



12. Radio Frequency Exposure

12.1.Applicable Standards

§1.1307(b)(3)(i)(A)	The available maximum time-averaged power is no more than 1 mW, regardless of separation distance.																																																	
§1.1307(b)(3)(i)(c)	ERP is below a threshold calculated based on the distance, R between the person and the antenna / radiating structure, where $R > \lambda / 2 \pi$. TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION <table><tr><th colspan="3">RF Source Frequency</th><th colspan="3">Minimum Distance</th><th>Threshold ERP</th></tr><tr><th>f_L MHz</th><th></th><th>f_H MHz</th><th>$\lambda_L / 2\pi$</th><th></th><th>$\lambda_H / 2\pi$</th><th>W</th></tr><tr><td>0.3</td><td>–</td><td>1.34</td><td>159 m</td><td>–</td><td>35.6 m</td><td>1,920 R²</td></tr><tr><td>1.34</td><td>–</td><td>30</td><td>35.6 m</td><td>–</td><td>1.6 m</td><td>3,450 R²/f²</td></tr><tr><td>30</td><td>–</td><td>300</td><td>1.6 m</td><td>–</td><td>159 mm</td><td>3.83 R²</td></tr><tr><td>300</td><td>–</td><td>1,500</td><td>159 mm</td><td>–</td><td>31.8 mm</td><td>0.0128 R²f</td></tr><tr><td>1,500</td><td>–</td><td>100,000</td><td>31.8 mm</td><td>–</td><td>0.5 mm</td><td>19.2R²</td></tr></table> Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.	RF Source Frequency			Minimum Distance			Threshold ERP	f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W	0.3	–	1.34	159 m	–	35.6 m	1,920 R ²	1.34	–	30	35.6 m	–	1.6 m	3,450 R ² /f ²	30	–	300	1.6 m	–	159 mm	3.83 R ²	300	–	1,500	159 mm	–	31.8 mm	0.0128 R ² f	1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R ²
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§1.1307(b)(3)(i)(B)	Device operates between 300MHz and 6GHz and the maximum time-averag power of effective radiated power (ERP), whichever is greater, $\leq P_{th}$. $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ Where $x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ and $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ d = the separation distance (cm);																																																	

**12.2.EUT Specification**

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz ☒ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☒ WLAN: 5725MHz ~ 5850MHz ☐ Bluetooth: 2402MHz ~ 2480MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☐ Blanket 1 mW Blanket Exemption ☒ MPE-based Exemption ☐ SAR-based Exemption



12.3. Test Result

ANT Type: Dipole, Non-beamforming						
Channel Frequency (MHz)	Max. Conducted output (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Max. Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p. Power (mW)	Limit (mW)
5180-5240	20.48	20.98	4.4	23.23	210.38	3060
5745-5825	27.74	28.24	4.4	30.49	1119.44	3060

ANT Type: Dipole, Beamforming						
Channel Frequency (MHz)	Max. Conducted output (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Max. Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p. Power (mW)	Limit (mW)
5180-5240	17.45	17.95	7.32	23.12	205.12	3060
5745-5825	27.57	28.07	7.32	33.24	2108.63	3060

ANT Type: Dipole, Non-beamforming						
Channel Frequency (MHz)	Max. Conducted output (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Max. Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p. Power (mW)	Limit (mW)
5180-5240	18.95	19.45	6.5	23.80	239.88	3060
5745-5825	20.86	21.36	6.5	25.71	372.39	3060

ANT Type: Dipole, Beamforming						
Channel Frequency (MHz)	Max. Conducted output (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Max. Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p. Power (mW)	Limit (mW)
5180-5240	14.13	14.63	9.51	21.99	158.12	3060
5745-5825	20.71	21.21	9.51	28.57	719.45	3060

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