Ribbon Communications

Third Quarter 2021 Results

October 27, 2021

Note Regarding Forward-Looking Statements and Non-GAAP Financial Measures

This presentation contains "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, which are subject to a number of risks and uncertainties. All statements other than statements of historical facts contained in this presentation, including without limitation statements regarding the projected financial results for the fourth quarter of 2021 and beyond, potential COVID-19 impacts, customer engagement and momentum, and plans for future product development and manufacturing, are forward-looking statements. Without limiting the foregoing, the words "believes", "estimates", "expects", "expectations", "intends", "may", "plans", "projects" and other similar language, are intended to identify forward-looking statements.

Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our actual results may differ materially from those contemplated in these forward-looking statements due to various risks, uncertainties and other important factors, including, among others, risks related to supply chain disruptions resulting from component availability and/or geopolitical instabilities and disputes; risks related to the continuing COVID-19 pandemic, including delays in customer deployments as a result of rises in cases; risks that we will not realize estimated cost savings and/or anticipated benefits from the acquisition of ECI; failure to realize anticipated benefits from the sale of our Kandy Communications business ("Kandy") or declines in the value of our ongoing investment in AVCT, the purchaser of the Kandy Communications business; unpredictable fluctuations in quarterly revenue and operating results; risks related to cybersecurity and data intrusion; failure to compete successfully against telecommunications equipment and networking companies; failure to grow our customer base or generate recurring business from our existing customers; credit risks; the timing of customer purchasing decisions and our recognition of revenues; macroeconomic conditions; the impact of restructuring and cost-containment activities; litigation; market acceptance of our products and services; rapid technological and market change; our ability to protect our intellectual property rights and obtain necessary licenses; our ability to maintain partner, reseller, distribution and vendor support and supply relationships; the potential for defects in our products; risks related to the terms of our credit agreement; higher risks in international operations and markets; increases in tariffs, trade restrictions or taxes on our products; currency fluctuations; and failure or circumvention of our controls and procedures.

Any forward-looking statements represent our views only as of the date on which such statement is made and should not be relied upon as representing our views as of any subsequent date. While we may elect to update forward-looking statements at some point, we specifically disclaim any obligation to do so, except as may be required by law.

This presentation also includes certain non-GAAP financial measures in addition to the U.S. GAAP financials. Our management believes that presenting certain non-GAAP financial measures provides meaningful information to investors in understanding our operating results and may enhance investors' ability to analyze financial and business trends including the ability to compare period to period more easily by excluding items that could have a disproportionately negative or positive impact on results in a given financial period. The non-GAAP measures have limitations as analytical tools and you should not consider them in isolation or as a substitute for the most directly comparable financial measures prepared in accordance with U.S. GAAP. We urge you to review the reconciliation of our non-GAAP financial measures to the most directly comparable GAAP financial measures set forth in the Appendix to this presentation, and not to rely on any single financial measure to evaluate our business.

Third Quarter 2021 Business Overview

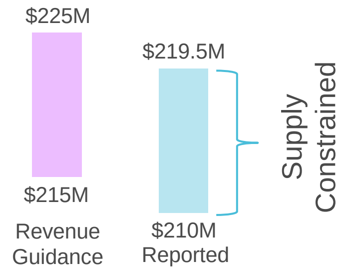
Bruce McClelland, President & CEO

Mick Lopez, Executive Vice President & CFO

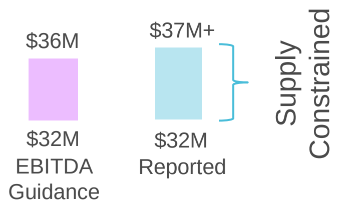
Business Highlights

- **Q3 Results in-line with guidance when adjusted for supply chain constraints**
  - 2% year-to-date YoY[1] revenue growth
  - 14% year-to-date YoY[1] Adj. EBITDA growth
  - Approximately $9.5 million of shipments delayed to 4Q21 and approximately $3 million in expedited shipping and cost increases in 3Q21
- **Building momentum with new IP Optical Networks wins and 1.17x product book to revenue[2] in the quarter**
  - Viaero Wireless and Viaero Fiber Networks (top 10 mobile network operator) have selected Ribbon's IP Optical portfolio to upgrade their network from microwave and leased services to fiber connectivity
  - Dakota Central deployed Apollo and Neptune platform to upgrade their broadband network with increased capacity and 5G backhaul capabilities
  - Megafon (2nd largest mobile operator in Russia) selected Apollo DWDM platform
  - Leading Swiss utility provider selected Ribbon products including Muse platform and network slicing technology
  - Largest European rail network operator implemented Apollo DWDM based backbone
  - Introduced new version of Muse featuring enhanced traffic optimization capability and zero-touch provisioning
- **Cloud & Edge continues to generate strong and steady profitability with 32% Adjusted EBITDA margin**
  - Strong demand for Voice over IP Network Transformation solutions growing 25% year-to-date YoY[1]
  - Higher software mix (68% of product revenue) contributed to segment gross margin of 67% in 3Q21

3Q21 Revenue vs Guidance



3Q21 Adj. EBITDA vs Guidance



Notes:
1. Nine months ended September 30, 2021, compared with the corresponding period in 2020.
2. Product bookings divided by product revenue for the three months ended September 30, 2021.

