

HOUSE No. 361

The Commonwealth of Massachusetts

PRESENTED BY:

Patricia A. Duffy, (BY REQUEST)

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act reducing electromagnetic radiation emitted by technology through settings, design, and specific limits.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Kirstin Beatty</i>	<i>149 Central Park Drive, Holyoke, MA 01040</i>	<i>1/17/2025</i>

HOUSE No. 361

By Representative Duffy of Holyoke (by request), a petition (accompanied by bill, House, No. 361) of Kirstin Beatty relative to corporate radiation limits. Consumer Protection and Professional Licensure.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Fourth General Court
(2025-2026)**

An Act reducing electromagnetic radiation emitted by technology through settings, design, and specific limits.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 SECTION 1. The legislature finds and confirms all of the following:-

2 Whereas, the International Commission on the Biological Effects of Electromagnetic
3 Fields (ICBE-EMF.org) has provided simple software and hardware solutions that could
4 dramatically reduce our wireless exposures, while noting that even if such exposures continue
5 they are harmful.

6 Whereas, cellphones are typically the largest individual exposure to radiofrequency
7 radiation, exceeding that of far field cell towers, with requirements to utilize cellphones in all
8 facets of life have increased since 2004.

9 Whereas, studies show proximity to cell towers increases cancer, such as a study finding
10 10.5 times greater cancer incidence for women after only the second year of a cell tower
11 installation, despite electromagnetic radiofrequency exposures 1000 times less that U.S. FCC

12 limits; or another study finding cancer death rates significantly elevated within 500 meters of a
13 cell tower (Wolf & Wolf, 2004; Dode et al, 2011)

14 Whereas, scientists Henry Lai and Narendra Singh decades ago found that radiation
15 comparable to cellphones could cause DNA breaks, but then faced propaganda from industry to
16 discredit their work; Lai has since then compiled peer-reviewed studies to show that most studies
17 find DNA damage, neurological effects, genetic effects, etc., as listed at the Bioinitiative (.org), a
18 scientific project which industry has also sought to discredit.

19 Whereas, the scientific literature reveals serious threats to life from current wireless
20 exposures such as numerous studies finding damage to sperm and ovaries; DNA damage that can
21 cause germ line mutations in following generations; and infertility in mice after a few
22 generations of wireless radiation exposure (Magdas & Xenos, 1997).

23 Whereas, reducing power density may reduce some mechanisms of harm as may
24 increasing off-line functionality of wireless devices, but scientific studies also show that
25 extremely low power density exposure allows serious biological effects that still must otherwise
26 be addressed, beginning with limits on particularly vulnerable populations such as children and
27 pregnant women.

28 Resolved, that the policy goals of this act shall be to limit electromagnetic radiation from
29 0 hertz through 300 gigahertz that is emitted by technology by requiring:

30 (a) technology companies to add design modifications in products that reduce wireless
31 exposures such as improving off-line functionality and limiting transmissions;

32 (b) technology companies to include design modifications that reduce electric and
33 magnetic fields such as shielding and quality filtering;

34 (c) best practices for settings, selection, and installation of technology software,
35 equipment, and infrastructure;

36 (d) future-proofing products and equipment to enable wired functionality with reduced
37 electromagnetic emissions.

38 SECTION 2. The General Laws are hereby amended by inserting after chapter 166A the
39 following new chapter:

40 CHAPTER 166B.

41 CORPORATE RADIATION LIMITS

42 Section 1.

43 (a) As used in this section, the following terms shall have the following meanings:

44 "As Safe As Reasonable and Achievable" or "ASARAA" means that when humans or the
45 environment are exposed to radiation from technology, the exposure should be as safe as is
46 reasonable and achievable with respect to all software design, installation, and technological
47 aspects, such as with regard to but not limited to non-use (an elimination of exposure), pulsing,
48 modulation, frequencies, resonance, power density, polarization, power quality, distance of
49 reach, shielding, filters, grounding, and synergism between frequencies or other bio-active
50 substances.

