

Analysis of the iPhone 16e: A New Entrant in Apple's Smartphone Lineup

1. Executive Summary:

The iPhone 16e, officially released by Apple in February 2025, represents a new strategic direction for the company's more affordable smartphone offerings.¹ Positioned as part of the iPhone 16 family, this model incorporates the powerful A18 chip, supports Apple Intelligence features, boasts an enhanced battery life, and features a capable 48MP camera system.¹ Its arrival followed a period of industry speculation, primarily under the rumored name of "iPhone SE 4," highlighting a potential shift in Apple's product segmentation and marketing approach.¹ Initial market reception has been mixed, with comparisons being drawn against both existing iPhone models and competing devices from other manufacturers.⁸ The introduction of the iPhone 16e signifies Apple's intent to provide a more modern and capable entry point into its ecosystem, albeit at a higher price point than its previous budget-oriented models.

2. Introduction: Unveiling the iPhone 16e:

The smartphone landscape witnessed the official debut of the iPhone 16e in February 2025, marking the latest addition to Apple's comprehensive lineup.¹ This report aims to provide a detailed analysis of this new device, addressing the initial user interest in understanding its features, market positioning, and potential impact. The iPhone 16e occupies a strategic space within Apple's product portfolio, serving as a more accessible entry point within the iPhone 16 family. It effectively bridges the gap left by the discontinued iPhone SE series and the more premium standard iPhone 16.¹ The lead-up to its launch was characterized by considerable speculation, with widespread rumors suggesting the arrival of an "iPhone SE 4".¹ The eventual unveiling of the device under the "iPhone 16e" moniker indicates a potential recalibration of Apple's naming conventions and its approach to segmenting the smartphone market.⁶ This report will delve into the journey from these initial rumors to the final product, examining its specifications, market placement, and how it fares against the competition.

3. The Rumor Mill: Tracing the Leaks and Speculation:

The anticipation surrounding Apple's next entry-level iPhone model was fueled by a steady stream of rumors and leaks in the months leading up to its official announcement. Early reports and predictions from industry analysts consistently

pointed towards the development of a new budget-friendly iPhone, frequently referred to as the "iPhone SE 4".⁶ These rumors accurately foreshadowed several key specifications that ultimately materialized in the iPhone 16e. Notably, the predicted design language, resembling that of the iPhone 14, along with the inclusion of a single 48MP rear camera, a notch housing the Face ID system, the programmable Action button, and Apple's own in-house modem, all proved to be accurate.⁶ Ming-Chi Kuo, a prominent Apple analyst, initially reported the cancellation of the iPhone SE 4 project, only to later indicate that its development had resumed. It now appears that Kuo's later reports were, in fact, referring to what would eventually be launched as the iPhone 16e.⁶ Interestingly, the name "iPhone 16e" itself surfaced in a leak during January 2025.⁶ However, this early mention was largely dismissed at the time due to the perceived unreliability of the source providing the information.

The transition from the widely anticipated "iPhone SE 4" to the officially named "iPhone 16e" caused a degree of initial confusion within the tech community.⁶ The rumored specifications, which included more advanced features than typically found in the iPhone SE line, seemed to contradict the traditional positioning of the SE as a budget device utilizing older designs and chipsets.⁶ This discrepancy hinted at a potential strategic shift by Apple. The significance of this name change extends beyond mere semantics, potentially signaling a broader evolution in Apple's product strategy.⁶ Just prior to the official unveiling, a leak from Evan Blass, a known leaker with a strong track record, revealed source code mentioning "iPhone SE (4th Gen)," which temporarily cast doubt on the "iPhone 16e" name.¹⁰ This last-minute development underscored the fluid nature of pre-release information. Adding another layer to the narrative, a Reddit post showcased an "iPhone 16e" listing on a German accessories website, providing an early, albeit unconfirmed, glimpse of the device's potential branding.¹¹ The journey from the initial whispers of an "iPhone SE 4" to the official arrival of the iPhone 16e underscores the complexities and occasional inaccuracies inherent in the pre-release rumor cycle. The fact that specifications were accurately predicted under one name, while the final product launched with another, suggests a potential last-minute shift in Apple's marketing and branding strategy. Furthermore, the initial dismissal of the "iPhone 16e" name leak serves as a reminder of the importance of critically evaluating the reliability of information sources, even within the often-accurate realm of tech leaks.

