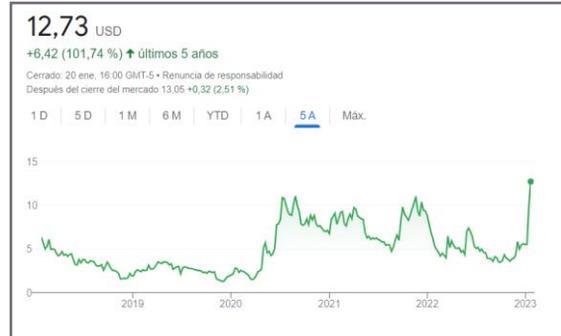


NEONODE \$NEON

Neonode is a tech company with a core business of manufacturing Touch Sensor Modules, in which it allows people to interact with machines (mainly elevators and kiosks) without having to physically touch the buttons. Neonode sued Apple and Samsung for the possible infringement of two of his patents. Neonode recently won the first IPR process for the 879 one of them (Samsung has appealed the decision). The second 993 patent was lost in previous court battle but the decision has been appealed based on new evidence. If patent infringement is proven in court, this could result in a payment of 2€ for each smartphone manufactured since 2014.

Company summary

- Market cap: \$170M
- Ratio PER: N/A
- Management: Good
- Financials: Bad
- Growth: Mean
- Risk: Very high
- Potential: Very high
- Style: Special situation



THE S I S U M M A R Y

Valuation

Device	Base Case 879 patent		Base Case 993 patent		
	Number of units sold	2,17	Number of units sold	0,8	
Smartphones	600	1.302	Smartphones	460	368
Tablets	72	156	Tablets	40	32
Total	672	1.458	Total	500	400
Litigation costs		(75)	Litigation costs		(75)
Net proceeds		1.383	Net proceeds		325
Neonode share 50%		692	Neonode share 50%		163
Treble damage		2.075	Net proceed after tax (25%)		122
Net proceed after tax (25%)		1.556	Number of shares		16
Number of shares		16	Per share		7,5
Per share		96			

Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 4 years	33	10
879 others	8,3	1,2
Discount 20% 6 years	2,8	0,4
879 Alphabet	1,3	1,3
Discount 20% 6 years	0,4	0,4
993 S&A	7	7
Discount 30% 4 years	3	3
993 others	-	-
Discount 20% 6 years	-	-
Total	39,3	13,8
Price/PV	0,5	0,5
Target price	19,7	6,9

We assume that with the 879 patent infringement victory, Neonode should earn \$96 per share. If won, the 993 could ad another \$7,5 per share. We could see other lawsuits that would increase damages compensation.

Our base target price is \$19,7 per share.

INTRODUCTION

Neonode is a company that develops solutions for contactless touch using a technology called zForce. Since late 2017, the company started a process of a turnaround. New owners fired the previous management, after failing to licence Neonode technology, and in Q3 of 2019, Urban Forssell was appointed as the new CEO of the company. Urban defined a new strategy. Neonode divided his business between the legacy business and the licence of his technology and product sales, where Neonode sells Touch Sensor Modules to elevator companies and kiosks.



Neonode has faced headwinds in the recent years after go public again. First, the pandemic hit Neonode business hard, and its still affecting growth since Asian countries represent a good part of their revenue. Then problems in the supply chain and now hit with strong inflation. In 2022, we saw a moderate improvement of results and cash burn has reduced. Management is confident that we will see and improvement during this year. Despite all these problems, we believe that Urban is qualified to turn the company into a successful business.

However, the business is not the most interesting part of Neonode story. The new management, tried to monetize old patents and [partnership with Aequitas](#). Aequitas contact Neonode, and after a study of all the patents, offer to pay all the costs and decision power of handling the case, and in return it has the right of 50% of the net proceeds. Choosing 2 of all patents in the 8th June of 2020, they [filed suit](#) for IP infringement on patents [993](#) and [879](#) against [Apple](#) and [Samsung](#). Apple and Samsung, then started an IPR to challenge the validations of the patents. Alphabet also started an IPR process against Neonode

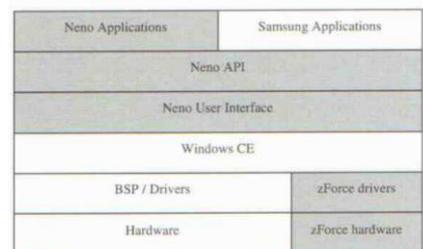
At first, [it all looks very promising](#). In the “patent wars” between Apple and Samsung, the later used Neonode’s patents to prove prior art. In Germany, [Samsung prevailed using Neonode’s N1](#), but in US the results where favorable to Apple. Only one day after that Alphabet started the IPR process, [the 879 stand “on the merit”](#) against Apple and Samsung proving the strength of the patent. The 993 was a little bit more complicated because prior art dates where not clear, and in mid June of 2021, trial was instituted. In order to clarify the claim dates a discovery process started. The court wanted to narrow the scoop and so it only demanded three documents of which at least two of them was showed previously to Neonode. Neonode argued that both patents had a claim date of no later than 25/05/2000. Then Apple began to try to cancel the discovery because if proven, this claim dates killed all prior art arguments presented. In his first answer, Neonode showed a [licence deal with Samsung](#) to use Neonode’s technology.

The royalty was 2€ per unit, and so it was a huge reward and a clear prove of commercial success in the secondary considerations. Also proved treble damage. Neonode could also prove treble damage against Apple. They tried to sell the patents to Apple (in 2017) and after studying the situations, Apple diced not to buy. This [document](#), shows that Apple knew of the 993 and 879 patent. The 993 patent IPR process seemed to have also great chances of success.

4.3 Running Royalty

In addition to the License Fee described in Section 7 below, Samsung shall pay a Running Royalty (the “Running Royalty”) of €2 (two euros) for each sold unit of the New Device (“a “Unit”).

