Click here for production status of specific part numbers.

MAXM17630/MAXM17631/ MAXM17632 Evaluation Kits

Evaluates: MAXM17630/MAXM17631/ MAXM17632 Modules in Application

General Description

The MAXM17630/MAXM17631/MAXM17632 evaluation kits (EV kits) provide a proven design to evaluate the performance of MAXM17630/MAXM17631/MAXM17632 modules. Each of these modules operates over a wide input range from 4.5V to 36V and delivers up to 1A output current. The modules are configured to demonstrate optimum performance and component sizes in this EV kit.

The MAXM17630 module delivers up to 1A with a fixed 3.3V output. The module is configured to operate at a 900kHz switching frequency, over a 4.5V to 36V input range.

The MAXM17631 module delivers up to 1A with a fixed 5V output. The module is configured to operate at a 1250kHz switching frequency, over a 7V to 36V input range.

The MAXM17632 adjustable module delivers up to 1A and is configured for 12V output. The module is configured to operate at a 2150kHz switching frequency over a 20V to 36V input range.

The EV kit feature provisions for selecting modes of operation (PWM/PFM/DCM), synchronization to an external clock source, enable/disable, and UVLO settings. The MAXM17630/MAXM17631/MAXM17632 module family data sheet provides a complete description of the parts and should be read in conjunction with this data sheet prior to operating the EV kits.

Features

- Wide 4.5V to 36V Input Range
  - MAXM17630 Offers High 86.47% Efficiency (V_{IN} = 24V, V_{OUT} = 3.3V, I_{OUT} = 1A)
  - MAXM17631 Offers High 90.46% Efficiency (V_{IN} = 24V, V_{OUT} = 5V, I_{OUT} = 1A)
  - MAXM17632 Offers High 93.12% Efficiency (V_{IN} = 24V, V_{OUT} = 12V, I_{OUT} = 1A)
- Enable/UVLO Input, Resistor-Programmable UVLO Threshold
- Selectable PWM, PFM, and DCM Modes of Operation
- Provision to synchronize the Modules to an External Clock Source
- Low-Profile, Surface-Mount Components
- Proven PCB Layout
- Fully Assembled and Tested
- $\overline{\text{RESET}}$ Outputs, with Pullup Resistor to Respective V_{CC}
- Complies with CISPR22(EN55022) Class B Conducted and Radiated Emissions

***Ordering Information* appears at end of data sheet.**

319-100446; Rev 0; 9/19

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Quick Start

Required Equipment

- One 0V to 36V DC, 1A Power Supply
- Digital Multimeters (DMM)
- Load resistors for capable of sinking 1A, at 3.3V, 5V, and 12V

Equipment Setup and Procedure

The EV kits are fully assembled and tested. Follow the steps below to verify and test individual modules operation.

Caution: Do not turn on power supply until all connections are completed.

1) Set the input power supply at a voltage between 4.5V and 36V for MAXM17630, between 7V and 36V for MAXM17631, or between 20V and 36V for MAXM17632. Disable the power supply.
2) Connect the positive terminal and negative terminal of the power supply to the VIN_EMI pad and its adjacent PGND pad of the module under evaluation.
3) Connect a maximum of 1A resistive load across V_{OUT} pad and its adjacent PGND pad of the corresponding module.
4) Verify that the shunts are not installed on jumpers (JU101, JU201, JU301) (see Table 1 for details).
5) Select the shunt position on respective jumpers (JU102, JU202, JU302) according to the required mode of operation (see Table 2 for details).
6) Connect a digital multimeter (in voltage measurement mode) across the V_{OUT} and respective PGND pads.
7) Turn on the input power supply.
8) Verify that the digital multimeter displays expected terminal voltage with respect to PGND.

Detailed Description

The MAXM17630/MAXM17631/MAXM17632 EV kits are designed to demonstrate the salient features of MAXM17630/MAXM17631/MAXM17632 power modules. The EV kits consist of typical application circuits of three different modules. Each of these circuits are electrically isolated from each other and hosted on the same PCB. Each of the modules can be evaluated by powering them from their respective input pins. Individual module settings can be adjusted to evaluate their performance under different operating conditions.

Setting Switching Frequency

When selecting the switching frequency, consider input voltage range, desired output voltage, $t_{ON(MIN)}$ and $t_{OFF(MIN)}$ of the modules. Resistors (R103, R203, R303) on the EV kit program the desired switching frequencies of the modules. To optimize performance and component size, 900kHz switching frequency is chosen for MAXM17630, 1250kHz is chosen for MAXM17631, and 2150kHz is chosen for MAXM17632 modules. Use *Table 1* and refer to the *Switching Frequency section of the MAXM17630/MAXM17631/MAXM17632 data sheet* to choose different values of resistors for programming the required switching frequency.

Enable/Undervoltage Lockout (EN/UVLO) Programming

The MAXM17630/MAXM17631/MAXM17632 EV kits offer adjustable input undervoltage lockout levels for the modules. In the EV kits, for normal operation, leave the jumpers (JU101, JU201, and JU301) open. When jumper JU101 is left open, MAXM17630 is enabled when the input voltage rises above 4.4V. When jumpers JU201 and JU301 are left open, the MAXM17631 and MAXM17632 modules are enabled when the corresponding input voltages rise above 6.8V and 19.5V respectively. To disable the modules, install shunts across pins 2–3 on jumpers (JU101, JU201, and JU301). See Table 1 for jumper (JU101, JU201, and JU301) settings.

A potential divider formed by the resistors R_{UPPER} (R101, R201, and R301) and R_{LOWER} (R102, R202, and R302) sets the input voltage (V_{INU}) at which the module is enabled.

Choose R_{UPPER} (R101, R201, and R301) to be 3.3MΩ and then calculate R_{LOWER} (R102, R202, and R302) as follows:

$$R_{LOWER} = \frac{R_{UPPER} \times 1.215}{(VINU - 1.215)}$$

Where R_{LOWER} (R102, R202, and R302) is in MΩ.

For MAXM17630 to turn ON at 4.4V input, R102 is calculated to be 1.27MΩ.

For MAXM17631 to turn ON at 6.8V input, R202 is calculated to be 715kΩ.

For MAXM17632 to turn ON at 19.5V input, R302 is calculated to be 215kΩ.

MODE Selection and External Clock Synchronization

The MAXM17630/MAXM17631/MAXM17632 modules support PWM, PFM, and DCM modes of operation. In the EV kits, leave the jumpers (JU102, JU202, and JU302) OPEN for operating the parts in PFM mode at a light-load. Install shunts across position (1–2) to configure the modules to operate in DCM mode. Install shunts across position (2–3) to configure the modules to operate in PWM mode. See Table 2 for jumpers (JU102, JU202, and JU302) settings.

The internal oscillators of the devices can be synchronized to an external clock signal on the MODE/SYNC pin. The external synchronization clock frequency must be between 1.1 x f_{SW} and 1.4 x f_{SW}, where f_{SW} is the frequency programmed by the resistors (R103, R203, and R303) connected to the RT pin. The minimum external clock high-pulse width should be more than 50ns and minimum external low-pulse width should be more than 160ns. The jumpers (JU102, JU202, and JU302) must be left unconnected before applying the external clock at the MODE/SYNC pins.

Adjusting Output Voltage

The MAXM17632 supports a 0.9V to 12V adjustable output voltage range. The MAXM17632 evaluation kit output voltage is preset to 12V. Output voltage can be programmed using the values given in *Table 2 of the MAXM17630/MAXM17631/MAXM17632 data sheet*. For 12V output, R305 is chosen as 634kΩ, and R306 is chosen as 51kΩ.

Input Capacitor Selection

The input capacitors (C102, C202, and C302) serve to reduce current peaks drawn from the input power supply and reduce switching frequency ripple at the input. The input capacitance must be greater than or equal to the value given in *Table 2 of the MAXM17630/MAXM17631/MAXM17632 data sheet*. Input capacitors (C102, C202, and C302) are chosen to be 4.7µF/50V.

Output Capacitor Selection

X7R ceramic output capacitors are preferred due to their stability over temperature in industrial applications. The required output capacitors (C107, C207, and C307) are selected from *Table 2 of the MAXM17630/MAXM17631/MAXM17632 data sheet* for 3.3V and 5V outputs as 22µF/25V and for 12V output as 10µF/50V.

Linear Regulator (V_{CC} and EXTVCC)

Powering V_{CC} from EXTVCC increases the efficiency of the module at higher input voltages. If the applied EXTVCC voltage is greater than 4.7V (typ), internal V_{CC} is powered from EXTVCC. If EXTVCC is lower than 4.7V (typ), internal V_{CC} is powered from V_{IN}. Connect EXTVCC to output when OUT is programmed to 5V only. In the MAXM17631 EV kit, EXTVCC is connected to VOUT2 using resistor R205(0Ω). When EXTVCC is not used, leave R205 OPEN and install 0Ω in R206.

Table 1. (EN/UVLO) Enable/Disable Configuration (JU101, JU201 and JU301)

SHUNT POSITION	EN/UVLO PIN	OUTPUT
Not installed*	Connected to the center nodes of the respective resistor-dividers (R101 and R102; R201 and R202; R301 and R302)	Programmed to startup at desired input-voltage level
1-2	Connected to V_{IN}	Enabled if V_{IN} is greater than $V_{IN(MIN)}$
2-3	Connected to GND	Disabled

**Default position.*

Table 2. MODE/SYNC Operation (JU102, JU202, JU302)

SHUNT POSITION	MODE/SYNC PIN	MODE
Not installed*	Unconnected	PFM mode of operation
1-2	Connected to V_{CC}	DCM mode of operation
2-3	Connected to GND	PWM mode of operation

**Default position.*

Electromagnetic Interference (EMI)

Compliance to conducted emissions (CE) standards requires an EMI filter at the input of a switching power converter. The EMI filter attenuates high-frequency currents drawn by the switching power converter, and limits the noise injected back into the input power source.

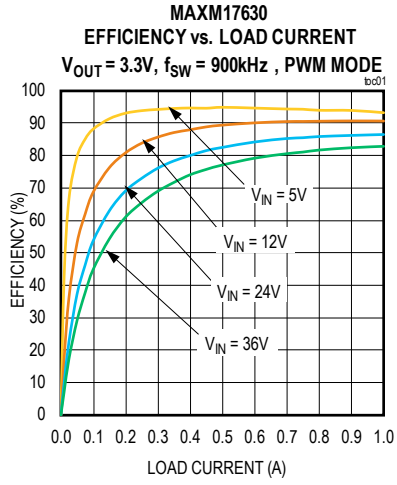
Use of EMI filter components as shown in the EV kit schematic results in lower conducted emissions below CISPR22 Class B limits. The MAXM17630/MAXM17631/MAXM17632 EV kit PCB layouts are also designed to limit radiated emissions from switching nodes of the power converter, resulting in radiated emissions below CISPR22 Class B limits. Further, capacitors placed near the input of the board help in attenuating high frequency noise.

