

Overview

The Echo Satellite Communications L-Band SatMAX® system is designed to serve as a lightweight, high-capacity, high-reliability, satellite earth-station repeater to provide satellite communications in locations where the user cannot directly receive the satellite signal. Typical usage would be in buildings, aircraft, underground, or in locations where it would be difficult to go outside to utilize a satellite telephone. The SatMAX system receives and employs state-of-the-art MIC (Microwave Integrated Chips) as well as advanced narrow-band filtering to ensure strict conformance to the pass-band of the Iridium® system. The power amplifiers employ GaAs MMICs (Monolithic Microwave Integrated Chips) and thin-film technology in a balanced configuration to provide highly stable power with minimal inter-modulation distortion. The SatMAX system is designed for use in conjunction with the Iridium satellite constellation. Its various packaging configurations can be set up to operate in numerous temporary or permanent environments. Temporary applications are accommodated with one or more of the SatMAX system self-contained models, and can be installed in a matter of minutes. All models of the SatMAX system are capable of handling multi-user voice and data connections.

ALPHA Portable SatMAX® System

Mechanical & Packaging
Weight: 40 pounds
Packaging: Weather-Resistant Storm Case
Dimensions: 24.6" W 19.7" L 8.6" H
USERS: 3

Fixed-Structure SatMAX® System

Mechanical & Packaging
Weight: 60 pounds
Packaging: NEMA or rack-mount enclosure
Dimensions: NEMA: 7.5" W 16" L 16" H
Rack mount: 19" W 14" L 3.5" H
USERS: 3

Patent #: 6,996,369

RF Up-Link/Down-Link (Link between SatMAX® and Iridium® Satellite)

Output Frequency Range: 1616-1626.5 MHz
Output Power: (at -1dB Gain Compression) +37.0 dBm
Input Frequency Range: 1616-1626.5 MHz
Signal Bandwidth: 10.5 MHz
Minimum Input Power: (MDS) -118.5 dBm
Overall Gain: +92 dB
Gain Variation: N/A
Gain Flatness: over any 2 MHz bandwidth: +/- 0.4 dB
Over Any 10MHz Bandwidth: +/- 0.5 dB
Spurious Outputs @ 37 dBm Output Power: -40 dBc, max
Harmonics @ 37 dBm Output Power: -60 dBc, max
VSWR (Input & Output): 1.8:1
Voltage Input: +15 VDC
DC Consumption: 42 watts

Repeater Link (Link between SatMAX® and Iridium® Handsets)

Input Frequency Range: 1616-1626.5 MHz
Output Power (at -1dB Gain Compression): +10 dBm
Output Frequency Range: 1616-1626.5 MHz
Signal Bandwidth: 10.5 MHz
Minimum Input Power (MDS): -118.5 dBm
Overall Gain: +76 dB
Gain Variation: N/A
Gain Flatness: Over Any 2 MHz Bandwidth: +/- 0.4 dB
Over Any 10MHz Bandwidth: +/- 0.5 dB
Overall Noise Figure: 2.0 dB, max
Image Rejection: >50 dB
Harmonics: -45 dBc
VSWR: 1.8

