The Begining of the End for ANT+ Wireless

JANUARY 4, 2025 by RAY MAKER | SPORTS TECHNOLOGY NEWS AND REVIEWS | COMMENTS (48)

First off, no, your ANT+ devices aren't going to stop working. In fact, companies are not only supporting them going forward, but will continue to make ANT+ devices for some time to come. Instead, ANT+ (or more technically, Garmin), has announced a policy change that effectively and officially ceases the development of new ANT+ standards. Though practically speaking, that mostly happened long ago.

The core reason for this change is the European Union's Radio Equipment Directive (simply called EU RED), which will ultimately take full effect next summer (it's currently in a transitional phase). That directive covers a flotilla of different areas, but one of the most applicable pieces is that it requires authentication and encryption for wireless communications of personal information. Or, at the very least, it requires manufacturers to make you aware when data is being transmitted without such protections.

While ANT+ has long offered the ability to authenticate and encrypt data streams, it hasn't been implemented in common profiles like heart rate or cycling power. Garmin says that to do so going forward would effectively break backward compatibility, as it significantly increases the payload sent in any message. Given the landscape of devices and Bluetooth in 2025, there's virtually no appetite from other manufacturers to re-create the wheel when it comes to ANT+.

As a result, Garmin is making a bunch of changes around the certification side, development, and program side. None of these

Let's dive into it – but first, it's important to understand a tiny bit of backstory here, to see the long term challenges that lie ahead.

Regardless of how you feel about ANT+ (or Garmin's ownership of it), it has remained as the most stable thing in the sports tech universe for almost two decades. I say 'stable', because it forced companies to align to a standard, which made communications and interoperability seamless for devices like heart rate sensors and cycling power meters. There's no question that cycling power meters wouldn't have taken off if we were still back in the days of proprietary SRM wireless, or wired PowerTap SL hubs. And certainly, as the Bluetooth power meter profile has (and continues to) demonstrate – it's far from a reliable standard. In a review set for tomorrow, I'll show how a popular watch doesn't seem to implement this decade-old Bluetooth power meter standard correctly.

Of course, Bluetooth Low Energy (the direct competitor to ANT+, versus full-blown Bluetooth used for audio that's a different beast), quickly gained popularity in the early 2010's after the consortium announced standards around fitness devices, notably the heart rate strap first. While companies like Samsung and Sony had adopted ANT+ in their phones, it was Apple's decision to skip it that ultimately doomed ANT+. In fact, to this day, the mere mention of ANT+ in front of Apple employees in the know, is akin to smearing poop on the bathroom stall (seriously). It should be noted, for funsies, that Fitbit actually used to use ANT+ for communications between their early devices and the initial wireless adapter for your computer.

It'd be remiss to write an article about ANT+, without mentioning Dynastream (based in Cochrane, Alberta). That's the original company behind ANT+, that Garmin acquired in 2006. The founder of Dynastream would eventually go on to found 4iiii in 2010, maker of power meters and many other products over the last 15 years. Still, despite Garmin's ownership of ANT+, it was never really a meaningful problem for competitors. The (significant) value in having a common interoperability standard far outweighed the very small licensing fee these companies paid to Dynastream/Garmin. Consumers saw that value, and gravitated towards products that had standards in place.

A key part of any device communication on either ANT+ or Bluetooth smart are so-called sport/sensor/device profiles.

Think of a sensor/device profile as a way to define how certain types of devices communicate. For example, there's a heart rate device profile for heart rate sensors. Or the cycling power meter one, and so on. Companies that have a stake in these profiles come together to try and create a single cohesive standard. For ANT+, there are dozens of these profiles. Some companies like SRAM did an exceptional job of each new product they launched, they created an open profile for it (such as Dropper Post or ANT+ shifting). And Garmin largely did the same as well for each new product.

In the case of ANT+, this process was highly regulated, and sometimes (ok, most times) a wee bit slow. But if a company had a vision for the profile and a specific product launch timeframe/date, it was generally pretty efficient. It became less efficient the more companies got involved, or if the company didn't have a specific product launch date. Said differently: If you danced your own dance with purpose, you could get a standard profile pretty darn quickly. If you involved a massive committee of competitors or were wishy-washy on dates, it dragged on for years. One only needs to see the much-requested Aero sensor profile as an example of that. And there are many more.

However, the Bluetooth SIG side had its own issues. These profiles were coming hot and heavy, but often driven by players that frankly didn't have any business being part of that profile. We'd see automotive companies involved in the cycling power meter profile, for example. Thus, that profile still suffers plenty of problems to this day as it doesn't really capture everything that power meters did 10 years ago, let alone today.

Still, by the mid-late 2010's, most of the core sports profiles used were available in Bluetooth, including Bluetooth footpods, Bluetooth power meters, Bluetooth heart rate sensors, Bluetooth Speed & Cadence sensors, and Bluetooth FTMS (for smart trainer control). Likewise, by that time, most of the chipsets used were dual ANT+/Bluetooth Smart. Almost every sensor made since 2016ish has been dual ANT+/Bluetooth Smart, albeit, it wasn't until a few years later when multi-channel Bluetooth chipsets became commonplace, ensuring users could connect to their heart rate strap from more than one device at once (a problem primarily in the indoor training space).

