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### Interim Report

January - September 2024

2024-11-14



# Highlights

#### **Third quarter**

- BeammWave makes the world's first Over-The-Air demonstration of Distributed Digital Beamforming
- BeammWave CEO in analyst interview with Redeye
- BeammWave appoints Pareto Securities as liquidity guarantor
- BeammWave participated in Aktiespararna's event Aktiedagarna

#### After the end of the period

- BeammWave and Saab awarded SEK 4.1M in an innovation grant from Vinnova
- BeammWave joins the XG Mobile Promotion Forum (XGMF), a Japanese forum that aims to promote mobile services and the development of mobile businesses
- BeammWave granted SEK 3M contribution from the Vinnova call "6G Research and innovation 2024"
- The BeammWave Patent Portfolio for Digital Beamforming expands with a grant in Korea of the one of BeammWaves fundamental patents





# **Financial information**

### January – September 2024

	2024	2023	2024	2023	2023
Key-figures <sup>1</sup> (KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Net sales	0	0	1 066	0	0
Operating profit/loss	-6 082	-4 868	-16 053	-14 185	-20 991
Intangible fixed assets	42 695	32 186	42 695	32 186	33 816
Cash and cash equivalents	21 181	29 271	21 181	29 271	24 781
Cash flow	-9 230	-7 873	-3 601	-24 847	-29 337
Equity	58 374	57 471	58 374	57 471	51 076
Total assets	64 945	62 994	64 945	62 994	60 068
Equity ratio (%)	90	91	90	91	85
Quick ratio (%)	338	556	338	556	291
Average number of outstanding shares during the peric	22 254 808	13 161 630	17 095 771	13 161 630	13 161 630
Number of outstanding warrants at the end of the perio	10 641 782	4 687 780	10 641 782	4 687 780	4 687 780
Earnings per share <sup>2</sup>	-0,27	-0,36	-0,93	-1,05	-1,54
Number of employees end of period	12	14	12	14	14

<sup>1</sup>*Key-figure definitions on page 14* 

<sup>2</sup>*Recalculated in accordance with split 10:1 och 100:1* 

BeammWave AB are experts in communication solutions for frequencies over 24GHz. The company is building a solution intended for 5G and 6G, in the form of a radio chip with antenna and associated algorithms. The company's approach with digital beamforming is unique and patented, with the aim of delivering a solution with higher performance at a lower cost.



## **Comments from our CEO**

### Focus on customers, product and delivery

Summer is now fading even in southern Sweden, and the arrival of autumn darkness was further reinforced by the shift back to standard time. However, BeammWave is thriving with energy following its success in technology, customer engagements, and the growing attention surrounding the company.

#### Focus on customers, product and delivery

The optimistic outlook we previously shared in terms of new customers remains and has been strengthened. All the discussions we have been having over the past few years continue, and our view of timing remains largely unchanged. And as always, our sales team is constantly on the road, exploring new opportunities.

Delivery is top of mind for us in two important ways. We all want to see the company progress from concept to real products that drive business and generate revenue, but we also focus on the process of packaging and shipping products worldwide.

Our first product, the Advanced Development Platform (ADP1), is state-of-the-art, packaging our entire concept. It includes hundreds of options and parameters to ensure platform flexibility. To maximize the benefit of this flexibility, we've made significant investments in a user interface and software that automates testing, enhancing quality but also saves a considerable amount of time. All of this to secure the deliveries we expect in the immediate future and minimize the need for support.

#### Amazing new partners and projects

During October, we were awarded two new Vinnova projects under two different calls: "6G Research and Innovation 2024" and "Collaboration Project for Civil-Military Synergies". These types of projects offer, in addition to the financial benefits, also an excellent opportunity to collaborate with fantastic partners, on a focused topic, which results in both concrete results and valuable learning as well as future business opportunities. It is worth noting that we have recurring partners in Lund University, Advenica and Saab.

