

L3 Technologies, CS-W
Special Temporary Authorization
Date: 03/08/2019
STA Conf. No.: EL696933
STA File No.: 0634-EX-ST-2019
License: ??????

Description of Special Temporary Authorization Request

Pending Transaction:

On January 31, 2019, the applicant's parent entity, L3 Technologies, Inc. ("L3"), submitted a series of transfer of control applications seeking the Commission's consent to transfer control of various licenses held by L3 entities from L3 to Harris Corporation ("Harris"), including private wireless, aviation and maritime licenses, earth station authorizations, and experimental licenses. These applications are part of a proposed transaction between Harris and L3 through which Harris and its stockholders are proposing to acquire control of L3 as part of a merger of the two companies.

With respect to the experimental licenses held by L3 entities, on January 31, 2019, L3 and Harris submitted the following transfer of control applications through the OET Experimental Licensing System, file numbers: 0003-EX-TU-2019; 0005-EX-TU-2019; 0007-EX-TU-2019; 0008-EX-TU-2019; 0009-EX-TU-2019; 0011-EX-TU-2019; 0012-EX-TU-2019, which are currently pending. In those applications, the applicants requested that "any Commission approval of the applications filed for this transaction include authority for Harris to acquire control of: (1) any experimental licenses and authorizations issued to L3 or its subsidiaries while this transaction is pending before the Commission and the period required for consummation of the transaction, and (2) any experimental applications that have been filed by L3 or its subsidiaries that are pending at the time of consummation of the proposed transaction." Accordingly, L3 hereby requests that this application for Special Temporary Authority (STA), and the grant of STA to the extent it is issued while the transaction is pending, be included with any Commission approval of the pending transfer of control applications filed as part of the L3 and Harris transaction.

Application Background:

The purpose of this project is to conduct a static ground test and characterization of an existing SATCOM system over an O3b (aka, SES GS) satellite and a Telesat LEO satellite.

Concept of Operations:

The concept of operation is the classic SATCOM terminal thru the satellite to another SATCOM terminal.

For the O3b experiment SATCOM Terminal #1 is a static terminal located in Salt Lake City, UT on the L-3 CS-W campus. Additionally, for the O3b experiment SATCOM Terminal #2 is a fixed location ground terminal located in Vernon, TX on the O3b gateway campus. Satellite services will be through SES O3b. See Figure 1.

For the Telesat LEO experiment SATCOM Terminal #1 is a static terminal located in Salt Lake City, UT on the L-3 CS-W campus. Similarly, for the Telesat LEO experiment SATCOM Terminal #2 is a static terminal located in Salt Lake City, UT on the L-3 CS-W campus. Satellite services will be through the currently on orbit Telesat LEO experimental satellite. See Figure 2.

Spectrum Requirements:

Terminal #1 will transmit to the satellite in the 28.600-29.100 GHz frequency range and receive in the 18.800-19.300 GHz band. Terminal #2 will also transmit to the satellite in the 28.600-29.100 GHz band while receiving in the 18.800-19.300 GHz frequency range. The specific operating frequency bands (sub bands) will be assigned by the satellite provider at the time the experiments are performed.

