

*Satellite Digital Audio Radio Service (satellite DARS).* A radiocommunication service in which compact disc quality programming is digitally transmitted by one or more space stations.

*Sectorization.* The use of an antenna system at any broadband station, booster station and/or response station hub that is capable of simultaneously transmitting multiple signals over the same frequencies to different portions of the service area and/or simultaneously receiving multiple signals over the same frequencies from different portions of the service area.

*Spectrum Act.* The term *Spectrum Act* means Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. 112-96).

*Studio to transmitter link (STL).* A directional path used to transmit a signal from a station's studio to its transmitter.

*Temporary fixed broadband station.* A broadband station used for the transmission of material from temporary unspecified points to a broadband station.

*Time division multiple access (TDMA).* A multiple access technique whereby users share a transmission medium by being assigned and using (one-at-a-time) for a limited number of time division multiplexed channels; implies that several transmitters use one channel for sending several bit streams.

*Time division multiplexing (TDM).* A multiplexing technique whereby two or more channels are derived from a transmission medium by dividing access to the medium into sequential intervals. Each channel has access to the entire bandwidth of the medium during its interval. This implies that one transmitter uses one channel to send several bit streams of information.

*Unattended operation.* Operation of a station by automatic means whereby the transmitter is turned on and off and performs its functions without attention by a designated person.

*Universal Licensing System.* The Universal Licensing System (ULS) is the consolidated database, application filing system, and processing system for all Wireless Radio Services. ULS supports electronic filing of all applications and related documents by applicants and licensees in the Wireless

Radio Services, and provides public access to licensing information.

*Upper 700 MHz D Block license.* The Upper 700 MHz D Block license is the nationwide license associated with the 758-763 MHz and 788-793 MHz bands.

*Upper Band Segment (UBS).* Segment of the BRS/EBS band consisting of channels in the frequencies 2614-2690 MHz

*Wireless communications service.* A radiocommunication service licensed pursuant to this part for the frequency bands specified in § 27.5.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 27.4, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

### § 27.5 Frequencies.

(a) *2305-2320 MHz and 2345-2360 MHz bands.* The following frequencies are available for WCS in the 2305-2320 MHz and 2345-2360 MHz bands:

(1) Two paired channel blocks are available for assignment on a Major Economic Area basis as follows:

Block A: 2305-2310 and 2350-2355 MHz; and  
Block B: 2310-2315 and 2355-2360 MHz.

(2) Two unpaired channel blocks are available for assignment on a Regional Economic Area Grouping basis as follows:

Block C: 2315-2320 MHz; and  
Block D: 2345-2350 MHz.

(b) *746-758 MHz, 775-788 MHz, and 805-806 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands:

(1) Two paired channels of 1 megahertz each are available for assignment in Block A in the 757-758 MHz and 787-788 MHz bands.

(2) Two paired channels of 1 megahertz each are available for assignment in Block B in the 775-776 MHz and 805-806 MHz bands.

(3) Two paired channels of 11 megahertz each are available for assignment in Block C in the 746-757 MHz and 776-787 MHz bands. In the event that no licenses for two channels in this Block C are assigned based on the results of the

## § 27.5

## 47 CFR Ch. I (10–1–20 Edition)

first auction in which such licenses were offered because the auction results do not satisfy the applicable reserve price, the spectrum in the 746–757 MHz and 776–787 MHz bands will instead be made available for assignment at a subsequent auction as follows:

(i) Two paired channels of 6 megahertz each available for assignment in Block C1 in the 746–752 MHz and 776–782 MHz bands.

(ii) Two paired channels of 5 megahertz each available for assignment in Block C2 in the 752–757 MHz and 782–787 MHz bands.

(c) *698–746 MHz band.* The following frequencies are available for licensing pursuant to this part in the 698–746 MHz band:

(1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

Block A: 698–704 MHz and 728–734 MHz;  
Block B: 704–710 MHz and 734–740 MHz; and  
Block C: 710–716 MHz and 740–746 MHz.

(2) Two unpaired channel blocks of 6 megahertz each are available for assignment as follows:

Block D: 716–722 MHz; and  
Block E: 722–728 MHz.

(d) *1390–1392 MHz band.* The 1390–1392 MHz band is available for assignment on a Major Economic Area basis.

