

# RAKON

## A SIGNIFICANTLY UNDERVALUED NZX LISTED TECHNOLOGY COMPANY

Rakon Limited (RAK.NZ, Market Capitalisation NZ\$65.93M)<sup>1</sup> is a technology company that designs and manufactures high quality frequency control solutions. Incorporated in 1967, Warren Robinson began the business in the garage of his Howick home, and over the course of this 53-year journey, Rakon has been awarded “Hi-Tech Company of the Decade,” released best-in-class products related to frequency stability and expanded its offering into 60+ countries as a critical component to many multinational suppliers. As the world prepares itself for 5G, demand for Rakon’s products should see a dramatic increase as connection opportunities and bandwidth will grow to meet the next era of telecommunications.

The technology sector is a notoriously competitive landscape. Often the path to profitability is a long one as companies are forced to invest heavily in R&D to remain ahead of the competition due to an inability to develop any sort of “moat” - Apple is one of few exceptions to this. Rakon has averaged a gross profit margin of 40.30% since 2015, posting positive free cash flow in four of the last five years.

There are numerous aspects of Rakon’s business that on the surface makes us as shareholders excited. Revolutionary technology that is adapting to new challenges in 5G, global quality standards are consistently met, and the company has a pedigree in the technology sector that leads us to believe that Rakon is capable of competing with any company in global telecommunications.

### Performance Snapshot Financial Year 2020 12 months ended 31 March 2020.



All amounts in this document are in NZ\$ unless otherwise specified.

Preference for **Rakon’s quartz-based products** over silicon-based competition

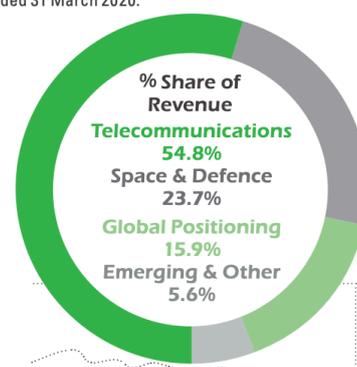
**18 new products<sup>3</sup>** introduced including launch of **Mercury+™**, the **world’s smallest OXCO<sup>®</sup>**

Ramping up for **5G – Mercury+™, Neptune™** and **Mercury™** products



**6 core R&D advanced technology** developments under way including release of **XMEMS™**, Rakon’s key quartz-based technology for future requirements

New products being developed for emerging **5G millimetre wave (mmWave)** requirements



Increased share of major **Tier One** telecommunications **customers’ business**

Rakon is designed into the transportation and radioheads for 5G

**34 million** products shipped

Launched global Sales & Operations Planning (S&OP) review process, **significantly improving** worldwide customer satisfaction and employee engagement



All business units recertified to **global quality standards**

Source: Rakon 2020 Review



<sup>1</sup>Refinitive Eikon as at 31 July 2020

## OUR POSITIVE OUTLOOK - REAFFIRMED IN RAKON'S 2020 REVIEW



Rakon's telecommunications segment grew strongly, with revenue up +15% in USD terms from FY19-FY20. The 5G segment contributed +43% of this growth, and new 5G products showed a +150% year-on-year growth as demand for 5G products accelerates in South Korea, China & the US.

The outlook is positive, 5G will be ten times faster and allow 1,000 times more traffic capacity than 4G networks. These expanded capabilities will open up room for more users and traffic, further delivering better connectivity and productivity at very low latency levels. 5G requires precise timing to function, Rakon has a history of developing innovative timing solutions and we believe will be well positioned to capture the economic tailwinds appearing globally.

Source: Rakon 2020 Review



Our opportunities lie in the precise timing that is required for 5G.

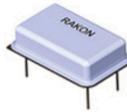
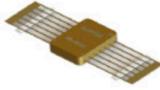
## IMPRESSIVE PRODUCT MIX

**Crystal Resonators:** A wide range of crystal resonators are available from high stability Surface Mount Devices (SMDs) to the high reliability space crystals including ESA qualified crystal resonators, and crystal resonators fully manufactured and tested following the guidelines of MIL-PRF-3098. Rakon is a major supplier of crystal resonators for Global Positioning, Telecommunications, Space and Defense applications.

