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RvA Registration Number of Accreditation applicable to this Report:	
Testing	L372

Report Type: Evaluation

Report Date 4 January 2019

Issuing Laboratory: GLI Europe B.V.

Evaluating Laboratory: GLI Europe B.V.

Software Supplier:
Submitting Party:
Report Recipient:
Playtech Software Limited
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Jurisdiction and Technical Standards for Testing:

AGCC
Alderney - Technical Standards and Guidelines for Internal Control Systems and Internet Gambling Systems Version 4.2.

Bulgaria Online
General technical and functional requirements to gaming software and communication equipment of remote gambling games, State Gazette (copy 58 of 02 July 2013).
Act on Gambling. Prom. SG. 26/30 Mar 2012 in force from 01.07.2012 amended and supplemented in SG. 103 of 28.12.2017 in force from 1.01.2018.

Czech Online
Decree determining the scope of technical parameters for equipment used to operate games of chance, requirements for the protection and storage of gaming and financial data, and their technical parameters. (208/2017 Coll. DECREE of 27 June 2017).

France - Online
Arjel DET_EN_15042013 Technical Requirements File Version 1.2 of 24th September 2012, covered by article 11 of decree n°2010-509 of 18th May 2010 relative to the obligations imposed on approved online gaming or betting operators with a view to the online gaming regulatory authority controlling gaming data.
Annex to the Technical Requirements File Version 1.2 of 23rd March 2012.

Gibraltar
Remote Technical and Operating Standards for the Gibraltar Gambling Industry - v1.1.0.
Gambling Commissioner's Guidelines - v.1.0.2012.
Gambling Act 2005 - Act. No. 2005-72 Commencement (LN. 2006/114) except for s. 55(b) 26.10.2006 Assent 22.12.2005.

GLI-19
Interactive Gaming Systems V2.0

Isle of Man
Gambling Supervision Commission's Statutory Document Number 731/07 Online Gambling (Systems Verification) (No.2) Regulations 2007, laid before Tynwald 16th October 2007, coming into operation 31st August 2007.

Jurisdiction and Technical Standards for Testing (continued):

Malta Online
L.N. 243 of 2018 - GAMING ACT (CAP. 583) Gaming Authorisations Regulations, 2018.
Remote Gaming Regulations (SUBSIDIARY LEGISLATION 438.04), Third Schedule – Technical Requirements for Gaming System.
LEGAL NOTICE 176 of 2004, as amended by Legal Notices 110 of 2006, 270 and 426 of 2007, 90 of 2011 and 131 of 2016.

Portugal iGaming
Regulation No. 903-B/2015 Regulation defining the Technical Requirements of the Online Gaming Technical System.

Romania Online
ORDER no. 93/18.04.2016 for the approval of the mandatory stipulations afferent to the certification and auditing of remote games of chance systems.
Government Decision no. 111/2016 of the 24th of February 2016 regarding the approval of the Methodological norms of applying the Emergency Government Ordinance no. 77/2009 regarding the games of chance organization and operation and for the modification and supplementation of the Government Decision no. 298/2013 regarding the organization and functioning of the National Office for Games of Chance, for the modification of the Government Decision no. 870/2009 for the approval of the Methodological norms of applying the Emergency Government Ordinance no. 77/2009 and for the repeal of the Government Decision no. 870/2009 regarding the games of chance organization and operation.

Spain Online
Resolution of 6 October 2014 of the Gaming Regulation Board passing the provision developing the technical specifications of gaming, traceability and security which have to be fulfilled by technical gaming systems of a non-reserved nature forming the object of licences granted under the Gaming Regulation Act nº 13/2011 of 27 May.

Sweden iGaming
Gaming Act (2018:1138).
Lottery Inspectorate's Regulation and General Guidelines on the technical requirements and accreditation of bodies performing the inspection, testing and certification of gaming activities (LIFS 2018_8).
Guidance on the Lottery Inspectorate's Regulation and General Guidelines on the technical requirements and accreditation of bodies performing the inspection, testing and certification of gaming activities (LIFS 2018:8) and on Articles 1 and 4 of the Lottery Inspectorate's Regulation and General Guidelines on the State lottery and lotteries for public purposes (LIFS 2018:4).

UK Remote
Remote Gambling and Software Technical Standards (June 2017).
Testing Strategy for Compliance with Remote Gambling and Software Technical Standards November 2018.

Product Tested:	**Playtech Poker and Casino RNG V16.4.0.89**
Evaluation Period:	17 December 2018 / 27 December 2018
Request Date:	As requested per submitter's letter received on 5 December 2018.
File Number:	RN-246-PTC-18-02-331
Testing Result:	Subject to the Conditions of Evaluation section of this Report: **Complies**
Internal Methods Used Reference:	WI-MA-006 PC-TC-001

Software Product Details

For version-control of the files, GLI gathered the following checksums:

Playtech Poker RNG

File Name	SHA-1 Checksum
ABSTRACTGAMERULES.CLASS	D049A8D37116381B698F2E2A80F74E931EAC4D23
ABSTRACTRNGCLIENTSESSION.CLASS	701DFF10AD8AE4F8F664A0D5F3EB79827B57B2F1
BITUTILS.CLASS	68BC68C5EF4B6313D469F1AEA3BF2DFC712AB68F
COMPORTOPTIONHANDLER.CLASS	4BF125F617E311A2B37F9A3483334EACFB62FB5D
DECK.CLASS	AC77B318898562EEBDA830CFCAFF9D0F9A4D8362
DRIVERMANAGER$1.CLASS	29D6191DA4394440E91863265FE86BF92A7EE464
DRIVERMANAGER.CLASS	72BEBA31578F74E21F9569BDC097C04A8B362223
FREQUENCYANALYZER.CLASS	8013D639EF46A4E5BD904DDFEB80D721E0E782DC
GAMESERVERSESSION.CLASS	96678F102AD74FA9B004287E4A14D6D13B9E12C9
IRANDOMCONSUMER.CLASS	BD02A93B0B43496F53CA7C2B169DF4FEBAA28B28
IRNGDRIVER.CLASS	178809EB7A6E2699BEFD1684EE51660543483AF1
NOISEBUFFERHELPER.CLASS	78F396B5A809996795440A0CF1BCE0481DDCD6C6
PTTELNETCLIENT.CLASS	D45FB9D4AA0C6D7E0AFE2A89FFD31EDAAFE24CA7
RANDOMBATCH.CLASS	C051D26E7D14129C24229C59BAC513EBE95397AC
RANDOMBUFFER$1.CLASS	31CCADE05DC8466CD5A66D9BE7E08C2A4687E764
RANDOMBUFFER$2.CLASS	CCA9F5BEEA9932E3785AD35502B6D6198FEF831D
RANDOMBUFFER.CLASS	2A1EB458EBA180455491BF99FA2E19254583379E
RANDOMPROVIDER.CLASS	E906B50CF21DC9DF876705287E1D03835B1A01C0
RANDOMXIMPL.CLASS	990A6638A9C1F8159D0F88F5B28E146F67F016A6
RANDOMXWRAPPER.CLASS	04B111D943D101E6FFC4152FC28BE64AA2BEF590
RANDOMY.CLASS	2C6866450C634CA457C7379B039D1EF30E025DDF
REALSHUFFLER.CLASS	D8A26416CF77C1C5FB672561244B2AB413180895
REVERSETELNETDRIVER.CLASS	965CFD2831865B47148FB72AC8EA713E8BC21A66
REVERSETELNETINTERFACE.CLASS	B4916A8082B6CA713E88E6BC88C54543BB350F24
RNGDRIVER.CLASS	EA3554408E5CCC7E62D4D1648A77193B205D12EF
RNGDRIVEREXCEPTION.CLASS	B6359F2B897BB87EC003724A7F854A474166E806
RNGSERVER.CLASS	915392A8B6ED68C1483E3497214F6B30272ED99C
SG100DRIVER.CLASS	4AC229D882AA587BA11F326BE9B1F5791DCEC864

