

**HOUSE . . . . . No. 105**

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**The Commonwealth of Massachusetts**

PRESENTED BY:

*Patricia A. Duffy*

*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 non-ionizing radiation such as wireless from early to higher education.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Patricia A. Duffy</i>	<i>5th Hampden</i>	<i>2/17/2021</i>
<i>Kirstin Beatty</i>	<i>149 Central Park Drive</i>	<i>2/17/2021</i>

**HOUSE . . . . . No. 105**

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By Ms. Duffy of Holyoke, a petition (accompanied by bill, House, No. 105) of Patricia A. Duffy and Kirstin Beatty for legislation to require public schools to prioritize replacement of wireless broadband and telecommunications connectivity in favor of hard-wired access. Advanced Information Technology, the Internet and Cybersecurity.

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**The Commonwealth of Massachusetts**

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**In the One Hundred and Ninety-Second General Court  
(2021-2022)**  
\_\_\_\_\_

An Act reducing non-ionizing radiation such as wireless from early to higher education.

*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, FCC wireless guidelines fail to recognize harm from wireless, despite evidence  
3 from credible institutions including the U.S. National Toxicological Program and the Ramazzini  
4 Institute.

5 Whereas, high fields and poor power quality from electricity can injure electronics and  
6 human health, the latter acknowledged in part by the International Agency for Research on  
7 Cancer in 2010.

8 Whereas, problematic exposures of wireless and electricity are tied not just to cancer, but  
9 to ADHD, miscarriage, asthma, Alzheimer’s Disease, learning disabilities, obesity, multiple  
10 sclerosis, congenital heart disease, etc.

11           Whereas, legal challenges have been filed or are in process with regards to non-ionizing  
12 radiation worker’s compensation, personal injury, international treaties, agency obligations,  
13 consumer product warnings, and the American with Disabilities Act and Fair Housing  
14 Amendments Act. Worker’s compensation cases have already been won.

15           Whereas, many countries have set non-ionizing exposures very far below the limit set by  
16 the U.S. Federal Communications Commission; several countries prohibit wireless in public  
17 schools; California and several countries limit high fields from electricity - yet Massachusetts  
18 has done nothing.

19           Whereas, the federal government forces wireless into public schools by subsidizing only  
20 wireless connectivity through its federal E-rate program.

21           Whereas, schools should have clearly set objectives and support from the department and  
22 board of elementary and secondary education to reduce non-ionizing radiation exposures.

23           Whereas, reducing non-ionizing radiation is feasible and recommended by many experts.

24           Whereas, the mission of the department and board of elementary and secondary  
25 education fails to acknowledge any role in fostering environmental health and a positive school  
26 culture in public schools.

27           SECTION 2. Chapter 71 of the General Laws is hereby amended by adding after section  
28 97 the following new section:-

29           Section 98. (a) Definitions. As used in this section, the following words shall have the  
30 following meanings:

31 "Collocation" means the act of siting facilities on an existing structure without the need to  
32 construct a new support structure and without a substantial change in the size of an existing  
33 wireless service facility.

34 "Distributed antenna system" means a network system consisting of one or more nodes  
35 connected by a fiber system to a wireless service provider's base transceiver station or other  
36 location.

37 "Mobile service" means the same as defined in 47 U.S.C. § 153(33), as may be amended.

38 "Non-ionizing radiation" means electric and magnetic fields emitted from frequencies  
39 ranging from 0 hertz through 300 gigahertz.

40 "Small cell network" means a network consisting of one or more nodes connected,  
41 directly or indirectly, by fiber to a wireless service provider's mobile switching center or other  
42 point of interconnection.

43 "Structure" means a pole, tower, base station, or other building, whether or not it has an  
44 existing antenna facility, that is used or to be used for the provision of personal wireless service  
45 (whether on its own or commingled with other types of services).

46 "Telecommunications service" means the offering of telecommunications for a fee  
47 directly to the public, or to such classes of users as to be effectively available directly to the  
48 public, regardless of the facilities used.

49 (b) To the extent possible and within its means, every public school shall eliminate man-  
50 made non-ionizing radiation emissions known or likely to be harmful. To the extent possible and  
51 within its means, every public school shall establish measures and take action to reduce man-

52 made non-ionizing radiation emissions which are (1) potentially harmful; (2) unintentional; or  
53 (3) of unknown effect.

