

Declaration of Compliance to FCC CFR Part 2, Section 2.1091
Radiofrequency radiation exposure evaluation: mobile devices

The Phoenix International Cotton Mass Flow Sensor, Model 90-136746, is a "Mobile Device" (sec. 2.1091(b)). It measures the flow rate of cotton using K-band doppler radar technology and is normally mounted in a non conductive duct on a cotton harvester. It operates at a frequency of 24.125 GHz with an ERP of 0.391 watts and remains separated from humans by at least 20 cm.

The device is exempt from RF evaluation because of an operating frequency greater than 1.5GHz and an ERP less than 3 watts (sec. 2.1091 (c)).

ERP is calculated from the field strength measurement of 123.3 dBuV/m @ 3 meters.

$$\text{ERP(dBm)} = F(\text{dBuV/m}) - 106.92 + 20\log D(\text{meters})$$
$$\text{ERP} = 123.3 - 106.92 + 20\log 3 = 25.92 \text{ dBm}$$
$$25.92 \text{ dBm} = 0.391 \text{ W}$$

Whereas;

F = Field strength (dBuV/m)

D = Measurement distance (meters)



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