Software Product Details

For version-control of the files, GLI gathered the following checksums (continued):

Playtech Casino RNG

File Name	SHA-1 Checksum
ABSTRACTRNGCLIENTSESSION.CLASS	701DFF10AD8AE4F8F664A0D5F3EB79827B57B2F1
BITUTILS.CLASS	68BC68C5EF4B6313D469F1AEA3BF2DFC712AB68F
COMPORTOPTIONHANDLER.CLASS	4BF125F617E311A2B37F9A3483334EACFB62FB5D
DRIVERMANAGER$1.CLASS	29D6191DA4394440E91863265FE86BF92A7EE464
DRIVERMANAGER.CLASS	72BEBA31578F74E21F9569BDC097C04A8B362223
FREQUENCYANALYZER.CLASS	8013D639EF46A4E5BD904DDFEB80D721E0E782DC
GAMESERVERSESSION.CLASS	96678F102AD74FA9B004287E4A14D6D13B9E12C9
IRANDOMCONSUMER.CLASS	BD02A93B0B43496F53CA7C2B169DF4FEBAA28B28
IRNGDRIVER.CLASS	178809EB7A6E2699BEFD1684EE51660543483AF1
NOISEBUFFERHELPER.CLASS	78F396B5A809996795440A0CF1BCE0481DDCD6C6
PTTELNETCLIENT.CLASS	D45FB9D4AA0C6D7E0AFE2A89FFD31EDAAFE24CA7
RANDOMBATCH.CLASS	C051D26E7D14129C24229C59BAC513EBE95397AC
RANDOMBUFFER$1.CLASS	31CCADE05DC8466CD5A66D9BE7E08C2A4687E764
RANDOMBUFFER$2.CLASS	CCA9F5BEEA9932E3785AD35502B6D6198FEF831D
RANDOMBUFFER.CLASS	2A1EB458EBA180455491BF99FA2E19254583379E
RANDOMPROVIDER.CLASS	E906B50CF21DC9DF876705287E1D03835B1A01C0
RANDOMXIMPL.CLASS	990A6638A9C1F8159D0F88F5B28E146F67F016A6
RANDOMXWRAPPER.CLASS	04B111D943D101E6FFC4152FC28BE64AA2BEF590
RANDOMY.CLASS	2C6866450C634CA457C7379B039D1EF30E025DDF
REVERSETELNETDRIVER.CLASS	965CFD2831865B47148FB72AC8EA713E8BC21A66
REVERSETELNETINTERFACE.CLASS	B4916A8082B6CA713E88E6BC88C54543BB350F24
RNGDRIVER.CLASS	EA3554408E5CCC7E62D4D1648A77193B205D12EF
RNGDRIVEREXCEPTION.CLASS	B6359F2B897BB87EC003724A7F854A474166E806
RNGSERVER.CLASS	915392A8B6ED68C1483E3497214F6B30272ED99C
SG100DRIVER.CLASS	4AC229D882AA587BA11F326BE9B1F5791DCEC864

RNG Evaluation

RANDOMNESS REPORT FOR THE PLAYTECH POKER AND CASINO RNG

The intent of this report is to indicate that Gaming Laboratories International, LLC (GLI) has completed its evaluation of the Playtech Poker and Casino random number generator, version 16.4.0.89, (RNG) provided by Playtech Software Limited.

SECTION I — SCOPE OF TESTING

Playtech Software Limited submitted the required materials to GLI in order to conduct a random number generator analysis on the "Playtech Poker and Casino RNG". The scope of this analysis was limited to software verification, source code review, and data analysis. The RNG was tested for its ability to randomly produce outcomes for the Poker and Casino games.

The "Playtech Poker and Casino RNG" was evaluated against the RNG-specific requirements of the following technical standards:

