

## Poker Cards Analysis - October 2020

### The Directors

GVC Plc

This is to confirm that iTech Labs has examined the game logs for Poker games for the period **October 01, 2020** to **October 31, 2020** 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 GVC 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	6.20	0.71999
2	9	7.00	0.63674
3	9	5.29	0.80835
4	9	8.05	0.52917
5	9	13.37	0.14653
6	9	8.84	0.45218
7	9	11.82	0.22392
8	9	7.47	0.58812
9	9	9.34	0.40634
10	9	11.77	0.22655
11	9	5.99	0.74131
12	9	12.43	0.18998
13	9	18.76	0.02732
14	9	9.33	0.40708
15	9	23.55	0.00506
16	9	6.25	0.71453
17	9	11.28	0.25717
18	9	9.67	0.37785
19	9	5.16	0.82004
20	9	12.77	0.17341
21	9	7.59	0.57606
22	9	5.36	0.80141
23	9	6.42	0.69687
24	9	21.45	0.01078
25	9	19.67	0.02009

26	9	3.63	0.93418
27	9	9.03	0.43455
28	9	7.22	0.61376
29	9	4.72	0.85777
30	9	13.76	0.13113
31	9	6.04	0.73619
32	9	10.09	0.34351
33	9	10.06	0.34566
34	9	11.82	0.22383
35	9	16.87	0.05076
36	9	10.27	0.32909
37	9	8.82	0.45401
38	9	12.29	0.19732
39	9	4.61	0.86683
40	9	3.61	0.93500
41	9	5.59	0.77989
42	9	14.27	0.11289
43	9	14.30	0.11221
44	9	3.08	0.96104
45	9	12.95	0.16479
46	9	5.10	0.82532
47	9	4.40	0.88312
48	9	5.97	0.74317
49	9	10.15	0.33866
50	9	7.42	0.59328
51	9	15.17	0.08625
52	9	7.73	0.56168
53	9	11.60	0.23677
54	9	9.94	0.35549
55	9	7.30	0.60641
56	9	9.61	0.38286
57	9	8.78	0.45783
58	9	9.15	0.42397
59	9	11.36	0.25170
60	9	7.88	0.54615
61	9	18.60	0.02878
62	9	7.10	0.62625
63	9	9.18	0.42099
64	9	6.58	0.68114
65	9	6.29	0.71075
66	9	10.42	0.31776
67	9	5.91	0.74933
68	9	11.54	0.24047
69	9	7.57	0.57824
70	9	6.96	0.64098
71	9	12.03	0.21183
72	9	8.99	0.43814
73	9	15.98	0.06733
74	9	18.58	0.02902
75	9	15.00	0.09088
76	9	8.91	0.44548
77	9	13.31	0.14921
78	9	6.70	0.66797
79	9	10.81	0.28874
80	9	10.39	0.31952

81	9	14.88	0.09429
82	9	12.82	0.17074
83	9	13.84	0.12805
84	9	15.78	0.07153
85	9	13.62	0.13658
86	9	12.39	0.19216
87	9	11.64	0.23439
88	9	6.94	0.64372
89	9	13.06	0.15971
90	9	1.61	0.99625
91	9	6.77	0.66073
92	9	8.64	0.47115
93	9	7.16	0.62072
94	9	6.07	0.73254
95	9	10.07	0.34475
96	9	8.93	0.44414
97	9	7.40	0.59566
98	9	9.47	0.39543
99	9	6.39	0.70081
100	9	8.39	0.49550
Combined P-value for all tests (Using KS method)			0.10067

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.

## 1.2 Poker hand types statistics for 36 cards deck:

Test No.	DOF	ChiSqr	P-Value
1	9	13.53	0.14000
2	9	23.29	0.00557
3	9	20.64	0.01436
4	9	8.41	0.49345
5	9	10.83	0.28768
6	9	12.48	0.18735
7	9	8.69	0.46667
8	9	2.70	0.97499
9	9	9.41	0.40019
10	9	14.05	0.12060
11	9	19.43	0.02181
12	9	4.61	0.86728
13	9	7.36	0.59958
14	9	2.52	0.98044
Combined P-value for all tests (Using KS method)			0.77529

