

NU1513

High Performance Wireless Power Transmitter Controller

1 Features

- Input Voltage: 3.3V to 5.5V
- Integrated ARM® Cortex®-M0
- Compliant with WPC EPP
- PWM Output 100~148KHz
- Output to Control External DCDC Output
- Reliable and Accurate Foreign Object Detection (FOD)
- LED for Charging Status and Fault Reporting
- 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 NU1020 to Form High Performance maximum 30W Transmitter Solution
- 28 Pin 4mm × 4mm QFN Package

2 Applications

- Wireless Power Transmitter Compliant with WPC EPP
- Fast Wireless Charger for 30W Received Power
- Embedded Wireless Power Transmitter for Smart Home

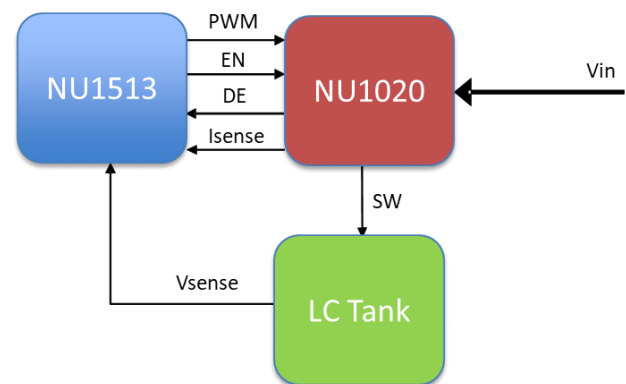
3 Descriptions

NU1513 is a highly integrated digital controller for wireless power transmitter compliant with WPC EPP standard. This device and NU1020, the companion power

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

NU1513 integrates all essential functions to deliver regulated power and maintain robust communications with WPC compliant receivers. Used with NU1020, the smallest and most integrated power stage IC, the two-chip turnkey design provides the most space saving solutions.

NU1513 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
NU1513QDFB	R&D	QFN	QDF	28	3000	Green (RoHS & no Sb/Br)	Pure Tin	Level-2	-40 to 85	NU1513QDFB

10 Revision History

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

Important Information and Disclaimer

The information provided on this page represents NuVolta Technologies' knowledge and belief as of the date that it is provided. NuVolta bases its knowledge and belief on information provided by third parties and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. NuVolta has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. NuVolta and NuVolta suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release. In no event shall NuVolta's liability arising out of such information exceed the total purchase price of the NuVolta part(s) at issue in this document sold by NuVolta to Customer on an annual basis.