Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Annual Assessment of the Status of	)	MB Docket No. 07-269
Competition in the Market for the	)	
Delivery of Video Programming	)	

COMMENTS OF TIVO INC.

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TiVo Inc. ("TiVo") submits these comments on the status of competition in the video marketplace for navigation devices in response to the Federal Communications Commission's (the "FCC's" or "Commission's") Supplemental Notice of Inquiry in the above-captioned matter.[1]

TiVo offers the TiVo service and TiVo digital video recorders directly to consumers online and through third party retailers. In late 2006, TiVo launched its first CableCARD-equipped high definition navigation device. CableCARD-equipped HD navigation devices now comprise the majority of TiVo DVR retail sales. TiVo also tailors its technology and services so that they may be distributed through cable, satellite, and broadcasting companies.

Since its founding, TiVo has evolved into a comprehensive single solution media center by combining its patented DVR technologies and universal cable box capabilities with the ability to aggregate, search, and deliver millions of segments of broadband,

[1] *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 07-269, Supplemental Notice of Inquiry, FCC 09-32, rel. April 9, 2009 ("*SNI*").

cable, and broadcast content directly to the television receiver. TiVo's intuitive functionality and ease of use puts viewers in control by enabling them to navigate the best digital entertainment content available effortlessly through one box, with one remote, and one user interface.

SUMMARY OF ARGUMENT

Congress and the Commission have long recognized the importance of allowing consumers to have the choice of purchasing their own navigation devices from sources other than their multichannel video programming distributor ("MVPD"). Thus, Congress adopted Section 629 of the Communications Act, which requires the Commission to ensure the commercial availability of navigation devices.[2] As the House Report accompanying Section 629 noted:

> "competition in the manufacturing and distribution of consumer devices has always led to innovation, lower prices and higher quality. Clearly, consumers will benefit from having more choices among telecommunications subscription services available through various distribution sources."[3]

Despite the promise of Section 629, however, the mandate to ensure that consumers have a choice of competitive retail navigation devices remains largely unfulfilled. CableCARD problems persist; common reliance is at risk of being undermined by an endless string of waivers; and the Commission's rules are being challenged by the introduction of new distribution techniques that impair competitive

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[2] 47 U.S.C. Section 549. Section 629 was adopted as part of the Telecommunications Act of 1996. Pub. L No. 104-104, 110 Stat. 56 (1996).

[3] H.R. Rep. No. 104-204, at 112 (1995).

navigation devices in violation of FCC rules. All this has happened without consideration of solutions to fulfill the important policy goals of Section 629.

Accordingly, TiVo urges the Commission to act now to make good on its pledge to "examine circumstances where commercial availability does not evolve and access to programming is encumbered"[4] and to renew its "commitment to pursue competition."[5]

[4] *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Report and Order, 13 FCC Rcd 14775 at ¶ 18 (1998) ("First Report and Order").

[5] First Report and Order, 13 FCC Rcd 14775 at ¶ 3.

DISCUSSION

I. Common Reliance and CableCARDs.

In implementing Section 629, the Commission sought to spur competition and expand consumer choice by separating the security and navigation functions of equipment used to receive MVPD programming. The requirement that MVPD-leased equipment have separable security functions was intended to eliminate impediments discouraging customers from purchasing devices of their own choosing available through retail outlets, thereby promoting competition in the marketplace.[6]

The common reliance principle is grounded in the Commission's determination that a competitive market in navigation devices cannot develop, as mandated by Congress, unless cable operators have a business incentive, buttressed by a regulatory incentive, to provide and support CableCARDs adequately. As the Commission correctly stated, "[A]t the heart of a robust retail market for navigation devices is the reliance of cable operators on the same security technology and conditional access interface that consumer electronics manufacturers must rely on in developing competitive navigation devices."[7]

The integration ban undoubtedly has helped improve CableCARD installations in retail navigation devices. Today, fewer consumers are denied CableCARDs outright than before the integration ban went into effect, although a meaningful number of consumers who call cable personnel are still told that CableCARDs are unavailable for use with

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[6] *Id.* at ¶ 49.