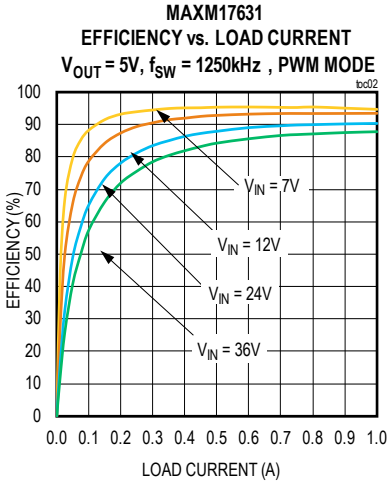
Hot Plug-In and Long input cables

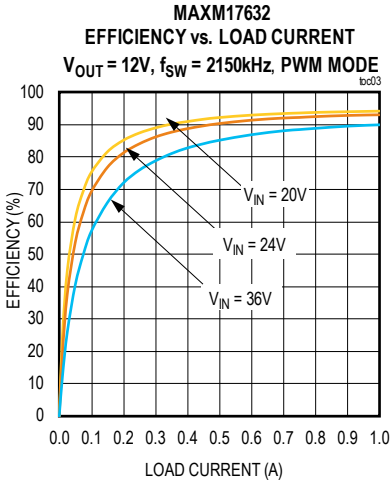
The MAXM17630/MAXM17631/MAXM17632 EV kit PCBs provide optional electrolytic capacitors (C101, C201, and C301 to 10µF/50V) to dampen input voltage peaks and oscillations that can arise during hot-plug-in and/or due to long input cables. These capacitors limit the peak voltage at the input of the power modules, when the EV kits is powered directly from a precharged capacitive source or an industrial backplane PCB. Long input cables between input power source and the EV kits circuit can cause input-voltage oscillations due to the inductance of the cables. The equivalent series resistance (ESR) of the electrolytic capacitor helps damp out the oscillations caused by long input cables.

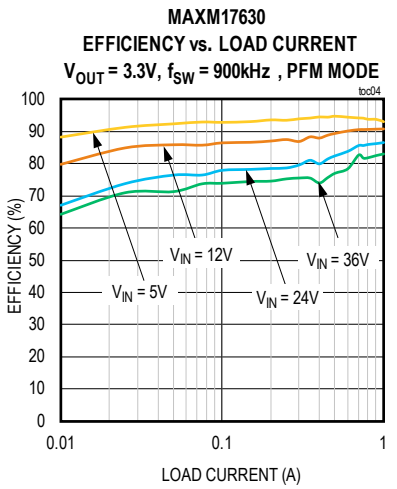
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report

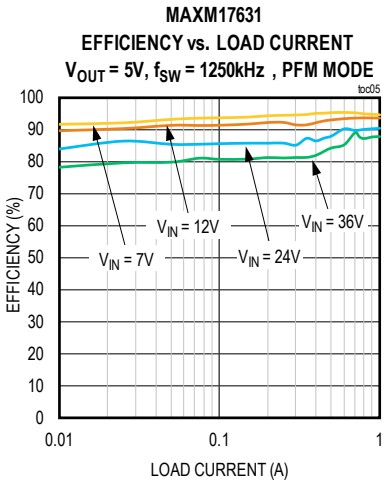
(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

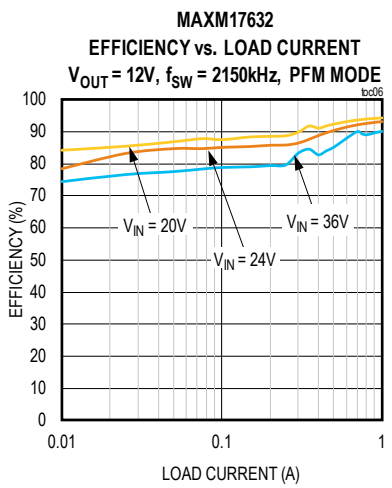








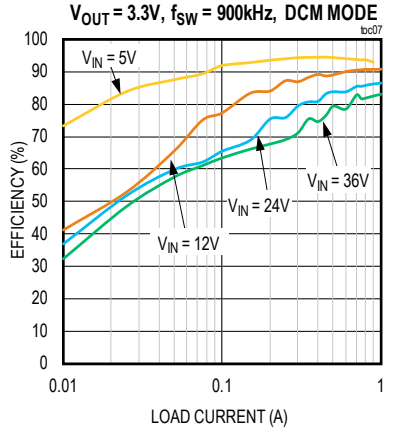




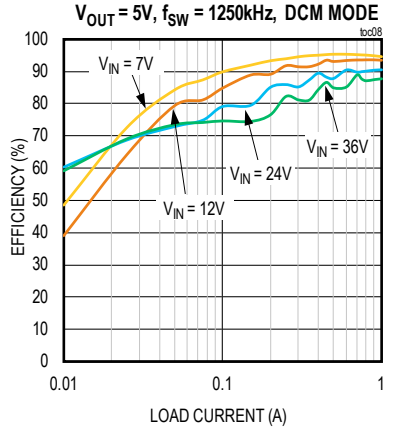
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

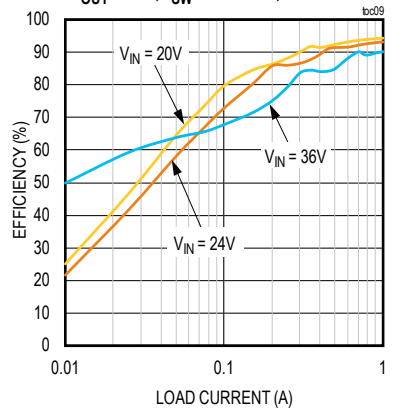
MAXM17630
EFFICIENCY vs. LOAD CURRENT
V_{OUT} = 3.3V, f_{SW} = 900kHz, DCM MODE



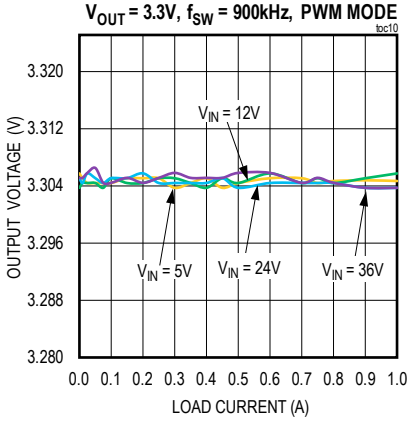
MAXM17631/MAXM17632
EFFICIENCY vs. LOAD CURRENT
V_{OUT} = 5V, f_{SW} = 1250kHz, DCM MODE



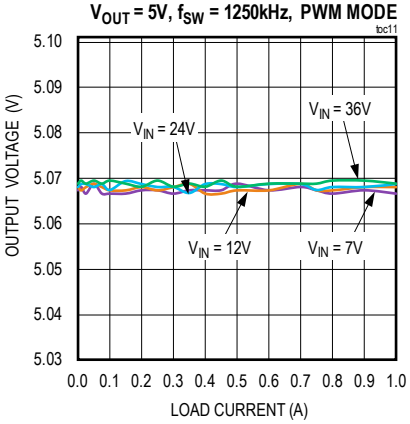
MAXM17632
EFFICIENCY vs. LOAD CURRENT
V_{OUT} = 12V, f_{SW} = 2150kHz, DCM MODE



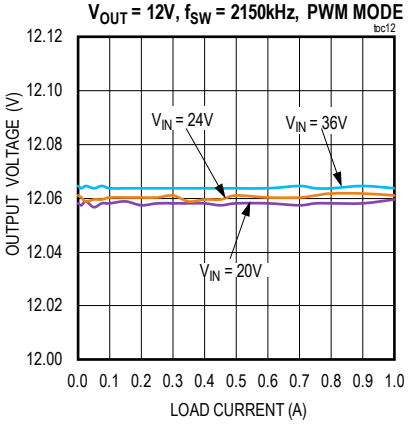
MAXM17630
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 3.3V, f_{SW} = 900kHz, PWM MODE



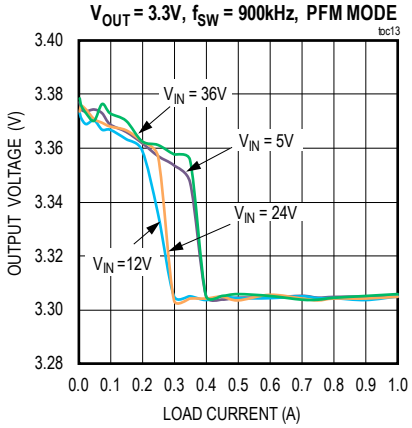
MAXM17631
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 5V, f_{SW} = 1250kHz, PWM MODE



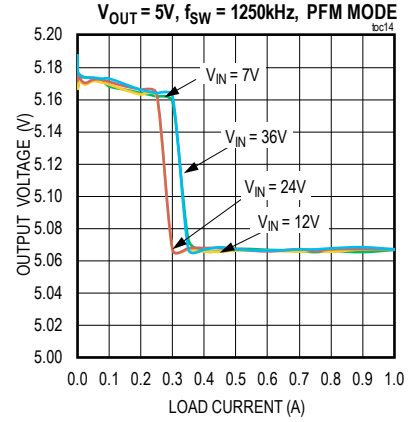
MAXM17632
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 12V, f_{SW} = 2150kHz, PWM MODE



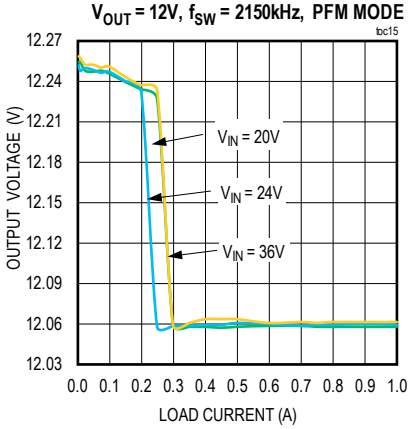
MAXM17630
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 3.3V, f_{SW} = 900kHz, PFM MODE



MAXM17631
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 5V, f_{SW} = 1250kHz, PFM MODE



