Ribbon Communications

Fourth Quarter and Full Year 2021 Results

February 16, 2022

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 financial results for 2021 and projected results for 2022 and beyond, costs and savings associated with our strategic restructuring, potential COVID-19 impacts, customer engagement and momentum, expected supply-chain related costs; plans and objectives for future operations; 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; the effects of geopolitical instabilities and disputes, including between Russia and Ukraine; 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; risks that we will not realize the estimated cost savings and/or anticipated benefits from our strategic restructuring; the impact of restructuring and cost-containment activities; 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; 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 including compliance with the financial covenants; 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.

Fourth Quarter and Full Year 2021 Business Overview

Bruce McClelland, President & CEO

Mick Lopez, Executive Vice President & CFO

2021 In Review & the Path Ahead

2H21 Results Below Expectation

- Converting numerous new IP Optical wins to sustainable revenue taking longer than expected
- Increasing supply chain-related challenges
- Slow India recovery
- Extended Covid-19 pandemic
- Elevated employee attrition

Investing for Growth

Realigning investment towards growth:

- 20%+ increase in IP Optical Networks R&D investment in 2022
- Prioritize investment in Telco Cloud and Enterprise

Streamlined operations and footprint with lower corporate overhead

2022 Targets

Revenue:

- IP Optical: 10%+
- Cloud & Edge: Flat to down slightly

Opex ~$95M/Q

Adjusted EBITDA:

- IP Optical ~ ($35M)
- Cloud & Edge > $150M

2023 and Beyond

Significant player in IP Optical

- Optical Transport
- IP Networking
- Transition to Open Networking Architecture
- Orchestration Software

Cloud & Edge Opportunities

- Enterprise
- Telco Cloud
- Network Transformation

Committed to Our Strategy to Drive Growth

2022 Operating Environment

Service providers accelerating investments in 5G and fiber

Network modernization top of mind for Service Providers and Enterprise

Global supply chain disruptions

Unique competitive environment creates opportunity to gain share

Regional trends affecting investment

- India Telecom Relief Package
- Vodafone Idea capital infusion
- Ukraine conflict

Public investment in network infrastructure

European utilities and transportation

- $20B Rural Digital Opportunity Fund
- $65B Broadband Infrastructure

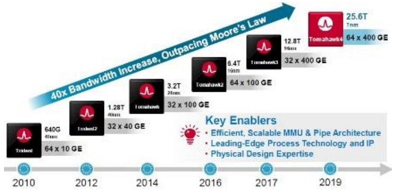
Our Product Strategy Builds on Key Technology Trends

IP + Optical

- 4.5X growth in global mobile traffic from 2020-2026[1] driving fiber and IP Networking closer to the edge
- Network complexity demanding better management and automation – across Optical transport and IP switching/routing domains
- Next generation IP segment routing and 5G network slicing are a catalyst for new vendor selection
- Heightened sense of urgency to transition legacy TDM voice networks to IP

Open Networking

- Best-of-breed agile solutions
- Eliminate vendor lock-in
- Faster time-to-market
- Commercial silicon surpassing proprietary solutions
  - Pluggable optics
  - High performance routing
- Disaggregated IP networking solutions from access to core
- Adoption of white box computing



Unified Communications

- Broad adoption of cloud-based unified communication platforms as a complete replacement of legacy voice systems
- Multiple target markets: Online Collaboration, Desktop and Mobile, Contact Center
- Multiple target verticals: Finance, Government, Education, Critical Infrastructure, Healthcare, Manufacturing
- Specialized solutions needed for advanced applications – survivability, security, 911, etc.

Microsoft zoom GENESYS

Service migration to the Cloud

- Pre-integrated friction-free deployment with opex and capex consumption models
- Large scale analytics leveraging data from multiple deployments and 3rd party sources
- Traditional network functions operating in public cloud compute environment
- Improved service velocity leveraging CI/CD
- Expanded partnerships (SI, OEM, Distributors, Technology)

5G kubernetes

Note:
1. Source: Ericsson Mobility Report, November 2020

IP Wave Portfolio

Better Economics, Better Agility, Better Partner Key Additions

Cognitive Software – Muse

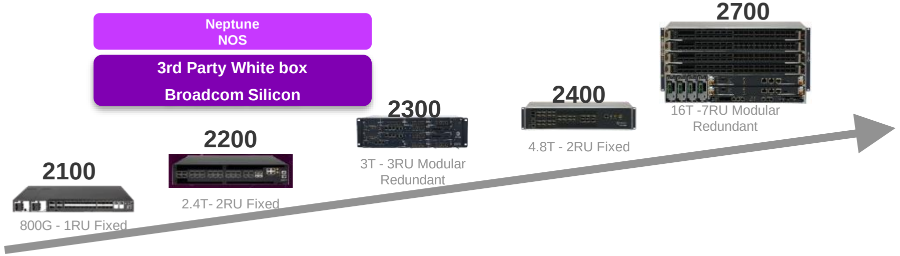
- MUSE Essentials – supporting Ribbon portfolio
- MUSE Pro – including HMDO, custom automation

