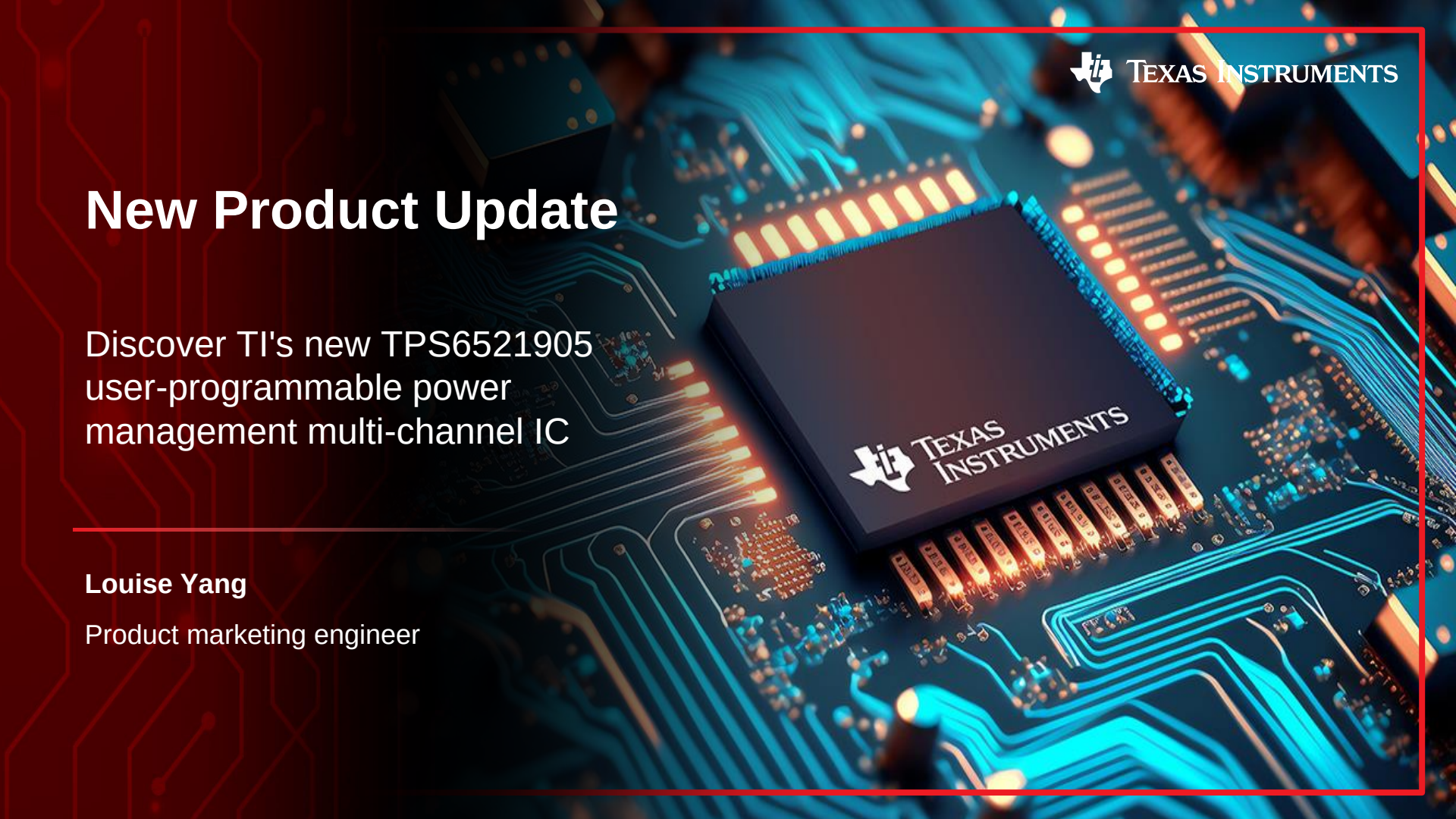
New Product Update

Discover TI's new TPS6521905 user-programmable power management multi-channel IC

Louise Yang

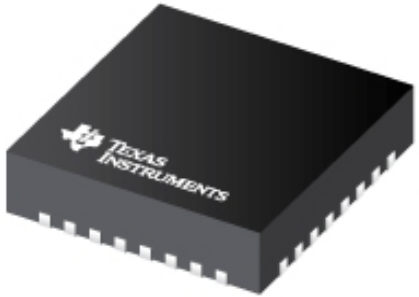
Product marketing engineer



