Range Testing Equipment for F-LINK (RTESTF)

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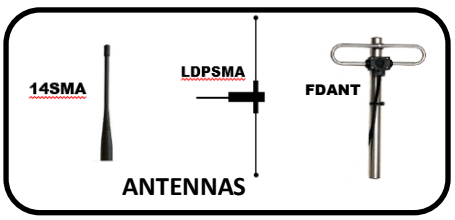
Contents

	2 x Plug Top PSU.
	1 x F-Link Mk4 Kit transmitter (2 X F-Link Mk4).
	2 x ¼ wave quarter-wave antenna (14SMA).
	2 x lightweight dipole aerial with lead (LDPSMA).
	2 x heavy duty folded dipole aerial (FDANT) .
	2 x aerial lead for above (COA15SMA) .

Radio range testing and site surveys should only be carried out by suitably qualified radio installation engineers who are fully conversant with all matters relating to UHF radio propagation characteristics within a commercial environment.

Various antennas with installation instructions.



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Basic RSSI Check

Working with a single F-Link unit, first connect the antenna and then connect the power supply. **Make sure the second F-Link isn't powered up.** The display will show the background RSSI signal level for the currently selected frequency channel as a bar graph. A consistent level below approx. 30% suggests the chosen frequency channel is probably suitable for use. If any signals are witnessed over this level, then an alternative frequency channel should be selected, and the check repeated. See page 3 for details on how to change the frequency channel.

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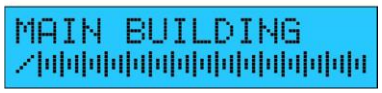
Please note the illustration below refers to the background signal level only. The node will send a polling transmission every 25 seconds which should show as maximum strength. Please ignore this.

Maximum acceptable background signal level.

Background signal level too high, try a different channel.



Strong interfering signal, try a different channel.

A) Conducting the test

1. Attach the quarter-wave antenna (14SMA) to both the *F-LINK's.*

2. Position the *F-LINK* ***vertically*** and as near to the final mounting position as possible.

3. When both the units are set up, position the switch on the **MASTER** to **RANGE TEST ON**. The master will trigger the node, which in return triggers the master displaying the message **'MESSAGE RECEIVED'**, completing the range test both ways, confirming communication. The *FLINK's* will now auto transmit every 20-30 seconds.

4. When the two units are in range of each other, every transmission (both units will send a polling transmission every 25 seconds) from both units will indicate an RSSI value (signal strength); the received value is displayed as a level for a period of 1 second at a time. The level meter follows the convention of (bar segments):

1-3 Poor signal strength

4-7 Average (acceptable)

7+ Good signal strength

B) Each node is required to be within the range and directly communicate to the master unit.

C) If Full coverage is not achieved
Repeat the test using the LDPSMA, ensuring it is placed at a suitable position in the correct orientation (refer to the instruction sheet). If it is possible for the final system to be installed at a different (more favorable) location, repeat the tests from this location, If this is not achievable contact Scope for further advice / options.

