TELECOMMUNICATIONS INDUSTRY ASSOCIATION
HEADQUARTERS
2500 Wilson Boulevard
Suite 300
Arlington, VA 22201-3834
+1.703.907.7700
D.C. OFFICE
10 G Street, N.E., Suite
550 Washington, DC 20002
+1.202.346.3240 MAIN
+1.202.346.3241 FAX
tiaonline.org

By Electronic Delivery to consultation_radio@ic.gc.ca

January 3, 2013

Attn: Claude Beaudoin
Chief, Certification and Engineering Bureau
Industry Canada
3701 Carling Avenue
Ottawa ON K2H 8S2

Re: ***Comments of the Telecommunications Industry Association on Industry Canada's Draft Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) (RSP-102 Issue 5)***

The Telecommunications Industry Association's ("TIA") Technical Regulatory Policy Committee ("TRPC")[1] hereby submits its comments to Industry Canada on its draft revisions to RSS-102 to Industry Canada.[2]

TRPC has focused on the specific absorption rate ("SAR") provisions in Section 3.1.1, which are of concern to the industry for the reasons set out herein. In addition, we have provided editorial recommendations for other sections. Because the TRPC

---

1 TIA is a Washington, DC-based trade association and standard developer that represents the global information and communications technology ("ICT") industry through standards development, advocacy, trade shows, business opportunities, market intelligence and world-wide environmental regulatory analysis. For over eighty years, TIA has enhanced the business environments for broadband, mobile wireless, information technology, networks, cable, satellite, and unified communications. TIA's hundreds of member companies' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment, and entertainment. TIA is an accredited standard development organization for the ICT sector by the American National Standards Institute ("ANSI").

TIA's Technical Regulatory Policy Committee serves as an ICT manufacturer body that works with the FCC towards the goal of streamlining and clarifying the mechanisms of the FCC equipment certification processes and procedures. The TRPC's charter includes a directive to address issues relating to procedures and testing for product grant authorizations.

2 *See* Industry Canada, Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands), RSP-102 Draft Issue 5 (Dec. 2012).

represents the substantial expertise of industry with regard to SAR policy and procedures, we request that these comments be given due weight.

I. COMMENTS ON SECTION 3.1.1

Provision 3.1.1 sets out a new requirement for preferred spacing and body-worn testing: either the manufacturer uses the spacing deemed by Industry Canada to be "preferred" (i.e., 5 mm) or the manufacturer must provide a "rationale" for the spacing it chooses to use. This new requirement is in addition to the longstanding spacing limit of 25mm. Based on the IEEE's standards[3] and the science underpinning it, neither element is warranted in light of the relevant science.

The objective of SAR testing is to demonstrate compliance to established SAR guidelines for the purpose of obtaining grant authorization. The SAR guidelines were created by the expert panels and specifically designed to provide a substantial margin for safety. Therefore, current compliance SAR testing operates to demonstrate compliance to levels that are far below the levels where any adverse health effects have been found. Any further tightening of the current testing requirements will only serve to add an additional, unnecessary safety margin and serves to confuse compliance testing with safety testing.[4]

Both the highly-regarded International Council on Non-Ionizing Radiation Protection ("ICNIRP") and the IEEE C95.1 2005 committees have found that the

---

[3] *See* IEEE C95.1-1991 (Revision of ANSI C95.1-1982), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz (approved September 26, 1991) ("IEEE C95.1-1991"); *see also* IEEE C95.1-2005 (Revision of ANSI C95.1-1991), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz (approved Apr. 19, 2006) ("IEEE C95.1-2005").

[4] *See* FCC, *Specific Absorption Rate (SAR) For Cell Phones: What It Means For You* (last visited Jan. 3, 2013), *available at* http://www.fcc.gov/guides/specific-absorption-rate-sar-cell-phones-what-it-means-you (stating that "Many people mistakenly assume that using a cell phone with a lower reported SAR value necessarily decreases a user's exposure to RF emissions, or is somehow "safer" than using a cell phone with a high SAR value.") ("FCC SAR Website").

localized SAR threshold for an adverse health effect is 100 W/kg averaged over 10g.[5] The U.S. government, in a recent report by its Government Accounting Office ("GAO") Report recognized that the FCC guideline is "a fiftieth" of this SAR threshold for an adverse health effect and therefore no additional margin is needed.[6]

Moreover, as the FCC explains, "cell phones constantly vary their power to operate at the minimum power necessary for communications,"[7] and therefore the actual SAR value of the device while in normal use is usually well below the maximum SAR value specified for the phone. For example, a recent Swedish study[8] found that after assessing output power from more than 800,000 hours of voice calls, the average level for 3G or smartphone voice calls was below 1mW across all environments including rural, urban, and dedicated indoor networks. These results were consistent with the findings of an earlier French study[9] of everyday mobile phone use which found that a phone used in and around a major city typically operates at less than one percent of its maximum power. This power level equates to 100 times less emissions than the maximum exposure level measured in SAR compliance tests.

