

# CB-OBS418 CB-OBS419 MIGRATING FROM CB-OBS410 CB-OBS411

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**Document Revision**

Document number: 20742147

Release: Nov 19, 2013 16:12

Document version: 2

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## 1 Introduction

A migration from the cB-OBS410 to the cB-OBS418 or cB-OBS411 to the cB-OBS419 modules are normally done without any problems. Even so, there are some issues that have to be considered.

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## 3 Related documents

- [cB-OBS410 Electrical Mechanical Data Sheet](#)
- [cB-OBS411 Electrical Mechanical Data Sheet](#)
- [cB-OBS418 Electrical Mechanical Data Sheet](#)
- [cB-OBS419 Electrical Mechanical Data Sheet](#)
- [Bluetooth Serial Port Adapter AT Commands](#)
- [Bluetooth Qualification Guide](#)

## 4 cB-OBS418/419 vs cB-OBS410/411 Considerations

### 4.1 Known differences for OBS418 compared to OBS410 and for OBS419 compared to OBS411



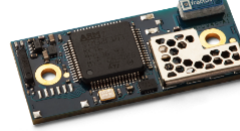


- Bluetooth radio chip changed from ST Ericsson STLC2500DB to Texas Instruments CC2560. This means that the following has changed:
  - Startup time. Note that the startup time may also change between firmware releases due to radio patch updates (which is downloaded at power on).
  - Output power
    - Max output power (conducted, antenna gain excluded) has increased from +4 dBm to +5 dBm
    - The output power steps differ
  - Radio sensitivity. Increase from -84 dBm to -90 dBm. This means:
    - Longer range
    - More sensitive to high power disturbances close to module. Hence, another radio transmitter with a high output power, close to the module may mean higher BER due to receiver being saturated.
- IO voltage level. The typical IO voltage level is changed from 2.85V to 3.0V.
- Power consumption. Please compare the power consumption tables in the Electrical & Mechanical datasheets:
  - [Power consumption cB-OBS410](#)
  - [Power consumption cB-OBS411](#)
  - [Power consumption cB-OBS418](#)
  - [Power consumption cB-OBS419](#)
- Baud rates. Some values have changed slightly, but all baud rates are however still well within the specified 2% max deviation
- ESD performance is improved. Improvement from fulfillment of criteria B to fulfillment of criteria A (ESD tests passed with no reaction on ESD discharge)
- Firmware version for the cB-OBS418/419 is a continuation of versions for the cB-OBS410/OBS411. Hence, first firmware version for the cB-OBS418 is v4.1.4 and for the cB-OBS419 it is v4.3.9.
- The test suite for approvals (e.g. Bluetooth qualification, FCC, etc.) are the same, but the resulting approvals/test reports/certificates are new. If referring to the module tests you will need to refer to the new certificates.
- No support for the 'j' antenna option (1 mm antenna height)
- No Apple iAP support. iAP support for OBS421 is in development.

### 4.2 AT Commands where the behavior has changed or AT commands that has been added

Command	Comment
AT*AILTI?	New module response for AT*AILTI?
AT*AMMP	Module reset required before new setting takes affect.

## 5 Module feature overview

Even though there are direct replacement modules for OBS410 and OBS411 we recommend you to have a look at the matrix below to verify if the direct replacement is the best option for you, or if you may gain from changing to another module family that offers additional features and/or higher performance (or less features/performance).

<p style="text-align: center;"><b>Migrating</b></p> <p style="text-align: center;">To</p> <p style="text-align: center;"><b>From</b></p>	<p style="text-align: center;"><b>OBS418</b></p> 	<p style="text-align: center;"><b>OBS419</b></p> 	<p style="text-align: center;"><b>OBS421</b></p> 
<p style="text-align: center;"><b>OBS410</b></p> 	<p style="text-align: center;"><b>Direct replacement</b></p>	<p style="text-align: center;"><b>Alternative with additional features</b></p> <ul style="list-style-type: none"> <li>• Low power features (stop mode)</li> <li>• Throughput up to 950 kbps</li> <li>• 3 simultaneous slaves</li> <li>• EDM (Enhanced Data Mode) for full control of multiple connections while maintaining full control of module configuration</li> <li>• PAN support</li> <li>• RS422/485 via external transceiver</li> <li>• Optional JST connector</li> </ul>	<p style="text-align: center;"><b>Alternative with additional features</b></p> <ul style="list-style-type: none"> <li>• Low power features (stop mode)</li> <li>• Throughput up to 1.3 Mbps</li> <li>• Bluetooth low energy support</li> <li>• 7 simultaneous slaves</li> <li>• EDM (Enhanced Data Mode) for full control of multiple connections while maintaining full control of module configuration</li> <li>• PAN support</li> <li>• Extended range</li> <li>• RS422/485 via external transceiver</li> <li>• Optional JST connector</li> </ul>
<p style="text-align: center;"><b>OBS411</b></p> 	<p style="text-align: center;"><b>Alternative with less features</b></p> <ul style="list-style-type: none"> <li>• Less low power features</li> <li>• Throughput up to 350 kbps</li> <li>• 1 simultaneous slave</li> <li>• No EDM support</li> <li>• No PAN support</li> <li>• No RS422/485 via external transceiver</li> <li>• No JST connector option</li> </ul>	<p style="text-align: center;"><b>Direct replacement</b></p> <ul style="list-style-type: none"> <li>• No iAP versions (OBS421 version with iAP support is in development)</li> </ul>	<p style="text-align: center;"><b>Alternative with additional features</b></p> <ul style="list-style-type: none"> <li>• Throughput up to 1.3 Mbps</li> <li>• Bluetooth low energy support</li> <li>• 7 simultaneous slaves</li> <li>• Extended range</li> </ul>