



## **Random Number Generator Certificate**

**Operator:** Cyberneedle N.V

**URL:** [www.heavychips.com](http://www.heavychips.com)

This is to certify that iTech Labs has evaluated the Random Number Generator (RNG) used for the games in the Games OS Gaming System and found that the RNG complies with the relevant standards\*.

The Games OS games use a widely recognized algorithm to generate the random numbers. The numbers generated by this RNG have passed Marsaglia's "diehard" tests for statistical randomness.

iTech Labs has evaluated the shuffling of the cards for all card games. Chi-squared tests were applied to over 8 million shuffled decks in 1 deck, 4 decks, 6 decks and 8 decks formats. The tests were applied to suits 1-4, ranks 1-13 and cards 1-52. iTech Labs has found that the card sequences are unpredictable and non-repeatable.

iTech labs has applied Chi-squared tests to scaled numbers for all non-cards games (roulette games, slot games, dice games, scratch games and miscellaneous ranges for the XG games). These tests have indicated statistical randomness.

Chi-squared tests were conducted for the following games:

<b>Game type</b>	<b>Game name</b>
Baccarat	Baccarat
Blackjack	Blackjack
Blackjack	Blackjack Progressive
Blackjack	Blackjack Surrender
Blackjack	Blackjack Switch
Blackjack	Face Up 21 Blackjack
Blackjack	Perfect Pairs Blackjack
Blackjack	Pontoon Blackjack
Blackjack	Spanish Blackjack
Card game	Card Wars
Craps	Craps
Keno	Keno
Poker	Caribbean Poker
Poker	Casino Hold 'Em
Poker	Let Them Ride
Poker	Oasis Poker
Poker	Pai Gow Poker
Poker	Poker Three
Poker	Russian Poker
Roulette	American Roulette
Roulette	European Roulette
Roulette	Roulette PRO
Sic Bo	Sic Bo
Classic Slots	Fruit Salad Jackpot
Classic Slots	Gold in Bars
Classic slots	Hot 7's
Classic Slots	Mexican Slots
Classic Slots	Pirate Slots
Video slots	Archipelago

Video slots	Atlantis Dive
Video slots	Aztec Slots
Video slots	Battleground Spins
Video slots	China MegaWild
Video slots	Cleopatra Treasure
Video Slots	Cubana-Tropicana
Video slots	Dracula's Kiss
Video Slots	Easter Feast
Video slots	Farm Slot
Video Slots	Football Cup
Video slots	Freaky Bandits
Video Slots	Freaky Cars
Video slots	Freaky Cowboys
Video slots	Freaky Fruits
Video slots	Freaky Gym
Video slots	Freaky Wild West
Video slots	Gems and the City
Video Slots	Generous Santa
Video Slots	House of Scare
Video slots	Jour de l'Amour
Video Slots	Magic Pot
Video slots	Mystic Slots
Video slots	Nascars Slots
Video slots	New York Gangs
Video Slots	Non-Stop Party
Video slots	Olympic Slots
Video slots	Party Night
Video slots	Polar Tale
Video slots	Run Chicken Run
Video slots	Spin the World
Video slots	Summer Dream
Video slots	Totem Quest
Video slots	Vampire Slayers
Video slots	World-Cup Soccer Spins
Video Poker	Coliseum Poker
Video Poker	4-Line Coliseum Poker
Video Poker	10-Line Coliseum Poker
Video Poker	25-Line Coliseum Poker
Video Poker	50-Line Coliseum Poker
Video Poker	Deuces Wild
Video Poker	4-Line Deuces Wild
Video Poker	10-Line Deuces Wild
Video Poker	25-Line Deuces Wild
Video Poker	50-Line Deuces Wild
Video Poker	Face the Ace
Video Poker	4-Line Face the Ace
Video Poker	10-Line Face the Ace
Video Poker	25-Line Face the Ace
Video Poker	50-Line Face the Ace
Video Poker	Five Aces
Video Poker	Jacks or Better
Video Poker	4-Line Jacks or Better
Video Poker	10-Line Jacks or Better
Video Poker	25-Line Jacks or Better
Video Poker	50-Line Jacks or Better

