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

In the Matter of	)	
	)	
Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission's Rules and Streamlining Other Related Rules	)	ET Docket No. 10-236
	)	
2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office Of Engineering and Technology (OET)	)	ET Docket No. 06-105

To: The Commission

COMMENTS OF THE

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association (TIA) hereby submits comments to the Federal Communications Commission (Commission) in the above-captioned proceeding.[1] TIA appreciates the opportunity to discuss how the Commission may, through the Part 5 Experimental Radio Service, further its goal to encourage researchers to innovate in spectral efficiency research, creating the potential for advanced development of devices and services to the benefit of the American public and our nation's economic prosperity.

[1] Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission's Rules and Streamlining Other Related Rules, ET Docket No. 10-236; 2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office Of Engineering and Technology (OET), *Notice of Proposed Rulemaking*, (2010) (NPRM).

TIA represents the global information and communications technology (ICT) industry through standards development, advocacy, tradeshows, business opportunities, market intelligence and world-wide environmental regulatory analysis. For over 80 years, TIA has enhanced the business environment for broadband, mobile wireless, information technology, networks, cable, satellite, and unified communications. TIA is accredited by the American National Standards Institute (ANSI).

SUMMARY

TIA supports the Commission's goal of reforming rules governing experimental license rules in this matter, and believes this is an excellent stride toward driving innovative spectrum use in the United States. To that end, TIA urges the Commission to consider including for-profit entities for eligibility under its proposed blanket program experimental license process. TIA strongly believes that limiting this research opportunity to colleges, universities, and non-profit research organizations will chill private industry's motivation to even more robustly contribute to the innovative use of spectrum. Allowing for-profit entities to innovate under experimental licenses would be consistent with the aims of the NPRM and the goals of the National Broadband Plan. Moreover, the substantial contributions that private industry provide in the development of new technologies will be considerably augmented.

Even if the Commission does not extend the experimental license rules to for-profit entities, the Commission should clarify that such entities are eligible under the "innovation zone" license proposal and allow for experimentation without preapproval from allocated licensees in order to streamline the process as much as possible.

TIA also urges the Commission to ensure that adequate protection is afforded to primary and secondary licensees. The Commission should avoid transferring the burden of interference notification and detection to allocated frequency licensees, and TIA opposes rule changes that will result in such a shift.

TIA also urges the Commission to modify its rules to allow for devices operating under Section 2.803 licenses to be tested in residential settings. Such an allowance is critical to the efficient development of products. Finally, TIA supports Commission efforts in the NPRM to permit the limited marketing of evaluation kits to increased opportunities for experimentation and innovation, and asks that sale of such kits be conditioned on appropriate notice that limits their use by engineers and technical personnel to evaluating circuit components and/or test devices.

DISCUSSION

I. THE COMMISSION SHOULD ALLOW PRIVATE INDUSTRY FACILITIES TO QUALIFY FOR PROPOSED PROGRAM EXPERIMENTAL LICENSES.

In the NPRM, the Commission proposes allowing qualified institutions a broad program experimental license without requiring prior authorization for the use of specific frequencies.[2] The Commission also proposes to create an innovation zone program experimental license for technically qualified entities that would reduce the number of pre-approvals needed before conducting spectral efficiency research.[3] TIA supports the Commission's efforts to facilitate increased research in the area of spectral efficiency; however, the Commission should apply the experimental license proposal not only to "colleges, universities, and non-profit research

[2] *Id.* at ¶ 19.

[3] *Id.* at ¶ 41.

organizations,"[4] but also to for-profit entities. TIA and its members believe that the Commission should not differentiate between non-profit and for-profit entities in this proposed licensing scheme, as omitting the latter will be to the detriment of innovation, investment, job creation, and economic growth.