AGCC	Alderney - Technical Standards and Guidelines for Internal Control Systems and Internet Gambling Systems Version 4.2.
Bulgaria Online	General technical and functional requirements to gaming software and communication equipment of remote gambling games, State Gazette (copy 58 of 02 July 2013). Act on Gambling. Prom. SG. 26/30 Mar 2012 in force from 01.07.2012 amended and supplemented in SG. 103 of 28.12.2017 in force from 1.01.2018.
Czech Online	Decree determining the scope of technical parameters for equipment used to operate games of chance, requirements for the protection and storage of gaming and financial data, and their technical parameters. (208/2017 Coll. DECREE of 27 June 2017).
France - Online	Arjel DET_EN_15042013 Technical Requirements File Version 1.2 of 24th September 2012, covered by article 11 of decree n°2010-509 of 18th May 2010 relative to the obligations imposed on approved online gaming or betting operators with a view to the online gaming regulatory authority controlling gaming data. Annex to the Technical Requirements File Version 1.2 of 23rd March 2012.
Gibraltar	Remote Technical and Operating Standards for the Gibraltar Gambling Industry - v1.1.0. Gambling Commissioner's Guidelines - v.1.0.2012. Gambling Act 2005 - Act. No. 2005-72 Commencement (LN. 2006/114) except for s. 55(b) 26.10.2006 Assent 22.12.2005.
GLI-19	Interactive Gaming Systems V2.0
Isle of Man	Gambling Supervision Commission's Statutory Document Number 731/07 Online Gambling (Systems Verification) (No.2) Regulations 2007, laid before Tynwald 16th October 2007, coming into operation 31st August 2007.
Malta Online	L.N. 243 of 2018 - GAMING ACT (CAP. 583) Gaming Authorisations Regulations, 2018. Remote Gaming Regulations (SUBSIDIARY LEGISLATION 438.04), Third Schedule – Technical Requirements for Gaming System. LEGAL NOTICE 176 of 2004, as amended by Legal Notices 110 of 2006, 270 and 426 of 2007, 90 of 2011 and 131 of 2016.
Portugal iGaming	Regulation No. 903-B/2015 Regulation defining the Technical Requirements of the Online Gaming Technical System.
Romania Online	ORDER no. 93/18.04.2016 for the approval of the mandatory stipulations afferent to the certification and auditing of remote games of chance systems. Government Decision no. 111/2016 of the 24th of February 2016 regarding the approval of the Methodological norms of applying the Emergency Government Ordinance no. 77/2009 regarding the games of chance organization and operation and for the modification and supplementation of the Government Decision no. 298/2013 regarding the organization and functioning of the National Office for Games of Chance, for the modification of the Government Decision no. 870/2009 for the approval of the Methodological norms of applying the Emergency Government Ordinance no. 77/2009 and for the repeal of the Government Decision no. 870/2009 regarding the games of chance organization and operation.
Spain Online	Resolution of 6 October 2014 of the Gaming Regulation Board passing the provision developing the technical specifications of gaming, traceability and security which have to be fulfilled by technical gaming systems of a non-reserved nature forming the object of licences granted under the Gaming Regulation Act nº 13/2011 of 27 May.

RNG Evaluation

The “Playtech Poker and Casino RNG” was evaluated against the RNG-specific requirements of the following technical standards (continued):

Sweden iGaming	Gaming Act (2018:1138). Lottery Inspectorate's Regulation and General Guidelines on the technical requirements and accreditation of bodies performing the inspection, testing and certification of gaming activities (LIFS 2018_8). Guidance on the Lottery Inspectorate's Regulation and General Guidelines on the technical requirements and accreditation of bodies performing the inspection, testing and certification of gaming activities (LIFS 2018:8) and on Articles 1 and 4 of the Lottery Inspectorate's Regulation and General Guidelines on the State lottery and lotteries for public purposes (LIFS 2018:4).
UK Remote	Remote Gambling and Software Technical Standards (June 2017). Testing Strategy for Compliance with Remote Gambling and Software Technical Standards November 2018.

The software being certified herein is a cryptographically strong RNG (CSRNG) without background cycling. CSRNGs do not need to implement background cycling to improve their unpredictability and resistance to attack. As a consequence, they meet and exceed the intent of traditional background cycling requirements, but through mechanisms other than background cycling itself.

RNG Evaluation

SECTION II — SOFTWARE VERIFICATION

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Poker RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
AbstractRngClientSession.class	16.4.0.89	Kobe4	73PF
		MD5	BA39C4DE2665FD3CDAC42576153A8ADD
		SHA-1	701DFF10AD8AE4F8F664A0D5F3EB79827B57B2F1
BitUtils.class	16.4.0.89	Kobe4	0HP2
		MD5	D087F556D1FB3B940BE2404E26E9338E
		SHA-1	68BC68C5EF4B6313D469F1AEA3BF2DFC712AB68F
ComPortOptionHandler.class	16.4.0.89	Kobe4	14CU
		MD5	D5282AC4CF54446E1D7A398233E20114
		SHA-1	4BF125F617E311A2B37F9A3483334EACFB62FB5D
DriverManager$1.class	16.4.0.89	Kobe4	4P6C
		MD5	8B3AC5F76EDD1B02AF78302E86B43AC2
		SHA-1	29D6191DA4394440E91863265FE86BF92A7EE464
DriverManager.class	16.4.0.89	Kobe4	C8A8
		MD5	E232E5A1D8E57994FCA5F958308A00BE
		SHA-1	72BEBA31578F74E21F9569BDC097C04A8B362223
FrequencyAnalyzer.class	16.4.0.89	Kobe4	9A67
		MD5	58A36FBA6F799FE3094E375FB313C3A9
		SHA-1	8013D639EF46A4E5BD904DDFEB80D721E0E782DC
GameServerSession.class	16.4.0.89	Kobe4	P126
		MD5	01E8864DA057413A1CEA8C91234ED5DC
		SHA-1	96678F102AD74FA9B004287E4A14D6D13B9E12C9
IRandomConsumer.class	16.4.0.89	Kobe4	3P35
		MD5	CDD6FE973B196F229B3A6D45820DD53F
		SHA-1	BD02A93B0B43496F53CA7C2B169DF4FEBAA28B28
IRngDriver.class	16.4.0.89	Kobe4	320A
		MD5	D021A0216ECDBE59B5A1FF46A506F998
		SHA-1	178809EB7A6E2699BEFD1684EE51660543483AF1
NoiseBufferHelper.class	16.4.0.89	Kobe4	3108
		MD5	F44CB1365738F1A029EB5F4D04349DD9
		SHA-1	78F396B5A809996795440A0CF1BCE0481DDCD6C6
PtTelnetClient.class	16.4.0.89	Kobe4	659P
		MD5	A4EC9D5EDFA0AC27AA2927B6AFC1F8C5
		SHA-1	D45FB9D4AA0C6D7E0AFE2A89FFD31EDAAFE24CA7

