SIXTH TRIENNIAL

1201 RULEMAKING HEARINGS

PROPOSED CLASSES: 13 - 15,

16 - 18, 24

May 21, 2015

9:00 A.M. - 11:30 A.M.

Reported by

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STEVE RUWE
Assistant General Counsel, Copyright Office;
REGAN SMITH
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OPPONENTS:

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P R O C E E D I N G S

WESTWOOD, CALIFORNIA; THURSDAY, MAY 21, 2015

9:00 A.M.

MS. CHARLESWORTH: Good morning and welcome to the third day of the hearings in the Sixth Triennial 1201 Rulemaking process. Thank you for being here.

I think all of our witnesses have been here before. So I will spare you my instructional messages. We will just start and go down the panel and introduce yourself and who you represent and we will begin with some opening statements.

Ms. Gellis.

MS. GELLIS: Catherine Gellis. I am a solo attorney and I am here with my Digital Age Defense project.

MR. WIENS: Kyle Wiens representing iFixit and Digital Age Repair Company.

MR. LIGHTSEY: Harry Lightsey, General Motors.

MR. METALITZ: Steve Metalitz, Mitchell, Silberberg and Knupp for the Alliance of Automobile Manufacturers.

MS. CHARLESWORTH: And just for the record, this first panel is actually combined panel

Classes 13, 14 and 15. They all involve unlocking of the following: Mobile connectivity devices, wearable computing devices and consumer machines.

So we're considering these three classes together this morning.

And, of course, you can speak to all of them, I think, if you are sitting here at the table.

So, Ms. Gellis, why don't you lead us off with a brief opening statement.

MS. GELLIS: One of the points I remember making throughout this testimony is that the objects in the Classes 11 through 27 are essentially all computers with little functional difference to what Congress understood computers to be like back in 1998. The only difference is that they changed shape.

We now have computers looking like phones and phones looking like cars, but as a general matter, these are all computing devices that have been used by the people who legitimately possess them however they wish to use them.

It also means there is no reason to treat them differently for purposes of any 1201 exemptions to the extent that the 1201 process is appropriate to reach them.

These Classes 13 through 15 all involve using these computers for the wireless communications they are capable of facilitating.

No computer user should be penalized and disallowed from using a particular computer to exploit the wireless communication functionality however they wish to simply because the device most proximate to them when they have the communications needs comes in a specific shape.

This point is perfectly supported when we think back to the form computers took in 1998 when Congress passed the DMCA.

If Congress had anticipated that 1201 might prevent people from changing their Internet provider from Compuserve to America Online simply because someone put a TPM on the computer that would prevent people from choosing a different service, I think they would have written 1201 differently in order to prevent the sort of anti-competitive, anti-consumer consequence.

The market choice people made to purchase a computer happens once, but the market choice people make for whom to provide their communication service is ongoing and they should be free to change their minds and choose somebody else.

This is particularly true when the implication of being able to make this choice on any copyright interest is so minor. It is minor to the extent that being able to unlock one's device requires, quote/unquote, jailbreaking the device.

I am of the view that just as there is no principled reason to grant exemptions covering some types of computing devices and not others, there is no principled reason to allow jailbreaking devices for some purposes and not others, because people should be able to use their computing tools for whatever reason they choose to at any time, but even if we look at the copyright impact of simply jailbreaking in order to unlock a device, we see the impact is minimal.

Like with cars and TV's, the full copyright interest implicated is the copyright of the software operating the device and this interest is not adversely affected at all by this unlocking conduct.

Also, not all unlocking requires jailbreaking. CCA's petition for this class refers to quote, computer programs in the form of firmware or software or data used by firmware or software.

Sometimes unlocking merely requires

writing data to the device that the software will then pass to the communication service when it tries to connect with it. This sort of reading and writing data is not something the copyright in the software in any way prohibits.

In sum, there should be no barrier to granting these exemptions as applied to unlocking for all the devices proposed in all of these classes.

MS. CHARLESWORTH: Thank you, Ms. Gellis.

Mr. Wiens.

MR. WIENS: In addition to providing repair services, iFixit also is a little bit known for doing product tear-downs where we get new gadgets the day they come out, sometimes before they come out. We take them apart and explore how they work.

I would like to offer myself as an expert, at least in terms of the rapid pace of innovation that these devices move. So if you have any questions or are interested in learning more about what kind of devices.

I suspect I am also the only person in the room who has taken apart a smart meter. Questions about smart meters, I can happily help.

We work very closely with engineering at

one of the leading smart meter companies to analyze smart meters.

One of the interesting things about smart meters is that the regulatory and the public interest concerning smart meters has to do with how much RF they're putting out. And there has been a lot of controversy, a lot of concern, particularly here in California in the Santa Cruz area, around how much RF is a smart meter putting out.

I don't think a smart meter is in a category of something that normally a consumer would want to be unlocking. In the course of normal use, you just want the smart meter to be active. So for the purposes of RF safety engineering or RF testing you very well might want to do that.

MR. DAMLE: With smart meters, isn't the RF output of smart meters, isn't that regulated by the Federal Communications Commission? They put rulings on the amount of RF that cellphones can put out and I believe they do the same for other devices that put out RF.

MR. WIENS: Correct. They do and there --

MR. DAMLE: And they have studied the health implications of RF output.

MR. WIENS: And my personal belief is that

the RF output is not a problem. That is my technical opinion, but there are communities that have been interested in studying that and want that understanding because they might say well, I don't believe in the FCC's standards, they're too high for my school.

So in order to do the RF testing, what you would do is you would pull the smart meter off your house if you get a smart meter and you would modify it to connect to your own network to do your own RF testing.

So I am just saying that is a potential reason that somebody -- and honestly, the only reason I can think of, wanting to unlock a smart meter.

MR. DAMLE: So that is one of the questions I have. That is as far as you know the only reason that anyone would want to unlock something like that smart meter.

MR. WIENS: Correct.

And sometimes in certain non-standard conditions, the smart meter might exceed the standard RF requirement.

There is also -- there are hubs and spokes of this smart meter network and you don't always

know if your smart meter is acting as a hub. If it acts as a hub, it transmits a lot more RF than a spoke would.

So that is just kind of interesting on the smart meter question.

In terms of categories of devices, it's amazing how fast this market moves. So if you think about in the last rulemaking in 2012, if we had been having this conversation potentially talking about all the different devices we might want to talk about unlocking, smart watches probably wouldn't have been on the list.

So the last proceeding was in 2012. Nike introduced the Fuel Band in 2013. And Fuel Band is very widely known as one of the most popular leading early smart devices.

In 2014, Nike decided that it wasn't a useful investment and they laid off most of the Fuel Band teams and discontinued the product. And here we are in 2015 talking about whether there should be an exemption.

I have concerns that if we do not set a broad standard for this class, we're going to have products that are introduced during the three-year period maybe go away and we won't have the

opportunity.

MR. DAMLE: This is an unlocking class, which then the premise of this class is that these devices are locked.

And cell phones, we know, are locked, and they're locked because the carriers essentially subsidize it and make you sign a contract and you have a two-year contract on that particular service provider, but that's not, I don't think, typical of the many other devices.

For instance, the iPad, I think you would agree, is not locked.

MR. WIENS: In certain contexts, you can get an iPad that comes from a carrier and it's locked, but in general, frequently no.

MR. DAMLE: So what about --

MR. WIENS: This is looking forward to what is going to happen in the future.

This is a LG Watch Urbane. This is LG's hot new sport watch that just came out last month.

Next week, they're introducing the LGB version of this watch.

MR. DAMLE: Does that watch have a 3G connection?

MR. WIENS: So this watch does not. The

one they're releasing next week will. So that is the --

MR. DAMLE: Do you know if that device will be locked to a particular carrier?

MR. WIENS: I don't know that.

MR. CHENEY: But this device is not locked.

MR. WIENS: This is not a cellular connected device.

MR. CHENEY: That is the distinction we are talking about.

MS. CHARLESWORTH: I am going to say let the record reflect that Mr. Wiens is holding a LG watch as a visual aid.

MR. WIENS: Yes.

MS. CHARLESWORTH: Mr. Cheney.

MR. CHENEY: That is the distinction we're trying to make here right, is that the cellular component is what is being locked in a sense, right?

MR. WIENS: Right.

MR. CHENEY: So that is the distinction, if it doesn't have a cellular component, then it's not being locked.

MR. WIENS: Correct.

So I don't believe that this class can or

would apply to this watch. And I think that honestly, the first cellular connected watch is the one coming out next week.

MR. RUWE: To clarify, there is no understanding that the connected watch will be locked.

MR. WIENS: I don't know, right, but the question is we're talking about a product that we know is going to come out and it may or may not be locked.

If there are going to be things we want to do with it over the course of the next three years, the product will be obsolete. It will not -- the product coming out next week will not be relevant in three years.

So if we are ever going to make a decision about whether it can be unlocked or not, we have to make it now.

MS. CHARLESWORTH: I thought you made all the old products relevant.

MR. WIENS: Let's talk about that.

There is a wonderful group called "Rainforest Connection" that takes smart phones and other devices and unlocks them, refurbishes them and sends them to Western Sumatra. And what they are doing

with these old phones in Western Sumatra is setting them up in a mesh grid network in the forest and using the microphones in the smart watches to detect illegal logging.

So these are U.S. phones. They have to unlock the U.S. phone -- it came from AT&T or wherever else. They are sending it over there saying this is basically an inexpensive device. They don't really care what the device is. It just needs to be a device with a microphone and a cellular connection.

