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INDEPENDENT ASSURANCE REPORT

To the management of eMudhra Technologies Limited ("emSign PKI"):

Scope

We have been engaged, in a reasonable assurance engagement, to report on emSign PKI management's assertion that for its Certification Authority (CA) operations at Bangalore and Chennai, India throughout the period 1 June 2023 to 31 May 2024 for its CAs as enumerated in **Appendix A**, emSign PKI has:

- disclosed its SSL certificate lifecycle management business practices in applicable versions of its Certification Practice Statements as enumerated in **Appendix B**, including its commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the emSign PKI's website, and provided such services in accordance with its disclosed practices

- maintained effective controls to provide reasonable assurance that:
  - the integrity of keys and SSL certificates it manages is established and protected throughout their lifecycles; and
  - SSL subscriber information is properly authenticated (for the registration activities performed by emSign PKI)

- maintained effective controls to provide reasonable assurance that:
  - logical and physical access to CA systems and data is restricted to authorised individuals;
  - the continuity of key and certificate management operations is maintained; and
  - CA systems development, maintenance, and operations are properly authorised and performed to maintain CA systems integrity

in accordance with the WebTrust Principles and Criteria for Certification Authorities – SSL Baseline v2.8.

Certification authority's responsibilities

emSign PKI's management is responsible for its 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 – SSL Baseline Security v2.8.

Our independence and quality management

We have complied with the independence and other ethical requirements of the *Code of Ethics for Professional Accountants* 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.

The firm applies International Standard on Quality Management (ISQM) 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements* and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner's responsibilities

Our responsibility is to express an opinion on management's assertion based on our procedures. We conducted our procedures in accordance with International Standard on Assurance Engagements 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information,* issued by the International Auditing and Assurance Standards Board. This standard requires that we plan and perform our procedures to obtain reasonable assurance about whether, in all material respects, management's assertion is fairly stated, and, accordingly, included:

(1) obtaining and understanding of emSign PKI's SSL certificate lifecycle management business practices, including its relevant controls over the issuance, renewal, and revocation of SSL certificates;
(2) selectively testing transactions executed in accordance with disclosed SSL certificate lifecycle management practices;
(3) testing and evaluating the operating effectiveness of the controls; and
(4) performing such other procedures as we considered necessary in the circumstances.

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

The relative effectiveness and significance of specific controls at emSign PKI 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.

Inherent limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls. For example, because of their nature, controls may not prevent, or detect unauthorised access to systems and information, or failure to comply with internal and external policies or requirements. Also, the projection to the future of any conclusions based on our findings is subject to the risk that controls may become ineffective.

Opinion

In our opinion, throughout the period 1 June 2023 to 31 May 2024, emSign PKI management's assertion, as referred to above is fairly stated, in all material respects, in accordance with the WebTrust Principles and Criteria for Certification Authorities - SSL Baseline v2.8.

This report does not include any representation as to the quality of emSign PKI's services beyond those covered by the WebTrust Principles and Criteria for Certification Authorities - SSL Baseline v2.8, nor the suitability of any of emSign PKI's services for any customer's intended purpose.

Use of the WebTrust seal

emSign PKI's use of the WebTrust for Certification Authorities - SSL Baseline 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.

BDO Consulting Sdn. Bhd.
Kuala Lumpur, Malaysia
19 August 2024

Appendix A – List of SSL Root and Subordinate CAs in Scope

No.	Common Name	Certificate Serial No.	SHA-256 Fingerprint
1	**emSign Root CA - G1**	31F5E4620C6C58EDD6D8	40F6AF0346A99AA1CD1D555A4E9CCE62C7F9634603EE406615833DC8C8D00367
2	emSign SSL CA - G1	217AD58B1C713C002091	47B2EFBC3670E7DB4B41F22C51FC02EE84FB2DBF3082A49F2C2688122E9210A1
3	**emSign ECC Root CA - G3**	3CF607A968700EDA8B84	86A1ECBA089C4A8D3BBE2734C612BA341D813E043CF9E8A862CD5C57A36BBE6B
4	emSign ECC SSL CA - G3	72DDC7E9DCE9B0DCFFC7	6B51D1DCF4EB7AEE424185CB1B9580574B39CB963863DE3EC1AD31DDB076CE9F
5	**emSign Root CA - C1**	00AECF00BAC4CF32F843B2	125609AA301DA0A249B97A8239CB6A34216F44DCAC9F3954B14292F2E8C8608F
6	emSign SSL CA - C1	0086766B7F96DF60C46F8B	F91AACA0E4E533747A0880BFCF6F26720DC1D05494C3938DA6802290D5A09B32
7	**emSign ECC Root CA - C3**	7B71B68256B8127C9CA8	BC4D809B15189D78DB3E1D8CF4F9726A795DA1643CA5F1358E1DDB0EDC0D7EB3
8	emSign ECC SSL CA - C3	5B7D9BB1FD33B9BC1D84	A061D445399714C38FC101A6E9AFBDB381F112FA5DE7D5BC14904558D1ED3276
9	**emSign Root TLS CA - G1**	02A27D4E346AEF4E4F04678B5BB6D9EE	CEF71E70B7C29ADDF6C30CD19E614B38FD5F02A435A0EEDDD0087E183D101A51
10	**emSign Root TLS CA - G3**	0E760672F143459FC8FE0AB0BC05E394	7DD78D5F4F13459A83DFF9ABBBA62EDBAF6F2D102BF257FD712F4D9F2746ED8D

