configured to route the first sounding reference signal from the second sounding-reference-signal port to the at least one second transmit/receive path.

In various examples, the first sounding reference signal is provided to the at least one first antenna port to be transmitted by one or more first antennas coupled to the at least one first antenna port, and the second sounding reference signal is provided to the at least one second antenna port to be transmitted by one or more second antennas coupled to the at least one second antenna port. In some examples, the first sounding reference signal and the second sounding reference signal are transmitted to at least one base station to characterize an uplink channel between the mobile-communications-device system and the at least one base station. In at least one example, the first antenna switch module includes a single pin connection configured to be coupled to the first sounding-reference-signal port and the second antenna switch module includes a single pin connection configured to be coupled to the second sounding-reference-signal port.

According to at least one aspect of the disclosure, a non-transitory computer-readable medium storing thereon sequences of computer-executable instructions for controlling a front-end module for a wireless device comprising a sounding-reference-signal port, at least one transmit path, at least one transmit/receive path coupled to at least one antenna port, and an antenna switching module coupled between the sounding-reference-signal port, the at least one transmit path, and the at least one transmit/receive path is provided, the sequences of computer-executable instructions including instructions that instruct at least one processor to control the antenna switching module to route a first sounding reference signal from the at least one transmit path to the sounding-reference-signal port, and control the antenna switching module to route a second sounding reference signal from the sounding-reference-signal port to the at least one transmit/receive port.

In some examples, the instructions instruct the at least one processor to route the first sounding reference signal and the second sounding reference signal to the at least one transmit/receive path to be transmitted by one or more antennas coupled to the at least one antenna port. In at least one example, the wireless device includes a transceiver, and the instructions instruct the at least one processor to route the first sounding reference signal from the transceiver and to route the second sounding reference signal to the transceiver. In various examples, the instructions instruct the at least one processor to provide the first sounding