

Podcast Transcript - 5G FWA Update: Connecting Next Half Billion Households

[00:00:10] **Jan:** Hello everyone, and welcome to The Counterpoint Podcast. I'm your host. Jan Stryjak and today we are going to talk about FWA or Fixed Wireless Access. In our previous podcast on FWA in 2020, we scratched the surface discussing how this killer app for 5G is helping in bridging the digital divide globally. In the latest episode today, we will dive a little deeper to talk about developments, trends, and momentum in the FWA space that we have covered in our latest report.

So with me today is Senior Analyst. Tina Lu, who is joining us from Argentina. She looks after our LATAM research. Hello, Tina, how are you?

[00:00:48] **Tina:** Hi Jan. How are you?

[00:00:50] **Jan:** I'm great. Thank you. And we also have senior analyst Parv Sharma joining us from India. He tracks the semiconductor market focusing on telecom, IoT and, the smartphone industry.

Hello, how are you?

[00:01:03] **Parv:** Very well, Jan, thank you. How are you?

[00:01:06] **Jan:** Yep. Very good. Thanks. Okay, so let's get started. So Tina, before we talk about FWA in detail, can you tell us a little bit about the current broadband connectivity situation?

[00:01:19] **Tina:** Thank you for the question. Yes. So just to give a little bit of background how the connectivity scenario is currently worldwide, last year we said that about 48% of the household around the world have access to fixed broadband. Now we have 49% of households around the world have fixed broadband access.

But this is including China. When we get China out of the whole equation, now we see that only 32% of the household have fixed broadband access by the end of 2021. So that is the big gap between the households having access to fixed broadband. Just thinking 68% of the household around the world do not have fixed broadband access and

going to the next level, even that this 32% of the household that has fixed broadband access, the currently the most used technology is DSL.

Especially in Europe, the Middle East and Africa, and APAC, obviously excluding China. So now when we look at this, then after the pandemic, we realize that this technology need an upgrade, As the users start demanding. Faster speed than 100Mbps and then more people accessing within a household. Then it's pushing to newer technology and faster technologies, which is fiber or FWA.

So this is how the connectivity scenario around the world is right now.

[00:03:05] **Jan:** Okay, great. Thanks for those insights. And. So you mentioned FWA. So, FWA has been touted as a killer app for closing the digital divide. Can you tell us why that is?

[00:03:16] **Tina:** Yes. So Fixed Wireless Access (FWA), it's not a new technology. We already seen two generations of solutions first with WiMax and then after that, the 4G or LTE that we have previously, and now this is the third iteration. So is the 5G.

And previously did not fly as much because it was not fast enough, but right now, as we say we need faster technology and 5G definitely provide that speed, that latency and, the bandwidth needed to the current usage, even future usage of fixed broadband access. And one of the biggest technology using that it's laying out, right now's fiber is very costly, especially in rural areas, even in urban areas that is just not possible to the layout of the fiber, like in Europe. So this FWA, it makes sense for the last mile. And besides, the 5G is not as costly as fiber it's that operator already have to lay out this network.

So operator currently have extra or idle excess capacity. And that is they put it to use, to offer fixed broadband. On the other hand, operators spend lot of money to lay out this 5G network, but the return has not brought too much extra income to the operator. So operator looking to new ways to monetize that network that has been laid out.

And so this is like a win-win situation for both sides. Operators can monetize it and have extra income on that network and the users or their consumers have access to newer technology and faster technology and cheaper technology. So that's the win-win situation. And that's what we call the killer app.

[00:05:32] **Jan:** Thanks. So we're seeing good growth in FWA. And you've mentioned some of factors there, but can you cover some of the main factors driving the growth of FWA?

[00:05:42] **Tina:** Yes, certainly. So as I say before this is most of the connections that we have right now, actually furthermore, 21%. I mean, so it's the highest percentage of the current connection right now is in VDSL, and VDSL right now is good enough for the current usage of fixed broadband, but going forward between 2024 and 2025, this is not going to be. Because VDSL cannot offer more than 100Mbps speed and FWA can certainly cover that need and provide that speed as a cheaper solution. That's why this is going to drive and.

And all the operators around the world are moving into 5G network and 5G technology. So this is what is driving the need. I mean, we need a cheaper technology and cheaper plans and FWA can offer that. Fiber is very costly. It's. certainly the best technology, but it's very costly.