Multi Domain Control & Orchestration

Network Controller | Network Planner | Network Analytics

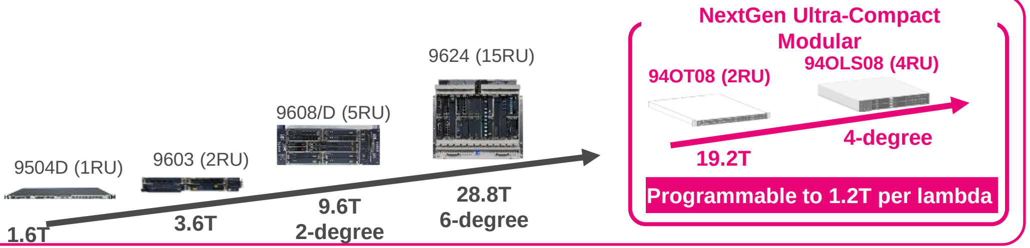
Optimized IP – Neptune

- Converged multi-access edge
- New 2k series edge portfolio with complete IP/MPLS stack and Telco-grade NOS
- Open architecture and interfaces



Programmable Optical – Apollo

- Programmable to 1.2T, 400G everywhere with new 9400 series compact modular
- Metro ZR+ optimized solutions
- Open line system with assured performance



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Key New Customer Wins & Awards in 2021

Customer Wins

IP and Optical

Cloud & Edge Enterprise

Cloud & Edge Telco Cloud

Awards

Fourth Quarter 2021 Business Highlights

- **IP Optical Networks 4Q21 revenue of $83 million, up 22% from 3Q21**
  - Initiated major project with U.S. Tier 1 service provider to modernize their fixed voice infrastructure over the next several years that will significantly reduce the complexity and operating cost of their network
  - Awarded new business with multi-service communications provider in Japan for TDM to IP migration project to begin in 2H22
  - Selected as new provider of optical transport solutions by major African carrier
  - Other notable new IP Optical wins:
    - Selected by leading European railway operator for a major national backbone project
    - Telehouse selected Ribbon’s high-performance Apollo solution to power its flagship Metro Connect offer
    - NamPower deployed Ribbon’s IP Optical portfolio to reliably leverage high-capacity bandwidth
    - IPS selected Ribbon’s IP Optical solutions to expand their long-haul submarine data transmission capacity
- **Cloud & Edge 4Q21 revenue of $147 million, up 3% from 3Q21**
  - First significant Telco Cloud win with major Japanese mobile carrier, utilizing our cloud-native SBC for deployment in their network
  - Strength in Enterprise with new wins in Financial, IT and Automotive verticals
    - Partnered with Infosys to deploy Microsoft Teams at one of the world’s largest automobile brands
    - Enterprise product revenue increased 91% from 4Q20

Fourth Quarter and Full Year 2021 Financial Highlights

4Q21 and FY21 Revenue

$231M in 4Q21, down 5% YoY[1]
(excluding Kandy)

$845M in FY21, up 2% YoY[2]
(excluding Kandy)

Balance Sheet and Cash Flow

$106M Ending Cash

$11M Cash Flow from Ops in 4Q21

$19M Cash Flow from Ops in FY 2021

$116M goodwill impairment

Profitability Metrics

$26M Adjusted EBITDA[3] in 4Q21
$120M Adjusted EBITDA[3] in FY21

$0.01 Non-GAAP EPS[3] in 4Q21
$0.32 Non-GAAP EPS[3] in FY21

Cloud and Edge[3]

Strength in Enterprise

Product revenue from Enterprise up 91% YoY[1] in 4Q21

Enterprise Edge up 121% QoQ[4] in 4Q21

Robust Margins

28% Adj. EBITDA Margin in FY21, **up ~500 bps YoY[2]**

Non-GAAP OpEx down **13% YoY[2] in FY21**

IP Optical Networks[3]

N. America Strength

N. America region revenue **up 79% YoY[1] in 4Q21; up 164% YoY[2] in FY21**

Building Customer Momentum

Several new wins with major carriers in the U.S., Japan and Africa regions

1.11x book to revenue[5] ratio in 4Q21 and **1.06x** for FY21

Notes:
1. Three months ended December 31, 2021, compared with the corresponding period in 2020. Includes Kandy results in the three months ending December 31, 2020 unless otherwise noted.
2. Twelve months ended December 31, 2021, compared with the corresponding period in 2020. Includes Kandy results from the twelve months ending December 31, 2020 unless otherwise noted.
3. Please see the basis of presentation and the non-GAAP reconciliation in the appendix.
4. Three months ended December 31, 2021, compared with the three months ended September 30, 2021.
5. Product and Professional Services (excluding maintenance) Bookings divided by Product and Professional Services Revenue (excluding maintenance) for the three months ended December 31, 2021.

