

RF Exposure Considerations for FCC ID: 2AJ97PLUG001ALBLEFG

Per FCC KDB 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 (Eq.1) below:

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

If result of Eq.1 is less than or equal to the exemption limits below, then corresponding SAR test is not required.

SAR Test Configuration	Exemption limit
1-g SAR	Result of Eq.1 ≤ 3.0
10-g extremity SAR	Result of Eq.1 ≤ 7.5

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.

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

For our device, the parameters for consideration are as follows:

Channel	Frequency (GHz)	Maximum source-based time averaged conducted output power including tune-up tolerance (mW)	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
0	2.402	0.887 mW	5mm	0.27	3.0	7.5	Exempt from SAR
39	2.441	0.760 mW	5mm	0.23	3.0	7.5	Exempt from SAR
78	2.480	0.634 mW	5mm	0.20	3.0	7.5	Exempt from SAR

Conclusion: Therefore our device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.

Collocation with another RF transmitter:

The device of this application can be collocated with the RF BT transmitter **FCC ID: 2ABRUBDLEM201P** SAR exemption determination:

<i>Channel</i>	<i>Frequency (GHz)</i>	<i>Maximum source-based time averaged conducted output power including tune-up tolerance (mW)</i>	<i>Minimum separation distance (mm)</i>	<i>Result of Eq. 1</i>	<i>Limit for 1-g SAR</i>	<i>Limit for 10-g extremity SAR</i>	<i>Verdict</i>
0	2.402	1.294 mW	5mm	0.40	3.0	7.5	Exempt from SAR
39	2.442	1.143 mW	5mm	0.36	3.0	7.5	Exempt from SAR
78	2.480	0.977 mW	5mm	0.31	3.0	7.5	Exempt from SAR

Collocation calculation for 1g SAR:

$$(0.27/3) + (0.40/3) = 0.23 \\ < 1$$

Collocation calculation for 10g extremity SAR:

$$(0.27/7.5) + (0.40/7.5) = 0.09 \\ < 1$$

Conclusion: The modules FCC ID: 2AJ97PLUG001ALBLEFG and FCC ID: 2ABRUBDLEM201P can be collocated, and complies with FCC's RF radiation exposure limits for general population without SAR evaluation.