Third Quarter 2021 Financial Highlights

3Q21 and YTD21 Revenue

$210M in 3Q21, down 7% YoY[1]
(excluding Kandy)

$614M in YTD FY21, up 4% YoY[2]
(excluding Kandy)

Balance Sheet and Cash Flow

$104M Ending Cash

$0M Cash Flow from Operations;
Accounts Receivable grew **$16M** QoQ[3]

Profitability Metrics

$32M Adjusted EBITDA[4]
15% Adj. EBITDA margin

$0.11 Non-GAAP EPS[4]

Cloud and Edge[4]

Network Transformation Strength

78% YoY[1] revenue growth

Year to date signed **99% of 2021** Re-occurring Maintenance renewals

Robust Margins

32% Adj. EBITDA Margin,
up ~400 bps YoY[1]

Non-GAAP OpEx down
14% YoY[1]

IP Optical Networks[4]

N. America Strength

N. America region revenue
up 60% YoY[1] in 3Q21;
up 270% YTD[2]

Building Customer Momentum

1.17x book to revenue[5] ratio in 3Q21

Notes:
1. Three months ended September 30, 2021, compared with the corresponding period in 2020. Includes Kandy results in the three months ending September 30, 2020 unless otherwise noted.
2. Nine months ended September 30, 2021, compared with the corresponding period in 2020. Includes Kandy results from the nine months ending September 30, 2020 unless otherwise noted.
3. Three months ended September 30, 2021, compared with the three months ended June 30, 2021.
4. Please see the basis of presentation and the non-GAAP reconciliation in the appendix.
5. Product and Professional Services (excluding maintenance) Bookings divided by Product and Professional Services Revenue (excluding maintenance) for the three months ended September 30, 2021.

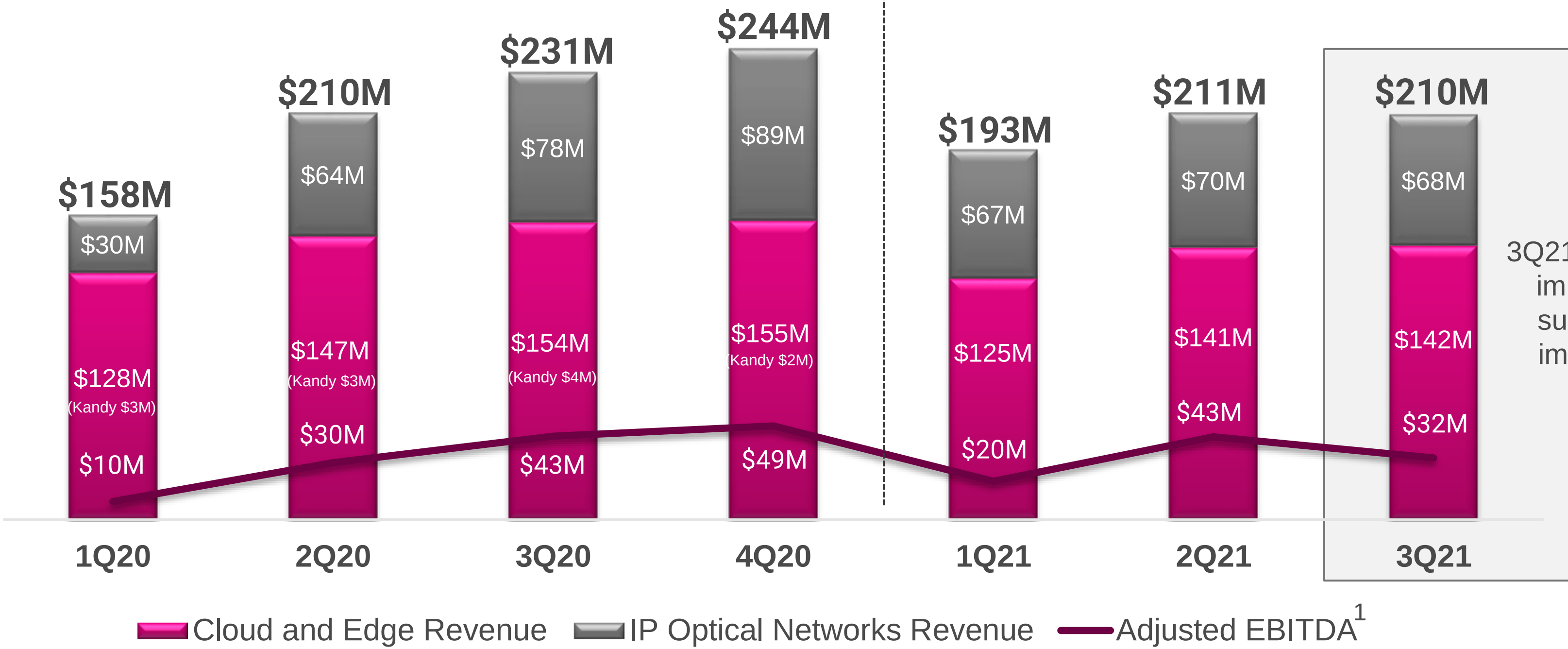
Third Quarter 2021 GAAP Financial Summary

	3Q20[1]	2Q21[1]	3Q21[1]
Revenue	$231M	$211M	$210M
Gross Margin	58%	61%	57%
Opex	$123M	$115M	$118M
Income from operations	$12M	$13M	$2M
Other (expense) income, net	$-M	$17M	($58M)
Net income (loss)	$6M	$23M	($59M)
Diluted EPS	$0.04	$0.15	($0.40)

Other (expense) income, net includes non-cash measurement associated with the fair value and quarterly mark-to-market of the American Virtual Cloud Technologies, Inc. (AVCT) investment of $12.1 million gain and positive impact to EPS of $0.08 in 2Q21 and $56.4 million loss and negative impact to EPS of $0.38 in 3Q21

Note:
1. Please see the basis of presentation in the appendix.

Total Revenue and Adjusted EBITDA[1]



3Q21 results negatively impacted by global supply challenges; impact to revenue:

~$9.5M

Note:
1. Please see the basis of presentation and the non-GAAP reconciliation in the appendix.

Third Quarter and YTD 2021 Non-GAAP Financial Summary

	3Q20	2Q21	3Q21	YTD21
Revenue	$231M	$211M	$210M	$614M +2% yr/yr
Non-GAAP Gross Margin[1]	59%	61%	57%	59% flat yr/yr
Non-GAAP Opex[1]	$98M	$90M	$93M	$279M -1% yr/yr
Non-GAAP Operating Margin[1]	17%	18%	13%	13% +2 ppts yr/yr
Non-GAAP Adjusted EBITDA[1]	$43M	$43M	$32M	$94M +14% yr/yr
Non-GAAP Diluted EPS[1]	$0.14	$0.17	$0.11	$0.31 +29% yr/yr

Note:
1. Please see the basis of presentation and the non-GAAP reconciliation in the appendix.

