Exhibit 2
TECHNICAL APPENDIX

This Technical Appendix provides the Federal Communications Commission ("Commission") with additional information regarding the technical characteristics of Intuitive Machines' NOVA-C Lunar Lander ("NOVA-C") and payloads comprising Intuitive Machines' upcoming commercial IM-3 Mission to the Moon.

1. MISSION PHASES

Consistent with information provided in the Initial Application, the IM-3 Mission will consist of four phases. The below subsections re-iterate and augment orbital information for each mission phase.[1]

1.1. Launch Phase

NOVA-C will launch aboard a SpaceX Falcon 9. Shortly after launch, and after completing approximately one full orbit in low-Earth orbit ("LEO"), the launch vehicle's second stage will complete the Trans-Lunar Injection ("TLI") burn to insert NOVA-C into a direct trajectory to the Moon. NOVA-C will separate from the launch vehicle second stage in LEO at an orbital altitude of approximately 650 km, beyond orbits used by inhabitable spacecraft.[2]

NOVA-C will have the following initial orbital parameters:
Perigee: 200 km
Apogee: 380,000 km
Inclination: 28°

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[1] *See Space Modernization for the 21st Century,* Notice of Proposed Rulemaking, SB Docket No. 25-306, at § 100.111(d)(1) (proposed space station orbital information requirements for a Variable Trajectory Spacecraft System application) ("Part 100 NPRM").
[2] The range of potential orbital altitudes for separation from the launch vehicle is between 600 km to 1,000 km.

NOVA-C will not loiter in LEO following separation from the launch vehicle second stage. The launch phase is expected to be approximately 1 hour in duration and concludes when NOVA-C separates from the launch vehicle's second stage.

1.2. Transit Phase

Following separation from the launch vehicle second stage, NOVA-C will begin its outward-bound journey towards the Moon. At the beginning of the Transit Phase, Intuitive Machines' control facility in Houston will establish communications with NOVA-C and complete in-orbit checkout.[3] Intuitive Machines will also compute and command NOVA-C Trajectory Correction Burn(s). NOVA-C will transit from Earth orbit to the Moon over the course of approximately four to eight days.[4]

1.3. Lunar Orbit Phase

Once in lunar proximity, NOVA-C will conduct a Lunar Insertion Burn to enter a circular Low Lunar Orbit ("LLO"), with a lunar orbit perigee of 100 km and apogee of 100 km. NOVA-C will orbit the Moon for approximately one to three days in preparation for autonomous descent and landing.[5]

NOVA-C will conduct braking / descent burns to complete landing on the lunar surface. Landing on the lunar surface will take approximately 15-20 minutes. In the last several seconds of landing and at an orbital altitude of approximately thirty meters or less, NOVA-C will deploy one payload, the EagleCam CubeSat.

[3] NOVA-C will begin transmitting telemetry approximately 1 – 3 minutes after separation from the launch vehicle second stage.
[4] The duration of the Transit Phase depends on the launch day.
[5] The time spent in LLO is variable based on the launch date.

1.4. Lunar Surface Phase

IM-3 Mission lunar surface operations will be conducted over approximately fourteen days after landing, with NOVA-C supporting relay of research and lunar surface information from various hosted payloads to Earth. Additionally, soon after a successful soft landing in the Reiner Gamma region of the Moon, NOVA-C will deploy a second payload, the LVx Rover.

Following approximately fourteen days of lunar surface activities, NOVA-C will enter lunar night. During lunar night, which lasts for roughly fourteen calendar days, Intuitive Machines will be unable to contact the NOVA-C and the lander will not be conducting radiofrequency communications.

At the beginning of the second lunar day, or day twenty-eight of the Lunar Surface Phase, Intuitive Machines will attempt to contact NOVA-C. If NOVA-C survived lunar night and responds, Intuitive Machines will attempt to collect data for several hours prior to deactivating the lander.

2. PAYLOAD RADIOCOMMUNICATIONS

Three of the IM-3 mission payloads will conduct active radiocommunications: (1) LVx, (2) SSTEF-1, and (3) EagleCAM-2. Intuitive Machines is seeking authority for these radiocommunications, including for the LVx Rover and EagleCam CubeSat which will be deployed at the Moon.

2.1. LVx (LVx Rover)

The LVx payload includes a rover ("LVx Rover") that will deploy from NOVA-C after landing on the lunar surface. Intuitive Machines seeks authority for radiocommunications conducted by both NOVA-C and the LVx Rover following its deployment on the lunar surface. Intuitive Machines provides the below technical information for LVx Rover radiocommunications.