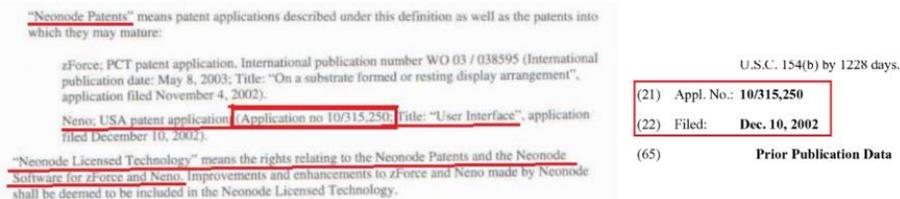
Attachment I
Schematich Layer Architecture for the New Device



VICTORY

Soon the problems started. First, in late 2021, the judges [ordered a rehearing in the 879](#) and then Neonode [failed to prove](#) the 25/05/2000 claim date. The discovery was not the end of IPR process with a clear victory for Neonode. The [testimonials](#) of Magnus Goertz and Thomas Eriksson was favorable, but not definitive. In the summer of 2022, [Neonode lost the 993 patent](#), but the decision was appealed because it didn't take into account the discovery and the interrogation of the witness. The blue sky scenario did not exist and the odds of a victory was slim. The good news returned with the victory of the 879.

Neonode has prevailed in the IPR process against first Samsung & Apple and now against Alphabet. The odds of a successful IPR process, are really low and only about 6% to 9% of the IPR process facing Samsung, Apple and Alphabet, prevails and are patentable. Its worth mentioning that Samsung, Apple and Alphabet, are the companies that have started the most IPRs and they have a lot of experience. **This victory is a huge win for Neonode.** The [victory against Samsung and Apple](#), was really strong, but the risk was still high. The 879 was still in risk of being unpatentable [if Alphabet prevailed in his claims](#). After the [victory against Alphabet](#) the 879 was safer. In the secondary consideration arguments, Hendifar, **showed evidence of nexus between the 879 and the licence deal.**



In the 993 patent, [Neonode failed to prove nexus](#) between the patent and the licence deal, so the secondary consideration was lost. In the Final Written Decision of the 879 patent against Samsung and Apple, the judges said that: **"We find that evidence of industry praise and licencing have nexus to challenged claim 1 and weigh significantly in favor of non-obviousness"**. In the Final Written Decision against Alphabet, the judges didn't even mention the secondary considerations, proving the strength of the 879 patent.

Also, chances to seeing a setback in an appeal are low in our opinion. First of all, as we have already mentioned, in the victory **against Alphabet, the judges didn't even mention the secondary consideration.** If Neonode's opponents tried to invalidate of the licence deal, they can only try to show that €2 per unit, as stated in the licence deal is too little and therefore does not demonstrate commercial success. For Apple, Samsung and Alphabet, this is a risk, now that the 879 is won because if they try to invalidate the 879 with this argument and lose again, it would be really hard to try to pay the minimum damages in the court. **You can't try to invalidate a patent saying that 2€ per unit is low and therefore nor prove of commercial success and then, say in court when the damages are estimated that paying 2€ is too much.** In the [licence deal](#), it refers to Samsung as a "leading manufacturer and distributor of mobile phones". Being able to licence a technology with a big company is strong proof of non-obviousness.

Alphabet tried to prove that Neonode had neither commercial success nor industry praise because Neonode market share was very small. But as seen in other cases like [Chemours Co. FC v. Daikin Industries](#), market share is not required to prove commercial success. In other cases like Georgia-Pacific Corp. v. United States Plywood Corp **it is specified that being able to licence a patent with high royalties is also proof of commercial success.**

2 BACKGROUND

Neonode is an independent Swedish mobile handset developer. The mobile handsets are based on the light beam controlled touch-screen, "zForce", and software for interaction with the operating system of the device, "Neno". Neonode is in possession of technology, – including zForce and Neno – intellectual property rights and know-how for development of mobile handsets (the "Neonode IPR").

Samsung is a leading manufacturer and distributor of mobile phones and other electronic devices.

4.3 Running Royalty

In addition to the License Fee described in Section 7 below, Samsung shall pay a Running Royalty (the "Running Royalty") of €2 (two euros) for each sold unit of the New Device ("a Unit").

REASONABLE ROYALTY

A reasonable risk is that **Samsung and Apple can try to argue that 2€ per unit is a lot to pay**. We think that Samsung, has difficulties to prove this but **Apple could argue that he didn't negotiate any contract with Neonode and therefore should not be charged that much**.

We think that history is in our favor. In [Apple v. Samsung](#), **Apple asked \$2,5 billion in damages in 2012**. In his estimations, Apple argued that the infraction of the patents caused that Samsung became a competitor larger than Apple, and became a much larger phone company (sound familiar, doesn't it?). But one think is damages claims and other think is what judges think. Often the decision is much lower than what plaintiffs asks. In the \$2,5 billion calculation, Apple attributed the biggest part (\$2B) concerned the return of Samsung's entire profits with products that infringed the patents. In addition to other charges, Apple asked \$25 million in royalties. This doesn't mean that Neonode could not ask for 2€ per unit in royalties, because in this case, once Apple collects part of Samsung's profits on infringing devices, it cannot claim "reasonable royalties", so the \$25 million applies only to a few products. This claim must borne in mind that it was without treble damage and Apple claimed that Samsung deliberately infringed its patents on some components. To calculate the damages, Apple made the following calculation:

- **\$2.02** for the "overscroll bounce" or "rubber-banding" ([318 patent](#)). Samsung ended up [requesting a new trial](#), due to the new evidence presented. In the case of Neonode, if we are lucky in a new Discovery, maybe we will be found information that verifies the claim date of the patents 879 and 993 (25/05/2000), so Neonode would end up proving prior art and eliminating the possibility of invalidating patents.
- **\$3.10** for the "scrolling API" ([915 patent](#)). In the end, this patent was overthrown by a court in an ex part re-examination to be able to demonstrate prior art. It was knocked down because [Noumura distinguished the different nature](#) of scrolling with one input (one finger) and doing with two inputs (two fingers). This would therefore not apply to Neonode's patents.
- **\$2.02** for the "tap to zoom and navigate" ([163 patent](#)).
- **\$24** for use of any of Apple's design patents or trade dress rights.

As we can **see damages claimed by Apple were much larger than the 2€ per unit that we have seen in the licence deal**.

