Base Receiver – Change RF Channel

APPLICABLE DEVICES

USB BASE (MC-BASE-USB-EVO) | WEDGE BASE (MC-BASE-KW-EVO) | RS-232 BASE (MC-BASE-RS232-EVO) | MICROBASE EVO USB A (MC-MB-EVO-A) | MICROBASE EVO USB C (MC-MB-EVO-C)

Contents

1. RF Noise – A Common Occurance in Manufacturing Facilities

RF noise is common in manufacturing facilities because they're packed with electrical equipment that emits electromagnetic interference across a wide range of frequencies. Variable frequency drives, welders, large motors, switching power supplies, compressors, robotic systems, and even LED lighting can generate broadband noise and harmonics, while long cable runs, metal structures, and imperfect grounding can act like antennas that radiate or couple that energy into the air and wiring. The result is a dense, constantly changing RF environment—especially as machines start/stop and loads vary—that can desensitize receivers and intermittently disrupt wireless links.

2. How to Detect RF Noise in the 2.4 GHz Range

MobileCollect RF Sniffer makes detecting RF noise in the 2.4 GHz bandwidth easy. RF Sniffer helps you quickly spot true interference by displaying what's happening across the 2.4 GHz band in real time. RF Sniffer does this by taking 500 measurements per channel before hopping to the next channel. By walking the floor with the sniffer and checking each channel, you can spot unusually high background energy, intermittent spikes, or "hot" areas near machines and power electronics that often correlate with communication dropouts. With this data, you can then select an RF channel with minimal RF noise for MobileCollect to operate on by following the steps below. Selecting an RF Channel with minimal noise will allow your MobileCollect System to operate at peak performance.

Note: RF Sniffer utilizes legacy RM2.4 Hardware. If you have an EVO Base Receiver please request an RF Sniffer Kit here.

3. RM2.4 RF Channels

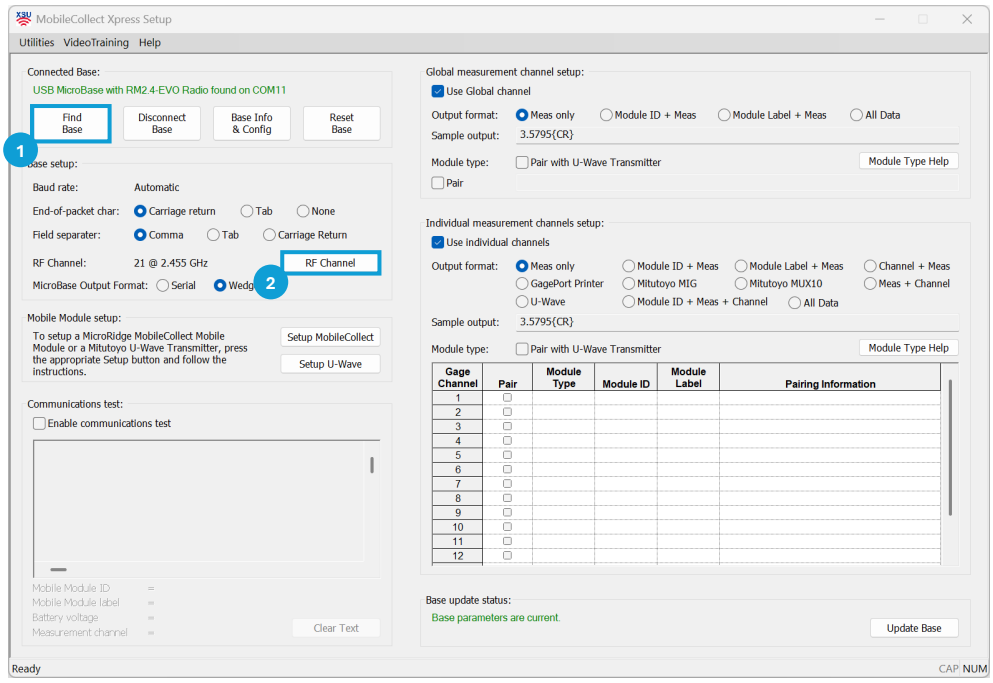
The MobileCollect RM2.4 wireless protocol offers multiple RF Channels to maximize the performance of the MobileCollect System. By default, all MobileCollect equipment is set to transmit readings on channel 21. All setup and wireless firmware updating is done on channel 14, which is reserved only for these activities. There are 14 other channels available to avoid any RF interference at your facility.

NOTE: Any change in RF channel will require re-pairing of all transmitters.

