Thank you and good afternoon, everyone. Today's call will include prepared remarks by Steve Mollenkopf and George Davis. In addition, Cristiano Amon, Alex Rogers and Don Rosenberg will join the question-and-answer session.

You can access our earnings release and a slide presentation that accompany this call on our Investor Relations Web Site. In addition, this call is being webcast on qualcomm.com, and a replay will be available on our Web Site later today.

During the call today, we will use non-GAAP financial measures as defined in Regulation G, and you can find the related reconciliations to GAAP on our Web Site.

We will also make forward-looking statements, including projections and estimates of future events, business or industry trends, or business or financial results. Actual events or results could differ materially from those projected in our forward-looking statements. Please refer to our SEC filings, including our most recent 10-Q, which contain important factors that could cause actual results to differ materially from the forward-looking statements.

And now to comments from Qualcomm's Chief Executive Officer, Steve Mollenkopf.

Steve Mollenkopf

Thank you, Mauricio, and good afternoon everyone.

We are pleased to report a strong quarter especially in light of the challenging headwinds impacting the entire industry. Our fiscal first quarter results reflect continued execution by our team on the things within our control and influence. Our Q1 non-GAAP earnings of $1.20 per share were $0.10 above the midpoint of our guidance range. Revenue of $4.8 billion was in line with our guidance. Several positive trends enabled us to absorb the impact of general market weakness. Notably, number one, QCT's strong roadmap and financial performance in the high-end; number two, QTL's second interim agreement with Huawei; and number three, lower than expected operating expenses, which includes the impact of our cost reduction initiatives.

Our business prospects remain very healthy as 5G begins to ramp through the balance of this year and beyond. Our Snapdragon platform continues to outperform industry benchmarks and is well-positioned to successfully enable the low latency, high reliability and security requirements of 5G. We continue to extend this expertise with handset OEMs and adjacent industries of compute IoT and auto.

Our Wi-Fi business continues to gain share against longstanding incumbents in enterprise. Reliable intelligent and secure Wi-Fi will be an important part of future 5G networks. And we've introduced innovative and differentiated solutions as the market transitions to Wi-Fi 6. In parallel, we remain focused on resolving our Apple and regulatory disputes.

Before I turn the call over to George to cover our results in more detail, I want to provide an update on some important legal milestones and our ongoing efforts to defend the value of our intellectual property and drive shareholder value. As most of you know, we are one of the main architects of the wireless ecosystem and our leading investments in R&D have positioned the company at the forefront of 2G, 3G, 4G and now 5G leadership. We have one of the largest patent portfolios in the industry with more than 130,000 patents and pending patent applications worldwide. And it is critical that we protect our IP and ensure that we are appropriately compensated for our inventions and investments. Through these various legal cases, we are working to ensure this happens.

Courts in China and Germany have found Apple to be infringing our patents consistent with our prior messaging where the potential of multiple patent infringement rulings before the end of 2018. We are pursuing enforcement of the injunctions awarded by these courts and believe the decisions will be upheld on appeal. These favorable rulings demonstrate Apple's infringement across a broad range of our patented technologies that are unrelated to modem chips, but are widely used in smartphones. We expect additional favorable patent infringement decisions in the coming months in the United States, China and Germany as more of our cases go to trial.

In addition to our patent litigation there are more legal milestones ahead including the trial involving Apple and its contract manufacturers starting in San Diego in April and a separate case in California state court we filed to stop Apple's misuse and misappropriation of Qualcomm's trade secrets. We continue to believe that over the course of 2019, we will reach a resolution on the key outstanding issues in our disputes with Apple through settlement or litigation and we are prepared for both outcomes.

Yesterday, we concluded our arguments in the case with the FTC in the Northern District of California. As stated before, we believe that the FTC's case is based on a flawed antitrust theory and that it failed to meet its burden of proof for its claims. You can access the transcript of our closing arguments and the related slide presentation on our Web Site at qualcomm.com/news.

