



October 4, 2022

The Honorable Alan Estevez  
Under Secretary, Bureau of Industry and Security  
U.S. Department of Commerce  
1401 Constitution Avenue NW  
Washington, DC 20230

RE: Placing YMTC on U.S. Department of Commerce Entity List

Dear Under Secretary Estevez,

Bipartisan momentum to stop Chinese chip manufacturer YMTC is accelerating. In September, Senators John Cornyn, Marco Rubio, Charles Schumer, and Mark Warner sent a letter to Director of Intelligence Avril Haines warning about the dangers of YMTC and its impending partnership with Apple,<sup>1</sup> which I will discuss below and which has been assiduously detailed in China Tech Threat's report "Silicon Sellout: How Apple's Partnership with Chinese Military Chipmaker YMTC Threatens National Security."<sup>2</sup> The same signatories to that letter also joined Sens. Mike Crapo, Bill Hagerty, and James Risch in another bipartisan letter from August characterizing YMTC as an "immediate threat" and urging the Commerce Department to place YMTC on the Entity List.<sup>3</sup>

Senator Warner has also told the *Financial Times*, "It has been clear for some time now that YMTC is a bad actor — and a key part of the Chinese Communist Party's goal of shifting control of global microelectronics to the PRC [People's Republic of China]. "It's long past time to act."<sup>4</sup>

It is likely this bipartisan momentum is building even within the Commerce Department. Will Hunt, who was previously an analyst with Georgetown University's

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<sup>1</sup> Ellen Nakashima, "Senators ask for review of Apple's plan to use Chinese chips," *The Washington Post*, September 2021, 2022, <https://www.washingtonpost.com/national-security/2022/09/21/apple-ymtc-chips-national-security/>

<sup>2</sup> Roslyn Layton and Jeff Ferry. China Tech Threat and the Coalition for a Prosperous America. June 2022. *Silicon Sellout: How Apple's Partnership with Chinese Military Chipmaker YMTC Threatens National Security*. <https://chinatechthreat.com/chinas-army-to-infiltrate-iphones-with-ymtc-chips/>

<sup>3</sup> Karen Freifeld, "U.S. senators Schumer, Warner join calls to blacklist Chinese chipmaker YMTC," *Reuters*, August 1, 2022, <https://www.reuters.com/world/us/us-senators-schumer-warner-join-calls-blacklist-chinese-chipmaker-ymtc-2022-08-01/>

<sup>4</sup> Demetri Sevastopulo, "US lawmakers turn screws on 'Beijing-directed' chipmaker YMTC," *The Financial Times*, September 20, 2022, <https://on.ft.com/3BxZS2r>



Center for Security and Emerging Technologies and is now a Special Advisor at the Department of Commerce, has advocated for unilateral controls on YMTC.<sup>5</sup> Such controls would be justified in light of YMTC's apparent relationship with Huawei, a company already on the U.S. Department of Commerce Entity List.

The Bureau of Industry and Security should heed these growing bipartisan calls to put YMTC on the Entity List. We need export controls that keep American companies from giving YMTC the tools it can use to support human rights-abusing companies, dominate the global memory chip market, and threaten American national security.

### ***The Chinese Government Coercing Apple into a Deal with YMTC?***

In early 2022, the trade publication *Light Reading* revealed that Apple was evaluating products from YMTC for the iPhone 14.<sup>6</sup> Then on the eve of Apple's iPhone 14 reveal on September 7, 2022, another industry publication, *Tom's Hardware*, reported Apple will buy 3D NAND chips from YMTC, rightly pointing out this is a "big deal."<sup>7</sup> Apple is not a dangerous friend of YMTC in the way Hikvision and Huawei are. But why is it partnering with YMTC?

China's Ministry of Industry and Information Technology (MIIT) provides institutional wind at YMTC's back. As the branch of the Chinese government tasked with the promotion of China's high-tech industries, MIIT was responsible for developing the "Made in China 2025" plan, the goal of which is to position China as the world's dominant manufacturer of high-tech goods in ten different sectors.

It is likely that the MIIT is coercing Apple into a deal as a condition of Apple's ability to keep selling its products in the Chinese market. Even though it appears that YMTC chips will only be used in phones bound for Apple's China market at this point, it's reasonable to think iPhones with YMTC chips will eventually come to the U.S. By locking in a partnership with Apple, the MIIT has moved closer to achieving its objective of forcing companies to turn to China as their prime source for advanced technologies. YMTC has

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<sup>5</sup> Will Hunt and Roslyn Layton, "The Importance of the U.S. Semiconductor Market," interview posted August 20, 2021, <https://chinatechthreat.com/will-hunt-and-roslyn-layton-the-importance-of-the-u-s-semiconductor-market/>

<sup>6</sup> Iain Morris, "Apple iPhone 14 may feature Chinese chips with military links," *Light Reading*, March 28, 2022 <https://www.lightreading.com/semiconductorsnetwork-platforms/apple-iphone-14-may-feature-chinese-chips-with-military-links/d/d-id/776350>

<sup>7</sup> Anton Shilov, "Apple to Buy 3D NAND Memory from Chinese YMTC," *Tom's Hardware*, September 6, 2022, [https://www.tomshardware.com/news/apple-to-buy-3d-nand-memory-from-chinese-ymtc?utm\\_campaign=socialflow&utm\\_source=twitter.com&utm\\_medium=social](https://www.tomshardware.com/news/apple-to-buy-3d-nand-memory-from-chinese-ymtc?utm_campaign=socialflow&utm_source=twitter.com&utm_medium=social)



now secured a partnership with one of the world’s true flagship technology companies, signaling its credibility as a supplier to other firms.

