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RF EXPOSURE EVALUATION

Applicant	: GT Telecom Co., Ltd.
Applicant Address	: 848-16 Gupyeong-Dong, Gumi-City, Gyeongbuk, Korea
Kind of Product	: Bluetooth Handsfree Car kit
Equipment model name	: GBC-2000
RF power	: 2.743 dBm Peak Conducted
Antenna type	: PCB Pattern antenna
Antenna Gain	: 0.218 dBi
Frequency Range	: 2402 - 2480 MHz
Number of channels	: 79 CH

** MPE Calculations **

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = 2.743 + 0.218 = 2.961 dBm => 1.977 mW	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)

The numeric gain(G) of the antenna with a gain specified in dB is determined by:

$G = Log^{-1}$ (dB antenna gain / 10)

$G = Log^{-1}$ (0.218/ 10)

G = 1.051

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (1.977)/(4 * 20^2 * \pi)$ $S = 0.0004$ mW/cm^2	Where, S = Maximum power density (mW/cm^2) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)

The Maximum permissible exposure (MPE) for the general population is 1 mW/cm^2 .
The power density at 20cm does not exceed the 1 mW/cm^2 limit.

Estimated safe separation:

$R = \sqrt{(PG / 4\pi)}$ $R = \sqrt{(1.977 / 4\pi)}$ R = 0.397 cm	Where, P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)