Over the course of the trial, we made a strong showing that our licensing practices are consistent with industry norms have not harmed competition and in fact the industry is thriving. We have earned or maintained our leadership in the mobile wireless industry with superior foresight, investment and execution driving superior technology solutions compared with our competitors and we have never interrupted commercial shipments of modem chips to any customer in order to obtain unfair licensing rates.

Moreover, the evidence presented at trial proved that our agreements with Apple which expired over two years ago were run-of-the-mill incentive agreements that were actually demanded by Apple in order to win its business. The trial reinforce the important role we play in the mobile industry. This is especially critical now as we enter the early innings of 5G, the first mobile generation that is truly shaping industrial policy.

In summary, we are hopeful that the law and fact-based analysis will prevail in our FTC proceedings. In parallel, we continue to look for an opportunity to reach a negotiated settlement with the FTC.

Let me now spend some time providing you an update on how we are driving the transition to 5G. We are extremely pleased with the growing 5G momentum around the world. In December, we hosted our annual Snapdragon Tech Summit and we're joined by leading 5G ecosystem partners, infrastructure vendors as well as device manufacturers. This level of representation from the mobile ecosystem is a testament to our broad industry commitment to 5G, our solutions and our leadership position. At the summit, we announced our new Snapdragon 855 mobile platform, the world's first commercial platform supporting multi-gigabit 5G and demonstrate an end-to-end 5G consumer experiences with real demos over live millimeter wave 5G networks and devices.

We also announced that the Snapdragon 855 is gaining significant momentum with over 100 design wins in development. Since the summit, 5G service has begun to roll out in Korea and the United States and as 2019 progresses we anticipate continued 5G network launches in the United States, Europe, Japan, Australia and China. We are working with more than 20 operators toward commercial rollout starting this year and we expect to be the 5G modem supplier of choice for the majority of the first wave of 5G devices.

In addition to commercial 5G service, device manufacturers are also ramping production of consumer 5G devices. At CES, we announced 30-plus commercial 5G mobile design wins based on our 5G chipsets. The majority of these designs are smartphones from global OEM featuring the Snapdragon 855 mobile platform and the Snapdragon X50 5G modem family, which are expected to launch in the first half of 2019.

Notably, nearly all of the devices related to these 5G design wins use our RF front-end solutions and we expect these design wins to have a meaningful positive impact to our RF front-end product line. Consistent with the past, 3G and 4G transitions as 5G launches in 2019 across multiple geographies, we expect the carriers to play an active role in driving the transition to 5G devices.

Turning to our adjacent opportunities, in automotive, we announced our third generation Snapdragon Automotive Cockpit platforms, which provide a multi-tier scalable architecture across tiers to expand the addressable market for our infotainment solutions. Importantly, to an automotive manufacturer a scalable architecture delivers a consistent experience across budget to mid-tier to premium car lines.

We also launched the custom-built Snapdragon 8cx Compute Platform which represents the largest generational performance increase ever for Snapdragon product. We look forward to growing this category with Microsoft and expect more announcements throughout the year.

In summary, in a challenging market QCT is continuing to execute consistent with our expectations at the beginning of the year and we are looking forward to our upcoming product launches. Finally, I want to thank our employees for their hard work and focused execution. We continue to make great progress on our important strategic objectives. We are driving the transition to 5G and we are leveraging our core technologies to expand our reach into many exciting new industries.

I would like to now turn the call over to George.

George Davis

Thank you, Steve and good afternoon everyone.

We are pleased to report solid results in our fiscal first quarter. Our revenues were $4.8 billion in the first quarter in line with our prior guidance and non-GAAP EPS of $1.20 was $0.05 above the high-end of our guidance range. Importantly, our Q1 results include a new interim agreement with Huawei, which contributed $150 million of revenue in the quarter. As discussed last quarter, our Q1 guidance had not included any contribution from Huawei because the final payment under the previous interim agreement was recognized in retained earnings pursuant to our adoption of ASC 606 in Q1.

QCT delivered revenues of $3.7 billion and an EBT margin of 16% for the quarter above our prior guidance range of 13% to 15%. The operating margin reflects improvements in gross margins and lower operating expenses driven by our continued focus on driving operating efficiencies.

