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 body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091 (b). Calculations are provided for each radio transmitting through its own internal antenna and optional external antenna.

The total transmit power is less than 1.5 W (ERP), 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. 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 Located Device

FCC ID: KBCIX-MC5725								
CDMA								
Antenna Type	**Antenna Part No.**	**Transmit Frequency**	**Max Peak Conducted Output Power**	**Antenna Gain**	**Minimum Antenna Cable Loss**	**Power Density @ 20 cm**	**General Population Exposure Limit from 1.1310**	**Ratio of Power Density to the Exposure Limit**
IX605 Primary WAN		**(MHz)**	**(mW)**	**(dBi)**	**(dB)**	**(mW/cm^2)**	**(mW/cm^2)**	
Meander Line	Skycross 2-2920	1851.25 - 1908.75	304.8	1.8	1.1	0.076	1	0.076
Meander Line	Skycross 2-2920	824.7 – 848.31	325.8	3.4	0.7	0.121	0.55	**0.121**
External MaxRad	BMLPVDB800/1900	1851.25 - 1908.75	304.8	3	3.7	0.055	1	0.055
External MaxRad	BMLPVDB800/1900	824.7 – 848.31	325.8	3	2.2	0.078	0.55	0.078
Worst Case Ratio of Power Density to the Exposure Limit =0.121 Duty Cycle not taken in to account.								

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

MPE Estimates for Self Located Device

FCC ID: KBCIX-4965AGN

WLAN, IEEE 802.11 (a) (b) (g) & (n)

Antenna Type	Antenna Part No.	Transmit Frequency	Max Peak Conducted Output Power	Antenna Gain	Minimum Antenna Cable Loss	Power Density @ 20 cm	General Population Exposure Limit from 1.1310	Ratio of Power Density to the Exposure Limit
		(MHz)	(mW)	(dBi)	(dB)	(mW/cm^2)	(mW/cm^2)	
Part 15C								
Inverted F MAIN	EST07-10	5745-5825	303	-2.0	2.0	0.024	1	0.024
Inverted F MAIN	EST07-10	2412-2462	463	-3.5	0.9	0.033	1	0.033
External MaxRad	MAXC24503	2412-2462	463	3	4.4	0.067	1	0.067
External MaxRad	BMAXC24505	2412-2462	463	5	4.4	0.106	1	**0.106**
Part 15 E								
Inverted F MAIN	EST07-10	5180-5240	50	-2.0	2.0	0.004	1	0.004
Inverted F MAIN	EST07-10	5260-5320	123	-2.0	2.0	0.010	1	0.010

Worst Case Ratio of Power Density to the Exposure Limit = **0.106**

Worst Case Co-located Exposure Condition

FCC ID: KBCIX-MC5725
FCC ID: KBCIX-4965AGN

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	**802.11abgn 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**		
0.121	0.106		0.227	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.