Third Quarter 2021 Non-GAAP Segment Summary

	Cloud and Edge	IP Optical Networks	Consolidated
Revenue	$142M	$68M	$210M
Non-GAAP Gross Margin[1]	67%	37%	57%
Non-GAAP Adjusted EBITDA[1]	$45M	($13M)	$32M
Non-GAAP Adjusted EBITDA Margin[1]	32%	(19%)	15%

Note:
1. Please see the basis of presentation and the non-GAAP reconciliation in the appendix.

Third Quarter 2021 Key Metrics

Pipeline

3Q21 Book to Revenue[1] Ratio of 0.98

99%+ of 2021 maintenance renewals completed by quarter-end 3Q21

Revenue Mix

43% Software Revenue[2]

34% Maintenance Revenue[3]

Top 10 Customers Revenue 47%[3]

Enterprise 18%[2]
Service Provider 82%[2]

Domestic 44%[3]
International 56%[3]

Balance Sheet

Cash Balance $104M

Debt[5] $381M

Annualized Weighted Interest Rate: 2.90%

Covenant Ratio Metrics[4]:
Leverage 2.34x vs 3.5x max.

FCCR 3.90x vs 1.25x min.

Cash Flow

Neutral Cash From Operations, driven by timing of collections of receivables ($16M A/R increase in 3Q21)

$4M Capex included ~$0.6M of real estate facility improvements

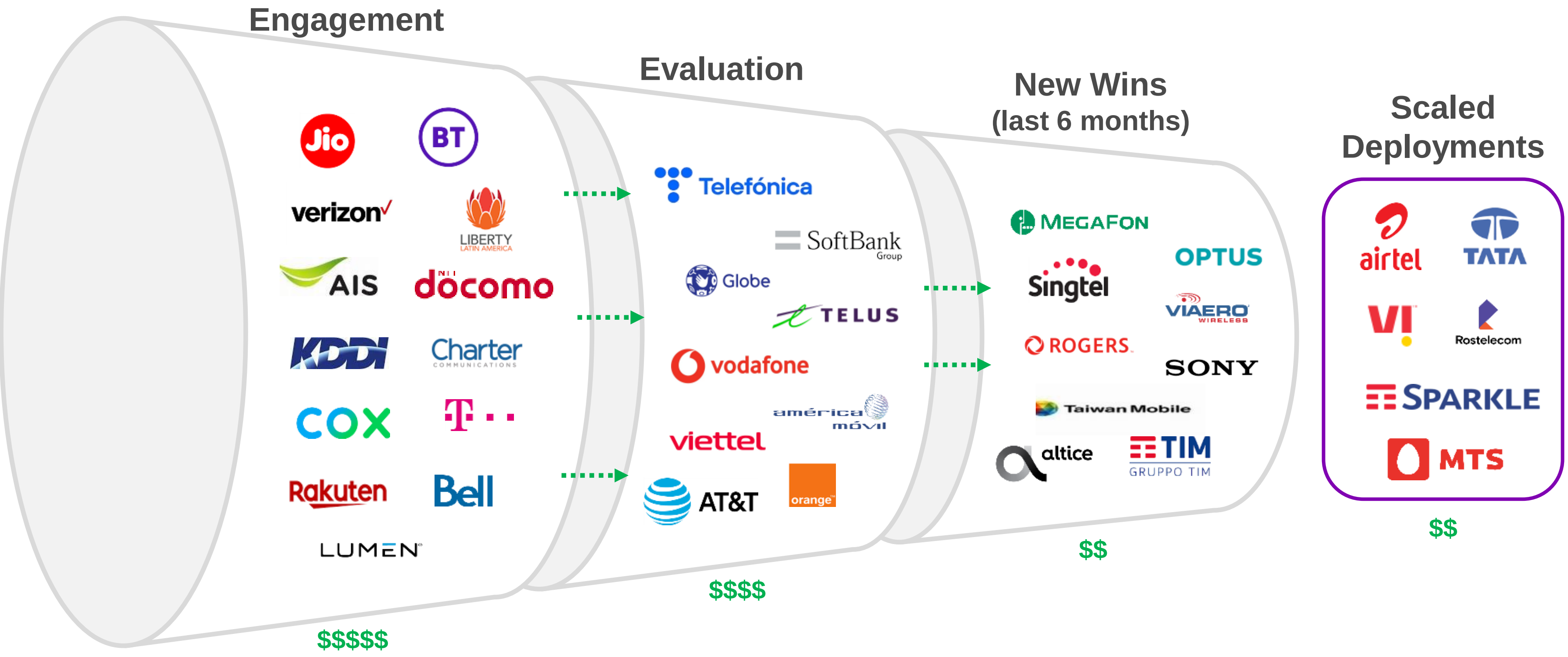
Notes:
1. Product and Professional Services (excluding maintenance) Bookings divided by Product and Professional Services Revenue (excluding maintenance) for the three months ended September 30, 2021.
2. As a percentage of total product revenue.
3. As a percentage of total revenue.
4. Calculated in accordance with the Amended and Restated Credit Agreement.
5. Principal balance outstanding.