Agenda

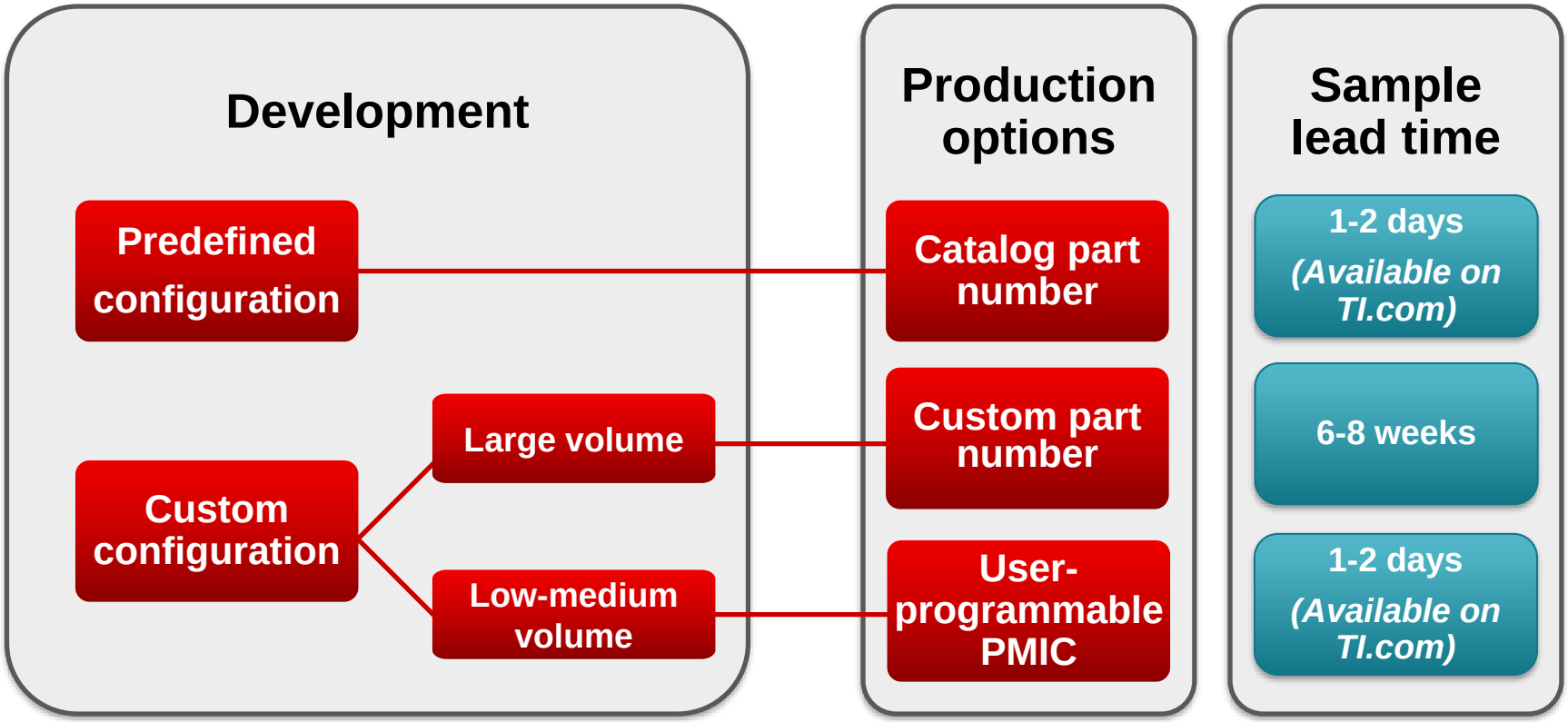
- PMIC features
- NVM support options
- Benefits of user-programmable PMIC’s
- Support
- TPS6521905 features
- Programming tools
- Programming demo