MSM chip shipments of 186 million units came in modestly above the midpoint of our guidance range.

QTL generated revenues of $1 billion in the quarter including $150 million from the successful negotiation of the Huawei interim agreement. This new agreement was signed in our first fiscal quarter and runs through the third fiscal quarter of 2019.

Under the agreement, we will receive $150 million for each of those three quarters. Relative to our previous expectations, which had excluded any revenue from the interim agreement licensing revenues were lower by a $150 million to $200 million in the quarter. Given the headwinds facing the market broadly, we have reduced our global 3G, 4G device forecasts for the calendar year '18 to the low-end of our previous guidance range consistent with lower royalty units in the December quarter. Emerging regions and China were responsible for the largest shortfall in units relative to expectations although the lower levels of demand appear to be fairly widespread.

The weaker global unit market accounted for the majority of the revenue impact in the quarter along with some mix effects. Against this backdrop, we continued to demonstrate disciplined execution on our cost reduction plan. Non-GAAP combined R&D and SG&A expenses were $1.56 billion down 15% sequentially and well below the low-end of the guidance range. Maintaining our focus on our OpEx efficiency remains a top priority and we're on track to deliver against our $1 billion cost reduction plan excluding excess litigation.

Expenses in the first quarter also benefited from lower than expected litigation spend due to timing and the effects of a weaker stock market on re-evaluation of deferred compensation allegation. As a reminder, there is a corresponding offset on the deferred compensation liabilities in our investment income. So there is no net EPS benefit.

Our non-GAAP tax rate for the quarter was a benefit of 40%. This is in line with the benefit we included in our guidance for the quarter. Today, we have executed on $22.2 billion in share repurchases of the $30 billion authorization we announced last July. This includes $5.1 billion through a Dutch auction and $16 billion under our ongoing ASR programs executed in the fall of last year. As of today January 30, the ASRs are approaching 40% completion and the average repurchase price to-date is approximately $61. As a reminder, the ASR settle at the average trading price less a discount over the life of the agreements. The ASR agreements are scheduled to end in early September 2019.

Let's now turn to our financial outlook for the second fiscal quarter of 2019. We estimate fiscal second quarter revenues to be in the range of $4.4 billion to $5.2 billion and non-GAAP earnings per share to be approximately $0.65 to $0.75. We expect QTL revenues to be in the range of $1 billion to $1.1 billion including the $150 million under the interim agreement. We expect the market factors that we saw in Q1 to persist with continued softness in the handset market and weaker overall mix of devices.

We expect fiscal second quarter QTL EBT margin to be approximately 54% to 58%. In QCT, we estimate approximately $150 million to $170 million MSM chip shipments for the fiscal second quarter down sequentially as a result of typical volume seasonality, market weakness particularly in the low and mid tiers, timing of OEM product launches and overall competitive dynamics. Lower MSM units admit in low tiers is offset by favorable product mix due to seasonality and broader adoption of our newly launched Snapdragon 800 chipset. We expect this mix shift to drive significantly higher revenue per MSM in the fiscal second quarter. We expect QCT EBT margins to be between 13% and 15%.

We anticipate fiscal second quarter non-GAAP combined R&D and SG&A expenses to increase by 6% to 8% sequentially due to higher litigation spend and the impact of the counter reset of normal employee tax costs. Non-GAAP combined R&D and SG&A sequential growth is also being impacted by the expected absence of the revaluation adjustment for our deferred compensation liabilities which benefited OpEx in Q1.

We remain on track to deliver $1 billion in cost savings from our $7.4 billion baseline. At present, we have achieved approximately $850 million of savings toward our $1 billion target. However, due to excess litigation, we are tracking somewhat above the $6.4 billon run rate. Nevertheless, we are on track to deliver the $1 billion in operating savings and expect additional savings post licensing resolution as litigation costs come down.

Non-GAAP interest expense, net of investment and other income in the fiscal second quarter is expected to be approximately $100 million, which is in line with our prior guidance and is a reasonable estimate for each of the remaining quarters in fiscal 2019.