Fourth Quarter and Full Year 2021 GAAP Financial Summary

	4Q20[1]	3Q21[1]	4Q21[1]	2020[1]	2021[1]
Revenue	$244M	$210M	$231M	$844M	$845M
Gross Margin	55%	53%	50%	53%	53%
Opex	$117M	$109M	$235M	$449M	$562M
Income (loss) from operations	$17M	$2M	($120M)	$2M	($118M)
Other (expense) income, net	$116M	($58M)	($9M)	$113M	($75M)
Net income (loss)	$124M	($59M)	($96M)	$89M	($177M)
Diluted EPS	$0.81	($0.40)	($0.65)	$0.61	($1.20)

4Q21 Opex includes $116 million impairment against our IP Optical Networks goodwill carrying value

Other (expense) income, net includes the following non-cash measurement gains (losses) associated with the quarterly mark-to-market adjustments to the investment in AVCT:

Period	Gains (losses)
4Q20 & FY20	$30M
3Q21	($56M)
4Q21	($7M)
FY21	($75M)

4Q20 and FY20 also include a gain on the sale of Kandy to AVCT of $84 million.

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

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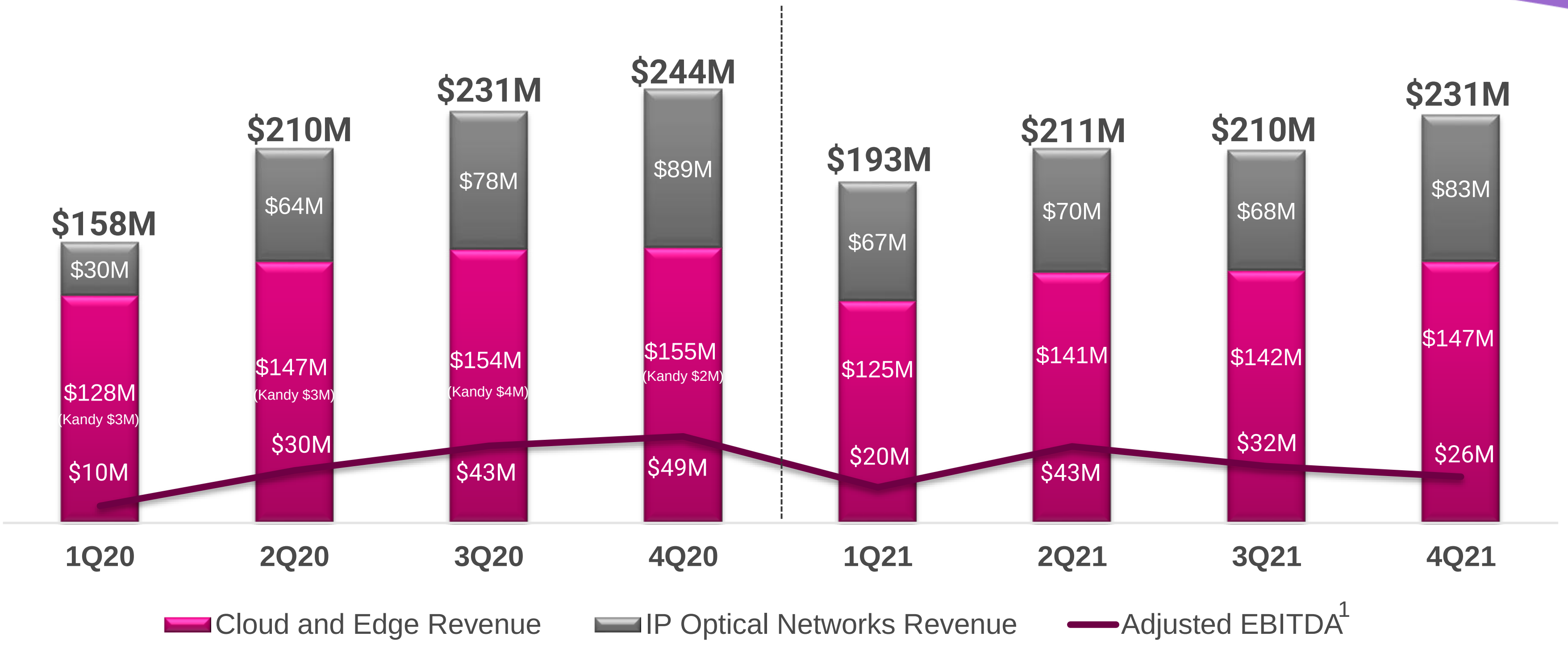
Total Revenue and Adjusted EBITDA[1]



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

Fourth Quarter and Full Year 2021 Non-GAAP Financial Summary

	4Q20	3Q21	4Q21	FY20	FY21
Revenue	$244M	$210M	$231M	$844M	$845M
Non-GAAP Gross Margin[1]	59%	57%	54%	59%	57%
Non-GAAP Opex[1]	$100M	$93M	$102M	$382M	$381M
Non-GAAP Operating Margin[1]	18%	13%	9%	14%	12%
Non-GAAP Adjusted EBITDA[1]	$49M	$32M	$26M	$131M	$120M
Non-GAAP Diluted EPS[1]	$0.18	$0.11	$0.01	$0.43	$0.32