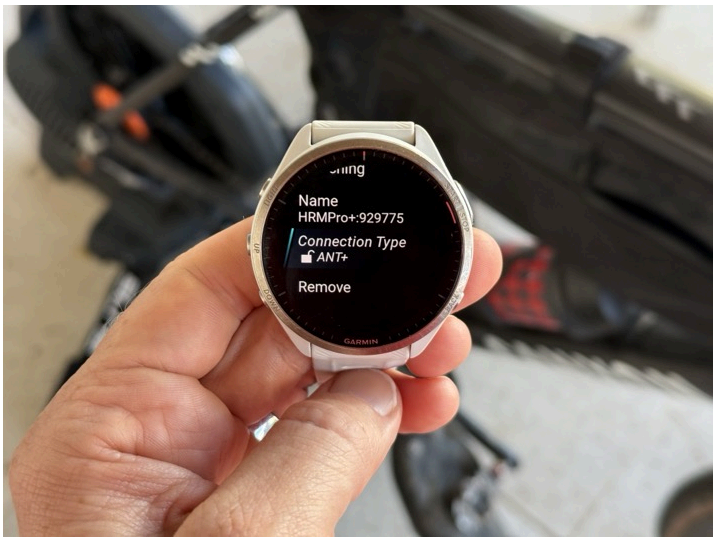
As a result, Bluetooth finally became not only viable for sports use, but just as reliable in most scenarios. And in some cases, it handled wireless interference better than ANT+ did.

As I mentioned earlier on, the single biggest dagger to ANT+ is the EU RED, and the need to encrypt data. All of this would require a massive overhaul of ANT+, breaking backward compatibility with tens (if not hundreds) of millions of devices. Setting aside whether or not consumers actually want their live heart rate data at the gym encrypted, that's where we find ourselves. As

– They are discontinuing membership programs/fees: Up until now, there were different membership tiers of ANT+ that companies/startups could join. These had fees, though relatively minor. Still, Garmin says it wouldn't be right to charge companies for a membership that doesn't have long-term viability in it.
– They are discontinuing certification programs: Companies could submit products to be certified as compliant with standards. Some companies like Wahoo took this quite seriously, and sent everything. As of March 31st, ANT+ will stop accepting certification submissions. And as of June 30th, they'll stop certifying new products.
– They are ceasing development of new ANT+ Profiles: No surprise here, there's no new development/expansion of ANT+ profiles.
– They are however continuing to ensure ANT+ is available on silicon: This ensures that ANT+ is still available on chipset providers for a long time to come. As one might expect, there are millions of devices, both from a sensor and display (e.g., watch/bike computer) standpoint, that still want to use ANT+ connections. Garmin says they're working to ensure these chipset providers continue to make dual ANT+/Bluetooth chipsets.
– All documentation to be made fully available online: Certain tier ANT+ members could access more detailed documentation than lower tiers. This basically makes all ANT+ documents available to everyone.

All of this basically means that your ANT+ devices will continue to work just fine, and we'll actually probably continue to see ANT+ devices made by companies like Garmin/Wahoo/etc for quite some time as well. That's because there are workarounds to the EU RED requirements, such as notifying the user. Or, simply assuming that portions of the EU RED will get delayed yet again.

In fact, we're already seeing Garmin introduce some mitigations. In recent Garmin watch/bike computer beta firmware versions, you'll see a new connection option type shown:



More on related things later/soonish.

As for the reduction of ANT+ positions within Garmin, the company noted that they "have a shortage of people, not ideas". Everyone in the Cochrane office is simply being reassigned to other work areas. Garmin has largely leveraged the Cochrane office in recent years for projects related to sensors and other communication technologies (e.g., heart rate sensors, power meters, etc…).

Now going back to that initial excitement period in the 2010's, standards-based profiles largely halted. Most companies, including Garmin, saw the Bluetooth SIG as a hopeless entity more concerned with putting in place roadblocks than progress. We saw companies like Polar and Wahoo – who used to have significant presence on the Bluetooth SIGs (committee groups), significantly reduce involvement. As a result, there's been no new sports/fitness profiles in nearly a decade.

Thus, while it's easy for many consumers to dismiss ANT+ as irrelevant, it's very much still a part of certain scenes – the biggest being cycling. Things get really messy, really quick.

Got a cycling radar (like a Varia Radar device)? Yup, that's almost exclusively on ANT+. The only Bluetooth implementations are private/proprietary implementations that are unique to each company. Even radars from Bryton, Magene, and others all use ANT+ as the primary protocol.

Got wireless shifting or Di2? Those too are on ANT. In the case of SRAM/Campagnolo/FSA, that's broadcasting your gear and battery status on the ANT+ shifting protocol. In the case of Shimano, that's using their proprietary ANT (but not ANT+) protocol. Of course, that's resulted in all sorts of messiness. But there is absolutely *zero* Bluetooth alternative for any of these companies right now.