PMIC features

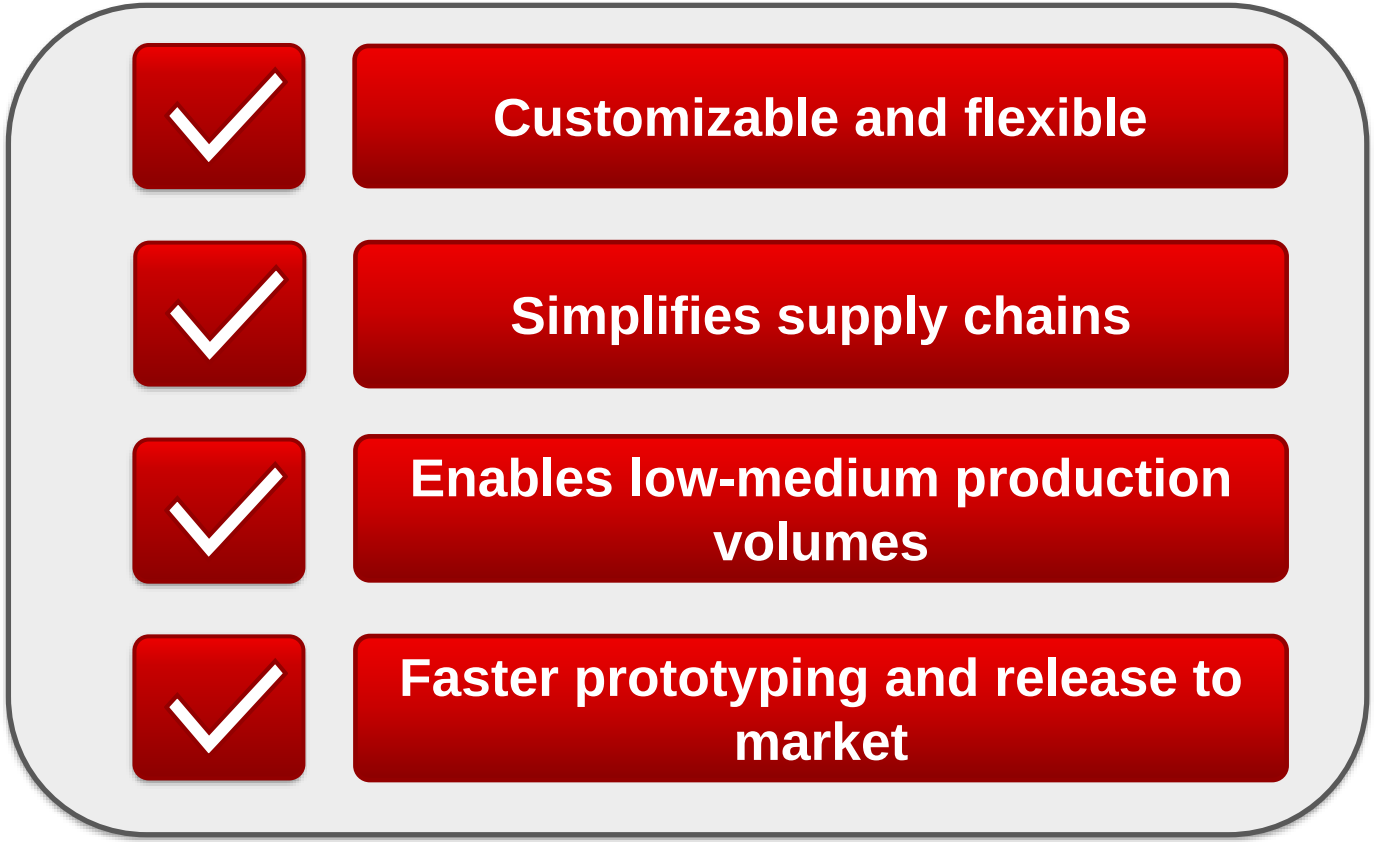


- Power rail voltages
- Power sequencing
- Operating modes
- Device interfacing

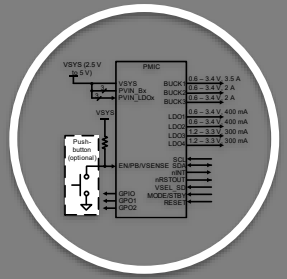
NVM support options | Power any Soc or FPGA