Extending eligibility to for-profit entities is consistent with the Commission's goals in the NPRM to promote innovative research towards efficiency in spectrum use[5] and the National Broadband Plan.[6] Like colleges, universities, and non-profit research organizations, many of TIA's member companies operate research campuses and labs where radio frequency (RF) is effectively contained; these facilities are recognized as some of the most cutting-edge communications research centers in the world. Like colleges, universities, and non-profit research organizations, for-profit entities face the burdensome and inefficient process of applying for multiple licenses,[7] such as a requirement for separate licenses for buildings across the street from one another that are within the same campus. Furthermore, as exemplified in a leading example of the success of Part 5 experimentation in the NPRM,[8] the majority of advances in technology have occurred in the private sector.[9] Therefore, TIA believes that allowing for-profit

[4] *Id.* at ¶ 20.

[5] *Id.* at ¶ 1.

[6] *Connecting America: The National Broadband Plan*, Federal Communications Commission, Mar. 2010 *at* 125.

[7] NPRM at ¶ 16 ("The need to obtain multiple authorizations can result in additional administrative burdens and inefficiencies, and serve to stifle the interaction of research ideas that can multiply their impact." (citing the National Broadband Plan)).

[8] *Id.* at ¶ 4 (citing experimental licenses granted to Qualcomm and Omni-Point Corporation ultimately leading to Personal Communications Services in the 1850-1990 MHz band).

[9] *See* Comments of Q-Track Corporation, ET Docket Nos. 10-236, 06-105 *at* 5-6 (filed Jan. 7, 2011).

entities to qualify for proposed program experimental licenses will create significant investment, innovation, and economic benefits in the private sector. [10]

If the Commission does not adopt this proposal, commercial entities may still be able to invest and innovate through the Commission's proposed innovation zone experimental licenses. TIA – noting that it is unclear why these licenses would not be appropriate for "exclusive use facilities (such as within a large manufacturer's plant grounds),"[11] – suggests that the Commission make clear that private research facilities, including large research campuses, are included in the proposed innovation zones.

II. TIA SUPPORTS THE COMMISSION'S EFFORTS TO MITIGATE INTERFERENCE, AND URGES THE PROTECTION OF PRIMARY AND SECONDARY USERS.

TIA fully supports the Commission's goal to prevent interference to incumbent band users while encouraging experimentation.[12] Further, TIA agrees that spectrum used for public safety and other critical services must be protected.[13] To achieve this goal, the Commission proposes technical measures for each proposed experimental licensing regime[14] and operational measures such as the designation of a single point of contact for each license with authority over the experiment.[15] Some TIA members have experienced cases of an allocated licensee refusing to

[10] At the very least, for-profit applicability should be done as part of the Commission's proposed pilot program to be evaluated at a later time before expanding the licensing regime to any entity that wishes to utilize the license. NPRM at ¶ 36.

[11] *Id.* at ¶ 41.

[12] NPRM at ¶ 3 ("In exchange for the flexibility we give researchers to design and conduct experiments and tests, experimental operations are not protected from harmful interference from allocated services and they must not cause harmful interference to stations of authorized services, including secondary services.")

[13] *Id.* at ¶ 31.

[14] *See Id.* at ¶ 22.

[15] *Id.* at ¶ 33.

allow experimental use of their frequencies in all cases based on interference concerns, and for this reason concurs with the Commission that the allowance of experimental use without prior consent from an associated allocated licensee will reduce "roadblocks to innovation."[16]

While TIA agrees that these measures are critical to preserving functional use of licensed spectrum, TIA stresses that all experimental testing must be done on a non-interference basis,[17] and urges the Commission to take further steps to safeguard adequate protection from interference to ensure that the flexibility needed by experimental licensees is not a trade-off for the critical security primary and secondary frequency licensees require. Therefore, TIA is opposed to any changes that would shift the burden of ensuring interference protection from experimental licensees to allocated primary and secondary users, and urges the Commission to refrain from any such rule changes. Under the proposed rules, web-based Commission registration of intended experimental use would be made public at least seven days before the experimental use would begin, after which an allocated user would then be required to file objections to the experimental use with the Commission based on results during a pre-experiment testing phase.[18] Allocated licensees would be required to dedicate increased resources to determining the source of new interference and resolving related issues and would have to constantly monitor the online database. Under this proposed process, there would be a significant danger of a licensee experiencing interference as the allocated licensee would have to scramble to address recurring occurrences. Further, some frequency uses can additionally exacerbate this situation in cases where interference could emanate from any location in the U.S.,

[16] *Id.* at ¶ 16.