Additionally, forcing Apple to use Chinese memory storage chips inside China will leave other memory suppliers with a glut of chips, thereby tanking their margins and potentially putting them out of business. As Rep. Mike Gallagher – who recently introduced legislation targeting YMTC alongside Sen. Tom Cotton – has said, “This bill will defend the security of our semiconductor supply chains and combat YMTC and other CCP-backed actors from using predatory pricing to crowd more secure options out of the critical flash memory market.”<sup>8</sup>

### ***YMTC Seeking to Dominate the Global Chip Market***

The YMTC-Apple partnership exposes China’s strategy of distorting the global market for storage devices outside of China to put U.S. and other foreign manufacturers out of business. The Chinese government’s \$170 billion National Integrated Circuit Industry Investment Fund – the “Big Fund” – is devoted to subsidizing Chinese semiconductor firms.<sup>9</sup> As China has already done with Huawei, funneling these subsidies to Chinese chipmakers allows them to sell their wares at far lower cost than their competitors, threatening to put them out of business entirely. This scheme has likely also incentivized Apple to choose YMTC as a supplier.

YMTC has already received some \$24 billion out of the Big Fund and other companies lure top talent capable of producing technological breakthroughs.<sup>10</sup> The deal with Apple isn’t YMTC’s only victory this year. This summer, *Reuters* reported that Commerce was mulling a “crackdown” that focused on memory chips, and that “U.S. officials would ban the export of tools to China used to make NAND chips with more than 128 layers.”<sup>11</sup> Just after that news broke, YMTC announced that it could produce a cutting-edge 232-layer

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<sup>8</sup> Representative Mike Gallagher, *Gallagher, Cotton Introduce Legislation to Impose Crippling Sanctions on YMTC*, . Press release, September 30, 2022. <https://gallagher.house.gov/media/press-releases/gallagher-cotton-introduce-legislation-impose-crippling-sanctions-ymtc>

<sup>9</sup> Stephen Ezell, Testimony before the U.S.-China Economic and Security Review Commission, April 14, 2022, [https://www.uscc.gov/sites/default/files/2022-04/Stephen\\_Ezell\\_Testimony.pdf](https://www.uscc.gov/sites/default/files/2022-04/Stephen_Ezell_Testimony.pdf)

<sup>10</sup> The White House, *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth*, report issued June 2021, p. 29 <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>

<sup>11</sup> Alexandra Alper and Karen Freifeld, “U.S. considers crackdown on memory chip makers in China,” *Reuters*, August 1, 2022, <https://www.reuters.com/technology/us-considers-crackdown-memory-chip-makers-china-2022-08-01/>



chip.<sup>12</sup> YMTC is today within striking distance of overtaking global competitors, thanks to lavish subsidies handed out by the Chinese government.

### ***YMTC Helping Huawei Skirt Export Controls***

YMTC also appears to be partnering with Huawei, the Chinese telecommunications giant, which itself is part of the Chinese government's Orwellian national surveillance architecture.<sup>13</sup> The Commerce Department placed Huawei on the Commerce Department Entity List in May 2019, meaning that American technologies cannot be used in Huawei products.

In September 2022, the *Financial Times* reported the existence of a report by IP Research Group that showed YMTC has provided NAND memory chips for Huawei's Mate Xs 2 smartphone – a potential violation of the Foreign Direct Product Rule. Said Senate Majority Leader Charles Schumer: "This report is extremely troubling and further underscores the need for the administration to act swiftly to add YMTC to the entity list."<sup>14</sup>

This finding built on another *Financial Times* report in April 2022 that the Biden administration is looking into Huawei's use of YMTC memory chips in a new smartphone. House Foreign Affairs Committee Ranking Member Michael McCaul told *FT*, "YMTC appears to be violating the FDPR."<sup>15</sup>

### ***YMTC's Circle of Dangerous Friends: Hikvision***

Hikvision is a Chinese-state owned company which boasts that it "has been ranked the No.1 market share leader globally for video surveillance equipment for five consecutive years."<sup>16</sup> Multiple media outlets and human rights activists have documented the

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<sup>12</sup> Josh Horwitz, "China's memory upstart YMTC edges closer to rivals with 232-layer chip," *Reuters*, August 4, 2022, <https://www.reuters.com/technology/chinas-memory-upstart-ymtc-edges-closer-rivals-with-232-layer-chip-2022-08-04/>

<sup>13</sup> See Eva Dou, "Documents link Huawei to China's surveillance programs," *The Washington Post*, December 14, 2021, <https://www.washingtonpost.com/world/2021/12/14/huawei-surveillance-china/>

