

115TH CONGRESS
1ST SESSION

S. _____

To facilitate a national pipeline of spectrum for commercial use, and for
other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. GARDNER (for himself and Ms. HASSAN) introduced the following bill;
which was read twice and referred to the Committee on

A BILL

To facilitate a national pipeline of spectrum for commercial
use, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Advancing Innovation
5 and Reinvigorating Widespread Access to Viable Electro-
6 magnetic Spectrum Act” or the “AIRWAVES Act”.

7 **SEC. 2. SENSE OF CONGRESS.**

8 It is the sense of Congress that the United States
9 should strive to—

1 (1) advance innovation with respect to, and in-
2 vestment in, wireless broadband Internet access;

3 (2) promote the benefits of connecting all indi-
4 viduals in the United States to quality wireless
5 broadband Internet access, including those individ-
6 uals in rural communities; and

7 (3) support comprehensive, technology-neutral
8 spectrum policy that includes licensed, unlicensed,
9 and shared use of spectrum bands.

10 **SEC. 3. DEFINITIONS.**

11 In this Act—

12 (1) the term “appropriate committees of Con-
13 gress” means—

14 (A) the Committee on Commerce, Science,
15 and Transportation of the Senate;

16 (B) the Committee on Energy and Com-
17 merce of the House of Representatives; and

18 (C) any other congressional committee
19 with jurisdiction over a matter;

20 (2) the term “Commission” means the Federal
21 Communications Commission;

22 (3) the term “eligible Federal entity” means an
23 entity described in section 113(g)(1) of the National
24 Telecommunications and Information Administration
25 Organization Act (47 U.S.C. 923(g)(1));

1 (4) the term “eligible frequency” means a fre-
2 quency with respect to which the costs incurred by
3 an eligible Federal entity in relocating from the fre-
4 quency may be reimbursed from the Spectrum Relo-
5 cation Fund;

6 (5) the term “Federal entity” has the meaning
7 given the term in section 113(l) of the National
8 Telecommunications and Information Administration
9 Organization Act (47 U.S.C. 923(l));

10 (6) the term “NTIA” means the National Tele-
11 communications and Information Administration;

12 (7) the term “Spectrum Frontiers proceeding”
13 means the Report and Order and Further Notice of
14 Proposed Rulemaking in the matter of Use of Spec-
15 trum Bands Above 24 GHz for Mobile Radio Serv-
16 ices, adopted by the Commission on July 14, 2016
17 (FCC 16–89);

18 (8) the term “Spectrum Relocation Fund”
19 means the fund established under section 118 of the
20 National Telecommunications and Information Ad-
21 ministration Organization Act (47 U.S.C. 928); and

22 (9) the term “system of competitive bidding”
23 means a system of competitive bidding conducted
24 under section 309(j) of the Communications Act of
25 1934 (47 U.S.C. 309(j)).

1 **SEC. 4. SPECTRUM FRONTIERS PROCEEDING.**

2 Not later than 1 year after the date of enactment
3 of this Act, the Commission shall complete the rule mak-
4 ing to which the Spectrum Frontiers proceeding relates.

5 **SEC. 5. EXPANDING ACCESS TO COMMERCIAL SPECTRUM.**

6 (a) FCC RESPONSIBILITIES.—The Commission, in
7 consultation with the NTIA, shall—

8 (1) not later than December 31, 2018, complete
9 a system of competitive bidding to grant new li-
10 censes for the use of spectrum in frequencies be-
11 tween 3550 megahertz and 3650 megahertz;

12 (2) not later than December 31, 2019, complete
13 a system of competitive bidding for the use of spec-
14 trum in frequencies between—

15 (A) 27500 megahertz and 28350 mega-
16 hertz, consistent with the spectrum sharing
17 framework adopted for that frequency band as
18 part of the Spectrum Frontiers proceeding;

19 (B) 37000 megahertz and 38600 mega-
20 hertz; and

21 (C) 38600 megahertz and 40000 mega-
22 hertz; and

23 (3) not later than December 31, 2020, complete
24 a system of competitive bidding for the use of spec-
25 trum in frequencies between—

1 (A) 24250 megahertz and 24450 mega-
2 hertz;

3 (B) 25050 megahertz and 25250 mega-
4 hertz;

5 (C) 31800 megahertz and 33400 mega-
6 hertz;

7 (D) 42000 megahertz and 42500 mega-
8 hertz;

9 (E) 47200 megahertz and 48200 mega-
10 hertz; and

11 (F) 50400 megahertz and 52600 mega-
12 hertz.

13 (b) IDENTIFYING FREQUENCIES BETWEEN 7125
14 MEGAHERTZ AND 8400 MEGAHERTZ TO BE UTILIZED
15 FOR UNLICENSED PURPOSES.—

16 (1) IN GENERAL.—Not later than 1 year after
17 the date of enactment of this Act, the Commission,
18 in consultation with the NTIA, shall identify any
19 frequency between 7125 megahertz and 8400 mega-
20 hertz with respect to which there is the potential for
21 unlicensed use without causing harmful interference
22 with incumbents.

23 (2) RULE MAKING.—If the Commission, in con-
24 sultation with the NTIA, makes an identification de-
25 scribed in paragraph (1), the Commission shall con-

1 sider initiating a rule making with respect to the un-
2 licensed use described in that paragraph.

3 (c) REPORT ON REALLOCATION OF CERTAIN INCUM-
4 BENT FEDERAL STATIONS.—

5 (1) IN GENERAL.—Not later than December 31,
6 2020, the NTIA, in consultation with the Director
7 of the Office of Management and Budget, shall sub-
8 mit to the appropriate committees of Congress a re-
9 port relating to the relocation of incumbent Federal
10 stations authorized to use spectrum in the fre-
11 quencies between 1300 megahertz and 1350 mega-
12 hertz and between 1780 megahertz and 1830 mega-
13 hertz in order to facilitate the reallocation of such
14 spectrum from Federal to non-Federal use.