Tuning Fork Crystals	Standard SMD Crystals	High Reliability Space Crystals
		

**Crystal Oscillators:** Rakon has expertise in a broad range of standard performance, high performance and high reliability Crystal Oscillators (XOs). The high performance range of XOs feature low jitter, low phase noise, and selectable output frequency options; these features make them ideal for applications in Global Positioning and Telecommunications markets.

The high reliability XO ranges are resistant to shock and vibration in harsh environments and the specification profile makes it a great solution for Space and Defense applications.

Low Noise and Low Jitter XO	High Reliability Defense XO	High Reliability Space XO	New Space XO
			

**Voltage Controlled Crystal Oscillators and Voltage Controlled SAW Oscillators:** Rakon has expertise in a broad range of high performance and high reliability Voltage Controlled Crystal Oscillators (VCXOs), and high frequency & low phase noise performance Voltage Controlled SAW Oscillators (VCSOs).

The high performance range of VCXOs feature low jitter, low phase noise and selectable output frequencies; which make them ideal for applications in the Global Positioning and Telecommunications markets. The high reliability space VCXO are designed and manufactured to meet MIL standards.

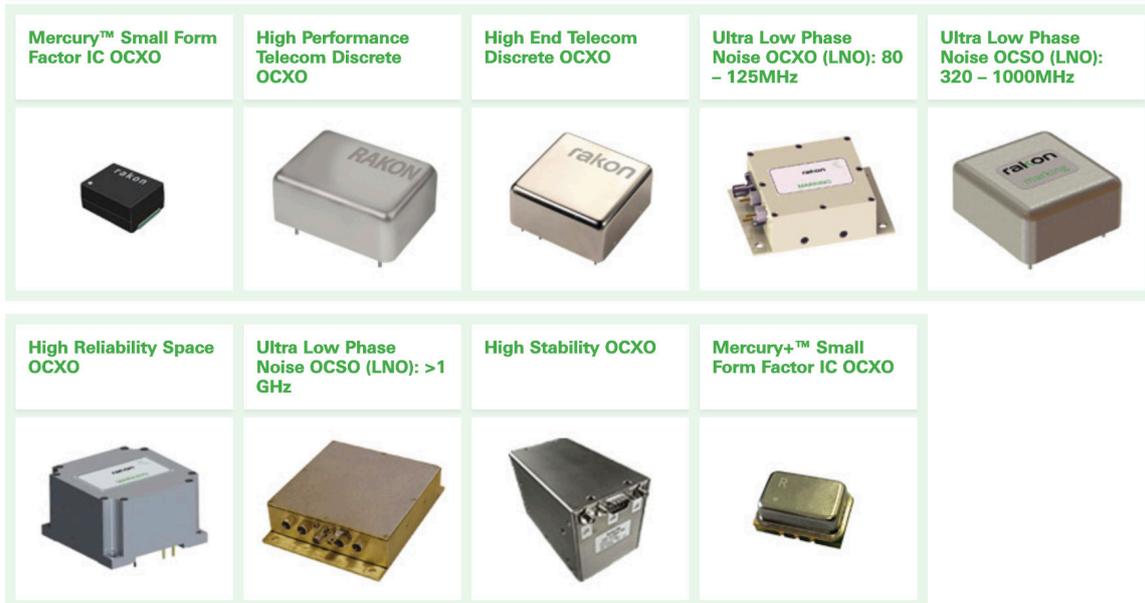
The low power range of VCSOs enable the ultimate performance in applications requiring excellent phase noise at high frequencies. They are ideally suited for Electronic Warfare (EW), avionics, instrumentation, high speed converters and low jitter applications.



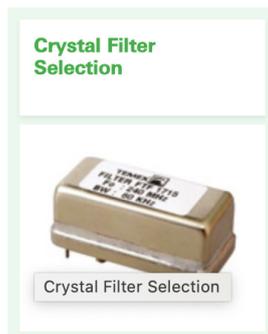
**Temperature Compensated Crystal Oscillator:** Rakon has a wide range of high stability Temperature Compensated Crystal Oscillator (TCXO) solutions, from highly stable products for mass volume consumer applications through to industry leading ultra-stable products for more demanding applications. The Company's commitment to quality and high performance has meant it has become the default standard for consumer GPS, emergency beacons, telecommunications infrastructure and many other performance critical applications.