Key Trends and Outlook

Executing on our strategy:

Expanding Tier One IP Optical Wins and Pipeline

Attacking the competition across extensive Ribbon customer base



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2022 Operating Environment: Growth Opportunity Ahead

Service providers accelerating investments in 5G and fiber to the home

Telecommunications modernization driving network transformation products and services

Global supply chain disruptions provide challenges and opportunities

Ribbon's growing presence in North America through cross-selling opportunities

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India telecom stabilization assists Ribbon business recovery to historic levels

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Global investment in network infrastructure

European utilities and transportation

USA Rural Digital Opportunity Fund (RDOF)

Disruptive Strategy to Achieve Outsized Growth

ribbon Differentiators

- Longstanding Ribbon Relationships with Tier 1 Service Providers
- World-Class VoIP and IP/Optical Technology
- Strong Balance Sheet
- Cash Flow Generation

+

Key Investments For Market Disruption

- "Open and Optimized" IP *and* Optical Networks
- Disaggregated Networking
- Cloud-Native, CI/CD and Automation for Telco Cloud
- Product Innovation
  - Muse Network Planner
  - Cloud-Native Edge SBC
- Energized Enterprise Sales Force

=

Growing Confidence

Recent Customer Wins

ROGERS, OPTUS, MEGAFON, VIAERO WIRELESS, Singtel

Enterprise Opportunities

zoom

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Ribbon Spotlight Series

IP WAVE

Date: November 18th
Time: 11 am EST

Creating better overall economics and services velocity for IP Optical

Sam Bucci, EVP & General Manager
IP Optical Networks Business Unit

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Moderator:

Jimmy Yu, VP Market Research
Optical Transport, Microwave Transmission & Mobile Backhaul

DELL'ORO GROUP

Telco Cloud

Date: November 18th
Time: 2 pm EST

Transitioning networks to the cloud with cloud-native software to drive new 5G and business service revenues with CI/CD and automation for cost-effective operations

Tony Scarfo, EVP & General Manager
Cloud and Edge Business Unit

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Moderator:

Courtney Munroe, Research Vice President
Worldwide Telecommunications Research

IDC

Fourth Quarter 2021 Business Outlook

	YTD21 (Actual)	4Q21
Revenue	$614M	$240M to $260M
Non-GAAP Gross Margin[1]	59%	58%
Non-GAAP Adjusted EBITDA[1]	$94M	$45M to $51M
Non-GAAP Diluted EPS[1]	$0.31	$0.13 to $0.17

Interest & Other Expense	($16M)	~($5M)
Non-GAAP Income Taxes	27%	39% for 4Q21; 31% for FY21
Diluted Share Count (millions)	155	~154

New customer wins building momentum for strong 2022 and beyond

Note:
1. Please see non-GAAP reconciliations in the appendix.

Appendix

Ribbon Condensed Statements of Operations

USD Millions except percentages and EPS	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21
GAAP FINANCIAL MEASURES								
Product Revenue	76	121	129	142	468	98	113	112
Service Revenue	82	90	102	102	376	95	98	99
Total Revenue	**158**	**210**	**231**	**244**	**844**	**193**	**211**	**210**
Gross Profit	**91**	**123**	**135**	**144**	**493**	**111**	**128**	**120**
Gross Margin %	*57%*	*59%*	*58%*	*59%*	*58%*	*57%*	*61%*	*57%*
Research and development	42	52	49	51	194	47	47	49
Selling, general and administrative	48	49	53	53	203	53	48	48
Amortization of acquired intangible assets	14	15	16	16	61	16	17	17
Acquisition-, disposal- and integration-related and Restructuring and related expenses	14	6	5	8	33	7	4	4
Total Operating Expenses	**119**	**122**	**123**	**127**	**491**	**123**	**115**	**118**
Income/(Loss) from Operations	**(29)**	**2**	**12**	**17**	**2**	**(13)**	**13**	**2**
Operating Margin %	*-18%*	*1%*	*5%*	*7%*	*0%*	*-7%*	*6%*	*1%*
Net Income/(Loss)	**(33)**	**(8)**	**6**	**124**	**89**	**(45)**	**23**	**(59)**
Diluted EPS	**($0.27)**	**($0.06)**	**$0.04**	**$0.81**	**$0.61**	**($0.31)**	**$0.15**	**($0.40)**
Shares used to compute GAAP diluted earnings (loss) per share	121	144	152	153	145	146	154	148
Cash Flow from Operating Activities	**40**	**(3)**	**29**	**36**	**102**	**(6)**	**14**	**-**
NON-GAAP FINANCIAL MEASURE[1]								
Adjusted EBITDA	**10**	**30**	**43**	**49**	**131**	**20**	**43**	**32**

Note:
1. Please see the basis of presentation non-GAAP reconciliations in the appendix.

Ribbon Condensed Balance Sheets

USD Millions	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21
ASSETS							
Cash and cash equivalents[1]	110	94	111	136	109	115	104
Accounts receivable, net	206	205	208	238	209	220	236
Inventory	67	58	51	46	45	47	45
Property and equipment, net	47	48	48	49	49	49	49
Intangible assets, net and Goodwill	866	866	850	834	818	801	784
Investment (AVCT)	-	-	-	115	93	106	50
Other Assets	177	157	138	130	129	121	120
Total Assets	**1,472**	**1,428**	**1,406**	**1,547**	**1,453**	**1,459**	**1,387**
LIABILITIES AND EQUITY							
Liabilities	384	362	349	352	301	287	287
Deferred revenue	140	130	115	123	125	124	111
Debt[2]	395	392	387	385	384	379	375
Stockholders' Equity	554	545	555	687	643	669	614
Total Liabilities and Equity	**1,472**	**1,428**	**1,406**	**1,547**	**1,453**	**1,459**	**1,387**

Notes:
1. Includes cash, cash equivalents, and restricted cash.
2. Net of debt issuance costs and associated amortization.

Ribbon Condensed Statements of Cash Flows

USD Millions	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21
Cash from Operations	40	(3)	29	36	102	(6)	14	(0)
Purchases of property and equipment	(6)	(9)	(4)	(8)	(27)	(5)	(5)	(4)
Business Acquisitions	(347)	-	-	-	(347)	-	-	-
Sale of Fixed Assets	44	-	-	-	44	-	3	-
Borrowings, net	336	(4)	(7)	(3)	322	(4)	(5)	(5)
Other	(1)	-	(1)	-	(2)	(12)	(1)	(2)
Net Change	**65**	**(16)**	**17**	**25**	**91**	**(27)**	**6**	**(11)**
Cash[1] Beginning of Period	**45**	**110**	**94**	**111**	**45**	**136**	**109**	**115**
Cash[1] End of Period	**110**	**94**	**111**	**136**	**136**	**109**	**115**	**104**

Note:
1. Includes cash, cash equivalents, and restricted cash.

