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Maximum Permissible Exposure Evaluation

FCC ID: 2BCUQ-H6W

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	Hotel Phone
Trade Mark	Fanvil
Model/Type reference	H6W
Listed Model(s)	H4W
Model Different:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is H4W without screen.
Frequency band (Operating)	WLAN: 2412MHz ~ 2462MHz RLAN: 5180MHz ~ 5240MHz 5745MHz ~ 5825MHz
Device category	☐ Portable (<5mm separation) ☐ Mobile (>20cm separation) ☒ Fixed (>20cm separation) ☐ Others ____
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Antenna gain (Max)	WLAN: 4.2dBi RLAN U-NII-1: 4.0dBi RLAN U-NII-3: 3.0dBi
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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

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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 $1\text{mW}/\text{cm}^2$. 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	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	4.2	16.82	17 ± 1	18	0.03302	1.000	PASS
802.11g	4.2	15.85	16 ± 1	17	0.02623	1.000	PASS
802.11n(HT20)	4.2	16.01	16 ± 1	17	0.02623	1.000	PASS
802.11n(HT40)	4.2	15.79	16 ± 1	17	0.02623	1.000	PASS
802.11ax(HE20)	4.2	16.38	16 ± 1	17	0.02623	1.000	PASS
802.11ax(HE40)	4.2	15.89	16 ± 1	17	0.02623	1.000	PASS
802.11a	4.0	19.03	19 ± 1	20	0.04997	1.000	PASS
802.11n(HT20)	3.0	18.23	18 ± 1	19	0.03153	1.000	PASS
802.11n(HT40)	4.0	18.11	18 ± 1	19	0.03970	1.000	PASS
802.11ac(VHT20)	4.0	18.09	18 ± 1	19	0.03970	1.000	PASS
802.11ac(VHT40)	4.0	17.90	18 ± 1	19	0.03970	1.000	PASS
802.11ac(VHT80)	4.0	17.91	18 ± 1	19	0.03970	1.000	PASS
802.11ax(HE20)	3.0	18.31	18 ± 1	19	0.03153	1.000	PASS
802.11ax(HE40)	3.0	18.69	18 ± 1	19	0.03153	1.000	PASS
802.11ax(HE80)	4.0	18.05	18 ± 1	19	0.03970	1.000	PASS

Note:

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

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