[7] *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices,* Second Report and Order, 20 FCC Rcd 6794, 6807 at ¶ 27 (2005) ("Second Report and Order").

TiVo DVRs (*i.e.*, CableCARDs not available, CableCARDs do not work with TiVo DVRs, or the employee simply did not know). This is likely due to lack of training and an unfamiliarity with CableCARDs on the part of the cable personnel.

Despite the fact that the top 10 MSOs say that they have deployed more than 14,085,000 operator-supplied set-top boxes with CableCARDs,[8] a consumer who requests a CableCARD for use in a competitive navigation device often finds that CableCARDs are outside the standard operating routine of the cable operator's technicians and support personnel. Even today, cable installers have very little familiarity with CableCARDs. The reason for this is that in the operator-supplied set-top boxes, the CableCARDs are inserted into the set-top box at the factory and cannot be removed. Consequently, the only time that a cable installer has to deal with a CableCARD is when it needs to be installed in a competitive navigation device – giving the cable operator little incentive to train its installers properly.[9]

The result is that each CableCARD installation for competitive navigation devices is a struggle for the consumer and, on average, still results in multiple visits from a cable technician.[10] Indeed, the *average* installation of a CableCARD in a retail device takes more than one truck roll. In a survey of new TiVo HD subscribers conducted in January 2009, 33% of those consumers reported a difficult CableCARD installation, with 39%

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[8] *See* Letter from Neal M. Goldberg, Vice President and General Counsel, National Cable and Telecommunications Association, to Marlene H. Dortch, Secretary, Federal Communications Commission at 1 (June 26, 2009) (reporting that the ten largest cable operators have deployed over 14,085,000 CableCARDs).

[9] TiVo has also experienced a significant number of cases of "faulty" CableCARDs being used (and reused) in retail installations. It would be helpful if cable operators would test the cards prior to trying to install them in retail devices. Operators should return faulty cards to the supplier rather than attempting to reuse them in subsequent installations.

[10] *Id.* (Average number of truck rolls to install CableCARDs in retail navigation devices: Cablevision 1.1; Charter 1.1; Comcast 1.13; Cox 1.1; Time Warner Cable 1.13).

requiring multiple visits from a cable installer to install CableCARDs successfully. The primary reasons for these difficulties cited by those surveyed included uninformed cable company representatives, incomplete pairings, missing channels, and non-functioning CableCARDs.

TiVo has been working with several top MSOs to escalate awareness and to troubleshoot CableCARD issues quickly, efforts that have somewhat improved installation effectiveness. Yet, eight years after introduction of the separable security module by the cable industry, installation problems continue to persist. These installation problems make the use of competitive navigation devices a less attractive alternative to simply using an operator-supplied set-top box. The only way to support a retail market for competitive navigation devices is Commission vigilance in enforcing the requirement for a common separable security mechanism to enable competitive navigation devices to access digital cable signals with the same ease (and cost) as cable operator supplied devices.

II. Endless String of Waivers Threatens To Undermine Common Reliance.

Rather than steadfastly enforce common reliance, the Commission has granted a seemingly endless string of waivers of the separable security requirement. Each waiver builds upon previous requests and chips increasingly from the common reliance principle. This avalanche of waivers threatens to undermine the rule.

Prior to the digital transition date, migration to an all-digital network was successfully used by some small cable operators as a justification for a waiver of the requirement to use CableCARDs in their own set-top boxes.[11] But now, with the digital

[11] *In the Matter of Bend Cable Communications, LLC d/b/a BendBroadband Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules, Implementation of Section 304 of the Telecommunications Act of*

transition complete as of June 12, 2009, this rationale should no longer justify waivers. Waivers have also been granted for financial hardship.[12]

Other entities have obtained waivers for "low-cost, limited capability" set-top boxes. In the 2005 Second Report and Order, the Commission stated that, as a narrow application of the Commission's general waiver authority, it would entertain requests for waiver of the integration ban for low-cost, limited capability boxes. As explained by the Commission, the rationale for such waivers was that they:

> "would not endanger the development of the competitive marketplace envisioned in Section 629, particularly because the more advanced devices offered by cable operators for primary home use will be required to rely on the same CableCARD technology as devices offered at retail by consumer electronics manufacturers…. We do not believe that waiver will be warranted for devices that contain personal video recording ("PVR"), high-definition, broadband Internet access, multiple tuner, or similar advanced capabilities."[13]

Recently, however, the Commission granted CableOne a waiver for what it deemed was a "low-cost, limited capability" set-top box even though it could receive HD programming.[14] Furthermore, at least one entity has received a waiver for a purportedly downloadable conditional access system despite the fact that the technology being

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1996: Commercial Availability of Navigation Devices, CSR-7057-Z, CS Docket No. 97-80, Memorandum Opinion and Order ¶ 24 (rel. Jan 10, 2007).

[12] *See, e.g., Great Plains Cable Television, Inc. et al. Requests for Waiver of 76.1204(a)(1) of the Commission's Rules*, 22 FCC Rcd 13414 (2007).

[13] Second Report and Order, 20 FCC Rcd at 6814-15, at ¶ 37; *In the Matter of Evolution Broadband, LLC's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, FCC 09-46, at ¶ 15 (rel. June 1, 2009) ("*Evolution Broadband MO&O*"). Indeed, numerous public interest groups have sought reconsideration of the Evolution Broadband Waiver Order due *inter alia* to concerns about undermining Section 629. *See* Petition for Reconsideration of Public Knowledge, Free Press, Media Access Project, New America Foundation, Open Technology Institute and U.S. PRIG (filed June 29, 2009).

[14] *In the Matter of CableOne, Inc.'s Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, FCC 09-45 (rel. May 28, 2009) ("*CableOne Waiver Order")*.

employed, the regulatory validity of which the Commission has declined to evaluate, has never been publicly and specifically described or commented upon.[15] For obvious reasons, these waivers heighten TiVo's concern about a slippery slope, as fewer devices are made to comply with the integration ban and operators rely less commonly on the "identical security function".

Most importantly, whether or not an operator is granted a waiver of the requirement to use CableCARDs in some or all of its own devices, the Commission must assure that all operators that employ digital technology comply with the requirement to supply CableCARDs to competitive navigation devices.[16] The Commission must not allow consumers to be denied the fundamental ability to use a competitive navigation device as the result of a waiver of the separable security requirement *for any reason*. As the Commission has made clear:

> "One of the overriding purposes of the Commission's navigation device rules is to allow for national portability of consumer electronics devices purchased at retail regardless of the security standard that any specific cable operator uses."[17]

National portability and common reliance on the "identical security function" is threatened by the likely prospect of waiver requests by operators seeking to implement Internet Protocol Television (IPTV) tiers for which equipment enabling compliance with

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[15] *In the Matter of Cablevision Systems Corporation's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules, Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, CSR-7078-Z, CS Docket No. 97-80 (rel. Jan. 16, 2009). The Consumer Electronics Association filed an Application for Review of this Order on February 17, 2009.

[16] 47 CFR § 76.640.

[17] *Evolution Broadband MO&O*, at ¶14.

Section 76.1204(a)(1) purportedly is not available.[18] Of course, such equipment will never be available if waivers continue to be granted because there will be no incentive for such equipment to be manufactured. Such waivers would invite MVPDs to circumvent the common reliance rule and deny consumers using retail navigation devices access to channels they would otherwise receive if the Commission's rules were being enforced. The impact of such waivers on the market for retail navigation devices would be devastating, and consumer choice would be stifled.