Table 1. Digital Signatures

RNG Evaluation

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Poker RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
RandomBatch.class	16.4.0.89	Kobe4	6526
		MD5	6B9498C7124E73AEC01E02955D1E119A
		SHA-1	C051D26E7D14129C24229C59BAC513EBE95397AC
RandomBuffer$1.class	16.4.0.89	Kobe4	8P62
		MD5	CE9D10236FC3FA67B82B30AAE378B254
		SHA-1	31CCADE05DC8466CD5A66D9BE7E08C2A4687E764
RandomBuffer$2.class	16.4.0.89	Kobe4	688F
		MD5	E813CA001865B50049FDBD5F40DB593D
		SHA-1	CCA9F5BEEA9932E3785AD35502B6D6198FEF831D
RandomBuffer.class	16.4.0.89	Kobe4	5UHH
		MD5	332BF6824A5C4431BEF91F4E756E69CB
		SHA-1	2A1EB458EBA180455491BF99FA2E19254583379E
RandomProvider.class	16.4.0.89	Kobe4	U9F8
		MD5	07BC530684D2D4942E9A43E6916AF125
		SHA-1	E906B50CF21DC9DF876705287E1D03835B1A01C0
RandomXImpl.class	16.4.0.89	Kobe4	UF7C
		MD5	51A8B008669A2FE6740BD0AB3F5949C9
		SHA-1	990A6638A9C1F8159D0F88F5B28E146F67F016A6
RandomXWrapper.class	16.4.0.89	Kobe4	152H
		MD5	234C81176515817FDDC5B15F8BF3C221
		SHA-1	04B111D943D101E6FFC4152FC28BE64AA2BEF590
RandomY.class	16.4.0.89	Kobe4	FH1U
		MD5	099807166DFADD105F07F88FB6B9EA53
		SHA-1	2C6866450C634CA457C7379B039D1EF30E025DDF
ReverseTelnetDriver.class	16.4.0.89	Kobe4	9830
		MD5	468A3CB246898BA1EAC4F9722D7E6ED8
		SHA-1	965CFD2831865B47148FB72AC8EA713E8BC21A66
ReverseTelnetInterface.class	16.4.0.89	Kobe4	3CH0
		MD5	48C5F1E8F81A5059DCE330B364FB13A0
		SHA-1	B4916A8082B6CA713E88E6BC88C54543BB350F24
RngDriver.class	16.4.0.89	Kobe4	4232
		MD5	0041B0DF8354C130C52CABBF8F252917
		SHA-1	EA3554408E5CCC7E62D4D1648A77193B205D12EF
RngDriverException.class	16.4.0.89	Kobe4	3PA4
		MD5	D0BCE660F890AEDCF1A757594DB0AA95
		SHA-1	B6359F2B897BB87EC003724A7F854A474166E806

Table 1. Digital Signatures (continued)

RNG Evaluation

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Poker RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
RngServer.class	16.4.0.89	Kobe4	1UAU
		MD5	85537AD174BE53F5B8A45A88450C1CC6
		SHA-1	915392A8B6ED68C1483E3497214F6B30272ED99C
SG100Driver.class	16.4.0.89	Kobe4	H2C4
		MD5	9530ADDE1B52F832FCA5F4F694553A2C
		SHA-1	4AC229D882AA587BA11F326BE9B1F5791DCEC864
AbstractGameRules.class	16.4.0.89	Kobe4	2UF3
		MD5	97A2AB11B394FAC3DC5BAF5B68B95EA5
		SHA-1	D049A8D37116381B698F2E2A80F74E931EAC4D23
Deck.class	16.4.0.89	Kobe4	0HU8
		MD5	1C694A2AADD696503A750FD19C221B61
		SHA-1	AC77B318898562EEBDA830CFCAFF9D0F9A4D8362
RealShuffler.class	16.4.0.89	Kobe4	95PA
		MD5	3F5D35FEB35FF445D931D55AF8020642
		SHA-1	D8A26416CF77C1C5FB672561244B2AB413180895

Table 1. Digital Signatures (continued)

RNG Evaluation

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Casino RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
AbstractRngClientSession.class	16.4.0.89	Kobe4	73PF
		MD5	BA39C4DE2665FD3CDAC42576153A8ADD
		SHA-1	701DFF10AD8AE4F8F664A0D5F3EB79827B57B2F1
BitUtils.class	16.4.0.89	Kobe4	0HP2
		MD5	D087F556D1FB3B940BE2404E26E9338E
		SHA-1	68BC68C5EF4B6313D469F1AEA3BF2DFC712AB68F
ComPortOptionHandler.class	16.4.0.89	Kobe4	14CU
		MD5	D5282AC4CF54446E1D7A398233E20114
		SHA-1	4BF125F617E311A2B37F9A3483334EACFB62FB5D
DriverManager$1.class	16.4.0.89	Kobe4	4P6C
		MD5	8B3AC5F76EDD1B02AF78302E86B43AC2
		SHA-1	29D6191DA4394440E91863265FE86BF92A7EE464
DriverManager.class	16.4.0.89	Kobe4	C8A8
		MD5	E232E5A1D8E57994FCA5F958308A00BE
		SHA-1	72BEBA31578F74E21F9569BDC097C04A8B362223
FrequencyAnalyzer.class	16.4.0.89	Kobe4	9A67
		MD5	58A36FBA6F799FE3094E375FB313C3A9
		SHA-1	8013D639EF46A4E5BD904DDFEB80D721E0E782DC
GameServerSession.class	16.4.0.89	Kobe4	P126
		MD5	01E8864DA057413A1CEA8C91234ED5DC
		SHA-1	96678F102AD74FA9B004287E4A14D6D13B9E12C9
IRandomConsumer.class	16.4.0.89	Kobe4	3P35
		MD5	CDD6FE973B196F229B3A6D45820DD53F
		SHA-1	BD02A93B0B43496F53CA7C2B169DF4FEBAA28B28
IRngDriver.class	16.4.0.89	Kobe4	320A
		MD5	D021A0216ECDBE59B5A1FF46A506F998
		SHA-1	178809EB7A6E2699BEFD1684EE51660543483AF1
NoiseBufferHelper.class	16.4.0.89	Kobe4	3108
		MD5	F44CB1365738F1A029EB5F4D04349DD9
		SHA-1	78F396B5A809996795440A0CF1BCE0481DDCD6C6
PtTelnetClient.class	16.4.0.89	Kobe4	659P
		MD5	A4EC9D5EDFA0AC27AA2927B6AFC1F8C5
		SHA-1	D45FB9D4AA0C6D7E0AFE2A89FFD31EDAAFE24CA7

Table 2. Digital Signatures.