(e) *The paired 1392–1395 and 1432–1435 MHz bands.* The paired 1392–1395 MHz and 1432–1435 MHz bands are available for assignment on an Economic Area Grouping basis as follows: Block A: 1392–1393.5 MHz and 1432–1433.5 MHz; and Block B: 1393.5–1395 MHz and 1433.5–1435 MHz.

(f) *1670–1675 MHz band.* The 1670–1675 MHz band is available for assignment on a nationwide basis.

(g) [Reserved]

(h) *1710–1755 MHz, 2110–2155 MHz, 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 1710–1755 MHz, 2110–2155 MHz, 1695–1710 MHz, 1755–1780 MHz, and 2155–2180 MHz bands:

(1) Four paired channel blocks of 10 megahertz each are available for assignment as follows:

Block A: 1710–1720 MHz and 2110–2120 MHz;  
Block B: 1720–1730 MHz and 2120–2130 MHz;

Block F: 1745–1755 MHz and 2145–2155 MHz;  
and  
Block J: 1770–1780 MHz and 2170–2180 MHz.

(2) Six paired channel blocks of 5 megahertz each are available for assignment as follows:

Block C: 1730–1735 MHz and 2130–2135 MHz;  
Block D: 1735–1740 MHz and 2135–2140 MHz;  
Block E: 1740–1745 MHz and 2140–2145 MHz;  
Block G: 1755–1760 MHz and 2155–2160 MHz;  
Block H: 1760–1765 MHz and 2160–2165 MHz;  
and  
Block I: 1765–1770 MHz and 2165–2170 MHz.

(3) One unpaired block of 5 megahertz and one unpaired block of 10 megahertz each are available for assignment as follows:

Block A1: 1695–1700 MHz  
Block B1: 1700–1710 MHz.

NOTE TO PARAGRAPH (h). Licenses to operate in the 1695–1710 MHz and 1755–1780 MHz bands are subject to the condition that the licensee must not cause harmful interference to an incumbent Federal entity relocating from these bands under an approved Transition Plan. This condition remains in effect until NTIA terminates the applicable authorization of the incumbent Federal entity.

(i) *Frequency assignments for the BRS/EBS band.* (1) Pre-transition frequency assignments.

BRS Channel 1: 2150–2156 MHz or 2496–2500 MHz

BRS Channel 2: 2156–2162 MHz or 2686–2690 MHz

BRS Channel 2A: 2156–2160 MHz

EBS Channel A1: 2500–2506 MHz

EBS Channel B1: 2506–2512 MHz

EBS Channel A2: 2512–2518 MHz

EBS Channel B2: 2518–2524 MHz

EBS Channel A3: 2524–2530 MHz

EBS Channel B3: 2530–2536 MHz

EBS Channel A4: 2536–2542 MHz

EBS Channel B4: 2542–2548 MHz

EBS Channel C1: 2548–2554 MHz

EBS Channel D1: 2554–2560 MHz

EBS Channel C2: 2560–2566 MHz

EBS Channel D2: 2566–2572 MHz

EBS Channel C3: 2572–2578 MHz

EBS Channel D3: 2578–2584 MHz

EBS Channel C4: 2584–2590 MHz

EBS Channel D4: 2590–2596 MHz

BRS Channel E1: 2596–2602 MHz

BRS Channel F1: 2602–2608 MHz

BRS Channel E2: 2608–2614 MHz

BRS Channel F2: 2614–2620 MHz

BRS Channel E3: 2620–2626 MHz

BRS Channel F3: 2626–2632 MHz

BRS Channel E4: 2632–2638 MHz

BRS Channel F4: 2638–2644 MHz

EBS Channel G1: 2644–2650 MHz

BRS Channel H1: 2650–2656 MHz

EBS Channel G2: 2656–2662 MHz

BRS Channel H2: 2662–2668 MHz

## Federal Communications Commission

## § 27.5

EBS Channel G3: 2668–2674 MHz  
BRS Channel H3: 2674–2680 MHz  
EBS Channel G4: 2680–2686 MHz  
I Channels: 2686–2690 MHz

(2) *Post transition frequency assignments.* The frequencies available in the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) are listed in this section in accordance with the frequency allocations table of § 2.106 of this chapter.

