

### RANDOMNESS EVALUATION REPORT

FOR

NG ENTERTAINMENT LTD
CRYPTO FORTUNE, HTML5-DESKTOP; HTML5-MOBILE, 1.0

CONFIDENTIAL
CERTIFICATE NUMBER: E231392NTGMLTM



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# MALTA GAMING AUTHORITY - RANDOMNESS EVALUATION REPORT NG ENTERTAINMENT LTD

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#### **SECTION 1. GENERAL INFORMATION**

License Holder:	NG Entertainment Ltd

30/1 Kenilworth Court Sir Augustus Bartolo Street

TA' Xbiex XBX 1093 Malta

Game Name: Crypto Fortune

Game Type: Slot

Platform Type: HTML5-Desktop; HTML5-Mobile

Game Version: 1.0

Applicable Technical Standards: Licensing requirements of the Malta Gaming Authority ('MGA')

Subsidiary Legislation 438.04 Remote Gaming Regulations Third Schedule, Regulation 25

Testing Laboratory: eCOGRA Limited

2/F Berkeley Square House

Berkeley Square London W1J 6 BD United Kingdom

Test Engineers: Sumeshan Padayachee; Gift Sebonyane; Stephen Coombe

Supervisor: Thabang Maganedisa

Request for Report: 30 January 2023

Report Date: 14 February 2023

Certificate Number: e231392NTGMLTM



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In our opinion the game listed as tested in this report complies with the relevant sections of the licensing requirements of the Malta Gaming Authority ('MGA').

The test results obtained for NG Entertainment Ltd's Crypto Fortune HTML5-Desktop; HTML5-Mobile 1.0 game produced statistically acceptable random numbers that were free of any significant statistical bias or predictability.

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Pierre Jordaan
Compliance Director
eCOGRA



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#### **SECTION 2. INTRODUCTION**

eCOGRA has been appointed by NG Entertainment Ltd to evaluate and certify the following Slot game for compliance with the relevant licensing requirements Subsidiary Legislation 438.04 Remote Gaming Regulations, Third Schedule, Regulation 25 of the Malta Gaming Authority ('MGA').

> Crypto Fortune (1.0) - NG Entertainment Ltd

This certification report highlights our key findings as a result of the evaluation conducted on HTML5-Desktop; HTML5-Mobile, 1.0, which is the pre-production environment which is essentially the same as the live environment. The testing was conducted on the aforementioned platform established at NG Entertainment Ltd during the period 30 January 2023 to 14 February 2023.

Please note that this is an initial certification conducted over Crypto Fortune, HTML5-Desktop; HTML5-Mobile , 1.0 and therefore this game certificate does not supersede any previous certifications.



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#### **SECTION 3. RNG COMPONENTS**

The Random Number Generator (RNG) as detailed in Section 2 and used by NG Entertainment Ltd in their Crypto Fortune 1.0 product was previously certified by GLI (Refer to RNG report: 413/19/001/UK/RTS/02). The scope of eCOGRA's randomness testing was limited to testing the randomness of the game output of the Crypto Fortune 1.0 game.

Software Provider:	
Software Provider Address:	
Product Name:	
Product Description:	
Jurisdiction:	
Jurisdiction address:	Refer to GLI RNG report: 413/19/001/UK/RTS/02
Test entity:	
Test entity address:	
Date:	
Approval:	



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#### **SECTION 4. TEST RESULTS**

Numerous recognised statistical and mathematical tests were performed on a 1,000,000 rows of sample data, provided by NG Entertainment Ltd, of the game output to verify the RNG operates in a random and fair manner. This included tests for probability (to ensure the expected number of occurrences), randomness (so that the following occurrence cannot be predicted with any degree of certainty) and uniformity (to determine that each possible outcome is equally likely over the long-term). The acceptance criteria for the statistical tests is a pass at a 95% confidence level.



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#### **SECTION 5. GAME DESCRIPTION**

### Crypto Fortune (1.0)

#### **Game Description:**

The game is played with 20 fixed paylines featuring a gravalanche, bull and bear feature and crypto bros pick round.

Further details regarding the betting characteristics, features and detailed game rules can be found in the game instructions which can be provided upon request.



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### SECTION 6. PERCENTAGE RETURN TO PLAYER ('RTP')

Game Name	Theoretical RTP %	eCOGRA RTP % Recalculation
	Regular A: 94.00%	Regular A: 94.16%
Crypto Fortune	Regular B: 94.00%	Regular B: 93.87%
	Regular C: 94.00%	Regular C: 94.03%
Regular D: 94.00%		Regular D: 94.02%
Regular E: 94.00%		Regular E: 93.93%
	Buy A: 94.20%	Buy A: 94.20%
	Buy B: 94.20%	Buy B: 94.09%
	Buy C: 94.20%	Buy C: 94.13%
	Buy D: 94.20%	Buy D: 94.12%
	Buy E: 94.20%	Buy E: 94.09%

The Theoretical RTP percentage indicated in the table above is extracted from the game documentation as provided by NG Entertainment Ltd eCOGRA recalculated the RTP percentage by performing additional independent mathematical calculations on the output of simulation game data.