Ribbon Key Revenue Statistics

USD Millions except for percentages	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21
Revenue								
Product	76	121	129	142	468	98	113	112
Service	82	90	102	102	376	95	98	99
Total Revenue	**158**	**210**	**231**	**244**	**844**	**193**	**211**	**210**
% of Total Revenue:								
Revenue Mix								
Product	48%	57%	56%	58%	55%	51%	54%	53%
Services	52%	43%	44%	42%	45%	49%	46%	47%
Revenue by Geography								
Domestic	50%	48%	45%	40%	45%	41%	48%	44%
International	50%	52%	55%	60%	55%	59%	52%	56%
Revenue by Channel								
Direct	62%	73%	72%	74%	71%	79%	76%	77%
Indirect	38%	27%	28%	26%	29%	21%	24%	23%
Product Revenue By Market								
Enterprise	36%	30%	29%	27%	30%	23%	22%	18%
Service Providers	64%	70%	71%	73%	70%	77%	78%	82%
10% Total Revenue Customers	Verizon AT&T	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon

Basis of Presentation

Totals may not sum due to rounding.

The terms “Cloud and Edge”, “Ribbon standalone”, “Ribbon’s organic business” and “organic” as used herein refer to the business, continuing operations and/or financial results, as the context dictates, of Ribbon excluding the recently acquired ECI Telecom business, which was completed on March 3, 2020. The term “overall” as used herein refers to Ribbon’s consolidated results (including the results of ECI post-acquisition through September 30, 2021) for the metric or period indicated.

ECI results prior to its acquisition by Ribbon on March 3, 2020 have been combined with the Ribbon standalone results for certain financial metrics, for illustrative purposes only. These combined results are presented for illustrative purposes and are not intended to represent or be indicative of the actual results of the combined company that would have been achieved had the acquisition occurred on January 1, 2020.

On December 1, 2020, Ribbon sold Kandy; the results of the Kandy business are included in all periods through that date.

IP Optical Networks relates to the ECI Telecom business.

Cloud and Edge relates to Ribbon standalone and excludes the ECI Telecom business.

Discussion of Non-GAAP Financial Measures

Our management uses several different financial measures, both GAAP and non-GAAP, in analyzing and assessing the overall performance of our business, making operating decisions, planning and forecasting future periods, and determining payments under compensation programs. We consider the use of non-GAAP financial measures helpful in assessing the core performance of our continuing operations and when planning and forecasting future periods. Our annual financial plan is prepared on a non-GAAP basis and is approved by our board of directors. In addition, budgeting and forecasting for revenue and expenses are conducted on a non-GAAP basis and actual results on a non-GAAP basis are assessed against the annual financial plan. By continuing operations, we mean the ongoing results of our business adjusted for certain expenses and credits, as described below. We believe that providing non-GAAP information to investors will allow investors to view the financial results in the way our management views them and helps investors to better understand our core financial and operating performance and evaluate the efficacy of the methodology and information used by our management to evaluate and measure such performance.

While our management uses non-GAAP financial measures as tools to enhance their understanding of certain aspects of our financial performance, our management does not consider these measures to be a substitute for, or superior to, GAAP measures. In addition, our presentations of these measures may not be comparable to similarly titled measures used by other companies. These non-GAAP financial measures should not be considered alternatives for, or in isolation from, the financial information prepared and presented in accordance with GAAP. Investors are cautioned that there are material limitations associated with the use of non-GAAP financial measures. In particular, many of the adjustments to our financial measures reflect the exclusion of items that are recurring and will be reflected in our financial results for the foreseeable future.

Discussion of Non-GAAP Financial Measures (Continued)

Acquisition-Related Inventory Adjustment

Acquisition-related inventory adjustment amounts are inconsistent in frequency and amount and are significantly impacted by the then-current market prices of such inventory items. We believe that excluding non-cash inventory adjustments arising from acquisitions facilitates the comparison of our financial results to our historical operating results and to other companies in our industry as if the inventory had been acquired by us through our normal channels rather than in connection our acquired businesses.

Stock-Based Compensation

The expense related to stock-based awards is generally not controllable in the short-term and can vary significantly based on the timing, size and nature of awards granted. We believe that presenting non-GAAP operating results that exclude stock-based compensation provides investors with visibility and insight into our management's method of analysis and our core operating performance.

Amortization of Acquired Intangible Assets

Amortization amounts are inconsistent in frequency and amount and are significantly impacted by the timing and size of acquisitions. We believe that excluding non-cash amortization of intangible assets facilitates the comparison of our financial results to our historical operating results and to other companies in our industry as if the acquired intangible assets had been developed internally rather than acquired.

Litigation Costs

We have been involved in litigation with one of our competitors and with a former GENBAND business partner and have reached settlements in both cases. We exclude the costs of such litigation because we believe such costs are not part of our core business or ongoing operations.

Discussion of Non-GAAP Financial Measures (Continued)

Acquisition-, Disposal- and Integration-Related Expense

We consider certain acquisition-, disposal- and integration-related costs to be unrelated to the organic continuing operations of our acquired businesses and the Company, and such costs are generally not relevant to assessing or estimating the long-term performance of the acquired assets. We exclude such acquisition-, disposal- and integration-related costs to allow more accurate comparisons of our financial results to our historical operations and the financial results of less acquisitive peer companies and allows management and investors to consider the ongoing operations of the business both with and without such expenses.