[17] *See* 47 C.F.R. § 5.85(c).

[18] *Id.* at ¶ 27.

making a determination of the source very difficult and costly. Making these proposed changes would exacerbate, not improve, the potential for damaging interference to occur.

III. TIA SUPPORTS CLARIFICATION IN THE PART 5 RULES THAT TESTING AND EXPERIMENTATION AT OR BELOW LEVELS IN THE PART 15 RULES DO NOT REQUIRE AN EXPERIMENTAL LICENSE.

TIA supports the Commission's efforts to streamline Part 5 of its rules. In particular, TIA supports clarification in the FCC Part 5 rules that tests and experiments operating at or below the maximum power level permitted for unlicensed devices under Part 15 should be exempt from Part 5 licensing requirements. TIA does not believe this should be limited to trade show demonstrations or to indoor use. There is no need to require additional constraints to testing or experimentation if the testing is undertaken within the envelope of Part 15 technical parameters and associated rules. Clarifying this in the FCC rules will allow innovative research to be done, at levels the Commission has already determined will not cause interference, without the additional requirement for licensing. Notably, this will benefit all types of innovators, ranging from research and development (R&D) labs of private companies to academics at universities and other research institutions.

Additionally, the Commission should modify Section 2.803(e)(1)(iv) to clarify that the prohibition on operation of pre-approved devices in a residential area is not applicable when the operation is conducted pursuant to the authority of a Commission license under the provisions of Section 2.803. Under Commission rules, radio frequency devices may be operated, but not marketed, for the purposes of "evaluation of product performance and determination of customer acceptability, provided such operation takes place at the manufacturer's facilities during

developmental, design, or pre-production states."[19] This requirement does not allow for valuable testing in a residential setting during the development process, and places a burden on product developers to needlessly expend resources in this area when field testing could suffice. To realistically assess pre-approved commercial products such as cellphones, smartphones, and tablets, the effectiveness of such devices must be evaluated in residential areas. The existing compliance measures related to interference required of licensees, the restriction on the testing of equipment that could not be approved, and the labeling requirements of Section 2.803 provide sufficient protection against problems associated with such operation for the purpose of evaluating devices. Further, requiring manufacturers to secure a Part 5 experimental license or special temporary authority for such testing affords little, if any, additional protection against interference and is outweighed by the additional burden that would be placed on both the Commission, through enforcement efforts, and manufacturers, through increased cost to product development. The resulting effect is an increase of regulatory barriers to innovation, running counter to the Commission's innovation advancement goals.[20]

IV. EVALUATION KITS PLAY AN ESSENTIAL ROLE IN THE DEVELOPMENT OF NEW WIRELESS SERVICES, TECHNOLOGIES, AND APPLICATIONS

TIA supports Commission efforts in the NPRM to permit the limited marketing of "evaluation kits," for doing so will provide "increased opportunities for [RF] experimentation and innovation."[21] Evaluation kits, which typically are not authorized via the FCC's equipment approval process, permit engineers and technicians to assess the viability of integrated circuit

[19] 47 CFR § 2.803(e)(1)(iv).

[20] *See* Remarks of FCC Chairman Julius Genachowski, FCC Broadband Acceleration Conference (Feb. 9, 2011) at 1 ("One thing [towards implementing accelerating broadband deployment] government at all levels can do is ensuring efficient, effective regulation. We need rules that serve legitimate public needs without erecting costly or unnecessary barriers.").

[21] NPRM at ¶ 67.

chips (ICs) and other circuit components for possible inclusion in products under development before they decide to purchase large quantities. This assessment also involves the development of software applications for particular chipsets and test devices. These evaluation kits also are used for hardware and software design and development purposes in teaching labs in engineering schools throughout the United States.