Given the foregoing, it is evident that no tightening of the current spacing requirement is needed to assure safety for consumers. Moreover, there is no basis in the current science for establishing a "preferred" spacing. The 5mm distance appears to have been arbitrarily chosen and not derived from the work done by the expert panels in establishing the currently used standard. (Indeed, the currently adopted 1.6 W/kg per 1 g

---

5 *See* IEEE C95.1-2005 at Annex C.2.2.2.1.1, Change from dosimetry-based to biologically-based rationale.

6 *See* GAO, Telecommunications: Exposure and Testing Requirements for Mobile Phones Should Be Reassessed, GAO-12-771 (Washington, D.C.: July 24, 2012) at 16-19.

7 FCC SAR Website.

8 Persson, T., Törnevik, C., Larsson, L.-E. and Lovén, J. (2012), Output power distributions of terminals in a 3G mobile communication network. Bioelectromagnetics, 33: 320–325. doi: 10.1002/bem.20710.

9 Gati et.al. *Exposure induced by WCDMA Mobile Phones in Operating Networks*, IEEE Trans on Wireless Communications Vol 8 No 12 2009.

limit has been rejected by the experts of IEEE and ICNIRP in favor of the 2.0 W/kg per 10 g limit;[10] no standards body now supports the 1.6 W/kg per 1 g limit.) Because the SAR requirements are predicated on scientific studies, and testing is conducted in accordance with clearly defined scientific principles and techniques, TRPC asserts that the limits should not be varied by regulatory changes made arbitrarily without a scientific basis. For the reasons cited herein and based on the science underpinning the standards recommended by the IEEE and adopted by the FCC,[11] we believe that the "preferred" spacing requirement should be withdrawn.

In addition, TRPC has concerns with regard to the imposition of a "rationale" for testing conducted with spacing greater than 5mm. As a matter of current SAR compliance as well as notice to consumers, manufacturers already provide spacing information in the user guide. Further, cellular phone manufacturer members of the Mobile Manufacturers Forum[12] have committed to providing a SAR Tick (see attached example) with additional spacing information for consumers. There is no need for additional spacing information once the compliance testing confirms that SAR is met at the compliance spacing.

A second point is that there are no criteria for a "rationale." An attempt to apply criteria after the fact, in effect, would constitute a change in the spacing requirements without notice to manufacturers and risks being both subjective and arbitrary.

For the forgoing reasons, TRPC strongly urges Industry Canada to withdraw the requirement related to a "preferred spacing" and the associated requirement for manufacturers to provide a "rationale" for testing done using a non-preferred spacing.

---

[10] *See* IEEE C95.1-2005.

[11] *See* 47 CFR § 1.1310.

[12] The Mobile Manufacturers Forum ("MMF") is a global association of manufacturers committed to providing regulators and consumers information about health and RF exposure, among other issues. The MMF membership includes Apple, LG, Motorola Mobility, Motorola Solutions, Nokia, RIM, Cisco, Intel, TCT, and Nokia-Siemens Network and Samsung.

II. EDITORIAL COMMENTS

TRPC has the following recommendations for stylistic revisions to the language in the interests of clarity:

- Section 1.1

> Controlled use is the type of approval given to a device that is intended to be used by persons who are fully aware of, and can exercise control over, their exposure. Controlled use devices typically are installed in non-public areas and are not intended for use by members of the general public.

- Section 2.5.1

> SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level and separation distance as follows.

Finally, TRPC urges that the adoption of a new standard, such as IEEE 1528, also provide for an adequate phase-in period. TRPC proposes eighteen months as a reasonable period.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

By: */s/ Brian Scarpelli*

Brian Scarpelli
Senior Manager, Government Affairs

TELECOMMUNICATIONS INDUSTRY ASSOCIATION
1320 N. Courthouse Rd., Suite 200
Arlington, VA 22201
703.907.7700