8Devices			Test Number:	111127		
	Model: Carambola WiFi module					
MPE Calculator	MPE uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.					
	dBi = dB gain compared to an isotropic radiator.					
	S = power density in mW/cm^2					
					Antenna Gain (dBi)	5
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	2437	Maximum (Watts)	0.1390		Antenna Gain (dBd)	2.83
Cable Loss (dB)	0.0	(dBm)	21.43		Antenna minus cable (dBi)	5.00

Calculated ERP (mw) 266.686
Calculated EIRP (mw) 439.542   EIRP = Po(dBM) + Gain (dB)
    Radiated (EIRP) dBm 26.430
    ERP = EIRP - 2.17 dB

Occupational Limit   Radiated (ERP) dBm 24.260

Power density (S)

$$\frac{EIRP}{4\,p\,r^2} = mW/cm^2$$

r (cm) EIRP (mW)

Occupational Limit	
5.00000	mW/cm^2
50.00000	W/m^2
General Public Limit	
1.00000	mW/cm^2
10.00000	W/m^2

FCC radio frequency radiation exposure limits per 1.1310		
Frequency (MHz)	Occupational Limit	Public Limit
300-1,500	f/300	f/1500
1,500-10,000	5	1

FCC radio frequency radiation exposure limits per 1.1310		
Frequency (MHz)	Occupational Limit @ Tx Freq	Public Limit @ Tx Freq (mW/cm^2)
300-1,500 (mW/cm2)	8.123333333	1.624666667
300-1,500 (W/m2)	81.23333333	16.24666667
1,500-10,000 (mW/cm2)	5	1
1,500-10,000 (W/m2)	50	10

EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
439.542	0.00350	0.03498	100.00	1.00	39.37	0.08
439.542	0.00432	0.04318	90.00	0.90	35.43	0.08
439.542	0.00547	0.05465	80.00	0.80	31.50	0.07
439.542	0.00622	0.06218	75.00	0.75	29.53	0.06
439.542	0.00714	0.07138	70.00	0.70	27.56	0.06
439.542	0.01399	0.13991	50.00	0.50	19.69	0.04
439.542	0.02186	0.21861	40.00	0.40	15.75	0.03
439.542	0.03886	0.38864	30.00	0.30	11.81	0.03
439.542	0.08744	0.87444	20.00	0.20	7.87	0.02
439.542	0.09689	0.96891	19.00	0.19	7.48	0.02
439.542	0.10796	1.07956	18.00	0.18	7.09	0.02
439.542	0.15546	1.55456	15.00	0.15	5.91	0.01
439.542	0.34978	3.49776	10.00	0.10	3.94	0.01
439.542	0.43182	4.31822	9.00	0.09	3.54	0.01
439.542	0.48412	4.84119	8.50	0.09	3.35	0.01
439.542	0.50773	5.07731	8.30	0.08	3.27	0.01
439.542	0.54653	5.46525	8.00	0.080	3.15	0.01

Frequency (MHz)	Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
300-1,500	N/A	N/A	N/A	N/A
1,500-10,000	0.08	8.3 / 3.3	0.18	18 / 7.1

8devices
Model: Carambola WiFi module
Test #: 111127
Test to: CFR47 (15.247)
File: RFExp CM1

SN: ENG1
FCC ID#: Z9W-CM1
Date: November 27, 2011