RNG Evaluation

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Casino RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
RandomBatch.class	16.4.0.89	Kobe4	6526
		MD5	6B9498C7124E73AEC01E02955D1E119A
		SHA-1	C051D26E7D14129C24229C59BAC513EBE95397AC
RandomBuffer$1.class	16.4.0.89	Kobe4	8P62
		MD5	CE9D10236FC3FA67B82B30AAE378B254
		SHA-1	31CCADE05DC8466CD5A66D9BE7E08C2A4687E764
RandomBuffer$2.class	16.4.0.89	Kobe4	688F
		MD5	E813CA001865B50049FDBD5F40DB593D
		SHA-1	CCA9F5BEEA9932E3785AD35502B6D6198FEF831D
RandomBuffer.class	16.4.0.89	Kobe4	5UHH
		MD5	332BF6824A5C4431BEF91F4E756E69CB
		SHA-1	2A1EB458EBA180455491BF99FA2E19254583379E
RandomProvider.class	16.4.0.89	Kobe4	U9F8
		MD5	07BC530684D2D4942E9A43E6916AF125
		SHA-1	E906B50CF21DC9DF876705287E1D03835B1A01C0
RandomXImpl.class	16.4.0.89	Kobe4	UF7C
		MD5	51A8B008669A2FE6740BD0AB3F5949C9
		SHA-1	990A6638A9C1F8159D0F88F5B28E146F67F016A6
RandomXWrapper.class	16.4.0.89	Kobe4	152H
		MD5	234C81176515817FDDC5B15F8BF3C221
		SHA-1	04B111D943D101E6FFC4152FC28BE64AA2BEF590
RandomY.class	16.4.0.89	Kobe4	FH1U
		MD5	099807166DFADD105F07F88FB6B9EA53
		SHA-1	2C6866450C634CA457C7379B039D1EF30E025DDF
ReverseTelnetDriver.class	16.4.0.89	Kobe4	9830
		MD5	468A3CB246898BA1EAC4F9722D7E6ED8
		SHA-1	965CFD2831865B47148FB72AC8EA713E8BC21A66
ReverseTelnetInterface.class	16.4.0.89	Kobe4	3CH0
		MD5	48C5F1E8F81A5059DCE330B364FB13A0
		SHA-1	B4916A8082B6CA713E88E6BC88C54543BB350F24
RngDriver.class	16.4.0.89	Kobe4	4232
		MD5	0041B0DF8354C130C52CABBF8F252917
		SHA-1	EA3554408E5CCC7E62D4D1648A77193B205D12EF
RngDriverException.class	16.4.0.89	Kobe4	3PA4
		MD5	D0BCE660F890AEDCF1A757594DB0AA95
		SHA-1	B6359F2B897BB87EC003724A7F854A474166E806

Table 2. Digital Signatures (continued)

RNG Evaluation

Verify+ by Kobetron™ signatures for the "Playtech Poker and Casino RNG" are as follows:

Playtech Casino RNG V16.4.0.89			
File	**Version**	**Type**	**Signature**
RngServer.class	16.4.0.89	Kobe4	1UAU
		MD5	85537AD174BE53F5B8A45A88450C1CC6
		SHA-1	915392A8B6ED68C1483E3497214F6B30272ED99C
SG100Driver.class	16.4.0.89	Kobe4	H2C4
		MD5	9530ADDE1B52F832FCA5F4F694553A2C
		SHA-1	4AC229D882AA587BA11F326BE9B1F5791DCEC864

Table 2. Digital Signatures (continued)

RNG Evaluation

SECTION III — SOURCE CODE REVIEW

Playtech Software Limited submitted appropriate documentation and partial source code which pertains to the generation of random numbers. GLI reviewed the source code provided by tracing the path of the RNG application from the initiation of the draw to the selected output of random numbers. GLI inspected the source code, where practicable, in an attempt to find any undisclosed switches or parameters having a possible influence on randomness and fair play. GLI assessed the ability of the RNG to produce all numbers within the desired range.

Please note:

- The "Playtech Poker RNG" makes use of a SG100 hardware device as a source of random entropy. Such a device uses quantum physics as a source of entropy for the algorithm that produce the final numbers. The specific SG100 devices used by GLI to collect RNG test data are not distinguishable in the field. It is the responsibility of Playtech Software Limited to assure that the SG100's provided to the jurisdiction for use in conducting drawings are functioning correctly and in the same manner as the ones made accessible to GLI to gather test data.
- Please note that a single SG100 hardware device was used for RNG testing purposes. Clearly, GLI cannot test each SG100 manufactured and therefore cannot attest to the randomness of each manufactured SG100 device for its particular application. However, it should expected that each SG100 is designed using a defined specification that ensures comparable design attributes.

SECTION IV — DATA ANALYSIS

The game configuration and parameters for the data obtained and tested are listed in the tables below. Please note that this data has already been tested in a previous submission. GLI performed a data format check on each data set listed in order to confirm that the game parameters were correctly represented in the RNG data analyzed.
A set of numbers is said to be drawn with replacement if a number can be selected multiple times within the same draw. A set of numbers is said to be drawn without replacement if a number can only be selected once within the same draw.

PLAYTECH POKER RNG

Number	Data Set	Range	Positions	Replacement	Draws
1	Standard 52-Card Deck	0-51	52	No	55,000,000
2	Binary Data	0-255	1	N/A	12,000,000

For a summary of the statistical tests applied to each data set, see Appendix A. For a description of the overall test methodology and a description of each test used, see Appendix B.
Overall, the RNG passed the battery of tests for each configuration at the 95%, 98%, and 99% confidence levels.

RNG Evaluation

PLAYTECH CASINO RNG

Number	Data Set	Range	Positions	Replacement	Draws
Slot Games					
1	5-reel slot	0-7	5	Yes	18,751,156
2	5-reel slot	0-11	5	Yes	18,749,054
3	5-reel slot	0-15	5	Yes	17,500,182
4	5-reel slot	0-23	5	Yes	18,749,348
5	5-reel slot	0-31	5	Yes	15,000,467
6	5-reel slot	0-47	5	Yes	15,000,528
7	5-reel slot	0-63	5	Yes	10,000,325
8	5-reel slot	0-95	5	Yes	30,001,456
9	5-reel slot	0-127	5	Yes	14,999,999
10	5-reel slot	0-191	5	Yes	14,999,998
11	5-reel slot	0-255	5	Yes	14,999,999
12	9-reel slot	0-122	9	Yes	32,031,356
13	3-reel slot	0-19	3	Yes	31,250,992
Shuffles Made through Functionality in Utils Package					
14	Utils.Shuffle (bonus)	0-2	3	No	32,899,262
15	Utils.Shuffle (bonus)	0-6	7	No	14,029,445
16	Utils.Shuffle (bingo)	0-89	90	No	6,838,730
Calls Made for Specific Games					
17	Pick 3	1-726	3	Yes	16,666,664
18	Pick 4	1-200	4	Yes	18,749,999
19	Dice	1-6	3	Yes	32,812,264
20	Double precision floating point number	0.0 (inclusive) - 1.0 (exclusive)	1	N/A	43,750,000
21	Bonus Selection	0-2	2	Yes	49,219,627
Selection of Unique Numbers by Drawing Numbers with Replacement Till Requested Amount of Unique Numbers is Selected					
22	Shuffle	0-5	at least 6	Yes	6,695,965
23	Shuffle	0-17	at least 18	Yes	1,565,134
24	Partial Shuffle	1-48	at least 6	Yes	11,831,205
25	Partial Shuffle	1-80	at least 20	Yes	5,470,136

