

Independent practitioner's assurance report

To the management of Shanghai Electronic Certificate Authority Co., Ltd. ("SHECA"):

Scope

We have been engaged to perform a reasonable assurance engagement on the accompanying management's assertion of SHECA for its Certification Authority (CA) operations at Shanghai (including Facility 1 and Facility 2), China for the period from April 1, 2024 to March 31, 2025, for its CAs enumerated in Attachment A, SHECA has:

- maintained effective controls to provide reasonable assurance that it meets the Network and Certificate System Security Requirements as set forth by the CA/Browser Forum,

in accordance with the [WebTrust Principles and Criteria for Certification Authorities – Network Security v1.7](#).

Management's Responsibilities

SHECA's management is responsible for the management's assertion, including the fairness of its presentation, and the provision of its described services in accordance with the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7.

Our Independence and Quality Management

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner's Responsibilities

It is our responsibility to express an opinion on the management's assertion based on our work performed.

We conducted our work in accordance with International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information". This standard requires that we plan and perform our work to form the opinion.

A reasonable assurance engagement involves performing procedures to obtain sufficient appropriate evidence whether the management's assertion of SHECA is fairly stated, in

all material respects, in accordance with the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7. The extent of procedures selected depends on the practitioner's judgment and our assessment of the engagement risk. Within the scope of our work we performed amongst others the following procedures: (1) obtaining an understanding of SHECA's network and certificate system security to meet the requirements set forth by the CA/Browser Forum; (2) testing and evaluating the operating effectiveness of the controls; and (3) performing such other procedures as we considered necessary in the circumstances.

The relative effectiveness and significance of specific controls at SHECA and their effect on assessments of control risk for subscribers and relying parties are dependent on their interaction with the controls, and other factors present at individual subscriber and relying party locations. We have performed no procedures to evaluate the effectiveness of controls at individual subscriber and relying party locations.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Inherent Limitation

Because of the nature and inherent limitations of controls, SHECA's ability to meet the aforementioned criteria may be affected. For example, controls may not prevent, or detect and correct, error, fraud, unauthorised access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection of any opinion based on our findings to future periods is subject to the risk that changes may alter the validity of such opinion.

Opinion

In our opinion, the management's assertion of SHECA, for the period from April 1, 2024 to March 31, 2025, is fairly stated, in all material respects, in accordance with the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7.

Emphasis of Matter

We draw attention to the fact that this report does not include any representation as to the quality of SHECA's services beyond those covered by the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7, nor the suitability of any of SHECA's services for any customer's intended purpose. Our opinion is not modified in respect of this matter.

Other Matters

The UniTrust Global Root CA R1 (Attachment A #65), UniTrust Global Root CA R2 (Attachment A #71), UniTrust Global Code Signing ECC Root CA R2 (Attachment A #75), UniTrust Global SMIME ECC Root CA R2 (Attachment A #81), UniTrust Global Time Stamping ECC Root CA R2 (Attachment A #89), UniTrust Global TLS ECC Root CA R2 (Attachment A #93), and UniTrust Global TLS RSA Root CA R1 (Attachment A #97) CAs

did not issue certificates during the period April 1, 2024 to March 31, 2025 and were maintained online to provide revocation status information only.

SHECA's management has disclosed 4 incidents (see Attachment B) during the period from April 1, 2024 to March 31, 2025. The remedial actions and the root causes of these incidents undertaken by SHECA have been posted publicly in the online forums of the Bugzilla site, as well as the online forums of individual internet browsers that comprise the CA/Browser Forum.

Our opinion is not modified in respect of these matters.

Purpose and Restriction on Use

The management's assertion was prepared for obtaining and displaying the WebTrust Seal on SHECA website¹ using the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7 designed for this purpose. As a result, the management's assertion of SHECA may not be suitable for another purpose. This report is intended solely for the management of SHECA in connection with obtaining and displaying the WebTrust Seal on its website after submitting the report to the related authority in connection with the WebTrust Principles and Criteria for Certification Authorities - Network Security v1.7.

Our report is not to be used for any other purpose. We do not assume responsibility towards or accept liability to any other parties for the contents of this report.

Use of the WebTrust seal

SHECA's use of the WebTrust for Certification Authorities - Network Security Seal constitutes a symbolic representation of the contents of this report and it is not intended, nor should it be construed, to update this report or provide any additional assurance.

A handwritten signature in grey ink that reads "PricewaterhouseCoopers". The signature is stylized, with a large "P" and "C" and a flowing "oopers" at the end.

PricewaterhouseCoopers
Certified Public Accountants

Hong Kong, 9 May 2025

¹ The maintenance and integrity of the SHECA website is the responsibility of the management of SHECA; the work carried out by the assurance provider does not involve consideration of these matters and, accordingly, the assurance provider accepts no responsibility for any differences between the accompanying management's assertion of SHECA on which the assurance report was issued or the assurance report that was issued and the information presented on the website.

Attachment A

The list of keys and certificates in scope for the period from April 1, 2024 to March 31, 2025 is as follow:

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
1	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50Co85F8C1567217401DFDF	9BEA11C976FE014764C1BE56A6F914B5A560317ABD9988393382E5161AA0493C	UCA Global G2 Root
2	SHECA SMIME CA G1	Signing Key	sha256RSA	2048 bits	CN = SHECA SMIME CA G1 O = UniTrust C = CN	1FA80B4DCF9CA6A53ADAB096AB9957B90A9B7F5D	8100D384D6C4529883C37C37C68FD4903C41CCBCB9033A9C733A6AF0806E1DE7	UCA Global G2 Root
3	SHECA RSA Code Signing CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Code Signing CA G3 O = UniTrust C = CN	FD7EC87AC2771C5687D2AEF807C7426A1B7C42A8	C7E976AA77E92491C269840B2F1461E65147A2BB181EE59AB63BCD86704FE456	UCA Global G2 Root
4	SHECA RSA Domain Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Domain Validation Server CA G3 O = UniTrust C = CN	057A4D756FFDoA83B1671675773E14C5F53C548E	0A552A65F22FF820E7EC3D43BBF88B02ABC34BD247E0C3505891B6342F16A5F2	UCA Global G2 Root
5	SHECA RSA Organization Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Organization Validation Server CA G3 O = UniTrust C = CN	316068091E32F9F6CCC06215AA7B91AF4C119D40	26FD4C4367E463D39C71796AE4010E53380DC93BC132FB019D6718A6873E81F4	UCA Global G2 Root
6	SHECA DV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA DV Server CA G5 O = UniTrust C = CN	D8E7061B645FAB3008887A2453AAE11C8304BF6D	778C516DAEC700EE58B3581E411E5CoDD478663A5163A29895341507D6E964DD	UCA Global G2 Root
7	SHECA OV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G5 O = UniTrust C = CN	0379A38D525FD4E988921F4358542502F4878B7E	8AB3AoACF289E6EF754BE449236843D67F45C191BDD66484B85E6E60556A9AF	UCA Global G2 Root
8	SHECA EV Server CA G2	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G2 O = UniTrust C = CN	86B148Co420A9C6F81FC4FDCD10F184BAAB5A6EA	4216527163AD2CAA825D3BF48F61A7661D0ABC89B58AB76B23A1E10999F0769F	UCA Global G2 Root
9	SHECA Code Signing CA G4	Signing Key	sha256RSA	3072 bits	CN = SHECA Code Signing CA G4 O = UniTrust C = CN	73C3B39021CBF23BDA23D351F295C58BC678EE47	8FoC3E06A16E3EA7C9B15A848076ED15E51DA0B6F1AFA274EDE2B9102191FE0F	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
10	TrustAsia RSA DV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA DV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	9432E0D48ACD1D93E75C5372960C5EF1F3F67972	074ADD7F1E73EB110EC8E2B78A92C51CF5A451135B6F7DEFC019EE9D74BFA4D6	UCA Global G2 Root
11	TrustAsia RSA OV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA OV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	F575D48E293E17A8A9C49EDCE6DB0A344D132AEB	D16BA9ACB74FEE4AA8087EE482E8E7F6F5F55FAC5025639730753FE1E705E3C	UCA Global G2 Root
12	SHECA Global G3 SSL	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 SSL O = UniTrust S = Shanghai C = CN	9820FoF1D942A6DE833F991019003D6868D20181	AEFFE4335EE56422E927F45E95AE142B9EB35979A7400569AE9BDEA6CAABC1DC	UCA Global G2 Root
13	SHECA Global G3 Code Signing	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 Code Signing O = UniTrust S = Shanghai C = CN	F73DF939A8D98754AC778EF5D995EEF835AB9439	EAA5AD8E9A2FA992354B2FF4254BEB08A632F7F17602604DDE5D8D73D616D844	UCA Global G2 Root
14	Xinnet DV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet DV SSL O = 北京新网数码信息技术有限公司 C = CN	9D3AA5B8E2212783643FF578DC22B04E6BCB36D4	9C53902F9501F6D89766999DBE2AD1A1436420B652535CDC2DC51CCFE2FFEE68	UCA Global G2 Root
15	Xinnet OV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet OV SSL O = 北京新网数码信息技术有限公司 C = CN	4B78C0324A2442784E9F83FoDoFE336C7EoD934F	3C07D7EFC8D458F668C10D4Fo6F90503CCD25D59E2B3F1D58B32884D9E4E3809	UCA Global G2 Root
16	SHECA MV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA G1 O = UniTrust C = CN	4F111E8FD4506500D7CE565190AF012BF B143845	C064FAB74E8723164932A25CFB6708106E1E5A3A05CFD1079B1DCF52792C5908	UCA Global G2 Root
17	SHECA IV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA G1 O = UniTrust C = CN	E010A54E644A8F605F134C5C108E742C0168BBE5	2A1AAA3E4D7C6EC8BE083BDBDD247153A88D51F1226FD9691B872AE23D166BFF	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
18	SHECA OV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA G1 O = UniTrust C = CN	E3B8865D1EF2FF2146219648BD54022EC93BC85C	73BA9F7AE0924F3567F0280568A7050A58C9C4855DE0686C2FDC48522EB86D2D	UCA Global G2 Root
19	SHECA Code Signing CA G5	Signing Key	sha384RSA	3072 bits	CN = SHECA Code Signing CA G5 O = UniTrust C = CN	4CF2087E0172B6CoA36E0655BoF20Co6293CE53F	51984B5D20306FE69008A5B5EE5643E5BF416443330910653F00A21B609B2D23	UCA Global G2 Root
20	JoySSL DV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA G1 O = JoySSL Limited C = CN	2A56E8EF40E0A9999D6DD8129FB79B056B882DED	AA9CD0737407E9E9D9D86B145A2CFD7CD385C28BCF5996AA8D9A6DA5FC76F3A2	UCA Global G2 Root
21	JoySSL OV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA G1 O = JoySSL Limited C = CN	6BF2449C86D0C6DED85107661B2748792342CB95	0DD33FA366CA02808D29A5C1C456496AB5015C3604EB21C101406AF2533D998A	UCA Global G2 Root
22	KeepTrust DV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	088B0DF30B0966297021D02C377300F5A7F4E7E9	352582CCC85B3944E3CD2505D9318F22ABEA418BFF29A0FE4D2CoDF280F200E3	UCA Global G2 Root
23	KeepTrust OV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	F68D3850B96EA8BEFC50CA91247F1ABC9EA39D4D	CD50559A6DC5C704237EABF9A070B79FoCDFC1A79C3A6AC8C5E71E295A065DoA	UCA Global G2 Root
24	ZoTrus RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA G1 O = ZoTrus Technology Limited C = CN	EC1EBCB71E092769EFA715E89AA1677C33AA0F5A	E7EF1AD946214B32AF03CC287930Do464ED2Co86D7A1447C6E27FC9217D4E16B	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
25	ZoTrus RSA OV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA G1 O = ZoTrus Technology Limited C = CN	AoFA64A37EB83C7C194C51B7FE6A2BE8A39F78A4	3EC123D71DB27AE1DC8F877286C222F4167A2AE4FD7BCF370789EF4A9521B8	UCA Global G2 Root
26	JoySSL DV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA O = JoySSL Limited C = CN	807B3118B837D850FD1C4AD9879A5E426D00A1A4	AA9CD0737407E9E9D9D86B145A2CFD7CD385C28BCF5996AA8D9A6DA5FC76F3A2	UCA Global G2 Root
27	JoySSL OV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA O = JoySSL Limited C = CN	21507E5079E680B202C0FBC1AFAD8026DC52B8DD	0DD33FA366CA02808D29A5C1C456496AB5015C3604EB21C101406AF2533D998A	UCA Global G2 Root
28	KeepTrust DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	5063446A28FAC2B3D5122D01A63D9B85845026CC	A879CB01A2661C255B9C2B9BE0B20BA74EEA9546E21A82C570E177CF5BF4AEDA	UCA Global G2 Root
29	KeepTrust OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	04FA1B9DBC05CD575CC6518D5CDFE62CD151B0C8	FFD0D9EEEEAFBB4C44F71392F20A52E0F65896854933139640722DECFC2D4658	UCA Global G2 Root
30	ZoTrus RSA DV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA O = ZoTrus Technology Limited C = CN	7FEF9B0B9EB3F717A576BB C7580209DE731544B7	69C25861236502FoC223443FD851A2FB6ACB745BB814AD72BB2E50867C52C3BB	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
31	ZoTrus RSA OV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA O = ZoTrus Technology Limited C = CN	E92D57AB2A4455799E257937123588FCDF187AC3	219C59CCD06D0210ADC6E8125700D1578F69A0670A07FD9DDE99E4AC82524CD	UCA Global G2 Root
32	CT2 DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 DV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	8955C1DB0608F7A83C51CA3BF98F017B90098A73	4B316EDFC0780286571E430CoA94231B192B45666AF5DEBEE454FE08E4496383	UCA Global G2 Root
33	CT2 OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 OV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	27937BF574A8AF23A7F29E2B03CFACC7182B2EFA	A263B7CEFD1490D04FD0EC31D9695BAEE480EE861D12124C2BF8EBD8A893652F	UCA Global G2 Root
34	SHECA FREE DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA FREE DV TLS RSA CA G1 O = UniTrust C = CN	F18082839D6BB5C20A6A43C2D584A9F6F3EF2DC9	DFD9FB07A42E81216D6497FBC47BE53D829BBFD6A9188B02D5C8CDE29E01CF5C	UCA Global G2 Root
35	SHECA FREE DV TLS ECC CA G2	Signing Key	sha384RSA	384 bits	CN = SHECA FREE DV TLS ECC CA G2 O = UniTrust C = CN	84BCFE29594A85C0849FF0F21230812BE73F9BBC	81DB88F4CDE7345B0EC140E4A193720163DF9B787FABA0AF5A7EDACE6DC315A6	UCA Global G2 Root
36	SHECA DV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA DV TLS ECC CA G6 O = UniTrust C = CN	7E44A7C621F5F30E25293C07F288ECC82F7BD482	1F0570E418F9C89E094CB26EDA71B92BED81ACBB446B2300D398DDB739AB7A6C	UCA Global G2 Root
37	SHECA OV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA OV TLS ECC CA G6 O = UniTrust C = CN	2569CCEFD8B564A83BAC15284500F13D86104FEE0	C4DA2C937523D42054FBB4AF694BB90FC7743C910EE048726241BD84C38509D9	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
38	DNSPod DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod DV TLS RSA CA G1 O = DNSPod, Inc. C = CN	4CF1C77BBB5F991923F8616FD712F9749C5AE55C	A07A7DEFCD1ED23F36D22AC33421F1D973583B12C96CA2496DE724C4494CoCD2	UCA Global G2 Root
39	DNSPod DV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod DV TLS ECC CA G1 O = DNSPod, Inc. C = CN	B9A7EB6345ADB88940892F8B69930658DA9733CF	AACCD77057271FF5F605DF8CC5A44397E71CCE796EA79B8F1E8658FC9CD52464	UCA Global G2 Root
40	DNSPod OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod OV TLS RSA CA G1 O = DNSPod, Inc. C = CN	38C22FB4856AB84A51911FE53A7FE2BE1103338F	F36592E33FD869E917E33BADE683A4EC20809D5C8B493A1427BA6DC066CB5AE3	UCA Global G2 Root
41	DNSPod OV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod OV TLS ECC CA G1 O = DNSPod, Inc. C = CN	586EA65733443DCE3CED5DEBF47E000FoE81B28D	8C4BFF9AE3Fo79E50208F84E4DA658AB441109686861FFCEE50D4A8662C2EEA1	UCA Global G2 Root
42	Keymatic Secure Domain RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Domain RSA CA G1 O = PKI(Chongqing) Limited C = CN	8ED096D6E8A4D935F386EBDA0B592E40521BoCBB	F3C9431A163BECE79562093F0734DF6ED05618551CFEE0ABA949A77E959D8AAE	UCA Global G2 Root
43	Keymatic Secure Domain ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Domain ECC CA G1 O = PKI(Chongqing) Limited C = CN	C1286B590B198916D776E6661E57D4460812EDDF	Bo7D2ACA4F29E2449B5ADB7CCB31C64C43854044A2DAA2AC838788026C684CoC	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
44	Keymatic Secure Business RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Business RSA CA G1 O = PKI(Chongqing) Limited C = CN	5693F449C7E448C3C3D2BE86397E33368163A377	5523644185E21EF943A505A1C438167DA1FE7B14BEF2D243E53DE8C2B4263EB7	UCA Global G2 Root
45	Keymatic Secure Business ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Business ECC CA G1 O = PKI(Chongqing) Limited C = CN	23368DE013A9BB36D76A66E1128EDA5F4A3620D5	75C4AF6628E7D01DD369593EFD727E3560ED9DDD67B04325655821BD23281A2B	UCA Global G2 Root
46	sslTrus RSA DV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA DV TLS CA G2 O = sslTrus C = CN	DEE386BAC52E630164E0C142943C3202967C6891	B3A5BED750BCE5A08C75E0012B0A6A67954952BC8D12520514CC15CBB0B17039	UCA Global G2 Root
47	sslTrus ECC DV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC DV TLS CA G2 O = sslTrus C = CN	624679EBA47FFA4CD98D6FFFDE6D6F7FE49E86E9	32CAA961415106CF471CEA5B15C66464A907C99861A297C359D174624BADB92F	UCA Global G2 Root
48	sslTrus RSA OV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA OV TLS CA G2 O = sslTrus C = CN	oEDFB68948064E10818E3C8108C824BB8B308F62	FoE647B5A2869A3487507A90549AF039896DB8B0FoE7CF92EF3AB567F3EC5E5C	UCA Global G2 Root
49	sslTrus ECC OV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC OV TLS CA G2 O = sslTrus C = CN	BEE114C1BEF84DA5E3D4E41FCA0D1F81A90CoFE0	06B7E611243D2901B964FF6D0C53A2DB52BA2E1D41E17D74950E16605D9A2C90	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
50	HTTPS Automation Research RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = HTTPS Automation Research RSA DV SSL CA G1 O = Shenzhen Yamu Security Technology Co., Ltd. C = CN	0FB6A84D71E5B1B38F9E72D6BBC06A147FE4D03B	1E426FF0F51EB4C285788B4418D2DAB21097230CED81119BA178A20AB1AABF67	UCA Global G2 Root
51	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	C1AFC65B1E813BoE6146E6AA5341681272ABE9A38D59F7BD1B27B729834AoD9C	Certum Trusted Network CA
52	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	3DD69C5BE170F943F804D1D31FE8F916CoC0226CDDD7AEA9AA9AoCDFD3474361	Certum Trusted Network CA
53	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	BB61408AED9F530B2EC0545E53BA2C8EBEAA57D9976447DB1663CED4600CD6B7	Certum Trusted Network CA
54	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	BFA95C5DF164B659FA32F6D10564D7170DDE661A853A782E6AB63639433BCB41	Certum Trusted Network CA
55	UCA Extended Validation Root	Root Key	sha256RSA	4096 bits	CN = UCA Extended Validation Root O = UniTrust C = CN	D9743AE4303D0DF712DC7E5A059F1E349AF7E114	D43AF9B35473755C9684FC06D7D8CB70EE5C28E773FB294EB41EE71722924D24	UCA Extended Validation Root
56	SHECA RSA Extended Validation Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Code Signing CA O = UniTrust C = CN	8E40665F6AA940C2B9F1F04A22639564593707E5	D404FAFA4BA2F426B66CD219C6DA84F91CoFB7CB58429EC8077E2A764314D55D	UCA Extended Validation Root
57	SHECA RSA Extended Validation Server CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Server CA O = UniTrust C = CN	3B4B252A77372AFCB97FEDA8BDAF2299FC5DC5F4	4FD6FA527157EEA463689D7A4C2B934EF22279725413893D9847242C85CA9DF	UCA Extended Validation Root
58	SHECA EV Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G3 O = UniTrust C = CN	54E972FB78669FE5CBF33B8F9846553739CoB84	7EF3F89456CE636557B20C5DFB37F98C253AoB660D2E9E5E7845CAF9Co38C7C1	UCA Extended Validation Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
59	SHECA EV Code Signing CA G2	Signing Key	sha256RSA	3072 bits	CN = SHECA EV Code Signing CA G2 O = UniTrust C = CN	5007CC4DF6F4BA37FC13CE1F2D22C956D89EA503	DD84169585A2E7A216AECD4083265A8EB51A64F7C6F1943671F8584C73F79A74	UCA Extended Validation Root
60	SHECA OV Server CA G6	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G6 O = UniTrust C = CN	FB7DCE4905B420BCFFBF0D8471ADAE0135F961A0	264DF1458FB5EF1FC9DF9F1345E84A6CC1A471CF475AE7598FF52B86713519FB	UCA Extended Validation Root
61	SHECA OV Server CA G7	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G7 O = UniTrust C = CN	A0F344BA17512C7776AB4442C5534B16AB5FoDAA	F6F8BCD413C9733166E85843B468DD36E727152D9A37B15129CoE7648ECEEE639	UCA Extended Validation Root
62	SHECA Extended Validation SSL CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation SSL CA O = UniTrust C = CN	4D140DEA6B559CoCA6E1B7BE86A966D175E7CB5	25BFDB1C5FE2CCE051EC6DFBF2BB24E78C92F969B1BB37867DAEDF93D1A7AE7E	UCA Extended Validation Root
63	SHECA Extended Validation Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation Code Signing CA O = UniTrust C = CN	7498996F6A15C0062520851CAF2B316B87EDA3DB	A392C645B9A5AD6A214F19DE776346BC7DD6BB15818E433886DAC54EE6661852	UCA Extended Validation Root
64	SHECA EV Code Signing CA G3	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA G3 O = UniTrust C = CN	6D325FA74CC0EEC89B7C6A3CoF2E33CA55EB99A8	E00AC33AC715D8BC3B6607A4165AE8428F9274B4224AB3D8CF36E8C8D62834A3	UCA Extended Validation Root
65	UniTrust Global Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Root CA R1 O = UniTrust C = CN	3CA061BoEFDAC6E8BB2DE156A2EBBBB63D232381	81B35EFC42C77947209D76B51B5E7B122CE78348AE8C4525DC8D4B30289E5385	UniTrust Global Root CA R1
66	SHECA DV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA DV Server CA 1A O = UniTrust C = CN	653740E0BBF43905206A8C9CA0ACB3BBD6968CA0	D3D4A040BB41A695A96E3AAD93814CF7EF219D5819206E947B44DCC5B8E5E272	UniTrust Global Root CA R1
67	SHECA OV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA OV Server CA 1A O = UniTrust C = CN	8CD02E82008EE2DEFF71F61A105C74A826E858D1	9A3DB0FoFB0FF4F974A4E0C510A7C13D350485B1E6CDF5A899BB24DoF499E9BD	UniTrust Global Root CA R1

