

## High Efficiency Full-Bridge Power Stage For Wireless Charger Transmitter Evaluation Board

*Parameters Subject to Change Without Notice*

### FEATURES

- 3.0V to 20V wide input voltage range.
- Output power: 15W
- Integrate low  $R_{DS(on)}$  switch power MOS.
- Independent two PWM control for flexible transmitter design.
- Integrate input current sense and programmable current sense ratio.
- Support all wireless charger switch frequency.
- High efficiency over full load range.
- Over-current protection
- Thermal shutdown.
- Package: ETSSOP20

### APPLICATIONS

- Wireless Charger Transmitter
- Motor Drivers

### DESCRIPTION

The JW<sup>®</sup>7951C is a high efficiency full-bridge power stage (integrated MOS plus driver) designed for wireless charger transmitter. With a transmitter controller, it can provide flexible wireless charger solutions compliant with WPC v1.2.3 Baseline Power Profile and Extended Power Profile.

The integrated low  $R_{DS(on)}$  power MOSFETs maximizes the system efficiency with better heat performance.

The JW7951C also provides input current sense function. The chip measures the input current with the current sampling resistor and reports it on the ISENSE pin, so that the total current can be read by the controller to realize the FOD (Foreign Object Detection) and in-band communication.

The JW7951C guarantees robustness with input over-current protection, thermal shutdown and under voltage lockout.

### ELECTRICAL SPECIFICATIONS

Item	Specification
Compatible Wireless Power Standard	Qi-BPP/Samsung 10W
Input Voltage	5V / 9V
Max Output Power	10W
Standby Power Consumption	<0.2W

**TYPICAL PERFORMANCE CHARACTERISTICS**

**Steady State(5V→5V)**

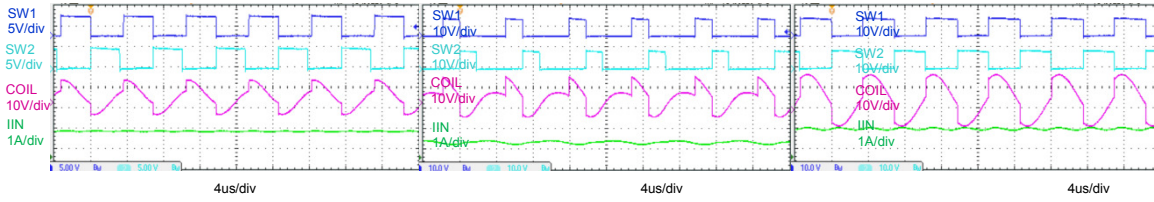
$V_{IN}=5V, V_{OUT}=5V, I_{OUT}=1A$

**Steady State(9V→5V)**

$V_{IN}=9V, V_{OUT}=5V, I_{OUT}=1A$

**Steady State(9V→9V)**

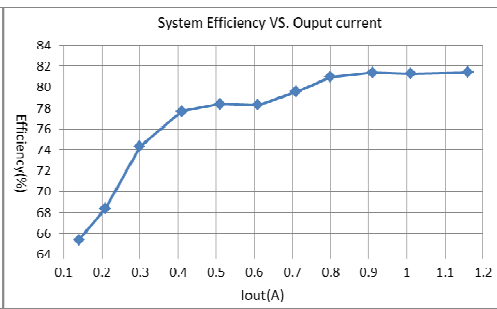
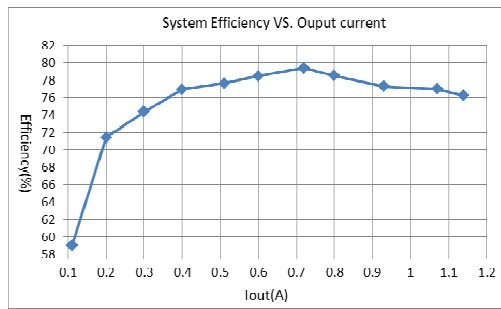
$V_{IN}=9V, V_{OUT}=9V, I_{OUT}=1A$



**System Efficiency(5V)**

$V_{IN}=5.1V, V_{OUT}=5V, V_{IN}=9V, V_{OUT}=9V$

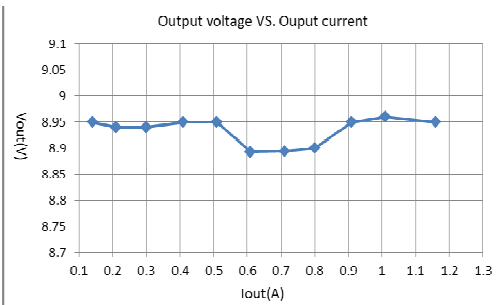
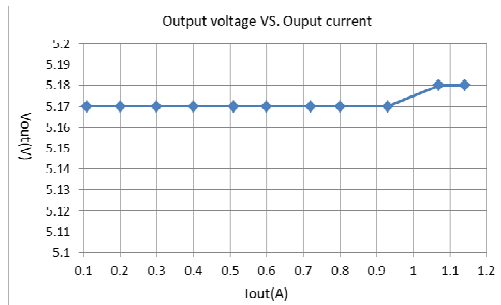
**System Efficiency(9V)**



**Load Regulation(5V)**

$V_{IN}=5.1V, V_{IN}=9V$

**Load Regulation(9V)**



## IMPORTANT NOTICE

- Joulwatt Technology Inc. reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein.
- Any unauthorized redistribution or copy of this document for any purpose is strictly forbidden.
- Joulwatt Technology Inc. does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel.

JoulWatt Confidential