158.3775 MHz, 158.415 MHz through 158.4375 MHz, 173.250 MHz, 173.300 MHz, 173.350 MHz, 451.175 MHz, 451.225 MHz, 451.275 MHz, 451.375 MHz, 451.425 MHz, 451.475 MHz, 451.525 MHz, 451.550 MHz, 451.575 MHz, 451.600 MHz, 451.625 MHz, 451.650 MHz, 451.675 MHz, 451.700 MHz, 451.750 MHz, 452.325 MHz, 452.375 MHz, 452.425 MHz, 452.475 MHz, 452.775 MHz, 452.825 MHz, 452.875 MHz, 456.175 MHz, 456.225 MHz, 456.275 MHz, 456.375 MHz, 456.425 MHz, 456.475 MHz, 456.525 MHz, 456.550 MHz, 456.575 MHz, 456.600 MHz, 456.625 MHz, 456.650 MHz, 456.675 MHz, 456.700 MHz, 456.750 MHz, 457.325 MHz, 457.375 MHz, 457.425 MHz, 457.475 MHz, 457.775 MHz, 457.825 MHz, 457.875 MHz, 462.475 MHz, 462.525 MHz, 467.475 MHz, and 467.525 MHz

Subparts D–E [Reserved]

Subpart F—Radiolocation Service

§ 90.101 Scope.

The Radiolocation Service accommodates the use of radio methods for determination of direction, distance, speed, or position for purposes other than navigation. Rules as to eligibility for licensing, permissible communications, frequency available, and any special requirements are set forth in § 90.103. Provisions for the Location and Monitoring Service (LMS) are contained in subpart M of this part.

[60 FR 15252, Mar. 23, 1995]

§ 90.103 Radiolocation Service.

(a) *Eligibility*. The following persons are eligible for authorizations in the Radiolocation Service to operate stations to determine distance, direction, speed, or position by means of radiolocation devices, for purposes other than navigation:

(1) Any person engaged in a commercial, industrial, scientific, educational, or local government activity

(2) A corporation or association that will furnish radiolocation service to other persons.

(3) A corporation that will furnish a nonprofit radio communication service to its parent corporation, to another subsidiary of the same parent, or to its own subsidiary where the party to be served is regularly engaged in any of the eligibility activities set forth in this paragraph.

(b) *Frequencies available*. The following table indicates frequencies available for assignment to stations in the Radiolocation Service, together with the class of station(s) to which they are normally assigned, and the specific assignment limitations, which are explained in paragraph (c) of this section:

RADIOLOCATION SERVICE FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitation
	Kilohertz	
70 to 90	Radiolocation land or mobile.	1
90 to 110	Radiolocation land	2
110 to 130	Radiolocation land or mobile.	1
1705 to 1715	do	4, 5, 6
1715 to 1750	do	5, 6
1750 to 1800	do	5, 6
1900 to 1950	do	6, 25, 26, 27, and 30
1950 to 2000	do	6, 25, 27, and 30
3230 to 3400	do	6, 8
	Megahertz	
420 to 450	do	21
2450 to 2500	do	9, 22, 23
2900 to 3100	do	10, 11
3100 to 3300	do	12
3300 to 3500	do	12, 13
3500 to 3650	do	12
5250 to 5350	do	12
5350 to 5460	do	10, 14
5460 to 5470	do	10, 15
5470 to 5600	do	10, 11
5600 to 5650	do	10, 16
8500 to 9000	do	12, 17
9000 to 9200	do	10, 14
9200 to 9300	do	12
9300 to 9500	do	10, 15, 18
9500 to 10,000	do	12
10,000 to 10,500	do	12, 13, 19
10,500 to 10,550	do	20, 22, 24
13,400 to 13,750	do	12
13,750 to 14,000	do	31
15,700 to 17,300	do	.....
24,050 to 24,250	do	12, 22, 24
33,400 to 36,000	do	12

(c) Explanation of assignment limitations appearing in the frequency table of paragraph (b) of this section:

(1) This frequency band is shared with and stations operating in this frequency band in this service are on a secondary basis to stations licensed in the International Fixed Service and the Maritime Mobile Service.

(2) This frequency band is shared with and stations operating in this frequency band in this service are on a secondary basis to the LORAN Navigation System; all operations are limited to radiolocation land stations in accordance with footnote US104, § 2.106 of this chapter.

(3) [Reserved]

(4) The non-Federal Government radiolocation service in this band is on a secondary basis to stations in the aeronautical radionavigation service operating on 1708 kHz.