They're repurposing products that maybe would have gone into the landfill anyway and using them to detect illegal logging activity. This is a fabulous use. It's gotten a lot of great press.

And they're saying mail us your smart device, we will unlock it, refurbish it. Maybe they have to jailbreak it and install their custom code and then set it up in the jungle to protect -- and which this is a really innovative and clever technological solution to a really intractable problem. It's very, very challenging to detect the illegal logging.

The idea that we can repurpose these devices is very compelling.

And I don't know what products are going to come out that will be locked in the next three years but I do know that every single one of them at some point is going to have the need to be able to unlock it.

So this is a challenge because I understand that you come from the world of copyright which traditionally is much slower moving than the work of technology.

We are taking apart new devices every single week that shock and surprise us.

I have been told that the Samsung Galaxy Gear S watch is locked to AT&T.

MR. RUWE: Is it unlocked on any other carrier?

MR. WIENS: Is it locked for any other carrier?

MR. FREEMAN: You can purchase it unlocked.

MS. CHARLESWORTH: Mr. Freeman, why don't we give you a moment to confer with Mr. Wiens and then Mr. Wiens, who is actually a panelist, can report what he wants to.

MR. WIENS: So the Galaxy Gear S is subsidized and locked to AT&T and they sell an

unlocked version for $350 and the subsidized version sells for less than that.

So this example of the unlocking barrier-to-entry, subsidization model is alive and well in other things and I think it will continue to be because it makes sense -- you have a data plan -- and I would expect this model to continue.

MS. CHARLESWORTH: And on that point, when have you a subsidy model -- obviously, a lot of the debate over the years is to the role of the anti-circumvention prohibition in protecting the carrier's investment and subsidy.

And so do you agree that kind of differentiates some markets from others in this area? I mean in other words, a market for a subsidized device might look a little different and have different concerns than a market for a completely unlocked device.

MR. WIENS: Sure. And that is reasonable. And I wouldn't argue that there is no room in the market for locked devices. The question is should you be able to unlock those devices at some point.

Our friends at Electronic Recyclers International in Fresno -- I was at their facility just about exactly a year ago right after the

Samsung Galaxy Gear had come out. And they had 200 of them in their recycling facility. This is a month after the product had come out. The products were purchased by consumers. There was buyer regret. They took them back. The store -- they ended up at the recycler and they are saying all of these are perfectly potentially usable; we have to do something else with them.

MR. DAMLE: I just wonder if it -- is there a market for the Samsung Galaxy to connect to carriers beyond AT&T?

MR. WIENS: You could connect them to any compatible carrier.

MR. DAMLE: Just to go back to Jacqueline's question, so you would agree -- so right as proposed, the word "used" doesn't appear in the proposal and that is something that we have always had for the smartphone exemption.

So is that something that we think would be appropriate, saying that to use -- to kind of cover the situation where you're not taking Verizon's subsidy for something that you have opened and then you want to unlock it at some later point.

MR. WIENS: I think that would be reasonable.

MS. CHARLESWORTH: Did you have anything else to add, Mr. Wiens?

MR. WIENS: One other use case I would like to share is the use case of farmers.

Modern agricultural equipment is using GPS to a significant degree. It has allowed farmers to get much better utilization from their field.

So they have GPS devices in their tractors and there's a really neat, innovative company called Farmobile that takes the GPS data from the tractor and streams it to an iPad and then the farmer can see the information in real time exactly where the tractor is and if they are making their rows right. And just being off by a degree in the size or shape of the field over the size of the field ends up having dramatic ramifications. So they are very interested in modifying this.

Intriguingly, the John Deere tractors have wireless connectivity built in but that connectively can only talk to John Deere, so.

MR. DAMLE: When you say wireless connectivity exists, what do you mean?

MR. WIENS: It's cellular.

And it's interesting because there is a lot of discussion around farmers where they say I'd

like to use this new tractor but I don't have cell phone reception at my farm. So I have heard farmers say why don't I set up my own cellular network on my farm so I can connect to it.

Well, the challenge with that, of course, is if the tractor is locked. And I don't know if the carrier is locked or not, but if the tractor is locked, they wouldn't be able to connect to their own network.

What Farmobile had to do is build an additional wireless modem into their logging device in addition to the cellular modem that was in the tractor because they wouldn't be able to modify the cellular interception that was in the tractor.

So just to show you -- I mean if you think about the category of mobile device, well, a tractor is a mobile device. And they are -- the connection of the data there is critical.

And one concern that farmers and also vehicle owners have is who owns the data, who can control -- who has access to this telemetry data from the tractors.

And so what Farmobile is doing is basically replicating a lot of the functionality John Deere had. And they are having to do it in a

completely separate device in order to get the farmer access to the same data that the tractor is already logging and sending to John Deere.

MS. CHARLESWORTH: Thank you, Mr. Wiens.

Mr. Lightsey.

MR. LIGHTSEY: Yes. So I will be very brief.

I will be happy to respond to any questions about OnStar services or GM, but just very briefly, we filed an opposition in an abundance of caution because as just indicated, the definition of a mobile device is extremely broad.

And frankly, we have had experience in various other venues where folks have proposed bills or regulations where they have inadvertently phrased the definitions very broadly so it technically could include the modern automobile, connected automobile and OnStar service as a mobile device.

MR. DAMLE: Is the OnStar service a cellular service that's based on cellular network?

MR. LIGHTSEY: It is.

MS. CHARLESWORTH: And do you have what I would call hot spots installed in the cars?

MR. LIGHTSEY: Yes, we began to launch that service last year.

MS. CHARLESWORTH: So in the narrower construction of mobile device -- I mean I think one of the devices we are talking about -- I think there is general agreement that what we're talking about is the hot spots whether they move around or not. Usually, they do whether they're in a car or not.

So I think in that sense, then are they locked, your hot spots in cars?

MR. LIGHTSEY: Yes.

So we sell OnStar service. We are affiliated with AT&T. They're our provider.

And if you are an AT&T customer, you can have the mobile wifi hot spot as part of your AT&T service in the automobile.

If you choose to purchase a data package from us to establish a wifi hot spot and you are not an AT&T customer, we will sell that to you as a white glove service, but if you have a cell phone in your vehicle and you can connect to your established cell phone provider, if that cell phone provides wifi hot spot capabilities, you can utilize that in the vehicle.

So it's not -- you have choices as to who or what carrier you want to use.

MS. CHARLESWORTH: So for the AT&T

example, if I am an AT&T customer already for my phone, my regular cell phone, are you saying that I can go to AT&T and get an added service from AT&T that will allow me to also use my wifi in a GM car?

MR. LIGHTSEY: Correct.

MS. CHARLESWORTH: So that is one avenue.

And you said something about white glove service. Who provides that service? Is that also AT&T?

MR. LIGHTSEY: That is also AT&T.

MS. CHARLESWORTH: Behind the scenes?

MR. LIGHTSEY: So the difference is we're dealing with a modern automobile here. OnStar service, as we discussed the other day, is a service that is designed to be used in the event that the vehicle crashes or there is an emergency, something like that.

So we build the OnStar module into the vehicle and in a way to enhance the survivability of the module if there is a dramatic crash event with regard to the vehicle. So frankly, the module is buried as deep into the car as it can possibly be put and the most protected place it can possibly be put so that the likelihood that it'll be able to function in a cataclysmic crash is the greatest.

The sim card that makes it function within the module -- and so it's basically hard wired into the module. So if you wanted to change -- basically the module is not engineered to have -- it's not like a cell phone. It's not engineered to have sim cards pulled in and out.

MS. CHARLESWORTH: Would it require physically accessing some part of the car? Is that what are you saying?

MR. LIGHTSEY: Yes.

MS. CHARLESWORTH: And then actually physically changing out the sim card.

MR. LIGHTSEY: You really couldn't even do it. It's hard wired into the module.

MS. CHARLESWORTH: In theory, assuming you could somehow accomplish that, can OnStar run -- could it theoretically run on a different network?

MR. LIGHTSEY: No.

MS. CHARLESWORTH: So and why is that?

MR. LIGHTSEY: Because the service is designed to work with a specific carrier. All of the protocols and the data that is pulled out of the vehicle is engineered to work through a specific carrier.

MS. CHARLESWORTH: Through AT&T, you are

saying?

MR. LIGHTSEY: Correct.

MS. CHARLESWORTH: But just the wifi connectivity, is there -- could that be separately carried in theory if you could make the change to the module you are describing or is that not possible?

MR. LIGHTSEY: Frankly, it would be in our interest and we would love to be able to provide our customers with the choice of carriers, but until they have electronically addressable sim cards, kind of the global sim card that you hear discussed -- and we understand that that may be in the future something that is achievable -- but right now, as long as the sim cards are dedicated to the specific carriers we have, our service is locked into a specific carrier.

There isn't any record -- evidence in the record or none of the proponents have specifically said that they designed the exemption to include automobiles. And so if clarifying language was added to the exemption, we would not object to it.

On the other hand, if the proponents insist on the current phraseology and say it does include automobiles, then we would ask that the

exemption be denied.

MS. CHARLESWORTH: I did have another question.

Has anyone -- are you aware of anyone actually approaching GM and saying I want to unlock the wifi in my car and change carriers?

MR. LIGHTSEY: No, I am not because most people have the choice, as I said previously, if they have a different carrier, they can use the cell phone with bluetooth connectivity through the vehicle.

MS. CHARLESWORTH: Thank you.

