FCC Code of Federal Regulations 47 Part 1.1307(b) (1)

RF Exposure Statement of Compliance

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name:	MeshConnect ZICM357SP2-1 Zigbee Module
Kind of Equipment:	802.15.4 Wireless Module
Frequency Range:	2405-2480 MHz
Test Configuration:	DC powered transceiver module
Model Number(s):	ZICM357SP2-1
Model(s) Tested:	ZICM357SP2-1
Serial Number(s):	Radiated: 5, RF Conducted: 4
Date of Tests:	May 8 through May 10, 2012 (RF Conducted testing of original module) June 3rd & 4th, 2013 for Class II Permissive Change with new antenna
Test Conducted For:	California Eastern Laboratories 1253 N. Old Rand Road Wauconda, Illinois 60084, USA

Transmitter Information:

Maximum Conducted Output Power:	20.77 dBm (119.4 mW)
Maximum Effective Isotropic Radiated Power	21.54 dBm
Frequency:	2470 MHz
Antenna Type:	PCB Trace Antenna / External Whip Antenna
Antenna Gain:	0.77 dBi / 2dBi

Exposure Limit:

Maximum Permissible Exposure (MPE) limit for General Population / Uncontrolled Exposure in the frequency range 1500 – 100,000 MHz (ref: 47 CFR Part 1.1310 Table 1(b))

Limit: (S) (mW/cm^2) = 1.0 mW/cm^2

MPE Calculation:

Power Density (mW/cm^2):

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

S = 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 (cm)

Results: with 2dBi antenna (higher gain)

RF Exposure Calculation

	Input	
Frequency =	2470	MHz
P =	20.77	dBm
G =	2	dBi
R =	20	cm
π	3.14159	

Transmit Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain	Distance (cm)	Power Density (mW/cm²)	Power Density Limit (mW/cm²)	Margin
2470	20.77	119.39881	2	1.58489	20	0.0376	1.0	0.962

Summary of Results:

With a minimum separation distance of 20 centimeters as defined by FCC 2.1091(b), for a mobile device, the California Eastern Laboratories MeshConnect ZICM357SP2-1 Zigbee Module **meets** the RF exposure evaluation requirements for maximum permissible exposure to any radiating structure and the general population / uncontrolled exposure.

Conclusion:

The California Eastern Laboratories MeshConnect ZICM357SP2-1 Zigbee Module operating under FCC part 15.247 complies with the requirements of FCC Part 1.1307(b)(1) for RF Exposure Evaluation.