

**AMENDED AND RESTATED
LIMITED LIABILITY COMPANY AGREEMENT
OF
MIAX EMERALD, LLC
(a Delaware limited liability company)**

Miami International Holdings, Inc., a Delaware corporation, the sole member (the “LLC Member”) of **MIAX Emerald, LLC**, a Delaware limited liability company (the “Company”), pursuant to and in accordance with the Delaware Limited Liability Company Act, 6 Del.C. § 18-101, et seq. (the “LLC Act”), hereby declares the following to be the Amended and Restated Limited Liability Company Agreement (the “LLC Agreement”) of the Company which amends and restates in its entirety the Limited Liability Company Agreement dated February 1, 2018 of the Company (the “Operating Agreement”). Capitalized terms not otherwise defined herein shall have the meanings set forth on Schedule A to this LLC Agreement.

Section 1. Formation of the Company. The Company has been formed as a limited liability company under the LLC Act by the filing of a Certificate of Formation with the Office of the Secretary of State of the State of Delaware. The LLC Member agrees to be bound by and comply with the provisions thereof and hereof.

Section 2. Name. The name of the Company is “MIAX Emerald, LLC”.

Section 3. Principal Place of Business. The location of the principal place of business of the Company shall be 7 Roszel Road, 5th Floor, Princeton, New Jersey 08540, or such other place as determined by the Board of Directors from time to time.

Section 4. Registered Office; Registered Agent. The registered office of the Company required by the LLC Act to be maintained in the State of Delaware shall be 3422 Old Capitol Trail, Suite 700, Wilmington, DE 19808-6192, County of New Castle or such other office as the Board of Directors may designate from time to time. The registered agent for the Company shall be Delaware Business Incorporators, Inc., or such other registered agent as the Board of Directors may designate from time to time.

Section 5. Term. The Company shall continue until the Company is terminated in accordance with the provisions of this LLC Agreement.

Section 6. LLC Member. The mailing address of the LLC Member is set forth on Schedule B attached hereto. The LLC Member was admitted to the Company as an LLC Member of the Company upon its execution of a counterpart signature page to the Operating Agreement at which time it acquired 100% of the limited liability company interests of the Company.

Section 7. Purpose of the Company. The purpose of the Company shall be to conduct the operations of an “exchange” within the meaning of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and to conduct any lawful business or activity whatsoever, as

permitted by applicable law and as determined from time to time by the board of directors of the Company (the “Board of Directors”).

Section 8. Powers. The Company, and the Board of Directors and the Officers of the Company on behalf of the Company, (i) shall have and exercise all powers necessary, convenient or incidental to accomplish its purposes as set forth in Section 7 and (ii) shall have and exercise all of the powers and rights conferred upon limited liability companies formed pursuant to the LLC Act.

Section 9. Management.

(a) Board of Directors. The business and affairs of the Company shall be managed by or under the direction of a Board of Directors. Each Director is hereby designated as a “manager” within the meaning of the LLC Act. All Directors shall be elected by the LLC Member in the manner described in the By-Laws (as defined below). Each Director shall execute and deliver an instrument accepting such appointment and agreeing to be bound by all the terms and conditions of this LLC Agreement and the By-Laws. A Director need not be an LLC Member or an Exchange Member. The Directors as of the date of this LLC Agreement are set forth on Schedule C attached hereto.

(b) Powers. The Board of Directors shall have the power to do any and all acts necessary, convenient or incidental to or for the furtherance of the purposes described herein, including all powers, statutory or otherwise. The Board of Directors has the authority to bind the Company.

(c) By-Laws. The Company, the LLC Member and the Board of Directors hereby adopt the By-Laws of the Company in the form attached hereto as Exhibit A, as the same may be amended from time to time in accordance with the terms therein and in this LLC Agreement (the “By-Laws”). Each member of the Board of Directors, each Officer and the LLC Member shall be subject to the express provisions of this LLC Agreement and of the By-Laws. In case of any conflict between the provisions of this LLC Agreement and any provisions of the By-Laws, the provisions of this LLC Agreement shall control.