MR. CHENEY: Mr. Lightsey, what sort of language would you be comfortable with as written into the exemption that would exclude your interests?

Would it be that -- for example, we talked about a GPS in the tractor.

Just talking about the whole tractor as being mobile seems to be maybe over -- if you talk about a separate GPS unit, perhaps could that be something that would be something that is talked about, if there is a separate -- some way to separate the device from the car, would that be a way to write the language that would be helpful in

the exemption for you?

MR. LIGHTSEY: As I said, we have had experience with this in the past in state bills and other areas and we have suggested language that says that if the device is portable, it could be carried, that kind of language.

MR. CHENEY: May I ask Mr. Wiens, in the case of the tractor, did you say that that was a portable device or was that part of the console in the tractor or how was that?

MR. WIENS: It's integrated. It's integrated and it's on the tractor.

MR. CHENEY: So it's not something portable.

In the case of the OnStar, it's part of the console; is that right?

MR. LIGHTSEY: It's embedded in the car, correct.

MS. CHARLESWORTH: A drafting challenge, how to distinguish tractors from cars.

MR. LIGHTSEY: Light duty vehicle.

MS. CHARLESWORTH: There may be a way to do it. I'm not sure but it might be possible.

MR. RUWE: Mr. Wiens, would that tractor scenario, could it be addressed by the modification

exemption that you are also hoping to advance?

MR. WIENS: This is where it's fascinating to talk about what -- we're talking about connections to cellular networks. Smart meters don't connect to the cellular network. So smart meters establish their own mesh network.

MR. RUWE: So they totally fall outside of any possible --

MR. WIENS: I think it comes about by unlocking.

MR. DAMLE: Well, by unlocking, I think the way we have defined it in all of our notices and the way it's been understood is -- and in the legislation, is that you connect to a wireless telecommunications or data network like 3G, and then I think it listed out all the potential protocols. And if the mesh network is smart meters, then this would not even fall within.

MR. WIENS: Maybe some rural smart meter might but all the smart meters I have analyzed.

I'm not sure if I answered your question.

MR. RUWE: The question is you mentioned that you could add on a modem to connect to your own network in the tractors situation.

Would that qualify -- would that fit

within the modification exemption that you are seeking?

MR. WIENS: Adding an additional modem use of connecting an additional device -- maybe you have to jailbreak the tractor, modify the tractor, but to change the network that is existing in the tractor so the existing modem can connect to a different network.

MR. RUWE: But those would both accomplish the same goal. Different means but the same result.

MR. WIENS: Yes, yes.

MR. DAMLE: And just to the GPS point that Mr. Cheney pointed out, this would not -- this definition of unlocking has nothing to do with GPS. GPS is an open right, correct?

MR. WIENS: Correct. Although there is -- I mean one way to enhance the accuracy of GPS is to use the cellular signal to enhance it.

So like these devices are using in order for the GPS to be as fast as it is on your phone, it augments that with the cellular network because it can triangulate off where the tele-towers are located in addition to where the satellites are located.

MR. DAMLE: But the GPS standard alone is

not in locked in any sense.

MR. WIENS: Correct.

MS. CHARLESWORTH: Mr. Metalitz.

MR. METALITZ: Thank you very much. I will also be brief.

I think there is a reference in your previous recommendations about the difficulty of deciding issues in a factual vacuum and I think that describes the state of the record right now with regard to the application of any of these proposed exemptions to motor vehicles.

Again, I'm not talking about agricultural implements here, but as we pointed out, there really isn't any evidence in the record, I think from -- we can certainly take notice of the testimony from Tuesday on Classes 21 and 22 in. And regardless of where you come out on those points, I think there is ample evidence in the record that the automobile sector is not like other sectors and needs to be looked at individually if you are going to be considering any exemption that applies to it.

The wireless connectivity that's involved here, particularly as described by Mr. Lightsey in the example of OnStar, is used for different purposes than the paradigmatic cell phone, tablet,

et cetera.

And it has a big impact on not only regulatory compliance but in particular on safety issues, which is, as Mr. Lightsey just noted, really the raison d'etre for having OnStar.

So there is also, as I think your previous question pointed out, we won't -- I'm not aware of any of the Auto Alliance companies that have detected any consumer demand to switch networks on wireless connectivity that may be offered in their vehicles.

So I would think it's clear from the unlocking legislation from last year that the Office and Librarian are going to apply exactly the same standards in determining whether an additional wireless connectivity exemption should be granted as they would for any other proposed exemption in terms of where the burden lies and the extent of evidence that would be required to meet that burden and to show that there is a substantial adverse impact that is imposed by Section 1201(a) and, you know, addressing all of the other criteria.

And I would suggest on the record that is before you now, that it's very far from meeting any of that with regard to automobiles.

So I would simply concur with what Mr. Lightsey said that this exemption -- any exemption granted in this area should not apply to wireless connectivity involved in automobiles.

And we would be glad to suggest language if you would require us for specific language that might accomplish that.

We don't take a position on whether in other areas the burden that the statute and your notice of proposed rulemaking imposed on the proponent has been met.

Thank you.

MS. CHARLESWORTH: Thank you.

Ms. Gellis.

MS. GELLIS: I just wanted to add a few points that arose during this conversation.

The first arose in the context of smart meters. And I realize smart meters may be differentiated in class for other reasons, but one of the thoughts was why would people want to mess with their smart meter.

And I was thinking the privacy impact of smart meters may be a reason that people would want to interact with their smart meter. They tend to -- because they're transmitting so much data about

personal energy usage, they tend to give rather explicit profiles of how people are using their energy and it tends to indicate who is home, when are they home.

MR. DAMLE: That is the point of a smart meter, that you don't have to send the person out to read the meter. You just read it remotely. So the whole point of smart meters is really to get data about energy usage.

MS. GELLIS: Right. But I don't know if the intent was to remotely necessarily transmit such identifiable in that much detail information about the person. It is supposed to be about the energy usage, not about the human being and their behavior patterns.

MS. CHARLESWORTH: Is it your understanding that the smart meter identifies individuals when they're sending information about energy use?

MS. GELLIS: There is some evidence that they can be so detailed in the type of information that they're collecting and ultimately transmitting that you're able to go back and look over this mosaic of information and put together some really good guesses of who is there, when are they home,

what are they doing when they are home. I believe some people can even make more detailed conjectures than that.

I don't want to dwell on that too much because it was more of a launching off point, but the point is that smart meters do raise some privacy concerns. That might be to the extent that they remain on the table for an exemption, that is something to consider, but I wanted to use that as a launching off point for the privacy implications of some of the other mobile carriers and the need to be able to jump from one to the other.

And I know you are looking for evidence to warrant why the use cases would justify the exemption.

MS. CHARLESWORTH: What we are looking for is specific instances, specific evidence that shows there has been an attempt on or desire to unlock something, what it is and what happened and why the person couldn't do it if it's because of 1201.

So do you have any of that to offer?

MS. GELLIS: One of the points I wanted to make in the smartphone department was instances of Verizon using super cookies and people objecting to the privacy implications of that behavior and using

that as -- this may be a reason why somebody was on one network where all of a sudden their privacy practices are not something that people would find agreeable and they need to have fluidity to be able to move to another carrier.

Now whether people have affirmatively tried to make that jump and been stymied by the lock, I don't have that data, but it's a reasonable use case to suspect it's out there of why people would want to change from one carrier to another which may not be something introduced in record before.

MS. CHARLESWORTH: You are now talking about smartphones, which is written in a different class but you are using the analogy.

MS. GELLIS: You change -- as a mobile device and to the extent that it's locked to a communications carrier -- if Verizon is the communications carrier providing the service and Verizon's data protection practices are something that the consumer discovers are not something consistent with how it values its privacy, that is a market decision that would potentially cause the person to want to look for another carrier.

And the fewer barriers that they run into

to be able to make that market decision, the better.

The fluidity of the market would also encourage the market actors to provide better services that perhaps are more respectful of consumers' privacy interests.

And I think in terms of the car -- not in terms of privacy, but Mr. Lightsey discussed that it would be nice if there were other carriers, but we may have a chicken and the egg problem.

Would we get other carriers if it's not possible for anybody to shop around and choose another carrier? Who is going to make the investment in developing these other networks?

So we may have the barrier -- we may not need to be able to choose now because there is nothing to choose, but the fact we can't choose might be why there is nothing else to choose.

MS. CHARLESWORTH: Thank you.

Mr. Wiens.

MR. WIENS: I have a question for Mr. Lightsey, if I may.

MS. CHARLESWORTH: Why don't you raise the question with me?

MR. WIENS: So my question is, if it's not possible to change the network the car is connected

to, why do you need -- why do the auto manufacturers need the protection of 1201?

MS. CHARLESWORTH: I think that is a reasonable question.

Mr. Lightsey, did you catch that?

MR. LIGHTSEY: Yes.

As we have said in the record in our comments, there are lots of good reasons why you wouldn't want to unlock the vehicle and potentially make it more vulnerable for security and safety reasons.

Folks would possibly be incentivized or feel that they were less deterred from attempting to breach the vehicle and make it do things that it's not designed to do, obtain information about the persons in the vehicle that they want to keep private, those types of things.

And so that is certainly the main consideration of why we would want to be able to maintain the security of the vehicle.

MS. CHARLESWORTH: And then you had your placard up already. So did you have something else to add?

MR. LIGHTSEY: That was actually what I was going to add.

MS. CHARLESWORTH: Mr. Wiens.

