# William Blair Sell Side - Held NMS Stocks and Options Order Routing Public Report Generation Date: 2022-01-21 09-5440.037 GMT-0400 Year: 2021 Quarter: 4

1001.2021	Quarter. 4												
October 2021				S&P 500 Stocks									
Summary													
Non-Directed Orders as	Market Orders as Percent of Non-	Marketable Limit Orders as Percent of Non-Directed	Non-Marketable Limit Orders as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders		Orders											
100.00%	97.58%	0.53%	1.80%	0.09%									
Venues - Non Directed Orders													
Venues - Non Directed Orders													
				Non-Marketable Limit Orders			Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)		for Market Orders (cents per hundred shares)		(cents per hundred shares)		(cents per hundred shares)		otner Orders (cents per hundred shares)
Citadel Securities LLC (CDRG)				(1-)		, , , , , , , , , , , , , , , , , , , ,		()	(46.116 per 116.116	(===)	(		, , , , , , , , , , , , , , , , , , , ,
	33.72%	33.79%	30.95%	31.47%	14.29%	0.0000	0.0000	0	0.0000	0	0.0000		0.0000
Virtu Americas LLC (NITE) Wall Street Access (VNDM)	33.70% 32.58%	33.51% 32.70%	38.10% 30.95%	42.66% 25.87%	42.86% 42.86%	0.0000	0.0000	0	0.0000	0	0.0000		0.0000
		32.70%		23.07%				·		•		·	
October 2021				Non-S&P 500 Stocks									
Summary		Mandatable Harlt Orders on	Non-Marketable Limit Orders										
Non-Directed Orders as	Market Orders as Percent of Non-		as Percent of Non-Directed	Other Orders as Percent of									
Percent of All Orders		Orders		Non-Directed Orders									
100.00%	90.94%	1.57%	7.24%	0.25%									
Venues - Non Directed Orders													
				Non-Marketable Limit Orders		Not Payment Paid/Ressived	Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)		hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)													
Wall Street Access (VNDM)	33.74% 33.19%	33.16% 33.62%	52.98% 20.24%	36.94% 30.37%	29.63% 37.04%	0.0000	0.0000	0	0.0000 0.0000	0	0.0000		0.0000
Wall Street Access (VNDM) Virtu Americas LLC (NITE)	33.19% 33.08%	33.62% 33.21%	20.24% 26.79%	30.37% 32.69%	37.04% 33.33%	0.0000	0.0000	0	0.0000	0	0.0000		0.0000
October 2021				Option Contracts		·				·			
Summary		Marketable Limit Orders as	Non-Marketable Limit Orders										
	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed										
Percent of All Orders	Directed Orders	Orders		Non-Directed Orders									
100.00%	69.67%	9.88%	19.91%	0.54%									
Venues - Non Directed Orders													
			,	Non-Marketable Limit Orders		Net Payment Paid/Received	Net Payment Paid/Received for Market Orders (cents per	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received Marketable Limit Orders	Net Payment Paid/Received Non-Marketable Limit Orders	Net Payment Paid/Received Non-Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)		(cents per hundred shares)		(cents per hundred shares)		
National Financial Services	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
LLC (NFSC)	100.00%	100.00%	100.00%	100.00%	100.00%	U	0.0000	U	0.0000	U	0.0000	U	0.0000
Material Aspects:													
Citadel Securities LLC - William No.	n Blair did not receive payment for or lair did not receive payment for orde	rder flow from CDRG for these to or flow from NITE for these trad	trades.										
	air did not receive payment for orde												
National Financial Services LLC	- William Blair did not receive paym	ent for order flow from NFSC fe	for these trades										
November 2021				S&P 500 Stocks									
Summary													
	Market Orders as Percent of Non-	Marketable Limit Orders as	Non-Marketable Limit Orders as Percent of Non-Directed										
Percent of All Orders		Percent of Non-Directed Orders		Non-Directed Orders									
100.00%		0.46%	1.93%	0.14%									
Venues - Non Directed Orders													
							Net Payment Paid/Received						Net Payment Paid/Received
				Non-Marketable Limit Orders	01 01 00		for Market Orders (cents per	Marketable Limit Orders		Non-Marketable Limit Orders			Other Orders (cents per
venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	33.54%	33.56%	37.14%	31.29%	36.36%	0	0.0000	0	0.0000	0	0.0000		0.0000
Virtu Americas LLC (NITE)	33.50%	33.46%		35.37%	27.27%		0.0000	0		0	0.0000		0.0000
Wall Street Access (VNDM)	32.97%	32.98%	28.57%	33.33%	36.36%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
November 2021				Non-S&P 500 Stocks									
Summary				300 300KS									
			Non-Marketable Limit Orders										
Non-Directed Orders as Percent of All Orders	Market Orders as Percent of Non- Directed Orders	Percent of Non-Directed Orders	as Percent of Non-Directed Orders	Other Orders as Percent of Non-Directed Orders									
Percent of All Orders 100.00%		2.08%	7.46%	Non-Directed Orders 0.52%									
		2.00%	7.40%	3.3270									
Venues - Non Directed Orders													
							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
				Non-Marketable Limit Orders		Net Payment Paid/Received	for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	34.29%	33.82%	38.06%	38.64%	37.10%	n	0.0000	0	0.0000	0	0.0000	0	0.0000
Wall Street Access (VNDM)	32.93%			36.04%		U		U		U			
	32.93%	33.28%	28.74%	30.06%	30.65%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	32.93% 32.78%	33.28% 32.90%	28.74% 33.20%	30.06% 31.30%	30.65% 32.26%	0	0.0000 0.0000	0		0	0.0000 0.0000		0.0000

