FCC RF Exposure

EUT Description:WT CDU
ModelNo.:WT CDU-RGB,
WT CDU RGB BPC (Black, Power Central Hub),
WT CDU RGB WPC (White, Power Central Hub),
WT CDU RGB GPC (Grey, Power Central Hub),
WT CDU RGB PA (Power Adapter),
WT CDU RGB 01, WT CDU RGB 02, WT CDU RGB 03,
WT CDU RGB 04
FCC ID:2AGQF-WT-CDU-RGB
Equipment type: mobile equipment

Test procedures according to the technical standards: KDB 447498 D01 V06 andFCC 2.1091.

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

WIFI

	Output power(dBm)	Max tune-up(mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm^2)	Limit (mW/cm^2)	Result
802.11b	24.82	303.389	3.2	0.1261	1.0	Pass
802.11g	25.31	339.625	3.2	0.1412	1.0	Pass
802.11n20	24.53	283.792	3.2	0.1180	1.0	Pass

Wifi：Conclusion: the max result 0.1412: ≤ 1.0 compliance with FCC's RF Exposure.