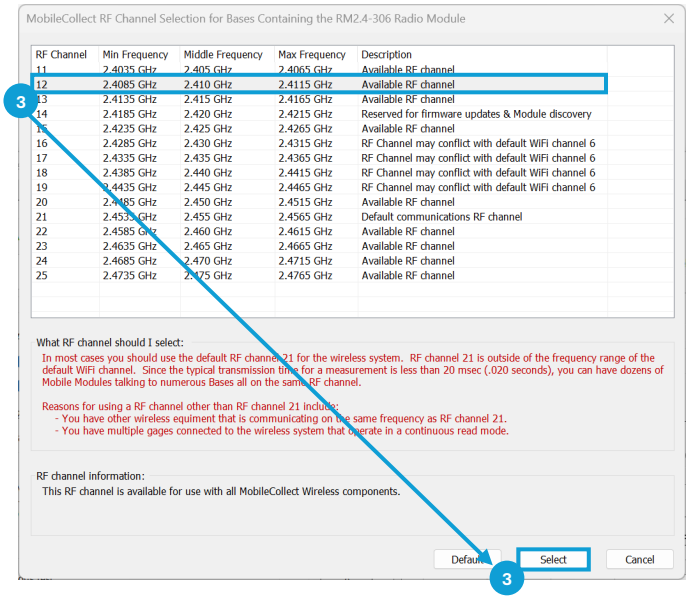
RF Channel	Target Frequency, GHz	Description
11	2.405	Available
12	2.410	Available
13	2.415	Available
14	2.420	Reserved for updates and setup
15	2.425	Available
16	2.430	Available (Default WiFi)
17	2.435	Available (Default WiFi)
18	2.440	Available (Default WiFi)
19	2.445	Available (Default WiFi)
20	2.450	Available
21	2.455	Available (Default)
22	2.460	Available
23	2.465	Available
24	2.470	Available
25	2.475	Available

4. Changing RF Channels in Xpress Setup

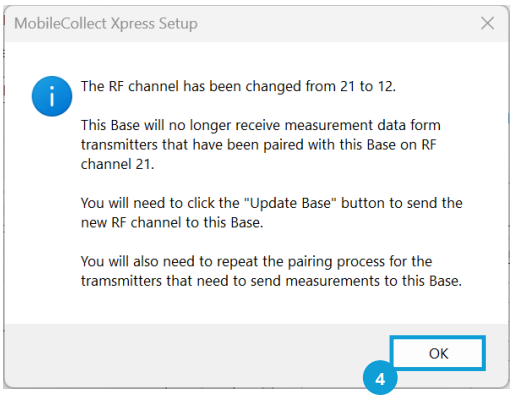
1. Open Xpress Setup and Find the Base.
2. Press the “RF Channel” button in the “Base Setup” Section.



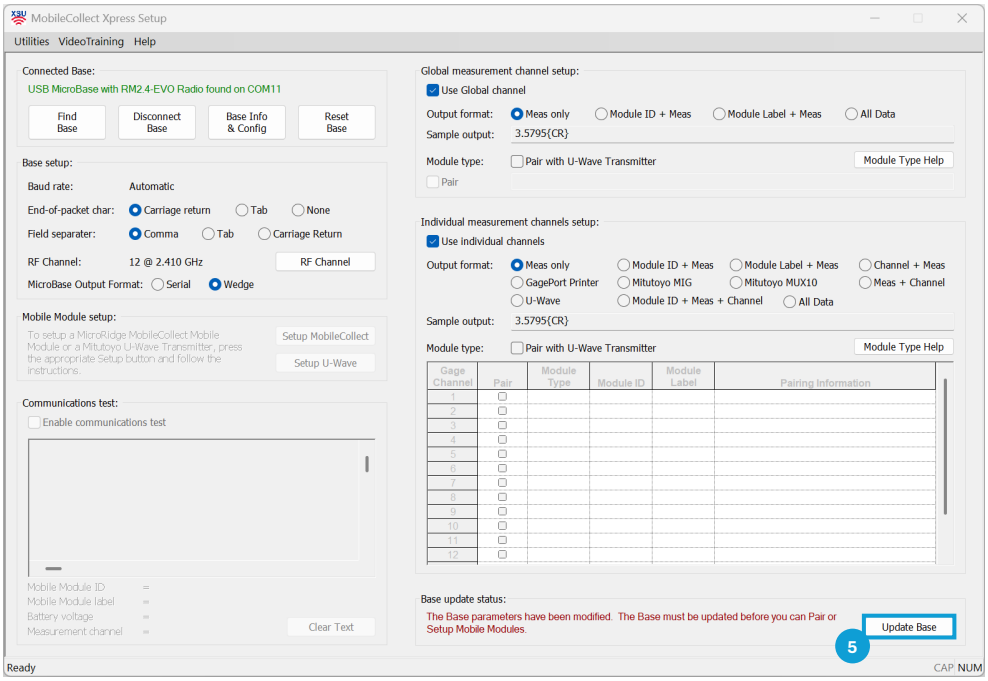
3. Select the desired RF Channel and press “Select”.



