RF Exposure evaluation

According to KDB 447498 D01 General RF Exposure Guidance v05

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] $\cdot$ [$\sqrt{f(GHz)}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

· f(GHz) is the RF channel transmit frequency in GHz
· Power and distance are rounded to the nearest mW and mm before calculation
· The result is rounded to one decimal place for comparison

$eirp = pt \times gt = (EXd)^2/30$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10^{((dBuV/m)/20)}/10^6$

d = measurement distance in meters (m)---3m

So $pt = (EXd)^2/30 \times gt$

Ant gain 2 dBi ;so Ant numeric gain=1.585

Field strength = 95.92 dBuV/m @3m

So $Pt = \{ [10^{(95.92/20)}/10^6 \times 3]^2/30 \times 1.585 \} \times 1000$ mW = 0.754 mW

So (0.754 mW/5mm) x $\sqrt{2.440}$ GHz = 0.24 < 3

Then SAR evaluation is not required