Restructuring and Related Expense

We have recorded restructuring and related expense to streamline operations and reduce operating costs by closing and consolidating certain facilities and reducing our worldwide workforce. We believe that excluding restructuring and related expense facilitates the comparison of our financial results to our historical operating results and to other companies in our industry, as there are no future revenue streams or other benefits associated with these costs.

Gains on Sales of Businesses

On May 12, 2021, we sold our Qualitech business, which we had acquired as part of the ECI Acquisition, to Hermon Laboratories, Ltd. As consideration, we received $2.9 million of cash and recorded a gain on the sale of $2.8 million. On December 1, 2020, we completed the sale of Kandy to AVCT. As consideration, we received units of AVCT securities, comprised of AVCT's Series A-1 convertible debentures (the "Debentures") and warrants to purchase shares of AVCT's common stock (the "Warrants"), with an aggregate fair value approximating $84 million on the date of sale. We exclude these gains because we believe that such gains are not part of our core business or ongoing operations.

Interest Income on Debentures

We recorded paid-in-kind interest income on the Debentures, which increased their fair value. We exclude this interest income because we believe that such a gain is not part of our core business or ongoing operations.

Discussion of Non-GAAP Financial Measures (Continued)

(Increase) Decrease in Fair Value of Investments

We calculate the fair values of the Debentures and Warrants (prior to September 8, 2021) and the shares of AVCT common stock and Warrants (effective September 8, 2021) at each quarter-end and record any adjustments to their fair values in Other (expense) income, net. We exclude these and any subsequent gains and losses from the change in fair value of this investment because we believe that such gains or losses are not part of our core business or ongoing operations.

Tax Effect of Non-GAAP Adjustments

Non-GAAP income tax expense is presented based on an estimated tax rate applied against forecasted annual non-GAAP income. Non-GAAP income tax expense assumes no available net operating losses or valuation allowances for the U.S. because of reporting significant cumulative non-GAAP income over the past several years. We are reporting our non-GAAP quarterly income taxes by computing an annual rate for the Company and applying that single rate (rather than multiple rates by jurisdiction) to our consolidated quarterly results. We expect that this methodology will provide a consistent rate throughout the year and allow investors to better understand the impact of income taxes on our results. Due to the methodology applied to our estimated annual tax rate, our estimated tax rate on non-GAAP income will differ from our GAAP tax rate and from our actual tax liabilities.

Adjusted EBITDA

We use Adjusted EBITDA as a supplemental measure to review and assess our performance. We calculate Adjusted EBITDA by excluding from Income (loss) from operations: depreciation; amortization of acquired intangible assets; stock-based compensation; acquisition-related inventory adjustments; certain litigation costs; acquisition-, disposal- and integration-related expense; and restructuring and related expense. In general, we exclude the expenses that we consider to be non-cash and/or not part of our ongoing operations. We may exclude other items in the future that have those characteristics. Adjusted EBITDA is a non-GAAP financial measure that is used by our investing community for comparative and valuation purposes. We disclose this metric to support and facilitate our dialogue with research analysts and investors. Other companies may calculate Adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure.

GAAP to Non-GAAP Reconciliation

$000's	1Q20			2Q20			3Q20			4Q20			FY20		
	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated
Revenue	$ 128,031	$ 29,951	$ 157,982	$ 146,907	$ 63,586	$ 210,493	$ 153,530	$ 77,588	$ 231,118	$ 154,802	$ 89,400	$ 244,202	$ 583,270	$ 260,525	$ 843,795
GAAP Gross profit	$ 78,778	$ 11,746	$ 90,524	$ 98,591	$ 24,676	$ 123,267	$ 101,711	$ 33,243	$ 134,954	$ 105,322	$ 39,040	$ 144,362	$ 384,402	$ 108,705	$ 493,107
GAAP Gross margin - total (Total gross profit/Revenue)	61.5%	39.2%	57.3%	67.1%	38.8%	58.6%	66.2%	42.8%	58.4%	68.0%	43.7%	59.1%	65.9%	41.7%	58.4%
Stock-based compensation	0.2%	0.0%	0.1%	0.1%	0.0%	0.1%	0.2%	0.1%	0.1%	0.2%	*	0.1%	0.1%	*	0.1%
Acquisition-related inventory adjustment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.8%	0.3%
Non-GAAP Gross margin - total	61.7%	39.2%	57.4%	67.2%	38.8%	58.7%	66.4%	45.5%	59.4%	68.2%	43.7%	59.2%	66.0%	42.5%	58.8%
Adjusted EBITDA															
GAAP (Loss) income from operations	$ (13,557)	$ (15,183)	$ (28,740)	$ 16,742	$ (15,150)	$ 1,592	$ 21,955	$ (10,038)	$ 11,917	$ 23,483	$ (6,583)	$ 16,900	$ 48,623	$ (46,954)	$ 1,669
Depreciation	2,993	481	3,474	2,984	1,802	4,786	2,990	1,504	4,494	3,144	1,290	4,434	12,111	5,077	17,188
Amortization of acquired intangible assets	12,214	2,120	14,334	11,324	3,345	14,669	12,513	3,836	16,349	11,724	3,834	15,558	47,775	13,135	60,910
Stock-based compensation	2,976	-	2,976	3,138	84	3,222	3,400	569	3,969	3,136	596	3,732	12,650	1,249	13,899
Acquisition-related inventory adjustment	-	-	-	-	-	-	-	2,000	2,000	-	-	-	-	2,000	2,000
Litigation costs	3,038	-	3,038	(937)	-	(937)	-	-	-	-	-	-	2,101	-	2,101
Acquisition-, disposal- and integration-related expense	-	12,384	12,384	-	857	857	850	516	1,366	1,002	1,555	2,557	1,852	15,312	17,164
Restructuring and related expense	2,075	-	2,075	4,246	1,115	5,361	213	3,077	3,290	4,032	1,477	5,509	10,566	5,669	16,235
Non-GAAP Adjusted EBITDA	$ 9,739	$ (198)	$ 9,541	$ 37,497	$ (7,947)	$ 29,550	$ 41,921	$ 1,464	$ 43,385	$ 46,521	$ 2,169	$ 48,690	$ 135,678	$ (4,512)	$ 131,166
Adjusted EBITDA Margin (Adjusted EBITDA/Revenue)															
GAAP (Loss) income from operations	-10.6%	-50.7%	-18.2%	11.4%	-23.8%	0.8%	14.3%	-12.9%	5.2%	15.2%	-7.4%	6.9%	8.3%	-18.0%	0.2%
Depreciation	2.3%	1.6%	2.2%	2.0%	2.8%	2.3%	1.9%	1.9%	1.9%	2.0%	1.4%	1.8%	2.1%	1.9%	2.0%
Amortization of acquired intangible assets	9.6%	7.1%	9.1%	7.7%	5.3%	6.9%	8.2%	4.9%	7.1%	7.7%	4.3%	6.4%	8.2%	5.0%	7.3%
Stock-based compensation	2.3%	0.0%	1.9%	2.1%	0.1%	1.5%	2.2%	0.7%	1.7%	2.0%	0.7%	1.5%	2.2%	0.5%	1.6%
Acquisition-related inventory adjustment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.8%	0.2%
Litigation costs	2.4%	0.0%	1.9%	-0.6%	0.0%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.2%
Acquisition-, disposal- and integration-related expense	0.0%	41.3%	7.8%	0.0%	1.3%	0.4%	0.6%	0.7%	0.6%	0.6%	1.7%	1.0%	0.3%	5.9%	2.0%
Restructuring and related expense	1.6%	0.0%	1.3%	2.9%	1.8%	2.5%	0.1%	4.0%	1.4%	2.6%	1.7%	2.3%	1.8%	2.2%	2.0%
Non-GAAP Adjusted EBITDA Margin	7.6%	-0.7%	6.0%	25.5%	-12.5%	14.0%	27.3%	1.9%	18.8%	30.1%	2.4%	19.9%	23.3%	-1.7%	15.5%