4. Release Timeline: When Can We Expect the iPhone 16e?

Apple officially introduced the iPhone 16e to the public on February 19, 2025.¹ Unlike its flagship iPhone releases, this announcement did not occur during a major media event but was instead conveyed through a press release, indicating a potentially

different market strategy for this model.¹ Following the announcement, pre-orders for the iPhone 16e commenced on Friday, February 21, 2025, with the device becoming available for general purchase a week later, on Friday, February 28, 2025.¹

This February release timeframe stands in contrast to Apple's established pattern for its flagship iPhone models, which are typically announced and released in September of each year.³ For instance, the main iPhone 16 series, comprising the iPhone 16, 16 Plus, 16 Pro, and 16 Pro Max, was launched in September 2024.³ The iPhone 16e's arrival in February aligns more closely with the release cadence of previous iPhone SE models, which have often been introduced during the spring months.³ Interestingly, the rumored release timeframe for the "iPhone SE 4," which was anticipated to be around the first quarter of 2025, aligns perfectly with the actual launch of the iPhone 16e.¹⁰ This deviation from the traditional September cycle suggests a deliberate strategic decision by Apple to refresh its entry-level offerings outside of its primary flagship release window. This could be motivated by a desire to cater to a broader range of consumers at different points in the year or to address specific market needs that arise outside the typical fall buying season.

5. Under the Hood: Predicted Specifications and Features:

The iPhone 16e boasts a 6.1-inch Super Retina XDR display utilizing OLED technology.¹ Unlike the higher-tier iPhone 16 models, this display features a notch at the top, which houses the TrueDepth camera system for Face ID, instead of the Dynamic Island.¹ The screen operates at a standard 60Hz refresh rate and offers a typical brightness of 800 nits, with the capability to reach a peak brightness of 1200 nits.²

For photography, the iPhone 16e is equipped with a single-lens 48-megapixel f/1.6 Fusion camera on the rear, offering a 2x optical-quality zoom.¹ This is the same Wide camera sensor found in the standard iPhone 16.⁵ However, certain advanced photographic features, such as Focus Control for Portraits, are not supported on the 16e.⁵ The front-facing camera features a 12MP sensor.²

Internally, the iPhone 16e is powered by Apple's A18 chip, featuring a 6-core CPU and a 4-core GPU.¹ It's worth noting that the standard iPhone 16 incorporates a 5-core GPU.⁵ The device comes with 8GB of RAM and is available in storage options of 128GB, 256GB, and 512GB.¹ A significant addition is Apple's own C1 modem chip, marking a move away from relying solely on third-party suppliers.³

Apple claims that the iPhone 16e offers the longest battery life of any iPhone with a 6.1-inch form factor, with a reported video playback time of up to 26 hours.¹ The

battery capacity is listed as 3,961 mAh.⁵ Connectivity-wise, the iPhone 16e features a USB-C port for charging and data transfer, operating at USB 2 transfer speeds.¹ It supports Wi-Fi 6 but not the faster Wi-Fi 6e or Wi-Fi 7 standards found in other iPhone 16 models.¹ While Bluetooth audio issues have been reported by some users, the device generally supports standard Bluetooth functionality.⁵ Notably, the iPhone 16e does not support MagSafe charging and is limited to 7.5W Qi-based wireless charging.⁵ In terms of durability, the device carries an IP68 rating for water and dust resistance.² Other notable features include the customizable Action button with Visual Intelligence support, the Face ID biometric authentication system, and the Ceramic Shield display for enhanced protection.²