<sup>14</sup> Demetri Sevastopulo, "US lawmakers turn screws on 'Beijing-directed' chipmaker YMTC," *The Financial Times*, September 20, 2022, <https://on.ft.com/3BxZS2r>

<sup>15</sup> Demetri Sevastopulo, "US to probe claims that top Chinese chipmaker violated ban on Huawei," *The Financial Times*, April 26, 2022, <https://on.ft.com/3BWD70>

<sup>16</sup> Hikvision company website, accessed September 21, 2022, <https://us.hikvision.com/en/about/hikvision-global>



company's complicity in the ongoing Orwellian surveillance of Uyghur Muslims in the Xinjiang region of China. An examination of the Xinjiang Police Files released in June 2022 by IPVM, a trade publication following the surveillance equipment industry, found that "Xinjiang police used Hikvision cameras to catch Uyghurs for traveling abroad as part of the region's feared IJOP<sup>17</sup> 'anti-terrorism' platform."<sup>18</sup>

Recognizing the danger of Hikvision as a human rights abuser and a conduit for feeding data to the Chinese government, legally or otherwise, the Commerce Department added Hikvision to the Entity List in October 2019. Currently, according to *Bloomberg News*, the U.S. is weighing adding Hikvision to the Specially Designated Nationals and Blocked Persons List.<sup>19</sup> This unprecedented move "would mark the first time a Chinese company faces more severe Treasury Department sanctions that risk curbing its business around the globe."

Additionally, Hikvision has been added to DoD's list of "Chinese military companies" and the Federal Communications Commission (FCC)'s Covered List. It also has been addressed in two executive orders prohibiting American investments funding Chinese military and surveillance companies, respectively. In April 2021, 89% of the EU parliament voted to remove Hikvision thermal imaging cameras from Parliament's premises because of human rights abuses.<sup>20</sup>

Closer to home, Hikvision describes North America as a "rapidly growing market," and claims to have facilities in California and Florida.<sup>21</sup> Despite being on the FCC Covered List, which bans the sale of Hikvision surveillance equipment inside the U.S., Hikvision products are still broadly marketed for sale. A search for Hikvision products on Amazon, for example, still displays more than 600 Hikvision offerings. Furthermore, the federal government has not issued any mandate for Hikvision products to be removed from countless locations, including banks, offices, schools, and healthcare facilities.

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<sup>17</sup> Integrated Joint Operations Platform

<sup>18</sup> IPVM, "Hikvision Cameras Used to Catch Uyghurs Featured in Xinjiang Police Files," June 14, 2022, <https://ipvm.com/reports/xinjiang-police-files>

<sup>19</sup> Bloomberg News, "U.S. Threat to Sanction Hikvision Shows China Ties Near a Tipping Point," May 5, 2022, <https://www.bloomberg.com/news/articles/2022-05-05/u-s-threat-to-hikvision-shows-china-ties-near-a-tipping-point?leadSource=uverify%20wall>

<sup>20</sup> Charles Rollet, "EU Parliament Removes Hikvision, Citing Human Rights Abuses," *IPVM*, April 29, 2021, <https://ipvm.com/reports/hik-eu>

<sup>21</sup> Hikvision company website, accessed September 21, 2022, <https://us.hikvision.com/en/about/about-hikvision-north-america>



The existence of a YMTC-Hikvision partnership had been previously reported in the media; a Chinese website called *HikSemi* reported in December 2021 that the SSD V300 “adopts the advanced domestic main control and the Yangtze River storage particles.”<sup>22</sup> At a minimum, this evidence deserves more evaluation to see if YMTC is complicit in human rights violations.

### ***Conclusion***

The U.S. government should not allow a state-subsidized, would-be juggernaut to position itself to supply chips for perhaps the world’s most popular electronic device. Nor should it be allowed to seize market share from other chipmaking firms headquartered in Western countries, thereby threatening thousands of American jobs. The U.S. government needs to add YMTC to the Entity List without delay.

Sincerely,

A handwritten signature in blue ink, appearing to read "Roslyn Layton".

Roslyn Layton, PhD  
China Tech Threat  
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CC:

The Honorable Gina Raimondo  
Secretary of Commerce

Senate Majority Leader Charles E. Schumer  
Senator John Cornyn  
Senator Tom Cotton  
Senator Mike Crapo  
Senator Bill Hagerty  
Senator James Risch  
Senator Marco Rubio  
Senator Mark Warner

Representative Mike Gallagher

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<sup>22</sup> HikSemi, “The 20th China Suzhou Electronic Information Expo in 2021,” December 30, 2021, <http://www.hikstorage.com/News/Detail?id=74ado853-e21e-41a5-8f69-8abff483d1fb>



The Honorable Jake Sullivan  
U.S. National Security Advisor

The Honorable Brian Deese  
Director, National Economic Council

The Honorable Jessica Rosenworcel  
Chairperson, Federal Communications Commission

The Honorable Brendan Carr  
Commissioner, Federal Communications Commission

The Honorable Nathan Simington  
Commissioner, Federal Communications Commission

The Honorable Geoffrey Starks  
Commissioner, Federal Communications Commission