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 and 9 ranks (6, 7, 8, 9, 10, J, Q, K, A) for a 36 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.	Positions	DOF	ChiSqr	P-Value
1	7	84	88.73	0.34115
2	7	84	66.60	0.91868
3	7	84	86.43	0.40619
4	7	84	98.17	0.13825
5	7	84	111.52	0.02399
6	7	84	62.63	0.96087
7	7	84	91.72	0.26460
8	7	84	92.80	0.23955
9	7	84	71.10	0.84114
10	7	84	77.75	0.67110
11	7	84	89.53	0.31963
12	7	84	82.10	0.53818
13	7	84	89.36	0.32418
14	7	84	75.83	0.72575
15	7	84	99.97	0.11263
16	7	84	66.39	0.92145
17	7	84	89.74	0.31397
18	7	84	76.65	0.70272
19	7	84	90.86	0.28540
20	7	84	88.21	0.35549
21	7	84	81.45	0.55848
22	7	84	62.49	0.96199
23	7	84	103.93	0.06928
24	7	84	81.59	0.55412
25	7	84	75.24	0.74176
26	7	84	91.01	0.28175
27	7	84	75.45	0.73607
28	7	84	84.12	0.47573
29	7	84	80.85	0.57707
30	7	84	96.14	0.17216
31	7	84	118.39	0.00800
32	7	84	75.03	0.74734
33	7	84	69.21	0.87776
34	7	84	100.01	0.11215
35	7	84	87.13	0.38594
36	7	84	85.46	0.43524
37	7	84	87.97	0.36204
38	7	84	89.25	0.32695
39	7	84	73.01	0.79847
40	7	84	81.92	0.54402
41	7	84	82.70	0.51980
42	7	84	68.21	0.89471
43	7	84	75.47	0.73569
44	7	84	77.78	0.67031
45	7	84	95.75	0.17920
46	7	84	60.75	0.97379

47	7	84	75.12	0.74490
48	7	84	90.61	0.29173
49	7	84	86.51	0.40394
50	7	84	81.92	0.54388
51	7	84	80.69	0.58217
52	7	84	117.73	0.00894
53	7	84	121.94	0.00433
54	7	84	62.63	0.96093
55	7	84	78.56	0.64706
56	7	84	77.96	0.66494
57	7	84	96.78	0.16091
58	7	84	111.87	0.02275
59	7	84	67.35	0.90797
60	7	84	105.55	0.05602
61	7	84	90.01	0.30709
62	7	84	100.29	0.10852
63	7	84	122.88	0.00367
64	7	84	75.88	0.72439
65	7	84	64.47	0.94411
66	7	84	84.31	0.46990
67	7	84	80.48	0.58861
68	7	84	84.25	0.47181
69	7	84	86.86	0.39371
70	7	84	73.08	0.79670
71	7	84	82.39	0.52943
72	7	84	52.84	0.99689
73	7	84	81.19	0.56670
74	7	84	70.99	0.84338
75	7	84	63.27	0.95556
76	7	84	106.42	0.04986
77	7	84	75.06	0.74672
78	7	84	86.56	0.40240
79	7	84	88.31	0.35262
80	7	84	92.76	0.24044
81	7	84	75.88	0.72445
82	7	84	68.18	0.89526
83	7	84	102.91	0.07886
84	7	84	92.91	0.23713
85	7	84	79.97	0.60423
86	7	84	93.74	0.21920
87	7	84	97.40	0.15051
88	7	84	79.46	0.61986
89	7	84	82.70	0.51957
90	7	84	76.83	0.69760
91	7	84	84.55	0.46276
92	7	84	63.27	0.95557
93	7	84	45.76	0.99979
94	7	84	82.35	0.53065
95	7	84	86.63	0.40045
96	7	84	82.71	0.51928
97	7	84	108.43	0.03769
98	7	84	103.85	0.07006
99	7	84	109.72	0.03128
100	7	84	70.92	0.84492

Combined P-value for all tests (Using KS method)	0.99214
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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.