MR. WIENS: One other thing I would just like to enter into the record is last year, California introduced -- well, it was introduced in the California legislature, Senate bill SB994, which was a bill to require the auto manufacturers to make it possible to switch the wireless carrier.

And the reason was that consumers are interested in access to the data and they have the same privacy concerns that Mr. Lightsey is raising. Some consumers have concerns that the very large corporations shouldn't be the ones that have access to telemetry data from their vehicle. So they would like to switch the stream of where that data is going maybe to their own server, to a different network.

So the existence of that bill -- there were thousands of letters sent into the California Senate.

MS. CHARLESWORTH: Did it pass?

MR. WIENS: It did not pass.

MS. CHARLESWORTH: Do you know why?

MR. WIENS: It died in committee.

MS. CHARLESWORTH: It died in committee.

MR. DAMLE: Familiar story.

MR. WIENS: But I just wanted to bring that bill up in reference to this because there is significant interest and demand in switching networks. I would agree it's not possible at the moment. That bill was to try to make it possible.

MS. CHARLESWORTH: So just to be clear, it's not possible in terms of sort of almost physically possible to do now perhaps without destroying your car.

Is that what you are saying?

MR. WIENS: Correct. Or even in the processes of destroying your car, I'm not sure it's possible.

MS. CHARLESWORTH: Thank you. That's a good clarification.

Mr. Lightsey.

MR. LIGHTSEY: I will just respond to Mr. Wiens' comments.

I will say that just as a point of clarification, my recollection of that bill was it was not about the ability to switch carriers but more about access to the telematics data that is generated by the vehicle. And obviously, none of that is in the record. That is a separate debate for another day, I think.

MS. CHARLESWORTH: Thank you.

MR. DAMLE: So Mr. Wiens, I don't know if you know this, but going back to the sort of typical mobile hot spot that we think of, you know, the little square box and the little dongle, do you know whether those are locked to carriers?

MR. WIENS: Frequently, they are.

MS. CHARLESWORTH: Some are and some aren't?

MR. WIENS: Some are and some aren't.

MS. CHARLESWORTH: Are they subsidized?

MR. WIENS: Yes, not always, but frequently.

MS. CHARLESWORTH: They might be subsidized and locked is what you are saying?

MR. WIENS: Correct.

MS. CHARLESWORTH: Thank you.

Any further additions to the record?

MR. RUWE: Mr. Wiens, do you have a position or have you explored the application of 1201(i) with regard to this personally identifying information that is part of the car that is stored in the car, stored through the car?

MR. WIENS: One moment.

So with regards to collection of

personally identifying information, there is always a concern when you have a device that is transmitting information that you don't have the ability to either switch off or switch to a network of your choosing.

This is -- I mean motor vehicles are an example. There are a number of cases where you have -- where we are buying products that start phoning home that people don't even realize.

These base band chips are getting so inexpensive that we're seeing cases where people will buy a Kindle and they won't realize the Kindle is connected to the cellular network. They are not paying on an ongoing basis.

Amazon has a relationship with the carrier where the carrier so the carriers get a portion of every sale that happens over the wireless network, but the consumer might not realize that by having the device on as they are moving around -- but if you have a collision, you might not know when you are moving, around all of a sudden, your position is being tracked over the wireless network with a carrier that you didn't necessarily have a relationship with.

So I think perhaps you could make a

privacy argument for wanting to switch the carrier.

MS. CHARLESWORTH: Mr. Lightsey.

MR. LIGHTSEY: So just in response to that, I would say that certainly GM -- as we discussed on Tuesday, GM values our customers' privacy very much, and to make it very clear in our privacy statement, when data is collected and when it's not.

And the customer always has the choice of whether or not they choose to be an OnStar subscriber. In the event they choose not to be an OnStar subscriber, no data is collected from the vehicle; there is no connection to the vehicle. And the only way a connection to the vehicle could be established is from the vehicle, itself. So GM does not have the ability to create its own connection to the vehicle.

And we do -- with regard to the carrier, one of the additional reasons why we are locked into the carrier is because of the security concerns that we referenced today and earlier.

It's important for us to know that the carrier -- and also the carrier is reporting information to us about the security of their network and attempts to use the network to breach

the security of the vehicle.

As we talked about on Tuesday and as Dr. Miller explained, the ability of someone else to gain control of the ECU's in the vehicle and make them do things like apply brakes is something that we are extraordinarily concerned about and don't want to have happen. And that's one of the very important reasons why we work with a particular carrier.

MS. CHARLESWORTH: Thank you, Mr. Lightsey.

I don't see any more placards. So I think we are going to end this panel, perhaps it's a little early. We will -- although we're going to take the next panel which is proposed Class 24 out of order just immediately following this one. I think we only have one participant in that panel. So we're going to get that one out of the way during our extra time.

And then at 10:15, we will convene proposed Classes 16 through 18, which are the jailbreaking classes.

So again, I want to thank you for your contributions and this was helpful again to us and we will see some of you back in a little bit.

MS. CHARLESWORTH: For the record, we are now proceeding with proposed Class 24, which is titled "Abandoned Software -- Music Recording Software."

And we have one panelist, Ms. Gellis.

So you don't need to introduce yourself now. We know now who you are.

And you're going to be, I think, providing some brief comments for the record on Class 24.

So you may proceed.

MS. GELLIS: Thank you.

My comments on this class synthesize the comments I have made earlier today, well, subsequently also made today.

The first point to make is that this is not a proposed exemption seeking liberal access to a copyrighted work for the sake of simply having access to a copyrighted work as a piece of media content.

In fact, like with the TV and the car, the copyrighted work at issue here is simply the software that interfaces with the computer hardware it runs on.

It doesn't negatively affect the copyright interest of any downstream media the device might

ultimately consume. It doesn't particularly implicate the copyright interest in that software necessarily, either.

In fact, according to the comments, the effect will actually be a net positive on the copyright interest of the downstream work as it will make already created works remain accessible and enable other people to create new works by using this tool.

And I think this is an important point to make. 1201 ostensibly exists to protect copyright interests with the expectation that if these interests are protected, it will incentivize further creativity, but that does not mean that for Section 1201 to serve this role of helping to incentivize creativity, it means that the Copyright Office must say no and deny exemptions.

Sometimes the goals and purposes of copyright are best served by saying yes when saying yes fosters the creativity and innovation copyright law is intended to inspire.

Thank you.

MS. CHARLESWORTH: And since we have no other panelists for this class, we are going to close down the conversation on proposed Class 24 and

then resume, as I mentioned earlier, at 10:15 for the jailbreaking classes we will be considering.

MS. CHARLESWORTH: So some of you have brought various examples of devices with you today. We thought we might take a few minutes and we're going to actually, with your permission, photograph them as individual demonstrative exhibits so we have a record of what you brought with you today.

And we had one in the last panel, too, that we should also get a photo of. I think it was a watch.

So we're going to start that process now. Mr. Ruwe will be doing that, but we thought that would be helpful for the record to have those photographs. So thank you for your assistance with that process and then we will start the actual discussion.

(Off the record.)

MS. CHARLESWORTH: Back on the record now.

Thank you and I neglected to once again thank UCLA law school for this room and allowing us to be here for much of the week this week. And we are appreciative of that and all of the support we have gotten and we will be thinking of the weather

out here when we're back in DC next week.

So once again, this is proposed Classes 16 through 18.

However, I just wanted to make a note for the record that this actually relates back to 13 though 15. We just photographed some of the various devices that people brought in with them today. And the smart watch that was referred to in the earlier panel today for classes 13 through 15 was photographed and is going to be hearing Exhibit 7 for the record.

And actual photographs we took today for a collection of devices that are going be variously referenced, as I understand it, by the panelists, will be Exhibit 8.

So Exhibit 8 pertains to classes 16 through 18 and is a collection of photographs that show the devices that are going to be referenced by the panelists today.

And then just to get through the exhibits we have an additional, I think, Exhibit 9 which is a photograph that was submitted by Mr. Freeman that will also be, I believe, referenced by Mr. Freeman in his remarks today.

So with those clarifications about

exhibits, I will ask this group of panelists to introduce themselves and explain who you represent for the record and then we will proceed with our discussion of these classes, which are the jailbreaking classes for wireless telephone handsets, all purpose mobile computing devices and dedicated E-book readers.

So once again, Ms. Gellis, we will start with you.

MS. GELLIS: Catherine Gellis. I am a solo attorney and I am here with my Digital Age Defense Project.

MR. STOLTZ: Mitch Stoltz for the Electronic Frontier Foundation.

MR. WIENS: Kyle Wiens representing iFixit and the Digital Right to Repair Coalition.

MR. FREEMAN: Jay Freeman, SaurikIT.

MR. LIGHTSEY: Harry Lightsey with General Motors.

MS. CHARLESWORTH: So as we have done before, we will ask you to make a brief opening statement and we may interject questions.

Ms. Gellis, we'll start with you.

MS. GELLIS: Thank you.

I am going to limit my opening comments to

one of the main points I have made previously, that the objects in question for these classes are all essentially computers with little difference to what Congress understood computers to be back in 1998 except in terms of their form, but their particular form should not be the basis for denying an exemption.

People should be able to use computer devices in whatever lawful ways they want to regardless of the form they take.

Thank you.

MS. CHARLESWORTH: Is that your -- that was even briefer than your usual brief statement. Thank you.

Mr. Stoltz.

MR. STOLTZ: Thank you.

The exemption for phone jailbreaking, by which I mean modifying mobile phones so that it can run software of the user's choice has been in place for five years and it has been a fantastic success for everyone involved from phone manufacturers to application developers to users.

