Sabrina Wallace: [00:00:02] Hey, we're doing good to knock over all the signs to realize that, right? Yep. No, don't let them signs over. Hey, say P.K. Blair. Good morning. No, you're just as much trouble down there looking innocent. Okay. So real quick here, in answer to someone on the channel who had asked about another great video, I just have one question. If we already have the Wide Body area network, why would they be putting a mac address in the jibs? Well, the Mac idea's not in the jab. The Mac address is used for assigning an IP address to a network adapter. Okay. For example, your Mac already identifies that. Sorry, I got the wrong. Let's start with this. Before I tell you that per a mac address. What is it? Media access control address sometimes referred to as a hardware or physical address. Because it is, it assigns the physical location of your internet protocol address as in physically where you are by your IP address. Here's what people don't understand about the sensors, and that's what you're actually. Your Mac I.D. is coming from those sensors. It's not coming from the jabs themselves. The DNA in a made out of us. Bio sensors are always there, but they use something called 802.15.5 wireless sensor networks to root themselves the Nano and to understand that difference, which is what that black killed ham guy ran into, and he was like, Holy shit, what are all these Mac IDs doing here? Okay, so Mac ID routing, we want to be looking at how we're routing the MAC addresses. And in order to understand that, I'm going to assume that you know a little bit about computer networking. Just a little and folks that this loses. You feel free to ask me questions. I'm going to try to keep it simple. So the Mac ideas are not in the vaccine, the VAX, the vaccination stuff. I wouldn't well because I the yelled out for that I'm sure by something in an algorithm somewhere what they're doing with anything, not the vaccine but anything that is utilizing graphing that is for broadband and routing faster throughput electrically piezoelectric whatever with nanotechnology. Okay. So we have to round with different Mac IDs to identify what part of the body are we targeting. Now, when I explain the biosensors, I show you this and I mentioned there are two radio frequency syncs and each one of these little biosensors in here can recombine itself like only these two for your heart. That way, your stomach and your kidneys are all separate. They only want to send your precision medical health care signal here. They don't want to hit your kidneys or your stomach. Their or. Yeah, they want to be up here with just your heart. And in order to do that, this network has to be completely separate. Keep them separated from this one down here. That's the eight or 2.15.5. The wireless sensor networks. 802.15.4 are the biosensors themselves. Okay. So normally when we have a cable modem, we only have one MAC address. Well, as you can imagine, if I only want to hit the heart and make sure I don't hit the stomach, I'm going to have two Mac IDs. Then I'm going to have another one out here and I'm going to show you why in the technical right now, it has to do with the quality of service and the way that we route things. So your media access control stuff is still obviously in the logical link layer and the physical

layer of the open systems interconnection of computer networking in the OCI Reference Open Systems Interconnection model of computer networking, the MAC is layer two or data link layer device in the MAC address addresses a layer to address. In the current Internet era, most devices are connected physically with either net cables or wirelessly with wi fi. Both methods use MAC addresses to identify a device on the network. The logical link clears the second from the top, and the bottom is your physical layer. Now, when I come into wide body area routing protocols, I have clustered crop cross layered postural quality of service aware. Remember this one place and temperature. Then I have a whole bunch of stuff underneath them for how they talk to each other. So what I did is I wanted to know how the best way to show you that these wide body areas, sensor networks, their WB assets, those are the ones giving off tons of different Mac protocols in the W bin medium access control protocol determines the usage of wireless channel. It is responsible for the conflict detection and processing of nodes. Again, I don't want anything. I point to the heart to interfere with what's going on down here in the stomach. OC and wireless sensor networks can become their own nodes, priority control, time slot allocation and the transmission order of nodes. Now, I am not even going to get into the adaptive ones. The document that we're in, I'll take you to the top of it in just a second. But it says right here in the the interest in wide body areas, sensor networks for remote patient monitoring is increased considerably. Oh, no. Did I go back up to my. It is evidence that the median access method used in the wireless body areas sensor networks plays a vital role in fulfilling the specific set of quality of service. Requirements for biomedical devices. These QC requirements are a specified set of time bound data transmission, data rates, reliability and energy consumption. Time