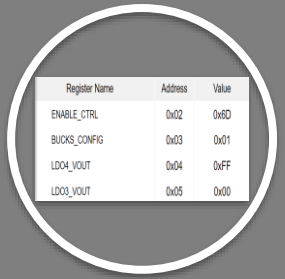
Benefits of user-programmable PMICs



Prototyping to production

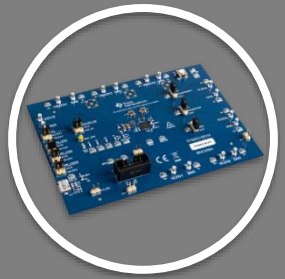


Define power needs



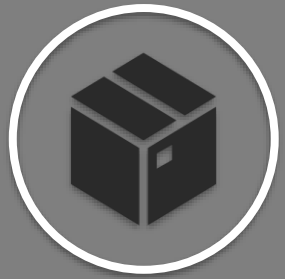
Register Name	Address	Value
ENABLE_CTRL	0x02	0x6D
BUCKS_CONFIG	0x03	0x01
LDO4_VOUT	0x04	0xFF
LDO3_VOUT	0x05	0x00

Reprogram the PMIC



Testing and validation

Export register settings



Mass programming

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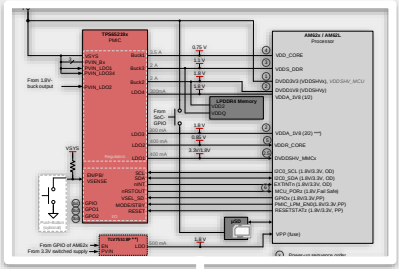
Support



Mass programming options

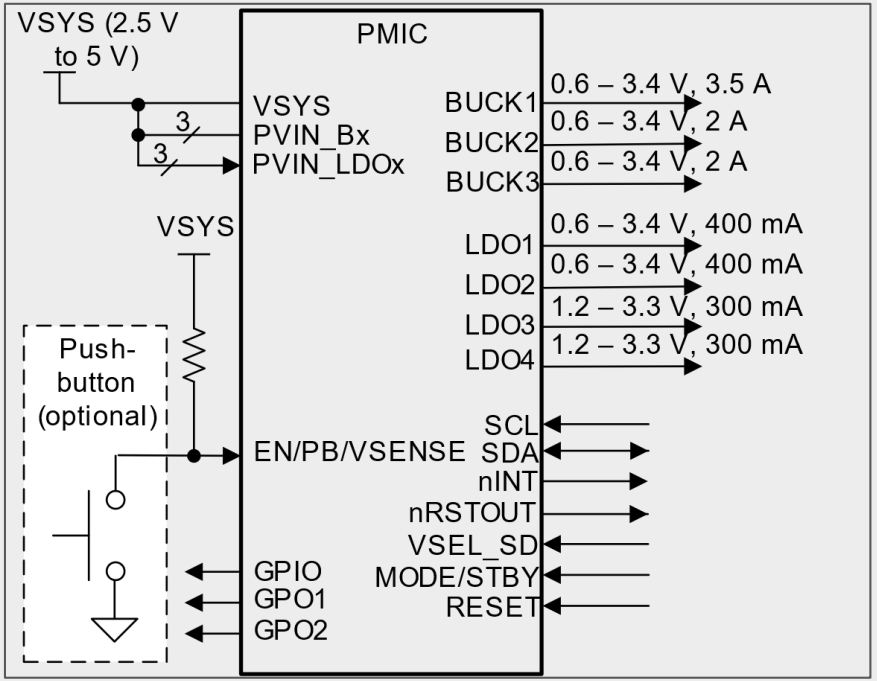
- In-line programming
- Third-party programming partners

