



May 20, 2015

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

Subject: Oil Sensor Antenna Documentation

The GE Draintrain Health Monitoring System (DHMS) Oil Sensor uses a Taoglas SMD Patch Antenna for its 802.15.4 radio. The specifications of this antenna are:

- 1 Range of Receiving Frequency: 2400 MHz to 2500 MHz
- 2 Bandwidth: 100 MHz @ -7dB
- 3 Polarization: Linear
- 4 VSWR: 3.0 max @ Center Frequency
- 5 Peak Gain: +2 dBi typ.
- 6 Impedance: 50 Ohms
- 7 Dimensions: 12mm x 12mm x 4mm
- 8 Operating Temperature: -40°C to +85°C
- 9 Storage Temperature: -40°C to +85°C
- 10 Termination: Ag (Environmentally Friendly Pb Free)
- 11 Manufacturer Part Number: SWLP.2450.12.4.B.02

As this a permanently attached surface mount antenna it is in compliance with FCC rule 15.203.

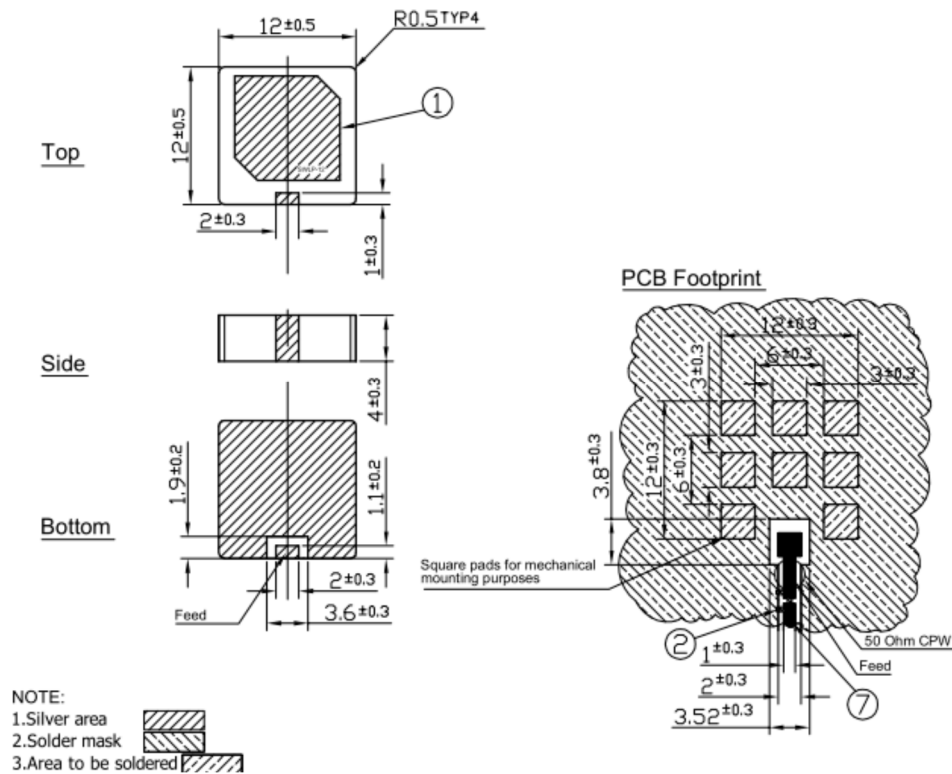


Figure 1: Mechanical drawing of SWLP.2450.12.4.B.02 from datasheet.



Figure 2: Stock images of SWLP.2450.12.4.B.02 from datasheet.



Figure 3: Image of antenna mounted on Oil Sensor PCB

Part Number: 84A234628P1

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
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