We particularly value the collaboration with Saab, as we see both immediate exchange of knowledge in both directions, but also a clear business potential in new areas.

#### The attention around the company

The momentum the company has gained, especially since and perhaps more so after the summer, has been remarkable. After the summer, we conducted the world's first demonstration of distributed digital beamforming, further solidifying our "Thought leadership" in digital



beamforming. This has played a significant role in helping us surpass 5,000 followers on LinkedIn, while also increasing our shareholder base from approximately 900 to over 1,500 in just the past two months.

#### The patent portfolio

We continue to excel in the patent area, having more than 40 patent families in play. The value of the patent portfolio thus continues to grow and provides not only protection for our products but also represents a significant monetary value, both as an independent deliverable and as part of a commercial offering.

#### Financing

BeammWay

As part of the rights issue, we made during the spring, a warrant TO 4B was included, with a subscription period running from December 2<sup>nd</sup> to 16<sup>th</sup>.

#### Investing in BeammWave

An investment in BeammWave is not only an investment in 5G and 6G, but in all future generations of telecom. We are confident that the future of wireless communication lies in the higher frequency ranges, and BeammWave possesses both the technology and the capacity to industrialize this solution. We are convinced that our solution will revolutionize the way people build connected devices and smartphones in the future.

\*See glossary with explanations on pp. 17-18

**Stefan Svedberg** CEO, BeammWave AB

### **BeammWave in brief**

#### BeammWave

BeammWave AB is a deep-tech company with expertise within communication solutions for frequencies over 24GHz. The company was founded in 2017 by Per-Olof Brandt och Dr Markus Törmänen, based on a long-term research of mmWave\* and wireless technology at LTH (Lund University Faculty of Engineering). Today, BeammWave has a total of 25 employees and consultants. After several years of development work, the company announced their first product, an Advanced Development Platform (ADP1), at the end of 2023. This makes it possible to demonstrate the company's digital beamforming over the air. BeammWave has also sold an initial development platform to Molex Inc. along with a Joint Development Agreement. The company also has a large number of ongoing discussions with potential customers and partners, regarding both the platform and projects.

#### The Need

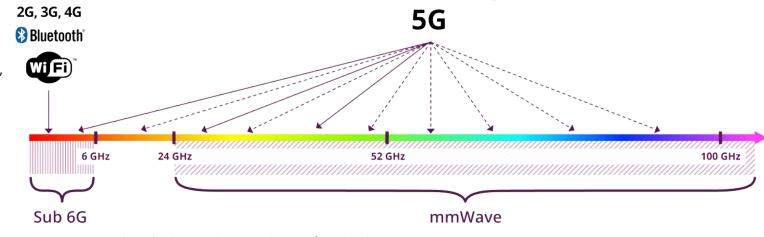
BeammWave operates in the technical field of digital beamforming\*. Today, only so-called analog beamforming\* is used for the direction of the radio signal, which means that large parts of the direction problem are solved analogically with the help of specially designed components. There are two central challenges with the analog alternative: firstly, that this solution is spaceconsuming and inflexible, and thus difficult to integrate into small battery-powered consumer devices. Partly because it can only receive and transmit one signal at a time in a certain direction, which results in large performance losses. BeammWave aims to solve these challenges by offering a digital solution that is smaller, easier to integrate and with significantly higher performance. There is a strong consensus within the industry that digital will replace analog beamforming. What is not agreed upon is the timing when the technology will be ripe for this. Digital beamforming controls the direction of the radio signal in an advanced digital environment through software, rather than using large analog radio components, as is the case with analog beamforming. beamforming.

#### The Market

The global use of 5G is expected to grow strongly in the coming years. The Ericsson Mobility Report (2024) predicts that the number of 5G subscriptions will increase to 5.6 billion by 2029.

Currently, there is a strong expansion of mmWave-based infrastructure in North America and Japan in particular.