That remains true today and it is undisputed on the record of this hearing, but doing the same operation on other devices that are

functionally equivalent to mobile phones still carries a risk of anti-circumvention liability and that risk, in turn, exacerbates many problems related to security, privacy, anti-competitive practices, early obsolescence and waste.

EFF is asking the Copyright Office and the Librarian to renew the objection to permit jailbreaking of mobile phone handsets, and additionally, to grant an exemption for all-purpose mobile computing devices. And that is a term that is well understood by users and software developers.

And for purposes of Class 17, we have defined "all-purpose mobile computing devices" by three criteria.

First, they are portable. They are designed to be carried or worn.

Second, they come equipped with an operating system that is primarily designed for mobile use. So that includes iOS, Android and the mobile versions of Windows.

Third, they're not designed primarily for media consumption. That excludes dedicated eBook readers, which I understand are the subject of a different class, as well as handheld gaming devices.

MR. DAMLE: Does that include -- I will

just note that I saw an Apple TV -- a couple of versions of the Apple TV.

Does yours -- are you excluding those, as well?

MR. STOLTZ: The EFF proposal does not include those as they are not designed to be carried.

MS. CHARLESWORTH: What about some of the hybrid tablets that have both a tablet functionality and have a Windows operating system such as the Surface? Where would those fall in your definitions?

MR. STOLTZ: So Windows as a group of operating systems is and remains divided into several flavors. There are mobile variants. I believe the current one is called Windows Phone. The forthcoming one, I believe, is going to be called Windows 10 Mobile, and on the other hand, the PC variants.

MS. CHARLESWORTH: Right. So I mean the way you have defined it, you said it as an operating system primarily designed for mobile use.

Is that right?

MR. STOLTZ: That is right.

MS. CHARLESWORTH: So Surface, I mean I

have one of these. So I'm curious. Maybe I want to jailbreak it someday, but my Surface has both sort of a mobile traditional tablet interface and I can switch over to desktop mode and then it has a traditional sort of Windows PC operating system.

So I am curious to know how you would characterize that or categorize that.

MR. STOLTZ: Again, I would characterize that based on which flavor of the Windows operating system it runs.

My understanding is the Surface tablets run the mobile variant, which means that it is a system designed primarily for portable devices, not for desktop devices or laptops, and that it contains the access controls which are the subject of this proposal.

The desktop variant does not. It has, I understand, some -- it may have some specific restrictions, but the fundamental difference is that the owner of the device has administrative access or what programmers tend to call root access to the device, whereas in the mobile variants, the owner does not have administrative access. That is the line of demarcation.

The pirated devices that you mentioned are

a very small segment of the market. And my understanding is that the segment is not growing. It is less than 3 percent of the tablet market and not gaining wide acceptance.

So the overwhelming -- the predominance in the market and the need for this exemption at the present time really centers on IOS and Android devices.

MS. CHARLESWORTH: So in your view, would my -- I guess I am a small part of the market. I enjoy my device.

Would that fall within the parameters of your request or outside of it?

MR. STOLTZ: It would fall within because it runs the mobile variant of Windows.

MS. CHARLESWORTH: Thank you for that.

MR. STOLTZ: And the third component of the definition that EFF has put forth, it's not a device that is primarily designed for media consumption. I think I mentioned that.

This proposal does not include vehicle electronics. And I hope I can help give Mr. Lightsey a shorter day here. A car is not a general purpose mobile computing device because its primary and overarching function is transportation.

And no matter how many ECU's the car contains, the public doesn't speak of parking their mobile devices in their garages.

EFF has proposed two exemptions related to vehicles. You heard comments about those on Tuesday, but Class 17 simply doesn't encompass vehicles.

In 2012, the Register's recommendation said that a class should be consistent in terms of the way they operate their intended purpose and the nature of the applications that they can accommodate.

The EFF proposal does that.

Mobile devices as we have defined them run the same fundamental software, the same group of operating systems. They use a similar process or architecture to one another but different to that of PC's. They have the same purpose, which is running a wide variety of application software. And they can accommodate largely the same range of application software, in most cases the very same apps.

Also, since 1201, the market has further coalesced around well-known product categories, including tablets.

As you will see from the record, journalists, market analysts and manufacturers and consumers also distinguish a tablet from a PC from a dedicated eBook reader.

No one has challenged this evidence. No one has disputed the evidence of the problems of security, privacy, performance, obsolescence and waste that is documented in the written record.

No one has asserted that jailbreaking all-purpose mobile computing devices is infringement.

And I want to emphasize this -- there are no comments on the record challenging our position that jailbreaking is fair use and no one has presented any evidence that jailbreaking contributes to infringement of other works. You won't find it.

So the exemption for jailbreaking phones has been an unmitigated success and we are asking the Office to extend that success to a well-defined class of devices which are the functional and technological equivalent of phones.

Thanks very much.

MS. CHARLESWORTH: Thank you, Mr. Stoltz.

Mr. Wiens.

MR. WIENS: I would like to defer to

Mr. Freeman.

MS. CHARLESWORTH: Mr. Freeman.

MR. FREEMAN: Thank you.

So before I begin, I would like to clarify that while I am the person who has put an Apple TV as pictured in the evidence, I am not claiming that an Apple TV is something under the defined proposed class. An Apple TV requires being plugged into the wall. Despite the fact that I can hold it in my hand, it requires power from a fixed cable to a wall and it requires a television for use.

It does not fall into the category of mobile device as defined by the EFF and I agree with that definition. I am not using it as an example of why it should be classified as a mobile, all-purpose computing device.

MS. CHARLESWORTH: Thank you. That is helpful.

MR. FREEMAN: So my name is Jay Freeman. I run a company which provides something very similar to a game genie for many different mobile devices, particularly ones that run IOS.

So when I say "game genie," I mean a product that was for the old Nintendo entertainment system back in the early 90's. It was a cartridge

that you could plug into your Nintendo and plug another cartridge into it in order to make modifications to the software while it is running.

Now yesterday, I mentioned a game genie and I was not sufficiently prepared in order to print this out, but this actually is a case that came to court and the court decided that the game genie did not constitute construction of derivative works. And the court constituted that even if somebody were to later try to make a claim, that it was also considered fair use the way that any derivative work could happen. This is something that was all very well done in the court case.

MS. CHARLESWORTH: Do you know the name of the case?

MR. FREEMAN: So the reference I have is Lewis Galoob Toys, Incorporated, Plaintiff, v. Nintendo of American, Incorporated, Defendant, and related and consolidated action numbers C-90-1440 FMS, C-90-1586 FMS, United States District Court, ND, California, Northern District, California, July 12, 1991.

MS. CHARLESWORTH: Thank you very much. You can continue.

MR. FREEMAN: Thank you so much.

So one of the points that I would like to make today and the reason why I have various devices in front of me is related to the difficulties that I have as somebody who provides software that allows me to make these modifications.

So the software -- as indicated on these mobile devices, the software that runs on them often runs on all the other mobile devices.

If I were to show you a number of different Apple devices running a iPad, an iPod, an iPhone, you can install the same applications on all of them. And, in fact, if I were to hold up units in front of you now, a sequence of devices starting at this large Apple device, going through a slightly smaller Apple device which looks very similar, to now another slightly smaller Apple device, another slightly smaller Apple device, another slightly smaller Apple device, another slightly smaller Apple device, it becomes very difficult to really appreciate the exact boundaries that delineate this particular sequence of small, black, rectangular touchscreen devices.

MS. CHARLESWORTH: And just for the record, I think all of those devices you just held up for us are pictures in Exhibit 8 now.

MR. FREEMAN: That is correct.

And so now I will say a little more about that and you will know what they are.

So all of these devices I held up, I can start asking questions such as which one of these is a phone. So some of these look very similar. This looks very similar to the various phones, and if I take the case off, it's the exact same thing then.

This one is an iPad. This one is an iPhone. If I were to ask you the question which one of these have phone numbers, I think the answer might surprise you. These two iPads have phone numbers because that's how cellular service is provided to handsets.

It is actually something I found a little frustrating talking to Verizon when I called about my tablet and they asked me for my phone number and I went "I don't know, it's not really a phone."

Then they sent me a text message to verify my account and it's very difficult for me to retrieve that text message on my tablet.

If I were to ask a related question of which of these devices, knowing my phone number, can you call me on, I believe all of these devices would ring.

And the reason, if you have an Apple device because of the new FaceTime audio feature, that will allow you to make phone calls to my phone number on all of the devices that are connected to my Apple ID account.

It becomes very difficult for me as somebody who is providing software for these devices to have any way of differentiating them. I can then -- so this was a -- in the end, this is an iPhone 4S, an iPod 5, an iPhone 6, an iPhone 6 Plus, an iPad Mini Retina 2 and an iPad 3.

MR. DAMLE: I'm sorry. Just for the record, do the iPads have 3G connections?

MR. FREEMAN: Yes. One of these iPads has -- actually, they are both on Verizon currently.

MR. DAMLE: Thank you.

MR. FREEMAN: So I also have with me a small collection of -- before I get into that, so that is also the reason -- all of these devices that run the same bootloader, they run the same operating system and they run many of the same applications.

Now, the reason why I brought an Apple TV 2 with me is to point out that this also happens to run the same operating system and has the same CPU and has the same hardware platform except for

the part that connects to a television, connects to wall power.

I agree it's not a mobile device, but I have a particular issue and that is one that is something that maybe I tend to get a little contentious with some of the other people who provide all of these things.

