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: 2AABZ-LS600DPRO

EUT Specification

EUT	LS 600d Pro
Frequency band (Operating)	☐WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐WLAN: 5.745GHz ~ 5825GHz ☒Others: 2.402GHz~2.480GHz (BT BLE) ☒Others: 2.402GHz~2.480GHz (2.4G 2406~2474MHz) ☒Others: 2.402GHz~2.480GHz (2.4G 2402~2480MHz)
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	93.29dBuV/m (-1.9675dBm)(0.64mW) for 2.4G 2406~2474MHz
Antenna gain (Max)	1 dBi
Max. output power	0.373 dBm (1.1mW) for BLE
Antenna gain (Max)	-0.7 dBi
Max. output power	17.496 dBm (56.2mW) for 2.4G 2402~2480MHz
Antenna gain (Max)	-0.7 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.

Measurement Result

Operating Mode	Channel Frequency (MHz)	Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm^2)	Power density Limits (mW/cm^2)
BLE	2402	-0.503	-0.503±1	0.497	-0.7	0.0002	1
	2440	0.373	0.373±1	1.373	-0.7	0.0002	1
	2480	0.208	0.208±1	1.208	-0.7	0.0002	1
2.4G(2402~2480 MHz)	2402	17.496	17.496±1	18.496	-0.7	0.0120	1
	2440	17.341	17.341±1	18.341	-0.7	0.0116	1
	2480	16.780	16.780±1	17.78	-0.7	0.0102	1

Operating Mode	Channel Frequency (MHz)	Max output power (dBuV/m)	Max Power (dBm)	Tune up Tolerance	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm^2)	Power density Limits (mW/cm^2)
2.4G(2406~2474MHz)	2406	92.64	-2.618	-2.618 ±1	-1.618	1	0.0002	1
	2442	93.29	-1.968	-1.968±1	-0.968	1	0.0002	1
	2474	92.88	-2.378	-2.378 ±1	-1.378	1	0.0002	1

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

where:

E = electric field strength in dBµV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.

EIRP=E-104.8+20logD=93.29-104.8+20log3=-1.968dBm

The SAR measurement is not necessary.