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 KDB 447498 D01 V06 and §1.1307(b)

FCC ID: 2ABC5-E0083

EUT Specification

EUT	**Android Tablet**
Frequency band (Operating)	☐WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.150GHz ~ 5.250GHz ☐WLAN: 5.725GHz ~ 5.850GHz ☒Others: 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	58.68 (dBμV/m)
Antenna gain (Max)	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.

Measurement Result

NFC:

Mode	Channel	Frequency (MHz)	Field strength of fundamental @ 3m		Field strength of fundamental @ 0.2m		Electric Field Strength (V/m)
			(dBuV/m)	V/m	(dBuV/m)	V/m	
ASK	1	13.56	58.68	0.0009	105.72	0.1932	60.77

Device also contains WLAN/BT modular, maximum MPE ratio is 0.0996 (Test Report No. FA412210).

Simultaneous Transmission MPE

WLAN/BT and NFC share difference modular and antenna, Need consider simultaneous transmission;

According to KDB447498 D01 General RF Exposure Guidance v06 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;
∑ of MPE ratios ≤ 1.0

6.2.1 Summary simultaneous transmission results

Maximum Simultaneous transmission MPE Ratios for **NFC, 2.4GWLAN**

Maximum MPE ratio NFC	Maximum MPE ratio 2.4GWLAN	∑MPE ratios	Limit	Results
0.0030	0.0201	0.1026	1.0	PASS

Test Result: Pass