RF Exposure Evaluation

REQUIREMENT

○ Single transmitter:

KDB447498 D01 General RF Exposure Guidance v06, Clause 4.3.1:

a) For 100 MHz to 6 GHz and test separation distances < 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] • [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, 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 values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is \leq 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 according to 4.1 f) is applied to determine SAR test exclusion.

- b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
 - {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance 50 mm)·(f_(MHz)/150)]} mW, for 100 MHz to 1500 MHz
 - {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance 50 mm) 10]} mW, for > 1500 MHz and ≤ 6 GHz
- c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion:
 - For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f_(MHz))]
 - For test separation distances < 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by ¹/₂
 - SAR measurement procedures are not established below 100 MHz.

◎ Simultaneous transmission:

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is≤1.0.

TEST RESULT

Passed

Not Applicable

Radio Type	Frequency range (MHz)	Conducted Power (dBm)	Maximum Tune-up (dBm)	Calculating data	Limit	Result
Bluetooth	2402-2480	4.38	5.00	0.9802	3.00	Pass

Test Frequency	H-field strength	H-field strength H-field strength Limit		Limit	Result	
	(dBuV/m)	(dBm)	(mW)	(mW)	rtesuit	
13.56MHz	36.99	-58.24	0.0000015	443	Pass	

Note:

1) The exposure evaluation safety distance is 5mm.

Simultaneous transmission:

Radio Type	Calculating data	Calculating data level	Computed result	Limit	Result
Bluetooth	0.9802	3.00	0.2267	1.0	PASS
13.56MHz	0.0000015	443	0.3207		