The software provided by the iPhone that jailbreaks these devices will jailbreak all of these devices, including an Apple TV 2, and it doesn't know the difference, really, between any of these devices. It has to be specially coded to try to understand this one is not an iPod. It's essentially an iPod with an HDMI port, but from my perspective, it looks like an Apple device with an Apple ECID and it's something that can talk to you using the same protocol. It has the exact same bugs in it and the software that exploits it just works against it.

And then when I try to ask myself about these devices and I ask myself which ones of these are the devices that I would almost consider the most important to me, I always think it's the iPod, not necessarily an iPhone. And the reason why is because so many young kids have iPods. And they

have iPods particularly because the parent doesn't want to give them a phone.

And so an iPhone is not a replacement in any way for the iPod. The parent does not want the child to have a full phone that -- so you can get an iPod that doesn't have a phone number associated with it so it cannot be called.

MS. CHARLESWORTH: So the class we're considering I think excludes media devices -- media dedicated devices. Mr. Stoltz gave us a definition.

MR. FREEMAN: I believe Mr. Stoltz's definition includes the iPod. I will be shocked if he disagrees.

MS. CHARLESWORTH: Well, can you remind us of the exclusion for dedicated media devices?

MR. STOLTZ: As EFF proposed it, devices primarily designed for the consumption of media, which that is a category in which I would not include an iPod.

MS. CHARLESWORTH: Thank you for that clarification. So that is actually not what has been proposed by the EFF.

MR. FREEMAN: He said the opposite just now.

MS. CHARLESWORTH: You are saying

primarily --

MR. STOLTZ: I am sorry. Let me be very clear.

We have said -- what we have proposed is that devices that are primarily media consumption devices should be excluded from the class. The iPod is not primarily a media consumption device because --

MR. DAMLE: This is the modern ones.

MR. STOLTZ: The iPod Touch is an iPhone without the cellular hardware.

MR. WIENS: The original iPods were media consumption devices. The new iPods are not.

MS. CHARLESWORTH: Mr. Freeman was referring to an iPod, which the traditional iPod is mainly for music.

Do you agree with that?

MR. FREEMAN: I agree with that and I am sincerely sorry I missed that. The shorthand when we talk about iPods in my communication, I always mean iPod Touch.

MS. CHARLESWORTH: Yes.

MR. FREEMAN: One of the reasons is this happened -- and this is something that I think is very key to understand -- is that over the course of

time as general purpose computing technology has gotten cheaper, more and more of these devices have grown up to become general purpose computers.

So as an example, we have the class of dedicated eBook readers. That dedicated eBook reader class -- I was at the hearing three years ago when somebody on the panel held up a Kindle which could only read books and said this device he considers as part of the tablet class today.

Today, I am going to hold up a Kindle that does not just read books. Now, this has grown up to be a full Android device and plays games and you no longer have Amazon -- it is discontinuing all of these devices that are more dedicated than that.

MS. CHARLESWORTH: I think we need to be a little more specific. Are you talking a Kindle Fire?

MR. FREEMAN: Yes.

MS. CHARLESWORTH: And when you are talking about the one that has broader functionality, we are talking about a Kindle Fire. The one in your other hand --

MR. FREEMAN: The one in my other hand is actually Google Nexus 7, which is a full tablet. And if you were to turn these two devices on, they

are running the same operating system. There is slight differences because Amazon has done a couple of customizations because they have a different store, but not because of the hardware, but only because they have a different ap store, they have made customizations.

MS. CHARLESWORTH: But you do also acknowledge there are versions -- there are different Kindles that really are much more oriented toward simply reading text and not engaging in sort of broader computing activities.

MR. FREEMAN: I will acknowledge that that has been the case in the past, but now I will ask a question if it's a device with a web browser and is capable of browsing any website, is it now still dedicated to being an eBook?

MS. CHARLESWORTH: The word was, I think, primarily dedicated, as Mr. Stoltz said, right?

MR. STOLTZ: Yes, that's correct.

MS. CHARLESWORTH: So the main -- we're talking about the main functionality.

I mean do you concede that the main functionality of certain kinds of Kindles is mainly to read books?

MR. FREEMAN: So the issues I have is that

this is a marketing distinction. I have, myself, considered purchasing a 3G Kindle that was primarily marketed by Amazon to read books in order to use it to as a web browser because it has very long battery life.

MS. CHARLESWORTH: Do you think many people do that?

MR. FREEMAN: I actually do believe many people do that.

MS. CHARLESWORTH: And what is the evidence that you have before you?

MR. FREEMAN: I am sorry. I just did not appreciate that would not be fairly obvious that that's so. I am terribly sorry.

I have a position that from my perspective, all of these devices -- if I try to understand the difference between some of the Amazon markets for it as being an eBook reader and some of the Amazon markets as being a web browser, and another market as being a tablet, I am unable to determine the difference. There is no way I can determine the difference.

MS. CHARLESWORTH: But you are an unusual person. You are much more technologically astute, as indeed some of other panelists, too,

sophisticated than someone like me. And I have to say I have a Kindle, an Amazon Kindle, an early one. What I did with it is I read books on it. It never occurred to me to use it instead of a more all-purpose device to browse the web.

And while I recognize that a lot of these devices have that functionality, what we're trying to do here again -- and I sort of said this yesterday -- we are trying to kind of describe what -- we're tasked with the problem of somewhat general in the way we create exemptions, but also somewhat they have to be appropriately narrow and tailored to the record before us.

And so yes, theoretically, you could use a Kindle that way, but I mean we're trying to understand what are -- sort of what appropriate lines might be drawn here to reflect the record before us and the real needs of people to engage in circumvention.

I just want to be sure to give that sort of thought or put that thought out there because it's most helpful to us if we can kind of agree on certain definitions. And I think Mr. Stoltz put forth a definition that is really the one we're sort of discussing here.

And so I mean if you are -- that is why I am asking you. Basically, I am saying can you agree with his position for purposes of this class or are you disagreeing with it and think that the class really needs to be broader?

MR. FREEMAN: So the case with the -- the point that I am bringing up with relation to this eBook reader is something that I am actually trying to raise in order to demonstrate why the class that Mitch proposed, which was mobile, all-purpose computing devices, should get the exemption.

I think that the eBook reader exemption is something that -- at this point, I am kind of hoping that since there is no one in opposition, there was no one even providing any commentary in opposition, I am more concerned with the wider class that Mitch proposed, which is why I am not trying to include an Apple TV in there, but I am trying to indicate that for the extent to which we would like to get that eBook reader, the boundaries between the dedicated eBook reader and the iPod 5 running the Amazon Kindle ap is sufficiently small that I would like to get the mobile, all-purpose computing exemption based on the --

MS. CHARLESWORTH: Are you participating

in the eBook panel later? We have another -- this panel.

MR. FREEMAN: This is the same panel, which is also why I'm kind of talking about the eBook reader thing as part of this.

MS. CHARLESWORTH: Fair enough.

MR. FREEMAN: Sorry to contribute to the confusion.

MS. CHARLESWORTH: No, I mean we started off with Mr. Stoltz's definition and now we are talking about eBook readers.

MR. FREEMAN: I mean from the computing perspective, all of these devices -- there is a myriad of cables. This is a cable that connects an Apple watch, even an old iPod and newer iPhones. It connects an Apple TV, also USB.

MR. RUWE: I'm sorry, you need to slow down.

MR. FREEMAN: I was saying I have a number of cables for iPhones, iPods, watches, Apple TV. They all connect by USB and they all are identical from my perspective when I build tools on the computer.

MR. DAMLE: Just for the record, these cables are also depicted in Exhibit 8.

MR. FREEMAN: That's correct.

I then also have with me a Samsung Galaxy Tab 10.1, a Google Nexus 4 and a Motorola device with Intel CPU but a mobile version of the Intel CPU for more power efficiency, whose name I should -- but I simply bring this in order to show that the same is true in every system, even devices with a different architecture but still has a mobile version of the Intel CPU.

These devices all look identical from my perspective when working on the computer.

I build exploits, as well, for other devices and people use mine against almost any Android device.

In fact, there is a group that Mr. Taylor chairs who have submitted commentary for smart TV's. They use my tools in order to do those and I did not intend it to work on the Google TV, but they told me it worked and I was surprised and I run into the scenario of getting trapped into your exemptions.

And then, also, I would like to posit this notion that -- so on the Exhibit 9, I believe it is, the picture on the screen.

MS. CHARLESWORTH: The exhibit on the

screen.

MR. FREEMAN: So that is an Android LG G Watch that is running an application designed for a much larger device that kind of barely fits the screen. The projection that you have isn't quite showing, but there is red text in the center. It's very clear on the actual exhibit when you see the image.

This program is an exploit tool run by George Haas, the person who did the original massive PlayStation 3 jailbreak that keeps getting discussed. This tool is to jailbreak Android devices and it runs, as it does on many other devices. You can download aps that are designed for normal Android devices and run it on this watch.

Essentially, they have taken an Android phone, shrunk it a little bit and stuck it on my wrist, which is very similar to how the people who do the iPhone jailbreaks have been spending the last couple weeks frantically pulling apart the Apple watch. And my understanding at this time talking to them is that the Apple watch is essentially identical to an iPhone, which make sense. If I hold an Apple watch and hold it next to what is an original iPhone, it's, again, just another smaller device, a small,

rectangular device, flat with a touchscreen.

All of these devices are things that, again, I am in this horrible position of trying to support with these tools that I build and being almost unable to support some of them because I don't know exactly how they're being marketed by the people who are selling them.