15 (2) TIMING.—The relocation described in para-
16 graph (1) with respect to the frequencies between
17 1780 megahertz and 1830 megahertz shall take
18 place not earlier than 2023.

19 (d) AMENDMENTS TO THE SPECTRUM PIPELINE ACT
20 OF 2015.—Section 1004 of the Spectrum Pipeline Act of
21 2015 (47 U.S.C. 921 note) is amended—

22 (1) in subsection (a), by striking “30 mega-
23 hertz” and inserting “100 megahertz”; and

24 (2) in subsection (c)(1)(B), by striking “July 1,
25 2024” and inserting “July 1, 2023”.

1 **SEC. 6. MODERNIZING MID-BAND SPECTRUM.**

2 (a) IN GENERAL.—

3 (1) SPECTRUM IDENTIFICATION.—Not later
4 than December 31, 2019, the Commission, in con-
5 sultation with the NTIA, shall identify 500 mega-
6 hertz of additional spectrum in the frequencies be-
7 tween 3700 megahertz and 4200 megahertz to make
8 available for commercial licensed use.

9 (2) SPECTRUM AUCTION.—Not later than De-
10 cember 31, 2022, the Commission shall complete a
11 system of competitive bidding for the use of spec-
12 trum identified under paragraph (1).

13 (b) RULE MAKING ON THE UNLICENSED USE OF
14 THE FREQUENCY BAND BETWEEN 5925 MEGAHERTZ
15 AND 7125 MEGAHERTZ.—Not later than 180 days after
16 the date of enactment of this Act, the Commission, in con-
17 sultation with the NTIA, shall issue a notice of proposed
18 rule making with respect to creating opportunities for the
19 unlicensed use of spectrum in the frequencies between
20 5925 and 7125 megahertz without causing harmful inter-
21 ference with any incumbents in that band.

22 **SEC. 7. RURAL SET-ASIDE.**

23 (a) IN GENERAL.—Notwithstanding section
24 309(j)(8) of the Communications Act of 1934 (47 U.S.C.
25 309(j)(8)), the Commission shall allocate 10 percent of the
26 proceeds from each system of competitive bidding con-

1 ducted under this Act for the deployment of wireless infra-
2 structure in areas that the Commission has determined
3 are underserved or unserved with respect to wireless
4 broadband Internet access service.

5 (b) LIMITATIONS.—No amounts allocated under sub-
6 section (a) may be combined with amounts that are used
7 to fund any other program that is in existence on the date
8 on which the allocation is made, including any program
9 established under section 254 of the Communications Act
10 of 1934 (47 U.S.C. 254).

11 **SEC. 8. SPECIAL RULES.**

12 With respect to any frequency band described in this
13 Act, if the relocation of an incumbent from that frequency
14 band to another equivalent frequency band (referred to in
15 this section as the “destination band”) is not possible, and
16 if the Commission determines that no mitigation tech-
17 nology, alternative sharing approach, or incentives-based
18 approach would reliably prevent harmful interference to
19 licensees, the Commission—

20 (1) shall provide notification of that determina-
21 tion to the appropriate committees of Congress and
22 the NTIA; and

23 (2) may not proceed with any action, including
24 relocating incumbents from the destination band or
25 permitting new entrants into the destination band,

1 that may result in the dislodging or harming of any
2 incumbent in the destination band until the Commis-
3 sion can ensure that any such action will neither
4 cause harmful interference with nor unreasonably
5 constrain an incumbent in the destination band.

6 **SEC. 9. COMMISSION STUDY ON ENHANCING THE BENEFITS**
7 **OF UNLICENSED SPECTRUM FOR RURAL**
8 **COMMUNITIES.**

9 (a) IN GENERAL.—Not later than 1 year after the
10 date of enactment of this Act, the Commission shall con-
11 duct, and submit to the appropriate committees of Con-
12 gress the results of, a study regarding how unlicensed
13 spectrum can be further utilized to assist in—

- 14 (1) the provision of healthcare in rural areas;
15 (2) distance learning; and
16 (3) facilitating innovations in agriculture.

17 (b) RECOMMENDATIONS.—The results of the study
18 submitted under subsection (a) shall include recommenda-
19 tions regarding—

- 20 (1) overcoming barriers to the use of unlicensed
21 spectrum for the purposes described in that sub-
22 section; and
23 (2) how to further utilize unlicensed spectrum
24 to meet the needs of rural communities with respect
25 to broadband Internet access service.

1 **SEC. 10. GAO STUDY ON SPECTRUM RELOCATION FUND AL-**
2 **LOCATIONS.**

3 Not later than 180 days after the date of enactment
4 of this Act, the Comptroller General of the United States
5 shall conduct, and submit to the appropriate committees
6 of Congress the results of, a study to determine the effi-
7 ciency with which amounts in the Spectrum Relocation
8 Fund are transferred to eligible Federal entities that will-
9 ingly relocate from eligible frequencies.

10 **SEC. 11. RULES OF CONSTRUCTION.**

11 (a) FREQUENCY RANGES.—Any frequency range de-
12 scribed in this Act shall be construed as including the
13 upper and lower frequency in the frequency range.

14 (b) ASSESSMENT OF ELECTROMAGNETIC SPECTRUM
15 REALLOCATION.—Nothing in this Act may be construed
16 as affecting any requirement under section 156 of the Na-
17 tional Telecommunications and Information Administra-
18 tion Organization Act (47 U.S.C. 921 note).