This development is driven by the major operators in the US; Verizon AT&T and T-mobile together the four largest in Japan; NTT DoCoMo, Softbank, KDDI and Rakuten. BeammWave attaches great importance to the dialogue with these operators. In addition to these, there is a large range of consumer products, such as Apple's iPhone 12, 13, 14, 15, and 16 as well as a very large number of smartphone models that contain mmWave technology (Mobile Experts 2023).



The performance of digital beamforming with **less power** and **lower cost** than analogue beamforming

# +40 patents and counting



Higher throughput for end-users

50%

Flexible design that is *easy* to integrate



### **Financial comments**

#### Scope of the report

This interim report covers the period January 1-September 30, 2024. Figures in parentheses indicate results for the corresponding period of the previous year. Unless otherwise stated, the amount is in KSEK.

#### **Revenue and results**

Net sales for the third quarter amounted to SEK 0,000 (0) and for the period January-September SEK 1,066K (0). Capitalized development costs amounted to SEK 2,807K (3,270) during the third quarter. For the period January-September, capitalized development costs amounted to SEK 8,879K (11,182). The other operating income amounted to SEK 68K (168) for the third quarter and SEK 1,976K (280) for the period January-September. The other operating income mostly consisted of grants from the EU and Vinnova and interest income.

Operating expenses for the third quarter amounted to SEK 8,957 (8,306) and SEK 27,974 (25,646) for the period January-September. Expected to continue to slowly increase cost following the increase in customer engagements.

Of the operating costs, during the quarter, other external costs together with personnel costs accounted for the majority of SEK 8,752K (8,287). For the period January-September, these costs amounted to SEK 27,292K

(25,575). This refers to costs for product development, which relate to both consulting fees and salaries.Personnel costs during the quarter were SEK 3,462K(3,680) and for the period January-September SEK 9,964K(10,148).

The quarter's result before tax amounted to SEK -5,980K (-4,745). For the period January-September, the result before tax amounted to SEK -15,858K (-13,771).

#### Personnel and organization

The average number of employees in the company was, at the end of the period, 12 (14).

#### Investments

The total investments in intangible assets, which are mostly development costs, amounted to SEK 2,807K (3,270) during the quarter and to SEK 8,879K (11,182) for the period January-September. The company has a total of SEK 42,695K (32,186) in intangible assets and SEK 70K (122) in tangible assets on the balance sheet date.

The company reports internally developed intangible fixed assets according to the capitalization model. This means that all expenses relating to the production of an internally developed intangible fixed asset are capitalized and written off during the asset's estimated useful life, provided that certain criteria are met.

#### **Cash flow**

The quarter's cash flow from current operations before changes in working capital amounted to SEK -5,967K (-4,732). Investments in intangible assets, capitalized work for own account, have affected the quarter's cash flow by SEK -2,807K (-3,270). New share issues have, during the fiscal year's second quarter, totaled SEK 26.7M before issue costs of approximately SEK 3.7M. The company has thus received a net total of SEK 23.0M. Total cash flow for the quarter amounted to SEK -9,230K (-7,873).

#### **Financial position and liquidity**

As of September 30, 2024, the equity ratio amounted to 90% (91), and equity totaled SEK 58,374K (57,471). Cash and cash equivalents amounted to SEK 21,181K (29,271) at the end of the period on September 30, 2024, representing a decrease of SEK 3,601K compared to the beginning of the fiscal year. The company had no interestbearing liabilities as of the balance sheet date.



### **Other information**

#### The company

BeammWave AB is a Swedish public limited company with corporate ID number 559093-1902. The company was founded in 2017 to transform research from LTH (Lund University Faculty of Engineering) into an optimized and commercial mmWave solution for a mass market.

#### Accounting principles

This interim report has been prepared in accordance with the Swedish Annual Accounts Act and BFNAR 2012:1 Annual Report and Consolidated Accounts (K3). Applied accounting principles are unchanged from those used in the 2023 Annual Report, which can be found on the company's website. For further information, refer to the company's Annual Report for 2023.

