Technical Memorandum

Antenna justification statement of AF100 according to FCC specifications

Performed for Glowforge Inc.

Project no.: 122-31550-14 Rev.A

03 April 2023

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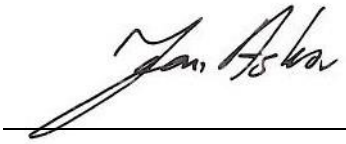
Title	Antenna justification statement of AF100 according to FCC specifications
Assessment object	AF100
Report no.	122-31550-14 Rev.A
Client	Glowforge Inc. 1938 Occidental Avenue S, Suite C WA 98134 Seattle Washington United States
Manufacturer	Glowforge Inc.
FORCE personnel	Jan Askov
Date	03 April 2023

Project Manager



Jan Askov
Senior Specialist
FORCE Technology

Antenna justification statements

Product name: AF100 with FCC ID 2A83C-1JM2D

BLE radio: FCC §15.249
Evaluation criteria: Antenna is permanently attached to the unit.
Type of antenna: PCB antennas (PIFA)
Frequency range: 2400-2483.5 MHz

The antenna gain is a result of the measurement, of a field strength measurement for Part 15.249, then one statement is sufficient.

This antenna justification statement confirms that all measurements were made radiated to demonstrate compliance with FCC limits (fundamental/spurious emissions) and therefore no additional documentation on antenna gain is required.

The additional information about the antenna submitted:

- See test report: 122-31550-6
- Internal photos of the antenna with dimensions
- PIFA antenna: (BLE radio)
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Product name: AF100 with FCC ID 2A83C-1JM2D

NFC/RFID radio: FCC §15.225
Evaluation criteria: Antenna is permanently attached to the unit.
Type of antenna: PCB antennas (Coil)
Frequency range: 13.110-14.010 MHz

This antenna justification statement confirms that all measurements were made radiated to demonstrate compliance with FCC limits (fundamental/spurious emissions) and therefore no additional documentation on antenna gain is required. See test report: 122-31550-5, page 35.

The additional information about the antenna submitted:

- See test report: 122-31550-5
- The antenna gain is very low due to antenna coil design – a very short antenna, the length of the coil wire is very short compared to a λ/4.
- Internal photos of the antenna with dimensions
- Loop antenna: (NFC/RFID radio)