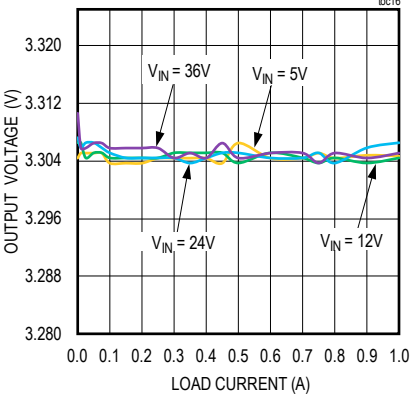
MAXM17632
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 12V, f_{SW} = 2150kHz, PFM MODE



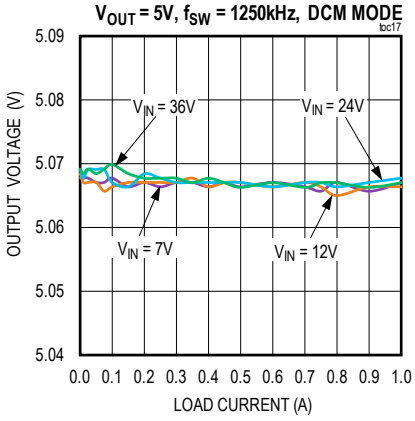
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

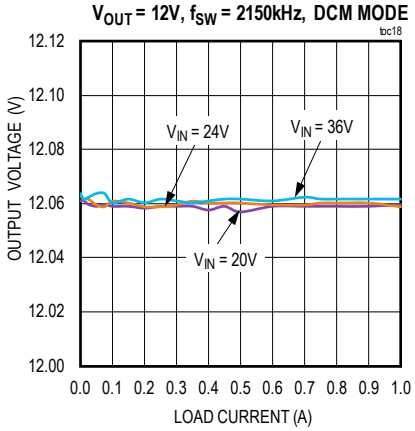
MAXM17630
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 3.3V, f_{SW} = 900kHz, DCM MODE



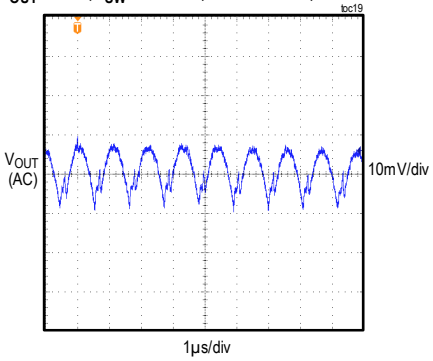
MAXM17631
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 5V, f_{SW} = 1250kHz, DCM MODE



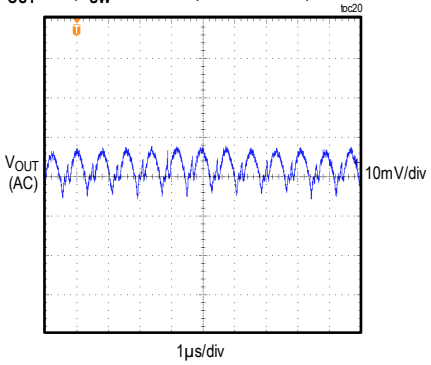
MAXM17632
OUTPUT VOLTAGE vs. LOAD CURRENT
V_{OUT} = 12V, f_{SW} = 2150kHz, DCM MODE



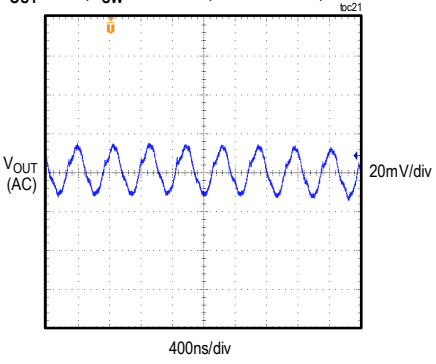
MAXM17630
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



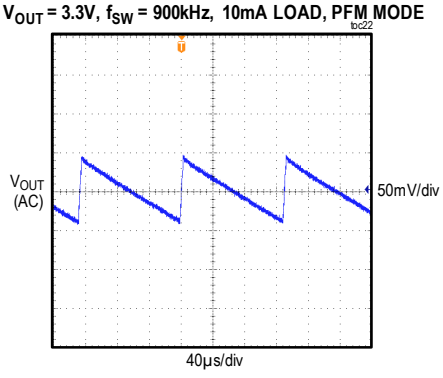
MAXM17631
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



MAXM17632
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



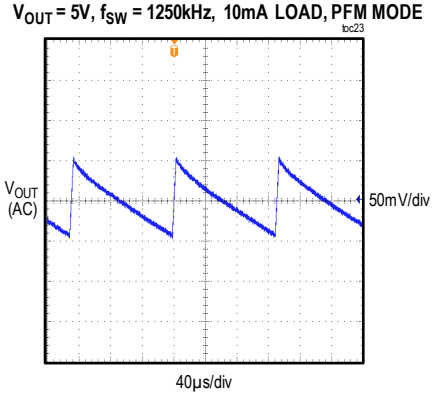
MAXM17630
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 3.3V, f_{SW} = 900kHz, 10mA LOAD, PFM MODE



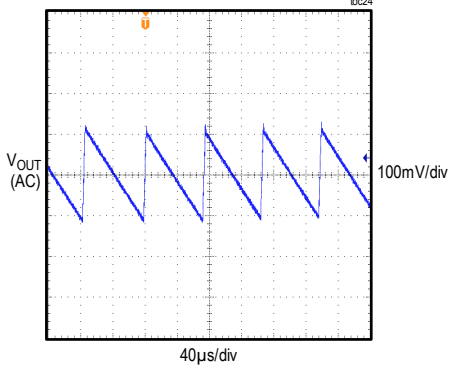
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

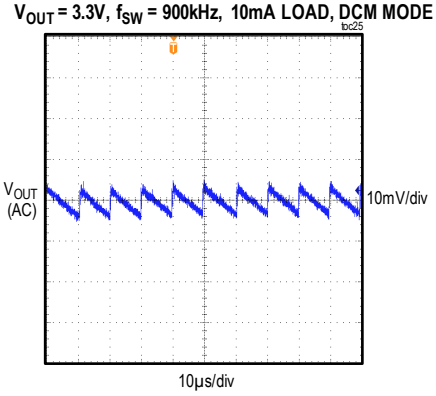
MAXM17631
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 5V, f_{SW} = 1250kHz, 10mA LOAD, PFM MODE



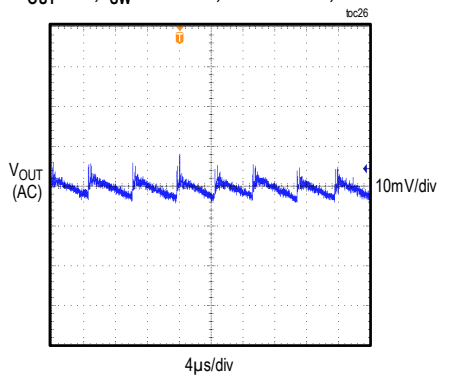
MAXM17632
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 12V, f_{SW} = 2150kHz, 10mA LOAD, PFM MODE



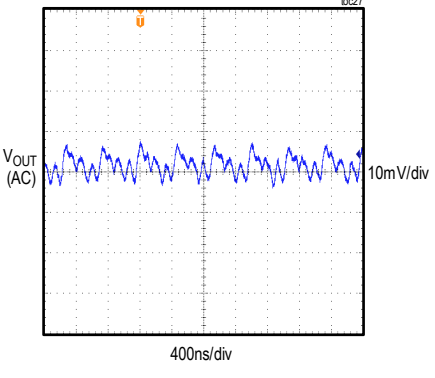
MAXM17630
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 3.3V, f_{SW} = 900kHz, 10mA LOAD, DCM MODE



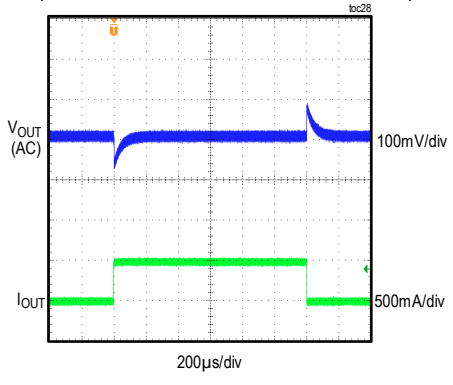
MAXM17631
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 5V, f_{SW} = 1250kHz, 10mA LOAD, DCM MODE



MAXM17632
STEADY-STATE OUTPUT-VOLTAGE RIPPLE
V_{OUT} = 12V, f_{SW} = 2150kHz, 10mA LOAD, DCM MODE



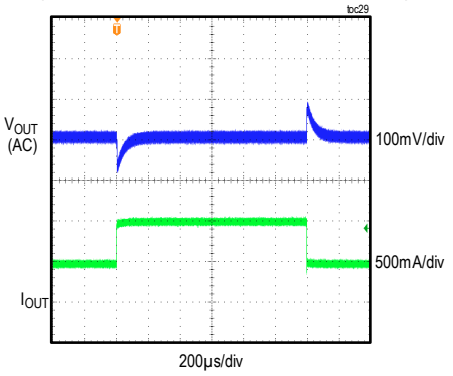
MAXM17630 LOAD TRANSIENT RESPONSE
V_{OUT} = 3.3V, f_{SW} = 900kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0A to 0.5A)



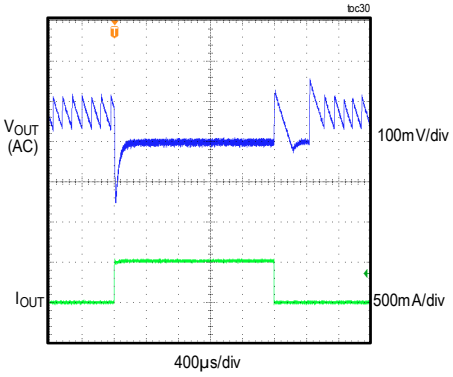
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

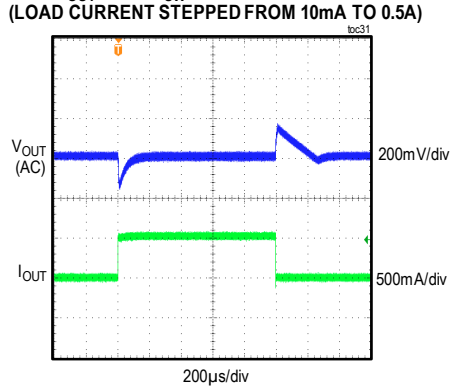
MAXM17630 LOAD TRANSIENT RESPONSE
V_{OUT} = 3.3V, f_{SW} = 900kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0.5A to 1A)



