

## ELECTRONICS TESTING CENTER, TAIWAN

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(1) According to KDB 447498 section 4.3.1, the 1-g SAR test exclusion thresholds at test separation distance  $\leq 50$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz})] \leq 3.0$$

The max. average power of channel, including tune-up tolerance(mW) is **0.4 mW (-4dBm)** @ **2480MHz** (With Tune-up tolerance),

The min. test separation distance (mm) is **5 mm**,

So,  $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz})] = 0.13 < 3.0$  (With Tune-up tolerance).

Therefore, the standalone SAR Test Exclusion Threshold condition is satisfied.

(2) According to KDB 447498 section 4.3.2 b), when an antenna qualifies for the standalone SAR test exclusion of 4.3.1 and also transmits simultaneously with other antennas, the standalone SAR value must be estimated according to the following to determine the simultaneous transmission SAR test exclusion criteria:

1)  $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})/x}] \text{ W/kg}$ , for test separation distances  $\leq 50$  mm;  
where  $x = 7.5$  for 1-g SAR and  $x = 18.75$  for 10-g SAR.

2) 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distance is  $> 50$  mm

The max. average power of channel, including tune-up tolerance(mW) is **0.4 mW (-4dBm)** @ **2480MHz** (With Tune-up tolerance),

The min. test separation distance (mm) is **5 mm**,

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})/x}] = 0.0168.$$

So, the estimated SAR for EUT is 0.0168 W/kg (1-g).

(3) According to KDB 447498 section 4.3.2 c), when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The simultaneously transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion. The ratio is determined by  $(\text{SAR}_1 + \text{SAR}_2)^{1.5} / R_i$ , rounded to two decimal digits, and must be  $\leq 0.04$  for all antenna pairs in the

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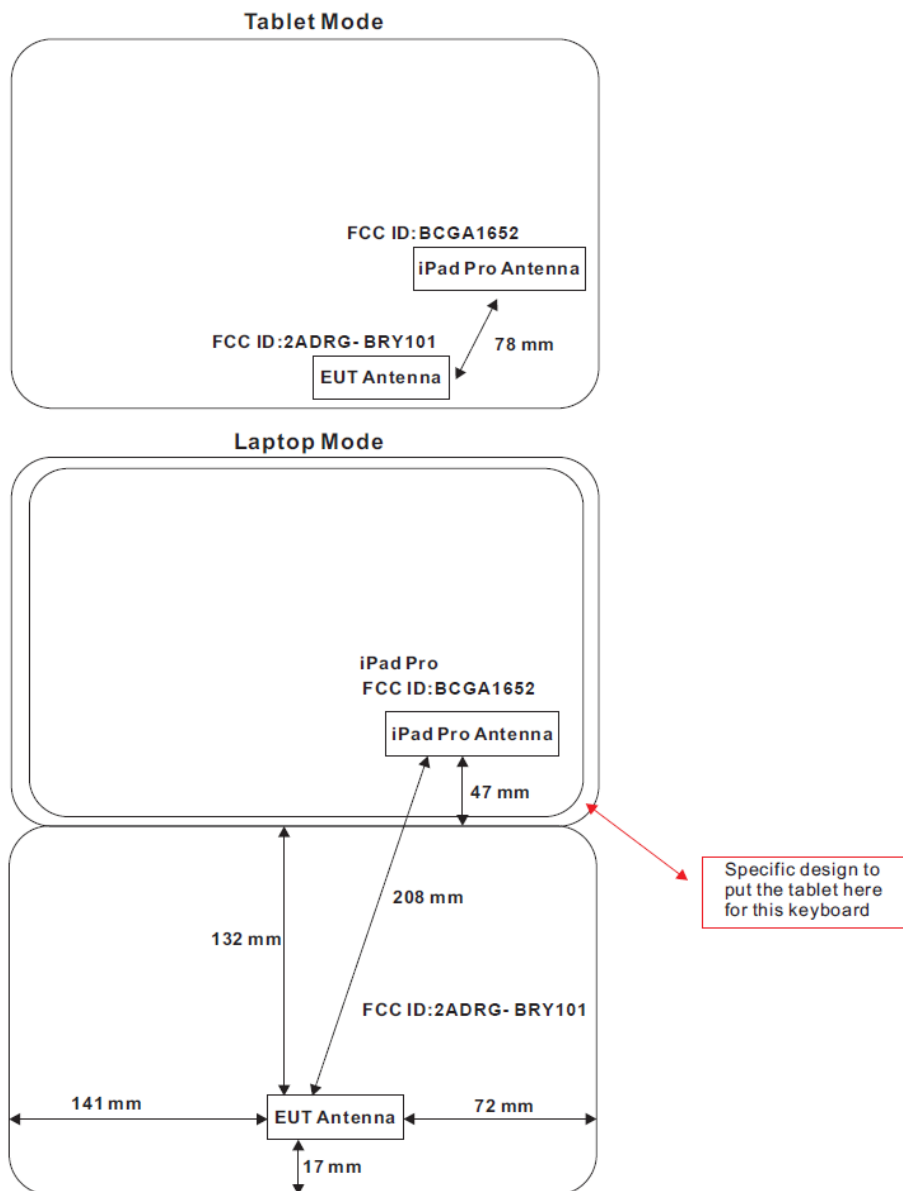
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configuration to qualify for 1-g SAR test exclusion. When 10-g SAR applies, the ratio must be  $\leq 0.10$ . SAR1 and SAR2 are the highest reported or estimated SAR values for each antenna in the pair, and  $R_i$  is the separation distance in mm between the peak SAR locations for the antenna pair.

The SAR value from iPad Pro (FCC ID:BCGA1652) is 1.456 W/kg (1-g).  
The sum of SAR is (SAR1+SAR2) = (0.0168 + 1.456) = 1.4728 W/kg (1-g).

The separation distance between the peak SAR locations for the antenna pair is illustrated below.



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$$\begin{aligned} & \text{SAR to peak location separation ratio} \\ & = (SAR1 + SAR2)^{1.5}/R_i \\ & = (0.0168 + 1.456)^{1.5} / 78 \\ & = 0.0229 \leq 0.04 \end{aligned}$$

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

Signature S. S. Liou

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