



Poker Card Analysis

The Directors

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This is to confirm that [iTech Labs](#) has examined the game logs for Poker games for the period October 1, 2006 to December, 2006 as recorded by the respective game servers. [iTech Labs](#) has also analyzed the Poker cards for statistical randomness. The results of the analysis are given below.

URLs: www.888.com, www.pacificpoker.com

The following tables compare the observed proportion of times the various types of events occurred (**Sample** column). **Probability** shows the theoretical values. **Lower** and **Upper** are the 95% confidence limits.

Actual and theoretical probabilities for various Poker hands

Hands	Theoretical Probability	Lower	Sample	Upper
Royal Flush	0.000032	0.000018	0.000030	0.000047
Straight Flush	0.000279	0.000239	0.000303	0.000326
4 of a kind	0.001681	0.001578	0.001673	0.001787
Full House	0.025961	0.025559	0.025872	0.026365
Flush	0.030255	0.029818	0.030205	0.030686
Straight	0.046194	0.045660	0.046178	0.046724
3 of a kind	0.048299	0.047759	0.048062	0.048846
2 pairs	0.234955	0.233888	0.235532	0.236035
1 pair	0.438225	0.436974	0.438913	0.439487
High card	0.174119	0.173161	0.173232	0.175082

Calculations using live cards:

Notes:

- In the above table, all numbers in the **Sample** column (observed probabilities) lie within 95% confidence intervals.
- The probability of 0.438225 means there are 43,822 chances in 100,000 for getting a pair.

Actual and theoretical probabilities for Ranks

Rank	Theoretical Probability	Lower	Sample	Upper
A	0.077	0.076776	0.0768704	0.07707
2	0.077	0.076776	0.0770665	0.07707
3	0.077	0.076776	0.0769082	0.07707
4	0.077	0.076776	0.0769059	0.07707
5	0.077	0.076776	0.0768696	0.07707
6	0.077	0.076776	0.0768798	0.07707
7	0.077	0.076776	0.0769183	0.07707
8	0.077	0.076776	0.0769360	0.07707
9	0.077	0.076776	0.0769787	0.07707
10	0.077	0.076776	0.0769113	0.07707
J	0.077	0.076776	0.0768231	0.07707

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Q	0.077	0.076776	0.0769266	0.07707
K	0.077	0.076776	0.0770057	0.07707

Calculations using live cards:

Notes:

- a) In the above table, all numbers in the **Sample** column (observed probabilities) lie within 95% confidence intervals.
- b) Theoretical probability of 0.077 means, there are 7.7 chances for any particular rank to occur in 100 cards.

Actual and theoretical probabilities for suits

Suite	Theoretical Probability	Lower	Sample	Upper
Clubs	0.25	0.249761	0.249968	0.250239
Diamonds	0.25	0.249761	0.249926	0.250239
Hearts	0.25	0.249761	0.250120	0.250239
Spade	0.25	0.249761	0.249986	0.250239

Calculations using live cards:

Notes:

- c) In the above table, all numbers in the **Sample** column (observed probabilities) lie within 95% confidence intervals.
- d) Theoretical probability of 0.25 means, there are 25 chances for any particular suite to occur in 100 cards.

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. For each of the analysis shown above, there were sufficient game records to make the actual calculation statistically meaningful.

Conclusion: Calculations for probabilities for various hands indicated statistical randomness. Calculations for distribution of cards (ranks and suits) also indicated statistical randomness. All observed probabilities for both calculations were within 95% confidence limits of the theoretical probabilities. iTech Labs concludes that the Random Number Generator is operating correctly and the random numbers are being used in a fair manner.

The scope of the review did not include reviews of financial controls or casino operations. We believe that the probabilities were calculated correctly from the game logs.

Signed:

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Date: May 31, 2007

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.