(5) Station assignments on frequencies in this band will be made subject to the conditions that the maximum output power shall not exceed 375 watts and the maximum authorized bandwidth shall not exceed 2 kHz.

(6) Because of the operation of stations having priority on the same or adjacent frequencies in this or in other countries, frequency assignments in this band may either be unavailable or may be subject to certain technical or operational limitations. Therefore, applications for frequency assignments in this band shall include information concerning the transmitter output power, the type and directional characteristics of the antenna and the minimum hours of operation (GMT).

(7) [Reserved]

(8) Frequencies in this band may only be assigned to radiolocation stations which are also assigned frequencies in the 1605–1800 kHz band, provided the use of frequencies in this band is necessary for the proper functioning of the particular radiolocation system. Operations in this band are on a secondary basis to stations operating in accordance with the Commission's table of frequency allocations contained in § 2.106 of this chapter.

(9) This band is allocated to the Radiolocation Service on a secondary basis to other fixed or mobile services and must accept any harmful interference that may be experienced from such services or from the industrial, scientific, and medical (ISM) equipment operating in accordance with part 18 of this chapter. In the 2483.5–2500 MHz band, no applications for new or modification to existing stations to increase the number of transmitters will be accepted. Existing licensees as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, are grandfathered and their operation is co-primary with the Radiodetermination Satellite Service.

(10) Speed measuring devices will not be authorized in this band.

(11) This frequency band is shared with and is on a secondary basis to the Maritime Radionavigation Stations (part 80) and to the Government Radiolocation Service.

(12) This frequency is shared with and is on a secondary basis to the Government Radiolocation Service.

(13) Operations in this band are limited to survey operations using transmitters with a peak power not to exceed 5 watts into the antenna.

(14) This frequency band is shared with and is on a secondary basis to the Aeronautical Radionavigation Service (part 87) and to the Government Radiolocation Service.

(15) The non-Government Radiolocation Service in this band is secondary to the Maritime Radionavigation Stations (part 80), the Aeronautical Radionavigation Service (part 87) and the Government Radiolocation Service.

(16) This frequency band is shared with and is on a secondary basis to the Maritime Radionavigation Stations (part 80) and the Government Meteorological Aids Service.

(17) Operation in this frequency band is on a secondary basis to airborne Doppler radars at 8800 MHz.

(18) Radiolocation installations will be coordinated with the Government Meteorological Aids Service, and insofar as practicable, will be adjusted to meet the needs of that service.

(19) Operations in this band are on a secondary basis to the Amateur Radio Service (part 97). Pulsed emissions are prohibited.

(20) This band is restricted to radiolocation systems using type N0N emission with a power not to exceed 40 watts into the antenna.

(21) Non-Government radiolocation stations in the band are secondary to the Government Radiolocation Service, the Amateur Radio Service and the Amateur-Satellite Service. Pulse-ranging radiolocation stations in this band may be authorized along the shorelines of Alaska and the contiguous 48 states. Radiolocation stations using spread spectrum techniques may be authorized in the band 420–435 MHz for operation within the contiguous 48 states and Alaska. Also, stations using spread spectrum techniques shall be limited

to a maximum output power of 50 watts, shall be subject to the applicable technical standards in § 90.209 until such time as more definitive standards are adopted by the Commission and shall identify in accordance with § 90.425(c)(2). Authorizations will be granted on a case-by-case basis; however, operations proposed to be located within the zones set forth in footnote US217, § 2.106 of this chapter should not expect to be accommodated.

(22) For frequencies 2455 MHz, 10,525 MHz, and 24,125 MHz, only unmodulated, continuous wave (NON) emission shall be employed. The frequency 24.10 GHz, and frequencies in the 24.20–24.25 GHz band may use NON emission along with an ancillary FM digital emission. The frequency 24.10 GHz will be used for the purpose of alerting motorists of hazardous driving conditions and the presence of emergency vehicles. Equipment operating on 24.10 GHz must keep the deviation of the FM digital signal within ±5 MHz. Equipment operating on this frequency must have a frequency stability of at least 2000 ppm and is exempt from the requirements of §§ 90.403(c), 90.403(f), and 90.429 of this part.

(23) Devices designed to operate as field disturbance sensors on frequencies between 2450 and 2500 MHz with a field strength equal to or less than 50,000 microvolts per meter at 30 meters, on a fundamental frequency, will not be licensed or certificated for use under this part. Such equipment must comply with the requirements for field disturbance sensors as set forth in part 15 of this chapter.