(i) Lower Band Segment (LBS): The following channels shall constitute the Lower Band Segment:

BRS Channel 1: 2496–2502 MHz or 2150–2156 MHz  
EBS Channel A1: 2502–2507.5 MHz  
EBS Channel A2: 2507.5–2513 MHz  
EBS Channel A3: 2513–2518.5 MHz  
EBS Channel B1: 2518.5–2524 MHz  
EBS Channel B2: 2524–2529.5 MHz  
EBS Channel B3: 2529.5–2535 MHz  
EBS Channel C1: 2535–2540.5 MHz  
EBS Channel C2: 2540.5–2546 MHz  
EBS Channel C3: 2546–2551.5 MHz  
EBS Channel D1: 2551.5–2557 MHz  
EBS Channel D2: 2557–2562.5 MHz  
EBS Channel D3: 2562.5–2568 MHz  
EBS Channel JA1: 2568.00000–2568.33333 MHz  
EBS Channel JA2: 2568.33333–2568.66666 MHz  
EBS Channel JA3: 2568.66666–2569.00000 MHz  
EBS Channel JB1: 2569.00000–2569.33333 MHz  
EBS Channel JB2: 2569.33333–2569.66666 MHz  
EBS Channel JB3: 2569.66666–2570.00000 MHz  
EBS Channel JC1: 2570.00000–2570.33333 MHz  
EBS Channel JC2: 2570.33333–2570.66666 MHz  
EBS Channel JC3: 2570.66666–2571.00000 MHz  
EBS Channel JD1: 2571.00000–2571.33333 MHz  
EBS Channel JD2: 2571.33333–2571.66666 MHz  
EBS Channel JD3: 2571.66666–2572.00000 MHz

(ii) Middle Band Segment (MBS): The following channels shall constitute the Middle Band Segment:

EBS Channel A4: 2572–2578 MHz  
EBS Channel B4: 2578–2584 MHz  
EBS Channel C4: 2584–2590 MHz  
EBS Channel D4: 2590–2596 MHz  
EBS Channel G4: 2596–2602 MHz  
BRS/EBS Channel F4: 2602–2608 MHz  
BRS/EBS Channel E4: 2608–2614 MHz

(iii) Upper Band Segment (UBS): The following channels shall constitute the Upper Band Segment:

BRS Channel KH1: 2614.00000–2614.33333 MHz.  
BRS Channel KH2: 2614.33333–2614.66666 MHz.  
BRS Channel KH3: 2614.66666–2615.00000 MHz.  
EBS Channel KG1: 2615.00000–2615.33333 MHz.  
EBS Channel KG2: 2615.33333–2615.66666 MHz.  
EBS Channel KG3: 2615.66666–2616.00000 MHz.  
BRS Channel KF1: 2616.00000–2616.33333 MHz.  
BRS Channel KF2: 2616.33333–2616.66666 MHz.

BRS Channel KF3: 2616.66666–2617.00000 MHz.  
BRS Channel KE1: 2617.00000–2617.33333 MHz.  
BRS Channel KE2: 2617.33333–2617.66666 MHz.  
BRS Channel KE3: 2617.66666–2618.00000 MHz.  
BRS Channel 2: 2618–2624 MHz or 2156–2162 MHz.  
BRS Channel 2A: 2618–2624 MHz or 2156–2160 MHz.  
BRS/EBS Channel E1: 2624–2629.5 MHz.  
BRS/EBS Channel E2: 2629.5–2635 MHz.  
BRS/EBS Channel E3: 2635–2640.5 MHz.  
BRS/EBS Channel F1: 2640.5–2646 MHz.  
BRS/EBS Channel F2: 2646–2651.5 MHz.  
BRS/EBS Channel F3: 2651.5–2657 MHz.  
BRS Channel H1: 2657–2662.5 MHz.  
BRS Channel H2: 2662.5–2668 MHz.  
BRS Channel H3: 2668–2673.5 MHz.  
EBS Channel G1: 2673.5–2679 MHz.  
EBS Channel G2: 2679–2684.5 MHz.  
EBS Channel G3: 2684.5–2690 MHz.

NOTE TO PARAGRAPH (i)(2): No 125 kHz channels are provided for channels in operation in this service. The 125 kHz channels previously associated with these channels have been re-allocated to Channel G3 in the upper band segment.