III. <u>The Commission Must Adapt Its Rules To Account For New Technology</u>

Enforcement of Section 629 does not hinder technology advances. An operator's desire to introduce new technology, however, cannot override Congressional and Commission policy to foster consumer use of retail navigation devices, particularly when the result is to foreclose innovative CableCARD-equipped technologies from companies other than the cable operator.[19] Operators always have a choice of technologies, and certain technologies are much less disruptive to competitive navigation devices than others.[20] Operators who wish to deploy new technology to deliver signals need to ensure that retail navigation devices can continue to receive the signals delivered by the new technology if those retail devices have the technical capability to do so. In other words, operators need to keep their obligations under Section 629 in mind when implementing new technology and make necessary accommodations to ensure that retail devices can

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[18] *See Lafayette Utilities System Petition for Waiver,* Dkt Nos. CSR-8152-Z and 97-80 (filed March 27, 2009).

[19] Second Report and Order, 20 FCC Rcd 6794 at ¶ 30.

[20] For example, going "all digital" does not deprive competitive navigation devices of access to programming and is less costly as compared to implementing two-way technology which is very disruptive to competitive navigation devices.

continue to receive those signals if they are technically capable of doing so. For example, in the case of cable operators' deployment of switched digital, retail devices such as those created by TiVo and Digeo are technically capable of two-way communication.[21] In consultation with TiVo, the cable industry deployed "tuning adapters" that enabled DVRs capable of upstream signaling to continue to receive channels delivered by switched digital technology, at no additional cost to subscribers.[22] While not perfect, this solution enabled the cable industry to deploy new technology while minimizing the impact on retail navigation devices.[23]

Section 629 applies to all MVPDs.[24] To date, however, the Commission has not applied Section 629 to ensure that retail navigation devices have access to "advanced TV" services provided by AT&T using IPTV technology. IPTV technology is very

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[21] *CableOne Waiver Order* at ¶ 14 n. 40.

[22] See NCTA and TiVo Announce Switched Digital Solution For HD DVRs (November 26, 2007) http://www.ncta.com/ReleaseType/MediaRelease/4439.aspx?hidenavlink=true&type=reltyp1. The tuning adapter essentially is a modified set-top box that provides two-way signaling. This obviously is an imperfect interim solution for TiVo, subscribers and the operators as it requires the subscriber to use an operator-supplied set-top box to get SDV signals – which is what Section 629 was designed to avoid. It only works as a solution because there is no additional charge to the subscriber. If operators charged subscribers for the tuning adapter, TiVo subscribers would find it uneconomic to continue to use their retail navigation devices versus simply renting an operator-supplied set top box at no charge – a situation that would be in conflict with Section 629.

[23] It should be noted, however, that TiVo believes that the Commission erred in suggesting that one-way cable programming may be converted to a two-way platform without implementing a no-cost solution (like a tuning adapter) that enables retail navigation devices to continue to receive those signals if the retail devices are capable of doing so. *In the Matter of Oceanic Time Warner Cable, et. al.,* Order on Review, FCC 09-52 at ¶ 11 (rel. June 26, 2009). The Commission's rules implementing Section 629 and the Plug and Play Agreement were designed to provide retail navigation devices with access to such content. On July 27, 2009, TiVo filed a petition for reconsideration or clarification of the Order on Review in this respect.

[24] In 1998, the DBS industry was exempted from the separable security requirement because DBS service providers were new entrants with only 8% of the MVPD market, DBS equipment was available at retail, and there were at least ten equipment manufacturers competing to provide equipment to consumers. As part of its ongoing examination of market developments, the Commission should review whether this exemption remains warranted, as DIRECTV and EchoStar are now the second and third largest MVPDs and unaffiliated manufacturers are precluded from manufacturing products that receive DBS signals unless they have a commercial arrangement with a particular DBS provider.

similar to switched digital technology as channels are transmitted via coaxial cable to a subscriber's premises only when the subscriber tunes to that channel. Other operators are evaluating IPTV technology and will likely employ the technology in the future. Again, while the use of new technology to deliver video programming such as IPTV should be encouraged, operators must ensure, as with switched digital technology, that such video programming remains accessible to retail navigation devices that are technically capable of receiving such signals.[25] Denying users of competitive navigation devices access to IPTV channels interferes with the functionality and commercial viability of the equipment and creates an unlevel playing field. The best way to assure consumers a reliable and ever-increasing supply of innovative technologies is to assure competitive supply of navigation devices from diverse sources. The Commission should make it clear that cable operators using IPTV systems or tiers must comply with the requirement to use the "identical security function" as retail devices and provide access to retail devices that are technically capable of receiving those signals.