RNG Evaluation

PLAYTECH CASINO RNG

Number	Data Set	Range	Positions	Replacement	Draws
Single Numbers of Slot Bonuses, Virtual Roulette, etc.					
26	Single Number	0-4	1	N/A	97,657,202
27	Single Number	0-7	1	N/A	93,749,036
28	Single Number	0-12	1	N/A	91,402,991
29	Single Number	0-15	1	N/A	87,499,790
30	Single Number	0-23	1	N/A	93,747,746
31	Single Number	0-31	1	N/A	74,998,727
32	Single Number	0-36	1	N/A	86,713,736
33	Single Number	0-63	1	N/A	49,992,495
34	Single Number	0-95	1	N/A	75,007,727
35	Single Number	0-127	1	N/A	50,000,000
36	Single Number	0-191	1	N/A	49,999,997
37	Single Number	0-255	1	N/A	49,999,998
38	Single Number	0-999	1	N/A	49,999,988
39	Single Number	0-9,999	1	N/A	49,999,914
Shuffled Decks (Except for Video Pokers)					
40	Shuffle	0-51	52	NO	8,410,685
41	Shuffle	0-207	208	NO	1,650,046
42	Shuffle	0-311	312	NO	1,110,063
43	Shuffle	0-415	416	NO	1,139,087
Shuffle Decks for Video Pokers (Using a Separate Scaling Method)					
44	Shuffle	0-51	52	NO	2,450,980
45	Shuffle	0-53	54	NO	2,358,490
Selecting Items without Replacement (Using Same Scaling Method as Video Pokers)					
46	Draws without replacement	0-33	4	NO	6,249,999
47	Draws without replacement	0-51	10	NO	2,499,999
Shuffle by Sorting Random Double Precision Floating Point Numbers					
48	Shuffle	0-2	3	NO	2,083,333
Binary Data for DIEHARD Battery of Tests					
49	Binary Data	0-255	1	N/A	12,000,000

For a summary of the statistical tests applied to each data set, see Appendix A. For a description of the overall test methodology and a description of each test used, see Appendix B. The statistical testing was applied at 95%, 98% and 99% confidence levels.

SECTION V — SUMMARY

Overall Evaluation of the Random Number Generator

GLI's conclusion based upon the tests applied to the "Playtech Poker and Casino RNG" data is that this random number generator has exhibited random behavior and is suitable for the applications as described herein. If a game utilizes a different range or a different number of selections from the included ranges, the RNG should be resubmitted to test that set of parameters.

RNG Evaluation

APPENDIX A: Statistical Test Summary

Playtech Poker RNG:

Data Set	Range	Data Type	Positions	Replacement	Draws	Runs	Serial Corr.	Interplay Corr.	Adj. Blocks	Adj. Max-Min	Adj. High-Low	Duplicates	(Hori.) Coupon Collector	Overlaps	Permutation	Tot. Dist.	Tot. Dist. By Position	(Vert.) Coupon Collector	Count of Counts	Unequal Probabilities	DIEHARD Battery of Tests
Playtech Poker RNG																					
1	0-51	Standard 52-Card Deck	52	No	55,000,000	X	X	X	X	X	X	X		X	X	X	X	X	X		
2	0-255	Binary Data	1	N/A	12,000,000																X

RNG Evaluation

Playtech Casino RNG:

Data Set	Range	Data Type	Positions	Replacement	Draws	Runs	Serial Corr.	Interplay Corr.	Adj. Blocks	Adj. Max-Min	Adj. High-Low	Duplicates	(Hori.) Coupon Collector	Overlaps	Permutation	Tot. Dist.	Tot. Dist. By Position	(Vert.) Coupon Collector	Count of Counts	Unequal Probabilities	DIEHARD Battery of Tests
Playtech Casino RNG																					
1	0-7	5-reel slot	5	Yes	18,751,156	X	X	X				X				X	X	X			
2	0-11	5-reel slot	5	Yes	18,749,054	X	X	X				X				X	X	X	X		
3	0-15	5-reel slot	5	Yes	17,500,182	X	X	X				X				X	X	X	X		
4	0-23	5-reel slot	5	Yes	18,749,348	X	X	X				X				X	X	X	X		
5	0-31	5-reel slot	5	Yes	15,000,467	X	X	X				X				X	X	X	X		
6	0-47	5-reel slot	5	Yes	15,000,528	X	X	X				X				X	X	X	X		
7	0-63	5-reel slot	5	Yes	10,000,325	X	X	X				X				X	X		X		
8	0-95	5-reel slot	5	Yes	30,001,456	X	X	X				X				X	X		X		
9	0-127	5-reel slot	5	Yes	14,999,999	X	X	X				X				X	X		X		
10	0-191	5-reel slot	5	Yes	14,999,998	X	X	X				X				X	X		X		
11	0-255	5-reel slot	5	Yes	14,999,999	X	X	X				X				X	X		X		
12	0-122	9-reel slot	9	Yes	32,031,356	X	X	X				X				X	X		X		
13	0-19	3-reel slot	3	Yes	31,250,992	X	X	X				X				X	X	X	X		
14	0-2	Utils.Shuffle (bonus)	3	No	32,899,262	X	X	X			X	X			X		X	X			
15	0-6	Utils.Shuffle (bonus)	7	No	14,029,445	X	X	X			X	X			X		X	X	X		
16	0-89	Utils.Shuffle (bingo)	90	No	6,838,730	X	X	X	X	X	X	X		X	X	X	X		X		
17	1-726	Pick 3	3	Yes	16,666,664	X	X	X				X				X	X				
18	1-200	Pick 4	4	Yes	18,749,999	X	X	X				X				X	X		X		
19	1-6	Dice	3	YES	32,812,264	X	X	X				X				X	X	X		X	
20	0.0(inclusive) - 1.0(exclusive)	Double precision floating point number	1	N/A	43,750,000	X	X	X								X		X	X		
21	0-2	Bonus Selection	2	Yes	49,219,627	X	X	X								X	X	X			
22	0-5	Shuffle	At least 6	Yes	6,695,965	X	X	X			X	X	X		X		X	X			
23	0-17	Shuffle	At least 18	Yes	1,565,134	X	X	X			X		X		X		X	X	X		
24	1-48	Partial Shuffle	At least 6	Yes	11,831,205	X	X	X	X	X	X	X		X	X	X	X		X		
25	1-80	Partial Shuffle	At least 20	Yes	5,470,136	X	X	X	X	X	X	X		X	X	X	X		X		
26	0-4	Single Number	1	N/A	97,657,202	X	X									X		X			
27	0-7	Single Number	1	N/A	93,749,036	X	X									X		X			
28	0-12	Single Number	1	N/A	91,402,991	X	X									X		X			
29	0-15	Single Number	1	N/A	87,499,790	X	X									X		X			
30	0-23	Single Number	1	N/A	93,747,746	X	X									X		X			