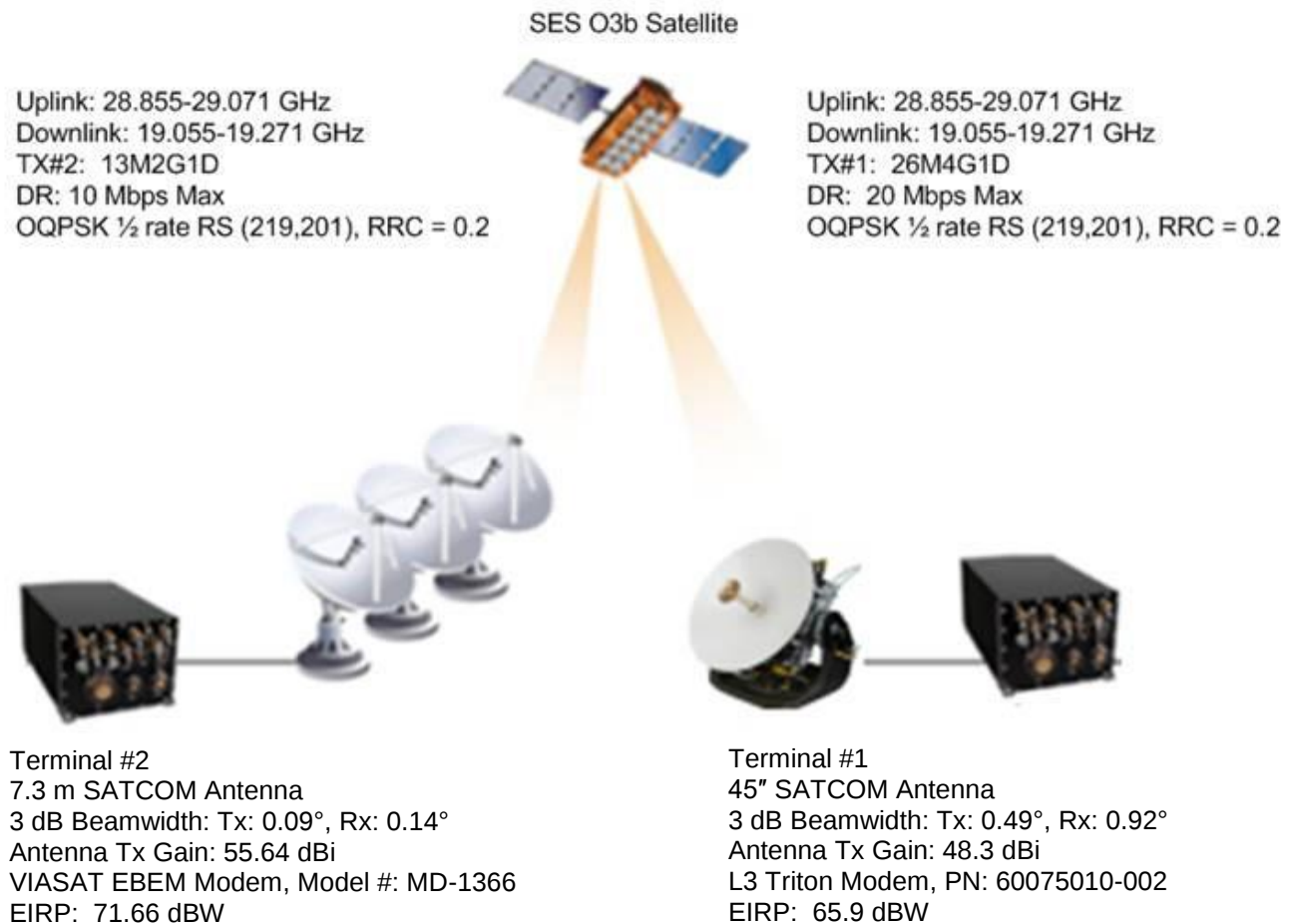


Figure 1 SES GS (O3b) Concept of Operations

Location of Testing:

Terminal #1 is located at the L-3 CSW campus in Salt Lake City, Utah and Terminal #2 is located at the O3b campus in Vernon, TX identified by the coordinates shown in Figure 2.