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

Fourth Quarter and Full Year 2021 Non-GAAP Segment Summary

	4Q21 Cloud and Edge	4Q21 IP Optical Networks	4Q21 Consolidated	FY21 Cloud and Edge	FY21 IP Optical Networks	FY21 Consolidated
Revenue	$147M	$83M	$231M	$557M	$288M	$845M
Non-GAAP Gross Margin[1]	64%	36%	54%	67%	40%	57%
Non-GAAP Adjusted EBITDA[1]	$37M	($11M)	$26M	$154M	($34M)	$120M
Non-GAAP Adjusted EBITDA Margin[1]	25%	(14%)	11%	28%	(12%)	14%

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

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Fourth Quarter 2021 Key Metrics

Pipeline

4Q21 Book to Revenue[1] Ratio of 1.14

Over 60% of 2022 maintenance renewals completed by mid-January 2022

Revenue Mix

33% Software Revenue[2]

32% Maintenance Revenue[3]

Top 10 Customers Revenue 43%[3]

Enterprise 34%[2]
Service Provider 66%[2]

Domestic 45%[3]
International 55%[3]

Balance Sheet

Cash Balance $106M

Debt[5] $377M

Annualized Weighted Interest Rate: 3.40%

Covenant Ratio Metrics[4]:
Leverage 2.79x vs 3.5x max.

FCCR 3.08x vs 1.25x min.

Cash Flow

$11M Cash From Operations

$3M Capex

Notes:
1. Product and Professional Services (excluding maintenance) Bookings divided by Product and Professional Services Revenue (excluding maintenance) for the three months ended December 31, 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.

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1Q22 and FY22 Outlook

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First Quarter and Full Year 2022 Business Outlook

	FY21 (Actual)	1Q22	FY22
Revenue	$845M	$165M to $180M	$850M to $880M
Non-GAAP Gross Margin[1]	57%	50% to 51%	55% to 56%
Non-GAAP Adjusted EBITDA[1]	$120M	($11M) to ($5M)	$110M to $120M
Non-GAAP Diluted EPS[1]	$0.32	($0.10) to ($0.07)	$0.30 to $0.34
Interest & Other Expense	($21M)	~($5M)	~($23M)
Non-GAAP Income Taxes	39%	~31%	~31%
Diluted Share Count (millions)	155	~149	~157

Company announced 2022 corporate restructuring charge of approximately $20M

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	4Q21	FY21
GAAP FINANCIAL MEASURES										
Product Revenue	76	121	129	142	468	98	113	112	130	453
Service Revenue	82	90	102	102	376	95	98	99	100	392
Total Revenue	**158**	**210**	**231**	**244**	**844**	**193**	**211**	**210**	**231**	**845**
Gross Profit	**82**	**112**	**123**	**134**	**451**	**100**	**119**	**111**	**115**	**445**
Gross Margin %	*52%*	*53%*	*53%*	*55%*	*53%*	*52%*	*56%*	*53%*	*50%*	*53%*
Research and development	42	52	49	51	194	47	47	49	52	195
Selling, general and administrative	48	49	53	53	203	53	48	48	55	204
Amortization of acquired intangible assets	5	4	5	5	19	6	7	8	7	28
Acquisition-, disposal- and integration-related and Restructuring and related expenses	14	6	5	8	33	7	4	4	5	19
Impairment of goodwill	-	-	-	-	-	-	-	-	116	116
Total Operating Expenses	**110**	**111**	**111**	**117**	**449**	**113**	**106**	**109**	**235**	**562**
Income/(Loss) from Operations	**(29)**	**2**	**12**	**17**	**2**	**(13)**	**13**	**2**	**(120)**	**(118)**
Operating Margin %	*-18%*	*1%*	*5%*	*7%*	*0%*	*-7%*	*6%*	*1%*	*-52%*	*-14%*
Net Income/(Loss)	**(33)**	**(8)**	**6**	**124**	**89**	**(45)**	**23**	**(59)**	**(96)**	**(177)**
Diluted EPS	**($0.27)**	**($0.06)**	**$0.04**	**$0.81**	**$0.61**	**($0.31)**	**$0.15**	**($0.40)**	**($0.65)**	**($1.20)**
Shares used to compute GAAP diluted earnings (loss) per share	121	144	152	153	145	146	154	148	149	148
Cash Flow from Operating Activities	**40**	**(3)**	**29**	**36**	**102**	**(6)**	**14**	**-**	**11**	**19**
NON-GAAP FINANCIAL MEASURE[1]										
Adjusted EBITDA	**10**	**30**	**43**	**49**	**131**	**20**	**43**	**32**	**26**	**120**

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	4Q21
ASSETS								
Cash and cash equivalents[1]	110	94	111	136	109	115	104	106
Accounts receivable, net	206	205	208	238	209	220	236	283
Inventory	67	58	51	46	45	47	45	54
Property and equipment, net	47	48	48	49	49	49	49	48
Intangible assets, net and Goodwill	866	866	850	834	818	801	784	652
Investment (AVCT)	-	-	-	115	93	106	50	44
Other Assets	177	157	138	130	129	121	120	280
Total Assets	**1,472**	**1,428**	**1,406**	**1,547**	**1,453**	**1,459**	**1,387**	**1,348**
LIABILITIES AND EQUITY								
Liabilities	384	362	349	352	301	287	287	440
Deferred revenue	140	130	115	123	125	124	111	130
Debt[2]	395	392	387	385	384	379	375	370
Stockholders' Equity	554	545	555	687	643	669	614	527
Total Liabilities and Equity	**1,472**	**1,428**	**1,406**	**1,547**	**1,453**	**1,459**	**1,387**	**1,348**

