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July 22, 2025

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street, NE
Washington, D.C. 20054

Re: Pearl Ex Parte Letter dated July 18, 2025
Re: Authorizing the Permissive Use of the "Next Generation" Broadcast Television Standard (GN Docket No. 16-142)

Silicondust offers the following response to Pearl TV's defamatory statements regarding Silicondust's hardware. Let's be clear:

1. Broadcasters do not have the authority to regulate tuner devices. Congress has not ceded the FCC's regulatory authority of consumer electronics to private industry.

2. The HDHomerun product is an FCC compliant tuner that meets or exceeds all FCC requirements and is permitted for sale here in the United States and around the world.

3. The HDHomeRun does not generate RF signals and is not a communication device under the Secure and Trusted Communications Networks Act of 2019.

4. As a video gateway the choice of SoC has zero impact on ATSC 3.0 DRM because, as per the A3SA's own rules, the HDHomeRun is not expected to decrypt encrypted broadcasts on device.

5. The HDHomeRun is proudly designed here in the USA. The HDHomeRun was not designed in China, is not manufactured in China, nor is it sold in China. Silicondust does not provide technology to China or receive financial benefit from China.

6. Most available A3SA-approved tuners are manufactured in China, many designed in China and running Chinese software.

7. The A3SA has not approved a single gateway tuning device since the introduction of their encryption standard despite approving many Chinese set top boxes.

8. Silicondust does not mislead customers. Rather the A3SA founding member broadcast networks pushing DRM are misleading the American TV viewing public.

Silicondust has extensive experience supporting DRM protected content with prior HDHomeRun video gateway products having been certified by CableLabs and approved by cable companies for use with DRM protected premium cable channels.

The rules and requirements demanded by the A3SA founding member broadcast networks go far

beyond the requirements to watch and record those same channels and premium channels on cable TV. Additionally these A3SA rules are not public and are not being applied equally to makers of tuning devices. The A3SA founding member broadcast networks are regulating tuner devices through content protection rules they are not disclosing to the public.

Pearl says:

> "The root cause why the HDHomeRun device has encountered issues is that it depends on a chipset manufactured by HiSilicon, a wholly-owned subsidiary of Huawei Technologies Co., Ltd.,1 which the Commission has found to be "a national security threat to the integrity of our communications networks" given that the company has been deemed to be "highly susceptible to influence and coercion by the Chinese government."

The entire basis of Pearl's argument is apparently a belief that there is some sort of prohibition on Silicondust's hardware under the Secure and Trusted Communications Networks Act of 2019, which is codified at 47 U.S.C. §§ 1601–1609. However, a review of this and related codes would clearly identify that it is not applicable to Silicondust's hardware. First, the use of a System-on-Chip (SoC) device from a listed manufacturer does not rise to the level of a final consumer product qualifying for the list. The SoC contains the central processor unit as well as other minor support interfaces, but in and of itself is not capable of doing anything. It requires a system board to connect to anything else and firmware and software to direct its operation. The system board, firmware, and software are all designed in-house by Silicondust in the United States, with the hardware manufactured under contract in Taiwan.

Second, § 1608(4) defines Communication equipment or service as "any equipment or service that is essential to the provision of advanced communications service.", while § 1608(1) provides that Advanced communications service "has the meaning given the term "advanced telecommunications capability" in section 1302 of this title." Referring to § 1302(d)(1), "The term "advanced telecommunications capability" is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology." Silicondust's hardware does not enable users to originate high-quality voice, data, graphics, and video telecommunications, and thus the hardware does not qualify for inclusion on this list.

The HDHomeRun is proudly designed here in the USA. The HDHomeRun was not designed in China, is not manufactured in China, nor is it sold in China..

Pearl's footnote includes "Huawei [...] has been placed on the US Commerce Department's "Entity List," and thus American companies are prohibited from providing sensitive technology to it." Silicondust does not provide sensitive technology to Chinese companies. The insinuation by Pearl is shameful.

Pearl says:

> "*Given SiliconDust's business choice to include a chip from HiSilicon, it should be no surprise to the Commission that SiliconDust is unable to include key ATSC technologies owned by various U.S. companies that otherwise would enable it to directly operate with major equipment and technology companies for various features, and that SiliconDust is unable to obtain a security verification to display all ATSC 3.0 content*"

This is demonstrably false.

1) The HDHomeRun CONNECT/FLEX 4K is NextGenTV certified meeting all ATSC 3.0 requirements.

2) **Silicondust has approval and a license from the Widevine licensing authority to decrypt DRM protected content on the HDHomeRun hardware.** This approval was granted in 2022 after the Widevine licensing authority verified the SoC used in the HDHomeRun and verified Silicondust's standing with the A3SA.