4. An information window appears to state that all transmitters will need to be re-paired to the base and that the new RF channel needs to be sent to the Base. Press “OK”

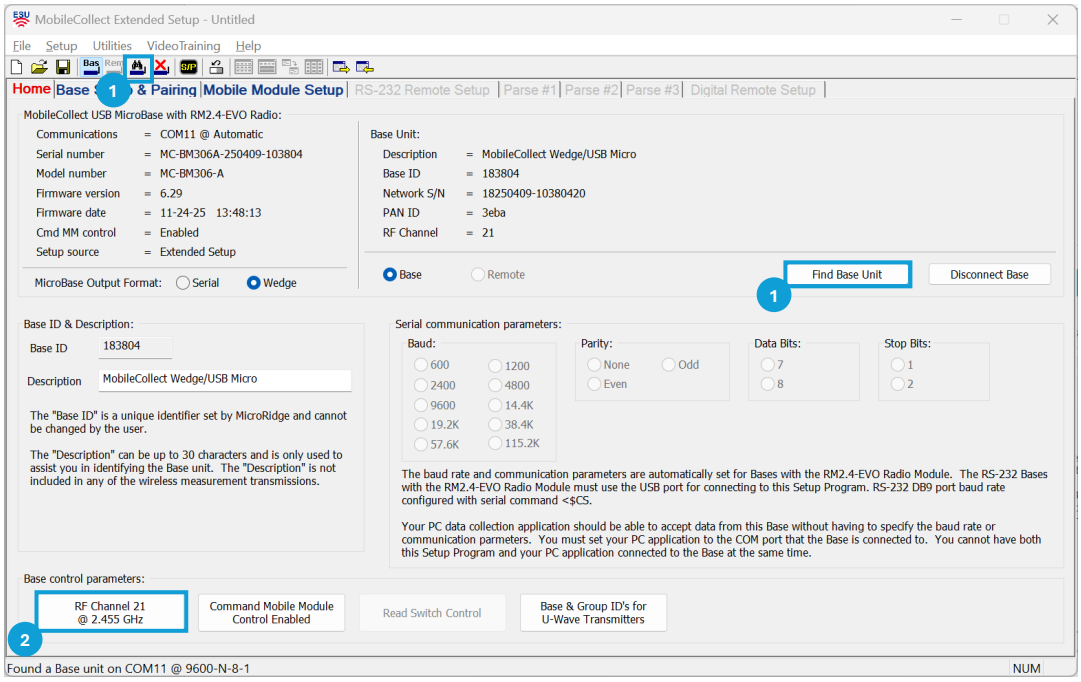


5. Send the updated RF channel parameter to the Base. Then continue to pair transmitters to the Base and configure any desired settings

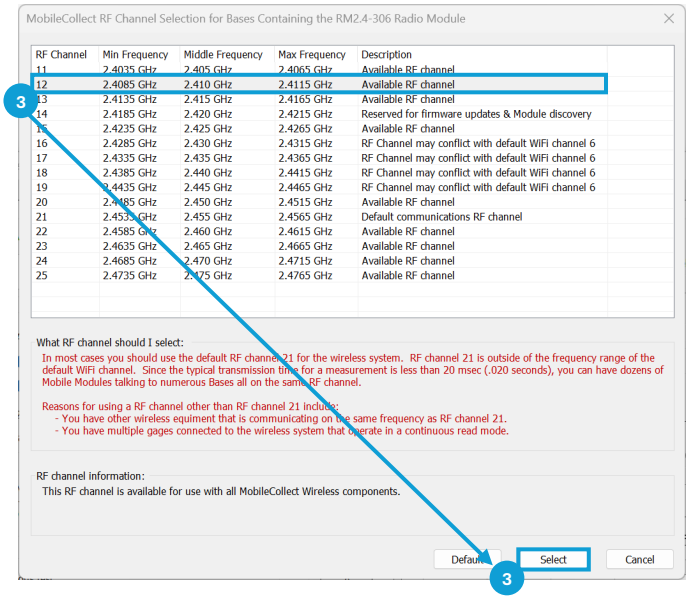


5. Changing RF Channels in Extended Setup

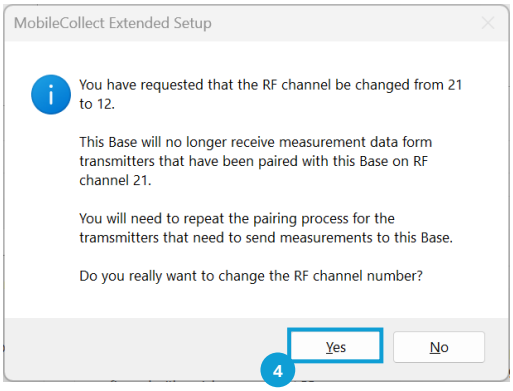
1. Open Extended Setup and Find the Base.
2. Press the RF Channel menu button in the “Base control parameters” Section.



3. Select the desired RF Channel and press “Select”.



4. An information window appears to state that all transmitters will need to be re-paired to the base. Press “Yes”.



5. Send the updated RF channel parameter to the Base. Then continue to pair transmitters to the Base and configure any desired settings.