

Poker Cards Analysis – July 2026

The Directors

Entain Plc

This is to confirm that iTech Labs has examined the game logs for Poker games for the period **July 01, 2026**, to **July 31, 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	6.51	0.68776
2	9	5.47	0.79121
3	9	8.12	0.52225
4	9	2.85	0.97008
5	9	7.11	0.62562
6	9	17.76	0.03808
7	9	8.20	0.51374
8	9	16.26	0.06172
9	9	14.64	0.10136
10	9	10.47	0.31412
11	9	7.56	0.57897
12	9	18.05	0.03464
13	9	20.21	0.01663

Test No.	DOF	ChiSqr	P-Value
14	9	10.26	0.32970
15	9	9.90	0.35871
16	9	6.11	0.72923
17	9	4.08	0.90628
18	9	4.64	0.86410
19	9	5.89	0.75128
20	9	6.50	0.68880
21	9	9.82	0.36490
22	9	4.58	0.86943
23	9	15.34	0.08205
24	9	11.53	0.24118
25	9	6.05	0.73516
26	9	8.99	0.43781
27	9	11.54	0.24056
28	9	6.01	0.73869
29	9	2.76	0.97319
30	9	8.26	0.50817
31	9	7.40	0.59567
32	9	6.80	0.65830
33	9	13.61	0.13700
34	9	6.51	0.68791
35	9	12.35	0.19421
36	9	10.66	0.30007
37	9	8.61	0.47427
38	9	13.93	0.12471
39	9	7.33	0.60317
40	9	11.79	0.22539
41	9	11.69	0.23111
42	9	6.14	0.72540
43	9	6.75	0.66308
44	9	18.16	0.03341

Test No.	DOF	ChiSqr	P-Value
45	9	10.13	0.33967
46	9	8.95	0.44152
47	9	10.97	0.27782
48	9	3.13	0.95885
49	9	4.65	0.86402
50	9	8.13	0.52072
51	9	4.44	0.88016
52	9	7.25	0.61072
53	9	5.53	0.78551
54	9	9.92	0.35661
55	9	15.92	0.06852
56	9	5.85	0.75466
57	9	6.79	0.65920
58	9	13.46	0.14267
59	9	11.95	0.21641
60	9	11.04	0.27297
61	9	7.62	0.57279
62	9	12.56	0.18345
63	9	4.64	0.86431
64	9	19.08	0.02451
65	9	8.20	0.51396
66	9	18.60	0.02883
67	9	7.84	0.55033
68	9	11.94	0.21655
69	9	8.46	0.48818
70	9	5.32	0.80585
71	9	6.72	0.66580
72	9	4.60	0.86784
73	9	2.30	0.98585
74	9	7.13	0.62378
75	9	7.86	0.54843

Test No.	DOF	ChiSqr	P-Value
76	9	5.87	0.75247
77	9	10.75	0.29348
78	9	18.05	0.03459
79	9	10.07	0.34515
80	9	5.43	0.79549
81	9	6.35	0.70491
82	9	8.70	0.46535
83	9	5.97	0.74340
84	9	10.74	0.29410
85	9	10.96	0.27821
86	9	11.42	0.24794
87	9	13.71	0.13287
88	9	5.37	0.80080
89	9	3.44	0.94406
90	9	6.92	0.64497
91	9	7.67	0.56722
92	9	3.64	0.93370
93	9	15.64	0.07472
94	9	14.26	0.11342
95	9	11.48	0.24419
96	9	9.61	0.38303
97	9	13.47	0.14246
98	9	6.12	0.72801
99	9	12.33	0.19518
100	9	15.24	0.08452
Combined P-value for all tests (Using KS method)			0.91173

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	70.45	0.85441
2	84	68.46	0.89053
3	84	91.92	0.25991
4	84	108.72	0.03614
5	84	70.05	0.86215
6	84	80.95	0.57407
7	84	87.65	0.37098
8	84	105.24	0.05841
9	84	74.30	0.76646
10	84	58.94	0.98278
11	84	104.87	0.06134
12	84	106.97	0.04624
13	84	105.82	0.05405
14	84	78.26	0.65587
15	84	89.80	0.31250
16	84	109.28	0.03339
17	84	99.68	0.11653
18	84	78.39	0.65220
19	84	89.68	0.31556
20	84	86.32	0.40965
21	84	103.22	0.07592
22	84	63.91	0.94969
23	84	71.48	0.83305
24	84	89.66	0.31622
25	84	80.32	0.59334
26	84	98.34	0.13572
27	84	81.79	0.54792
28	84	102.15	0.08670

Test No.	DOF	ChiSqr	P-Value
29	84	86.60	0.40137
30	84	75.83	0.72575
31	84	89.50	0.32040
32	84	82.33	0.53117
33	84	67.86	0.90019
34	84	73.92	0.77616
35	84	86.59	0.40167
36	84	74.50	0.76143
37	84	86.08	0.41675
38	84	68.75	0.88577
39	84	53.90	0.99567
40	84	80.73	0.58082
41	84	78.16	0.65908
42	84	90.47	0.29525
43	84	89.37	0.32389
44	84	89.70	0.31507
45	84	102.91	0.07886
46	84	83.49	0.49521
47	84	101.53	0.09356
48	84	65.34	0.93450
49	84	76.71	0.70115
50	84	87.48	0.37603
51	84	86.22	0.41245
52	84	86.70	0.39828
53	84	111.14	0.02540
54	84	87.43	0.37728
55	84	101.64	0.09231
56	84	89.18	0.32892
57	84	84.02	0.47879
58	84	94.37	0.20608
59	84	69.18	0.87832

