RF exposure evaluation

Subject: FCC Application for FCC ID: ZME-MLWG3

According to 447498 D01 General RF Exposure Guidance v06

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)] ·

[$\sqrt{}$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 x 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 x gt

DTS (2.4G Band)：

Field strength = 94.13 dBuV/m @3m (2412 MHz)　(Test Report page 275)

Ant gain = 3.07 dBi ;so Ant numeric gain = $10^{(3.07 / 10)}$ = 2.02

So pt = {{ [$10^{(94.13 / 20)}$ / 10^6] x 3 } ^{2} / 30 x 2.02 } x 1000 mW = 1.574 mW

So (1.574 mW / 5mm) x $\sqrt{}$2.412 = 0.489 < 3

NII (5.1G & 5.8G Band)：

Field strength = 85.47 dBuV/m @3m (5200 MHz)　(Test Report page 289)

Ant gain = 2.84 dBi ;so Ant numeric gain = $10^{(2.84 / 10)}$ = 1.92

So pt = {{ [$10^{(85.47 / 20)}$ / 10^6] x 3 } ^{2} / 30 x 1.92 } x 1000 mW = 0.20 mW

So (0.20 mW / 5mm) x $\sqrt{}$5.2 = 0.093 < 3

Then SAR testing/evaluation is not required