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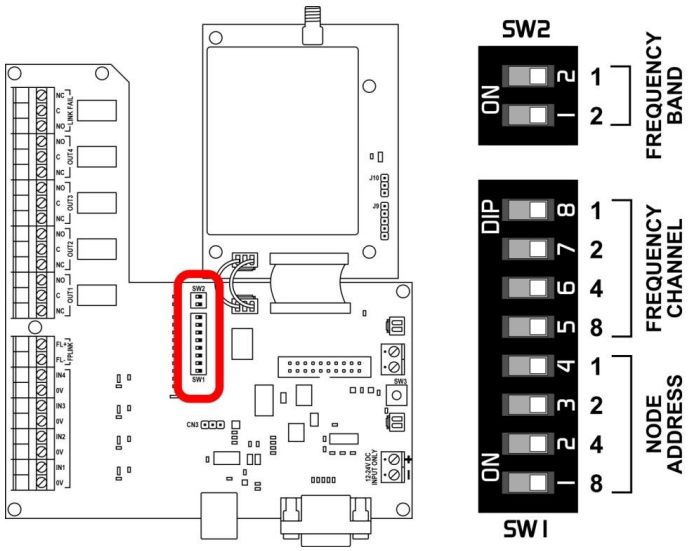
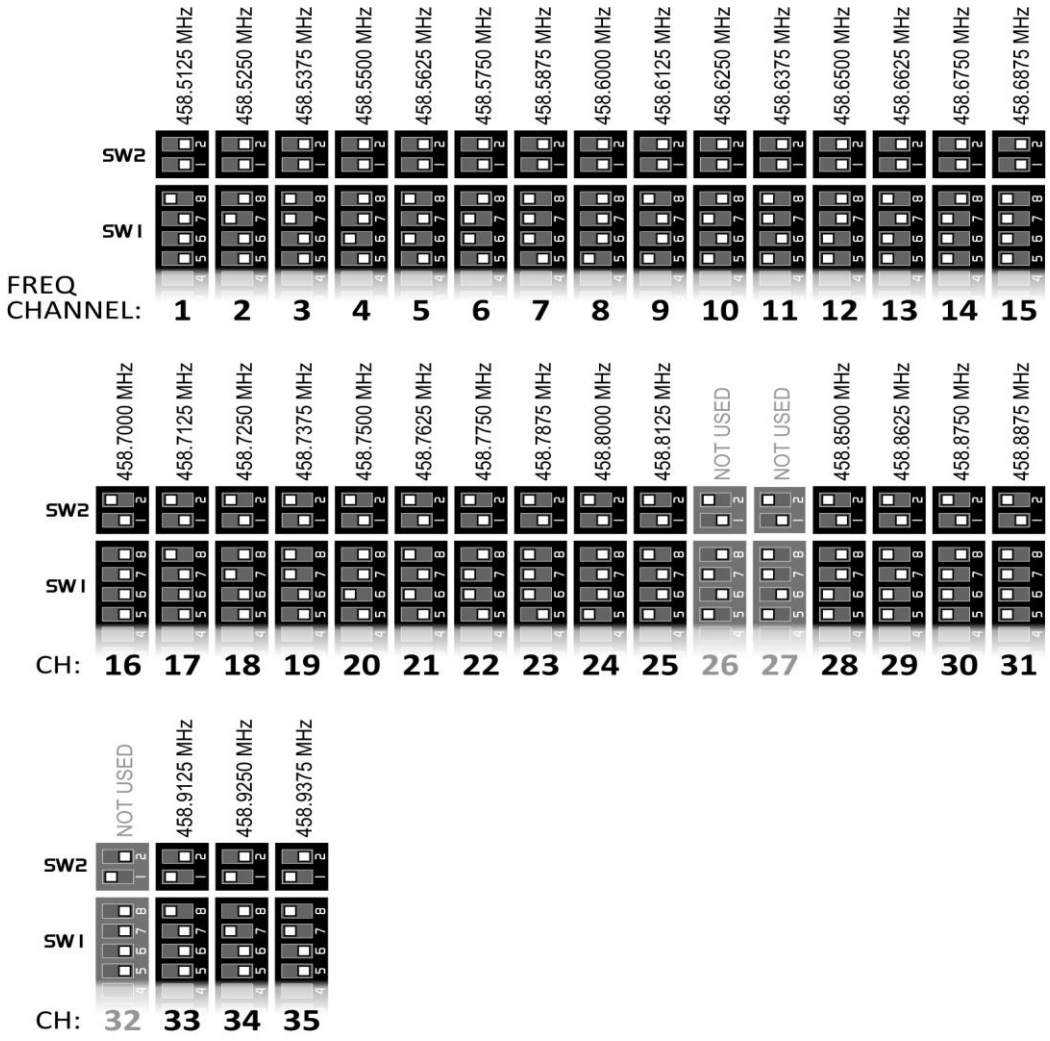


You may need to remove a protective film from the top of the dip switches if present (this is left over from the manufacturing process and is not required).

The F-Link will detect any changes made to its dip switch settings and reboot automatically after a few seconds.

Changing the frequency channel

Use the DIP switches on the F-Link circuit board to select the required frequency channel. The F-Link will detect the change and reboot, displaying the selected frequency. All F-Links on a system must be set to use the same frequency channel.



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