Turning to fiscal 2019, we expect our non-GAAP annual effective tax rate in fiscal 2019 to be approximately 0% and reflects both the run rate impacts of tax reform and the fiscal first quarter impacts of our tax restructuring. Excluding the first quarter benefit, we estimate a non-GAAP tax rate of approximately 12% for the rest of fiscal '19. We now expect calendar year 2018 3G, 4G device estimates to be at the low-end of our prior guidance range. For calendar year 2019, we are revising the device forecast to be in the range of 1.85 billion to 1.95 billion units which at the midpoint is a reduction of 50 million units from our prior forecast. This reduction is entirely attributable to handset market softness. We expect handsets shipments to be up 1% percent year-over-year with non-handset devices driving overall unit growth up 5% at the midpoint of guidance. Despite this, we anticipate improving conditions for our chip business in the second half of the year as a result of new product launches including devices with 5G chipsets and growth in our adjacent businesses.

That includes my comments. I will now turn the call back to Mauricio.

Mauricio Lopez-Hodoyan

Thank you, George. Operator, we are ready for questions.

Question-and-Answer Session

Thank you. [Operator Instructions] Thank you. Our first question is from the line of Chris Caso with Raymond James. Please proceed with your question.

Q - Chris Caso

Yes. Thank you. Just with regard to the MSM business and the guidance you provided, it looked like that had been running down about 20% year-on-year in December. I think your guidance reflects down 15% in March. Recognizing that that includes a rather large design loss, what would you characterize that the continuing business what would that be running on a year-on-year basis is perhaps a better indicator of the underlying business?

George Davis

This is George. Chris you're correct in citing that the real difference year-over-year in Q1 was driven by the thin modem business share change at Apple. We're actually seeing strong positioning in our products really everywhere else. And if we're seeing any weakness in the guide it's really in low tier units, which is partially seasonal and also just I think a reflection of the economy in China.

Cristiano Amon

This is Cristiano. We can add one thing. As George said we see that on the low end of the units, but we continue to see a favorable product mix towards the higher features smartphones and we expect that trend to continue especially important as we look at the launch of 5G technology towards the later part of '19 and 2020.

Operator

Thank you. Our next question is coming from the line of Mike Walkley with Canaccord Genuity. Please proceed with your question.

Mike Walkley

Great thanks. I'm going to follow on to Cristiano's comments there at the end. Could you just update us about how we should think about revenue per MSM trends? Clearly a stronger mix implied in your guidance, but could you talk maybe about the RF attach rate and what this could do to the calculation of revenue per MSM or maybe just talk about the RF opportunity and how much your RF business could grow as 5G takes off over the next couple of years? Thank you.

George Davis

Hey, Mike. It's George. Maybe I'll cover off on the revenue per MSM. What we're seeing is even with a softness in the marketplace our premium tier devices continue to be strong and growing both year-over-year and quarterly, which is really a testament to the new products. And we're also seeing continued strength in the high-end mid tier overall. So, revenue per MSM and in what is normally seasonally challenging second quarter is going to be quite healthy as your back of the envelope calculation is correct. It should be a very strong revenue per MSM and quarter for us.

Steve Mollenkopf

Mike let me just answer your second part on the RF front-end. We see right now our RF front-end business excluding the impact of Apple. Outside Apple continue to see growth continue to see double-digit growth rates in their business as we head into 2019. But most important, this trend of moving towards higher end devices especially with the transition of 5G is was one data point that we like for the absolute majority of the 5G designs we have on the recently announced 855 or the x50 modem, we have RF front-end attach and we're very pleased with their metric.

Operator

Thank you. Our next question is coming from the line of Tim Wong with BMO Capital Markets. Please proceed with your question.

Tim Wong

Thank you. If I could just ask a two parter on China. First, on the chip business there was some mention about macro and a challenging end markets would love your perspective on the market? And also, George I think you've mentioned for the QCT, the MSM sequential down competitive dynamics as one part of that. So, should we take that to read more low-end competition, or potential share loss in China?

And then, on the flip side, if we just get an update on the QTL business in China obviously the Huawei deal is pending, but could you talk a little bit about compliance and just how the licensing deals are going with the rest or the longer tail of Chinese OEMs? Thank you.

