

The experimental license is being requested to cover the Mobile Earth Station (MES) mode Globalstar™ service, and will not cover the cellular-mode AMPS/CDMA/GSM services.

For the MES mode:

- a) Frequency of operation: Transmit band of 1610 to 1621.35 MHz, receive band of 2483.5 to 2500 MHz. Globalstar™ terminals are designed with the capability to operate in the entire 1610—1626.5 MHz band; however, in the U.S. these MES' will operate only in the 1610—1621.35 MHz range, consistent with the FCC license held by L/Q Licensee. Any references in this application to the 1610-1626.5 MHz band apply to the MES capability only. When operating in the MES mode, the Globalstar™ terminals transmit in one of nine 1.23 MHz wide CDMA channels within 1610—1621.35 MHz frequency range. Similarly, when operating in the MES mode, the Globalstar™ terminals receive in one of thirteen 1.23 MHz wide CDMA channels within 2483.5 to 2500 MHz frequency range.
- b) Antenna Polarization: Left hand circular
- c) Emission Designator: 1M23G7W
- d) Maximum EIRP: The maximum EIRP is dictated by the maximum available transmitter power for a particular radio and its peak antenna gain. As a conservative estimate, no factor is taken for time averaging of the variation in output power due to data rate changes and power control commands. The EIRP density is the EIRP divided by the channel bandwidth of 1.23 MHz and further corrected for the required 4 kHz bandwidth.
- e) Maximum EIRP density

The cellular mode of the terminals will comply with all applicable 47 C.F.R. Part 22 regulations and the particulars of operation are not specifically addressed below except where indicated.

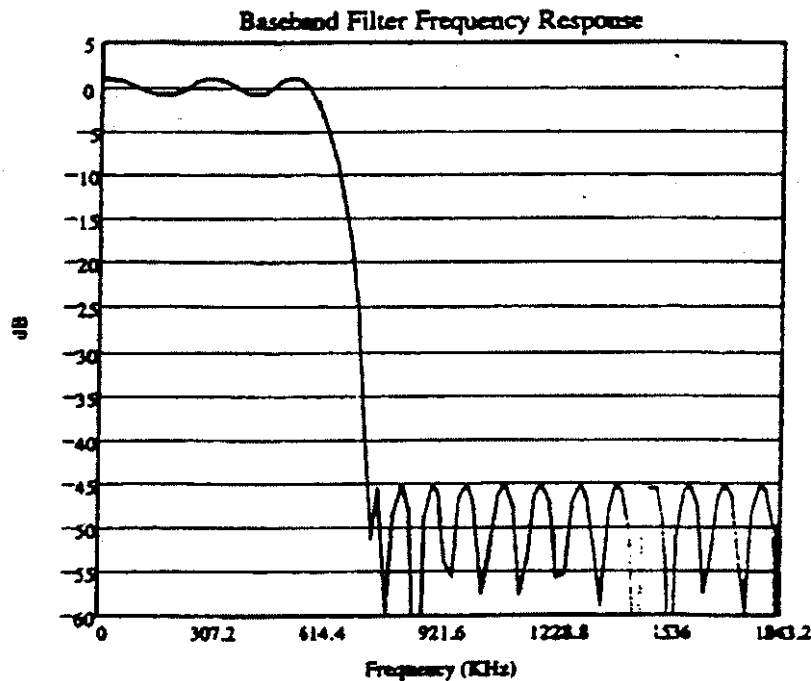
Globalstar™ Mode

Radio Type and Mode	Max Tx Power Available (dBW)	Peak Antenna Gain (dBic or dBi)	Max EIRP (dBW)	(e) Max EIRP Density (dBW/4 kHz)
Handheld	-2.0	3.5	1.5	-23.4
Vehicular	4.0	3.0	7.0	-17.9
Fixed	4.0	3.0	7.0	-17.9

Cellular Mode

<i>Radio Type and Mode</i>	<i>Max Tx Power Available (dBW)</i>	<i>Peak Antenna Gain (dBic or dBi)</i>	<i>Max EIRP (dBW)</i>	<i>(e) Max EIRP Density (dBW/4 kHz)</i>
Handheld—AMPS	-0.4	2.0	1.6	1.6
Vehicular—AMPS	-0.4	2.0	1.6	1.6
Handheld—IS-95 CDMA	-0.4	2.0	1.6	-23.3
Vehicular—IS-95 CDMA	-0.4	2.0	1.6	-23.3

- f) **Description of Modulation:** The Globalstar™ MES transmitter realizes direct sequence spreading at a chip rate of 1.2288 MHz. Baseband filtering is implemented as shown in the figure below. In phase and quadrature, signals are combined to form OQPSK modulation.



Baseband Filter Frequency Response

Power is continuous for 9600, 4800, and 2400 bps modes and is spread by a direct sequence with a chip rate of 1.2288 MHz. The output power changes in accordance with the data rate for the frame.

