

Table 8-1. Pulse-Dependent Mode Selection Settings

Mode/Sync Input	Mode	
> V <sub>MODE_H</sub>	FPWM with spread spectrum factory setting	
< V <sub>MODE_L</sub>	Auto mode with spread spectrum factory setting	
Synchronization Clock	SYNC mode	
V <sub>MODE_L</sub>	SYNC.MODE input voltage low level threshold	1 V
V <sub>MODE_H</sub>	SYNC.MODE input voltage high level threshold	1.8 V

ENABLE (EN PIN)	EN wakeup threshold	0.5	0.7	1 V
V <sub>EN_WAKE</sub>	EN wakeup threshold	1.16	1.23	1.3 V
V <sub>EN_HOLD</sub>	Precision enable rising threshold for V <sub>OUT</sub>	0.3	0.36	0.4 V
I <sub>CC_EN</sub>	Enable pin input leakage current	10 nA		

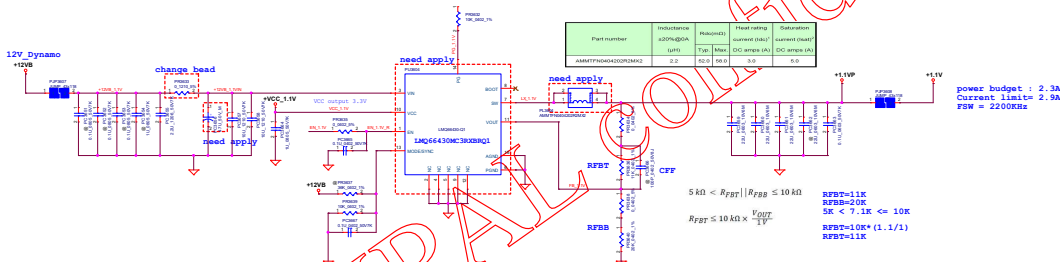
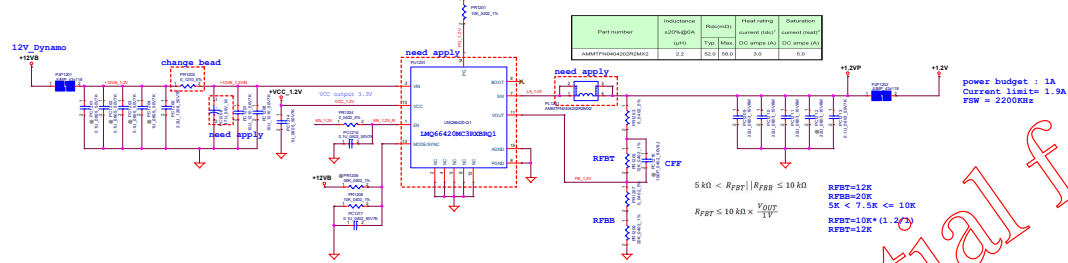
V<sub>EN</sub> = V<sub>IN</sub> = 13.5 V

In some cases, an input UVLO level different than that provided internal to the device is needed. This can be accomplished by using the circuit shown in Figure 9-2. The input voltage at which the device turns on is designated as V<sub>UV</sub> while the turn-off voltage is V<sub>UVT</sub>. First, a value for R<sub>EXT</sub> is chosen in the range of 10 kΩ to 100 kΩ, then Equation 9 and Equation 10 are used to calculate R<sub>FBT</sub> and V<sub>UVT</sub>, respectively.



Figure 9-2. Setup for External UVLO Application

$$R_{EXT} = \left( \frac{V_{UV}}{V_{EN} - V_{OUT}} - 1 \right) \times R_{FB} \quad (9)$$



Orderable Part Number (1) (2)	Output Current	Output Voltage	External Sync	F <sub>sw</sub>	Internal Capacitors	Spread Spectrum
LMQ6430MCSRBRG1	3 A	3.3-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes
LMQ6430MCSRBRG1(1)	3 A	5-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes
LMQ6420MCSRBRG1(1)	2 A	3.3-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes
LMQ6420MCSRBRG1(1)	2 A	5-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes
LMQ6420MA3RBRG1	2 A	3.3-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 400 kHz	Yes	Yes
LMQ6410MCSRBRG1(1)	1 A	3.3-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes
LMQ6410MCSRBRG1	1 A	5-V Fixed / Adjustable	Yes (PFM / FPWM Selectable)	Fixed 2.2 MHz	Yes	Yes

- (1) For more information on device orderable part numbers, see Device Nomenclature.
- (2) For other variant options, please contact TI.
- (3) Preview.

CONFIDENTIAL FOR VENDOR REVIEW ONLY