RF EXPOSURE EVALUATION

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)

FCC ID: 2BF4E-PR6

EUT Specification

EUT	Photo Printer
Frequency band (Operating)	☐WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.24GHz ☐WLAN: 5.745GHz ~ 5.825GHz ☒Others: 2.402GHz~2.480GHz & 13.56MHz
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others ___
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☒General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	☐Single antenna ☒Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	BT: 1.71dBm (0.0015W) NFC: 79.06 dBuV/m (-16.20dBm)(0.00002mW)
Antenna gain (Max)	BT: 0.05 dBi NFC: 0 dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	**F/300**	**6**
1500-100000	--	--	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	**F/1500**	**6**
1500-100000	--	--	**1**	**30**

Friis transmission formula: Pd=(Pout*G)\(4*pi*R2)

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 the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

$$E = EIRP - 20\log D + 104.8$$

where:

E = electric field strength in dBμV/m,

$EIRP$ = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

Measurement Result

BT worst case:

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm^2)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm^2)	
8DPSK	2441	1.71	1.71±1	2.71	0.05	0.0004	1

NFC worst case:

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm^2)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm^2)	
NFC	13.56	-16.20	-16.20±1	-15.20	0	0.00001	1

Note: BT and NFC do not support simultaneous transmission.
Test Results: **PASS**.