

1. Maximum Permissible Exposure (MPE)

Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
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 ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

The MPE was calculated at 20 cm to show compliance with the power density limit

The following formula was used to calculate the Power Density.

$$S = PG / 4 \pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

Maximum Permissible Exposure (MPE) Evaluation

Frequency Band (MHz)	Conducted power (dBm)	Antenna gain (dBi)	Tune-Up Tolerance (dB)	EIRP (dBm)	MPE (mW/cm ²)	LIMIT (mW/cm ²)
2412 - 2462	22.29	3.65	1	26.940	0.09834	1
5180 - 5240	10.94	5.28	1	17.220	0.01049	1
5260 - 5320	10.05	5.28	1	16.330	0.00855	1
5500 - 5720	10.45	5.4	1	16.850	0.00964	1
5745 - 5825	9.83	5.34	1	16.170	0.00824	1

Peak Power

Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
802.11b	2412	16.55	-----	16.55	30.00
	2437	20.51	-----	20.51	30.00
	2462	15.50	-----	15.50	30.00
802.11g	2412	20.55	-----	20.55	30.00
	2437	22.29	-----	22.29	30.00
	2462	20.08	-----	20.08	30.00
802.11n HT20	2412	20.30	-----	20.30	30.00
	2437	22.11	-----	22.11	30.00
	2462	19.02	-----	19.02	30.00
802.11ax HE20	2412	17.82	-----	17.82	30.00
	2437	22.14	-----	22.14	30.00
	2462	18.67	-----	18.67	30.00

Average Power

Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
802.11b	2412	14.14	-----	14.14	30.00
	2437	18.24	-----	18.24	30.00
	2462	13.15	-----	13.15	30.00
802.11g	2412	10.09	-----	10.09	30.00
	2437	13.74	-----	13.74	30.00
	2462	10.17	-----	10.17	30.00
802.11n HT20	2412	9.95	-----	9.95	30.00
	2437	13.60	-----	13.60	30.00
	2462	9.06	-----	9.06	30.00
802.11ax HE20	2412	7.26	-----	7.26	30.00
	2437	13.97	-----	13.97	30.00
	2462	8.99	-----	8.99	30.00

Peak Power

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-1	11a	5180	19.05	0.57	19.62	--
		5200	19.09	0.57	19.66	--
		5240	19.27	0.57	19.84	--
	HT20	5180	18.86	0.72	19.58	--
		5200	18.89	0.72	19.61	--
		5240	19.03	0.72	19.75	--
	VHT20	5180	18.8	0.70	19.50	--
		5200	18.83	0.70	19.53	--
		5240	18.97	0.70	19.67	--
	HE20	5180	19.02	0.71	19.73	--
		5200	19.65	0.71	20.36	--
		5240	19.19	0.71	19.90	--

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2A	11a	5260	19.18	0.57	19.75	--
		5300	19.21	0.57	19.78	--
		5320	19.25	0.57	19.82	--
	HT20	5260	19.03	0.72	19.75	--
		5300	18.93	0.72	19.65	--
		5320	18.96	0.72	19.68	--
	VHT20	5260	18.85	0.70	19.55	--
		5300	18.88	0.70	19.58	--
		5320	18.83	0.70	19.53	--
	HE20	5260	19.26	0.71	19.97	--
		5300	19.26	0.71	19.97	--
		5320	19.15	0.71	19.86	--

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2C	11a	5500	19.61	0.57	20.18	--
		5580	19.26	0.57	19.83	--
		5700	20.24	0.57	20.81	--
	HT20	5500	19.45	0.72	20.17	--
		5580	18.94	0.72	19.66	--
		5700	19.93	0.72	20.65	--
	VHT20	5500	19.38	0.70	20.08	--
		5580	19.24	0.70	19.94	--
		5700	19.85	0.70	20.55	--
	HE20	5500	19.77	0.71	20.48	--
		5580	19.26	0.71	19.97	--
		5700	20.53	0.71	21.24	--