RNG Evaluation

Playtech Casino RNG:

Data Set	Range	Data Type	Positions	Replacement	Draws	Runs	Serial Corr.	Interplay Corr.	Adj. Blocks	Adj. Max-Min	Adj. High-Low	Duplicates	(Hori.) Coupon Collector	Overlaps	Permutation	Tot. Dist.	Tot. Dist. By Position	(Vert.) Coupon Collector	Count of Counts	Unequal Probabilities	DIEHARD Battery of Tests
Playtech Casino RNG (continued)																					
31	0-31	Single Number	1	N/A	74,998,727	X	X									X		X			
32	0-36	Single Number	1	N/A	86,713,736	X	X									X					
33	0-63	Single Number	1	N/A	49,992,495	X	X									X					
34	0-95	Single Number	1	N/A	75,007,727	X	X									X					
35	0-127	Single Number	1	N/A	50,000,000	X	X									X					
36	0-191	Single Number	1	N/A	49,999,997	X	X									X					
37	0-255	Single Number	1	N/A	49,999,998	X	X									X					
38	0-999	Single Number	1	N/A	49,999,988	X	X									X			X		
39	0-9,999	Single Number	1	N/A	49,999,914	X	X									X			X		
40	0-51	Shuffle	52	No	8,410,685	X	X	X	X	X	X	X		X	X	X	X		X		
41	0-207	Shuffle	208	No	1,650,046	X	X	X	X	X	X	X		X	X	X	X		X		
42	0-311	Shuffle	312	No	1,110,063	X	X	X	X	X	X	X		X	X	X	X		X		
43	0-415	Shuffle	416	No	1,139,087	X	X	X	X	X	X	X		X	X	X	X		X		
44	0-51	Shuffle	52	No	2,450,980	X	X	X	X	X	X	X		X	X	X	X		X		
45	0-53	Shuffle	54	No	2,358,490	X	X	X	X	X	X	X		X	X	X	X		X		
46	0-33	Draws without replacement	4	No	6,249,999	X	X	X	X	X	X	X		X	X	X	X	X	X		
47	0-51	Draws without replacement	10	No	2,499,999	X	X	X	X	X	X	X		X	X	X	X	X	X		
48	0-2	Shuffle	3	No	2,083,333	X	X	X			X				X		X	X			
49	0-255	Binary Data	1	N/A	12,000,000																X

RNG Evaluation

APPENDIX B: Test Descriptions

B.1 **Definitions**

The following terms apply to the below test descriptions. Randomness Device or Random Number Generator (RNG) output may be collected multiple numbers at a time. Each set of numbers is called a draw. Each individual number has a particular order within the *draw*. This is referred to as the number *position*.

B.2 **Distribution Comparisons**

Many of the tests compare an observed numerical distribution with an expected distribution. Unless otherwise specified, this is done by means of a statistical chi-square goodness-of-fit test. The value chi-square is computed in the standard way. If k is a possible value, o_k is the observed count of that value, and e_k is the expected count:

$$\chi^2 = \sum_k \frac{(o_k - e_k)^2}{e_k}$$

In the case where expected counts are too small for accurate use of the above formula, values are 'binned' together to ensure an appropriate minimum expected count. The resultant value for chi-square is compared against the distribution for the appropriate number of degrees of freedom. Unusually high (distribution mismatch) or unusually low (insufficient randomness) chi-square values can be causes for data failure.

B.3 **Meta-testing**

Evaluation of groups of *p*-values may include a meta-test for extremity of high or low *p*-values, a meta-test for frequency of high or low *p*-values, and a meta-test for uniformity of *p*-values, as appropriate.

B.4 **Confidence Level**

The statistical tests conducted by GLI are done at a particular *confidence level*. Common confidence levels used include 95%, 98%, and 99%, depending on jurisdictional requirements, and intended use of the RNG. High confidence level testing has low risk of mistakenly failing a good RNG, but higher risk of passing a bad RNG. Lower confidence level testing has increased power of detecting bad RNGs, while also increasing the risk of false failures of good RNGs. Specifically, the confidence level represents the probability that an ideal source of randomness would pass the testing. If an RNG passes statistical tests at a given confidence level, passage at all *higher* confidence levels is implied.

B.5 **Tests**

Some tests are only applicable to certain types of data. Some tests may be applied only to a portion of the data. Some tests may require that the data be parsed, binned, or otherwise transformed, as necessitated by data format.

RNG Evaluation

Adjacency Blocks:
For each draw, the data is first sorted. Then the amount of contiguous blocks of numbers is counted. These statistics are then compared against the expected.
For example, if a draw consists of the numbers:

$$1, 5, 4, 2, 6, 9$$

the data would be sorted and separated into blocks. The resulting statistic would be 3.

Adjacency High-Low:
For each draw, the number of local extrema ('highs' and 'lows') in the data is recorded and compared with the expected distribution. These are also referred to as 'turning points'.
For example, if a draw consists of the numbers:

$$1, 3, 5, 7, 2, 9$$

there would be one local maximum (7) and one local minimum (2). The resulting statistic would be 2.

Adjacency Max-Min:
For each draw, the difference between the maximum and minimum values is calculated and recorded. This is compared with the expected theoretical distribution.
For example, if a draw consists of the numbers:

$$2, 3, 6, 7, 4$$

the resulting statistic would be 5, the difference between the maximum value (7) and the minimum value (2).

Count of Counts:
The Count of Counts test first counts the occurrences of each value in each position of the data. These counts are then tallied and compared with the expected distribution of counts for the draw size and range of values.

Coupon Collector's:
The Coupon Collecto's Test is applied positionally. The data is parsed until all possible values have been observed, then the number of values checked is recorded and the count is restarted. This is compared with the expected distribution. For example, if the set of all possible values is {0, 1, 2} and the first position of each draw is:

$$1, 0, 1, 0, 2, 0, 1, 2, \ldots$$

then all values are observed in the first position by the fifth draw. All values are then observed within the next 3 draws, so the first two statistics for the first position would be 5 and 3.

