

## **MATERIAL SPECIFICATIONS FOR TTS DETECTOR TYPE C**

Bluetooth detection system is to utilize the manufacturer's processing algorithms to calculate vehicle travel times, travel speeds, travel distances and unidentified MAC (Media Access Control) addresses from various devices in vehicles such as phones, headsets and music players. Ensure that TTS Detector Type C conforms to the following minimum acceptable requirements:

### **1. General Components**

Bluetooth controller:

1. Cabinet enclosure
2. Bluetooth detection and Ethernet electronics
3. GSM cellular modem and antenna
4. Bluetooth signal radio and antenna
5. GPS antenna and electronics
6. AC power terminal block, fuse, and on/off switch to AC power supply.

### **2. Environmental Requirements**

- a. NEMA Standard No.TS-2, Section 2, "Environmental Requirements".
- b. Operating temperature range– 22 degrees F to +149 degrees F (-30 degrees C to +65 degrees C).
- c. Ensure operation of the Bluetooth equipment is not degraded by vibrations, lightning, electromagnetic / electrical interference.

### **3. Mechanical**

- a. Cabinet enclosure: NEMA Type 4X
- b. Cabinet dimensions: maximum 11.5" x 7.5" x 13" unless required by the manufacturer.
- c. The total weight of the controller (with battery): maximum of 35 pounds.
- d. Supply secondary tethering cable to prevent the unit from accidentally dropping to the ground.
- e. The RF signal: ensure compliance with all FCC and OSHA requirements for power, frequency, stability, and emissions.
- f. RF: unlicensed for transmission in the State of New Jersey.
- g. No moving parts.
- h. Ensure all hardware and mounting devices are galvanized or stainless steel and rated for UV exposure.

### **4. Functional Requirements**

- a. Mounting height: 12 to 15 feet above the roadway surface.
- b. Detecting signal range: Up to 250 feet radius or up to 6 lanes of traffic.
- c. Ensure the operation of the unit is not affected by weather conditions.
- d. Assignment of Dynamic IP addresses for data communication via GSM or Ethernet configuration.
- e. Ensure that periodic adjustments of the detection zone is not required.
- f. Ensure Ethernet cable is outdoor rated Category 6.

### **5. Product General**

- a. Operating line voltage at 120VAC nominal.
- b. Operating voltage range from 6 VAC to 40VAC.
- c. Withstand a wind load pressure of at least 90 MPH, in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries' and Traffic Signals.
- d. Terminate cables with insulated spade terminals conforming to NEMA TS-2.