Test No.	DOF	ChiSqr	P-Value
60	84	73.16	0.79492
61	84	73.10	0.79621
62	84	79.86	0.60775
63	84	69.31	0.87595
64	84	90.22	0.30163
65	84	71.23	0.83834
66	84	82.25	0.53361
67	84	88.02	0.36069
68	84	68.55	0.88905
69	84	87.90	0.36410
70	84	83.52	0.49429
71	84	72.82	0.80298
72	84	84.00	0.47954
73	84	108.46	0.03752
74	84	76.84	0.69756
75	84	96.47	0.16631
76	84	108.55	0.03705
77	84	65.31	0.93481
78	84	63.63	0.95228
79	84	69.43	0.87372
80	84	87.96	0.36233
81	84	77.57	0.67626
82	84	103.84	0.07011
83	84	67.98	0.89836
84	84	78.52	0.64812
85	84	97.37	0.15101
86	84	106.68	0.04809
87	84	90.89	0.28475
88	84	66.46	0.92051
89	84	84.81	0.45471
90	84	61.12	0.97155

Test No.	DOF	ChiSqr	P-Value
91	84	74.92	0.75033
92	84	86.31	0.40975
93	84	75.69	0.72956
94	84	55.79	0.99244
95	84	90.18	0.30269
96	84	93.62	0.22171
97	84	100.08	0.11128
98	84	82.52	0.52532
99	84	94.70	0.19936
100	84	104.38	0.06536
Combined P-value for all tests (Using KS method)			0.64053

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	25.00	0.24704
2	7	21	10.48	0.97206
3	7	21	22.63	0.36404
4	7	21	21.45	0.43150
5	7	21	16.64	0.73288
6	7	21	21.06	0.45536
7	7	21	31.61	0.06409
8	7	21	21.78	0.41203
9	7	21	14.56	0.84459
10	7	21	26.87	0.17526
11	7	21	29.34	0.10619

Test No.	Positions	DOF	ChiSqr	P-Value
12	7	21	14.36	0.85355
13	7	21	33.90	0.03718
14	7	21	21.89	0.40613
15	7	21	23.07	0.34042
16	7	21	34.25	0.03409
17	7	21	16.77	0.72471
18	7	21	10.31	0.97456
19	7	21	23.61	0.31216
20	7	21	25.47	0.22718
21	7	21	21.93	0.40383
22	7	21	30.51	0.08228
23	7	21	24.88	0.25220
24	7	21	10.30	0.97469
25	7	21	18.62	0.60932
26	7	21	24.20	0.28354
27	7	21	32.76	0.04897
28	7	21	31.74	0.06221
29	7	21	23.43	0.32140
30	7	21	18.96	0.58802
31	7	21	16.84	0.72057
32	7	21	25.97	0.20764
33	7	21	30.88	0.07574
34	7	21	27.75	0.14741
35	7	21	16.94	0.71484
36	7	21	31.42	0.06700
37	7	21	28.39	0.12937
38	7	21	22.94	0.34706
39	7	21	16.90	0.71739
40	7	21	19.43	0.55782
41	7	21	14.78	0.83374
42	7	21	16.83	0.72110

Test No.	Positions	DOF	ChiSqr	P-Value
43	7	21	21.09	0.45330
44	7	21	20.13	0.51282
45	7	21	16.03	0.76769
46	7	21	22.45	0.37389
47	7	21	18.65	0.60759
48	7	21	20.16	0.51145
49	7	21	18.68	0.60547
50	7	21	25.76	0.21570
51	7	21	16.11	0.76360
52	7	21	14.68	0.83880
53	7	21	16.44	0.74429
54	7	21	24.92	0.25060
55	7	21	16.85	0.72040
56	7	21	22.14	0.39157
57	7	21	25.21	0.23810
58	7	21	9.62	0.98342
59	7	21	19.15	0.57578
60	7	21	17.42	0.68551
61	7	21	16.75	0.72607
62	7	21	20.94	0.46275
63	7	21	11.92	0.94175
64	7	21	22.86	0.35132
65	7	21	28.89	0.11664
66	7	21	21.66	0.41928
67	7	21	28.55	0.12533
68	7	21	17.72	0.66638
69	7	21	23.88	0.29894
70	7	21	13.88	0.87457
71	7	21	30.63	0.08010
72	7	21	22.93	0.34763
73	7	21	28.17	0.13528

Test No.	Positions	DOF	ChiSqr	P-Value
74	7	21	22.66	0.36234
75	7	21	18.53	0.61506
76	7	21	27.59	0.15215
77	7	21	11.64	0.94888
78	7	21	28.06	0.13852
79	7	21	25.04	0.24533
80	7	21	18.21	0.63574
81	7	21	31.03	0.07313
82	7	21	21.52	0.42745
83	7	21	16.55	0.73785
84	7	21	25.12	0.24189
85	7	21	22.90	0.34924
86	7	21	17.83	0.65981
87	7	21	25.69	0.21865
88	7	21	24.29	0.27940
89	7	21	20.32	0.50082
90	7	21	29.94	0.09324
91	7	21	12.01	0.93934
92	7	21	20.07	0.51697
93	7	21	17.00	0.71103
94	7	21	24.38	0.27504
95	7	21	26.42	0.19105
96	7	21	12.77	0.91660
97	7	21	22.73	0.35839
98	7	21	14.64	0.84035
99	7	21	18.23	0.63439
100	7	21	13.75	0.88024
Combined P-value for all tests (Using KS method)				0.39745

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	0.64053	1.00000
Suits Test	0.39745	1.00000
Hand Types Test	0.91173	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.

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: 27 08 2026