

RF exposure test exclusion evaluation report

Product:	Laser Range Finder
Model no.:	GenePro G1, GenePro G2, GenePro G3, GenePro G4, GenePro G5, GenePro G6, GenePro G7, GenePro G8, GenePro G9, PFG 10, PFG 20, PFG 30, PFG 50, PFG 60, PFG 70, PFG 80, PFG 90, IONME 5, PF1, PF110, PF120, PF130, PF150, PF160, PF170, PF180, PF190
FCC ID:	2AEOGGENEG1
Rating:	5VDC, 1A charge by USB-C or 3.7VDC, 1000mAh supplied by rechargeable Li-ion battery.
RF Transmission Frequency:	2402MHz-2480MHz
Modulation:	GFSK
Antenna Type:	Chip Antenna
Max Antenna Gain:	-5.87dBi
Description of the EUT:	The Equipment Under Test (EUT) is a Laser Range Finder which supports BLE-2Mbps function.
Reference Report	6895025085301

1. Limit and Guidelines on Exposure to Electromagnetic Fields

According to §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 v06, Mobile Portable RF Exposure, no SAR required if power is lower than the flowing threshold:

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:

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

$[\sqrt{f(\text{GHz})}] \leq 3.0$ 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 calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 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. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

2. Calculation method

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

Max Tune-up power = -1.0dBm = 0.794mW

Distance = 5 mm

$f = 2.440$ GHz

$[0.794/5] \cdot \text{SQRT}(2.440) = 0.248$

$0.248 \leq 3.0$

Therefore, excluded from SAR testing.

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