

# Maximum Permissible Exposure Report

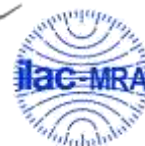
**FCC ID: 2AB9W-PP150XP**

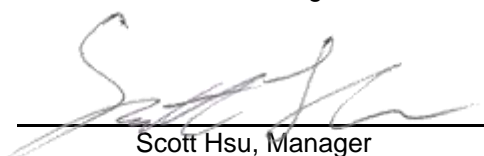
**Report No.** : BTL-FCCP-3-1908T080  
**Equipment** : 3D Printer  
**Model Name** : PartPro150 xP  
**Brand Name** : XYZprinting  
**Applicant** : XYZprinting, Inc.  
**Address** : 10F., No.99, Sec. 5, Nanjing E. Rd., Songshan Dist., Taipei City 10571, Taiwan (R.O.C.)  
**Manufacturer** : Cal-Comp Electronics (Thailand) Public Company Limited  
**Address** : 138, Moo 4, Phechkasem Road, Sapang, Koawoyoi, Petchaburi 76140, Thailand.  
**Factory** : Cal-Comp Electronics (Thailand) Public Company Limited  
**Address** : 138, Moo 4, Phechkasem Road, Sapang, Koawoyoi, Petchaburi 76140, Thailand.  
**FCC Rule Part(s)** : FCC Guidelines for Human Exposure IEEE C95.1  
**Date of Receipt** : 2019/9/20  
**Date of Test** : 2019/9/20 ~ 2019/11/14  
**Issued Date** : 2020/1/9

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

**Prepared by**

  
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**Approved by**

  
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**BTL Inc.**

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**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	2019/12/19
R01	Revised report to address TCB's comments.	2019/12/23
R02	Revised report to address TCB's comments.	2020/1/9

## MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

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

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	N/A	-8.65

## TEST RESULTS

For WLAN:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
-8.65	0.1365	13.5	22.3872	0.00060807	1	Complies

Note: The calculated distance is 20 cm.

For NFC:

## Limits to Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3 to 3.0	614	1.63	100 (Note 2)	6
3.0 to 30	1842/f	4.89/f	900/f <sup>2</sup> (Note 2)	6
30 to 300	61.4	0.163	1.0	6
300 to 1500	-	-	f/300	6
1500 to 100,000	-	-	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3 to 1.34	614	1.63	100 (Note 2)	30
1.34 to 30	824/f	2.19/f	180/f <sup>2</sup> (Note 2)	30
30 to 300	27.5	0.073	0.2	30
300 to 1500	-	-	f/1500	30
1500 to 100,000	-	-	1.0	30

Notes:

- f = frequency in MHz
- Power density is plane wave equivalent power density.

Max H-field strength (dBuV/m)	E-field strength (V/m)	Limit
46.86	0.000220293	60.77

## COLLOCATED POWER DENSITY CALCULATIONS

So for NFC+2.4G simultaneous transmission  $0.000220293/60.77+0.00060807/1=0.000611695<1$

**End of Test Report**