How about cycling lights? If you want those cycling lights connected to your Wahoo/Garmin/Hammerhead/COROS/whatever bike computer, that's using ANT+. Sure, there are, again, proprietary Bluetooth implementations out there. But they only work within that specific company's ecosystem (thinking of Lezyne as an example).

Sure, for heart rate data the standard is well understood on Bluetooth. It simply doesn't matter whether or not you have an ANT+ or Bluetooth Smart heart rate strap, they both work perfectly fine. There are minor pros and cons to each, but for 99.9% of consumers, it just doesn't matter.

So what happens to mitigate these gaps?

The answer to this section headline is simple: Back to walled gardens.

Of course, that was already mostly the trend the last 4-5 years. Unfortunately, the COVID era further cemented that by eliminating various interoperability conferences/events that had occurred prior. Adding to that is the heavy shift towards startup tech companies that have largely eschewed standards as well, be it protocol or file format.

While one might assume Bluetooth SIGs would be the answer going forward, history and current company commentary have very clearly indicated otherwise. I've yet to find a single sports tech company that wants to deal with pushing forward new device profiles with the Bluetooth SIG. Companies don't see that as a viable route to success, and certainly not worth their time and headaches.

Instead, companies like Garmin say they're going to work to make private profiles more available. I asked Garmin, for example, about the radar profile, for which Garmin has had a private Bluetooth implementation available for years now. They give that to some companies upon request, to implement within their apps. They didn't have (yet) a specific firm answer for how that'll look going forward, but instead pointed to Wahoo's early release a decade ago of their trainer control protocols as an example of the likely direction.

For those that don't remember the early 2010 protocol days of Wahoo smart trainers, they basically created their own trainer control standard, and then published the API/SDK on a website for all to use. That quickly made Wahoo's KICKR trainer protocol the de facto standard for a period before the ANT+ FE-C standard came into play.

Garmin has plenty of history of doing variants of that, both within the ANT+ sphere, but also their Connect IQ developer programs. But whether they actually do so is a different matter. In the trainer space, Garmin/Wahoo/Elite/Zwift all kinda quietly work together on various protocol things, but they don't often reach the finish line in a public way.

The sports tech industry needs some replacement for what the ANT+ Symposium did for over a decade, both in terms of an event to talk protocols (with competitors no less), but also the backend process to keep companies aligned to standards for the other 51 weeks of the year. Unfortunately, I don't see how that happens going forward.

Until then, the good news is our ANT+ devices will continue to keep working.

With that, thanks for reading!

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48 COMMENTS

Brian Reiter

January 4, 2025 at 7:40 am

Reply

#1

Ah! The other shoe drops and this explains the thing about adding HRM as a speed and distance monitor in the 13.x firmware stream for fenix 8 series.

I realize there is a lot of legacy and history and shit that actually is working and debugged is valuable. But that being said it has seemed inevitable for years that the sport world should shift to BLE if only because of leveraging commodity development of smart phone technology.

I think the European sports watch makers, Polar and Suunto already dropped ANT, as did Coros and Apple never supported it. That means it's primarily a technology Garmin and especially cycling. You don't really need ANT+ for any mainstream running sensor tech that I can think of: footpod and HR sensors are functional over BLE except for Garmin HRM Pro which is crippled of running dynamics and pace/distance features over ANT. CORE uses ANT+ for Garmin and Wahoo but supports BLE so that is an implementation software detail that could easily be changed if it isn't already an option to use BLE.

My understanding is that in addition to encryption and authentication of partners there is a difference in packet reliability where BLE is reliable delivery and ANT+ is broadcast best effort delivery conceptually similar to TCP vs UDP protocols on the internet. Also I think the practical data rate of BLE is significantly higher than ANT+ and this makes a difference in some cases. For example HRM capture of HRV during exercise is significantly more reliable over BLE than ANT+ (such as for DFA alfa1 analysis).

January 4, 2025 at 7:50 am

#2

Yes, for most general purposes, BLE works out easier.

Polar does still do ANT+ on all their sensor devices, but not watches. COROS also does it on their bike computer, and most older watches except current gen.

For HR, like you noted, it's mostly limited to Running Dynamics (which Stryd/Wahoo/Garmin and others all actually supported at various times over ANT+).

In some ways though, that's such a good example of a standard that doesn't exist on the BLE side, so we end up with this weird fragmentation of every product by themselves for running efficiency metrics. Perhaps a reason why it's never really taken off in a concrete way. Even with both Apple & Google supporting it in their latest devices, Strava and other platforms don't bother. Again, standards matter, it's just not always obvious to end consumers why those boring technical standards matter.

CORE's success in this market (from a protocol standpoint) is largely due to them being super hungry when it comes to getting every known pro cycling team on the planet on their platform, and thus, forcing Garmin/Wahoo/Hammerhead/etc to support it, so their teams can use it. It's worked, though, it's also the rare example of that working, rather than the norm. Moxy managed to do the same thing a decade ago.