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
68	SHECA EV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Server CA 1A O = UniTrust C = CN	73E36DF62D862F57DF69A53687231C85E0170216	2F1CA1A5CoD7AE58C7ADFC69D4C57EE815F39CoF3D1F982E3AC76D25AB723995	UniTrust Global Root CA R1
69	SHECA Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing CA 1A O = UniTrust C = CN	21B34B4FC6DD33246E861BACEBF182D7EFCACDA	59E3EF6680BCCoB1162DED4929D37E698C6A5CBEE075C03F1173AD653CF91CED	UniTrust Global Root CA R1
70	SHECA EV Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA 1A O = UniTrust C = CN	510BE3C14EABDFEA38FF434E2C97339C0BFC27A9	03E04A3C2B5200BB27C679A37261852BAC7D46F3F371E4ECA80225AE288E4CFC	UniTrust Global Root CA R1
71	UniTrust Global Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Root CA R2 O = UniTrust C = CN	E45366B7B7A4E9D7CCC121E04ACFCCAC01BC72BC	78919B35D1C615595A51328A5C546083B4D5320724A258695B991F2F61C4DCC7	UniTrust Global Root CA R2
72	SHECA DV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV Server CA 2A O = UniTrust C = CN	A1221170BEC8665F6ECB104C4EDB38EA9C1F914D	69201DC24E4127FFA5B41A0DDFoA1A005C00F334B003F1008924CBF998E1827C	UniTrust Global Root CA R2
73	SHECA OV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV Server CA 2A O = UniTrust C = CN	98CDEC338767F39422373810B735BA7C683A8259	8E2CA2825C2039804A7A1CC54B002EA1DB30AC489698F039527BF1602132F611	UniTrust Global Root CA R2
74	SHECA EV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Server CA 2A O = UniTrust C = CN	44661C71EF69B7930AB5B771D83B114CFA843D77	93E49170D20F54DA701118A5ABDCDDA4FFCF334CDB2D8D80599AB62848C85F80	UniTrust Global Root CA R2
75	UniTrust Global Code Signing ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Code Signing ECC Root CA R2 O = UniTrust C = CN	D6E2F5C7B440515C5A3A5C490EFCB8C239503CDB	8854E81F9C6B47E438BBAE17E41F8BE4E68589AFD31A48BEE3F203F6DD3DA517	UniTrust Global Code Signing ECC Root CA R2
76	SHECA Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Code Signing ECC CA 2A O = UniTrust C = CN	3A5576122E385EB715671EE385BF1E3DoAC77A1A	953707AE07AF34970462E8C02AC3D10949D3684D063385277F31869508007D23	UniTrust Global Code Signing ECC Root CA R2
77	SHECA EV Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Code Signing ECC CA 2A O = UniTrust C = CN	BFAE7906E9776B61D01E4579986F2698B66DF25E	545BD126658352B306EE74185173F1774A79467A26E9BB6AEoED44D86615DE5A	UniTrust Global Code Signing ECC Root CA R2

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
78	UniTrust Global Code Signing RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Code Signing RSA Root CA R1 O = UniTrust C = CN	60C14C87BDA AB27B678E4E A7921C519B48 1BA860	6357353A4BBCA3D5A 158C95BE9DC90FoB3 E2F6A6310FD5371FC B4C41E5E1BB4C	UniTrust Global Code Signing RSA Root CA R1
79	SHECA Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing RSA CA 1B O = UniTrust C = CN	046DED1C4A 44C827558CD 17D7B17CCoC 539579DE	4C5F7C561295B97FE7 616389A2B549AoD45 98DoBD15EBFEA53A B518714CB8434	UniTrust Global Code Signing RSA Root CA R1
80	SHECA EV Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing RSA CA 1B O = UniTrust C = CN	7E2561771672 AEE063F1Co7 B7CAC6F3AA E44CDC3	A85CBD3FD9F3BFE2 20DE0A09B52D5AA6 F627EE9297FEFCE87 06073A41B993C79	UniTrust Global Code Signing RSA Root CA R1
81	UniTrust Global SMIME ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global SMIME ECC Root CA R2 O = UniTrust C = CN	2D4D94407CF FC45D4357F1 90557448CF6 CBEA343	6F4E2464D216A1EoB 558BB204259B4A545 AEB948957AA3EAF11 B2F4DE1AFEF10	UniTrust Global SMIME ECC Root CA R2
82	SHECA IV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA IV SMIME ECC CA 2A O = UniTrust C = CN	EBC1D6F67F2 909A9928A90 B4295818Ao2 F3CAF1B	E82D794C1AC79F9BE BF3B6D98A237F84C1 5FD40C3ABB86C2214 E699414F8FF54	UniTrust Global SMIME ECC Root CA R2
83	SHECA MV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA MV SMIME ECC CA 2A O = UniTrust C = CN	FE0328035B6 93E5EDC5FA EoB742735DC C38C66Fo	D7C4AB9D315AE8B8 89DA902C55264295D 8CDC0F5471370490F 4D4585E2C3C6D3	UniTrust Global SMIME ECC Root CA R2
84	SHECA OV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV SMIME ECC CA 2A O = UniTrust C = CN	BD34144476B 06DoF264C3C A9C349AC715 3D4EF55	229B7FBCA2361DE63 171067DE91DFFB3D2 FA71A5ABE51CA41D5 300C5750D2FoE	UniTrust Global SMIME ECC Root CA R2
85	UniTrust Global SMIME RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global SMIME RSA Root CA R1 O = UniTrust C = CN	DF08E3E977C 1FoFBF5F8D4 19504C7719F2 06CBA3	FoF255ADA2A643Co A1E7C8F54F3ED3DD 25EF0E7378E76F7C12 7517ECFD952803	UniTrust Global SMIME RSA Root CA R1
86	SHECA IV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA 1A O = UniTrust C = CN	D38BCDC445 B1E8DoAFDD 8BE8E4A6B5 B30A71EF4E	82BA6F106746838375 7DF53F1628258043B BB972E1CAD31FD7AA DoADD66A5B53	UniTrust Global SMIME RSA Root CA R1

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
87	SHECA MV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA 1A O = UniTrust C = CN	5A4AEFED9A E84052DA320 BBB32C4E529 ECDC5255	92148A115D26B28725 4B36164164B2220EE3 6B405D3B708CF5B7A Bo60C66B1FE	UniTrust Global SMIME RSA Root CA R1
88	SHECA OV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA 1A O = UniTrust C = CN	Co61C3D053C 9F412C5C9192 DBB638305E4 CA7EF8	6B661B964F2359C4C A68355243A2EEEDA9 BACDA191D103AOC11 19EC892018AC7	UniTrust Global SMIME RSA Root CA R1
89	UniTrust Global Time Stamping ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Time Stamping ECC Root CA R2 O = UniTrust C = CN	C20E70D5E40 15590A717B62 DDDB5389D7 627A1B7	90711D905CFF3C773A 7320B5188A960C8A7 D9E5966FA73284D64 A4BF3E2FDA48	UniTrust Global Time Stamping ECC Root CA R2
90	SHECA Time Stamping ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Time Stamping ECC CA 2A O = UniTrust C = CN	41315BE8FD8 C3C65630168 307A0B30EC0 97F1069	0E3FC096DDCC3205 047F9042D57882A114 4107243C47CDE6FFF DE403A5B7CA04	UniTrust Global Time Stamping ECC Root CA R2
91	UniTrust Global Time Stamping RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Time Stamping RSA Root CA R1 O = UniTrust C = CN	DA891E9DC3 0F38DAB089 6CCDC5FDD7 504F155B30	1759727D9E6679B069 DD3AFA910E2779C42 007AAB206A169C66E 6E2A3D1774B0	UniTrust Global Time Stamping RSA Root CA R1
92	SHECA Time Stamping RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Time Stamping RSA CA 1B O = UniTrust C = CN	CC140216769C C1FCECFCA02 C90C63AB0B 6A36181	9A46D52BoF6A913E6 BF3EE6DCFE08B266 4DEE2AF704FD4931E 8DoC38F3D76D00	UniTrust Global Time Stamping RSA Root CA R1
93	UniTrust Global TLS ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global TLS ECC Root CA R2 O = UniTrust C = CN	7935AD798A9 5305C3E05A6 75161A97000F 6FCC90	6C689FC6B014A1FB0 CDEB5A3996171C15E7 286106028532E0210C EA8D9CD4E97	UniTrust Global TLS ECC Root CA R2
94	SHECA DV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV TLS ECC CA 2A O = UniTrust C = CN	CB65E62F501 75F2C172B433 F3A043CD213 569A66	D690D8722EA89CD7 617901449520653339 386AC4939F7EC5C1B 195D9C3C95FA4	UniTrust Global TLS ECC Root CA R2
95	SHECA EV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV TLS ECC CA 2A O = UniTrust C = CN	B353900B5E4 0A4952EA85A 27F413ABBAD 631F233	05E4C4B1F25803069 0E6793C9C13C6F6AE 234F68E5C41236FDC 919B7F589032F	UniTrust Global TLS ECC Root CA R2

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
96	SHECA OV TLS ECC CA 2A	Signing Key	sha384ECDSA	384 bits	CN = SHECA OV TLS ECC CA 2A O = UniTrust C = CN	A065578C43B2546C4E18DF86AED56725A9B7659C	08BA64405A3406C97BDCBD0E44224E6DD341F3EC93F1368457DFA7CAC88BE150	UniTrust Global TLS ECC Root CA R2
97	UniTrust Global TLS RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global TLS RSA Root CA R1 O = UniTrust C = CN	F2ADBFAB6708F09672E633D65175A24759C900C4	4BABE0E9328D5DAE17936F3DDAA2442BFBD0873F92FB8D1FBBD3D9894649AD9	UniTrust Global TLS RSA Root CA R1
98	SHECA DV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA DV TLS RSA CA 1A O = UniTrust C = CN	C5E3A87F7EEDBC3E7108B34EF490EF2F2F1367D1	FFABEA74895DC0C78C224597472CF6937E0D740EF49DC2256C8E75A2A2A15EDE	UniTrust Global TLS RSA Root CA R1
99	SHECA EV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA EV TLS RSA CA 1A O = UniTrust C = CN	60651A135EAB2B98A5A1041B3057A1D02FC612E5	B2525A5966CA68CA7F504F0A21FD73847D174F89B48852A3E970588E1EAF774	UniTrust Global TLS RSA Root CA R1
100	SHECA OV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV TLS RSA CA 1A O = UniTrust C = CN	F463091C1E2788B75DBBE91644B1744A34F34B46	7F8EF707C2D9A4B7D4ED5FDDC8AF4A64D99BF297D03F8F01C4375DE74B1C7DE1	UniTrust Global TLS RSA Root CA R1

Attachment B - Publicly disclosed incidents

The list of incidents disclosed publicly during the period from April 1, 2024 to March 31, 2025 is as follow:

Bugzilla ID	Disclosure	Publicly Disclosed Link
1902592	SHECA: EV certificate subject RDN order is incorrect	Bugzilla Ticket Link
1902947	SHECA: The certificate's cpsURI is empty	Bugzilla Ticket Link
1914365	SHECA: CRLReason code usage error	Bugzilla Ticket Link
1946921	SHECA: DV SSL certificate format is abnormal	Bugzilla Ticket Link

注册会计师独立鉴证报告

（注意：本中文报告只作参考。正文请参阅英文报告。）

致：上海市数字证书认证中心有限公司（简称“SHECA”）管理层

范围

我们接受委托，对后附 SHECA 于 2024 年 4 月 1 日至 2025 年 3 月 31 日期间于中国上海（包括设施 1 和设施 2）运营的电子认证服务管理层认定执行了合理保证的鉴证业务。对于附录 A 中所包括的根证书和中级证书，SHECA：

- 通过有效控制机制，以提供合理保证确保符合 CAB 论坛（CA/Browser Forum）发布的网络及证书系统安全规范（Network and Certificate System Security Requirements），

以符合 [WebTrust 电子认证网络安全规范审计标准 v1.7](#)。

管理层的责任

SHECA 的管理层负责确保管理层认定，包括其陈述的客观性以及认定中描述的 SHECA 所提供的服务能够符合 WebTrust 电子认证 - 网络安全规范审计标准 v1.7 的规定。

我们的独立性和质量管理

我们遵守了国际会计师职业道德准则理事会颁布的执业会计师道德守则中的独立性及其他职业道德要求。该职业道德守则以诚信、客观、专业胜任能力及应有的关注、保密和良好职业行为为基本原则。

