Re:	FCC ID L2C0023TR
Applicant:	Delphi Delco Electronics Systems
Correspondence Reference Number:	28506
731 Confirmation Number:	EA384397

1) Please indicate/specify the modifications recently made on the device.

Initially, the device was designed for an operating center frequency of 24.125 GHz. In order to limit radiation in the 23.6 to 24.0 GHz band at elevation angles, the decision was made to change the center frequency of operation to 24.71 GHz. The first submission consisted of the original hardware operating at the new center frequency. The device recently submitted contains circuits that have been slightly adjusted to optimize performance at the new operating frequency. Because the operating bandwidth of the radar is on the order of 3 GHz, a shift of 0.6 GHz required minimal changes, mainly consisting of metallization pattern changes. A buffer amplifier has been added to the output of the dielectric resonator oscillator (DRO) in order to solve a thermal issue with the oscillator FET. The coupler that provides DRO energy to the transmit path has been replaced by a coupler plus a resistive attenuator to improve the frequency response of that path. The attenuator at the output of the transmit path has been adjusted in order to reset the transmit EIRP to the appropriate level. A flat sheet of absorber, which rests between the microwave board and the elastomer, has been added to improve radar detection margins. A set of four rectangular pieces of absorber, attached to a cardboard form, has been added to also improve detection margins. These pieces of absorber rest on the four walls of the radome. A circular gasket has been added to the back cover, which covers the DRO tuning screw opening in the bulkhead when the product is assembled. There were minor component value changes made to FET bias circuits, transistor amplifier stages, and other circuits in order to center the performance and improve the product yield.

2) Figure 6.11 page 14 needs updating. Please submit for modified device.

The updated antenna pattern has been obtained at the worst case emission frequency and included at the end of the updated test report. Above horizon emissions calculation has been updated to match with the new data. No other changes have been made to the test report.

3) Please indicate whether the device employs any gating or pulsing etc... If so, indicate whether gating or pulsing... was employed during testing.

The DUT does not employ a pulsed waveform. It uses a continuously operating, phase modulated carrier. The rates of modulation are 1250MHz and 625MHz. Normal operation is to complete a "scan cycle" in 123ms. Operation during a cycle includes roughly 83 ms of 1250MHz rate and 40ms of 625 MHz rate phase modulation. Operation is a continuous repeating cycle. There is no dead time between the two modes, and thus no gating or triggering was necessary during emissions measurement.