Keith Wakeham

Reply

January 4, 2025 at 9:18 am

#3

As someone who developed many things on both ant and ble, ble having more reliable packet delivery isn't quite true. It can but it's not how most people think. But the profiles don't implement it but rather it's at the protocol implementation where it has so many retries before it has to move on… You're outside of your timeslot and thus reciever isn't listening. You can increase that window sacrificing meaningful battery on both ends or try in the next timeslot, but if a payload update happens that data goes poof. So it's loss is different, might be more reliable in many cases but not all.

This is why they copied ant+ homework and used fault tolerant accumulated data and event counters so lost BLE packets, exactly like ant+, can be interpolated.

The bigger advantage is likely better frequency and time slot maneuvering as ant+ didn't implement this and really couldn't to maintain backwards compatibility.

Brian Reiter

Reply

#4

Is it correct that the practical bandwidth for data transmission is much, much higher for BLE vs ANT+. Like 1 or 2 orders of magnitude?

Relatedly: I have seen convincing testing of HRM that show much higher quality of data captured over BLE than ANT+ particularly with Polar H10 and Movesense sensors. The claim is that when you use HRM ANT+ to capture from an HRM chest strap and analyze the data in Kubios you will have around 5% missed beat artifacts and with BLE close to 0% (via muscle oxygen training blog, Bruce Rogers MD).

What accounts for this? I have assumed dropped ANT+ packets.

Eli
January 4, 2025 at 10:34 am

Reply

#5

This statement isn't really true:
HRM capture of HRV during exercise is significantly more reliable over BLE than ANT+ (such as for DFA alfa1 analysis)

This is more an example of Garmin not fully using the Ant+ standard to recover lost r-r data) as when an app does support the standard correctly it gets much better quality data. See:
link to apps.garmin.com
which can do a raw ant connection and get good data.

This is an example of why good standards are important and important for platforms to implament right.. This way the platform can get the raw data and apps can just use the data without having to care about the communication protocol. Sure you run into probems like this where it works good enough (the number of people complaining about this is small) and some of this may be from legacy code (when ant+ HR code was first done the extra checks needed to do this might have been a noticable hit on battery life that is now trivial today (Edge 305 wasn't very powerful)

Eli
January 4, 2025 at 10:46 am

Reply

#6

Keith Wakeham, any chance you'll do a post on the tech details between ant and ble? Why is it so hard to support ble power? what features are in the spec that are so hard to get right when reading? (hoping not just lazy devs) Does the chipset hardware overlap? ie is dual ble/ant chipsthere isn't much unique stuff ant needs so easy to just add it making it likely to exist for a long long time or something that may get cut sooner as they may want to save on die space and other support hardware

usr
January 4, 2025 at 12:18 pm

Reply

Does “listener shuts down” make a meaningful difference in battery life on a device in the class of Edge or larger, that fail to reach two-digit runtime hours per Wh of battery even without listening to any sensors? I can totally see it making a meaningful difference on coin cell class devices, perhaps even a catastrophic difference. Maybe also on a watch class device. But Edge and upwards? (I consider the 1050 beyond “Edge class” in terms of eating through battery fast)

Rouleur
January 4, 2025 at 2:27 pm

Reply

#8

It’s not hard to support BLE power – any issues are most likely on the sampling instrumentation side rather than the post-processing and onward transmission of data to a computer.

You are correct that at the The Nordic nRF52, 53, 54 SoCs support both ANT+ and BLE on the various SKUs. The majority of the differences are in the SW protocol stack rather than HW. This used to be referred to as the softdevice in the old Nordic nRF SDK but is now part of the stack within the nRF Connect SDK.

The Softdevice/protocol part can be updated with an OTA (over the air) update in theory if there is sufficient space in flash however I have never seen a product do this in field.

Paul Faulkner
January 4, 2025 at 8:28 am

Reply

#9

One thing I’d really like is for my Stryd footpod to be recognized properly by my Garmin watch. In a previous post you said that the block to this was Stryd and Garmin using different FIT file implementations for power data. Dumb question, but is this the same as their using different ANT+ profiles? And if so, does this change here mean that Garmin and Stryd will never work together properly?

Reply

Ray Maker
January 4, 2025 at 8:36 am

#10

It’s been a while since I looked at the Stryd implementation, but my fuzzy memory is way-back-when, Stryd asked Garmin to open up the Running Dynamics profile, which, Garmin did. And then, subsequently, Stryd said ‘nah, nevermind’. Details: link to dcrainmaker.com

The standards for both simple ANT+ footpads & Bluetooth Footpods have been around for like 12-13 years now, and Garmin follows them (along with others). If Stryd isn’t doing it right, honestly, that’s on Stryd.

Brian Reiter
January 4, 2025 at 11:02 am

Reply

I stopped using my Stryd a while ago because the juice wasn't worth the squeeze for me but I think you could connect it as a Bluetooth power meter and a footpod for distance and pace. However doing so means you lose most of the Stryd dynamics and the integration with their app. It seems like they strategically want running power to be proprietary and tied to really niche but cool foot path visualizations.

I originally had a Swift Stryd which was useful for just accurate pace and distance on treadmill or urban jungle but hills and changing shoes with significantly different stack would throw it off. This was rather useful in the main because the fenix 5X had relatively poor GPS accuracy and very poor treadmill accuracy.

