Compliance with 47 CFR 15.247(b)(5)

> "*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*."

Compliance with 47 CFR 15.407(f)

> "*U-NII devices are subject to the radio frequency radiation exposure requirements specified in 1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.*"

The EUT will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091 (b). The EUT has two antenna ports. One antenna port is for both transmit and receive, the other antenna port is for receive only. The EUT will only be used in the applicant's CV60 forklift mounted computer terminal. The CV60 contains the EUT radio FCC ID: EHA802MIAG-CV60 co-located with a Bluetooth radio FCC ID:EHABTM210. Each radio transmits through its own antenna.

The maximum peak power was measured to be 8.433 mW (ERP) for FCC ID: EHA802MIAG-CV60 and 0.335 mW (ERP) for FCC ID: EHABTM210. The transmit frequency is greater than 1.5 GHz, therefore the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as $1 mW/cm^2$. 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 densities 20 cm from the transmitting antennas are summarized in the following tables:

Note that the applicant's 802.11(a) radio, FCC ID: EHA802MIAG-CV60, is compliant with the requirements of 15.407(f) for both fundamental emissions and unwanted emissions.

MPE Estimates for Self Co-located Device

Radios in CV60

FCC ID: EHA802MIAG-CV60

802.11 (a)/(b)/(g) Radio

Antenna Type	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)	Ratio of Power Density to the Exposure Limit
Integral Linear	805-615-101	2400 & 5500	10.96	1	0	0.002745	1	0.002745

FCC ID: EHABTM210

Bluetooth Radio

Antenna Type	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Output Power (EIRP) (mW)	Power Density @ 20 cm (mW/cm^2)	General Population Exposure Limit from 1.1310 (mW/cm^2)	Ratio of Power Density to the Exposure Limit
Integral Ceramic Antenna	104F2450S1	2400	0.549	0.000109	1	0.000109

Exposure Scenarios for CV60

Per Note 24 shown below, the Sum of Worst Case Power Ratios cannot exceed 1.0

802.11 a/b/g Radio Worst Case Ratio of Power Density to the Exposure Limit (FCC ID: EHA802MIAG-CV60)	**Bluetooth Radio** Worst Case Ratio of Power Density to the Exposure Limit (FCC ID: EHABTM210)	Sum of Worst Case Ratios (Power Density to the Exposure Limit)	FCC Limit for Sum of Worst Case Ratios	
0.002745	0.000109	0.00285	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the Two Co-located Transmitters (EIRP TX1 + EIRP TX2) compared to the exposure limit. The benefit of this method, is that accounts for transmitters operating at different frequencies against different exposure limits.

Please note that each radio transmits through its own antenna.

Please note that EIRP = ERP x 1.64, so EIRP is worst case. However, because some parties would prefer to see the calculation as the Sum of the ERP of the Two Co-located Transmitters, the table below shows compliance with ERP TX1 + ERP TX2

802.11 a/b/g Radio Worst Case ERP (FCC ID: EHA802MIAG-CV60) (mW)	**Bluetooth Radio** Worst Case ERP (FCC ID: EHABTM210) (mW)	Sum of Worst Case ERPs (mW)	Power Density @ 20 cm (mW/cm^2)	General Population Exposure Limit from 1.1310 (mW/cm^2)	
8.433	0.335	8.768	0.00174	1.0	PASS

Excerpts from TCB Training, April 3, 2002, "Mobile Transmitters", Slide 6:

"Devices operating in multiple frequency bands

- *When RF exposure evaluation is required for TCB approval*
  - *Separate antennas – estimated minimum separation distances may be considered for the frequency bands that do not require evaluation or TCB approval, however, the estimated distance should take into account the effect of co-located transmitters. (Note 24)*

    Note 24 According to multiple frequency exposure criteria, the ratio of field strength or power density to the applicable exposure limit at the exposure location should be determined for each transmitter and the sum of these ratios must not exceed 1.0 for the location to be compliant."

The sum of the worst-case power ratios in any scenario does not exceed 1.0 (see Note 24 above); therefore, the exposure condition is compliant with FCC rules.