

Poker Cards Analysis – April 2026

The Directors

Entain Plc

This is to confirm that iTech Labs has examined the game logs for Poker games for the period **April 01, 2026, to April 30, 2026**, 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	9.60	0.38410
2	9	13.76	0.13104
3	9	10.89	0.28301
4	9	8.51	0.48408
5	9	21.93	0.00909
6	9	6.22	0.71739
7	9	10.50	0.31175
8	9	6.61	0.67720
9	9	7.04	0.63341
10	9	10.20	0.33415
11	9	12.31	0.19626
12	9	14.80	0.09670
13	9	13.77	0.13084

Test No.	DOF	ChiSqr	P-Value
14	9	7.70	0.56471
15	9	5.30	0.80777
16	9	6.44	0.69509
17	9	3.92	0.91633
18	9	16.67	0.05419
19	9	8.91	0.44578
20	9	6.31	0.70826
21	9	13.70	0.13344
22	9	10.27	0.32896
23	9	6.51	0.68821
24	9	11.11	0.26848
25	9	8.74	0.46134
26	9	6.38	0.70167
27	9	10.55	0.30817
28	9	10.47	0.31351
29	9	5.43	0.79560
30	9	8.12	0.52211
31	9	6.52	0.68734
32	9	11.15	0.26570
33	9	16.02	0.06641
34	9	7.68	0.56712
35	9	3.89	0.91873
36	9	16.36	0.05972
37	9	15.23	0.08473
38	9	9.90	0.35896
39	9	8.99	0.43824
40	9	8.80	0.45639
41	9	7.68	0.56658
42	9	9.91	0.35791
43	9	9.39	0.40217
44	9	9.95	0.35418

Test No.	DOF	ChiSqr	P-Value
45	9	8.24	0.50991
46	9	4.18	0.89936
47	9	8.00	0.53442
48	9	1.03	0.99937
49	9	10.22	0.33318
50	9	12.77	0.17315
51	9	5.21	0.81578
52	9	14.50	0.10562
53	9	7.25	0.61139
54	9	8.62	0.47291
55	9	8.38	0.49610
56	9	7.34	0.60175
57	9	1.58	0.99652
58	9	2.91	0.96772
59	9	11.76	0.22692
60	9	9.57	0.38615
61	9	3.01	0.96394
62	9	9.55	0.38773
63	9	2.49	0.98113
64	9	16.76	0.05253
65	9	11.67	0.23268
66	9	2.30	0.98581
67	9	6.62	0.67615
68	9	6.73	0.66547
69	9	13.54	0.13975
70	9	10.28	0.32833
71	9	19.37	0.02219
72	9	4.35	0.88711
73	9	2.89	0.96835
74	9	13.82	0.12875
75	9	12.77	0.17333

Test No.	DOF	ChiSqr	P-Value
76	9	10.76	0.29269
77	9	13.05	0.16043
78	9	10.19	0.33541
79	9	8.80	0.45588
80	9	12.38	0.19261
81	9	10.27	0.32916
82	9	7.13	0.62374
83	9	13.95	0.12394
84	9	7.53	0.58224
85	9	8.77	0.45910
86	9	8.16	0.51845
87	9	5.89	0.75041
88	9	10.41	0.31854
89	9	8.51	0.48345
90	9	12.30	0.19687
91	9	23.29	0.00557
92	9	11.54	0.24054
93	9	2.73	0.97404
94	9	13.40	0.14523
95	9	5.99	0.74142
96	9	4.06	0.90743
97	9	9.07	0.43121
98	9	14.75	0.09800
99	9	10.79	0.29036
100	9	12.32	0.19605
Combined P-value for all tests (Using KS method)			0.18324

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	90.87	0.28512
2	84	84.13	0.47542
3	84	85.95	0.42053
4	84	95.53	0.18338
5	84	93.56	0.22302
6	84	71.63	0.82994
7	84	108.46	0.03751
8	84	78.53	0.64783
9	84	101.32	0.09601
10	84	85.50	0.43391
11	84	91.37	0.27296
12	84	77.88	0.66720
13	84	85.80	0.42500
14	84	80.48	0.58843
15	84	85.62	0.43021
16	84	80.78	0.57941
17	84	85.34	0.43874
18	84	102.84	0.07958
19	84	80.81	0.57831
20	84	75.23	0.74219
21	84	89.32	0.32510
22	84	84.83	0.45411
23	84	81.09	0.56972
24	84	85.53	0.43296
25	84	82.88	0.51408
26	84	76.27	0.71360
27	84	72.05	0.82069
28	84	84.41	0.46701

Test No.	DOF	ChiSqr	P-Value
29	84	55.71	0.99261
30	84	97.78	0.14437
31	84	84.40	0.46708
32	84	71.38	0.83527
33	84	117.98	0.00858
34	84	87.04	0.38851
35	84	73.26	0.79248
36	84	95.59	0.18223
37	84	84.07	0.47721
38	84	59.63	0.97971
39	84	69.87	0.86559
40	84	81.05	0.57082
41	84	61.29	0.97047
42	84	71.03	0.84268
43	84	118.74	0.00755
44	84	90.98	0.28254
45	84	72.47	0.81101
46	84	102.87	0.07932
47	84	83.92	0.48198
48	84	83.59	0.49214
49	84	70.97	0.84382
50	84	79.33	0.62372
51	84	80.86	0.57679
52	84	77.38	0.68193
53	84	96.61	0.16386
54	84	99.77	0.11529
55	84	89.66	0.31624
56	84	99.47	0.11941
57	84	94.16	0.21029
58	84	63.82	0.95051
59	84	93.65	0.22111

