

FCC SAR Exclusion Evaluation (FCC ID: EF400190)

Per KDB 447498 D01 General RF Exposure Guidance v06 Section 4.3.1

Standalone SAR test exclusion considerations state

- 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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [v f(\text{GHz})] \leq 3.0$ 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 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 ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz

EUT: Garage Door Opener Remote Command Transceiver with TILT Sensor (Model: GD00BLE-1)

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Separation distance (mm)	Calculated value	SAR test exclusion thresholds
BLE (250Kbps)	2402-2480MHz	5.012	5	0.998	3
BLE (2Mbps)	2402-2480MHz	5.005	5	0.998	3

The above results show that the device complies with the SAR exclusion.

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Date: Oct 1st, 2019

FCC MPE Evaluation (FCC ID: EF400190)

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	2402-2480MHz
Limits for General Population/Uncontrolled Exposure in the band of:	300 - 1500 MHz,
Power Density Limit:	f/1500 mW/cm ²
Limits for General Population/Uncontrolled Exposure in the band of:	1500 - 100,000 MHz
Power Density Limit:	1 mW / cm ²

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

Prediction distance 20 cm

EUT: Garage Door Opener Remote Command Transceiver with TILT Sensor (Model: GD00BLE-1)

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Separation distance (cm)	Power Density (mW/ cm ²)	MPE Limit (mW/ cm ²)
BLE (250Kbps)	2402-2480MHz	5.012	2.1	20	0.001	1
BLE (2Mbps)	2402-2480MHz	5.005	2.1	20	0.001	1

The above results show that the device complies with the MPE requirement.

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ISED RF Exposure Evaluation (ISED ID: 1078A-00190)

RF Exposure Requirements:	RSS-102 Issue 5: March 2015
RF Radiation Exposure Limits:	RSS-102 Issue 5: March 2015
RF Radiation Exposure Guidelines:	RSS-102 Issue 5: March 2015
EUT Frequency Band:	2402-2480MHz
Limits for General Population/Uncontrolled Exposure in the band of:	300 - 6,000 MHz
Exemption limit for Routine Evaluation:	$1.31 \times 10^{-2} f_{0.6834}^2 \text{ W}$

EUT: Garage Door Opener Remote Command Transceiver with TILT Sensor (Model: GD00BLE-1)

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Antenna Gain (dBi)	Max E.I.R.P (dBm)	Max E.I.R.P (W)	Evaluation Exemption limit (W)
BLE (250Kbps)	2402-2480MHz	5.012	2.1	7.112	0.005	2.736
BLE (2Mbps)	2402-2480MHz	5.005	2.1	7.105	0.005	2.736

The above results show that the E.I.R.P of this device is below the exemption limit for Routine Evaluation.

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