

**Before the
Federal Communications
Commission Washington, D.C.
20554**

In the Matter of)
)
Proposed Changes in the Commission’s Rules) ET Docket No. 03-137
Regarding Human Exposure to Radiofrequency)
Electromagnetic Fields)
)
Reassessment of Federal Communications) ET Docket No. 13-84
Commission Radiofrequency Exposure Limits and)
Policies)
)

To: Office of the Secretary
Federal Communications Commission

Comments Submitted By:

Consumers for Safe Cell Phones
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Consumers for Safe Cell Phones is a 501C3 non-profit organization. I, Cynthia Franklin, attest that my statements are true to the best of my knowledge.

IV. Further Notice of Proposed Rule Making

109. With respect to striking a balance between protecting the public and enabling the industry to provide communication services to US citizens, Consumers for Safe Cell Phones (CSCP) comments as follows:

*The FCC is mandated to protect citizens from the known hazards of microwave radiation exposure. Nowhere is it stated that the FCC's function is to facilitate the telecom industry's profit-making potential. And, nowhere is it stated that FCC's function is to ensure citizens have unlimited access to **wireless** internet connection in their homes, public spaces, schools, public transportation to allow them to send photos, access email, connect on Facebook and download sports games and movies at all hours of the day and night. The LEGAL balance to be considered is between the risks to public health from microwave radiation exposure and ensuring a uniform, efficient, reliable communications network of services designed to ensure the safety and welfare of the American people. We implore the Commission to be clear about exactly what your role is in this balance as you weigh the costs and benefits to all the issues being considered herein.*

114. CSCP supports this proposed modification: “.....considering both total ERP and separation distance, rather than height above ground, to determine whether a routine evaluation is necessary. Separation distance....defined as the minimum distance from the radiating structure of the transmitting antennae in any direction to any area that is accessible to a worker or to a member of the general public.”

134. CSCP supports the statement, “.....and a simple set of criteria.....will help ensure understanding and compliance with our regulations.” Not only will this simplify the application process, but it will also allow consumers and health advocacy groups to make sense of the regulations that are currently unnecessarily complicated and confusing.

172. CSCP supports the proposal to remove the 5 cm. minimum distance for compliance testing in order to simulate SAR in typical RF exposure situations.

175. Mitigation – There is great concern with respect to crowds where citizens are exposed to WIFI and/or cellular transmissions at undetermined and essentially unknown exposure levels. At present, the FCC guidelines do not take into account the exposure that citizens receive in these situations from the many surrounding smartphones, laptops, tablets and personal “hot spots” transmitting simultaneously in close proximity to their heads and bodies. Three situations in which this is of major concern are:

1. Public transportation (planes, trains, buses) in which many passengers are unknowingly exposed to potentially high levels of WIFI and the RF energy

from their and the other passengers' transmitting devices within the confines of typically metal enclosures with highly reflective surfaces.

2. Classrooms are of great concern as it is typical that children are continuously exposed for many hours throughout the day to multiple, undetermined sources of WIFI transmission in the building in addition to the many WIFI-enabled laptops, smartphones and other devices simultaneously transmitting in close proximity to children's developing brains and bodies.
3. There is also concern regarding the use of the temporary towers or "cows" that are installed on trucks to transmit AT UNDETERMINED, UNMONITORED LEVELS into public gatherings.

It is unacceptable that the FCC has failed to properly account for these typical exposure situations in which the public is exposed to undetermined and unmonitored levels of microwave radiation. Until the FCC has promulgated rules to require testing for these and similar scenarios, mitigation procedures must be put in place. It is imperative in these situations that handouts, signs or posters be made available to educate and inform citizens that levels may exceed the FCC exposure guidelines and about ways exposure can be reduced for those who are concerned.

The FCC must establish procedures to estimate the accumulated exposure a citizen may receive in these types of situations, especially with respect to the children and the fetuses of pregnant women whose developing brains and nervous systems are proven to be more vulnerable to exposure from microwave radiation.

190. In exposure situations where the general population limit is possibly exceeded, the sign **MUST** provide up to date contact information. This should not be optional as it would be unlikely to be provided if there is a choice.

