



Mobile & Wireless Roundup No. 131 (see original on [LinkedIn!](#))

By Zahid Ghadialy

Welcome to the 131st edition of this newsletter. I'm often amazed by the sheer amount of knowledge and tools we have at our fingertips—from educational YouTube channels to powerful GenAI tools like ChatGPT and Claude. A colleague of mine became impressively competent in AI simply by watching online videos, going from complete beginner to confident practitioner. It's a reminder of the era we're living in—where learning is more accessible than ever, and AI tools can act as helpful (if occasionally flawed) copilots.

With all this technology to solve problems, cure diseases, and boost productivity, you'd think the trajectory of progress would be unstoppable. But just like every good story has a twist or a villain, reality often throws up roadblocks. Whether it's the tragedies of war, economic instability, or human short-sightedness, the very species driving progress is also capable of derailing it.

So, what does any of this have to do with mobile and wireless? ... well, everything.

In today's interconnected world, no technology exists in a vacuum. Devices, infrastructure, and networks are built by people from all corners of the globe, relying on cooperation, trust, and shared standards. And when global tensions rise or supply chains break, even the seemingly simple act of making a smartphone or launching a satellite becomes complicated.

Take satellites—this season's hot topic once again. They orbit above all our borders, enabling observation and communication on a global scale. But even space, once seen as infinite and untouched, is now under threat. Without careful management, human ambition could fill it with debris, making it harder to use for generations to come.

I don't have the answers. Most of us don't. But I do believe in the power of small, positive steps. Sharing ideas. Learning from each other. Supporting innovation and progress in whatever ways we can. Maybe, just maybe, these little things will snowball into something meaningful.

Only time will tell.

For those of you who don't know me, I am a technologist with over 25 years' experience in mobile wireless technology, currently working as an independent advisor, analyst, consultant and a trainer. This newsletter is a summary of my posts and other news that caught my attention since the last newsletter.



© 6G

- Free 6G Training - Unlocking 6G with Semiconductor Innovation: A Technical Overview ([link](#))

A presentation slide with a blue and pink background. On the left, a large '6G' logo is accompanied by icons of a chip, a person with a headset, and a radio tower. Text reads 'Next G Alliance Report: 6G Component Technologies Semiconductor Technology'. On the right, there are two charts. The top chart, 'Saturated Output Power vs. Frequency', is a scatter plot of P_{sat} (dBm) vs. (Log) Frequency (GHz) for various technologies. The bottom chart, 'Antenna array size vs. circuit's passives size', shows size (mm²) vs. Frequency (GHz) for different passive components. A footer contains '#Free6Gtraining' and a 6G logo.

- Frank Royal - Turning the Page on 5G: Service Providers' Vision for 6G ([link](#))

- Free 6G Training — 6G Empowering Future Robotics: Building Intelligent, Connected, and Ethical Robotic Systems ([link](#))

5G

- Operator Watch Blog: Rogers, Bell, Telus... and Freedom? Mapping the Future of Canadian Mobile ([link](#))
- Fierce Network Op-Ed: Network slicing vs. private cellular? Which one is better? ([link](#))
- A good slide from Ericsson's Make it memorable: Capitalize on elevated 5G customer experience ([link](#))

Open & Disaggregated Networks (including Open RAN, vRAN, etc.)

- Total Telecom: The power of rApps to transform telecoms ([link](#))
- ODIN - From Lab to Field: How Viavi Solutions Powers Open RAN Innovation ([link](#))

Spectrum

- Mohamed Abbas on LinkedIn: "In November 2024, #UAE announced It is one of the first countries in the world to allocate 600MHz and 6GHz bands to operators..." ([link](#))

Private Networks

- Net One Systems and Tokyo Boeki Techno Systems have realized a digital twin using LiDAR and local 5G ([PR](#) in Japanese)
- Private Networks Technology Blog - Private 5G Powers the Fast Lane: Baicells Network at Brazilian Racing Circuit ([link](#))

Solution architecture and highlights

Solution:

- L2/L3 private network: app platform + core + RAN + CPE
- 5G core will be deployed in a central server
- 3 sectors gNB realize the full wireless coverage
- CPE is connected to gNB via wireless frequency
- Max. 8 cars at the same time in the circuit through 5G private network

Highlights:

- Full seamless wireless coverage
- High integrated network, easy and fast deployment
- 250km/h of the race cars have reliable service for mobility
- Low latency and high UL peak rate is 2.30Mbps
- Max. 8 cars at the same time in the circuit through 5G private network, Total 20Mbps (Continuous upload) per car

On-site Installation

Site1-gNB1&gNB2, Site1-gNB1_RghNB2 Antenna, Site2-gNB3&Antenna, CPE, Race car, 5G core, APP platform

