

**RF Exposure Report
(mobile devices)
47 CFR 2.1091**

Report No.: WIRS137412 – FCC RF Exposure

Test Model: Steller 00

Received Date: 03/04/2026

Test Date(s): 03/16/2026 – 03/21/2026, 03/27/2026

Issued Date: 04/27/2026

Applicant: LODI Group Holdings PTY LTD

Address: Unit 3 56 Lavarack Avenue, Eagle Farm, Queensland 4009, Australia

Issued By: Eurofins Electrical and Electronic Testing NA, Inc.

Lab Address: 3162 Belick St. Santa Clara CA, 95054



Certificates and reports shall not be reproduced except in full, without the written permission of Eurofins Electrical and Electronic Testing NA, Inc. While use of the A2LA logo in this report reflects Eurofins Electrical and Electronic Testing NA, Inc. accreditation under these programs, the report must not be used by the client to claim product certification, approval, or endorsement by A2LA, or any agency of the Federal Government. This letter of transmittal is not a part of the attached report.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

1. Certificate of Conformity

Product: LODI

Brand: LODI

Test Model: Steller 00

Sample Status: Production

Applicant: LODI Group Holdings PTY LTD

Test Date(s): 03/16/2026 – 03/21/2026, 03/27/2026

Standard: 47 CFR FCC Part 2.1091 and FCC Part 1.1310



Chin Ming Lui
Senior Wireless Test Engineer

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 22 Subpart H and Part 24 Subpart E and Part 27 Subpart L of the FCC Rules under normal use and maintenance.

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	April 23, 2026	Initial Issue.

1. EUT General info

General Description

The Steller 00 is a low-power wireless communication module designed for permanent installation within a LODI pallet-based asset tracking system. The device provides long-range cellular connectivity using LTE-M for asset tracking and telemetry functions, along with Bluetooth Low Energy (BLE) for short-range communication related to provisioning, diagnostics, and maintenance.

The module is not intended for standalone use and is permanently installed inside the host pallet during controlled manufacturing. End users have no access to the RF module, antenna system, battery, or configuration interfaces.

The device is fully self-powered by an internal battery and does not require any external power connection for operation.

Functional Overview

The Steller 00 consists of the following primary functional blocks:

- Microcontroller and baseband processing
- LTE-M cellular transceiver
- Bluetooth Low Energy (BLE) transceiver
- Integrated antenna system
- Internal battery and power management circuitry

The module operates under firmware control, which manages RF transmission, protocol handling, and power states. Firmware is provisioned during manufacturing and cannot be modified by the end user.

Note: The information in this section was supplied by LODI Group Holdings PTY LTD.

2. RF Exposure Limits

In this document, we evaluate the RF Exposure to human body due the intentional transmission from the transmitter (EUT). The limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 were followed.

2.1 FCC ID

Complete FCC ID: 2BU6D00STELLER

Cellular Module (Nordic Semiconductor nRF9151):

- **Contains FCC ID:** 2ANPO00NRF9151

2.2 FCC Limits

According to FCC 1.1310 Table 1: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to Radio-Frequency (RF) radiation as specified in 1.1307(b)

Table 1 to § 1.1310(e)(1) – LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) Limits For Occupational / Controlled Exposure				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300 - 1500	...	...	F/300	6
1500 - 100,000	...	...	5	6
(B) Limits For General Population / Uncontrolled Exposure				
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f ²	30
30 – 300	27.5	0.073	0.2	30
300 - 1500	...	...	F/1500	30
1500 - 100,000	...	...	1.0	30

F = Frequency in MHz

* = plane wave equivalent density

Table 8: RF Field Strength and Power Density Limits for Controlled-Use Devices (Controlled Environment)

Frequency Range	Electric Field	Magnetic Field	Power Density	Reference Period
(MHz)	(V _{RMS} /m)	(A _{RMS} /m)	(W/m ²)	(minutes)
10-20	61.4	0.163	10	6
20-48	129.8/ $f^{0.25}$	0.3444/ $f^{0.25}$	44.72/ $f^{0.5}$	6
48-100	49.33	0.1309	6.455	6
100-6000	15.60 $f^{0.25}$	0.04138 $f^{0.25}$	0.6455 $f^{0.5}$	6
6000-15000	137	0.364	50	6
15000-150000	137	0.364	50	616000/ $f^{1.2}$
150000-300000	0.354 $f^{0.5}$	9.40 x 10 ⁻⁴ $f^{0.5}$	3.33 x 10 ⁻⁴ f	616000/ $f^{1.2}$

Note: f is frequency in MHz.

3 Test Results (Mobile Configuration)

3.1 Classification

Radio is installed inside a mobile host device. The antenna of the product, under normal use condition, is at least 20 cm away from the body of the user and accessible to the end user. Warning statement to the user for keeping at least 20 cm or more separation distance with the antenna should be included in user's manual.