本事务所遵循国际质量管理准则第 1 号，该准则要求事务所设计、实施并执行质量管理体系，包括与遵守职业道德要求、专业标准和适用的法律和法规要求的政策或程序。

注册会计师的责任

我们的责任是在执行鉴证工作的基础上对管理层认定发表意见。

我们根据《国际鉴证业务准则第 3000 号(修订版)——历史财务信息审计或审阅以外的鉴证业务》的规定执行了鉴证工作。该准则要求我们计划和实施工作，以形成鉴证意见。

合理保证的鉴证业务涉及实施鉴证程序，以获取有关管理层认定是否在所有重大方面符合 WebTrust 电子认证 - 网络安全规范审计标准 v1.7 的充分、适当的证据。选择的鉴证程序取决于注册会计师的判断及我们对项目风险的评估。在我们的工作范围内，我们实施了包括（1）了解 SHECA 的网络和证书系统安全是否符合 CAB 论坛的相应要求；（2）测试和评估控制活动执行的有效性；以及（3）执行其他我们认为必要的鉴证程序。

SHECA 的内部控制的有效性和重要性，及其对用户及相关依赖方的控制风险评估所产生的影响，取决于控制间的相互作用以及其他存在于每个用户和相关依赖方的因素。我们并没有对用户和依赖方所负责的控制的有效性进行任何评估工作。

我们相信，我们获取的证据是充分、适当的，为发表鉴证意见提供了基础。

固有限制

由于内部控制体系本身的限制，SHECA 满足上述要求的能力可能会受到影响，例如：控制可能未达到预防、发现或纠正错误、舞弊、对系统或信息的未授权访问，或违反内外部制度或规定的要求。此外，风险的变化可能会影响本评估报告在将来时间的参考价值。

意见

我们认为，SHECA 于 2024 年 4 月 1 日至 2025 年 3 月 31 日期间的电子认证服务的管理层认定在所有重大方面符合 WebTrust 电子认证 - 网络安全规范审计标准 v1.7。

强调事项

我们提请使用者关注，本报告并不包括任何在 WebTrust 电子认证 - 网络安全规范审计标准 v1.7 以外的质量标准声明，或对任何客户对 SHECA 服务的合适性声明。本段内容不影响已发表的鉴证意见。

其他事项

UniTrust Global Root CA R1（附录 A#65），UniTrust Global Root CA R2（附录 A#71），UniTrust Global Code Signing ECC Root CA R2（附录 A #75），UniTrust Global SMIME ECC Root CA R2（附录 A #81），UniTrust Global Time Stamping ECC Root CA R2（附录 A #89），UniTrust Global TLS ECC Root CA R2（附录 A #93）和 UniTrust Global TLS RSA Root CA R1（附录 A #97）在 2024 年 4 月 1 日至 2025 年 3 月 31 日期间未颁发证书，仅保持在线以提供吊销状态信息。

在 2024 年 4 月 1 日至 2025 年 3 月 31 日期间，SHECA 管理层披露了 4 起事件（见附录 B）。SHECA 所采取的补救措施和这些事件的根本原因已在 Bugzilla 网站的在线论坛以及组成 CA/Browser 论坛的各个互联网浏览器的在线论坛上公开发布。本段内容不影响已发表的鉴证意见。

目的及使用和分发限制

管理层认定为在 SHECA 网站¹上获取并展示 WebTrust Seal 编制，并采用为该目的而设计的 WebTrust 电子认证 - 网络安全规范审计标准 v1.7，因此后附 SHECA 管理层认定可

¹ SHECA 网站维护和网站的真实完整是公司管理层的职责。我们执行的鉴证程序不包含对该等事项的考虑，因此，对出具本鉴证报告所依赖的 SHECA 管理层认定或鉴证报告与网站所显示信息的任何差异我们均不承担责任。



羅兵咸永道

能不适用于其他目的。本报告仅向 SHECA 管理层出具，用作向 WebTrust 电子认证 - 网络安全规范审计标准 v1.7 相关机构提交报告后，在 SHECA 网站上获取并展示 WebTrust Seal，不应向任何其它方分发或为其他目的使用。我们不会就本报告的内容向任何其它人士负上或承担任何责任。

WebTrust seal 的使用

在 SHECA 网站上的 WebTrust 电子认证标识是本报告内容的一种符号表示，它并不是为了也不应被认为是对本报告的更新或任何进一步的保证。

罗兵咸永道会计师事务所
注册会计师

香港，2025 年 5 月 9 日

附录 A

下表列示了2024年4月1日至2025年3月31日期间本报告范围内的密钥和证书：

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
1	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	9BEA11C976FE014764C1BE56A6F914B5A560317ABD9988393382E5161AA0493C	UCA Global G2 Root
2	SHECA SMIME CA G1	Signing Key	sha256RSA	2048 bits	CN = SHECA SMIME CA G1 O = UniTrust C = CN	1FA80B4DCF9CA6A53ADAB096AB9957B90A9B7F5D	8100D384D6C4529883C37C37C68FD4903C41CCBCB9033A9C733A6AF0806E1DE7	UCA Global G2 Root
3	SHECA RSA Code Signing CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Code Signing CA G3 O = UniTrust C = CN	FD7EC87AC2771C5687D2AEF807C7426A1B7C42A8	C7E976AA77E92491C269840B2F1461E65147A2BB181EE59AB63BCD86704FE456	UCA Global G2 Root
4	SHECA RSA Domain Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Domain Validation Server CA G3 O = UniTrust C = CN	057A4D756FFDoA83B1671675773E14C5F53C548E	0A552A65F22FF820E7EC3D43BBF88B02ABC34BD247E0C3505891B6342F16A5F2	UCA Global G2 Root
5	SHECA RSA Organization Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Organization Validation Server CA G3 O = UniTrust C = CN	316068091E32F9F6CCC06215AA7B91AF4C119D40	26FD4C4367E463D39C71796AE4010E53380DC93BC132FB019D6718A6873E81F4	UCA Global G2 Root
6	SHECA DV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA DV Server CA G5 O = UniTrust C = CN	D8E7061B645FAB3008887A2453AAE11C8304BF6D	778C516DAEC700EE58B3581E411E5C0DD478663A5163A29895341507D6E964DD	UCA Global G2 Root
7	SHECA OV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G5 O = UniTrust C = CN	0379A38D525FD4E988921F4358542502F4878B7E	8AB3A0ACF289E6EF754BE449236843D67F45C191BDD66484B85E6E60556A9AF	UCA Global G2 Root
8	SHECA EV Server CA G2	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G2 O = UniTrust C = CN	86B148C0420A9C6F81FC4FDCD10F184BAAB5A6EA	4216527163AD2CAA825D3BF48F61A7661D0ABC89B58AB76B23A1E10999F0769F	UCA Global G2 Root
9	SHECA Code Signing CA G4	Signing Key	sha256RSA	3072 bits	CN = SHECA Code Signing CA G4 O = UniTrust C = CN	73C3B39021CBF23BDA23D351F295C58BC678EE47	8FoC3E06A16E3EA7C9B15A848076ED15E51DA0B6F1AFA274EDE2B9102191FE0F	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
10	TrustAsia RSA DV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA DV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	9432E0D48ACD1D93E75C5372960C5EF1F3F67972	074ADD7F1E73EB110EC8E2B78A92C51CF5A451135B6F7DEFC019EE9D74BFA4D6	UCA Global G2 Root
11	TrustAsia RSA OV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA OV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	F575D48E293E17A8A9C49EDCE6DB0A344D132AEB	D16BA9ACB74FEE4AA8087EE482E86E7F6F5F55FAC5025639730753FE1E705E3C	UCA Global G2 Root
12	SHECA Global G3 SSL	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 SSL O = UniTrust S = Shanghai C = CN	9820FoF1D942A6DE833F991019003D6868D20181	AEFFE4335EE56422E927F45E95AE142B9EB35979A7400569AE9BDEA6CAABC1DC	UCA Global G2 Root
13	SHECA Global G3 Code Signing	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 Code Signing O = UniTrust S = Shanghai C = CN	F73DF939A8D98754AC778EF5D995EEF835AB9439	EAA5AD8E9A2FA992354B2FF4254BEB08A632F7F17602604DDE58D73D616D844	UCA Global G2 Root
14	Xinnet DV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet DV SSL O = 北京新网数码信息技术有限公司 C = CN	9D3AA5B8E2212783643FF578DC22B04E6BCB36D4	9C53902F9501F6D89766999DBE2AD1A1436420B652535CDC2DC51CCFE2FFEE68	UCA Global G2 Root
15	Xinnet OV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet OV SSL O = 北京新网数码信息技术有限公司 C = CN	4B78C0324A2442784E9F83FoDoFE336C7EoD934F	3C07D7EFC8D458F668C10D4F06F90503CCD25D59E2B3F1D58B32884D9E4E3809	UCA Global G2 Root
16	SHECA MV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA G1 O = UniTrust C = CN	4F111E8FD4506500D7CE565190AF012BFB143845	Co64FAB74E8723164932A25CFB6708106E1E5A3A05CFD1079B1DCF52792C5908	UCA Global G2 Root
17	SHECA IV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA G1 O = UniTrust C = CN	E010A54E644A8F605F134C5C108E742Co168BBE5	2A1AAA3E4D7C6EC8BE083BDBDD247153A88D51F1226FD9691B872AE23D166BFF	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
18	SHECA OV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA G1 O = UniTrust C = CN	E3B8865D1EF 2FF214621964 8BD54022EC9 3BC85C	73BA9F7AE0924F356 7F0280568A7050A58 C9C4855DE0686C2F DC48522EB86D2D	UCA Global G2 Root
19	SHECA Code Signing CA G5	Signing Key	sha384RSA	3072 bits	CN = SHECA Code Signing CA G5 O = UniTrust C = CN	4CF2087E017 2B6C0A36E06 55B0F20C062 93CE53F	51984B5D20306FE69 008A5B5EE5643E5BF 416443330910653F00 A21B609B2D23	UCA Global G2 Root
20	JoySSL DV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA G1 O = JoySSL Limited C = CN	2A56E8EF40E 0A9999D6DD 8129FB79B05 6B882DED	AA9CD0737407E9E9 D9D86B145A2CFD7C D385C28BCF5996AA8 D9A6DA5FC76F3A2	UCA Global G2 Root
21	JoySSL OV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA G1 O = JoySSL Limited C = CN	6BF2449C86D 0C6DED85107 661B27487923 42CB95	0DD33FA366CA0280 8D29A5C1C456496AB 5015C3604EB21C1014 06AF2533D998A	UCA Global G2 Root
22	KeepTrus t DV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	088B0DF30B 0966297021D 02C377300F5 A7F4E7E9	352582CCC85B3944E 3CD2505D9318F22AB EA418BFF29A0FE4D 2CoDF280F200E3	UCA Global G2 Root
23	KeepTrus t OV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	F68D3850B96 EA8BEFC50C A91247F1ABC 9EA39D4D	CD50559A6DC5C7042 37EABF9A070B79FoC DFC1A79C3A6AC8C5 E71E295A065DoA	UCA Global G2 Root
24	ZoTrus RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA G1 O = ZoTrus Technology Limited C = CN	EC1EBCB71E0 92769EFA715 E89AA1677C3 3AA0F5A	E7EF1AD946214B32A F03CC287930D0464E D2C086D7A1447C6E2 7FC9217D4E16B	UCA Global G2 Root
25	ZoTrus RSA OV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA G1 O = ZoTrus Technology Limited C = CN	A0FA64A37EB 83C7C194C51 B7FE6A2BE8 A39F78A4	3EC123D71DB27AE1D C8F877286C222F4167 A2AE4FD7BCF370789 EF4A9521B8	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
26	JoySSL DV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA O = JoySSL Limited C = CN	807B3118B837D850FD1C4AD9879A5E426D00A1A4	AA9CD0737407E9E9D9D86B145A2CFD7CD385C28BCF5996AA8D9A6DA5FC76F3A2	UCA Global G2 Root
27	JoySSL OV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA O = JoySSL Limited C = CN	21507E5079E680B202CoFB C1AFAD8026DC52B8DD	0DD33FA366CA02808D29A5C1C456496AB5015C3604EB21C101406AF2533D998A	UCA Global G2 Root
28	KeepTrust DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	5063446A28FAC2B3D5122D01A63D9B85845026CC	A879CB01A2661C255B9C2B9BE0B20BA74EEA9546E21A82C570E177CF5BF4AEDA	UCA Global G2 Root
29	KeepTrust OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	04FA1B9DBC05CD575CC6518D5CDFE62CD151BoC8	FFDoD9EEEEAFBB4C44F71392F20A52E0F65896854933139640722DECFC2D4658	UCA Global G2 Root
30	ZoTrus RSA DV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA O = ZoTrus Technology Limited C = CN	7FEF9BoB9EB3F717A576BB C7580209DE731544B7	69C25861236502FoC223443FD851A2FB6ACB745BB814AD72BB2E50867C52C3BB	UCA Global G2 Root
31	ZoTrus RSA OV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA O = ZoTrus Technology Limited C = CN	E92D57AB2A4455799E257937123588FCDF187AC3	219C59CCD06D0210ADC6E8125700D1578F69A0670A07FD9DDE99E4AC82524CD	UCA Global G2 Root
32	CT2 DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 DV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	8955C1DB0608F7A83C51CA3BF98F017B90098A73	4B316EDFC0780286571E430CoA94231B192B45666AF5DEBEE454FE08E4496383	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
33	CT2 OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 OV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	27937BF574A 8AF23A7F29E 2B03CFACC71 82B2EFA	A263B7CEFD1490D04 FD0EC31D9695BAEE 480EE861D12124C2B F8EBD8A893652F	UCA Global G2 Root
34	SHECA F REE DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA FREE DV TLS RSA CA G1 O = UniTrust C = CN	F18082839D6 BB5C20A6A43 C2D584A9F6F 3EF2DC9	DFD9FB07A42E81216 D6497FBC47BE53D82 9BBFD6A9188B02D5 C8CDE29E01CF5C	UCA Global G2 Root
35	SHECA F REE DV TLS ECC CA G2	Signing Key	sha384RSA	384 bits	CN = SHECA FREE DV TLS ECC CA G2 O = UniTrust C = CN	84BCFE29594 A85C0849FF0 F21230812BE7 3F9BBC	81DB88F4CDE7345B0 EC140E4A193720163 DF9B787FABA0AF5A 7EDACE6DC315A6	UCA Global G2 Root
36	SHECA DV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA DV TLS ECC CA G6 O = UniTrust C = CN	7E44A7C621F 5F30E25293C 07F288ECC82 F7BD482	1F0570E418F9C89E0 94CB26EDA71B92BE D81ACBB446B2300D 398DDB739AB7A6C	UCA Global G2 Root
37	SHECA OV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA OV TLS ECC CA G6 O = UniTrust C = CN	2569CCEFD8B5 64A83BAC152 84500F13D86 104FEE0	C4DA2C937523D4205 4FBB4AF694BB90FC7 743C910EE048726241 BD84C38509D9	UCA Global G2 Root
38	DNSPod DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod DV TLS RSA CA G1 O = DNSPod, Inc. C = CN	4CF1C77BBB5 F991923F8616 FD712F9749C 5AE55C	A07A7DEFCD1ED23F 36D22AC33421F1D97 3583B12C96CA2496D E724C4494CoCD2	UCA Global G2 Root
39	DNSPod DV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod DV TLS ECC CA G1 O = DNSPod, Inc. C = CN	B9A7EB6345A DB88940892F 8B69930658D A9733CF	AACCD77057271FF5F 605DF8CC5A44397E7 1CCE796EA79B8F1E8 658FC9CD52464	UCA Global G2 Root
40	DNSPod OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod OV TLS RSA CA G1 O = DNSPod, Inc. C = CN	38C22FB4856 AB84A51911F E53A7FE2BE1 103338F	F36592E33FD869E91 7E33BADE683A4EC2 0809D5C8B493A1427 BA6DC066CB5AE3	UCA Global G2 Root
41	DNSPod OV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod OV TLS ECC CA G1 O = DNSPod, Inc. C = CN	586EA657334 43DCE3CED5 DEBF47E000 FoE81B28D	8C4BFF9AE3F079E50 208F84E4DA658AB4 41109686861FFCEE50 D4A8662C2EEA1	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
42	Keymatic Secure Domain RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Domain RSA CA G1 O = PKI(Chongqing) Limited C = CN	8ED096D6E8A4D935F386EBDA0B592E40521BoCBB	F3C9431A163BECE79562093F0734DF6ED05618551CFEE0ABA949A77E959D8AAE	UCA Global G2 Root
43	Keymatic Secure Domain ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Domain ECC CA G1 O = PKI(Chongqing) Limited C = CN	C1286B590B198916D776E6661E57D4460812EDDF	B07D2ACA4F29E2449B5ADB7CCB31C64C43854044A2DAA2AC838788026C684CoC	UCA Global G2 Root
44	Keymatic Secure Business RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Business RSA CA G1 O = PKI(Chongqing) Limited C = CN	5693F449C7E448C3C3D2BE86397E33368163A377	5523644185E21EF943A505A1C438167DA1FE7B14BEF2D243E53DE8C2B4263EB7	UCA Global G2 Root
45	Keymatic Secure Business ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Business ECC CA G1 O = PKI(Chongqing) Limited C = CN	23368DE013A9BB36D76A66E1128EDA5F4A3620D5	75C4AF6628E7D01DD369593EFD727E3560ED9DDD67B04325655821BD23281A2B	UCA Global G2 Root
46	sslTrus RSA DV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA DV TLS CA G2 O = sslTrus C = CN	DEE386BAC52E630164E0C142943C3202967C6891	B3A5BED750BCE5A08C75E0012BoA6A67954952BC8D12520514CC15CBB0B17039	UCA Global G2 Root
47	sslTrus ECC DV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC DV TLS CA G2 O = sslTrus C = CN	624679EBA47FFA4CD98D6FFFDE6D6F7FE49E86E9	32CAA961415106CF471CEA5B15C66464A907C99861A297C359D174624BADB92F	UCA Global G2 Root
48	sslTrus RSA OV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA OV TLS CA G2 O = sslTrus C = CN	oEDFB68948064E10818E3C8108C824BB8B308F62	FoE647B5A2869A3487507A90549AF039896DB8BoFoE7CF92EF3AB567F3EC5E5C	UCA Global G2 Root
49	sslTrus ECC OV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC OV TLS CA G2 O = sslTrus C = CN	BEE114C1BEF84DA5E3D4E41FCA0D1F81A90CoFE0	06B7E611243D2901B964FF6DoC53A2DB52BA2E1D41E17D74950E16605D9A2C90	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
50	HTTPS Automation Research RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = HTTPS Automation Research RSA DV SSL CA G1 O = Shenzhen Yamu Security Technology Co., Ltd. C = CN	0FB6A84D71E5B1B38F9E72D6BBC06A147FE4D03B	1E426FF0F51EB4C285788B4418D2DAB21097230CED81119BA178A20AB1AABF67	UCA Global G2 Root
51	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCCF5E430FFA50C085F8C1567217401DFDF	C1AFC65B1E813BoE6146E6AA5341681272ABE9A38D59F7BD1B27B729834AoD9C	Certum Trusted Network CA
52	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCCF5E430FFA50C085F8C1567217401DFDF	3DD69C5BE170F943F804D1D31FE8F916CoC0226CDDD7AEA9AA9AoCDFD3474361	Certum Trusted Network CA
53	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCCF5E430FFA50C085F8C1567217401DFDF	BB61408AED9F530B2EC0545E53BA2C8EBEAA57D9976447DB1663CED4600CD6B7	Certum Trusted Network CA
54	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCCF5E430FFA50C085F8C1567217401DFDF	BFA95C5DF164B659FA32F6D10564D7170DDE661A853A782E6AB63639433BCB41	Certum Trusted Network CA
55	UCA Extended Validation Root	Root Key	sha256RSA	4096 bits	CN = UCA Extended Validation Root O = UniTrust C = CN	D9743AE4303D0DF712DC7E5A059F1E349AF7E114	D43AF9B35473755C9684FC06D7D8CB70EE5C28E773FB294EB41EE71722924D24	UCA Extended Validation Root
56	SHECA RSA Extended Validation Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Code Signing CA O = UniTrust C = CN	8E40665F6AA940C2B9F1F04A22639564593707E5	D404FAFA4BA2F426B66CD219C6DA84F91CoFB7CB58429EC8077E2A764314D55D	UCA Extended Validation Root
57	SHECA RSA Extended Validation Server CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Server CA O = UniTrust C = CN	3B4B252A77372AFCB97FEDA8BDAF2299FC5DC5F4	4FD6FA527157EEA463689D7A4C2B934EF222279725413893D9847242C85CA9DF	UCA Extended Validation Root
58	SHECA EV Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G3 O = UniTrust C = CN	54E972FB78669FE5CBF33B8F98465553739CoB84	7EF3F89456CE636557B20C5DFB37F98C253AoB660D2E9E5E7845CAF9C038C7C1	UCA Extended Validation Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
59	SHECA EV Code Signing CA G2	Signing Key	sha256RSA	3072 bits	CN = SHECA EV Code Signing CA G2 O = UniTrust C = CN	5007CC4DF6F4BA37FC13CE1F2D22C956D89EA503	DD84169585A2E7A216AECDA083265A8EB51A64F7C6F1943671F8584C73F79A74	UCA Extended Validation Root
60	SHECA OV Server CA G6	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G6 O = UniTrust C = CN	FB7DCE4905B420BCFFBF0D8471ADAE0135F961A0	264DF1458FB5EF1FC9DF9F1345E84A6CC1A471CF475AE7598FF52B86713519FB	UCA Extended Validation Root
61	SHECA OV Server CA G7	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G7 O = UniTrust C = CN	A0F344BA17512C7776AB4442C5534B16AB5F0DAA	F6F8BCD413C9733166E85843B468DD36E727152D9A37B15129C0E7648ECEE639	UCA Extended Validation Root
62	SHECA Extended Validation SSL CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation SSL CA O = UniTrust C = CN	4D140DEA6B559CoCA6E1B7BE86A966D175E7CB5	25BFDB1C5FE2CCE051EC6DFBF2BB24E78C92F969B1BB37867DAEDF93D1A7AE7E	UCA Extended Validation Root
63	SHECA Extended Validation Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation Code Signing CA O = UniTrust C = CN	7498996F6A15C0062520851CAF2B316B87EDA3DB	A392C645B9A5AD6A214F19DE776346BC7DD6BB15818E433886DAC54EE6661852	UCA Extended Validation Root
64	SHECA EV Code Signing CA G3	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA G3 O = UniTrust C = CN	6D325FA74CC0EEC89B7C6A3CoF2E33CA55EB99A8	E00AC33AC715D8BC3B6607A4165AE8428F9274B4224AB3D8CF36E8C8D62834A3	UCA Extended Validation Root
65	UniTrust Global Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Root CA R1 O = UniTrust C = CN	3CA061BoEF DAC6E8BB2DE156A2EBBBB63D232381	81B35EFC42C77947209D76B51B5E7B122CE78348AE8C4525DC8D4B30289E5385	UniTrust Global Root CA R1
66	SHECA DV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA DV Server CA 1A O = UniTrust C = CN	653740E0BBF43905206A8C9CA0ACB3BBD6968CA0	D3D4A040BB41A695A96E3AAD93814CF7EF219D5819206E947B44DCC5B8E5E272	UniTrust Global Root CA R1
67	SHECA OV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA OV Server CA 1A O = UniTrust C = CN	8CD02E82008EE2DEFF71F61A105C74A826E858D1	9A3DB0FoFB0FF4F974A4E0C510A7C13D350485B1E6CDF5A899BB24DoF499E9BD	UniTrust Global Root CA R1
68	SHECA EV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Server CA 1A O = UniTrust C = CN	73E36DF62D862F57DF69A53687231C85E0170216	2F1CA1A5CoD7AE58C7ADFC69D4C57EE815F39CoF3D1F982E3AC76D25AB723995	UniTrust Global Root CA R1

