

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

In the Matter of:)

Technological Advisory Council (TAC) White) ET Docket No. 13-101
Paper and Recommendations for Improving)
Receiver Performance)

COMMENTS OF MOTOROLA MOBILITY LLC

Motorola Mobility LLC (“Motorola Mobility”) hereby responds to the Public Notice issued by the Federal Communications Commission Office of Engineering and Technology (“OET”) inviting public comment on the Technological Advisory Council (“TAC”) White Paper and its accompanying recommendations for improving receiver performance.¹ Motorola Mobility believes that the TAC has presented interesting concepts that deserve further consideration and discussion. However, the proposals set forth in the TAC White Paper should not be applied to commercial mobile receivers, nor should the Commission adopt rules that would upset the commercial mobile industry’s consensus-based approach to receiver standards that has been the foundation of the industry’s success.

¹ See Office of Engineering and Technology Invites Comments on Technological Advisory Council (TAC) White Paper and Recommendations for Improving Receiver Performance, *Public Notice*, ET Docket No. 13-101, DA 13-801 (April 22, 2013) (“Public Notice”); see also *Interference Limits Policy – The Use Of Harm Claim Thresholds To Improve The Interference Tolerance Of Wireless Systems*, White Paper, Receivers and Spectrum Working Group, FCC Technological Advisory Council, February 6, 2013, (“TAC White Paper”) available at <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/WhitePaperTACInterferenceLimitsv1.0.pdf>.

The TAC White Paper correctly observes that increasing demand for wireless capacity requires wireless systems to operate in closer proximity in frequency, space, and time.² Although the coexistence of wireless systems historically has been regulated using limits on radiated power of transmitters, the TAC notes that receivers that cannot reject moderate strength interfering signals preclude new spectrum uses in adjacent bands.³ The TAC White Paper proposes to supplement the current regulatory system by introducing receiver regulations as an additional element in the effort to promote efficient spectrum use. Specifically, the white paper advocates the use of “harm claim thresholds, a specification of the interfering signals levels that receivers need to be able to tolerate in order to work properly in a densely populated spectral environment.”⁴ The harm claim threshold approach would be based on defining a received signal strength profile that, if exceeded at a specific percentage of locations and times within a measurement area, would support a claim for harmful interference. Conversely, a user would have no enforcement recourse at the FCC if the signal strength fell below the defined threshold.⁵

The tremendous demand for commercial mobile services and the robust competition among equipment vendors already provide the necessary market incentives to ensure that commercial mobile receivers operate efficiently. Although the proposals are analytically sound and worthy of further study, neither application of the harm claim threshold nor any enhanced receiver performance standard is necessary to effectuate enhanced spectrum efficiency in commercial mobile services. The huge number of handsets operating in the same band in the same general vicinity requires that mobile receivers be capable of rejecting undesired signals

² TAC White Paper at 5.

³ *Id.*

⁴ *Id.*

⁵ *Id.* at 8.

even in the harshest of spectrum environments. And as more broadband demand drives the mobile wireless market, receiver performance will continue to improve to meet customer expectations. This will happen, as it already is happening, without the introduction of any additional or alternative regulatory processes intended to ensure efficiency.

Over the years, the industry has, on its own volition, developed technical standards for all components comprising the commercial mobile network platform. Facilitated by 3GPP, the European Telecommunications Standards Institute (“ETSI”), the Telecommunications Industry Association (“TIA”), and other standards setting bodies, the commercial wireless industry develops comprehensive standards defining both receiver and transmitter performance that often exceed FCC requirements in order to further minimize the potential for inter-service interference. These standards, which are implemented in commercial mobile devices deployed under carrier coordination and cooperation, have resulted in relatively few interference situations requiring the FCC’s involvement.⁶ This level of compatibility is remarkable given that there are more than 300 million commercial handsets operating in the U.S. alone.⁷

The industry standards underlying the commercial mobile ecosystem are consensus based, technically sound, and well serve manufacturers, providers, and consumers alike. More direct government intervention, such as the adoption of comprehensive standards in the FCC’s rules, would add new costs on manufacturers and carriers to manage and participate in such proceedings. More importantly, the Commission’s notice and comment rulemaking procedures are ill-suited to the timely implementation of the dynamic technological changes that occur within the commercial mobile industry and will delay the introduction of new products and

⁶ See, e.g., TAC White Paper at 17 (“Interference negotiations between parties in the same service (e.g., cellular) are common, and the FCC is rarely if ever called upon.”)

⁷ See Comments of CTIA – The Wireless Association, WT Docket No. 13-135, June 21, 2013, at 21.

services to consumers. Industry technical standards allow manufacturers and carriers to react more swiftly to changing market demands and are therefore preferred over government regulation.

While not suitable for the commercial mobile industry, the TAC White Paper proposals may be useful tools that could resolve expeditiously interference claims in bands for other services where the dynamics of the commercial mobile industry are not present. However, further analysis is necessary and the Commission should work with the industry to identify the specific band(s) that would be well suited to test the proposals set forth in the TAC White Paper. The PCAST Report focuses on a variety of bands between 2700 MHz and 3700 MHz that could be made available for commercial use under shared use provisions with a number of diverse Federal government services.⁸ Because of the wide range of services that are being contemplated, these bands would appear to be ideal candidates for testing the harm claim threshold concept.

The Commission should not, under any circumstances, attempt to implement the concept into upcoming allocations involving commercial mobile services – namely spectrum in the 600 MHz, 1.7 GHz, and 2.1 GHz bands. The development of a harm claim threshold will be complicated and controversial and would likely delay the availability of new spectrum, thereby thwarting economic growth and innovation. In addition, attempting to implement the new and untested approach in the 600 MHz band may have unintended consequences on auction revenues that could threaten the funding of critical programs, such as the First Responder Network Authority and the development of the 700 MHz public safety broadband network. For these

⁸ Realizing The Full Potential Of Government-Held Spectrum To Spur Economic Growth, President's Council Of Advisors On Science And Technology, July 2012, at 7 available at http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf

reasons, the Commission should look elsewhere if it attempts to test the harm claim threshold approach.

Respectfully submitted,

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