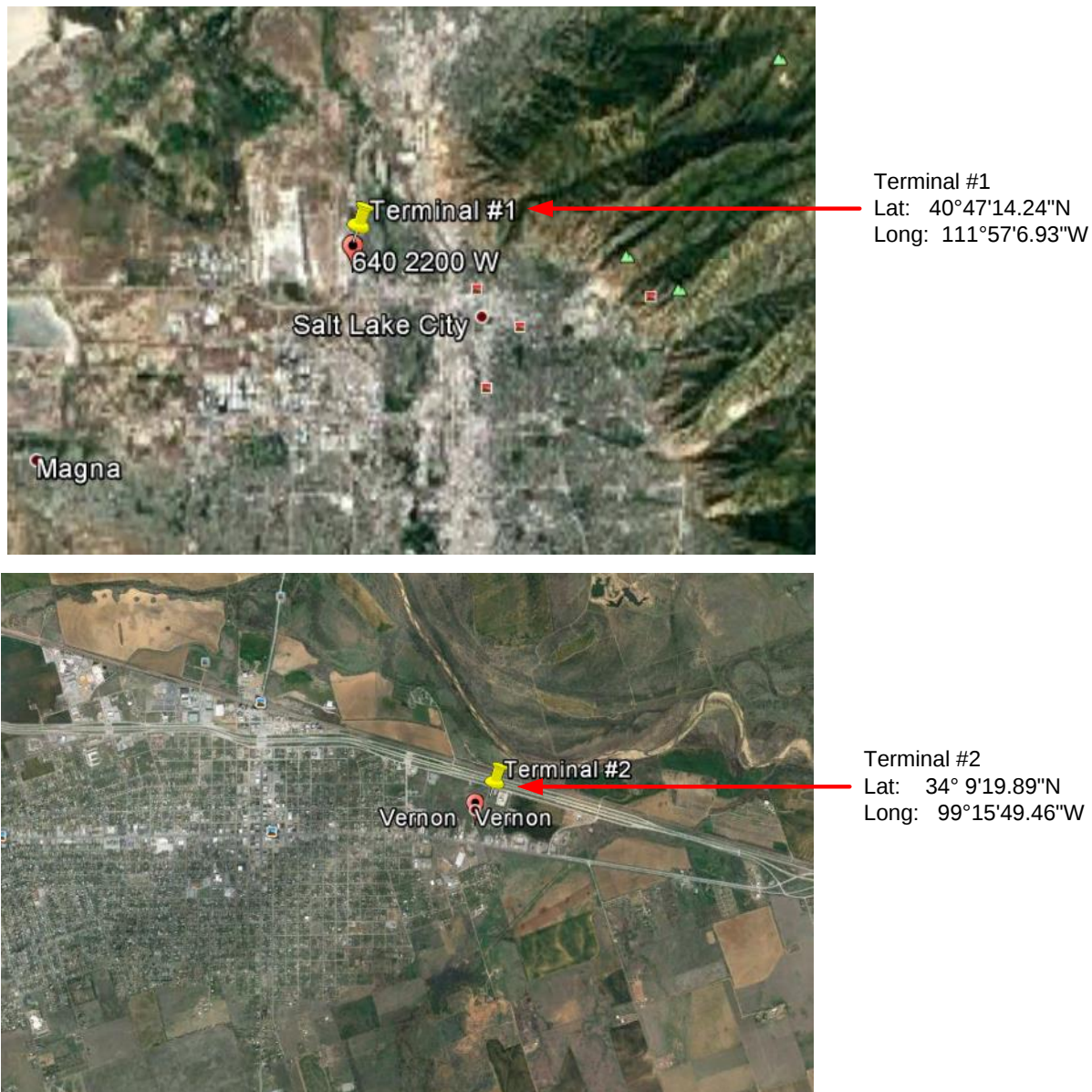
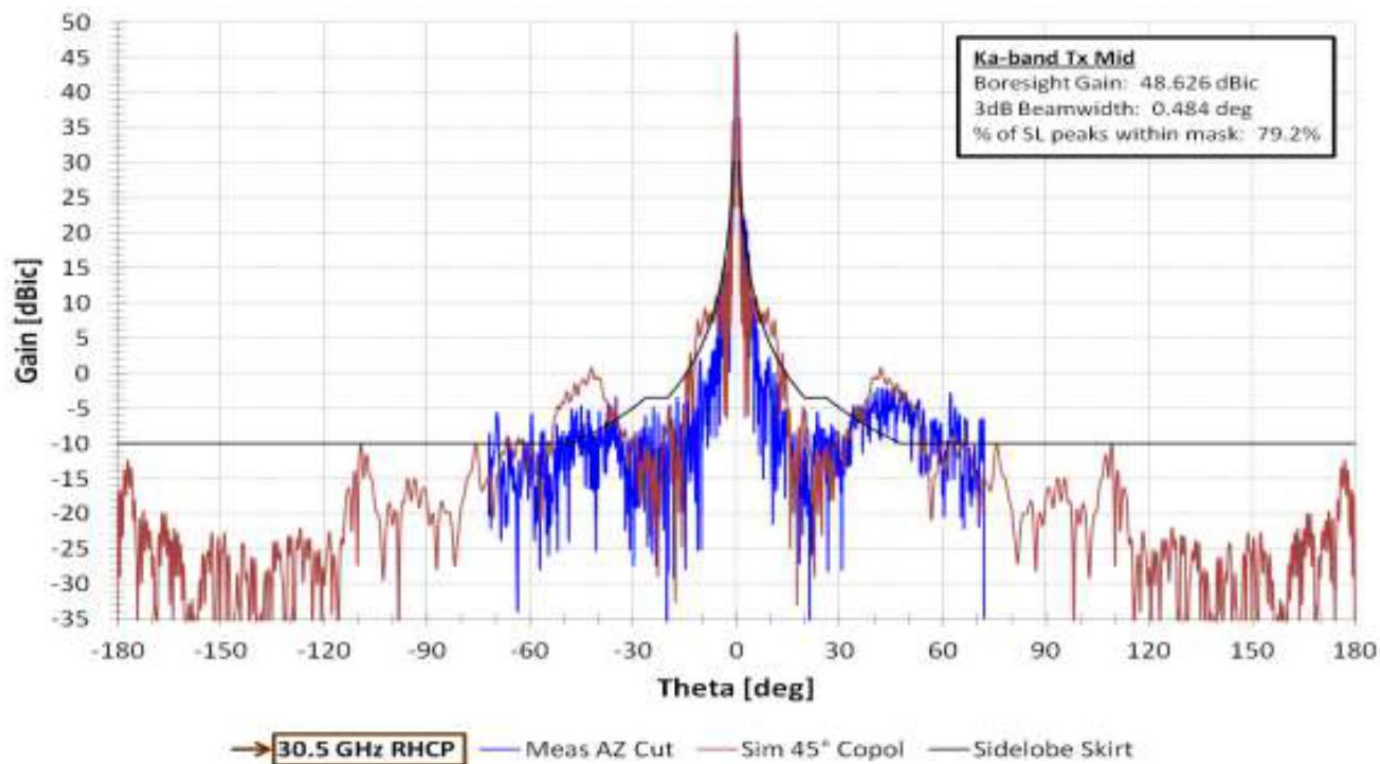


