

## APPENDIX

## Equity Execution Venue Rank and Tier

Market Participant	Market Share of Share Volume <sup>85</sup>	Rank	Tier
Financial Industry Regulatory Authority, Inc.	24.4118512850143%	1	1
The NASDAQ Stock Market LLC	14.3221316394514%	2	1
New York Stock Exchange LLC	13.1631222177691%	3	1
NYSE Arca, Inc.	9.3963074291365%	4	1
Cboe EDGX Exchange, Inc.	6.3267638314653%	5	1
Cboe BZX Exchange, Inc.	6.1478229789347%	6	1
Cboe BYX Exchange, Inc.	4.7643781647716%	7	1
NASDAQ BX, Inc.	3.1401372815484%	8	1
UBS ATS	2.3058693548856%	9	1
Investors' Exchange, LLC	2.1483648334229%	10	1
Cboe EDGA Exchange, Inc.	1.8513467967001%	11	1
CROSSFINDER	1.6894565311740%	12	1
SUPERX	1.0115687555972%	13	1
MS POOL (ATS-4)	0.9188826526803%	14	2
NASDAQ PHLX LLC	0.8009596014408%	15	2
J.P. MORGAN ATS ("JPM-X")	0.7936361365369%	16	2
BARCLAYS ATS ("LX")	0.6719255553783%	17	2
LEVEL ATS	0.6571986459767%	18	2
INSTINCT X	0.5956036029620%	19	2
BIDS TRADING L.P.	0.5837401323782%	20	2
INSTINET CONTINUOUS BLOCK CROSSING SYSTEM (CBX)	0.4723979596673%	21	2
KCG MATCHING	0.4682553983691%	22	2
POSIT	0.4435281677014%	23	2
Chicago Stock Exchange, Inc.	0.4241409043731%	24	2
SIGMA X	0.3157563290949%	25	2
MS TRAJECTORY CROSS (ATS-1)	0.2654339378079%	26	2
NYSE American LLC	0.2342627717196%	27	2
IBKR ATS	0.2038196304470%	28	2
CROSSSTREAM	0.1772292674940%	29	2
SIGMA X2	0.1705392273292%	30	2
LIQUIDNET ATS	0.1499973113804%	31	2

<sup>85</sup> Market share is based on Q2 2017 data made publicly available by Bats (exchange market statistics source), FINRA (ATS market statistics source), and OTC Markets (ATS market statistics source).

Market Participant	Market Share of Share Volume <sup>85</sup>	Rank	Tier
MILLENNIUM	0.1365496066290%	32	2
CITICROSS	0.1349428742591%	33	2
LIQUIDNET H2O ATS	0.1282036311445%	34	2
DEALERWEB, INC.	0.1156677493258%	35	2
OTC LINK ATS <sup>86</sup>	0.1148240026713%	36	3
BLOCKCROSS ATS	0.0979883294279%	37	3
INSTINET CROSSING	0.0763929064441%	38	3
CODA MARKETS, INC.	0.0662166896390%	39	3
LUMINEX TRADING & ANALYTICS LLC	0.0304261486817%	40	3
MS RETAIL POOL	0.0295389976553%	41	3
CITIBLOC	0.0251235534421%	42	3
USTOCKTRADE SECURITIES, INC.	0.0089509616229%	43	3
AQUA SECURITIES L.P.	0.0052275918715%	44	3
XE	0.0031219820548%	45	3
GLOBAL OTC	0.0002467471213%	46	3
BARCLAYS DIRECTEX	0.0001494994467%	47	3
VARIABLE INVESTMENT ADVISORS, INC. ATS (VIAATS)	0.0000002922675%	48	4
FNC AG STOCK, LLC	0.0000000607782%	49	4
DBOT ATS, LLC	0.0000000429086%	50	4
PRO SECURITIES ATS	0.0000000000004%	51	4
NYSE National, Inc.	0.0000000000000%	52	4

#### Options Execution Venue Rank and Tier

Market Participant	Market Share of Share Volume (Options Contracts) <sup>87</sup>	Rank	Tier
Cboe Exchange, Inc.	17.30%	1	1
NASDAQ PHLX LLC	16.89%	2	1
Cboe BZX Options Exchange, Inc.	12.36%	3	1
The NASDAQ Options Market LLC	10.01%	4	1
Nasdaq ISE, LLC	9.06%	5	1
NYSE Arca, Inc.	7.74%	6	1
NYSE American LLC	7.60%	7	1
Miami International Securities Exchange, LLC	5.07%	8	1
Nasdaq GEMX, LLC	5.04%	9	1

<sup>86</sup> Market share for OTC Link ATS is based on the Q2 2017 data made publicly available by OTC Markets.

<sup>87</sup> The market share is based on Q2 data made publicly available by Bats.

<b>Market Participant</b>	<b>Market Share of Share</b>	<b>Rank</b>	<b>Tier</b>
Cboe C2 Exchange, Inc.	3.79%	10	1
BOX Options Exchange LLC	2.30%	11	1
Cboe EDGX Options Exchange, Inc.	1.40%	12	2
NASDAQ BX, Inc.	0.70%	13	2
MIAX PEARL, LLC	0.61%	14	2
Nasdaq MRX, LLC	0.13%	15	2