Coverage test – full coverage of the race track

Legend: gNB1 coverage, gNB2 coverage, gNB3 coverage

Equipment used: Baicells gNB Aurora 243 – 2x2Tb + 5G-CPE GX3000

KPI performance-latency & throughput & streaming consumption

Category	Value
Speed	230 Mbps
Latency	37ms
Throughput	126Mbps
Streaming	35Mbps

01 Handover low latency, 02 Speed test, 03 Average streaming consumption 10.03Mbps per car, total is 8 cars

Telecoms Infrastructure, Small Cells, Antennas & others

- Telecoms Infrastructure Blog - Mobile Internet Setup for Vanlife: Infrastructure Insights from The Road Two Spoons ([link](#))
- Paul Rhodes on LinkedIn - Monday Musings: Having a Domestic! ([link](#))

📍 IoT / M2M / Smart Homes

- Heart monitor becomes Vodafone's 200 millionth Internet of Things connection ([PR](#))
- Transforma Insights on LinkedIn: "*Artificial Intelligence (AI) and the Internet of Things (IoT) are two of the most impactful and far-reaching technology developments of our time. Increasingly these two technologies are deployed together and the term 'AIoT' has come to the fore...*" ([link](#))

Introducing AIoT: AI on IoT devices

Definition

'AIoT' refers to the deployment of AI Use Cases on board IoT devices, applying increasingly powerful AI inferencing to extensive IoT data at (or near) point of origin.

Key benefits

- Improve application performance**
 - Analysis of more inputs at greater resolution.
 - Alerts, analytics and applications running faster, closer to originated source. No lag.
 - Increase in resiliency and uptime of applications.
- Enhance compliance, privacy and security**
 - Process data locally so personal data is never communicated beyond the IoT device.
 - Anonymisation of data at source is possible.
 - No need to transmit critical or confidential data.
- Reduce operational cost**
 - Performance monitoring, optimisation and pre-emptive maintenance of the devices.
 - Reduced cost of connectivity, cloud processing and storage.
 - Deployment in more marginal locations.

AIoT connections, 2023-2033

Year	Devices (billion)	AIoT share of IoT (%)
2023	1.5	5
2024	2.0	7
2025	2.5	9
2026	3.0	11
2027	3.5	13
2028	4.0	15
2029	4.5	17
2030	5.0	19
2031	5.5	21
2032	6.0	22
2033	6.5	22

Major market implications

Propositions	Platforms	Chipsets
<ul style="list-style-type: none"> • Many vendors are integrating AI into IoT products. • More sophisticated offerings for enterprises and consumers. • Particular adoption related to video analytics. 	<ul style="list-style-type: none"> • AI and IoT platform functions adapted and combined, and additional AIoT specific needs. • AIoT platforms handle compression, updates, field management of AI, feedback loops, and more. 	<ul style="list-style-type: none"> • Increasing need for low-cost, low power consumption and high-performance AIoT chips. • Additional support for end-to-end solutions. • Specialist vendors such as SiMa and Syntiant lead.

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- Vodafone uses its mobile network as extreme weather early warning system ([link](#))

📍 Virtualization, Cloud & Edge

- ETSI White Paper No. 65 - NFV evolution: Towards the Telco Cloud ([PDF](#))

📍 Security & Privacy

Join

Network Security in Mobile & Telecoms

LinkedIn Group

- Mohamed Abbas on LinkedIn: 4G Identity Security Vs. 5G Identity Security ([link](#))
- Denis Laskov on LinkedIn: "Serious security issues in the boot chain of Samsung phones (with MediaTek SoC). Sounds familiar? Yep, you've seen it in some cars..." ([link](#))
- Mohamed Abbas on LinkedIn: What is #5GHoul in 5G Security World? ([link](#))

🕒 Smartphones, Devices, Wearables & Gadgets

- MWL: Apple ships 1.5M iPhones from India to beat tariffs ([link](#))

🕒 AI, ML & Automation

- Jinsung Choi on LinkedIn: Cloud-Native AI-RAN ([link](#))
- Telecom TV: How advanced is network automation? ([link](#))
- Jinsung Choi on LinkedIn - Massive MIMO: A Flagship ML Use Case for AI-RAN ([link](#))

🕒 Satellites, HAPS, Drones, UAVs & Space

- Forbes: Starlink's Numbers Could Bring SpaceX's Valuation Crashing Down ([link](#))
- Tutorial on Non-Terrestrial Networks (NTNs) and 3GPP Standards from 5G to 6G ([link](#))