The reality is there are two incompatible conceptual formulas for running power and at least 5 implementations of the concepts which are mutually incomparable. The concern is that this mutually incompatible accessories will become more the norm in the absence of ANT+ standardization.

Justin Fabian
January 4, 2025 at 8:48 am

Reply

#12

Why not keep the ANT+ infrastructure and evolve the protocol to be ANT++ or something, understanding it won't be backwards compatible, but saving everyone from the wild West of private protocols?

Greg
January 4, 2025 at 10:48 am

Reply

#13

Walled Gardens to capture consumers and make it difficult to change ecosystems

Keith Wakeham
January 4, 2025 at 9:03 am

Reply

#14

Unless something changes with ble and fast (like they Sig releasing better tools, ditch the insane pricing, and grow up about having a whole document that is just pages of legal threats) this is going to be bad for innovation. Remember all those run metric companies of the wearable trend. Did any survive that made their own protocols?

The other side is I've been at the forefront of reverse engineering protocols where companies are playing "we can be like apple" mindsets. I've been threatened wrongfully with legal actions multiple times. Companies are petty. "zwift compatibility mode" exists as a term and should not that grew out of chipset limitations and lack of clarity or testing tools for the ble power profile. Just about every proprietary wireless "profile" in sports tech in recent years that's existed I've requested and 100% of the time they've never responded. They've only responded when I publish my reversing work.

So back to the wild west and private negotiations, legal threats, and mostly ceo lies about working with other companies. It takes a lot of effort to do that and they don't think they're lying but they don't realize how hard. Either they openly publish or

Sports tech profiles need to be handled by not ble SIG. But without a central body it's going to be hard.

Kevin F
January 4, 2025 at 9:10 am

Reply

#15

Sensor profiles can be broadly categorized into two groups:
– Consumer/Mass Market: These cater to a wide audience and are typically supported by major consumer electronics companies (e.g., Apple). Examples include heart rate and basic fitness tracking.
– Enthusiast/Niche Market: These focus on specialized applications for enthusiast users, such as muscle oxygen, core temperature, cycling/running dynamics, and radar.

The recent ANT+ changes will primarily impact the Enthusiast/Niche Market. Without a standards body, manufacturers of "enthusiast sensors" will have to work with other companies ad-hoc to ensure their sensor data is received and recorded properly. This is going to hobble innovation, and risks creating walled gardens. I understand the spirit of the EU RED, but this certainly seems like an unintended consequence.

The last point about the need for a new ANT+ Symposium is dead-on. Unfortunately, I don't see who leads that charge in the current market. Who is incentivized, independent, unbiased and holds a strong voice within the industry? (Looking at Ray ;)).

John Tonetti
January 4, 2025 at 9:20 am

Reply

#16

To err is human. To really f*ck things up, get the government involved. Has anyone ever lodged a complaint with any government about their ANT+ data getting stolen or hacked? And where does this the SRAM/Shimano/Karoo debacle?

Governments have become far too involved in the marketplace, stifling both innovation and competition. Because lawyers always know best, right? Just ask them…

Darwinia
January 4, 2025 at 10:32 am

Reply

#17

lol so easy to trot out a generalized statement like that which is obviously not true.

Indy Jonze
January 4, 2025 at 10:52 am

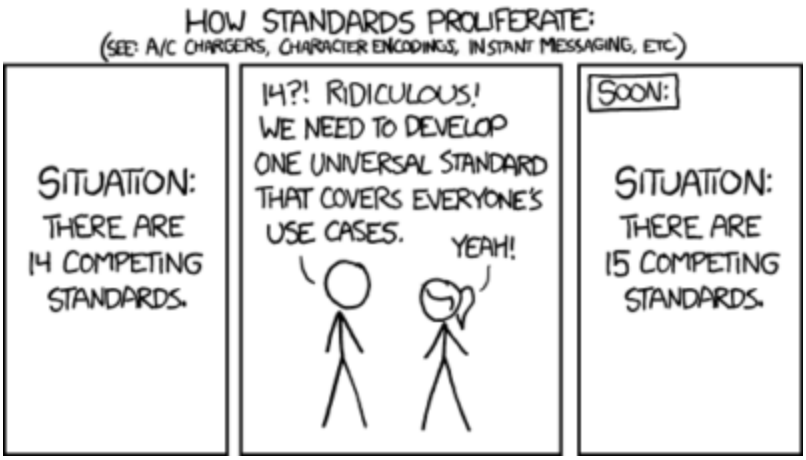
Reply

#18

Apple, Google, Garmin and a host of other tech companies would strongly disagree with you…

January 4, 2025 at 9:48 am

#19



This makes me mad. To this day, ANT+ always just works. Where even on things like powermeters, BLE sometimes fails. I am all for forcing companies to support standards (cough – Shimano) so making it even harder will help no one.

What the EU is doing here is the classic unfunded mandate. If they want to require these standards change then they should be funding the standards bodies to make it happen.

Also, how did we get this far without mention of XKCD #927!

Darwinia
January 4, 2025 at 10:40 am

Reply

#20

The EU is also doing things like requiring USB-C which no users are unhappy about and in the long run better for the manufacturers too. It requires funding to further develop technologies already being used and in existence?