In his [own study](#), Apple showed that the 381 patent offered a "unique user experience" and so the royalties are reasonable. As we have seen in the FWD against Samsung and Apple, the judges industry praise. Hendifar showed in his [presentation](#) how **Neonode phones were praised for their patents, and Samsung was "extremally impressed" with the N1**. According to Apple this is important because *"Samsung's customers are willing to pay between \$90 and \$100 above the base price of a \$199 smartphone and a \$499 tablet, respectively, to obtain the patented features covered by Apple's utility patents"*. You could say the same about Neonode. Finally, the damage calculation was not accepted because, [Apple did not want to licence his patents to Samsung](#). With Neonode, you can't say the same because we have seen the licence deal with Samsung and in 2017, Neonode tried to sell his patent portfolio to Apple. **Licencing was the core business of Neonode**. Furthermore, the judges [argued](#) that the study of Apple was invalid because its not the same that a company is willing to pay more for a Samsung phone that is infringing the patents, that proving that customers are buying a Samsung because of the functions. In Neonode, **we can prove that customers was buying the N1 and the N2 because of the touchscreen functions**.

[According to Tim Cook](#), *"Samsung must play by the rules. It must invent its own stuff"*. We agree, but we would add that the same applies for Apple.

REASONABLE ROYALTY

In Apple v. Samsung, of the \$2,5 billion asked by Apple, **finally the verdict declared that they would be “only” \$1,05 billion** due to the **argument**, that **Apple failed to demonstrate what consumers would have paid** and that **Apple included products that did not infringe patents**. After some appeals, in the end the calculation was reduced to **\$548 million** due to first, Apple’s **difficulty in proving market share lost due to patent infringement**, secondly, Apple lost a patent and was declared **unpatentable** and finally due to being attacked by some of the claims submitted. A new trial was scheduled and it was proved that less units infringed the patents. **Finally the case was settled.**

In Neonode we find that we have some cover. First of all, **the 2€ per unit are clear** and in line with other royalties, **if we asked a % of market share lost could be more than 2€ per unit**, because we are not talking about a major company. Secondly, as we have seen in the IPR process, **the 879 patent is really strong**, and any new information should strengthen the patent, and **maybe it could defend his initial claim date (25/05/2000)**. Finally, the **infraction seems clear** and any phone has the 879 in their phones.

The 879 and 993 patents are not Standard Essential Patents (SEP). The spreads in non SEP patents licences are more wild. Samsung demanded a royalties of 2,4% in his SEPs. In Microsoft v. Motorola, Microsoft filed a complaint with the International Trade Commission and federal courts, that Motorola was charging excessive royalties in the SEPs. Specifically, Microsoft alleged that Motorola was demanding a 2,25% royalty rate on the sale of each unit violating the Tariff Act. Microsoft alleged that the **standard** for licencing patents for similar technology was closer to 0,5%. Microsoft argued that the patents in question were essential to industry standards, and that Motorola was therefore obligated to license them on fair, reasonable, and non-discriminatory (FRAND) terms. **The exact royalty per unit was not disclosed.** In non SEP patents, royalties can be very **different**. Usually this **royalties change depending on the volume of the units and offers discounts to the most popular products.**

Year	Type	Price	2€ per unit	Royalty as %
2.011	iPhone 4S	649	2,17	0,33%
2.012	iPhone5	649	2,17	0,33%
2.013	iPhone 5c	549	2,17	0,40%
2.013	iPhone 5s	649	2,17	0,33%
2.014	iPhone 6	649	2,17	0,33%
2.014	iPhone 6+	749	2,17	0,29%
2.015	iPhone 6s	649	2,17	0,33%
2.015	iPhone 6s +	749	2,17	0,29%
2.016	iPhone SE	399	2,17	0,54%
2.016	iPhone 7	649	2,17	0,33%
2.016	iPhone7 +	769	2,17	0,28%
2.017	iPhone 8	699	2,17	0,31%
2.017	iPhone 8 +	799	2,17	0,27%
2.017	iPhone X	999	2,17	0,22%
2.018	iPhone XR	749	2,17	0,29%
2.018	iPhone XS	999	2,17	0,22%
2.018	iPhone XS Max	1.099	2,17	0,20%
2.019	iPhone 11	699	2,17	0,31%
2.019	iPhone 11 Pro	999	2,17	0,22%
2.019	iPhone 11 Pro Max	1.099	2,17	0,20%
2.020	iPhone SE 2nd	399	2,17	0,54%
2.020	iPhone 12 mini	699	2,17	0,31%
2.020	iPhone 12	799	2,17	0,27%
2.020	iPhone 12 Pro	999	2,17	0,22%
2.020	iPhone 12 Pro Max	1.099	2,17	0,20%
2.021	iPhone 13 mini	599	2,17	0,36%
2.021	iPhone 13	699	2,17	0,31%
2.021	iPhone 13 Pro	999	2,17	0,22%
2.021	iPhone 13 Pro Max	1.099	2,17	0,20%
2.022	iPhone SE 3rd	429	2,17	0,51%
2.022	iPhone 14	799	2,17	0,27%
2.022	iPhone 14 Plus	899	2,17	0,24%
2.022	iPhone 14 Pro	999	2,17	0,22%
2.022	iPhone 14 Pro Max	1.099	2,17	0,20%
Average		790,18		0,30%

As we can see on the table, **using 2€ per unit (that equals to \$2,17) its on average a royalty of only 0,3% so its very reasonable rate.**

We must remember that **according to Microsoft average was ~0,5%**. Samsung, was willing to licence the 2€ per unit even if we take in mind, that Samsung phones are cheaper on average. One of the cheapest phones of Samsung was the Galaxy A3 in 2014, (cost of \$144). **In this case the royalty would still a reasonable cost (1,5%). Similar cases royalties are about 1% fee.**

As we have seen in the IPR process, **Samsung was “extremely impressed” with the touchscreen technology of N1 and they were willing to licence it.** It would be difficult for Samsung to dispute that a reasonable fee is less than 2€ per unit.

HOW MUCH

According to law, we can **reclaim damages to the 6 years prior to the filing** of the complaint, so damages **start counting in 2014**. It could be more if the application takes time and the 879 patent **was extended three years**. Also, the royalty must be **“in no event less than a reasonable royalty”**. Damages can be accounted in base of lost benefits, where plaintiffs must prove that the infringement of the patent caused consumers to buy products of the infringing companies and taking in mind market share.

The other way is using a reasonable royalty, and with the licence deal is clear. **It will be really hard to argue that the royalties would be less than 2€ per unit when a major company licences a patent at this price form a minor competitor**. Apple could try to fought this argument because they didn't sing the deal, and as seen in other cases (California Institute v. Broadcom) you can have **different royalties in the same patent**. In this cases, and since Apple benefited more than Samsung (the iPhone is the core success of Apple and its devices cost more), so **the royalty could be higher**.

