

RF Exposure evaluation

According to 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:

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

Worse case is as below:

Mode	f (GHz)	Antenna Distance (mm)	RF output power		SAR Test Exclusion Threshold	SAR Test Exclusion
			dBm	mW		
2.4G WLAN (MIMO)	2.452	5	6.33	4.30	1.35 < 3.0	Yes
5G WLAN (MIMO)	5.200	5	5.70	3.72	1.69 < 3.0	Yes
2.4G (ANT1)	2.412	5	4.187	2.62	0.81 < 3.0	Yes
2.4G (ANT2)	2.462	5	3.423	2.20	0.69 < 3.0	Yes
5G (ANT1)	5.200	5	3.204	2.09	0.95 < 3.0	Yes
5G (ANT2)	5.200	5	3.155	2.07	0.94 < 3.0	Yes

Maximum Simultaneous transmission MPE Ratios for 2.4GHz WLAN and 5G WLAN

Mode	Maximum MPE ratio _{2.4GWLAN}	Maximum MPE ratio _{5GWLAN}	Σ MPE ratios	Limit	Results
2.4G _(ANT1) +5G _(ANT2)	0.81	0.94	1.75	3.0	PASS
2.4G _(ANT2) +5G _(ANT1)	0.69	0.95	1.64	3.0	PASS

The device 2.4G WLAN use 2T2R MIMO technology, 5GWLAN use 2T2R MIMO technology, but does not support 2.4G WIFI and 5G WIFI simultaneous transmission on the same antenna.

Then SAR evaluation is not required.