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RF EXPOSURE EVALUATION

Applicant	**: Dekist Co.,Ltd**
Applicant Address	**: #303 465-1 Gimryangjang-dong Cheoin-gu, Yongin-si, Gyeonggi-do, Korea**
Kind of Product	**: Multi Function 4-20mA Wireless Transmeter**
Equipment model name	**: RN910**
Antenna type	**: Dipole antenna Gain : 1.649 dBi**
Frequency Range	**: 2405 – 2475 MHz**
Number of channels	**: 15**

** 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 = 32.43 + 1.649 = 16.759 dBm	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)

$G = Log^{-1}$ (1.649 / 10)

G = 1.462

Power density at the specific separation:

$S = PG/(4R^2\pi)$ $S = (32.43 * 1.462)/(4 * 20^2 * \pi)$ $S = 0.0094$ 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:

$R = \sqrt{(PG / 4\pi)}$ $R = \sqrt{(32.43 * 1.462 / 4\pi)}$ R = 1.94 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)