Also, **if the approach is based in lost benefits could be huge for Neonode**. The sales of the iPhone, allowed Apple to became the biggest company in US and Samsung one of the biggest companies in the world. Other companies have had huge benefits licencing his patents. IBM in 2016 alone generated \$1,39B in his patent licencing business. Rambus, could also be a proxy for Neonode. Rambus has a market capitalization of more tan \$4B. Interdigital, another proxy has a market cap of \$1,7B.

§ 286. Time limitation on damages

Except as otherwise provided by law, no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint or counterclaim for infringement in the action.

In the case of claims against the United States

§ 284. Damages

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under section 154(d).

The court may receive expert testimony as an aid to the determination of damages or of what

Also its worth mentioning that **the fair royalty can be higher and can be compounded**. Last year, after two years of fights in the courts, Alan Albright verdict in VLSI Technologies LLC v. Intel, that Intel must pay one of the largest penalties in history, a total of **\$2,18B** for infringing VLSI patents. This [article](#) explains the case very well. Damages were \$1,5 billion for one patent (7,523,373) and \$675 million for the infringement of the other (7,725,759). Albright was [criticized](#) for the verdict, but far from relenting, he denied Intel's request for a new trial after the verdict and in fact, imposed another [fine](#) on them with a value of **\$162 million more** (although VLSI asked for \$3 billion). As its seen in Labs., Inc. v. Nicolet Instrument, and other cases **in a prejudgment interest, interest can be compounded not as a penalty but as a compensation**. Courts *“may award interest at or above the prime rate,” “to ensure the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty rate”*. The same in Lam, Inc. v. Johns-Manville Corp, Atmel Corp. v. Silicon Storage, Fresenius Med. Care Holdings, Inc. v. Baxter Int, IMX, Inc. v. LendingTree etc.. All have advocate for a prime rate.

Other cases like Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co, W. Plastics, Inc. v. DuBose Strapping, Inc., Eidos Display, LLC v. Chi Mei Innolux Corp., Fujifilm Corp. v. Motorola Mobility LLC, etc.. talk about compounded damages. **Neonode could argue that with the 2€ per unit of the 879 patent, could invest and improve his smartphones and become a bigger player if the patents were not infringed. Its a compensation for lost opportunity.**

Intel tried to argue that since VLSI is not using this patents Intel doesn't have to pay. Albright [invalidated](#) the argument by stating that regardless of the use, patent infringements must be compensated. In other words, according to Albright, the plaintiffs strategy and goals does not diminish the importance of the infringement. In eBay Inv v. MercExchange, SCOTUS ruled that its important to distinguish damages from irreparable damages. **SCOTUS, unanimously determined that an injunction should not be automatically issued based on a finding of a patent infringement.**

HOW MUCH

According to the Supreme Court, a federal court must still weight the “four factor test” as it follows:

1. The plaintiff has suffered irreparable injury: in Neonode its difficult to say because it could become a billion company with the use of royalties, but for SCOTUS “. So **in Neonode case its not clear** “*plaintiff’s willingness to licence its patents and its lack of commercial activity in practicing the patents would be sufficient to establish that the patent holder would not suffer irreparable harm if an injunction did not issue [...] some patent holders such as university researchers or SELF-MADE INVENTORS, might reasonably refer to licence their patents, rather than undertake efforts to secure the financing necessary to bring their works to market themselves*”, since the **inventors founded Neonode because of this patents**. As we have seen also, according to Albright, it doesn't matter if the plaintiffs are using the patents. In the verdict we are optimistic but in an appeal it would be more difficult, to make our point.
2. Remedies available at law are inadequate to compensate that injury: In Neonode case we think that yes. According to law damages can only be claimed for only 6 years. Neonode could have been a big company. Thomas Eriksson, in his [testimony](#), puts the iPhone as a prove of Apple using the 879 and 993 patents. So its not impossible to say that a part of Apple could be attributed to Neonode, and there is no damage that can compensate this opportunity of becoming a multi billion dollar company.
3. Considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted: Apple and Samsung are much larger than Neonode
4. The public interest would not be disserved by injunction: Neither Apple nor Samsung Will stop selling his products in US. Both companies holds enough cash to pay for penalties. US citizens will not be affected by this case.

THE 993

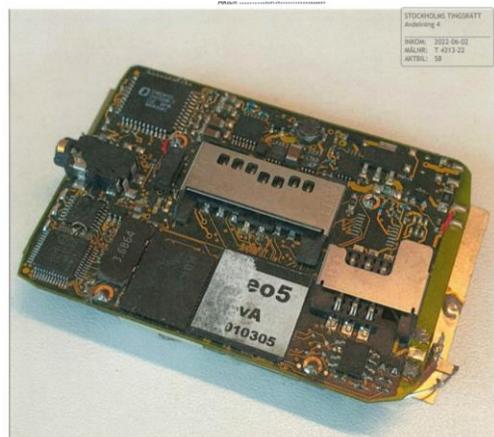
The 2€ per unit can be proved only for the 879. The 993, still offers upside, but calculating damages is more difficult because in the IPR we couldn't prove nexus with the licence deal. For now, the 993 is [lost](#). The patent was appealed because it did not take in count the evidence seen in the Discovery. We think that with the [new evidence](#) Neonode has Good chances of winning.

A brief summary of the new evidence. In the [testimony](#) of Magnus Goertz, we know that in **march 2001, Neonode already was developing a prototype** and it didn't include a touchscreen because the functions that they wanted could not be done with the screens of the time. This is a strong indication that Neonode was already working in the patents and therefore they show prior art against Hisatomi and Gillespie.

Neonode also showed other indications of prior art, such as marketing material. **Neither Samsung nor Apple challenged the dates so we see this as a good indication.**

If you want more information in the 993 patent, we have discussed the 993 patent and their chances of being successful [here](#) (for premium users only), and [here](#) (for free).

