

**FCC ID: QVJSM110T**  
FleetLink M1 OBC, Model S-M1-10-T

## Exhibit 2a

**Engineering Report on**  
**Power Lines Conducted Emissions (15.207))**

## **Section A**

### **Test: Power Lines (Transmitter AC Wireline) Conducted Emissions**

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***FCC ID: QVJSM110T***

***Client: FleetMind Solutions***

***Product: FleetLink M1 BOC, Model: S-AP-300***

## **Test: Power Lines (Transmitter AC Wireline) Conducted Emissions**

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***Client: FleetMind Solutions***

***Product: FleetLink M1 OBC, Model S-M1-10-T***

***Reference:*** FCC Part 15.207/Industry Canada RSS 210, 6.6 (a)

***Criteria:*** For an intentional radiator, which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 micro-volts (48 dBµV). Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

***Condition:*** Conducted Test

***Set-up:*** Test setup from Figure a1 was used.

***Equipment:*** See Appendix A

***Methodology:*** See page 13

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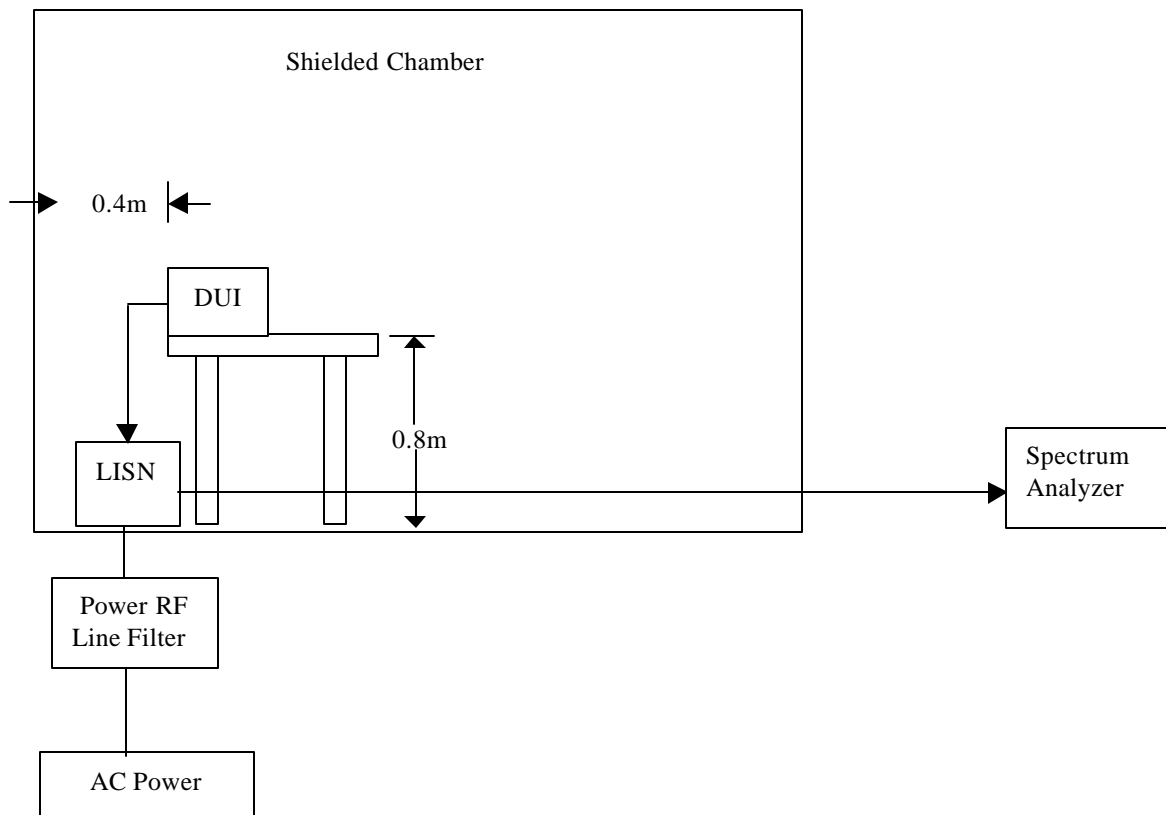


Figure a1: Conducted Emissions on Power Lines - Testing Setup

**Test : Power Lines (Transmitter AC Wireline) Conducted Emissions**

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**Methodology:**

Measurement of conducted emissions was carried out according to the description of ANSI C63.4-1992 paragraph 7.2, TableTop Equipment, Sec. 6.2.1.

Conducted power-line measurements were made over the frequency range from 150 kHz to 30 MHz, to determine the line-to-ground radio noise voltage that is conducted from the unit power line-input terminals that are directly (or indirectly via separate transformers power supplies) connected to a public power network.

The power-input leads of the wall mount power supply were connected to the Line Impedance Stabilization Network (LISN) using the 50 ohms/50 micro henry CISPR network. The LISN and the Unit were connected and positioned as shown in Figure 1.

Measurements were performed using the spectrum analyzer with quasi-peak and average detection functions and 9kHz resolution bandwidth. Specific peaks were measured from the continuous plots.

The rear of the unit and peripherals were aligned and flush with the rear of the tabletop. The rear of the tabletop was 40 cm removed from the vertical conducting (shielded room) wall.

In order to find out the maximum emission, the preliminary test and a final test were performed.

The preliminary investigation was performed through the whole specified frequency range of 150kHz – 30MHz in a single scan, to investigate the frequency of the emission that has the highest amplitude relative to the limits within normal operating modes, cable positions, and a typical system configuration.

The specified frequency range was then divided into several sub-divisions (150kHz – 5MHz, 5MHz – 8MHz, 8MHz - 12MHz, 12MHz-15MHz, 15MHz-20 MHz, 20MHz- 25MHz, and 25MHz – 30MHz) having narrow span in which frequencies and the levels of the interfering signals could be observed more accurately. Changing the typical cable positions or cable manipulation under the typical system configuration maximized the maximum emission in the each sub-divided frequency band. The level and the frequencies at the points, which were regarded as relatively high emission in the sub-band, was measured and recorded. This step was repeated for all sub bands.

Based on the collected results, and the operation mode produced the maximum emission was selected and recorded in the report.

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**Test Results:**

*This test is not applicable as the Fleetmind M1 OBC is powered by battery and the battery charger is not connected to the public utility (AC) power line.*