

## Poker Cards Analysis – May 2026

### The Directors

Entain Plc

This is to confirm that iTech Labs has examined the game logs for Poker games for the period **May 01, 2026, to May 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	9.94	0.35521
2	9	4.99	0.83512
3	9	10.57	0.30654
4	9	5.60	0.77883
5	9	2.15	0.98884
6	9	14.73	0.09856
7	9	11.62	0.23533
8	9	6.19	0.72081
9	9	6.19	0.72095
10	9	3.62	0.93437
11	9	4.24	0.89483
12	9	12.90	0.16720
13	9	13.32	0.14875

Test No.	DOF	ChiSqr	P-Value
14	9	9.33	0.40737
15	9	16.51	0.05705
16	9	16.63	0.05491
17	9	10.26	0.33007
18	9	10.52	0.31007
19	9	8.86	0.45074
20	9	6.77	0.66094
21	9	19.64	0.02025
22	9	8.76	0.45957
23	9	8.61	0.47379
24	9	11.87	0.22073
25	9	9.73	0.37246
26	9	2.65	0.97661
27	9	19.55	0.02088
28	9	4.55	0.87126
29	9	13.99	0.12281
30	9	4.29	0.89117
31	9	11.93	0.21748
32	9	6.25	0.71459
33	9	5.87	0.75264
34	9	5.80	0.75999
35	9	2.90	0.96812
36	9	5.44	0.79474
37	9	14.63	0.10160
38	9	4.93	0.84056
39	9	15.69	0.07361
40	9	7.04	0.63310
41	9	6.34	0.70525
42	9	9.28	0.41170
43	9	5.96	0.74395
44	9	12.15	0.20485

Test No.	DOF	ChiSqr	P-Value
45	9	7.53	0.58254
46	9	2.41	0.98324
47	9	7.43	0.59242
48	9	4.14	0.90173
49	9	13.39	0.14593
50	9	6.97	0.64051
51	9	5.78	0.76136
52	9	1.98	0.99175
53	9	9.85	0.36244
54	9	16.07	0.06547
55	9	6.98	0.63945
56	9	11.14	0.26635
57	9	10.61	0.30358
58	9	11.84	0.22274
59	9	22.79	0.00670
60	9	10.06	0.34555
61	9	5.50	0.78850
62	9	6.16	0.72415
63	9	9.64	0.38052
64	9	0.69	0.99988
65	9	3.95	0.91459
66	9	4.15	0.90135
67	9	12.37	0.19341
68	9	6.34	0.70570
69	9	3.06	0.96187
70	9	4.52	0.87406
71	9	7.11	0.62576
72	9	6.29	0.71047
73	9	17.36	0.04335
74	9	7.51	0.58438
75	9	6.78	0.66023

Test No.	DOF	ChiSqr	P-Value
76	9	9.31	0.40944
77	9	10.60	0.30417
78	9	7.91	0.54295
79	9	11.53	0.24130
80	9	6.09	0.73077
81	9	7.99	0.53532
82	9	4.96	0.83761
83	9	16.10	0.06477
84	9	7.42	0.59355
85	9	11.00	0.27581
86	9	7.78	0.55603
87	9	4.03	0.90965
88	9	4.59	0.86837
89	9	12.15	0.20522
90	9	19.19	0.02360
91	9	6.42	0.69683
92	9	6.31	0.70850
93	9	14.84	0.09533
94	9	4.17	0.90017
95	9	4.56	0.87119
96	9	12.74	0.17492
97	9	6.07	0.73294
98	9	7.70	0.56430
99	9	13.25	0.15163
100	9	7.25	0.61061
Combined P-value for all tests (Using KS method)			0.29100

*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	90.39	0.29721
2	84	71.07	0.84170
3	84	54.46	0.99486
4	84	89.11	0.33074
5	84	89.93	0.30913
6	84	100.16	0.11019
7	84	100.17	0.11003
8	84	59.07	0.98223
9	84	64.67	0.94195
10	84	80.09	0.60055
11	84	90.48	0.29514
12	84	69.34	0.87543
13	84	91.07	0.28029
14	84	105.67	0.05517
15	84	103.85	0.07001
16	84	90.74	0.28854
17	84	94.65	0.20042
18	84	79.69	0.61272
19	84	83.49	0.49509
20	84	86.93	0.39182
21	84	84.03	0.47861
22	84	76.65	0.70280
23	84	78.77	0.64072
24	84	72.57	0.80872
25	84	95.67	0.18068

26	84	95.04	0.19278
27	84	98.04	0.14037
28	84	101.74	0.09119

Test No.	DOF	ChiSqr	P-Value
29	84	68.51	0.88970
30	84	87.84	0.36572
31	84	72.94	0.79996
32	84	88.65	0.34318
33	84	92.28	0.25146
34	84	106.52	0.04914
35	84	120.81	0.00528
36	84	68.92	0.88275
37	84	83.44	0.49676
38	84	72.14	0.81851
39	84	96.54	0.16508
40	84	74.09	0.77181
41	84	86.89	0.39291
42	84	78.59	0.64618
43	84	85.18	0.44363
44	84	98.78	0.12924
45	84	96.92	0.15847
46	84	110.66	0.02728
47	84	75.32	0.73976
48	84	94.35	0.20653
49	84	72.77	0.80406
50	84	92.88	0.23786
51	84	84.67	0.45910
52	84	89.02	0.33321
53	84	80.59	0.58512
54	84	86.88	0.39319
55	84	82.94	0.51210
56	84	80.52	0.58745