Thank you very much.

MS. CHARLESWORTH: Thank you.

Mr. Lightsey.

MR. LIGHTSEY: I will be very brief.

General Motors filed an opposition to the proposed Class 17, all-purpose mobile computing devices, frankly, in an abundance of caution as the exemption was first defined.

Requiring the jailbreaking of vehicle telematics and communication systems would have a negative impact on vehicle and consumer safety, security and privacy, as well as on emissions and regulatory compliance and could have a chilling effect on future development in the area.

As noted by Mr. Stoltz, no proponent here today has argued in favor of including vehicle telematics and communication systems in Class 17.

And, in fact, here today, several have

indicated that they do not consider the class to include in-vehicle communications and telematics systems.

So GM -- if we can work together to find language that appropriately excludes in-vehicle systems from the proposed class, we would not have any other issues with the class as proposed.

MS. CHARLESWORTH: And I think that is what I heard, as well. I just want to ask do you have -- are there phones that are incorporated into GM vehicles that are built into the cars, phone-type devices, mobile phones? I haven't bought a car recently.

MR. LIGHTSEY: If you have the OnStar service, you can use the communications capability in the service to make cellular telephone calls, yes.

MS. CHARLESWORTH: But it's built into the car.

MR. LIGHTSEY: Correct.

MS. CHARLESWORTH: Understood. Thank you.

MR. DAMLE: So I just had a -- so the Apple watch, is that -- Mr. Stoltz, is that something -- I started thinking through your factors -- is that something you are interested that

would be encompassed?

MR. STOLTZ: Yes, we would believe that would be encompassed within the Class 17 as we have proposed it by the three criteria that we have proposed.

MR. DAMLE: Thank you.

MR. CHENEY: Would it also include the other sort of health-type devices like the iFit and some of those devices?

MR. STOLTZ: Well, it's going to vary by device. And the key question is the second of the three criteria that we proposed. And that's whether the device is sold with a general purpose mobile operating system.

I believe many of the devices that you are describing do not, but there may be some that do, in which case it is for all relevant statutory purposes and the purposes of this rulemaking, encompassed within the same class.

MS. CHARLESWORTH: So we have the all-purpose -- you would put that in sort of the all-purpose area of the class?

On e-Books, does anyone have any evidence that people are trying to jailbreak dedicated eBook readers?

MR. FREEMAN: I believe that I had interest. I'm not coming up with it.

MS. CHARLESWORTH: I just wanted to make sure.

Mr. Wiens.

MR. WIENS: I was wondering if I could just have a moment to explain some of the things I have here but I can do it however you would like.

MS. CHARLESWORTH: You can go now.

MR. WIENS: Great.

So I brought a few different devices and I thought I would share from the repair community's perspective, people have a very hard time differentiating types of products when it comes to repairing.

I mentioned yesterday some of the environmental impacts of manufacturing these devices. There is a considerable amount of energy just manufacturing a phone. It takes over 600 pounds of raw material to manufacture a phone.

I won't go in depth into everything that I talked about yesterday, a few specific examples of ways -- reasons that you would want to jailbreak a device.

In the Apple ecosystem, Apple doesn't

allow devices or aps in the ap store that allow you to read the cycle count on the battery. So the battery is a consumable just like tires on your car. Lithium ion batteries generally average around 400 charges. So on your phone, you go through a battery every year and a half or so and you have to replace the battery.

So it's very nice to know how many cycles are left in my battery without jailbreaking the device. There is no way to know. And that's relevant whether it is a media player or not. It's very important for iPods. We have lots and lots of people replacing the batteries in their iPods.

Outside of the Apple iPod family of devices, I also brought with me a number of knock-off, I would say, Android tablets.

So this is -- I am holding an Ematic EXP8. And if you have never heard of Ematic before, you are not alone. I had never heard of them before I ended with up this tablet.

There are a wide variety of products coming and going, some of which may be marketed as eBook readers. Some may be marketed as tablets. Manufacturers pop up very quickly and then disappear.

There is no way to get support for this product. There is no way to get software for this product. There is no way to get service parts for this product. This manufacturer may not exist anymore, but there is a need to update it and Google does provide software updates for Android, but you have to rip the device before you can jailbreak it or before you can upgrade it.

It is very common to want to downgrade the device to older versions of an operating system. In industrial applications, frequently you might have a computer that is running Windows XP that is controlling a piece of machinery. You have to keep that running on the old version of the operating system. There is no newer software that supports it.

Within the Android ecosystem now, we are seeing Android devices built into things like water jet cutting tools. A water jet cutter is a big thing that cuts out hunks of metal. It would have an embedded device in it. As an owner of the device, if the manufacturer goes out of business, you would need to be able to modify that.

Now, a water jet cutter may be stationary but you can imagine other types of equipment that

might be included within this class, a mobile XRS scanner, for example, for identifying types of plastics.

I also brought with me -- this is a Canon -- this is just a representative camera. This is a Canon EOS 40D. There are a number of situations where you would want to be able to modify the software on your digital cameras. I believe under your definition, a digital camera would be included.

MS. CHARLESWORTH: Can you explain, Mr. Stoltz, how it would be -- whether it is included, a digital camera.

And for the record, these devices that Mr. Wiens is showing us have been photographed and are part of Hearing Exhibit 8.

MR. STOLTZ: So we have proposed a three-part definition. I think the question with respect to digital cameras would be whether they are sold with a general purpose mobile operating system.

As we sit here, I don't know the answer to that, but if they did, then I believe they would fall in the class.

MR. DAMLE: It's not an all-purpose device. The uses are not all purpose. The use is

taking photographs.

MR. STOLTZ: Yes, I would agree with that.

MR. WIENS: In this case, this is a single-purpose device.

The Samsung Galaxy camera is a full-blown Android device. I wasn't able to bring mine because the one I have is in very active use at our office, but the Samsung Galaxy camera is basically a tablet with a point-and-shoot camera and a telephoto lens attached to the front of it.

MS. CHARLESWORTH: Can I interrupt. I don't think of most people -- let's say someone is trying to understand this law that says there is an exemption for all-purpose mobile computing devices.

Do you think the average person on the street would think a camera fell into that category?

You are much more sophisticated, but if we write an exemption, it's got to, first of all, be supported by evidence, but second, make common sense in terms of the ability to understand what the law says.

Why would most people think that -- I mean I am having trouble accepting that.

MR. WIENS: A mobile computing device is a device with a computer in it that is mobile.

Increasingly, that is almost everything.

MS. CHARLESWORTH: But it says all-purpose mobile computing devices, which to me -- and I think it was a term proposed by EFF -- connotes a device that I can carry with me and that I do a lot of different things with but a tablet operated like I have can have different applications on it, maybe I can make a phone call on it.

It does not connote a camera in my opinion even if a camera has an operating system, and I acknowledge many cameras would.

So to someone reading this, this is important because it's the first I am hearing about cameras in this record at all, which is another issue, but I mean it's important to be able to write the exemption in a way that make some sense.

And so do we need to -- if we don't want to include cameras, do we need to specifically exclude them? That is one of the issues we always have with this class. It's a little bit hard to define.

And I think there has been a lot of -- we made progress in that direction.

So, Mr. Wiens, if you could answer and then if Mr. Freeman has something he wants to add.

MR. WIENS: The challenge that we are having in the repair community is we see all of these products and we don't know where it falls into the spectrum.

So the more broader the definition, the more certainty a consumer has that the repair or upgrade they need to do to their device is legal.

MS. CHARLESWORTH: But this class is actually to allow you to run other aps on your device. In other words, this isn't really a repair-oriented class.

This is a class where we are saying you want to jailbreak your iPhone because you want to be able to run non-Apple aps on it. So the point of this class is really to focus on that type of use.

MR. WIENS: But I can share with you a number of cases where you would need to jailbreak a device in order to be able to repair it.

MS. CHARLESWORTH: I understand that, but this is not the stated purpose of the class.

MR. WIENS: I have a paragraph off of a review for the Samsung Galaxy camera. It says,

"Like any Android-based device, the Galaxy camera lets you browse the web and download a host of aps for both work and

play. It comes with Google's Play Store and Samsung suggests that the latter of which lists Samsung recommended aps for your device and hands off to Google Play for rapid installation. Pre-installed aps include the Google Chrome browser, search maps, Gmail, Latitude, Google Plus, YouTube and much more."

And this is a photo of the device. It looks like a camera. And we can produce this article for the record if you like but it's a camera.

MS. CHARLESWORTH: You don't have the article with you today, do you?

MR. WIENS: Just on our all-purpose mobile device.

MS. CHARLESWORTH: On your all-purpose, yes, device.

So let the record reflect we just saw an image on one of the many devices that Mr. Freeman brought with him today.

So I don't want to -- I mean I think as I said, there are a couple of points. One is how to define the class. And I think I take your point that a lot of devices can do a lot of different

things.

And the other point is what does the record support here. So we will think about that in relation to the example you just provided.

MR. WIENS: Okay.

MS. CHARLESWORTH: Mr. Freeman, do you have anything to add?

MR. FREEMAN: Thank you so much.

When you asked the question of what a normal person, somebody not like me, would think, I think if you are able to install games, you are able to install new web browsers, you are able to go to Google Play Store and install all of the things you would expect to install on an Android phone, I think that you do believe that you should be able to do the things that are listed in the class and I do think that should fall in this class, but I agree with you that if you are unable to do all of those things on the devices, that it's not something that has a general ap store, if it's a camera that only takes pictures normally and you cannot play a game on it, I would agree it does not fall into that class.

