

# 1610–1610.6 MHz

## 1. Band Introduction

The 1610-1610.6 MHz band is allocated for both Federal and non-Federal use. It is primarily used by a U.S. licensed non-geostationary mobile satellite system, Globalstar, which provides voice and data service using small, generally handheld units throughout the world.<sup>1</sup> Federal agencies, along with non-Federal entities, use the Globalstar system. The band is adjacent to a radio astronomy band.<sup>2</sup>

## 2. Allocations

### 2a. Allocation Table

The frequency allocation table shown below is extracted from the Manual of Regulations and Procedures for Federal Radio Frequency Management, Chapter 4 – Allocations, Allotments and Plans.

*Table of Frequency Allocations*

*United States Table*

Federal Table	Non-Federal Table	FCC Rule Part(s)
1610-1610.6 MOBILE-SATELLITE (Earth-to-space) US319 US380 AERONAUTICAL RADIONAVIGATION US260 RADIODETERMINATION-SATELLITE (Earth-to-space)		Satellite Communications (25) Aviation (87)
5.341 5.364 5.366 5.367 5.368 5.372 US208		

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<sup>1</sup> Globalstar is also authorized to operate mobile earth stations using an Ancillary Terrestrial Component service supporting an integrated satellite and terrestrial communications network. If implemented, such a system would allow users to access a Globalstar-licensed terrestrial wireless network in addition to the satellite network. Currently, many of the Globalstar handsets can utilize terrestrial wireless systems operated by other wireless operators as well as the Globalstar satellite system.

<sup>2</sup> Radio astronomy observations are performed in the 1610.6-1613.8 MHz band to monitor the hydrogen and hydroxyl radical spectral lines that are used to study the evolution of the Universe.

**2b. Additional Allocation Table Information**

**5.341** In the bands 1 400-1 727 MHz, 101-120 GHz, and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

**5.364** The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB (W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed -3 dB (W/4 kHz). Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.

**5.366** The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No. 9.21.

**5.367** *Additional allocation:* The bands 1 610-1 626.5 MHz and 5 000-5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.

**5.368** With respect to the radiodetermination-satellite and mobile-satellite services, the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

**5.372** Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services (No. 29.13 applies).

**US208** Planning and use of the band 1559-1626.5 MHz necessitate the development of technical and/or operational sharing criteria to ensure the maximum degree of electromagnetic compatibility with existing and planned systems within the band.

**US260** Aeronautical mobile communications which are an integral part of aeronautical radionavigation systems may be satisfied in the bands 1559-1626.5 MHz, 5000-5250 MHz and 15.4-15.7 GHz.

**US319** In the bands 137-138 MHz, 148-149.9 MHz, 149.9-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 1610-1626.5 MHz, and 2483.5-2500 MHz, Federal stations in the mobile-satellite service shall be limited to earth stations operating with non-Federal space stations.

**US380** In the bands 1525-1544 MHz, 1545-1559 MHz, 1610-1645.5 MHz, 1646.5-1660.5 MHz, 2000-2020 MHz, 2180-2200 MHz, and 2483.5-2500 MHz, a non-Federal licensee in the mobile-satellite service (MSS) may also operate an ancillary terrestrial component in conjunction with its MSS network, subject to the Commission's rules for ancillary terrestrial components and subject to all applicable conditions and provisions of its MSS authorization.

### **3. Federal Agency Use:**

The Federal Government uses MSS services provided by Globalstar in the 1610-1610.6 MHz band. Although Federal agencies use Globalstar MSS earth stations (i.e., handsets), operating in the 1610-1610.6 MHz band, they are licensed by the Federal Communications Commission (FCC).

#### **3a. Federal Agency Frequency Assignments Table:**

***There are no federal frequency assignments in this band.***

The MSS handsets used by the Federal agencies in the 1610-1610.6 MHz band are licensed by the FCC and do not require a frequency assignment in the Government Master File.

Pursuant to Section 7.23 of the NTIA Manual, Federal agencies may operate radio devices as end users of such systems. Such use must be in accordance with FCC rules governing the specified service. Some Federal agencies obtain FCC blanket licenses for operation of multiple handhelds used in conjunction with these non-Federal systems.

#### **3b. Percentage of Frequency Assignments Chart:**

***There are no federal frequency assignments in this band.***

## **4. Frequency Band Analysis By Application**

### **4a. Mobile-Satellite Service**

The 1610-1610.6 MHz band is part of the 1610-1626.5 MHz band that is allocated on a world-wide basis for MSS and used by commercial low earth orbiting satellite systems. The sole U.S. licensee (by the FCC) is Globalstar, although other non-geostationary MSS systems using code-division multiple access (CDMA) could be licensed to operate co-frequency, co-coverage.<sup>3</sup> In the 1610-1610.6 MHz band, the Federal agencies are end users of Globalstar mobile-satellite service commercial communications system. Mobile earth stations operating in this band are used by Federal law enforcement agencies, Federal emergency management teams, the Department of Defense and the Department of Homeland Security. A number of Federal agencies also use MSS services provided by Globalstar in support of continuity of operations (COOP) during emergency situations.

### **4b. Aeronautical Radionavigation Service**

At this time, the Federal Government does not operate systems in the aeronautical radionavigation service in the 1610-1610.6 MHz band.

### **4c. Radiodetermination-Satellite Service**

At this time, the Federal Government does not operate systems in the radiodetermination-satellite service in the 1610-1610.6 MHz band.

### **4d. Aeronautical Mobile-Satellite (Route) Service**

The aeronautical mobile-satellite (route) service is allocated on a primary basis for Federal and non-Federal use under footnote S5.367. At this time, the Federal Government does not operate systems in the aeronautical mobile satellite (route) service in the 1610-1610.6 MHz band.

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<sup>3</sup> See, Big LEO Order, 9 FCC Rcd at 5945 (1994) which provides for licensing of multiple CDMA non-GSO MSS systems in this band. See also, Recommendation ITU-R M.1186 "Technical Considerations for the Coordination Between Mobile Satellite Service (MSS) Networks Utilizing Code Division Multiple Access (CDMA) and Other Spread Spectrum Techniques in the 1-3 GHz Band" (1995).

#### **4e. Aeronautical Mobile Service**

The aeronautical mobile service is allocated for Federal and non-Federal use on a secondary basis under footnote US260. At this time, the Federal Government does operate systems in the aeronautical mobile satellite service in the 1610-1610.6 MHz band.

#### **5. Planned Use**

Federal Government use of the Globalstar satellite system or others providers of MSS data and communication services in the 1610-1610.6 MHz band is expected to continue.

The Federal Government has identified a possible need for more Federal allocations for MSS below 3 GHz for potential U.S. government MSS systems.<sup>4</sup> However, no proceeding relating to consideration of such additional Federal allocations has been initiated by the FCC.

The Federal Government has no plans to operate aeronautical radionavigation service systems in the 1610-1610.6 MHz band.

The Federal Government has no plans to operate radiodetermination-satellite service systems in the 1610-1610.6 MHz band.

The Federal Government has no plans to operate aeronautical mobile-satellite (route) service systems in the 1610-1610.6 MHz band.

The Federal Government has no plans to operate aeronautical mobile service systems in the 1610-1610.6 MHz band.

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<sup>4</sup> NTIA recommended that the FCC add Federal MSS allocations in several frequency bands below 3GHz, “to satisfy existing and growing Federal MSS spectrum requirements and to enhance communications for national defense, law enforcement, and emergency. *See*, NTIA Comments, IB Docket No. 01-185, at ii (filed July 15, 2003).