DieHard:
The DieHard Battery of Tests is a standard assessment of the randomness in raw outcomes generated from an RNG. The collection, designed by George Marsaglia, tests for a variety of patterns in the individual binary bits of RNG output. GLI uses a custom implementation to conduct DieHard testing.

RNG Evaluation

Duplicates:
The Duplicates Test counts the number of times a draw is exactly duplicated in the data. In the case that a particular draw is repeated more than twice, every possible way to generate a duplicate is counted. This is compared against the theoretical distribution to verify that the number of duplicate draws falls within expected bounds. For example, consider the dataset consisting of the following draws of two numbers each.

$$a)\ 1,3$$
$$b)\ 4,1$$
$$c)\ 1,3$$
$$d)\ 1,3$$
$$e)\ 4,1$$
$$f)\ 3,1$$

The duplicate pairs are (a, c), (a, d), (c, d), and (b, e), for a total of 4 duplicates. (f) is not counted as a duplicate since the draw must match in order as well as values.

Interplay Correlation:
The Interplay Correlation Test measures statistical correlation between different positions of the same draw. For each pair of positions, statistical correlation is calculated as in the Serial Correlation Test. In the case of without replacement data, an adjustment is made to account for the expected resulting negative correlation.

Overlaps:
The Overlaps Test compares consecutive draws for overlapping values. The number of overlapping values is recorded for each pair of draws. This observed distribution of overlaps is then compared against the expected distribution.
For example, if the following draws are observed consecutively,

$$a)\ 1,4,5,6$$
$$b)\ 4,1,7,6$$

the number of overlaps would be 3, representing the values 1, 4 and 6.

Permutation:
The Permutation Test is a test applicable to data that represents a reordering of numbers. Each draw can be considered as a permutation of the original ordering. Every permutation can be decomposed into disjoint cycles, which represent the possible positions a number would occupy if the same permutation is applied repeatedly. For each draw, three statistics are collected based on the cycle decomposition:

- The number of cycles.
- The size of the smallest cycle.
- T he size of the largest cycle.

Each of these statistics generates a distribution of observations which are compared with their respective expected distributions. For example, if the following draw were observed as a reordering of the numbers from 1 to 6,

$$1,3,5,4,2,6$$

the cyclic decomposition would be (1)(2 3 5)(4)(6). 1, 4 and 6 remain in their original positions, so they form their own cycles. The values 2, 3 and 5 are shuffled, so they form a single cycle together. The total number of cycles is 4, the smallest cycle has size 1, and the largest cycle has size 3.

RNG Evaluation

Runs:
The Wald-Wolfowitz Runs Test is applied to each position within the draw. A center is established, typically the data median, and the number of 'runs' above and below the center are tallied. Values exactly equal to the center are discarded. This is compared to the expected distribution, which depends on the number of values above and below the center.
For example, if the numbers drawn at a particular position were:

$$2, 3, 1, 5, 4, 7, 3, 2, 3, 2, 3, 2, 6, 7, 3, 5$$

and the established center were the data median of 3, the data would be parsed for runs above 3 and runs below 3.

$$\underbrace{2, 3, 1}, \overbrace{5, 4, 7, 3}, \underbrace{2, 3, 2, 3, 2}, \overbrace{6, 7, 3, 5}$$

This would be counted as 4 runs.

Serial Correlation:
The Serial Correlation Test measures statistical correlation between consecutive draws of the same position. For each position, the sample Pearson correlation coefficient is calculated. If X represents the first number, and Y the number that follows, then the coefficient is:

$$r = \frac{cov(X, Y)}{s_X s_Y}$$

where *s* denotes the sample standard deviation. The coefficients are used to generate a p-value for each position.

Total Distribution:
The Total Distribution Test is a simple tally of all observed values throughout the data. This is compared with the expected distribution. Typically the expected distribution is a uniform distribution. In the case of unequal weighting of values, an appropriate discrete distribution is used.

Total Distribution by Position:
The Total Distribution by Position Test tallies the observed distribution of values for each position within the draw. Each of these distributions is then compared with the expected.

Unequal Probabilities Test:
The Unequal Probabilities Test is a test applicable to multi-value draws whose results are sorted. The frequency of occurrence of each value is tallied for each position in the sorted draw. The expected frequency is calculated, taking the sorted nature of the data into account. The expected and observed frequency distributions are compared for each position

Conditions of Evaluation

GLI's compliance evaluation of Playtech Software Limited's "Playtech Poker and Casino RNG V16.4.0.89" is subject to the following conditions:

- This non-jurisdictional Report is not intended to represent the final Report for any of the mentioned jurisdictions; it is for informational purposes only.

- GLI's compliance evaluation of Playtech Software Limited's "Playtech Poker and Casino RNG V16.4.0.89" was related only to the technical scope of work elements discussed herein. This specifically excludes any other features or functions provided by the submission not related to these elements.

- All testing results are based on information and materials submitted by Playtech Software Limited to GLI throughout the duration of the project. There are inherent limitations to performing compliance testing within a laboratory environment, and within a finite time period. As a result of these limitations, anticipating all possible configurations, scenarios and events which could potentially occur in the live environment was not feasible.

- GLI generated the checksums of the software and source code files using the methods stated below:

  Verify+ by Kobetron™ - Verification Procedure for Files or Directories:
  1. Open Verify+ by Kobetron™.
  2. Select the "File" or "Directory" radio button option.
  3. Select the "Browse" button and then choose the file or the top directory for which a signature is being requested.
  4. Click the "Verify" button.
  5. The current File/Directory being checked will be displayed in the window.
  6. The program will generate the aforementioned signatures and display the results.

- GLI's evaluation to the Technical Standards was limited only to the requirements applicable to the "Playtech Poker and Casino RNG V16.4.0.89". In addition, the following sections of the applicable Technical Standards were excluded from the scope of work for this evaluation:

Technical Standard Section(s)	Reason for Exclusion
All except Random Number Generator requirements	RNG Evaluation only.

Conclusion

Subject to the Conditions of Evaluation, GLI has determined that product "Playtech Poker and Casino RNG V16.4.0.89" submitted by Playtech Software Limited complies with the requirements of the applicable Technical Standards listed on the first page.

If you have any questions regarding this information, please feel free to contact our office.

Sincerely,

Martin Britton
Managing Director