Figure 2 Location of Testing

Terminal #1 45" Ka-band SATCOM Antenna L3 Technologies, Inc. 60075010-002

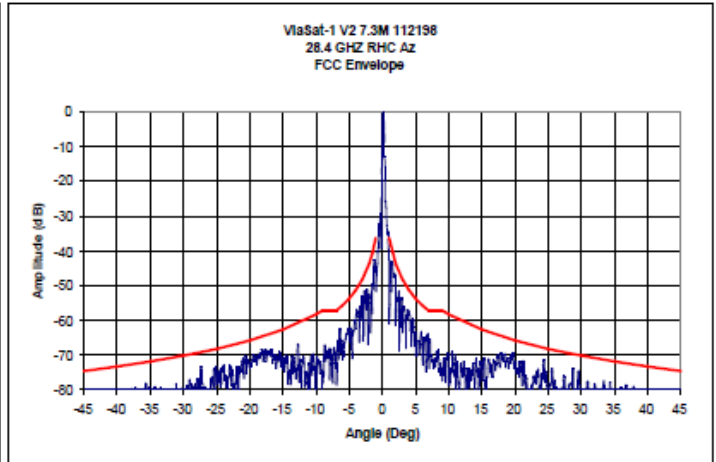
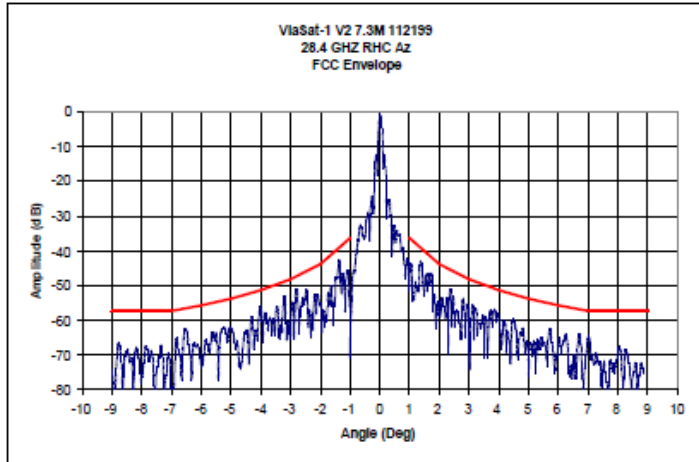
Max Transmit Antenna gain: +48.3 dBi
3 dB Transmit beamwidth: 0.49°
Elevation angle (min): +10°