200. CSCP supports inclusion of requiring contact information, i.e.; "phone number or email address resulting in a timely response." This information is important to be included in order to reduce the public's concerns about a particular exposure location, especially if it is in close proximity to a school, residence, park or other public space. Citizens need to have exposure information available if they have questions or concerns that they feel need to be addressed. Also, FCC needs to be more responsive in responding to consumer complaints about possible overexposure situations.

V. Notice of Inquiry

209. With respect to striking a balance between protecting the public and enabling the industry to provide communication services to US citizens, Consumers for Safe Cell Phones (CSCP) comments as follows:

*The FCC is mandated to protect citizens from the known hazards of microwave radiation exposure. Nowhere is it stated that the FCC's function is to facilitate the telecom industry's profit-making potential. And, nowhere is it stated that FCC's function is to ensure that citizens have unlimited access to **wireless** internet connection in their homes, public spaces, schools and on public transportation to allow them to send photos, access email, connect on Facebook and download sports games and movies at all hours of the day and night. The LEGAL balance to be considered is between the risks to public health from microwave radiation exposure and providing a uniform, efficient, reliable communications network of services designed to ensure the safety and welfare of the American people. We implore the Commission to be clear about exactly what your role is in striking this balance as you weigh the costs and benefits to all the issues being considered in these proceedings.*

It is important for the FCC to consider that it is NOT mandated that the communications network be WIRELESS. Considering that this form of communication relies upon an exposure that is now classified as an IARC 2B carcinogen, it is time to require a NON-WIRELESS infrastructure – there is no way to justify the risk to public health from continuous AND INCREASING exposure to greater and higher frequencies of pulsed, microwave radiation.

The balance has shifted away from protection of the health of the American people and is GROSSLY in favor of the economic interests of the telecom industry. We, the people, are being exposed to frequencies and intensities of microwave radiation that have never been tested on humans. It is frightening and unacceptable for this situation to continue.

219. In response to the question, “we specifically seek comment as to whether our current limits are appropriate as they relate to device use by children. CSCP has the following comment on this topic:

The current compliance testing procedure uses the SAM model which, being based upon a 220 pound, 6'2" man, only takes into account the SAR levels for the largest 3% of the U.S. population. Children, teens and smaller adults are NOT taken into account. No, FCC's current limits are NOT appropriate as they relate to use by children; device manufacturers are blatantly marketing to parents of toddlers and babies encouraging them to buy devices and apps designed to be held in close proximity to (and directly against) their children's heads and bodies.

223. The concept of “behavior-based time averaging” is confusing. For consumer devices, we urge the FCC to require a testing/evaluation method that most accurately simulates the typical use scenario. For cell phones, this requires no separation distance when simulating use at the torso as the typical consumer makes calls (or receives calls, texts, emails notifications, etc.) with the back of the phone flush against the skin (as when carried in a bra or waistband) or with very little fabric separation.

224. Given the growing evidence of biological effects at non-thermal levels, CSCP strongly urges consideration of studies showing DNA damage as well as negative neurological and cardiovascular effects from exposure at levels hundreds and even thousands of times below the current standard.

In particular, we are noticing increasing health complaints from citizens who live in close proximity to “smart” meters that send out relatively high bursts of RF energy as often as multiple times per minute. This type of exposure is NOT currently taken into account by existing FCC standards.

The FCC must adopt rules to adequately regulate the exposure from “smart” meters as these RF emitting devices are exposing thousands, if not millions of citizens to essentially unknown, untested levels of microwave radiation, in many cases, against a citizen’s knowledge or approval.

It is unacceptable that the FCC has allowed these microwave-emitting devices to be installed on our homes without consideration of long-term studies showing potential health risks at non-thermal exposure levels.

As early as 1999, the FCC accepted that biological effects were shown to occur at non-thermal levels as referenced in this early version of OET Bulletin 56:

*OET BULLETIN 56
Fourth Edition
August 1999*

Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields

WHAT BIOLOGICAL EFFECTS CAN BE CAUSED BY RF ENERGY?

