Client	**Kaba**
Product	**Zigbee Gen 2 module**
Standard(s)	FCC KDB 447498, RSS-102

Maximum Permissible Exposure.

This device has an effective isotropic radiated power of 21 dBm (worst case) +0.5 dBi gain, or 21.5 dBm EIRP, or mW at 2405 MHz to 2475 MHz

This device is designed to be operated at a distance exceeding 20 cm, with typically a very low duty cycle over a 6 minute period, however for the purpose of demonstrating compliance with MPE requirements and SAR exemption; we present a worst case 20 cm distance and 100 % duty cycle.

For the 20 cm distance configuration
FCC:
Zigbee = 0.0281 (mW/cm^2), which is less then the 1 mW/cm^2 limit at distances greater than 20 cm.

RSS-102
The EIRP limit is $1.31 \times 10^{-2}\ f^{0.6834}$ W, 0.0131x207.1W = 2.7W, or 34.3 dBm.
Zigbee = 21.5 dBm EIRP, which is less than the 34.3 dBm EIRP requirement at distances greater than 20 cm.

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Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal:	21.00	(dBm)	
Maximum peak output power at antenna input terminal:	125.8925412	(mW)	
Antenna gain(typical):	0.5	(dBi)	
Maximum antenna gain:	1.122018454	(numeric)	
Time Averaging:	100	(%)	
Prediction distance:	20	(cm)	
Prediction frequency:	2405	(MHz)	
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)	
Power density at prediction frequency:	0.028102	(mW/cm^2)	
Margin of compliance:	-15.5	(dB)	
This equates to	0.281015416	W/m^2	PASS
For information This equates to	10.29285246	V/m	