FCC §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

According to§2.1093and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 General RF Exposure Guidance

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)] • [√ f (GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

1. f (GHz) is the RF channel transmit frequency in GHz.

2. Power and distance are rounded to the nearest mW and mm before calculation.

3. The result is rounded to one decimal place for comparison.

4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

Measurement Result

Standalone SAR test exclusion

Module 1(RB8762-35A2)

Mode	Frequency Range (MHz)	Max Tune-up Conducted Power		Calculated Distance (mm)	Calculated Value	Threshold (10-g SAR)	SAR Test Exclusion
		(dBm)	(mW)				
BLE 1M	2402-2480	7.0	5.01	5	1.6	7.5	Yes
BLE 2M	2404-2478	7.0	5.01	5	1.6	7.5	Yes

Module 2(IB727T1)

Mode	Frequency Range (MHz)	Max Tune-up Conducted Power		Calculated Distance (mm)	Calculated Value	Threshold (10-g SAR)	SAR Test Exclusion
		(dBm)	(mW)				
BLE 1M	2402-2480	0.5	1.12	5	0.4	7.5	Yes
BLE 2M	2402-2480	0.5	1.12	5	0.4	7.5	Yes
BT	2402-2480	1.5	1.41	5	0.4	7.5	Yes

Standalone SAR estimation:

Module 1(RB8762-35A2)

Mode	Frequency Range (MHz)	Max Tune-up Conducted Power		Calculated Distance (mm)	Calculated Value	Estimated10-g (W/kg)
		(dBm)	(mW)			
BLE 1M	2402-2480	7.0	5.01	5	1.6	0.085
BLE 2M	2404-2478	7.0	5.01	5	1.6	0.085

Module 2(IB727T1)

Mode	Frequency Range (MHz)	Max Tune-up Conducted Power		Calculated Distance (mm)	Calculated Value	Estimated10-g (W/kg)
		(dBm)	(mW)			
BLE 1M	2402-2480	0.5	1.12	5	0.4	0.021
BLE 2M	2402-2480	0.5	1.12	5	0.4	0.021
BT	2402-2480	1.5	1.41	5	0.4	0.021

The EUT is a limb-worn devices.When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
[(*max. power of channel, including* ***tune-up tolerance****, mW*)/(*min. test separation distance, mm*)]·[√f(GHz)/*x*] W/kg for *test separation distances* ≤ 50 mm;
where x = 18.75 for 10-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

Module 1 and module 2 can Simultaneous Transmit

Simultaneous SAR test exclusion considerations:

Mode	Reported SAR (W/kg)		ΣSAR < 4.0W/kg
	SAR 1	SAR 2	
Module 1+Module 2	0.085	0.021	0.106

Conclusion: ΣSAR < 4.0 W/kg therefore simultaneous transmission SAR is not required.