54 (c) Initial measures. Every public or independent school shall insure, as long as any  
55 wireless antennas exist on school property and transmit, that such antennas are set to emit the  
56 minimum of power density possible for the minimum time necessary.

57 Every public school shall prioritize prompt replacement of wireless broadband and  
58 telecommunications connectivity in favor of hard-wired access, and shall educate its students and  
59 staff on reducing non-ionizing radiation exposures at school and at home for better health.

60 Upon resetting any existing wireless antennas to end or minimize transmissions, every  
61 public school shall establish routine monitoring systems to insure wireless transmissions do not  
62 restart.

63 (d) Continuing measures. Every public school shall set objectives to methodically reduce  
64 all non-ionizing radiation exposures, reasonable deadlines to meet these objectives, and shall  
65 keep public records of progress towards each objective as well as a public record of why any  
66 objectives have not been obtained.

67 (e) Wireless Infrastructure. All public public schools and associated school districts shall  
68 prohibit use of school property for construction of facilities to provide telecommunications  
69 service and other mobile services including, but not limited to, (1) site distributed antenna  
70 systems and small cell networks; (2) any structure; and (3) collocation of distributed antenna  
71 systems and small cell networks on existing wireless communications infrastructure. Where such  
72 facilities are preexisting the public school district shall seek, to the extent within its means,  
73 removal of such facilities.

74 (f) Accountability. Administration and good faith progress towards all of the objectives  
75 of this section shall be a component of any public school or district review.

76 SECTION 3. Chapter 15A of the General Laws is hereby amended by adding after  
77 Section 15 the following section:-

78 Section 15A. (a) Definitions. As used in this section, the following words shall have the  
79 following meanings:

80 "Collocation" means the act of siting facilities on an existing structure without the need to  
81 construct a new support structure and without a substantial change in the size of an existing  
82 wireless service facility.

83 "Distributed antenna system" means a network system consisting of one or more nodes  
84 connected by a fiber system to a wireless service provider's base transceiver station or other  
85 location.

86 "Mobile service" means the same as defined in 47 U.S.C. § 153(33), as may be amended.

87 "Non-ionizing radiation" means electric and magnetic fields emitted from frequencies  
88 ranging from 0 hertz through 300 gigahertz.

89 "Small cell network" means a network consisting of one or more nodes connected,  
90 directly or indirectly, by fiber to a wireless service provider's mobile switching center or other  
91 point of interconnection.

92 "Structure" means a pole, tower, base station, or other building, whether or not it has an  
93 existing antenna facility, that is used or to be used for the provision of personal wireless service  
94 (whether on its own or commingled with other types of services).

95           “Telecommunications service” means the offering of telecommunications for a fee  
96 directly to the public, or to such classes of users as to be effectively available directly to the  
97 public, regardless of the facilities used.

98           (b) To the extent feasible, every public or independent institution of higher education  
99 located in the Commonwealth of Massachusetts and authorized to grant degrees pursuant to any  
100 general or special law shall eliminate exposures to man-made non-ionizing radiation known or  
101 likely to be harmful. To the extent feasible, every institution shall establish measures and take  
102 action to reduce exposures to man-made non-ionizing radiation which is (1) potentially harmful;  
103 (2) unintentional; or (3) of unknown effect.

104           (c) Initial measures. Institutions shall take the following initial steps. Every institution  
105 shall insure, as long as any wireless antennas exist on school property and transmit, that such  
106 antennas are set to emit the minimum of power density possible for the minimum time necessary.

107           Every institution shall prioritize prompt replacement of wireless broadband and  
108 telecommunications connectivity in favor of hard-wired access, and shall educate its students and  
109 staff on reducing non-ionizing radiation exposures at school and at home for better health.

110           Upon resetting any existing wireless antennas to end or minimize transmissions, every  
111 institution shall establish routine monitoring systems to insure wireless transmissions do not  
112 reset.

113           (d) Continuing measures. Every institution shall set objectives to methodically reduce all  
114 non-ionizing radiation exposures, reasonable deadlines to meet these objectives, and shall keep  
115 public records of progress towards each objective as well as a public record of why any  
116 objectives have not been obtained.