3) Silicondust received approval from the DTCP licensing authority to re-encrypt content using DTCP2, the approach required by A3SA at the time.

There was one problem however - no player devices existed in the US market with DTCP2 support and the DTCP2 robustness rules do not allow installable apps to implement DTCP2.

This meant that **our HDHomeRun video gateway could be 100% compliant with A3SA rules for protected channels but no consumer could actually watch these protected channels.**

Three years later Silicondust is still not aware of any player devices in the US market that support DTCP2.

A3SA now requires a different approach where no decryption occurs in the gateway device. The DRM protected content received from the antenna is passed through the home network and delivered to the player device without DRM decryption occurring in the gateway device.

Our conclusion from reading the A3SA specifications and rules, which we are forbidden from referencing in this filing due to NDAs, is that there is no pathway whereby a video gateway vendor could write an app for Roku, Xbox, Apple TV, iPhone, iPad, Windows, or Mac supporting protected channels. These are some of the most popular products people own and use with the HDHomeRun today.

In our opinion, the A3SA has put significant effort into making any form of ATSC 3.0 video gateway product (specifically) as untenable as possible. **Not one DRM capable ATSC 3.0 gateway product has been approved by the A3SA.**

Clearly their intent is to make watching over the air television in the same manner consumers enjoy today with ATSC 1.0 impossible.

Pearl says:

> "*This explains why SiliconDust is unable to have its device compliant with a security verification. Given the many devices available to consumers today that are compliant and display ATSC 3.0 content, apparently SiliconDust made a business decision to rely on prohibited components even though the company has been made aware that its device will not work with encrypted, high-value ATSC 3.0 material.*"

1) Silicondust does not use prohibited components.

2) **The SoC has been reviewed and approved for decrypting DRM protected content by the Widevine licensing authority.**

3) The SoC has no impact on DRM because, **as per A3SA's own rules, the HDHomeRun is not expected to decrypt encrypted broadcasts on device.**

4) The choice of SoC was not a factor when the HDHomeRun completed the Nextgen TV certification process, and has not been a factor in discussions with the A3SA since achieving Widevine approval back in 2022.

5) The A3SA has approved set-top-boxes that utilize YMTC parts, a chinese chip manufacturer on the US Department of Commerce blacklist per Pearl's footnote in their filing.

This DRM issue is not specific to the HDHomeRun as not one DRM capable ATSC 3.0 gateway product has been approved by the A3SA. The rules and requirements demanded by the A3SA founding member broadcast networks go far beyond the requirements to watch those same channels and premium channels on cable TV using a CableLabs-certified video gateway such as Silicondust's HDHomeRun PRIME tuner.

This is in contrast to the ATSC 3.0 set-top-boxes that have been approved by the A3SA, and approved with little concern for actually protecting content. Silicondust reviewed two A3SA approved set-top-boxes from two different vendors - both decrypted DRM-protected ATSC 3.0 channels and delivered them with no restrictions over an HDMI output, allowing them to be captured in pristine digital quality using common, off-the-shelf HDMI capture devices. ATSC 3.0 DRM relies on High-bandwidth Digital Content Protection (HDCP) to protect the "last meter" connection between the decoding device and display. These approved devices failing to require HDCP on the output effectively renders the DRM system moot, as the viewer has unrestricted access to the content at that point. The DRM system then exists solely to frustrate viewers who merely want to watch live and recorded TV on the device of their choosing, while doing nothing to stop those who wish to redistribute broadcast TV without authorization.

Pearl says:

> "*..a relatively small number of consumers who had purchased a gateway device sold by SiliconDust called HDHomeRun Flex ("HDHomeRun") and complained that they were not able to access certain ATSC 3.0 programming."*

The HDHomeRun is the best selling ATSC 3.0 tuning device currently on Amazon, out selling all other ATSC 3.0 set top boxes on Amazon. The best selling ATSC 1.0 tuning device on Amazon is also a video gateway box.

In our opinion, the A3SA has put significant effort into making any form of ATSC 3.0 video gateway product as untenable as possible. The A3SA founding member broadcast networks want to go back to the days where you needed antenna wiring to each and every TV in your home and a time when other screens like tablets, phones, consoles, and computers couldn't support antenna television content.

Silicondust invented the video gateway product, launching in 2007. With the HDHomeRun you plug in one box and watch your free over-the-air local channels on any smart screen in your home. Similar to the invention of the home router where one box enabled the internet to reach every smart device in the home. **The HDHomeRun is a success story of the US market leading to innovation by US companies.**

Back in the 90s you had to get your internet provider to install a second "outlet" to connect a second computer to the internet. The A3SA founding member broadcast networks are trying to keep home TV the same.