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	4Q21	FY21
Cash from Operations	40	(3)	29	36	102	(6)	14	(0)	11	19
Purchases of property and equipment	(6)	(9)	(4)	(8)	(27)	(5)	(5)	(4)	(3)	(17)
Business Acquisitions	(347)	-	-	-	(347)	-	-	-	-	-
Sale of Fixed Assets	44	-	-	-	44	-	3	-	-	3
Borrowings, net	336	(4)	(7)	(3)	322	(4)	(5)	(5)	(5)	(19)
Other	(1)	-	(1)	-	(2)	(12)	(1)	(2)	(1)	(16)
Net Change	**65**	**(16)**	**17**	**25**	**91**	**(27)**	**6**	**(11)**	**2**	**(30)**
Cash[1] Beginning of Period	**45**	**110**	**94**	**111**	**45**	**136**	**109**	**115**	**104**	**136**
Cash[1] End of Period	**110**	**94**	**111**	**136**	**136**	**109**	**115**	**104**	**106**	**106**

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	4Q21	FY21
Revenue										
Product	76	121	129	142	468	98	113	112	130	453
Service	82	90	102	102	376	95	98	99	100	392
Total Revenue	**158**	**210**	**231**	**244**	**844**	**193**	**211**	**210**	**231**	**845**
% of Total Revenue:										
Revenue Mix										
Product	48%	57%	56%	58%	55%	51%	54%	53%	57%	54%
Services	52%	43%	44%	42%	45%	49%	46%	47%	43%	46%
Revenue by Geography										
Domestic	50%	48%	45%	40%	45%	41%	48%	44%	45%	45%
International	50%	52%	55%	60%	55%	59%	52%	56%	55%	55%
Revenue by Channel										
Direct	62%	73%	72%	74%	71%	79%	76%	77%	66%	74%
Indirect	38%	27%	28%	26%	29%	21%	24%	23%	34%	26%
Product Revenue By Market										
Enterprise	36%	30%	29%	27%	30%	23%	22%	18%	34%	25%
Service Providers	64%	70%	71%	73%	70%	77%	78%	82%	66%	75%
10% Total Revenue Customers	Verizon AT&T	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon	Verizon

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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 December 31, 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

The Company's management uses several different financial measures, both GAAP and non-GAAP, in analyzing and assessing the overall performance of its business, making operating decisions, planning and forecasting future periods, and determining payments under compensation programs. The Company considers the use of non-GAAP financial measures helpful in assessing the core performance of its continuing operations and when planning and forecasting future periods. The Company's annual financial plan is prepared on a non-GAAP basis and is approved by its 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. The Company defines continuing operations as the ongoing results of its business adjusted for certain expenses and credits, as described below. The Company believes that providing non-GAAP information to investors will allow investors to view the financial results in the way its management views them and helps investors to better understand the Company's core financial and operating performance and evaluate the efficacy of the methodology and information used by its management to evaluate and measure such performance.

While the Company's management uses non-GAAP financial measures as tools to enhance its understanding of certain aspects of the Company's financial performance, its management does not consider these measures to be a substitute for, or superior to, GAAP measures. In addition, the Company's 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 the Company's financial measures reflect the exclusion of items that are recurring and will be reflected in its financial results for the foreseeable future.

Discussion of Non-GAAP Financial Measures (Continued)

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. The Company believes that presenting non-GAAP operating results that exclude stock-based compensation provides investors with visibility and insight into its management's method of analysis and its core operating performance.

Amortization of Acquired Technology; Amortization of Acquired Intangible Assets

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

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. The Company believes that excluding non-cash inventory adjustments arising from acquisitions facilitates the comparison of its financial results to its historical operating results and to other companies in its industry as if the inventory had been acquired by the Company through its normal channels rather than in connection with its acquired businesses.

Discussion of Non-GAAP Financial Measures (Continued)

Litigation Costs

The Company has been involved in litigation with a former GENBAND business partner and had reached a settlement with the other party. The Company excludes the costs of such litigation because it believes such costs are not part of its core business or ongoing operations.

Impairment of Goodwill

The Company performs its annual testing for impairment of goodwill in the fourth quarter of 2021. For the purpose of testing goodwill for impairment, all goodwill has been assigned to one of the Company's two operating segments. The Company performs a fair value analysis using both an income and market approach, which encompasses a discounted cash flow analysis and a guideline public company analysis using selected multiples. Based on the results of its recently completed impairment test, the Company determined that the carrying value of its IP Optical Networks segment exceeded its fair value, and accordingly, recorded a non-cash impartment charge of $116 million in the fourth quarter. There was no impairment of the Company's Cloud and Edge segment. The Company believes that such non-cash costs are not part of its core business or ongoing operations. Accordingly, the Company believes that excluding the goodwill impairment charge facilitates the comparison of the Company's financial results to its historical operating results and to other companies in its industry.