The strategic combination of features in the iPhone 16e suggests a deliberate approach by Apple. The utilization of a familiar design and display with a notch, reminiscent of the iPhone 14 ⁵, alongside the inclusion of the newer A18 chip and a high-resolution 48MP camera, which are features of the iPhone 16 ⁵, indicates an effort to provide modern performance within a cost-effective framework. The decision to equip the iPhone 16e with the same A18 chip as the flagship model, albeit with a slightly less powerful GPU, further underscores this strategy of optimizing performance while managing costs.¹ This allows the device to support advanced features like Apple Intelligence without incurring the full cost associated with the top-tier components.

Key Specifications of the iPhone 16e:

Feature	Specification
Display	6.1-inch OLED, 60Hz, Notch, Face ID
Processor	Apple A18 (6-core CPU, 4-core GPU)
RAM	8GB
Storage Options	128GB, 256GB, 512GB
Rear Camera	48MP Wide (f/1.6), 2x Zoom
Front Camera	12MP
Battery Life (Video)	Up to 26 hours

Wired Charging	USB-C (USB 2.0)
Wireless Charging	7.5W Qi-based
Connectivity	Wi-Fi 6, Bluetooth
Modem	Apple C1
Water/Dust Resistance	IP68
Biometric Auth.	Face ID

6. Market Positioning: Pricing and Target Audience:

The iPhone 16e enters the market with a starting price of \$599 in the United States and AU\$999 in Australia for the base model featuring 128GB of storage.¹ Apple also offers higher storage configurations, with the 256GB variant priced at \$699 and the 512GB option at \$899.²

This pricing strategy represents a notable increase compared to the previous generation iPhone SE 3, which had a starting price of \$429.⁶ Apple justifies this higher price point by highlighting the significant upgrades incorporated into the iPhone 16e, including an enhanced camera system, a more modern design mirroring the sleek aesthetics of the iPhone 14, and a sharper OLED display.²

The iPhone 16e is strategically positioned as a mid-range offering within Apple's smartphone lineup, effectively succeeding the more budget-oriented SE model.² Its target audience comprises consumers seeking a balance between performance and a more accessible price point compared to Apple's flagship devices.² The device aims to attract individuals who desire access to Apple's well-regarded ecosystem and the latest software features, such as Apple Intelligence, without incurring the premium cost associated with the top-of-the-line iPhone models.² While not strictly a budget phone, the iPhone 16e is also expected to appeal to budget-conscious consumers who are willing to stretch their spending for the promise of premium features and the longevity associated with the Apple brand.⁷ The significant price increase compared to the previous iPhone SE models indicates a deliberate shift in Apple's approach to its entry-level segment. The iPhone 16e is no longer positioned as an ultra-affordable option but rather as a more capable member of the iPhone family, offering a blend of

modern technology and a relatively lower price within the Apple ecosystem.

7. Competitive Landscape: Comparisons with Other Smartphones:

When examining its place within Apple's ecosystem, the iPhone 16e shares design elements with the iPhone 14 and incorporates features found in the iPhone 16.² This represents a significant departure from the previous iPhone SE 3, which featured an outdated design and less advanced specifications.² However, the iPhone 16e lacks certain premium features present in the higher-end iPhone 16 models, such as the Dynamic Island and MagSafe charging.⁵ Additionally, its GPU has one less core compared to the standard iPhone 16.⁵ On the other hand, the iPhone 16e boasts a longer battery life than the iPhone 16.⁵

In the broader smartphone market, particularly when compared to Android devices, the iPhone 16e's \$599 price point places it in a competitive segment. One reviewer noted that the absence of a telephoto lens at this price is a feature typically expected in Android phones.⁸ Comparisons have also been drawn with devices like the Google Pixel 8a and the OnePlus 13R, which offer features such as multiple rear cameras at similar or even lower price points.⁹ User discussions on platforms like Reddit often highlight the perceived value proposition of the iPhone 16e compared to older iPhone Pro models and various Android devices, with some users suggesting that alternatives offer more features for the same cost.⁸

