

Appendix 5

RF Exposure Information

According to the manufacturer's installation instruction, the EUT operating in standalone mobile exposure conditions which minimum test separation distance is 20cm between the antenna and radiating structures of the device and nearby persons. And the manufacturer declares that only antenna 0 will transmit at 802.11b and 802.11g mode

Evaluation:

Antenna	Mode	Frequency (MHz)	Peak Power (dBm)	Peak power (dBm)	Antenna Gain (dBi)	Antenna Gain (Numeric)	Power density (mW/cm ²)	
Chain 0	802.11b	2412	21.84	152.76	3	2.00	0.06	
		2437	21.4	138.04	3	2.00	0.05	
		2462	21.98	157.76	3	2.00	0.06	
	802.11g	2412	25.56	359.75	3	2.00	0.14	
		2437	25.25	334.97	3	2.00	0.13	
		2462	25	316.23	3	2.00	0.13	
	802.11n20	2412	25.51	355.63	3	2.00	0.14	
		2437	25.16	328.10	3	2.00	0.13	
		2462	23.13	205.59	3	2.00	0.08	
	802.11n40	2422	23.55	226.46	3	2.00	0.09	
		2437	23.17	207.49	3	2.00	0.08	
		2452	23.01	199.99	3	2.00	0.08	
Chain 1	802.11n20	2412	27.16	520.00	3	2.00	0.21	
		2437	26.46	442.59	3	2.00	0.18	
		2462	26.05	402.72	3	2.00	0.16	
	802.11n40	2422	25.35	342.77	3	2.00	0.14	
		2437	24.77	299.92	3	2.00	0.12	
		2452	24.69	294.44	3	2.00	0.12	
Chain 2	802.11a	5180	25.44	349.95	3	2.00	0.14	
		5220	24.82	303.39	3	2.00	0.12	
		5230	25.1	323.59	3	2.00	0.13	
		5745	24.41	276.06	3	2.00	0.11	
		5785	24.77	299.92	3	2.00	0.12	
		5825	24.13	258.82	3	2.00	0.10	
	802.11n20	5180	25.05	319.89	3	2.00	0.13	
		5220	25.12	325.09	3	2.00	0.13	
		5230	24.9	309.03	3	2.00	0.12	
		5745	24.29	268.53	3	2.00	0.11	
		5785	24.8	302.00	3	2.00	0.12	
		5825	24.21	263.63	3	2.00	0.10	
	802.11n40	5190	25.27	336.51	3	2.00	0.13	
		5220	25.35	342.77	3	2.00	0.14	
		5755	24.38	274.16	3	2.00	0.11	
		5795	24.50	281.84	3	2.00	0.11	
	Chain 2	802.11n80	5210	24.93	311.17	3	2.00	0.12
		802.11n80	5775	25.56	359.75	3	2.00	0.14

The maximum power density at 20 cm of antenna 0, 1 and 2 are 0.14, 0.21 and 0.14 mW/cm² respectively.

The worst case sum of the MPE ratios for all simultaneous transmitting antennas
= 0.14/1 + 0.21/1 + 0.14/1
= 0.49

Conclusion:

In the frequency range of 1,500 - 100,000MHz, the MPE limit is 1.0 mWcm^{-2} for general population and uncontrolled exposure.

For individual antenna, the calculated power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structures and body of the user or nearby persons.

And the sum of the MPE ratios for all simultaneous transmitting antennas is ≤ 1.0 , therefore, simultaneous transmission MPE test exclusion applied.