George Davis

Yes. So just to answer your question on the competitive dynamics. We continue to see pressure at some of the lower tier devices. And so, which we see down in Q2 some of it is we believe based on share loss and some is based on just the size of the market which you would typically see pullback seasonally on that. I would say China overall has been probably the -- while it's been extremely good for Qualcomm overall, if we look at '18, compared to our expectations going into '18, demand in China has been substantially lower than we would have estimated for total demand in China not speaking to our share in this case which has led us -- is one of the factors that led us to put the estimates for the calendar year '18 units down to the low-end of our guidance range from last quarter. I will let -- were you going to jump in…

Steve Mollenkopf

Yes. I'm was just going to add one thing. So, Tim on the chip business, I think there is, as George outlined, there's competitive dynamics on the low end. But the biggest factor really seasonality of product launches. So many of our customers probably have product launches in in the coming quarter and it's just typical seasonality. We've seen overall China has been a good story for us. And again, the most important thing is they move towards the higher end devices.

Alex Rogers

This is Alex stepping in on the QTL question. The story with China also is good on the QTL outside. Under our new 5G FTC licensing program, we now have over 35 new licensees or licensees signed up to the new agreements and amendments and a good significant number of those are Chinese OEMs. So, the licensing program is doing well in China including with respect to compliance.

Tim Wong

Okay. Thank you.

Operator

Thank you. Our next question is from the line of Stacy Rasgon with Bernstein Research. Please proceed with your question.

Stacy Rasgon

Hi, guys. Thanks for taking my question. I wanted to ask about the revisions to your market outlook. So, you're taking your global units down I guess to the low-end of the range a few points versus where you were. But your QTL revenues right now excluding the Huawei settlement are running 900 million give or take. That's more than 10% lower than your prior outlook which was like $1 billion to $1.1 billion. So how do I reconcile that I guess with your comments on where you're seeing the weakness in the market which seems to be more like a low end it seems to imply that ASPs would have to be down a lot given the revenue you're blushing since you're down more than the unit revision. I guess how do we think about the trends of units in ASPs playing out and what effect that's having on your QTL revenues right now.

George Davis

Yes. Really what you're seeing Stacy is the adjustment that comes from the change in reported units which is consistent with what we're seeing in the numbers that we're now using to revise our guide. I would also say in -- you get some of the dynamics in our outlook that relate to how much in a given quarter is reflected by OEMs that are not paying on their licenses and reporting and those that are. And so, one of the things that you'll see is, we're actually -- while we're seeing market conditions overall worsen in Q2 when you adjust for the Huawei payment. We're seeing modest improvement in the underlying revenue for QTL. And that really reflects the fact of the mix of the parties in there.

Stacy Rasgon

Are you seeing improvement, I mean, in Q2 of last year actual Huawei pavement you did like 965 and you're guiding [indiscernible] Huawei payment, this time 900, it is still down pretty, decently isn't it?

George Davis

You're talking about Q2 in terms of an apples to apples comparison factor.

Stacy Rasgon

Yes.

George Davis

Yes. I think again I would say the market if I did apples to apples comparison, I would say the market is down basically modestly compared to that quarter where we had that very low demand quarter out of China that we talked about. And I think that's the biggest factor, but it's -- we do see it down somewhat but not as much as you might have expected because of dynamics in -- what was effectively Q3 last year.

Stacy Rasgon

Okay. Thank you.

Operator

Thank you. Our next question is from the line of Matt Ramsay with Cowen. Please proceed with your question.

Matt Ramsay

Thanks guys. Good afternoon. I guess a couple of things. The first just to follow on to Stacy's question. I guess a lot of the data that we're seeing is globally not related to your QTL revenues, but just globally out of the smartphone market isn't great. And I guess Cristiano talked about launches in the second quarter potentially that will help that. But an up 5% unit growth for the whole industry seems a bit aggressive. And maybe that embeds growth in auto and some other areas. So maybe you could talk a little bit about what you're seeing in the market that that leads you to think the smartphone market is going to grow this year?