While the iPhone 16e offers substantial improvements over its iPhone SE predecessor, its \$599 price tag positions it in a competitive space where Android manufacturers frequently provide a more extensive feature set for a comparable investment. Apple's primary strengths in this market segment lie in its tightly integrated ecosystem, the promise of long-term software updates, and the strong brand loyalty it commands. These factors may influence consumer purchasing decisions even when competing Android devices offer seemingly superior hardware specifications at a similar price.

Comparison of Key iPhone Models:

Feature	iPhone 16e	iPhone 16	iPhone SE 3 (2022)
Release Date	February 2025	September 2024	March 2022
Display	6.1-inch OLED, Notch	6.1-inch OLED, Dynamic Island	4.7-inch LCD, Home Button

Processor	Apple A18	Apple A18	Apple A15 Bionic
RAM	8GB	8GB	4GB
Rear Camera(s)	48MP (Single)	48MP (Wide) + 12MP (Ultra Wide)	12MP (Single)
Front Camera	12MP	12MP	7MP
Battery Life (Video)	Up to 26 hours	Up to 22 hours	Up to 15 hours
MagSafe Charging	No	Yes	No
Starting Price	\$599	\$799	\$429

8. Apple's Stance: Official Statements and Announcements:

Apple's official press release announcing the debut of the iPhone 16e emphasized its position as a "powerful new member of the iPhone 16 family".⁴ The company highlighted key features such as the fast performance of the A18 chip, the integration of Apple Intelligence, its extraordinary battery life, and the inclusion of a 48MP 2-in-1 camera system, all presented at an "incredible value".⁴ The press release also detailed the availability of the iPhone 16e in two elegant matte finishes, black and white, with colorful cases offered as accessories.⁴ It further specified the start dates for pre-orders on Friday, February 21, and general availability beginning on Friday, February 28.⁴

In contrast, the press release for the introduction of the iPhone 16 and iPhone 16 Plus in September 2024 focused on features like the all-new Camera Control, more advanced camera systems with a 48MP Fusion camera and an Ultra Wide lens, and the inclusion of the Action button for quick access to various functionalities.¹⁷ The flagship models were also announced with a wider range of color options and different starting prices compared to the iPhone 16e.¹⁷ Prior to the official announcement of the iPhone 16e, Apple CEO Tim Cook teased the arrival of a new product on February 19th through a social media post, referring to it as "the newest member of the family".¹ Apple's official messaging strategically positions the iPhone 16e as a valuable and capable addition to its iPhone 16 lineup, emphasizing its performance and key features while framing its price as an "incredible value." This approach aims to integrate the mid-range device more closely with its flagship

offerings, particularly by highlighting the inclusion of Apple Intelligence as a significant differentiating factor.

9. The Apple C1 Modem: Performance and Implications:

The iPhone 16e marks a significant milestone as the first Apple device to incorporate the company's custom-designed C1 modem.³ This development signals a strategic move by Apple to reduce its reliance on Qualcomm for this critical component.³ Performance data from Ookla's Speedtest Intelligence provides an early comparison between the C1 modem in the iPhone 16e and the Qualcomm Snapdragon X71 modem used in the standard iPhone 16.²⁶ The data indicates that the C1 modem performs comparably to, and in some cases better than, the Qualcomm modem in scenarios with weaker network signals and for upload speeds across different carriers.²⁶ However, the iPhone 16, equipped with the Qualcomm modem, tends to achieve higher peak download speeds, likely attributable to its support for mmWave 5G, a feature not present in the initial iteration of the C1 modem.²⁶