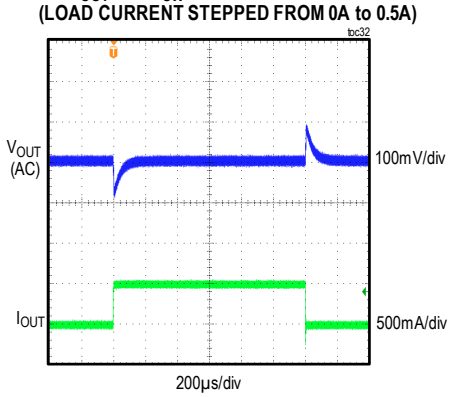
MAXM17630 LOAD TRANSIENT RESPONSE
V_{OUT} = 3.3V, f_{SW} = 900kHz, PFM MODE
(LOAD CURRENT STEPPED FROM 10mA TO 0.5A)



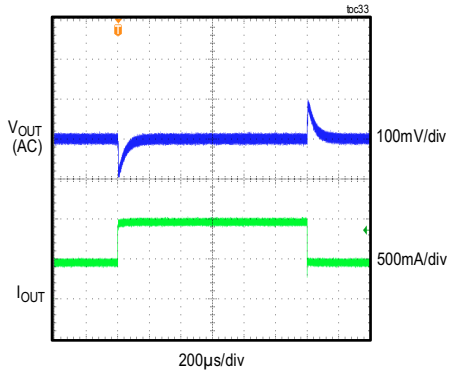
MAXM17630 LOAD TRANSIENT RESPONSE
V_{OUT} = 3.3V, f_{SW} = 900kHz, DCM MODE
(LOAD CURRENT STEPPED FROM 10mA TO 0.5A)



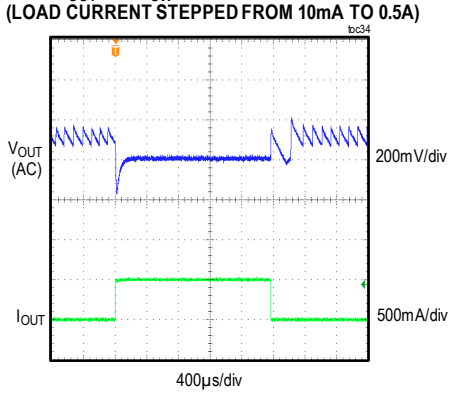
MAXM17631 LOAD TRANSIENT RESPONSE
V_{OUT} = 5V, f_{SW} = 1250kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0A to 0.5A)



MAXM17631 LOAD TRANSIENT RESPONSE
V_{OUT} = 5V, f_{SW} = 1250kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0.5A to 1A)



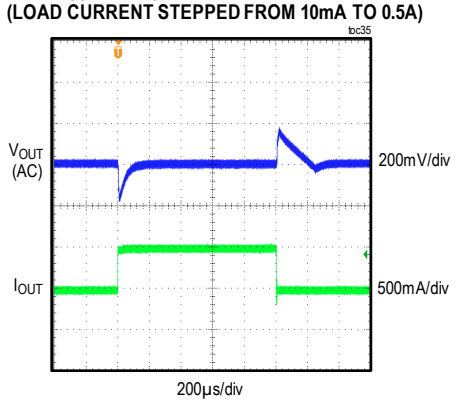
MAXM17631 LOAD TRANSIENT RESPONSE
V_{OUT} = 5V, f_{SW} = 1250kHz, PFM MODE
(LOAD CURRENT STEPPED FROM 10mA TO 0.5A)



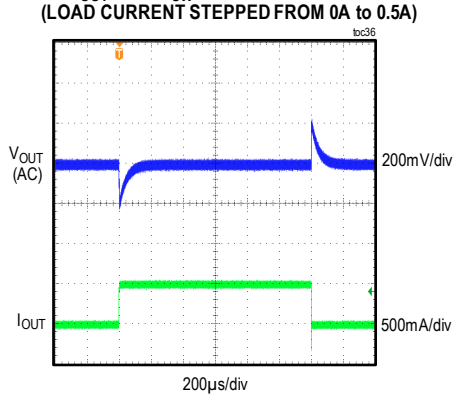
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

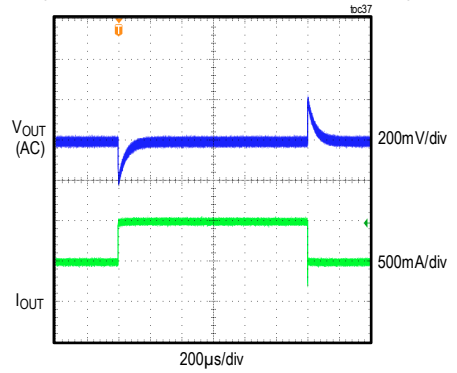
MAXM17631 LOAD TRANSIENT RESPONSE
V_{OUT} = 5V, f_{SW} = 1250kHz, DCM MODE
(LOAD CURRENT STEPPED FROM 10mA TO 0.5A)



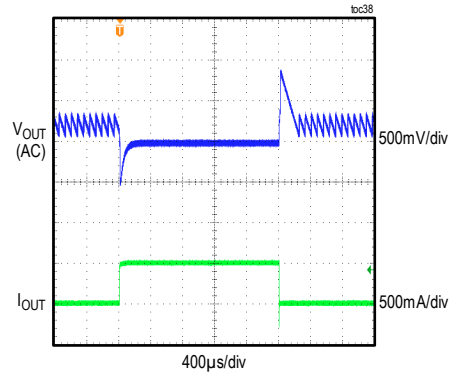
MAXM17632 LOAD TRANSIENT RESPONSE
V_{OUT} = 12V, f_{SW} = 2150kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0A to 0.5A)



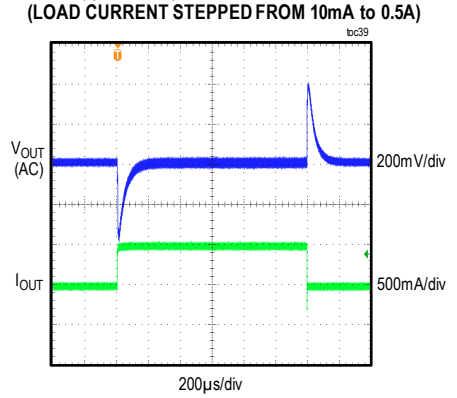
MAXM17632 LOAD TRANSIENT RESPONSE
V_{OUT} = 12V, f_{SW} = 2150kHz, PWM MODE
(LOAD CURRENT STEPPED FROM 0.5A to 1A)



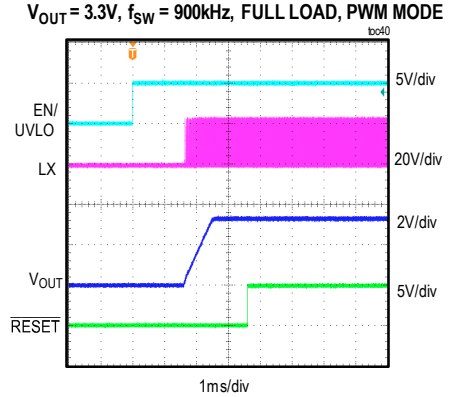
MAXM17632 LOAD TRANSIENT RESPONSE
V_{OUT} = 12V, f_{SW} = 2150kHz, PFM MODE
(LOAD CURRENT STEPPED FROM 10mA to 0.5A)



MAXM17632 LOAD TRANSIENT RESPONSE
V_{OUT} = 12V, f_{SW} = 2150kHz, DCM MODE
(LOAD CURRENT STEPPED FROM 10mA to 0.5A)



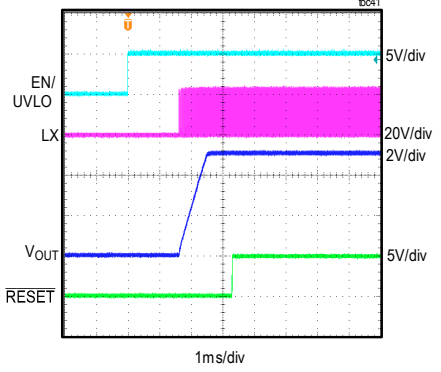
MAXM17630 STARTUP THROUGH ENABLE
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



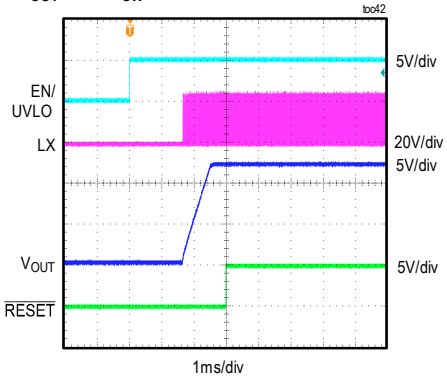
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

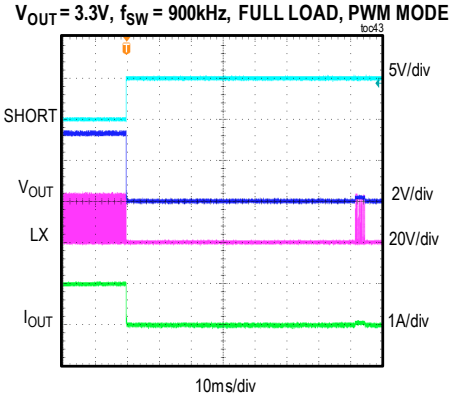
MAXM17631 STARTUP THROUGH ENABLE
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



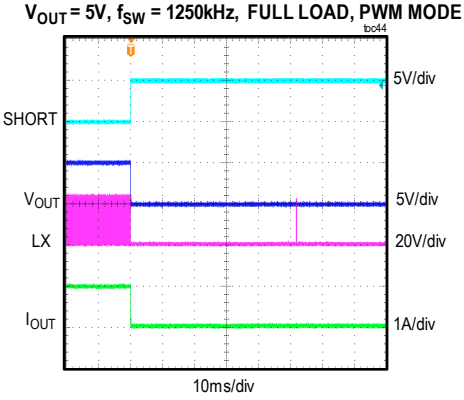
MAXM17631 STARTUP THROUGH ENABLE
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



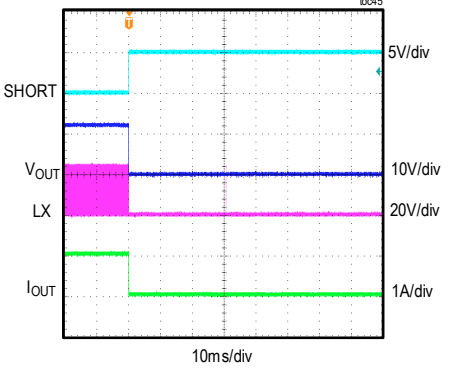
MAXM17630
OUTPUT SHORT IN STEADY-STATE
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