117 (e) Wireless Infrastructure. All institutions shall prohibit use of campus property for  
118 construction of facilities to provide telecommunications service and other mobile services  
119 including, but not limited to, (1) site distributed antenna systems and small cell networks; (2) any  
120 structure; and (3) collocation of distributed antenna systems and small cell networks on existing  
121 wireless communications infrastructure. Where such facilities are preexisting the institution shall  
122 seek, to the extent within its means, removal of such facilities.

123 SECTION 4. Chapter 71 of the General Laws is hereby amended by adding after section  
124 97 the following section:-

125 Section 99. (a) Definitions. As used in this section, the following word shall have the  
126 following meaning:

127 “Building Biology electromagnetic radiation specialist” refers to an electromagnetic  
128 radiation specialist certified by the Building Biology Institute, a 501(c)(3) founded in Florida in  
129 1987 based on the German principles of Building Biology.

130 (b) The department of elementary and secondary education, working with the board of  
131 elementary and secondary education, shall develop guidance and recommendations to assist  
132 schools in reducing man-made non-ionizing radiation exposures which are (1) known or likely to  
133 be harmful; (2) potentially harmful; (3) unintentional; or (4) of unknown effect.

134 (c) Development. Guidelines shall be based on current science independent of industry  
135 influence and shall adopt a cautionary stance. Guidelines shall provide varying approaches in  
136 order to account for the variable financial abilities and circumstances of school districts. The  
137 department shall consider practices that protect the health and safety of public school students  
138 and staff, and may consult with Building Biologist electromagnetic radiation specialists and

139 medical, scientific, and engineering experts provided the following conditions are met: (1) the  
140 expert is acknowledged and named in publication of relevant findings; (2) the expert has an  
141 appropriate professional and educational background for the expertise provided; and (3) the  
142 expert is free of conflicts of interest and free of industry clients, the latter excepting experts  
143 contracted with industry only to reduce non-ionizing radiation exposures.

144 The department shall annually review and update guidance affecting, but not limited to,  
145 the purchase, installation, and use of broadband services, digital devices, electrical equipment,  
146 lighting, and telecommunications services.

147 (d) Adoption. From the recommendations, the board of elementary and secondary  
148 education shall select those which can quickly and easily be adopted without a financial burden  
149 and require adoption as soon as can be arranged. For the remainder, the board of elementary and  
150 secondary education shall set reasonable deadlines for adoption, and shall prioritize measures  
151 which dramatically reduce detrimental exposures and improve health. The board of elementary  
152 and secondary education shall annually review and update as necessary.

153 Regardless of board guidance, any school in the Commonwealth shall be allowed to set  
154 more stringent goals to further reduce non-ionizing radiation exposures.

155 (e) The board of elementary and secondary education shall develop a procedure to  
156 evaluate the administration and good faith efforts of public schools to reduce non-ionizing  
157 radiation in accordance with state and federal law. The evaluation shall be designed in a manner  
158 which limits the digital reporting requirements and bureaucratic burden.

159 (f) If financial or other obstacles block the intent of this section, the secretary of  
160 education shall submit to the Governor and the state legislature an explanation.

161 SECTION 5. Chapter 15A of the General Laws is hereby amended by adding after  
162 section 44 the following section:-

163 Section 45. (a) Definitions. As used in this section, the following word shall have the  
164 following meaning:

165 “Building Biology electromagnetic radiation specialist” refers to an electromagnetic  
166 radiation specialist certified by the Building Biology Institute, a 501(c)(3) founded in Florida in  
167 1987 based on the German principles of Building Biology.

168 (b) To assist public and independent institutions authorized to grant degrees pursuant to  
169 any general or special law, the board of higher education shall develop guidance and  
170 recommendations in reducing man-made non-ionizing radiation exposures which are (1) known  
171 or likely to be harmful; (2) potentially harmful; (3) unintentional; or (4) of unknown effect.

172 (c) Development. Guidelines shall be based on current science independent of industry  
173 influence and shall adopt a cautionary stance. Guidelines shall provide varying approaches in  
174 order to account for the variable circumstances of institutions. The board shall consider practices  
175 that protect the health and safety of public school students and staff, and may consult with  
176 Building Biologist electromagnetic radiation specialists and medical, scientific, and engineering  
177 experts provided the following conditions are met: (1) the expert is acknowledged and named in  
178 publication of findings; (2) the expert has an appropriate professional and educational  
179 background for the expertise provided; and (3) the expert is free of conflicts of interest and free  
180 of industry clients, the latter excepting experts contracted with industry only to reduce non-  
181 ionizing radiation exposures.