And as I mentioned before, the last mile connection for sometimes, you know, the backbone is, would be fiber, but then last mile connection would be using 5G technology. Think about places like that vast area, like the US in which you have urban areas, but then you have big areas in between.

Those big urban areas though, then, or a lot of households in the rural area, then those places make sense to have, or there is no enough fiber laid out. So we see that's what it's driving the need. It's faster speed technology and cheaper technology.

[00:07:38] **Jan:** Okay. Very good. Thanks Tina. So let's move over to Parv and let's talk about CPE or Customer Premises Equipment. Now we've talked about the growth of FWA, but can you tell us more about how the pricing of CPE affects the growth of FWA?

[00:07:55] **Parv:** Yeah pricing is a very important factor as we look into the overall broadband ecosystem. So how these CPEs end up with the consumer is that it's usually bundled by operators.

So the normal consumer doesn't go and buy CPE on their own, unlike smartphones or some other devices. The price is very important. So it is kind of bundled in with the plan currently, if we look at the 5G CPE prices, if these were closer to somewhere around \$550 last year, and this

year we expect these prices to come below \$500, somewhere around \$480 \$460.

There are a couple of factors here due to which these prices are higher. So one of the important factor here is that because of initial millimeter wave being popular in us and the BoM cost of these devices were very high. And now as Sub-6 is being rolled out and the pricing is falling.

But overall, if we take a look at these CPEs or router or gateways for homes, so these are now more advance. and have multiple features built-in. So they like they can control a smart home or they can offer Wi-Fi 6 with mesh solutions. So that drives the price a bit higher. So if we compare these with the latest LTE CPEs that are available currently, so that would be somewhere around even a hundred dollars or even less than a hundred dollars.

So unless the prices fall below this a \$100 or closer to a \$100 for 5G that will drive a huge momentum towards the growth of overall FWA ecosystem.

[00:09:40] **Jan:** Got it. And is the FWA CPE ecosystem changing? Especially in the US after all the, all the limitations?

[00:09:48] **Parv:** Yeah. Specifically, if we talk about the overall ecosystem closer to like around 1000 models currently are available for lease. Currently, as per the GSA reports around 80 plus operators have launched FWA. More than 400 operators are offering 4G FWA services. So overall, if we look at from that perspective, a lot of newer vendors are entering the ecosystem. And currently, for 5G, we have 72 or even more, more than 72 vendors.

And for LTE, we have closer to 100 vendors delivering these CPEs. Specifically, if we talk about us, most of these operators, what they're doing is that they're partnering with Taiwanese ODMs, like Wistron, Arcadian, and they are launching their own white-label devices with either Verizon or T-Mobile branding on, on top of it.

So they are tweaking and designing their own solutions need basis. Like if it is a millimeter wave spectrum device, or if it is a Sub-6 spectrum device, but overall, if we see they are moving away from Chinese vendors which previously in LTE, there were a lot of Chinese vendors, but due to recent political issues and the trade issues most of these operators are

looking to design their own, either partnering with ODMs or using OEMs like Inseego Casa systems and so on.

[00:11:14] **Jan:** Great. Thanks Parv. I'll come back to you to talk a bit more about CPE, but before that, Tina, can you tell us about the global 5G FWA versus 4G FWA subscription forecast that you've covered in your recent report?

[00:11:29] **Tina:** Yes. Jan. So we expect overall 4G and 5G FWA subscription to reach 466 million by 2030. But right now for as 2022, the global ratio, the forecast between 4G and 5G is 17% 5G and 83% 4G. So right now, most of the FWA connection is in 4G. And as Parv mentioned before, this is because 4G is still the prevalent technology around the world, but as we are moving forward and after 2025, 2024, actually, then this ratio will turn around.

And we forecast that by 2025, 60% of the connection will be 5G FWA. So 4G FWA still have some momentum until 2024 in, especially MEA, APAC and LATAM. But after that will be turning to 5G FWA and that's going to drive the growth of this technology.

[00:12:43] **Jan:** Thanks. And can you talk about some of the key regions where you are seeing the growth of FWA? You mentioned some of them there already, but it will be also interesting to hear some of the factors that are delaying the growth of FWA and other regions too.