In summary we think that there is good odds of winning also the 993, but **we must wait and see if the judges agree with us.**



T H E 9 9 3

If we loose in the 993, in our opinion its not the end of the world. **Only with the 879 we can prove 2€ per unit in damages.** The 993, however offers more upside. If we prevail it will have also value. In the 993, **it will be more difficult to prove infringement, and it will be more difficult to prove treble damage.**

If infringement is found **we could reclaim damages for lost benefits as we have seen or we could reclaim a reasonable royalty.** We think that a reasonable royalty would be around 100 basic points. However it will be “easy” for Samsung and Apple to fight the argument and try to pay less, much less. As we have seen, the 879 represents on average only 30 basic points. If we are conservative we could say that the reasonable royalties for the 993 would be around 10 basic points on average or \$0,8 per unit. If Neonode tries to argue lost benefits, damages are going to be really speculative, so we will not waste time trying to figure it out.

I T I S P O S S I B L E ?

If we are right, **we are talking about one of the biggest patent lawsuits if not the biggest in history.** As we have seen, in Apple v. Samsung, damages was set for **\$1B** and in VLSI Technologies LLC v. Intel damages has been set of **\$2,18B**. We want more. **Paying large sums of money in damages is rare, but not impossible.**

Other similar lawsuit could be [California Institute of Technology \(Caltech\) v. Apple](#). In this case initiated in 2016, Caltech, alleged that millions of iPhones, iPads, and other devices like Apple Watches were using WIFI chips that infringed its data-transmission patents (7,116,710, 7,421,032, 7,916,781, these patents invented a revolutionary type of error correction coding, invented in early 2000). It also sued other companies like Broadcom. After an IPR process, the PTAB cancelled the 781, but the other two prevailed. Finally, The California Institute **won \$837,8 from Apple and \$270 from Broadcom.** But The California Institutes [want even more](#) and want the double, compounding the royalties. Caltech has also filed lawsuits against other companies like Microsoft, Samsung, Dell and HP. Damages, were estimated calculating a reasonable royalty. For calculating this, Caltech based on the quantity it could have earned licencing for Apple and Broadcom based in a [contract](#) between Apple and Broadcom. The royalties **were of \$1,4 for Apple and \$0,26 for Broadcom.** These royalties rates were applied to sales of accused products form May 2010 through August 2019 for Broadcom and through September 2019 for Apple. In this [case](#) the infringing units were “**only**” of **~600 Millions** and applies mainly the following units: iPhone SE, iPhone 6S, iPhone 6S Plus, iPhone 6, iPhone 6 Plus, iPhone 5C, iPhone 5S, iPhone 5, iPad Air, iPad Air 2, iPad Pro, iPad Mini 4, iPad Mini 3, iPad Mini 2, MacBook Air, Apple Watch.

In other case, in VirnetX v. Apple, we have see that **after 4 years, Apple lost and VirnetX, was awarded first \$368 million, and then \$502,6 million in damages.** We can also see other big patent cases. In 2013, **Microsoft was awarded \$1 billion in damages against Motorola** for infringement of its patents related to wireless and video technology. In 2015, **Ericsson was awarded \$750 million in damages against Samsung** and in 2017, **Qualcomm was awarded \$723 million in damages against Apple** for infringement of its patents related to mobile phone technology.

Even if we assume the sum of Qualcomm, **Neonode would receive around \$260 million after tax,** and current market cap is around \$170 millions.

VALUATION

In the US, Apple and Samsung, account for more than 80% of market share. Since 2018, Apple doesn't disclose the number of units sold, but more or less we assume that Samsung and Apple have sold 100 millions of smartphones units per year and 12 millions of Tablet units. Redeye, assumes 110 millions of smartphones and 28 millions of tablets. In order to be conservative, and contrary to Redeye, we assume that we will not see any extension in damages in the 879.

We also think that treble damage in the 879 is clear for both Samsung and for Apple. Starting with Samsung, as we have said, with the licence deal, the conscious violation of the patent its clear. The judges affirmation of nexus between the licence deal and the 879 only makes this point stronger. Also, in the past, Samsung, has used the 879 and the 993 patents to prove prior art against Apple in 2011, so the **infraction is doubly made**. We think it will be really difficult for Samsung to try to defend that it did not know the patents. For Apple, its also clear in our opinion. First of all, Apple also used the 879, in Motorola v. Apple, in 2012, so **they knew that it existed**. Also, as we have seen in the testimony of Thomas Eriksson, he openly says that **20 Apple engineers stole their touchscreen technology** (the 879 and 993 patents) and although this does not prove the conscious violation of the patents, it is a good indication that Apple knew about the patents or at least that it have violated these patents. Just like Steve Jobs said *“Good artists copy, great artists steal”*. To succeed in this argument, Neonode should probe by evidence in the court. Even if we could not provide enough evidence to prove this, its a strong indication of the patent infringement. Finally in 2017, **Neonode tried to sell the patents to Apple** and they refused, but they made the due diligence and knew that they were infringing the patents. We think that Apple did not buy Neonode’s patents because back then we didn’t have all the evidence we have now and maybe they thought that Neonode would not prevail in a trial. **If we loose the treble damage we could ask to be awarded in prejudgment interest and be compounded**. As SCOTUS said in Gen. Motors Corp. v. Devex Corp *“prejudgment interest should ordinarily be awarded where necessary to afford the plaintiff full compensation for the infringement”*.

So, we assume that in total, the **infringing devices account 672 million units**. As we have seen in Caltech v. Apple, the devices in this case are much larger, and not only Apple has infringed more devices, but we have also Samsung, but in other to be conservative we are counting similar numbers of units. We also assume that we see a **dilution of 20%** in the number of shares, and number of shares increase by 2,7 million given the need of cash of the company and the stock options. We also assume 25% of taxes. As we have seen previously, zForce technology has more tan one patent, like the 732, and despite that nexus between the 879 and the licence deal is clear, **Apple and Samsung could try to low the 2€ per unit**. Doing this will open the door for **another lawsuit**, but would low the damages. We assume that in this scenario (form our point of view it is unlikely) the 879, could be around 35% of the 2€ (or \$2,17) and therefore has a value of \$0,75.