*“More recently, other scientific laboratories in North America, Europe and elsewhere have reported **certain biological effects after exposure of animals (“in vivo”) and animal tissue (“in vitro”) to relatively low levels of RF radiation. These reported effects have included certain changes in the immune system, neurological effects, behavioral effects, evidence for a link between microwave exposure and the action of certain drugs and compounds, a “calcium efflux” effect in brain tissue (exposed under very specific***

conditions), and effects on DNA.” (pg 8)

And, now, 14 years later, the FCC is “pretending” that non-thermal effects do not exist.

There was convincing evidence in 1999 when past FCC staff admitted the possibility – and the evidence is more conclusive today, in spite of the unwillingness of the IEEE and ICNIRP to admit the likelihood that this is in fact true.

The FCC MUST re-evaluate their exposure standards and take into account the documented biological effects from non-thermal levels of microwave radiation.

231. The consumer information found on the FCC’s website has improved over the past 2 years, but it still fails to inform users to never wear or use a cell phone in a pocket or directly against the body as when tucked into a bra or waistband. This intentional omission is unacceptable as the FCC is aware that the testing separation must be maintained in order to ensure that consumers are not exposed to RF energy that may exceed the limit. There appears to be collusion between FCC staff and the cell phone industry to keep consumers in the dark about this vital safe use information.

Top-level FCC staff have said that it doesn’t really matter about maintaining the separation distance as there is a 50-fold safety factor built into the standard. It is inappropriate for FCC staff to make policy decisions based upon an opinion that fifty times below a relatively high level of tissue heating (i.e.; a SAR of 4 W/kg) is adequate to protect citizens from the known hazards of microwave radiation exposure.....especially given the growing body of peer-reviewed studies showing health effects at hundreds and even thousands of times below the current standard.

The FCC consumer website MUST provide factual and complete information to the public, and until the separation distance “warning” is included on the website in a prominent location, the website is incomplete and misleading as it allows consumers to believe that it is safe and compliant to carry and use a cell phone directly against the body.

233. Cell phone manufacturers (with tacit approval by top level CTIA officials) engage in the industry-wide practice of deceptively hiding the separation distance “warning” in the legal fine print of user manuals in obscure locations that are not likely to be seen by users. When local jurisdictions have attempted to inform citizens of this and other important safe use information about cell phones, the industry has launched aggressive legal campaigns to intimidate lawmakers to either reject or repeal “right to know” laws.

This is occurring in conjunction with Apple deciding to remove any mention of the

separation distance “warning” from their user guides; they now include the information on an obscure text file on the iPhone that is unlikely to be seen by the user.

Until the separation distance allowance is removed from the testing procedure and cell phones are tested for compliance in the manner in which they are actually being used.....the FCC MUST require that manufacturers attach prominent, easy to understand stickers on all cell phones that are currently being designed and marketed to be used in the non-compliant manner of being tucked into breast or pants pockets, waistbands or bras. As an alternative to stickers, a short, easy to understand “flash” message (to never wear or use in a pocket or directly against the breast or torso) could be required to display upon power up on every phone.

234. SAR is a meaningless value for consumers to be made aware of the potential risks of exposure to microwave radiating devices. It is more useful to require handouts or visible information at the point of sale providing suggestions for ways to reduce exposure, especially for children and fetuses who are not taken into account by FCC exposure guidelines.

Manufacturers are not presently including separation distance information or SAR information as “suggested” by FCC guidelines – and if they are not legally required to do so, they most likely will not.

Point of sale information is only worthwhile if it is easy to understand and provided in a format that will likely be seen by the typical consumers (as opposed to deceptively “hidden” in the fine print of a poster on a wall that people just ignore). A simple handout is the most effective method of education; at the very least, consumers need to be provided the information on the FCC’s website about ways to reduce exposure if they are concerned.

The FCC openly admits they “sacrifice” public health to some extent, as they must also provide a vital communication network. Therefore, it is IMPERATIVE that consumers are ADEQUATELY informed at the point of sale about potential health risks of cell phone and other consumer devices so they can make informed decisions about ways to reduce exposure and about choosing accessories (cases, headsets, etc.)