Ned Harding
January 4, 2025 at 10:48 am

Reply

#21

I agree – I like the usb-c standard, far from perfect that it is. This is different though – it is in effect mandating an existing standard to cease to exist.

Mandating encryption online makes sense. Your data can be intercepted from anywhere. Mandating encryption from a moving target is silly. You probably know if someone is following you intercepting your data and in that case you have bigger problems.

Jpb
January 4, 2025 at 9:58 am

Reply

Superb article. more people should be writing about this. I look forward to seeing where ANT+ and Bluetooth go from here. Walled gardens certainly would suck.

Darwinia
January 4, 2025 at 10:28 am

Reply

#23

Interesting and the kind of detail you only get from this site.

Darwinia
January 4, 2025 at 10:31 am

Reply

#24

Every time I see a Varia I think the only way I will buy one is when it switches to USB-C. What is taking Garmin so long? They are certainly losing other sales besides mine to competitors.

Paul S.
January 4, 2025 at 3:07 pm

Reply

#25

C to micro USB adapters are a few dollars. Why would you make that the major consideration for buying something so useful as Varia radar?

Colin C
January 4, 2025 at 10:40 am

Reply

#26

Why not open source it and make it a community lead standard? With their opening the documentation and licensing it seems a step in that direction already.
Also, it seems that letting users know their sensor data is unencrypted seems trivial. Just another thing in the long list of micro print?

usr
January 4, 2025 at 12:28 pm

Reply

#27

/me joins the slowly growing crowd of people who silently stare at Ray

usr
January 4, 2025 at 12:34 pm

Reply

(I should buy back my editing privileges, did not renew while job hunting)

cowrob
January 4, 2025 at 10:52 am

Reply

#29

This is spooky. I was deep falling into the internet and found an article about the flaws in the Nike+ system. I was always curious why they just quit, and the reason appears to be partly about their implementation. It was designed to be ‘user friendly’, and ‘open’, and ended up allowing people to be tracked/stalked…

I’m sure the whole story on why it ended so suddenly is far more complicated, but they pulled the plug pretty quickly as I remember.

It sounds like Bluetooth SIG needs to grow up really quickly now, but that’s not likely to happen quickly and effortlessly. Sadly, bureaucracies (don’t) work that way.

And I always thought that the issues with the frequency would get ANT+ in the end.

Back in my early days of becoming internet aware, I ran into several SIG’s, and got a dim view of them generally. There was so much infighting and bullying in some of them. They couldn’t seem to get out of their own way to do the job they were created for, but some were extremely productive too. (And what ‘XYZ Corp’ would have to do with profiles for totally unrelated products is bizarre)

I was surprised when I ran into an encrypted ANT+ device years ago too. Well, maybe not ‘encrypted’, but possibly using a private profile? It’s so great when people (corporations) can coexist and cooperate and for so long. (All they needed was a ‘Microsoft’ to half ass support for standards with their own tweaks breaking interoperability)

Oh yeah, the Nike+ encrypted the data, but several sensor unique items were openly broadcast allowing the tracking issues that some complained was happening.

I know you spoke and attended the Garmin seminars/conferences and the future will be perhaps even more interesting now. Yea hah…

cowrob
January 4, 2025 at 11:18 am

Reply

#30

Actually Garmin was the Microsoft that tweaked the standards. With that I’m out…

MarNat
January 4, 2025 at 11:00 am

Reply

Idiots from EU once again get involved in something they have absolutely 0 idea about, but want to regulate the shit out of everything they can think of…

Reply

Ray Maker
January 4, 2025 at 11:21 am

#32

On the whole, the EU has done good things for consumers globally, let alone inside the EU. But that doesn't mean it always works out perfectly.

Let's start with USB-C. I think virtually everyone (except probably Apple) would agree this is a good thing, at least for the short to medium term. How this shakes out longer term is indeed a mystery. But I'm willing to let that be a 5-10 year from now problem, rather than sitting on random connectors.

Next, we've got GDPR. On the whole, I think it's good for consumers and their rights. It's equally forced most companies outside the EU to follow at least core aspects of it. That said, it's also basically told consumers to click 'Accept All' as fast as possible because that's often the only path to quick success. So while we've gained a bunch of rights, it's added more steps that most of us just tappity-tap past. And that ignores whether or not there's actual ramifcations for companies.

Finally, we get to EU RED and in a few years the EU CRA (link to digital-strategy.ec.europa.eu). Again, at a high level, I think these are generally doing good things. But as with other initiatives, there's gaps in that landscape that can't easily be sorted. On one hand, we know companies will find every excuse in the book, if that excuse exists. Twisting it to fit their needs. On the other hand, lack of exemptions means babies get thrown out with the bath water.

Ultimately, we've never had a period in history where a small set of companies (or billionaires) have so much power over society (or products within society). Whether that's from a financial perspective, governance control perspective (via lobbying), or simply the ability to sway the public directly with often misleading claims. I don't think it's a bad that that the EU basically DGAF about these companies, focusing instead on consumers. As with anything human, it won't be perfect. This just happens to be one of those imperfections.