Also, and the better answer to your earlier question, I just wanted to verify that

whether I had already put evidence into the record related to eBook readers and jailbreaking. I knew that people are doing it. It turns out I had not yet put evidence in the record.

So I have found a couple. There is one called the working pot project with dedicated jailbreaking and replacing the operating system on dedicated eBook readers.

Many people have jailbroken the Nook eBook reader to turn it into a general purpose Android tablet.

People have jailbroken the Amazon original Kindle, the Amazon Paperwhite, also. They have been installing screen savers to the device to make it more fun and pleasant.

There is any number of use cases for that. I apparently had not actually provided that in my comments more generally about the class. I did not go into detail in my comments on any of these devices.

MS. CHARLESWORTH: When someone jailbreaks an eBook reader like the Kindle, are they able to access content that they wouldn't be otherwise able to access, meaning like eBooks or other things that they haven't paid for?

MR. FREEMAN: Usually, the eBook reader

is protected under a separate DRM that is in addition to the DRM being utilized by the operating system, itself, in order to keep you from running applications.

MS. CHARLESWORTH: You say "usually," but do we know whether or not if I jailbreak sort of the classic Kindle or Nook, if it allows me to get unlawful or pirated content?

MR. FREEMAN: Any particular device, I do not know the answer to that.

I can say that it would be very difficult and would require going above and beyond in order to do so and people have gone above and beyond, but I will argue I have seen more TPM's on an iPhone, which is even more general purpose in order to get access to some of the content that is presented in Apple iBooks. And Apple has an entirely separate protection mechanisms for that but I am not certain of any individual device.

MS. CHARLESWORTH: For sort of the classic Kindle that is really -- what is the name of it -- the Paperwhite Kindle, can you -- if you jailbreak that, are you able to install other aps on it? Does it support that functionality?

MR. FREEMAN: If jailbroken, but again,

the original Amazon -- I am willing to concede whether or not the original Amazon Kindle Paperwhite falls under Mitch's definition based on its -- whether it has a general purpose operating system on it. Of that, I am not as certain, but you are able to install more things on it once you jailbreak it, but it might be by more force than, for example, on an Amazon Kindle Fire where it is essentially designed for that purpose.

MS. CHARLESWORTH: Mr. Stoltz, you have been waiting here.

MR. STOLTZ: Thank you.

I have just a few points in following up on various points and I will be brief.

I wanted to clarify that with regard to some of Mr. Wiens' comments that there are a number of subspecies of the Android operating system and they are all capable of running multiple -- a wide variety, I should say, of applications regardless of whether they may be essentially versions or modified or skinned by various intermediaries, be they manufacturers or wireless carriers.

Essentially, they are all Android and that's what would fall into the category of operating systems generally designed for mobile use.

Also, I wanted to make clear for the record with respect to terminology, we have used the term "jailbreaking" as a general term for the notion of modifying the firmware on a device so as to be able to run applications of the user's choice or remove applications. Another way of defining that would be obtaining administrative access to the device.

Now, other terms are used. In the Android world, a common word for that is called "roots." Sometimes you will hear the term "bootloader unlocking," which I should emphasize is distinct from "carrier unlocking" which was discussed in other panels.

As we have used it in our written comments and I believe on this panel, we have referred to all of those as "jailbreaking," but they are sort of a universally understood type of modification.

And a fundament point with regard to the definition -- and I just would like to refer the Office to the central command of Section 1201. I guess it's (a)(1)(C) -- excuse me -- 1201(a)(1)(B).The prohibition shall not apply to persons who are using a copyrighted work, which is a particular class of works, if such persons are or are likely to be in

the succeeding three-year period adversely affected.

I just wanted to note the "shall not apply" language is mandatory on the Copyright Office once a substantial adverse effect is demonstrated. And I believe that we have demonstrated that effect on this record. That record is uncontroverted.

So while we have endeavored to define a class again based largely on the instructions of the Register from the 1201 recommendation, again, I believe the responsibilities of the Office are well defined at this point.

Thank you very much.

MS. CHARLESWORTH: Thank you, Mr. Stoltz.

Ms. Gellis.

MS. GELLIS: In an earlier panel, I had referenced TV-shaped computers. And I think what we're considering now is camera-shaped computers, or in this case, camera-shaped, all-purpose mobile computing devices.

And what I am hearing from the questions is some concern that if there might not be much left over if the class as mentioned is as Mr. Stoltz has defined it in the above.

MS. CHARLESWORTH: I don't think that is the concern. The concern is how to define the class

and what is supported by the evidence.

Just to be clear, it's not about an arbitrary issue of what is left over, but you can continue.

MS. GELLIS: But it may turn out that as an innovation is developing, it's developing along the lines where there is a lot of convergence and that this is a feature, not a bug, and it encourages the class to be defined as the EFF proposed it, which may catch a number of different devices we haven't previously considered as mobile computing devices in order not to potentially penalize the future direction of innovation that keeps taking place with respect to convergence.

MR. CHENEY: I had a question for clarification, if I might, for Mr. Stoltz.

There was a question earlier about whether repair is included in this class. It seemed to me on your page 15 of your submission that you did include some fixes as part of your -- not just to uninstall certain software that was unwanted but repair that was wanted -- or I'm sorry -- the software that was wanted. You had some fixes of vulnerabilities as included in your class.

Is that still the case or were you

removing that from the options here?

MR. STOLTZ: No, that is absolutely still the case.

MR. CHENEY: I just wanted to be clear. I had maybe heard something else on the record.

Mr. Wiens.

MR. WIENS: In the process of performing a repair, all of the things that you need to do to jailbreak software, you may have to downgrade a version, you may have to install a specialized repair ap. In the case of diagnoses, you may have to get through the operating system to access some of the remote access controls.

All of these jailbreaking activities -- it's getting access to low level systems which is required for repairing devices. So I don't see a difference between jailbreaking for the purpose of all-purpose computing and jailbreaking for the purpose of repair.

MS. CHARLESWORTH: I understand that. I think that was a question the class was actually considering.

Mr. Stoltz.

MR. STOLTZ: The class we're considering -- not to harp on this, but the noninfringing activity I

would define is modifying the device so as to run software of the user's choice.

That encompasses repair because repair in many cases requires running software of the user's choice which is prevented from running by the access controls of the firmware.

MR. CHENEY: May I follow up.

Mr. Stoltz, does that include changing out firmware -- or not firmware -- but hardware once you have jailbroken? Is that included in this? The things that need to be changed in the hardware, once you have jailbroken and you do that, I would assume, is that included here or just installation of software for those fixes?

MR. STOLTZ: I think the two may come hand in hand. I am not aware of what restrictions the access controls on the device place on the replacement of hardware. There may be some, but to the extent that process involves, again, either installing software of the user's choice on the device or removing software from the device at the user's election, that would be covered.

MS. CHARLESWORTH: I am going to -- I just want to say that I am looking at your actual proposed class here from your petition. And while

it does mention installing fixes, meaning, I think, software fixes, the security vulnerabilities, it certainly does not talk about jailbreaks for general repairs.

Do you agree with that? Do you want to take a moment to look at it?

MR. STOLTZ: No, I am familiar with it.

But, again, so what it encompasses is installing software or removing software at the user's election without regard to what that software is. And if that software is a part of a repair, it would be included.

MS. CHARLESWORTH: But it doesn't turn on -- it's not -- we had other classes where the specific purpose, the noninfringing purpose for use was repair. This really turns on installing alternative or different software.

Do you agree with that, regardless of whether it's a repair?

MR. STOLTZ: Regardless of the purpose or function of the software to be installed, yes.

MS. CHARLESWORTH: Thank you. That is a helpful clarification.

I think we may be done here.

MR. WIENS: Could I say one more thing.

MS. CHARLESWORTH: Yes, Mr. Wiens.

MR. WIENS: I think that it's helpful, as this is the last thing, to look at a spectrum of devices here and imagine what the situation may be in 12 or 24 months.

It is getting so inexpensive to put a touchscreen and a battery and processer into a device like this that you are going to be buying greeting cards in a couple of years that have all these functionalities. And if you want to be able to customize the greeting card, you might have to bypass a TPM.

So this is the Harmony remote. You would think of a remote control as the most simple device that we have and yet this has a full-blown touchscreen and operating system on it and you can imagine wanting to modify it to do a broad variety of things.

I know a guy that built a tool called "TV Be Gone." And TV Be Gone iterates through every possible off command for every TV out there. You push a button on it and it will turn off any TV in existence.

I don't particularly like television that much. And so I really love this thing. The Harmony

remote does not do this off the shelf but it could if I could install that ap for it, but I would have to bypass their operating system and replace it with a new ap.

MS. CHARLESWORTH: Just to be clear, that was part of Exhibit 8?

MR. WIENS: Yes.

MR. CHENEY: That sounds like a great tool for parents with kids.

MS. CHARLESWORTH: My kid just watches her phone -- actually both at the same time.

Well, thank you, very helpful. And we really appreciate your being here today.

And we will take this back with us and think about it and stay tuned for further developments in the 1201 proceeding.

I hope you all have a lovely afternoon and maybe we will see some of you in DC. If not, thank you again for being here.

(The proceeding was concluded at 11:30 a.m.)

CERTIFICATE OF NOTARY PUBLIC

I, DARYL BAUCUM, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place therein set forth; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney or any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: 6.3.2015

DARYL BAUCUM

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