

CBRS channel No.	Center frequency (MHz)
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	27.055
9	27.065
10	27.075
11	27.085
12	27.105
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255
24	27.235
25	27.245
26	27.265
27	27.275
28	27.285
29	27.295
30	27.305
31	27.315
32	27.325
33	27.335
34	27.345
35	27.355
36	27.365
37	27.375
38	27.385
39	27.395
40	27.405

**§ 95.971 CBRS emission types.**

Each CBRS transmitter type must be designed such that its capabilities are in compliance with the emission type rules in this section.

(a) *Permitted emission types.* CBRS transmitter types may transmit only AM voice emission type A3E and SSB voice emission types J3E, R3E, or H3E.

(b) *SSB requirements.* Each CBRS transmitter type that transmits emission type J3E, R3E, or H3E must be capable of transmitting only the upper sideband with suppressed, reduced or full carrier, respectively, but may additionally be capable of transmitting only the lower sideband, with suppressed, reduced or full carrier, respectively.

**§ 95.973 CBRS authorized bandwidth.**

Each CBRS transmitter type must be designed such that the occupied bandwidth does not exceed the authorized bandwidth for the emission type under test.

(a) *AM.* The authorized bandwidth for emission type A3E is 8 kHz.

(b) *SSB.* The authorized bandwidth for emission types J3E, R3E, and H3E is 4 kHz.

**§ 95.975 CBRS modulation limits.**

Each CBRS transmitter type must be designed such that the modulation characteristics are in compliance with the rules in this section.

(a) When emission type A3E is transmitted with voice modulation, the modulation percentage must be at least 85%, but not more than 100%.

(b) When emission type A3E is transmitted by a CBRS transmitter having a transmitter output power of more than 2.5 W, the transmitter must contain a circuit that automatically prevents the modulation percentage from exceeding 100%.

**§ 95.977 CBRS tone transmissions.**

In addition to the tones permitted under § 95.377, CBRS transmitter types may be designed to transmit brief tones to indicate the beginning or end of a transmission.

**§ 95.965 CBRS transmit frequency accuracy.**

Each CBRS transmitter type must be designed such that the transmit carrier frequency (or in the case of SSB transmissions, the reference frequency) remains within 50 parts-per-million of the channel center frequencies specified in § 95.963 under all normal operating conditions.

**§ 95.967 CBRS transmitter power limits.**

Each CBRS transmitter type must be designed such that the transmitter power can not exceed the following limits:

(a) When transmitting amplitude modulated (AM) voice signals, the mean carrier power must not exceed 4 Watts.

(b) When transmitting single sideband (SSB) voice signals, the peak envelope power must not exceed 12 Watts.

**§ 95.979**

**§ 95.979 CBRS unwanted emissions limits.**

Each CBRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

(a) *Attenuation requirements.* The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) as specified in the applicable paragraphs listed in the following table:

Emission type	Paragraph
A3E .....	(1), (3), (5), (6)
H3E, J3E, R3E .....	(2), (4), (5), (6)

(1) 25 dB (decibels) in the frequency band 4 kHz to 8 kHz removed from the channel center frequency;

(2) 25 dB in the frequency band 2 kHz to 6 kHz removed from the channel center frequency;

(3) 35 dB in the frequency band 8 kHz to 20 kHz removed from the channel center frequency;

(4) 35 dB in the frequency band 6 kHz to 10 kHz removed from the channel center frequency;

(5) 53 + 10 log (P) dB in any frequency band removed from the channel center frequency by more than 250% of the authorized bandwidth.

(6) 60 dB in any frequency band centered on a harmonic (*i.e.*, an integer multiple of two or more times) of the carrier frequency.

(b) *Measurement bandwidths.* The power of unwanted emissions in the frequency bands specified in paragraphs (a)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (a)(5) and (6) of this section is measured with a reference bandwidth of at least 30 kHz.

(c) *Measurement conditions and procedures.* Subject to additional measurement standards and procedures established pursuant to part 2, subpart J, the following conditions and procedures must be used.

(1) The unwanted emissions limits requirements in this section must be met both with and without the connection of permitted attachments, such as external speakers, microphones, power cords and/or antennas.

(2) Either mean power output or peak envelope power output may be used for measurements, as appropriate for the emission type under test, provided that the same type of power measurement is used for both the transmitter output power and the power of the unwanted emissions.

**§§ 95.981–95.985 [Reserved]**

**§ 95.987 CBRS additional requirements.**

Each CBRS transmitter type must be designed to satisfy all of the additional requirements in this section.

(a) *Transmit frequency capability.* Each CBRS transmitter type must be designed to transmit only on one or more of the channels listed in § 95.963. No CBRS transmitter type will be certified for use in the CBRS service if it is capable of transmitting on any frequency or channel other than those listed in § 95.963, unless such transmitter type is also certified for use in another radio service for which the frequency capability is authorized and for which FCC certification is also required.

(b) *Frequency determining circuitry.* All frequency determining circuitry (including crystals) and programming controls in each CBRS transmitter type must be internal to the transmitter and must not be accessible from the operating panel or from the exterior of the transmitter enclosure.

(c) *Final amplifier component ratings.* The dissipation rating of all the semiconductors or electron tubes which supply RF power to the antenna terminals of each CB transmitter must not exceed 10 Watts. For semiconductors, the dissipation rating is the greater of the collector or device dissipation value established by the manufacturer of the semiconductor. These values may be temperature de-rated by no more than 50 °C. For an electron tube, the dissipation rating is the Intermittent Commercial and Amateur Service plate dissipation value established by the manufacturer of the electron tube.

(d) *External controls.* Only the external transmitter controls, connections or devices listed in this paragraph are allowed to be incorporated in a CBRS transmitter type. The FCC, however,