

## FCC RF Exposure

EUT Description: Dash cam

Model No.: VP668T, VP668, VP669, VP668T, VP669T, VP668S VP669S, VP706, VP707, VP708, VP709, VP706T, VP707T, VP708T, VP709T, Combo1, Combo2, Combo3, Combo5, Combo6, Combo7, Combo8, Combo9

FCC ID: 2AYKN-VP668T

Equipment type: fixed equipment

### 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 <sup>2</sup> )	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 <sup>2</sup> )	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 <sup>2</sup> )	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<sup>2</sup>,

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 is the limit of MPE, 1 mW/cm<sup>2</sup>. 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

### 2.4G WIFI

	Output power (dBm/ mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
802.11b	16.19/41.591	1.0	0.01041	1.0	Pass
802.11g	14.48/28.054	1.0	0.00702	1.0	Pass
802.11n(20MHz)	14.39/27.479	1.0	0.00688	1.0	Pass
802.11n(40MHz)	13.26/21.184	1.0	0.00530	1.0	Pass

Turn-up power	
Mode	Peak power range(dBm)
WIFI	13.00-17.00

	Output power (dBm/ mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
WIFI	17.00/50.12	1.0	0.01255	1.0	Pass

Conclusion: No SAR is required