And then, secondly, George any additional thoughts a lot of investors asking me about additional breakouts in QCT to reflect some of the adjacency businesses in the revenue versus just one line. Any thoughts that would be helpful. Thank you.

George Davis

Yes. This is George. I'm going to take the -- I'll take a little bit on the device forecast. Just to be clear the up 5% includes non-handsets as well and that's where you're getting the growth -- the real growth year-over-year. We've said 1% growth in handsets over '18. And '18 was down 1% over '17. We're still seeing in our forecast we see continued softness we expect the developed handset demand to be down. We think that's the replacement rates as people start to think about 5G devices coming into the marketplace. And then, you're not seeing as big a impact in '19 from China as you saw in '18. But you're also not seeing quite the growth in some of the other emerging markets including India. So, we see more modest growth out of the emerging markets in '19, but overall handsets. That puts you at about flat to 1%.

Cristiano Amon

This is Cristiano. Just want to add one important data point. So, you have the overall market dynamic, but then you have the chip business, one thing that we see happening when we think of our China business and we see that accelerating as many of our customers had expended globally outside China domestic especially now from Southeast Asia, India and LATAM going into Europe, we've seen our customers starting business in U.K., Germany, Spain, Italy, Portugal and France and that's an addition and it's a good trend to the chip business. Thank you.

George Davis

And we'll look to have I think a more robust discussion on the adjacent as we get to an analyst meeting which we think is the right environment to go into that.

Operator

Thank you. Our next question is from the line of James Faucette with Morgan Stanley. Please proceed with your question.

James Faucette

Great. Thank you very much. I want to turn back to some of the comments that Steve made around licensing in asserting Qualcomm's IP portfolio. You talked about China [indiscernible] cases there. Can you just update us as to what -- how you're feeling about the need to assert and eventually put in place IP licensing over non-essential IP for the Chinese OEMs. And that is the case with Apple have any implications there? This is my first question and I guess kind of related to that how are you thinking about or specifically as it relates to Huawei and the interim payment they are been making. Can you give us an estimate of what Qualcomm estimates may be do under the previous licensing agreements? And help us understand what that delta might be. Thank you very much.

Donald Rosenberg

James. This is Don Rosenberg. I'll start, Alex may want to chime in. So, with respect you -- good point about the value of our NEPs as well as SEPs they often seem to get lost in the discussion. You probably know that actually a majority of those 130,000 or so patents that Steve -- applications that Steve referred to earlier are in fact NEPs. Also, all the lawsuits we brought around the world against Apple involve NEPs non-essential patents. And as Steve has indicated, we've been very successful so far and we've got a number of cases that are going to be rolling out over the course of this year almost every month. There's a significant milestone in terms of either hearings or final rulings in Germany and China and in the U.S. and the ITC and district courts here.

So, the value of our overall portfolio is extraordinarily high. And it's certainly something we constantly think about when we look at our licensing program. And one point that I think people often miss is that we started this licensing program what almost three decades ago and there were no standard essential patents in our portfolio at the time because we weren't even in the standard yet we were licensing that portfolio. We continued to license that portfolio essentially at the same terms as our patent portfolio grew with standard essential patents and non-standard essential patents into the numbers that Steve was talking about.

Alex Rogers

This is Alex. James let me just respond to some -- the first part of your question. I think Don is correct that we've demonstrated significant value in our non-essential patents. But I think again you have to step back and take a look at what we've done over the last four years or so. We have really done a very good job of establishing an SEP only portfolio licensing program both inside of China and now outside of China. But despite the fact that we continue to sign up significant numbers of SEP only licensees, we still have a very good number -- a very significant number of licensees that choose to keep portfolio wide agreements. And so that's a very significant mix in the overall licensing program. So, I think that the overall program is heading in the right direction. We've got a few issues to deal with in terms of the Apple litigation. But right now, I think the focus is on successfully establishing the 5G program which we have done over the course of the last 12 months.

In terms of the Huawei interim agreement that's a minimum non-refundable agreement. I don't know that I would get into the overall numbers in terms of what's at issue. I think we'll just leave it at that.

James Faucette

Great. Thank you very much.

