MPE Analysis Report

The Equipment Under Test (EUT) is a Pinpad which is a mobile POS device. It supports reading Barcode, Tape, EMV smart credit card and NFC credit card. The 13.56MHz NFC reader is for reading NFC credit card. The EUT is powered by USB port.

NFC Portion (13.56MHz single channel)
Antenna Type: Internal, Integral
Antenna Gain: 0dBi
Maximum conducted RF power: 0dBm
Maximum allowed production tolerance: +0dB / -40dB
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For Maximum Permissible Exposure (MPE) evaluation of the unit, the maximum power density at 20 cm from this transmitter shall be less than the General Population / Uncontrolled MPE limit in OET Bulletin 65 and meet the requirement listed in KDB447498.

For the NFC portion of the EUT, the measured powers among all the measured channels were within its production tolerance. The antenna gain is 0 dBi = 1 (num gain) and its maximum source-based time-averaging duty factor is 100%. From these data and its operating configuration, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET Bulletin 65 as follow:

The EIRP radiated power
= conducted power (with maximum tolerance) + antenna gain
= 0 dBm + 0 dBi
= 0 dBm (1 mW)

The radiated (EIRP) source-based time-averaging output power
= (1 * 1) mW
= 1 mW

The power density at 20 cm from the antenna
= EIRP / 4πR^2
= 0.0002 mW cm-2