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
69	SHECA Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing CA 1A O = UniTrust C = CN	21B34B4FC6D D33246E861B ACEBF182D7E FCA2CDA	59E3EF6680BCC0B11 62DED4929D37E698 C6A5CBEE075C03F11 73AD653CF91CED	UniTrust Global Root CA R1
70	SHECA EV Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA 1A O = UniTrust C = CN	510BE3C14EA BDFEA38FF4 34E2C97339C 0BFC27A9	03E04A3C2B5200BB2 7C679A37261852BAC7 D46F3F371E4ECA802 25AE288E4CFC	UniTrust Global Root CA R1
71	UniTrust Global Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Root CA R2 O = UniTrust C = CN	E45366B7B7A 4E9D7CCC121 E04ACFCCAC 01BC72BC	78919B35D1C615595A 51328A5C546083B4D 5320724A258695B991 F2F61C4DCC7	UniTrust Global Root CA R2
72	SHECA DV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV Server CA 2A O = UniTrust C = CN	A1221170BEC 8665F6ECB10 4C4EDB38EA 9C1F914D	69201DC24E4127FFA 5B41A0DDF0A1A005 C00F334B003F10089 24CBF998E1827C	UniTrust Global Root CA R2
73	SHECA OV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV Server CA 2A O = UniTrust C = CN	98CDEC33876 7F3942237381 0B735BA7C68 3A8259	8E2CA2825C2039804 A7A1CC54B002EA1DB 30AC489698F039527 BF1602132F611	UniTrust Global Root CA R2
74	SHECA EV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Server CA 2A O = UniTrust C = CN	44661C71EF69 B7930AB5B77 1D83B114CFA 843D77	93E49170D20F54DA7 01118A5ABDCDDA4F FCF334CDB2D8D805 99AB62848C85F80	UniTrust Global Root CA R2
75	UniTrust Global Code Signing ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Code Signing ECC Root CA R2 O = UniTrust C = CN	D6E2F5C7B44 0515C5A3A5C 490EFCB8C23 9503CDB	8854E81F9C6B47E43 8BBAE17E41F8BE4E6 8589AFD31A48BEE3F 203F6DD3DA517	UniTrust Global Code Signing ECC Root CA R2
76	SHECA Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Code Signing ECC CA 2A O = UniTrust C = CN	3A5576122E38 5EB715671EE3 85BF1E3DoAC 77A1A	953707AE07AF34970 462E8C02AC3D10949 D3684D063385277F3 1869508007D23	UniTrust Global Code Signing ECC Root CA R2
77	SHECA EV Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Code Signing ECC CA 2A O = UniTrust C = CN	BFAE7906E97 76B61D01E45 79986F2698B 66DF25E	545BD126658352B30 6EE74185173F1774A7 9467A26E9BB6AE0E D44D86615DE5A	UniTrust Global Code Signing ECC Root CA R2

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
78	UniTrust Global Code Signing RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Code Signing RSA Root CA R1 O = UniTrust C = CN	60C14C87BDA AB27B678E4E A7921C519B48 1BA860	6357353A4BBCA3D5A 158C95BE9DC90FoB3 E2F6A6310FD5371FC B4C41E5E1BB4C	UniTrust Global Code Signing RSA Root CA R1
79	SHECA Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing RSA CA 1B O = UniTrust C = CN	046DED1C4A 44C827558CD 17D7B17CCoC 539579DE	4C5F7C561295B97FE7 616389A2B549A0D45 98DoBD15EBFEA53A B518714CB8434	UniTrust Global Code Signing RSA Root CA R1
80	SHECA EV Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing RSA CA 1B O = UniTrust C = CN	7E2561771672 AEE063F1Co7 B7CAC6F3AA E44CDC3	A85CBD3FD9F3BFE2 20DEoA09B52D5AA6 F627EE9297FEFCE87 06073A41B993C79	UniTrust Global Code Signing RSA Root CA R1
81	UniTrust Global SMIME ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global SMIME ECC Root CA R2 O = UniTrust C = CN	2D4D94407CF FC45D4357F1 90557448CF6 CBEA343	6F4E2464D216A1EoB 558BB204259B4A545 AEB948957AA3EAF11 B2F4DE1AFEF10	UniTrust Global SMIME ECC Root CA R2
82	SHECA IV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA IV SMIME ECC CA 2A O = UniTrust C = CN	EBC1D6F67F2 909A9928A90 B4295818A02 F3CAF1B	E82D794C1AC79F9BE BF3B6D98A237F84C1 5FD40C3ABB86C2214 E699414F8FF54	UniTrust Global SMIME ECC Root CA R2
83	SHECA MV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA MV SMIME ECC CA 2A O = UniTrust C = CN	FE0328035B6 93E5EDC5FA E0B742735DC C38C66F0	D7C4AB9D315AE8B8 89DA902C55264295D 8CDC0F5471370490F 4D4585E2C3C6D3	UniTrust Global SMIME ECC Root CA R2
84	SHECA OV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV SMIME ECC CA 2A O = UniTrust C = CN	BD34144476B 06DoF264C3C A9C349AC715 3D4EF55	229B7FBCA2361DE63 171067DE91DFFB3D2 FA71A5ABE51CA41D5 300C5750D2FoE	UniTrust Global SMIME ECC Root CA R2
85	UniTrust Global SMIME RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global SMIME RSA Root CA R1 O = UniTrust C = CN	DF08E3E977C 1FoFBF5F8D4 19504C7719F2 06CBA3	FoF255ADA2A643Co A1E7C8F54F3ED3DD 25EF0E7378E76F7C12 7517ECFD952803	UniTrust Global SMIME RSA Root CA R1
86	SHECA IV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA 1A O = UniTrust C = CN	D38BCDC445 B1E8DoAFDD 8BE8E4A6B5 B30A71EF4E	82BA6F106746838375 7DF53F1628258043B BB972E1CAD31FD7AA DoADD66A5B53	UniTrust Global SMIME RSA Root CA R1

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
87	SHECA MV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA 1A O = UniTrust C = CN	5A4AEFED9A E84052DA320 BBB32C4E529 ECD5255	92148A115D26B28725 4B36164164B2220EE3 6B405D3B708CF5B7A B060C66B1FE	UniTrust Global SMIME RSA Root CA R1
88	SHECA OV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA 1A O = UniTrust C = CN	C061C3D053C 9F412C5C9192 DBB638305E4 CA7EF8	6B661B964F2359C4C A68355243A2EEEDA 9BACDA191D103A0C1 119EC892018AC7	UniTrust Global SMIME RSA Root CA R1
89	UniTrust Global Time Stamping ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Time Stamping ECC Root CA R2 O = UniTrust C = CN	C20E70D5E40 15590A717B62 DDDB5389D7 627A1B7	90711D905CFF3C773A 7320B5188A960C8A7 D9E5966FA73284D64 A4BF3E2FDA48	UniTrust Global Time Stamping ECC Root CA R2
90	SHECA Time Stamping ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Time Stamping ECC CA 2A O = UniTrust C = CN	41315BE8FD8 C3C65630168 307A0B30EC0 97F1069	0E3FC096DDCC3205 047F9042D57882A114 4107243C47CDE6FFF DE403A5B7CA04	UniTrust Global Time Stamping ECC Root CA R2
91	UniTrust Global Time Stamping RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Time Stamping RSA Root CA R1 O = UniTrust C = CN	DA891E9DC3 0F38DAB089 6CCDC5FDD7 504F155B30	1759727D9E6679B069 DD3AFA910E2779C42 007AAB206A169C66E 6E2A3D1774B0	UniTrust Global Time Stamping RSA Root CA R1
92	SHECA Time Stamping RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Time Stamping RSA CA 1B O = UniTrust C = CN	CC140216769C C1FCECFCA02 C90C63AB0B 6A36181	9A46D52B0F6A913E6 BF3EE6DCFE08B266 4DEE2AF704FD4931E 8DoC38F3D76D00	UniTrust Global Time Stamping RSA Root CA R1
93	UniTrust Global TLS ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global TLS ECC Root CA R2 O = UniTrust C = CN	7935AD798A9 5305C3E05A6 75161A97000F 6FCC90	6C689FC6B014A1FB0 CDEB5A3996171C15E7 286106028532E0210C EA8D9CD4E97	UniTrust Global TLS ECC Root CA R2
94	SHECA DV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV TLS ECC CA 2A O = UniTrust C = CN	CB65E62F501 75F2C172B433 F3A043CD213 569A66	D690D8722EA89CD7 617901449520653339 386AC4939F7EC5C1B 195D9C3C95FA4	UniTrust Global TLS ECC Root CA R2
95	SHECA EV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV TLS ECC CA 2A O = UniTrust C = CN	B353900B5E4 0A4952EA85A 27F413ABBAD 631F233	05E4C4B1F25803069 0E6793C9C13C6F6AE 234F68E5C41236FDC 919B7F589032F	UniTrust Global TLS ECC Root CA R2

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
96	SHECA OV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV TLS ECC CA 2A O = UniTrust C = CN	A065578C43B 2546C4E18DF 86AED56725A 9B7659C	08BA64405A3406C97 BDCBDoE44224E6DD 341F3EC93F1368457D FA7CAC88BE150	UniTrust Global TLS ECC Root CA R2
97	UniTrust Global TLS RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global TLS RSA Root CA R1 O = UniTrust C = CN	F2ADBFAB67 08F09672E63 3D65175A2475 9C900C4	4BABE0E9328D5DAE 17936F3DDAA2442BF BDD0873F92FB8D1F BBD3D9894649AD9	UniTrust Global TLS RSA Root CA R1
98	SHECA DV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA DV TLS RSA CA 1A O = UniTrust C = CN	C5E3A87F7EE DBC3E7108B3 4EF490EF2F2 F1367D1	FFABEA74895DC0C7 8C224597472CF6937E 0D740EF49DC2256C8 E75A2A2A15EDE	UniTrust Global TLS RSA Root CA R1
99	SHECA EV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA EV TLS RSA CA 1A O = UniTrust C = CN	60651A135EA B2B98A5A104 1B3057A1D02 FC612E5	B2525A5966CA68CA7 F504F0A21FD73847D 174F89B48852A3E97 0588E1EAF774	UniTrust Global TLS RSA Root CA R1
100	SHECA OV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV TLS RSA CA 1A O = UniTrust C = CN	F463091C1E27 88B75DBBE91 644B1744A34 F34B46	7F8EF707C2D9A4B7D 4ED5FDDC8AF4A64D 99BF297D03F8F01C4 375DE74B1C7DE1	UniTrust Global TLS RSA Root CA R1



附录 B – 公开披露的事件

下表列示了 2024 年 4 月 1 日至 2025 年 3 月 31 日期间本报告范围内的公开披露事件：

Bugzilla ID	事件名称	事件链接
1902592	SHECA: EV certificate subject RDN order is incorrect	Bugzilla Ticket Link
1902947	SHECA: The certificate's cpsURI is empty	Bugzilla Ticket Link
1914365	SHECA: CRLReason code usage error	Bugzilla Ticket Link
1946921	SHECA: DV SSL certificate format is abnormal	Bugzilla Ticket Link



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PricewaterhouseCoopers
22/F, Prince's Building, Central, Hong Kong

9 May 2025

Dear Sirs,

Assertion of Management as to the Disclosure of Business Practices and Controls over the Certification Authority - Network Security during the period from April 1, 2024 through March 31, 2025

Shanghai Electronic Certificate Authority Co., Ltd. ("SHECA") operates the Certification Authority (CA) services known as its Root and Subordinate CAs (please refer to the Attachment A) for Network Security Requirements and provides SSL and non-SSL CA services.

The management of SHECA is responsible for establishing and maintaining effective controls over its SSL and non-SSL CA operations, including its network and certificate security system controls. These controls contain monitoring mechanisms, and actions are taken to correct deficiencies identified.

There are inherent limitations in any controls, including the possibility of human error, and the circumvention or overriding of controls. Accordingly, even effective controls can only provide reasonable assurance with respect to SHECA's Certification Authority operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

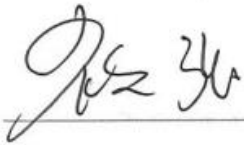
SHECA management has assessed its controls over its CA services. Based on that assessment, in providing its SSL and non-SSL Certification Authority (CA) services at Shanghai (including Facility 1 and Facility 2), China, throughout the period April 1, 2024 to March 31, 2025, SHECA has:

- maintained effective controls to provide reasonable assurance that it meets the Network and Certificate System Security Requirements as set forth by the CA/Browser Forum

in accordance with the [WebTrust Principles and Criteria for Certification Authorities – Network Security v1.7](#).

