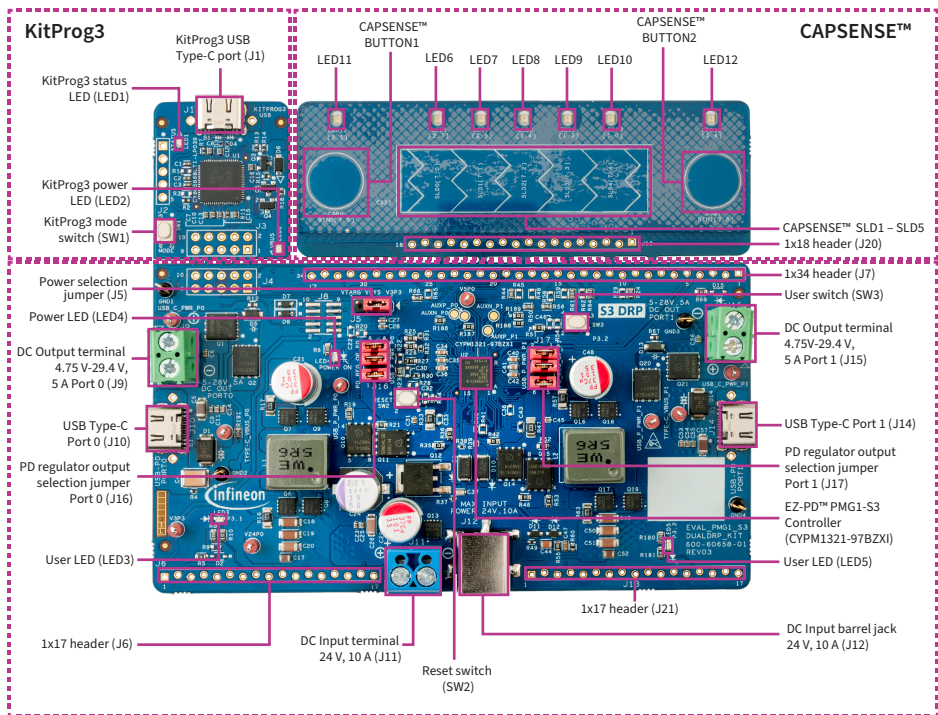
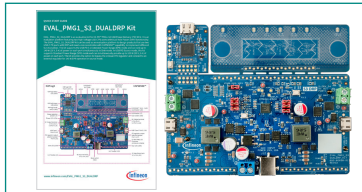


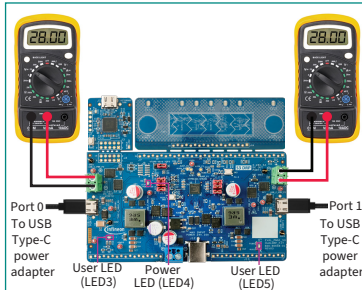
EVAL_PMG1_S3_DUALDRP Kit

EVAL_PMG1_S3_DUALDRP is an evaluation kit for EZ-PD™ PMG1-S3 USB Power Delivery (PD) MCU. It is an evaluation platform featuring two high-voltage USB-C PD ports with Dual Role Power (DRP) functionality. The EVAL_PMG1_S3_DUALDRP kit can be used as an evaluation platform to design products that use two USB-C PD ports with DRP and need a microcontroller with CAPSENSE™ capability to implement different functionalities. The kit supports the USB PD 3.1 Extended Power Range (EPR) mode and can sink up to 140 W (28 V, 5 A) of power on each port simultaneously in Sink mode. In USB PD Source mode, this kit supports Standard Power Range (SPR) mode and can simultaneously provide up to 100 W (20 V, 5 A) of power on each port. The kit provides the option to bypass the onboard PD regulator and connect to an external regulator for 140 W EPR operation in source mode.

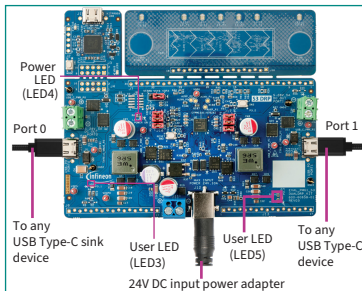




1 EVAL_PMG1_S3_DUALDRP kit contents



2 Sink mode operation



3 Source mode operation

Before you start

- 1 Ensure that you have a USB PD 3.1-capable USB Type-C power adapter with a compatible USB PD 3.1-capable Type-C cable for sink operation.
- 2 Ensure that you have a 24 V DC power supply or a barrel jack (2.50 mm ID, 5.50 mm OD) power adapter for source operation.
- 3 Ensure that the jumper shunt on the power selection jumper (J5) is placed at position 1–2 to select the USB Type-C power adapter or DC Input as the power source.

Demo 1: Sink operation

- 1 Connect the USB PD port (J10 and/or J14) of the EVAL_PMG1_S3_DUALDRP kit to the USB Type-C power adapter(s) using USB Type-C cable(s).
- 2 Confirm that the power LED (LED4) glows green and the user LED (LED3 for J10 and LED5 for J14) blinks green to indicate that the EVAL_PMG1_S3_DUALDRP kit is in sink mode of operation.
- 3 Measure the DC_OUT voltage by connecting a multimeter to the green load terminal block (J9 for Port 0 and J15 for Port 1). Confirm that this value is within the 4.75 V–29.4 V range. The actual value is determined by the maximum voltage which the USB Type-C power adapter can supply.
- 4 Remove the multimeter and connect an external load to the terminal block (J9 for Port 0 and J15 for Port 1) to sink the output power.

Demo 2: Source operation

- 1 Connect a 24 V power adapter to the DC input barrel jack (J12) of the EVAL_PMG1_S3_DUALDRP kit or connect a 24 V DC power supply to the DC input terminal terminal (J11, blue).
- 2 Confirm that the power LED (LED4) glows green to indicate that the EVAL_PMG1_S3_DUALDRP kit is in source mode of operation.
- 3 Connect a USB Type-C device (e.g., power bank or phone) to the USB PD port (J10 and/or J14) of the EVAL_PMG1_S3_DUALDRP kit.
- 4 Observe the USB Type-C device(s) power on and perform normal operation. Confirm that the user LED(s) (LED3 and/or LED5) blink(s) green.

Warning: The maximum current that can be drawn by an external load or USB Type-C device cannot exceed 5 A.

Warning: Connect power either to J11 or J12 at any given time, but do not connect power simultaneously to both input terminals.

Next steps

- Use the CAPSENSE™ sliders to change the negotiated voltage on Port 0 during sink or source operation. Use the CAPSENSE™ buttons to switch between SPR and EPR mode on Port 0 during sink operation.
- Download and extract the EVAL_PMG1_S3_DUALDRP release package from the webpage (www.infineon.com/EVAL_PMG1_S3_DUALDRP).
- See the EVAL_PMG1_S3_DUALDRP kit user guide (available as part of the kit release package) to learn more about the kit features and how to develop applications using ModusToolbox™.



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