Test No.	DOF	ChiSqr	P-Value
60	84	77.14	0.68896
61	84	83.34	0.49988
62	84	95.59	0.18218
63	84	71.40	0.83486
64	84	86.47	0.40510
65	84	87.15	0.38533
66	84	82.61	0.52244
67	84	86.76	0.39663
68	84	67.94	0.89902
69	84	80.33	0.59312
70	84	101.39	0.09515
71	84	114.69	0.01467
72	84	74.62	0.75832
73	84	80.41	0.59075
74	84	75.56	0.73329
75	84	64.35	0.94529
76	84	106.93	0.04650
77	84	103.56	0.07266
78	84	91.45	0.27112
79	84	103.33	0.07484
80	84	74.96	0.74936
81	84	83.70	0.48858
82	84	70.26	0.85814
83	84	71.85	0.82512
84	84	104.27	0.06635
85	84	90.51	0.29432
86	84	99.09	0.12468
87	84	80.52	0.58719
88	84	69.24	0.87723
89	84	103.50	0.07326
90	84	74.04	0.77300

Test No.	DOF	ChiSqr	P-Value
91	84	71.83	0.82556
92	84	86.33	0.40935
93	84	74.55	0.75998
94	84	91.89	0.26062
95	84	89.55	0.31919
96	84	104.81	0.06180
97	84	88.80	0.33904
98	84	104.46	0.06474
99	84	77.27	0.68503
100	84	90.94	0.28339
Combined P-value for all tests (Using KS method)			0.57888

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 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	18.09	0.64310
2	7	21	13.06	0.90652
3	7	21	10.28	0.97508
4	7	21	28.39	0.12933
5	7	21	30.22	0.08767
6	7	21	21.52	0.42764
7	7	21	17.30	0.69282
8	7	21	24.43	0.27273
9	7	21	19.18	0.57367
10	7	21	21.37	0.43643
11	7	21	24.93	0.25041

Test No.	Positions	DOF	ChiSqr	P-Value
12	7	21	17.89	0.65600
13	7	21	18.28	0.63132
14	7	21	25.94	0.20866
15	7	21	18.68	0.60590
16	7	21	15.80	0.78105
17	7	21	22.35	0.37971
18	7	21	14.78	0.83398
19	7	21	21.51	0.42844
20	7	21	30.00	0.09208
21	7	21	16.71	0.72849
22	7	21	16.88	0.71842
23	7	21	16.30	0.75269
24	7	21	35.44	0.02525
25	7	21	23.62	0.31173
26	7	21	16.42	0.74542
27	7	21	27.65	0.15040
28	7	21	25.98	0.20723
29	7	21	16.09	0.76458
30	7	21	14.88	0.82901
31	7	21	22.81	0.35424
32	7	21	30.40	0.08422
33	7	21	14.96	0.82508
34	7	21	31.10	0.07208
35	7	21	11.05	0.96177
36	7	21	24.12	0.28725
37	7	21	18.72	0.60291
38	7	21	29.59	0.10057
39	7	21	13.82	0.87725
40	7	21	18.15	0.63970
41	7	21	20.43	0.49444
42	7	21	19.40	0.55927

Test No.	Positions	DOF	ChiSqr	P-Value
43	7	21	22.37	0.37847
44	7	21	14.60	0.84244
45	7	21	22.19	0.38890
46	7	21	31.53	0.06535
47	7	21	18.32	0.62884
48	7	21	15.81	0.78000
49	7	21	24.56	0.26686
50	7	21	11.36	0.95532
51	7	21	15.76	0.78294
52	7	21	35.21	0.02676
53	7	21	13.10	0.90522
54	7	21	18.23	0.63422
55	7	21	25.05	0.24512
56	7	21	25.78	0.21484
57	7	21	22.35	0.37942
58	7	21	21.96	0.40194
59	7	21	14.40	0.85158
60	7	21	16.34	0.75003
61	7	21	15.01	0.82242
62	7	21	28.29	0.13199
63	7	21	25.11	0.24246
64	7	21	16.37	0.74853
65	7	21	22.94	0.34701
66	7	21	31.29	0.06890
67	7	21	13.74	0.88044
68	7	21	21.28	0.44215
69	7	21	14.35	0.85428
70	7	21	20.71	0.47691
71	7	21	19.83	0.53175
72	7	21	19.11	0.57833
73	7	21	25.92	0.20951

Test No.	Positions	DOF	ChiSqr	P-Value
74	7	21	20.21	0.50809
75	7	21	19.95	0.52431
76	7	21	25.29	0.23501
77	7	21	20.90	0.46483
78	7	21	30.33	0.08546
79	7	21	26.30	0.19515
80	7	21	14.16	0.86253
81	7	21	23.21	0.33283
82	7	21	17.97	0.65070
83	7	21	24.46	0.27128
84	7	21	16.59	0.73568
85	7	21	31.15	0.07118
86	7	21	13.42	0.89326
87	7	21	24.49	0.26980
88	7	21	14.56	0.84435
89	7	21	30.11	0.08986
90	7	21	14.87	0.82944
91	7	21	17.89	0.65594
92	7	21	20.51	0.48913
93	7	21	30.83	0.07646
94	7	21	20.78	0.47251
95	7	21	29.05	0.11284
96	7	21	21.64	0.42055
97	7	21	27.98	0.14074
98	7	21	20.14	0.51235
99	7	21	33.11	0.04500
100	7	21	17.24	0.69632
Combined P-value for all tests (Using KS method)				0.93084

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.

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	0.57888	1.00000
Suits Test	0.93084	1.00000
Hand Types Test	0.18324	0.54971
Combined P-Value using Holm's Method		0.54971

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.

5. 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.

Signed:



James Boje
Managing Director EMEA
Executive
Date: 25 May 2026
