

§ 101.135

§ 101.135 Shared use of radio stations and the offering of private carrier service.

Licensees of Private Operational Fixed Point-to-Point Microwave radio stations may share the use of their facilities on a non-profit basis or may offer service on a for-profit private carrier basis, subject to the following conditions and limitations:

(a) Persons or governmental entities licensed to operate radio systems on any of the private radio frequencies set out in § 101.101 may share such systems with, or provide private carrier service to, any eligible entity for licensing under this part, regardless of individual eligibility restrictions, provided that the communications being carried are permissible under § 101.603. In addition, persons or governmental entities licensed to operate low power systems under the provisions of § 101.147(r)(10) may share such systems with, or provide private carrier services to, Federal Government entities, provided the communications carried are permissible under § 101.603;

(b) The licensee must maintain access to and control over all facilities authorized under its license;

(c) All sharing and private carrier arrangements must be conducted pursuant to a written agreement to be kept as part of the station records; and

(d) The licensee must keep an up-to-date list of system sharers and private carrier subscribers and the basis of their eligibility under this part. Such records must be kept current and must be made available upon request for inspection by the Commission.

(e) Applicants licensed in the MAS frequencies after June 2, 2000, shall not provide service to others on a non-profit, cost-shared basis or on a for-profit private carrier basis in the 928-928.85/952-952.85/956.25-956.45 MHz bands and the 932.25625-932.49375/941.25625-941.49375 MHz bands.

[61 FR 26677, May 28, 1996, as amended at 65 FR 17449, Apr. 3, 2000; 65 FR 38330, June 20, 2000]

§ 101.137 Interconnection of private operational fixed point-to-point microwave stations.

Private operational fixed point-to-point microwave stations may be inter-

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connected with facilities of common carriers subject to applicable tariffs.

§ 101.139 Authorization of transmitters.

(a) Except for transmitters used at developmental stations or for fixed point-to-point operation pursuant to subparts H and I of this part, each transmitter must be a type which has been certificated by the Commission for use under the applicable rules of this part. Transmitters used in the private operational fixed and common carrier fixed point-to-point microwave services under subparts H and I of this part must be of a type that has been verified for compliance. Transmitters designed for use in the 31.0 to 31.3 GHz band will be authorized under the verification procedure.

(b) Any manufacturer of a transmitter to be produced for use under the rules of this part may request certification or obtain verification by following the applicable procedures set forth in part 2 of this chapter.

(c) Certification for an individual transmitter may also be requested by an applicant for a station authorization, pursuant to the procedures set forth in part 2 of this chapter.

(d) A transmitter presently shown on an instrument of authorization, which operates on an assigned frequency in the 890-940 MHz band and has not been certificated, may continue to be used by the licensee without certification provided such transmitter continues otherwise to comply with the applicable rules and regulations of the Commission.

(e) Certification or verification is not required for portable transmitters operating with peak output power not greater than 250 mW. If operation of such equipment causes harmful interference the FCC may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(f) After July 15, 1996, the manufacturer (except for export) or importation of equipment employing digital modulation techniques in the 3700-4200, 5925-6425, 6525-6875, 10,550-10,680 and 10,700-11,700 MHz bands must meet the

minimum payload capacity requirements of § 101.141.

[63 FR 36611, July 7, 1998]

§ 101.141 Microwave modulation.

(a) Microwave transmitters employing digital modulation techniques and operating below 19.7 GHz and in the 24.25–25.25 GHz band must, with appropriate multiplex equipment, comply with the following additional requirements:

(1) The bit rate, in bits per second, must be equal to or greater than the bandwidth specified by the emission designator in Hertz (*e.g.*, to be acceptable, equipment transmitting at a 20 Mb/s rate must not require a bandwidth of greater than 20 MHz), except the bandwidth used to calculate the minimum rate may not include any authorized guard band.

NOTE TO (a)(1): Systems authorized prior to December 1, 1988, may install equipment after that date with no minimum bit rate.

(2) Equipment to be used for voice transmission placed in service, authorized, or applied for on or before June 1, 1997 in the 2110 to 2130 and 2160 to 2180 MHz bands must be capable of satisfactory operation within the authorized bandwidth to encode at least 96 voice channels. Equipment placed in service, authorized, or applied for on or before June 1, 1997 in the 3700–4200, 5925–6425 (30 MHz bandwidth), and 10,700–11,700 MHz (30 and 40 MHz bandwidths) bands must be capable of satisfactory operation within the authorized bandwidth to encode at least 1152 voice channels. These required loading levels may be reduced by a factor of 1/N provided that N transmitters may be operated satisfactorily, over the same radio path, within an authorized bandwidth less than, or equal to, the maximum authorizable bandwidth (*e.g.*, the 1152 channel requirement may be reduced to 576 if two transmitters can be satisfactorily operated over the same path within the maximum bandwidth). Where certificated equipment is designed to operate on the same frequency in a cross polarized configuration to meet the above capacity requirements, the Commission will require, at the time additional transmitters are authorized, that both polariza-

tions of a frequency be used before a new frequency assignment is made, unless a single transmitter installation was found to be justified by the Commission at the time it authorized the first transmitter.

(3) The following capacity and loading requirements must be met for equipment applied for, authorized, and placed in service after June 1, 1997 in the 3700–4200 MHz (4 GHz), 5925–6425 and 6525–6875 MHz (6 GHz), 10,550–10,680 MHz (10 GHz), and 10,700–11,700 MHz (11 GHz) bands:

Nominal channel bandwidth (MHz)	Minimum payload capacity (Mbits/s) ¹	Minimum traffic loading payload (as percent of payload capacity)	Typical utilization ²
0.400	1.54	N/A	1 DS-1
0.800	3.08	N/A	2 DS-1
1.25	3.08	N/A	2 DS-1
1.60	6.17	N/A	4 DS-1
2.50	6.17	N/A	4 DS-1
3.75	12.3	N/A	8 DS-1
5.0	18.5	N/A	12 DS-1
10.0	44.7	³ 50	1 DS-3/STS-1
20.0	89.4	³ 50	2 DS-3/STS-1
30.0 (11 GHz)	89.4	³ 50	2 DS-3/STS-1
30.0 (6 GHz) ..	134.1	³ 50	3 DS-3/STS-1
40.0	134.1	³ 50	3 DS-3/STS-1

¹ Per polarization

² DS and STS refer to the number of voice circuits a channel can accommodate. 1 DS-1 = 24 voice circuits; 2 DS-1 = 48; 4 DS-1 = 96; 8 DS-1 = 192; 12 DS-1 = 288; 1 DS-3/STS-1 = 672; 2 DS-3/STS-1 = 1344; 3 DS-3/STS-1 = 2016.

³ This loading requirement must be met within 30 months of licensing. If two transmitters simultaneously operate on the same frequency over the same path, the requirement is reduced to 25 percent.

(4) If a transmitter is authorized to operate in a bandwidth that is not listed in paragraph (a)(3) of this section, it must meet the minimum payload capacity and traffic loading requirements of the next largest channel bandwidth listed in the table; *e.g.*, if the authorized bandwidth is 3.5 MHz, the minimum payload capacity must be 12.3 Mbits/s.

(5) Transmitters carrying digital motion video material are exempt from the requirements specified in paragraphs (a)(2) and (a)(3) of this section, provided that at least 50 percent of the payload is digital video motion material and the minimum bit rate specified in paragraph (a)(1) of this section is met. In the 6, 10, and 11 GHz