235. Yes, it is helpful to have the FCC ID of a particular device readily available. It makes sense to include this information within an easily accessible file on the phone itself.

236. With respect to striking a balance between protecting the public and enabling the industry to provide communication services to US citizens, Consumers for Safe Cell Phones (CSCP) comments as follows:

The FCC is mandated to protect citizens from the known hazards of microwave

*radiation exposure. Nowhere is it stated that the FCC's function is to facilitate the telecom industry's profit-making potential. And, nowhere is it stated that FCC's function is to ensure citizens have unlimited access to **wireless** internet connection in their homes, public spaces, schools, public transportation to allow them to send photos, access email, connect on Facebook and download sports games and movies at all hours of the day and night. The LEGAL balance to be considered is between the risks to public health from microwave radiation exposure and ensuring a uniform, efficient, reliable communications network of services designed to ensure the safety and welfare of the American people. We implore the Commission to be clear about exactly what your role is in this balance as you weigh the costs and benefits to all the issues being considered herein.*

236. It is not a fact that a 50-fold safety factor is adequate to protect public health from the known health risks of microwave radiation exposure. It is NOT a guarantee that FCC's exposure limits are below the level "where known adverse health effects may begin to occur." Those statements are based upon obsolete scientific assumptions that since laboratory animals were affected at a whole body SAR of 4 W/kg, this is the "threshold" to use for humans. It was simply a "guess" that reducing that threshold by 50 would make for a good limit. It is based upon the outdated assumption that it is impossible for non-ionizing radiation to have any biological effect other than heating of tissue.

It is time for the FCC to drop this absurd reliance upon an obsolete assumption and take seriously the possibility that the current standard may be hundreds or thousands of times more lenient than what is necessary to adequately protect citizens from microwave radiation, especially given that we are all being exposed at greater intensity and for longer duration throughout the day and night – and given that children today will face a lifetime of exposure and the long-term effects are essentially unknown.

237. The statement that "the environmental exposure levels from fixed transmitters....are normally not only far below the MPE limit, but also well below exposure from a portable device such as a cell phone" exposes the GLARING problem with FCC's reliance upon IEEE and ICNIRP. **These are two organizations that are commonly known to represent the interests of the military and telecom industry. They do NOT represent the interests of public health. Those two organization's fundamental opinion that the only health impact of microwave exposure is of thermal effects renders the very basis of FCC's current standard erroneous and irrelevant.**

238. Until the FCC's acceptance of non-thermal biological effects, all of this consideration is a waste of time and taxpayer \$\$, not to mention the potential enormous health care costs our country may incur in the near future.

239. Yes, the FCC must consider the probability of non-thermal effects and

take precautionary action IMMEDIATELY.

242. The World Health Organization has declared this exposure as an IARC 2B carcinogen, placing it in the same health risk category as DDT and lead. This was based upon convincing scientific studies showing increases in rates of brain cancer (glioma) and other tumors after 10 years of use at an average of only 30 minutes a day AT THE CURRENT EXPOSURE STANDARD.

This alone is justification to re-evaluate the standards.

Additionally, the July 2012 GAO report, "Exposure & Testing Requirements for Mobile Phones Should Be Reassessed" directs the FCC to do just that....reassess the exposure and testing requirements.

244. The currently allowed separation distance for compliance testing of cell phones must be eliminated immediately as it does not test these consumer devices in the manner in which they are used. The July 2012 GAO report, 'Exposure & Testing Requirements for Mobile Phones Should Be Reassessed' pointed this out in their statement that the FCC ***"has also not re-assessed its testing requirements to ensure that they identify the maximum RF energy exposure a user could experience. Some consumers may use mobile phones against the body which FCC does not currently test, and could result in RF energy exposure higher than the FCC limit."***

245. As the FCC comments here, "The SAM does not model children....."

This alone is justification to re-evaluate the exposure standards.

