N-Type Connector
Sealing Instructions

This guide provides step-by-step instructions for sealing all the N-type external antenna connections on Ruckus Wireless access points (APs).

In general, connectors should be protected by applying layers of electrical and sealing tape, with another layer of electrical tape on top. The sealing tape protects the connector from water seepage, the inner layer of electrical tape makes it easier to remove the sealing tape for later service, and the outer layer of electrical tape protects the sealing tape from ultraviolet (UV) damage.

Also remember to form drip loops with the antenna cables to help keep water out of the AP.

Before You Begin

Before deploying your Ruckus Wireless device, please check the Ruckus Wireless Web site for the latest software and release documentation.

- Release Notes and User Guides are available at http://support.ruckuswireless.com/documents (login required)
- Software Upgrades are available at http://support.ruckuswireless.com/software (login required)
- Open Source information is available at http://support.ruckuswireless.com/open_source

NOTE:
Ruckus Wireless products must be installed by a professional installer.

Required Tools and Supplies

- Andrew Weatherproofing Kit or equivalent
  --OR--
  3M Scotch Super 88 electrical tape or equivalent, and heavy-duty weather-, abrasion-, and UV-resistant self-amalgamating rubber sealing tape, such as 3M Scotch 2242 sealing tape
- Scissors to cut the electrical and sealing tapes
- N-type torque wrench (optional)
- Cleaning products: for instance, soap and acetone

Installation Tips

- Self-amalgamating sealing tape must be stretched to approximately 133% (1-1/3 times original length) while wrapping so that it will amalgamate with the next layer. Gently kneading the wrapped sealing tape also helps it to amalgamate.
- Do not use low-quality tape, liquid rubber spray, or RTV to seal the cables. These products may contain chemicals which can corrode the cable sheaths and N-type connector parts.

Step 1: Clean the Connectors and Your Hands

A. Clean all traces of dust, grease and oil from your hands.
B. Clean off any traces of dust, grease and oil from the N-type bulkhead connector external threads.
C. Make sure that the connectors are dry before continuing.

Step 2: Connect the Cable with the Connector

A. If the AP is powered, then disconnect the AP from the power source.

CAUTION:
MAKE SURE that you disconnect the AP from the power source to avoid electrocution or equipment damage.

B. Unscrew the metal cap that protects the antenna connector. Place the metal cap in a safe place, in case you need it later.
C. Connect the cable to the connector. Use a torque wrench to tighten the cable coupling nut to 1.58 N.m (14 in-lbs).

   If you do not have a torque wrench or if you are tightening a knurled coupling nut (as shown), then hand-tighten the cable coupling nut until the internal gaskets are compressed, but do not overtighten.



Step 3: Wrapping the Exposed Connector Threads

A. Depending on the width of the sealing tape, either fold the tape in half or cut it to fit the exposed connector threads.
B. Stretch the tape per the manufacturer's instructions.



C. Working clockwise, gently stretch the sealing tape as you install it so that it covers the connector thread between the cable coupling nut and the base of the connector.

   Make sure that the final wrap is approximately flush with the cable coupling nut, and then cut the sealing tape.



NOTE:
Cut, do not tear the sealing tape. If the sealing tape is overstretched, it loses its self-amalgamating properties.

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Published August 2014, Part Number 800-70744-001 Rev A

Step 4: Wrapping the Inner Layer of Electrical Tape

A. Use the scissors to cut the end of the electrical tape at an angle. This will allow the electrical tape to be applied with minimal bulk.



B. Wrap the electrical tape clockwise from the beginning of the cable coupling nut to just past the heat shrink tube on the cable. DO NOT cover the sealing tape installed in Step 3: Wrapping the Exposed Connector Threads.



Step 5: Wrapping the Main Sealing Tape

A. Use the scissors to cut the end of the sealing tape at an angle. This will allow the sealing tape to be applied with minimal bulk.



B. Working clockwise, gently stretch the sealing tape from the beginning of the sealing tape installed in Step 3: Wrapping the Exposed Connector Threads, and continue wrapping to 12mm (0.5") past the electrical tape installed in Step 4: Wrapping the Inner Layer of Electrical Tape.

Cut the sealing tape; do not tear the tape from the roll.



C. Gently knead the sealing tape from top to bottom to make sure there are no gaps and to amalgamate the sealing tape.

Step 6: Wrapping the Outer Layer of Electrical Tape

A. Use the scissors to cut the end of the electrical tape at an angle. This will allow the electrical tape to be applied with minimal bulk.



B. Wrap the electrical tape clockwise to completely cover the sealing tape and continue wrapping to 12mm (0.5") past the sealing tape installed in Step 5: Wrapping the Main Sealing Tape.



Step 6: Repeat for the Other Cables (Optional)

This illustration shows the three antenna connectors on a 7782-E radio wrapped as described above.



Step 7: Creating Cable Drip Loops

A. Physically mount the AP and antenna(s) at your desired location, preferably on the same mounting structure.

B. Form 80mm - 130mm (3”-5”) drip loops with the cables.



You have sealed the N-type external antenna connections and created drip loops on the Ruckus Wireless AP.

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Published August 2014, Part Number 800-70744-001 Rev A