combined P -value.

The combined p-value produced using the Holm's method is used as indication for statistical randomness.

| **Combination of p-values using Holm's Method** | | |
|---|---|---|
| **Test** | **P-Value** | **P-Adjusted** |
| Ranks Test | 0.95621 | 1.00000 |
| Suits Test | 0.38992 | 1.00000 |
| Hand Types Test | 0.44904 | 1.00000 |
| | | |
| **Combined P-Value using Holm's Method** | | 1.00000 |

*Notes:*

1) The combined p-value of all statistical tests using Holm's Method conducted for 52 card decks is greater than the minimum value of 0.05 which indicates that the randomness of the observed data falls within 95% confidence limits.

The final outcome of the analysis of 52 cards deck indicates that the RNG is working correctly.

## 4. Conclusion

Analysis of actual data from game logs for 'Hand Types, 'Ranks' and 'Suits' for **52-card decks** indicated statistical randomness. Since there is no data in the case of 36 card deck, this report does not contain the details of 36 card deck.

iTech Labs has done limited sanity checks to verify the integrity of the game logs. iTech Labs also maintains a copy of the game logs for verification purposes. There were a large enough number of game records to give the calculations sufficient statistical power.

We conclude that the Random Number Generator (RNG) is working correctly.

Please click here to see the Original report.

| | |
|---|---|
| **Signed:** | **Signed:** |
|  |  |
| **Alvin Rizaldi**<br>**Chief Executive Officer**<br>**iTech Labs**<br>Date: 15 July 2025 | **Divya Bhargava**<br>**Project Manager**<br>**iTech Labs**<br>Date: 15 July 2025 |

Disclaimer.
While it is not possible to test all possible scenarios in a laboratory environment, iTech Labs has conducted a level of testing appropriate for a component test of this type.