The amounts are rounded to the nearest thousand (KSEK), unless otherwise stated. Due to rounding, figures presented in the financial statements may in some cases not exactly add up to the total and percentages may deviate from the exact percentages. Amounts in parentheses refer to values from the corresponding period in the preceding year.

#### **Transactions with related parties**

Transactions with related parties have taken place to the same extent as before. For further information, refer to the company's Annual Report for 2023.

#### **Risks and uncertainties**

The company's operations are exposed to a number of factors. Which may pose a risk to the company's operations and result. For a further description of risks refer to the latest Annual Report.

#### **Estimates and judgments**

In order to be able to prepare the financial reports, the Board and company management make assessments and assumptions that affect the company's results and position, as well as of the information provided in general.

Estimates and judgments are evaluated on an ongoing basis and are based on historical experience and other factors, including expectations about future events that are expected to be reasonable under prevailing conditions. Actual results may differ from assessments made. The areas where estimates and assumptions could entail a significant risk of adjustments in reported values for earnings and financial position in future reporting periods are primarily assessments of market conditions and thus the value of the company's fixed assets.

#### Management of uncertainties

When it comes to risks linked to the global situation, we are largely unaffected by the conflicts that are ongoing in different parts of the world. Energy prices, the weak Swedish krona and interest rates are also not a concern for the company. The generally difficult situation on the financial market and the high rate of inflation may, if it persists, affect the company's opportunities for financing.

#### **Discrepancies between reports**

Swedish and English-language versions of this Report have been produced. In the event of any discrepancy between the two, the Swedish version shall apply.

#### Auditor's review

This report has not been reviewed by the company's auditors.

#### **Financial calendar**

2025-02-14 Year end-report 2024 2025-04-23 Annual Report 2024 2025-05-08 Interim report January-March 2025 2025-05-14 AGM 2025

#### For additional information, please contact:

Stefan Svedberg, CEO Phone: +46 (0)10-641 45 85 Mail: info@beammwave.com

The financial reports are available through BeammWave's website beammwave.com/investors/finansiella-rapporter/



The Board of Directors and the CEO declares that this interim report provides a true and fair overview of the company's operations, financial position and results and describes significant risks and uncertainties facing the company.

Lund, November 14, 2024





Fredrik RosenqvistNChairman of the BoardB





Märta Lewander Xu Board Member



**Gustav Brismark** Board Member



**Paula Eninge** Board Member



Svein-Egil Nielsen Board Member



**Pelle Wijk** Board Member



Stefan Svedberg CEO



# **Financial reports in summary**

### Income Statement

Income Statement	2024	2023	2024	2023	2023
(KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Net sales	0	0	1 066	0	0
Capitalized development expenses	2 807	3 270	8 879	11 182	12 812
Other operating income	68	168	1 976	280	1 197
	2 875	3 438	11 920	11 461	14 009
Operating expenses					
Raw materials and consumables	-168	0	-569	0	0
Operating expenses	-5 290	-4 607	-17 328	-15 426	-21 400
Personnel cost	-3 462	-3 680	-9 964	-10 148	-13 508
Depreciation and impairment of tangible and intangible fixed assets	-13	-13	-38	-38	-51
Other operating expenses	-24	-6	-74	-33	-40
Operating profit/loss	-6 082	-4 868	-16 053	-14 185	-20 991
Result from financial items					
Other interest income and similar items	101	123	198	414	779
Interest expenses and similar profit and loss items	1	1	-3	0	0
Profit/loss before tax	-5 980	-4 745	-15 858	-13 771	-20 212
Income tax	0	0	0	0	0
Profit/loss for the period	-5 980	-4 745	-15 858	-13 771	-20 212
	-5 980	-+ /+3	- 15 658	-13771	-20 212
Earnings per share (SEK)					
Earnings per share before and after dilution <sup>1</sup>	-0,27	-0,36	-0,93	-1,05	-1,54
	22 254 808	13 161 630	17 095 771	13 161 630	13 161 630
Earnings per share before and after dilution <sup>1</sup> Average number of shares before and after dilution *Recalculated in accordance with the 1000:1 split (10:1 and 1	22 254 808				13 1