Acquisition-, Disposal- and Integration-Related Expense

The Company considers certain acquisition-, disposal- and integration-related costs to be unrelated to the organic continuing operations of its acquired businesses and the Company. Such costs are generally not relevant to assessing or estimating the long-term performance of the acquired assets. The Company excludes such acquisition-, disposal- and integration-related costs to allow more accurate comparisons of its financial results to its 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.

Discussion of Non-GAAP Financial Measures (Continued)

Restructuring and Related Expense

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

Interest Income on Debentures

The Company recorded paid-in-kind interest income on the Debentures through September 8, 2021, when the Debentures were converted to the Debenture Shares, which increased their fair value. The Company excludes this interest income because it believes that such a gain is not part of its core business or ongoing operations.

Gain on Sale of Business

On May 12, 2021, the Company sold its QualiTech business, which it had acquired as part of the ECI Acquisition, to Hermon Laboratories, Ltd. As consideration, the Company received $2.9 million of cash and recorded a gain on the sale of $2.8 million. On December 1, 2020, the Company completed the sale of Kandy to AVCT. As consideration, the Company received units of AVCT securities, comprised of AVCT's Series A-1 convertible debentures ("Debentures") and warrants to purchase shares of AVCT's common stock ("Warrants"), with an aggregate fair value approximating $84 million on the date of sale. The Debentures were converted to shares of AVCT common stock (the "Debenture Shares") on September 8, 2021 (the "Debenture Conversion Date"). The Company excludes these gains because it believes that such gains are not part of its core business or ongoing operations.

Discussion of Non-GAAP Financial Measures (Continued)

(Increase) Decrease in Fair Value of Investments

The Company calculates the fair values of the Debentures and the Warrants (prior to September 8, 2021) and the Debenture Shares and Warrants (effective September 8, 2021) at each quarter-end and records any adjustments to their fair values in Other (expense) income, net. The Company excludes these and any subsequent gains and losses from the change in fair value of this investment because it believes that such gains or losses are not part of its core business or ongoing operations.

Tax Effect of Non-GAAP Adjustments

The Non-GAAP income tax benefit (provision) is presented based on an estimated tax rate applied against forecasted annual non-GAAP income. The Non-GAAP income tax benefit (provision) 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. The Company is reporting its 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 its consolidated quarterly results. The Company expects that this methodology will provide a consistent rate throughout the year and allow investors to better understand the impact of income taxes on its results. Due to the methodology applied to its estimated annual tax rate, the Company's estimated tax rate on non-GAAP income will differ from its GAAP tax rate and from its actual tax liabilities.

Adjusted EBITDA

The Company uses Adjusted EBITDA as a supplemental measure to review and assess its performance. The Company calculates Adjusted EBITDA by excluding from (Loss) income from operations: depreciation; amortization of acquired intangible assets; stock-based compensation; acquisition-related inventory adjustments; certain litigation costs; impairment of goodwill; acquisition-, disposal- and integration-related expense; and restructuring and related expense. In general, the Company excludes the expenses that considers to be non-cash and/or not part of its ongoing operations. The Company may exclude other items in the future that have those characteristics. Adjusted EBITDA is a non-GAAP financial measure that is used by the investing community for comparative and valuation purposes. The Company discloses this metric to support and facilitate dialogue with research analysts and investors. Other companies may calculate Adjusted EBITDA differently than the Company does, 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	$ 70,919	$ 10,651	$ 81,570	$ 90,707	$ 21,610	$ 112,317	$ 93,664	$ 29,647	$ 123,311	$ 98,175	$ 35,444	$ 133,619	$ 353,465	$ 97,352	$ 450,817
GAAP Gross margin (Gross profit/Revenue)	55.4%	35.6%	51.6%	61.7%	34.0%	53.4%	61.0%	38.2%	53.4%	63.4%	39.6%	54.7%	60.6%	37.4%	53.4%
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%	0.0%	0.1%
Amortization of acquired technology	6.1%	3.6%	5.7%	5.4%	4.8%	5.2%	5.2%	4.6%	5.0%	4.6%	4.0%	4.4%	5.3%	4.3%	5.0%
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	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%
GAAP (Loss) income from operations	$ (13,557)	$ (15,183)	$ (28,740)	$ 16,743	$ (15,151)	$ 1,592	$ 21,954	$ (10,037)	$ 11,917	$ 23,484	$ (6,584)	$ 16,900	$ 48,624	$ (46,955)	$ 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	11,323	3,346	14,669	12,514	3,835	16,349	11,723	3,835	15,558	47,774	13,136	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

GAAP to Non-GAAP Reconciliation (Continued)