**2.2 Poker rank statistics for 36 cards deck:**

Test No.	Positions	DOF	ChiSqr	P-Value
1	7	56	51.32	0.65220
2	7	56	48.44	0.75355
3	7	56	61.54	0.28456
4	7	56	46.49	0.81365
5	7	56	55.34	0.49965
6	7	56	83.25	0.01052
7	7	56	44.73	0.86036
8	7	56	47.02	0.79801
9	7	56	52.37	0.61291
10	7	56	47.52	0.78285
11	7	56	66.72	0.15463
12	7	56	46.51	0.81313
13	7	56	71.59	0.07832
14	7	56	55.61	0.48942
15	7	56	53.18	0.58214
16	7	56	50.53	0.68138
17	7	56	44.69	0.86139
18	7	56	72.41	0.06915
19	7	56	59.71	0.34257
20	7	56	43.75	0.88301
21	7	56	54.07	0.54819
22	7	56	54.41	0.53533
23	7	56	40.50	0.94089
24	7	56	54.44	0.53396
25	7	56	58.45	0.38544
26	7	56	67.48	0.13994
27	7	56	59.12	0.36218
28	7	56	53.82	0.55783
29	7	56	56.73	0.44763
30	7	56	69.99	0.09898
31	7	56	54.72	0.52341
32	7	56	58.59	0.38061
33	7	56	62.24	0.26390
34	7	56	53.86	0.55622
35	7	56	42.20	0.91385
36	7	56	59.96	0.33405
37	7	56	47.90	0.77099
38	7	56	53.35	0.57595
39	7	56	49.40	0.72102
40	7	56	52.39	0.61246
41	7	56	58.75	0.37519
42	7	56	76.06	0.03847
43	7	56	77.74	0.02889
44	7	56	54.76	0.52204
45	7	56	70.09	0.09763
46	7	56	35.72	0.98417
47	7	56	64.30	0.20882
48	7	56	49.66	0.71228

49	7	56	59.03	0.36526
50	7	56	57.26	0.42821
51	7	56	51.04	0.66259
52	7	56	66.84	0.15224
53	7	56	49.52	0.71708
54	7	56	44.06	0.87619
55	7	56	46.50	0.81331
56	7	56	50.58	0.67943
57	7	56	49.40	0.72123
58	7	56	65.55	0.17935
59	7	56	49.25	0.72638
60	7	56	49.04	0.73334
61	7	56	64.16	0.21210
62	7	56	38.74	0.96180
63	7	56	57.32	0.42603
64	7	56	40.07	0.94665
65	7	56	47.21	0.79223
66	7	56	65.41	0.18244
67	7	56	58.25	0.39263
68	7	56	47.73	0.77630
69	7	56	64.06	0.21481
70	7	56	74.21	0.05214
71	7	56	70.94	0.08625
72	7	56	56.43	0.45881
73	7	56	62.00	0.27080
74	7	56	53.04	0.58778
75	7	56	58.35	0.38901
76	7	56	55.64	0.48838
77	7	56	46.28	0.81952
78	7	56	59.75	0.34096
79	7	56	55.56	0.49144
80	7	56	64.43	0.20563
81	7	56	58.56	0.38159
82	7	56	56.56	0.45378
83	7	56	63.14	0.23866
84	7	56	59.57	0.34696
85	7	56	43.58	0.88670
86	7	56	69.67	0.10364
87	7	56	41.52	0.92561
88	7	56	55.96	0.47633
89	7	56	65.84	0.17291
90	7	56	38.95	0.95966
91	7	56	52.72	0.59977
92	7	56	64.58	0.20191
93	7	56	47.53	0.78260
94	7	56	45.24	0.84754
95	7	56	60.46	0.31808
96	7	56	57.56	0.41713
97	7	56	45.95	0.82866
98	7	56	53.59	0.56648
99	7	56	81.02	0.01603
100	7	56	51.95	0.62899
Combined P-value for all tests (Using KS method)				0.79373