Unlocking new possibilities

- 3GPP Rel-17:
 - 5G NR protocol stack supports non-terrestrial communication, including satellite communication
 - Doppler and time drift addressed
 - S- and L-band operation supported
 - IoT NTN, including support for NB-IoT and LTE-M
- 3GPP Rel-18:
 - VoNR connection can be provided from a LEO600/1200 constellation to a regular smartphone.
 - Proof of concept from Ericsson collaboration with Thales and Qualcomm
 - Ka-band support, enabling 3GPP-based FSS
 - IoT NTN: S-band and L-band support
- 3GPP Rel-19:
 - Support for regenerative payload
 - IoT NTN: Store&Forward
 - UE-satellite-UE communication
 - Improved downlink coverage and uplink capacity
 - Ku-band support

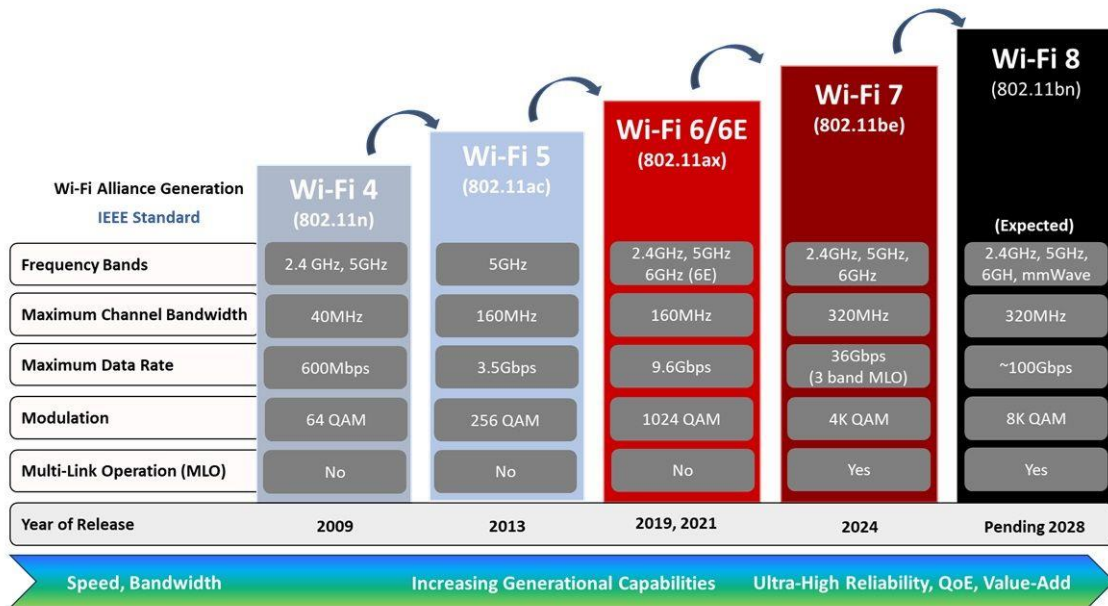
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#Free5Gtraining
#3G4G5G

- KDDI: au Expands Coverage to Cover All of Japan with au Starlink Direct, a Direct to Cell Satellite Service ([link](#))
- Light Reading: AT&T teases 'limited voice connectivity' from satellites in late 2026 ([link](#))

🕒 Wi-Fi

- Ruth Brown on LinkedIn: Wi-Fi generations and focus shift ([link](#))



☉ Sustainability

- 4E Energy Efficient End-use Equipment Study - Data Centre Energy Use: Critical Review of Models and Results ([PDF](#))
- Rudolf van der Berg on LinkedIn: "The new IEA report gives various scenarios ranging from 500TWh to almost 2000TWh for electricity demand in the coming decade. Read this report in combination with the deep dive into the energy consumption of data centres..." ([link](#))

☉ Other News and Technology Stuff

- New 3G4G video: The Internet Story - How Data Travels, Transit Works, and the Role of CDN & MEC ([link](#))
- NTT Technical Review: Latest Trends in Network API Standardization: GSMA Open Gateway and CAMARA Project ([link](#))
- SCMP: China unveils a powerful deep-sea cable cutter that could reset the world order ([link](#))
- Digits to Dollars: Sparklink – The Biggest Wireless Standard You Have Never Heard About ([link](#))
- GSMA: The State of the Industry Report on Mobile Money 2025 ([link](#))
- UKTIN Market Research Insight Report – Semiconductors ([link](#))
- Light Reading: Qualcomm exec convicted of inventing company to sell his tech to Qualcomm ([link](#))
- The 3G4G Blog: Understanding ETSI's Industry Specification Groups (ISGs) and Why They Matter ([link](#))

☉ **Picture of the week:** In the 1980s, photographer Ron Turner captured a woman using a pay phone on City Island in the Bronx. The image is a reminder of a time when pay phones were vital parts of everyday urban life before mobile phones became common. ([LinkedIn](#), [Facebook](#))



Happy to hear your thoughts. Feel free let me know what worked, what didn't, how I can make this better, etc. Get in touch over LinkedIn!

PDF version of this and previous newsletters are available [here](#).