\*Recalculated in accordance with the 1000:1 split (10:1 and 100:1)



### **Balance Sheet**

Balance Sheet		2024	2023	2023
(KSEK)		30 Sept	30 Sept	31 Dec
ASSETS				
Intangible fixed assets	Note 1	42 695	32 186	33 816
Tangible fixed assets		70	122	109
Customer receivables		0	0	0
Other receivables		999	1 415	1 362
Cash and cash equivalents		21 181	29 271	24 781
TOTAL ASSETS		64 945	62 994	60 068
EQUITY AND LIABILITIES				
Equity		58 374	57 471	51 076
Accounts payable		2 486	1 571	3 870
Other liabilities		4 086	3 952	5 123
TOTAL EQUITY AND LIABILITIES		64 945	62 994	60 068

Changes in equity	2024	2023	2024	2023	2023
(KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Balance at the beginning of the period	64 200	62 216	51 076	71 242	71 242
Profit/loss for the period	-5 980	-4 745	-15 858	-13 771	-20 212
Transactions with shareholders	154	0	23 156	0	47
Balance at the end of the period	58 374	57 471	58 374	57 471	51 076





### Cash Flow

Cash flow	2024	2023	2024	2023	2023
(KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Cash flow from operating activities					
Operating profit/loss	-6 082	-4 868	-16 053	-14 185	-20 991
Adjustments for items not included in cash flow	13	13	38	38	51
Interest paid/received	102	123	196	414	778
Tax paid	0	0	0	0	0
Cash flow from operating activitiess before					
changes in working capital	-5 967	-4 732	-15 820	-13 732	-20 161
Changes in working capital	-610	129	-2 058	208	3 731
Cash flow from operating activities	-6 577	-4 603	-17 878	-13 525	-16 431
Cash flow from investment activities	-2 807	-3 270	-8 879	-11 323	-12 953
Cash flow from financing activities	154	0	23 156	0	47
Cash flow for the period	-9 230	-7 873	-3 601	-24 847	-29 337
Cash and cash equivalents at the beginning of the					
period	30 411	37 144	24 781	54 118	54 118
Cash and cash equivalents at end of period	21 181	29 271	21 181	29 271	24 781

NOTES	2024	2023	2024	2023	2023
Note 1	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Capitalized expenditure on development work					
and similar works					
Opening cost	39 888	28 916	33 816	21 004	21 004
Purchases	2 807	3 270	8 879	11 182	12 812
Closing accumulated cost	42 695	32 186	42 695	32 186	33 816



# **Key-figures**

#### **Key-figures**

BeammWave's financial reports include financial keyfigures specified in current principles for financial reporting.

**Operating profit/loss** Operating income minus operating expenses.

#### **Equity ratio**

Adjusted equity (equity and untaxed reserves less deferred tax) as a percentage of the balance sheet total.

#### **Quick ratio**

Current assets excluding inventory and work in progress as a percentage of short-term liabilities.

#### Average number of outstanding shares

Weighted average of the number of shares outstanding during the period.

#### Earning per share

Results for the period through the average number of outstanding shares.





## Share capital, the share and ownership relationships

The company's share capital amounts to SEK 2,199,567.762 distributed over 22,254,808 outstanding shares, of which 5,005,000 A shares and 17,249,808 B shares. Trading in the share takes place on the Nasdaq First North Growth Market. BeammWave's B shares are traded under the short name BEAMMW B and with ISIN code SE0016799068. BeammWave's TO 4Bs are traded under the short name BEAMMW TO 4B and with ISIN code SE0022061198.