Operator

Thank you. The next question is from the line of Ross Seymore with Deutsche Bank. Please proceed with your question.

Ross Seymore

Hi guys. Thanks for let me ask a question. I want to return to the QCT side, kind of a two-part question. First, last quarter when you guided, you cited not only the obvious issue sequentially with Apple, but also China inventory burns. So I want to see what the update was on that is the weakness you're pointing to in MSMs in 1Q. Just demand or is there inventory burn and if so how much longer will that last?

And then, the revenue per MSM side of the equation. obviously, a big pop up in your fiscal 2Q guide. How should we think about that continuing through the rest of the year? Just the 5G side obviously come in as a tailwind, and then, how does China and answer to the first part of the question potentially weigh against that. Thank you.

George Davis

Hey, Ross. This is George. Again, I think we've definitely seen sell-through ahead of sell-in continue in China. So, inventory continues to come down whether it reflects the new normal yet what we'll have to see, but that certainly was part of it. But again, the overwhelming year-over-year effect was just related to the one customer.

I think on revenue per MSM as we start to see 5G pickup and additional premium tier devices increase that's definitely going to be a tailwind for revenue per MSM. We haven't forecasted it out yet, but we think that'll certainly be a tailwind force both not only at the end of this year but as we go as we ramp 5G in 2021.

Ross Seymore

Thank you.

Operator

Thank you. The next question is from the line of Timothy Arcuri with UBS. Please proceed with your question.

Timothy Arcuri

Hi. Thanks. Question for Steve or George. There was a lot of testimony in the trial in the past couple of weeks that Apple wanted to buy your modem, but you would not sell it to them. That's for the current phones. But now, Intel is talking about the XMM 8160, which is going to ship in the back half of this year. So obviously there's going to be a performance difference, but that's a 5G modem. So, is that enough to get them to the table? Is the performance difference enough? And then, I guess as a follow-on to that what would the deadline be for them to settle, and then, be able to get your modem in their phone for the fall? Thanks.

Steve Mollenkopf

This is Steve. I would say -- we feel very, very comfortable with where our roadmap is relative to the competitors. It doesn't mean there aren't a lot of competitors out there but we feel like we have a very, very strong position across the board. And if you look at a feature set, you look at power size everything. We feel very strong about it. In terms of when a person would need to make a decision, it's hard for me to say typically you need to make decisions kind of in the first quarter of this year if you're going to impact products that are going into next year. That would be my typical side, but I couldn't speak for other folks. Some OEMs particularly the Asian OEMs move a little bit more quickly but that would be my general sense for what the timing is.

Timothy Arcuri

Okay, Steve. Thank you.

Operator

Thank you. Our next question is from the line of Blayne Curtis with Barclays. Please proceed with your question.

Blayne Curtis

Thanks for taking the question. Actually, maybe just following on that in terms of the 5G landscape you mentioned you had the majority that early wins here. Just kind of curious your visibility into next year and you just comment on the landscape how diverse the 5G landscape would be next year in shipping phone?

Cristiano Amon

Thanks. This is Cristiano. One of the things we like about 5G; 5G it's not a static target, it's a moving target. There is a multiple variations of 5G capabilities. And as soon as we launch we continue to see that increasing from sub-six to millimeter wave to new cores and care aggregation and we have now basically line of sight to a number of devices that will be continuously being added to the market as we have most developed economies launching 5G in the second half of '19. So, we're very optimistic about how fiscal '20, how significant 5G will be for us.

Steve Mollenkopf

This is Steve. I might add one other thing to that which is -- don't -- there are a number of different mode changes. If you look at how the network will operate and the number of bands that you need to deal with between now and really the next 24 months. So -- and I think if you're not involved in that at the beginning you're going to have a very difficult time, I think fielding a solution that is competitive at any given time if you show up too late that's one of the advantages of being early and one of the reasons why we try to make sure that we're there. The other aspect I think that we should also acknowledge is that I think there's a lot of concern early on with 5G, as would the handsets be at the right size or would they be at a size that that people would find attractive particularly given all the RF complication that exists.