The LVx Rover will deploy from NOVA-C shortly following lunar landing, and is expected to conduct operations throughout the fourteen lunar surface days.[6] The LVx Rover hosts both a primary and secondary radio, as captured in Table 1.

Table 1.: Technical Specifications for the LVx Rover

Make & Model	Johns Hopkins APL
Unit Volume	1
Location	Lunar surface (within 2 km of the NOVA-C landing site)
Transmit Frequency Limits (MHz)	2472 MHz, 2411 MHz
Antenna Gain (dBi)	5.9
Input Power (Watts @flange)	1.0
Total EIRP (W)	3.9
Total EIRP (dBW)	5.9
Total ERP (W)	2.4
Total ERP (dBW)	3.75
Emission Designator(s)	4M00G1D

The LVx Rover will transit short distances from the lander while collecting information on lunar surface magnetic fields. The LVx Rover will stay within a 2 km radius of NOVA-C, and conduct only close-proximity space-to-space operations with NOVA-C.[7]

Intuitive Machines will maintain "kill switch" authority over the LVx Rover, and can transmit commands to the LVx Rover through NOVA-C. The LVx Rover will be passivated at the end of fourteen days of lunar surface operations and prior to the beginning of lunar night.

[6] Technical details regarding NOVA-C's transmission parameters for communications with the LVx Rover were previously provided for evaluation. *See* Intuitive Machines, LLC, ICFS File No. SAT-LOA-20250618-00149, Technical Appendix and Schedule S (filed June 18, 2025) ("Initial Application").

[7] Data collected by the LVx Rover will be transmitted to NOVA-C, and NOVA-C will then conduct data relay to Earth.

2.2. SSTEF-1

The Aegis Aerospace Space Science & Technology Evaluation Facility-First Flight ("SSTEF-1") hosted payload is a self-contained payload platform that supports multiple technology demonstration experiments (TDEs). The TDEs will demonstrate the performance, reliability, and durability of spacecraft materials, devices, and subsystems in the lunar environment. One SSTEF-1 experiment will conduct active radiocommunications, and with this Amendment, Intuitive Machines seeks authority for the Ku-band radiocommunication tests which will occur completely enclosed within the SSTEF-1 payload. No communication will be outside the enclosed payload.

The relevant experiment included in the SSTEF-1 payload consists of two 3D-printed antennas. The antenna evaluation will transmit and receive single-tone narrowband emissions in the 14.5-14.8 GHz band, with a nominal center frequency of 14.7 GHz. Transmissions will be low power, with a maximum EIRP of -14 dBW. All transmissions will be enclosed within the Nova-C lander body. Technical specifications for the antennas are given in Table 2., below. The SSTEF-1 radiocommunications will take place while the lander is on the lunar surface, and at a fixed location.

Table 2.: Technical Specifications for the Aegis Aerospace SSTEF-1 Experiment

Make & Model	Aegis Aerospace / Prototype
Unit Volume	2 transmitters
Location	Lunar surface (NOVA-C landing site)
Transmit Frequency Limits (MHz)	14500-14800
Antenna Gain (dBi)	14
Input Power (Watts @flange)	0.0016
Total EIRP (W)	0.04

Total EIRP (dBW)	-14
Total ERP (W)	0.024
Total ERP (dBW)	-16.15
Emission Designator(s)	4K00N0N

The antenna experiment is entirely enclosed within the SSTEF-1 payload hosted on NOVA-C. Performance data from the experiment is routed through NOVA-C via serial communications (*e.g.,* cable) prior to being downlinked to Earth through the NOVA-C communications systems. The SSTEF-1 payload will not conduct radiocommunications with anything outside of the payload.

The operations of the SSTEF-1 payload represent no interference threat to any third party. Transmissions from the SSTEF-1 radiocommunications experiment are extremely localized and contained within the payload itself, and will be undetectable even in close proximity to NOVA-C. Finally, Intuitive Machines retains the capability to terminate power from NOVA-C to the SSTEF-1 payload and thereby cease transmissions if needed to mitigate harmful interference.