(3) [Reserved]

(4) A temporary fixed broadband station may use any available broadband channel on a secondary basis, except that operation of temporary fixed broadband stations is not allowed within 56.3 km (35 miles) of Canada.

(5)(i) A point-to-point EBS station on the E and F-channel frequencies, may be involuntarily displaced by a BRS applicant or licensee, provided that suitable alternative spectrum is available and that the BRS entity bears the expenses of the migration. Suitability of spectrum will be determined on a case-by-base basis; at a minimum, the alternative spectrum must be licensable by broadband operators on a primary basis (although it need not be specifically allocated to the broadband service), and must provide a signal that is equivalent to the prior signal in picture quality and reliability, unless the broadband licensee will accept an inferior signal. Potential expansion of the BRS licensee may be considered in determining whether alternative available spectrum is suitable.

(ii) If suitable alternative spectrum is located pursuant to paragraph (h)(6)(i) of this section, the initiating party must prepare and file the appropriate application for the new spectrum, and must simultaneously serve a

§ 27.5

47 CFR Ch. I (10–1–20 Edition)

copy of the application on the EBS licensee to be moved. The initiating party will be responsible for all costs connected with the migration, including purchasing, testing and installing new equipment, labor costs, reconfiguration of existing equipment, administrative costs, legal and engineering expenses necessary to prepare and file the migration application, and other reasonable documented costs. The initiating party must secure a bond or establish an escrow account to cover reasonable incremental increase in ongoing expenses that may fall upon the migrated licensee. The bond or escrow account should also account for the possibility that the initiating party subsequently becomes bankrupt. If it becomes necessary for the Commission to assess the sufficiency of a bond or escrow amount, it will take into account such factors as projected incremental increase in electricity or maintenance expenses, or relocation expenses, as relevant in each case.

(iii) The EBS licensee to be moved will have a 60-day period in which to oppose the involuntary migration. The broadband party should state its opposition to the migration with specificity, including engineering and other challenges, and a comparison of the present site and the proposed new site. If involuntary migration is granted, the new facilities must be operational before the initiating party will be permitted to begin its new or modified operations. The migration must not disrupt the broadband licensee's provision

of service, and the broadband licensee has the right to inspect the construction or installation work.

(j) *2000–2020 MHz and 2180–2200 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 2000–2020 MHz and 2180–2200 MHz (AWS-4) bands:

(1) Two paired channel blocks of 10 megahertz each are available for assignment as follows: Block A: 2000–2010 MHz and 2180–2190 MHz; and Block B: 2010–2020 MHz and 2190–2200 MHz.

(2) [Reserved]

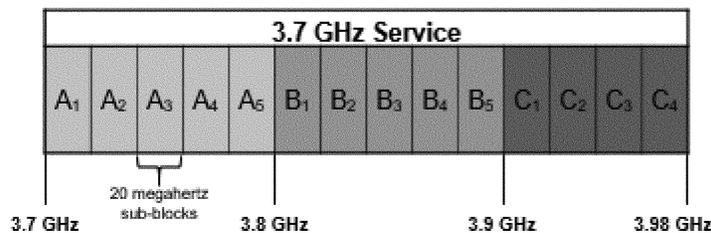
(k) *1915–1920 MHz and 1995–2000 MHz bands.* The paired 1915–1920 MHz and 1995–2000 MHz bands are available for assignment on an Economic Area (EA) basis.

(l) *600 MHz band.* The 600 MHz band (617–652 MHz and 663–698 MHz) has seven pairs of 5 megahertz channel blocks available for assignment on a Partial Economic Area basis as follows:

- Block A:* 617–622 MHz and 663–668 MHz;
- Block B:* 622–627 MHz and 668–673 MHz;
- Block C:* 627–632 MHz and 673–678 MHz;
- Block D:* 632–637 MHz and 678–683 MHz;
- Block E:* 637–642 MHz and 683–688 MHz;
- Block F:* 642–647 MHz and 688–693 MHz; and
- Block G:* 647–652 MHz and 693–698 MHz.

