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 WAN Device

FCC ID: KBCIX-GOBI2

In the GD6000, Host PC

GSM, GPRS, EDGE, UMTS, WCDMA, HSDPA, CDMA 2000 1xRTT, EVDO Rev 0, Rev A

Modulation Type	GD6000 WAN Antenna Type Antenna Part No.	Transmit Frequency	Max Peak Conducted Output Power	Antenna Gain	Min. Ant. cable loss	Power Density @ 20 cm Duty cycle correction in blue ( )	General Population Exposure Limit from 1.1310	Ratio of Power Density to the Exposure Limit
	Internal Meander Line	**(MHz)**	**(mW)**	**(dBi)**	**(dB)**	**(mW/cm^2)**	**(mW/cm^2)**	
GPRS 850 (2 UL Slots)	Skycross 2-2920	824	1919	3.4	0.7	0.710 (.1775)	0.55	**.323**
WCDMA 850	Skycross 2-2920	824	262	3.4	0.7	0.097	0.55	.176
CDMA 850	Skycross 2-2920	824	290	3.4	0.7	0.107	0.55	.195
GPRS 1900 (2UL Slots)	Skycross 2-2920	1850	874	1.8	1.1	0.204	1	.204
WCDMA 1900	Skycross 2-2920	1850	256	1.8	1.1	0.060	1	060
CDMA 1900	Skycross 2-2920	1850	291	1.8	1.1	0.068	1	. 068
	External MaxRad							
GPRS 1900 (2UL Slots)	BMLPVDB800/1900	824	1919	3	2.2	0.458 (.1145) *	0.55	.208
WCDMA 1900	BMLPVDB800/1900	824	262	3	2.2	0.063	0.55	.115
CDMA 1900	BMLPVDB800/1900	824	290	3	2.2	0.069	0.55	.125
GPRS 1900 (2UL Slots)	BMLPVDB800/1900	1850	874	3	3.7	0.148	1	.148
WCDMA 1900	BMLPVDB800/1900	1850	256	3	3.7	0.043	1	.043
CDMA 1900	BMLPVDB800/1900	1850	291	3	3.7	0.049	1	.049

Worst Case Ratio of Power Density to the Exposure Limit **= 0.323**

***** Source-based time averaging corrected power density for the GPRS 2 Slot UL Duty Cycle of 25% “worst case”.
(0.071 x 25% = 0.1775 mW/cm^2 /0.55 = .323)

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 WLAN Device

FCC ID: KBCIX-512AHN

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	61.7	-2.0	2.0	0.005	1	0.005
Inverted F MAIN	EST07-10	2412-2462	72.4	-3.5	0.9	0.005	1	0.005
External MaxRad	MAXC24503	2412-2462	72.4	3	4.4	0.010	1	0.010
External MaxRad	BMAXC24505	2412-2462	72.4	5	4.4	0.016	1	**0.016**
Part 15 E								
Inverted F MAIN	EST07-10	5180-5320	45.7	-2.0	2.0	0.004	1	0.004
Inverted F MAIN	EST07-10	5500-5700	70.8	-2.0	2.0	0.006	1	0.006

Worst Case Ratio of Power Density to the Exposure Limit = **0.016**

MPE Estimates for Self Located Bluetooth Device

FCC ID: KBCIX-BR 51								
Model: BCM92045NMD								
Bluetooth EDR Radio								
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
Permanently attached	Ethertronics Antenna	(MHz)	(mW)	(dBi)	(dB)	(mW/cm^2)	(mW/cm^2)	
Isolated Magnetic Dipole Antenna	iMD Bluetooth Antenna	2480	3.1	2.2	0.0	0.001	1	**0.001**
Worst Case Ratio of Power Density to the Exposure Limit = **0.001**								

Worst Case Co-located Exposure Condition for Mobile						
FCC ID: KBCIX-GOBI2 **FCC ID: KBCIX-512AHN** **FCC ID: KBCIX-BR-51**						
Per Note 24 shown below, the Sum of Worst Case Power Ratios cannot exceed 1.0						
GOBI2 Radio Worst Case Ratio of Power Density to the Exposure Limit	**802.11 WLAN** Worst Case Ratio of Power Density to the Exposure Limit	**Bluetooth** 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**		
0.323	0.016	0.001	**.34**	1.0	***** PASS	
The results shown in the above table are equivalent to the Sum of the EIRP of the three 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.						