Device	Base Case 879 patent	
	Number of units sold	2,17
Smartphones	600	1.302
Tablets	72	156
Total	672	1.458
Litigation costs		(75)
Net proceeds		1.383
Neonode share 50%		692
Treble damage		2.075
Net proceed after tax (25%)		1.556
Number of shares		16
Per share		96

Device	Base Case 879 patent	
	Number of units sold	0,75
Smartphones	600	450
Tablets	72	54
Total	672	504
Litigation costs		(75)
Net proceeds		429
Neonode share 50%		215
Treble damage		644
Net proceed after tax (25%)		483
Number of shares		16
Per share		30

VALUATION

In total, our target Price in a full win, and counting only the 879 and only Samsung and Apple, would be **between \$30 per share or \$96 per share**. But there's other companies that have infringed the 879 patent. We assume that **removing Samsung and Apple there is at least another ~200 devices that have infringed the patents in the US**. We think that **we could prove treble damage against some companies**, like Motorola (for Motorola v. Apple), but it would be more difficult for other companies. With this 200 devices more, it would **increase potential by \$8,3 per share** if we **assume no treble damage** and the same share and litigation cost assumptions (litigation cost would be lower) and the \$2,17 per unit in damages. If we assume that damages would be \$0,75 per unit for the 879 it would **add \$1,7 per share**.

If we prevail in the 993, we could also win more money. **Damages in the 993 are highly uncertain**. If we use lost profit damages model, we could earn a lot of money and add more billions in damage, because usually, **lost profits are based on market share and we are against the two biggest smartphones companies**. In other of being conservatives, in the 993 we assume that a reasonable royalty would be around \$0,8 (a royalty of only 0,10%). The number of devices could be lower than the 879, because its not clear if some smartphones have the 993 in place, and Apple and Samsung could try to narrow the scoop. Taking this in mind and in order of being conservative, we would assume "only" 500 million of infringing devices.

Therefore, we think that if we win the 993 in the IPR process and we can prove infringement, we could **add other \$5 per share with no treble damage**. In order of being conservative we will only count Samsung and Apple and not other companies.

But there's more. As we have seen in the licence deal, **zForce technology its not only Hardware, its also Software**, and the patents also cover this.

Device	Base Case 993 patent	
	Number of units sold	0,8
Smartphones	460	368
Tablets	40	32
Total	500	400
Litigation costs		(75)
Net proceeds		325
Neonode share 50%		163
Net proceed after tax (25%)		122
Number of shares		16
Per share		7,5

So, **we could see a litigation against Alphabet for its Android Operating System**, and not only for being the owner of Motorola for three years. If this is true, we could claim damages in **~45% of the smartphones sold in the US**, since it is Android's market share. In order of being conservative we would assume only a reasonable royalty of only \$0,4 per unit, and we also will assume fewer units because it will be more difficult to prove infraction. Therefore we will assume only 300 infringing smartphones devices 30 infringing tablet devices. As we see it, if Alphabet has tried to kill the 879 patent its because it have reasons to do it. If the litigation costs, remain the same, and we assume no treble damage and taxes of the 25%, and also the 20% dilution, we could see another \$1,3 per share more.

So putting it all together, **we think it its fair to say that Neonode's \$NEON fair price will be between \$39,6 per share or \$112,7 per share**. If we see a bull case scenario, **damages can be compounded, and we could also see more infringing devices, and treble damage in the 993, so reward could be much higher**. With Apple we could ask more than 2€ per unit, because **infringes both the Hardware and the Software**.

On the other hand, in a bear case **we could loose all litigations, or settle for a ridiculous sum**. We think that in a case of a settlement with all companies, Price targets could be between **\$14 or \$40 per share**. If we loose in the courts, Neonode stock should have a **dramatic drop**, as we think that **the business of Neonode its worth only a couple of millions** (between \$10 million and \$40 million), and the market cap its mainly the Price of the litigation option. In our case **we assume a value of \$0**.

Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
879 others	8,3	1,2
879 Alphabet	1,3	1,3
993 S&A	7	7
993 others	-	-
Total	112,7	39,6

VALUATION

Jury damages awards, unless the product of passion and prejudice, **are not easily overturned or modified on appeal** (Weinar II v. Rollform Inc, Ichardson v. Suzuki Motor) unless the amount is grossly excessive or based in speculation. We think that in Neonode's case the 2€ per unit is fair and justified. Courts has adopted the maximum recovery rule (Oiness v. Walgreen C, Shokle v. Arcan Inc., Unisplay SA v. American Elec etc.), and **requires to award to the highest amount the jury could have awarded based on evidence**, again, in Neonode's its really easy to prove with the licence deal. But law permits a new trials if damages are excessive. We think this is not the case and **damages are huge, but not excessive**.

But if we see a new trial, **we could see less damages and all the process would be delayed**. We are suing two of the most powerful and experienced companies in the world and therefore **we can expect a hard battle**. In this kind of trials, new information can change everything, and since **we can not predict this new information, all potential profits are highly speculative and risky**. Winning in such a big way is rare.

On average patent trials last approximately two and a half years. **We expect that Samsung and Apple will fight hard and therefore we expect that will take approximately four years**. This is in line with other similar cases as we have seen previously. We expect that suing other companies will take two years, because **once a verdict is rendered, things usually go faster and we see less risk**. In our model we assume that Neonode will **start other trials once we have seen a win in Samsung and Apple** and set a path for victory, **so the number of periods we take in mind for other cases is 6 years**. Also, we discount the Samsung and Apple case to an **appropriate discount rate in relation to risk (30%) and the other cases at a les risky rate (20%)**.

With that, we think that Neonode **\$NEON present value should be between \$14 and \$40 per share**. If we assume that Neonode stock will be trading at **half of the net present value according to the risk, our target Price is between \$7 per share and \$20 per share**. Right now, Neonode is trading at ~\$12 per share, and therefore **we think that shares are undervalued and should be trading around \$20 per share, or a 66% higher**.

If the 993 is lost, our Price target would be between \$5,6 and \$18,3 per share, so its not meaningful.

Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 4 years	33	10
879 others	8,3	1,2
Discount 20% 6 years	2,8	0,4
879 Alphabet	1,3	1,3
Discount 20% 6 years	0,4	0,4
993 S&A	7	7
Discount 30% 4 years	3	3
993 others	-	-
Discount 20% 6 years	-	-
Total	39,3	13,8
Price/PV	0,5	0,5
Target price	19,7	6,9

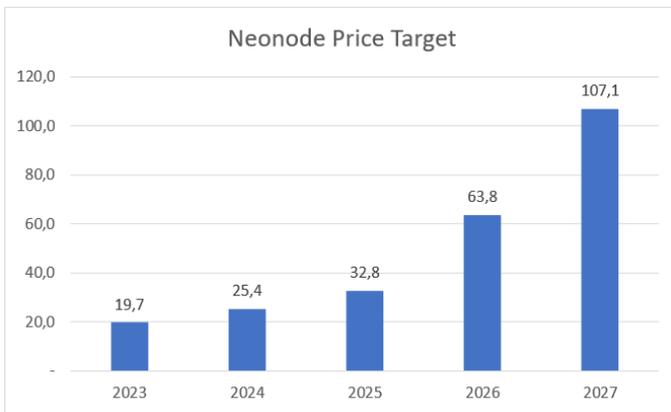
It's worth mentioning that we think that this assumptions are **fair and conservative**. We think that it **will be hard not to see at lease the 2€ per unit**. Not only we are not counting **inflation** but we are also assuming that damages won't be **compounded**. We will not be surprised if Neonode is trading above our price target. **We prefer to be conservative and rejoice if we see any positive event than not to be too optimistic and be disappointed**. We must remember, that **Magnus Goertz, was talking about a \$50 billion case**. Also, a **\$2,17 royalty means only a 0,3% royalty**. If our target royalty was 50 basic points (the average according to Microsoft), we could ask **\$3,6 without treble damage**.

If we loose in any trial we also expect a big drop in share price. **It's an asymmetric bet, but risks are high** and we think that any investor in Neonode should be aware of this. If we win, we Will make a ton of money, but this kind of bets usually go wrong. We think that this is important to remark. **We will not weight our scenarios because we think that this is an all or nothing bet, and therefore makes no sense to try to weight target prices**.

VALUATION

These are our target prices. It is important to point out that the expected volatility is going to be very high in our opinion, because in these cases any new information could be key and change everything.

Neonode	2023	2024	2025	2026	2027
Price target	19,7	25,4	32,8	63,8	107,1
P/PV	0,50	0,50	0,50	0,75	1,00
Potencial	54,37%	99,42%	157,73%	400,84%	741,07%



2023		
Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 4 years	33	10
879 others	8,3	1,2
Discount 20% 6 years	2,8	0,4
879 Alphabet	1,3	1,3
Discount 20% 6 years	0,4	0,4
993 S&A	7	7
Discount 30% 4 years	3	3
993 others	-	-
Discount 20% 6 years	-	-
Total	39,3	13,8
Price/PV	0,5	0,5
Target price	19,7	6,9

2024		
Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 3 years	44	13
879 others	8,3	1,2
Discount 20% 5 years	3,3	0,5
879 Alphabet	1,3	1,3
Discount 20% 5 years	0,5	0,5
993 S&A	7	7
Discount 30% 3 years	3	3
993 others	-	-
Discount 20% 5 years	-	-
Total	50,8	17,9
Price/PV	0,5	0,5
Target price	25,4	8,9

2025		
Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 2 years	57	18
879 others	8,3	1,2
Discount 20% 4 years	4,0	0,6
879 Alphabet	1,3	1,3
Discount 20% 4 years	0,6	0,6
993 S&A	7	7
Discount 30% 2 years	4	4
993 others	-	-
Discount 20% 4 years	-	-
Total	65,6	23,2
Price/PV	0,5	0,5
Target price	32,8	11,6

2026		
Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 1 years	74	23
879 others	8,3	1,2
Discount 20% 3 years	4,8	0,7
879 Alphabet	1,3	1,3
Discount 20% 3 years	0,8	0,8
993 S&A	7	7
Discount 30% 1 years	6	6
993 others	1	1
Discount 20% 3 years	0	0
Total	85,0	30,2
Price/PV	0,75	0,75
Target price	63,8	22,6

2027		
Price target \$NEON	\$2,17	\$0,75
879 S&A	96	30
Discount 30% 0 years	96	30
879 others	8,3	1,2
Discount 20% 2 years	4,8	0,7
879 Alphabet	1,3	1,3
Discount 20% 2 years	0,8	0,8
993 S&A	7	7
Discount 30% 0 years	6	6
993 others	1	1
Discount 20% 2 years	0	0
Total	107,1	37,0
Price/PV	1,0	1,0
Target price	107,1	37,0

INFRINGING DEVICES

We think that these are the infringing devices that Will count in the court case (all smartphones made since 2014). We are not counting tablets and other devices that could also infringe the patents such as the Apple Watch.

Apple: iPhone 6 iPhone 6+ iPhone 6s iPhone 6s + iPhone SE iPhone 7 iPhone7 + iPhone 8 iPhone 8 + iPhone X iPhone XR iPhone XS iPhone XS Max iPhone 11 iPhone 11 Pro iPhone 11 Pro Max iPhone SE 2nd iPhone 12 mini iPhone 12 iPhone 12 Pro iPhone 12 Pro Max iPhone 13 mini iPhone 13 iPhone 13 Pro iPhone 13 Pro Max iPhone SE 3rd iPhone 14 iPhone 14 Plus iPhone 14 Pro iPhone 14 Pro Max.