(d) Directors as Agents. To the extent of their powers set forth in this LLC Agreement, the Directors are agents of the Company for the purpose of the Company’s business, and the actions of the Directors taken in accordance with such powers set forth in this LLC Agreement shall bind the Company. Notwithstanding the last sentence of Section 18-402 of the LLC Act, except as provided in this LLC Agreement, the By-Laws or in a resolution of the Directors, a Director may not bind the Company.

Section 10. Officers.

(a) Officers of the Company. Except as provided herein, the Board may, from time to time as it deems advisable, select natural persons who are employees or agents of the Company and designate them as officers of the Company (the “Officers”) and assign titles (including, without limitation, Chief Executive Officer, Vice President, Chief Financial Officer,

Chief Regulatory Officer, Secretary and Treasurer) to any such person. The Board may appoint such other Officers and agents as it shall deem necessary or advisable who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board. The salaries of all Officers and agents of the Company shall be fixed by or in the manner prescribed by the By-Laws. The Officers of the Company shall hold office until their successors are chosen and qualified. Any Officer may be removed at any time, with or without cause, by the Board. Any vacancy occurring in any office of the Company shall be filled by the Board.

(b) Officers as Agents. The Officers, to the extent of their powers set forth in this LLC Agreement, the By-Laws or otherwise vested in them by action of the Board not inconsistent with this LLC Agreement, are agents of the Company for the purpose of the Company's business, and the actions of the Officers taken in accordance with such powers shall bind the Company.

(c) Duties of Board and Officers. Except to the extent otherwise modified herein, each Director and Officer shall have a fiduciary duty of loyalty and care similar to that of directors and officers of business corporations organized under the General Corporation Law of the State of Delaware.

Section 11. Advisory Board. The LLC Member may appoint any person or persons to act in an advisory capacity to the Company. Such a group shall be known as the Advisory Board.

Section 12. Limited Liability. Except as otherwise expressly provided by the LLC Act, the debts, obligations and liabilities of the Company, whether arising in contract, tort or otherwise (including, without limitation, those arising as member, owner or shareholder of another company, partnership or entity), shall be the debts, obligations and liabilities solely of the Company, and neither the LLC Member nor any Director or Officer shall be obligated personally for any such debt, obligation or liability of the Company solely by reason of being an LLC Member or Director or Officer of the Company.

Section 13. Capital Contributions. The LLC Member has contributed to the Company the amounts set forth in the books and records of the Company.

Section 14. Additional Contributions. The LLC Member is not required to make any additional capital contribution to the Company. However, the LLC Member may make additional capital contributions to the Company at any time upon the consent of such LLC Member. To the extent that the LLC Member makes an additional capital contribution to the Company, the LLC Member shall revise the books and records of the Company. The provisions of this LLC Agreement, including this Section 14, are intended to benefit the LLC Member and, to the fullest extent permitted by law, shall not be construed as conferring any benefit upon any creditor of the Company (and no such creditor of the Company shall be a third-party beneficiary of this LLC Agreement), and the LLC Member shall not have any duty or obligation to any creditor of the Company to make any contribution to the Company or to issue any call for capital pursuant to this LLC Agreement.

Section 15. Allocation of Profits and Losses. The Company's profits and losses shall be allocated to the LLC Member.

Section 16. Distributions. Distributions shall be made to the LLC Member at the times and in the aggregate amounts determined by the Board. Notwithstanding any provision to the contrary contained in this LLC Agreement, (i) the Company shall not be required to make a distribution to the LLC Member on account of its interest in the Company if such distribution would violate the LLC Act or any other applicable law, and (ii) the Company shall not make a distribution to the LLC Member using Regulatory Funds.

Section 17. Books and Records.

(a) The Board shall keep or cause to be kept complete and accurate books of account and records with respect to the Company's business. The books and records of the Company shall at all times be maintained by the Board at a location within the United States. The LLC Member and its duly authorized representatives shall have the right to examine the Company books, records and documents during normal business hours. The Company, and the Board on behalf of the Company, shall not have the right to keep confidential from the LLC Member any information that the Board would otherwise be permitted to keep confidential from the LLC Member pursuant to Section 18-305(c) of the LLC Act. The Company's books of account shall be kept using the method of accounting determined by the LLC Member. The Company's independent auditor shall be an independent public accounting firm selected by the Board.