247. YES! **There MUST be mandatory, enforceable requirements to ensure compliance with RF safety rules.** The FCC is a federal agency mandated to regulate public exposure to microwave radiation. How can the agency do the job it is required to do without mandatory, enforceable requirements?! We urge the FCC to include all mandatory requirements in the rules so there is no ambiguity about regulatory requirements. This must include specifics about policies for informing consumers of instructions to avoid over-exposure to RF as mandated in **CFR 47 15.21 Information to user.**

248. Encouraging manufacturers to "include information in device manuals to make consumers aware of the need to maintain the body-worn distance – by using appropriate accessories if they want to ensure that their actual exposure does not exceed the SAR measurement obtained during testing" has been a failed policy. **Manufacturers have NOT made consumers aware of this vital safe-use information.** The "body-worn" information that has been "encouraged" to be included in manuals has been deceptively hidden in the fine print in obscure locations that few ever see. No, consumers have not been made aware of the need to maintain the "body-worn" distance.

CSCP maintains that the term “body-worn” is inaccurate and misleading. In today’s market, “body-worn” implies use directly against the body as in a pocket or tucked into a bra or waistband. We urge the FCC to discontinue use of this term immediately and use more appropriate language that accurately reflects the situation, such as “used with distance between phone and body.” It is common knowledge that very few consumers use a holster or case that provides the separation distance required for compliance; and to our knowledge, no manufacturer provides these devices for their customers.

Again, we urge the FCC to discontinue the obsolete testing allowance of a separation distance as it is no longer appropriate given today’s norm of carrying and using phones with no separation distance.

249. Correction: to our knowledge, “body worn accessories such as holsters” are **NOT** supplied with a cell phone as assumed in this section. Also, users are not being informed to use a holster to maintain the required separation distance when worn on the body.

Consumers are not being adequately informed of the potential for overexposure due to “simultaneous transmission of multiple transmitters” while innocently making a call in a breast or pants pocket tightly pressed against the body. Rules **MUST** be promulgated as soon as possible to require that manufacturers/providers properly inform consumers of these over-exposure situations, especially with respect to children and the fetuses of pregnant women.

250. We emphatically state that it is unacceptable to simply suggest that manufacturers “should include operating instructions and advisory statements so that users are aware of the body-worn operating requirements for RF exposure compliance.” This “suggestion” is being blatantly disregarded by the industry the FCC is mandated to regulate and nothing has been done to rectify the situation. **If users are supposed to be made aware of these safe-use requirements as a condition for RF exposure compliance, then every cell phone being marketed today is a non-compliant device.** Until the obsolete allowance for a separation distance during testing on the body is deleted from the procedures, the FCC must establish a specific rule to REQUIRE the disclosure of this information. Hiding it in the legal fine print of user manuals or on files somewhere is NOT an acceptable form of disclosure and this consumer deception must no longer be allowed to continue.

Again, we stress the need to discontinue use of the phrase “body-worn” in the context of providing a separation distance. This is misleading as today’s user commonly associates the term “body-worn” with carrying and using a cell phone as they are designed and marketed to be used – in the pocket or tucked into a bra or waistband radiating directly into the soft tissues of the torso.

251. The “body-worn” testing for equipment authorization must be performed

without a spacer in order to properly simulate today's "normal operating position" of a cell phone. The FCC must either discontinue this obsolete practice that violates its Congressional mandate to protect citizens from the known hazards of microwave radiation....OR immediately issue a public statement that cell phones must never be used ½ to 1 inch from the body (as stated in terms the public will understand). It is not enough to refer users to their operating instructions, as they will NOT read the fine print, and some manufacturers such as Apple, no longer include this information in the manual.

In response to FCC's comment, "we have no evidence that this poses any significant health risk" - we respond that **the FCC has no evidence that placing a transmitter directly against the tissues of the breast and torso is safe!** Nor, does the FCC have information that positioning a transmitting cell phone during a 1 hour phone call directly into the abdomen (commonly used on the lap) of a pregnant woman is safe.

Regarding the erroneous and misleading statement, "using a device against the body without a spacer will generally result in actual SAR below the maximum SAR tested" - In the study, "SARs for pocket-mounted mobile telephones at 835 and 1900 MHz" (Kang, Gandhi, 2002 Phys. Med Biol. 47) it was found that the peak SAR's of a cell phone used in a pocket can be as much as 7 times greater than values obtained during compliance testing. It is wrong for FCC staff to justify their inaction due to an absence of scientific studies proving that using a cell phone directly against the breast tissues, male reproductive organs or abdomen of a pregnant woman is safe!