45" Ka-band SATCOM Antenna Azimuth Gain Pattern



Terminal #2 for SES-GS Ground Terminal 7.3m Ka-band SATCOM Antenna ViaSat-1 112203

Max Antenna gain: +65.31 dBi
3 dB beamwidth: 0.02°
Elevation angle (min): +5° east and west



SES O3b Satellite



Uplink: 28.855-29.071 GHz
Downlink: 19.055-19.271 GHz
TX#2: 13M2G1D
DR: 20 Mbps Max
OQPSK ½ rate RS (219,201), RRC = 0.2

Uplink: 28.855-29.071 GHz
Downlink: 19.055-19.271 GHz
TX#1: 26M4G1D
DR: 20 Mbps Max
OQPSK ½ rate RS (219,201), RRC = 0.2



Terminal #2
1.1 m SATCOM Antenna
3 dB Beamwidth: Tx: 0.63°, Rx: 0.96°
Antenna Tx Gain: 47.89 dBi
VIASAT EBEM Modem, Model #: MD-1366
EIRP: 62.41 dBW

Terminal #1
45" SATCOM Antenna
3 dB Beamwidth: Tx: 0.49°, Rx: 0.92°
Antenna Tx Gain: 48.3 dBi
L3 Triton Modem, PN: 60075010-002
EIRP: 65.9 dBW

Figure 3 Telesat Leo Concept of Operations

Location of Testing:

Terminals #1 and #2 are located at the L-3 CSW campus in Salt Lake City, Utah identified by the coordinates shown in Figure 4.