(b) All books and records of the Company reflecting confidential information pertaining to the self-regulatory function of the Company (including but not limited to disciplinary matters, trading data, trading practices, and audit information) shall be retained in confidence by the Company and its personnel and will not be used by the Company for any non-regulatory purposes and shall not be made available to any person (including, without limitation, any Exchange Member) other than to personnel of the Commission, and those personnel of the Company, members of committees of the Company, members of the Board, hearing officers and other agents of the Company to the extent necessary or appropriate to properly discharge the self-regulatory responsibilities of the Company.

Section 18. Reports. The Board shall, after the end of each fiscal year, use reasonable efforts to cause the Company's independent accountants to prepare and transmit to the LLC Member as promptly as possible any such tax information as may be reasonably necessary to enable the LLC Member to prepare its federal, state and local income tax returns relating to such fiscal year.

Section 19. Other Business. Unless otherwise restricted by law, the LLC Member, and any Officer, Director, employee or agent of the Company and any Affiliate of the LLC Member may engage in or possess an interest in other business ventures (unconnected with the Company) of every kind and description, independently or with others. The Company shall not have any rights in or to such independent ventures or the income or profits therefrom by virtue of this LLC Agreement.

Section 20. Exculpation and Indemnification.

(a) Neither the LLC Member nor any Officer, Director, employee or agent of the Company nor any employee, representative, agent or affiliate of the LLC Member (collectively, the “Covered Persons”) shall be liable to the Company or any other Person who is bound by this LLC Agreement for any loss, damage or claim incurred by reason of any act or omission performed or omitted by such Covered Person in good faith on behalf of the Company and in a manner reasonably believed to be within the scope of the authority conferred on such Covered Person by this LLC Agreement, except that a Covered Person shall be liable for any such loss, damage or claim incurred by reason of such Covered Person’s willful misconduct.

(b) To the fullest extent permitted by applicable law, a Covered Person shall be entitled to indemnification from the Company for any loss, damage or claim incurred by such Covered Person by reason of any act or omission performed or omitted by such Covered Person in good faith on behalf of the Company and in a manner reasonably believed to be within the scope of the authority conferred on such Covered Person by this LLC Agreement, except that no Covered Person shall be entitled to be indemnified in respect of any loss, damage or claim incurred by such Covered Person by reason of such Covered Person’s willful misconduct with respect to such acts or omissions; provided, however, that any indemnity under this Section 20 by the Company shall be provided out of and to the extent of Company assets only, and the LLC Member shall not have personal liability on account thereof.

(c) To the fullest extent permitted by applicable law, expenses (including reasonable legal fees) incurred by a Covered Person defending any claim, demand, action, suit or proceeding shall, from time to time, be advanced by the Company prior to the final disposition of such claim, demand, action, suit or proceeding upon receipt by the Company of an undertaking by or on behalf of the Covered Person to repay such amount if it shall be determined that the Covered Person is not entitled to be indemnified as authorized in this Section 20.

(d) A Covered Person shall be fully protected in relying in good faith upon the records of the Company and upon such information, opinions, reports or statements presented to the Company by any Person as to matters the Covered Person reasonably believes are within such other Person’s professional or expert competence and who has been selected with reasonable care by or on behalf of the Company, including information, opinions, reports or statements as to the value and amount of the assets, liabilities or any other facts pertinent to the existence and amount of assets from which distributions to the LLC Member might properly be paid.

(e) To the extent that, at law or in equity, a Covered Person has duties (including fiduciary duties) and liabilities relating thereto to the Company or to any other Covered Person, a Covered Person acting under this LLC Agreement shall not be liable to the Company or to any other Covered Person who is bound by this LLC Agreement for its good faith reliance on the provisions of this LLC Agreement or any approval or authorization granted by the Company or any other Covered Person.

(f) The foregoing provisions of this Section 20 shall survive any termination of this LLC Agreement and are in addition to any indemnification of Covered Persons provided

by any agreement between the Company and a Covered Person, the By-Laws, by statute, or otherwise.

Section 21. Assignments. The LLC Member may assign, in whole or in part, its limited liability company interest in the Company (the “LLC Interest”); provided, however, such assignment will be subject to prior approval by the Securities and Exchange Commission (the “Commission”) pursuant to the rule filing procedure under Section 19 of the Exchange Act. The assignment of the LLC Interest shall entitle the assignee to exercise the rights of the LLC Member of the Company under this LLC Agreement and to enjoy all of the benefits of the LLC Interest.

