

RF Exposure Evaluation Report

1 RF EXPOSURE

Product Name: Intelligent tea making machine controller
 Model No.: Z-3B26, Z-3A22, Z-3A26 Z-3B22, Z-3B26L, Z-3B26R,
 Z-3B22L, Z-3B22R
 FCC ID: 2BHC2-Z3B26

2. RF Exposure Evaluation

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures.

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

2.1 LIMITS

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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

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 according to KDB447498 D01 clause 4.1 f) is applied to determine SAR test. (also see Appendix A for approximate exclusion threshold numerical values at selected frequencies and distances.)

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 (also illustrated in Appendix B)

- 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot f(\text{MHz}/150)]\}$ mW, for 100 MHz to 1500 MHz

- 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for $> 1500 \text{ MHz}$ and $\leq 6 \text{ GHz}$
- c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):
- 1) For test separation distances $> 50 \text{ mm}$ and $< 200 \text{ mm}$, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$
 - 2) For test separation distances $\leq 50 \text{ mm}$, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$
 - 3) SAR measurement procedures are not established below 100 MHz.

2.2 EUT RF EXPOSURE EVALUATION

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.0 in linear scale.
 The Max Conducted Peak Output Power data refer to report DACE240613030RL001&
 DACE240613030RL002
 worst mode and channel:

Test channel (MHz)	PK Power (dBm)	Maximum tune-up Power (dbm)	Maximum tune-up Power (dbm)	Maximum tune-up Power (mW)	Calculated value	Limit	Result
DH5-2402	3.75	3.0 ± 1	4.0	2.512	0.078	3.0	Pass
DH5-2441	3.48	3.0 ± 1	4.0	2.512	0.078	3.0	Pass
DH5-2480	2.96	3.0 ± 1	4.0	2.512	0.079	3.0	Pass
802.11b –2412MHz	11.68	12.0 ± 1	13	19.953	0.620	3.0	Pass
802.11b –2437MHz	11.68	12.0 ± 1	13	19.953	0.623	3.0	Pass
802.11b –2462MHz	10.77	11.0 ± 1	12	15.849	0.497	3.0	Pass

RF Exposure Evaluation simultaneous transmission operations:

According to 865664D02 2.2 d) 1):

The sum of the ratios of the spatially averaged results to the applicable frequency dependent MPE limits :

Simultaneous transmission mode	Calculated value	Limit	Result
2.4G WIFI + BT	$0.078 + 0.623$	3.0	Pass

NOTE: EUT BT & wifi-2.4G ANT minimum distances is 50mm away from the human body.



Conclusion:

SAR Test Exclusion Threshold is less than limit(KDB447498 D01 Appendix A),so there is no sar requirement.