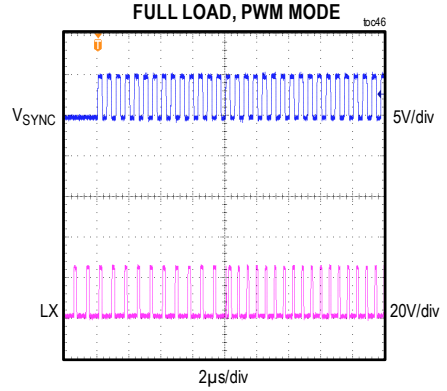
MAXM17631
OUTPUT SHORT IN STEADY-STATE
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



MAXM17632
OUTPUT SHORT IN STEADY-STATE
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



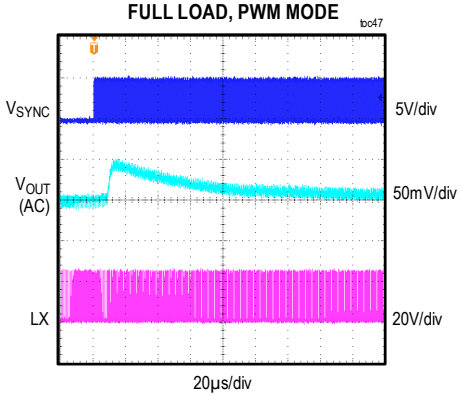
MAXM17631 EXT CLOCK SYNC
V_{OUT} = 5V, f_{SW} = 1.25MHz, f_{SYNC} = 1.75MHz,
FULL LOAD, PWM MODE



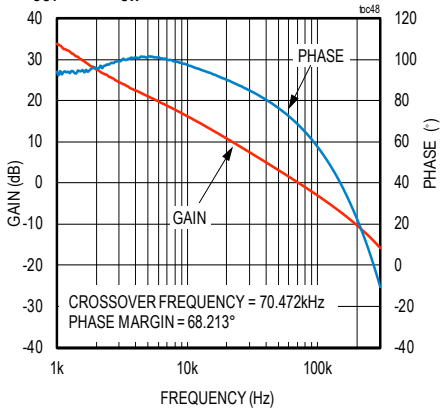
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

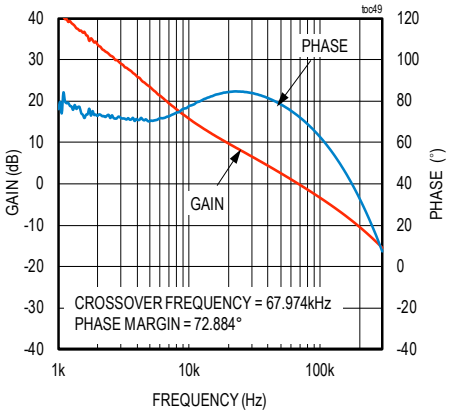
MAXM17631 / MAXM17632 EXT CLOCK SYNC
V_{OUT} = 5V, f_{SW} = 1.25MHz, f_{SYNC} = 1.75MHz, FULL LOAD, PWM MODE



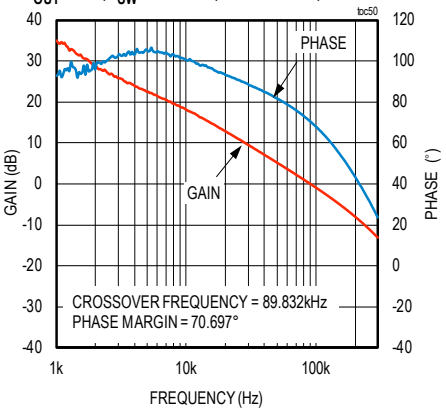
MAXM17630 BODE PLOT
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



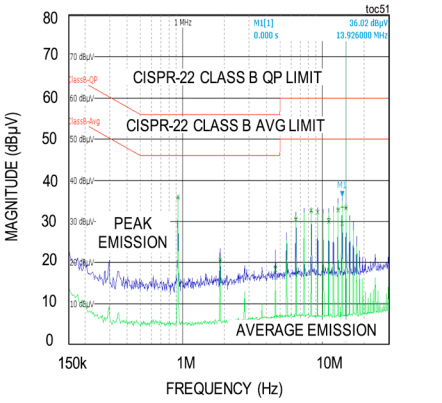
MAXM17631 BODE PLOT
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



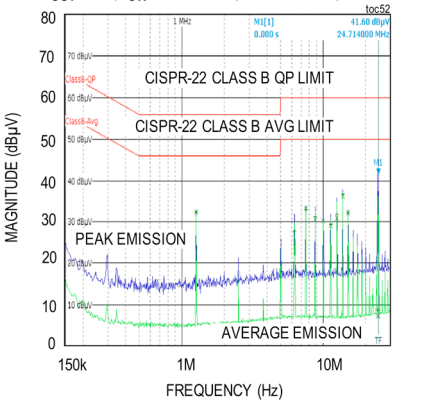
MAXM17632 BODE PLOT
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



MAXM17630 CONDUCTED EMISSIONS PLOT
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



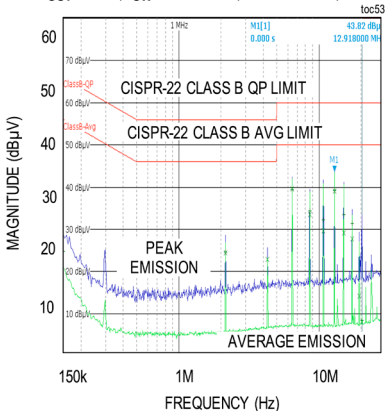
MAXM17631 CONDUCTED EMISSIONS PLOT
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



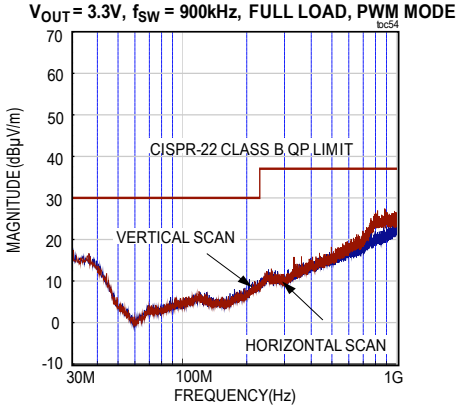
MAXM17630/MAXM17631/MAXM17632 EV Kits Performance Report (continued)

(V_{IN} = 24V, T_A = 25°C, unless otherwise noted.)

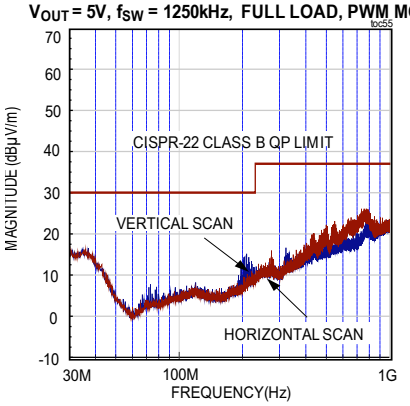
MAXM17632 CONDUCTED EMISSIONS PLOT
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



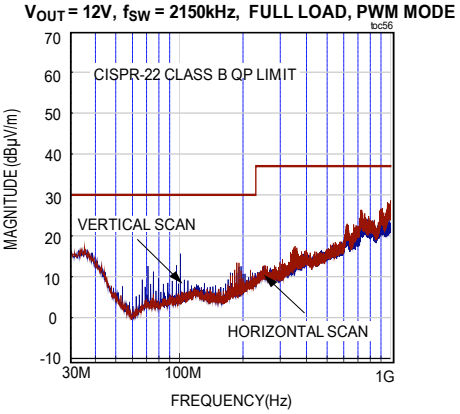
MAXM17630 RADIATED EMISSIONS PLOT
V_{OUT} = 3.3V, f_{SW} = 900kHz, FULL LOAD, PWM MODE



MAXM17631 RADIATED EMISSIONS PLOT
V_{OUT} = 5V, f_{SW} = 1250kHz, FULL LOAD, PWM MODE



MAXM17632 RADIATED EMISSIONS PLOT
V_{OUT} = 12V, f_{SW} = 2150kHz, FULL LOAD, PWM MODE



Component Suppliers

SUPPLIER	WEBSITE
Murata Americas	www.murata.com
Taiyo Yuden	www.yuden.co.jp
Vishay	www.vishay.com
Panasonic Corp.	www.panasonic.com

Note: *Indicate that you are using the MAXM17630/MAXM17631/MAXM17632 modules when contacting these component suppliers.*

Ordering Information

PART	TYPE
MAXM17630EVKIT#	EV Kit
MAXM17631EVKIT#	EV Kit
MAXM17632EVKIT#	EV Kit

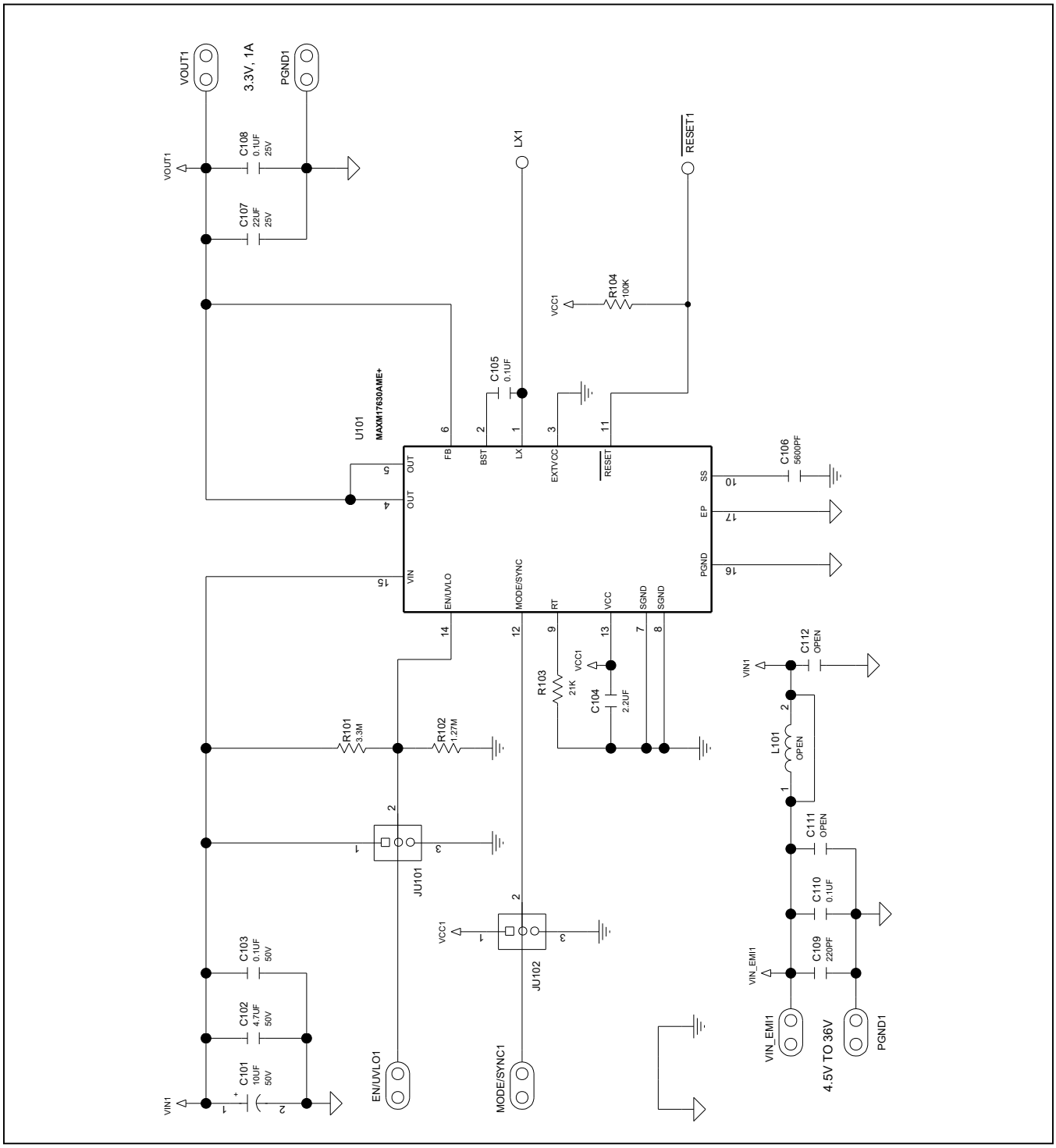
#Denotes RoHS compliance.