Regarding the misleading statement, "....moreover, a use that possibly results in non-compliance with the SAR limit should not be viewed with significantly greater concern than compliant use." This comment reads more like industry propaganda designed to assure consumers that there is no unsafe way to use a cell phone. The FCC must refrain from making these sorts of misleading, "industry-friendly" statements that have no scientific basis and **focus on protecting the American people from manufacturers' products that are being designed, marketed and used in ways that are in violation of FCC standards.**

The FCC is mandated to require manufacturers to test their products in the manner in which they are used by consumers. This is NOT happening. Manufacturers are allowed to improperly test and market consumer products that are designed to be used in a non-compliant manner, and the FCC is doing NOTHING to protect the American people from this possibly illegal activity.

The GAO report from July, 2012 admonished the FCC to discontinue this obsolete testing practice that allows consumers to be exposed to microwave radiation that may exceed the exposure limit; it has been over 1 year and this practice continues. This is an outrageous violation of the trust the American people have put into the FCC as our federal regulatory agency that is supposed to protect us from overexposure to this IARC 2B carcinogen. Your agency works for the American

people....not for the cell phone industry! This process of seeking comment on the issue of the separation distance at testing is a charade. Of course, industry representatives will comment that this places an undue burden on their profit-making potential. This is NOT an issue that needs input, as the directive to the FCC is clear.

While the FCC is providing these “stalling tactics”, millions of consumers are being exposed to levels of RF energy that exceed the limit. That is a fact **and action needs to be taken NOW.**

In response to the comment that the limits were set with a large safety factor that ensures the limit is “well below the threshold for unacceptable rises in tissue temperature”:

It must be noted that this opinion by FCC staff is based upon a rigidly held (likely erroneous) belief that there are no biological effects at non-thermal levels. It is troubling that the FCC holds onto this opinion with such certainty, even in the face of mounting scientific evidence of DNA damage and negative neurological and cardiovascular health effects at levels hundreds and thousands of times lower than the current limit.

Fourteen years ago, the FCC accepted that biological effects were shown to occur at non-thermal levels as referenced in this early version of OET Bulletin 56:

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Fourth Edition
August 1999

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“More recently, other scientific laboratories in North America, Europe and elsewhere have reported certain biological effects after exposure of animals (“in vivo”) and animal tissue (“in vitro”) to relatively low levels of RF radiation. These reported effects have included certain changes in the immune system, neurological effects, behavioral effects, evidence for a link between microwave exposure and the action of certain drugs and compounds, a “calcium efflux” effect in brain tissue (exposed under very specific conditions), and effects on DNA.” (pg 8)

And, now, 14 years later, the FCC is “pretending” that non-thermal effects do not exist.

CSCP urges the FCC to discontinue making false, misleading statements that give assurances to American citizens that having a 50-fold safety factor

protects them from any harm due to exposure to microwave emissions from consumer products as well as towers, antennae, etc.

252. The FCC is mandated to adopt policies that require testing “body-worn configuration” as a cell phone is normally used. And, that is with no separation distance – “zero” spacing – actual contact with the body.

As mentioned previously, requiring advisory information must not be an option. Until the testing separation distance allowance is removed, all cell phone products must REQUIRE that users be informed. This clearly implies a prominent label on the product itself as consumers have been conditioned to ignore statements in legal fine print of manuals. A “flash” statement that appears on every cell phone upon power up is another option that might be considered. The separation distance message must be clear and user friendly in non-metric terminology and the font must be large enough to be seen by the typical user.

There really is no viable alternative other than to require compliance testing of cell phones (and laptops, tablets, etc.) in the manner in which they are being used.....with no separation distance. If manufacturers’ products are not able to pass the compliance safety testing guidelines without separation distance from the “body”they should re-design these products to ensure they can not be used by consumers in an unsafe manner.