The UniTrust Global Root CA R1 (Attachment A #65), UniTrust Global Root CA R2 (Attachment A #71), UniTrust Global Code Signing ECC Root CA R2 (Attachment A #75), UniTrust Global SMIME ECC Root CA R2 (Attachment A #81), UniTrust Global Time Stamping ECC Root CA R2 (Attachment A #89), UniTrust Global TLS ECC Root

CA R2 (Attachment A #93), and UniTrust Global TLS RSA Root CA R1 (Attachment A #97) CAs did not issue certificates during the period April 1, 2024 to March 31, 2025 and were maintained online to provide revocation status information only.



Mr. Cui Jiuqiang
General Manager of Shanghai Electronic Certificate Authority Co., Ltd.



Attachment A

The list of keys and certificates covered in the management's assertion is as follow:

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
1	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E430FFA50C085F8C1567217401DFDF	9BEA11C976FE014764C1BE56A6F914B5A560317ABD9988393382E5161AA0493C	UCA Global G2 Root
2	SHECA SMIME CA G1	Signing Key	sha256RSA	2048 bits	CN = SHECA SMIME CA G1 O = UniTrust C = CN	1FA80B4DCF9CA6A53ADAB096AB9957B90A9B7F5D	8100D384D6C4529883C37C37C68FD4903C41CCBCB9033A9C733A6AF0806E1DE7	UCA Global G2 Root
3	SHECA RSA Code Signing CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Code Signing CA G3 O = UniTrust C = CN	FD7EC87AC2771C5687D2AEF807C7426A1B7C42A8	C7E976AA77E92491C269840B2F1461E65147A2BB181EE59AB63BCD86704FE456	UCA Global G2 Root
4	SHECA RSA Domain Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Domain Validation Server CA G3 O = UniTrust C = CN	057A4D756FFD0A83B1671675773E14C5F53C548E	0A552A65F22FF820E7EC3D43BBF88B02ABC34BD247E0C3505891B6342F16A5F2	UCA Global G2 Root
5	SHECA RSA Organization Validation Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Organization Validation Server CA G3 O = UniTrust C = CN	316068091E32F9F6CCC06215AA7B91AF4C119D40	26FD4C4367E463D39C71796AE4010E53380DC93BC132FB019D6718A6873E81F4	UCA Global G2 Root
6	SHECA DV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA DV Server CA G5 O = UniTrust C = CN	D8E7061B645FAB3008887A2453AAE11C8304BF6D	778C516DAEC700EE58B3581E411E5CoDD478663A5163A29895341507D6E964DD	UCA Global G2 Root
7	SHECA OV Server CA G5	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G5 O = UniTrust C = CN	0379A38D525FD4E988921F4358542502F4878B7E	8AB3A0ACF289E6EF754BE449236843D67F45C191BDD66484B85E6E60556A9AF	UCA Global G2 Root
8	SHECA EV Server CA G2	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G2 O = UniTrust C = CN	86B148C0420A9C6F81FC4FDCD10F184BAAB5A6EA	4216527163AD2CAA825D3BF48F61A7661D0ABC89B58AB76B23A1E10999F0769F	UCA Global G2 Root
9	SHECA Code Signing CA G4	Signing Key	sha256RSA	3072 bits	CN = SHECA Code Signing CA G4 O = UniTrust C = CN	73C3B39021CBF23BDA23D351F295C58BC678EE47	8FoC3E06A16E3EA7C9B15A848076ED15E51DA0B6F1AFA274EDE2B9102191FE0F	UCA Global G2 Root
10	TrustAsia RSA DV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA DV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	9432E0D48ACD1D93E75C5372960C5EF1F3F67972	074ADD7F1E73EB110EC8E2B78A92C51CF5A451135B6F7DEFC019EE9D74BFA4D6	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
11	TrustAsia RSA OV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA OV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	F575D48E293E17A8A9C49EDCE6DB0A344D132AEB	D16BA9ACB74FEE4AA8087EE482E86E7F6F5F55FAC5025639730753FE1E705E3C	UCA Global G2 Root
12	SHECA Global G3 SSL	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 SSL O = UniTrust S = Shanghai C = CN	9820FoF1D942A6DE833F991019003D6868D20181	AEFFFE4335EE56422E927F45E95AE142B9EB35979A7400569AE9BDEA6CAABC1DC	UCA Global G2 Root
13	SHECA Global G3 Code Signing	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 Code Signing O = UniTrust S = Shanghai C = CN	F73DF939A8D98754AC778EF5D995EEF835AB9439	EAA5AD8E9A2FA992354B2FF4254BEB08A632F7F17602604DDE D58D73D616D844	UCA Global G2 Root
14	Xinnet DV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet DV SSL O = 北京新网数码信息技术有限公司 C = CN	9D3AA5B8E2212783643FF578DC22B04E6BCB36D4	9C53902F9501F6D89766999DBE2AD1A1436420B65253CDC2DC51CCFE2FFEE68	UCA Global G2 Root
15	Xinnet OV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet OV SSL O = 北京新网数码信息技术有限公司 C = CN	4B78C0324A2442784E9F83FoDoFE336C7EoD934F	3C07D7EFC8D458F668C10D4F06F90503CCD25D59E2B3F1D58B32884D9E4E3809	UCA Global G2 Root
16	SHECA MV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA G1 O = UniTrust C = CN	4F111E8FD4506500D7CE565190AF012BF B143845	Co64FAB74E8723164932A25CFB6708106E1E5A3A05CFD1079B1DC F52792C5908	UCA Global G2 Root
17	SHECA IV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA G1 O = UniTrust C = CN	E010A54E644A8F605F134C5C108E742Co168BBE5	2A1AAA3E4D7C6EC8BE083BDBDD247153A88D51F1226FD9691B872AE23D166BFF	UCA Global G2 Root
18	SHECA OV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA G1 O = UniTrust C = CN	E3B8865D1EF2FF2146219648BD54022EC93BC85C	73BA9F7AE0924F3567F0280568A7050A58C9C4855DE0686C2FDC48522EB86D2D	UCA Global G2 Root
19	SHECA Code Signing CA G5	Signing Key	sha384RSA	3072 bits	CN = SHECA Code Signing CA G5 O = UniTrust C = CN	4CF2087E0172B6CoA36E0655BoF20C06293CE53F	51984B5D20306FE69008A5B5EE5643E5BF41644330910653F00A21B609B2D23	UCA Global G2 Root
20	JoySSL DV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA G1 O = JoySSL Limited C = CN	2A56E8EF40E0A9999D6DD8129FB79B056B882DED	AA9CD0737407E9E9D9D86B145A2CFD7CD385C28BCF5996AA8D9A6DA5FC76F3A2	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
21	JoySSL OV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA G1 O = JoySSL Limited C = CN	6BF2449C86D 0C6DED85107 661B27487923 42CB95	0DD33FA366CA0280 8D29A5C1C456496AB 5015C3604EB21C1014 06AF2533D998A	UCA Global G2 Root
22	KeepTrust DV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	088BoDF30B 0966297021D 02C377300F5 A7F4E7E9	352582CCC85B3944E 3CD2505D9318F22AB EA418BFF29A0FE4D 2CoDF280F200E3	UCA Global G2 Root
23	KeepTrust OV TLS RSA CA G2	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	F68D3850B96 EA8BEFC50C A91247F1ABC 9EA39D4D	CD50559A6DC5C7042 37EABF9A070B79FoC DFC1A79C3A6AC8C5 E71E295A065DoA	UCA Global G2 Root
24	ZoTrus RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA G1 O = ZoTrus Technology Limited C = CN	EC1EBCB71E0 92769EFA715 E89AA1677C3 3AA0F5A	E7EF1AD946214B32A F03CC287930D0464E D2C086D7A1447C6E2 7FC9217D4E16B	UCA Global G2 Root
25	ZoTrus RSA OV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA G1 O = ZoTrus Technology Limited C = CN	AoFA64A37EB 83C7C194C51 B7FE6A2BE8 A39F78A4	3EC123D71DB27AE1D C8F877286C222F4167 A2AE4FD7BCF370789 EF4A9521B8	UCA Global G2 Root
26	JoySSL DV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA O = JoySSL Limited C = CN	807B3118B837 D850FD1C4A D9879A5E426 D00A1A4	AA9CD0737407E9E9 D9D86B145A2CFD7C D385C28BCF5996AA8 D9A6DA5FC76F3A2	UCA Global G2 Root
27	JoySSL OV Secure Server CA	Signing Key	sha384RSA	3072 bits	CN = JoySSL OV Secure Server CA O = JoySSL Limited C = CN	21507E5079E6 80B202CoFB C1AFAD8026 DC52B8DD	0DD33FA366CA0280 8D29A5C1C456496AB 5015C3604EB21C1014 06AF2533D998A	UCA Global G2 Root
28	KeepTrust DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust DV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	5063446A28F AC2B3D5122D 01A63D9B858 45026CC	A879CB01A2661C255 B9C2B9BE0B20BA74 EEA9546E21A82C570 E177CF5BF4AEDA	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
29	KeepTrust OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	04FA1B9DBC05CD575CC6518D5CDFE62CD151B0C8	FFDoD9EEEEAFBB4C44F71392F20A52E0F65896854933139640722DECFC2D4658	UCA Global G2 Root
30	ZoTrus RSA DV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA O = ZoTrus Technology Limited C = CN	7FEF9B0B9EB3F717A576BBC7580209DE731544B7	69C25861236502F0C223443FD851A2FB6ACB745BB814AD72BB2E50867C52C3BB	UCA Global G2 Root
31	ZoTrus RSA OV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA O = ZoTrus Technology Limited C = CN	E92D57AB2A4455799E257937123588FCDF187AC3	219C59CCD06D0210ADC6FE8125700D1578F69A0670A07FD9DDE99E4AC82524CD	UCA Global G2 Root
32	CT2 DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 DV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	8955C1DB0608F7A83C51CA3BF98F017B90098A73	4B316EDFC0780286571E430C0A94231B192B45666AF5DEBEE454FE08E4496383	UCA Global G2 Root
33	CT2 OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 OV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	27937BF574A8AF23A7F29E2B03CFACC7182B2EFA	A263B7CEFD1490D04FD0EC31D9695BAEE480EE861D12124C2BF8EBD8A893652F	UCA Global G2 Root
34	SHECA FREE DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA FREE DV TLS RSA CA G1 O = UniTrust C = CN	F18082839D6BB5C20A6A43C2D584A9F6F3EF2DC9	DFD9FB07A42E81216D6497FBC47BE53D829BBFD6A9188B02D5C8CDE29E01CF5C	UCA Global G2 Root
35	SHECA FREE DV TLS ECC CA G2	Signing Key	sha384RSA	384 bits	CN = SHECA FREE DV TLS ECC CA G2 O = UniTrust C = CN	84BCFE29594A85C0849FF0F21230812BE73F9BBC	81DB88F4CDE7345B0EC140E4A193720163DF9B787FABA0AF5A7EDACE6DC315A6	UCA Global G2 Root
36	SHECA DV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA DV TLS ECC CA G6 O = UniTrust C = CN	7E44A7C621F5F30E25293C07F288ECC82F7BD482	1F0570E418F9C89E094CB26EDA71B92BED81ACBB446B2300D398DDB739AB7A6C	UCA Global G2 Root
37	SHECA OV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA OV TLS ECC CA G6 O = UniTrust C = CN	2569CCEFD564A83BAC15284500F13D86104FEE0	C4DA2C937523D42054FBB4AF694BB90FC7743C910EE048726241BD84C38509D9	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
38	DNSPod DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod DV TLS RSA CA G1 O = DNSPod, Inc. C = CN	4CF1C77BBB5F991923F8616FD712F9749C5AE55C	A07A7DEFCD1ED23F36D22AC33421F1D973583B12C96CA2496DE724C4494C0CD2	UCA Global G2 Root
39	DNSPod DV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod DV TLS ECC CA G1 O = DNSPod, Inc. C = CN	B9A7EB6345ADB88940892F8B69930658DA9733CF	AACCD77057271FF5F605DF8CC5A44397E71CCE796EA79B8F1E8658FC9CD52464	UCA Global G2 Root
40	DNSPod OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod OV TLS RSA CA G1 O = DNSPod, Inc. C = CN	38C22FB4856AB84A51911FE53A7FE2BE1103338F	F36592E33FD869E917E33BADE683A4EC20809D5C8B493A1427BA6DC066CB5AE3	UCA Global G2 Root
41	DNSPod OV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod OV TLS ECC CA G1 O = DNSPod, Inc. C = CN	586EA65733443DCE3CED5DEBF47E000FoE81B28D	8C4BFF9AE3F079E50208F84E4DA658AB441109686861FFCEE50D4A8662C2EEA1	UCA Global G2 Root
42	Keymatic Secure Domain RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Domain RSA CA G1 O = PKI(Chongqing) Limited C = CN	8ED096D6E8A4D935F386EBDA0B592E40521B0CBB	F3C9431A163BECE79562093F0734DF6ED05618551CFEE0ABA949A77E959D8AAE	UCA Global G2 Root
43	Keymatic Secure Domain ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Domain ECC CA G1 O = PKI(Chongqing) Limited C = CN	C1286B590B198916D776E6661E57D4460812EDDF	B07D2ACA4F29E2449B5ADB7CCB31C64C43854044A2DAA2AC838788026C684CoC	UCA Global G2 Root
44	Keymatic Secure Business RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Business RSA CA G1 O = PKI(Chongqing) Limited C = CN	5693F449C7E448C3C3D2BE86397E33368163A377	5523644185E21EF943A505A1C438167DA1FE7B14BEF2D243E53DE8C2B4263EB7	UCA Global G2 Root
45	Keymatic Secure Business ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Business ECC CA G1 O = PKI(Chongqing) Limited C = CN	23368DE013A9BB36D76A66E1128EDA5F4A3620D5	75C4AF6628E7D01DD369593EFD727E3560ED9DDD67B04325655821BD23281A2B	UCA Global G2 Root
46	sslTrus RSA DV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA DV TLS CA G2 O = sslTrus C = CN	DEE386BAC52E630164E0C142943C3202967C6891	B3A5BED750BCE5A08C75E0012B0A6A67954952BC8D12520514CC15CBB0B17039	UCA Global G2 Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
47	sslTrus ECC DV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC DV TLS CA G2 O = sslTrus C = CN	624679EBA47 FFA4CD98D6 FFFDE6D6F7 FE49E86E9	32CAA961415106CF47 1CEA5B15C66464A90 7C99861A297C359D17 4624BADB92F	UCA Global G2 Root
48	sslTrus RSA OV TLS CA G2	Signing Key	sha384RSA	3072 bits	CN = sslTrus RSA OV TLS CA G2 O = sslTrus C = CN	0EDFB68948 064E10818E3 C8108C824BB 8B308F62	F0E647B5A2869A348 7507A90549AF03989 6DB8BoFoE7CF92EF 3AB567F3EC5E5C	UCA Global G2 Root
49	sslTrus ECC OV TLS CA G2	Signing Key	sha384RSA	384 bits	CN = sslTrus ECC OV TLS CA G2 O = sslTrus C = CN	BEE114C1BEF 84DA5E3D4E 41FCAoD1F81 A9oCoFEo	06B7E611243D2901B9 64FF6DoC53A2DB52 BA2E1D41E17D74950 E16605D9A2C90	UCA Global G2 Root
50	HTTPS Automati on Research RSA DV SSL CA G1	Signing Key	sha384RSA	3072 bits	CN = HTTPS Automation Research RSA DV SSL CA G1 O = Shenzhen Yamu Security Technology Co., Ltd. C = CN	0FB6A84D71E 5B1B38F9E72 D6BBCo6A147 FE4Do3B	1E426FFoF51EB4C28 5788B4418D2DAB210 97230CED81119BA178 A2oAB1AABF67	UCA Global G2 Root
51	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E 430FFA50Co8 5F8C15672174 01DFDF	C1AFC65B1E813BoE6 146E6AA5341681272A BE9A38D59F7BD1B27 B729834AoD9C	Certum Trusted Network CA
52	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E 430FFA50Co8 5F8C15672174 01DFDF	3DD69C5BE170F943F 804D1D31FE8F916Co Co226CDDD7AEA9AA 9AoCDFD3474361	Certum Trusted Network CA
53	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E 430FFA50Co8 5F8C15672174 01DFDF	BB61408AED9F530B2 EC0545E53BA2C8EB EAA57D9976447DB16 63CED4600CD6B7	Certum Trusted Network CA
54	UCA Global G2 Root	Root Key	sha256RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5E 430FFA50Co8 5F8C15672174 01DFDF	BFA95C5DF164B659F A32F6D10564D7170D DE661A853A782E6AB 63639433BCB41	Certum Trusted Network CA
55	UCA Extended Validation n Root	Root Key	sha256RSA	4096 bits	CN = UCA Extended Validation Root O = UniTrust C = CN	D9743AE4303 DoDF712DC7 E5A059F1E34 9AF7E114	D43AF9B35473755C9 684FC06D7D8CB70E E5C28E773FB294EB4 1EE71722924D24	UCA Extended Validation Root
56	SHECA RSA Extended Validation Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Code Signing CA O = UniTrust C = CN	8E40665F6AA 940C2B9F1Fo 4A226395645 93707E5	D404FAFA4BA2F426 B66CD219C6DA84F91 CoFB7CB58429EC807 7E2A764314D55D	UCA Extended Validation Root
57	SHECA RSA Extended Validation n Server CA	Signing Key	sha256RSA	2048 bits	CN = SHECA RSA Extended Validation Server CA O = UniTrust C = CN	3B4B252A773 72AFCB97FED A8BDAF2299 FC5DC5F4	4FD6FA527157EEA46 3689D7A4C2B934EF2 22279725413893D984 7242C85CA9DF	UCA Extended Validation Root

