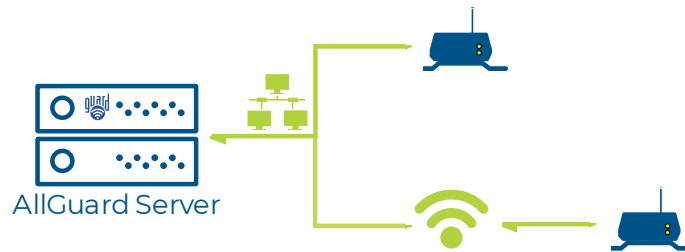


Understanding GuardRFID® Device Communications

The GuardRFID Tag Readers utilize TCP/IP communications to communicate with the AllGuard® Server. Most often this communication is facilitated by CAT5/6 cabling, but wireless options are also available for situations where installing Ethernet cabling is impractical or expensive.



Wi-Fi and 900MHz are currently offered by GuardRFID for wireless backhaul of Tag Reader signaling.

Please contact GuardRFID to determine which option best fits your application.

Wi-Fi Backhaul

With this option an external Wi-Fi bridge is connected to the Ethernet port of the Tag Reader (TRR, TRC or TR2) device. GuardRFID sells the Tag Reader Ethernet to Wi-Fi conversion kit (61-24007) for this purpose, and the kit includes:

- Wi-Fi bridge
- PoE injector cable

The Wi-Fi antenna is sold separately. The Wi-Fi bridge in the conversion kit works with any 2.4GHz antenna that uses a type N female connector. In cases where extended range is needed, a high gain antenna should be used on both the Wi-Fi bridge and access point. GuardRFID offers the following high gain 2.4GHz antenna options:

Range	Wi-Fi Bridge Antenna	Wi-Fi Access Point	Wi-Fi Access Point Antenna
Up to 100 feet (30 meters)	61-92074 Omni-directional, 5dBi	61-92053	Included with WAP 3dBi
100 - 300 feet (30 - 100 meters)	61-92052 Omni-directional, 9dBi	61-92061	61-92062 Omni-directional, 10dBi
300 - 1,000 feet (100 - 300 meters)	61-92069 Directional, 25°, 14dBi	61-92061	61-92062 Omni-directional, 10dBi

The Wi-Fi bridge allows the Tag Reader to utilize the facility’s existing Wi-Fi network, or a standalone dedicated Wi-Fi network. If there is no Wi-Fi network in place, GuardRFID offers a wireless access point (P/N: 61-92061) that can be wired into the facility network infrastructure to provide Wi-Fi connectivity between the Tag Reader and the AllGuard Server.

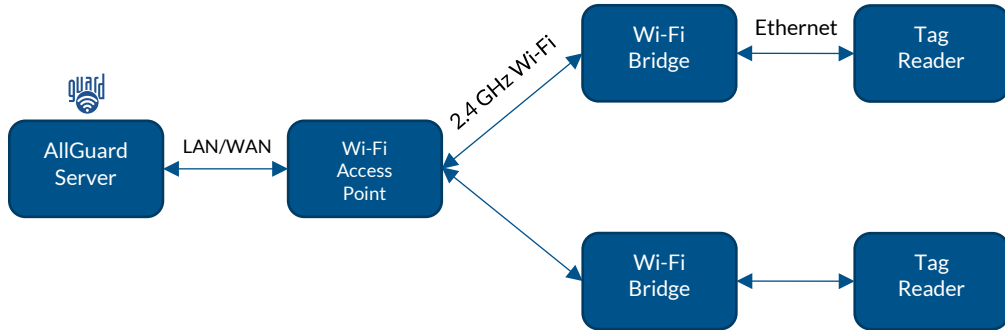


Figure 1 - Wi-Fi communication between Tag Reader and AllGuard Server

To address common deployment scenarios where Wi-Fi backhaul is required, such as outdoor environments, GuardRFID has several Tag Reader models that ship with Wi-Fi conversion kits – consult with GuardRFID Sales to confirm the model that best suits your installation environment.

900MHz Backhaul

This option is currently provided by the TR2-W2 model of the Tag Reader 2. In this model, a 900 MHz transceiver module is included inside the device and requires a whip antenna (P/N: 61-92073). If using the 900 MHz wireless channel, one TR2-W2 acts as a network Gateway for up to four Edge TR2-W2 devices (see the diagram below). The Edge TR2-W2 devices communicate wirelessly over 900 MHz through the Gateway device to the AllGuard Server.

The 900 MHz transceiver has several power settings allowing it to communicate with other devices from 100s to 1000s of feet depending on the environment. The device is available in models suitable for indoor and outdoor deployments.

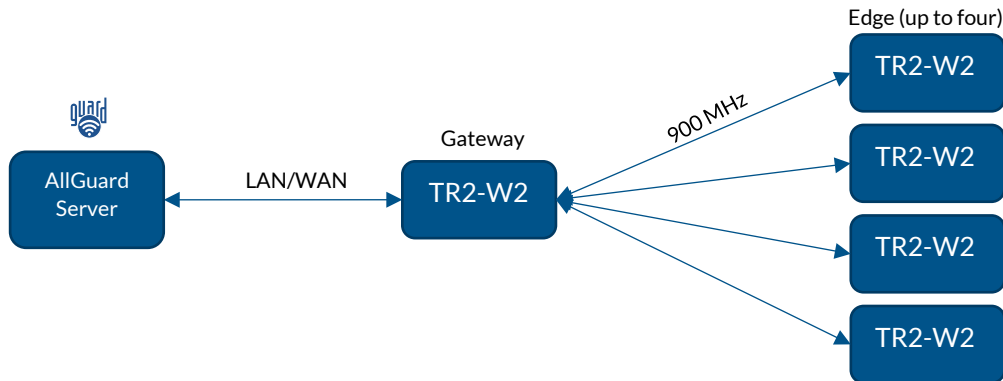


Figure 2 - 900MHz wireless communication between TR2-W2