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: 2AYC2-AITBOX

EUT Specification

EUT	**USB Android Ai box**
Frequency band (Operating)	☐WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐WLAN: 5.745GHz ~ 5825GHz ☒Others: BDR+EDR: 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	-1.02 dBm (0.0008W)
Antenna gain (Max)	0 dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation
Note: **BT/WIFI/WCDMA/LTE parts refer to FCC ID:ZMOSS808NA, report number: ZR/2020/2003106 ;**	

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	Maximum output power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm2)	Power density Limits (mW/cm2)
BDR+EDR	-1.02	-1.02 ±1	-0.02	0	0.0002	1

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

No.	Mode	S(mw/cm2)	Calculation result	Limit	Conclusion
1	WCDMA Band II	0.1773	0.1809	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
2	WCDMA Band II	0.1773	0.1965	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
3	WCDMA Band II	0.1773	0.2102	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
4	WCDMA Band IV	0.1617	0.1653	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
5	WCDMA Band IV	0.1617	0.1809	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
6	WCDMA Band IV	0.1617	0.1946	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			

7	WCDMA Band V	0.1984	0.2020	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
8	WCDMA Band V	0.1984	0.2176	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
9	WCDMA Band V	0.1984	0.2313	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
10	LTE Band 2	0.1580	0.1616	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
11	LTE Band 2	0.1580	0.1772	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
12	LTE Band 2	0.1580	0.1909	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
13	LTE Band 4	0.1441	0.1477	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
14	LTE Band 4	0.1441	0.1633	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
15	LTE Band 4	0.1441	0.1770	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
16	LTE Band 5	0.1772	0.1808	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
17	LTE Band 5	0.1772	0.1964	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
18	LTE Band 5	0.1772	0.2101	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
19	LTE Band 7	0.1276	0.1312	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
20	LTE Band 7	0.1276	0.1468	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
21	LTE Band 7	0.1276	0.1605	1.00	Pass

	WiFi5G	0.0327			
	BDR+EDR	0.0002			
22	LTE Band 12	0.1949	0.1985	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
23	LTE Band 12	0.1949	0.2141	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
24	LTE Band 12	0.1949	0.2278	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
25	LTE Band 13	0.1750	0.1786	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
26	LTE Band 13	0.1750	0.1942	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
27	LTE Band 13	0.1750	0.2079	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
28	LTE Band 25	0.1580	0.1616	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
29	LTE Band 25	0.1580	0.1772	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
30	LTE Band 25	0.1580	0.1909	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
31	LTE Band 26	0.1794	0.1830	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
32	LTE Band 26	0.1794	0.1986	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
33	LTE Band 26	0.1794	0.2123	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
34	LTE Band 41	0.1276	0.1312	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
35	LTE Band 41	0.1276	0.1468	1.00	Pass
	WiFi 2.4G	0.0190			

	BDR+EDR	0.0002			
36	LTE Band 41	0.1276	0.1605	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			
37	LTE Band 66	0.1441	0.1477	1.00	Pass
	BT	0.0034			
	BDR+EDR	0.0002			
38	LTE Band 66	0.1441	0.1633	1.00	Pass
	WiFi 2.4G	0.0190			
	BDR+EDR	0.0002			
39	LTE Band 66	0.1441	0.1770	1.00	Pass
	WiFi5G	0.0327			
	BDR+EDR	0.0002			