

From: Benjamin Malphrus

To: Behnam Ghaffari
Date: February 02, 2021

Subject: FCC File No. 0612-EX-CN-2020

Message:

UPDATE to 442 LICENSE APPLICATION BASED ON CORRESPONDENCE

Applicant: Morehead State University
File Number: 0612-EX-CN-2020
Correspondence Reference Number: 59570
Date of Original Email: 01/22/2021

QUESTION:

If the second antenna is for the satellite part of the operation, please enter emission designator, and ERP. Furthermore, what is the name of satellite and will it orbit Earth at all?

ANSWER:

The second antenna is for the satellite part of the operation. The satellite is known as the Nova-C Lunar Lander (also referred to as IM-1 for Intuitive Machines 1). Nova-C will orbit the Earth once, on its outbound trajectory to the Moon. Additional details, along with the spacecraft emission designator and ERP are provided below:

The mission profile will have Nova-C execute one highly elliptic orbit of Earth to GTO, execute a trans-lunar burn and transit to low lunar orbit over 3 to 5 days. Nova-C will orbit the moon for 1-7 days for phasing before initiating an autonomous de-orbit, descent and landing to the surface.

PURPOSED SATELLITE Nova-C

The Emission Designator is: 390KG7D

HIGH GAIN ANTENNA

Spacecraft ERP: 56.2 dBm
THE SATELLITE TRANSMITTER ANTENNA GAIN: 15 dB
BEAMWIDTH: 30 deg
POLARIZATION: RHCP

LOW GAIN ANTENNA

Spacecraft ERP: 41.6 dBm
THE SATELLITE TRANSMITTER ANTENNA GAIN: 5 dB
BEAMWIDTH: 140 deg
POLARIZATION: RHCP