The system shall include a professional wireless receiver with preconfigured group, channel and frequency setups and RF scanning options for operation with compatible wireless systems. The receiver shall provide single and dual channel options and have a menu option to guide the user step-by-step in setting up the RF frequency to either initiate new systems or add a new system to existing systems. The receiver shall sync the frequency to the transmitter via infrared lens. Once the system is set up, the receiver can store the configuration and restore it back if the configuration is changed accidentally.

The system should include predictive diversity for extended antenna coverage and improved RF signal-to-noise ratio. The system shall operate within an extended spectrum of UHF (470-938 MHz, region dependent). The tuning bandwidth shall be up to 44MHz (selectable RF band) with up to 32 preset compatible channels. The system shall also be capable of operating up to 10 compatible channels in a 6 MHz TV band or 12 compatible channels in an 8 MHz TV band. The entire system shall deliver high-quality transparent audio, with a flat frequency response over a wide range from 20 Hz to 20 kHz, providing accurate audio reproduction and a low-latency of 3.2ms. The dynamic range shall be up to 120 dB. The receiver shall have both XLR and ¼” audio output. The receiver can select the microphone level and line level output via menu operation.

The transmitter shall include a bodypack and a handheld. The transmitter shall have a toggle power on/off switch. Available transmitters shall be compatible with a number of different microphone capsules. The bodypack shall use the TA4M connector as the microphone connection. The bodypack and handheld shall be powered by two AA batteries or a SB903 lithium ion rechargeable battery. The bodypack and handheld shall be able to be docked and charged on a SBC203 dual docking charger. The SB903 rechargeable battery alone should be able to be charged on both the SB203 dual docking charger or in the SBC10-903 single battery charger. The chargers shall stop charging when the temperature is above 45 degree Celsius for safety purposes. When the SB903 rechargeable battery is used, the battery runtime shall be displayed on both receiver and transmitter in HH:MM format, accurate to within 15 minutes. The transmitter shall also be able to show the percentage health and total charge cycles of the SB903. The transmitter will have a high-contrast OLED display indicating channel name, battery status, and frequency. Both the receiver and bodypack/handheld transmitter shall be able to be locked with the options of either locking the menu only, or locking both the menu and power. The transmitter shall also be able to be temporarily unlocked and automatically locked back after a certain idle time.

The receiver firmware shall be updated via the Shure Update Utility by connecting the receiver to a laptop or computer over the Ethernet. The transmitter firmware can be updated by infrared sync with the receiver. The Shure Wireless Workbench software shall be able to coordinate the frequency offline for multiple systems. The calculated frequency shall be able to be manually put into the receivers individually. The system shall be able to work with third party control devices like Crestron, AMX, Cue, etc. for monitoring and control purposes. The receiver can also block this feature from the menu to prevent non-Shure devices visiting through the Ethernet connector.