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What's News...

Boeing 787 Radio Can Disrupt Air Traffic Communications

In a Federal Aviation Administration filing last month, federal regulators requested comments on a proposed rule that would mandate Boeing to update a critical communications malfunction in their 787 Dreamliner plane that could lead to accidents. According to reports from the FAA, VHF channels are transferred between the active and standby settings without input from the flight crew. The uncommanded frequency changes could result in missed communications between the flight crew and air traffic control. Qatar Airways, which claims that even after the software patch recommended by the FAA was installed on its Boeing fleet, communication problems have persisted.



Source: Boeing

Google's Loon Tech Finds New Life as Taara

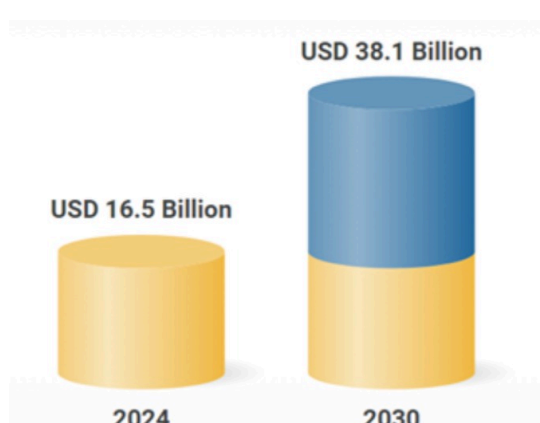
Google's ambitious endeavor to bring internet access to remote corners of the globe using high-altitude balloons, known as "Loon," has taken an unexpected turn. While the Loon project itself faced commercial hurdles and was grounded in 2021, it wasn't a complete failure for Alphabet's "Moonshot factory," which is dedicated to tackling some of the world's most daunting challenges. X, originally known as Google X, salvaged a key piece of Loon's technology: its innovative optical network that used lasers to transmit data through the air. This technology, refined and developed into a product called Taara Lightbridge offers the potential to deliver high-speed connectivity at speeds reaching 20 Gb/s over distances of up to 20 km. Taara Lightbridge is envisioned as a practical alternative to laying fiber optic cables in remote or geographically challenging areas or as a more efficient way to connect locations separated by bodies of water.



Source: iLighter/Wikipedia

Bandpass Filters Market to Reach \$38.1 Billion by 2030

According to the "Bandpass Filters—Global Strategic Business Report" report from Research and Markets, the global market for bandpass filters was valued at 16.5 billion in 2024 and is projected to reach \$38 billion by 2030, growing at an annual rate of 14.9% through 2030. The report notes that advancements in wireless communication technologies, increasing adoption of IoT devices, a robust defense industry, and the expansion of digital infrastructure in emerging markets are driving growth.



Source: Android Authority

NOAA's GOES-19 Satellite Now Operational

NOAA's GOES-19 satellite, the latest and final satellite in NOAA's GOES-R series, has officially begun operation and will serve as NOAA's primary geostationary satellite for much of the Western Hemisphere. It will track hurricanes and tropical storms in the Atlantic ocean and monitor severe weather, atmospheric rivers, wildfires, volcanic eruptions and other environmental events affecting the contiguous U.S. GOES-19 now joins GOES-18 in service that together will continuously watch over more than half the globe, from the west coast of Africa to New Zealand and from near the Arctic Circle to the Antarctic Circle. Their data supports weather forecasters, emergency managers, first responders, the aviation and shipping industries, among others.



Source: NASA

A Word from Sam Benzacar



Separating 5G Hype from Reality

After more than four decades in the microwave industry, I've developed a sense for distinguishing between transformative innovations and marketing smokescreens.

The evolution of cellular technology since 4G is the most striking example of this distinction. The 3GPP 5G standards were an order of magnitude more complex than those for 4G which introduced unprecedented technical challenges. So daunting are these challenges that 5G will require at least a decade to reach its full potential, which places it on a collision course with 6G development, which promises to be at least as ambitious in its scope and complexity.

Six years into the global 5G rollout, the technology remains a work in progress, which shouldn't be surprising, as the same was true for 4G when it rolled out. However, this time around, carriers aggressively promoted 5G well before the infrastructure existed to support it, leaving consumers with marginally faster connections, unfulfilled promises, and the sensation of having been misled.

In the initial stages of 5G, carriers opted for "non-standalone" implementations, grafting new 5G base stations onto legacy 4G networks. The result was that most current 5G service amounts to little more than a modest enhancement of 4G, lacking the revolutionary potential of a true 5G architecture.

"True" 5G (the standalone version) was delayed because it requires significant infrastructure investment, is complex, and requires extensive testing to ensure it meets performance goals and is interoperable with existing systems. Regulatory hurdles and spectrum allocation issues haven't helped because they vary by country, and market demand has been gradual, leading operators to focus on non-standalone solutions that utilize existing 4G infrastructure.

Despite 5G's underwhelming deployment, the industry has already begun shifting its focus toward 6G, which, based on historical trends, is expected to emerge in the mid-2030s. The anticipated revolution will remain elusive until next-generation networks can provide clear and compelling advantages that justify their implementation.



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