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#### **SECTION 7. GAME SOFTWARE DETAILS**

The scope of the game evaluation and certification applies solely to the critical game files, game versions and associated hashes provided in the tables below:

#### **Game Files**

File Name / Identifier	Version	Version	SHA-1 Hash Sum
	Date	Number	
Configuration.txt	30/01/2023	1.0	8B0E5A481D354B158B861963CC6347837FE92E3E
line_wins_handler.inc.php	20/01/2020	1.0	4265BFE2ACF6549D2A8C2708DDCCC26E6657D396
extra multiplies linewin	30/01/2023	1.0	9FD760B6CE1A1367C005ADBA5C45D6160E2519E9



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#### **SECTION 8. REVIEW FINDINGS**

Rei	note Gaming Regulations	Rating	Comments
Thi	rd Schedule - Regulation 25 - Technical requirem	ent for gaming syste	m
1.	The gaming system must:		
	<ul> <li>faithfully follow the game rules published by the operator; and</li> </ul>	Compliant	
	<ul> <li>b. provide over time no more than the expected house advantage to the operator.</li> </ul>	Not applicable	Not applicable to this game type.
2.	Both the gaming and financial transactions must be congruent and secure.	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
3.	The gaming system must satisfy the following cri	iteria for randomness	s, following Schneier:
	<ul> <li>a. the data must be randomly generated, passing appropriate statistical tests of randomness;</li> </ul>	Compliant	Refer to RNG certificate: 413/19/001/UK/RTS/02
	<ul> <li>the data must be unpredictable, i.e. it must be computationally infeasible to predict what the next number will be, given complete knowledge of the algorithm or hardware generating the sequence, and all previously generated numbers;</li> </ul>	Compliant	Refer to RNG certificate: 413/19/001/UK/RTS/02
	c. the series cannot be reliably reproduced, i.e. if the sequence generator is activated again with the same input (as exactly as is reasonably possible) it will produce two completely unrelated random sequences.	Compliant	Refer to RNG certificate: 413/19/001/UK/RTS/02
4.	The outcome of any game event, and the return to the player, must be independent of the CPU, memory, disk or other components used in the playing device used by the player.	Compliant	Refer to RNG certificate: 413/19/001/UK/RTS/02
5.	The game or any game event outcome must not be affected by the effective bandwidth, link utilisation, bit error rate or other characteristic of the communication channel between the gaming system and the playing device used by the player.	Compliant	



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Rer	mote Gaming Regulations	Rating	Comments	
Thi	Third Schedule - Regulation 25 - Technical requirement for gaming system			
6.	6. The gaming system must be able to display for each game the following information on the current page or on			
	a page directly accessible from the current page	via a hyperlink:		
	a. the name of the game;	Compliant		
	b. restrictions on play;	Compliant		
	c. instructions on how to play, including	Compliant	Wallet functionality is not directly	
	a pay-table for all prizes and special		managed by the supplier.	
	features;			
	d. the player's current account balance;	Compliant		
	e. unit and total bets permitted;	Compliant		
	f. the rules of the game.	Compliant		
7.	All financial reports produced by the gaming	Not applicable	The scope of assessment is limited to	
	system must be congruent with gaming		aspects directly managed by the	
	transaction reports and conversely:		supplier.	
	Provided that all such reports shall be readily			
_	and freely available to the Authority.			
8.	The gaming system must:	Not applicable	The scope of assessment is limited to	
	a. be capable of producing monthly		aspects directly managed by the	
	auditable and aggregate financial		supplier.	
	statements of gaming transactions,			
	and b. calculate accurately all taxation and	Not applicable	The same of assessment is limited to	
	,	Not applicable	The scope of assessment is limited to	
	other monies due to the Authority.		aspects directly managed by the supplier.	
9.	The gaming system must maintain information	 about all games plave		
<u>J.</u>		Not applicable	The scope of assessment is limited to	
	a. the identity of the player;	ног аррисавіе	aspects directly managed by the	
			supplier.	
	b. the time the game began as recorded	Compliant	The recording of the results within the	
	on the game's server;	Compliant	gambling system are not managed by	
	on the game 3 server,		the supplier.	
	c. the balance on the player's account at	Not applicable	The scope of assessment is limited to	
	the start of the game;	Поторрина	aspects directly managed by the	
	,		supplier.	
	d. the stakes placed in the game (time	Compliant	The recording of the results within the	
	stamped by the games server);	·	gambling system are not managed by	
			the supplier.	
	e. the game status (in progress,	Not applicable	The scope of assessment is limited to	
	complete, etc.);		aspects directly managed by the	
			supplier.	
	f. the result of the game (time stamped	Compliant	The recording of the results within the	
	by the games server);		gambling system and account	
			functionality are not managed by the	
			supplier.	



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Remote Gar	ming Regulations	Rating	Comments
Third Sched	Third Schedule - Regulation 25 - Technical requirement for gaming system		
g.	the time the game ended as recorded by the games server;	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
h.	the amount won or lost by the player; and	Compliant	The recording of the results within the gambling system and account functionality are not managed by the supplier.
i.	the balance on the player's account at the end of the game.	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
10. The gar	ning system must maintain information a	bout significant ever	nts as follows:
a.	large wins;	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
b.	transfers of funds in excess of such amount as the Authority may from time to time direct by notice in writing to the operator;	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
C.	changes made by the operator to game parameters.	Not applicable	The scope of assessment is limited to aspects directly managed by the supplier.
specifie	riations to any of the requirements of in this Schedule shall be submitted to thority for its approval by notice in	Not applicable	No variations identified for the product under certification.