57	84	69.38	0.87459
58	84	84.62	0.46059
59	84	101.15	0.09796

Test No.	DOF	ChiSqr	P-Value
60	84	95.14	0.19074
61	84	80.52	0.58741
62	84	75.98	0.72153
63	84	74.38	0.76449
64	84	89.61	0.31757
65	84	105.93	0.05322
66	84	72.81	0.80324
67	84	93.50	0.22423
68	84	94.44	0.20468
69	84	60.87	0.97307
70	84	83.91	0.48227
71	84	91.71	0.26472
72	84	80.55	0.58643
73	84	92.66	0.24268
74	84	78.03	0.66294
75	84	86.62	0.40066
76	84	84.14	0.47507
77	84	84.07	0.47732
78	84	95.33	0.18715
79	84	96.80	0.16060
80	84	92.32	0.25045
81	84	86.53	0.40338
82	84	84.30	0.47026
83	84	81.48	0.55772
84	84	86.66	0.39960
85	84	82.06	0.53968
86	84	94.06	0.21232
87	84	94.23	0.20883

88	84	85.29	0.44007
89	84	72.67	0.80636
90	84	74.73	0.75526

Test No.	DOF	ChiSqr	P-Value
91	84	70.75	0.84830
92	84	82.68	0.52036
93	84	90.80	0.28699
94	84	83.45	0.49636
95	84	97.34	0.15152
96	84	94.40	0.20547
97	84	98.26	0.13691
98	84	72.32	0.81456
99	84	69.29	0.87622
100	84	96.91	0.15858
Combined P-value for all tests (Using KS method)			0.08849

**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	15.35	0.80498
2	7	21	22.23	0.38615
3	7	21	19.93	0.52594
4	7	21	35.54	0.02464
5	7	21	21.39	0.43528
6	7	21	24.21	0.28289
7	7	21	16.01	0.76919

8	7	21	30.10	0.08993
9	7	21	30.40	0.08419
10	7	21	18.72	0.60316
11	7	21	21.50	0.42900
Test No.	Positions	DOF	ChiSqr	P-Value
12	7	21	10.08	0.97791
13	7	21	21.77	0.41277
14	7	21	13.98	0.87051
15	7	21	20.14	0.51214
16	7	21	27.17	0.16537
17	7	21	9.82	0.98112
18	7	21	20.61	0.48322
19	7	21	20.20	0.50863
20	7	21	29.47	0.10326
21	7	21	22.96	0.34605
22	7	21	19.78	0.53510
23	7	21	40.63	0.00622
24	7	21	22.80	0.35452
25	7	21	17.21	0.69842
26	7	21	15.12	0.81701
27	7	21	13.18	0.90219
28	7	21	23.36	0.32528
29	7	21	25.70	0.21805
30	7	21	20.85	0.46821
31	7	21	13.10	0.90491
32	7	21	20.59	0.48446
33	7	21	26.83	0.17671
34	7	21	13.29	0.89800
35	7	21	20.02	0.52009
36	7	21	39.09	0.00957
37	7	21	17.54	0.67785
38	7	21	30.21	0.08781
39	7	21	23.55	0.31513

40	7	21	21.38	0.43585
41	7	21	15.57	0.79352
42	7	21	22.00	0.39924

Test No.	Positions	DOF	ChiSqr	P-Value
43	7	21	18.90	0.59139
44	7	21	18.89	0.59209
45	7	21	11.03	0.96228
46	7	21	22.29	0.38278
47	7	21	29.75	0.09708
48	7	21	20.92	0.46387
49	7	21	22.90	0.34930
50	7	21	20.52	0.48831
51	7	21	13.43	0.89272
52	7	21	28.98	0.11451
53	7	21	15.23	0.81133
54	7	21	31.35	0.06804
55	7	21	22.87	0.35116
56	7	21	15.34	0.80551
57	7	21	11.33	0.95588
58	7	21	17.08	0.70595
59	7	21	22.03	0.39765
60	7	21	18.95	0.58810
61	7	21	24.51	0.26905
62	7	21	22.20	0.38809
63	7	21	24.97	0.24848
64	7	21	24.05	0.29042
65	7	21	20.80	0.47093
66	7	21	23.95	0.29529
67	7	21	17.67	0.66959
68	7	21	29.23	0.10857
69	7	21	25.13	0.24152
70	7	21	16.66	0.73179

71	7	21	18.46	0.62005
72	7	21	16.11	0.76325
73	7	21	17.57	0.67623

Test No.	Positions	DOF	ChiSqr	P-Value
74	7	21	28.92	0.11601
75	7	21	18.43	0.62135
76	7	21	28.48	0.12718
77	7	21	28.14	0.13624
78	7	21	29.41	0.10460
79	7	21	22.05	0.39642
80	7	21	20.25	0.50548
81	7	21	18.34	0.62742
82	7	21	25.53	0.22513
83	7	21	18.08	0.64413
84	7	21	20.72	0.47591
85	7	21	18.71	0.60367
86	7	21	27.88	0.14360
87	7	21	23.59	0.31317
88	7	21	16.57	0.73678
89	7	21	20.24	0.50593
90	7	21	25.17	0.24004
91	7	21	19.74	0.53749
92	7	21	15.04	0.82105
93	7	21	14.60	0.84255
94	7	21	14.81	0.83256
95	7	21	30.47	0.08294
96	7	21	16.17	0.76028
97	7	21	21.90	0.40542
98	7	21	18.75	0.60132
99	7	21	14.83	0.83126
100	7	21	15.75	0.78329

Combined P-value for all tests (Using KS method)	0.81632
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*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	0.08849	0.26548
Suits Test	0.81632	0.81632
Hand Types Test	0.29100	0.58200
<b>Combined P-Value using Holm's Method</b>		0.26584

*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: 23 06 2026**