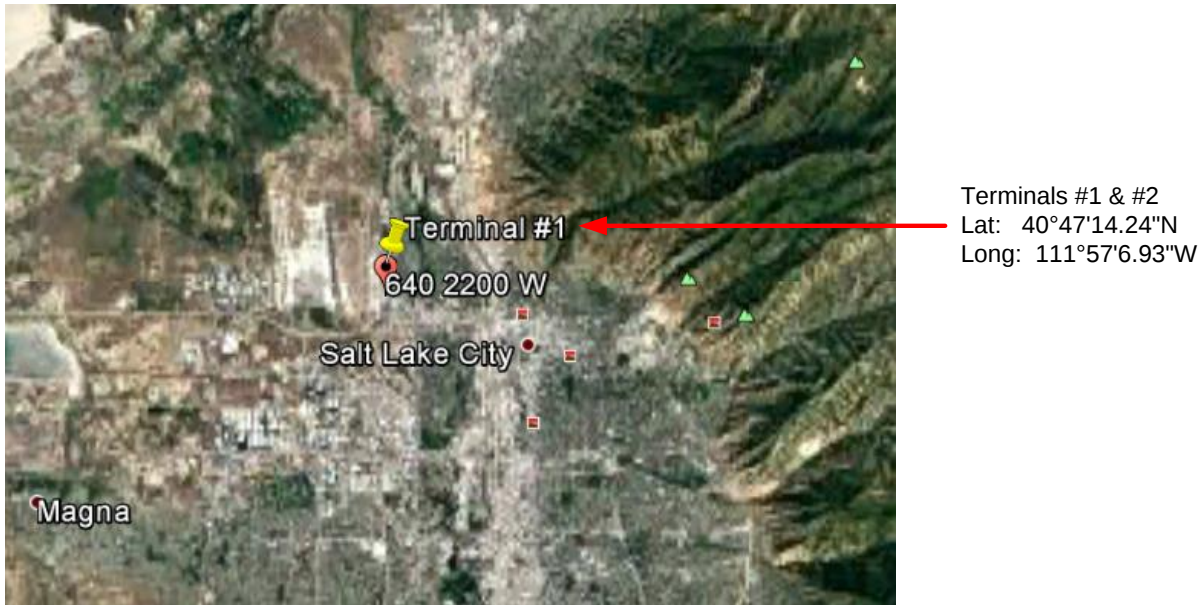
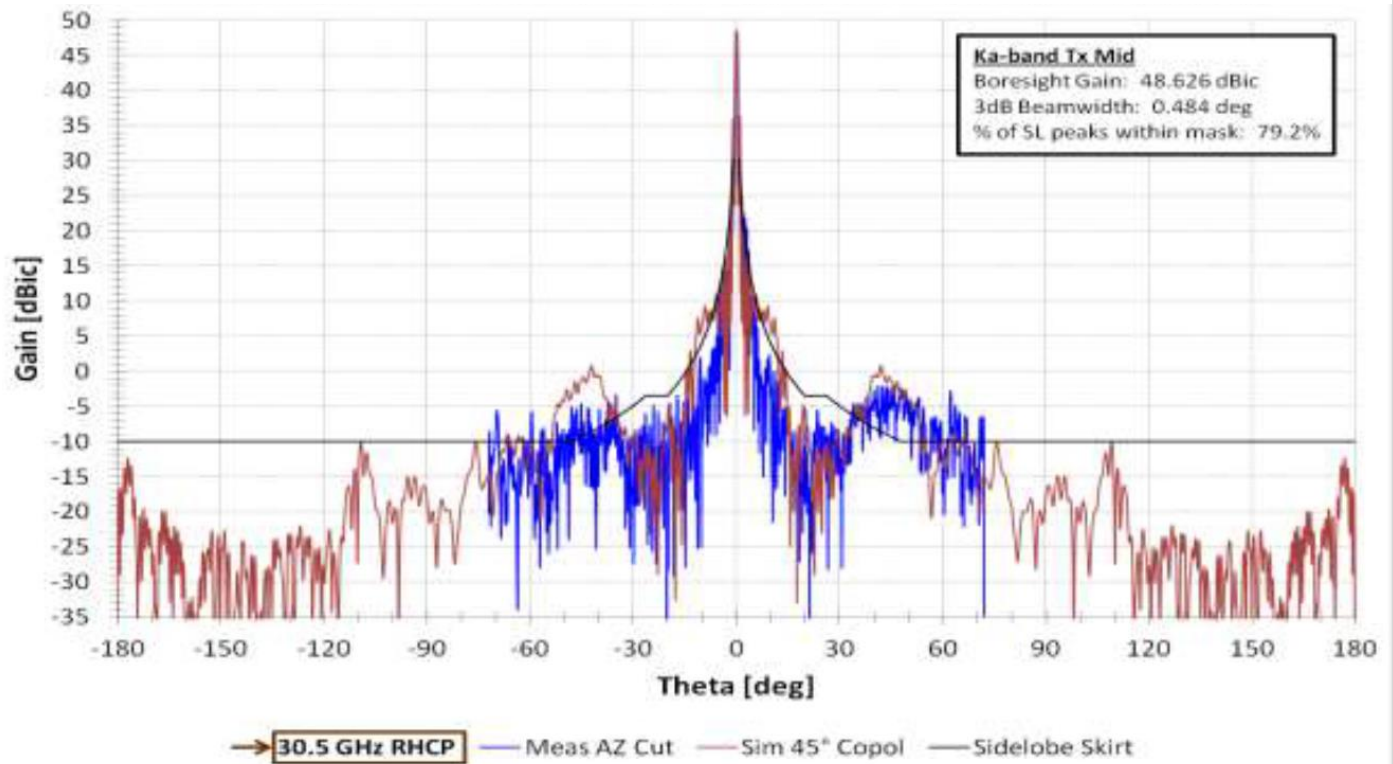


Figure 4 Location of Testing for Telesat LEO Communications

Terminal #1 45" Ka-band SATCOM Antenna L3 Technologies, Inc. 60075010-002

Max Transmit Antenna gain:	+48.3 dBi
3 dB Transmit beamwidth:	0.49°
Elevation angle (min):	+10°

45" Ka-band SATCOM Antenna Azimuth Gain Pattern



Terminal #2 for Telesat LEO Ground Terminal

1.1 m Ka-band SATCOM Antenna Cobham SeaTel 4412

Max Antenna gain: +47.89 dBi
3 dB beamwidth: 0.63°
Elevation angle (min): +10° east and west