### Stock option programs and employee stock option programs

The company has ten (10) ongoing stock option programs and employee stock option programs, with a total of 10,641,782 options. Nine (9) programs refer to incentives. All incentive programs have been issued at market value, calculated according to the "Black Scholes" formula. If all outstanding warrants are exercised, the dilution effect will amount to approximately 32 percent. For more information and complete conditions regarding the stock option programs and employee stock option programs, refer to the prospectus that the company issued in connection with the listing issue on page 37 and for others to the annual general meetings in 2023 and 2024 respectively.

Name	Purpose	Earliest redemption date	Finale due date	Redemption price (SEK)		No of shares after outstanding stock options / employee stock options	Dilution in case of full subscription
Series 202001	Incentive	2024-12-01	2024-12-21	5,56	134 800	134 800	0,60%
Series 202101	Incentive	2025-06-01	2025-06-21	25,26	134 800	134 800	0,60%
Series 202102	Incentive	2025-06-01	2025-06-21	25,26	185 350	185 350	0,83%
KPO Anst-22	Incentive	2026-05-11	2028-06-30	30,48	50 630	50 630	0,23%
KPO Sty-22	Incentive	2026-05-11	2028-06-30	30,48	67 400	67 400	0,30%
Series 202301	Incentive	2027-06-01	2027-09-30	30,48	67 560	67 560	0,30%
TO 4 B	Part of Unit	2024-12-02	2024-12-13		8 888 102	8 888 102	28,54%
KPO Anst-24	Incentive	2027-07-01	2027-12-31	0,10	303 620	303 620	1,35%
KPO Sty-24	Incentive	2027-07-01	2027-12-31	0,10	202 680	202 680	0,90%
TO Anst-24	Incentive	2027-07-01	2027-07-30	4,68	606 840	606 840	2,65%
						10 641 782	32,35%



# Share capital, the share and ownership relationships

#### Largest owners as of September 30, 2024

Shareholders who are not registered as owners, but whose shares are placed in insurance and depository accounts, do not appear in this list.

Name (private/company)	Shareholding A shares	Shareholding B shares	Total Shareholding	Ownership shares (%)	Ownership votes (%)
Nordnet Pensionsförsäkring		2 513 551	2 513 551	11,29%	3,73%
Concejo AB		2 495 671	2 495 671	11,21%	3,71%
Per-Olof Brandt	1 377 000	85 772	1 462 772	6,57%	20,59%
ALMI	766 000	675 769	1 441 769	6,48%	12,39%
Markus Törmänen	1 367 000	29 987	1 396 987	6,28%	20,36%
Avanza Pension		994 219	994 219	4,47%	1,48%
LU Holding AB		906 000	906 000	4,07%	1,35%
Stefan Svedberg*	592 000	273 000	865 000	3,89%	9,20%
Walerud & Partners AB och Be	ngt Walerud	701 892	701 892	3,15%	1,04%
Bengt Lindoff Innovation AB**	469 000	40 062	509 062	2,29%	7,03%
l Love Lund AB (publ)	102 000	281 861	383 861	1,72%	1,93%
Other shareholders	332 000	8 252 024	8 584 024	38,57%	17,19%
Total	5 005 000	17 249 808	22 254 808	100,00%	100,00%

\* Stefan Svedberg, CEO, by company and privatly

\*\* Bengt Lindoff, Chief System Architect, by company and privatly



### Glossary

#### **3rd Generation Partnership Project (3GPP)**

Collaborative organization for different organizations and corporations, active in the mobile telecommunications space. The purpose of the organization is to create globally viable technical protocols and specifications for mobile telephony and thereby enable the use of one and the same cell phone virtually all over the world.

