11.MPE ESTIMATION

11.1.Limit for General Population/ Uncontrolled Exposures

Frequency	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Frequency(MHz)	**Power density (mW/ cm^2)**	**Averaging time(minutes)**
2412	1	30
2437	1	30
2462	1	30

Note: F= Frequency in MHz

11.2. Estimation Result

EUT: 3G Wireless N Nano Router		
M/N: PW-3G401M		
Test date: 2012-11-01	Pressure: 101.4±1.0 kpa	Humidity: 55.6±3.0%
Tested by: Leo-Li	Test site: RF Site	Temperature: 22.4±0.6℃

Cable loss: 1 dB		Attenuator loss: 20 dB				Antenna Gain: 0 dBi	
Test Mode	CH	Frequency （MHz）	Peak Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	MPE
11b	CH1	2412	18.69	73.96	0	1.00	0.0147
	CH6	2437	19.58	90.78	0	1.00	0.0181
	CH11	2462	19.5	89.13	0	1.00	0.0177
11g	CH1	2412	21.7	147.91	0	1.00	0.0294
	CH6	2437	24.52	283.14	0	1.00	0.0564
	CH11	2462	22.14	163.68	0	1.00	0.0326
11n HT20	CH1	2412	20.6	114.82	0	1.00	0.0229
	CH6	2437	23.96	248.89	0	1.00	0.0495
	CH11	2462	24.19	262.42	0	1.00	0.0522
11n HT40	CH1	2422	20.08	101.86	0	1.00	0.0203
	CH4	2437	24.95	312.61	0	1.00	0.0622
	CH7	2452	20.84	121.34	0	1.00	0.0242

11.3.This device have a SUB interface and it tends to be used for 3G/4G USB dongle,so need MPE Evaluation that this device working along with the

3G/4G USB dongle.

11.4.RF exposure limit

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
(A) Limits for Occupational / Control Exposures				
30-300	61.4	0.163	1.0	6
300-1500	-	-	F/300	6
1500-100,000	-	-	5	6
(B) Limits for General Population / Uncontrolled Exposure				
30-300	27.5	0.073	0.2	30
300-1500	-	-	F/1500	30
1500-100,000	-	-	1.0	30

F= Frequency in MHz

11.5. RF exposure calculations

Power density (S) is calculated by the following formula:

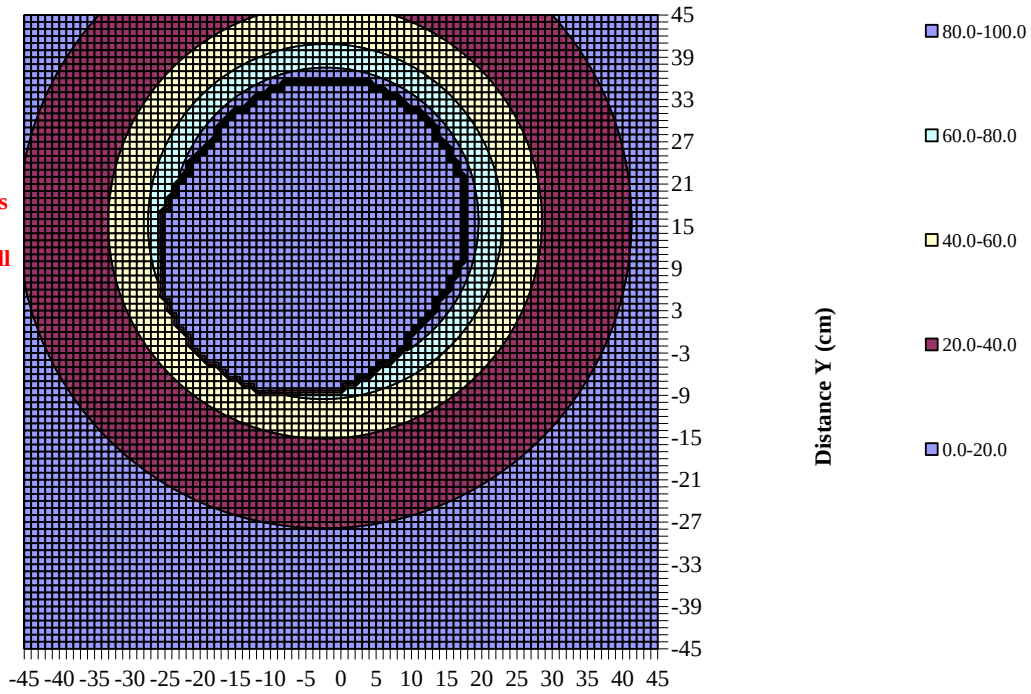
$S = (P * G)/4\pi R^2$

where, S = Power density (mW/cm^2)
P = Output power to antenna (mW)
R = Distance between radiating structure and observation point (cm)
G = Gain of antenna in numeric
$\pi = 3.1416$

11.6.Test result

Antenna No.		Total	1	2	3	4	5	6
Tx Status			On	On	Off	Off	Off	Off
Frequency	MHz		850	2450	1900	2450	2450	5800
MPE Limit	mW/cm^2		0.57	1.00	0.00	0.00	0.00	0.00
Max % MPE	%	94.1	88.4	6.2	0.0	0.0	0.0	0.0
Power	(W)	2.313	2.000	0.313	0.000	0.000	0.000	0.000
Antenna Gain	dBi		1.00	0.00	3.00	1.50	0.50	1.00
EIRP	(W)	2.83	2.518	0.313	0.000	0.000	0.000	0.000
X	(cm)		-2.0	-6.0	9.0	4.0	-8.0	8.0
Y	(cm)		16.0	11.0	11.0	0.0	0.0	0.0
Sector			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Arc			FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
θ_1	degs	input	-120	-120	-120	-120	-120	-120
θ_2			60	60	60	60	60	60
θ_1		actual	-120	-120	-120	-120	-120	-120
θ_2			60	60	60	60	60	60

% MPE Contour



Note: The 0% contour surrounding the antennas identifies a 20 cm perimeter surrounding all active antennas