

FCC§1.1307 (b) (3) & §2.1091- MPE-Based Exemption

Applicable Standard

According to subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

SAR-Based Exemption:

A more comprehensive exemption, considering a variable power threshold that depends on both the separation distance and power, is provided in § 1.1307(b)(3)(i)(B). This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with test separation distances between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions.

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

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);

Result

For worst case:

Mode	Frequency (MHz)	Tune up conducted power	Antenna Gain		The Greater of Conducted Power or ERP		Evaluation Distance (m)	P _{th} (mW)
		(dBm)	(dBi)	(dBd)	(dBm)	(mW)		
LTE/NR B2	1850-1910	25	1.37	-0.78	25	316.2	0.2	3060.0
LTE B4	1710-1755	25	1.37	-0.78	25	316.2	0.2	3060.0
LTE/NR B5	824-849	25	1.18	-0.97	25	316.2	0.2	1681.0
LTE/NR B7	2500-2570	25	2.07	-0.08	25	316.2	0.2	3060.0
LTE/NR B12	699-716	25	1.18	-0.97	25	316.2	0.2	1426.0
LTE/NR B13	777-787	25	1.18	-0.97	25	316.2	0.2	1585.1
LTE/NR B14	788-798	25	1.18	-0.97	25	316.2	0.2	1607.5
LTE B17	704-716	25	1.18	-0.97	25	316.2	0.2	1436.2
LTE/NR B25	1850-1915	25	1.37	-0.78	25	316.2	0.2	3060.0
LTE/NR B26	814-849	25	1.18	-0.97	25	316.2	0.2	1660.6
LTE/NR B30	2305-2315	25	1.11	-1.04	25	316.2	0.2	3060.0
LTE/NR B38	2570-2620	25	2.07	-0.08	25	316.2	0.2	3060.0
LTE B41	2496-2690	28	2.07	-0.08	28	631	0.2	3060.0
NR B41	2496-2690	31	2.07	-0.08	31	1258.9	0.2	3060.0
LTE/NR B48	3550-3700	20	0.58	-1.57	20	100	0.2	3060.0
LTE/NR B66	1710-1780	25	1.37	-0.78	25	316.2	0.2	3060.0
LTE/NR B71	663-698	25	1.18	-0.97	25	316.2	0.2	1352.5
NR B77	3450-3550 3700-3980	31	0.58	-1.57	31	1258.9	0.2	3060.0
NR B78	3300-3800	31	0.58	-1.57	31	1258.9	0.2	3060.0

Note: 1. The tune up conducted power and antenna gain was declared by the applicant.
2. 0dBd=2.15dBi

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.