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Maximum Permissible Exposure Evaluation

FCC ID: 2BCUQ-308

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)

EUT Specification

Product Name:	Android IP Video Phone
Trade Mark:	Fanvil
Model/Type reference:	A308i
Listed Model(s):	J308, J308i, J308P, i508, A308, J308P-i
Model Different:	All these models are identical in the same PCB, layout and electrical circuit, The difference is A308i, J308P-i with gooseneck microphone, other model without gooseneck microphone, A308i, A308 with USB port, other model without USB port.
Frequency band (Operating)	WLAN: 2412MHz ~ 2462MHz RLAN: 5180MHz ~ 5240MHz 5745MHz ~ 5825MHz
Device category	☐ Portable (<5mm separation) ☐ Mobile (>20cm separation) ☒ Fixed (>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
Antenna gain (Max)	WLAN: 5.6dBi RLAN U-NII-1: 4.2dBi RLAN U-NII-3: 4.6dBi
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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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	30
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d 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

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Verdict
802.11b	2412	5.6	17.939	18±1	19	0.05738	1	PASS
802.11g	2437	5.6	17.041	17±1	18	0.04558	1	PASS
802.11n(HT20)	2412	5.6	14.932	15±1	16	0.02876	1	PASS
802.11n(HT40)	2422	5.6	13.887	14±1	15	0.02284	1	PASS
802.11a	5240	4.2	17.546	17±1	18	0.03302	1	PASS
802.11n(HT20)	5240	4.2	17.230	17±1	18	0.03302	1	PASS
802.11n(HT40)	5230	4.2	16.630	16±1	17	0.02623	1	PASS

Note:

1. For a more detailed features description, Please refer to the RF Test Report.
2. WLAN, RLAN can't transmit simultaneously.

*****THE END*****