(24) Devices designed to operate as field disturbance sensors on frequencies between 10,500 and 10,550 MHz and between 24,050 and 24,250 MHz, with field strength equal to or less than 250,000 microvolts per meter at 30 meters, on the fundamental frequency, will not be licensed or certificated for use under this part. Such equipment must comply with the requirements for field disturbance sensors as set forth in part 15 of this chapter.

(25) Station assignments on frequencies in this band will be made subject to the conditions that the maximum output power shall not exceed 375 watts and the maximum authorized bandwidth shall not exceed 1.0 kHz.

(26) Each frequency assignment in this band is on an exclusive basis within the primary service area to which assigned. The primary service area is the area where the signal intensities are adequate for radiolocation purposes from all stations in the radiolocation system of which the station in question is a part; that is, the primary service area of the station coincides with the primary service area of the system. The normal minimum geographical separation between stations of different licensees shall be at least 1931 km (1200 miles) when the stations are operated on the same frequency or on different frequencies separated by less than 1.0 kHz. Where geographical separation of less than 1931 km (1200 miles) is requested under these circumstances, it must be shown that the desired separation will result in a protection ratio of at least 20 decibels throughout the primary service area of other stations.

(27) Notwithstanding the bandwidth limitations otherwise set forth in this section of the rules, wideband systems desiring to operate in this band may use such bandwidth as is necessary for proper operation of the system provided that the field strength does not exceed 120 microvolts per meter per square root Hertz (120 uv/m/Hz½) at 1.6 km (1 mile). Such wideband operations shall be authorized on a secondary basis to stations operating within otherwise applicable technical standards. Applications for wideband systems in this band will be accepted beginning December 15, 1985.

(28) Until July 1, 1988, this band will be available only for licensees of existing systems operating in the 1605–1705 kHz portion of the 1605–1715 kHz band requesting modification of their authorizations to change frequencies to this band and for licensees of wideband systems. On July 1, 1988, requests for new station authorizations in this band will be accepted and, if necessary, will be subject to the random selection procedures outlined in § 1.972 of the Commission's Rules.

(29) This frequency band is shared with and is on secondary basis to the

Fixed-Satellite Service and to the Government's Radiolocation, Space Research and Earth Exploration-Satellite Services. After January 1, 2000, the Government's Space Research and Earth Exploration-Satellite Services shall operate on a co-equal secondary basis with the non-Government Radiolocation Service, except that grandfathered space stations in the Tracking and Data Relay Satellite System shall continue to be protected from harmful interference.

(d) *Other additional frequencies available.* Radiolocation stations in this service may be authorized, on request, to use frequencies allocated exclusively to Federal Government stations, in those instances where the Commission finds, after consultation with the appropriate Government agency or agencies, that such assignment is necessary or required for coordination with Government activities.

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.103, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

Subpart G—Applications and Authorizations

§ 90.111 Scope.

This subpart supplements Title 47, chapter 1, subpart F of the Code of Federal Regulations which establishes the requirements and conditions under which commercial and private radio stations may be licensed and used in the Wireless Telecommunications Services. The provisions of this subpart contain additional pertinent information for current and prospective licensees specific to the services governed by this part 90.

[63 FR 68963, Dec. 14, 1998]

§ 90.115 Foreign government and alien eligibility.

(a) No station authorization in the radio services governed by this part shall be granted to or held by a foreign government or its representative.

(b) No station authorization in the radio services governed by this part shall be granted to or held by an entity providing or seeking to provide commercial mobile radio services (except such entities meeting the requirements of § 20.9(c) of this chapter) if such entity is:

(1) An alien or the representative of any alien;

(2) A corporation organized under the laws of any foreign government;

(3) A corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country;

(4) A corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country, if the Commission finds that the public interest will be served by the refusal or revocation of such license.

[59 FR 59957, Nov. 21, 1994, as amended at 61 FR 55581, Oct. 28, 1996]

§ 90.119 Application requirements.

(a) Part 1, subpart F of this chapter contains the application filing procedures for the Wireless Telecommunications Services, including applications for new base, fixed, or mobile station authorizations governed by this part.

(b) If the control station(s) will operate on the same frequency as the mobile station, and if the height of the control station(s) antenna(s) will not exceed 6.1 meters (20 feet) above ground or an existing man-made structure (other than an antenna structure), there is no limit on the number of such stations which may be authorized. Appropriate items on FCC Form 601 shall be completed showing the frequency, the station class, the total number of control stations, the emission, and the output power of the highest powered control station. Applicants in the 470–512 MHz band must furnish the relevant information for all control stations.

[63 FR 68963, Dec. 14, 1998]