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	27.90	0.14314
2	7	21	15.23	0.81105
3	7	21	37.96	0.01302
4	7	21	19.85	0.53078
5	7	21	12.73	0.91788
6	7	21	20.73	0.47566
7	7	21	26.95	0.17238
8	7	21	15.00	0.82300
9	7	21	23.39	0.32366
10	7	21	14.97	0.82439
11	7	21	27.11	0.16734
12	7	21	19.64	0.54442
13	7	21	14.37	0.85311
14	7	21	32.21	0.05569
15	7	21	16.44	0.74436
16	7	21	12.83	0.91451
17	7	21	23.90	0.29787
18	7	21	11.55	0.95104
19	7	21	27.34	0.15975
20	7	21	19.27	0.56784
21	7	21	12.69	0.91916
22	7	21	19.60	0.54665
23	7	21	17.91	0.65496
24	7	21	26.43	0.19052
25	7	21	16.26	0.75490
26	7	21	48.04	0.00068
27	7	21	24.10	0.28833
28	7	21	16.24	0.75581
29	7	21	17.41	0.68612
30	7	21	17.22	0.69773
31	7	21	16.62	0.73387
32	7	21	26.99	0.17126
33	7	21	10.25	0.97542
34	7	21	23.14	0.33650
35	7	21	21.74	0.41489
36	7	21	17.36	0.68895
37	7	21	29.88	0.09435
38	7	21	21.43	0.43312
39	7	21	22.35	0.37973
40	7	21	9.37	0.98601
41	7	21	19.14	0.57616
42	7	21	19.33	0.56389



43	7	21	24.26	0.28047
44	7	21	20.62	0.48224
45	7	21	25.68	0.21890
46	7	21	24.24	0.28167
47	7	21	22.08	0.39472
48	7	21	9.18	0.98772
49	7	21	32.01	0.05848
50	7	21	23.68	0.30875
51	7	21	19.30	0.56595
52	7	21	10.84	0.96589
53	7	21	15.08	0.81871
54	7	21	18.13	0.64074
55	7	21	20.15	0.51206
56	7	21	21.41	0.43423
57	7	21	25.94	0.20881
58	7	21	24.74	0.25863
59	7	21	23.90	0.29772
60	7	21	36.38	0.01979
61	7	21	28.03	0.13918
62	7	21	19.20	0.57229
63	7	21	20.37	0.49795
64	7	21	15.99	0.77009
65	7	21	19.14	0.57589
66	7	21	14.31	0.85593
67	7	21	17.12	0.70369
68	7	21	26.54	0.18678
69	7	21	22.61	0.36486
70	7	21	31.74	0.06224
71	7	21	33.10	0.04514
72	7	21	15.88	0.77610
73	7	21	8.56	0.99230
74	7	21	23.03	0.34247
75	7	21	26.32	0.19455
76	7	21	21.68	0.41834
77	7	21	47.21	0.00088
78	7	21	15.46	0.79945
79	7	21	25.65	0.22023
80	7	21	23.90	0.29806
81	7	21	33.60	0.03995
82	7	21	8.34	0.99352
83	7	21	24.95	0.24945
84	7	21	31.80	0.06140
85	7	21	19.72	0.53909
86	7	21	18.52	0.61620
87	7	21	35.57	0.02444
88	7	21	21.46	0.43128
89	7	21	28.91	0.11624
90	7	21	15.60	0.79148
91	7	21	33.12	0.04494
92	7	21	23.45	0.32038
93	7	21	20.17	0.51052
94	7	21	7.96	0.99531
95	7	21	22.22	0.38719
96	7	21	16.69	0.72952
97	7	21	17.43	0.68498

98	7	21	27.90	0.14290
99	7	21	27.91	0.14266
100	7	21	15.99	0.77024
Combined P-value for all tests (Using KS method)				0.79704

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.

### 3.2 Poker suits statistics for 36 cards deck:

Test No.	Positions	DOF	ChiSqr	P-Value
1	7	21	9.61	0.98357
2	7	21	20.26	0.50460
3	7	21	31.28	0.06912
4	7	21	22.47	0.37291
5	7	21	37.10	0.01639
6	7	21	32.11	0.05707
7	7	21	33.91	0.03703
8	7	21	13.72	0.88121
9	7	21	38.97	0.00990
10	7	21	14.22	0.86014
11	7	21	16.18	0.75938
12	7	21	24.71	0.25985
13	7	21	25.73	0.21701
14	7	21	15.84	0.77857
15	7	21	16.77	0.72491
16	7	21	10.14	0.97698
17	7	21	22.33	0.38052
18	7	21	30.80	0.07710
19	7	21	23.68	0.30895
20	7	21	11.41	0.95424
21	7	21	15.05	0.82054
22	7	21	17.12	0.70381
23	7	21	17.87	0.65709
24	7	21	17.30	0.69301
25	7	21	19.56	0.54926
26	7	21	19.69	0.54092
27	7	21	26.58	0.18533
28	7	21	15.36	0.80446
29	7	21	35.19	0.02688
30	7	21	24.70	0.26021
31	7	21	9.71	0.98247
32	7	21	19.87	0.52938
33	7	21	13.53	0.88911
34	7	21	11.94	0.94119
35	7	21	21.38	0.43604
36	7	21	21.55	0.42555
37	7	21	21.33	0.43876
38	7	21	13.89	0.87425
39	7	21	13.10	0.90513
40	7	21	32.75	0.04904
41	7	21	19.32	0.56462
42	7	21	25.63	0.22072
43	7	21	25.72	0.21743
44	7	21	25.91	0.20972