[00:12:56] **Tina:** Yes. Thank you. So as we look in our report, we look at each of the region, we not only look at the global level, but then also in each of the regions and we see regions.

So currently APAC, US and Europe are driving the growth of 5G FWA, specifically. US having T-Mobile and Verizon, very bullish, pushing out as you know, big operators pushing out. And, and I think they are the leading operators around the world in FWA and not only FWA 5G, but also FWA a 5G millimeter wave.

But then they're not the only one. They maybe the most we see most in the press, but then its also in, in like in Europe you have Italy Fastweb that really, you know, pushing FWA. They have a mix between fiber and FWA, you know, really bullish about it. And in APAC we see many smaller operators in Southeast Asia, but also Australia. Australia is driving the growth of their, they had been, they are the early adopters and

they had been very bullish pushing out the 5G FWA. And again look at the geography of Australia you have vast area between area and people that a lot of household that believes in the rural area, and that is what driving it for the operator is it's a better solution to, to adopt FWA.

But then moving into the last region that we seen, that's been driving also the growth of FWA in 2021 has been Middle East one side and then South Africa. They're both has been laid out massive 5G and pushing FWA in the regions. So in the, in our report, we try to go and have look at in depth. This operators, what's the partnership. What network, who are they using as CPE providers? So we look at, at extensively in each of those leading operators and what's their plan onto to drive the growth of this technology.

[00:15:26] **Jan:** Great. Thanks Tina. Now, moving back to pav, can you tell us more about the top FWA CPE players in the market?

[00:15:35] **Parv:** Yeah. Jan. So overall, if we talk about from a CPE ecosystem what we did in this report was we went through each of those CPE vendors and operator partnerships, as Tina was mentioning before, and we looked into what kind of solutions they are based upon.

So if we look at, from a chipset perspective, so if a design is based on a chipset based design, so mostly we have a Qualcomm, MediaTek & UNISOC so based solutions globally. But specifically, if we look at from a Western perspective, so mostly us EU. So we have a Qualcomm that is dominating in providing these baseband or the chipset solutions.

And then we have seen media tech entering this market with the chipset based solution. Specifically, if you look at us T-Mobile with the Arcadian CPE recently had a MediaTek T750 based chipset. So if we talk it from a global perspective, specifically, APAC, China, so UNISOC based solutions are also entering the market. And those are one of the cheaper 5G solutions, which are available right now.

So there is currently a Chinese vendor named Tozed Kangwei. So that has a product for 5G CPE of somewhere around \$150 specific to either China or the APAC region mostly Southeast Asia. Where these cheaper solutions are available. But if we look it from a overall global or, or US or the European market, these solutions are still higher because of just limited availability specifically from Qualcomm and MediaTek.

So overall, if we see module vendors are also very important in this ecosystem. So unlike the chipset based design module based designs are much easier to deploy as they enable faster time to market and they enable cheaper CPE designs. So all the leading module vendors like Quectel, Sierra Wireless. FIBOCOM and SIMCOM have solutions available for both four 4G and 5G CPEs, and they are enabling a faster time to market solutions with these module.

[00:17:40] **Jan:** Okay, thanks. So that's all the, all the questions I have. Any last comments for me to review before we wrap up?

[00:17:46] **Parv:** Yeah. Just from a overall perspective from a broadband competition and enabling the broadband connectivity, 5G FWA even 4G FWA offers a unique solution and which can be easily deployed across ruler areas or the remote places. And also it enables a suitable business model which can be enabled for providing globally broadband connectivity.

[00:18:09] **Jan:** Great. Thanks. Tina. Any final words?

[00:18:13] **Tina:** I totally agree with what Parv said and FWA definitely will help us to narrow the digital divide that we've been talking about since the pandemic started.

And so we truly believe that this technology will help more household to have access to this basic need that is fixed broadband, have a fixed broadband access, not only to work, but then to study. I mean, this will be as we going forward, then this FWA will definitely help us to have more household and people access to fixed Broadband.

[00:18:59] **Jan:** Okay, thank you. So thank you to Tina and Parv for joining me on this podcast and sharing all those great insights and for our listeners. Thanks for tuning in. Please subscribe to The Counterpoint Podcast on your favourite streaming platform, such as Google Podcasts, Apple Podcasts, and Spotify to listen to all our podcasts. You could also find our podcast on www.counterpointresearch.com

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