And what we have seen from early indications that is not something to be worried about. They are very, very attractive ideas. So, I think it's going to be really an important part of the industry. The other aspect that I just make sure people remember about 5G is the economics to the operator. They really have an incentive to push this. And I think you're going to not only see that in the handsets, you're going to see that in the people selling the devices, the channels that the salespeople will be incentivized to press 5G. And so, we look forward to having that happen over the next year or so.

Cristiano Amon

And please stay tuned to this year of Mobile World Congress. I think will be very exciting in this area.

Blayne Curtis

Thanks.

Operator

Thank you. Our next question is from the line of C.J. Muse with Evercore. Please proceed with your question.

C.J. Muse

Yes. Good afternoon. Thank you for taking my question. I guess if I could squeeze two in. First one, as you think about non-handset growth driving the up 5%. Could you share with us what the implied non-handset unit growth is and how you think about the implications to both royalties and MSM ASP. And then just as a quick follow-up question, based this question on QTL, I think you're guiding that up 3% at the midpoint. I'm a little surprised it's higher Q-on-Q given the FX headwinds and unit volumes out there, are there any sort of catch up payments or things like that we should be considering in there. Thank you.

George Davis

Now no real big anomalies in that respect. So, it's really more the mixed element that we talked about. In terms of non-handset growth again to get to 5% overall growth, you've got to see something like 27% growth in the non-handsets to get to that. That is largely driven by growth in IoT. Obviously, you still see growth in everything from automotive to compute. But, it's really IoT and we're certainly seeing strong growth in industrial IoT in our own business there.

Operator

Thank you. Our next question is from the line of Srini Pajjuri with Macquarie. Please proceed with your question.

Srini Pajjuri

Thank you for taking my question. Steve, I want to go back to your comment about the FTC litigation. You said you're still negotiating with FTC. And given that the closing arguments are done, do you think you have enough time to reach a potential settlement, and then, how are you feeling about it? And then, hypothetically if the ruling were to go against you, what are some of the options that you have going forward? And then, in the interim, I do think -- do you anticipate any changes to your business model? Well if you are appealing or any other options that you're exploring?

Steve Mollenkopf

Sure. Well, I'll take the first part of that and then maybe ask Don to jump in on the second part. With respect to settlement talks with the FTC as you might imagine we have been engaged with them for some time. We continue to be engaged. And if we think that we can find a resolution we would take that to try to remove this risk off the table not a statement on how we feel about our case. But as you might imagine this is an important element and we continue to work it. I think the judge gave some direction at the end of trial in terms of when she might rule. And I would just point you to that in terms of timing, but we have the ability to continue to work this and as you would expect we are.

Donald Rosenberg

Yes. This is Don, Srini. With respect to the judge's comments at the end, she didn't actually say when she would rule, but she did indicate over the last couple of hearings that this is a complicated case and she'll probably take more time than she might otherwise. We think we've put on an extraordinarily strong case here, so we're not obviously going to comment or predict outcomes when a case is now before the judge for ruling. But I can only tell you that we think that the government failed to prove what we thought was an ill-conceived theory. They still had a burden. We don't think they supported it with any convincing evidence at all. Indeed, I think we made the case as this industry and these people know -- you people on this call know for a very competitive industry that we have facilitated over the years through our licensing program. And so, we are hoping for obviously a victory here. And that's what we are focused on and we are not going to talk about possibilities until we faced them.

I would say this, the judge, as she indicated this is the complicated case and based on what she has been asked and not asked by the FTC for in terms of a ruling. It's going to have to a weight a particular ruling if she would go the other way because there are multiple variations of what that ruling might be and so we couldn't comment on the possibilities.

Srini Pajjuri

Fair enough. Thank you.

Operator

Thank you. This ends our allotted time for questions and answers. Mr. Mollenkopf, do you have anything further to add before adjourning the call.

Steve Mollenkopf

Yes. Thank you. Thanks everyone for joining us today. This would be I think a very important quarter not only due to legal milestones but also just continued innovation from the team and continued milestones for 5G. Thanks everybody from Qualcomm for working so hard. And we will talk to you again next quarter. Thank you.