

# Support for NordicnRF52840 in Silvair Firmware

*Frequently Asked Questions*

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**Q: Why is Silvair adding support for the new Nordic nRF52840 chip? Isn't the existing nRF52832 suitable for lighting control?**

A: The Nordic nRF52832 which we currently support is more than suitable for lighting control, including all the features defined in the Bluetooth mesh standard 1.0. However, we want our customers to be ready for the upcoming new features that will go beyond lighting control and the currently possible scale of installations, whether these are enabled by the roadmap for the Bluetooth mesh standard or they are developed independently by Silvair. The nRF52840, with four times the RAM, twice as much flash memory and an improved radio will give us and our customers ample space for expansion.

**Q: What are the new features that will be available?**

A: Initially, there will be no features differentiating the products based on '832 and '840 chips. Over time, some new features may be delivered only to '840 chips. Please contact Silvair for requests for specific new features.

**Q: I've seen several upcoming functionalities being worked on by the Bluetooth SIG's Mesh Working Group. Will the price of Silvair Firmware increase once these features are included in a new firmware for the '840?**

A: Enhanced features (updates) will be available to our customers at no extra cost. As for completely new features (upgrades), Silvair may require a license fee to enable them.

**Q: The '840 chip supports Bluetooth 5 core features. Does this mean it will transmit data faster thanks to the High-Speed 2Mbit mode? What about Long Range mode?**

A: Bluetooth mesh 1.0 compatibility will mean that the '840 chip will achieve the same transmission speed when running Mesh 1.0. In addition to the 2M PHY, the '840 also supports Bluetooth Long Range. When the future versions of the Bluetooth mesh standard enable support for the 2M PHY and Long Range, support for these features will be possible on the '840 chip.

**Q: What about the radio performance of a new '840? How does it compare to the existing '832?**

A: The Nordic '840 has an improved power amplifier built into its radio transmitter. Thanks to the higher output power (+8 dBm vs +4 dBm in '832), the single-hop range should increase by around 50%.

**Q: When will the firmware for the '840 be available for building lighting components?**

A: Silvair firmware for the '840 chip will be ready for launching new products in Q1, 2020. We are also planning an early access program, which will allow for prototyping and developing new components from Q4, 2019.

**Q: With a new, more powerful chip available, how long will the existing '832 firmware be supported?**

A: Our policy is to maintain our firmware for 70 months from the moment we release the last upgrade of a product. During this time, bug fixes and security improvements will still be available. We will issue a final release (upgrade) for the '832 chip in H2, 2020. This means that it will be supported until mid-2026.

**Q: Can the new '840 chip be used as a drop-in replacement for '832 in my lighting product?**

A: It will be relatively easy to accommodate the product (e.g. sensor, fixture controller, LED driver) to the new chip, but nevertheless it will require changing the PCB design, as the '840 chip has more pins. Please consult the reference design in the updated Silvair Firmware Datasheet for more information.

**Q: Will nodes based on the '840 with future Mesh versions work with '832 and Mesh 1.0?**

A: Yes, Bluetooth Mesh is backwards compatible. However to take advantage of the new features all nodes in a network should support those features.

**Q: Which chip should I use in my product: the '832 or the '840?**

A: For new designs that expect to include the future Bluetooth mesh features, we recommend using the '840, as it is more future-proof.