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-3	11a	5745	19.93	0.57	20.50	--
		5785	19.73	0.57	20.30	--
		5825	19.36	0.57	19.93	--
	HT20	5745	19.72	0.72	20.44	--
		5785	19.46	0.72	20.18	--
		5825	19.12	0.72	19.84	--
	VHT20	5745	19.57	0.70	20.27	--
		5785	19.41	0.70	20.11	--
		5825	19.01	0.70	19.71	--
	HE20	5755	19.92	0.71	20.63	--
		5795	19.68	0.71	20.39	--
		5775	19.35	0.71	20.06	--

Straddle channels

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2C	11a	5720	20.17	0.57	20.74	--
	HT20	5720	19.89	0.72	20.61	--
	VHT20	5720	19.79	0.70	20.49	--
	VHT40	5710	20.07	0.71	20.78	--

Average Power

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-1	11a	5180	9.64	0.57	10.21	23.98
		5200	9.57	0.57	10.14	23.98
		5240	9.22	0.57	9.79	23.98
	HT20	5180	9.49	0.72	10.21	23.98
		5200	9.55	0.72	10.27	23.98
		5240	9.21	0.72	9.93	23.98
	VHT20	5180	9.5	0.70	10.20	23.98
		5200	9.44	0.70	10.14	23.98
		5240	9.34	0.70	10.04	23.98
	HE20	5180	9.94	0.71	10.65	23.98
		5200	10.23	0.71	10.94	23.98
		5240	9.56	0.71	10.27	23.98

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2A	11a	5260	9.26	0.57	9.83	23.98
		5300	9.17	0.57	9.74	23.98
		5320	9.01	0.57	9.58	23.98
	HT20	5260	9.19	0.72	9.91	23.98
		5300	8.76	0.72	9.48	23.98
		5320	8.77	0.72	9.49	23.98
	VHT20	5260	9.1	0.70	9.80	23.98
		5300	8.83	0.70	9.53	23.98
		5320	8.79	0.70	9.49	23.98
	HE20	5260	9.34	0.71	10.05	23.98
		5300	9.05	0.71	9.76	23.98
		5320	8.84	0.71	9.55	23.98

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2C	11a	5500	8.7	0.571	9.271	23.979
		5580	7.98	0.571	8.551	23.979
		5700	9.46	0.571	10.031	23.979
	HT20	5500	8.66	0.721	9.381	23.979
		5580	7.81	0.721	8.531	23.979
		5700	9.27	0.721	9.991	23.979
	VHT20	5500	8.71	0.699	9.409	23.997
		5580	7.86	0.699	8.559	23.997
		5700	9.26	0.699	9.959	23.979
	HE20	5500	9.11	0.711	9.821	23.979
		5580	8.27	0.711	8.981	23.979
		5700	9.74	0.711	10.451	23.979

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-3	11a	5745	8.81	0.57	9.38	30.00
		5785	8.54	0.57	9.11	30.00
		5825	8.07	0.57	8.64	30.00
	HT20	5745	8.67	0.72	9.39	30.00
		5785	8.31	0.72	9.03	30.00
		5825	7.91	0.72	8.63	30.00
	VHT20	5745	8.65	0.70	9.35	30.00
		5785	8.38	0.70	9.08	30.00
		5825	7.95	0.70	8.65	30.00
	HE20	5755	9.12	0.71	9.83	30.00
		5795	8.79	0.71	9.50	30.00
		5775	8.41	0.71	9.12	30.00

Straddle channels

Band	Mode	Freq. (MHz)	Output Power (dBm)	Duty Factor (dB)	Total Output Power (dBm)	Output Power Limit (dBm)
UNII-2C	11a	5720	9.36	0.57	9.93	23.98
	HT20	5720	9.18	0.72	9.90	23.98
	VHT20	5720	9.19	0.70	9.89	23.98
	VHT40	5710	9.66	0.71	10.37	23.98

~ End of Report ~