

Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,

- 1) Scalar SAR summation < 1.6W/kg.
- 2) $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan
If $SPLSR \leq 0.04$, simultaneously transmission SAR is compliant
- 3) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg

According to KDB 447498 D01 simultaneous SAR testing can be excluded under the following conditions:

The sum of the SAR for all simultaneously transmitting antennas is within the SAR limit.

If the sum of the SAR for all simultaneously transmitting antennas exceeds the SAR limit testing can still be excluded if the SAR to Peak Location Ratio (SPLSR) between any pair of simultaneously transmitting antennas is ≤ 0.04

$$SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$$

Where:

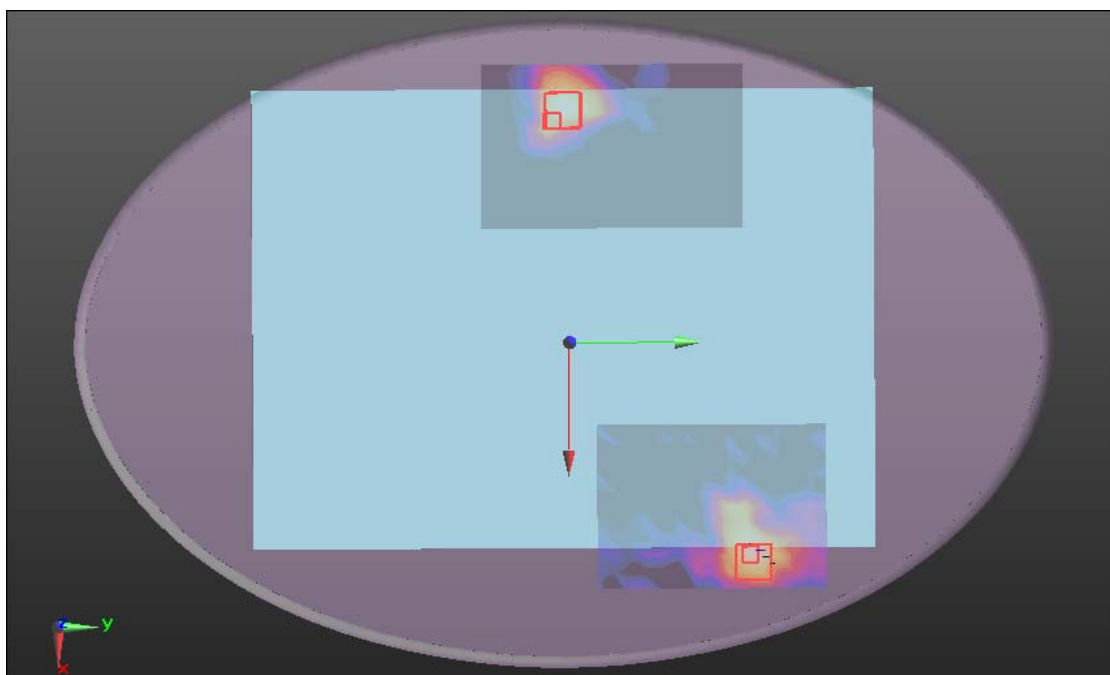
SAR₁ is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$

standalone measurements (Wi-Fi U-NII-3)

SUM Σ SAR1g 5G					
Position	Distance	Stand alone SAR(1g) [W/kg]		SUM SAR(1g)[W/kg]	
	[mm]	QCNFA344A Main U-NII-3①	1804 Main U-NII-3②	①+②	SPLSR (Yes/No)
Bottom	0	0.381	1.6	1.981	Yes



Conclusion:

When the Σ 1-g SAR is less than 1.6 W/kg simultaneous transmission testing is not required

When the Σ 1-g SAR is greater than 1.6 W/kg SPLSR evaluation is required

SAR to Peak Location Separation Ratio (SPLSR)

Position	Worst-case combination		SUM SAR(1g) [W/kg]	Calculated distance	SPLSR	Simultaneous SAR
	①	②				
Bottom	0.381	1.6	1.981	293.06	0.0095	No
SAR peak location(m)						
X,Y,Z	-0.139,-0.007,-0.178	0.127,0.116,-0.177				

Conclusion:

SPLSR is ≤ 0.04 therefore simultaneous transmission testing is not required