MAXM17630/MAXM17631/MAXM17632 EV Kits Bill of Materials

ITEM	QTY	DESIGNATOR	DESCRIPTION	MANUFACTURER PART NUMBER
1	3	C101, C201, C301	10µF±20%,50V, Aluminimum-Electrolytic Capacitor	PANASONIC EEE-FK1H100P
2	3	C102, C202, C302	4.7µF±10%, 50V, X7R ceramic capacitor (1206)	MURATA GRM31CR71H475KA12
3	3	C103, C203, C303	0.1µF±10%, 50V, X7R ceramic capacitor (0603)	MURATA GCJ188R71H104KA12
4	3	C104, C204, C304	2.2µF±10%, 6.3V, X7R ceramic capacitor (0603)	TDK CGA3E1X7R0J225K080AC
5	3	C105, C205, C305	0.1µF±10%, 50V, X7R ceramic capacitor (0402)	MURATA GRM155R71H104KE14
6	3	C106, C206, C306	5600pF±10%, 25V, X7R ceramic capacitor (0402)	MURATA GRM155R71E562KA01
7	2	C107, C207	22µF±10%, 25V, X7R ceramic capacitor (1210)	MURATA GRM32ER71E226KE15
8	3	C108, C208, C308	0.1µF±10%, 25V, X7R ceramic capacitor (0603)	MURATA GRM188R71E104KA01
9	3	C109, C209, C309	220pF±10%,100V, X7R ceramic capacitor (0402)	MURATA GRM155R72A221KA01
10	3	C110, C210, C310	0.1µF±10%, 100V, X7R ceramic capacitor (0603)	MURATA GRM188R72A104KA35
11	1	C307	10µF±10%, 50V, X7R ceramic capacitor (1210)	MURATA GRM32ER71H106KA12
15	3	R101, R201, R301	3.3MΩ ±1% resistor (0402)	VISHAY DALE CRCW04023M30FK
16	1	R102	1.27MΩ ±1% resistor (0402)	VISHAY DALE CRCW04021M27FK
17	1	R103	21kΩ ±1% resistor (0402)	PANASONIC ERJ-2RKF2102
18	3	R104, R204, R304	100kΩ ±1% resistor (0402)	VISHAY CRCW0402100KFK
19	1	R202	715kΩ ±1% resistor (0402)	PANASONIC ERJ-2RKF7153
20	1	R203	15kΩ ±1% resistor (0402)	VISHAY DALE CRCW040215K0FK
21	1	R205	0Ω±0% resistor (0402)	PANASONIC ERJ-2GE0R00
22	1	R302	215kΩ ±1% resistor (0402)	VISHAY DALE CRCW0402215KFK
23	1	R303	8.2kΩ ±1% resistor (0402)	VISHAY DALE CRCW04028K20FK
24	1	R305	634kΩ ±1% resistor (0402)	VISHAY DALE CRCW0402634KFK
25	1	R306	51kΩ ±1% resistor (0402)	PANASONIC ERJ-2RKF5102
27	1	U101	MAXM17630, 16-pin uSLIC™ Step down Power Module	MAXIM MAXM17630AME+
28	1	U201	MAXM17631, 16-pin uSLIC™ Step down Power Module	MAXIM MAXM17631AME+
29	1	U301	MAXM17632, 16-pin uSLIC™ Step down Power Module	MAXIM MAXM17632AME+
31	6	C111, C112, C211, C212, C311, C312	OPTIONAL : 0.22µF±10%, 50V, X7R ceramic capacitor (1206)	KEMET C1206C224J5RAC
32	3	L101, L201, L301	OPTIONAL : 10µH Ferrite Wirewound Inductor(1008)	MURATA LQH2HPZ100MJR
33	1	R206	Package Outline 0402 resistor	OPEN

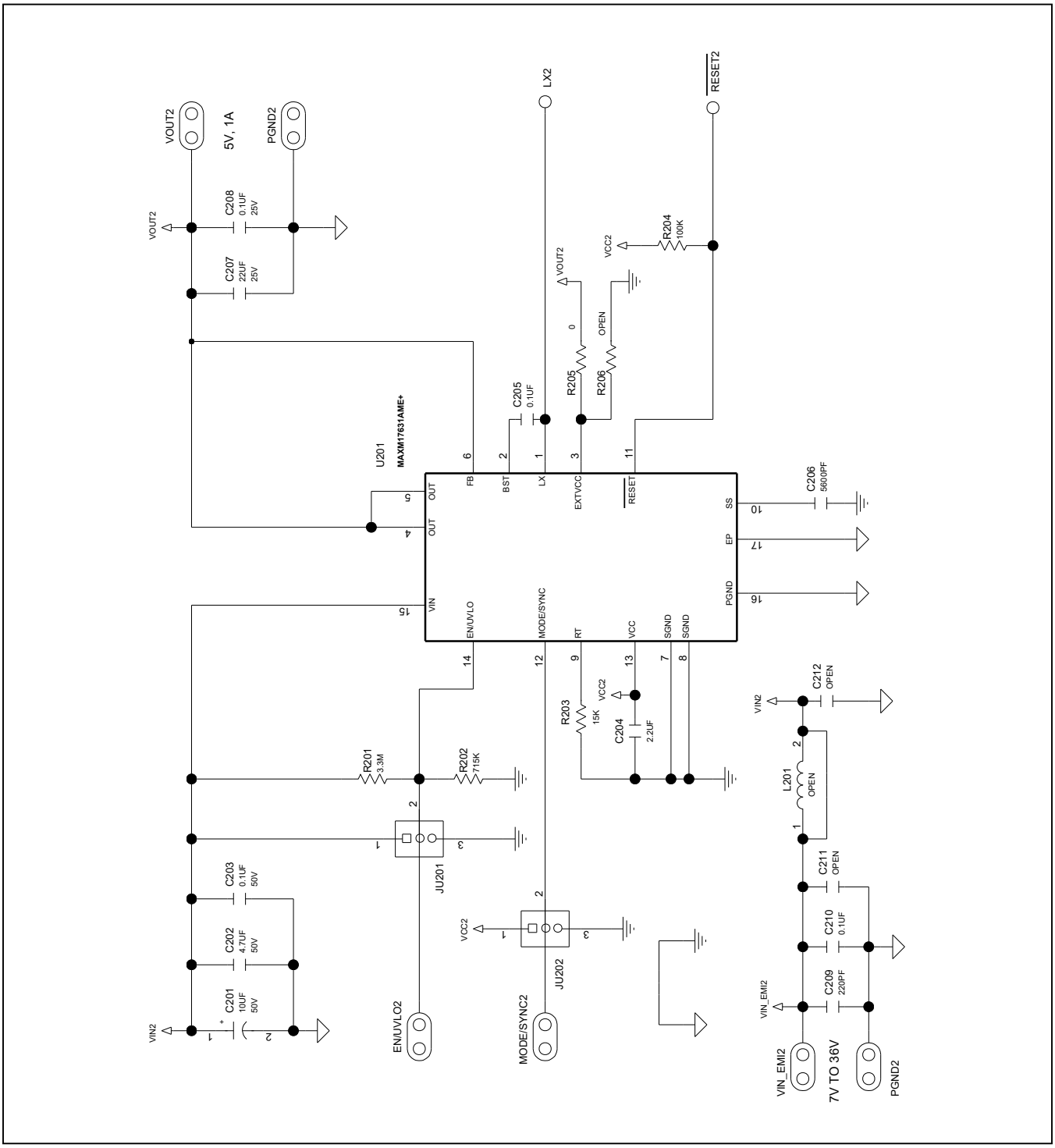
MAXM17630/MAXM17631/MAXM17632 EV Kits Schematic Diagrams

