RF Exposure Evaluation declaration

Product Name : modlet gateway

Model No. : TE1211M

FCC ID : Y38TE1211M

Applicant : ThinkEco Inc.

Address : 148 Madison, 8th Floor New York, NY 10016

Date of Receipt : Jul. 29, 2013

Date of Declaration : Aug. 22, 2013

Report No. : 138044R-RF-US-RFEXP

Testing Laboratory

0914

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

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				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	30
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4*Pi*R^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm^2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 21℃ and 60％ RH.

1.3. Test Result of RF Exposure Evaluation

Product : modlet gateway
Test Item : RF Exposure Evaluation
Test Site : N/A

CDMA 1X (BC0)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
824.70	24.05	1	24.0500	254.1	0.1392	0.55	Pass
836.52	23.88	1	23.8800	244.3	0.1339	0.56	Pass
848.31	23.87	1	23.8700	243.8	0.1336	0.57	Pass

CDMA 1X EV-DO REL 0 (BC0)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
824.70	23.88	1	23.8800	244.3	0.1339	0.55	Pass
836.52	23.60	1	23.6000	229.1	0.1255	0.56	Pass
848.31	23.46	1	23.4600	221.8	0.1215	0.57	Pass

CDMA 1X EV-DO REL A (BC0)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
824.70	23.84	1	23.8400	242.1	0.1327	1	Pass
836.52	23.67	1	23.6700	232.8	0.1276	1	Pass
848.31	23.48	1	23.4800	222.8	0.1221	1	Pass

CDMA 1X (BC1)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
1851.25	23.97	1	23.9700	249.5	0.1367	1	Pass
1880.00	24.08	1	24.0800	255.9	0.1402	1	Pass
1908.75	23.64	1	23.6400	231.2	0.1267	1	Pass

CDMA 1X EV-DO REL 0 (BC1)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
1851.25	23.84	1	23.8400	242.1	0.1327	1	Pass
1880.00	23.86	1	23.8600	243.2	0.1333	1	Pass
1908.75	23.57	1	23.5700	227.5	0.1247	1	Pass

CDMA 1X EV-DO REL A (BC1)-Peak Gain: 4.4dBi

Frequency (MHz)	Conducted Peak Power (dBm)	Duty Cycle	Conducted Average Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
1851.25	23.98	1	23.9800	250.0	0.1370	1	Pass
1880.00	23.98	1	23.9800	250.0	0.1370	1	Pass
1908.75	23.47	1	23.4700	222.3	0.1218	1	Pass

Note: The conducted output power is refer to report No.: 138044R-HPUSP08V01 from the QuieTek.