**Oven Controlled Crystal Oscillator & Oven Controlled SAW Oscillators:** Rakon has extensive experience in creating standard and customised Oven Controlled Crystal Oscillator (OCXO) solutions for the Telecommunications, Space and Defense markets. Rakon's Oven Controlled SAW Oscillators (OCOSOs) feature remarkable performances in terms of frequency stability, ageing and g-sensitivity. They feature low noise floor performance without degrading close-in phase noise. OCOSOs are favoured when ultra low phase noise performance is required, especially in conjunction with high frequencies.



**Crystal Filter:** The company provides a wide range of highly reliable crystal filters for various Space and Defense applications. The range of crystal filters include the following: bandpass filters (narrow or wideband), notch / stopband filters, linear phase or constant group delay filters, phase and/or amplitude matching filters and monolithic filters. At the heart of Rakon's crystal filters are quartz, langasite or lithium tantalate.



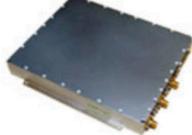
**System Solutions:** Rakon's subsystems and modules are the ideal solutions for the retrofit or upgrade of radar, Electronic Warfare (EW) and other systems.

The company is specialized in the design and manufacturing of custom subsystems, from customer requirements through production up to after sales support. The design team has extensive experience in RF & microwave (frequency band spans from baseband up to 18 GHz), digital module and subsystem design, for various environmental conditions, including ground-based, naval and airborne systems.

Subsystems use high speed digital processing, enabling significantly improved overall system performance. For the Air Traffic Control and Defense surveillance radars, Rakon offers standard and custom pulse compression subsystems, of which all the pulse compression parameters are fully programmable.

The plug & play frequency synthesizers are versatile, FPGA-based modules with low noise, and are capable of going up to the Ku-band. Rakon also supplies additional modules which can be combined with the synthesizers and oscillators, such as the frequency multipliers which provide high frequency outputs with ultra-low phase noise.

Rakon combines its high performance frequency synthesizers, low noise oscillators (OCXO and OCSO) and multipliers in order to offer complete solutions such as Local Oscillator (LO) and Coherent Oscillator (COHO). Other subsystems can be offered on a custom design basis to fit specific requirements, for instance frequency transposition module, filter bank, multi-frequency generation module, phase detector, IF amplifier and other radar and EW subsystems.

Subsystems	Capabilities	Synthesizer	Frequency Multipliers
			



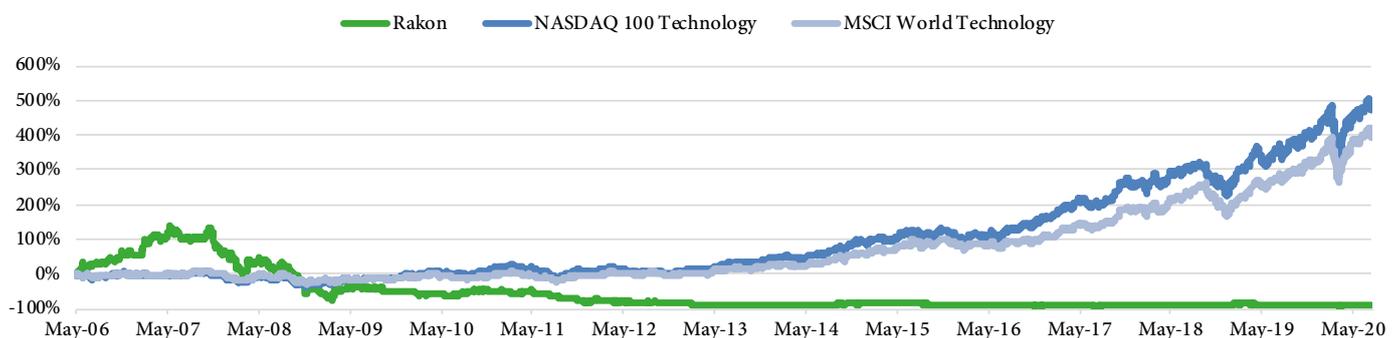
## WHAT'S GOING WRONG - WITH NO SHARE PRICE PERFORMANCE?