MAXM17630 EV Kit Schematic diagram



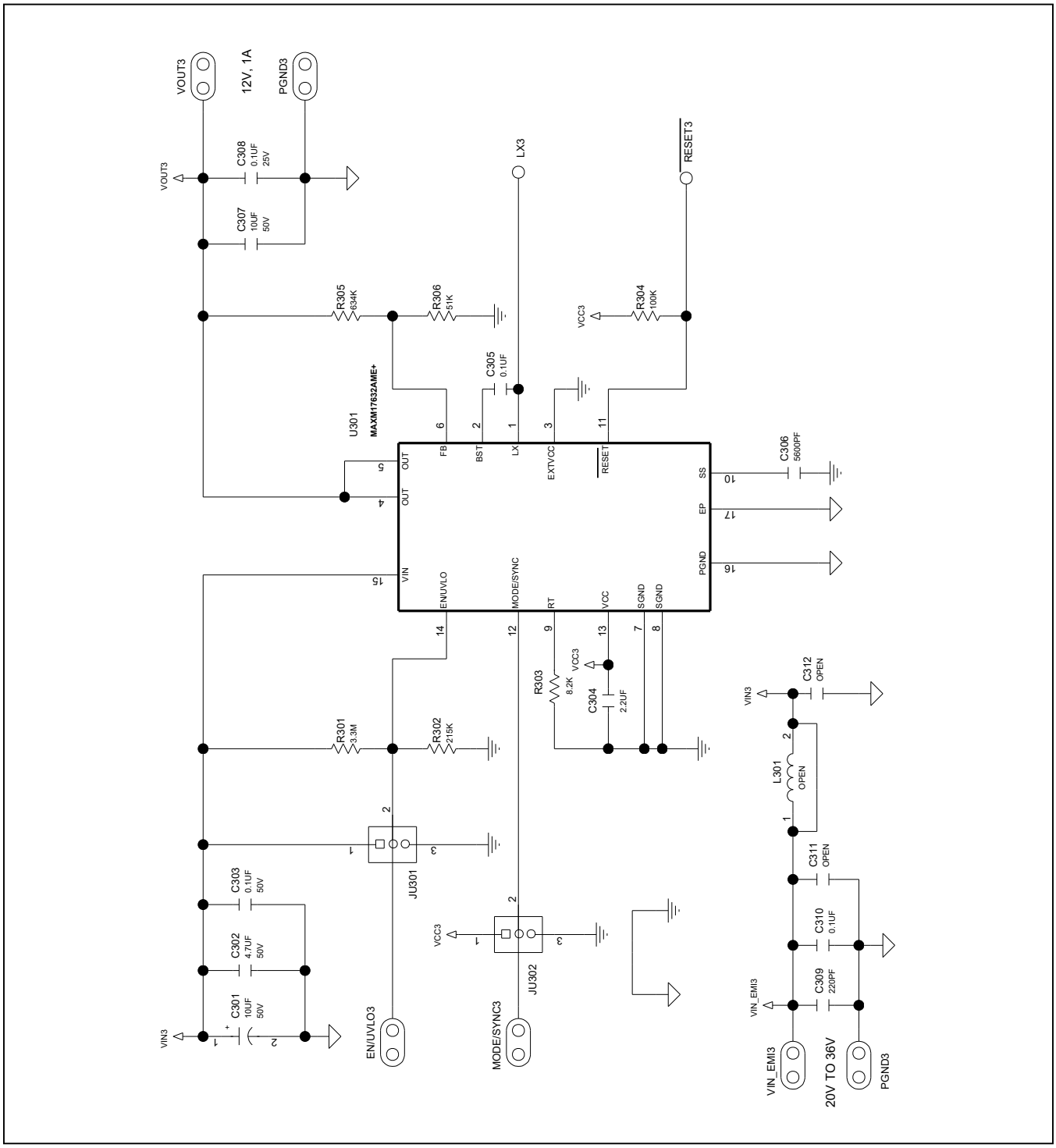
MAXM17630/MAXM17631/MAXM17632 EV Kits Schematic Diagrams (continued)

MAXM17631 EV Kit Schematic diagram

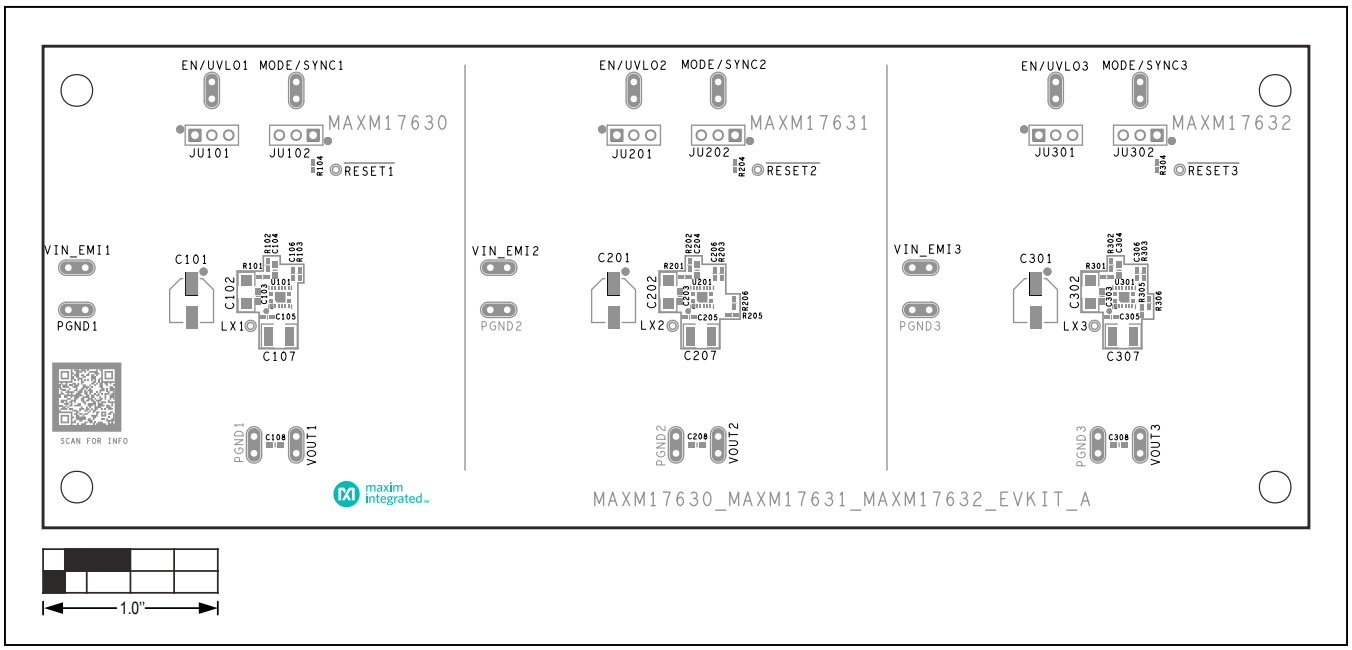


MAXM17630/MAXM17631/MAXM17632 EV Kits Schematic Diagrams (continued)

