

RF Exposure requirements

Product name	SMART CARD READER
Model number	DRAGON BT
FCC ID	SWUDRAGONBT
Radio specification	2.4 GHz Bluetooth transceiver
Antenna	2.4 GHz Omni-directional chip antenna
Power source	DC 3.7 V battery

According to the KDB 447498, the following standalone SAR test exclusion was considered to qualify for the SAR test exclusion.

Tx frequency range	2402 MHz - 2480 MHz
Device category	Handheld portable device
Maximum conducted output power	1.23 mW (0.90 dBm)
Limit	10 mW (distance = 5 mm)

RF average power output (measured):

unit: mW

Data rate (packet)	Operating frequency (for Bluetooth device)		
	2402 MHz	2441 MHz	2480 MHz
Basic (DH5)	1.23	0.89	0.56
EDR (2-DH5)	0.90	0.60	0.36
EDR (3-DH5)	0.94	0.63	0.38

SAR test exclusion thresholds:

$[(\text{max. power of channel, mW}) / (\text{min. separation distance, mm})] \cdot \sqrt{f_{(\text{GHz})}} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$

MHz	5	10	15	20	25	29	30	35	40	45	50	test separation distance (mm)
2450	10	19	29	38	48	56	57	67	77	86	96	SAR test exclusion threshold (mW)

The source-based time-averaged maximum conducted output power of the RF channel is less than 10 mW, and the minimum separation distance of 5 mm can be achieved. Therefore the transmitter complies with the RF exposure requirements and the SAR is not required.