MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2026-469
Item to be Scouted	Turnkey Printed Circuit Board Assembly — Bluetooth Optical Sensing Module
Days to be scouted	60
Response Due By	10/19/2026
Description	Bluetooth-enabled sensor electronics assembly for a connected athletic training device. The assembly detects and counts impacts on a speed bag in real time and transmits the data to a mobile application over Bluetooth Low Energy for

Section 2: Technical Information

Type of supplier being sought	Contract manufacturer
Reason	Transitioning from hand-assembled commercial off-the-shelf components to a purpose-built integrated assembly. Actively seeking a domestic supply base rather than offshore sourcing.
Describe the manufacturing processes (elaborate to provide as much detail as possible)	- Printed circuit board fabrication (rigid, estimated 2-4 layer) - Surface-mount assembly (SMT), including placement of a Bluetooth Low Energy module and impact/motion sensor - Through-hole assembly for battery contacts and connectors as required - Conformal coating or equivalent protection against vibration, sweat and humidity exposure - In-circuit and functional test at assembly - Firmware loading and programming - Kitting of the finished assembly for integration into a molded enclosure Detailed schematics and firmware specifications available under NDA.
	4-layer PCB assembly, approx. 25 × 56 mm. Contains a spectral optical sensor (OLGA-8, MSL3 — requires X-ray or equivalent post-reflow inspection), LDO regulator, discrete level shifters, LED driver, and a socketed nRF52840 BLE module. Build-to-print from supplied Gerbers, BOM, and test procedure.
	Customer supplies or consigns the optical sensor. Initial volume in the hundreds, scaling to thousands annually. DFM feedback welcome.
	California
	Turnkey preferred (supplier procures components).
	Consigned assembly acceptable.
Provide dimensions / size / tolerances / performance specifications for the item	Assembled PCB must fit within an enclosure cavity of approximately [L x W x H — measure your current housing] inches. Estimated board size: 2 3/8 x 3/4 Estimated thickness: 1.6 mm standard. Standard IPC tolerances acceptable. Final dimensions are flexible and open to design-for-manufacture input from the supplier.
List required materials needed to make the product, including materials of product components	- Rigid FR-4 printed circuit board - Bluetooth Low Energy module or SoC nRF52840 - Impact / motion sensing element. Light Sensing Element [AS7341] - Battery: rechargeable Li-ion with USB-C charging] and holder or connector - Passive components, LED status indicator, and power switch or button Component selection is open to supplier recommendation. We are seeking a partner who can advise on part selection for manufacturability, cost, and domestic availability.
Are there applicable certification requirements?	Yes

Details	Yes. The device is an intentional radiator and requires FCC Part 15 certification. The current product uses a pre-certified Bluetooth module operating under modular approval. Moving to an integrated design may require full intentional-radiator certification. We are specifically seeking a supplier who can advise on this path and who has experience coordinating FCC testing for consumer Bluetooth products. IPC-A-610 Class 2 workmanship or better preferred. RoHS compliance required. We are okay to use a pre-certified BLE module.
Are there applicable regulations?	Yes
Details	Yes. FCC Part 15 Subpart C (intentional radiators). RoHS and REACH compliance for a consumer product. Battery transport and packaging requirements if a lithium cell is used (UN 38.3, applicable DOT/IATA shipping rules). CPSC general consumer product safety requirements. California Proposition 65 labeling review.
Are there any other stndards, requirements, etc.?	Yes
Details	Bluetooth SIG qualification and listing required for use of the Bluetooth trademark. IPC-A-610 Class 2 assembly workmanship. ISO 9001 certified supplier preferred but not required.
Additional Technical Comments	This is an established, shipping product, not a concept. The sensing technology is protected under U.S. Patent 9,937,402 and the product is currently sold direct to consumers with an existing customer base. The current unit is hand-assembled in Los Angeles from commercial off-the-shelf components. The goal of this scouting request is to move to a purpose-built, domestically manufactured assembly that improves unit cost, durability, and repeatability at volume. Operating environment is demanding: the assembly is mounted at or near a speed bag platform and experiences continuous high-frequency vibration and repeated impact, plus sweat and humidity exposure. Mechanical robustness and solder joint reliability under vibration are primary concerns. We are early enough in the redesign to benefit significantly from design-for-manufacture input and welcome suppliers who engage at that level. Detailed schematics and firmware specifications available under NDA.

Section 4: Business Information

Estimated potential business volume	Initial production run: 500 units. Projected annual volume: 2,000-5,000 units within 24 months. Prototype/pilot build of 25-50 units desired first. We are seeking a supplier comfortable with low initial volumes who can scale with us.
Estimated target price / unit cost information (if unavailable explain)	Target: $20-$30 per assembled unit at 500 units, declining with volume. Open to supplier guidance — we would rather receive an accurate quote than hold to a target that isn't realistic for domestic production.
When is it needed by?	Seeking supplier engagement and design-for-manufacture consultation immediately. Target for pilot build: 3-4 months. Target for first production run of 500 units: 6 months.

Describe packaging requirements	Bulk packaging in ESD-safe trays or bags, suitable for final assembly into a molded enclosure. Retail packaging is handled separately.
Where will this item be shipped?	Ship to Los Angeles, California. United States suppliers only — domestic manufacturing is a requirement of this project, not a preference.

Additional Comments

Is there other information you would like to include?	Athletic Interpretations is a small, Black-owned manufacturer based in Los Angeles. We hold U.S. Patent 9,937,402 on the core sensing technology, ship a product to paying customers today, and have been featured on CBS News. We are committed to building this product in the United States and are looking for a long-term domestic manufacturing partner rather than a one-time vendor. We expect to add additional connected sports products on the same electronics platform. Happy to provide the current unit for evaluation.