* Less than 0.1% impact on Gross margin

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GAAP to Non-GAAP Reconciliation (Continued)

$000's	1Q21			2Q21			3Q21			3Q21 YTD		
	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated	Cloud and Edge	IP Optical Networks	Consolidated
Revenue	$ 125,422	$ 67,350	$ 192,772	$ 141,421	$ 69,789	$ 211,210	$ 142,437	$ 67,961	$ 210,398	$ 409,280	$ 205,100	$ 614,380
GAAP Gross profit	$ 84,162	$ 26,385	$ 110,547	$ 95,463	$ 32,964	$ 128,427	$ 95,601	$ 24,727	$ 120,328	$ 275,226	$ 84,076	$ 359,302
GAAP Gross margin - total (Total gross profit/Revenue)	67.1%	39.2%	57.3%	67.5%	47.2%	60.8%	67.1%	36.4%	57.2%	67.2%	41.0%	58.5%
Stock-based compensation	0.1%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
Non-GAAP Gross margin - total	67.2%	39.3%	57.5%	67.8%	47.5%	61.1%	67.4%	36.7%	57.5%	67.5%	41.2%	58.7%
Adjusted EBITDA												
GAAP Income (loss) from operations	$ 4,692	$ (17,296)	$ (12,604)	$ 24,932	$ (11,980)	$ 12,952	$ 26,362	$ (24,370)	$ 1,992	$ 55,986	$ (53,646)	$ 2,340
Depreciation	3,137	1,089	4,226	3,142	1,107	4,249	3,018	1,191	4,209	9,297	3,387	12,684
Amortization of acquired intangible assets	11,306	4,517	15,823	11,299	5,882	17,181	11,339	5,882	17,221	33,944	16,281	50,225
Stock-based compensation	3,334	1,726	5,060	3,039	1,751	4,790	2,936	1,625	4,561	9,309	5,102	14,411
Acquisition-, disposal- and integration-related expense	241	956	1,197	29	1,023	1,052	165	1,790	1,955	435	3,769	4,204
Restructuring and related expense	5,620	330	5,950	1,095	1,735	2,830	1,125	642	1,767	7,840	2,707	10,547
Non-GAAP Adjusted EBITDA	$ 28,330	$ (8,678)	$ 19,652	$ 43,536	$ (482)	$ 43,054	$ 44,945	$ (13,240)	$ 31,705	$ 116,811	$ (22,400)	$ 94,411
Adjusted EBITDA Margin (Adjusted EBITDA/Revenue)												
GAAP Income (loss) from operations	2.9%	-24.1%	-6.5%	18.4%	-18.7%	6.1%	18.5%	-35.9%	0.9%	13.7%	-26.2%	0.4%
Depreciation	2.5%	1.6%	2.2%	2.2%	1.6%	2.0%	2.1%	1.8%	2.0%	2.3%	1.7%	2.1%
Amortization of acquired intangible assets	9.0%	6.7%	8.2%	8.0%	8.4%	8.2%	8.0%	8.7%	8.3%	8.2%	7.9%	8.2%
Stock-based compensation	3.5%	1.0%	2.6%	1.4%	4.0%	2.3%	2.1%	2.4%	2.2%	2.3%	2.6%	2.3%
Acquisition-, disposal- and integration-related expense	0.2%	1.4%	0.6%	*	1.5%	0.5%	0.1%	2.6%	0.9%	0.1%	1.8%	0.7%
Restructuring and related expense	4.5%	0.5%	3.1%	0.8%	2.5%	1.3%	0.8%	0.9%	0.8%	1.9%	1.3%	1.7%
Non-GAAP Adjusted EBITDA Margin	22.6%	-12.9%	10.2%	30.8%	-0.7%	20.4%	31.6%	-19.5%	15.1%	28.5%	-10.9%	15.4%

* Less than 0.1% impact on non-GAAP Adjusted EBITDA margin

GAAP to Non-GAAP Reconciliation (Continued)