(m) *3700–3980 MHz band.* The 3.7 GHz Service is comprised of Block A (3700–3800 MHz); Block B (3800–3900 MHz); and Block C (3900–3980 MHz). These blocks are licensed as 14 individual 20 megahertz sub-blocks available for assignment in the contiguous United States on a Partial Economic Area basis, see § 27.6(m), as follows:

Figure 1 to paragraph (m)



(n) *900 MHz broadband.* The paired bands are available for assignment on a geographic basis. For operations in the 897.5–900.5 MHz and 936.5–939.5 MHz

**Federal Communications Commission**

**§ 27.6**

897.5–900.5 MHz and 936.5–939.5 MHz bands (designated as Channels 120–360 in section 90.613 of this chapter), no new applications will be accepted in transitioned markets for narrowband systems under part 90, subpart S of this chapter.

[62 FR 9658, Mar. 3, 1997]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §27.5, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.govinfo.gov](http://www.govinfo.gov).

**§ 27.6 Service areas.**

(a) WCS service areas include Economic Areas (EAs), Major Economic Areas (MEAs), Regional Economic Area Groupings (REAGs), cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs), and a nationwide area. MEAs and REAGs are defined in the Table immediately following paragraph (a)(1) of this section. Both MEAs and REAGs

are based on the U.S. Department of Commerce's EAs. *See* 60 FR 13114 (March 10, 1995). In addition, the Commission shall separately license Guam and the Northern Mariana Islands, Puerto Rico and the United States Virgin Islands, American Samoa, and the Gulf of Mexico, which have been assigned Commission-created EA numbers 173–176, respectively. The nationwide area is composed of the contiguous 48 states, Alaska, Hawaii, the Gulf of Mexico, and the U.S. territories. Maps of the EAs, MEAs, MSAs, RSAs, and REAGs and the FEDERAL REGISTER Notice that established the 172 EAs are available for public inspection and copying at the Reference Information Center, Consumer and Governmental Affairs Bureau, Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554.

(1) The 52 MEAs are composed of one or more EAs and the 12 REAGs are composed of one or more MEAs, as defined in the table below:

REAGs	MEAs	EAs	
1 (Northeast) .....	1 (Boston) .....	1–3.	
	2 (New York City) .....	4–7, 10.	
	3 (Buffalo) .....	8.	
	4 (Philadelphia) .....	11–12.	
	2 (Southeast) .....	5 (Washington) .....	13–14.
		6 (Richmond) .....	15–17, 20.
		7 (Charlotte-Greensboro-Greenville-Raleigh) .....	18–19, 21–26, 41–42, 46.
		8 (Atlanta) .....	27–28, 37–40, 43.
		9 (Jacksonville) .....	29, 35.
	3 (Great Lakes) .....	10 (Tampa-St. Petersburg-Orlando) .....	30, 33–34.
		11 (Miami) .....	31–32.
		12 (Pittsburgh) .....	9, 52–53.
13 (Cincinnati-Dayton) .....		48–50.	
14 (Columbus) .....		51.	
15 (Cleveland) .....		54–55.	
16 (Detroit) .....		56–58, 61–62.	
17 (Milwaukee) .....		59–60, 63, 104–105, 108.	
18 (Chicago) .....		64–66, 68, 97, 101.	
19 (Indianapolis) .....		67.	
4 (Mississippi Valley) .....	20 (Minneapolis-St. Paul) .....	106–107, 109–114, 116.	
	21 (Des Moines-Quad Cities) .....	100, 102–103, 117.	
	22 (Knoxville) .....	44–45.	
	23 (Louisville-Lexington-Evansville) .....	47, 69–70, 72.	
	24 (Birmingham) .....	36, 74, 78–79.	
	25 (Nashville) .....	71.	
	26 (Memphis-Jackson) .....	73, 75–77.	
	27 (New Orleans-Baton Rouge) .....	80–85.	
	28 (Little Rock) .....	90–92, 95.	
	29 (Kansas City) .....	93, 99, 123.	
5 (Central) .....	30 (St. Louis) .....	94, 96, 98.	
	31 (Houston) .....	86–87, 131.	
	32 (Dallas-Fort Worth) .....	88–89, 127–130, 135, 137–138.	
	33 (Denver) .....	115, 140–143.	
	34 (Omaha) .....	118–121.	
	35 (Wichita) .....	122.	
	36 (Tulsa) .....	124.	
	37 (Oklahoma City) .....	125–126.	
	38 (San Antonio) .....	132–134.	
	39 (El Paso-Albuquerque) .....	136, 139, 155–157.	