Pearl says:

> "*The most troubling aspect of SiliconDust's behavior is that it actively markets a device to consumers that it knows will not work with the A3SA content protection technology being used by ATSC 3.0 broadcasters*"

We clearly state on product pages, including on Amazon, that DRM protected channels will not work. Specifically we state the following on our product pages (not the fine print):

> "*Some ATSC 3.0 channels may be DRM encrypted and will not work. If an ATSC 3.0 channel is DRM encrypted the HDHomeRun FLEX 4K will use the ATSC 1.0 version of the channel. DRM encryption is used by select broadcasters to block out-of-home viewing, limit what player devices can be used to watch TV, enforce that the original tuner hardware is always present to view recordings, and to block third party apps. Optionally a broadcaster can force recordings to expire after a period of time and/or block recording completely.*"

Back in the early ATSC 1.0 days certain broadcast networks pushed for "Digital Broadcast Television Redistribution Control", more commonly known as the "broadcast flag" - a flag that told DVRs not to record TV. This flag was not a theoretical protection that could be used, it was transmitted by many stations at the time. There can be no doubt about the goal - the goal was to stop viewers using the DVR products they had purchased and were using to manage their TV.

With DRM on ATSC 3.0 the "broadcast flag" is back. To be approved by the A3SA a set-top-box or video gateway vendor must obey the new broadcast flag that broadcast networks can demand stations leave set 24/7 to block all consumer purchased DVRs from recording. This is a regulation being forced on vendors and the American people by the A3SA founding member broadcast networks.

The A3SA founding member broadcast networks are not disclosing that they are mandating this new ATSC 3.0 DRM "broadcast flag" or disclosing any of the other anti-viewer restrictions they are mandating tuner vendors implement to get approval to play or record DRM protected channels.

Silicondust is prevented by NDA from disclosing the specific list of anti-viewer restrictions vendors are being required to implement. On August 21, 2023, A3SA issued a public announcement entitled "Encoding Rules Announcement", which contained a list of restrictions that would *not* be applied on ATSC 3.0 broadcasts "**that are simulcast with ATSC 1.0 broadcasts**". The text of this public announcement reads as follows:

> *A3SA announces a set of "Encoding Rules" its licensed broadcasters must follow for encrypted ATSC 3.0 broadcasts that are simulcast with ATSC 1.0 broadcasts.*
>
> *Broadcast Encoding Rules*
>
> *To provide extra reassurance for viewers of ATSC 3.0 content, A3SA has approved a set of "encoding rules" for encrypted broadcasts that are simulcast with ATSC 1.0 broadcasts*
>
> - *Viewers must be allowed to decrypt and record these broadcasts even if they are using a less secure device that requires an internet connection*
> - *Viewers must be allowed to make an unlimited number of copies of these broadcasts*
> - *Such copies cannot have retention limits*
> - *Viewers must be allowed to use "trick play" features such as pause, rewind, fast-forward, and ad-skipping*
> - *Viewers must be allowed to use any authorized digital output (i.e., no selectable output*

control)

- *Viewers must be allowed to use analog outputs to connect to legacy TVs (i.e., no prohibition or required downresolution)*

From this public announcement it would be reasonable to infer that all the restrictions stated could be applied once ATSC 3.0 broadcasts are no longer “simulcast with ATSC 1.0”. Furthermore, for these restrictions to be available to be applied by broadcasters, one could logically assume that tuner vendors must be required to support all of these restrictions before a tuner device is approved by the A3SA.

It should also be noted that some broadcast networks are pushing for an end to the requirement that ATSC 3.0 broadcasts be simulcast with ATSC 1.0 broadcasts.

It is within the FCC’s purview to require that all rules and regulations being imposed by private broadcast networks on FCC licensed local stations, broadcast equipment vendors, television vendors, tuner vendors, and the American people be made public and available for public scrutiny.

Further it is within the FCC’s purview to scrutinize this effort by the A3SA fonding member broadcast networks to regulate tuner devices despite private industry having no authority to do so.

Pearl - Friday’s filing was disappointing as we have had a productive relationship with Pearl and the broadcast industry for many years. However, their singular focus on locking our customers (and their viewers) out of the marketplace should be of concern to this commission that is focused on developing competitive markets. Their actions of late are shameful and it's time the commission exercised its authority to keep the tuning market competitive - especially as the superior ATSC 3.0 technology might attract more over the air viewers.

We look forward to working with the commission on finding a solution and are always available to answer any questions.

Sincerely,

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