$000's	1Q21			2Q21			3Q21			4Q21			FY21		
	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	$ 125,422	$ 67,350	$ 192,772	$ 141,421	$ 69,789	$ 211,210	$ 142,437	$ 67,961	$ 210,398	$ 147,376	$ 83,201	$ 230,577	$ 556,656	$ 288,301	$ 844,957
GAAP Gross profit	$ 77,523	$ 22,963	$ 100,486	$ 88,836	$ 29,891	$ 118,727	$ 89,000	$ 21,654	$ 110,654	$ 88,105	$ 26,688	$ 114,793	$ 343,464	$ 101,196	$ 444,660
GAAP Gross margin - total (Total gross profit/Revenu	61.8%	34.1%	52.1%	62.8%	42.8%	56.2%	62.5%	31.9%	52.6%	59.8%	32.1%	49.8%	61.7%	35.1%	52.6%
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%	0.3%	0.2%	0.2%	0.2%
Amortization of acquired technology	5.3%	5.1%	5.2%	4.7%	4.4%	4.6%	4.6%	4.5%	4.6%	3.9%	3.7%	3.8%	4.6%	4.4%	4.6%
Non-GAAP Gross margin - total	67.2%	39.3%	57.5%	67.8%	47.5%	61.1%	67.4%	36.7%	57.5%	64.0%	36.0%	53.9%	66.5%	39.7%	57.4%
GAAP Income (loss) from operations	$ 4,693	$ (17,297)	$ (12,604)	$ 24,931	$ (11,979)	$ 12,952	$ 26,361	$ (24,369)	$ 1,992	$ 20,371	$ (140,507)	$ (120,136)	$ 76,356	$ (194,152)	$ (117,796)
Depreciation	3,137	1,089	4,226	3,142	1,107	4,249	3,018	1,191	4,209	2,972	1,306	4,278	12,269	4,693	16,962
Amortization of acquired intangible assets	11,305	4,518	15,823	11,300	5,881	17,181	11,340	5,881	17,221	10,519	5,882	16,401	44,464	22,162	66,626
Stock-based compensation	3,334	1,726	5,060	3,039	1,751	4,790	2,936	1,625	4,561	3,199	1,808	5,007	12,508	6,910	19,418
Impairment of goodwill	-	-	-	-	-	-	-	-	-	-	116,000	116,000	-	116,000	116,000
Acquisition-, disposal- and integration-related expense	241	956	1,197	29	1,023	1,052	165	1,790	1,955	46	3,382	3,428	481	7,151	7,632
Restructuring and related expense	5,620	330	5,950	1,095	1,735	2,830	1,125	642	1,767	215	891	1,106	8,055	3,598	11,653
Non-GAAP Adjusted EBITDA	$ 28,330	$ (8,678)	$ 19,652	$ 43,536	$ (482)	$ 43,054	$ 44,945	$ (13,240)	$ 31,705	$ 37,322	$ (11,238)	$ 26,084	$ 154,133	$ (33,638)	$ 120,495
Adjusted EBITDA Margin (Adjusted EBITDA/Revenue):															
GAAP Income (loss) from operations	3.7%	-25.7%	-6.5%	17.6%	-17.2%	6.1%	18.5%	-35.9%	0.9%	13.8%	-168.9%	-52.1%	13.7%	-67.3%	-13.9%
Depreciation	2.5%	1.6%	2.2%	2.2%	1.6%	2.0%	2.1%	1.8%	2.0%	2.0%	1.6%	1.9%	2.2%	1.6%	2.0%
Amortization of acquired intangible assets	9.0%	6.7%	8.2%	8.1%	8.4%	8.2%	8.0%	8.7%	8.3%	7.2%	7.0%	7.0%	8.1%	7.7%	7.9%
Stock-based compensation	2.7%	2.6%	2.6%	2.1%	2.5%	2.3%	2.1%	2.4%	2.2%	2.2%	2.2%	2.2%	2.2%	2.4%	2.3%
Impairment of goodwill	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	139.4%	50.3%	0.0%	40.2%	13.7%
Acquisition-, disposal- and integration-related expense	0.2%	1.4%	0.6%	*	1.5%	0.5%	0.1%	2.6%	0.9%	*	4.1%	1.5%	0.1%	2.5%	0.9%
Restructuring and related expense	4.5%	0.5%	3.1%	0.8%	2.5%	1.3%	0.8%	0.9%	0.8%	0.1%	1.1%	0.5%	1.4%	1.2%	1.4%
Non-GAAP Adjusted EBITDA Margin	22.6%	-12.9%	10.2%	30.8%	-0.7%	20.4%	31.6%	-19.5%	15.1%	25.3%	-13.5%	11.3%	27.7%	-11.7%	14.3%

