

RF EXPOSURE EVALUATION

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)

FCC ID: 2ADFS-LT01

EUT Specification

EUT	QuattroPod
Frequency band (Operating)	<input type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input checked="" type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input type="checkbox"/> Others: 2.402GHz~2.480GHz (BLE)
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Max. output power	5.1GHz WIFI: 12.15dBm (0.0164W) 5.8GHz WIFI: 13.34dBm (0.0216W)
Antenna gain (Max)	5.1GHz WIFI: 1.8 dBi 5.8GHz WIFI: 1.54 dBi
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> 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	6
1500-100000	--	--	1	30

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

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

5.1GHz & 5.8GHz WiFi:

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm ²)	
802.11a	5180	9.94	9.94±1	10.94	1.8	0.0037	1
	5200	10.34	10.34±1	11.34	1.8	0.0041	1
	5240	11.93	11.93±1	12.93	1.8	0.0059	1
802.11n20	5180	10.33	10.33±1	11.33	1.8	0.0041	1
	5200	10.92	10.92±1	11.92	1.8	0.0047	1
	5240	12.11	12.11±1	13.11	1.8	0.0062	1
802.11ac20	5180	10.53	10.53±1	11.53	1.8	0.0043	1
	5200	10.90	10.90±1	11.90	1.8	0.0047	1
	5240	12.15	12.15±1	13.15	1.8	0.0062	1
802.11n40	5190	10.70	10.70±1	11.70	1.8	0.0045	1
	5230	11.91	11.91±1	12.91	1.8	0.0059	1
802.11ac40	5190	10.20	10.20±1	11.20	1.8	0.0040	1
	5230	11.63	11.63±1	12.63	1.8	0.0055	1
802.11ac80	5210	11.29	11.29±1	12.29	1.8	0.0051	1
802.11a	5745	11.93	11.93±1	12.93	1.54	0.0056	1
	5785	13.34	13.34±1	14.34	1.54	0.0077	1
	5825	13.08	13.08±1	14.08	1.54	0.0073	1
802.11n20	5745	11.16	11.16±1	12.16	1.54	0.0047	1
	5785	12.02	12.02±1	13.02	1.54	0.0057	1
	5825	12.38	12.38±1	13.38	1.54	0.0062	1
802.11ac20	5745	11.72	11.72±1	12.72	1.54	0.0053	1
	5785	12.40	12.40±1	13.40	1.54	0.0062	1
	5825	12.50	12.50±1	13.50	1.54	0.0063	1
802.11n40	5755	11.19	11.19±1	12.19	1.54	0.0047	1
	5795	11.72	11.72±1	12.72	1.54	0.0053	1
802.11ac40	5755	11.12	11.12±1	12.12	1.54	0.0046	1
	5795	11.72	11.72±1	12.72	1.54	0.0053	1
802.11ac80	5775	11.39	11.39±1	12.39	1.54	0.0049	1