Section 22. Dissolution.

(a) The Company shall be dissolved and its affairs shall be wound up upon the first to occur of the following: (i) the consent of the LLC Member and a majority of the whole Board, (ii) the termination of the legal existence of the LLC Member or the occurrence of any other event that terminates the continued membership of the LLC Member in the Company unless the Company is continued without dissolution in a manner permitted by this LLC Agreement or the LLC Act or (iii) the entry of a decree of judicial dissolution under Section 18-802 of the LLC Act.

(b) Notwithstanding any other provision of this LLC Agreement, the Bankruptcy of the LLC Member shall not cause the LLC Member to cease to be an LLC Member of the Company and upon the occurrence of such an event, the Company shall continue without dissolution.

(c) In the event of dissolution, the Company shall conduct only such activities as are necessary to wind up its affairs (including the sale of the assets of the Company in an orderly manner), and the assets of the Company shall be applied in the manner, and in the order of priority, set forth in Section 18-804 of the LLC Act.

(d) The Company shall terminate when (i) all of the assets of the Company, after payment of or due provision for all debts, liabilities and obligations of the Company, shall have been distributed to the LLC Member in the manner provided for in this LLC Agreement and (ii) the Certificate of Formation shall have been canceled in the manner required by the LLC Act.

Section 23. Benefits of LLC Agreement - No Third-Party Rights. None of the provisions of this LLC Agreement shall be for the benefit of or enforceable by any creditor of the Company or by any creditor of the LLC Member. Nothing in this LLC Agreement shall be deemed to create any right in any Person (other than Covered Persons and to the extent provided in Article II of the By-Laws, Exchange Members) not a party hereto, and this LLC Agreement shall not be construed in any respect to be a contract in whole or in part for the benefit of any third Person (other than the Covered Persons and to the extent provided in Article II of the By-Laws, Exchange Members).

Section 24. Severability of Provisions. Each provision of this LLC Agreement shall be considered severable and if for any reason any provision or provisions herein are determined to

be invalid, unenforceable or illegal under any existing or future law, such invalidity, unenforceability or illegality shall not impair the operation of or affect those portions of this LLC Agreement which are valid, enforceable and legal.

Section 25. Entire LLC Agreement. This LLC Agreement constitutes the entire agreement of the parties with respect to the subject matter hereof.

Section 26. Binding Agreement. Notwithstanding any other provision of this LLC Agreement, the LLC Member agrees that this LLC Agreement constitutes a legal, valid and binding agreement of the LLC Member and is enforceable against the LLC Member, in accordance with its terms.

Section 27. Governing Law. This LLC Agreement shall be governed by and construed under the laws of the State of Delaware (without regard to conflict of laws principles), all rights and remedies being governed by said laws.

Section 28. Amendments.

(a) This LLC Agreement may be modified, altered, supplemented or amended by a resolution adopted by the Board and a written agreement executed and delivered by the LLC Member.

(b) Before any amendment to, or repeal of, any provision of this LLC Agreement shall be effective, those changes shall be submitted to the Board of Directors of the Company and if such amendment or repeal must be filed with or filed with and approved by the Commission, then the proposed changes to this LLC Agreement shall not become effective until filed with or filed with and approved by the Commission, as the case may be.

Section 29. Notices. Any notices required to be delivered hereunder shall be in writing and personally delivered, mailed or sent by telecopy, electronic mail or other similar form of rapid transmission, and shall be deemed to have been duly given upon receipt (i) in the case of the Company, to the Company at its address in Section 3, (ii) in the case of the LLC Member, to the LLC Member at its address as listed on Schedule B attached hereto and (iii) in the case of either of the foregoing, at such other address as may be designated by written notice to the other party.

SCHEDULE A

Definitions

A. Definitions

When used in this LLC Agreement, the following terms not otherwise defined herein have the following meanings:

An “affiliate” of, or person “affiliated” with a specific person, is a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, the person specified.