182           The board shall annually review and update guidance affecting, but not limited to, the  
183 purchase, installation, and use of broadband services, digital devices, electrical equipment,  
184 lighting, and telecommunications services.

185           (d) Adoption. From the recommendations, the board shall select those which can quickly  
186 and easily be adopted without a financial burden and require adoption as soon as can be  
187 arranged. For the remainder, the board shall set reasonable deadlines for adoption, and shall  
188 prioritize measures which dramatically reduce detrimental exposures and improve health. The  
189 board shall annually review and update as necessary.

190           Regardless of board guidance, any institution in the Commonwealth shall be allowed and  
191 encouraged to set more stringent goals to further reduce non-ionizing radiation exposures.

192           (e) Accountability. The board shall develop a procedure to evaluate the administration  
193 and good faith efforts of every public and independent institution of higher education in the  
194 Commonwealth to reduce non-ionizing radiation in accordance with state and federal law. The  
195 evaluation shall be designed in a manner which limits the digital reporting and bureaucratic  
196 burden.

197           SECTION 6. Chapter 15D of the General Laws is hereby amended by adding after  
198 section 11 the following section:-

199           Section 11A. (a) Definitions. As used in this section, the following word shall have the  
200 following meaning:

201 “Building Biology electromagnetic radiation specialist” refers to an electromagnetic  
202 radiation specialist certified by the Building Biology Institute, a 501(c)(3) founded in Florida in  
203 1987 based on the German principles of Building Biology.

204 (b) The board of early education and care shall develop early education guidance and  
205 recommendations to reduce exposures to man-made non-ionizing radiation exposures which are  
206 (1) known or likely to be harmful; (2) potentially harmful; (3) unintentional; or (4) of unknown  
207 effect. The board of early education and care may choose to coordinate with the department of  
208 elementary and secondary education.

209 (c) Development. Guidelines shall be based on current science independent of industry  
210 influence and shall adopt a cautionary stance. Guidelines shall provide varying approaches in  
211 order to account for the variable conditions of early education facilities. The board shall consider  
212 practices that protect the health and safety of public school students and staff, and may consult  
213 with Building Biologist electromagnetic radiation specialists and medical, scientific, and  
214 engineering experts provided the following conditions are met: (1) the expert is acknowledged  
215 and named in publication of relevant findings; (2) the expert has an appropriate professional and  
216 educational background for the expertise provided; and (3) the expert is free of conflicts of  
217 interest and free of industry clients, the latter excepting experts contracted with industry only to  
218 reduce non-ionizing radiation exposures.

219 With respect to wireless, the board of early education and care shall prioritize  
220 establishing hard-wired over wireless connections and elimination of wireless transmitters near  
221 or in child care areas. With respect to fields from electricity, the board shall support measures to  
222 limit proximity to children and minimizing field strength.

223           The board of early education and care shall annually review and update guidance  
224 affecting, but not limited to, the purchase, installation, and use of broadband services, digital  
225 devices, electrical equipment, lighting, and telecommunications services.

226           (d) Adoption. From the recommendations, the board shall select those which can quickly  
227 and easily be adopted without a financial burden and require adoption as soon as can be  
228 arranged. For the remainder, the board shall set reasonable deadlines for adoption, and shall  
229 prioritize measures which dramatically reduce detrimental exposures and improve health. The  
230 board shall annually review and update as necessary.

231           Regardless of board guidance, any early education facility in the Commonwealth shall be  
232 allowed to set more stringent goals to further reduce non-ionizing radiation exposures.

233           SECTION 7. Section 1 of chapter 69 of the General Laws is hereby amended by striking  
234 out the last sentence and inserting in place the following sentence:-

235           It is therefore the intent of this title to ensure: (1) that each public school classroom  
236 provides the conditions for all pupils to engage fully in learning as an inherently meaningful and  
237 enjoyable activity without threats to their sense of security or self-esteem, (2) a consistent  
238 commitment of resources sufficient to provide a high quality public education to every child, (3)  
239 a respectful process for attending to student academic needs and developing talents; (4) an  
240 effective system for supporting positive school climates, teacher quality, and professionalism;  
241 and (5) insuring the environmental health and safety of public school classrooms by supporting  
242 and developing policies and procedures designed to improve and monitor environmental health  
243 of public school buildings.