2.3. EagleCAM-2 (EagleCam CubeSat)

The EagleCAM-2 payload is an imaging system intended to capture the first-ever third-person view of a spacecraft extraterrestrial landing. The EagleCAM-2 payload is comprised of three elements:

- Avionics Box – Integrated with NOVA-C; incorporates two Wi-Fi antennas and two cameras to take images during lunar landing (altitudes ≤ 30 m) and on the lunar surface.
- Deployer – Integrated with NOVA-C; commercially-available cubesat deployer.

- EagleCam CubeSat – Deployed from NOVA-C just prior to lunar landing, at approximately 30 meters above the lunar surface; incorporates two WiFi antennas and cameras.

The EagleCam CubeSat will turn on about 30 minutes before landing and take images of the lunar surface until passively landing on the lunar surface. Imagery and data collected by the EagleCam CubeSat will be communicated via Wi-Fi to the Avionics Box aboard NOVA-C. Data will remain in the Avionics Box until transferred to the lander via serial communications (*e.g.,* cable). Ultimately, files from the Avionics Box will be relayed through NOVA-C's S-band communications system back to Earth.

With this Amendment, Intuitive Machines seeks authority space-to-space communications between NOVA-C and the EagleCam CubeSat, including for the EagleCam CubeSat itself. First, the EagleCAM-2 Avionics Box aboard NOVA-C integrates a pair of off-the-shelf 802.11ac transmitters that will facilitate communications with the deployed EagleCam CubeSat. The EagleCam CubeSat integrates an identical pair of 802.11ac transmitters. Technical information for the Wi-Fi transmitters aboard both NOVA-C (*i.e.,* integrated in the Avionics Box) and the EagleCam CubeSat is provided in Table 3., below.

Table 3.: Technical Information for the EagleCAM-2 Transmitters

Make & Model	SparkLan WPEQ-450AC
Unit Volume	2
Location	Low lunar orbit (≤ 30 meters) & lunar surface
Bandpass (MHz)	5170-5250 MHz
Antenna Gain (dBi)	7.4
Polarization	RHCP
Input Power (Watts @ flange)	0.18
Total EIRP (W)	1
Total EIRP (dBW)	0
Total ERP (W)	0.6
Total ERP (dBW)	-2.15
Emission Designator(s)	80M0G1D

Operations of the 802.11ac transmitters represent no interference threat to any third party. Both pairs of transmitters are conventional, off-the-shelf Wi-Fi devices operating in the 5170-5250 Mhz band. Maximum output and EIRP from the 802.11ac transmitters is consistent with the FCC's Part 15 rules, and will not impact any operations undertaken by existing or planned operations in the band.

Intuitive Machines will maintain "kill switch" authority over the EagleCam CubeSat, and can transmit commands to the EagleCam CubeSat through NOVA-C. The EagleCam CubeSat will "self-passivate." The batteries deplete after about 60 minutes of operation.

3. ORBITAL DEBRIS MITIGATION

The proposed changes to the IM-3's manifest do not affect any aspect or parameter of the spacecraft's original orbital debris assessment.[8] Critically, the expected probability of explosion for all credible failure modes of the NOVA-C does not exceed 0.001, the probability of large object impact and debris generation remains 0.000000025, and the mission will not release any operational debris until reaching the lunar surface.[9] Disposal and passivation plans for the mission also remain unaffected.

4. SCHEDULE S CORRECTION & CLARIFICATIONS

<u>S4. Earth-to-space (Receive) Beams: RROV</u>

The RROV beam supports space-to-space communications, and is accurately captured in the space-to-space (Receive) group. Attempts to delete the beam from the Earth-to-space group

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[8] *See* Initial Application, Technical Appendix, pgs. 18-19.
[9] *See* Id.

and validate the Schedule S proved unsuccessful. The Earth-to-space entry for this beam should be ignored or deleted.

S5. Space-to-Earth (Transmit) Beams: TROV

The TROV beam supports space-to-space communications, and is accurately reflected in the space-to-space (Transmit) group. Attempts to delete the beam from the space-to-Earth group and validate the Schedule S proved unsuccessful. The space-to-Earth entry for this beam should be ignored or deleted.

S7. Space-to-space (Transmit) Beams: TSST

The maximum transmit EIRP for the TSST beam has been revised from -14 to -10 dBW to avoid an error that prevented validation of the Schedule S. The correct value is -14 dBW, and the Commission should ignore the -10 dBW value.

ENGINEERING CERTIFICATION

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this application, and that it is complete and accurate to the best of my knowledge and belief.

/s/ Jason Soloff

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