“Bankruptcy” means, with respect to any Person, if (A) such Person (i) makes an assignment for the benefit of creditors, (ii) files a voluntary petition in bankruptcy, (iii) is adjudged a bankrupt or insolvent, or has entered against it an order for relief, in any bankruptcy or insolvency proceedings, (iv) files a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation or similar relief under any statute, law or regulation, (v) files an answer or other pleading admitting or failing to contest the material allegations of a petition filed against it in any proceeding of this nature, or (vi) seeks, consents to or acquiesces in the appointment of a trustee, receiver or liquidator of the Person or of all or any substantial part of its properties; or (B) (i) 120 days after the commencement of any proceeding against the Person seeking reorganization, arrangement, composition, readjustment, liquidation or similar relief under any statute, law or regulation, the proceeding has not been dismissed, or (ii) within 90 days after the appointment without such Person’s consent or acquiescence of a trustee, receiver or liquidator of such Person or of all or any substantial part of its properties, the appointment is not vacated or stayed, or within 90 days after the expiration of any such stay, the appointment is not vacated. The foregoing definition of “Bankruptcy” is intended to replace and shall supersede and replace the definition of “Bankruptcy” set forth in Sections 18-101(1) and 18-304 of the LLC Act.

“Board” or “Board of Directors” means the Board of Directors of the Company.

“By-Laws” has the meaning set forth in Section 9(c).

“Certificate of Formation” means the Certificate of Formation of the Company filed with the Secretary of State of the State of Delaware on January 30, 2018, as amended or amended and restated from time to time.

“Commission” means the Securities and Exchange Commission.

“Company” means MIAX Emerald, LLC, a Delaware limited liability company.

“Covered Persons” has the meaning set forth in Section 20.

“Directors” means the Persons elected or appointed to the Board of Directors from time to time in accordance with this LLC Agreement and the By-Laws, in their capacity as managers of the Company.

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Exchange Member” means any registered broker or dealer that has been admitted to membership in the national securities exchange operated by the Company. An Exchange Member is not a member of the Company by reason of being an Exchange Member.

“LLC Act” has the meaning set forth in the preamble to this LLC Agreement.

“LLC Agreement” means this Limited Liability Company Agreement of the Company, together with the schedules attached hereto, as amended, restated, supplemented or otherwise modified from time to time.

“LLC Interest” has the meaning set forth in Section 21.

“LLC Member” means Miami International Holdings, Inc., as the sole member of the Company.

“Officer” means an officer of the Company described in Section 10.

“Operating Agreement” has the meaning set forth in the preamble to this LLC Agreement.

“Person” means any individual, corporation, partnership, joint venture, limited liability company, limited liability partnership, association, joint stock company, trust, unincorporated organization or other organization, whether or not a legal entity, and any governmental authority.

“Regulatory Funds” means fees, fines, or penalties derived from the regulatory operations of the Company. “Regulatory Funds” shall not be construed to include revenues derived from listing fees, market data revenues, transaction revenues, or any other aspect of the commercial operations of the Company, even if a portion of such revenues are used to pay costs associated with the regulatory operations of the Company.

B. Rules of Construction

Definitions in this LLC Agreement apply equally to both the singular and plural forms of the defined terms. The words “include” and “including” shall be deemed to be followed by the phrase “without limitation.” The terms “herein,” “hereof” and “hereunder” and other words of similar import refer to this LLC Agreement as a whole and not to any particular Section, paragraph or subdivision. The Section titles appear as a matter of convenience only and shall not affect the interpretation of this LLC Agreement. All Section, paragraph, clause, Exhibit or Schedule references not attributed to a particular document shall be references to such parts of this LLC Agreement.

SCHEDULE B

LLC Member

Name	Mailing Address	Limited Liability Company Interest
Miami International Holdings, Inc.	7 Roszel Road, 5 th Floor Princeton, NJ 08540	100%

SCHEDULE C

Directors as of December 21, 2018

	Name	Classification
1.	Thomas P. Gallagher	Industry
2.	Lindsay L. Burbage	Non-Industry/Independent
3.	Marianne Deane	Non-Industry/Independent
4.	Leslie Florio	Non-Industry/Independent
5.	Kimberly M. Guadagno	Non-Industry/Independent
6.	Joseph M. Kyrillos Jr.	Non-Industry/Independent
7.	John E. McCormac	Non-Industry/Independent
8.	Robert D. Prunetti	Non-Industry/Independent

EXHIBIT A

BY-LAWS OF MIAX EMERALD, LLC

[Separate document]