$000s	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21	3Q21 YTD
GAAP Operating expenses	$ 119,264	$ 121,675	$ 123,037	$ 127,462	$ 491,438	$ 123,151	$ 115,475	$ 118,336	$ 356,962
Stock-based compensation	(2,819)	(3,024)	(3,708)	(3,473)	(13,024)	(4,798)	(4,228)	(3,973)	(12,999)
Amortization of acquired intangible assets	(14,334)	(14,669)	(16,349)	(15,558)	(60,910)	(15,823)	(17,181)	(17,221)	(50,225)
Litigation costs	(3,038)	937	-	-	(2,101)	-	-	-	-
Acquisition-, disposal- and integration-related expense	(12,384)	(857)	(1,366)	(2,557)	(17,164)	(1,197)	(1,052)	(1,955)	(4,204)
Restructuring and related expense	(2,075)	(5,361)	(3,290)	(5,509)	(16,235)	(5,950)	(2,830)	(1,767)	(10,547)
Non-GAAP Operating expenses	$ 84,614	$ 98,701	$ 98,324	$ 100,365	$ 382,004	$ 95,383	$ 90,184	$ 93,420	$ 278,987

Income (loss) from operations as a percentage of revenue ("Operating margin")	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21	3Q21 YTD
GAAP Operating margin	-18.2%	0.8%	5.2%	6.9%	0.2%	-6.5%	6.1%	0.9%	0.4%
Acquisition-related inventory adjustment	0.0%	0.0%	0.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Stock-based compensation	1.9%	1.5%	1.7%	1.5%	1.6%	2.6%	2.3%	2.2%	2.3%
Amortization of acquired intangible assets	9.1%	7.0%	7.0%	6.4%	7.3%	8.2%	8.2%	8.3%	8.2%
Litigation costs	1.9%	-0.4%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Acquisition-, disposal- and integration-related expense	7.8%	0.4%	0.6%	1.0%	2.0%	0.6%	0.5%	0.9%	0.7%
Restructuring and related expense	1.3%	2.5%	1.4%	2.3%	2.0%	3.1%	1.3%	0.8%	1.7%
Non-GAAP Operating margin	3.8%	11.8%	16.8%	18.1%	13.5%	8.0%	18.4%	13.1%	13.3%

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GAAP to Non-GAAP Reconciliation (Continued)

	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21	3Q21 YTD
Earnings (loss) per share									
GAAP (Loss) per share or diluted earnings per share	$ (0.27)	$ (0.06)	$ 0.04	$ 0.81	$ 0.61	$ (0.31)	$ 0.15	$ (0.40)	$ (0.55)
Acquisition-related inventory adjustment	-	-	0.01	-	0.01	-	-	-	-
Stock-based compensation	0.02	0.02	0.03	0.02	0.11	0.03	0.03	0.03	0.09
Amortization of acquired intangible assets	0.12	0.10	0.11	0.10	0.42	0.11	0.11	0.12	0.33
Litigation costs	0.02	(0.01)	-	-	0.01	-	-	-	-
Acquisition-, disposal- and integration-related expense	0.10	0.01	0.01	0.02	0.12	0.01	0.01	0.01	0.03
Restructuring and related expense	0.02	0.04	0.02	0.04	0.11	0.05	0.02	0.01	0.07
Gain on sale of business	-	-	-	(0.54)	(0.58)	-	(0.02)	-	(0.02)
Interest income on debentures	-	-	-	-	-	(0.01)	(0.01)	(0.01)	(0.02)
(Increase) decrease in fair value of investments	-	-	-	(0.20)	(0.21)	0.16	(0.08)	0.38	0.45
Tax effect of non-GAAP adjustments	*	(0.02)	(0.08)	(0.07)	(0.17)	(0.01)	(0.04)	(0.03)	(0.07)
Non-GAAP Diluted earnings per share	$ 0.01	$ 0.08	$ 0.14	$ 0.18	$ 0.43	$ 0.03	$ 0.17	$ 0.11	$ 0.31
Weighted average shares used to compute (loss) per share or diluted earnings per share (000's)									
Shares used to compute **GAAP** diluted earnings (loss) per share	120,992	144,483	151,680	153,441	144,650	145,936	154,160	148,184	147,204
Shares used to compute **non-GAAP** diluted earnings per share	121,603	150,512	151,680	153,441	144,650	155,032	154,160	154,061	154,573

* Less than $0.01 impact on (loss) per share or diluted earnings per share

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GAAP to Non-GAAP Reconciliation (Continued)

Outlook	Three months ending December 31, 2021 Range	
Revenue (in $ millions)	$ 240	$ 260
Gross margin		
GAAP outlook	57.8%	57.8%
Stock-based compensation	0.2%	0.2%
Non-GAAP outlook	58.0%	58.0%
Earnings per share*		
GAAP outlook		
Stock-based compensation	0.04	0.08
Amortization of acquired intangible assets	0.03	0.03
Acquisition-, disposal- and integration-related expense	0.11	0.11
Restructuring and related expense	0.01	0.01
Loss on change in value of debentures*	0.01	0.01
Tax effect of non-GAAP adjustments	(0.07)	(0.07)
Non-GAAP outlook	$ 0.13	$ 0.17
Weighted average shares used to compute diluted earnings per share (GAAP and Non-GAAP) (in thousands)	154,000	154,000
Adjusted EBITDA (in $ millions)		
GAAP Income from operations	$ 16.2	$ 22.2
Depreciation	4.3	4.3
Amortization of acquired intangible assets	16.3	16.3
Stock-based compensation	5.0	5.0
Acquisition-, disposal- and integration-related expense	1.8	1.8
Restructuring and related expense	1.4	1.4
Non-GAAP outlook	$ 45.0	$ 51.0

* Excludes any estimated future (income) loss related to the revaluation of the shares of AVCT common stock and warrants received as consideration from the sale of the Kandy Communications Business.

Thank you

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