Power any processor or FPGA

- Visit ti.com/socpower for design resources
- E2E forum for technical questions

For more information, go to ti.com/pmic

Features of the TPS6521905



Three buck converters

- High and low bandwidth modes
- Phase configuration options

Four low-dropout regulators

- LDO, bypass and load switch modes
- Power-up ramp options

Self-monitoring

- Undervoltage, residual voltage detection
- Temperature sensing

Digital pins

- I^2C communication, SD card operation
- Low-power standby state

Power sequencing

Non-volatile memory

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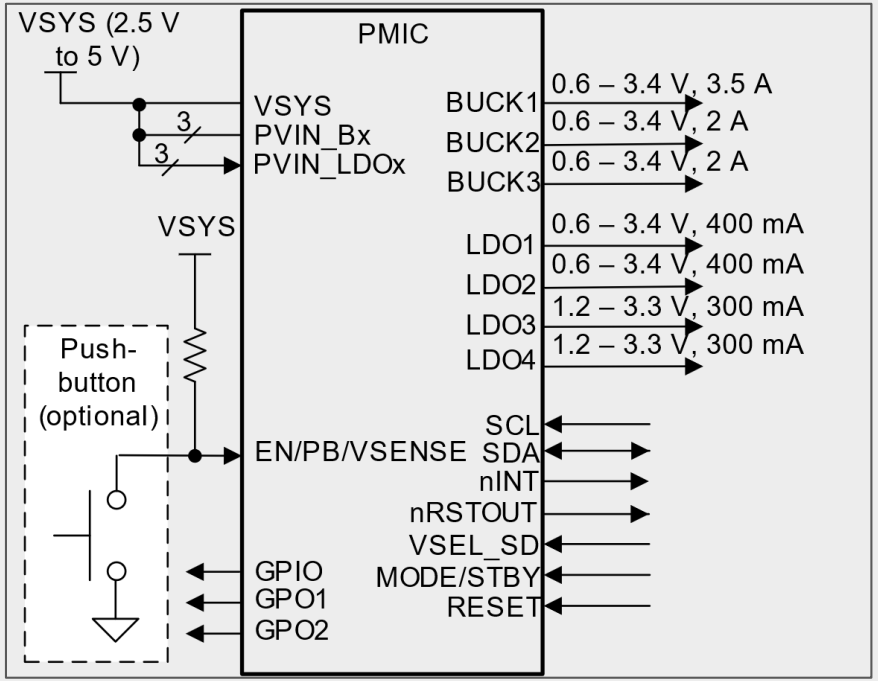
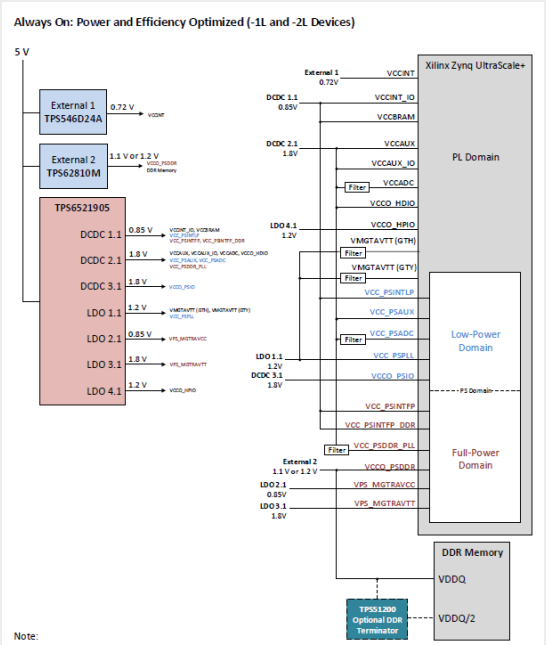
Features of the TPS6521905