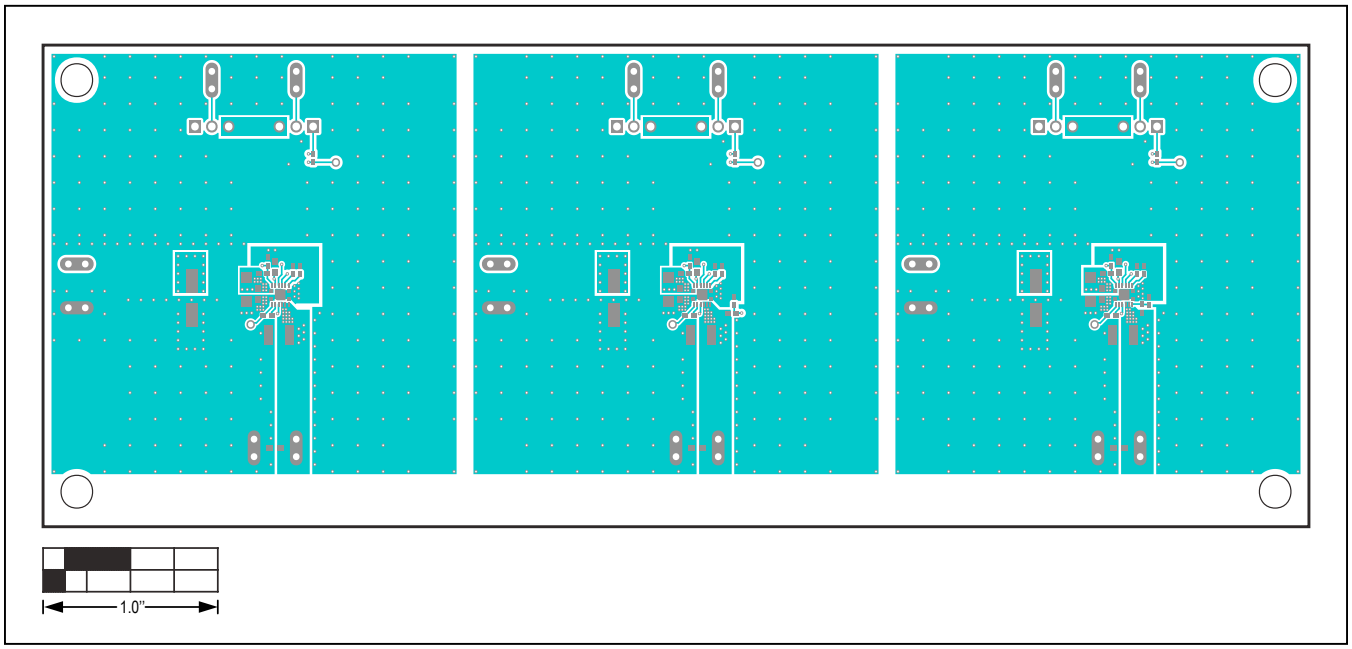
MAXM17632 EV Kit Schematic diagram



MAXM1730/MAXM17631/MAXM17632 EV Kits PCB Layout Diagrams

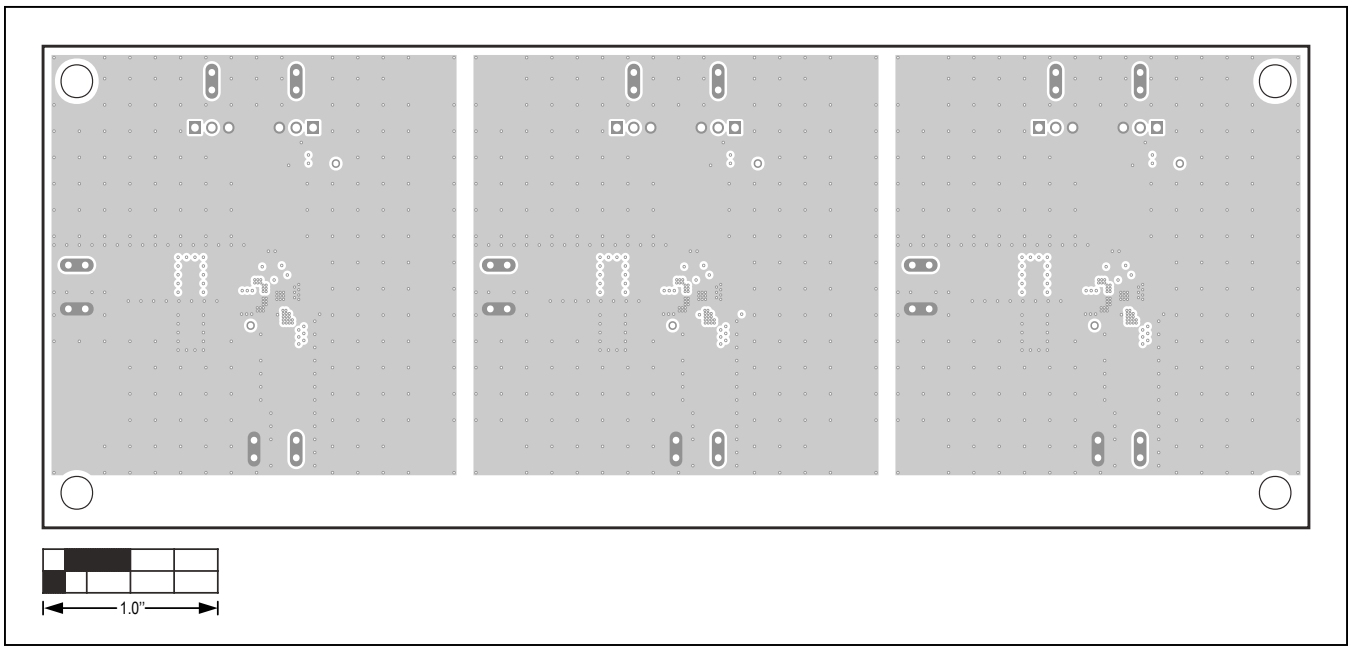


MAXM17630/MAXM17631/MAXM17632 EV Kits—Top Silkscreen

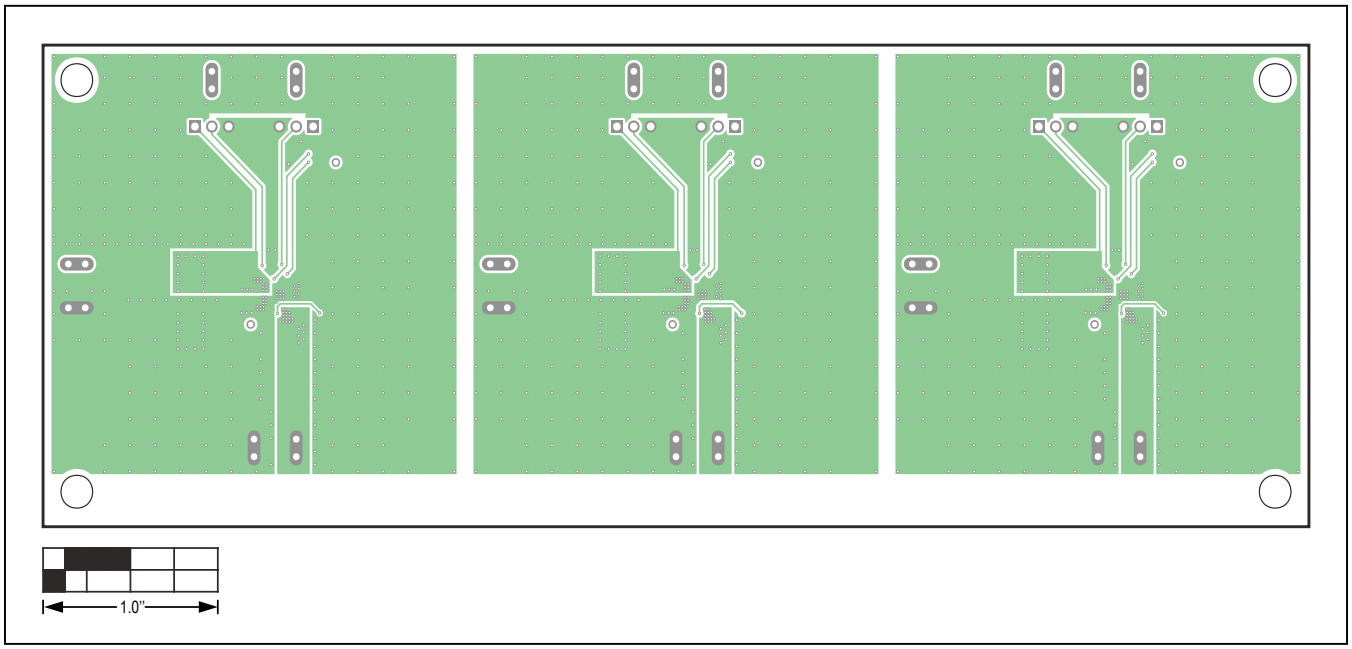


MAXM17630/MAXM17631/MAXM17632 EV Kits—Top Layer

MAXM1730/MAXM17631/MAXM17632 EV Kits PCB Layout Diagrams (continued)

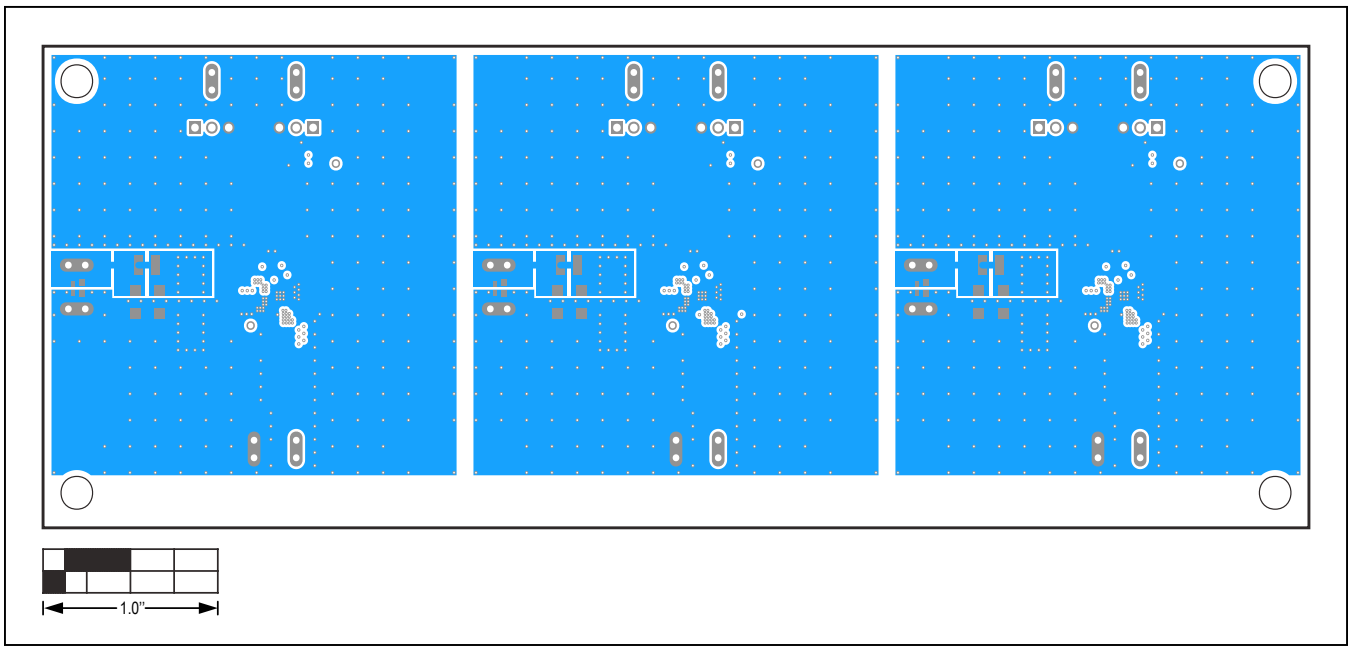


MAXM17630/MAXM17631/MAXM17632 EV Kits—Layer 2

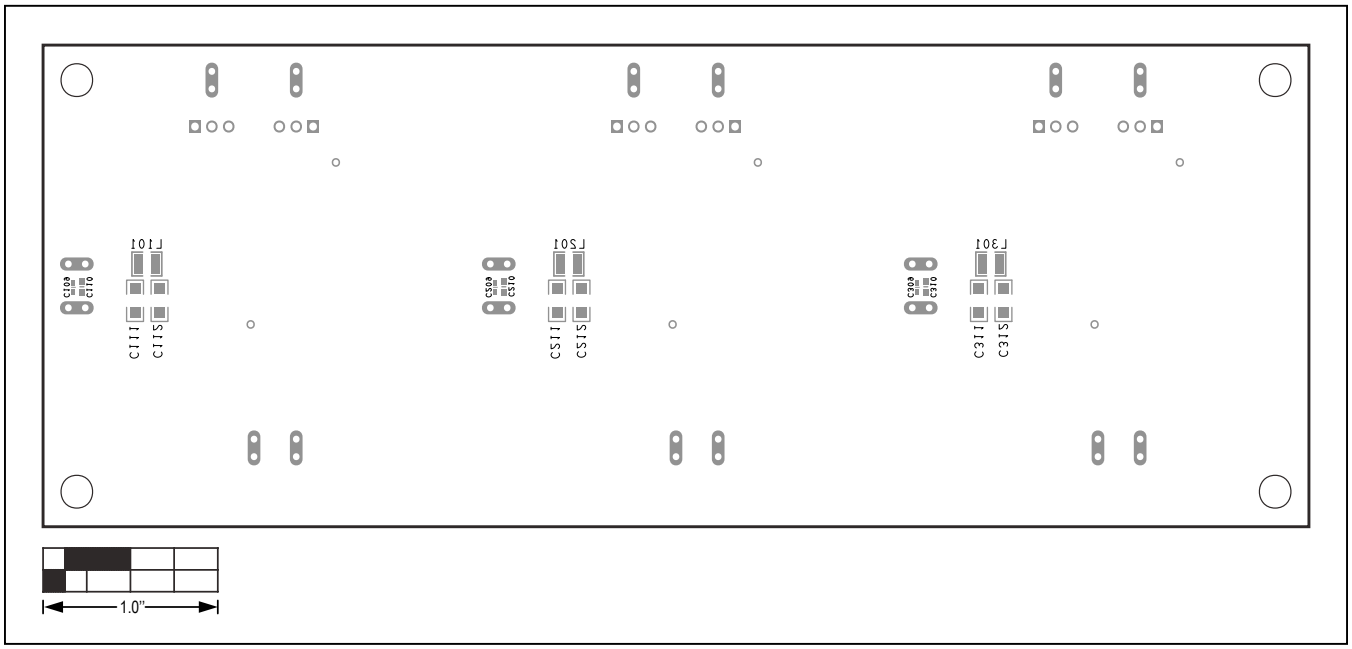


MAXM17630/MAXM17631/MAXM17632 EV Kits—Layer 3

MAXM1730/MAXM17631/MAXM17632 EV Kits PCB Layout Diagrams (continued)



MAXM17630/MAXM17631/MAXM17632 EV Kits—Bottom Layer



MAXM17630/MAXM17631/MAXM17632 EV Kits—Bottom Silkscreen

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	9/19	Initial release	—

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