Despite statements in Paragraph 67 of the NPRM, not all evaluation kits have heretofore been considered contrary to the existing rules. Evaluation kits that qualify as digital device testing equipment are exempt from most regulation.[22] "Test equipment" is "equipment that is intended primarily for purposes of performing measurements or scientific investigations [and] includes, but is not limited to, field strength meters, spectrum analyzers, and modulation monitors."[23]

In fact, the FCC historically has prohibited the marketing of unapproved kits only in specific situations: (i) TV interface device kits must be specifically approved before marketing;[24]

[22] 47 C.F.R. § 15.103(c). Section 15.103(c) exempts from most regulation unintentional radiators that are digital devices and used exclusively as commercial, industrial, or medical test equipment.

[23] 47 C.F. R. § 15.3(d). The definition of "test equipment" was added to the FCC's rules when the agency sought to prohibit the marketing of scanning receivers that could receive cellular telephone signals. *See* Amendment of Parts 2 and 15 of the Commissions Rules to Further Ensure That Scanning Receivers Do Not Receive Cellular Radio Signals, *Report and Order*, ET Docket No. 98-76, at ¶ 11, FCC 99-58 (Mar. 31, 1999). To guard against the marketing of receivers that would be promoted disingenuously as exempt kits, not completed receivers, the FCC had earlier explained that, in general, "Section 15.3(p) of the Commission's rules defines a kit as any number of electronic parts, usually provided with a schematic diagram or printed circuit board, which, when assembled in accordance with instructions, results in a device subject to the regulations in Part 15, even if additional parts of any type are required to complete assembly. However, *the Commission's rules do not require that the party marketing a kit obtain an equipment authorization*, even though one would be required if the finished product were marketed. This has led to the practice of parties marketing kits for devices which will not comply with our rules when assembled in order to avoid the equipment authorization requirements." Amendment of Parts 2 and 15 of the Commissions Rules to Further Ensure That Scanning Receivers Do Not Receive Cellular Radio Signals, *Notice of Proposed Rulemaking*, ET Docket No. 98-76, RM-9022, ¶ 18, FCC 98-100 (June 3, 1998). The FCC did not ban all test kits.

[24] *See* 47 C.F. R. § 15.25.

(ii) scanning receiver kits that can tune cellular radio frequencies are prohibited;[25] and (iii) Part 15 power amplifier kits are prohibited in most situations.[26]

Evaluation kits play an essential role in the development of new technology, especially in the creation of new wireless devices and applications that are helping to further spread broadband. Such kits also have long allowed engineers and technicians in training to analyze circuits and assembled devices in order to gain essential insight into the functioning of components inside of functional devices. TIA commends the FCC for noting the importance and need to offer evaluation kits for these purposes. TIA asks the FCC to permit the sale of evaluation kits, which are designed to operate under Parts 15, 18, and 95 of the Commission's rules, for wireless device and application development work – with proper notice that limits their use by engineers and technical personnel for purposes of evaluating circuit components and/or test devices.[27]

Thus, TIA welcomes the opportunity to work with the Commission to find ways to permit uncertified evaluation kits to serve these traditional roles while not undercutting the goal of the equipment authorization program as a means of enabling communications without harmful interference.

[25] *See* 47 C.F.R. § 15.121(e)

[26] *See* 47 C.F.R. §15.204. An unapproved device that would be operated under Part 15 and that is not prohibited from being marketed as a kit may currently be constructed and operated by an equipment designer under the constraints of Section 2.803. Of course, such an unapproved kit may not be marketed once it is constructed as a product; nor may it be operated apart from the limitations of Section 2.803 or an experimental license if the constructed device would normally require an equipment authorization. Thus, were a company to build a complete device with an evaluation kit, it would not be allowed to market the completed device. *See, e.g.*, Richard Mann d/b/a The Antique Radio Collector, Toledo, OH, 22 FCC Rcd. 20516 (Enf. Bur. 2007) and cases in n.16.

[27] TIA notes that proposed Section 2.805(b)(2) in the NPRM would allow the operation of unapproved RF devices that are "designed to operate under Parts 15, 18, or 95." Proposed 47 C.F.R. § 2.805(b)(2) at Appendix A.

CONCLUSION

For the foregoing reasons, TIA urges the Commission to take into consideration its views in this proceeding.

Respectfully submitted,

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March 10, 2011