Applicant's Qualifications and Proposed Experiments

Globalstar L.P. the manager of the Globalstar non-geostationary MSS Above 1 GHz system, is applying for an experimental license to conduct tests associated with system operation. Globalstar is a Delaware, partnership, and is ultimately controlled by Loral/Qualcomm Partnership, L.P., the parent of L/Q Licensee, Inc. (LQL). LQL holds the license for the Globalstar system¹. The Globalstar system has been authorized for construction, launch and operation in the 1610-1621.35 MHz and 2483.5 and 2500 MHz bands. The system consists of 48 technically-identical satellites orbiting the Earth in a circular orbit plus eight spares. The first 16 satellites have been launched. It is anticipated that commercial Mobile Satellite Services will be available during the third quarter of 1999

As part of the pre-operational program, the User Terminal (phones) are required to be field tested to validate the performance prior to the start of service. Experimental user terminals to be operated under this authorization, will be used throughout the USA to validate their RF performance parameters in conjunction with those of the Gateway and satellite constellations. The program of tests will be conducted over the next two years to ensure that the system will have been successfully deployed and tested.

The fixed terminals will be installed and tested at the identified site. The mobile terminals will be tested at stationary, and moving user conditions at various locations. The fixed-user terminal tests will be implemented in San Jose, CA. The mobile user terminal tests will be implemented in various locations within the United States and its possessions. The tests are intended to validate:

- antenna performance and characteristics
- tracking performance characteristics
- transmitter performance characteristics
- receiver performance characteristics
- radiating pattern characteristics
- reliability, maintainability, and availability
- overall Globalstar™ system performance.

Conclusion

Grant of this application will permit Globalstar to conduct a thorough operational validation of the user terminals and perform thorough Globalstar™ system level tests in conjunction with the Gateway and Satellite constellation. This test is essential to the success of the Globalstar™ network operation and enables this service to commence satisfactorily as authorized by the Commission in its grant of the Globalstar™ license to L/Q Licensee, Inc. The information obtained from the tests will help Globalstar implement the system on the current schedule and commence commercial service in approximately 6 months. The public interest would be served by grant of this application. These tests will provide useful information on the performance of the system, which will promote the development and delivery of the planned global Mobile-Satellite Services to the public.

¹ See Loral Qualcomm Partnership, L.P., 10 FCC Rcd 2333 (1995) (authorizing constellation and use of service links); L/Q Licensee, Inc. 11 FCC Rcd 16410 (1996) (authorizing the use of feeder links).

Experimental Phone Types

The experimental license is being requested to cover the satellite-mode Globalstar™ service, and will not cover the cellular-mode AMPS/CDMA/GSM services.

The MES designs are currently under design and production by Qualcomm, the principal developer of the Globalstar™ MES, and two other manufacturers, Ericsson and Telital. The type of antenna will vary depending on the radio application. Apart from the cellular mode, there will be three different MES radio types corresponding to these applications: handheld portable, vehicular, and fixed radios. The radio type, service offered, frequency band of operation, and applicable antenna type is indicated below, including the cellular and GSM mode.

The dual phones manufactured by Telital and Ericsson provide both Globalstar™ and GSM service but will only be operated in Globalstar™ mode for the purposes of this experimental phase taking place in the U.S.:

Radio Type	Radio Designator	Services Offered	Frequency Bands (MHz)¹	Antenna Designation
Handheld	Single-mode	- Globalstar™	-Tx: 1610—1626.5 -Rx: 2483.5—2500	-GS Tx -GS RX
Handheld	Dual-mode	- Globalstar™ -GSM Cellular	-Tx: 1610—1626.5 -Rx: 2483.5—2500 -Tx/Rx: 890—960	-GS Tx -GS Rx -GSM Cellular
Handheld	Dual-mode	- Globalstar™	-Tx: 1610—1626.5 -Rx: 2483.5—2500	-GS Tx -GS RX
Handheld	Tri-mode	- Globalstar™ -IS-95 (CDMA and AMPS)	-Tx: 1610—1626.5 -Rx: 2483.5—2500 -Tx/Rx:824—894	-GS Tx -GS RX -CDMA/AMPS
Vehicular	Not applicable	- Globalstar™ -IS-95 (CDMA and AMPS)	-Tx: 1610—1626.5 -Rx: 2483.5—2500 -Tx/Rx:824—894	-GS Tx -GS RX -CDMA/AMPS
Vehicular	Not applicable	- Globalstar™	-Tx: 1610—1626.5 -Rx: 2483.5—2500	-GS Tx -GS RX
Fixed	Not applicable	- Globalstar™	-Tx: 1610—1626.5 -Rx: 2483.5—2500	-GS Tx -GS RX

¹ Tx = transmit band
Rx = receive band