

FCC Form 42
Exhibit 1 - Qualcomm Application

A. Frequency Of Operation:

Transmit band of 1610 to 1626.5 MHz, Receive band of 2483.5 to 2500 MHz.

The Beam Monitor is designed with the capability to operate in the 1610 - 1626.5 MHz band and it is intended that the equipment be operated over this entire band under this experimental license.

B. Antenna Polarization:

Left Hand Circular

C. Maximum EIRP

The maximum R.F. power available at the Antenna = 2.5W.(4dBW)

The antenna Gain = 21 dB

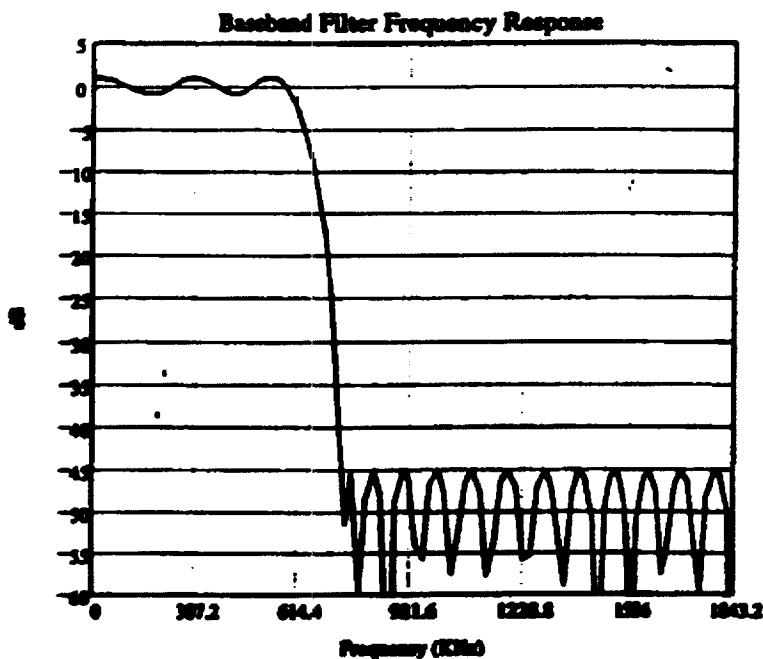
Maximum EIRP = 25 dBW

-2.14

D. Modulation:

22.86 dBW (ERP)

Description of Modulation: The Globalstar™ MES transmitter utilizes 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 chip rate 1.2288 MHz. The output power changes in accordance with the data rate for the frame.

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Exhibit 2 - Qualcomm Application

QUALCOMM Incorporated (hereinafter referred to as QUALCOMM), founded in 1985 is one of the fastest growing Companies in the Communications business in the United States. QUALCOMM specializes in the design, development, manufacture, and service, of advanced telecommunications systems for a wide range of consumer, government, and industrial applications. QUALCOMM's headquarters is located in San Diego, California, which is one of the fastest growing technology areas in the United States. QUALCOMM has field offices in many parts of the United States, and also in several countries around the world. QUALCOMM's CDMA-based wireless technology is being considered for implementation in a growing list of countries around the world.

A. Applicant's Qualifications

QUALCOMM is a current FCC licensee for the OmniTRACS system, and is a Partner in the Loral QUALCOMM Licensee, Inc. (LQL) Partnership which holds the FCC license for the construction and operation of the "Globalstar" low-earth orbit mobile satellite system operating at L- and S-band frequencies. QUALCOMM is a pioneer in the area of wireless communications as well as other high technology fields. It has developed, licensed, and manufactured, a wide range of innovative communications systems and products, including fixed- and mobile- satellite communications systems, government telecommunications systems and services, commercial video applications, and VLSI components.

QUALCOMM pioneered OmniTRACS, the first two-way mobile satellite communications system designed to meet the service requirements of the trucking, marine, rail and other businesses. OmniTRACS uses a hybrid spread spectrum technique based on frequency hopping and direct sequence CDMA, in one of the largest commercial applications of spread spectrum technology. QUALCOMM is providing OmniTRACS service to approximately 200,000 vehicles in the United States. The OmniTRACS service is also being offered in many other countries and regions, including Europe (EUTELTRACS)- Brazil and Mexico.

Utilizing core contract support of the Defense Advanced Research Projects Agency (DARPA), and its own internal R&D funds, QUALCOMM has developed the video compression and signal processing systems. This technology, in conjunction with the electronic projector technology developed by the Electron Dynamics Division of Hughes Aircraft Company, forms the basis for the commercial electronic cinema product.

The main thrust of QUALCOMM's efforts during the last few years have been focused on developing, testing and manufacturing the wireless infrastructure and subscriber products for use in terrestrial cellular, PCS, wireless local loop (WLL), and low-earth orbit mobile satellite services. The QUALCOMM technology, which has also been licensed to a very large and diverse group of manufacturers worldwide, is based on the application of CDMA technology to mobile environment with several innovative, patented ideas to achieve high capacity and lower cost. The TIA has adopted its IS-95 digital cellular standard based on the QUALCOMM CDMA technology. The CDMA technologies developed by QUALCOMM for various wireless applications have been documented in the ITU literature. QUALCOMM's CDMA technology has been adopted by several major cellular, PCS and WLL service providers around the world. Among those are AirTouch Communications, U.S. West, NYNEX, GTE, Bell Atlantic, Ameritech, Sprint Spectrum, PCS PrimeCo, and NextWave

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B. The Proposed Experiments:

The Globalstar constellation of satellites are planned for launch early in 1998. Pre production ground stations (Gateways) are currently being constructed and will be completed 1997/98. As part of the pre operational program , a User Terminal simulator named a "Beam Monitor" is required to be used to validate the performance prior to the start of service. A fixed location beam monitor is to be manufactured and operated under this authorization, and will be used at the Qualcomm site in San Diego to perform measurements on the RF performance parameters of the Gateway and satellite constellation. The tests are intended to validate:

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

C. Conclusion:

Grant of this application will permit Qualcomm to conduct a thorough Globalstar system level tests in conjunction with the Gateways & Satellites constellation. This test program 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 Loral QUALCOMM Licensee, Inc.