

RF Exposure evaluation

According to 447498 D04 Interim General RF Exposure Guidance v01

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula (B.1).
The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)											
Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50	
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

Band	Frequency (MHz)	Output power to antenna (dBm)	Ant gain(dBi)	EIRP(dBm)	ERP(dBm)	ERP(mw)	Distance (cm)	P _{th} (mW)
5.2G WIFI	802.11ac(VHT20) 5180MHz ANT 2	13.66	2.4	16.06	13.91	24.60	2.5	41.8
	802.11n(HT20) 5200MHz MIMO	13.46	2.4	15.86	13.71	23.50	2.5	41.7
5.8G WIFI	802.11n(VHT20) 5825MHz ANT 2	11.99	2.97	14.96	12.81	19.10	2.5	39.6
	802.11ac(VHT20) 5825MHz MIMO	12.11	2.97	15.08	12.93	19.63	2.5	39.6

ERP = EIRP -2.15 dB

Note: Then SAR evaluation is not required.

Remark:

The shortest distance between antenna and The manual part is 2.5cm.



25mm



25mm



40mm



40mm



40mm



40mm