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 EUT will only be used with a separation distance of 20 centimeters or greater between the antenna and the head or torso of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091 (b). The 700C handheld computer can have up to three radio modules installed: A GSM radio module, the MC75; a Bluetooth module, the BTS080; and an 802.11 module, the DRCB. The radios can transmit simultaneously. Each radio transmits through its own antenna. In addition, the 700C can be co-located with other radios in a variety of Intermec devices including the 6820 and PW40 Bluetooth printers or the IP3 and IP4 RFID handheld grips.

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. 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 tables on the following pages:

MPE Estimates for Self Co-located Device

FCC ID: EHAMC75

GSM radio in 700C

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
Radome	805-640-100	1850	724	-1.8	0	0.095	1	0.095
Radome	805-640-100	824	1413	-2.4	0	0.162	0.55	0.294

Worst Case Ratio of Power Density to the Exposure Limit = 0.294

FCC ID: EHABTS080

Bluetooth radio in 700C

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
~~Internal~~ Integral Antenna	PCB Trace	2400	13.86	-1.23	0	0.002	1	0.002

Worst Case Ratio of Power Density to the Exposure Limit = 0.002

FCC ID: EHADRCB

802.11(b)/(g) radio in 700C

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
Internal PCB	CAF94656	2400	18.9	2	0	0.006	1	0.006

Worst Case Ratio of Power Density to the Exposure Limit = 0.006

FCC ID: EHABTS080-1

Bluetooth radio in 6820 printer or in PW40 printer

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
Internal PCB	PCB	2400	13.86	-1	0	0.002	1	0.002

Worst Case Ratio of Power Density to the Exposure Limit = 0.002

FCC ID: EHARFID915PCC-6

RFID radio in the IP3

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
Panel	805-616-001	902	1000	0	0	0.199	0.601	0.331

Worst Case Ratio of Power Density to the Exposure Limit = 0.331

FCC ID: EHAIM4

RFID Radio in the IP4

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
Ceramic Patch	805-616-001	902	860.99	0	0	0.171	0.601	0.285
Ceramic Patch	805-616-002	902	860.99	2.5	0	0.305	0.601	0.507

Worst Case Ratio of Power Density to the Exposure Limit = 0.507

Exposure Scenarios for 700C

Worst Case Co-located Exposure Condition

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

GSM Radio Worst Case Ratio of Power Density to the Exposure Limit	**Bluetooth Radio** Worst Case Ratio of Power Density to the Exposure Limit	**802.11 Radio** Worst Case Ratio of Power Density to the Exposure Limit		**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.29400	0.00200	0.00600		0.30200	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the Co-located Transmitters (EIRP TX1 + EIRP TX2 + EIRP TX3) compared to the exposure limit. The benefit of this method, is that accounts for transmitters operating at different frequencies against different exposure limits.

Worst Case Co-located Exposure Condition

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

700C co-located radios Worst Case Ratio of Power Density to the Exposure Limit	**PW40 Bluetooth radio** Worst Case Ratio of Power Density to the Exposure Limit			**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.30200	0.00200			0.30400	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the 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.

Worst Case Co-located Exposure Condition

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

700C co-located radios Worst Case Ratio of Power Density to the Exposure Limit	**6820 Bluetooth radio** Worst Case Ratio of Power Density to the Exposure Limit			**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.30200	0.00200			0.30400	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the 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.

Worst Case Co-located Exposure Condition

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

700C co-located radios Worst Case Ratio of Power Density to the Exposure Limit	**RFID Radio** Worst Case Ratio of Power Density to the Exposure Limit			**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.30200	0.33100			0.63300	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the 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.

Worst Case Co-located Exposure Condition

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

700C co-located radios Worst Case Ratio of Power Density to the Exposure Limit	**RFID Radio** Worst Case Ratio of Power Density to the Exposure Limit			**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.30200	0.50700			0.80900	1.0	PASS

The results shown in the above table are equivalent to the Sum of the EIRP of the 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.

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 ratios (power density to the exposure limit) does not exceed 1.0; therefore, the exposure condition is compliant with FCC rules.