51 "Reasonable" means within the term ASARAA a prioritization of safety and does not
52 refer to a risk and benefits analysis - reasonable refers to the fact that prioritizing safety is
53 reasonable. Reasonable design means that non-use or elimination of radiation applies when a
54 potential for great danger to the public or environment exists as judged by a reasonable
55 interpretation of available science, expert warnings, or when effects are unknown.

56 "Electromagnetic radiation" or "radiation" means all radiation emitted by technology,
57 whether intentionally or unintentionally, and includes the radiative fields emitted by electricity,
58 including from poor power quality, and the radiating frequencies that are emitted by wireless
59 technologies.

60 (b) Corporations which design, manufacture, install, or maintain digital, internet, or
61 wireless infrastructure, technological products, or their respective services must within their
62 purview make design and technological choices that limit harm from electromagnetic radiation -
63 exposures from technology must be 'As Safe as Reasonable and Achievable', which will
64 hereafter be called 'ASARAA'. Where products or services are actually intended to operate
65 wirelessly or otherwise intentionally emit radiation, such corporations are to minimize harm with
66 ASARAA design, selection, and best practices.

67 This directive for ASARAA design refers to all new products, services, installations,
68 settings, infrastructure and, where compatibility exists, to service upgrades, product upgrades,
69 repairs, and ongoing software updates.

70 (c) General ASARAA design principles and more specific requirements are as follows:

71 (1) Limit consumer and work exposure to wireless radiation from personal devices,
72 personal computers, and other radiating technologies including but not limited to the following
73 requirements:

74 i. Provide hard-wired integration options for wireless technologies and services so
75 that any wireless antenna can be turned off when hard-wired transmission is preferred, including
76 but not limited to smart entertainment systems that must have hard-wired functionality without
77 wireless transmissions;

78 ii. Automatically block wireless radiation emissions, but not reception, when
79 positioned close to the head or body;

80 iii. Include a soft key that easily allows all wireless transmissions to be turned on or
81 halted at once;

82 iv. Include a soft key for a mode that only receives and does not transmit;

83 v. Set factory and default mode to wired connectivity, allowing updates, downloads,
84 and installations to occur with wired instead of wireless connectivity and insuring that updates do
85 not restart wireless transmissions that were preset as wired;

86 vi. As related to messaging, data collection, and other applications, provide an
87 application that allows consumers to turn off antenna transmissions individually as well as
88 allows consumers to set transmissions to begin and end at certain times including as set on a
89 regular basis and as set by the tap of a soft key or button that sets the signal to begin after a
90 certain time and upon completion of transmission or as set by the user.

91 vii. Provide a visible marker that indicates when wireless transmissions are occurring.

92 viii. Eliminate continuing transmissions of location so that transmissions only occur
93 when expressly and actively sought by the user for an immediate, active use, for a time set by the
94 user and easily halted.

95 ix. Provide an application to turn on location services upon remote inquiry in order to
96 find lost mobile devices.

97 x. Set routers, wireless home phones, and other transmitting devices to only transmit
98 on demand and even during a certain time frame, and to turn off when no longer in use by the
99 consumer.

100 xi. Where products and services, including utilities, use wireless transmissions,
101 insure that all such transmissions are specific to the user's needs, such as payment for services,
102 updates, or cybersecurity checks, and are not in any way extraneous to the product or service,
103 such as but not limited to data collection for profiling and marketing.

104 xii. Where utilities have placed more than 1 utility meter, such as but not limited to
105 apartment buildings, utilities are to remove the wired functionality of these utility meters and
106 replace the meters with analog meters or wired utility meters that best reduce electromagnetic
107 radiation exposures.

108 xiii. With respect to data collection, integration, and related work on the part of the
109 user of a device, include simple, preferential functionality for inputting and collecting data offline
110 and for use of wired connectivity for downloading and syncing onto any pertinent device,
111 including a passive storage device.

