Maximum Permissible Exposure.

This device has a peak rated conducted power output of 1W (30 dBm) with a peak Antenna gain of 6 dBi. This is an effective isotropic radiated power of 36 dBm, or 4 W. This device also has a worst case maximum duty cycle of 10%, although it is typically much less in any given 6 minute period. This is a source based time average power of 400 mW.

This device is designed for use at distances much larger than 20 cm.

As per RSS-102, Section 2.5.2, the at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1.31 x 10-2 $f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

For 2.45 GHz, this 1.31 x 10^{-2} x $2450^{0.6834}$ W
Which is 0.0131 x 207.09 W
Which is 2.71 W.

The device is source based time averaged of 400 mW, which is below the 2.7 W requirement.

As per FCC KDB 447498 D01, 7.1 which references FCC 2.1019(d)(2) for distances greater than 20 cm, which references FCC 1.1310 Table 1, and presuming general population, the equation is Power density(mW/cm^2) must be less 1 mW/cm^2.

As per the worst case calculations on the next page, the device 0.069 mW/cm^2 , which is below the 1 mW/cm^2 requirement.

Client	Trilliant Networks Canada Inc.
Product	Open Smart Device Interface (OSDI) SecureMesh Module
Standard(s)	FCC KDB 447498, RSS-102

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:			36.00	(dBm)	
Maximum peak output power at antenna input terminal:			1000	(mW)	
		Antenna gain(typical):	6	(dBi)	
		Maximum antenna gain:	3.981071706	(numeric)	
		Time Averaging:	10	(%)	
		Prediction distance:	20	(cm)	
		Prediction frequency:	2450	(MHz)	
E limit for uncontrolled exposure at prediction frequency:			1	(mW/cm^2)	
		Power density at prediction frequency:	0.079201	(mW/cm^2)	
		Margin of compliance:	-11.0	(dB)	
		This equates to	0.792009051	W/m^2	PASS
	For information	This equates to	17.27968206	V/m	
	For information	percentage of limit is	7.920090509		