3.2 Maximum RF Power

BLE Radio:

Modulation	Frequency Range (MHz)	Max. RF output power ¹ (dBm)	Max. RF output Power with Tune Up ² (dBm)	Max. Antenna Gain ³ (dBi)	Max. EIRP ⁴ (dBm)	Max. EIRP (mWatts)
GFSK	2400 – 2483.5	7	8	2.4	10.4	10.96

¹Note: Target TX Power leveraged from “FCC Tune-Up Procedures” provided by LODI Group Holdings PTY LTD under section 3 of “BLE Tune-Up Procedure”.

²Note: Tune-up tolerance of +1 dB according to “FCC Tune-Up Procedures” provided by LODI Group Holdings PTY LTD under section 3 of “BLE Tune-Up Procedure”.

³Note: Max internal antenna gain obtained from “Antenna Information / Data Sheet” by LODI Group Holdings PTY LTD.

Bluetooth Low Energy Antenna Information:

- Manufacturer: Ignion
- Model: NN02-101-NANO-mXTEND-Center
- Type: Internal SMT Chip Antenna
- Frequency Band: 2.4 GHz ISM (BLE)
- Max Ant Gain: 2.4 dBi
- Impedance = 50 Ω
- Polarization: Linear
- Radiation Pattern: Omnidirectional

⁴Note: Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

Cellular Radio:

LTE CAT-M1

Band / Class	Frequency Range (MHz)	Max. RF output power (dBm) ¹	Max. RF output Power with Tune Up ² (dBm)	Max. Antenna Gain ³ (dBi)	Max EIRP ⁴ (dBm)	Max EIRP (mWatts)
LTE CAT-M1 Band 2 / Class 3	1850 – 1910	23	25	2.4	27.4	549.54
LTE CAT-M1 Band 4 / Class 3	1710 – 1755	23	25	2.4	27.4	549.54
LTE CAT-M1 Band 5 / Class 3	824 – 849	23	25	2.4	27.4	549.54
LTE CAT-M1 Band 12 / Class 3	699 – 716	23	25	2.4	27.4	549.54
LTE CAT-M1 Band 13 / Class 3	777 – 787	23	25	2.4	27.4	549.54
LTE CAT-M1 Band 66 / Class 3	1710 – 1780	23	25	2.4	27.4	549.54

¹**Note:** Max. TX Power leveraged from “FCC Tune-Up Procedures” provided by LODI Group Holdings PTY LTD under section 3 of “LTE Tune-Up Procedure”.

²**Note:** Tune-up tolerance of +2 dB according to “FCC Tune-Up Procedures” provided by LODI Group Holdings PTY LTD under section 3 of “LTE Tune-Up Procedure”.

³**Note:** Max internal antenna gain obtained from “Antenna Information / Data Sheet” by LODI Group Holdings PTY LTD.

LTE CAT-M1 Antenna Information:

- Manufacturer: Ignion
- Model: NN03-310-TRIO-mXTEND
- Type: Internal Internal multiband SMT Chip Antenna
- Frequency Bands: 698-960 MHz, 1710-2690 MHz
- Max Ant Gain: up to 2.4 dBi
- Impedance = 50 Ω
- Polarization: Linear
- Radiation Pattern: Omnidirectional

⁴**Note:** Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

3.3 RF Exposure Calculation

FCC limits

Calculations for this report are based on highest power declared for each band by module manufacturer

BLE Radio:

Modulation	Frequency Range (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
GFSK	2400 – 2483.5	10.4	10.96	0.00218	1.0	Complies

¹Note: Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

Cellular Radio:

LTE CAT-M1

Band / Class	Frequency Range (MHz)	Max. EIRP ¹ (dBm)	Max. EIRP (mW)	Power Density (mW/cm ²) @20 cm	FCC Limit (mW/cm ²)	Results
LTE CAT-M1 Band 2 / Class 3	1850 – 1910	27.4	549.54	0.1093	1.0	Complies
LTE CAT-M1 Band 4 / Class 3	1710 – 1755	27.4	549.54	0.1093	1.0	Complies
LTE CAT-M1 Band 5 / Class 3	824 – 849	27.4	549.54	0.1093	0.5493	Complies
LTE CAT-M1 Band 12 / Class 3	699 – 716	27.4	549.54	0.1093	0.466	Complies
LTE CAT-M1 Band 13 / Class 3	777 – 787	27.4	549.54	0.1093	0.518	Complies
LTE CAT-M1 Band 66 / Class 3	1710 – 1780	27.4	549.54	0.1093	1.0	Complies

¹Note: Max. EIRP (dBm) = Max RF Output Power with Tune Up (dBm) + Max Antenna Gain (dBi)

Power Density Calculation

$$P_d = (P_{out} * G) / (4 * \pi * R^2)$$

Where:

P_d = Power density in W/m²

P_{out} = Output power from the antenna in watts (W)

G = Gain of the antenna in linear scale

R = Distance between observation point and center of the radiator in meters (m)

4 Conclusion

This device is compliant with RF Exposure requirements of the limits for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 General Public (Uncontrolled Environment).

The BLE radio complies to the FCC limits at 20cm away from the body of the user.

The BLE and Cellular radios cannot transmit simultaneously.