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
58	SHECA EV Server CA G3	Signing Key	sha256RSA	2048 bits	CN = SHECA EV Server CA G3 O = UniTrust C = CN	54E972FB78669FE5CBF33B8F98465553739CoB84	7EF3F89456CE636557B20C5DFB37F98C253A0B660D2E9E5E7845CAF9C038C7C1	UCA Extended Validation Root
59	SHECA EV Code Signing CA G2	Signing Key	sha256RSA	3072 bits	CN = SHECA EV Code Signing CA G2 O = UniTrust C = CN	5007CC4DF6F4BA37FC13CE1F2D22C956D89EA503	DD84169585A2E7A216AECDD4083265A8EB51A64F7C6F1943671F8584C73F79A74	UCA Extended Validation Root
60	SHECA OV Server CA G6	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G6 O = UniTrust C = CN	FB7DCE4905B420BCFFBF0D8471ADAE0135F961A0	264DF1458FB5EF1FC9DF9F1345E84A6CC1A471CF475AE7598FF52B86713519FB	UCA Extended Validation Root
61	SHECA OV Server CA G7	Signing Key	sha256RSA	2048 bits	CN = SHECA OV Server CA G7 O = UniTrust C = CN	A0F344BA17512C7776AB4442C5534B16AB5FoDAA	F6F8BCD413C9733166E85843B468DD36E727152D9A37B15129C0E7648ECEE639	UCA Extended Validation Root
62	SHECA Extended Validation n SSL CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation SSL CA O = UniTrust C = CN	4D140DEA6B559CoCA6E1BB7BE86A966D175E7CB5	25BFDB1C5FE2CCE051EC6DFBF2BB24E78C92F969B1BB37867DAEDF93D1A7AE7E	UCA Extended Validation Root
63	SHECA Extended Validation n Code Signing CA	Signing Key	sha256RSA	2048 bits	CN = SHECA Extended Validation Code Signing CA O = UniTrust C = CN	7498996F6A15C0062520851CAF2B316B87EDA3DB	A392C645B9A5AD6A214F19DE776346BC7DD6BB15818E433886DAC54EE6661852	UCA Extended Validation Root
64	SHECA EV Code Signing CA G3	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA G3 O = UniTrust C = CN	6D325FA74CC0EEC89B7C6A3CoF2E33CA55EB99A8	E00AC33AC715D8BC3B6607A4165AE8428F9274B4224AB3D8CF36E8C8D62834A3	UCA Extended Validation Root
65	UniTrust Global Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Root CA R1 O = UniTrust C = CN	3CA061BoEFDAC6E8BB2DE156A2EBBBB63D232381	81B35EFC42C77947209D76B51B5E7B122CE78348AE8C4525DC8D4B30289E5385	UniTrust Global Root CA R1
66	SHECA DV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA DV Server CA 1A O = UniTrust C = CN	653740EoBBF43905206A8C9CAoACB3BBD6968CAo	D3D4A040BB41A695A96E3AAD93814CF7EF219D5819206E947B44DCC5B8E5E272	UniTrust Global Root CA R1
67	SHECA OV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA OV Server CA 1A O = UniTrust C = CN	8CD02E82008EE2DEFF71F61A105C74A826E858D1	9A3DBoFoFB0FF4F974A4EoC510A7C13D350485B1E8CDF5A899BB24DoF499E9BD	UniTrust Global Root CA R1
68	SHECA EV Server CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Server CA 1A O = UniTrust C = CN	73E36DF62D862F57DF69A53687231C85E0170216	2F1CA1A5CoD7AE58C7ADFC69D4C57EE815F39CoF3D1F982E3AC76D25AB723995	UniTrust Global Root CA R1

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
69	SHECA Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing CA 1A O = UniTrust C = CN	21B34B4FC6D D33246E861B ACEBF182D7E FCA2CDA	59E3EF6680BCCoB11 62DED4929D37E698 C6A5CBEE075C03F11 73AD653CF91CED	UniTrust Global Root CA R1
70	SHECA EV Code Signing CA 1A	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing CA 1A O = UniTrust C = CN	510BE3C14EA BDFEA38FF4 34E2C97339C oBFC27A9	03E04A3C2B5200BB2 7C679A37261852BAC7 D46F3F371E4ECA802 25AE288E4CFC	UniTrust Global Root CA R1
71	UniTrust Global Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Root CA R2 O = UniTrust C = CN	E45366B7B7A 4E9D7CCC121 E04ACFCCAC 01BC72BC	78919B35D1C615595A 51328A5C546083B4D 5320724A258695B991 F2F61C4DCC7	UniTrust Global Root CA R2
72	SHECA DV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV Server CA 2A O = UniTrust C = CN	A1221170BEC8 665F6ECB104 C4EDB38EA9 C1F914D	69201DC24E4127FFA 5B41A0DDFoA1A005 CooF334B003F10089 24CBF998E1827C	UniTrust Global Root CA R2
73	SHECA OV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV Server CA 2A O = UniTrust C = CN	98CDEC33876 7F3942237381 0B735BA7C68 3A8259	8E2CA2825C2039804 A7A1CC54B002EA1DB 30AC489698F039527 BF1602132F611	UniTrust Global Root CA R2
74	SHECA EV Server CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Server CA 2A O = UniTrust C = CN	44661C71EF69 B7930AB5B77 1D83B114CFA 843D77	93E49170D20F54DA7 01118A5ABDCDDA4F FCF334CDB2D8D805 99AB62848C85F80	UniTrust Global Root CA R2
75	UniTrust Global Code Signing ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Code Signing ECC Root CA R2 O = UniTrust C = CN	D6E2F5C7B44 0515C5A3A5C 490EFCB8C23 9503CDB	8854E81F9C6B47E43 8BBAE17E41F8BE4E6 8589AFD31A48BEE3F 203F6DD3DA517	UniTrust Global Code Signing ECC Root CA R2
76	SHECA Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Code Signing ECC CA 2A O = UniTrust C = CN	3A5576122E38 5EB715671EE3 85BF1E3DoAC 77A1A	953707AE07AF34970 462E8C02AC3D10949 D3684D063385277F3 1869508007D23	UniTrust Global Code Signing ECC Root CA R2
77	SHECA EV Code Signing ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV Code Signing ECC CA 2A O = UniTrust C = CN	BFAE7906E97 76B61D01E45 79986F2698B 66DF25E	545BD126658352B306 EE74185173F1774A79 467A26E9BB6AEoED 44D86615DE5A	UniTrust Global Code Signing ECC Root CA R2
78	UniTrust Global Code Signing RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Code Signing RSA Root CA R1 O = UniTrust C = CN	60C14C87BDA AB27B678E4E A7921C519B48 1BA860	6357353A4BBCA3D5A 158C95BE9DC90FoB3 E2F6A6310FD5371FC B4C41E5E1BB4C	UniTrust Global Code Signing RSA Root CA R1
79	SHECA Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Code Signing RSA CA 1B O = UniTrust C = CN	046DED1C4A 44C827558CD 17D7B17CCoC 539579DE	4C5F7C561295B97FE7 616389A2B549AoD45 98DoBD15EBFEA53A B518714CB8434	UniTrust Global Code Signing RSA Root CA R1

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
80	SHECA EV Code Signing RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA EV Code Signing RSA CA 1B O = UniTrust C = CN	7E2561771672 AEE063F1C07 B7CAC6F3AA E44CDC3	A85CBD3FD9F3BFE2 20DE0A09B52D5AA6 F627EE9297FEFCE87 06073A41B993C79	UniTrust Global Code Signing RSA Root CA R1
81	UniTrust Global SMIME ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global SMIME ECC Root CA R2 O = UniTrust C = CN	2D4D94407CF FC45D4357F1 90557448CF6 CBEA343	6F4E2464D216A1E0B 558BB204259B4A545 AEB948957AA3EAF11 B2F4DE1AFEF10	UniTrust Global SMIME ECC Root CA R2
82	SHECA IV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA IV SMIME ECC CA 2A O = UniTrust C = CN	EBC1D6F67F2 909A9928A90 B4295818A02 F3CAF1B	E82D794C1AC79F9BE BF3B6D98A237F84C1 5FD40C3ABB86C2214 E699414F8FF54	UniTrust Global SMIME ECC Root CA R2
83	SHECA MV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA MV SMIME ECC CA 2A O = UniTrust C = CN	FE0328035B6 93E5EDC5FA E0B742735DC C38C66Fo	D7C4AB9D315AE8B8 89DA902C55264295D 8CDC0F5471370490F 4D4585E2C3C6D3	UniTrust Global SMIME ECC Root CA R2
84	SHECA OV SMIME ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV SMIME ECC CA 2A O = UniTrust C = CN	BD34144476B 06DoF264C3C A9C349AC715 3D4EF55	229B7FBCA2361DE63 171067DE91DFFB3D2 FA71A5ABE51CA41D5 300C5750D2FoE	UniTrust Global SMIME ECC Root CA R2
85	UniTrust Global SMIME RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global SMIME RSA Root CA R1 O = UniTrust C = CN	DF08E3E977C 1FoFBF5F8D4 19504C7719F2 06CBA3	FoF255ADA2A643Co A1E7C8F54F3ED3DD 25EF0E7378E76F7C12 7517ECFD952803	UniTrust Global SMIME RSA Root CA R1
86	SHECA IV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA 1A O = UniTrust C = CN	D38BCDC445 B1E8DoAFDD 8BE8E4A6B5 B30A71EF4E	82BA6F106746838375 7DF53F1628258043B BB972E1CAD31FD7AA DoADD66A5B53	UniTrust Global SMIME RSA Root CA R1
87	SHECA MV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA 1A O = UniTrust C = CN	5A4AEFED9A E84052DA320 BBB32C4E529 ECDC5255	92148A115D26B28725 4B36164164B2220EE3 6B405C3B708CF5B7A B060C66B1FE	UniTrust Global SMIME RSA Root CA R1
88	SHECA OV SMIME RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA 1A O = UniTrust C = CN	Co61C3D053C 9F412C5C9192 DBB638305E4 CA7EF8	6B661B964F2359C4C A68355243A2EEEDA9 BACDA191D103AoC11 19EC892018AC7	UniTrust Global SMIME RSA Root CA R1
89	UniTrust Global Time Stamping ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global Time Stamping ECC Root CA R2 O = UniTrust C = CN	C20E70D5E40 15590A717B62 DDDB5389D7 627A1B7	90711D905CFF3C773A 7320B5188A960C8A7 D9E5966FA73284D64 A4BF3E2FDA48	UniTrust Global Time Stamping ECC Root CA R2
90	SHECA Time Stamping ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA Time Stamping ECC CA 2A O = UniTrust C = CN	41315BE8FD8 C3C65630168 307AoB30EC0 97F1069	0E3FC096DDCC3205 047F9042D57882A114 4107243C47CDE6FFF DE403A5B7CA04	UniTrust Global Time Stamping ECC Root CA R2

#	Key Name	Key Type	Signature Algorithm	Key Size	Subject DN	Subject Key Identifier	Certificates Thumbprint (SHA256)	Certificate Signed by
91	UniTrust Global Time Stamping RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global Time Stamping RSA Root CA R1 O = UniTrust C = CN	DA891E9DC3 oF38DAB089 6CCDC5FDD7 504F155B30	1759727D9E6679B069 DD3AFA910E2779C42 007AAB206A169C66E 6E2A3D1774B0	UniTrust Global Time Stamping RSA Root CA R1
92	SHECA Time Stamping RSA CA 1B	Signing Key	sha384RSA	4096 bits	CN = SHECA Time Stamping RSA CA 1B O = UniTrust C = CN	CC140216769C C1FCECFCA02 C90C63AB0B 6A36181	9A46D52B0F6A913E6 BF3EE6DCFE08B266 4DEE2AF704FD4931E 8D0C38F3D76D00	UniTrust Global Time Stamping RSA Root CA R1
93	UniTrust Global TLS ECC Root CA R2	Root Key	sha384ECD SA	384 bits	CN = UniTrust Global TLS ECC Root CA R2 O = UniTrust C = CN	7935AD798A9 5305C3E05A6 75161A97000F 6FCC90	6C689FC6B014A1FB0 CDEB5A3996171C15E7 286106028532E0210C EA8D9CD4E97	UniTrust Global TLS ECC Root CA R2
94	SHECA DV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA DV TLS ECC CA 2A O = UniTrust C = CN	CB65E62F501 75F2C172B433 F3A043CD213 569A66	D690D8722EA89CD7 617901449520653339 386AC4939F7EC5C1B 195D9C3C95FA4	UniTrust Global TLS ECC Root CA R2
95	SHECA EV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA EV TLS ECC CA 2A O = UniTrust C = CN	B353900B5E4 0A4952EA85A 27F413ABBAD 631F233	05E4C4B1F25803069 0E6793C9C13C6F6AE 234F68E5C41236FDC 919B7F589032F	UniTrust Global TLS ECC Root CA R2
96	SHECA OV TLS ECC CA 2A	Signing Key	sha384ECD SA	384 bits	CN = SHECA OV TLS ECC CA 2A O = UniTrust C = CN	A065578C43B 2546C4E18DF 86AED56725A 9B7659C	08BA64405A3406C97 BDCBD0E44224E6DD 341F3EC93F1368457D FA7CAC88BE150	UniTrust Global TLS ECC Root CA R2
97	UniTrust Global TLS RSA Root CA R1	Root Key	sha384RSA	4096 bits	CN = UniTrust Global TLS RSA Root CA R1 O = UniTrust C = CN	F2ADBFAB67 08F09672E63 3D65175A2475 9C900C4	4BABE0E9328D5DAE 17936F3DDAA2442BF BDD0873F92FB8D1F BBD3D9894649AD9	UniTrust Global TLS RSA Root CA R1
98	SHECA DV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA DV TLS RSA CA 1A O = UniTrust C = CN	C5E3A87F7EE DBC3E7108B3 4EF490EF2F2 F1367D1	FFABEA74895DC0C7 8C224597472CF6937E 0D740EF49DC2256C8 E75A2A2A15EDE	UniTrust Global TLS RSA Root CA R1
99	SHECA EV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA EV TLS RSA CA 1A O = UniTrust C = CN	60651A135EA B2B98A5A104 1B3057A1D02 FC612E5	B2525A5966CA68CA7 F504F0A21FD73847D 174F89B48852A3E97 0588E1EAF774	UniTrust Global TLS RSA Root CA R1
100	SHECA OV TLS RSA CA 1A	Signing Key	sha384RSA	3072 bits	CN = SHECA OV TLS RSA CA 1A O = UniTrust C = CN	F463091C1E27 88B75DBBE91 644B174A34 F34B46	7F8EF707C2D9A4B7D 4ED5FDDC8AF4A64D 99BF297D03F8F01C4 375DE74B1C7DE1	UniTrust Global TLS RSA Root CA R1



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罗兵咸永道会计师事务所
香港中环太子大厦22楼

2025 年 5 月 9 日

致: 罗兵咸永道会计师事务所

就 **2024 年 4 月 1 日到 2025 年 3 月 31 日**期间网络安全电子认证业务规则披露和电子认证运行控制活动的管理层认定报告
(本中文报告只作参考, 正文请参阅英文报告。)

上海市数字证书认证中心有限公司 (Shanghai Electronic Certificate Authority Co., Ltd., 简称“SHECA”) 运营网络安全电子认证服务机构, 并提供 SSL 和 non-SSL 电子认证服务, 附录 A 列示了服务所包括的根证书和中级证书。

SHECA 的管理层负责针对 SSL 和非 SSL 服务建立并维护有效的控制, 包括: 其网络和证书安全系统管理。这些控制包括监控机制及为纠正已识别的缺陷所采取的改进措施。

任何控制都有其固有限制, 包括人为失误, 以及规避或逾越控制的可能性。因此, 即使有效的控制也仅能对 SHECA 运营的电子认证服务提供合理保证。此外, 由于控制环境的变化, 控制的有效性可能随时间而发生变化。

SHECA 管理层已对证书业务披露和电子认证服务控制进行评估。基于此评估, SHECA 管理层认为, 在 **2024 年 4 月 1 日至 2025 年 3 月 31 日**就 SHECA 在中国上海 (包括设施 1 和设施 2) 提供的 SSL 和 non-SSL 电子认证服务期间, SHECA:

- 通过有效控制机制, 以提供合理保证确保符合CAB论坛 (CA/Browser Forum) 发布的网络及证书系统安全规范 (Network and Certificate System Security Requirements),

以符合 [WebTrust电子认证网络安全基准规范审计标准 v1.7](#)。

UniTrust Global Root CA R1 (附录 A#65), UniTrust Global Root CA R2 (附录 A#71), UniTrust Global Code Signing ECC Root CA R2 (附录 A #75), UniTrust Global SMIME ECC Root CA R2 (附录 A #81), UniTrust Global Time Stamping ECC Root CA R2 (附录 A #89), UniTrust Global TLS ECC Root CA R2 (附录 A #93) 和 UniTrust Global TLS RSA Root CA R1 (附录 A #97) 在 **2024 年 4 月 1 日至 2025 年 3 月 31 日**期间未颁发证书, 仅保持在线以提供吊销状态信息。