Video Poker	Joker Wild
Video Poker	4-Line Joker Wild
Video Poker	10-Line Joker Wild
Video Poker	25-Line Joker Wild
Video Poker	50-Line Joker Wild
Video Poker	Shockwave Poker
Scratch Game	Baseball Scratch
Scratch Game	Bingo Scratch
Scratch Game	Cubana-Tropicana Scratch
Scratch Game	Easter Feast Scratch
Scratch Game	Football Cup Scratch
Scratch Game	Formula Scratch
Scratch Game	Freaky Thimbles
Scratch Game	Gangsters' Loot
Scratch Game	Gold 999.9
Scratch Game	House of Scare Scratch
Scratch Game	Jour de l'Amour Scratch
Scratch Game	Magic Pot Scratch
Scratch Game	Monsters Scratch
Scratch Game	Moonapolis
Scratch Game	Non-Stop Party Scratch
Scratch Game	Soccer Scratch
Scratch Game	Sparkle Ladies
Scratch Game	Teddy Scratch
XG Games	Black and White
XG Games	Bonus Cards
XG Games	Derby
XG Games	Greyhounds Park
XG Games	Hockey Shot
XG Games	Instant Lotto
XG Games	Jackpot7
XG Games	Penalty Shootout
XG Games	Rollup
XG Games	Soccer Shot
XG Games	Wheel of Fortune
XG Games	Lucky Wheel
Mini Games / Blackjack	Blackjack
Mini Games / Blackjack	Blackjack Progressive
Mini Games / Blackjack	Blackjack Surrender
Mini Games / Blackjack	Face Up 21 Blackjack
Mini Games / Blackjack	Perfect Pairs Blackjack
Mini Games / Blackjack	Pontoon
Mini Games / Blackjack	Spanish Blackjack
Mini Games / Card Game	Baccarat
Mini Games / Classic Slots	Fruit Salad Jackpot
Mini Games / Classic Slots	Gold in Bars
Mini Games / Classic Slots	Hot 7's
Mini Games / Classic Slots	Pirate Slots
Mini Games / Classic Slots	Mexican Slots
Mini Games / Poker	Casino Hold'em
Mini Games / Poker	Pai Gow Poker
Mini Games / Roulette	European Roulette
Mini Games / Scratch Game	Bingo Scratch
Mini Games / Video Poker	Deuces Wild
Mini Games / Video Poker	Coliseum Poker

Mini Games / Video Poker	Face the Ace
Mini Games / Video Poker	Five Aces
Mini Games / Video Poker	Jacks or Better
Mini Games / Video Poker	Joker Wild
Mini Games / XG Games	Lucky Wheel
Mobile Games / Blackjack	Baccarat
Mobile Games / Blackjack	Blackjack
Mobile Games / Blackjack	Blackjack Surrender
Mobile Games / Blackjack	Face Up 21 Blackjack
Mobile Games / Blackjack	Perfect Pairs Blackjack
Mobile Games / Blackjack	Pontoon
Mobile Games / Blackjack	Spanish Blackjack
Mobile Games / Poker	Casino Hold'em
Mobile Games / Roulette	American Roulette
Mobile Games / Roulette	European Roulette
Mobile Games / Video Poker	Deuces Wild 4 Lines
Mobile Games / Video Slots	Atlantis Dive
Mobile Games / Video Slots	China Megawild
Mobile Games / Video Slots	Freaky Fruits
Mobile Games / Video Slots	Party Night
Mobile Games / Video Slots	Summer Dream

The tests conducted for the above games were limited to correct use of the RNG.

The certified code for the RNG has been fingerprinted.

Click here to view the [Original](#) iTech Labs Certificate.

**Signed:**




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**Ian Manning**  
**Principal Consultant**  
**iTech Labs Australia**

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\* The RNG was tested according to Alderney Gambling Control Commission (AGCC), Isle of Man and UK Gambling Commission requirements. The software provider or operator of the gaming site may not necessarily be licensed in the gaming regulatory jurisdiction whose technical standards have been applied in the testing process. Before making enquiries with the gaming commission, check whether the gaming commission's logo is present on the gaming site's home page or undertake independent enquiries with the operator of the website.



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.