



FCC ID NCMOMO3311

Maximum Permissible Exposure

as specified in Table 1B of 47 CFR 1.1310 – Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure

Frequency range (MHz)	Power density (mW/cm ²)
300 – 1,500	f/1500
1,500 – 100,000	1.0

Calculations 850 MHz band

Maximum peak output power at antenna input terminal: 32.15 dBm (1.64059 W)

Predicted distance **R**: 20 cm
Predicted frequency: 824.2 MHz

MPE limit **S**: 0.5494667 mW/cm²

Equation OET bulletin 65, page 18, edition 97-01: $S = P \cdot G / (4\pi R^2)$

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna

Maximum allowable antenna gain: **2.2621 dBi**

Prediction

The maximum allowable MPE value of 0.5494667 mW/cm² will be reached in a distance of 20 cm in case that an antenna with an antenna gain of 2.2621 dBi will be used. This means that the power density levels in a distance of 20 cm are in accordance with the FCC regulations as long as the used antenna has a gain below 2.2621 dBi.



Calculations 1900 MHz band

Maximum peak output power at antenna input terminal: 29.67 dBm (0.92683 W)

Prediction distance **R**: 20 cm
Prediction frequency: 1880 MHz

MPE limit **S**: 1 mW/cm²

Equation OET bulletin 65, page 18, edition 97-01: $S = P \cdot G / (4\pi R^2)$

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna

Maximum allowable antenna gain for mobile/portable stations: **3.3403 dBi**
Maximum allowable antenna gain for other stations: **7.3427 dBi**

Prediction

The maximum allowable MPE value of 1 mW/cm² will be reached in a distance of 20 cm in case that an antenna with an antenna gain of 7.3427 dBi will be used. This means that the power density levels in a distance of 20 cm are in accordance with the FCC regulations as long as the used antenna has a gain below 7.3427 dBi. For mobile and portable stations the EIRP is restricted to 2.0 Watts, (§24.232 (c)). Therefore the maximum antenna gain is 3.3403 dBi.

Yours sincerely

A handwritten signature in blue ink, reading 'Holger Leutfeld', on a light blue background.

Holger Leutfeld, Project Manager