47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091
Maximum Permissible Exposure Calculations

For Kinestral Technologies Inc M/N: DR200

<u>802.15.4 Zigbee Transceiver</u>

EUT Device Category = General Population/Uncontrolled Exposure

EUT consists of one ISM band radio transmitting operating over a range of:
2405 MHz to 2475 MHz

MPE Summary:

According subpart 1.1307 (b)(1) and 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Averaging Time (Minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz;   * = Plane-wave equivalent power density

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Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)
PG = EIRP

MPE and Limit are calculated as follows:

f (MHz)	Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Δ
2405	15.45	1.3	16.75	47.32	0.009	1000	999.99
2440	14.27	1.3	15.57	36.06	0.007	1000	999.99
2475	13.99	1.3	15.29	33.81	0.007	1000	999.99

Result: The device meets FCC MPE limit at 20 cm for General Population/Uncontrolled Exposure as specified in 47 CRF §1.1310 and §2.1091.

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