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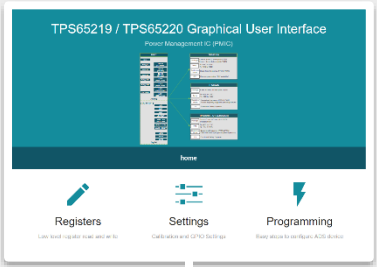
Programming tools

Socketed EVM

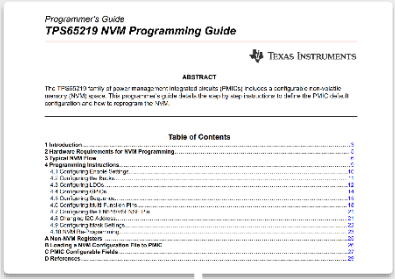
TPS65219EVM-SKT

TPS65219EVM-RSM



Programming GUI

TICloudAgent Bridge web extension



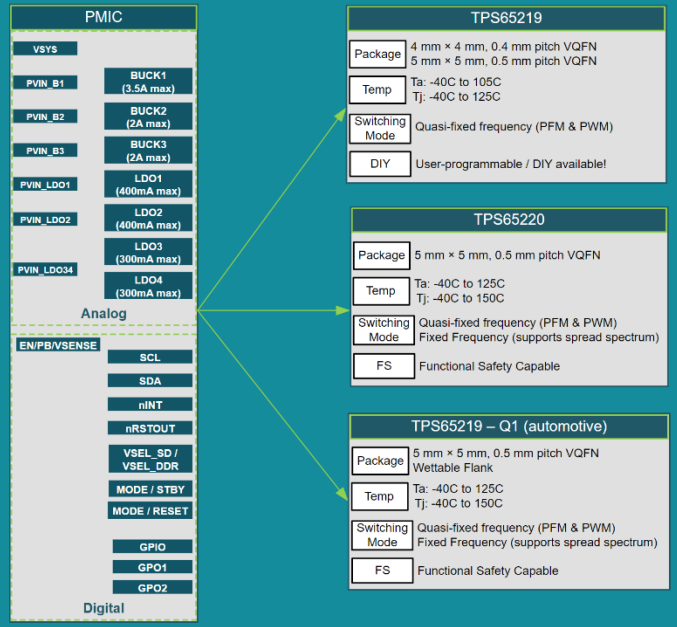
Programming guide

In-depth guide on custom hardware setups, register map information, and more

File Options Tools Help

TPS65219 / TPS65220 Graphical User Interface

Power Management IC (PMIC)



home

Collateral

User Guide, Datasheets, Radiation Reports and more

Registers

Low level register read and write operations

Settings

Calibration and GPIO Settings

Programming

Easy steps to configure ADS device

NVM Verification

Comparison against an NVM file

Powered By GUI Composer™

Hardware not Connected. Please plug your Target Device into your computer's USB port, and click the Connect icon at left.

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Getting started

You can start evaluating this device leveraging the following:

Content type	Content title	Link to content or more details
Learn	TPS6521905 datasheet TPS6521905 programming guide TPS6521905 programming tutorial video User programmable PMIC overview video “Addressing design challenges with user-programmable power-management integrated circuits” technical article	https://www.ti.com/lit/ds/symlink/tps6521905.pdf https://www.ti.com/lit/ug/slvucm5/slvucm5.pdf https://www.ti.com/video/6338472027112 https://www.ti.com/video/6337882735112 https://e2e.ti.com/blogs_/b/powerhouse/posts/addressing-design-challenges-with-user-programmable-power-management-integrated-circuits
Evaluate	TPS65219 GUI online browser TPS65219 socketed EVM programming board TPS65219 socketed EVM programming board user’s guide	https://dev.ti.com/gallery/info/PMIC/TPS65219_GUI/ https://www.ti.com/tool/TPS65219EVM-SKT https://www.ti.com/lit/ug/slvucf6/slvucf6.pdf

Visit www.ti.com/npu

For more information on the New Product Update series, calendar and archived recordings

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