112 xiv. With respect to wireless transmissions, use automated protocol-based reductions
113 of all of the following: the number of emissions, emission duration, and the integrated dose.

114 xv. Provide an easy to access, free application with personal wireless devices
115 to limit call durations according to an estimation of the effective radiated power emitted by the
116 device that allows: (A) users to track and further refine call duration limits beyond any default
117 settings; (B) allow guardians to easily set limits for their children's devices, including
118 disallowing wireless for times specified, with allowances to bypass only under specific
119 conditions specified by the guardian except for allowing continuing access on mobile phones to
120 dial relevant emergency and crisis numbers.

121 xvi. Except where only wireless connectivity can provide functionality of a product or
122 service, insure wired or offline functionality is available and comparable in quality or better than
123 wireless functionality;

124 xvii. Insure use of quality connectors that prevent leakage of radiation;

125 xviii. Modify the antenna of personal mobile devices so the emission pattern is more
126 hemispherical and radiates away from the head and the body.

127 xix. With new personal computer, cellphone, and other wireless technology product
128 sales, provide the connecting necessities and ports, with or without an Ethernet cord, for hard-
129 wired functionality as part of the sales package so that users are not required to use wireless
130 mice, headphones, etc., for functionality.

131 xx. Provide simple, accessible information on how to hard-wire products such as
132 routers, including generatlly where to get or buy the necessary equipment to do so;

133 xxi. If providing broadband or telecommunications services to a residence or
134 business, provide at a minimum one hard-wired connection with cord and if the resident or client
135 expects to use more than one hard-wired connection, provide an ethernet or comparable switch --
136 additionally provide education on how to hard wire devices for connectivity;

137 xxii. When installing, programming, or setting up relevant technology as part of an
138 installation service, limit radiation wherever possible, using best practices such as but not limited
139 to providing an installation option for hard-wired connectivity, providing distance from and
140 labeling of any wireless antennas, selecting products which minimize all electromagnetic
141 exposures; and providing guidance and labeling to maintain best practices to limit
142 electromagnetic radiation.

143 xxiii. Where installing broadband or telecommunications services for consumers,
144 insure that the cost of wired, in contrast to wireless installation, is an add-on with a cost that
145 does not exceed the costs of supplies and the hourly wage of installers by more than 1%.

146 xxiv. Limit the number, reach or distance of, and the power density of antennas to only
147 that necessary for functionality.

148 xxv. If providing streaming services, provide downloadable options to reduce wireless
149 exposures from streaming.

150 xxvi. Provide large buttons or manual switches that clearly mark and easily turn off
151 wireless transmissions on equipment such as but not limited to routers.

152 xxvii. Include a two to three meter cord with switch or another mechanism to to allow
153 users to turn on and turn off transmissions at a distance from strong near field exposures from
154 static consumer devices such as but not limited to routers.

155 xxviii. Provide the location of antennas and sensors on wireless and digital technology
156 within print and online manuals, and provide instructions for the removal of antennas or
157 elimination of their transmissions such as but not limited to smart devices and appliances.

158 xxix. Where services and products, including utilities, use wireless for payment or
159 updating functionality that cannot easily or immediately be replaced by hard-wired connectivity,
160 insure that the wireless transmission is set to minimize transmissions, including but not limited to
161 using low power density, minimizing signal duration, and setting transmission time to occur with
162 the minimum exposure possible, such as at a designated time set by the user or quarterly,
163 including with notification to the user of expected transmission times

164 xxx. For wireless transmissions such as updates and messaging, include information on
165 how long the wireless signal is expected to take in advance of the transmission begins and
166 provide a voluntary ring tone and visible sign that the wireless transmission is completed.

167 xxxi. When using a wireless signal for transmission, automatically prefer use of
168 antennas which require less power density for connectivity, such as Wi-Fi antennas.

169 xxxii. Where wireless signals occur that are not related to the user's messaging, internet
170 usage, necessary provider payments, or for necessary functionality and cybersecurity updates,
171 provide an app that clearly identifies all the different signaling alongside accompanying options
172 to eliminate each signal or choose to circumscribe the time of transmission.