崔久强
上海市数字证书认证中心有限公司总经理

公司盖章

附录 A

下表列示本管理层认定所包括的密钥和证书：

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
1	UCA Global G2 Root	Root Key	sha256 RSA	4096 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5 E430FFA50 C085F8C156 7217401DFD F	9BEA11C976FE0147 64C1BE56A6F914B5 A560317ABD998839 3382E5161AA0493C	UCA Global G2 Root
2	SHECA SMIME CA G1	Signing Key	sha256 RSA	2048 bits	CN = SHECA SMIME CA G1 O = UniTrust C = CN	1FA80B4DC F9CA6A53A DAB096AB9 957B90A9B7 F5D	8100D384D6C4529 883C37C37C68FD49 03C41CCBCB9033A 9C733A6AF0806E1 DE7	UCA Global G2 Root
3	SHECA RSA Code Signing CA G3	Signing Key	sha256 RSA	2048 bits	CN = SHECA RSA Code Signing CA G3 O = UniTrust C = CN	FD7EC87AC 2771C5687D 2AEF807C7 426A1B7C42 A8	C7E976AA77E92491 C269840B2F1461E6 5147A2BB181EE59A B63BCD86704FE45 6	UCA Global G2 Root
4	SHECA RSA Domain Validation Server CA G3	Signing Key	sha256 RSA	2048 bits	CN = SHECA RSA Domain Validation Server CA G3 O = UniTrust C = CN	057A4D756F FD0A83B16 71675773E14 C5F53C548E	0A552A65F22FF820 E7EC3D43BBF88B0 2ABC34BD247E0C3 505891B6342F16A5 F2	UCA Global G2 Root
5	SHECA RSA Organiza tion Validatio n Server CA G3	Signing Key	sha256 RSA	2048 bits	CN = SHECA RSA Organization Validation Server CA G3 O = UniTrust C = CN	316068091E 32F9F6CCC 06215AA7B9 1AF4C119D4 0	26FD4C4367E463D 39C71796AE4010E5 3380DC93BC132FB 019D6718A6873E81 F4	UCA Global G2 Root
6	SHECA DV Server CA G5	Signing Key	sha256 RSA	2048 bits	CN = SHECA DV Server CA G5 O = UniTrust C = CN	D8E7061B6 45FAB3008 887A2453A AE11C8304B F6D	778C516DAEC700E E58B3581E411E5C0 DD478663A5163A29 895341507D6E964D D	UCA Global G2 Root
7	SHECA OV Server CA G5	Signing Key	sha256 RSA	2048 bits	CN = SHECA OV Server CA G5 O = UniTrust C = CN	0379A38D52 5FD4E9889 21F4358542 502F4878B7 E	8AB3A0ACF289E6E F754BE449236843D 67F45C191BDDD664 84B85E6E60556A9 AF	UCA Global G2 Root
8	SHECA EV Server CA G2	Signing Key	sha256 RSA	2048 bits	CN = SHECA EV Server CA G2 O = UniTrust C = CN	86B148C042 0A9C6F81F C4FDCD10F 184BAAB5A 6EA	4216527163AD2CAA 825D3BF48F61A766 1DoABC89B58AB76 B23A1E10999F0769 F	UCA Global G2 Root
9	SHECA Code Signing CA G4	Signing Key	sha256 RSA	3072 bits	CN = SHECA Code Signing CA G4 O = UniTrust C = CN	73C3B39021 CBF23BDA2 3D351F295C 58BC678EE 47	8FoC3E06A16E3EA 7C9B15A848076ED1 5E51DA0B6F1AFA27 4EDE2B9102191FE0 F	UCA Global G2 Root
10	TrustAsia RSA DV TLS CA - S1	Signing Key	sha256 RSA	2048 bits	CN = TrustAsia RSA DV TLS CA - S1 O = TrustAsia Technologies , Inc. C = CN	9432E0D48 ACD1D93E7 5C5372960C 5EF1F3F679 72	074ADD7F1E73EB11 0EC8E2B78A92C51 CF5A451135B6F7DE FC019EE9D74BFA4 D6	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
11	TrustAsia RSA OV TLS CA - S1	Signing Key	sha256RSA	2048 bits	CN = TrustAsia RSA OV TLS CA - S1 O = TrustAsia Technologies, Inc. C = CN	F575D48E293E17A8A9C49EDCE6DB0A344D132AEB	D16BA9ACB74FEE4AA8087EE482E86E7F6F5F55FAC5025639730753FE1E705E3C	UCA Global G2 Root
12	SHECA Global G3 SSL	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 SSL O = UniTrust S = Shanghai C = CN	9820FoF1D942A6DE833F991019003D6868D20181	AEFFFE4335EE56422E927F45E95AE142B9EB35979A7400569AE9BDEA6CAABC1DC	UCA Global G2 Root
13	SHECA Global G3 Code Signing	Signing Key	sha256RSA	2048 bits	CN = SHECA Global G3 Code Signing O = UniTrust S = Shanghai C = CN	F73DF939A8D98754AC778EF5D995EEF835AB9439	EAA5AD8E9A2FA992354B2FF4254BEB08A632F7F17602604DDED58D73D616D844	UCA Global G2 Root
14	Xinnet DV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet DV SSL O = 北京新网数码信息技术有限公司 C = CN	9D3AA5B8E2212783643FF578DC22B04E6BCB36D4	9C53902F9501F6D89766999DBE2AD1A1436420B652535CD C2DC51CCFE2FFEE68	UCA Global G2 Root
15	Xinnet OV SSL	Signing Key	sha256RSA	2048 bits	CN = Xinnet OV SSL O = 北京新网数码信息技术有限公司 C = CN	4B78C0324A2442784E9F83FoDoFE336C7EoD934F	3Co7D7EFC8D458F668C10D4F06F90503CCD25D59E2B3F1D58B32884D9E4E3809	UCA Global G2 Root
16	SHECA MV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA MV SMIME RSA CA G1 O = UniTrust C = CN	4F111E8FD4506500D7CE565190AF012BFB143845	Co64FAB74E8723164932A25CFB6708106E1E5A3A05CFD1079B1DCF52792C5908	UCA Global G2 Root
17	SHECA IV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA IV SMIME RSA CA G1 O = UniTrust C = CN	E010A54E644A8F605F134C5C108E742C0168BBE5	2A1AAA3E4D7C6EC8BE083BDBDD247153A88D51F1226FD9691B872AE23D166BFF	UCA Global G2 Root
18	SHECA OV SMIME RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA OV SMIME RSA CA G1 O = UniTrust C = CN	E3B8865D1EF2FF2146219648BD54022EC93BC85C	73BA9F7AE0924F3567F0280568A7050A58C9C4855DE0686C2FDC48522EB86D2D	UCA Global G2 Root
19	SHECA Code Signing CA G5	Signing Key	sha384RSA	3072 bits	CN = SHECA Code Signing CA G5 O = UniTrust C = CN	4CF2087E0172B6CoA36E0655B0F20Co6293CE53F	51984B5D20306FE69008A5B5EE5643E5BF416443330910653F00A21B609B2D23	UCA Global G2 Root
20	JoySSL DV Secure Server CA G1	Signing Key	sha384RSA	3072 bits	CN = JoySSL DV Secure Server CA G1 O = JoySSL Limited C = CN	2A56E8EF40EoA9999D6DD8129FB79B056B882DED	AA9CD0737407E9E9D9D86B145A2CFD7CD385C28BCF5996AA8D9A6DA5FC76F3A2	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
21	JoySSL OV Secure Server CA G1	Signing Key	sha38 4RSA	307 2 bits	CN = JoySSL OV Secure Server CA G1 O = JoySSL Limited C = CN	6BF2449C86 DoC6DED85 107661B274 8792342CB9 5	oDD33FA366CA028 08D29A5C1C456496 AB5015C3604EB21C 101406AF2533D998 A	UCA Global G2 Root
22	KeepTru st DV TLS RSA CA G2	Signing Key	sha38 4RSA	307 2 bits	CN = KeepTrust DV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	088BoDF30 Bo96629702 1Do2C37730 oF5A7F4E7E 9	352582CCC85B3944 E3CD2505D9318F22 ABEA418BFF29AoF E4D2CoDF28oF200 E3	UCA Global G2 Root
23	KeepTru st OV TLS RSA CA G2	Signing Key	sha38 4RSA	307 2 bits	CN = KeepTrust OV TLS RSA CA G2 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	F68D3850B 96EA8BEFC 50CA91247F 1ABC9EA39 D4D	CD50559A6DC5C70 4237EABF9A070B79 FoCDFC1A79C3A6A C8C5E71E295A065D oA	UCA Global G2 Root
24	ZoTrus RSA DV SSL CA G1	Signing Key	sha38 4RSA	307 2 bits	CN = ZoTrus RSA DV SSL CA G1 O = ZoTrus Technology Limited C = CN	EC1EBCB71 E092769EF A715E89AA1 677C33AAoF 5A	E7EF1AD946214B32 AF03CC287930Do4 64ED2Co86D7A144 7C6E27FC9217D4E1 6B	UCA Global G2 Root
25	ZoTrus RSA OV SSL CA G1	Signing Key	sha38 4RSA	307 2 bits	CN = ZoTrus RSA OV SSL CA G1 O = ZoTrus Technology Limited C = CN	AoFA64A37 EB83C7C194 C51B7FE6A2 BE8A39F78 A4	3EC123D71DB27AE1 DC8F877286C222F4 167A2AE4FD7BCF37 0789EF4A9521B8	UCA Global G2 Root
26	JoySSL DV Secure Server CA	Signing Key	sha38 4RSA	307 2 bits	CN = JoySSL DV Secure Server CA O = JoySSL Limited C = CN	807B3118B8 37D850FD1 C4AD9879A 5E426DooA 1A4	AA9CD0737407E9E 9D9D86B145A2CFD 7CD385C28BCF599 6AA8D9A6DA5FC76 F3A2	UCA Global G2 Root
27	JoySSL OV Secure Server CA	Signing Key	sha38 4RSA	307 2 bits	CN = JoySSL OV Secure Server CA O = JoySSL Limited C = CN	21507E5079 E680B202C oFBC1AFAD 8026DC52B 8DD	oDD33FA366CA028 08D29A5C1C456496 AB5015C3604EB21C 101406AF2533D998 A	UCA Global G2 Root
28	KeepTru st DV TLS RSA CA G1	Signing Key	sha38 4RSA	307 2 bits	CN = KeepTrust DV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	5063446A28 FAC2B3D51 22Do1A63D 9B85845026 CC	A879CB01A2661C25 5B9C2B9BEoB20BA 74EEA9546E21A82C 570E177CF5BF4AED A	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
29	KeepTrust OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = KeepTrust OV TLS RSA CA G1 O = Shanghai Huandu Info Tech Co. Ltd. C = CN	04FA1B9DBC05CD575CC6518D5CDFE62CD151B0C8	FFDoD9EEEEAFBB4C44F71392F20A52E0F65896854933139640722DECFC2D4658	UCA Global G2 Root
30	ZoTrus RSA DV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA DV SSL CA O = ZoTrus Technology Limited C = CN	7FEF9BoB9EB3F717A576BBC7580209DE731544B7	69C25861236502F0C223443FD851A2FB6ACB745BB814AD72BB2E50867C52C3BB	UCA Global G2 Root
31	ZoTrus RSA OV SSL CA	Signing Key	sha384RSA	3072 bits	CN = ZoTrus RSA OV SSL CA O = ZoTrus Technology Limited C = CN	E92D57AB2A4455799E257937123588FCDF187AC3	219C59CCD06D0210ADC6E8125700D1578F69A0670A07FD9DDE99E4AC82524CD	UCA Global G2 Root
32	CT2 DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 DV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	8955C1DB0608F7A83C51CA3BF98F017B90098A73	4B316EDFC0780286571E430C0A94231B192B45666AF5DEBEE454FE08E4496383	UCA Global G2 Root
33	CT2 OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = CT2 OV TLS RSA CA G1 O = Tianyi Security Technology Co., Ltd. C = CN	27937BF574A8AF23A7F29E2B03CFACC7182B2EFA	A263B7CEFD1490D04FD0EC31D9695BAEE480EE861D12124C2BF8EBD8A893652F	UCA Global G2 Root
34	SHECA FREE DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = SHECA FREE DV TLS RSA CA G1 O = UniTrust C = CN	F18082839D6BB5C20A6A43C2D584A9F6F3EF2DC9	DFD9FB07A42E81216D6497FBC47BE53D829BBFD6A9188B02D5C8CDE29E01CF5C	UCA Global G2 Root
35	SHECA FREE DV TLS ECC CA G2	Signing Key	sha384RSA	384 bits	CN = SHECA FREE DV TLS ECC CA G2 O = UniTrust C = CN	84BCFE29594A85C0849FF0F21230812BE73F9BBC	81DB88F4CDE7345BoEC140E4A193720163DF9B787FABAOAF5A7EDACE6DC315A6	UCA Global G2 Root
36	SHECA DV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA DV TLS ECC CA G6 O = UniTrust C = CN	7E44A7C621F5F30E25293C07F288ECC82F7BD482	1F0570E418F9C89E094CB26EDA71B92BED81ACBB446B2300D398DDDB739AB7A6C	UCA Global G2 Root
37	SHECA OV TLS ECC CA G6	Signing Key	sha384RSA	384 bits	CN = SHECA OV TLS ECC CA G6 O = UniTrust C = CN	2569CCEFD B564A83BAC15284500F13D86104FE E0	C4DA2C937523D42054FBB4AF694BB90FC7743C910EE048726241BD84C38509D9	UCA Global G2 Root

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
38	DNSPod DV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod DV TLS RSA CA G1 O = DNSPod, Inc. C = CN	4CF1C77BBB5F991923F8616FD712F9749C5AE55C	A07A7DEFCD1ED23F36D22AC33421F1D973583B12C96CA2496DE724C4494CoCD2	UCA Global G2 Root
39	DNSPod DV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod DV TLS ECC CA G1 O = DNSPod, Inc. C = CN	B9A7EB6345ADB88940892F8B69930658DA9733CF	AACCD77057271FF5F605DF8CC5A44397E71CCE796EA79B8F1E8658FC9CD52464	UCA Global G2 Root
40	DNSPod OV TLS RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = DNSPod OV TLS RSA CA G1 O = DNSPod, Inc. C = CN	38C22FB4856AB84A51911FE53A7FE2BE1103338F	F36592E33FD869E917E33BADE683A4EC20809D5C8B493A1427BA6DC066CB5AE3	UCA Global G2 Root
41	DNSPod OV TLS ECC CA G1	Signing Key	sha384RSA	384 bits	CN = DNSPod OV TLS ECC CA G1 O = DNSPod, Inc. C = CN	586EA65733443DCE3CED5DEBF47E000FoE81B28D	8C4BFF9AE3F079E50208F84E4DA658AB441109686861FFCEE50D4A8662C2EEA1	UCA Global G2 Root
42	Keymatic Secure Domain RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Domain RSA CA G1 O = PKI(Chongqing) Limited C = CN	8ED096D6E8A4D935F386EBDA0B592E40521B0CBB	F3C9431A163BCECE79562093F0734DF6ED05618551CFEE0ABA949A77E959D8AAE	UCA Global G2 Root
43	Keymatic Secure Domain ECC CA G1	Signing Key	sha384RSA	384 bits	CN = Keymatic Secure Domain ECC CA G1 O = PKI(Chongqing) Limited C = CN	C1286B590B198916D776E6661E57D4460812EDDF	B07D2ACA4F29E2449B5ADB7CCB31C64C43854044A2DAA2AC838788026C684CoC	UCA Global G2 Root
44	Keymatic Secure Business RSA CA G1	Signing Key	sha384RSA	3072 bits	CN = Keymatic Secure Business RSA CA G1 O = PKI(Chongqing) Limited C = CN	5693F449C7E448C3C3D2BE86397E33368163A377	5523644185E21EF943A505A1C438167DA1FE7B14BEF2D243E53DE8C2B4263EB7	UCA Global G2 Root

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45	Keymatic Secure Business ECC CA G1	Signing Key	sha38 4RSA	384 bits	CN = Keymatic Secure Business ECC CA G1 O = PKI(Chongqi ng) Limited C = CN	23368DE013 A9BB36D76 A66E1128ED A5F4A3620 D5	75C4AF6628E7D01 DD369593EFD727E 3560ED9DDD67B04 325655821BD23281 A2B	UCA Global G2 Root
46	sslTrus RSA DV TLS CA G2	Signing Key	sha38 4RSA	307 2 bits	CN = sslTrus RSA DV TLS CA G2 O = sslTrus C = CN	DEE386BAC 52E630164E 0C142943C3 202967C689 1	B3A5BED750BCE5A 08C75E0012BoA6A 67954952BC8D1252 0514CC15CBB0B170 39	UCA Global G2 Root
47	sslTrus ECC DV TLS CA G2	Signing Key	sha38 4RSA	384 bits	CN = sslTrus ECC DV TLS CA G2 O = sslTrus C = CN	624679EBA4 7FFA4CD98 D6FFFDE6D 6F7FE49E86 E9	32CAA961415106CF 471CEA5B15C66464 A907C99861A297C3 59D174624BADB92 F	UCA Global G2 Root
48	sslTrus RSA OV TLS CA G2	Signing Key	sha38 4RSA	307 2 bits	CN = sslTrus RSA OV TLS CA G2 O = sslTrus C = CN	0EDFB6894 8064E10818 E3C8108C82 4BB8B308F 62	F0E647B5A2869A34 87507A90549AF039 896DB8BoFoE7CF9 2EF3AB567F3EC5E5 C	UCA Global G2 Root
49	sslTrus ECC OV TLS CA G2	Signing Key	sha38 4RSA	384 bits	CN = sslTrus ECC OV TLS CA G2 O = sslTrus C = CN	BEE114C1BE F84DA5E3D 4E41FCA0D 1F81A90CoF E0	06B7E611243D2901 B964FF6DoC53A2D B52BA2E1D41E17D7 4950E16605D9A2C9 0	UCA Global G2 Root
50	HTTPS Automati on Research RSA DV SSL CA G1	Signing Key	sha38 4RSA	307 2 bits	CN = HTTPS Automation Research RSA DV SSL CA G1 O = Shenzhen Yamu Security Technology Co., Ltd. C = CN	0FB6A84D7 1E5B1B38F9 E72D6BBC0 6A147FE4D 03B	1E426FF0F51EB4C2 85788B4418D2DAB 21097230CED81119 BA178A20AB1AABF 67	UCA Global G2 Root
51	UCA Global G2 Root	Root Key	sha25 6RSA	409 6 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5 E430FFA50 Co85F8C156 7217401DFD F	C1AFC65B1E813BoE 6146E6AA534168127 2ABE9A38D59F7BD 1B27B729834AoD9C	Certum Trusted Network CA
52	UCA Global G2 Root	Root Key	sha25 6RSA	409 6 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5 E430FFA50 Co85F8C156 7217401DFD F	3DD69C5BE170F94 3F804D1D31FE8F91 6CoCo226CDDD7A EA9AA9AoCDFD347 4361	Certum Trusted Network CA
53	UCA Global G2 Root	Root Key	sha25 6RSA	409 6 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5 E430FFA50 Co85F8C156 7217401DFD F	BB61408AED9F530 B2EC0545E53BA2C 8EBEAA57D997644 7DB1663CED4600C D6B7	Certum Trusted Network CA
54	UCA Global G2 Root	Root Key	sha25 6RSA	409 6 bits	CN = UCA Global G2 Root O = UniTrust C = CN	81C48CCCF5 E430FFA50 Co85F8C156 7217401DFD F	BFA95C5DF164B659 FA32F6D10564D717 0DDE661A853A782 E6AB63639433BCB 41	Certum Trusted Network CA