Brian Reiter
January 4, 2025 at 11:36 am

Reply

#33

Even apple was going to change to USB-C on their own. The EU maybe accelerated that by half a year to a year, especially with accessories like mouse, trackpad, and keyboard. Remember that Apple helped design USB-C and only created Lightening because USB-C was not ready and mini- micro- USB was terrible. They also took incredible flak for eliminating the 30-pin cable and are generally conservative about changing the connector on the iPhone.

usr
January 4, 2025 at 12:39 pm

Reply

#34

Yeah, Apple had to ditch lightening for high bandwidth connections anyways (or do done annoying “lightening 2” move) to allow e.g. the iPad Pro to work with external screens and the like. The EU offering themselves as a scapegoat for the transition was super convenient for Apple.

Mike
January 4, 2025 at 11:25 am

Reply

#35

Wonderful. The eu providing rules that sound good at a high level but have no practical use and make the user experience worse for everyone. Like forcing us to accept cookies on every damn page

Gene
January 4, 2025 at 11:29 am

Reply

#36

“In fact, to this day, the mere mention of ANT+ in front of Apple employees in the know, is akin to smearing poop on the bathroom stall (seriously).”

Ray – just interested why Apple employees feel this way? Can you help explain for those not in the know? I haven’t heard of your expression, but have heard of the person that puts a turd in the punch bowl. :)

giorgitd
January 4, 2025 at 11:49 am

Reply

#37

Although most (all?) of my gear is ANT+/BLE compatible, I’ve used the ANT+ channel pretty exclusively. This is mostly legacy – I’ve been using these tools for a very long time and ages ago, BLE seemed less robust than ANT+ (well, just ANT then, I suppose) without any obvious benefit. The ANT+ devices ‘just worked’. So, eventually, when I have a new device that is BLE-only, I’ll probably waste an hour shifting everything to the BLE channel. No big deal. In fact, when I consider new toys, if a particular device is BLE-only, I tend to dismiss it. So, yeah, I’m in the Garmin ecosystem. The future demise of ANT+ actually opens up new possibilities for me as I’ll eventually go all-BLE and that will enable my consideration of, for example, some Suunto devices. But the walled garden concern is a real bummer. I wonder if this EU legislation was developed with consideration that some big EU players produce devices that are primarily BLE and Garmin, in the US, controls ANT+…

usr
January 4, 2025 at 12:47 pm

Reply

” So, eventually, when I have a new device that is BLE-only, I’ll probably waste an hour shifting everything to the BLE channel.”

You won’t have to do that, none of your existing pairings will be affected unless some firmware update actually removes ANT+. When you get a new device, you’ll just create new pairings that happen to be BLE. The only thing you might miss is automatic cloud-based pairing transfer from old to new (not sure if anybody is doing this?)

For me it’s worse, I still have plenty of ANT+ only devices, Bepro and a collection of those indestructible one-piece HRM straps that don’t silently stop registering heart rate unless you replace the belt every few months.

Kyle Polansky
January 4, 2025 at 11:59 am

Reply

#39

Do you think this will impact exercise files (ex .fit files, DCR Analyzer compatibility, etc.)?

I’m sad seeing ANT+ end this way.

Reply

Ray Maker
January 4, 2025 at 12:06 pm

#40

No foreseen impact there, at least anytime soon.

Those standards haven’t changed in years, and everyone uses them except Apple. Heck, even Strava takes Apple Watch workouts…and convert it to a .FIT file for use beyond your phone.

usr
January 4, 2025 at 12:06 pm

Reply

#41

Sad news. Perhaps sports tech companies could come together and define some layer separation to make the profiles process (as in the + of ANT+) live on separately on top of an evolving set lower layers (physical and pairing/encryption)?

ANT+ profiles are reaching quite far into the physical layer (like defining transmission rate) and a little more separation between semantics and the physical part might actually be a healthy change. That would mean defining one “container protocol” inside the BT SIG process (or outside, but still on top of BLE) and the semantic profiles in a cooperative process that’s more a continuation of the sports-focused ANT+ than the “universes collide” of BT SIG?

They might even want to hit the ground running and add additional “container protocols” for Ethernet and USB, as a nod to

Richard Wharton
January 4, 2025 at 1:32 pm

Reply

#42

Wasn't it Wahoo that ran afoul of the BLE publishing standards, and paid a fine?

Richard Wharton
January 4, 2025 at 1:34 pm

Reply

#43

I remember how much fun Jim and Mieke had (this was before Quarq got swept up by SRAM…) with their ANT+ front skewer QR with a built in ANT+ receiver. You could deduce whose power meter and hr peripherals were whose by looking at, say, a 5-rider breakaway, and get some inside skinny on the competition.

Ira Sills
January 4, 2025 at 2:33 pm

Reply

#44

Thanks

Gilles Simard
January 4, 2025 at 3:07 pm

Reply

#45

No comment

Gilles Simard
January 4, 2025 at 3:07 pm

Reply

#46

No comment

Benedikt
January 4, 2025 at 3:16 pm

Reply

#47

It would be great when Garmin would allow ConnectIQ Datafields to fill in „native" data streams in the fit file.
The Tempe is discontinued, no replacement for that on the market so far.

for that.