Appendix B – Certification Practice Statements in Scope

Certification Practice Statement	Begin Effective Date	End Effective Date
Version 1.12	26 September 2022	15 August 2023
Version 1.13	16 August 2023	29 August 2023
Version 1.14	30 August 2023	16 June 2024
Version 1.15	17 June 2024	-

EMSIGN PKI'S MANAGEMENT ASSERTION

eMudhra Technologies Limited ("emSign PKI") operates the Certification Authority (CA) services known as enumerated in Appendix A and provides SSL CA services.

The management of emSign PKI is responsible for establishing and maintaining effective controls over its SSL CA operations, including its SSL CA business practices disclosure on its repository, SSL key lifecycle management controls, and SSL certificate lifecycle management 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 emSign PKI's CA operations. Furthermore, because of changes in conditions, the effectiveness of controls may vary over time.

emSign PKI management has assessed its disclosures of its certificate practices and controls over its SSL CA services. Based on that assessment, in providing its SSL CA services at Bangalore and Chennai, India throughout the period 1 June 2023 to 31 May 2024, emSign PKI has:

- Disclosed its SSL certificate lifecycle management business practices in applicable versions of its Certification Practice Statements as enumerated in Appendix B, including its commitment to provide SSL certificates in conformity with the CA/Browser Forum Requirements on the emSign PKI website, and provided such services in accordance with its disclosed practices;

- Maintained effective controls to provide reasonable assurance that:
  - The integrity of keys and SSL certificates it manages is established and protected throughout their lifecycles; and
  - SSL subscriber information is properly authenticated (for the registration activities performed by emSign PKI);

- Maintained effected controls to provide reasonable assurance that:
  - Logical and physical access to CA systems and data is restricted to authorized individuals;
  - The continuity of key and certificate management operations is maintained; and
  - CA systems development, maintenance, and operations are properly authorized and performed to maintain CA systems integrity

in accordance with the WebTrust Principles and Criteria for Certification Authorities - SSL Baseline v2.8.

Venu Madhava

Signed by Venu Madhava
Date: 2024.08.19
12:02:36

Venu Madhava
Executive Vice President- Legal, HR and GRC
19 August 2024

Appendix A – List of CAs in Scope

No.	Common Name	Certificate Serial No.	SHA-256 Fingerprint
1	**emSign Root CA - G1**	31F5E4620C6C58EDD6D8	40F6AF0346A99AA1CD1D555A4E9CCE62C7F9634603EE406615833DC8C8D00367
2	emSign SSL CA - G1	217AD58B1C713C002091	47B2EFBC3670E7DB4B41F22C51FC02EE84FB2DBF3082A49F2C2688122E9210A1
3	**emSign ECC Root CA - G3**	3CF607A968700EDA8B84	86A1ECBA089C4A8D3BBE2734C612BA341D813E043CF9E8A862CD5C57A36BBE6B
4	emSign ECC SSL CA - G3	72DDC7E9DCE9B0DCFFC7	6B51D1DCF4EB7AEE424185CB1B9580574B39CB963863DE3EC1AD31DDB076CE9F
5	**emSign Root CA - C1**	00AECF00BAC4CF32F843B2	125609AA301DA0A249B97A8239CB6A34216F44DCAC9F3954B14292F2E8C8608F
6	emSign SSL CA - C1	0086766B7F96DF60C46F8B	F91AACA0E4E533747A0880BFCF6F26720DC1D05494C3938DA6802290D5A09B32
7	**emSign ECC Root CA - C3**	7B71B68256B8127C9CA8	BC4D809B15189D78DB3E1D8CF4F9726A795DA1643CA5F1358E1DDB0EDC0D7EB3
8	emSign ECC SSL CA - C3	5B7D9BB1FD33B9BC1D84	A061D445399714C38FC101A6E9AFBDB381F112FA5DE7D5BC14904558D1ED3276
9	**emSign Root TLS CA - G1**	02A27D4E346AEF4E4F04678B5BB6D9EE	CEF71E70B7C29ADDF6C30CD19E614B38FD5F02A435A0EEDDD0087E183D101A51
10	**emSign Root TLS CA - G3**	0E760672F143459FC8FE0AB0BC05E394	7DD78D5F4F13459A83DFF9ABBBA62EDBAF6F2D102BF257FD712F4D9F2746ED8D

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