Rakon's investment outlook is positive but the share price is simply not responding. We believe the main cause behind this underperformance is that Rakon is poor at communicating with shareholders/market participants and accordingly is largely overlooked by the broader market (we note on page 62 of the Rakon 2020 Annual Report that the company has stated "As a matter of good governance practice and in light of feedback from some of its shareholders, the Board is undertaking a review of Rakon's shareholder communications and investor relations strategies"). We wholeheartedly welcome this review. Despite posting positive results that should see a share price re-rating and delivering an earnings multiple more in line with the median for comparable companies in the industry, the share price performance is not at all consistent with the quality of the underlying business or with broader technology indices based on its outlook.

Rakon 2-Year Price Change (NZD)



Rakon versus Technology Indices Rebased Total Return Since IPO



Source: Refinitive Eikon as at 31 July 2020

Rakon has quite simply failed to communicate to the outside investment community regarding its operational strengths and growth prospects with 5G demand now a global reality.

## LET'S LOOK AT COMMUNICATIONS

Monthly Average Posts (YTD)	PushPay	A2Milk	Xero	Rakon
Youtube	-	-	>10	-
Facebook	18.57	5	>30	1.29
Twitter	>30	-	>50	1.14
LinkedIn	1.71	2.71	>30	0.43
Instagram	12.00	-	0.54	-
Listed Exchange Announcements	5.79	5.14	11	2.29

NZX/ASX Announcements	2020	2019	2018	2017	Total
Rakon	16	15	18	25	74
PushPay	41	63	69	71	244
A2Milk	36	93	86	97	312

The irony should be not be lost on shareholders that a high-tech manufacturing company at the forefront of the development and manufacture of global telecommunications is actually an extremely poor communicator with its stakeholders.

Compared to three high-growth companies on the NZX and ASX - PushPay, A2 Milk & Xero, it is clear that Rakon is not communicating sufficiently with investors and telling its story. While these other companies have experienced significant growth, there has also been a clear priority in disseminating information and "their story" to investors and potential investors around the world.

## UNDERVALUATION SIGNIFICANT

Rakon is clearly undervalued relative to its international peers, trading at a significant discount to comparable companies on the ASX Technology Index, and relative to the AU, NZ, UK, US Technology Hardware & Equipment/Electrical Components & Equipment Companies. Rakon is trading at multiples consistent with the bottom quartile of its peers which, in our view, is totally inappropriate.