#### Beamforming

Beamforming means directing the radio energy in a specific direction. This contrasts with traditional radio communication, where radiation is sent in all directions. Think of a laser pointer versus a light bulb – both emit light, but if you want to illuminate an object at a great distance, you choose the laser pointer. It is easy to understand that it's important you must aim, illuminating next to the object does not help. Beamforming is usually done using several antennas.

#### Analog beamforming

In analog beamforming, the signals from the different antennas are combined before being made digital. The industry has assumed that this is an easier and cheaper way.

#### **Consumer Premises Equipment (CPE)**

Is the equipment that the operator places in the home of the consumer, to offer internet access without the use of cable or fiber.

#### **Digital beamforming**

In digital beamforming, just as in its analog counterpart, several antennas are used and combined to get a stronger signal. But in the digital beamforming the combination happens AFTER the signals have been made digital. This means that the computations in the digital domain has more information and thus can achieve higher precision and performance.

#### Fabless

It means that the company designs and develops semiconductors but does not own its own manufacturing facilities (fabs = fabrication plants). Instead, the actual manufacturing is outsourced to third-party manufacturers, often referred to as "foundries". The business model is called Fabless and is commonly used by the semiconductor industry.

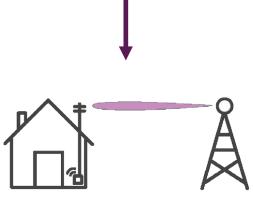
#### Field-Programmable Gate Array (FPGA)

An integrated circuit, used in digital technology, that can be programmed or reprogrammed after it has been manufactured. An FPGA is designed to be flexible and adaptable, allowing users to configure its hardware functionality for a wide range of applications after it's been deployed.

#### **Fixed Wireless Access (FWA)**

FWA is a type of wireless communication technology that provides high-speed internet access to fixed locations, such as homes or businesses, without needing traditional wired connections like fiber or cable. Instead of relying on physical infrastructure like cables, FWA uses radio signals transmitted from a base station or cell tower to a receiver installed at the customer's location.

Installation will of course be much cheaper, while capacity, performance and running costs will be equivalent if 5G mmWave is used for this purpose.





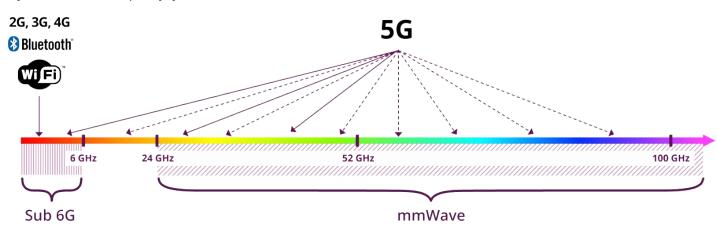
### Glossary

#### Frequency band/frequency range

A frequency in terms of radio communication is simply expressed as the number of oscillations per second and is measured in Hertz. Since radio waves travel at the speed of light, a low frequency means a very long wavelength (as measured from peak-to-peak of the "waves"). FM radio, for example, has frequencies between 87.5 and 108 MHz, and there the wavelength is about 2-3 meters. For different applications such as television, radio, satellite, military, emergency services, cell phones, Wi-Fi, etc. not to collide and interfere with each other, it has been agreed to divide the available frequency range into different frequency bands and then decide how, for what and who may use which frequencies. The image below shows that until now we have almost exclusively used frequencies below 6GHz. This area is therefore very crowded and if you need more capacity, you must find it elsewhere.

#### mmWave

mmWave (millimeter wave) refers to a specific band, where the wavelengths are in the order of 10mm and below, of radio frequency spectrum, typically ranging from 24 GHz to 100 GHz. This high-frequency spectrum is known for its ability to carry vast amounts of data at very high speeds, which is why it is a key technology in nextgeneration wireless communications, particularly 5G networks. This is a large and untapped area and consequently there is a lot of capacity here. The short wavelength means that the radio waves do not reach very far but are quickly attenuated. This means that the mmWave range requires beamforming to be used for communication purposes







# **BeammWave AB**

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