Compliance with 47 CFR 15.247(i)

> "*Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See 1.1307(b)(1) of this chapter."*

The Mitsumi radio is a Bluetooth transceiver. In modular form, it can be considered a portable device, meaning that it can come within 20 cm of the user's head or torso. Per the original grant, FCC ID: SPD003, the radio is a portable device. However, in CyberOptics' new Class II Permissive change application, the radio will be considered mobile. The Class 2 Permissive change antenna has a gain of 2.7dBi, and the maximum peak conducted output power of the radio from the original grant is 11.15 dBm (0.01303W). The radio/antenna combo will be used in in CyberOptics' Model WaferSense AGS200.

For mobile equipment, the distance is > 20 cm from the head or torso. The EUT will require MPE Estimates in this configuration. The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as ($f_{MHz}/1500$) mW/cm^2. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$S = (PG)/4\pi R^2$
Where: S = power density (mW/cm^2)
P = power input to the antenna (mW)
G = numeric power gain relative to an isotropic radiator
R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)
PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

FCC ID: SPD003

Antenna Type	Antenna Manufacturer	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Conducted Output Power (mW)	Antenna Gain (dBi)	Minimum Antenna Cable Loss (dB)	Power Density @ 20 cm (mW/cm^2)	General Population Exposure Limit from 1.1310 (mW/cm^2)
PCB Inverted F	CyberOptics	N/A	2400	13.03	2.7	0	0.005	1

The applicant's Bluetooth radio, FCC ID: SPD003, is compliant with the requirements of 15.247(i) for a mobile device.