45	7	21	20.62	0.48210
46	7	21	13.49	0.89047
47	7	21	29.62	0.09981
48	7	21	29.11	0.11134
49	7	21	21.06	0.45504
50	7	21	16.20	0.75816
51	7	21	13.61	0.88563
52	7	21	13.18	0.90204
53	7	21	13.44	0.89233
54	7	21	22.69	0.36069
55	7	21	21.88	0.40661
56	7	21	31.38	0.06754
57	7	21	29.37	0.10532
58	7	21	15.46	0.79925
59	7	21	21.50	0.42903
60	7	21	22.47	0.37276
61	7	21	15.09	0.81824
62	7	21	21.11	0.45196
63	7	21	20.47	0.49190
64	7	21	19.01	0.58428
65	7	21	24.34	0.27669
66	7	21	24.42	0.27297
67	7	21	24.15	0.28588
68	7	21	25.20	0.23872
69	7	21	17.75	0.66481
70	7	21	24.70	0.26057
71	7	21	20.62	0.48260
72	7	21	28.82	0.11849
73	7	21	16.52	0.73988
74	7	21	17.66	0.67028
75	7	21	31.66	0.06338
76	7	21	25.20	0.23877
77	7	21	25.68	0.21876
78	7	21	24.70	0.26021
79	7	21	33.52	0.04074
80	7	21	17.45	0.68349
81	7	21	21.62	0.42180
82	7	21	16.68	0.73007
83	7	21	11.23	0.95816
84	7	21	12.47	0.92618
85	7	21	18.68	0.60540
86	7	21	14.27	0.85763
87	7	21	17.28	0.69388
88	7	21	24.00	0.29306
89	7	21	14.56	0.84437
90	7	21	21.56	0.42511
91	7	21	24.35	0.27650
92	7	21	35.61	0.02416
93	7	21	16.83	0.72112
94	7	21	11.51	0.95201
95	7	21	22.60	0.36567
96	7	21	18.93	0.58963
97	7	21	21.07	0.45480
98	7	21	16.18	0.75968
99	7	21	23.00	0.34398

100	7	21	25.36	0.23203
Combined P-value for all tests (Using KS method)				0.98561

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	0.99214	1.00000
Suits Test	0.79704	1.00000
Hand Types Test	0.10067	0.30202
<b>Combined P-Value using Holm's Method</b>		0.30202

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.

### 4.2 Summary of the analysis of 36 cards deck:

The analysis of 36 cards completes by combining the result of the KS Test performed in the 3 types of analysis (Hand Types, Ranks and Suits) for 36 card decks using the Holm's method and producing a single Combined P -value. Where there are insufficient data the individual Chi-Square tests results are used in the Holm's method for producing a combined p-value.

The combined p-value produced from the 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	0.79373	1.00000
Suits Test	0.98561	1.00000
Hands Type Test	0.77529	1.00000
<b>Combined P-Value using Holm's Method</b>		1.00000

Notes:

- 1) The combined p-value of all statistical tests using Holm's Method conducted for 36 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 36 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** and **36-card decks** indicated statistical randomness.

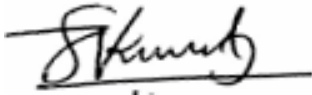
iTech Labs has done limited sanity checks to verify the integrity of the game logs. iTech Labs also maintains a copy of the game logs for verification purposes. There were a large enough number of game records to give the calculations sufficient statistical power.

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

Please click here to see the [Original](#) report.

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**Signed:**



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**Kiren Sreekumar**  
**Principal Consultant**  
**iTech Labs Australia**

Date: 08 December, 2020

**Signed:**



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**Geoff Nicoll**  
**Principal Consultant**  
**iTech Labs Australia**

Date: 08 December, 2020

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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.