November 2021 Option Contracts

## William Blair Sell Side - Held NMS Stocks and Options Order Routing Public Report

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		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100.00%	59.11%	11.69%	27.35%	1.85%

#### Venues - Non Directed Orders

						Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received Net Payment Paid/Received	ved	Net Payment Paid/Received
			Non-Marketable Limit Orders		Net Payment Paid/Received	for Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders	Non-Marketable Limit Orders Non-Marketable Limit Or	ders Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Marketable Limit Ord	ers (%) (%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD) (cents per hundred sha	res) Other Orders (USD)	hundred shares)
National Financial Services											
LLC (NFSC)	100.00%	100.00% 1	0.00% 100.00%	100.00%	0	0.0000	0	0.0000	0 0.0	000 0	0.0000

#### Material Aspects:

Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.

Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.

Wall Street Access - William Blair did not receive payment for order flow from VNDM for these trades.

National Financial Services LLC - William Blair did not receive payment for order flow from NFSC for these trades

December 2021				S&P 500 Stocks
Summary				
		Marketable Limit Orders as	Non-Marketable Limit Orders	
Non-Directed Orders as	Market Orders as Percent of Non-	Percent of Non-Directed	as Percent of Non-Directed	Other Orders as Percent of
Percent of All Orders	Directed Orders	Orders	Orders	Non-Directed Orders
100 00%	96 39%	0.86%	2.50%	0.24%

#### Venues - Non Directed Orders

				n-Marketable Limit Orders		Net Payment Paid/Received for	r Market Orders (cents per	Marketable Limit Orders		n-Marketable Limit Orders N	on-Marketable Limit Orders	Net Payment Paid/Received	Net Payment Paid/Received Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Mark	ketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
Citadel Securities LLC (CDRG)	33.68%	33.65%	38.60%	32.12%	43.75%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Virtu Americas LLC (NITE)	33.31%	33.21%	33.33%	36.36%	43.75%	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Wall Street Access (VNDM)	33.01%	33.14%	28.07%	31.52%	12.50%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

December 2021 Non-S&P 500 Stocks Summary

Marketable Limit Orders as Non-Marketable Limit Orders Non-Directed Orders as Market Orders as Percent of Non- Percent of Non-Directed as Percent of Non-Directed Other Orders as Percent of t Orders as Percent \_ Directed Orders 91.03% Percent of All Orders 100.00% Orders Non-Directed Orders
6.64% 0.40% Orders 1.94%

#### Venues - Non Directed Orders

Venue	Non-Directed Orders (%)	Market Orders (%)	Marketable Limit Orders (%)	Non-Marketable Limit Orders (%)	Other Orders (%)	Net Payment Paid/Received for Market Orders (USD)				d Net Payment Paid/Received rs Non-Marketable Limit Orders (cents per hundred shares)		Net Payment Paid/Received Other Orders (cents per hundred shares)
Citadel Securities LLC (CDRG)	34.16%	33.619		37.99%	41.46%	0	0.0000	0.0000		0.0000	0	0.0000
Virtu Americas LLC (NITE)	32.94%	33.199	6 26.87%	30.13%	51.22%	0	0.0000	0.0000	)	0.0000	0	0.0000
Wall Street Access (VNDM)	32.90%	33.209	% 27.36%	31.88%	7.32%	0	0.0000	0.0000	)	0.0000	0	0.0000

December 2021 Option Contracts Marketable Limit Orders as Non-Marketable Limit Orders
Percent of Non-Directed as Percent of Non-Directed Other Orders as Percent of Non-Directed Orders as Market Orders as Percent of Non-Percent of All Orders Directed Orders Orders Orders Non-Directed Orders

### Venues - Non Directed Orders

							Net Payment Paid/Received	Net Payment Paid/Received	Net Payment Paid/Received N	let Payment Paid/Received	Net Payment Paid/Received		Net Payment Paid/Received
				Non-Marketable Limit Orders		Net Payment Paid/Received 1	or Market Orders (cents per	Marketable Limit Orders	Marketable Limit Orders No	n-Marketable Limit Orders 1	Non-Marketable Limit Orders	Net Payment Paid/Received	Other Orders (cents per
Venue	Non-Directed Orders (%)	Market Orders (%) Ma	arketable Limit Orders (%)	(%)	Other Orders (%)	for Market Orders (USD)	hundred shares)	(USD)	(cents per hundred shares)	(USD)	(cents per hundred shares)	Other Orders (USD)	hundred shares)
National Financial Services													
LLC (NFSC)	100.00%	100.00%	100.00%	100.00%	100.00%	0	0.0000	0	0.0000	0	0.0000	0	0.0000

#### Material Aspects:

Material Aspects:
Citadel Securities LLC - William Blair did not receive payment for order flow from CDRG for these trades.
Virtu Americas LLC - William Blair did not receive payment for order flow from NITE for these trades.
Will Street Access - William Blair did not receive payment for order flow from VNDM for these trades.
National Financial Services LLC - William Blair did not receive payment for order flow from WSC for these trades.