Reports suggest that the C1 modem may have certain limitations, potentially supporting only three-carrier aggregation and a total bandwidth of 160MHz.²⁹ These limitations could explain the iPhone 16e's observed underperformance on T-Mobile's advanced 5G network, which leverages more extensive carrier aggregation capabilities.²⁸ Despite these initial limitations, the Apple C1 modem demonstrates increased power efficiency compared to Qualcomm's offerings.⁵ This enhanced efficiency contributes to the iPhone 16e's notably longer battery life.⁵ Apple is reportedly already working on future iterations of the C1 modem, with expectations that subsequent versions will include support for mmWave 5G technology.²⁶

Apple's decision to develop and implement its own modem has significant implications for the company's future strategy.²⁴ It reduces Apple's dependence on Qualcomm, granting greater control over the integration of hardware and software.²⁴ This vertical integration could lead to potential cost savings for Apple in the long term.²⁵ Furthermore, the successful development of the C1 modem opens possibilities for its incorporation into other Apple devices beyond the iPhone, potentially including products like MacBooks or wearables.³¹ The introduction of the Apple C1 modem in the iPhone 16e represents a pivotal step in Apple's long-term strategy to control more of its core technology. While the initial performance metrics indicate room for improvement in certain areas compared to Qualcomm's high-end modems, the C1's strong performance in challenging network conditions and its superior power efficiency highlight the potential of Apple's custom silicon in this crucial component.

10. Reviews and Initial Impressions:

The iPhone 16e has garnered a range of reactions in initial reviews and from early users. Positive aspects frequently highlighted include its excellent OLED screen, the powerful performance delivered by the A18 chip, the commendable battery life, and the integration of Apple Intelligence features.⁹ However, criticisms have also emerged, with some reviewers pointing to the return of the notch design, the inclusion of only a single rear camera at its \$599 price point, and the standard 60Hz display as drawbacks.⁸ One particularly critical review labeled the iPhone 16e as the "worst phone of 2025," citing the dated notch, the absence of an Always-On Display feature, and the perceived limitations of Apple AI, despite acknowledging its good battery performance.⁸ The sentiment that the device might be overpriced in comparison to Android alternatives offering a more comprehensive feature set is also prevalent in some reviews.⁸

User experiences shared on platforms like Reddit offer additional perspectives. Some users have noted that screen protectors designed for the iPhone 13 and 14 are compatible with the iPhone 16e due to the similar display design.²¹ The camera performance is generally considered good for everyday photography, comparable to that of the iPhone 15 in some aspects.²¹ The modem performance, while being Apple's first in-house design, appears to be comparable to Qualcomm modems in many areas, although it may vary depending on the network conditions.²¹ A notable issue reported by some early adopters is related to Bluetooth audio connectivity, with instances of stuttering or cutouts.⁵ Comparisons with the iPhone 15 suggest that the 16e offers advantages in CPU and GPU performance, RAM capacity, and long-term software support, but it may fall short in terms of camera versatility and display quality.²¹ Overall, the initial reception of the iPhone 16e presents a mixed picture. While its performance and battery life are generally praised, concerns remain regarding its design choices and feature set relative to its price, particularly when compared to the offerings from competitors in the Android ecosystem.

11. Conclusion: Assessing the iPhone 16e:

The iPhone 16e represents a significant evolution in Apple's strategy for its more affordable iPhone offerings. By aligning its naming convention with the flagship series and incorporating key features like the A18 chip and Apple Intelligence, Apple aims to provide a more compelling entry point into its ecosystem. This device occupies a strategic middle ground, bridging the gap between the discontinued iPhone SE lineup and the standard iPhone 16. It offers a blend of modern performance and a relatively accessible price within the Apple universe. However, the higher price point compared

to previous budget models and certain design compromises, such as the return of the notch and the single-lens camera system, might make it a less appealing option for consumers solely focused on budget or those seeking feature parity with Android competitors in the same price range.

