FCC RF Exposure

EUT Description:Ulticam Dot
ModelNo.:ULTICAM-D01
FCC ID: 2AJZ2-ULTICAM-D01
Equipment type: mobile use

1. Limits

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)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

F = frequency in MHz
Formula: $Pd = (Pout*G)/(4*\pi*r^2)$
Where :
Pd = power density in mW/cm^2,
Pout = output power to antenna in mW;
G = gain of antenna in linear scale,
$\pi = 3.14$;
R = distance between observation point and center of the radiator in cm
Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Test Result of RF Exposure Evaluation

BT

	Output power （dBm/ mW）	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm^2)	Limit (mW/cm^2)	Result
2402	-1.5476/0.7002	2.49	0.00025	1.0	Pass
2440	-1.6376/0.6859	2.49	0.00024	1.0	Pass
2480	-3.3376/0.4637	2.49	0.00016	1.0	Pass

WIFI

	Output power （dBm/ mW）	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm^2)	Limit (mW/cm^2)	Result
802.11b	14.65/29.1742	2.49	0.01030	1.0	Pass
802.11g	14.89/30.8319	2.49	0.01089	1.0	Pass
802.11n20	12.97/19.8153	2.49	0.00700	1.0	Pass

BT+WIFI=0.00025+0.01089=0.01114≤1

Conclusion: No SAR is required