bound because if we it's going to, I'm going to continue reading. But essentially if we need to get an EKG signal back quicker than a different type of signal like one that's just watching your glucose or inverter. Yeah, yeah. Invert that. For someone who's diabetic, we're more interested in the glucose than we are the egg. That's another quality of service adjustment, a different type of routing, and that's where you're getting multiple Mac IDs from. And they're listed up here because there's also a power consumption consideration involved to really dig down into this. But the Zigbee, that's your either 2.1, 5.4 and just making sure I've picked the right way to read this to you. The biosensors themselves inside the band, they're the ones that have to make the decision on the outside because the physical computer layer has been split into three. The terms start over. Where did you go? Tinios is a popular open source operating system used in wide body areas, sensor networks and their design supports low power communications and is suitable for them. Lovely. Energy source. Okay. On. And I was in the right place. Okay, so you're ETO 2.1. 5.6 is the standardization for the W band. The standard is used for implantable as well as wearable sensors works at lower frequencies within a short range. The standard presents a mac and

physical layer designed to support various applications, including medical and non-medical applications. Medical applications refer to a collection of vital information in real time for the diagnosis and treatment of various diseases, with the help of different sensors, accelerometer, temperature, BP, etc. As I mentioned, it defines a mac layer that works with three physical layers the human body communication, HPC, ultra wideband and narrow band eight or 2.15.6 W Band also provides a specification for the Mac layer access to or me for the Mac layer to access the channel. The coordinator divides the channel into super frame time structures to allocate resources. Super frames are bounded by equal length, begins through the coordinator, then then Table four here describes the different frequency bands for the Wide Body Area network, and that's where the Mac IDs are inside the Wide body area Network. 802.15.4 is the standard that states the physical layer Mac layer functionality for low w pants. This is where we get into our low power. Again, it was established by the ATO 2.15 Working Group which provided the basis for the pan pan standard error 2.15.4. The biosensors discusses different device roles, including full function devices and reduced function. The physical layer of ATO 2.15.4 uses three frequency bands. The data link layer is made of two sub layers mac and logical link. The Mac layer manages activities such as Beacon management, its management and channel access. That channel access is another reason you're getting multiple wireless sensor networks are WCB and what are WB as in the standard X is a basis for Zigbee, Wireless Heart and ISO 100.11 A and uses six low W pan to provide connectivity with the internet. Various WPC and standard based commercial products operate with the ATO 2.15.4. The standard claims to provide energy efficient communication Internet of Things applications. That's another reason why you have more MAC IDs. Those wireless sensor networks set up a relay so they're not dug in directly to the internal networks that are near your internal organs. They have to keep them separated. So there's your amendment incorporating two physical layers, including ultra wideband and chirp. I'm even going to get into that right now. And these physical layers provide features such as good throughput, power efficiency and different data rates are 2.15.4 EES Standard provides an extension to the MAC layer functionality to make it more capable for industrial, commercial and medical applications using the concept of multi channels. Okay. So we're going to go into Zigbee and the MAC mechanisms of the 88802.15.4. So the biosensors adds four additional key components the network layer, the application layer manufacturer defined applications and Zigbee device. And that's how you're getting up into the upper echelon of them being able to write so much code for it. Now, power consumption, the miniaturized batteries can be used for WBA and nodes for efficient energy utilization. New energy efficient communication protocols are used at the MAC and network layers. These protocols reduce power consumption by introducing duty cycle mechanisms. And so that's another reason where you're going to get a different type of connectivity in these wireless body areas. Sensor networks, the

