



Tracker: AXXC20-U3

Maximum Permissible Exposure
FCC, Part 27

Calculations for Maximum Permissible Exposure Levels

Power Density = P_d (mW/cm²) = $EIRP / (4\pi d^2)$

$EIRP = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = $10^{(G \text{ (dBi)} / 10)}$

The Axxcelera Broadband Wireless AxxceLTE has 4 antenna ports and calculations are based on a worst case scenario. The AxxceLTE is a professionally installed device.

Maximum Antenna Gain = 18.0 dBi (Numeric 63.1)

Maximum Conducted Power Measured (15 MHz, Channel 2593 MHz) = +36.89 dBm

Σ (4 Chains) dBm = 42.89 dBm

The EUT belongs to the Controlled Exposure the limit of power density is 5.0 mW/cm²

Freq. Band (MHz)	Antenna Gain (dBi)	Effective Numeric Gain (numeric)	Max Peak Output Power (dBm)	Peak Output Power (mW/EIRP)	Distance (cm)	
					Calculated Safe Distance @ 5mW/cm ² Limit(cm)	Minimum Separation Distance (cm)
2593.0	18	63.1	42.89	1227522.2	137.8	137.8

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification

Maximum Permissible Exposure Limits

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency levels in excess of the Commission's guidelines. See §1.1310 of this chapter.

Limit = 5 mW / cm² from 1.310 Table 1, (A) Limits for Occupational/Controlled Exposure

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty	±1.33dB
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