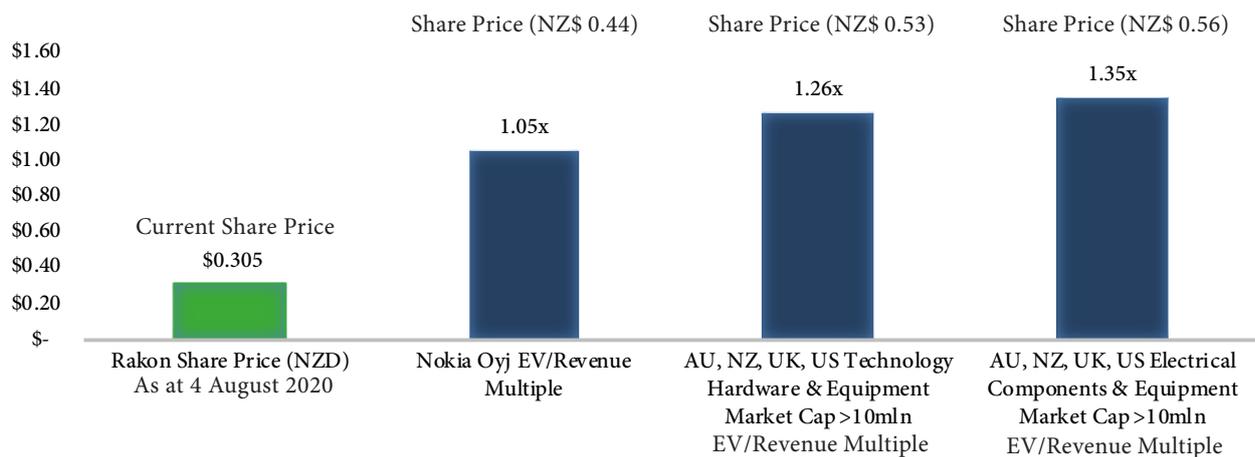
ASX All Technology Index as at 4 August 2020		EBITDA Margin	Price/FCF	Price/Sales	Price/EBITDA	EV/Revenue	P/E (Current)
	Top Quartile	+28.48%	142.67x	17.15x	58.09x	16.11x	78.92x
	Median	+17.75%	37.57x	7.94x	27.53x	7.17x	45.66x
	Bottom Quartile	-1.84%	-31.92x	3.95x	17.67x	3.88x	27.65x
AU, NZ, UK, US Technology Hardware & Equipment Market Cap >10mln		EBITDA Margin	Price/FCF	Price/Sales	Price/EBITDA	EV/Revenue	P/E (Current)
	Top Quartile	+15.37%	29.42x	3.73x	16.17x	3.48x	49.28x
	(3) Median	+6.00%	6.10x	1.44x	6.55x	1.35x	26.22x
	Bottom Quartile	-3.16%	-9.51x	0.59x	-5.02x	0.73x	16.74x
AU, NZ, UK, US Electrical Components & Equipment Market Cap >10mln		EBITDA Margin	Price/FCF	Price/Sales	Price/EBITDA	EV/Revenue	P/E (Current)
	Top Quartile	+15.11%	27.25x	3.64x	11.79x	3.16x	33.48x
	(2) Median	+9.19%	14.21x	1.19x	7.42x	1.26x	22.53x
	Bottom Quartile	+2.75%	-3.26x	0.65x	2.56x	0.69x	15.48x
	<b>Rakon Ltd</b>	<b>+10.42%</b>	<b>8.73x</b>	<b>0.59x</b>	<b>5.58x</b>	<b>0.73x</b>	<b>17.47x</b>

Company Name	EBITDA Margin	Price/FCF	Price/Sales	Price/EBITDA	EV/Revenue	P/E (Current)
Marvell Technology Group Ltd	+9.60%	13.39x	9.14x	64.94x	9.42x	17.51x
Skyworks Solutions Inc	+38.37%	45.27x	7.52x	19.05x	7.17x	31.61x
Nokia Oyj	+10.75%	126.83x	1.08x	7.66x	1.05x	38.91x
<b>Rakon Ltd</b>	<b>+10.42%</b>	<b>8.73x</b>	<b>0.59x</b>	<b>5.58x</b>	<b>0.73x</b>	<b>17.47x</b>

Source: Refinitiv Eikon - 4 August 2020

If Rakon were to only trade in-line with the median industry peers within AU, NZ, UK, US Technology Hardware & Equipment/Electrical Components & Equipment Sector, at an EV/Revenue multiple of between 1.05x-1.35x, shareholders would see a +43.84% to +84.93% share price appreciation from NZ\$ 0.305.



## OUR RECOMMENDATION TO THE INDEPENDENT DIRECTORS

It is clear to us that Rakon is undervalued and that a significant part of the undervaluation is driven by the Management and Board's lack of engagement with external shareholders and potential new investors. Being a listed company is not suited to everyone, Rakon initially traded very well after its IPO and was a "market darling" as evidenced by the chart on page 6, but it has now spent years languishing despite significantly improved prospects in more recent times. In our opinion, it is incumbent on the Independent Directors to look at the clear value gap and ask the question - how do we close this discount?

Accordingly, we offer the following recommendations as a Rakon shareholder.

The Management and Board, in our view, has three options to consider:

- (i) take the company private and de-list;*
- (ii) significantly lift shareholder and potential investor engagement to drive a re-rating in the share price and in turn revenue/earnings multiples; and/or,*
- (iii) conduct a strategic review with a global investment bank which would also explore a potential sale of the Company to enable shareholders to realise the market value of Rakon.*

To continue to sit back and do nothing to address the sizeable discount at which the company trades relative to industry peers would be a significant failure on the part of the Independent Directors and we plan to deliver this message in person at the upcoming ASM on 7 August 2020 on behalf of investors in the Elevation Capital Global Shares Fund.

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