interest in them for remote patient monitoring is increased considerably. Okay, now I'm full circle. It is evidence that the medium access method used in wireless body area sensor networks plays a vital role in fulfilling the specific set of quality of service requirements for biomedical devices. These QC requirements are a specified set, specified set of time bound data transmission, data rates, reliability and energy consumption. In the last few years, many MAC protocols for wireless body area sensor networks have been proposed for medical applications. The protocols are classified into three broader categories based on channel access mechanisms, contention scheduled and hybrid access. MAC protocols play a critical part in providing quality of service for wireless body areas. Sensor networks by extending network lifetimes, avoiding packet collisions, reducing overhearing and idle listening. Generally, Mac protocol characteristics include energy efficiency, scalability, low latency, fairness in terms of channel access, throughput and jitter based on channel access mechanisms. The MAC protocols are categorized into three types schedule contention and hybrid based access mechanisms for wireless body area sensor networks. Mostly hybrid based mechanisms are used due to their flexibility to adjust light and heavy data traffic. The hybrid MAC protocols combine the benefits of both access. Mechanisms, contention based Mac and schedule based Mac. So we have different MAC protocols, we have different networks that can come in and out add and then we tune them or we can tune them in the parameters and do all sorts of other things. So that's why the Mac ID does not come from the insertion. It comes from those networks communicating where they are physically at on the body, looking for my other sign as it has a better picture for you. And this is just the extreme and I'll bring it up to the top here in just a second. Okay. Where are we at? Yeah, the biosensors here. That's segment by body part. This is your ETA, 2.1, 5.5. All these individual networks. And then inside the body, see all these extra little sensors everywhere. Yeah, that's all those little wire WAC bands that we were just reading about. Wireless sensor. I say that right in the right order now. So I'm telling you, with all these acronyms, it becomes word salad W be as ends. Yeah they could they conglomerate themselves or they get together in a certain way wireless sensor networks. So again, we can select by individual segment and pardon me organ which wireless sensor network we want to hit and that's for low power terahertz. And that's why the medical implant communication system mimic the same system until in 2005 the biosensors became commercial and then any little nerd right. An app for Zigbee and Bluetooth has been using them ever since. And that's why there's so much development and quality of service routing protocols and all these different MAC Protocol Mac IDs as well. And that's why the MAC ideas are also still growing in people once they're in the ground because they're tethered to the nano and the nano structures that are built inside the veins and arteries out of synthetic biology. Yeah. Welcome to somebody else being inside your body at the level of wireless tissue engineering since 1995 and telling you absolutely nothing

about what they do for a job or business wireless. But every sensor network survey is like in routing protocols for patient monitoring under active leader, 2.1, 5.4 and the W Band itself 2.15.6. So that's your answer about the Mac I this. I will include that in my presentation notes because I know that people who don't understand that we have a cyber physical backbone deployed this stuff really just doesn't they don't get it right. Wow I thought it was just Mac ideas and we're told I'm going to be coming back with synthetic telepathy like where you actually find it and the products for it and the routing for it in the body. Like I haven't actually shown all the tech docs for this that have to do with neural networks, PCI and all this stuff. So I'm going to be doing that later today. But in the meantime, again, just to finish off what we're talking about here with why why the many Mac ideas? Because again, they create they needed for themselves, not for the rest of us. Okay. They are practicing transhumanism in order for their synthetic telepathy. Like I was just clicking on their neuromorphic chipsets and all their tech to work faster. They can't be on dial up anymore. The body area networks connect to one another. That's why those protocols are all written so differently. We mesh network the body area networks and then the cluster routing protocol component for those Mac IDs is right here. For example, in cluster two, head coordinator, personal area, network coordinator and devices. And again, that's why we have to have a quality of service and then different controls. But it also has to do with body area network to body area network, as you can imagine. And for that you want to use a different search term. It's called our DTP W Band Inter band routing, and that's where we get into all the different controls between body area, network to body area network. They are bio frequency weapons, but they jump from band to band and everybody's body area network is individuated again by those relays. So your search for looking at inter band routing and communications is going to be our D is in Dog T is in Tom P and Paul W band inter band routing and that's traffic priority based layer. We're an energy efficient path allocation routing protocol for the W bands and from those this type of documentation you'll be able to find your wireless sensor network inter 2.15.5 aggregation not just for security but for your population. It's geo population. We were going over it earlier, so I'll throw that in later on too. But that's your answer. That's why so many Mac ideas. Rick. 536 David. [00:00:02] [0.0]