



May 20, 2015

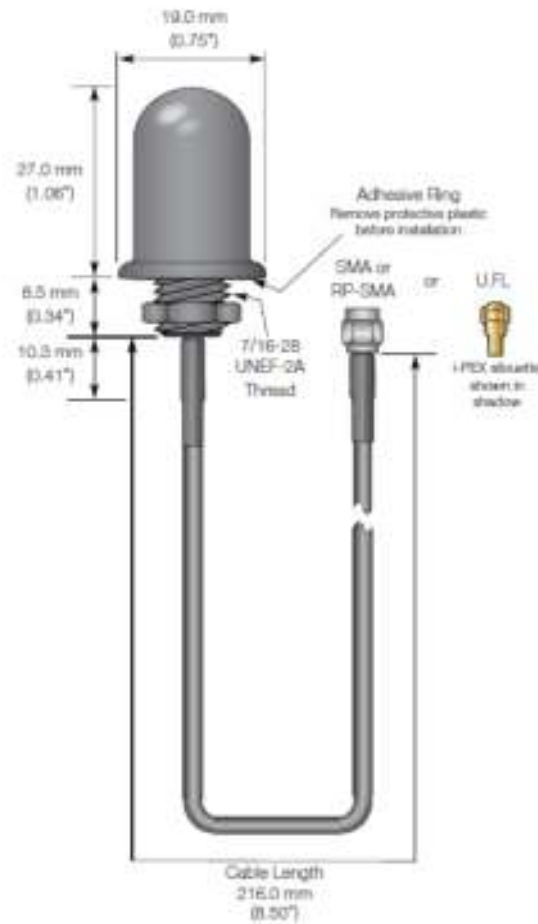
Federal Communications Commission  
Authorization and Evaluation Division  
7435 Oakland Mills Road  
Columbia, Maryland 21046

Subject: Gateway Antenna Documentation

The GE Draintrain Health Monitoring System (DHMS) Gateway uses a Linx Technologies monopole dome antenna for its 802.15.4 radio. The specifications of this antenna are:

- 1 Range of Receiving Frequency: 2400 MHz to 2500 MHz
- 2 Center Frequency: 2450 MHz
- 3 VSWR:  $\leq 1.9$  typical @ Center Frequency
- 4 Peak Gain: +0.8 dBi typ.
- 5 Impedance: 50 Ohms
- 6 Dimensions: Approximately 35.5 mm x 19.0 mm x 19.0 mm with a 216 mm connecting cable
- 7 Operating Temperature: -30°C to +80°C
- 8 Manufacturer Part Number: ANT-2.4-WRT-MON-RPS

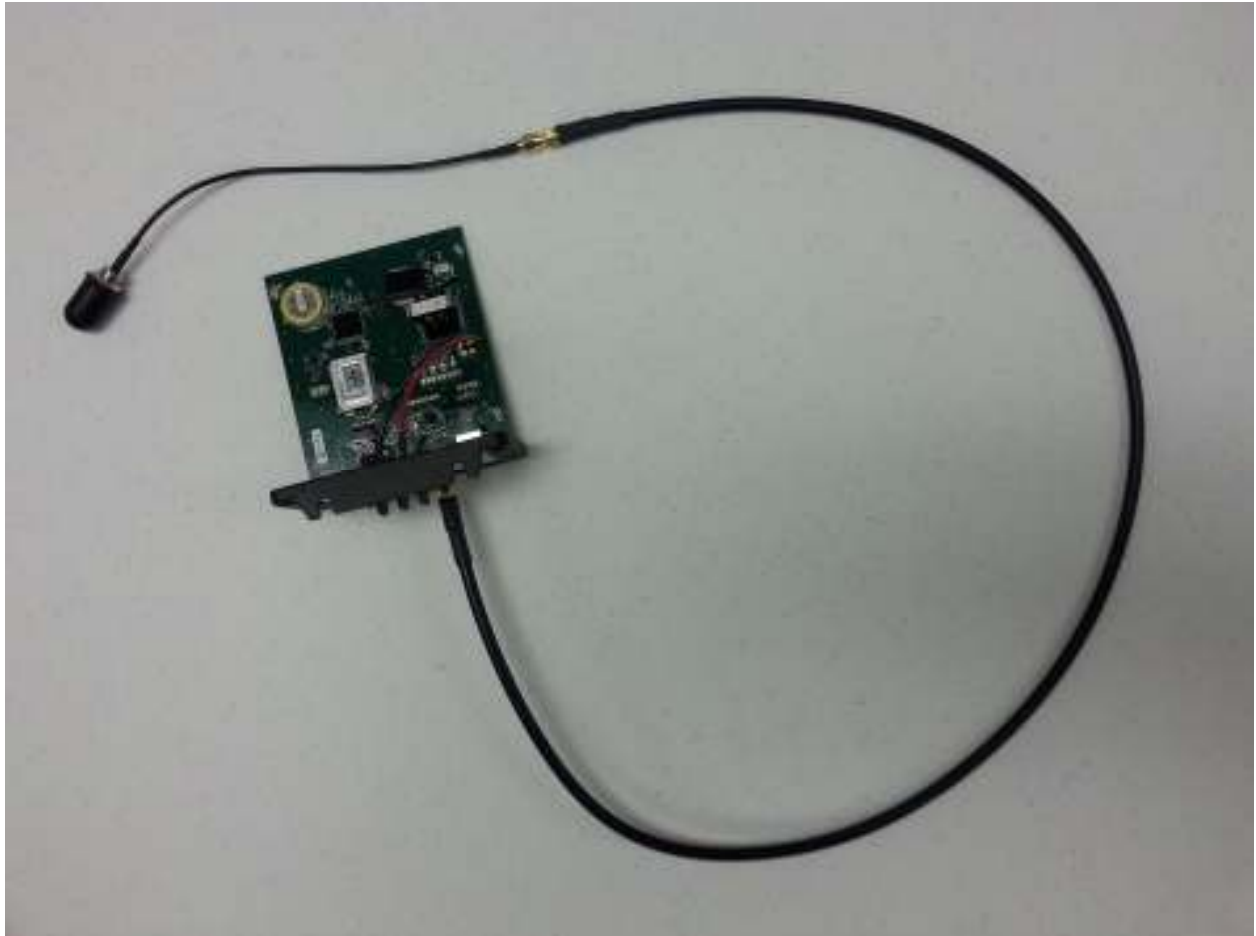
As this antenna will be professionally installed in locomotives it is in compliance with FCC rule 15.203.



**Figure 1: Mechanical drawing of SWLP.2450.12.4.B.02 from datasheet.**



**Figure 2: Stock images of ANT-2.4-WRT-MON-RPS.**



**Image 3: Antenna Mounted to Unit PCB**

**Part Numbers:** 84A237140P1, 84A237140P2, 84A237140P3

**Functional Description:** The sensor takes capacitance, temperature, accelerometer, etc. data readings periodically and communicates them to the gateway if it is in range. An operator can also get in close proximity to the sensor and trigger readings from it with a handheld RFID unit. The units are designed to go on locomotives. RFID in the sensor is passive.

Sincerely,



Brian T. Hemmelman  
Principal Engineer, DarCEO Inc.