The Core Sensor would profit also a lot.

Mark Rages

January 4, 2025 at 4:40 pm

Reply

#48

It is almost trivially easy to layer Ant+ packets over BLE: Make a Bluetooth characteristic that will notify eight-byte Ant packets and accept writes for reverse-direction packets (for calibrations etc.)

In fact the Quarq power meter exposes such a characteristic.

So a transitional solution would be to have a standard characteristic for this Ant-over-bluetooth data. I expect this would be anathema to both Garmin and Bluetooth SIG.

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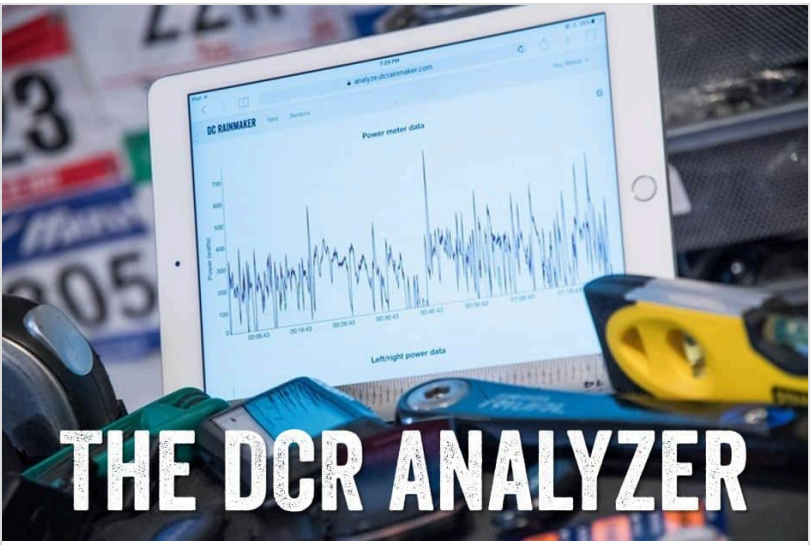

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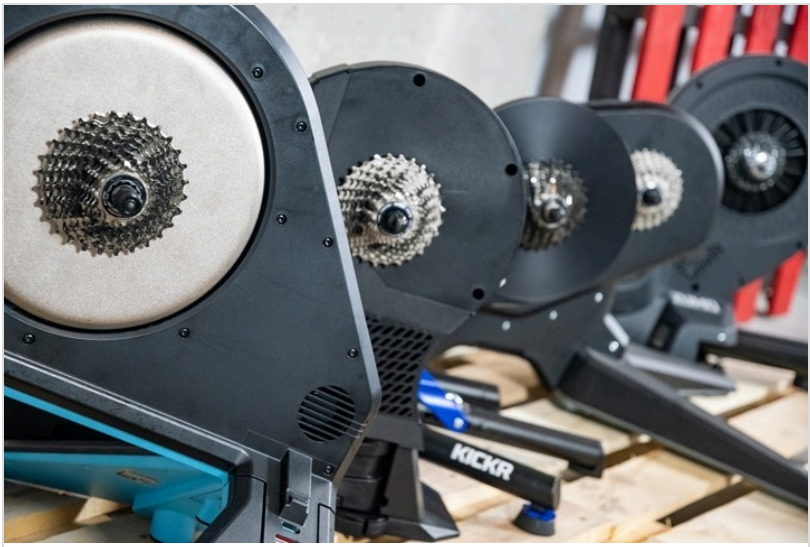

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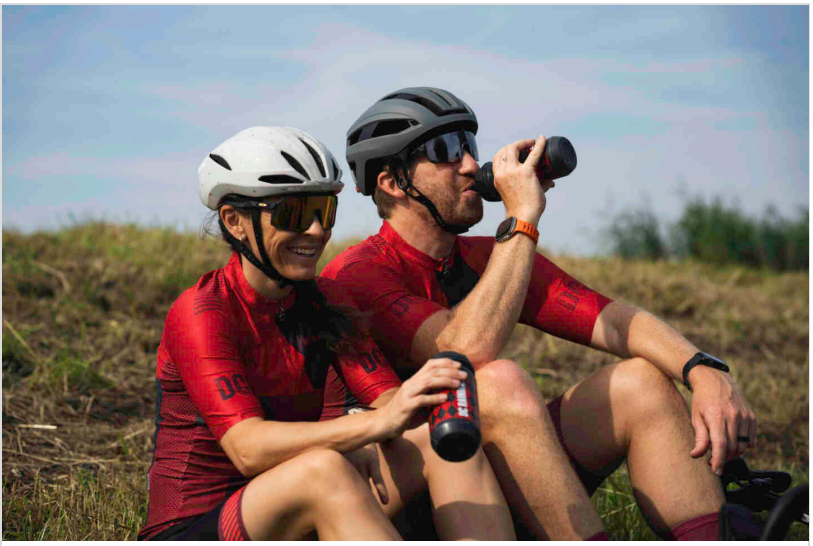

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