



RF Exposure Report

Report No.: SA150730E02

FCC ID: R68PW2050

Test Model: PW 2050

Received Date: July 30, 2015

Test Date: Oct. 08 to 12, 2015

Issued Date: Nov. 04, 2015

Applicant: Lantronix Inc

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Test Location (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin
Chu Hsien 307, Taiwan R.O.C.

Test Location (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin
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Test Location (3): E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits For Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Antenna Gain	6
4 Calculation Result Of Maximum Conducted Power	7



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Release Control Record

Issue No.	Description	Date Issued
SA150730E02	Original release.	Nov. 04, 2015

2 RF Exposure

2.1 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)
Limits For General Population / Uncontrolled Exposure				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * pi * r^2)$$

where

Pd = power density in mW/cm²

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

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Antenna Gain

Brand	Model	Antenna Gain (dBi) (Excelude cable loss)	Cable Loss (dB)	Net Gain (dBi)	Cable Length (mm)	Frequency range (GHz to GHz)	Antenna Type	Connecter Type
taoglas	GW.71.5153	3.8	1	2.8	45	2.4~2.483	Dipole	R-SMA
		5.5	1.7	3.8		5.15~5.85		
Brand	Model	Antenna Gain (dBi)			Frequency range (GHz to GHz)	Antenna Type	Connecter Type	
ethertronics	M830510	1.1			2.4~2.483	Chip	NA	
		3.2			5.15~5.85			
Brand	Model	Antenna Gain (dBi)			Frequency range (GHz to GHz)	Antenna Type	Connecter Type	
ethertronics	1000602	2.5			2.4~2.483	PCB	i-pex(MHF)	
		5			5.15~5.85			

4 Calculation Result Of Maximum Conducted Power

For WLAN:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	143.549	2.8	20	0.05442	1
5180-5320 5500-5720 5745-5825	30.269	5	20	0.01904	1

For BT-EDR:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	10.839	2.8	20	0.00411	1

For BT-LE:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	5.445	2.8	20	0.00206	1

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