Unfortunately, tru2way does not solve this problem for retail device makers for a variety of reasons. Its technical merits aside, tru2way technology is not being adopted by any MVPDs other than the five largest cable operators. Any tru2way retail navigation device, therefore, will not have access to two-way programming provided by smaller cable operators, much less Verizon and AT&T. Hence, tru2way retail devices will <u>not</u> be nationally portable. In a mobile society, it is difficult to imagine that a substantial number of people will be convinced to spend money on a navigation device that only

[25] Any retail set-top box with an IP connection should be technically capable of receiving signals delivered using IPTV technology. Unlike NCTA, however, AT&T has not proposed any way for retail navigation devices to access IPTV signals.

works in limited markets with certain operators. Without national portability, the hope for a robust market for tru2way retail devices seems highly dubious.[26]

IV. The Separable Security Requirement Encompasses Other MVPD Systems.

One solution to the problem discussed in the preceding section, of course, is for the Commission to facilitate the creation of a single separable security standard that encompasses both traditional cable and other MVPD systems. This is particularly important now that the growth of IPTV services provided by telephone companies is beginning to represent a serious competitive challenge to traditional cable operators.[27] It has been reported that the Alliance for Telecommunications Industry Solutions ("ATIS"), at the behest of Verizon, had formed a working group to "fast-track" the creation for IP-based separable security that would leverage the CableCARD specification and allow IP-based video and data to be authorized and decrypted by a removable CableCARD device.[28] Named the VueKey, the ATIS technology reportedly is an enhancement of the CableCARD standard to enable IP flows that are network-technology agnostic.[29] TiVo has no additional information as to the status of the ATIS effort other than noting that, at

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[26] While tru2way may be appropriate for operator-supplied boxes (*i.e.*, the cable-centric proprietary technology), it is not practical or technically sufficient for *competitive* set-top boxes. The technical provisions of tru2way and the additional terms that are in effect via CableLabs' licensing agreements curtail the freedom of CE manufacturers to design innovative competitive boxes, *inter alia,* by permitting cable operators to dictate the user interface of the devices. *See* Comments of TiVo Inc. dated August 24, 2007 *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, Compatibility Between cable Systems and Consumer Electronics Equipment,* CS Docket No. 97-80, PP Docket No. 00-67. Without differentiation in user interfaces and integration of cable content with broadband and other video choices, consumers would have little reason to purchase a retail device that looks and functions exactly the same as the device it can lease from a cable operator.

[27] *See* http://www.businessinsider.com/chart-of-the-day-cable-telco-tv-2009-7

[28] *See* http://www.multichannel.com/article/86397-Verizon_Gets_a_Pass_Many_Cablers_Don_t.php

[29] *See* http://telcotv-view.blogspot.com/2008/10/atis-validates-iptv-cablecard.html

the present time, Verizon seems to be managing to comply with the separable security requirement in its hybrid IPTV systems.[30]

TiVo supports the concept of a single national conditional access standard that would eventually replace the current CableCARD national conditional access standard. To satisfy the Commission's separable security requirement, however, any successor conditional access system must be open, non-proprietary, nationally portable, available for use by unidirectional as well as bidirectional plug and play devices, and relied upon by multichannel video programming providers and retail set-top box makers alike.

