

Q5. Theory of Operation/Technical Description - A brief description of the circuit functions of the device along with a statement describing how the device operates; to include a description of the ground system and antenna, if any, used with the device. (Catalogue sheet may contain most information. It is necessary that this be in a separate document - PDF preferably). May be held confidential if included in Confidentiality Request.

The device combines the technologies listed below to provide functionality requested by our customer, Action Cam Ltd. This device is not for general sale, it is specifically for this one customer.

- The RFID circuit scans tags presented to the device – these use 13.56Mhz NFC standards, mainly ICODE-SLI or Mifare Classic
- The device uses a PoE + LAN circuit to power it and provide network communication with the host server.
- 7” LCD screen to present data to the user
- Option to take digital inputs from external button switches.

When the device boots up, it attempts to connect to the host server. When the connection is established, the device is managed by the server.

The basic logic is to display some data on the LCD and send RFID tag UIDs (serial numbers) to the server. The server can react to these tags and request to display something on the screen as an answer to the UID scan.

Eccel Technology Ltd has made the LCD bezel grounding required and carried out in the approval tests to ensure that the unit meets the FCC emissions levels required and achieved in the tests carried out by RN Electronics.

The antenna used is a simple PCB track antenna with no amplification. It is connected directly to the antenna pins on the NXP semiconductor PN5180 integrated circuit.