The introduction of the Apple C1 modem, despite its initial limitations in peak performance and mmWave support, signifies a long-term strategic shift for Apple. This move towards greater vertical integration not only reduces reliance on external suppliers but also provides Apple with increased control over the optimization and differentiation of future iPhone models. This could lead to further innovations in connectivity and power efficiency in the years to come. Ultimately, the success of the iPhone 16e will depend on how consumers weigh its performance and integration within the Apple ecosystem against its price and feature set compared to the broader smartphone market. While it offers a modern internal experience, some consumers may find its external design and camera system lacking when considering the competitive landscape. The iPhone 16e's arrival marks a clear indication that Apple is aiming to offer a more premium experience in its entry-level segment, moving away from the ultra-budget positioning of its previous SE models. The long-term implications of this strategy, along with the development of Apple's custom modem technology, will be crucial factors in shaping the future of Apple's smartphone lineup and its competitive standing in the market.

Works cited

1. iPhone 16e launch updates — everything you need to know | Tom's ..., accessed on April 21, 2025, <https://www.tomsguide.com/news/live/iphone-se-4-launch-latest-news-apple-launch>
2. iPhone 16e release date, price, and features - PhoneArena, accessed on April 21, 2025, <https://www.phonearena.com/iphone-16e-release-date-price-features-news>
3. iPhone Release Dates: When will the iPhone 17 come out ..., accessed on April 21, 2025, <https://www.whistleout.com/CellPhones/Guides/iphone-release-dates>
4. Apple debuts iPhone 16e: A powerful new member of the iPhone 16 ..., accessed on April 21, 2025, <https://www.apple.com/newsroom/2025/02/apple-debuts-iphone-16e-a-powerful-new-member-of-the-iphone-16-family/>
5. iPhone 16e: Specs Reviews, and Pricing for Apple's New Low-Cost ..., accessed on April 21, 2025, <https://www.macrumors.com/roundup/iphone-16e/>
6. More than a name change: iPhone 16e isn't the iPhone SE 4, accessed on April 21, 2025, <https://appleinsider.com/articles/25/02/20/more-than-a-name-change-iphone-16>

[e-isnt-the-iphone-se-4](#)

7. Apple Rebranding iPhone SE4 as iPhone 16e - SimplyMac, accessed on April 21, 2025,
<https://www.simplymac.com/iphone/apple-rebranding-the-iphone-se4-as-the-iphone-16e>
8. Worst iPhone Of 2025 | iPhone 16e Review from Design to Apple AI | Tech Spurt - Reddit, accessed on April 21, 2025,
https://www.reddit.com/r/applesucks/comments/1jbpfaw/worst_iphone_of_2025_iphone_16e_review_from/
9. Apple iPhone 16e review: Old and new meet in the middle | TechRadar, accessed on April 21, 2025, <https://www.techradar.com/phones/iphone/iphone-16e-review>
10. iPhone SE 4 Leak Shows Dynamic Island, Casts Doubt on Rumored ..., accessed on April 21, 2025,
<https://www.macrumors.com/2025/01/20/iphone-se-4th-gen-leak/>
11. iPhone 16e confirmed? - Reddit, accessed on April 21, 2025,
https://www.reddit.com/r/iphone/comments/1ie9fp0/iphone_16e_confirmed/
12. Understanding the 'e' in the New iPhone 16e: What It Means - The Munich Eye, accessed on April 21, 2025,
<https://themunicheye.com/understanding-meaning-e-iphone-16e-11237>
13. What does the e stand for in iPhone 16e? - 9to5Mac, accessed on April 21, 2025,
<https://9to5mac.com/2025/02/20/what-does-the-e-stand-for-in-iphone-16e/>
14. 'iPhone SE 4' Rumored to Be Named 'iPhone 16E' : r/apple - Reddit, accessed on April 21, 2025,
https://www.reddit.com/r/apple/comments/1hrb3af/iphone_se_4_rumored_to_be_named_iphone_16e/
15. All the iPhone 17 rumours to know, from release date to price | The Independent, accessed on April 21, 2025,
<https://www.independent.co.uk/extras/indybest/gadgets-tech/phones-accessories/iphone-17-rumours-b2725088.html>
16. Apple Product Release Patterns — InfoNewt, Data Visualization & Infographics Design, accessed on April 21, 2025, <https://infonewt.com/apple-release-patterns>
17. Apple introduces iPhone 16 and iPhone 16 Plus - Apple, accessed on April 21, 2025,
<https://www.apple.com/newsroom/2024/09/apple-introduces-iphone-16-and-iphone-16-plus/>
18. Apple iPhone 16e Review - PCMag, accessed on April 21, 2025,
<https://www.pcmag.com/reviews/apple-iphone-16e>
19. iPhone 16e Review & Comparison to iPhone 16 Pro Max - YouTube, accessed on April 21, 2025, <https://www.youtube.com/watch?v=llaKLc5H8i8>
20. Apple iPhone 16e vs. iPhone 16: What's the Difference? - PCMag, accessed on April 21, 2025,
<https://www.pcmag.com/comparisons/apple-iphone-16e-vs-iphone-16-whats-the-difference>
21. My experience with the new iPhone 16e so far, what I like/what I don't(Review) - Reddit, accessed on April 21, 2025,