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
55	UCA Extended Validation Root	Root Key	sha256 RSA	4096 bits	CN = UCA Extended Validation Root O = UniTrust C = CN	D9743AE43 03D0DF712 DC7E5A059 F1E349AF7E 114	D43AF9B35473755C 9684FC06D7D8CB7 0EE5C28E773FB294 EB41EE71722924D2 4	UCA Extended Validation Root
56	SHECA RSA Extended Validation Code Signing CA	Signing Key	sha256 RSA	2048 bits	CN = SHECA RSA Extended Validation Code Signing CA O = UniTrust C = CN	8E40665F6 AA940C2B9 F1F04A2263 9564593707 E5	D404FAFA4BA2F42 6B66CD219C6DA84 F91C0FB7CB58429E C8077E2A764314D5 5D	UCA Extended Validation Root
57	SHECA RSA Extended Validation Server CA	Signing Key	sha256 RSA	2048 bits	CN = SHECA RSA Extended Validation Server CA O = UniTrust C = CN	3B4B252A77 372AFCB97F EDA8BDAF 2299FC5DC 5F4	4FD6FA527157EEA4 63689D7A4C2B934 EF222279725413893 D9847242C85CA9D F	UCA Extended Validation Root
58	SHECA EV Server CA G3	Signing Key	sha256 RSA	2048 bits	CN = SHECA EV Server CA G3 O = UniTrust C = CN	54E972FB78 669FE5CBF 33B8F98465 553739CoB8 4	7EF3F89456CE6365 57B20C5DFB37F98 C253A0B660D2E9E 5E7845CAF9C038C7 C1	UCA Extended Validation Root
59	SHECA EV Code Signing CA G2	Signing Key	sha256 RSA	3072 bits	CN = SHECA EV Code Signing CA G2 O = UniTrust C = CN	5007CC4DF 6F4BA37FC1 3CE1F2D22 C956D89EA 503	DD84169585A2E7A 216AEC4083265A 8EB51A64F7C6F194 3671F8584C73F79A 74	UCA Extended Validation Root
60	SHECA OV Server CA G6	Signing Key	sha256 RSA	2048 bits	CN = SHECA OV Server CA G6 O = UniTrust C = CN	FB7DCE490 5B420BCFF BF0D8471A DAE0135F9 61A0	264DF1458FB5EF1F C9DF9F1345E84A6 CC1A471CF475AE75 98FF52B86713519F B	UCA Extended Validation Root
61	SHECA OV Server CA G7	Signing Key	sha256 RSA	2048 bits	CN = SHECA OV Server CA G7 O = UniTrust C = CN	A0F344BA17 512C7776AB 4442C5534B 16AB5FoDA A	F6F8BCD413C97331 66E85843B468DD3 6E727152D9A37B151 29CoE7648ECE63 9	UCA Extended Validation Root
62	SHECA Extended Validation SSL CA	Signing Key	sha256 RSA	2048 bits	CN = SHECA Extended Validation SSL CA O = UniTrust C = CN	4D140DEA6 B559CoCA6 E1BB7BE86 A966D175E7 CB5	25BFDB1C5FE2CCE 051EC6DFBF2BB24 E78C92F969B1BB37 867DAEDF93D1A7A E7E	UCA Extended Validation Root
63	SHECA Extended Validation Code Signing CA	Signing Key	sha256 RSA	2048 bits	CN = SHECA Extended Validation Code Signing CA O = UniTrust C = CN	7498996F6A 15C0062520 851CAF2B31 6B87EDA3D B	A392C645B9A5AD6 A214F19DE776346B C7DD6BB15818E433 886DAC54EE66618 52	UCA Extended Validation Root
64	SHECA EV Code Signing CA G3	Signing Key	sha384 RSA	4096 bits	CN = SHECA EV Code Signing CA G3 O = UniTrust C = CN	6D325FA74 CCoEEC89B 7C6A3CoF2 E33CA55EB 99A8	E00AC33AC715D8B C3B6607A4165AE84 28F9274B4224AB3 D8CF36E8C8D6283 4A3	UCA Extended Validation Root

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65	UniTrust Global Root CA R1	Root Key	sha38 4RSA	409 6 bits	CN = UniTrust Global Root CA R1 O = UniTrust C = CN	3CA061BoE FDAC6E8BB 2DE156A2E BBBB63D23 2381	81B35EFC42C77947 209D76B51B5E7B12 2CE78348AE8C4525 DC8D4B30289E538 5	UniTrust Global Root CA R1
66	SHECA DV Server CA 1A	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA DV Server CA 1A O = UniTrust C = CN	653740EoB BF43905206 A8C9CAoAC B3BBD6968 CAo	D3D4A040BB41A69 5A96E3AAD93814C F7EF219D5819206E 947B44DCC5B8E5E 272	UniTrust Global Root CA R1
67	SHECA OV Server CA 1A	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA OV Server CA 1A O = UniTrust C = CN	8CD02E820 08EE2DEFF 71F61A105C 74A826E858 D1	9A3DBoFoFB0FF4F 974A4EoC510A7C13 D350485B1E6CDF5 A899BB24DoF499E 9BD	UniTrust Global Root CA R1
68	SHECA EV Server CA 1A	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA EV Server CA 1A O = UniTrust C = CN	73E36DF62 D862F57DF 69A5368723 1C85E01702 16	2F1CA1A5CoD7AE5 8C7ADFC69D4C57E E815F39CoF3D1F98 2E3AC76D25AB723 995	UniTrust Global Root CA R1
69	SHECA Code Signing CA 1A	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA Code Signing CA 1A O = UniTrust C = CN	21B34B4FC6 DD33246E8 61BACEBF1 82D7EFCA2 CDA	59E3EF6680BCCoB 1162DED4929D37E6 98C6A5CBEE075Co 3F1173AD653CF91C ED	UniTrust Global Root CA R1
70	SHECA EV Code Signing CA 1A	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA EV Code Signing CA 1A O = UniTrust C = CN	510BE3C14E ABDFEA38F F434E2C973 39CoBFC27 A9	03E04A3C2B5200B B27C679A37261852 BAC7D46F3F371E4 ECA80225AE288E4 CFC	UniTrust Global Root CA R1
71	UniTrust Global Root CA R2	Root Key	sha38 4ECD SA	384 bits	CN = UniTrust Global Root CA R2 O = UniTrust C = CN	E45366B7B7 A4E9D7CCC 121E04ACFC CAC01BC72 BC	78919B35D1C615595 A51328A5C546083B 4D5320724A258695 B991F2F61C4DCC7	UniTrust Global Root CA R2
72	SHECA DV Server CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA DV Server CA 2A O = UniTrust C = CN	A1221170BE C8665F6EC B104C4EDB 38EA9C1F91 4D	69201DC24E4127FF A5B41AoDDFoA1Ao 05C00F334B003F10 08924CBF998E1827 C	UniTrust Global Root CA R2
73	SHECA OV Server CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA OV Server CA 2A O = UniTrust C = CN	98CDEC338 767F394223 73810B735B A7C683A825 9	8E2CA2825C20398 04A7A1CC54B002E A1DB30AC489698F 039527BF1602132F6 11	UniTrust Global Root CA R2
74	SHECA EV Server CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA EV Server CA 2A O = UniTrust C = CN	44661C71EF 69B7930AB5 B771D83B11 4CFA843D7 7	93E49170D20F54D A701118A5ABDCDD A4FFCF334CDB2D8 D80599AB62848C8 5F80	UniTrust Global Root CA R2
75	UniTrust Global Code Signing ECC Root CA R2	Root Key	sha38 4ECD SA	384 bits	CN = UniTrust Global Code Signing ECC Root CA R2 O = UniTrust C = CN	D6E2F5C7B 440515C5A3 A5C490EFC B8C239503 CDB	8854E81F9C6B47E4 38BBAE17E41F8BE4 E68589AFD31A48B EE3F203F6DD3DA5 17	UniTrust Global Code Signing ECC Root CA R2

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76	SHECA Code Signing ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA Code Signing ECC CA 2A O = UniTrust C = CN	3A5576122E 385EB71567 1EE385BF1E 3DoAC77A1 A	953707AE07AF3497 0462E8C02AC3D10 949D3684D0633852 77F31869508007D2 3	UniTrust Global Code Signing ECC Root CA R2
77	SHECA EV Code Signing ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA EV Code Signing ECC CA 2A O = UniTrust C = CN	BFAE7906E 9776B61Do1 E4579986F2 698B66DF2 5E	545BD126658352B3 06EE74185173F1774 A79467A26E9BB6A EoED44D86615DE5 A	UniTrust Global Code Signing ECC Root CA R2
78	UniTrust Global Code Signing RSA Root CA R1	Root Key	sha38 4RSA	409 6 bits	CN = UniTrust Global Code Signing RSA Root CA R1 O = UniTrust C = CN	60C14C87B DAAB27B67 8E4EA7921C 519B481BA8 60	6357353A4BBCA3D 5A158C95BE9DC90 FoB3E2F6A6310FD 5371FCB4C41E5E1B B4C	UniTrust Global Code Signing RSA Root CA R1
79	SHECA Code Signing RSA CA 1B	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA Code Signing RSA CA 1B O = UniTrust C = CN	046DED1C4 A44C827558 CD17D7B17C CoC539579D E	4C5F7C561295B97F E7616389A2B549A0 D4598DoBD15EBFE A53AB518714CB843 4	UniTrust Global Code Signing RSA Root CA R1
80	SHECA EV Code Signing RSA CA 1B	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA EV Code Signing RSA CA 1B O = UniTrust C = CN	7E256177167 2AEE063F1 Co7B7CAC6 F3AAE44CD C3	A85CBD3FD9F3BFE 220DEoA09B52D5A A6F627EE9297FEF CE8706073A41B993 C79	UniTrust Global Code Signing RSA Root CA R1
81	UniTrust Global SMIME ECC Root CA R2	Root Key	sha38 4ECD SA	384 bits	CN = UniTrust Global SMIME ECC Root CA R2 O = UniTrust C = CN	2D4D94407 CFFC45D43 57F1905574 48CF6CBEA 343	6F4E2464D216A1Eo B558BB204259B4A5 45AEB948957AA3E AF11B2F4DE1AFEF1 o	UniTrust Global SMIME ECC Root CA R2
82	SHECA IV SMIME ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA IV SMIME ECC CA 2A O = UniTrust C = CN	EBC1D6F67 F2909A9928 A90B429581 8A02F3CAF 1B	E82D794C1AC79F9 BEBF3B6D98A237F 84C15FD40C3ABB8 6C2214E699414F8F F54	UniTrust Global SMIME ECC Root CA R2
83	SHECA MV SMIME ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA MV SMIME ECC CA 2A O = UniTrust C = CN	FE0328035 B693E5EDC 5FAE0B7427 35DCC38C6 6Fo	D7C4AB9D315AE8B 889DA902C5526429 5D8CDC0F54713704 90F4D4585E2C3C6 D3	UniTrust Global SMIME ECC Root CA R2
84	SHECA OV SMIME ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA OV SMIME ECC CA 2A O = UniTrust C = CN	BD34144476 Bo6DoF264 C3CA9C349 AC7153D4EF 55	229B7FBCA2361DE 63171067DE91DFFB 3D2FA71A5ABE51C A41D5300C5750D2F oE	UniTrust Global SMIME ECC Root CA R2
85	UniTrust Global SMIME RSA Root CA R1	Root Key	sha38 4RSA	409 6 bits	CN = UniTrust Global SMIME RSA Root CA R1 O = UniTrust C = CN	DFo8E3E97 7C1FoFBF5F 8D419504C7 719F206CBA 3	FoF255ADA2A643C oA1E7C8F54F3ED3 DD25EFoE7378E76 F7C127517ECFD952 803	UniTrust Global SMIME RSA Root CA R1

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86	SHECA IV SMIME RSA CA 1A	Signing Key	sha38 4RSA	307 2 bits	CN = SHECA IV SMIME RSA CA 1A O = UniTrust C = CN	D38BCDC44 5B1E8DoAF DD8BE8E4A 6B5B3oA71E F4E	82BA6F1067468383 757DF53F16282580 43BBB972E1CAD31F D7AADoADD66A5B 53	UniTrust Global SMIME RSA Root CA R1
87	SHECA MV SMIME RSA CA 1A	Signing Key	sha38 4RSA	307 2 bits	CN = SHECA MV SMIME RSA CA 1A O = UniTrust C = CN	5A4AEFED9 AE84052DA 320BBB32C 4E529ECD 5255	92148A115D26B287 254B36164164B222 0EE36B405D3B708 CF5B7AB060C66B1 FE	UniTrust Global SMIME RSA Root CA R1
88	SHECA OV SMIME RSA CA 1A	Signing Key	sha38 4RSA	307 2 bits	CN = SHECA OV SMIME RSA CA 1A O = UniTrust C = CN	Co61C3Do53 C9F412C5C9 192DBB6383 05E4CA7EF 8	6B661B964F2359C4 CA68355243A2EEE DA9BACDA191D103 AoC1119EC892018A C7	UniTrust Global SMIME RSA Root CA R1
89	UniTrust Global Time Stamping ECC Root CA R2	Root Key	sha38 4ECD SA	384 bits	CN = UniTrust Global Time Stamping ECC Root CA R2 O = UniTrust C = CN	C20E70D5E 4015590A71 7B62DDDB5 389D7627A1 B7	90711D905CFF3C77 3A7320B5188A960C 8A7D9E5966FA7328 4D64A4BF3E2FDA4 8	UniTrust Global Time Stamping ECC Root CA R2
90	SHECA Time Stamping ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA Time Stamping ECC CA 2A O = UniTrust C = CN	41315BE8FD 8C3C656301 68307AoB3 oEC097F106 9	0E3FC096DDCC320 5047F9042D57882A 1144107243C47CDE 6FFFDE403A5B7CA 04	UniTrust Global Time Stamping ECC Root CA R2
91	UniTrust Global Time Stamping RSA Root CA R1	Root Key	sha38 4RSA	409 6 bits	CN = UniTrust Global Time Stamping RSA Root CA R1 O = UniTrust C = CN	DA891E9DC 30F38DAB0 896CCDC5F DD7504F155 B30	1759727D9E6679Bo 69DD3AFA910E277 9C42007AAB206A1 69C66E6E2A3D1774 Bo	UniTrust Global Time Stamping RSA Root CA R1
92	SHECA Time Stamping RSA CA 1B	Signing Key	sha38 4RSA	409 6 bits	CN = SHECA Time Stamping RSA CA 1B O = UniTrust C = CN	CC14021676 9CC1FCECF CA02C90C6 3AB0B6A36 181	9A46D52BoF6A913 E6BF3EE6DCFE08B 2664DEE2AF704FD 4931E8DoC38F3D7 6Doo	UniTrust Global Time Stamping RSA Root CA R1
93	UniTrust Global TLS ECC Root CA R2	Root Key	sha38 4ECD SA	384 bits	CN = UniTrust Global TLS ECC Root CA R2 O = UniTrust C = CN	7935AD798 A95305C3E 05A675161A 9700oF6FC C90	6C689FC6B014A1FB oCDEB5A3996171C1 5E7286106028532E 0210CEA8D9CD4E9 7	UniTrust Global TLS ECC Root CA R2
94	SHECA DV TLS ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA DV TLS ECC CA 2A O = UniTrust C = CN	CB65E62F5 0175F2C172 B433F3A043 CD213569A6 6	D690D8722EA89CD 76179014495206533 39386AC4939F7EC5 C1B195D9C3C95FA4	UniTrust Global TLS ECC Root CA R2
95	SHECA EV TLS ECC CA 2A	Signing Key	sha38 4ECD SA	384 bits	CN = SHECA EV TLS ECC CA 2A O = UniTrust C = CN	B353900B5 E40A4952E A85A27F413 ABBAD631F 233	05E4C4B1F2580306 90E6793C9C13C6F6 AE234F68E5C41236 FDC919B7F589032F	UniTrust Global TLS ECC Root CA R2

#	密钥名称	密钥种类	密钥算法	密钥长度	主体识别名	密钥ID	证书指纹 (SHA256)	证书签发者
96	SHECA OV TLS ECC CA 2A	Signing Key	sha384 ECD SA	384 bits	CN = SHECA OV TLS ECC CA 2A O = UniTrust C = CN	A065578C43 B2546C4E18 DF86AED56 725A9B7659 C	08BA64405A3406C 97BDCBD0E44224E 6DD341F3EC93F136 8457DFA7CAC88BE 150	UniTrust Global TLS ECC Root CA R2
97	UniTrust Global TLS RSA Root CA R1	Root Key	sha384 RSA	4096 bits	CN = UniTrust Global TLS RSA Root CA R1 O = UniTrust C = CN	F2ADBFAB6 708F09672E 633D65175A 24759C900C 4	4BABE0E9328D5DA E17936F3DDAA244 2BFBDD0873F92FB 8D1FBBDD3D989464 9AD9	UniTrust Global TLS RSA Root CA R1
98	SHECA DV TLS RSA CA 1A	Signing Key	sha384 RSA	3072 bits	CN = SHECA DV TLS RSA CA 1A O = UniTrust C = CN	C5E3A87F7 EEDBC3E71 08B34EF49 0EF2F2F136 7D1	FFABEA74895DC0C 78C224597472CF69 37E0D740EF49DC2 256C8E75A2A2A15E DE	UniTrust Global TLS RSA Root CA R1
99	SHECA EV TLS RSA CA 1A	Signing Key	sha384 RSA	3072 bits	CN = SHECA EV TLS RSA CA 1A O = UniTrust C = CN	60651A135E AB2B98A5A 1041B3057A 1D02FC612E 5	B2525A5966CA68C A7F504F0A21FD738 47D174F89B48852A 3E970588E1EAF77 4	UniTrust Global TLS RSA Root CA R1
100	SHECA OV TLS RSA CA 1A	Signing Key	sha384 RSA	3072 bits	CN = SHECA OV TLS RSA CA 1A O = UniTrust C = CN	F463091C1E 2788B75DB BE91644B17 44A34F34B4 6	7F8EF707C2D9A4B 7D4ED5FDDC8AF4 A64D99BF297D03F 8F01C4375DE74B1C 7DE1	UniTrust Global TLS RSA Root CA R1