

CPI Satcom & Antenna Technologies Inc.
Application for Conventional Experimental License
Narrative Statement

Pursuant to Sections 5.51 and 5.54(a)(1) of the rules¹ of the Federal Communications Commission (“Commission”), CPI Satcom & Antenna Technologies Inc. (“CPI”) hereby respectfully requests authority for an experimental license to test and provide customer demonstrations using up to three (3) transportable 2.4m Ku-band multi-orbit constellation-agnostic antennas (“2.4m MOCAT”). CPI’s planned operations will be conducted using purchased commercial satellite service and include (1) stationary over-the-air testing and customer demonstrations in all 50 U.S. states;² and (2) stationary over-the-air testing at CPI’s existing testing range in Catawba, North Carolina (the “Catawba Test Range”).³ CPI seeks authorization for an initial two-year license term, the standard for conventional experimental radio licenses.⁴

1. Planned Operations and Public Interest Benefits

CPI tests, develops, and manufactures communications equipment for a variety of use cases, including both military and civilian applications. The license requested herein would support the testing, development, and demonstration of CPI’s 2.4m MOCAT antenna. Specifically, CPI requests authority to operate with the frequencies and transmission parameters identified in the table below:

Band	Frequency	Input Power	Max EIRP (dBW)	Emissions Designator	Modulating Signal	Frequency Tolerance
Ku-band	12.75 GHz	3.37 W	53.37	1M50G7D	QPSK 2/3	± 0.5 ppm
Ku-band	13.75 – 14.5 GHz	3.37 W	54.22	1M50G7D	QPSK 2/3	± 0.5 ppm

Typical antenna measurement tests and customer demonstrations are performed utilizing the following steps, which may be repeated or interrupted:

1. The 2.4m MOCAT is brought outside and powered up.

¹ 47 C.F.R. §§ 5.51, 5.54(a)(1).

² CPI notes that this antenna is marked as “MOBILE” in the Form 442 accompanying this application. CPI clarifies here that the 2.4m MOCAT is a transportable antenna but is not capable of operation while in motion. All transmissions for the MOBILE portion of the license will be conducted while the antenna is stationary, in potentially all 50 U.S. states.

³ See *CPI Satcom & Antenna Technologies Experimental License (WP2XMV)*, Grant, ELS File No. 1186-EX-CN-2024 (granted July 18, 2025); *CPI Satcom & Antenna Technologies Experimental License (WC2XPH)*, Grant, ELS File No. 0239-EX-CR-2025 (granted May 1, 2026).

⁴ 47 C.F.R. § 5.71(a)(1).

2. The 2.4m MOCAT's azimuth and elevation settings are manually adjusted to obtain a maximum modem SNR level.
3. Once the 2.4m MOCAT has a maximum SNR, then TX Mute is disabled and the UUT begins transmitting and RF links with the target satellite.
4. The 2.4m MOCAT is now connected with the target satellite. Data can be transferred to and from the 2.4m MOCAT.
5. The technician now monitors link statistics to confirm that there are no issues with the 2.4m MOCAT.
6. The link is terminated and a final test report is started.

CPI provides a wide array of space station and earth station communications products and services, VSAT antennas and antenna systems, and wireless backhaul products to a variety of clients, including Federal users, government contractors, and the commercial sector. Grant of this application will serve the public interest by allowing CPI to test and demonstrate the transportable 2.4m MOCAT antenna for its U.S.G. and commercial sector customers, thereby increasing the availability of communications equipment essential to supporting the growing U.S. space industry.

2. Transmission Equipment

The 2.4m MOCAT antenna is a transportable antenna developed by CPI. The antenna will use a 4-watt transmitter that, when combined with waveguide and switch losses, results in a 3.37 watt input power to the antenna. Peak EIRP for the antenna is 54.22 dBW. The antenna is 3m tall when placed on its transportable mount. Additional information regarding transmissions equipment and operating characteristics is available in the Form 442 application.