173 xxxiii. Corporations selling products that unintentionally emit frequencies from 0 hertz
174 through 300 gigahertz that cannot all be successfully remediated, such as but not limited to
175 fiberoptic connectors, are to provide information on the packaging and in manual regarding any
176 leakage of this electromagnetic radiation, including the amount, frequencies, and description of
177 how time and use may impact leakage.

178 xxxiv. When installing broadband or telecommunications access in early through higher
179 education settings as well as in daycare, nursing homes, and hospitals, provide hard-wired ports
180 and hard-wired connectivity that best reduces electromagnetic radiation, prioritizing such
181 connectivity first in areas specific to babies, pregnancies, and children.

182 (2) Limit consumer exposure to radiation from electric and magnetic fields with good
183 design including the following requirements:

184 i. Limit frequencies on electrical cords and infrastructure through the use of
185 appropriate filters, connectors, and quality electrical design to prevent the addition of
186 electromagnetic frequencies besides 60 hertz on the electrical lines and to comply with electrical
187 code standard IEEE 519;

188 ii. Limit electric and magnetic fields through the use of shielding, grounding,
189 distance setbacks, and quality electrical design.

190 iii. Corporations selling products which emit frequencies from 0 hertz through 300
191 gigahertz or which continue to leak such frequencies despite quality filtering and remediation,
192 including but not limited to lighting, are to provide information on the packaging and in the
193 product manual regarding any intentional or unintentional emissions including leakage, including
194 providing the amount, frequencies, and, for leakage, the effects of time and use on leakage.

195 (d) While subsection (c) above provides some specific requirements, the general principal
196 of ASARAA means that corporations have a duty to be proactive in the prevention of harm
197 through continuing investigation and application of findings to further additional modifications
198 for the best, safest, future-proof design. Corporations have a duty to pay attention to critics,
199 cautions and guidance from existing scientific knowledge around the world from past to present
200 in order to craft safer technology - and a duty to avoid ignorance or compromised, inadequate
201 research as an excuse to avoid responsibility. Recommended resources to guide design include
202 the Building Biology Institute and the International Commission on the Biological Effects of
203 Electromagnetic Fields.

204 (e) The attorney general shall enforce good faith compliance of this section through
205 adjudication of complaints alleging such violations in accordance with chapter 93A and with
206 chapter 106, section 2-314. This remedy shall not be exclusive and shall be in addition to all
207 other causes of action, remedies and penalties provided by law, and shall allow for a qui tam
208 action as well as a private right of action for product liability and negligence. The office of the
209 attorney general shall provide a mechanism for anonymous reporting of violations. Corporate
210 whistle-blowers shall be provided comparable rewards and protections to that of the
211 Massachusetts False Claims Act and the Massachusetts Whistleblower Protection Act.

212 SECTION 3. This act shall take effect upon its passage. Upon the effective date of this
213 section, compliance shall be in good faith with steps initiated to implement changes within a
214 month and changes rolled out as soon as functional. Changes that can take place immediately,
215 such as in the best practices for installation shall be implemented within one month of passage.
216 Specific software requirements which require design modification shall be implemented at
217 minimum within 2 years of passage unless sooner implementation is possible, in which case

218 sooner implementation shall take place. Those changes requiring manufacturing or hardware
219 changes should at minimum take no more than 4 years to be enacted, unless sooner
220 implementation is possible, in which case sooner implementation shall take place. Hardware and
221 software changes should be reflected in the interim in the ongoing design of new models.

222 SECTION 4. The provisions of this act are severable, and if any clause, sentence,
223 paragraph or section of this law or an application thereof shall be adjudged by any court of
224 competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the
225 remainder thereof but shall be confined in its operation to the clause, sentence, paragraph,
226 section or application adjudged invalid and such clause, sentence, paragraph, section or
227 application shall be reformed and construed so that it would be valid to the maximum extent
228 permitted.