

NU1509

High Performance Wireless Power Transmitter Controller

1 Features

- Input Voltage: 3.3V to 5.5V
- Integrated ARM® Cortex®-M0
- Compliant with WPC 1.2.4 EPP
- Output to Control External DCDC Output
- Reliable and Accurate Foreign Object Detection (FOD)
- LED for Charging Status and Fault Reporting
- PWM Output from $127.7\text{KHz} \pm 6\text{Hz}$
- Built-in Frequency Shift Keying Modulate (FSK)
- Built-in Fast Charge Protocol
- Input Low Voltage Detection
- Limited Power to Prevent Overloading Input Sources
- Over-current Protection and Over-temperature Protection with NTC Input
- Internal Oscillator or External Crystal Oscillator
- Interface with NU1009A to Form High Performance 15W Transmitter Solution
- 28 Pin $4\text{mm} \times 4\text{mm}$ QFN Package

2 Applications

- Wireless Power Transmitter Compliant with WPC 1.2.4 EPP
- Embedded Wireless Power Transmitter for Smart Home
- Fast Wireless Charge for 15W Received Power

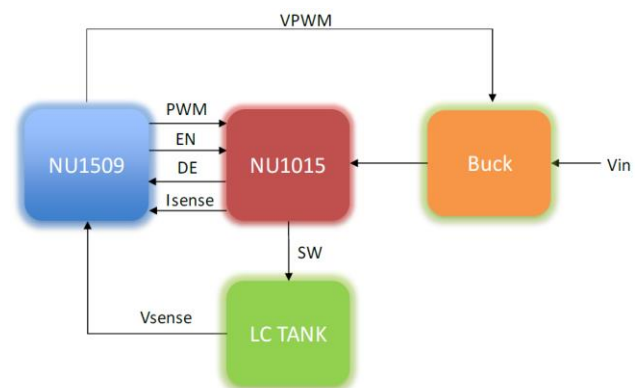
3 Descriptions

NU1512 is a highly integrated digital controller for wireless power transmitter compliant with WPC 1.2.4 EPP standard. This device and NU1009A, the companion power

stage ICs, form simple, high-performance and cost-effective wireless power transmitter solutions suitable for a wide range of applications.

NU1512 integrates all essential functions to deliver regulated power and maintain robust communications with WPC compliant receivers. Used with NU1009A, the smallest and most integrated power stage IC, the two-chip turnkey design provides the most space saving solutions.

NU1512 also emphasizes on providing reliable and robust charging experience by preventing any transient conditions, such as receiver load variations and Rx/Tx coupling changes, from disrupting communications and continuous charging. The device adopts a proven foreign object detection (FOD) scheme to detect metal objects and prevent harmful heating. The device also integrates the protection features such as over-temperature and over-current protections, input low-voltage detection and input power limit.



Simplified Application Diagram

9 Package Information

Orderable Device	Status	Package Type	Package Drawing	Pins	Package Quantity	Eco Plan	Lead Finish	MSL Peak Temp	Op Temp(°C)	Device Marking
NU1509QD FB	R&D	QFN	QDF	28	3000	Green (RoHS & no Sb/Br)	Pure Tin	Level- 2	-40 to 85	NU1509Q DFB

10 Revision History

REVISION	REVISION DATE	CHANGES	PAGES CHANGED
V1.0	08/01/2020	Initial release	-

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