- https://www.reddit.com/r/iphone/comments/1j5f9ni/my_experience_with_the_new_iphone_16e_so_far_what/
22. iPhone 16e vs Pixel 9a Review - CAMERA, BATTERY LIFE & BENCHMARK TESTS!, accessed on April 21, 2025, <https://www.youtube.com/watch?v=YzkYqHKNyGU>
 23. Apple iPhone 16e - User opinions and reviews - page 3 - GSMArena.com, accessed on April 21, 2025, https://www.gsmarena.com/apple_iphone_16e-reviews-13395p3.php
 24. Apple's C1 modem signals the end of its Qualcomm dependence - AppleInsider, accessed on April 21, 2025, <https://appleinsider.com/articles/25/02/19/apples-c1-modem-signals-the-end-of-its-qualcomm-dependence>
 25. Apple's C1 modem in the iPhone 16e is proof that we don't need Qualcomm for 5G, accessed on April 21, 2025, <https://www.androidcentral.com/phones/apples-c1-modem-in-the-iphone-16e-is-proof-that-we-dont-need-qualcomm-for-5g>
 26. Speedtest report: Apple C1 beats the Qualcomm modem when network speeds are low, accessed on April 21, 2025, https://www.gsmarena.com/speedtest_report_apple_c1_beats_the_qualcomm_modem_when_network_speeds_are_low-news-67035.php
 27. Apple C1 vs Qualcomm Modem Performance [Speedtest] - iClarified, accessed on April 21, 2025, <https://www.iclarified.com/96767/apple-c1-vs-qualcomm-modem-performance-speedtest>
 28. Here's How the iPhone 16e's C1 Modem Stacks Up Against the iPhone 16 Qualcomm Modem - MacRumors, accessed on April 21, 2025, <https://www.macrumors.com/2025/03/19/iphone-16e-c1-modem-test/>
 29. A First Look at How Apple's C1 Modem Performs With Early Adopters | Ookla : r/cellmapper, accessed on April 21, 2025, https://www.reddit.com/r/cellmapper/comments/1jfkzg/a_first_look_at_how_apples_c1_modem_performs_with/
 30. iPhone 16 In-Depth Review: Does Apple's Self-Developed C1 Communication Module Save Power? How's the Signal? - Reddit, accessed on April 21, 2025, https://www.reddit.com/r/apple/comments/1izanag/iphone_16_indepth_review_does_apples/
 31. C1 modem breaks no speed records, but is power efficient | Hacker News, accessed on April 21, 2025, <https://news.ycombinator.com/item?id=43218840>