The concept of common reliance is simple: common reliance means that *all* MVPDs and *all* retail set-top box manufacturers rely on the *same* conditional access security system. A scheme in which every operator is free to use a different security system and as long as that security system is "available" for license to a consumer electronics manufacture is *not* common reliance as it does not provide for national portability.[31] National portability is a key component of common reliance. The

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[30] TiVo is concerned, however, that Verizon may seek to employ switched/IPTV technology. Again, Section 629 requires the Commission to ensure that operators such as Verizon make such video programming accessible to retail set-top boxes that are technically capable of receiving such signals. Any retail set-top box with an IP connection should be technically capable of receiving signals delivered using IPTV technology.

[31] The concern about national portability has been raised repeatedly in the context of proposed downloadable conditional access. Unfortunately, the Commission has provided very little guidance for the industry toward establishing a uniform set of expectations for a downloadable security system that, like the CableCARD, would support competitive entry products on a national, and nationally portable, basis. As the Consumer Electronics Association explained to the Commission last year: "***The chipsets and firmware necessary for navigation devices to implement 'downloadable' security are not themselves 'downloadable.'*** Rather, the electronic interface for each system would have to be separately engineered and built into the hardware and software of any television or other navigation device. If there can be any number of such 'downloadable' systems – indeed, if there is more than one – any advantage of separable security would be lost, as there would still be no common security interface. The navigation devices would be no more, and perhaps less, nationally portable than are present integrated-security set-top boxes. And, as in the case of present set-top boxes, a different and perhaps incompatible license would be required from each system vendor. Thus, despite all of its efforts to assure competitive navigation devices via separable security, ***a national patchwork of different 'downloadable' systems would put the Commission back where it started a decade ago – with individual, proprietary security solutions posing a fundamental***

Commission has been very clear that "[s]ubscribers are more likely to purchase, and not lease from a provider, if they can use the navigation device when they move to an area served by a different operator… Geographic portability will enhance the commercial availability of navigation devices and, should result in wider choice and lower prices to consumers."[32]

On a practical level, to make retail navigation devices viable, consumers need to be able to purchase that device at retail, plug it into their video connection, and be able to use it with any MVPD across the country. If the consumer moves to a different location, they can still use the device with their new provider's service. This is national portability and, more importantly, is national policy as mandated by the FCC and the Congress.

To implement the national policy of nationwide portability, a conditional access scheme needs the following attributes:

1) one national standard security interface;
2) licensed under reasonable non-discriminatory terms and conditions limiting MVPD control over devices only to assurance against theft of service and harm to the network;
3) reasonable host device implementation specifications and support for competitive home networks;
4) true renewability to the software, including updates to the host end of the interface via firmware, which are publicly disclosed; and

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obstacle to competitive entry." *Commercial Availability of Navigation Devices*, CS Docket No. 97-80, CSR-7218-Z-CSR-7222-Z, CSR-7227-Z, Comments of the Consumer Electronics Association on Six Requests for Waiver of 47 C.F.R. § 76.1204(a)(1) (July 5, 2007) (emphasis in original); *see also Application for Review* filed by the Consumer Electronics Association on February 17, 2009 *In the Matter of Cablevision Systems Corporation's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules, Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, CSR-7078-Z, CS Docket No. 97-80 (rel. Jan. 16, 2009).

[32] First Report and Order, 13 FCC Rcd 14775 at ¶ 61.

5) defined compliance certification process, including self-certification of implementation, run through a government agency or standards body.

All of these attributes are provided for in the current CableCARD regime and should be requirements for any future system that would replace the CableCARD requirement.

CONCLUSION

In enacting Section 629, Congress required competition in the navigation equipment market, encouraging innovation and assuring choice for consumers. Unfortunately, the mandate to ensure that consumers have a choice of competitive retail navigation devices remains largely unfulfilled. CableCARD problems persist, common reliance is at risk of being undermined by an endless string of waivers, and the Commission's rules are being challenged by the introduction of new distribution techniques that impair competitive navigation devices without regard to the national policy goal of consumer choice. Accordingly, it is time for the Commission to "revisit the decisions and take further action to ensure a competitive marketplace and consumer choice in navigation devices,"[33] as the Commission has stated it would do.

Respectfully submitted,

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[33] *Id.* at ¶ 16.