Exhibit C: RF Exposure

FCC ID: HN22011B

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*."

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 will only be used in the applicant's 700C hand held scanner. There is no provision for carrying or attaching the 700C to a person's body (e.g. belt-clip). During normal use, the antenna is greater than 2.5 cm from the user's hand.

The EUT will be co-located with two other radios: FCC ID: HN2SB555 (CDMA radio), and FCC ID:HN2ABTM3-2 (Bluetooth radio). Any two of the three radios can transmit simultaneously. All three radios cannot transmit simultaneously. Each radio transmits through its own antenna.

The maximum peak power was measured to be 68.5 mW (ERP) for FCC ID:HN2SB555, 73.2 mW (ERP) for FCC ID: HN22011B (34.2 mW (ERP) when co-located with FCC ID: HN2SB555), and 0.61 mW (ERP) for FCC ID: HN2ABTM3-2. Their ERP is less than 1.5 watts, 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 density 20 cm from the transmitting antenna is summarized as follows:

MPE Estimates for Self Co-located Device

FCC ID: HN2SB555

CDMA 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
External tuned dipole (dual band 800 / 1900 MHz)	805-606-002	824	224	-3	0	0.022	0.55	0.0407
External tuned dipole (dual band 800 / 1900 MHz)	805-606-002	1850	224	-3	0	0.022	1	0.0223
External tuned dipole (single band 1900 MHz)	805-606-004	1850	224	-4	0	0.018	1	0.0177

Worst Case Ratio of Power Density to the Exposure Limit = 0.0407 (External Tuned Dipole Antenna - Dual Band at 824 MHz)

FCC ID: HN22011B

802.11 (b) 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
External tuned dipole (**not used when co-located with CDMA Radio**)	805-606	2400	89	1.3	0	0.024	1	0.0239
Internal folded monopole	805-608	2400	89	-2	0	0.011	1	0.0112

Worst Case Ratio of Power Density to the Exposure Limit (with no CDMA Radio) = 0.0239 (External Tuned Dipole Antenna)
Worst Case Ratio of Power Density to the Exposure Limit (when co-located with CDMA Radio) = 0.0112 (Internal Folded Monopole Antenna)

FCC ID: HN2ABTM3-2

Bluetooth 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
Internal Integral Antenna	ABTM3	2400	3.78	-5.77	0	0.00020	1	0.00020

Worst Case Ratio of Power Density to the Exposure Limit = 0.00020 (Internal Integral Antenna)

Exposure Scenarios for 700C

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

CDMA Radio Worst Case Ratio of Power Density to the Exposure Limit (FCC ID: HN2SB555)	**802.11b Radio** Worst Case Ratio of Power Density to the Exposure Limit (FCC ID: HN22011B)	**Bluetooth Radio** Worst Case Ratio of Power Density to the Exposure Limit (FCC ID: HN2ABTM3-2)	**Sum of Worst Case Ratios (Power Density to the Exposure Limit)**	**FCC Limit for Sum of Worst Case Ratios**	
0.04070	0.01120	0.00020	0.05210	1.0	PASS
	0.02390	0.00020	0.02410	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 + 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.

Please note that any two of the three radios can transmit simultaneously. All three radios cannot transmit simultaneously. 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 + ERP TX3

CDMA Radio (FCC ID: HN2SB555) Worst Case ERP	**802.11b Radio (FCC ID: HN22011B)** Worst Case ERP	**Bluetooth Radio (FCC ID: HN2ABTM3-2)** Worst Case ERP	**Sum of Worst Case ERPs**	**Power Density @ 20 cm**	**General Population Exposure Limit from 1.1310**	
(mW)	**(mW)**	**(mW)**	**(mW)**	**(mW/cm^2)**	**(mW/cm^2)**	
68.45	34.24	0.61	103.30	0.02055	1.0	PASS
	73.20	0.61	73.81	0.01468	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.