Samsung: ATIV SE G3812B Galaxy S3 Slim Galaxy A3 Galaxy A3 Duos Galaxy A5 Galaxy A5 Duos Galaxy Ace 4 Galaxy Ace 4 LTE Galaxy Ace NXT Galaxy Ace Style Galaxy Ace Style LTE Galaxy Alpha Galaxy Avant Galaxy Beam2 Galaxy Core II Galaxy Core Lite LTE Galaxy Core LTE Galaxy Core Prime Galaxy Grand Neo Galaxy Grand Prime Galaxy Grand Prime Duos TV Galaxy K zoom Galaxy Mega 2 Galaxy Note 3 Neo Galaxy Note 3 Neo Duos Galaxy Note 4 Galaxy Note 4 Duos Galaxy Note Edge Galaxy Pocket 2 Galaxy S3 I9301I Neo Galaxy S5 Galaxy S5 (octa-core) Galaxy S5 Active Galaxy S5 CDMA Galaxy S5 Duos Galaxy S5 G9009D Galaxy S5 LTE-A Galaxy S5 mini Galaxy S5 Plus Galaxy S5 Sport Galaxy Star 2 Galaxy Star 2 Plus Galaxy Star Trios S5283 Galaxy V Galaxy W Galaxy Young 2 SM-G130 I8200 Galaxy S III mini VE I9300I Galaxy S3 Neo Z Galaxy A3 (2016) Galaxy A5 (2016) Galaxy A7 Galaxy A7 (2016) Galaxy A8 Galaxy A9 (2016) Galaxy E5 Galaxy E7 Galaxy Folder Galaxy Grand Max Galaxy J1 Galaxy J1 4G Galaxy J1 Ace Galaxy J2 Galaxy J3 Galaxy J5 Galaxy J7 Galaxy Note 5 Galaxy Note5 (CDMA) Galaxy Note5 Duos Galaxy On5 Galaxy On7 Galaxy S4 mini I9195I Galaxy S5 Neo Galaxy S6 Galaxy S6 (CDMA) Galaxy S6 Active Galaxy S6 edge Galaxy S6 edge+ Galaxy S6 edge+ (CDMA) Galaxy V Plus Galaxy XCover 3 Z1 Z3 Galaxy A8 (2016) Galaxy A9 Pro (2016) Galaxy C5 Galaxy C7 Galaxy C9 Pro Galaxy Express Prime Galaxy Grand Prime Plus Galaxy J Max Galaxy J1 (2016) Galaxy J1 Mini Galaxy J1 mini prime Galaxy J2 (2016) Galaxy J2 Prime Galaxy J2 Pro (2016) Galaxy J3 Pro Galaxy J5 (2016) Galaxy J5 Prime Galaxy J7 (2016) Galaxy J7 Prime Galaxy J7 Prime 2 Galaxy Note 7 Galaxy On5 Pro Galaxy On7 (2016) Galaxy On7 Pro Galaxy On8 Galaxy S7 Galaxy S7 (CDMA) Galaxy S7 active Galaxy S7 edge Galaxy S7 edge (CDMA) Z2 Z3 Corporate Edition Galaxy A3 (2017) Galaxy A5 (2017) Galaxy A7 (2017) Galaxy A8 (2018) Galaxy A8+ (2018) Galaxy C5 Pro Galaxy C7 (2017) Galaxy C7 Pro Galaxy J2 (2017) Galaxy J3 (2017) Galaxy J3 Emerge Galaxy J5 (2017) Galaxy J7 (2017) Galaxy J7 Max Galaxy J7 Nxt Galaxy J7 V Galaxy Note 8 Galaxy Note FE Galaxy S8 Galaxy S8 Active Galaxy S8+ Galaxy Xcover 4 Z4 Galaxy A6 (2018) Galaxy A6+ (2018) Galaxy A6s Galaxy A7 (2018) Galaxy A8 Star (A9 Star) Galaxy A8s Galaxy A9 (2018) Galaxy A9 Star Galaxy Grand Prime Pro Galaxy J2 Core Galaxy J2 Pro (2018) Galaxy J3 (2018) Galaxy J4 Galaxy J4 Core Galaxy J6 Galaxy J4+ Galaxy J6+ Galaxy J7 (2018) Galaxy J7 Duo Galaxy J7 Pro Galaxy J8 Galaxy Note 9 Galaxy On6 Galaxy S Light Luxury (S8 Lite) Galaxy S9 Galaxy S9+ Galaxy A01 Galaxy A10 Galaxy A10e Galaxy A10s Galaxy A2 Core Galaxy A20 Galaxy A20e Galaxy A20s Galaxy A30 Galaxy A30s Galaxy A40 Galaxy A50 Galaxy A50s Galaxy A51 Galaxy A60 Galaxy A70 Galaxy A70s Galaxy A71 Galaxy A80 Galaxy A90 5G Galaxy Fold Galaxy Fold 5G Galaxy M10 Galaxy M10s Galaxy M20 Galaxy M30 Galaxy M30s Galaxy M40 Galaxy Note 10 Galaxy Note 10 5G Galaxy Note 10+ Galaxy Note 10+ 5G Galaxy S10 Galaxy S10 5G Galaxy S10+ Galaxy S10e Galaxy Xcover 4s Galaxy Xcover FieldPro Galaxy A Quantum Galaxy A01 Core Galaxy A02s Galaxy A11 Galaxy A12 Galaxy A21 Galaxy A21s Galaxy A31 Galaxy A41 Galaxy A42 5G Galaxy A51 5G Galaxy A71 5G Galaxy A71 5G UW Galaxy F41 Galaxy J2 Core (2020) Galaxy M01 Galaxy M01 Core Galaxy M01s Galaxy M11 Galaxy M21 Galaxy M21s Galaxy M31 Galaxy M31 Prime Galaxy M31s Galaxy M51 Galaxy Note 10 Lite Galaxy Note 20 Galaxy Note 20 5G Galaxy Note 20 Ultra Galaxy Note 20 Ultra 5G Galaxy S10 Lite Galaxy S20 5G Galaxy S20 5G UW Galaxy S20 FE Galaxy S20 FE 5G Galaxy S20 Ultra 5G Galaxy S20+ 5G Galaxy Xcover Pro Galaxy Z Flip Galaxy Z Flip 5G Galaxy Z Fold2 5G Galaxy A02 Galaxy A03 Core Galaxy A03s Galaxy A12 (India) Galaxy A12 Nacho Galaxy A13 5G Galaxy A22 Galaxy A22 5G Galaxy A32 Galaxy A32 5G Galaxy A52 Galaxy A52 5G Galaxy A52s 5G Galaxy A72 Galaxy A72 5G Galaxy A91 Galaxy F02s Galaxy F12 Galaxy F22 Galaxy F42 5G Galaxy F52 5G Galaxy F62 Galaxy M02 Galaxy M02s Galaxy M12 Galaxy M21 2021 Galaxy M22 Galaxy M32 Galaxy M32 5G Galaxy M42 5G Galaxy M52 5G Galaxy M62 Galaxy Quantum 2 Galaxy S21 5G Galaxy S21 Ultra 5G Galaxy S21+ 5G Galaxy Wide5 Galaxy Xcover 5 Galaxy Z Flip3 5G Galaxy Z Fold3 5G W22 5G Galaxy A03 Galaxy A04 Galaxy A04e Galaxy A04s Galaxy A13 Galaxy A23 Galaxy A23 5G Galaxy A33 5G Galaxy A53 5G Galaxy A73 5G Galaxy F13 Galaxy F23 Galaxy M04 Galaxy M13 (Global) Galaxy M23 Galaxy M33 5G Galaxy M34 5G Galaxy M53 Galaxy S20 FE 2022 Galaxy S21 FE 5G Galaxy S22 5G Galaxy S22 Ultra 5G Galaxy S22+ 5G Galaxy Xcover Pro 2 Galaxy Xcover6 Pro Galaxy Z Flip4 Galaxy Z Fold4.

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