* 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	4Q21	FY21
GAAP Operating expenses	$ 110,310	$ 110,725	$ 111,394	$ 116,719	$ 449,148	$ 113,090	$ 105,775	$ 108,662	$ 234,929	$ 562,456
Stock-based compensation	(2,819)	(3,024)	(3,708)	(3,473)	(13,024)	(4,798)	(4,228)	(3,973)	(4,422)	(17,421)
Amortization of acquired intangible assets	(5,380)	(3,719)	(4,706)	(4,815)	(18,620)	(5,762)	(7,481)	(7,547)	(7,493)	(28,283)
Litigation costs	(3,038)	937	-	-	(2,101)	-	-	-	-	-
Impairment of goodwill	-	-	-	-	-	-	-	-	(116,000)	(116,000)
Acquisition-, disposal- and integration-related expense	(12,384)	(857)	(1,366)	(2,557)	(17,164)	(1,197)	(1,052)	(1,955)	(3,428)	(7,632)
Restructuring and related expense	(2,075)	(5,361)	(3,290)	(5,509)	(16,235)	(5,950)	(2,830)	(1,767)	(1,106)	(11,653)
Non-GAAP Operating expenses	$ 84,614	$ 98,701	$ 98,324	$ 100,365	$ 382,004	$ 95,383	$ 90,184	$ 93,420	$ 102,480	$ 381,467
Income (loss) from operations as a percentage of revenue ("Operating margin"):										
GAAP Operating margin	-18.2%	0.8%	5.2%	6.9%	0.2%	-6.5%	6.1%	0.9%	-52.1%	-13.9%
Stock-based compensation	1.9%	1.5%	1.7%	1.5%	1.6%	2.6%	2.3%	2.2%	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%	7.1%	7.9%
Acquisition-related inventory adjustment	0.0%	0.0%	0.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Litigation costs	1.9%	-0.4%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Impairment of goodwill	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.3%	13.7%
Acquisition-, disposal- and integration-related expense	7.8%	0.4%	0.6%	1.0%	2.0%	0.6%	0.5%	0.9%	1.5%	0.9%
Restructuring and related expense	1.3%	2.5%	1.4%	2.3%	2.0%	3.1%	1.3%	0.8%	0.5%	1.4%
Non-GAAP Operating margin	3.8%	11.8%	16.8%	18.1%	13.5%	8.0%	18.4%	13.1%	9.5%	12.3%

GAAP to Non-GAAP Reconciliation (Continued)

	1Q20	2Q20	3Q20	4Q20	FY20	1Q21	2Q21	3Q21	4Q21	FY21
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)	$ (0.65)	$ (1.20)
Stock-based compensation	0.02	0.02	0.03	0.02	0.11	0.03	0.03	0.03	0.03	0.14
Amortization of acquired intangible assets	0.12	0.10	0.11	0.10	0.42	0.11	0.11	0.12	0.12	0.44
Acquisition-related inventory adjustment	-	-	0.01	-	0.01	-	-	-	-	-
Litigation costs	0.02	(0.01)	-	-	0.01	-	-	-	-	-
Impairment of goodwill	-	-	-	-	-	-	-	-	0.77	0.77
Acquisition-, disposal- and integration-related expense	0.10	0.01	0.01	0.02	0.12	0.01	0.01	0.01	0.02	0.05
Restructuring and related expense	0.02	0.04	0.02	0.04	0.11	0.05	0.02	0.01	0.01	0.08
Interest income on debentures	-	-	-	-	-	(0.01)	(0.01)	(0.01)	-	(0.02)
Gain on sale of business	-	-	-	(0.54)	(0.58)	-	(0.02)	-	-	(0.02)
(Increase) decrease in fair value of investments	-	-	-	(0.20)	(0.21)	0.16	(0.08)	0.38	0.04	0.50
Tax effect of non-GAAP adjustments	*	(0.02)	(0.08)	(0.07)	(0.17)	(0.01)	(0.04)	(0.03)	(0.33)	(0.42)
Non-GAAP Diluted earnings per share	$ 0.01	$ 0.08	$ 0.14	$ 0.18	$ 0.43	$ 0.03	$ 0.17	$ 0.11	$ 0.01	$ 0.32
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	148,675	147,575
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	153,898	154,527

* 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 March 31, 2022 Range				Year ending December 31, 2022 Range			
Revenue ($ millions)	$	165	$	180	$	850	$	880
Gross margin:								
GAAP outlook		44.6%		46.0%		51.0%		52.1%
Stock-based compensation		0.4%		0.4%		0.4%		0.4%
Amortization of acquired technology		5.0%		4.6%		3.6%		3.5%
Non-GAAP outlook		50.0%		51.0%		55.0%		56.0%
Earnings per share:								
GAAP outlook	$	(0.30)	$	(0.27)	$	(0.31)	$	(0.27)
Stock-based compensation		0.04		0.04		0.16		0.16
Amortization of acquired intangible assets		0.10		0.10		0.39		0.39
Acquisition-, disposal- and integration-related expense		0.01		0.01		0.02		0.02
Restructuring and related expense		0.02		0.02		0.13		0.13
Tax effect of non-GAAP adjustments		0.03		0.03		(0.09)		(0.09)
Non-GAAP outlook	$	(0.10)	$	(0.07)	$	0.30	$	0.34
Weighted average shares used to compute GAAP diluted loss per share (in thousands)		149,000		149,000		151,000		151,000
Weighted average shares used to compute Non-GAAP diluted (loss) earnings per share (in thousands)		149,000		149,000		157,000		157,000
Adjusted EBITDA ($ millions):								
GAAP income from operations	$	(40.6)	$	(34.6)	$	(16.3)	$	(6.3)
Depreciation		4.0		4.0		16.9		16.9
Amortization of acquired intangible assets		15.5		15.5		60.4		60.4
Stock-based compensation		5.5		5.5		25.7		25.7
Acquisition-, disposal- and integration-related expense		1.3		1.3		3.3		3.3
Restructuring and related expense		3.3		3.3		20.0		20.0
Non-GAAP outlook	$	(11.0)	$	(5.0)	$	110.0	$	120.0

Thank you

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