3. Location of the Experiment

Stationary testing and demonstrations will be conducted at the Catawba Test Range Site, located at 35.5737222 N, -81.165444W, Maiden, NC 28650 (4488 Lawing Chapel Church Rd). This is a rural location with a limited number of man-made structures in the area. CPI already conducts a wide array of testing operations at the site pursuant to two separate licenses.⁵ CPI plans to conduct frequency testing at the Catawba Test Range Site.

With respect to the mobile aspect of the authorization sought herein, CPI anticipates a program of stationary testing and customer demonstrations occurring in potentially all 50 U.S. states, with up to two 2.4m MOCAT antennas at different locations. The specific orientation of those antennas will vary based on the location where the test and/or demonstration is taking place. Figure 1 below demonstrates a representative test setup based on CPI's planned testing with the Galaxy 19 satellite at the Catawba Test Range.

⁵ See n.3 *supra*.



Figure 1: Catawba Test Range Test Setup

4. Operational Safeguards and Coordination

CPI recognizes that experimental operations must not cause harmful interference to authorized facilities. Prior to commencing operations, CPI will coordinate with any incumbent licensees as needed to ensure that CPI’s operations do not interfere with authorized operations.

13.75 – 14.5 GHz: CPI’s planned operations in the 13.75-14.5 GHz band, which is allocated to the Fixed Satellite-Service (“FSS”) (Earth-to-space) on a primary basis.⁶ Furthermore, CPI will only communicate in the 13.75-14.5 GHz band with satellites that currently hold a Commission license or grant of U.S. market access and are identified on the Commission’s “Permitted List.”⁷ CPI understands it will need to be coordinate its operations with other FSS operators prior to commencing transmissions. CPI will also ensure that all operations comply both with the technical parameters and any conditions imposed on the

⁶ See 47 C.F.R. § 2.106.

⁷ See Approved Space Station List, FCC, <https://www.fcc.gov/approved-space-station-list> (last accessed July 2, 2026).

authorization requested herein, and any technical parameters and conditions applicable to the Part 25 satellite with which CPI is communicating.⁸

12.75 GHz: CPI recognizes that the 12.75 GHz frequency is allocated on a co-primary basis for Non-Federal Fixed Service and Mobile Service as well as FSS. CPI understands its obligation to coordinate its operations in these bands and will accept any conditions imposed on the authorization requested herein.

CPI will conduct all operations under the experimental license on a non-interference basis consistent with Section 5.84 of the FCC's rules.⁹ In the unlikely event that interference should occur, CPI will take immediate steps to resolve the interference. Such steps include, but are not limited to, ceasing transmission of all interfering frequency operations and coordinating with all relevant parties to mitigate the risk of future interference. CPI is prepared to coordinate with any Federal and non-Federal users as necessary to avoid interference.

5. Radiation Hazard Compliance

The Commission's rules for radiofrequency (RF) exposure specify RF radiation exposure limits.¹⁰ CPI will comply with these RF exposure guidelines for the transmitter equipment as specified by Section 1.1310 of the Commission's rules. Access to the testing equipment during demonstrations will be restricted to authorized personnel only. For fixed testing operations at the Catawba Test Range, access to the test range is a controlled environment, preventing emissions from occurring in the proximity of the general population.

For testing and demonstration of the transportable antenna, only trained personnel will operate the antenna, and CPI will ensure that safe operating distances are observed at any particular customer demonstration. CPI has included a radiation hazard assessment with this application.

6. Stop Buzzer Contact

Pursuant to Section 5.308 of the Commissions' rules,¹¹ a point of contact at CPI will be reachable with the contact information below at any time during the experiment to immediately address interference concerns:

Primary – Dwight Lutz

⁸ CPI clarifies here that it will not provide any commercial service as part of its arrangement with Part 25 authorization holders. The authorization requested herein is strictly for purposes of testing and validating the performance of the 2.4m MOCAT antenna and conducting potential customer demonstrations.

⁹ 47 C.F.R. § 5.84.

¹⁰ 47 C.F.R. § 1.1310.

¹¹ 47 C.F.R. § 5.308.

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